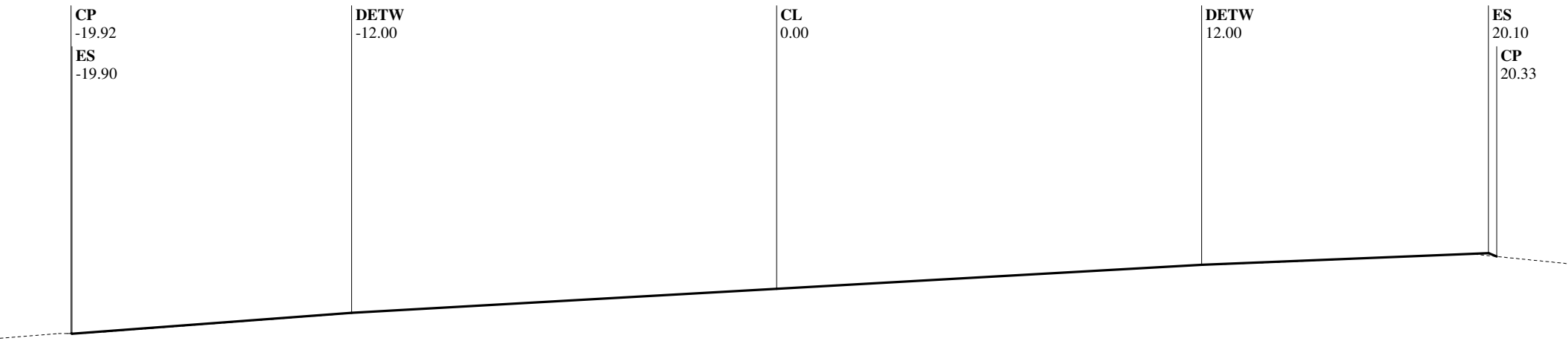
SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



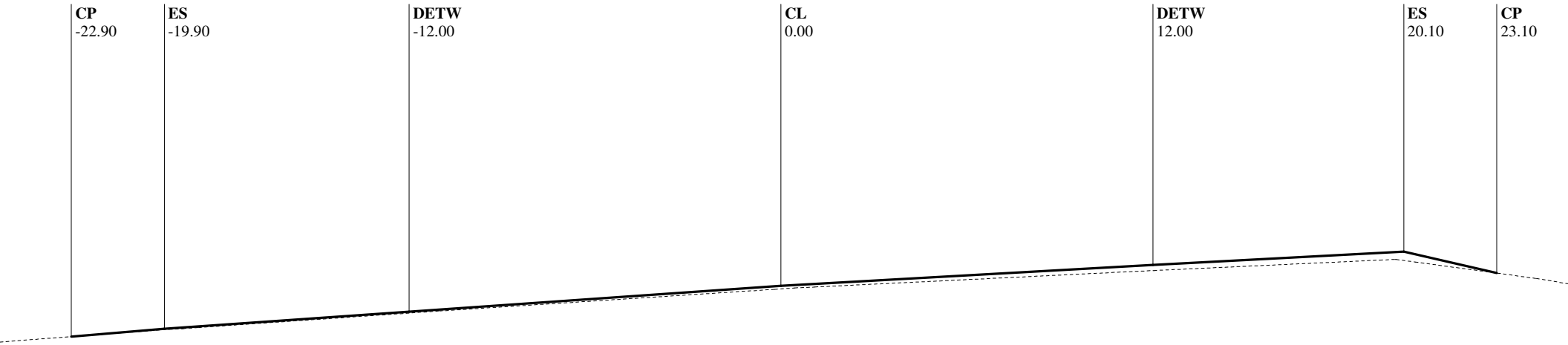

**Alignment Chain CENTER1**
**Station: 104+16.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -19.92 | -19.90 | -12.00 | 0.00 | 12.00 | 20.10 | 20.33 |
| 0.71 | 0.70 | 1.29 | 1.97 | 2.65 | 2.97 | 2.88 |
| 2.00:1 | -7.46% | -5.66% | | 5.66% | 4.00% | -2.50:1 |
| C 0.01 | F 0.59 | F 0.68 | | C 0.68 | C 0.32 | F 0.09 |
| @ 0.02 | @ 7.90 | @ 12.00 | | @ 12.00 | @ 8.10 | @ 0.23 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



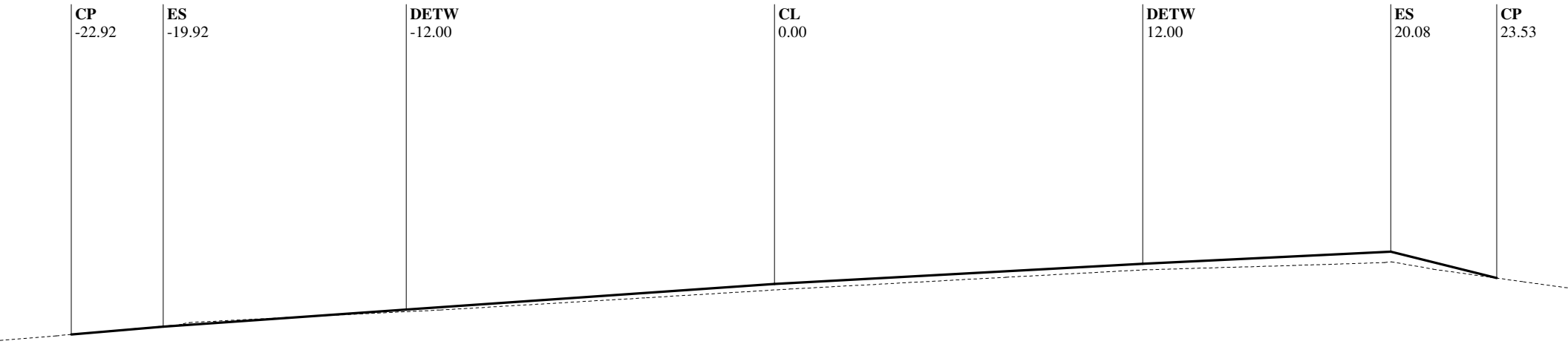

**Alignment Chain CENTER1**
**Station: 104+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -22.90 | -19.90 | -12.00 | 0.00 | 12.00 | 20.10 | 23.10 |
| 0.38 | 0.63 | 1.18 | 2.02 | 2.69 | 3.13 | 2.43 |
| -8.30% | -7.00% | -7.00% | | 5.59% | 5.34% | -4.33:1 |
| F 0.25 | F 0.55 | F 0.84 | | C 0.67 | C 0.43 | F 0.69 |
| @ 3.00 | @ 7.90 | @ 12.00 | | @ 12.00 | @ 8.10 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



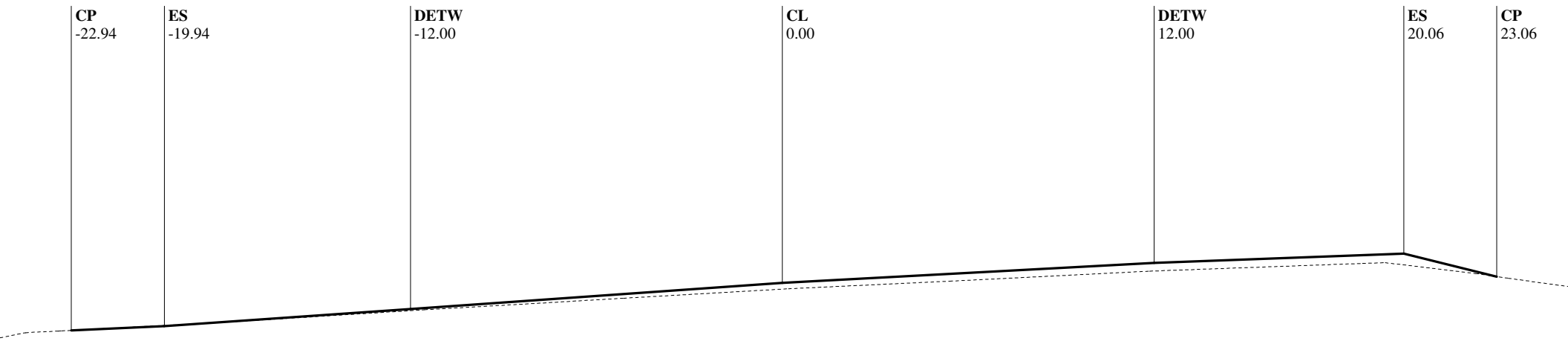

**Alignment Chain CENTER1**
**Station: 105+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -22.92 | -19.92 | -12.00 | 0.00 | 12.00 | 20.08 | 23.53 |
| 0.28 | 0.54 | 1.10 | 1.94 | 2.59 | 2.99 | 2.12 |
| -8.60% | -7.00% | -7.00% | | 5.47% | 4.87% | -4.00:1 |
| F 0.26 | F 0.55 | F 0.84 | | C 0.66 | C 0.39 | F 0.86 |
| @ 3.00 | @ 7.92 | @ 12.00 | | @ 12.00 | @ 8.08 | @ 3.45 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



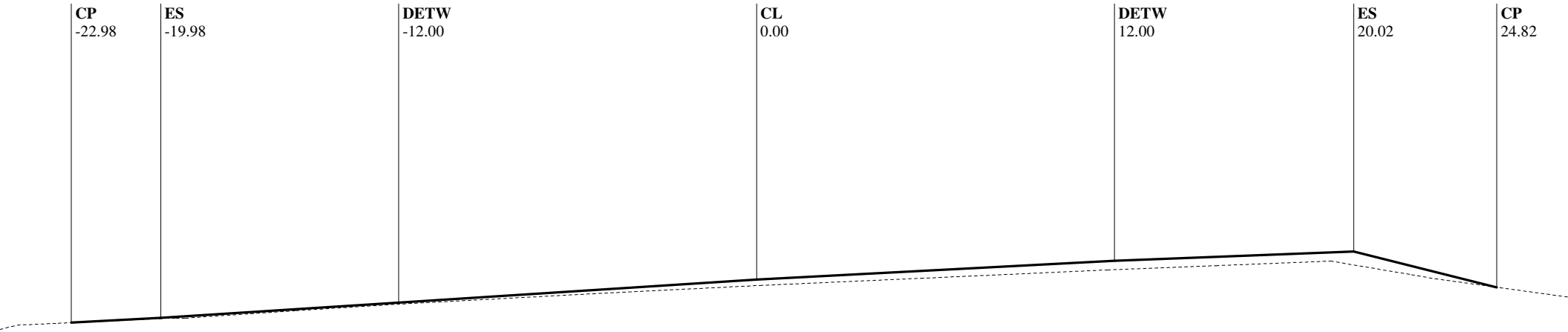

**Alignment Chain CENTER1**
**Station: 105+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -22.94 | -19.94 | -12.00 | 0.00 | 12.00 | 20.06 | 23.06 |
| 0.35 | 0.49 | 1.04 | 1.88 | 2.53 | 2.83 | 2.09 |
| -4.46% | -7.00% | -7.00% | | 5.36% | 3.70% | -4.07:1 |
| F 0.13 | F 0.56 | F 0.84 | | C 0.64 | C 0.30 | F 0.74 |
| @ 3.00 | @ 7.94 | @ 12.00 | | @ 12.00 | @ 8.06 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



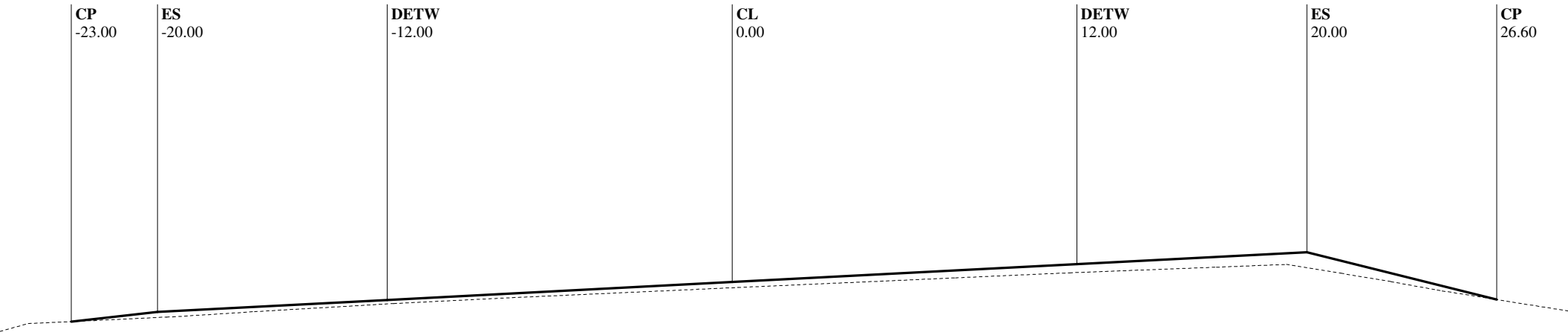

**Alignment Chain CENTER1**
**Station: 106+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -22.98 | -19.98 | -12.00 | 0.00 | 12.00 | 20.02 | 24.82 |
| 0.32 | 0.48 | 1.00 | 1.77 | 2.40 | 2.71 | 1.51 |
| -5.36% | -6.42% | -6.42% | | 5.25% | 3.93% | -4.00:1 |
| F 0.16 | F 0.51 | F 0.77 | | C 0.63 | C 0.32 | F 1.20 |
| @ 3.00 | @ 7.98 | @ 12.00 | | @ 12.00 | @ 8.02 | @ 4.80 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



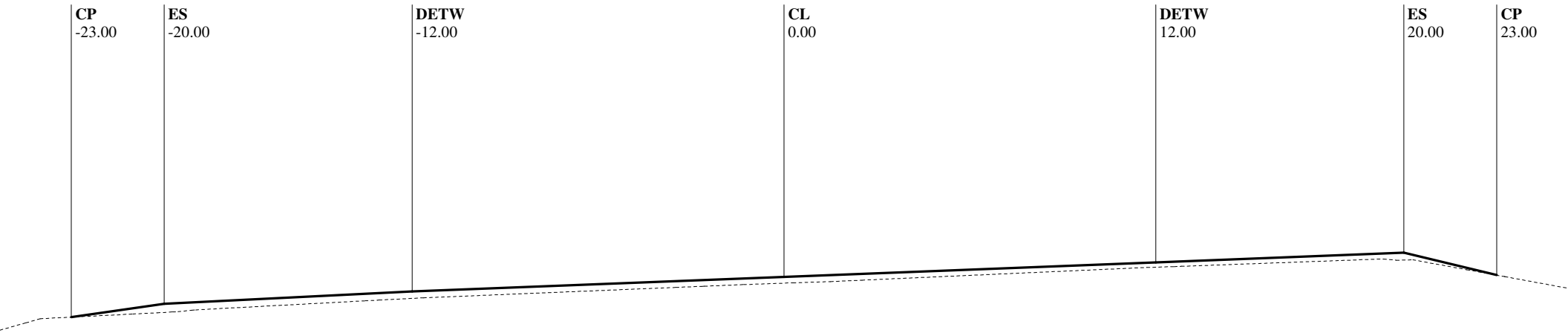

**Alignment Chain CENTER1**
**Station: 106+24.30**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 26.60 |
| 0.29 | 0.63 | 1.04 | 1.67 | 2.29 | 2.71 | 1.06 |
| -11.20% | -5.20% | -5.20% | | 5.20% | 5.20% | -4.00:1 |
| F 0.34 | F 0.42 | F 0.62 | | C 0.62 | C 0.42 | F 1.65 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 6.61 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



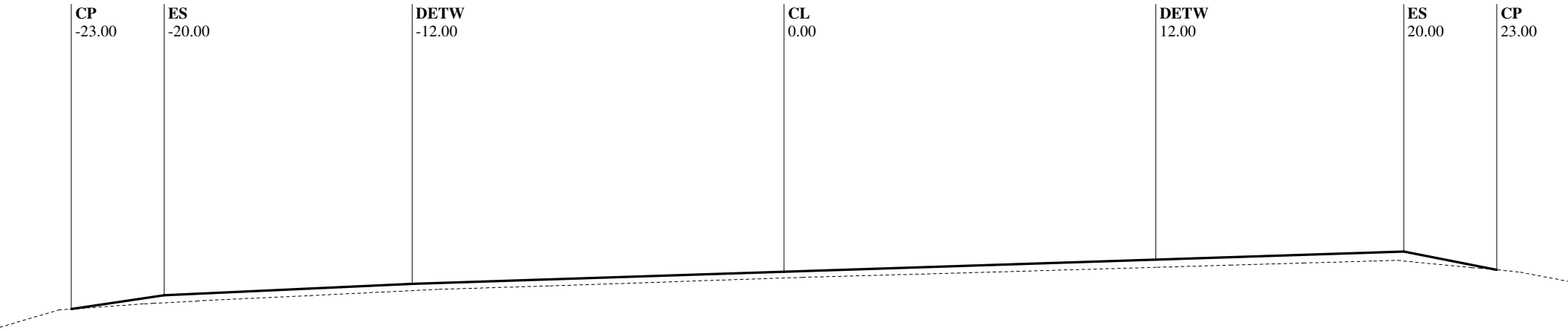

**Alignment Chain CENTER1**
**Station: 106+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.26 | 0.68 | 1.08 | 1.55 | 2.02 | 2.34 | 1.61 |
| -14.26% | -4.99% | -3.92% | | 3.92% | 3.92% | -4.13:1 |
| F 0.43 | F 0.40 | F 0.47 | | C 0.47 | C 0.31 | F 0.73 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



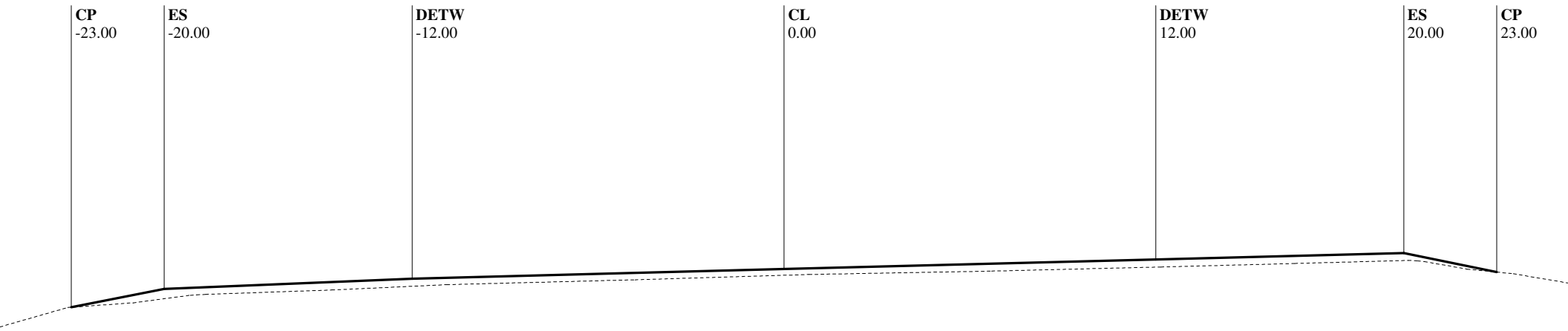

**Alignment Chain CENTER1**
**Station: 107+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.12 | 0.57 | 0.93 | 1.32 | 1.71 | 1.97 | 1.39 |
| -14.91% | -4.57% | -3.25% | | 3.25% | 3.25% | -5.13:1 |
| F 0.45 | F 0.37 | F 0.39 | | C 0.39 | C 0.26 | F 0.59 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

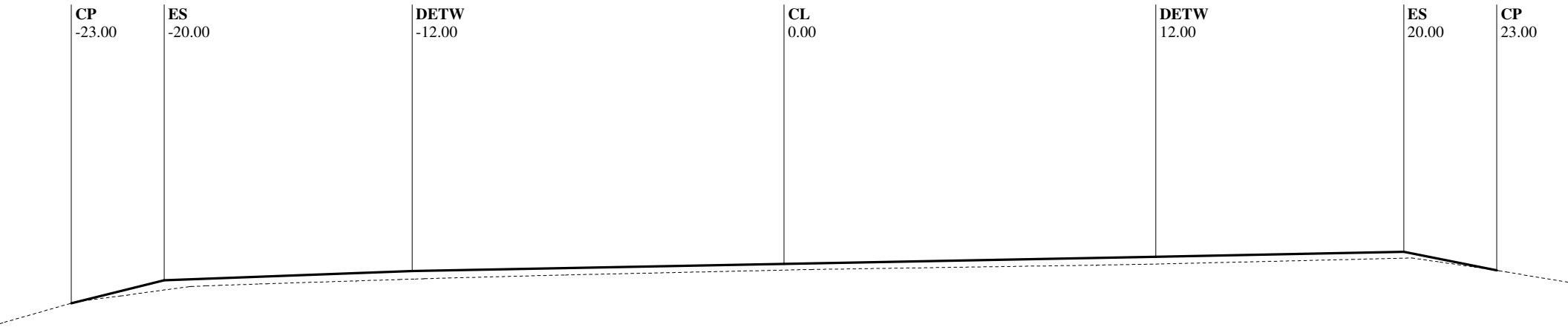



**Alignment Chain CENTER1**
**Station: 107+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.08 | 0.51 | 0.84 | 1.15 | 1.47 | 1.67 | 1.06 |
| -5.08:1 | -4.15% | -2.59% | | 2.59% | 2.59% | -4.88:1 |
| F 0.59 | F 0.33 | F 0.31 | | C 0.31 | C 0.21 | F 0.62 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



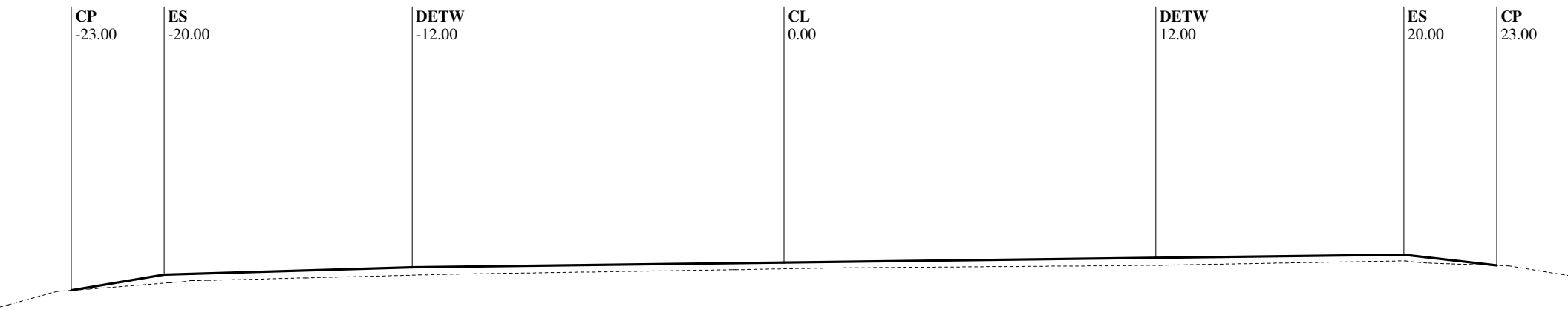

**Alignment Chain CENTER1**
**Station: 108+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.32 | 0.42 | 0.72 | 0.95 | 1.19 | 1.34 | 0.74 |
| -4.05:1 | -3.74% | -1.93% | | 1.93% | 1.93% | -5.04:1 |
| F 0.74 | F 0.30 | F 0.23 | | C 0.23 | C 0.15 | F 0.60 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

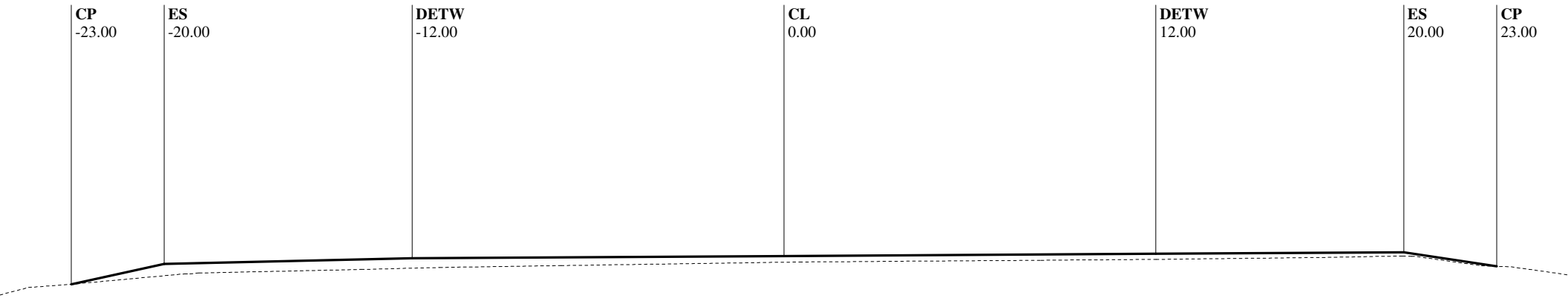



**Alignment Chain CENTER1**
**Station: 108+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.27 | 0.24 | 0.48 | 0.63 | 0.78 | 0.89 | 0.54 |
| -5.93:1 | -2.99% | -1.27% | | 1.27% | 1.27% | -11.55% |
| F 0.51 | F 0.24 | F 0.15 | | C 0.15 | C 0.10 | F 0.35 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

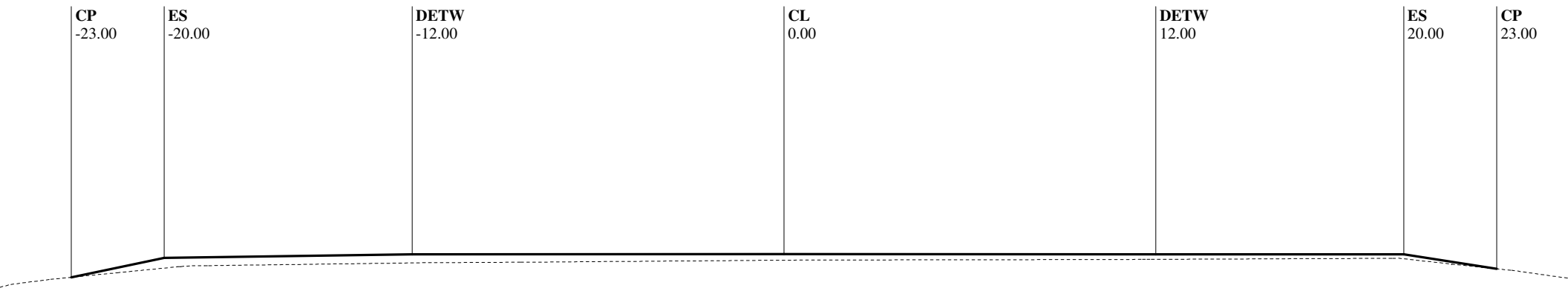
Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 109+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.20 | 0.46 | 0.64 | 0.71 | 0.79 | 0.83 | 0.38 |
| -4.56:1 | -2.24% | -0.61% | | 0.61% | 0.61% | -6.61:1 |
| F 0.66 | F 0.18 | F 0.07 | | C 0.07 | C 0.05 | F 0.45 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

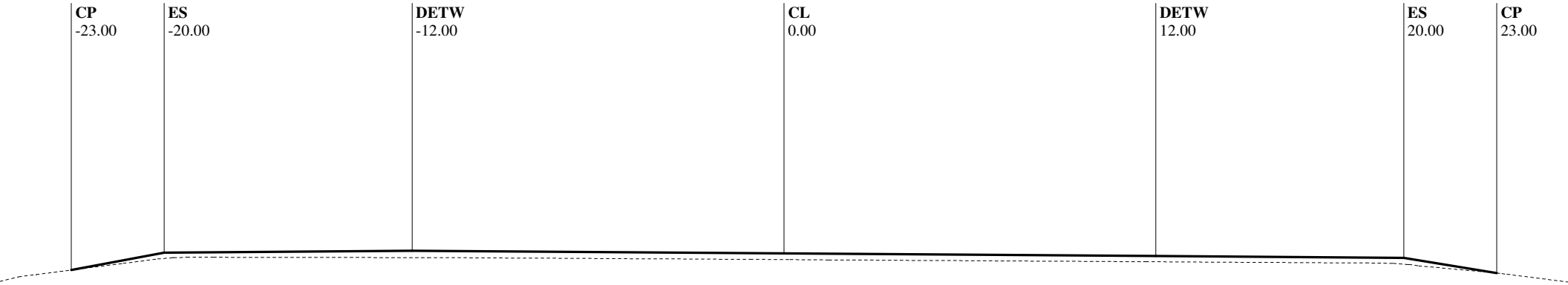



**Alignment Chain CENTER1**
**Station: 109+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.03 | 0.60 | 0.71 | 0.72 | 0.71 | 0.71 | 0.24 |
| -4.79:1 | -1.49% | -0.05% | | -0.05% | -0.05% | -6.38:1 |
| F 0.63 | F 0.12 | F 0.01 | | F 0.01 | F 0.00 | F 0.47 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



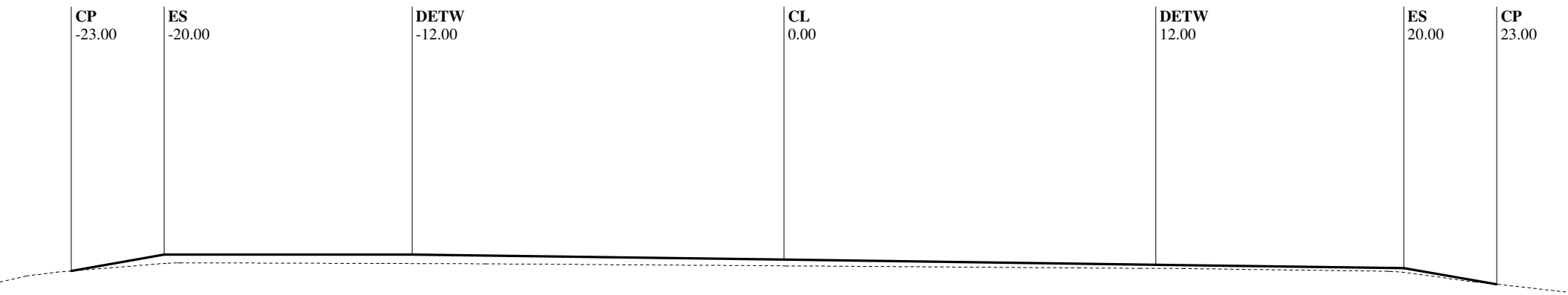

**Alignment Chain CENTER1**
**Station: 110+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.10 | 0.67 | 0.73 | 0.64 | 0.56 | 0.50 | 0.01 |
| -5.32:1 | -0.74% | 0.71% | | -0.71% | -0.71% | -6.09:1 |
| F 0.56 | F 0.06 | C 0.09 | | F 0.09 | F 0.06 | F 0.49 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

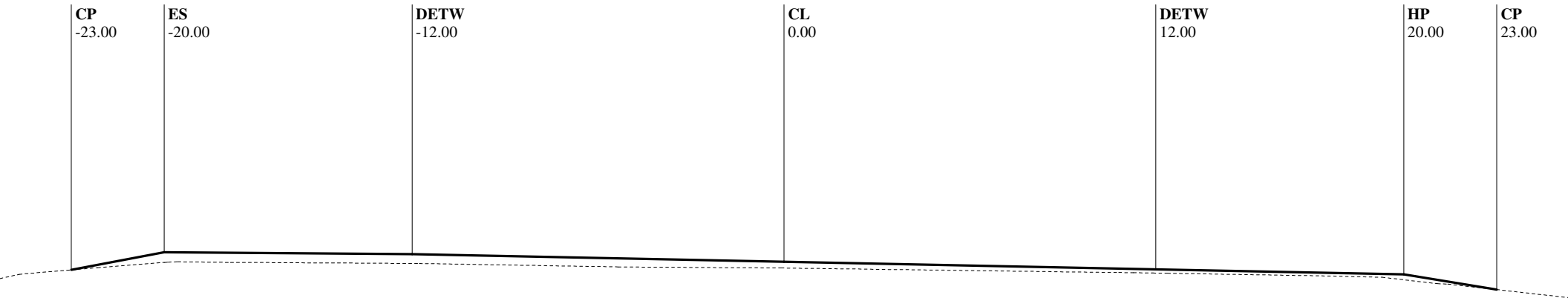



**Alignment Chain CENTER1**
**Station: 110+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.20 | 0.73 | 0.73 | 0.56 | 0.40 | 0.29 | -0.23 |
| -5.64:1 | 0.01% | 1.37% | | -1.37% | -1.37% | -5.81:1 |
| F 0.53 | C 0.00 | C 0.16 | | F 0.16 | F 0.11 | F 0.52 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

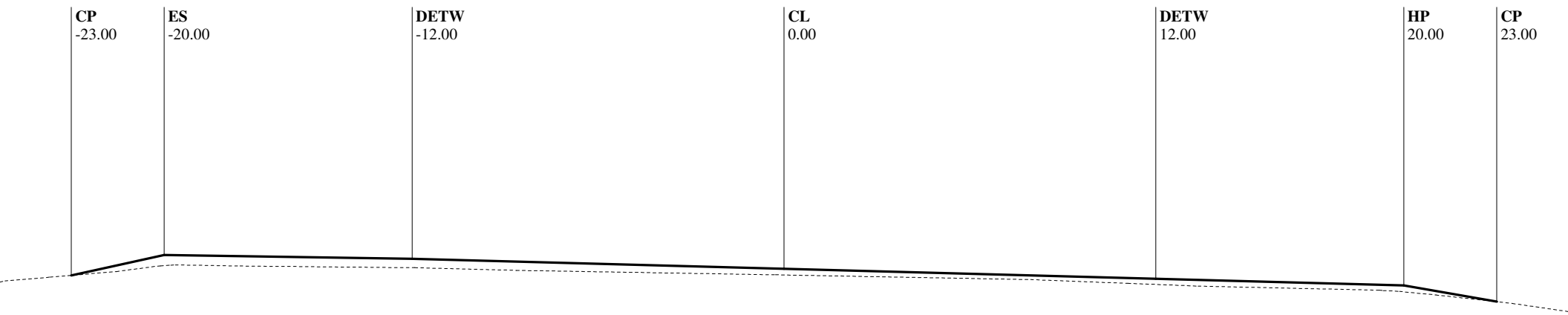



**Alignment Chain CENTER1**
**Station: 111+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.12 | 0.68 | 0.62 | 0.38 | 0.13 | -0.03 | -0.52 |
| -5.32:1 | 0.76% | 2.03% | | -2.03% | -2.03% | -6.15:1 |
| F 0.56 | C 0.06 | C 0.24 | | F 0.24 | F 0.16 | F 0.49 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



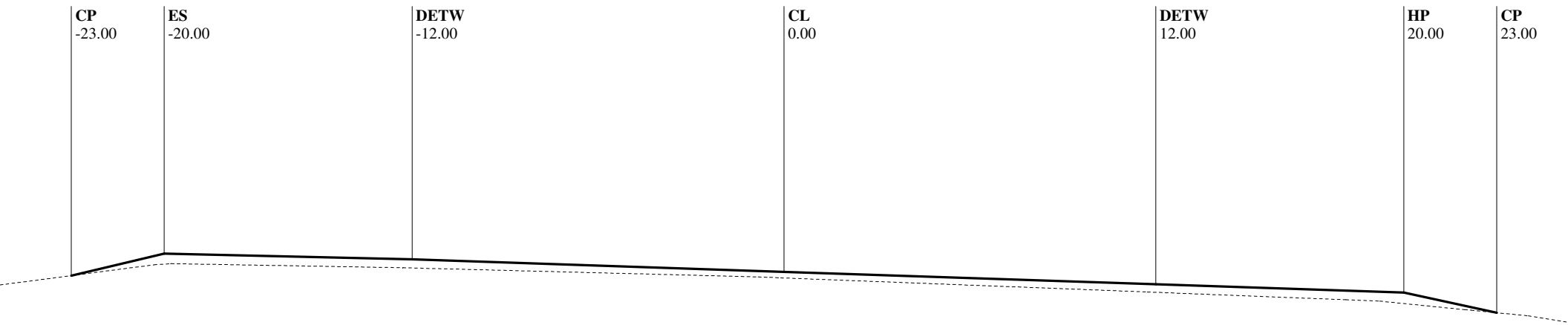

**Alignment Chain CENTER1**
**Station: 111+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.01 | 0.65 | 0.53 | 0.21 | -0.12 | -0.33 | -0.85 |
| -4.57:1 | 1.51% | 2.70% | | -2.70% | -2.70% | -5.74:1 |
| F 0.66 | C 0.12 | C 0.32 | | F 0.32 | F 0.22 | F 0.52 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

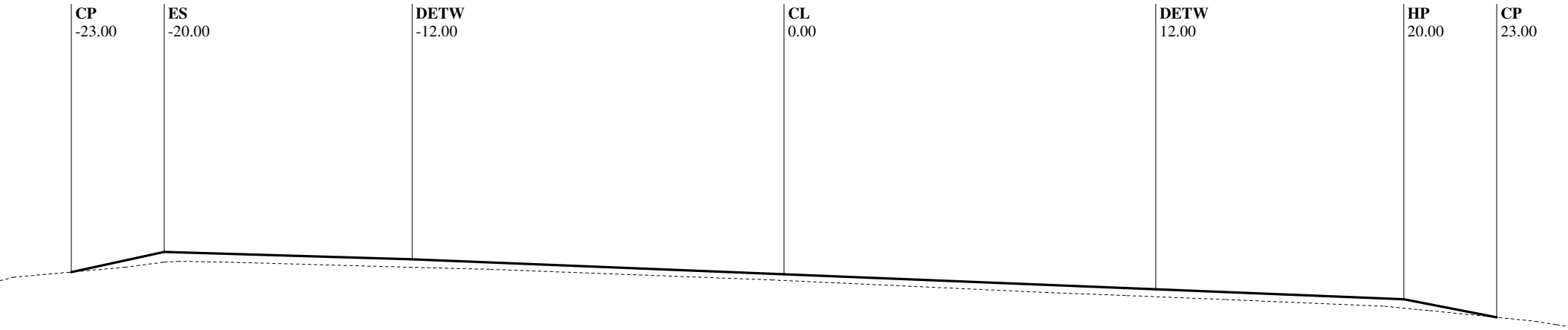



**Alignment Chain CENTER1**
**Station: 112+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.00 | 0.70 | 0.52 | 0.12 | -0.28 | -0.55 | -1.20 |
| -4.24:1 | 2.26% | 3.36% | | -3.36% | -3.36% | -4.61:1 |
| F 0.71 | C 0.18 | C 0.40 | | F 0.40 | F 0.27 | F 0.65 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



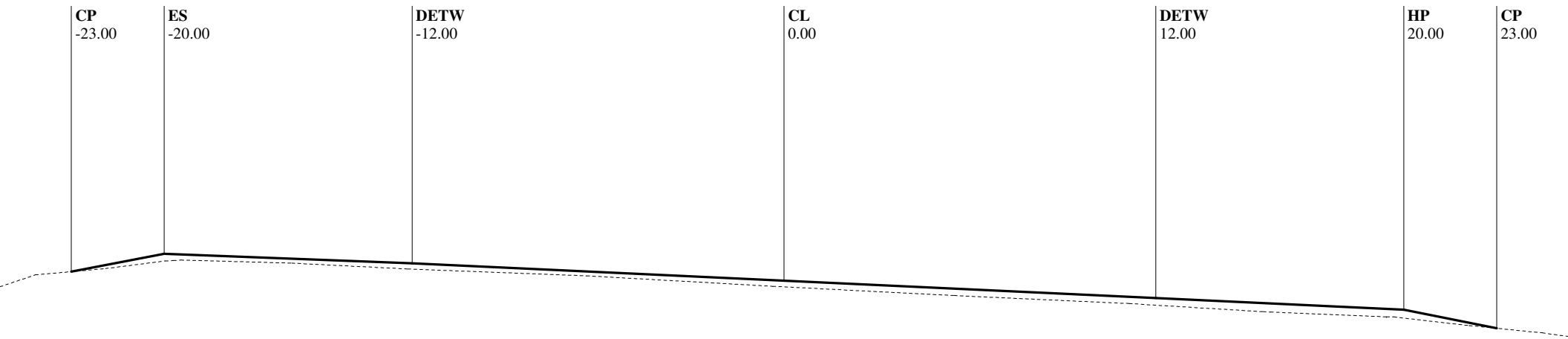

**Alignment Chain CENTER1**
**Station: 112+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.10 | 0.76 | 0.52 | 0.03 | -0.45 | -0.77 | -1.36 |
| -4.60:1 | 3.01% | 4.02% | | -4.02% | -4.02% | -5.12:1 |
| F 0.65 | C 0.24 | C 0.48 | | F 0.48 | F 0.32 | F 0.59 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



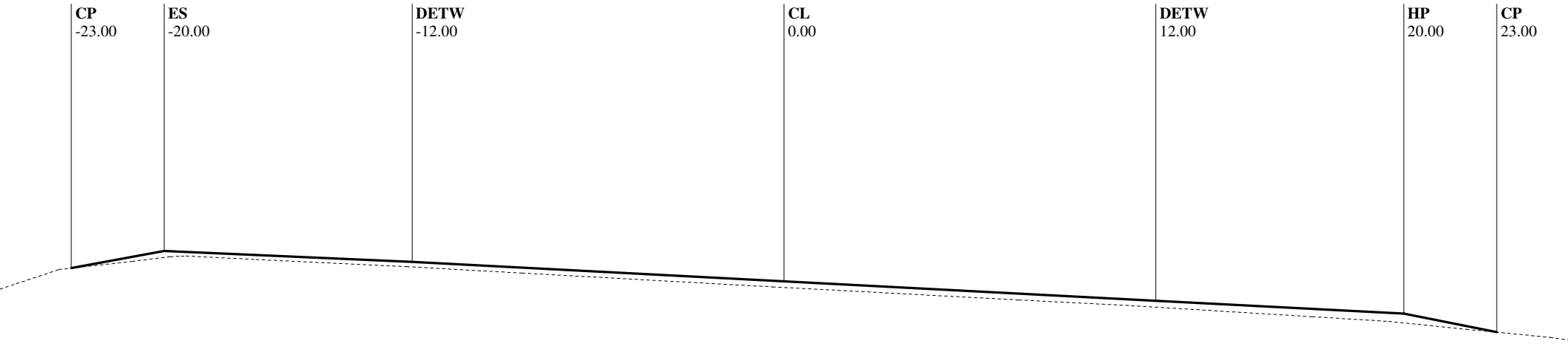

**Alignment Chain CENTER1**
**Station: 113+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.32 | 0.89 | 0.59 | 0.03 | -0.53 | -0.91 | -1.51 |
| -5.25:1 | 3.75% | 4.68% | | -4.68% | -4.68% | -5.00:1 |
| F 0.57 | C 0.30 | C 0.56 | | F 0.56 | F 0.37 | F 0.60 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



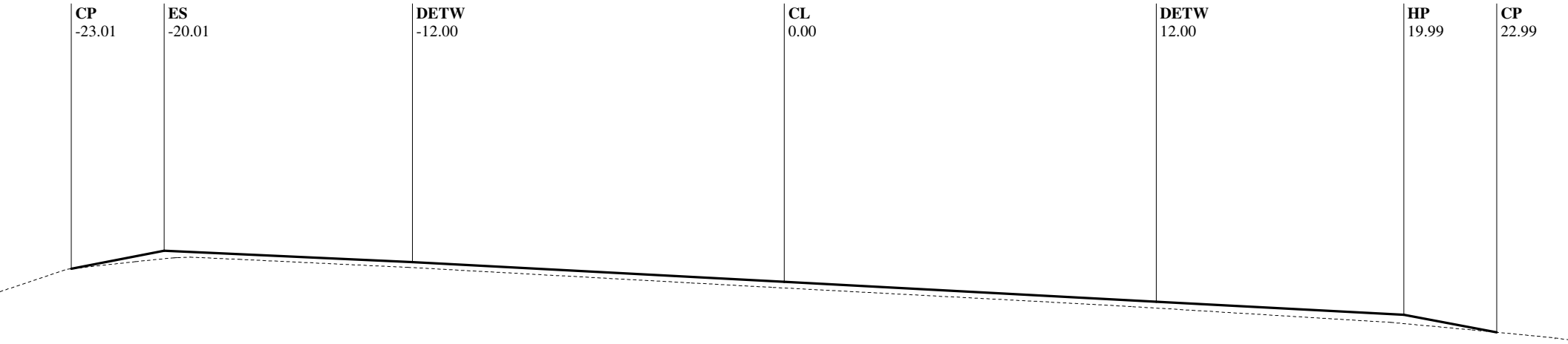

**Alignment Chain CENTER1**
**Station: 113+41.66**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.44 | 0.99 | 0.64 | 0.01 | -0.61 | -1.03 | -1.63 |
| -5.42:1 | 4.38% | 5.23% | | -5.23% | -5.23% | -4.99:1 |
| F 0.55 | C 0.35 | C 0.63 | | F 0.63 | F 0.42 | F 0.60 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



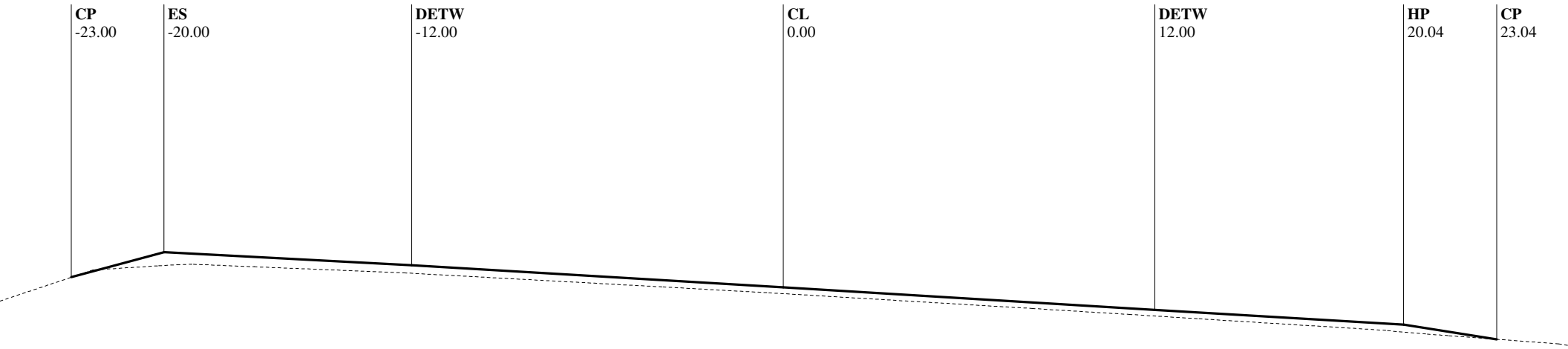

**Alignment Chain CENTER1**
**Station: 113+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.01 | -20.01 | -12.00 | 0.00 | 12.00 | 19.99 | 22.99 |
| 0.40 | 0.98 | 0.62 | -0.02 | -0.66 | -1.09 | -1.65 |
| -5.18:1 | 4.50% | 5.34% | | -5.34% | -5.34% | -5.32:1 |
| F 0.58 | C 0.36 | C 0.64 | | F 0.64 | F 0.43 | F 0.56 |
| @ 3.00 | @ 8.01 | @ 12.00 | | @ 12.00 | @ 7.99 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



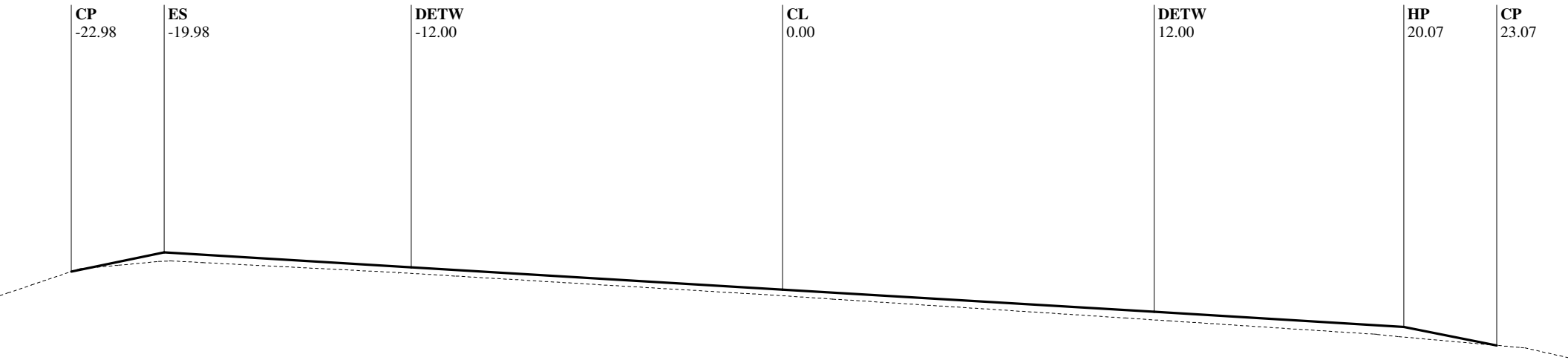

**Alignment Chain CENTER1**
**Station: 114+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.04 | 23.04 |
| 0.11 | 0.92 | 0.50 | -0.22 | -0.94 | -1.42 | -1.89 |
| -3.70:1 | 5.25% | 6.00% | | -6.00% | -6.00% | -6.38:1 |
| F 0.81 | C 0.42 | C 0.72 | | F 0.72 | F 0.48 | F 0.47 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.04 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



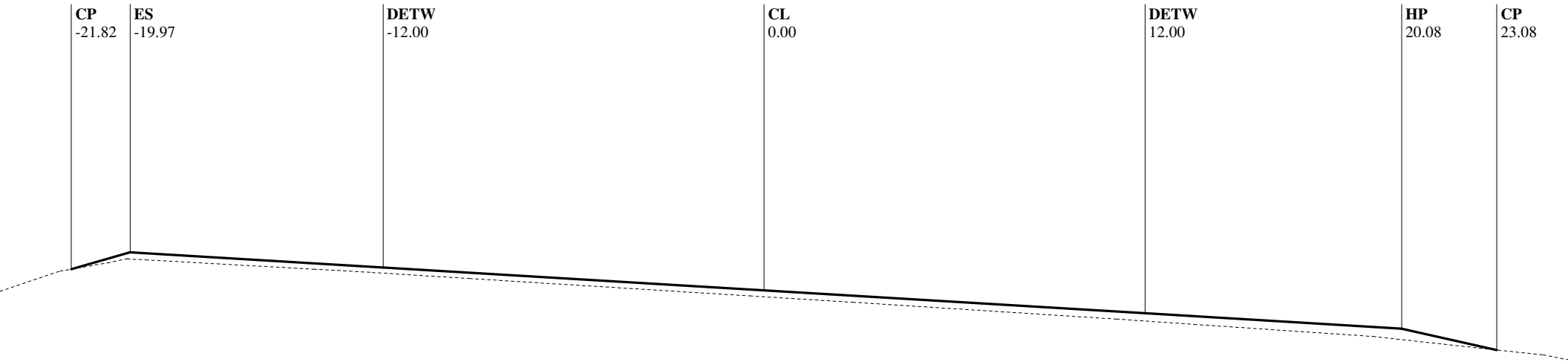

**Alignment Chain CENTER1**
**Station: 114+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -22.98 | -19.98 | -12.00 | 0.00 | 12.00 | 20.07 | 23.07 |
| 0.22 | 0.84 | 0.36 | -0.36 | -1.08 | -1.57 | -2.17 |
| -4.85:1 | 6.00% | 6.00% | | -6.00% | -6.00% | -5.01:1 |
| F 0.62 | C 0.48 | C 0.72 | | F 0.72 | F 0.48 | F 0.60 |
| @ 3.00 | @ 7.98 | @ 12.00 | | @ 12.00 | @ 8.07 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



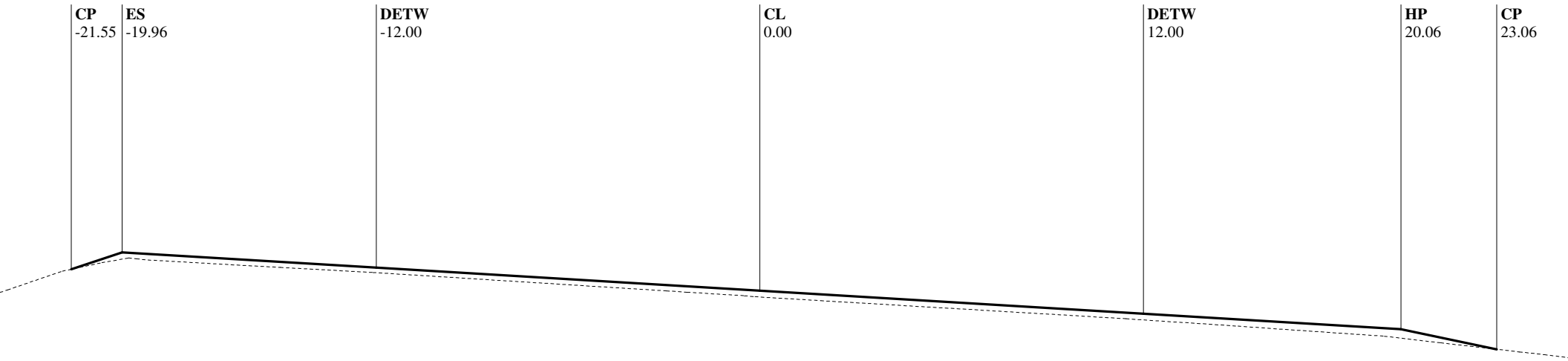

**Alignment Chain CENTER1**
**Station: 115+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -21.82 | -19.97 | -12.00 | 0.00 | 12.00 | 20.08 | 23.08 |
| 0.36 | 0.88 | 0.41 | -0.31 | -1.03 | -1.52 | -2.19 |
| -3.50:1 | 6.00% | 6.00% | | -6.00% | -6.00% | -4.49:1 |
| F 0.53 | C 0.48 | C 0.72 | | F 0.72 | F 0.48 | F 0.67 |
| @ 1.85 | @ 7.97 | @ 12.00 | | @ 12.00 | @ 8.08 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



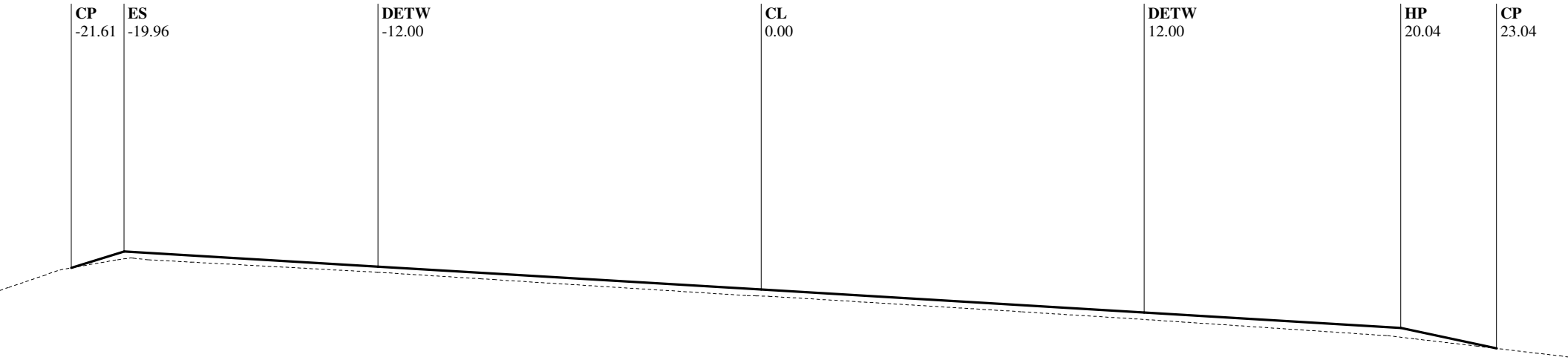

**Alignment Chain CENTER1**
**Station: 115+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -21.55 | -19.96 | -12.00 | 0.00 | 12.00 | 20.06 | 23.06 |
| 0.35 | 0.88 | 0.41 | -0.31 | -1.03 | -1.52 | -2.15 |
| -3.00:1 | 6.00% | 6.00% | | -6.00% | -6.00% | -4.75:1 |
| F 0.53 | C 0.48 | C 0.72 | | F 0.72 | F 0.48 | F 0.63 |
| @ 1.59 | @ 7.96 | @ 12.00 | | @ 12.00 | @ 8.06 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



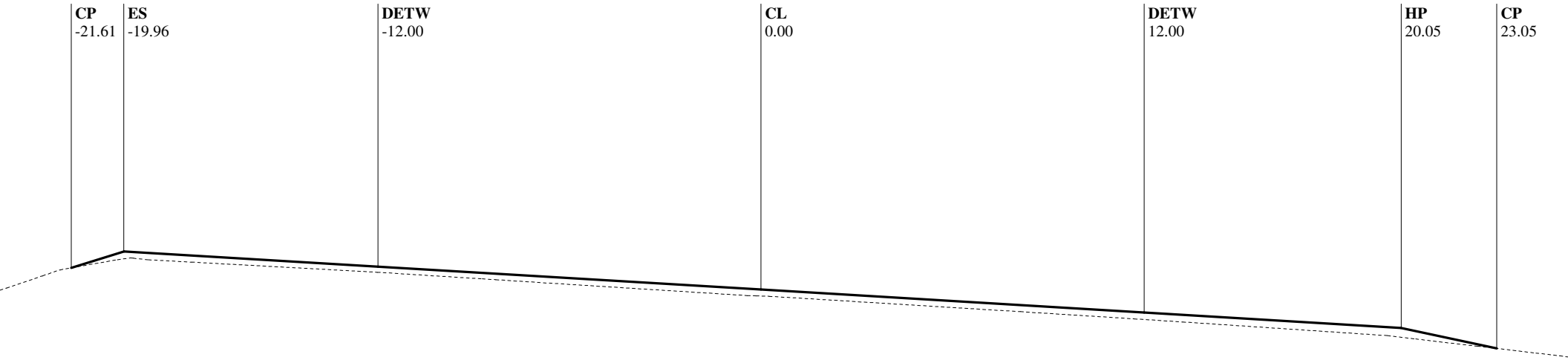

**Alignment Chain CENTER1**
**Station: 115+64.94**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -21.61 | -19.96 | -12.00 | 0.00 | 12.00 | 20.04 | 23.04 |
| 0.36 | 0.87 | 0.40 | -0.32 | -1.04 | -1.53 | -2.17 |
| -3.20:1 | 6.00% | 6.00% | | -6.00% | -6.00% | -4.68:1 |
| F 0.52 | C 0.48 | C 0.72 | | F 0.72 | F 0.48 | F 0.64 |
| @ 1.65 | @ 7.96 | @ 12.00 | | @ 12.00 | @ 8.04 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



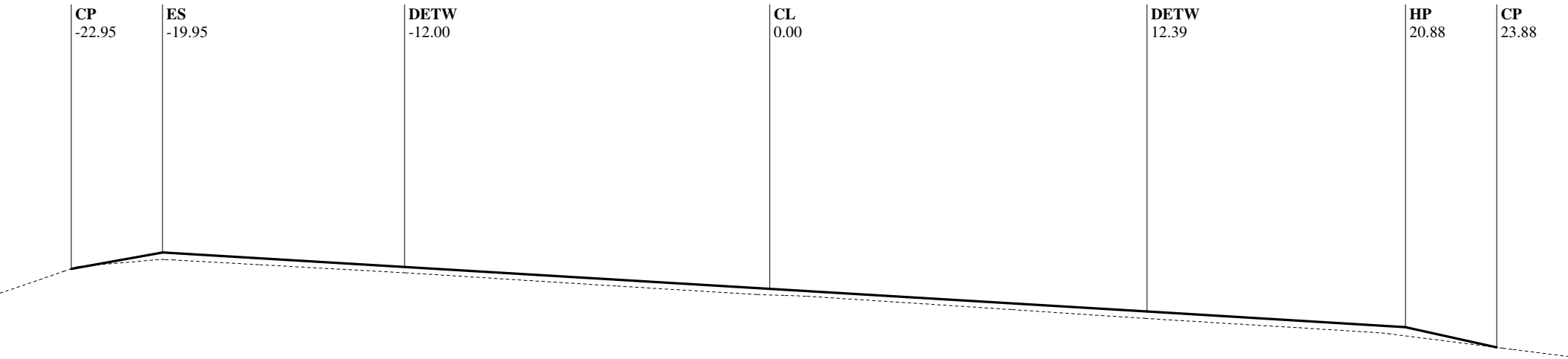

**Alignment Chain CENTER1**
**Station: 115+65.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -21.61 | -19.96 | -12.00 | 0.00 | 12.00 | 20.05 | 23.05 |
| 0.36 | 0.87 | 0.40 | -0.32 | -1.04 | -1.53 | -2.17 |
| -3.20:1 | 6.00% | 6.00% | | -6.00% | -6.00% | -4.68:1 |
| F 0.52 | C 0.48 | C 0.72 | | F 0.72 | F 0.48 | F 0.64 |
| @ 1.65 | @ 7.96 | @ 12.00 | | @ 12.00 | @ 8.05 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



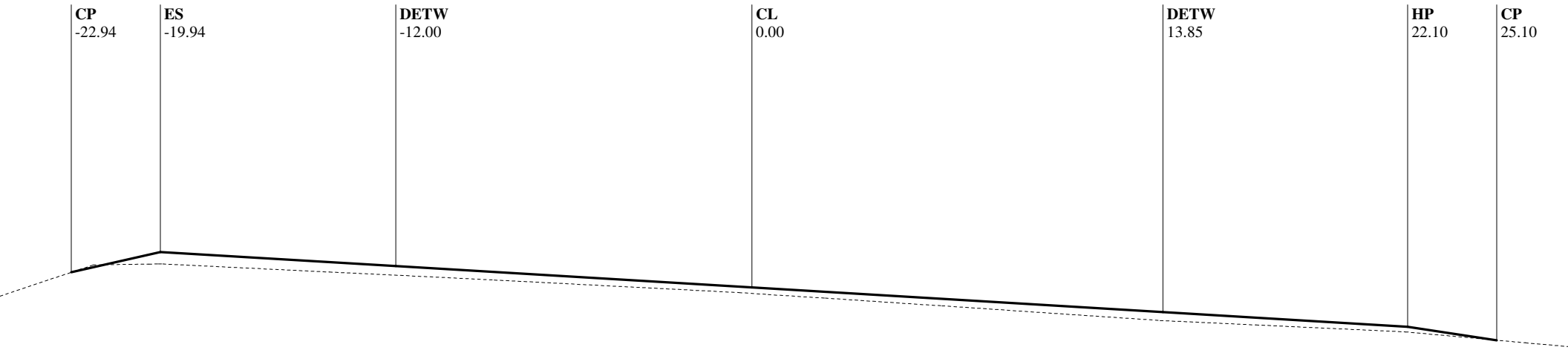

**Alignment Chain CENTER1**
**Station: 116+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -22.95 | -19.95 | -12.00 | 0.00 | 12.39 | 20.88 | 23.88 |
| 0.22 | 0.76 | 0.28 | -0.44 | -1.18 | -1.69 | -2.36 |
| -5.57:1 | 6.00% | 6.00% | | -6.00% | -6.00% | -4.49:1 |
| F 0.54 | C 0.48 | C 0.72 | | F 0.74 | F 0.51 | F 0.67 |
| @ 3.00 | @ 7.95 | @ 12.00 | | @ 12.39 | @ 8.49 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



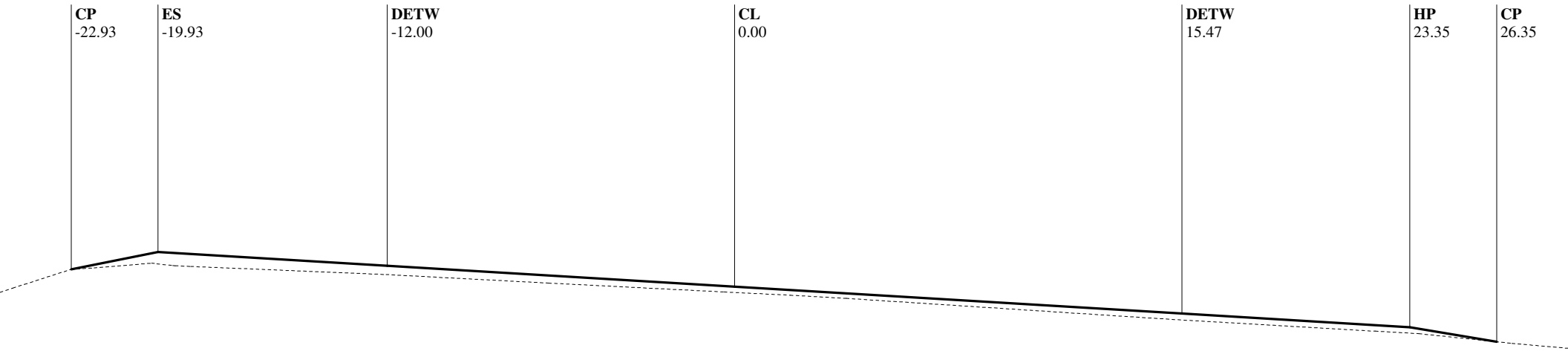

**Alignment Chain CENTER1**
**Station: 116+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -22.94 | -19.94 | -12.00 | 0.00 | 13.85 | 22.10 | 25.10 |
| -0.21 | 0.47 | 0.00 | -0.72 | -1.56 | -2.05 | -2.50 |
| -4.39:1 | 6.00% | 6.00% | | -6.00% | -6.00% | -6.63:1 |
| F 0.68 | C 0.48 | C 0.72 | | F 0.83 | F 0.49 | F 0.45 |
| @ 3.00 | @ 7.94 | @ 12.00 | | @ 13.85 | @ 8.24 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



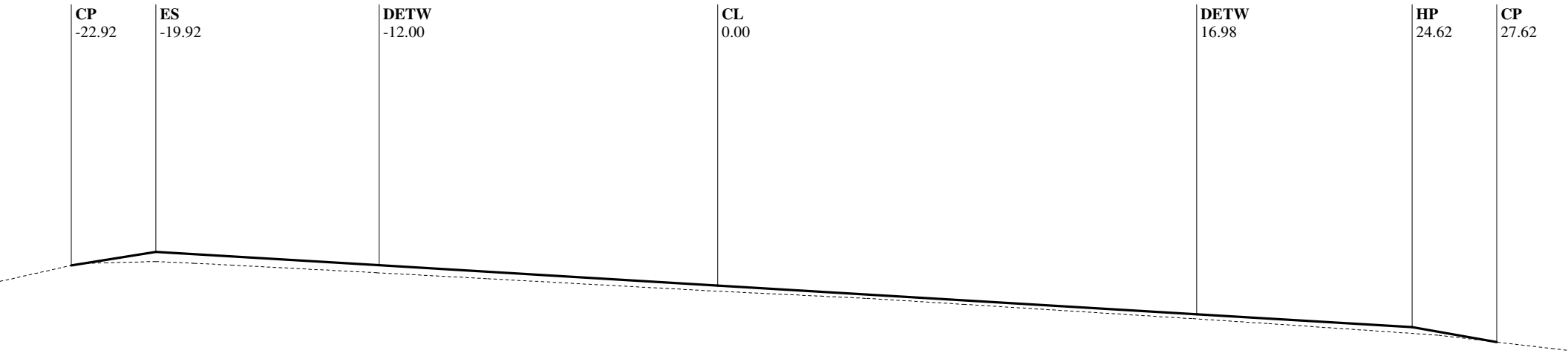

**Alignment Chain CENTER1**
**Station: 117+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -22.93 | -19.93 | -12.00 | 0.00 | 15.47 | 23.35 | 26.35 |
| -0.23 | 0.37 | -0.10 | -0.82 | -1.75 | -2.23 | -2.73 |
| -5.03:1 | 6.00% | 6.00% | | -6.00% | -6.00% | -5.96:1 |
| F 0.60 | C 0.48 | C 0.72 | | F 0.93 | F 0.47 | F 0.50 |
| @ 3.00 | @ 7.93 | @ 12.00 | | @ 15.47 | @ 7.88 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



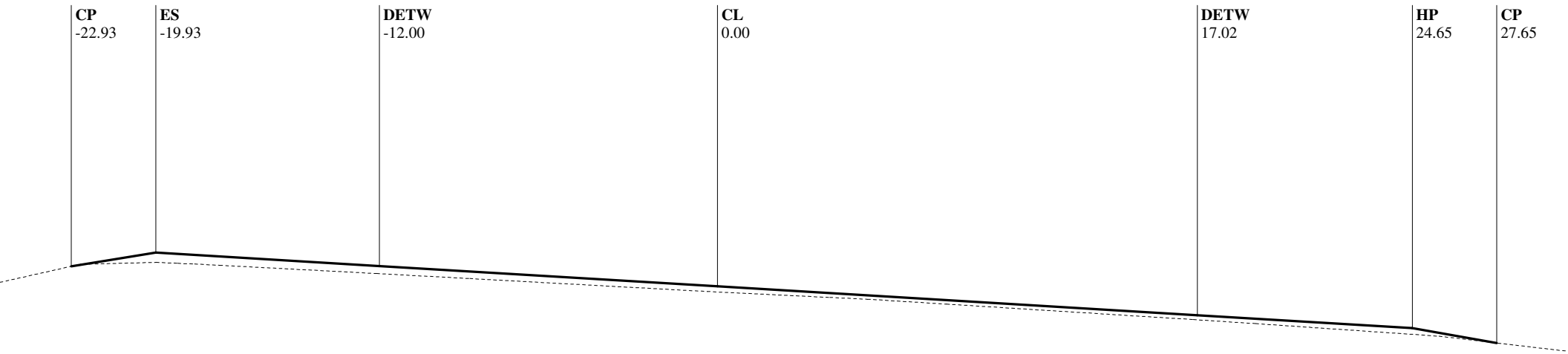

**Alignment Chain CENTER1**
**Station: 117+48.96**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -22.92 | -19.92 | -12.00 | 0.00 | 16.98 | 24.62 | 27.62 |
| -0.14 | 0.34 | -0.13 | -0.85 | -1.87 | -2.33 | -2.86 |
| -6.24:1 | 6.00% | 6.00% | | -6.00% | -6.00% | -5.67:1 |
| F 0.48 | C 0.48 | C 0.72 | | F 1.02 | F 0.46 | F 0.53 |
| @ 3.00 | @ 7.92 | @ 12.00 | | @ 16.98 | @ 7.64 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



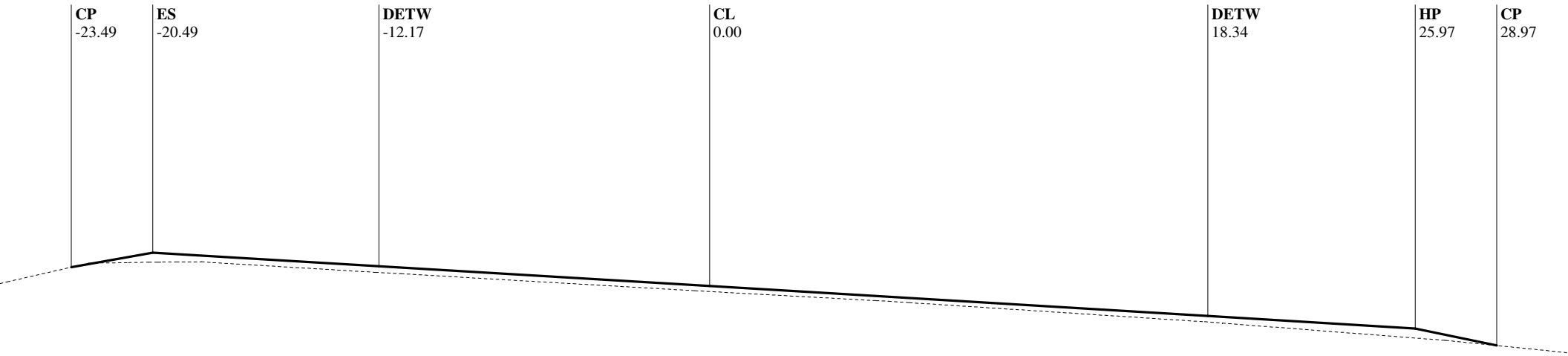

**Alignment Chain CENTER1**
**Station: 117+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -22.93 | -19.93 | -12.00 | 0.00 | 17.02 | 24.65 | 27.65 |
| -0.14 | 0.34 | -0.13 | -0.85 | -1.88 | -2.33 | -2.86 |
| -6.19:1 | 6.00% | 6.00% | | -6.00% | -6.00% | -5.65:1 |
| F 0.48 | C 0.48 | C 0.72 | | F 1.02 | F 0.46 | F 0.53 |
| @ 3.00 | @ 7.93 | @ 12.00 | | @ 17.02 | @ 7.63 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



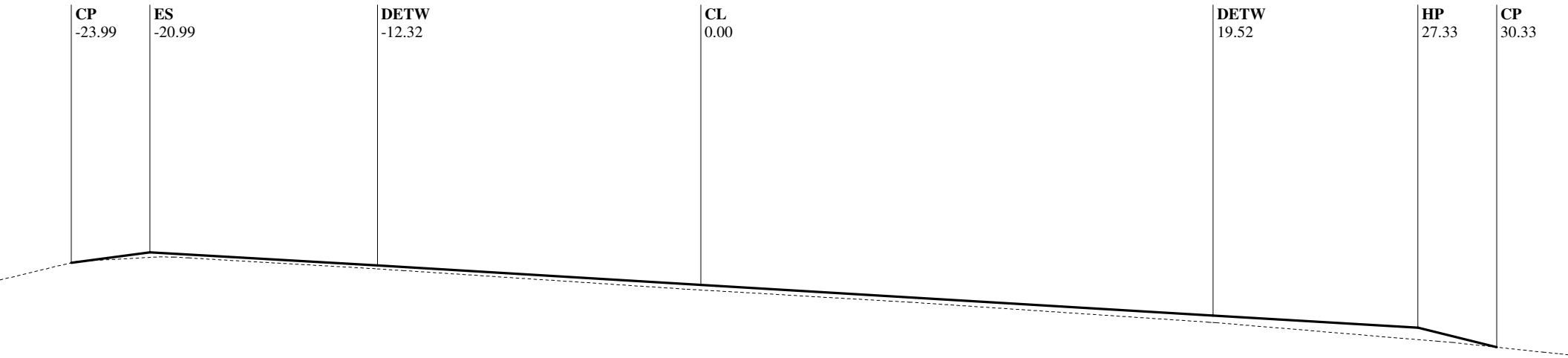

**Alignment Chain CENTER1**
**Station: 118+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.49 | -20.49 | -12.17 | 0.00 | 18.34 | 25.97 | 28.97 |
| -0.18 | 0.36 | -0.14 | -0.87 | -1.97 | -2.43 | -3.05 |
| -5.62:1 | 6.00% | 6.00% | | -6.00% | -6.00% | -4.80:1 |
| F 0.53 | C 0.50 | C 0.73 | | F 1.10 | F 0.46 | F 0.63 |
| @ 3.00 | @ 8.33 | @ 12.17 | | @ 18.34 | @ 7.64 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



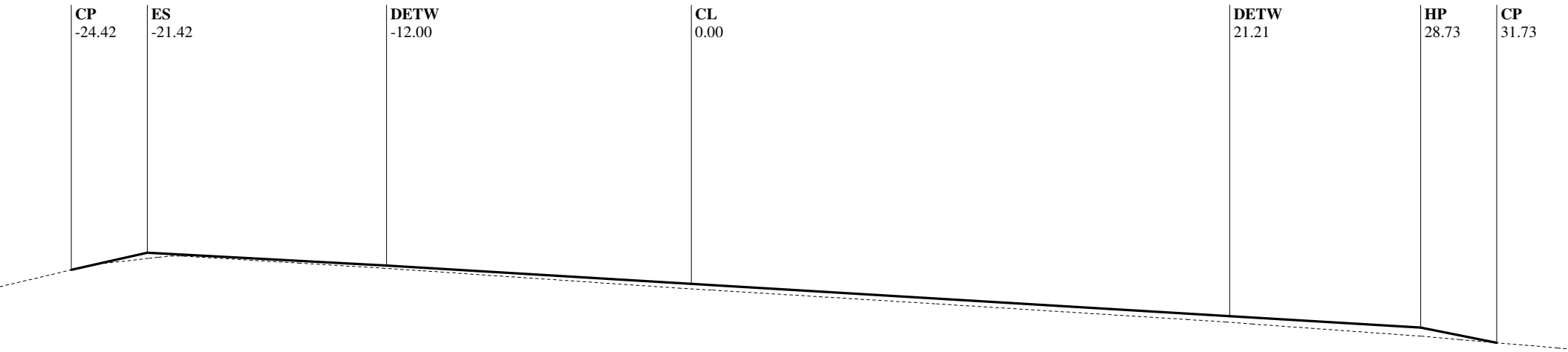

**Alignment Chain CENTER1**
**Station: 118+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.99 | -20.99 | -12.32 | 0.00 | 19.52 | 27.33 | 30.33 |
| -0.11 | 0.28 | -0.21 | -0.95 | -2.12 | -2.59 | -3.33 |
| -13.12% | 5.69% | 6.00% | | -6.00% | -6.00% | -4.06:1 |
| F 0.39 | C 0.49 | C 0.74 | | F 1.17 | F 0.47 | F 0.74 |
| @ 3.00 | @ 8.67 | @ 12.32 | | @ 19.52 | @ 7.82 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



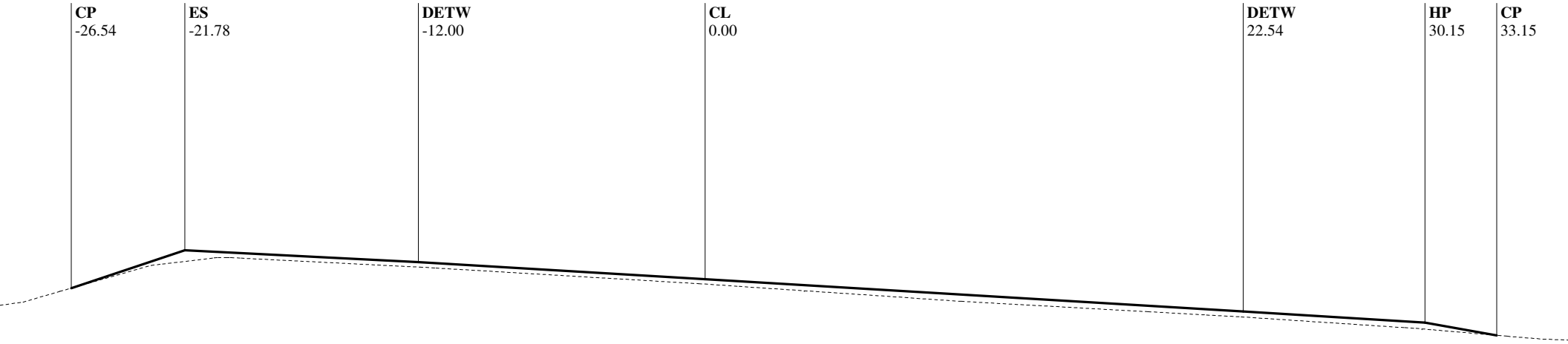

**Alignment Chain CENTER1**
**Station: 119+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -24.42 | -21.42 | -12.00 | 0.00 | 21.21 | 28.73 | 31.73 |
| -0.51 | 0.16 | -0.34 | -1.06 | -2.34 | -2.79 | -3.39 |
| -4.44:1 | 5.38% | 6.00% | | -6.00% | -6.00% | -5.01:1 |
| F 0.68 | C 0.51 | C 0.72 | | F 1.27 | F 0.45 | F 0.60 |
| @ 3.00 | @ 9.41 | @ 12.00 | | @ 21.21 | @ 7.52 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



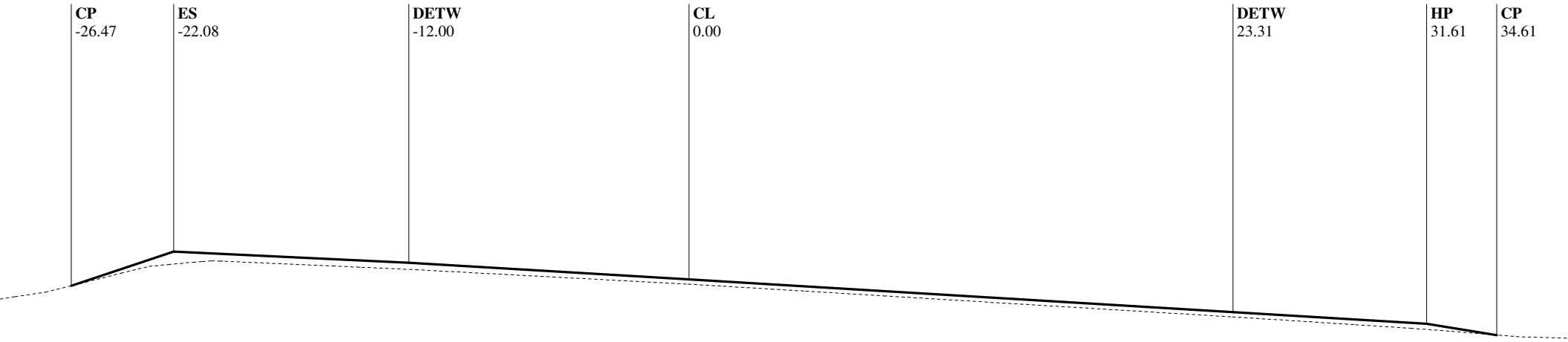

**Alignment Chain CENTER1**
**Station: 119+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -26.54 | -21.78 | -12.00 | 0.00 | 22.54 | 30.15 | 33.15 |
| -1.42 | 0.17 | -0.33 | -1.05 | -2.40 | -2.86 | -3.40 |
| -3.00:1 | 5.06% | 6.00% | | -6.00% | -6.00% | -5.55:1 |
| F 1.59 | C 0.50 | C 0.72 | | F 1.35 | F 0.46 | F 0.54 |
| @ 4.76 | @ 9.78 | @ 12.00 | | @ 22.54 | @ 7.61 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



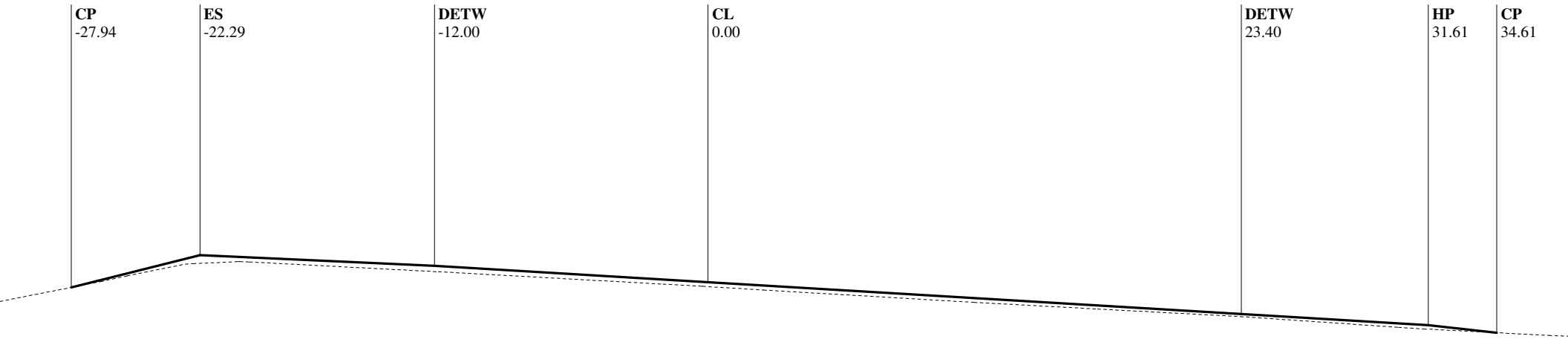

**Alignment Chain CENTER1**
**Station: 120+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -26.47 | -22.08 | -12.00 | 0.00 | 23.31 | 31.61 | 34.61 |
| -1.37 | 0.09 | -0.38 | -1.10 | -2.50 | -3.00 | -3.48 |
| -3.00:1 | 4.75% | 6.00% | | -6.00% | -6.00% | -6.20:1 |
| F 1.46 | C 0.48 | C 0.72 | | F 1.40 | F 0.50 | F 0.48 |
| @ 4.39 | @ 10.08 | @ 12.00 | | @ 23.31 | @ 8.30 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



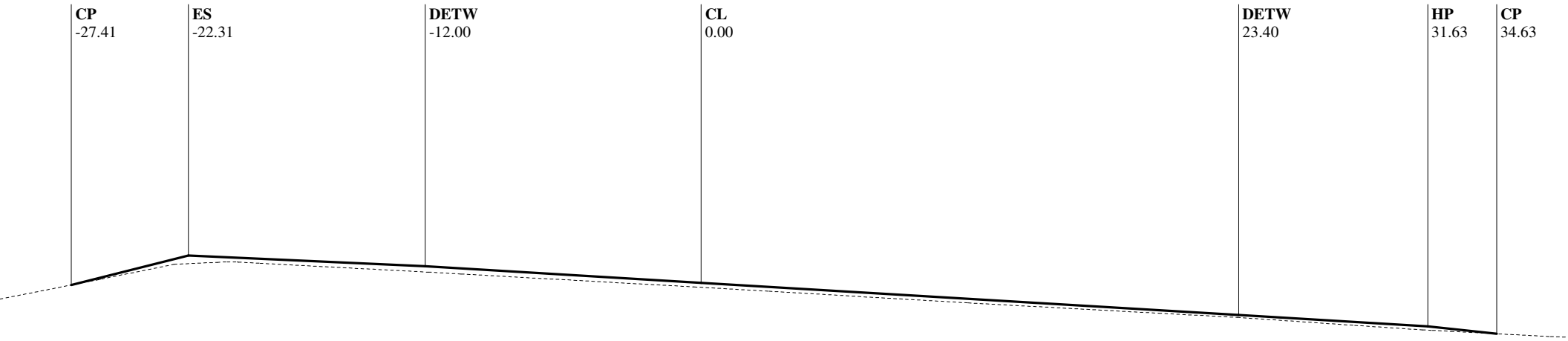

**Alignment Chain CENTER1**
**Station: 120+46.29**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -27.94 | -22.29 | -12.00 | 0.00 | 23.40 | 31.61 | 34.61 |
| -1.55 | -0.14 | -0.60 | -1.32 | -2.72 | -3.22 | -3.54 |
| -4.00:1 | 4.46% | 6.00% | | -6.00% | -6.00% | -10.88% |
| F 1.41 | C 0.46 | C 0.72 | | F 1.40 | F 0.49 | F 0.33 |
| @ 5.64 | @ 10.29 | @ 12.00 | | @ 23.40 | @ 8.21 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



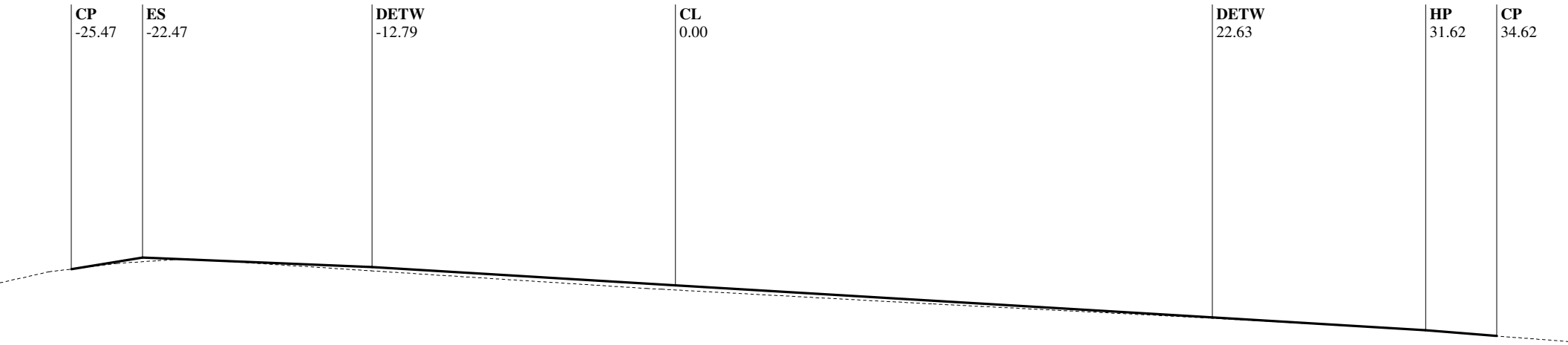

**Alignment Chain CENTER1**
**Station: 120+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -27.41 | -22.31 | -12.00 | 0.00 | 23.40 | 31.63 | 34.63 |
| -1.43 | -0.15 | -0.61 | -1.33 | -2.73 | -3.23 | -3.55 |
| -4.00:1 | 4.44% | 6.00% | | -6.00% | -6.00% | -10.74% |
| F 1.28 | C 0.46 | C 0.72 | | F 1.40 | F 0.49 | F 0.32 |
| @ 5.10 | @ 10.31 | @ 12.00 | | @ 23.40 | @ 8.24 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

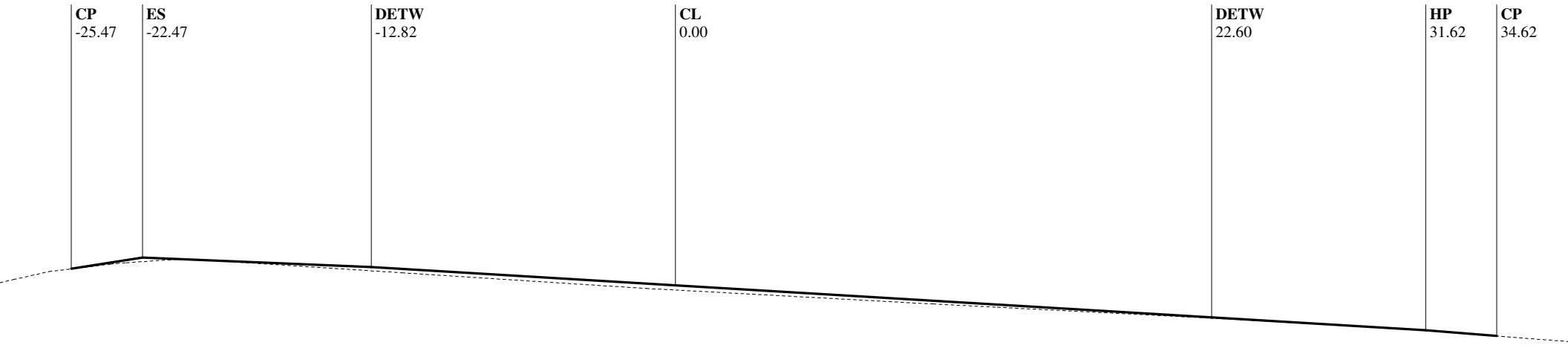



**Alignment Chain CENTER1**
**Station: 121+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -25.47 | -22.47 | -12.79 | 0.00 | 22.63 | 31.62 | 34.62 |
| -0.73 | -0.24 | -0.64 | -1.41 | -2.77 | -3.31 | -3.55 |
| -6.19:1 | 4.13% | 6.00% | | -6.00% | -6.00% | -8.11% |
| F 0.48 | C 0.40 | C 0.77 | | F 1.36 | F 0.54 | F 0.24 |
| @ 3.00 | @ 9.68 | @ 12.79 | | @ 22.63 | @ 8.99 | @ 3.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



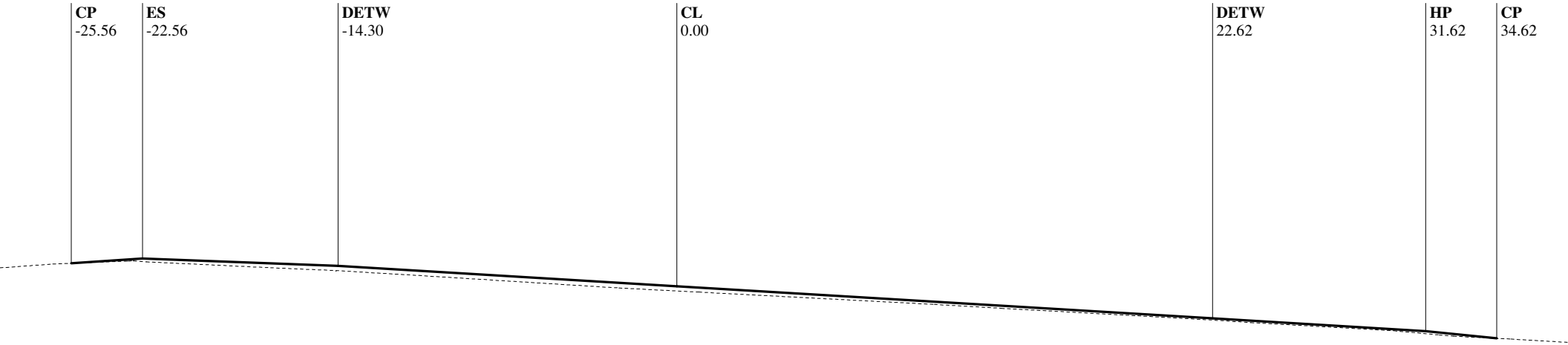

**Alignment Chain CENTER1**
**Station: 121+00.91**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -25.47 | -22.47 | -12.82 | 0.00 | 22.60 | 31.62 | 34.62 |
| -0.72 | -0.24 | -0.64 | -1.41 | -2.77 | -3.31 | -3.55 |
| -6.32:1 | 4.12% | 6.00% | | -6.00% | -6.00% | -8.09% |
| F 0.47 | C 0.40 | C 0.77 | | F 1.36 | F 0.54 | F 0.24 |
| @ 3.00 | @ 9.65 | @ 12.82 | | @ 22.60 | @ 9.01 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



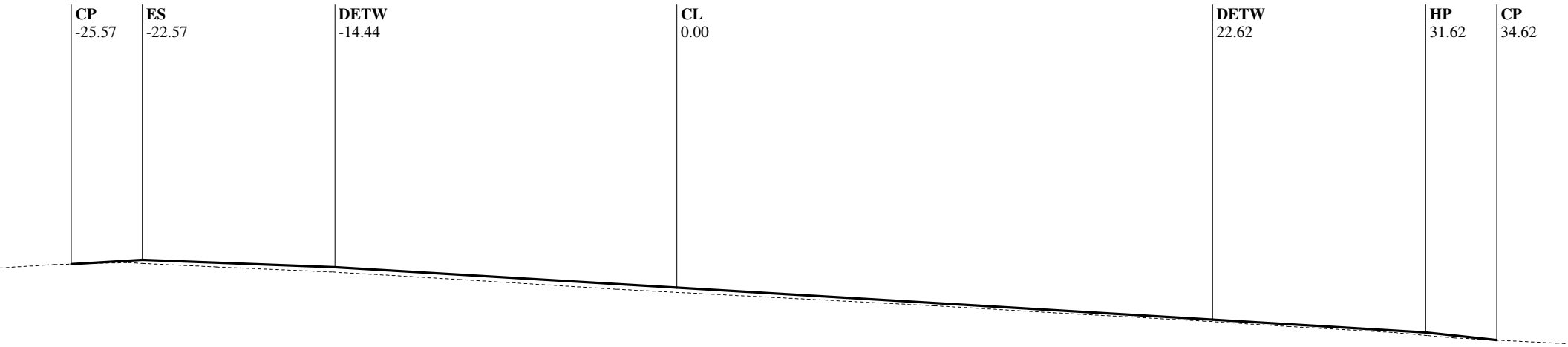

**Alignment Chain CENTER1**
**Station: 121+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -25.56 | -22.56 | -14.30 | 0.00 | 22.62 | 31.62 | 34.62 |
| -0.54 | -0.33 | -0.65 | -1.50 | -2.86 | -3.40 | -3.71 |
| -6.83% | 3.81% | 6.00% | | -6.00% | -6.00% | -10.21% |
| F 0.20 | C 0.32 | C 0.86 | | F 1.36 | F 0.54 | F 0.31 |
| @ 3.00 | @ 8.27 | @ 14.30 | | @ 22.62 | @ 8.99 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



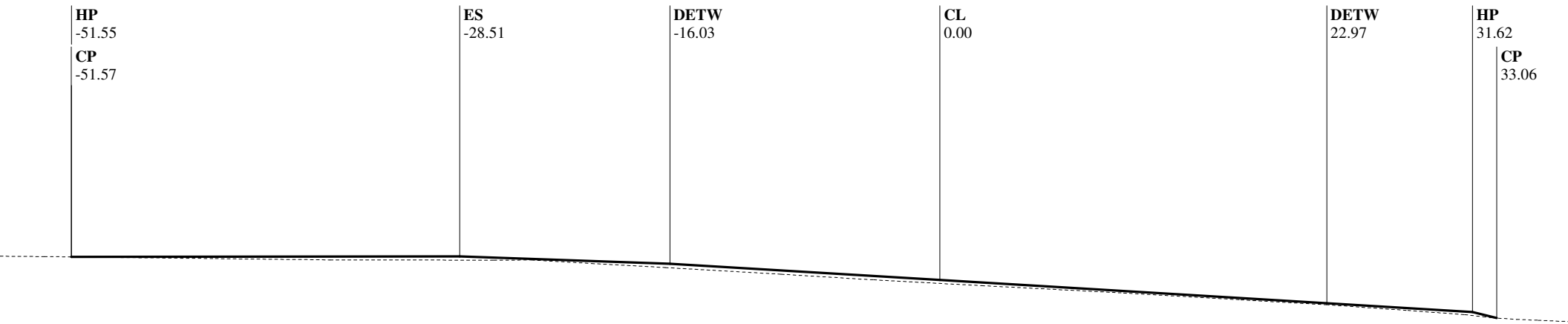

**Alignment Chain CENTER1**
**Station: 121+53.70**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -25.57 | -22.57 | -14.44 | 0.00 | 22.62 | 31.62 | 34.62 |
| -0.51 | -0.34 | -0.65 | -1.51 | -2.87 | -3.41 | -3.73 |
| -5.84% | 3.79% | 6.00% | | -6.00% | -6.00% | -10.69% |
| F 0.18 | C 0.31 | C 0.87 | | F 1.36 | F 0.54 | F 0.32 |
| @ 3.00 | @ 8.13 | @ 14.44 | | @ 22.62 | @ 8.99 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



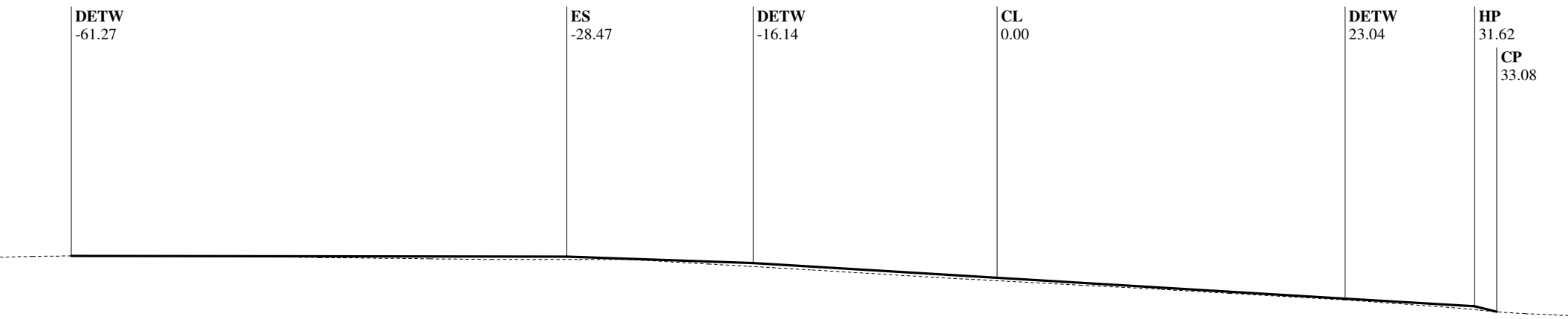

**Alignment Chain CENTER1**
**Station: 122+00.00**

| CP | HP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|---|
| -51.57 | -51.55 | -28.51 | -16.03 | 0.00 | 22.97 | 31.62 | 33.06 |
| -0.20 | -0.19 | -0.17 | -0.61 | -1.57 | -2.95 | -3.47 | -3.83 |
| -4.00:1 | -0.10% | 3.50% | 6.00% | | -6.00% | -6.00% | -4.00:1 |
| F 0.00 | F 0.02 | C 0.44 | C 0.96 | | F 1.38 | F 0.52 | F 0.36 |
| @ 0.01 | @ 23.04 | @ 12.48 | @ 16.03 | | @ 22.97 | @ 8.64 | @ 1.44 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



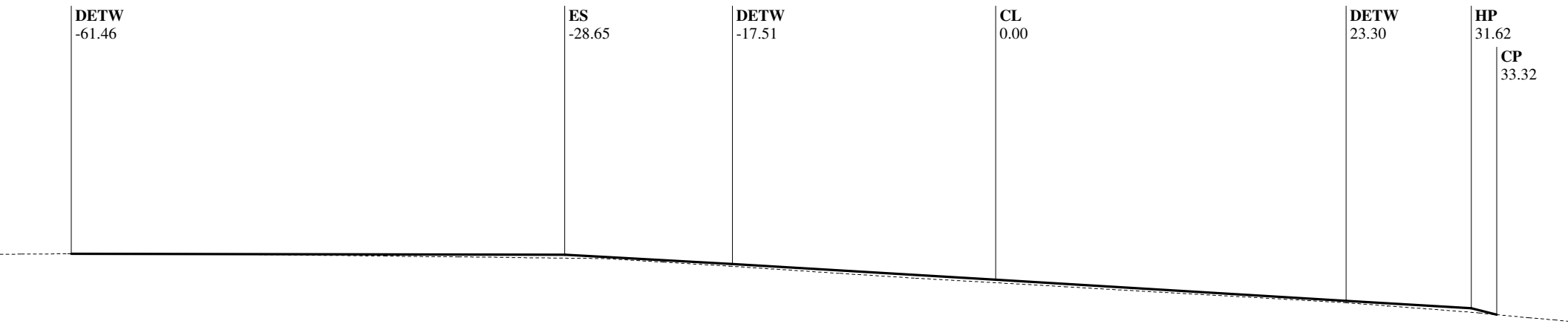

**Alignment Chain CENTER1**
**Station: 122+04.03**

| DETW | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -61.27 | -28.47 | -16.14 | 0.00 | 23.04 | 31.62 | 33.08 |
| -0.13 | -0.17 | -0.60 | -1.57 | -2.95 | -3.46 | -3.83 |
| 0.10% | 3.50% | 6.00% | | -6.00% | -6.00% | -4.00:1 |
| C 0.03 | C 0.43 | C 0.97 | | F 1.38 | F 0.51 | F 0.37 |
| @ 32.80 | @ 12.33 | @ 16.14 | | @ 23.04 | @ 8.57 | @ 1.46 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

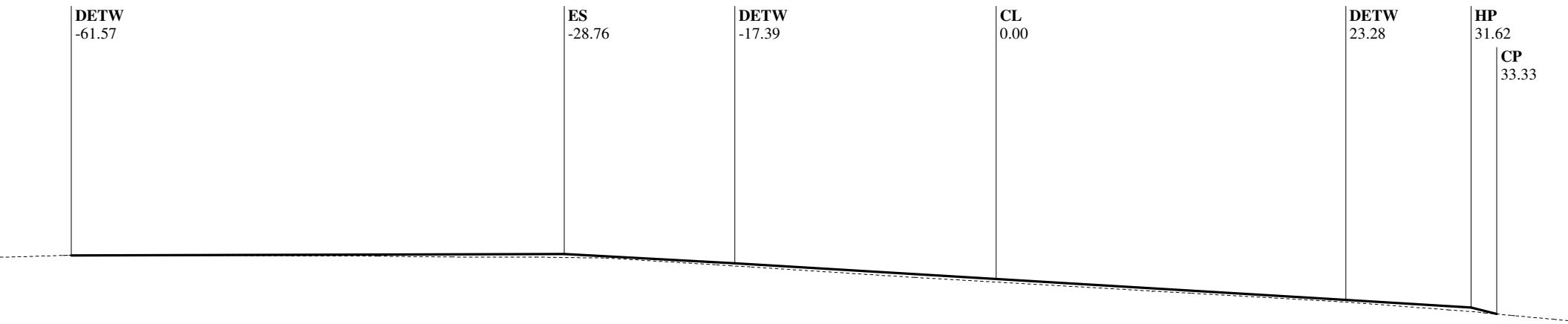



**Alignment Chain CENTER1**
**Station: 122+50.00**

| DETW | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -61.46 | -28.65 | -17.51 | 0.00 | 23.30 | 31.62 | 33.32 |
| 0.16 | 0.10 | -0.52 | -1.57 | -2.97 | -3.46 | -3.89 |
| 0.20% | 5.50% | 6.00% | | -6.00% | -6.00% | -4.00:1 |
| C 0.07 | C 0.61 | C 1.05 | | F 1.40 | F 0.50 | F 0.42 |
| @ 32.81 | @ 11.13 | @ 17.51 | | @ 23.30 | @ 8.32 | @ 1.70 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



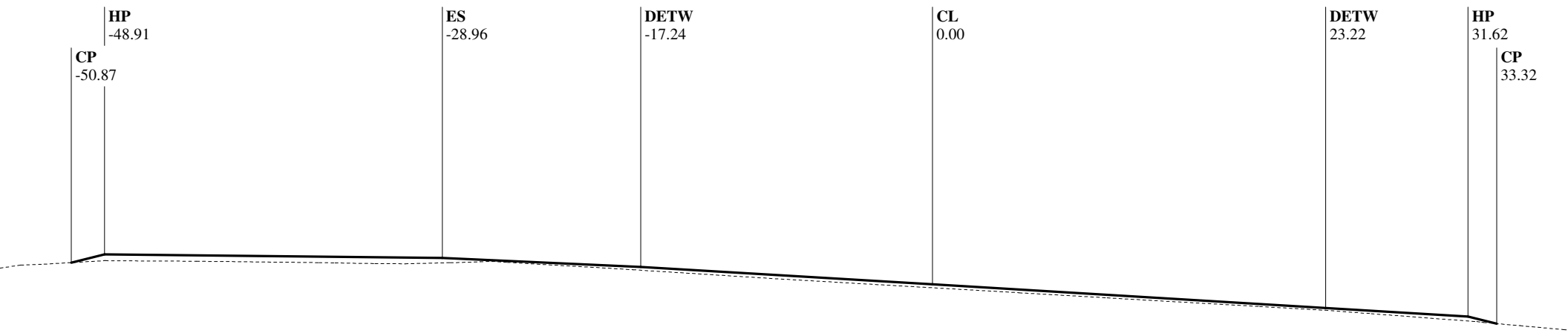

**Alignment Chain CENTER1**
**Station: 122+56.56**

| DETW | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -61.57 | -28.76 | -17.39 | 0.00 | 23.28 | 31.62 | 33.33 |
| 0.00 | 0.10 | -0.53 | -1.57 | -2.97 | -3.47 | -3.90 |
| -0.30% | 5.50% | 6.00% | | -6.00% | -6.00% | -4.00:1 |
| F 0.10 | C 0.63 | C 1.04 | | F 1.40 | F 0.50 | F 0.43 |
| @ 32.81 | @ 11.37 | @ 17.39 | | @ 23.28 | @ 8.34 | @ 1.72 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



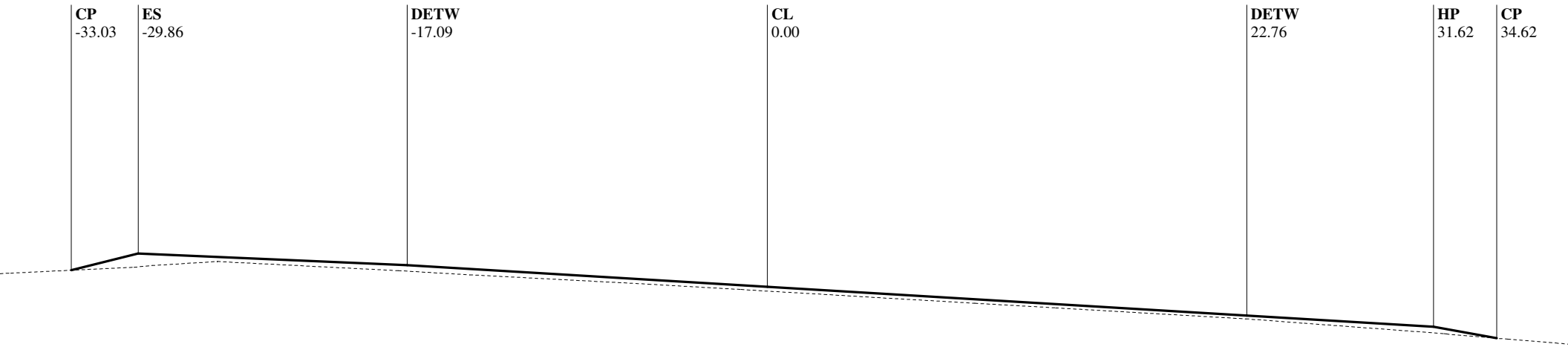

**Alignment Chain CENTER1**
**Station: 122+66.22**

| CP | HP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|---|
| -50.87 | -48.91 | -28.96 | -17.24 | 0.00 | 23.22 | 31.62 | 33.32 |
| -0.29 | 0.20 | -0.02 | -0.55 | -1.58 | -2.97 | -3.48 | -3.90 |
| -4.00:1 | 1.09% | 4.50% | 6.00% | | -6.00% | -6.00% | -4.00:1 |
| F 0.49 | C 0.22 | C 0.53 | C 1.03 | | F 1.39 | F 0.50 | F 0.43 |
| @ 1.97 | @ 19.94 | @ 11.72 | @ 17.24 | | @ 23.22 | @ 8.40 | @ 1.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



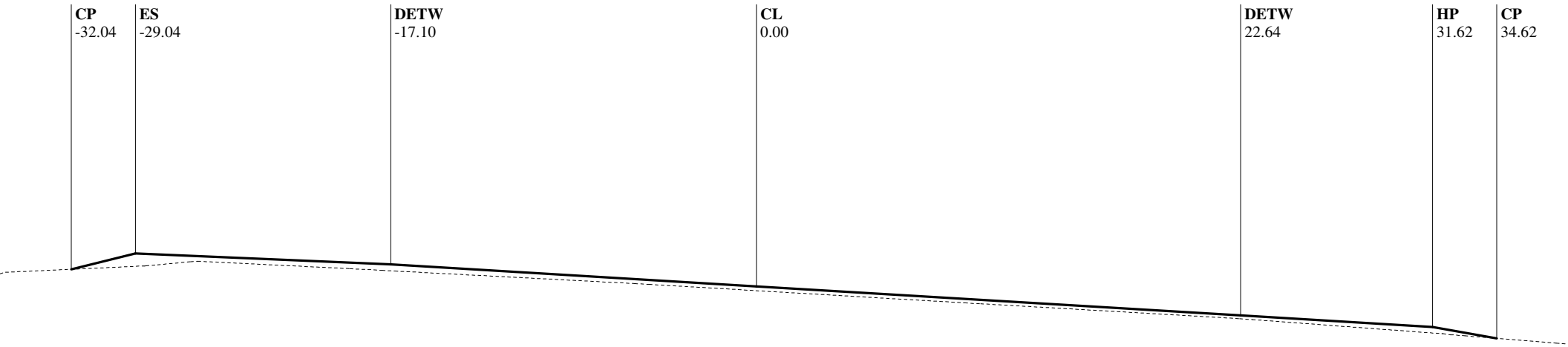

**Alignment Chain CENTER1**
**Station: 122+95.14**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -33.03 | -29.86 | -17.09 | 0.00 | 22.76 | 31.62 | 34.62 |
| -0.83 | -0.03 | -0.59 | -1.62 | -2.98 | -3.51 | -4.05 |
| -4.00:1 | 4.35% | 6.00% | | -6.00% | -6.00% | -5.55:1 |
| F 0.79 | C 0.56 | C 1.03 | | F 1.37 | F 0.53 | F 0.54 |
| @ 3.17 | @ 12.78 | @ 17.09 | | @ 22.76 | @ 8.86 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



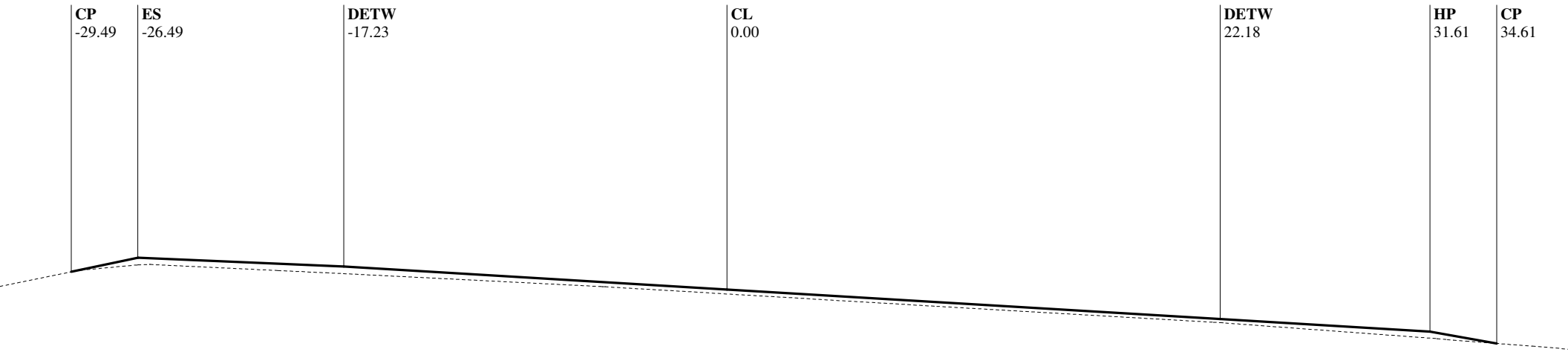

**Alignment Chain CENTER1**
**Station: 123+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -32.04 | -29.04 | -17.10 | 0.00 | 22.64 | 31.62 | 34.62 |
| -0.82 | -0.08 | -0.60 | -1.63 | -2.98 | -3.52 | -4.06 |
| -4.05:1 | 4.33% | 6.00% | | -6.00% | -6.00% | -5.58:1 |
| F 0.74 | C 0.52 | C 1.03 | | F 1.36 | F 0.54 | F 0.54 |
| @ 3.00 | @ 11.94 | @ 17.10 | | @ 22.64 | @ 8.98 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



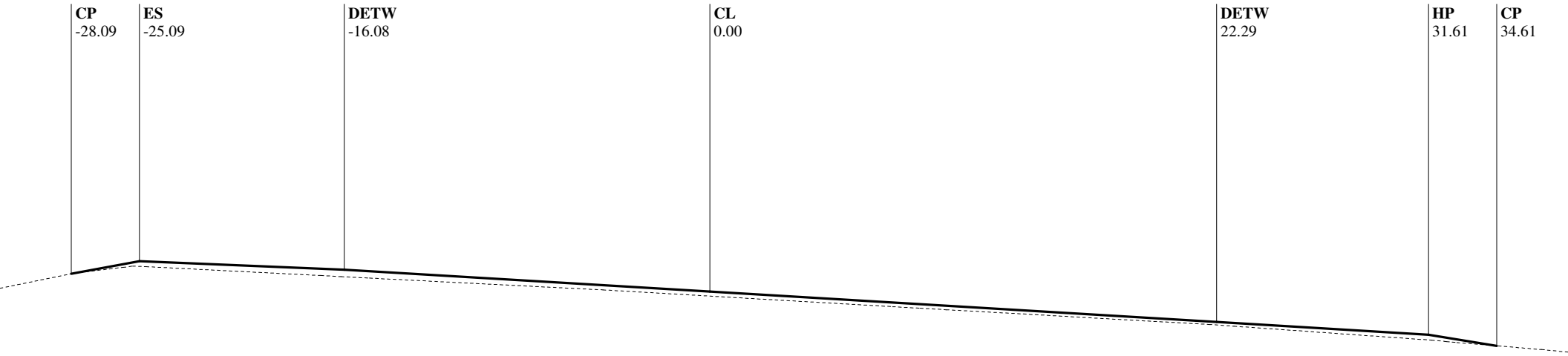

**Alignment Chain CENTER1**
**Station: 123+15.54**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -29.49 | -26.49 | -17.23 | 0.00 | 22.18 | 31.61 | 34.61 |
| -0.86 | -0.23 | -0.62 | -1.66 | -2.99 | -3.56 | -4.08 |
| -4.74:1 | 4.25% | 6.00% | | -6.00% | -6.00% | -5.67:1 |
| F 0.63 | C 0.39 | C 1.03 | | F 1.33 | F 0.57 | F 0.53 |
| @ 3.00 | @ 9.25 | @ 17.23 | | @ 22.18 | @ 9.43 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



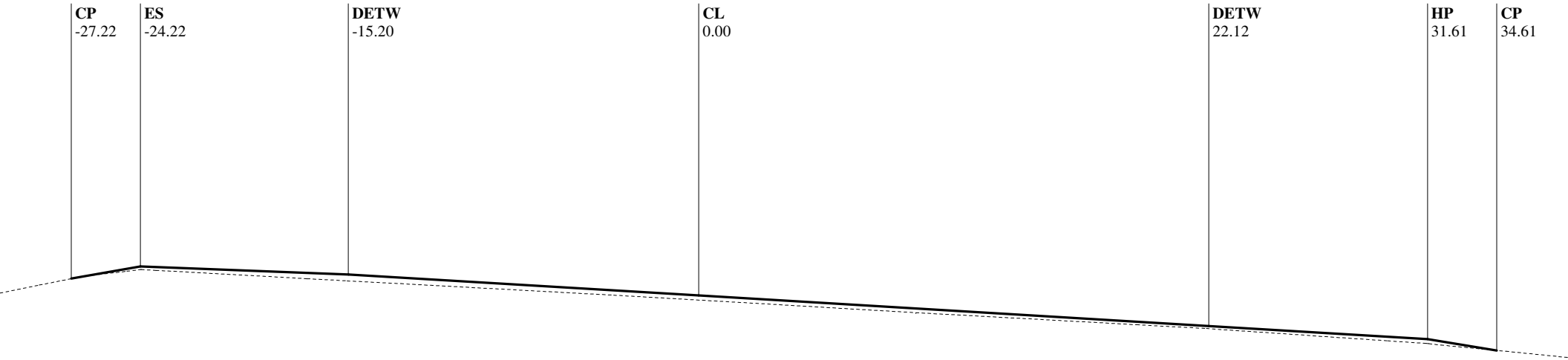

**Alignment Chain CENTER1**
**Station: 123+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -28.09 | -25.09 | -16.08 | 0.00 | 22.29 | 31.61 | 34.61 |
| -0.98 | -0.43 | -0.80 | -1.76 | -3.10 | -3.66 | -4.15 |
| -5.50:1 | 4.07% | 6.00% | | -6.00% | -6.00% | -6.08:1 |
| F 0.55 | C 0.37 | C 0.96 | | F 1.34 | F 0.56 | F 0.49 |
| @ 3.00 | @ 9.01 | @ 16.08 | | @ 22.29 | @ 9.32 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



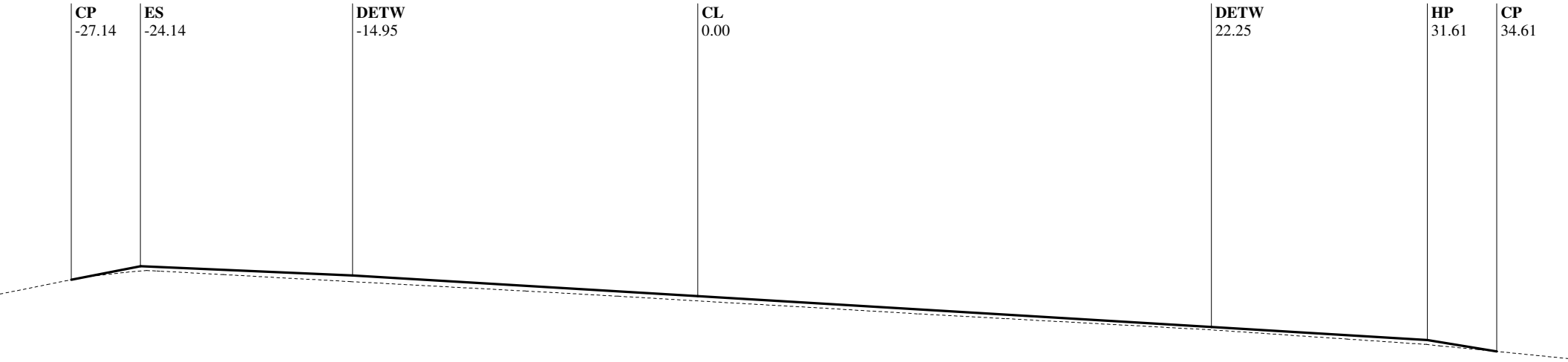

**Alignment Chain CENTER1**
**Station: 123+90.67**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -27.22 | -24.22 | -15.20 | 0.00 | 22.12 | 31.61 | 34.61 |
| -1.19 | -0.66 | -1.01 | -1.92 | -3.25 | -3.82 | -4.31 |
| -5.65:1 | 3.87% | 6.00% | | -6.00% | -6.00% | -6.15:1 |
| F 0.53 | C 0.35 | C 0.91 | | F 1.33 | F 0.57 | F 0.49 |
| @ 3.00 | @ 9.02 | @ 15.20 | | @ 22.12 | @ 9.49 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



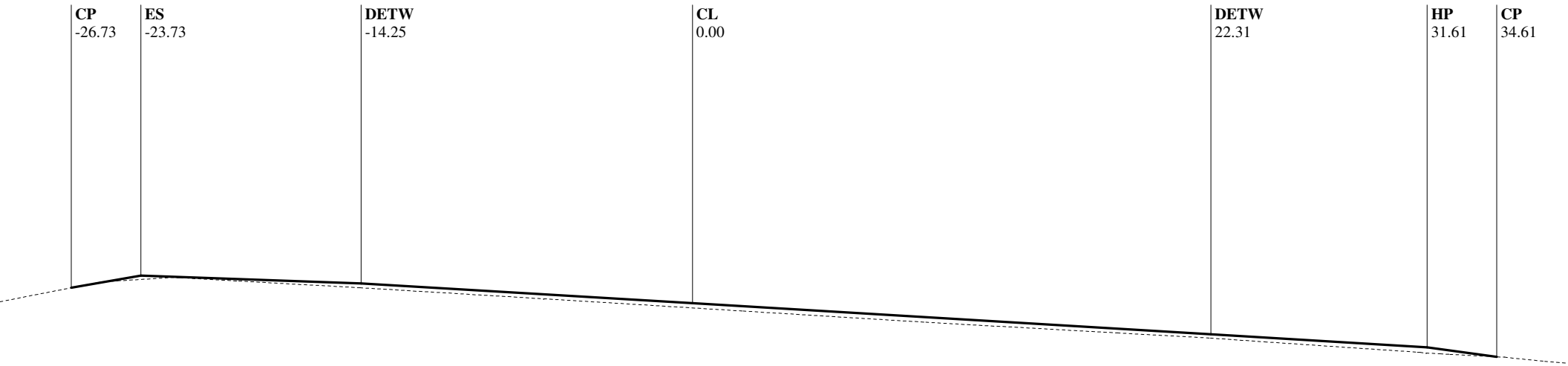

**Alignment Chain CENTER1**
**Station: 124+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -27.14 | -24.14 | -14.95 | 0.00 | 22.25 | 31.61 | 34.61 |
| -1.25 | -0.67 | -1.07 | -1.97 | -3.30 | -3.87 | -4.36 |
| -5.10:1 | 4.44% | 6.00% | | -6.00% | -6.00% | -6.07:1 |
| F 0.59 | C 0.41 | C 0.90 | | F 1.33 | F 0.56 | F 0.49 |
| @ 3.00 | @ 9.18 | @ 14.95 | | @ 22.25 | @ 9.36 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



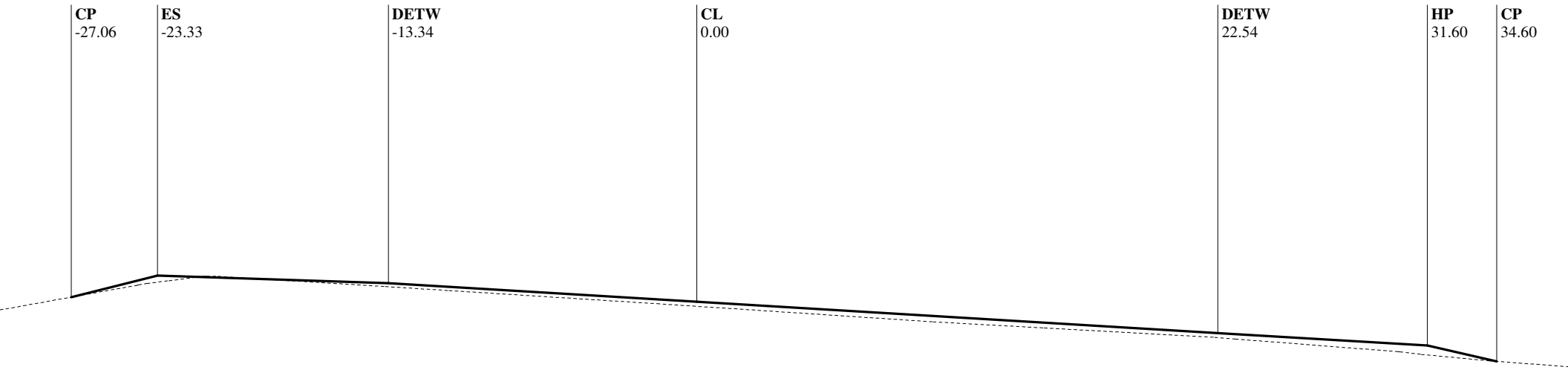

**Alignment Chain CENTER1**
**Station: 124+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -26.73 | -23.73 | -14.25 | 0.00 | 22.31 | 31.61 | 34.61 |
| -1.52 | -1.00 | -1.33 | -2.19 | -3.53 | -4.09 | -4.49 |
| -5.71:1 | 3.55% | 6.00% | | -6.00% | -6.00% | -13.60% |
| F 0.53 | C 0.34 | C 0.86 | | F 1.34 | F 0.56 | F 0.41 |
| @ 3.00 | @ 9.47 | @ 14.25 | | @ 22.31 | @ 9.30 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



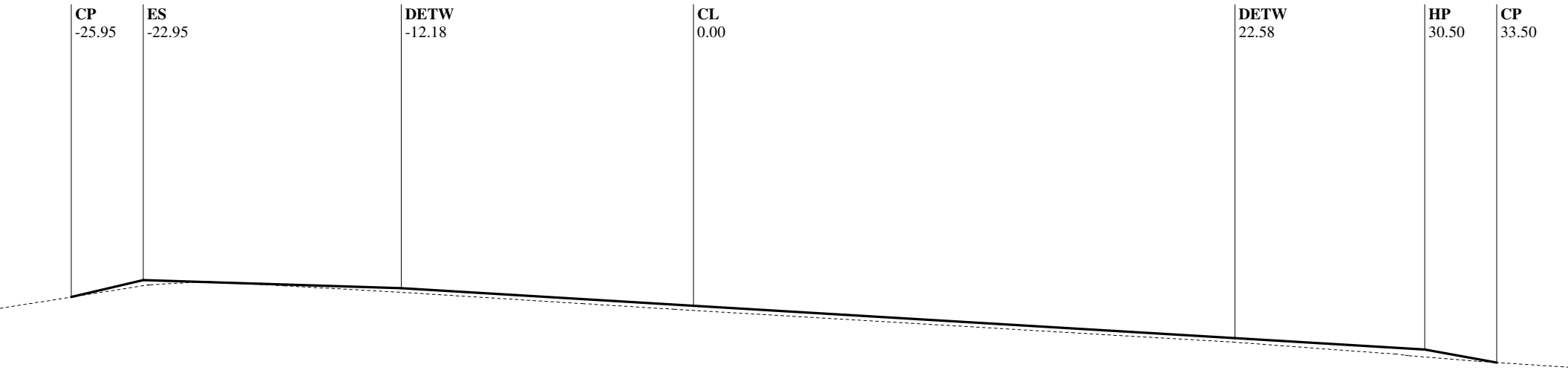

**Alignment Chain CENTER1**
**Station: 125+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -27.06 | -23.33 | -13.34 | 0.00 | 22.54 | 31.60 | 34.60 |
| -1.92 | -0.99 | -1.32 | -2.12 | -3.47 | -4.02 | -4.70 |
| -4.00:1 | 3.30% | 6.00% | | -6.00% | -6.00% | -4.38:1 |
| F 0.93 | C 0.33 | C 0.80 | | F 1.35 | F 0.54 | F 0.68 |
| @ 3.73 | @ 9.99 | @ 13.34 | | @ 22.54 | @ 9.06 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



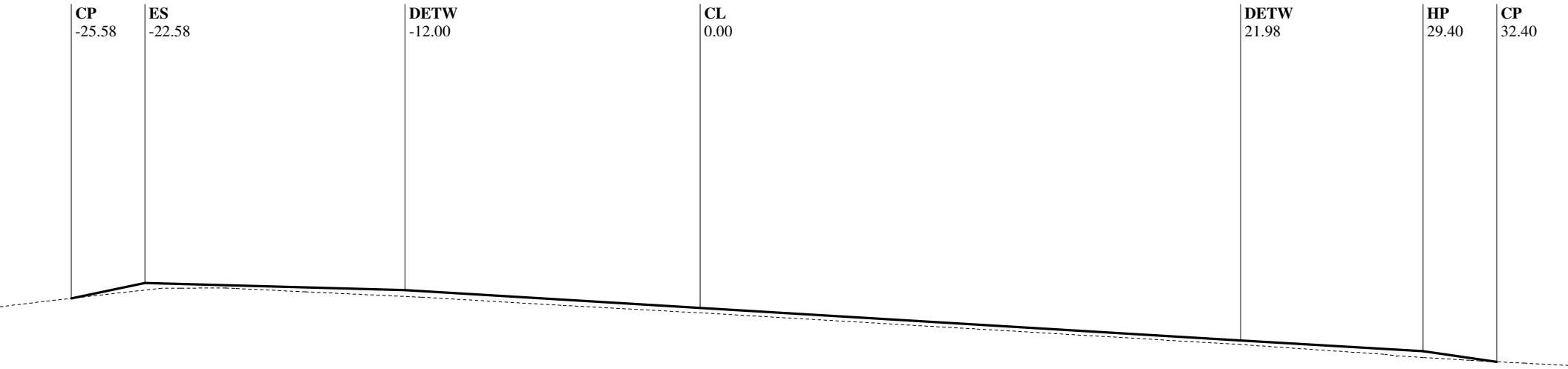

**Alignment Chain CENTER1**
**Station: 125+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -25.95 | -22.95 | -12.18 | 0.00 | 22.58 | 30.50 | 33.50 |
| -1.87 | -1.17 | -1.50 | -2.23 | -3.58 | -4.06 | -4.60 |
| -4.27:1 | 3.04% | 6.00% | | -6.00% | -6.00% | -5.52:1 |
| F 0.70 | C 0.33 | C 0.73 | | F 1.35 | F 0.48 | F 0.54 |
| @ 3.00 | @ 10.76 | @ 12.18 | | @ 22.58 | @ 7.93 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



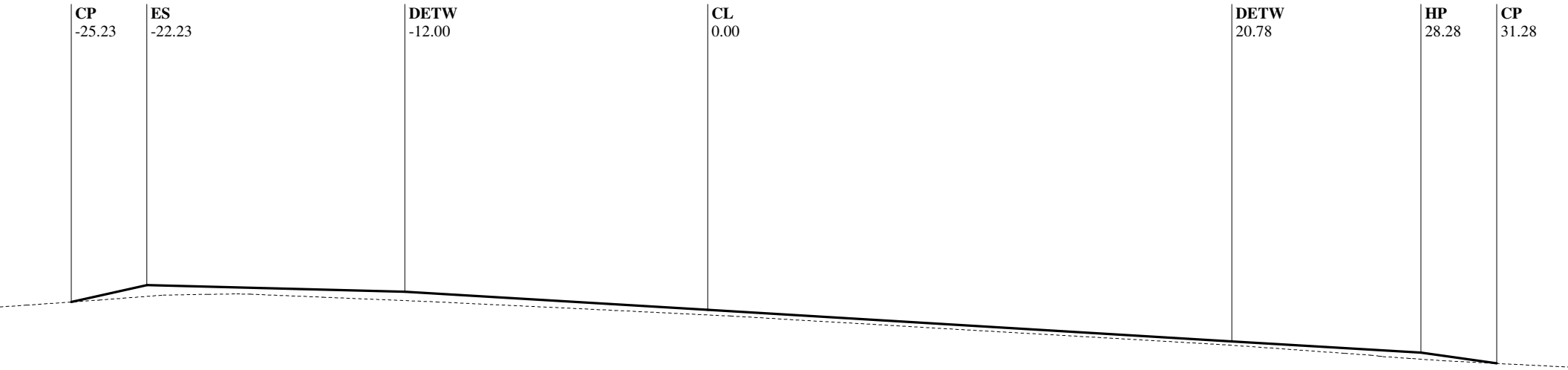

**Alignment Chain CENTER1**
**Station: 126+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -25.58 | -22.58 | -12.00 | 0.00 | 21.98 | 29.40 | 32.40 |
| -1.90 | -1.27 | -1.57 | -2.29 | -3.61 | -4.05 | -4.48 |
| -4.81:1 | 2.78% | 6.00% | | -6.00% | -6.00% | -14.21% |
| F 0.62 | C 0.29 | C 0.72 | | F 1.32 | F 0.44 | F 0.43 |
| @ 3.00 | @ 10.58 | @ 12.00 | | @ 21.98 | @ 7.41 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



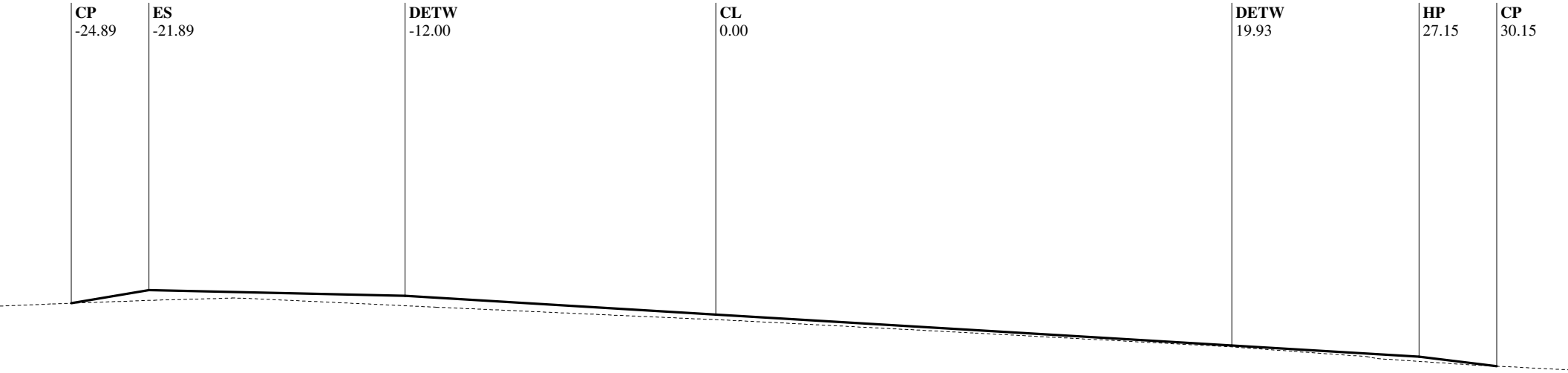

**Alignment Chain CENTER1**
**Station: 126+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -25.23 | -22.23 | -12.00 | 0.00 | 20.78 | 28.28 | 31.28 |
| -1.99 | -1.32 | -1.58 | -2.30 | -3.55 | -4.00 | -4.42 |
| -4.50:1 | 2.52% | 6.00% | | -6.00% | -6.00% | -14.15% |
| F 0.67 | C 0.26 | C 0.72 | | F 1.25 | F 0.45 | F 0.42 |
| @ 3.00 | @ 10.23 | @ 12.00 | | @ 20.78 | @ 7.50 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



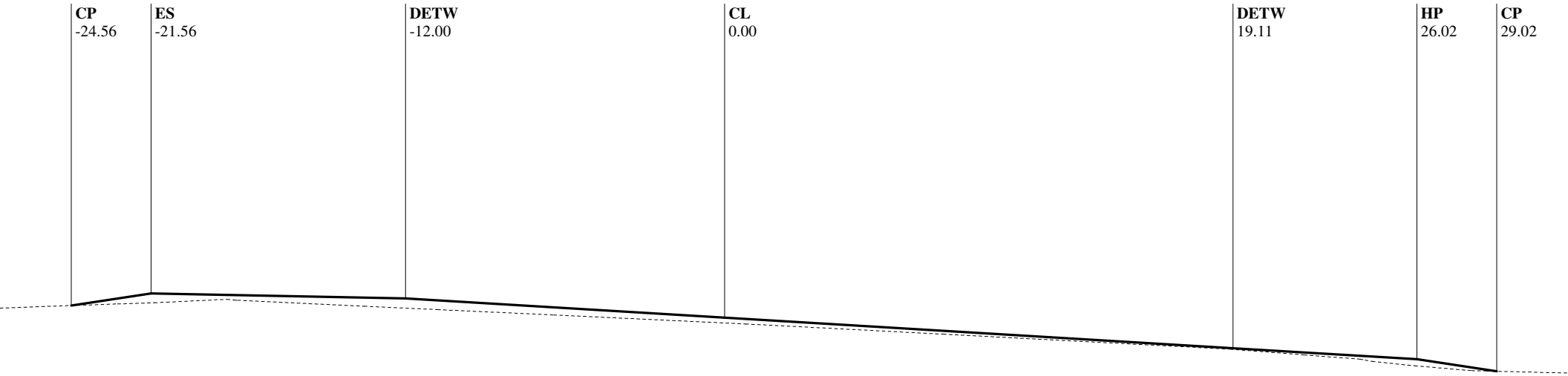

**Alignment Chain CENTER1**
**Station: 127+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -24.89 | -21.89 | -12.00 | 0.00 | 19.93 | 27.15 | 30.15 |
| -2.02 | -1.51 | -1.74 | -2.46 | -3.65 | -4.09 | -4.45 |
| -5.88:1 | 2.26% | 6.00% | | -6.00% | -6.00% | -12.17% |
| F 0.51 | C 0.22 | C 0.72 | | F 1.20 | F 0.43 | F 0.37 |
| @ 3.00 | @ 9.89 | @ 12.00 | | @ 19.93 | @ 7.23 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



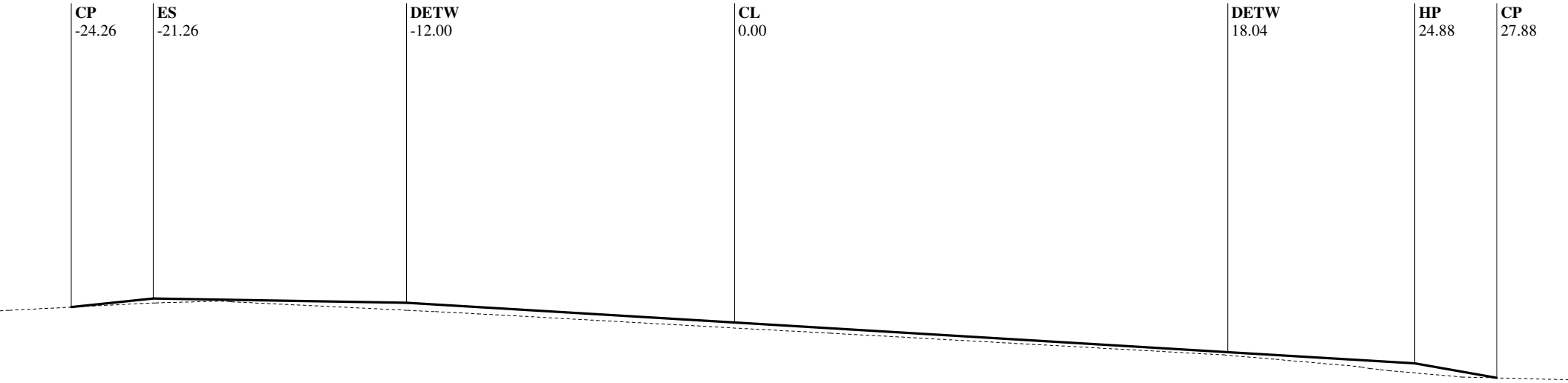

**Alignment Chain CENTER1**
**Station: 127+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -24.56 | -21.56 | -12.00 | 0.00 | 19.11 | 26.02 | 29.02 |
| -2.05 | -1.59 | -1.78 | -2.50 | -3.65 | -4.07 | -4.52 |
| -6.59:1 | 2.01% | 6.00% | | -6.00% | -6.00% | -6.57:1 |
| F 0.46 | C 0.19 | C 0.72 | | F 1.15 | F 0.41 | F 0.46 |
| @ 3.00 | @ 9.56 | @ 12.00 | | @ 19.11 | @ 6.91 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



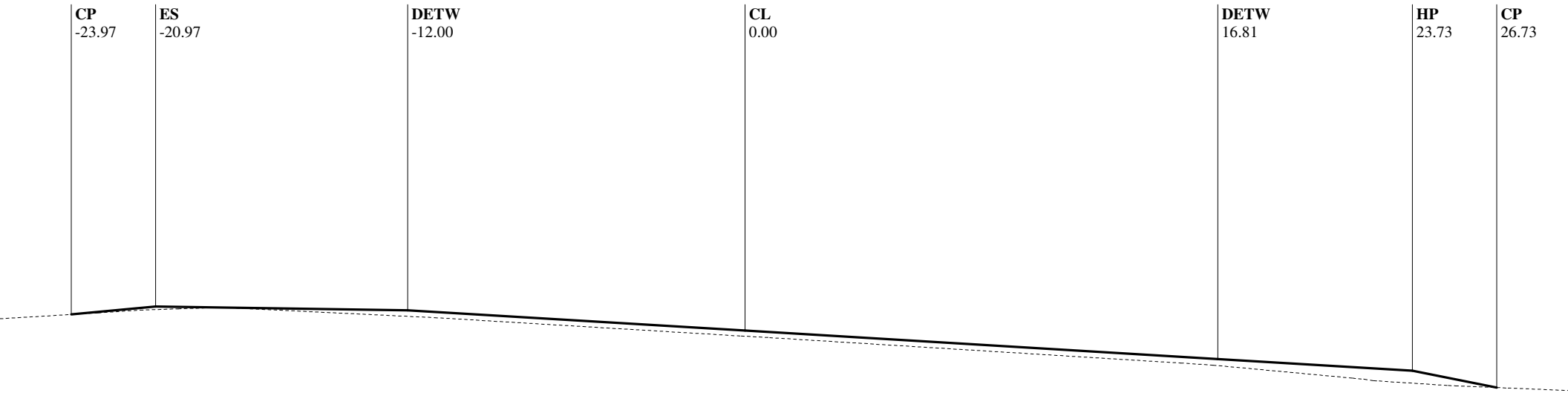

**Alignment Chain CENTER1**
**Station: 128+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -24.26 | -21.26 | -12.00 | 0.00 | 18.04 | 24.88 | 27.88 |
| -2.06 | -1.74 | -1.90 | -2.62 | -3.70 | -4.11 | -4.65 |
| -10.60% | 1.75% | 6.00% | | -6.00% | -6.00% | -5.62:1 |
| F 0.32 | C 0.16 | C 0.72 | | F 1.08 | F 0.41 | F 0.53 |
| @ 3.00 | @ 9.26 | @ 12.00 | | @ 18.04 | @ 6.84 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



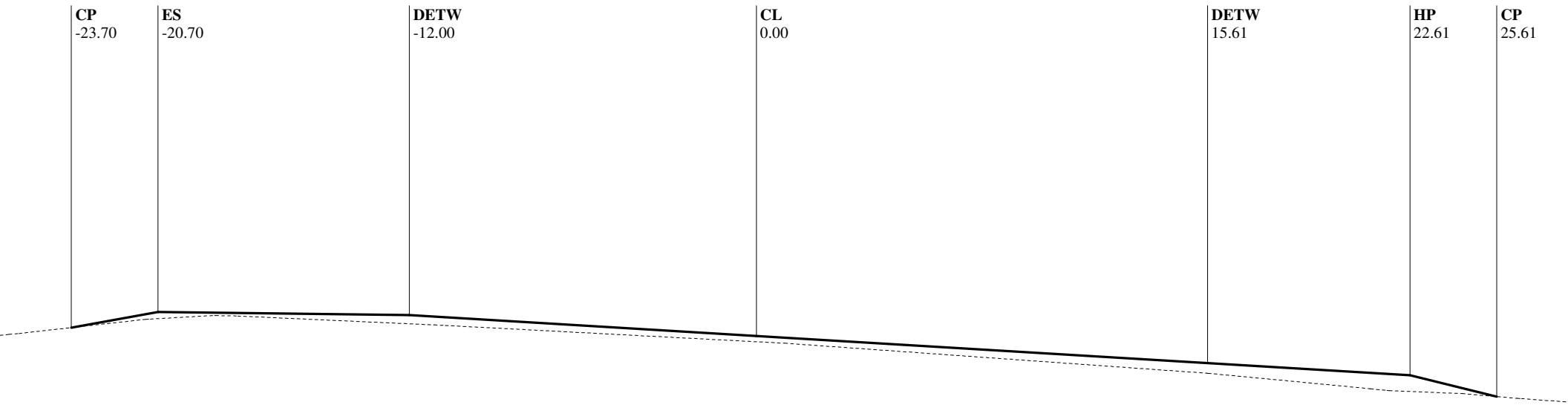

**Alignment Chain CENTER1**
**Station: 128+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.97 | -20.97 | -12.00 | 0.00 | 16.81 | 23.73 | 26.73 |
| -2.21 | -1.93 | -2.06 | -2.78 | -3.79 | -4.20 | -4.80 |
| -9.31% | 1.49% | 6.00% | | -6.00% | -6.00% | -5.01:1 |
| F 0.28 | C 0.13 | C 0.72 | | F 1.01 | F 0.42 | F 0.60 |
| @ 3.00 | @ 8.97 | @ 12.00 | | @ 16.81 | @ 6.92 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



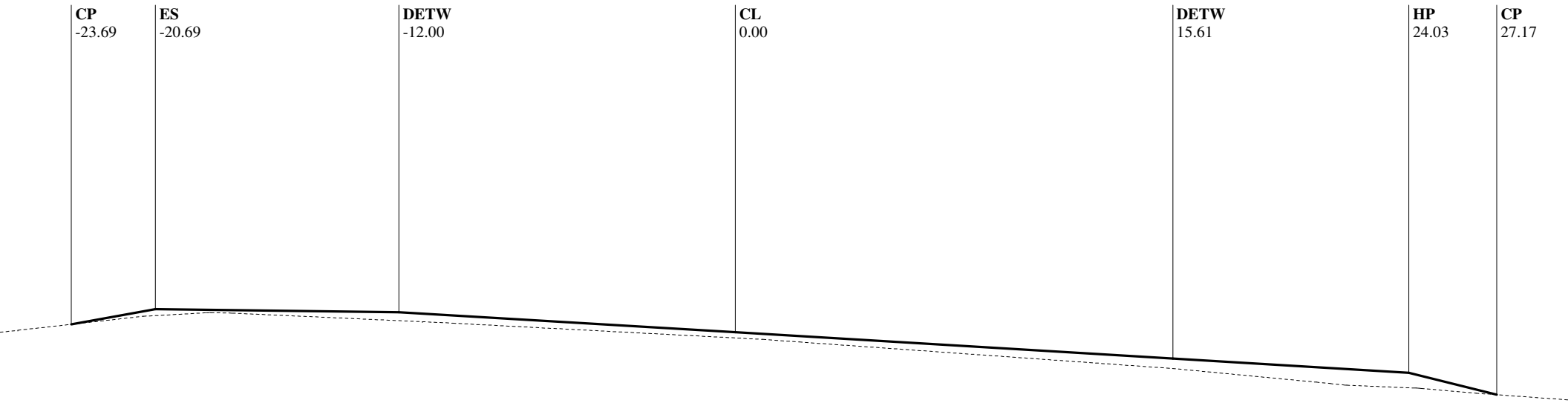

**Alignment Chain CENTER1**
**Station: 128+98.54**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.70 | -20.70 | -12.00 | 0.00 | 15.61 | 22.61 | 25.61 |
| -2.56 | -2.02 | -2.13 | -2.85 | -3.79 | -4.21 | -4.95 |
| -5.56:1 | 1.24% | 6.00% | | -6.00% | -6.00% | -4.06:1 |
| F 0.54 | C 0.11 | C 0.72 | | F 0.94 | F 0.42 | F 0.74 |
| @ 3.00 | @ 8.70 | @ 12.00 | | @ 15.61 | @ 7.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



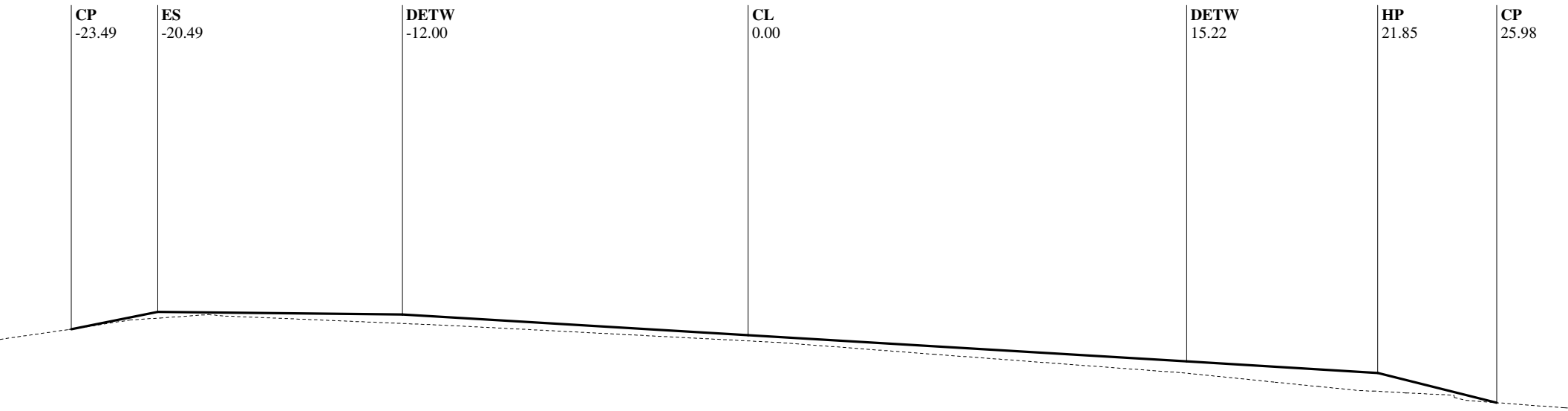

**Alignment Chain CENTER1**
**Station: 129+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.69 | -20.69 | -12.00 | 0.00 | 15.61 | 24.03 | 27.17 |
| -2.57 | -2.03 | -2.13 | -2.85 | -3.79 | -4.29 | -5.08 |
| -5.55:1 | 1.23% | 6.00% | | -6.00% | -6.00% | -4.00:1 |
| F 0.54 | C 0.11 | C 0.72 | | F 0.94 | F 0.51 | F 0.78 |
| @ 3.00 | @ 8.69 | @ 12.00 | | @ 15.61 | @ 8.42 | @ 3.13 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



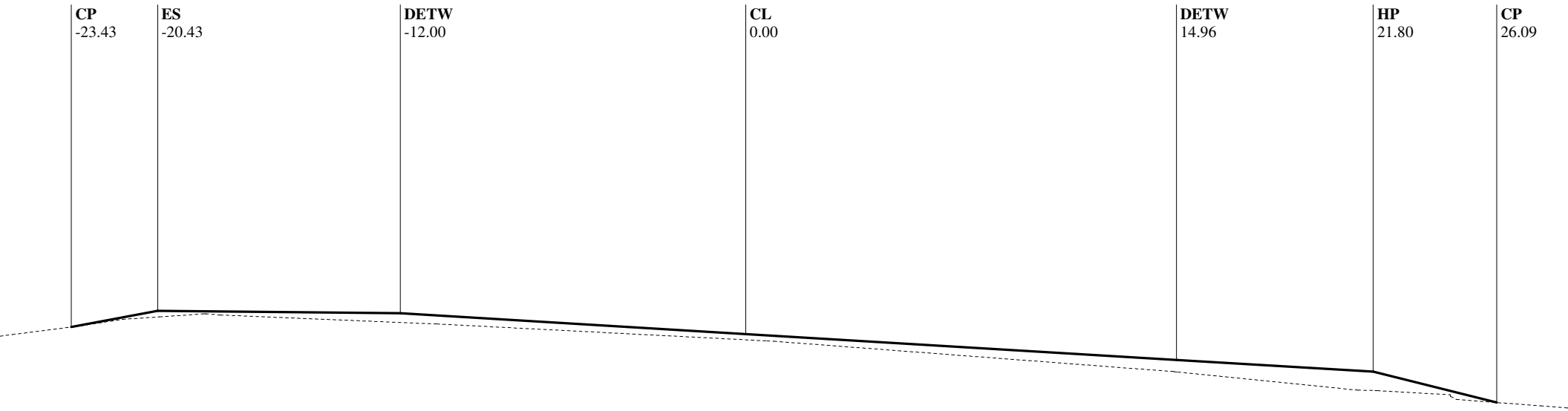

**Alignment Chain CENTER1**
**Station: 129+38.60**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.49 | -20.49 | -12.00 | 0.00 | 15.22 | 21.85 | 25.98 |
| -2.64 | -2.04 | -2.13 | -2.85 | -3.76 | -4.16 | -5.19 |
| -5.00:1 | 1.04% | 6.00% | | -6.00% | -6.00% | -4.00:1 |
| F 0.60 | C 0.09 | C 0.72 | | F 0.91 | F 0.40 | F 1.03 |
| @ 3.00 | @ 8.49 | @ 12.00 | | @ 15.22 | @ 6.63 | @ 4.13 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



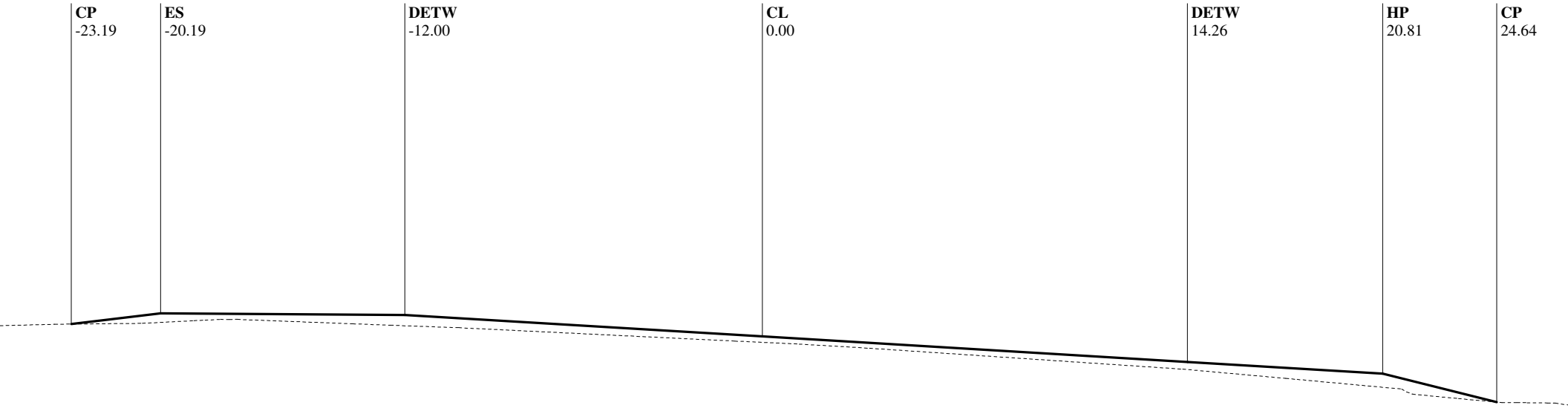

**Alignment Chain CENTER1**
**Station: 129+50.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.43 | -20.43 | -12.00 | 0.00 | 14.96 | 21.80 | 26.09 |
| -2.60 | -2.05 | -2.13 | -2.85 | -3.75 | -4.16 | -5.23 |
| -5.38:1 | 0.98% | 6.00% | | -6.00% | -6.00% | -4.00:1 |
| F 0.56 | C 0.08 | C 0.72 | | F 0.90 | F 0.41 | F 1.07 |
| @ 3.00 | @ 8.43 | @ 12.00 | | @ 14.96 | @ 6.83 | @ 4.29 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

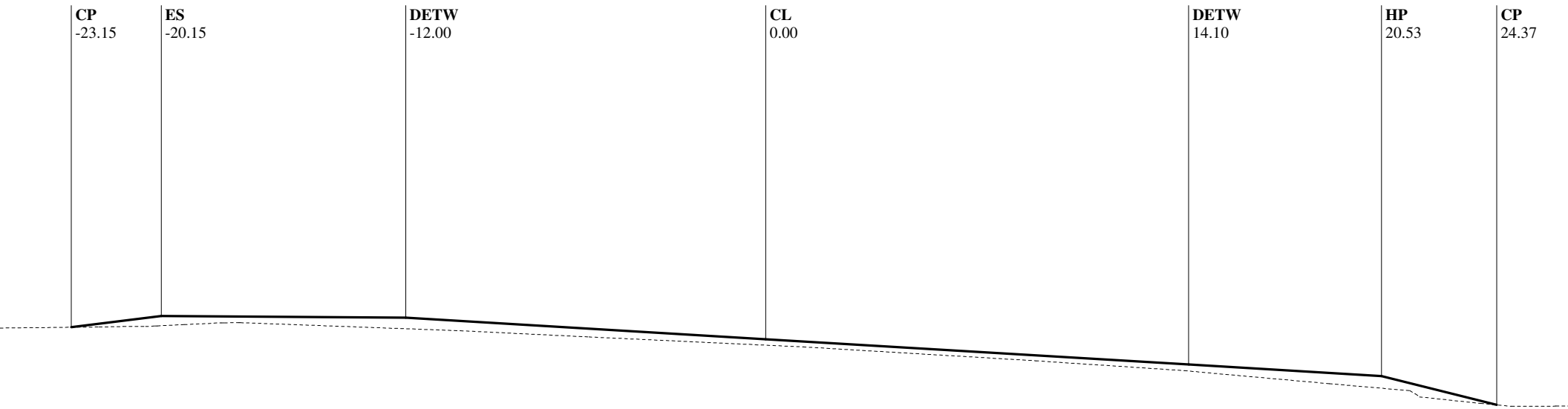



**Alignment Chain CENTER1**
**Station: 130+00.00**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.19 | -20.19 | -12.00 | 0.00 | 14.26 | 20.81 | 24.64 |
| -2.46 | -2.09 | -2.15 | -2.87 | -3.72 | -4.12 | -5.07 |
| -12.20% | 0.72% | 6.00% | | -6.00% | -6.00% | -4.00:1 |
| F 0.37 | C 0.06 | C 0.72 | | F 0.86 | F 0.39 | F 0.96 |
| @ 3.00 | @ 8.19 | @ 12.00 | | @ 14.26 | @ 6.54 | @ 3.83 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



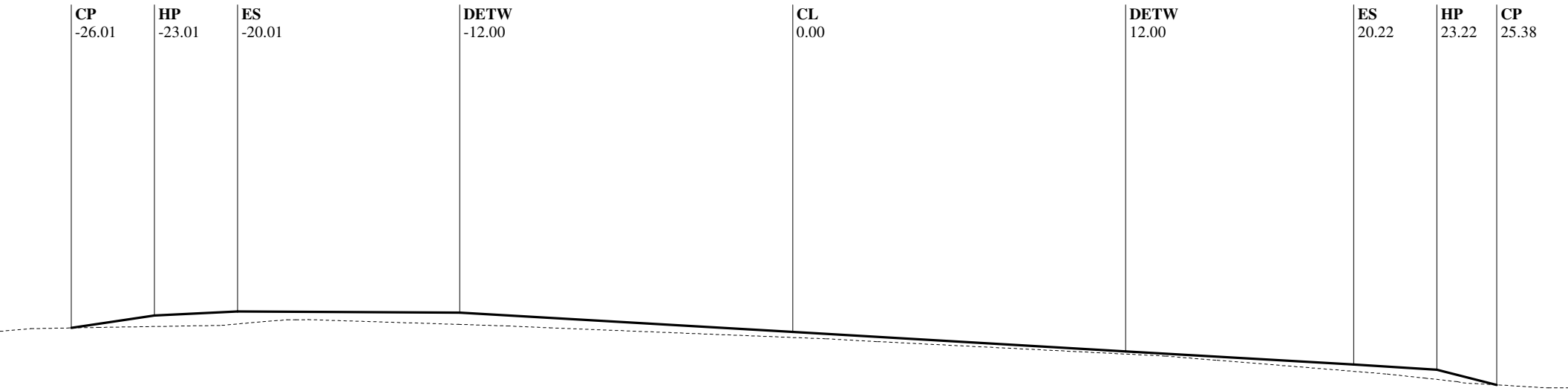

**Alignment Chain CENTER1**
**Station: 130+08.21**

| CP | ES | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|
| -23.15 | -20.15 | -12.00 | 0.00 | 14.10 | 20.53 | 24.37 |
| -2.48 | -2.10 | -2.15 | -2.87 | -3.72 | -4.10 | -5.07 |
| -12.58% | 0.68% | 6.00% | | -6.00% | -6.00% | -4.00:1 |
| F 0.38 | C 0.06 | C 0.72 | | F 0.85 | F 0.39 | F 0.96 |
| @ 3.00 | @ 8.15 | @ 12.00 | | @ 14.10 | @ 6.42 | @ 3.84 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

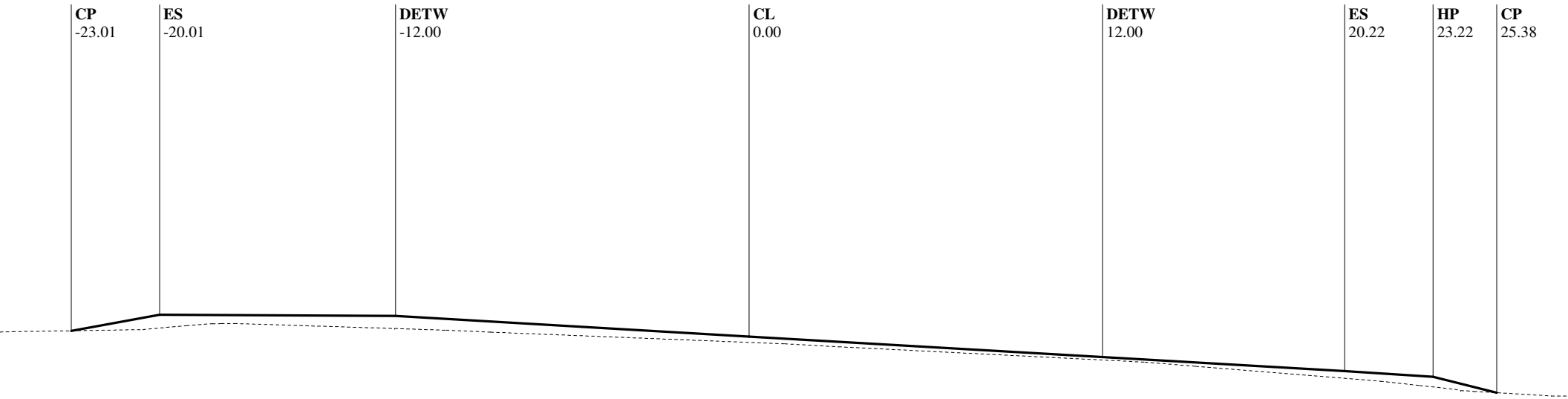



**Alignment Chain CENTER1**
**Station: 130+40.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.01 | -23.01 | -20.01 | -12.00 | 0.00 | 12.00 | 20.22 | 23.22 | 25.38 |
| -2.71 | -2.26 | -2.11 | -2.16 | -2.85 | -3.55 | -4.03 | -4.22 | -4.76 |
| -14.81% | -5.00% | 0.51% | 5.81% | | -5.81% | -5.81% | -6.39% | -4.00:1 |
| F 0.44 | F 0.15 | C 0.04 | C 0.70 | | F 0.70 | F 0.48 | F 0.19 | F 0.54 |
| @ 3.00 | @ 3.00 | @ 8.01 | @ 12.00 | | @ 12.00 | @ 8.22 | @ 3.00 | @ 2.16 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



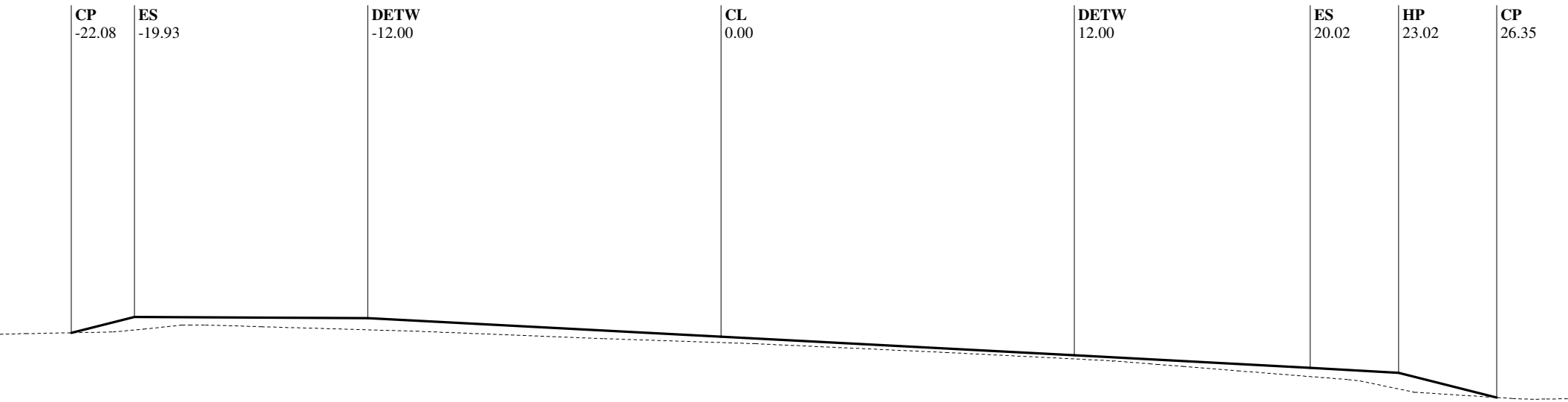

**Alignment Chain CENTER1**
**Station: 130+40.02**

| CP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -23.01 | -20.01 | -12.00 | 0.00 | 12.00 | 20.22 | 23.22 | 25.38 |
| -2.66 | -2.12 | -2.16 | -2.85 | -3.55 | -4.03 | -4.22 | -4.76 |
| -5.52:1 | 0.51% | 5.81% | | -5.81% | -5.81% | -6.39% | -4.00:1 |
| F 0.54 | C 0.04 | C 0.70 | | F 0.70 | F 0.48 | F 0.19 | F 0.54 |
| @ 3.00 | @ 8.01 | @ 12.00 | | @ 12.00 | @ 8.22 | @ 3.00 | @ 2.16 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



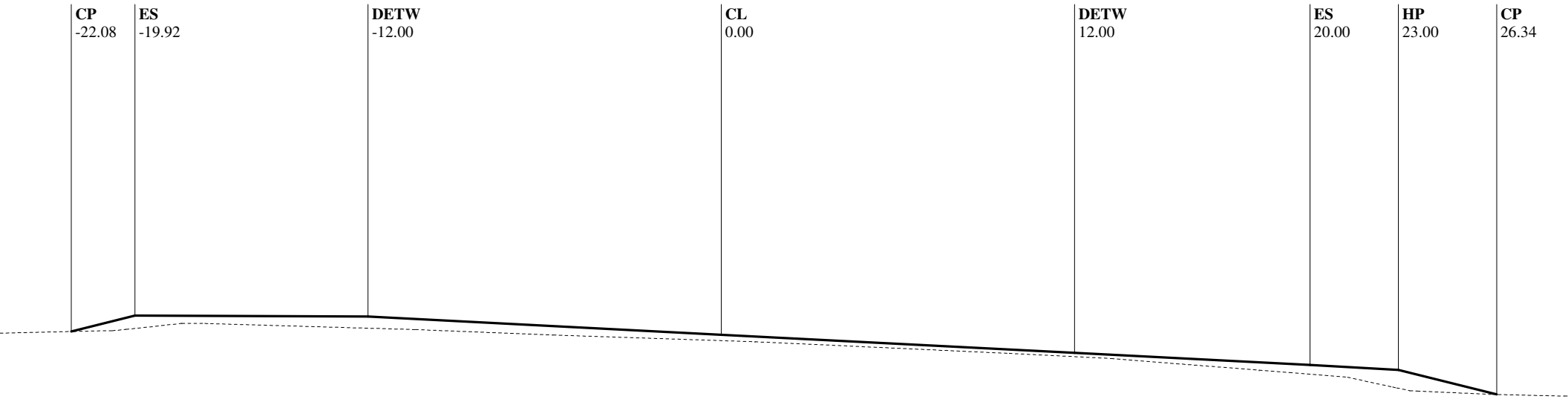

**Alignment Chain CENTER1**
**Station: 130+50.00**

| CP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.08 | -19.93 | -12.00 | 0.00 | 12.00 | 20.02 | 23.02 | 26.35 |
| -2.70 | -2.17 | -2.20 | -2.84 | -3.47 | -3.89 | -4.07 | -4.90 |
| -4.00:1 | 0.46% | 5.28% | | -5.28% | -5.28% | -5.81% | -4.00:1 |
| F 0.54 | C 0.04 | C 0.63 | | F 0.63 | F 0.42 | F 0.17 | F 0.83 |
| @ 2.15 | @ 7.93 | @ 12.00 | | @ 12.00 | @ 8.02 | @ 3.00 | @ 3.34 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

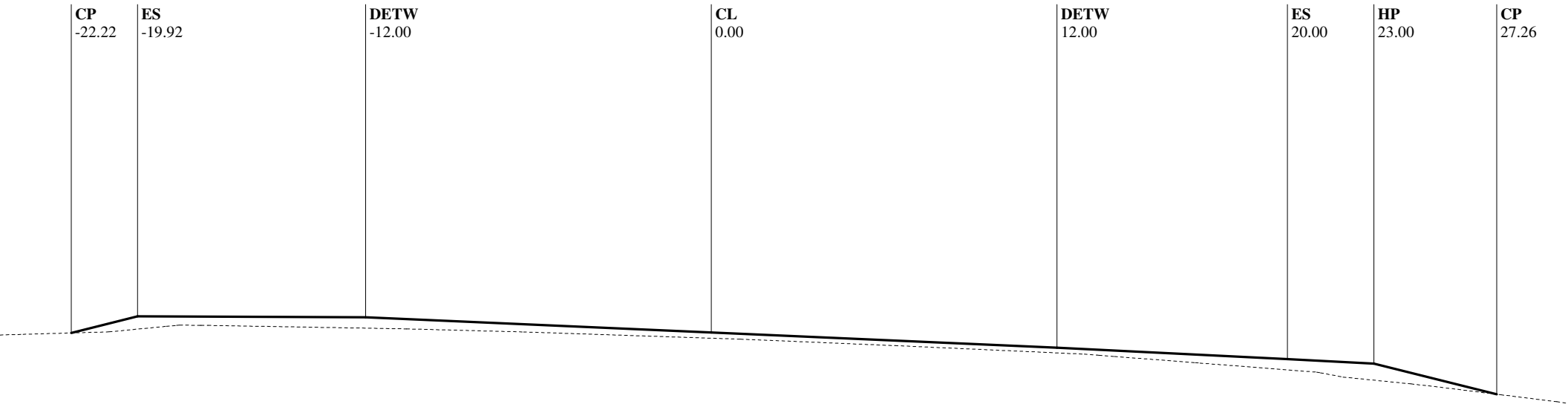



**Alignment Chain CENTER1**
**Station: 130+52.70**

| CP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.08 | -19.92 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.34 |
| -2.72 | -2.18 | -2.21 | -2.83 | -3.44 | -3.86 | -4.02 | -4.86 |
| -4.00:1 | 0.45% | 5.13% | | -5.13% | -5.13% | -5.65% | -4.00:1 |
| F 0.54 | C 0.04 | C 0.62 | | F 0.62 | F 0.41 | F 0.17 | F 0.84 |
| @ 2.16 | @ 7.92 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.34 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



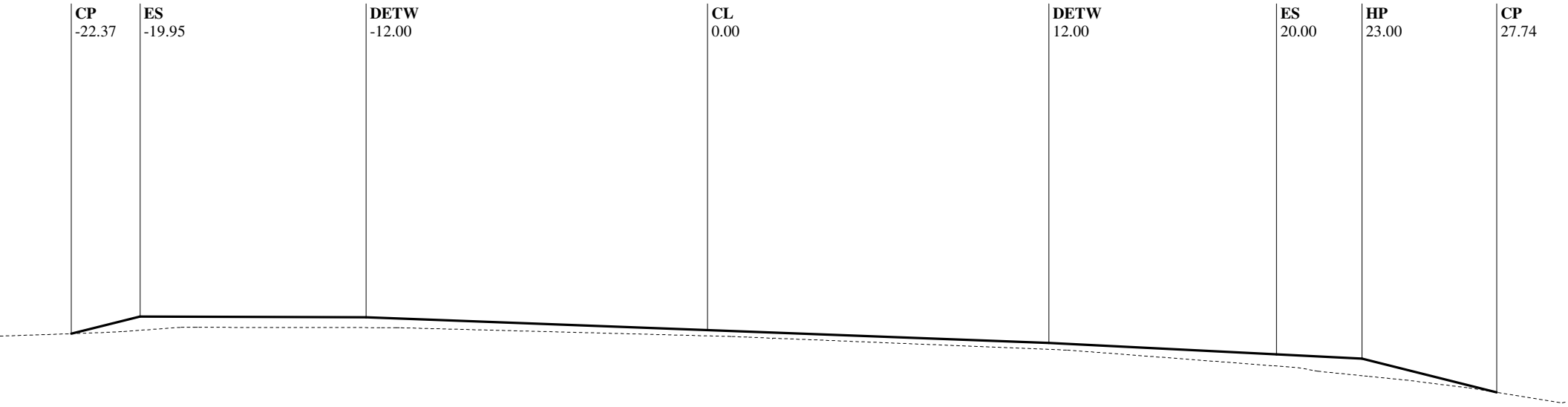

**Alignment Chain CENTER1**
**Station: 130+66.46**

| CP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.22 | -19.92 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.26 |
| -2.81 | -2.23 | -2.26 | -2.79 | -3.32 | -3.72 | -3.87 | -4.94 |
| -4.00:1 | 0.38% | 4.40% | | -4.40% | -5.00% | -5.00% | -4.00:1 |
| F 0.58 | C 0.03 | C 0.53 | | F 0.53 | F 0.40 | F 0.15 | F 1.07 |
| @ 2.30 | @ 7.92 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.26 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

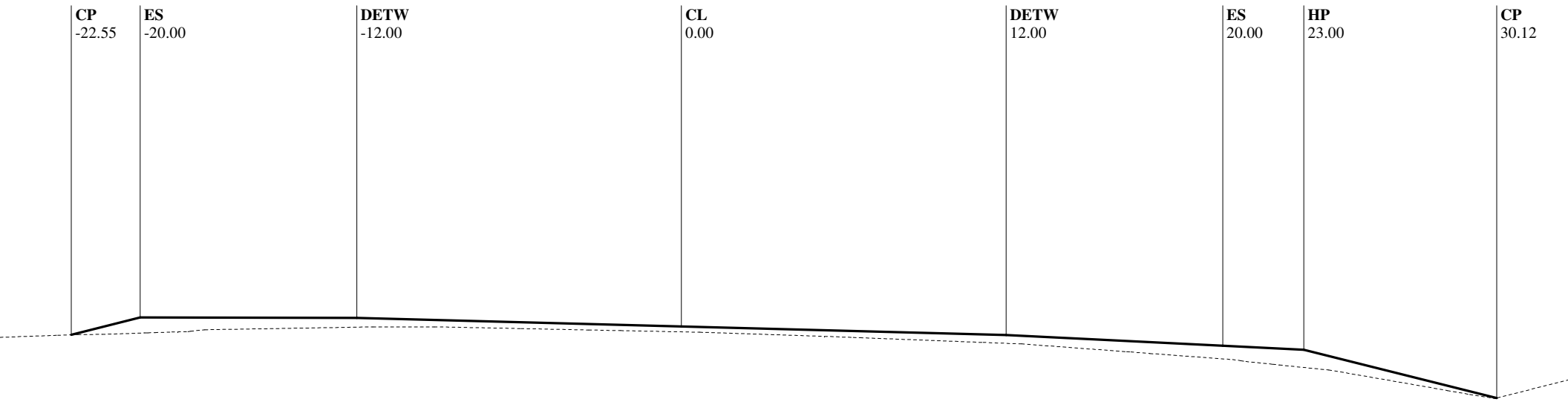



**Alignment Chain CENTER1**
**Station: 130+78.22**

| CP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.37 | -19.95 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.74 |
| -2.89 | -2.29 | -2.31 | -2.76 | -3.22 | -3.62 | -3.77 | -4.95 |
| -4.00:1 | 0.32% | 3.77% | | -3.77% | -5.00% | -5.00% | -4.00:1 |
| F 0.60 | C 0.03 | C 0.45 | | F 0.45 | F 0.40 | F 0.15 | F 1.19 |
| @ 2.41 | @ 7.95 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.74 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



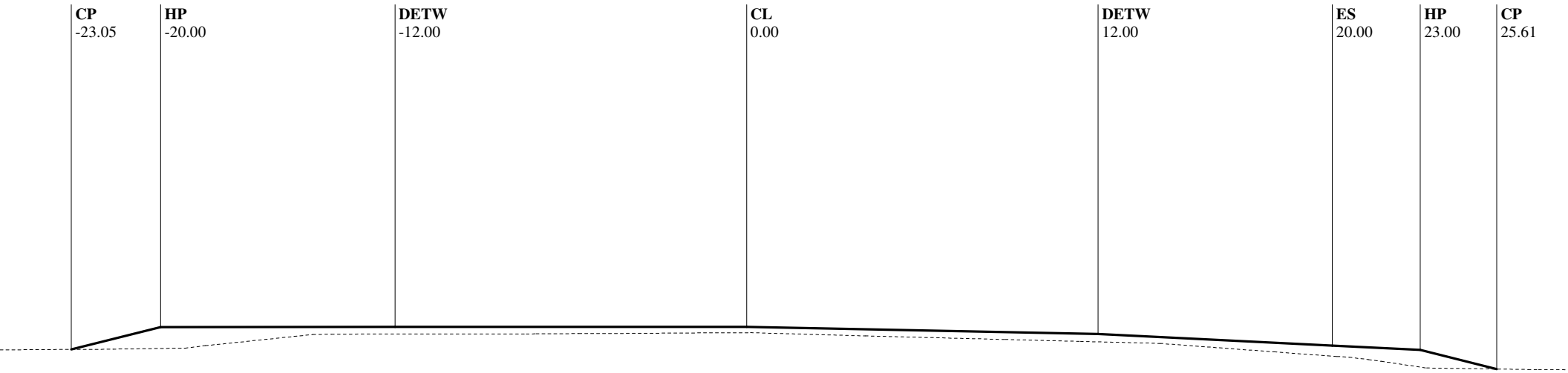

**Alignment Chain CENTER1**
**Station: 131+00.00**

| CP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.55 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.12 |
| -3.00 | -2.36 | -2.38 | -2.69 | -3.01 | -3.41 | -3.56 | -5.34 |
| -4.00:1 | 0.20% | 2.61% | | -2.61% | -5.00% | -5.00% | -4.00:1 |
| F 0.64 | C 0.02 | C 0.31 | | F 0.31 | F 0.40 | F 0.15 | F 1.78 |
| @ 2.55 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.12 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



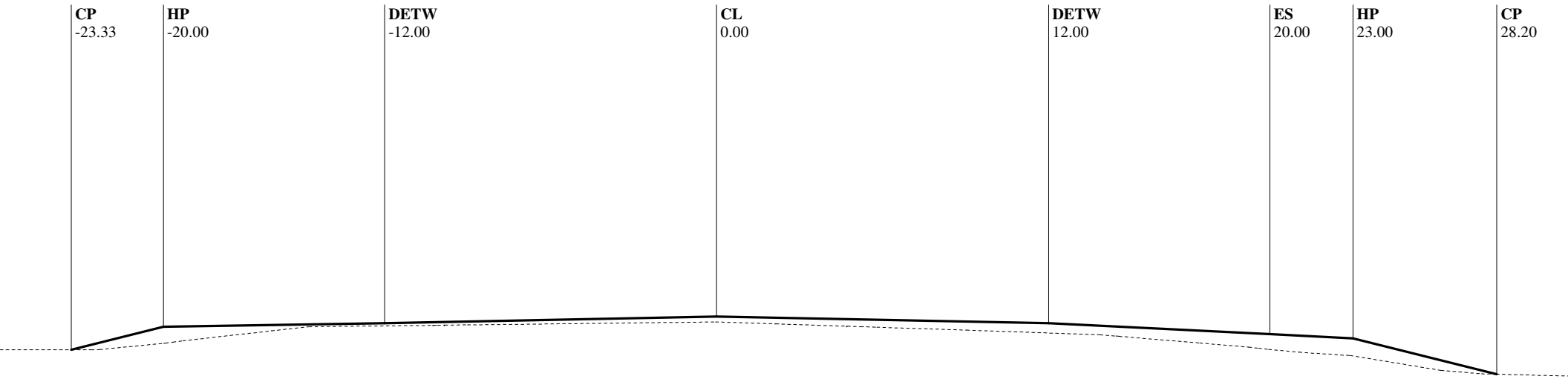

**Alignment Chain CENTER1**
**Station: 131+50.00**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -23.05 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.61 |
| -3.34 | -2.58 | -2.57 | -2.56 | -2.80 | -3.20 | -3.35 | -4.01 |
| -4.00:1 | -0.06% | -0.06% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.76 | F 0.00 | F 0.01 | | F 0.24 | F 0.40 | F 0.15 | F 0.65 |
| @ 3.05 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.61 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



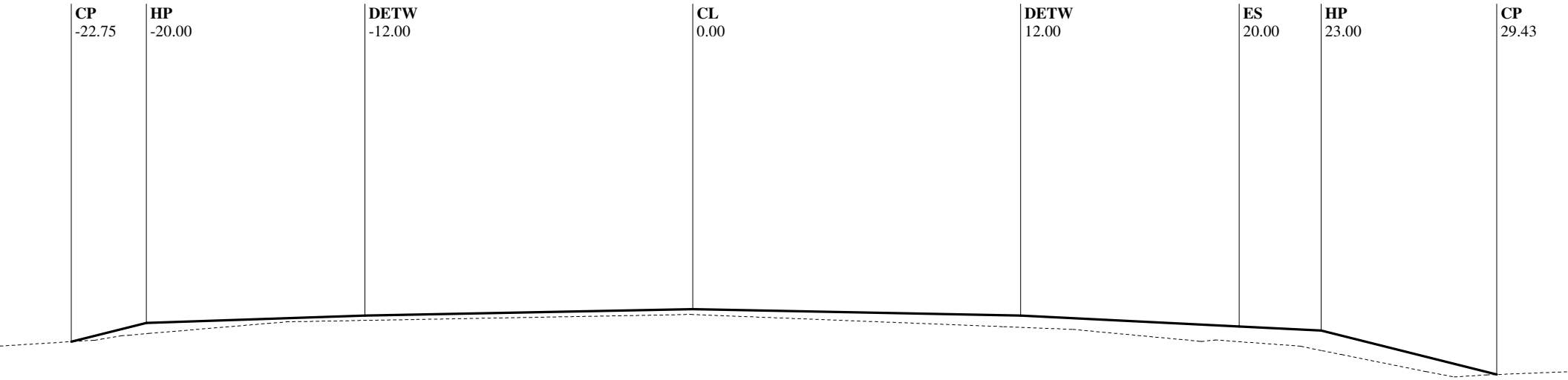

**Alignment Chain CENTER1**
**Station: 132+00.00**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -23.33 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.20 |
| -3.54 | -2.71 | -2.57 | -2.33 | -2.57 | -2.97 | -3.12 | -4.42 |
| -4.00:1 | -1.70% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.83 | F 0.14 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.30 |
| @ 3.33 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.20 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



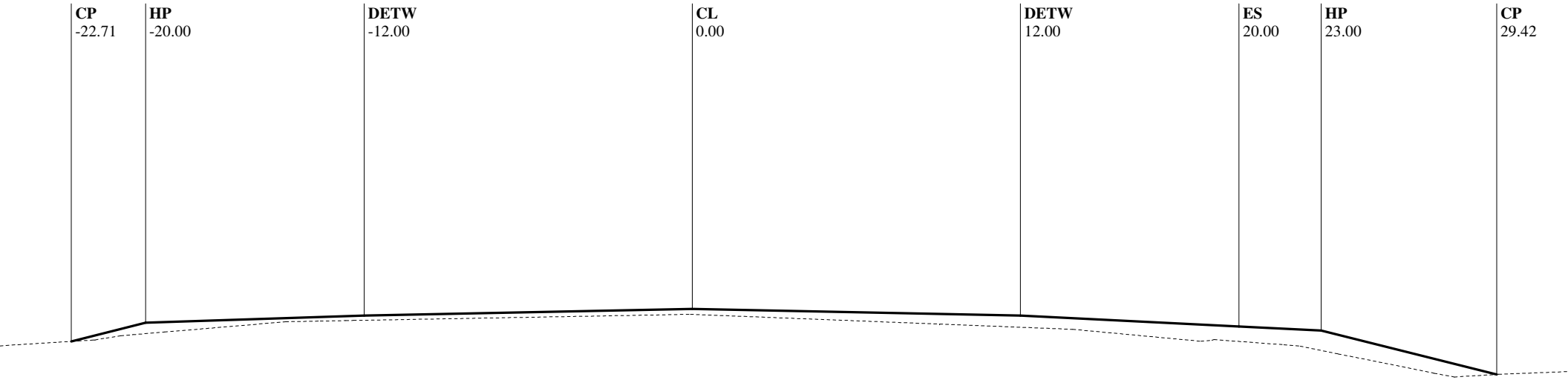

**Alignment Chain CENTER1**
**Station: 132+48.86**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.75 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.43 |
| -3.31 | -2.62 | -2.36 | -2.12 | -2.36 | -2.76 | -2.91 | -4.51 |
| -4.00:1 | -3.31% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.69 | F 0.27 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.61 |
| @ 2.75 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.43 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



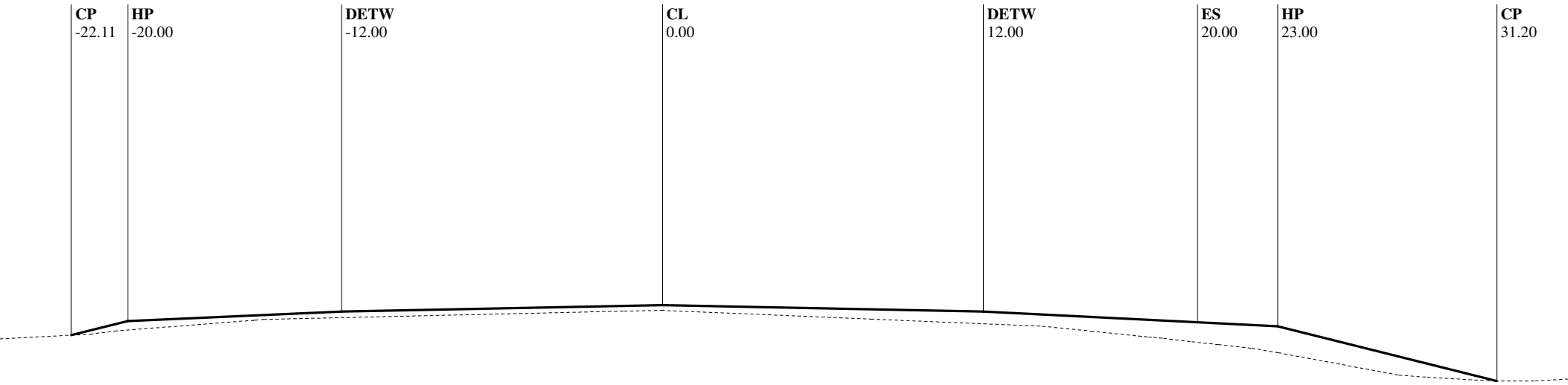

**Alignment Chain CENTER1**
**Station: 132+50.00**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.71 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.42 |
| -3.30 | -2.62 | -2.35 | -2.11 | -2.35 | -2.75 | -2.90 | -4.51 |
| -4.00:1 | -3.35% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.68 | F 0.27 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.61 |
| @ 2.71 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.42 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



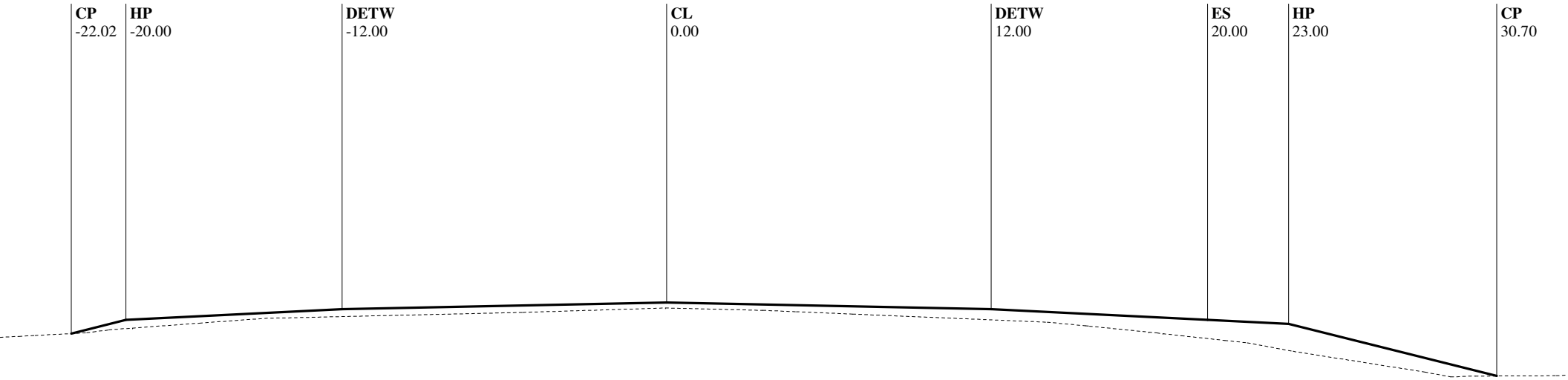

**Alignment Chain CENTER1**
**Station: 132+83.67**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.11 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.20 |
| -3.10 | -2.57 | -2.21 | -1.97 | -2.21 | -2.61 | -2.76 | -4.81 |
| -4.00:1 | -4.46% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.53 | F 0.36 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.05 |
| @ 2.11 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.20 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



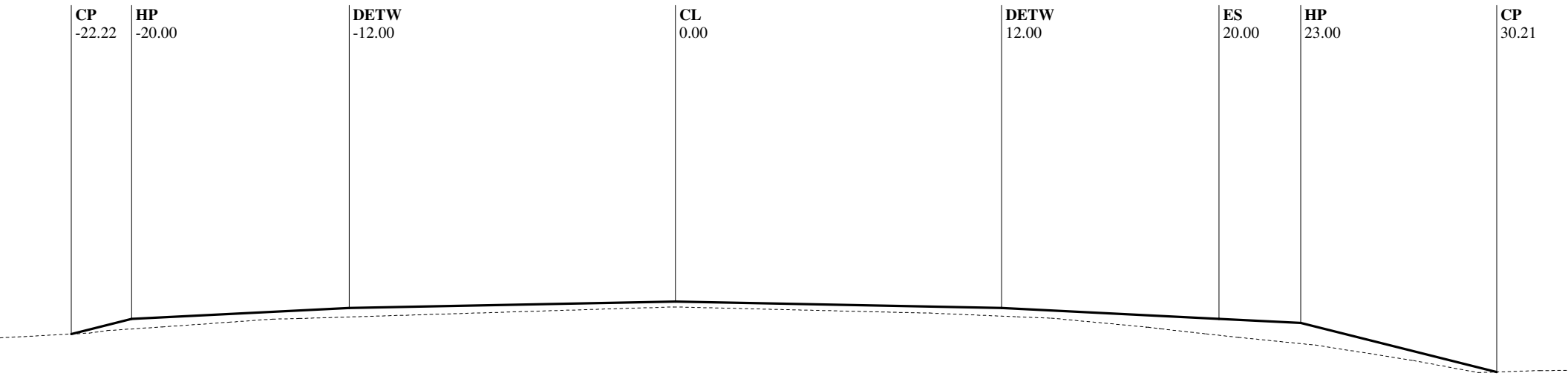

**Alignment Chain CENTER1**
**Station: 133+00.00**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.02 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.70 |
| -3.05 | -2.54 | -2.14 | -1.90 | -2.14 | -2.54 | -2.69 | -4.62 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.51 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.92 |
| @ 2.02 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



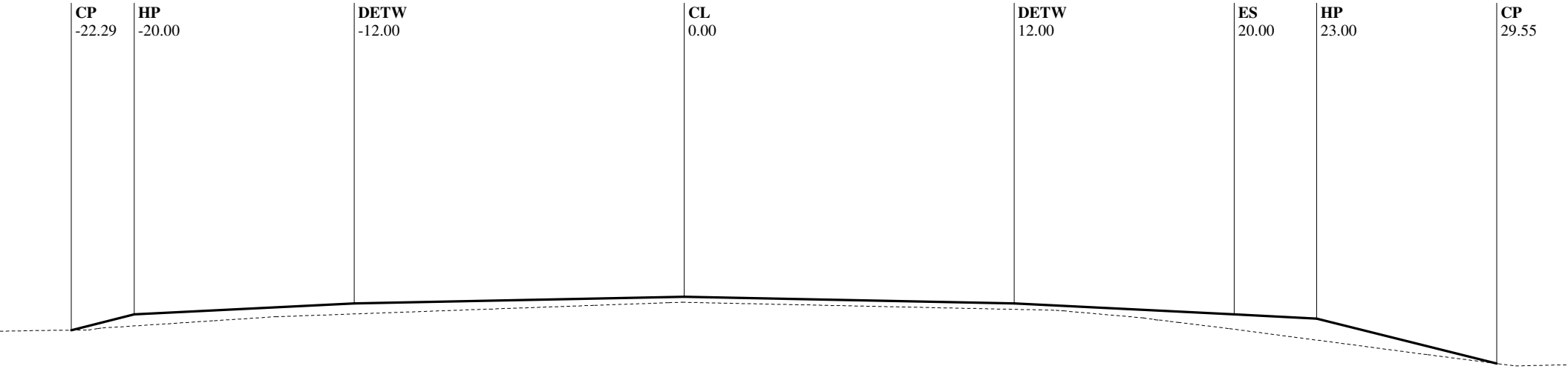

**Alignment Chain CENTER1**
**Station: 133+22.09**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.22 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.21 |
| -3.00 | -2.44 | -2.04 | -1.80 | -2.04 | -2.44 | -2.59 | -4.39 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.56 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.80 |
| @ 2.22 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.21 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



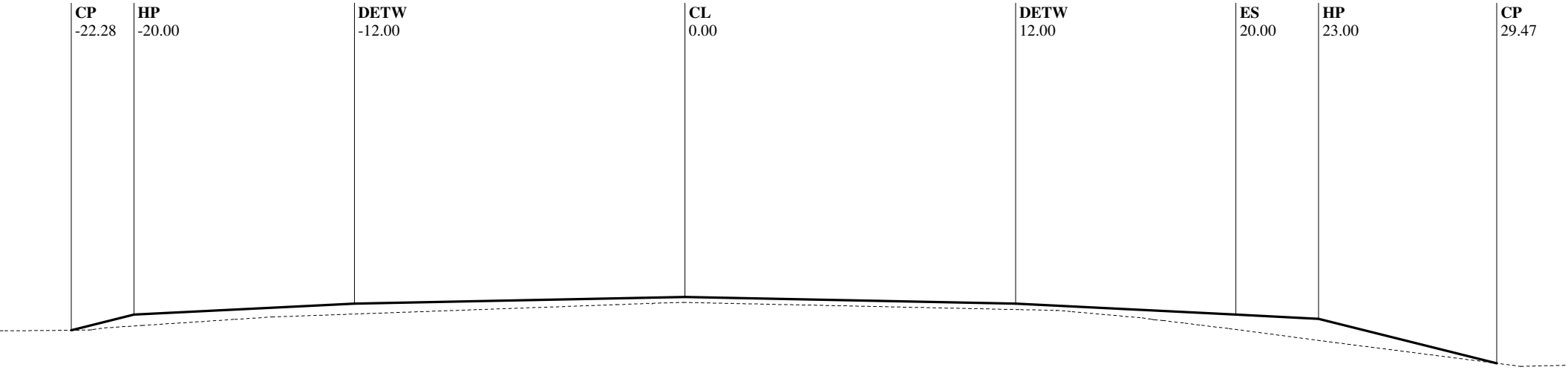

**Alignment Chain CENTER1**
**Station: 133+50.00**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.29 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.55 |
| -2.90 | -2.32 | -1.92 | -1.68 | -1.92 | -2.32 | -2.47 | -4.11 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.57 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.64 |
| @ 2.29 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.55 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



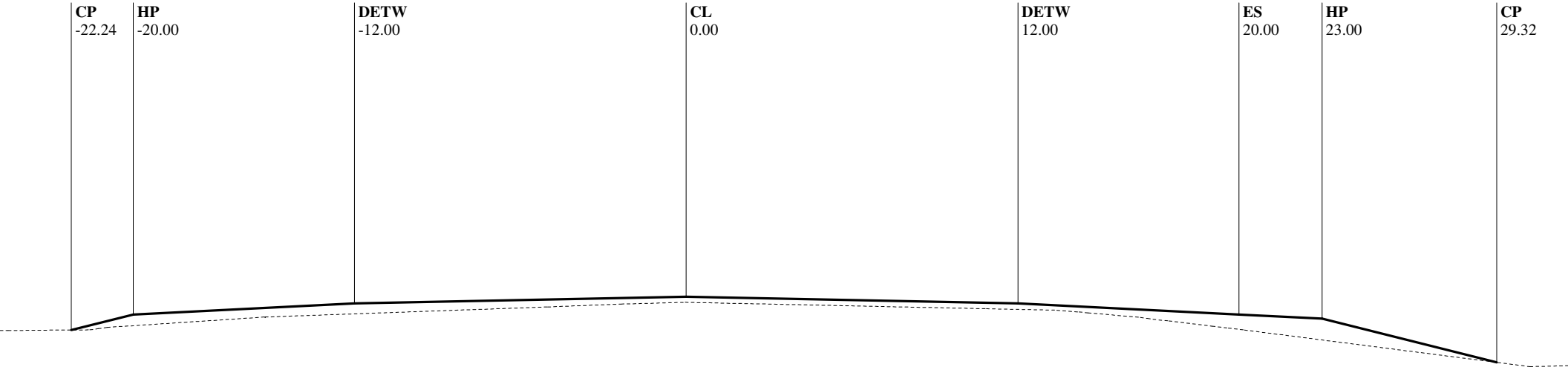

**Alignment Chain CENTER1**
**Station: 133+53.47**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.28 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.47 |
| -2.89 | -2.32 | -1.92 | -1.68 | -1.92 | -2.32 | -2.47 | -4.09 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.57 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.62 |
| @ 2.28 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.47 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



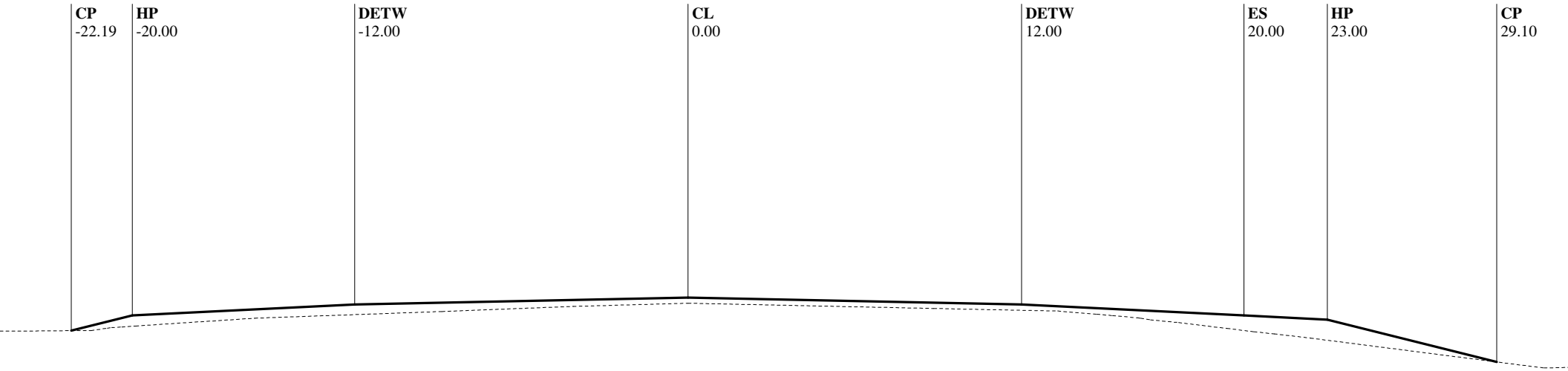

**Alignment Chain CENTER1**
**Station: 133+59.85**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.24 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.32 |
| -2.87 | -2.31 | -1.91 | -1.67 | -1.91 | -2.31 | -2.46 | -4.04 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.56 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.58 |
| @ 2.24 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.32 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



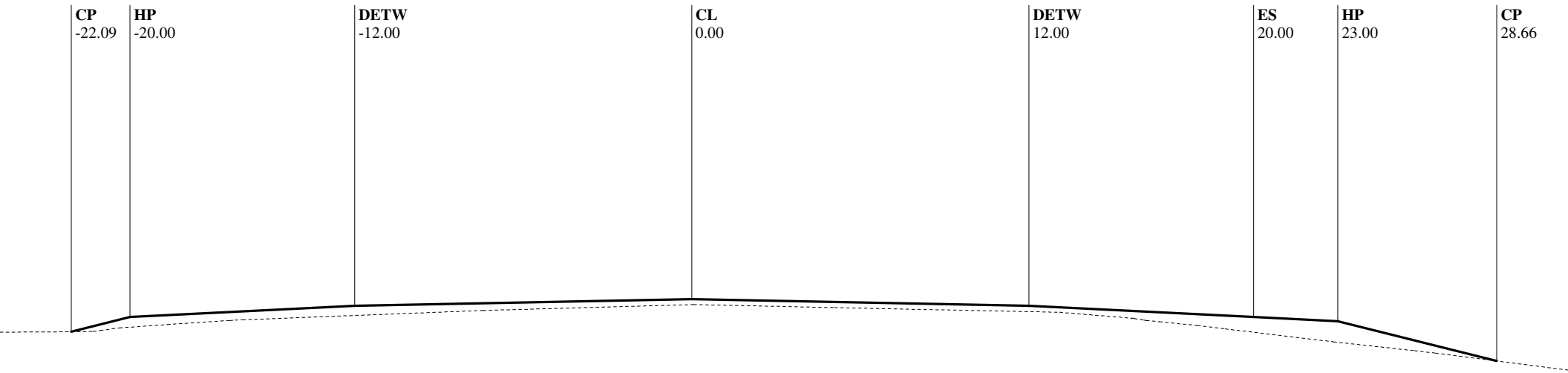

**Alignment Chain CENTER1**
**Station: 133+69.58**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.19 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.10 |
| -2.85 | -2.30 | -1.90 | -1.66 | -1.90 | -2.30 | -2.45 | -3.97 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.55 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.52 |
| @ 2.19 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.10 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



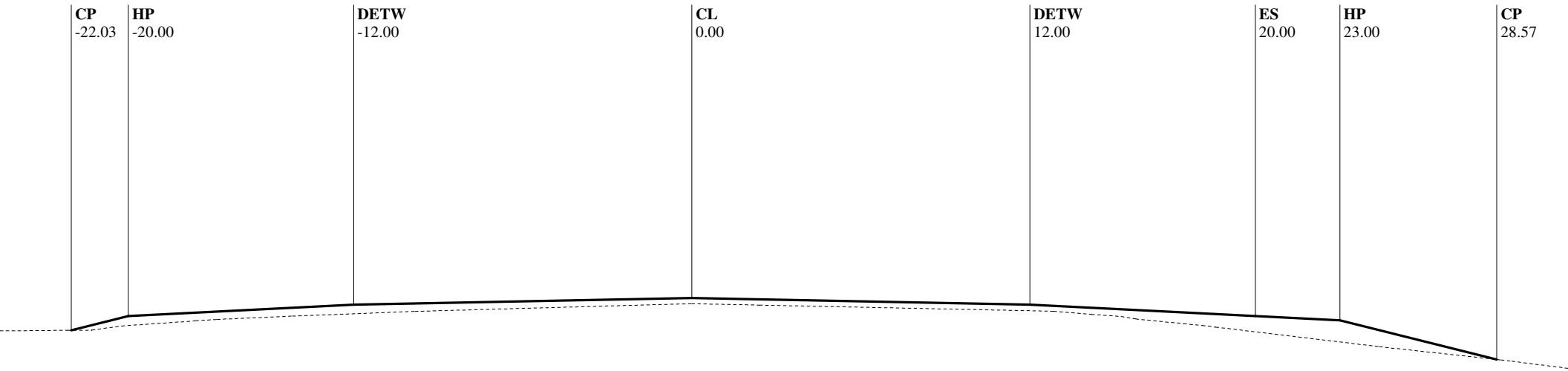

**Alignment Chain CENTER1**
**Station: 133+87.62**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.09 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.66 |
| -2.80 | -2.28 | -1.88 | -1.64 | -1.88 | -2.28 | -2.43 | -3.85 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.52 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.41 |
| @ 2.09 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.66 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



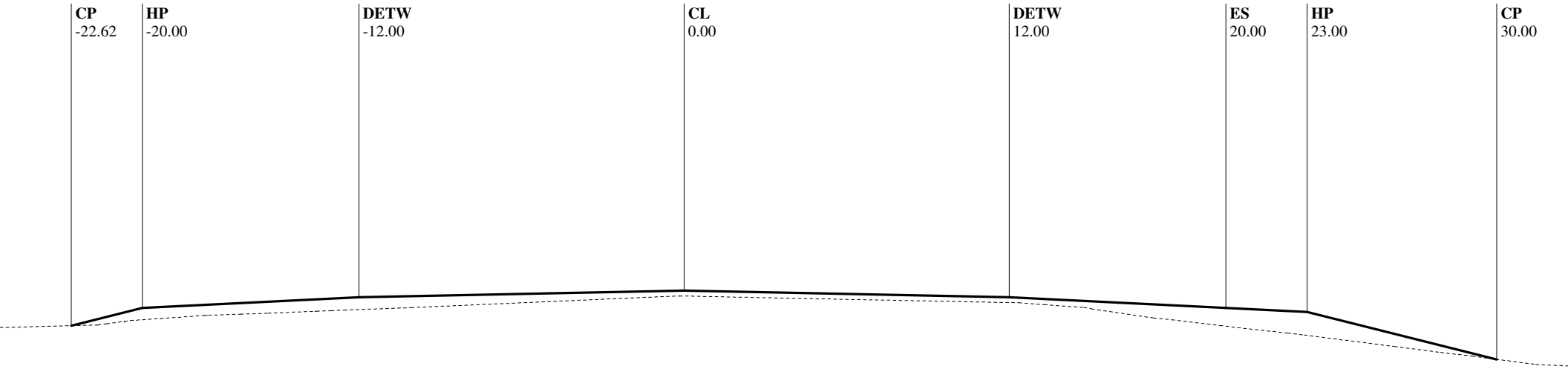

**Alignment Chain CENTER1**
**Station: 134+00.00**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.03 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.57 |
| -2.77 | -2.27 | -1.87 | -1.63 | -1.87 | -2.27 | -2.42 | -3.81 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.51 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.39 |
| @ 2.03 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.57 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



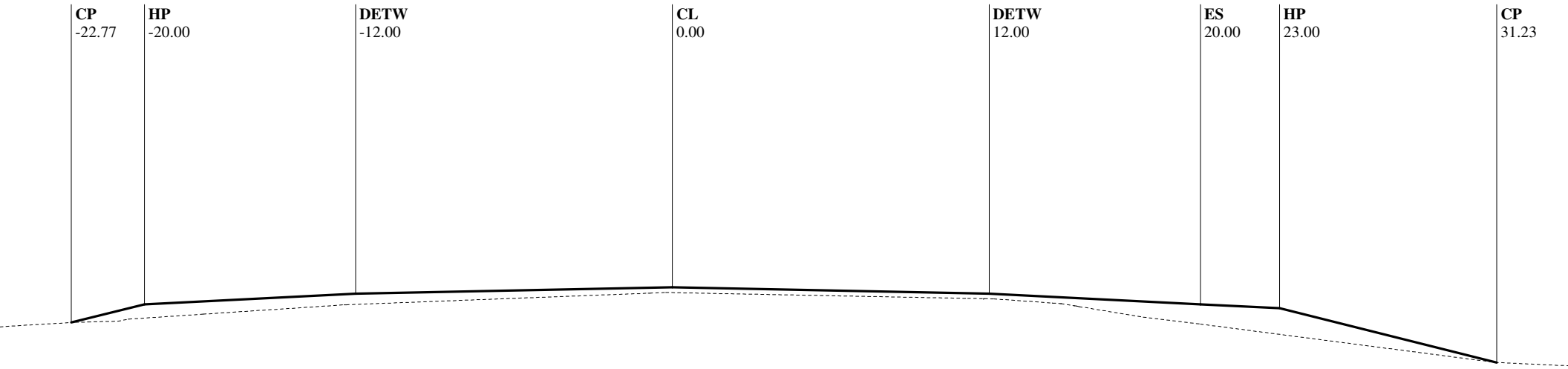

**Alignment Chain CENTER1**
**Station: 134+50.00**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.62 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.00 |
| -2.75 | -2.10 | -1.70 | -1.46 | -1.70 | -2.10 | -2.25 | -3.99 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.66 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.75 |
| @ 2.62 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



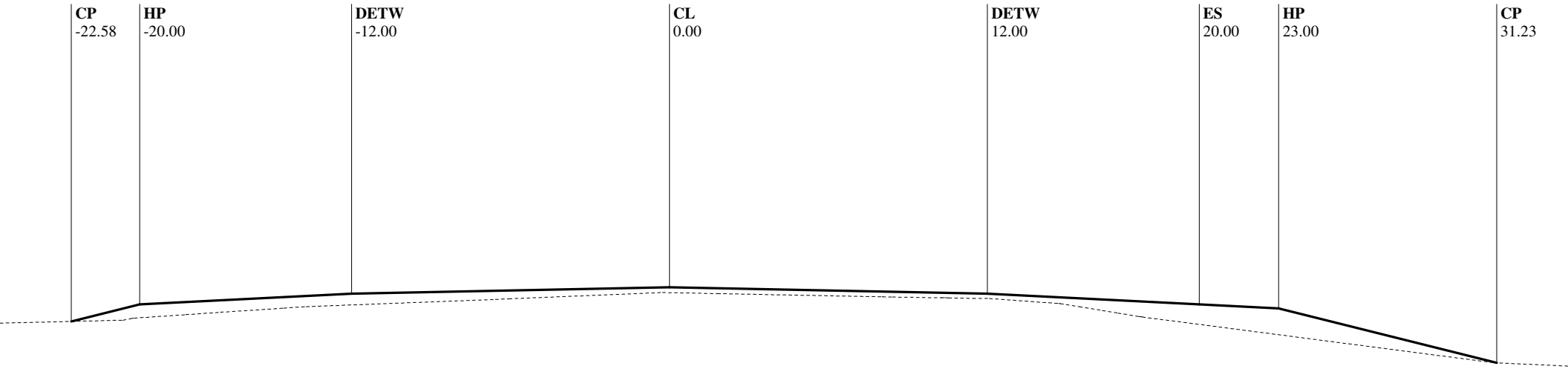

**Alignment Chain CENTER1**
**Station: 134+78.44**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.77 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.23 |
| -2.67 | -1.98 | -1.58 | -1.34 | -1.58 | -1.98 | -2.13 | -4.19 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.69 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.06 |
| @ 2.77 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.23 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



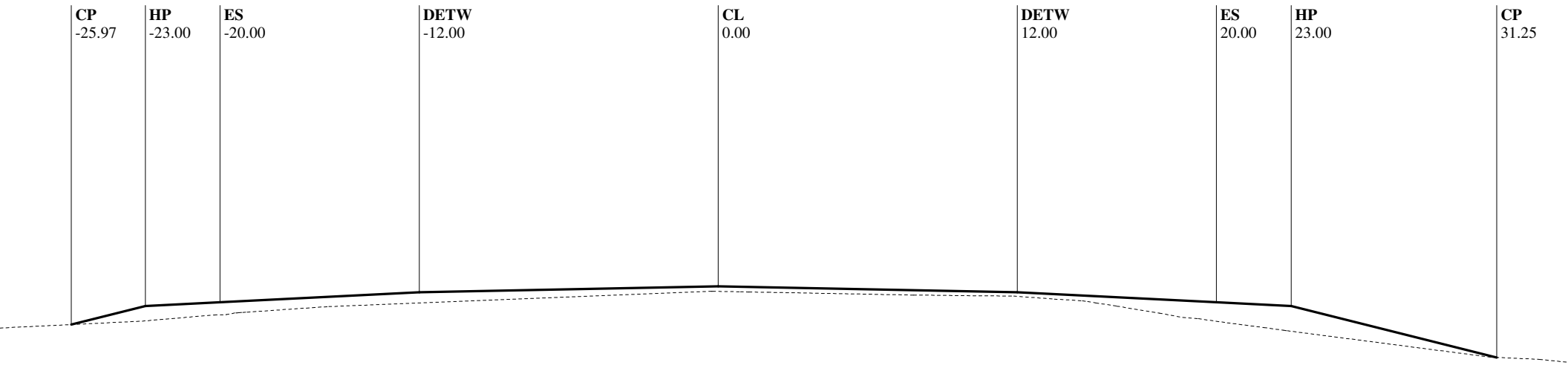

**Alignment Chain CENTER1**
**Station: 134+85.15**

| CP | HP | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -22.58 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.23 |
| -2.63 | -1.98 | -1.58 | -1.34 | -1.58 | -1.98 | -2.13 | -4.19 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.65 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.06 |
| @ 2.58 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.23 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



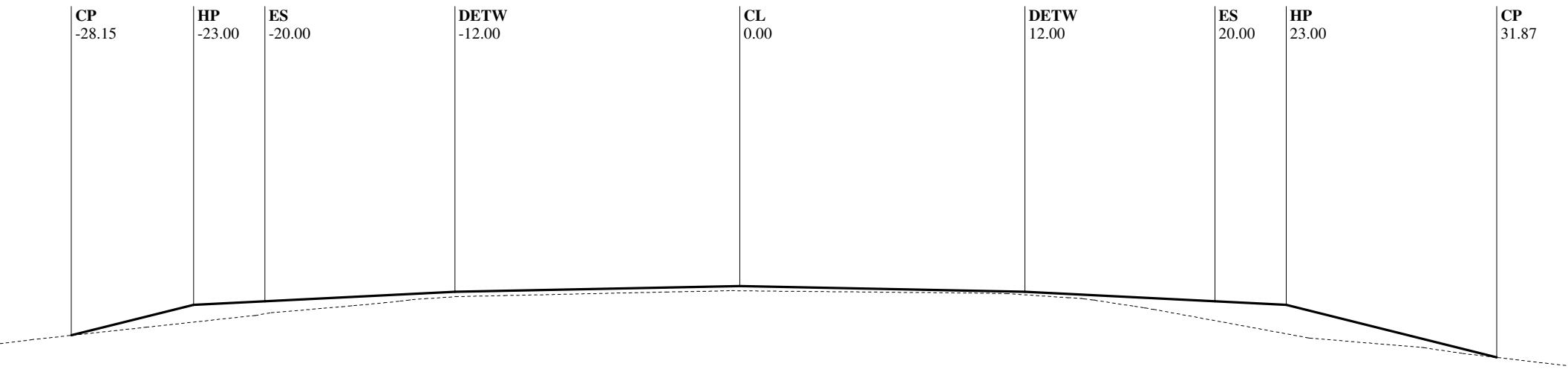

**Alignment Chain CENTER1**
**Station: 135+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -25.97 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.25 |
| -2.88 | -2.14 | -1.99 | -1.59 | -1.35 | -1.59 | -1.99 | -2.14 | -4.20 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.74 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.06 |
| @ 2.97 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.25 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



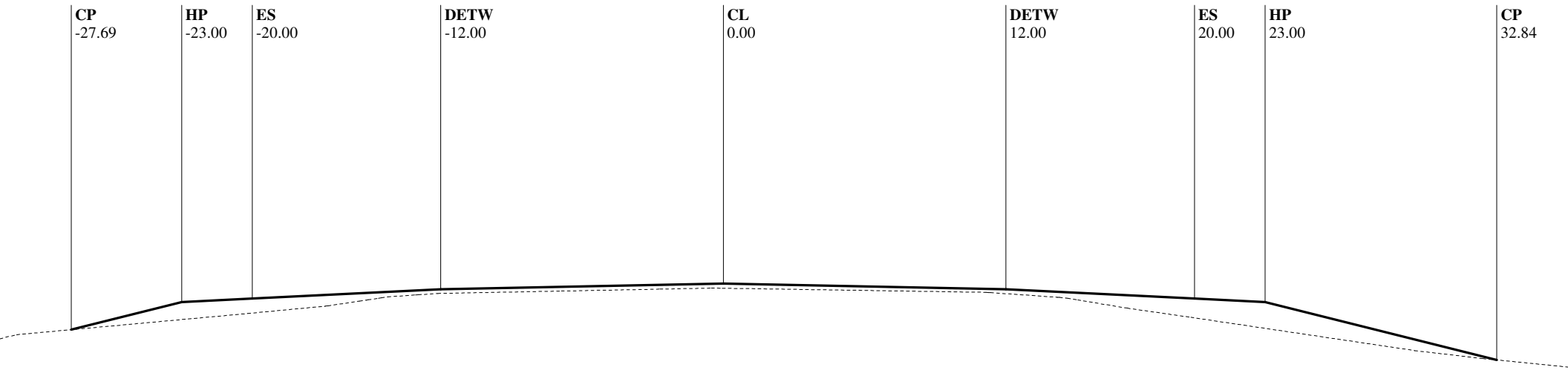

**Alignment Chain CENTER1**
**Station: 135+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.15 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.87 |
| -3.43 | -2.14 | -1.99 | -1.59 | -1.35 | -1.59 | -1.99 | -2.14 | -4.36 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.29 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.22 |
| @ 5.15 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.87 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



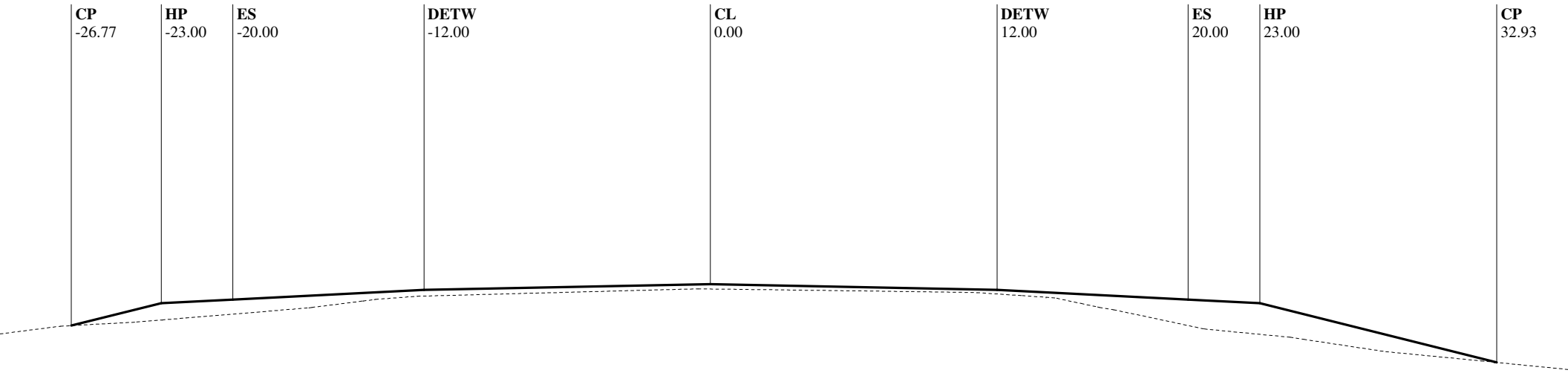

**Alignment Chain CENTER1**
**Station: 136+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.69 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.84 |
| -3.28 | -2.11 | -1.96 | -1.56 | -1.32 | -1.56 | -1.96 | -2.11 | -4.57 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.17 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.46 |
| @ 4.69 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.84 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



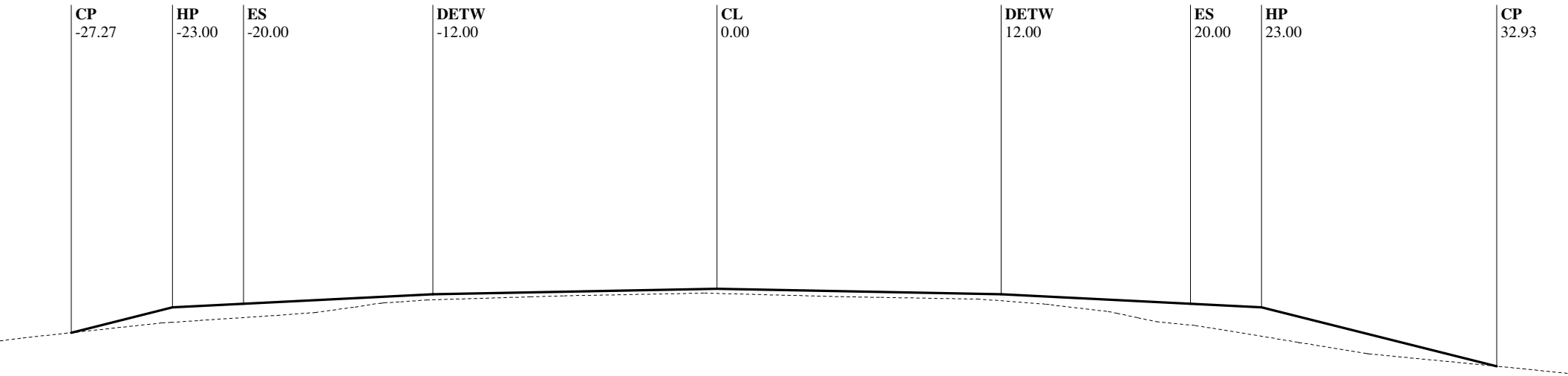

**Alignment Chain CENTER1**
**Station: 136+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.77 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.93 |
| -3.07 | -2.13 | -1.98 | -1.58 | -1.34 | -1.58 | -1.98 | -2.13 | -4.61 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.94 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.48 |
| @ 3.77 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.93 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



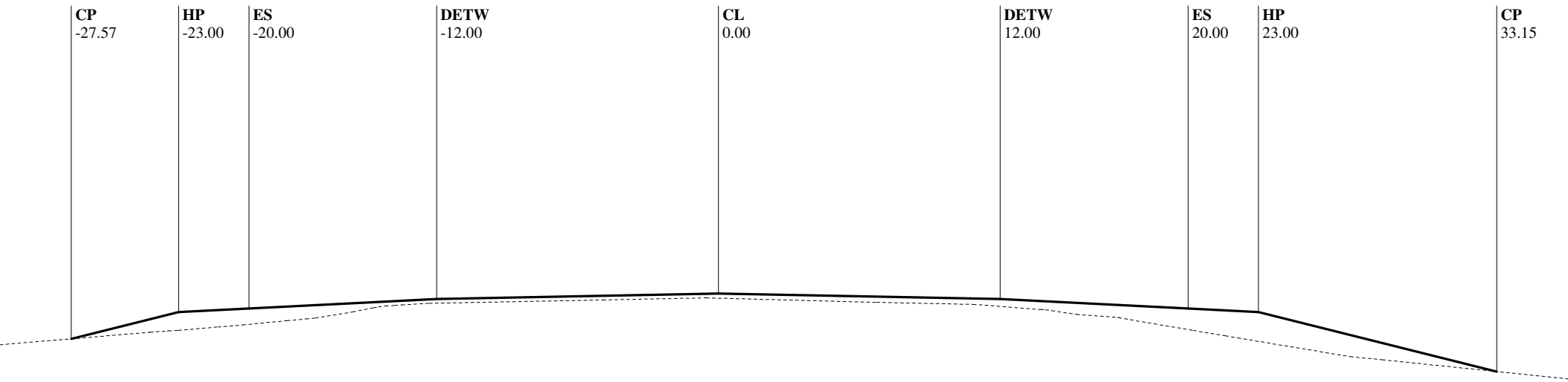

**Alignment Chain CENTER1**
**Station: 137+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.27 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.93 |
| -3.37 | -2.30 | -2.15 | -1.75 | -1.51 | -1.75 | -2.15 | -2.30 | -4.78 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.07 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.48 |
| @ 4.27 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.93 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



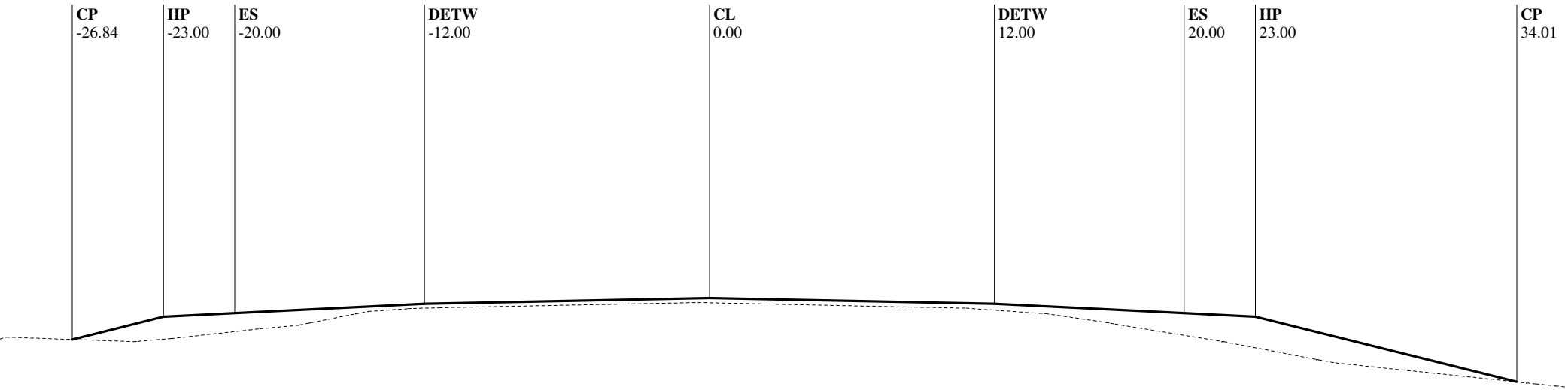

**Alignment Chain CENTER1**
**Station: 137+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.57 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 33.15 |
| -3.65 | -2.51 | -2.36 | -1.96 | -1.72 | -1.96 | -2.36 | -2.51 | -5.05 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.14 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.54 |
| @ 4.57 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 10.15 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



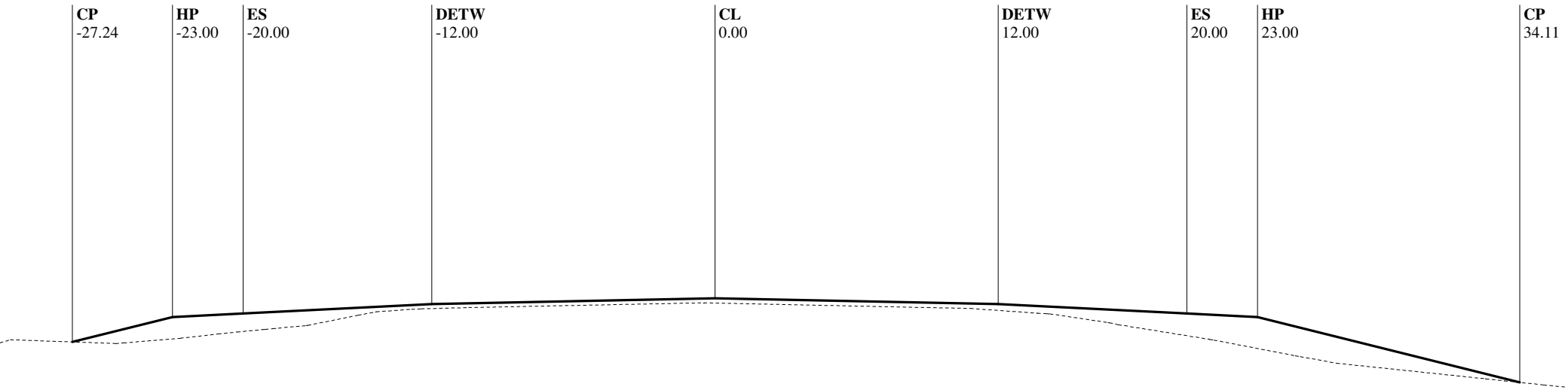

**Alignment Chain CENTER1**
**Station: 137+95.18**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.84 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 34.01 |
| -3.55 | -2.59 | -2.44 | -2.04 | -1.80 | -2.04 | -2.44 | -2.59 | -5.34 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.96 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.75 |
| @ 3.84 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 11.01 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



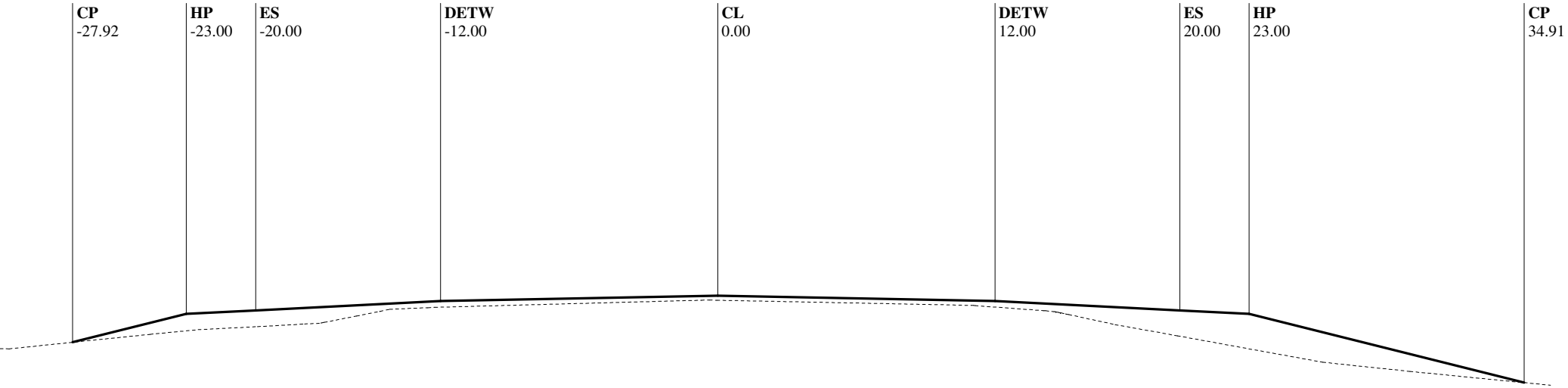

**Alignment Chain CENTER1**
**Station: 138+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.24 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 34.11 |
| -3.65 | -2.59 | -2.44 | -2.04 | -1.80 | -2.04 | -2.44 | -2.59 | -5.36 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.06 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.78 |
| @ 4.24 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 11.11 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



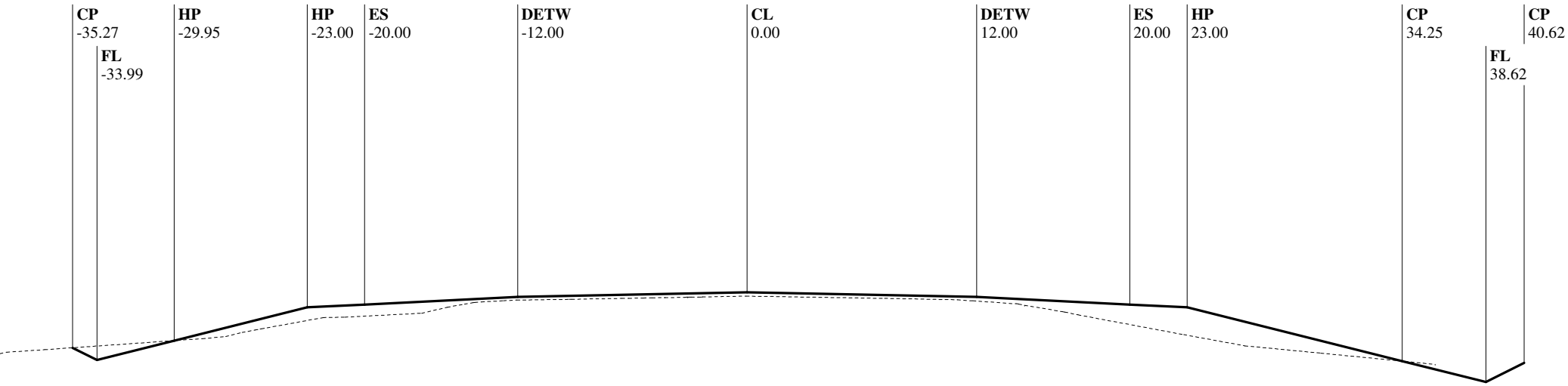

**Alignment Chain CENTER1**
**Station: 138+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.92 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 34.91 |
| -3.75 | -2.52 | -2.37 | -1.97 | -1.73 | -1.97 | -2.37 | -2.52 | -5.50 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.23 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.98 |
| @ 4.92 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 11.91 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 139+00.00**

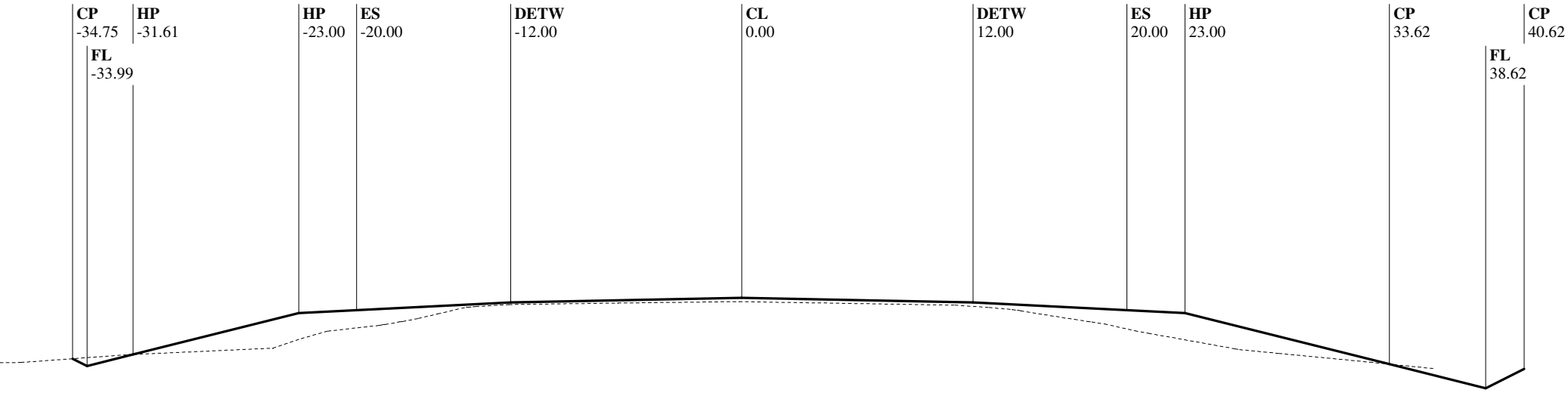
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.95 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 34.25 | 38.62 |
| -5.42 | -4.41 | -2.67 | -2.52 | -2.12 | -1.88 | -2.12 | -2.52 | -2.67 | -5.48 | -6.58 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.01 | F 1.74 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.81 | F 1.09 |
| @ 4.05 | @ 6.95 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 11.25 | @ 4.37 |

| CP | CP |
|---|---|
| -35.27 | 40.62 |
| -4.78 | -5.58 |
| 2.00:1 | 2.00:1 |
| C 0.64 | C 1.00 |
| @ 1.27 | @ 2.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 139+50.00**

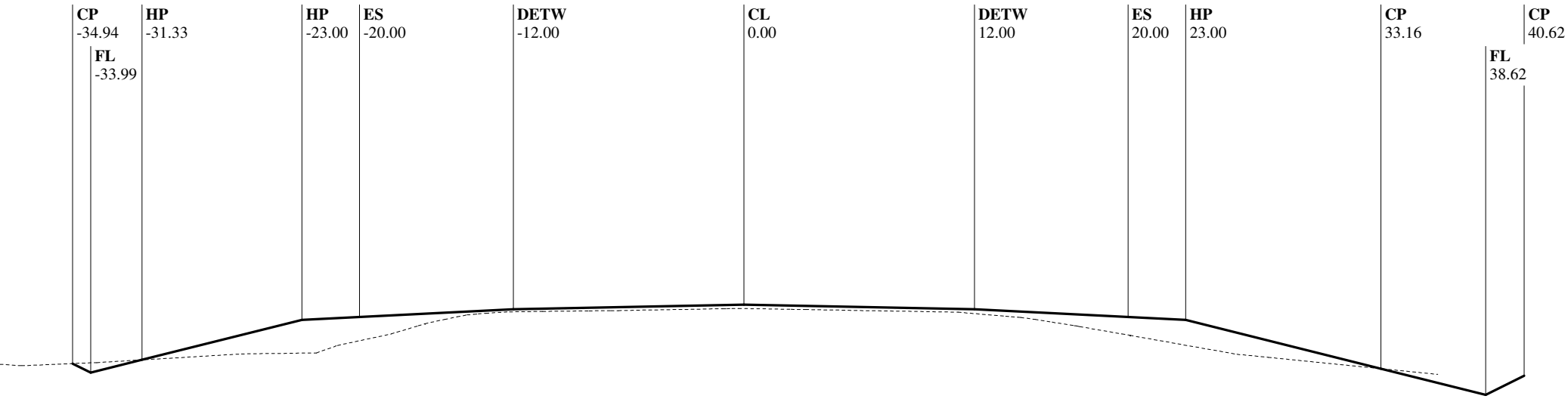
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -31.61 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 33.62 | 38.62 |
| -5.70 | -5.10 | -2.95 | -2.80 | -2.40 | -2.16 | -2.40 | -2.80 | -2.95 | -5.61 | -6.86 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.60 | F 2.15 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.65 | F 1.25 |
| @ 2.39 | @ 8.61 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 10.62 | @ 5.00 |

| CP | CP |
|---|---|
| -34.75 | 40.62 |
| -5.33 | -5.86 |
| 2.00:1 | 2.00:1 |
| C 0.38 | C 1.00 |
| @ 0.75 | @ 2.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



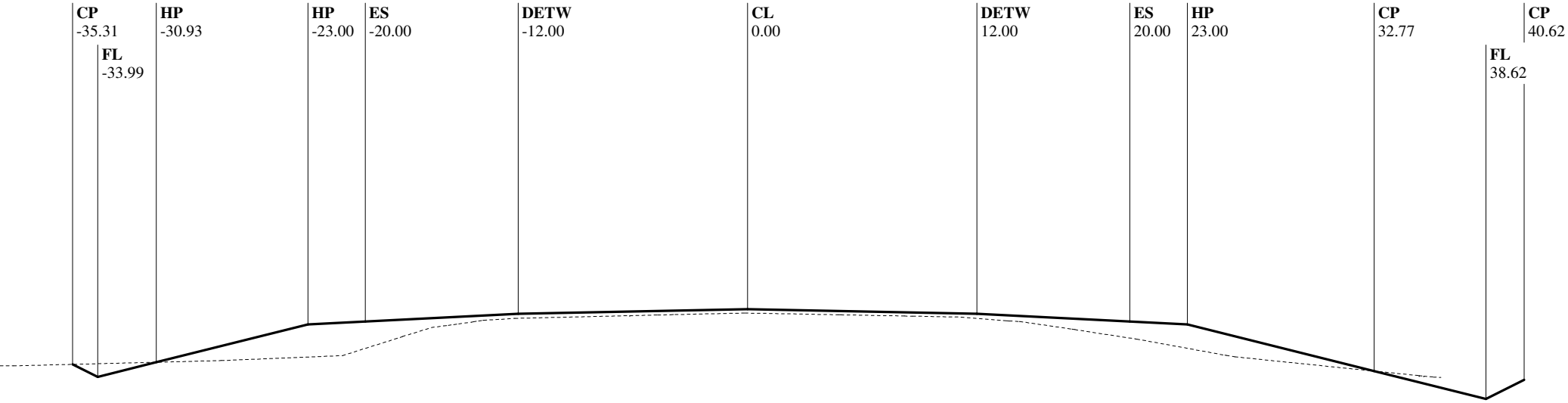

**Alignment Chain CENTER1**
**Station: 140+00.00**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -31.33 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 33.16 | 38.62 |
| -6.04 | -5.38 | -3.29 | -3.14 | -2.74 | -2.50 | -2.74 | -3.14 | -3.29 | -5.83 | -7.20 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.66 | F 2.08 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.54 | F 1.36 |
| @ 2.66 | @ 8.33 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 10.16 | @ 5.46 |

| CP | CP |
|---|---|
| -34.94 | 40.62 |
| -5.57 | -6.20 |
| 2.00:1 | 2.00:1 |
| C 0.47 | C 1.00 |
| @ 0.94 | @ 2.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 140+50.00**

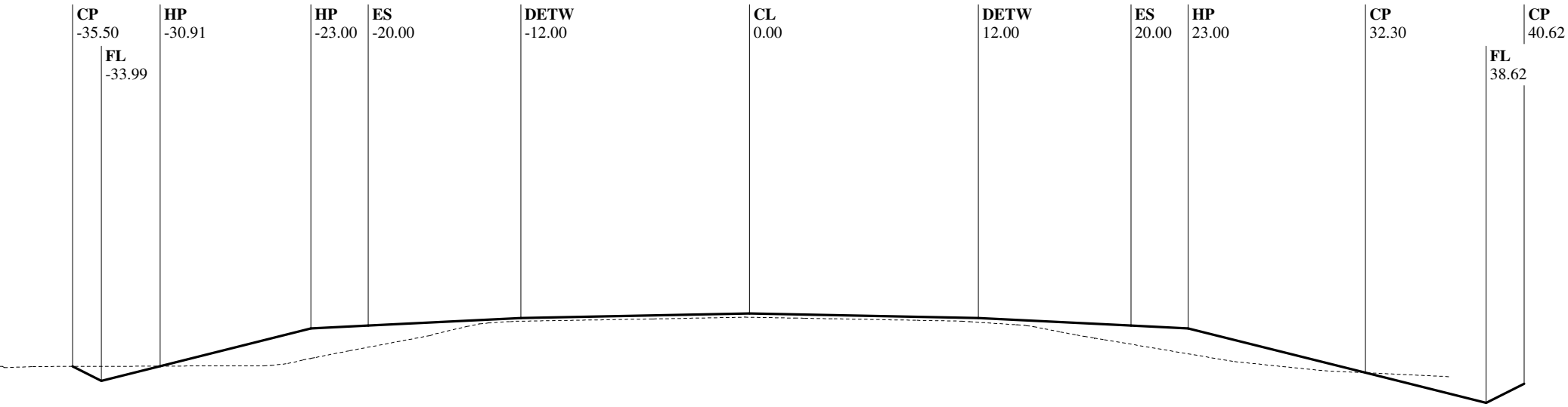
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -30.93 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.77 | 38.62 |
| -6.36 | -5.60 | -3.62 | -3.47 | -3.07 | -2.83 | -3.07 | -3.47 | -3.62 | -6.06 | -7.52 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.77 | F 1.98 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.44 | F 1.46 |
| @ 3.07 | @ 7.93 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.77 | @ 5.85 |

| CP | CP |
|---|---|
| -35.31 | 40.62 |
| -5.71 | -6.52 |
| 2.00:1 | 2.00:1 |
| C 0.66 | C 1.00 |
| @ 1.31 | @ 2.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 141+00.00**

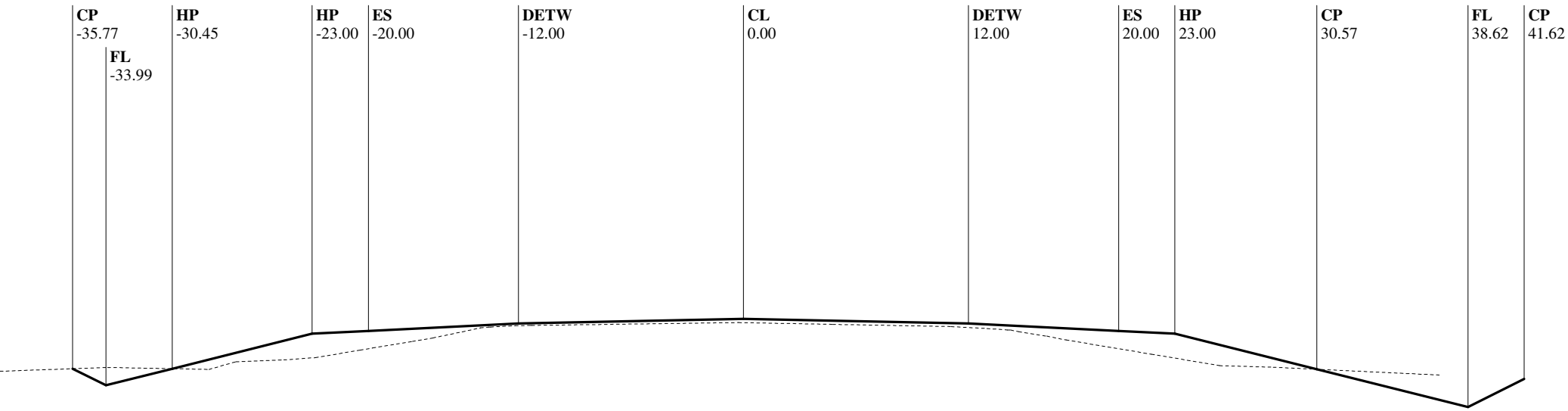
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -30.91 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.30 | 38.62 |
| -6.54 | -5.77 | -3.79 | -3.64 | -3.24 | -3.00 | -3.24 | -3.64 | -3.79 | -6.11 | -7.69 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.77 | F 1.98 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.32 | F 1.58 |
| @ 3.09 | @ 7.91 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.30 | @ 6.32 |

| CP | CP |
|---|---|
| -35.50 | 40.62 |
| -5.78 | -6.69 |
| 2.00:1 | 2.00:1 |
| C 0.75 | C 1.00 |
| @ 1.51 | @ 2.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 141+50.00**

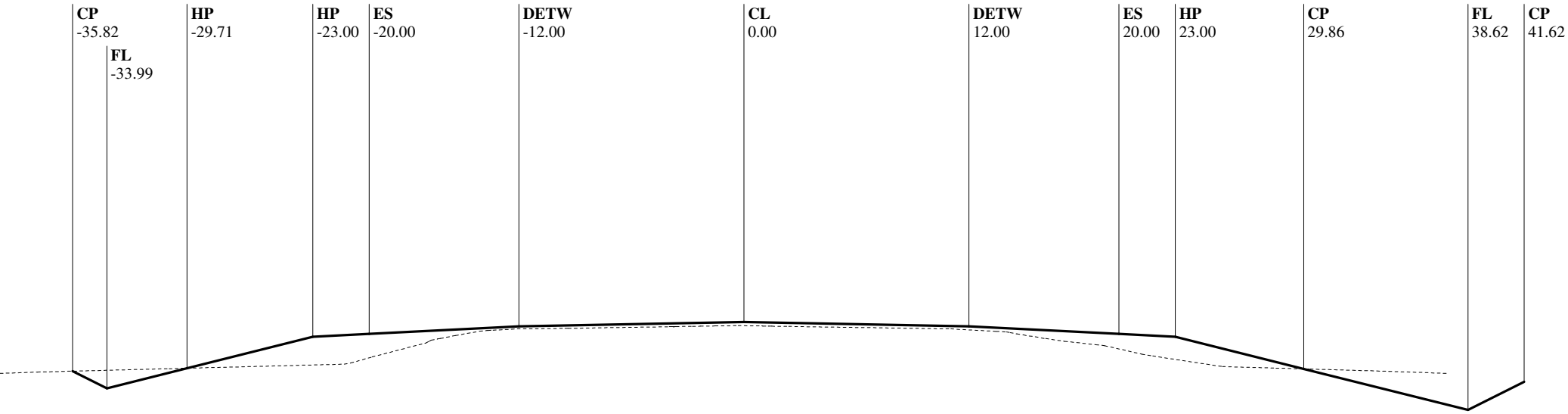
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -30.45 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.57 | 38.62 |
| -6.80 | -5.91 | -4.05 | -3.90 | -3.50 | -3.26 | -3.50 | -3.90 | -4.05 | -5.94 | -7.95 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.89 | F 1.86 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.89 | F 2.01 |
| @ 3.55 | @ 7.45 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.57 | @ 8.05 |

| CP | CP |
|---|---|
| -35.77 | 41.62 |
| -5.91 | -6.45 |
| 2.00:1 | 2.00:1 |
| C 0.89 | C 1.50 |
| @ 1.77 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 142+00.00**

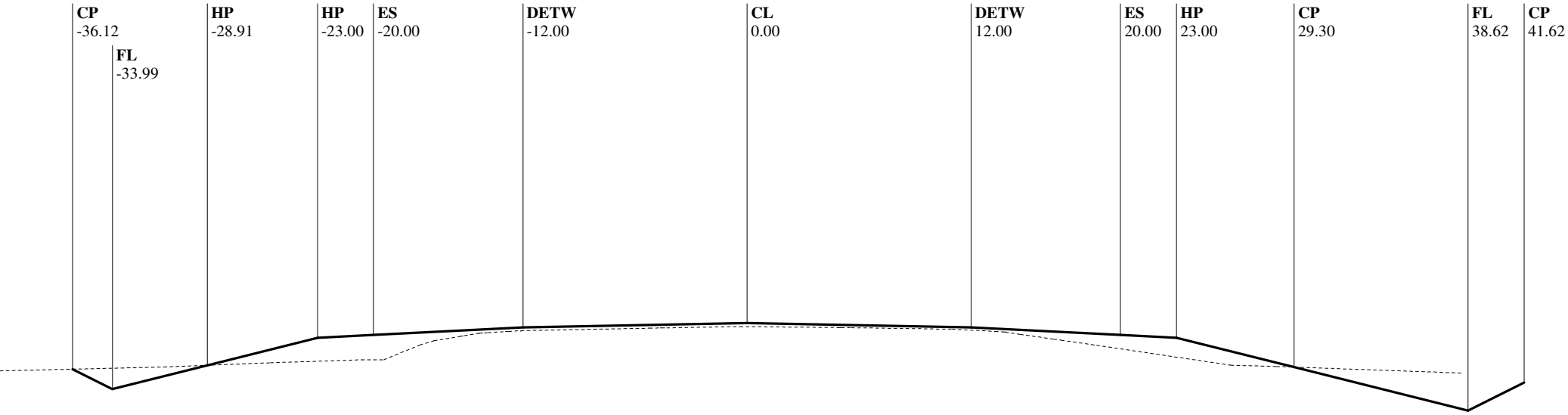
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.71 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.86 | 38.62 |
| -7.02 | -5.95 | -4.27 | -4.12 | -3.72 | -3.48 | -3.72 | -4.12 | -4.27 | -5.99 | -8.18 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.07 | F 1.68 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.71 | F 2.19 |
| @ 4.28 | @ 6.71 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.86 | @ 8.76 |

| CP | CP |
|---|---|
| -35.82 | 41.62 |
| -6.11 | -6.68 |
| 2.00:1 | 2.00:1 |
| C 0.91 | C 1.50 |
| @ 1.83 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 142+50.00**

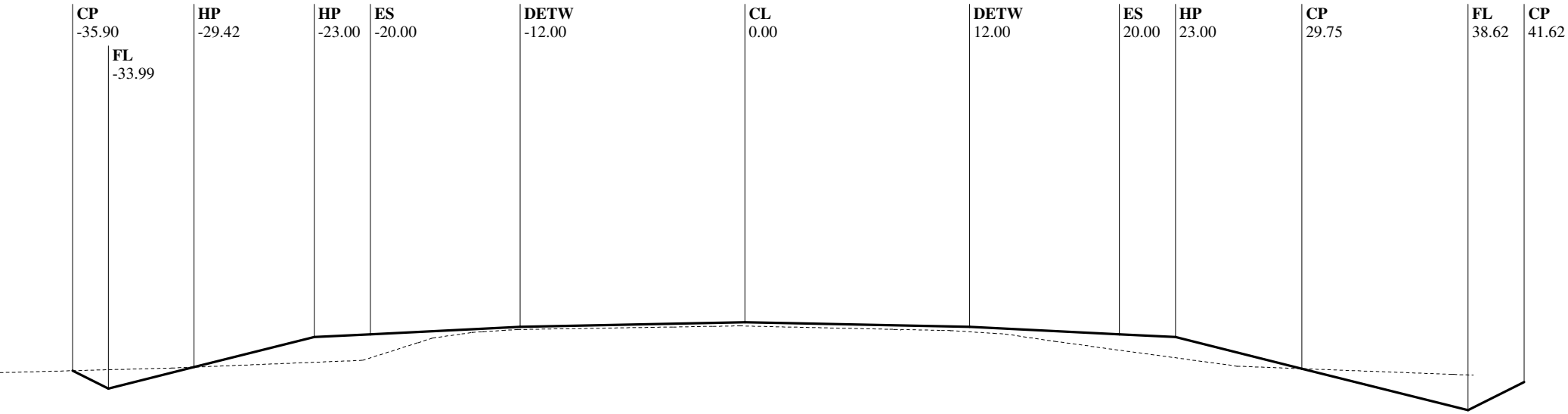
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -28.91 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.30 | 38.62 |
| -7.14 | -5.87 | -4.39 | -4.24 | -3.84 | -3.60 | -3.84 | -4.24 | -4.39 | -5.96 | -8.29 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.27 | F 1.48 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.57 | F 2.33 |
| @ 5.09 | @ 5.91 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.30 | @ 9.32 |

| CP | CP |
|---|---|
| -36.12 | 41.62 |
| -6.07 | -6.79 |
| 2.00:1 | 2.00:1 |
| C 1.06 | C 1.50 |
| @ 2.13 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 143+00.00**

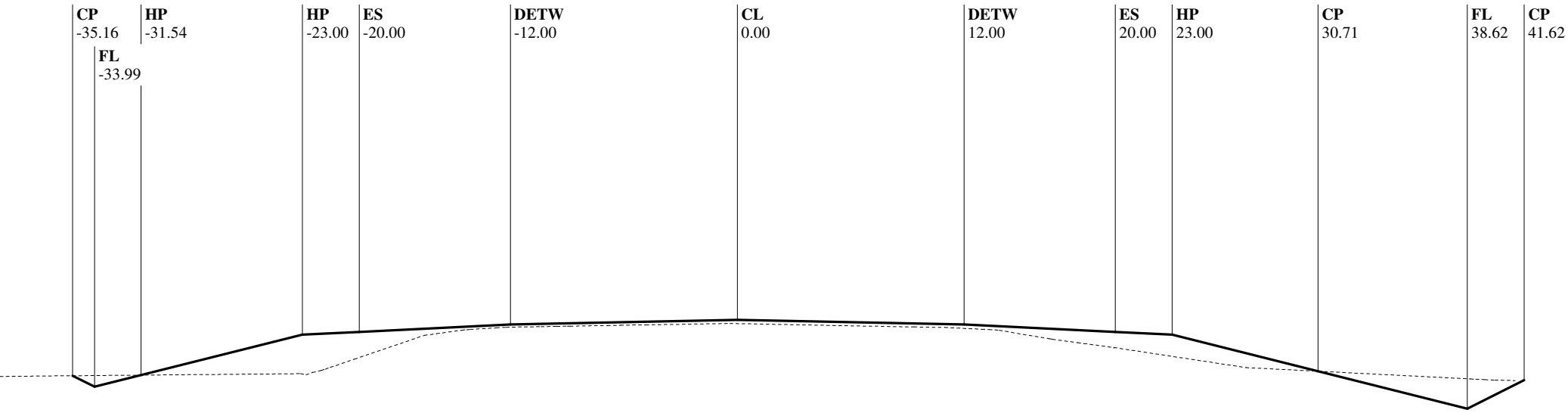
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.42 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.75 | 38.62 |
| -7.05 | -5.91 | -4.30 | -4.15 | -3.75 | -3.51 | -3.75 | -4.15 | -4.30 | -5.99 | -8.21 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.14 | F 1.60 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.69 | F 2.22 |
| @ 4.58 | @ 6.42 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.75 | @ 8.87 |

| CP | CP |
|---|---|
| -35.90 | 41.62 |
| -6.10 | -6.71 |
| 2.00:1 | 2.00:1 |
| C 0.95 | C 1.50 |
| @ 1.91 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 143+50.00**

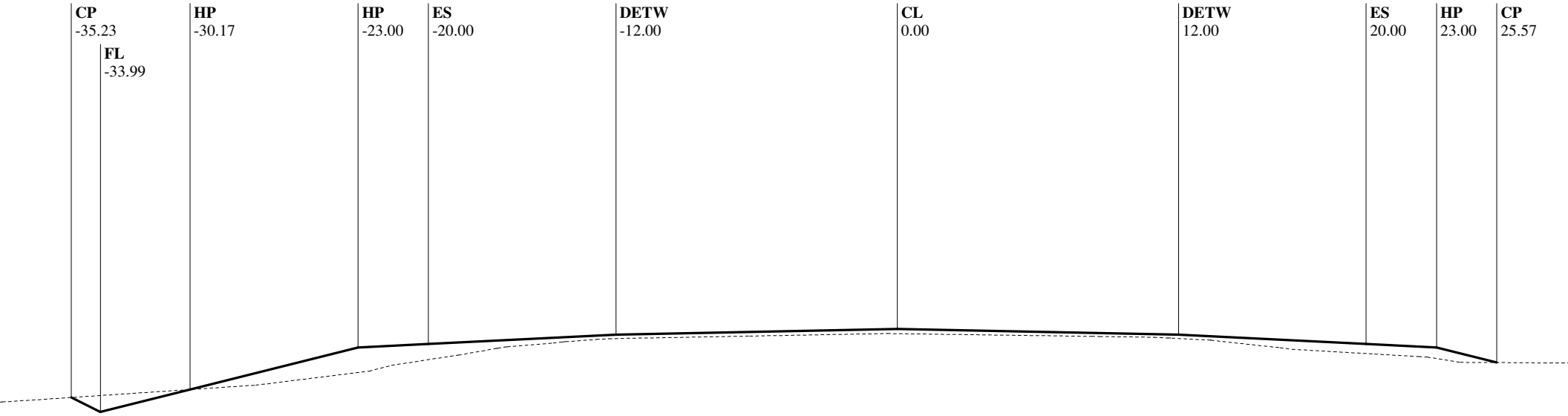
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -31.54 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.71 | 38.62 |
| -6.87 | -6.25 | -4.12 | -3.97 | -3.57 | -3.33 | -3.57 | -3.97 | -4.12 | -6.05 | -8.02 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.61 | F 2.13 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.93 | F 1.98 |
| @ 2.46 | @ 8.54 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.71 | @ 7.91 |

| CP | CP |
|---|---|
| -35.16 | 41.62 |
| -6.29 | -6.52 |
| 2.00:1 | 2.00:1 |
| C 0.58 | C 1.50 |
| @ 1.16 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 144+00.00**

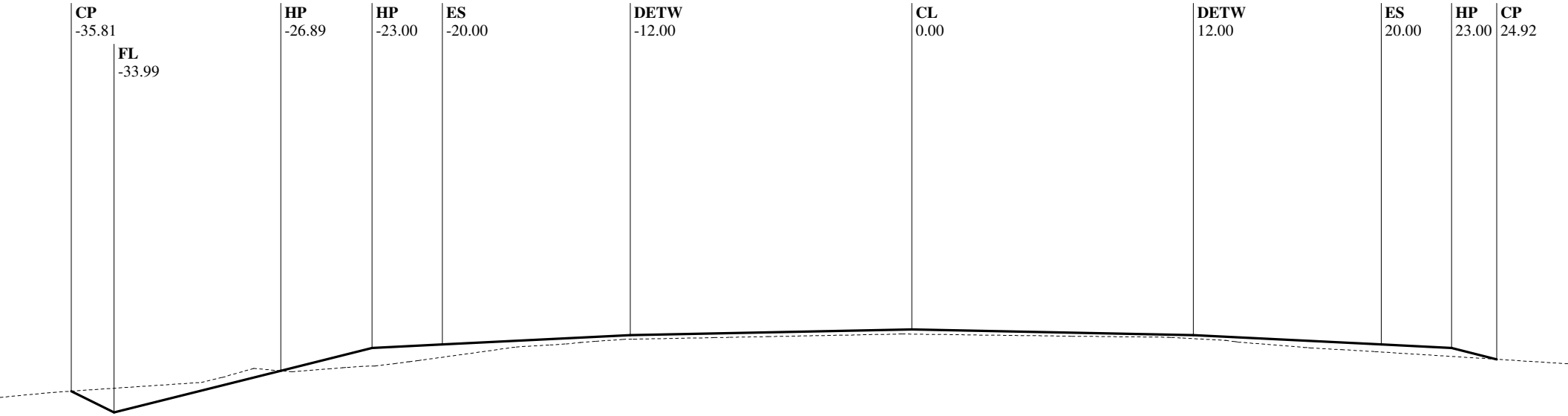
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -30.17 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.57 |
| -6.86 | -5.90 | -4.11 | -3.96 | -3.56 | -3.32 | -3.56 | -3.96 | -4.11 | -4.75 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.95 | F 1.79 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.64 |
| @ 3.82 | @ 7.17 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.57 |

| CP |
|---|
| -35.23 |
| -6.24 |
| 2.00:1 |
| C 0.62 |
| @ 1.24 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 144+17.52**

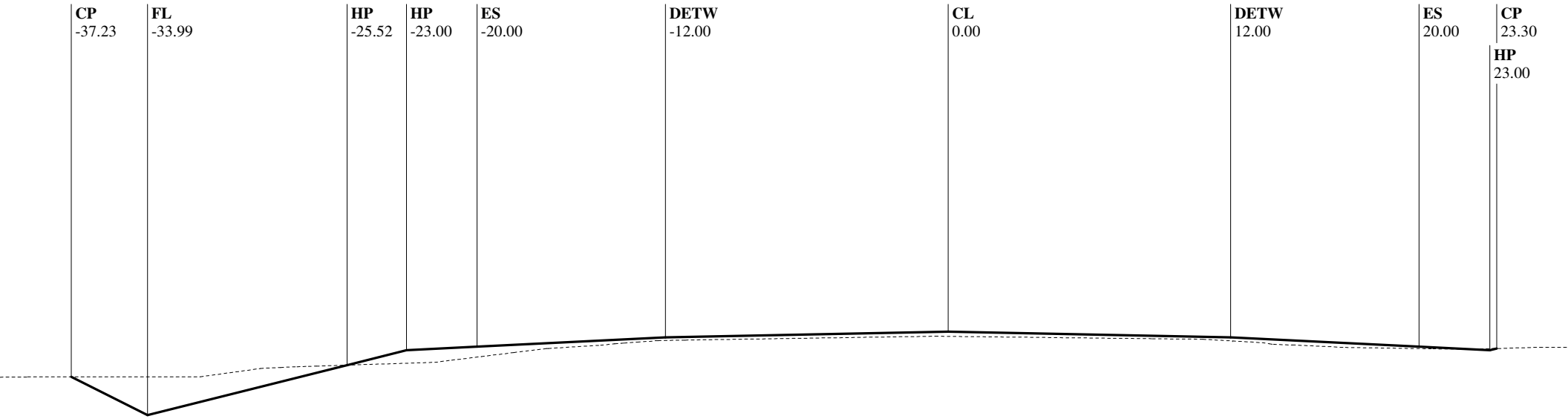
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -26.89 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 24.92 |
| -6.88 | -5.11 | -4.14 | -3.99 | -3.59 | -3.35 | -3.59 | -3.99 | -4.14 | -4.62 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.78 | F 0.97 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.48 |
| @ 7.11 | @ 3.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 1.92 |

| CP |
|---|
| -35.81 |
| -5.97 |
| 2.00:1 |
| C 0.91 |
| @ 1.82 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 144+50.00**

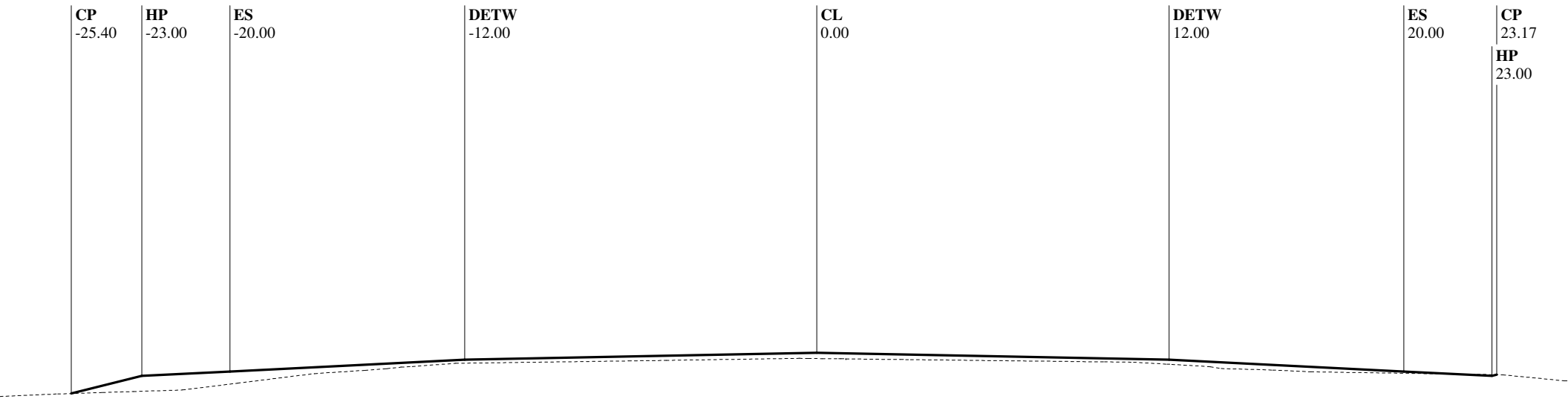
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -25.52 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.30 |
| -6.92 | -4.80 | -4.17 | -4.02 | -3.62 | -3.38 | -3.62 | -4.02 | -4.17 | -4.10 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 2.12 | F 0.63 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.07 |
| @ 8.47 | @ 2.52 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.30 |

| CP |
|---|
| -37.23 |
| -5.30 |
| 2.00:1 |
| C 1.62 |
| @ 3.24 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



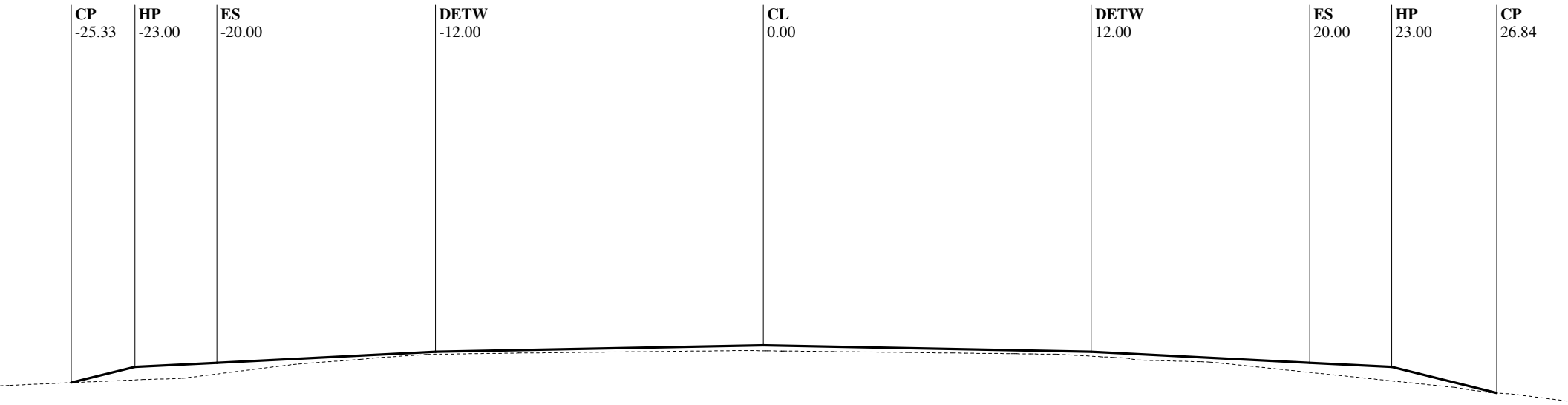

**Alignment Chain CENTER1**
**Station: 144+57.55**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -25.40 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.17 |
| -4.78 | -4.18 | -4.03 | -3.63 | -3.39 | -3.63 | -4.03 | -4.18 | -4.14 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.60 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.04 |
| @ 2.40 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.17 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



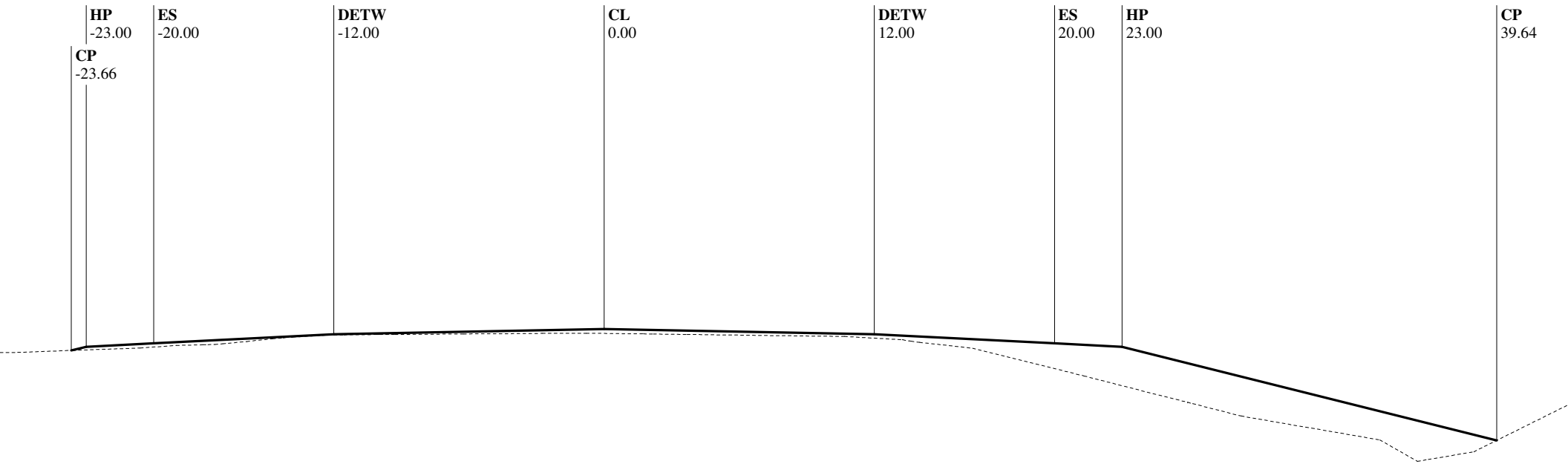

**Alignment Chain CENTER1**
**Station: 144+70.91**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -25.33 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.84 |
| -4.77 | -4.19 | -4.04 | -3.64 | -3.40 | -3.64 | -4.04 | -4.19 | -5.15 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.58 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.96 |
| @ 2.33 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.84 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



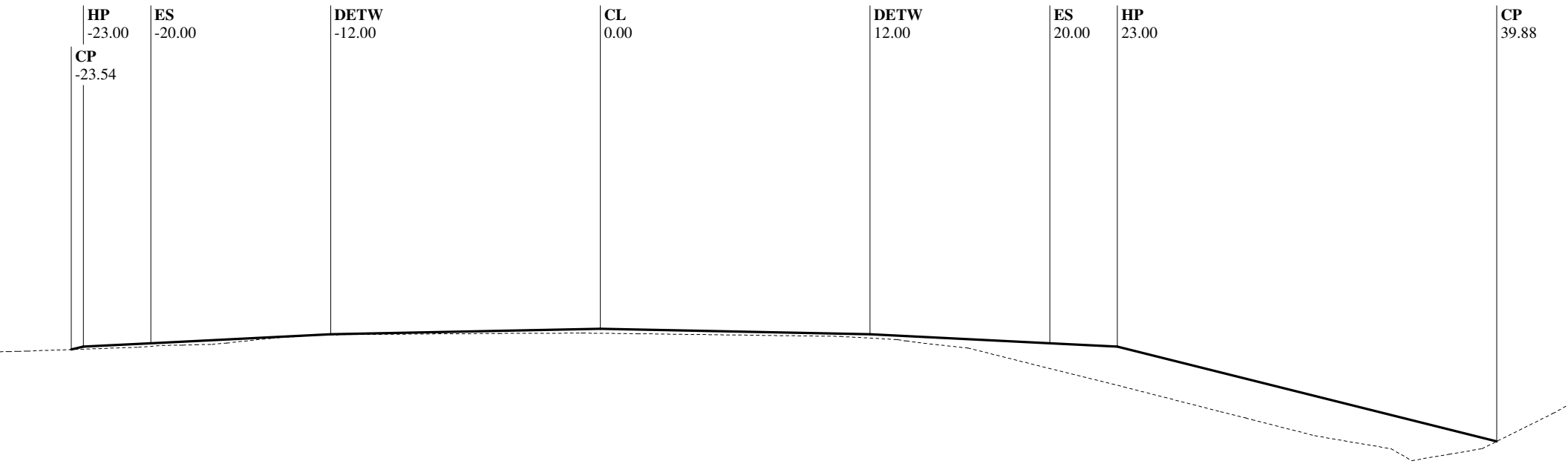

**Alignment Chain CENTER1**
**Station: 145+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -23.66 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 39.64 |
| -4.33 | -4.16 | -4.01 | -3.61 | -3.37 | -3.61 | -4.01 | -4.16 | -8.32 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.16 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 4.16 |
| @ 0.66 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 16.64 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



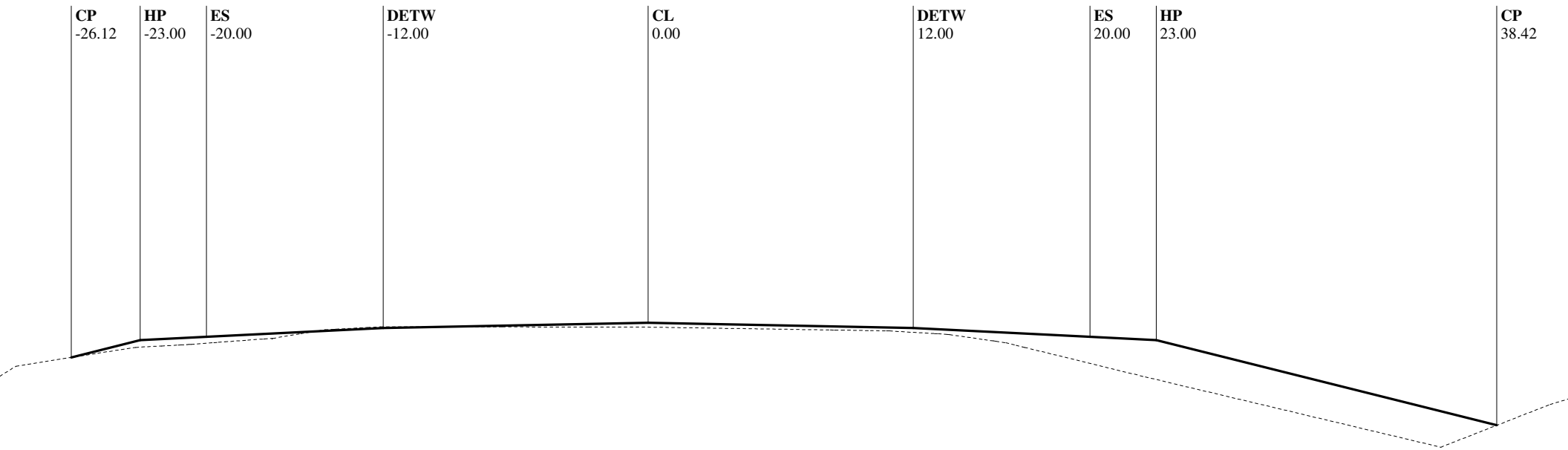

**Alignment Chain CENTER1**
**Station: 145+02.45**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -23.54 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 39.88 |
| -4.29 | -4.15 | -4.00 | -3.60 | -3.36 | -3.60 | -4.00 | -4.15 | -8.37 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.13 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 4.22 |
| @ 0.54 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 16.88 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



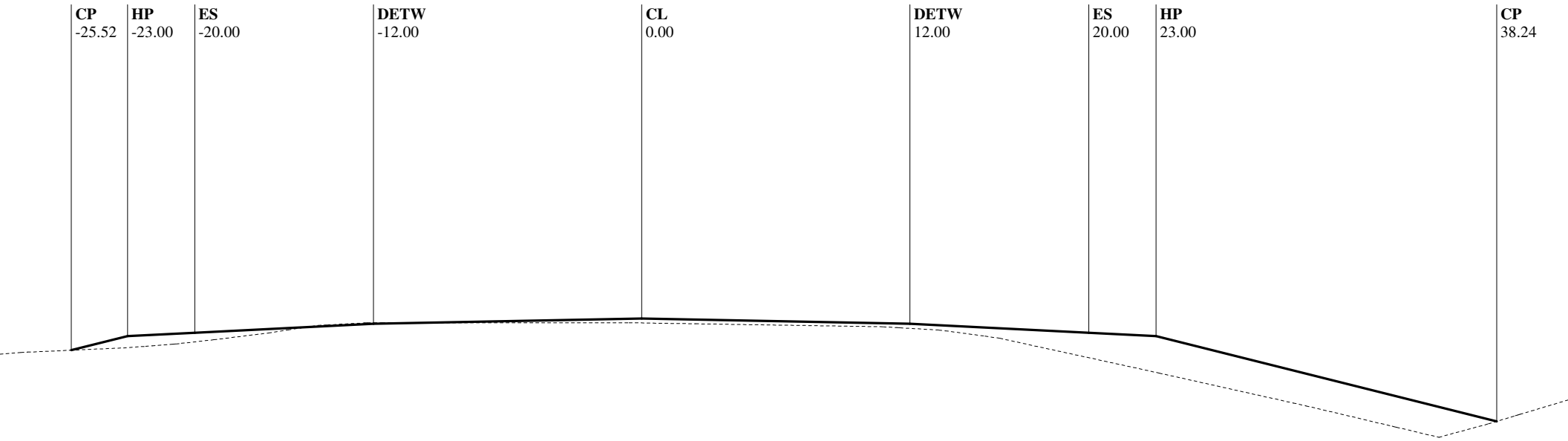

**Alignment Chain CENTER1**
**Station: 145+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.12 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 38.42 |
| -4.71 | -3.92 | -3.77 | -3.37 | -3.13 | -3.37 | -3.77 | -3.92 | -7.78 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.78 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 3.85 |
| @ 3.12 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 15.42 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



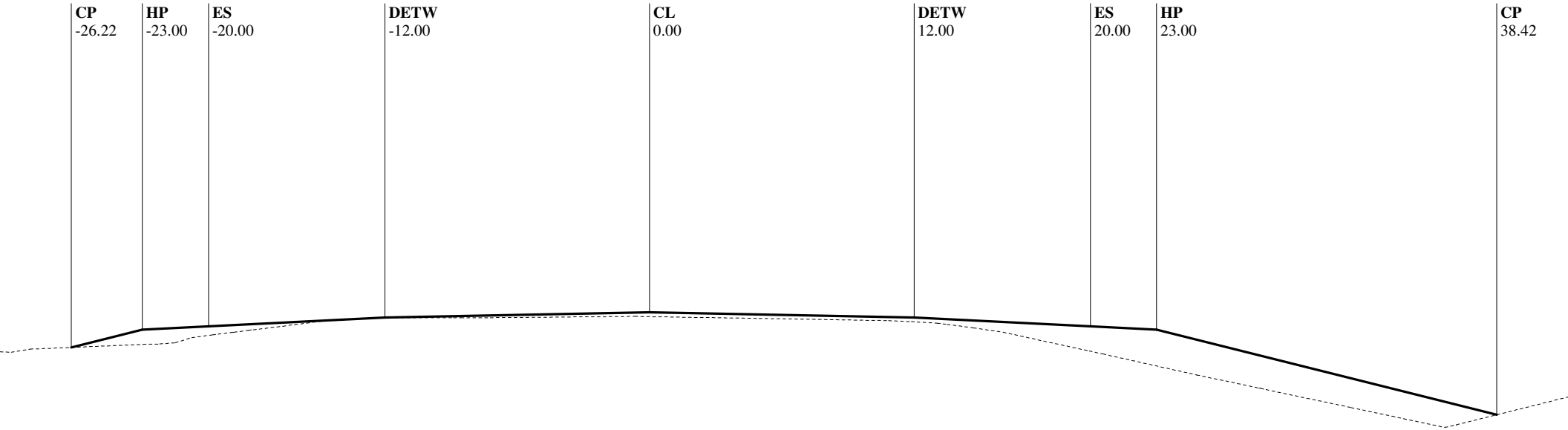

**Alignment Chain CENTER1**
**Station: 146+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -25.52 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 38.24 |
| -4.39 | -3.76 | -3.61 | -3.21 | -2.97 | -3.21 | -3.61 | -3.76 | -7.57 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.63 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 3.81 |
| @ 2.52 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 15.24 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



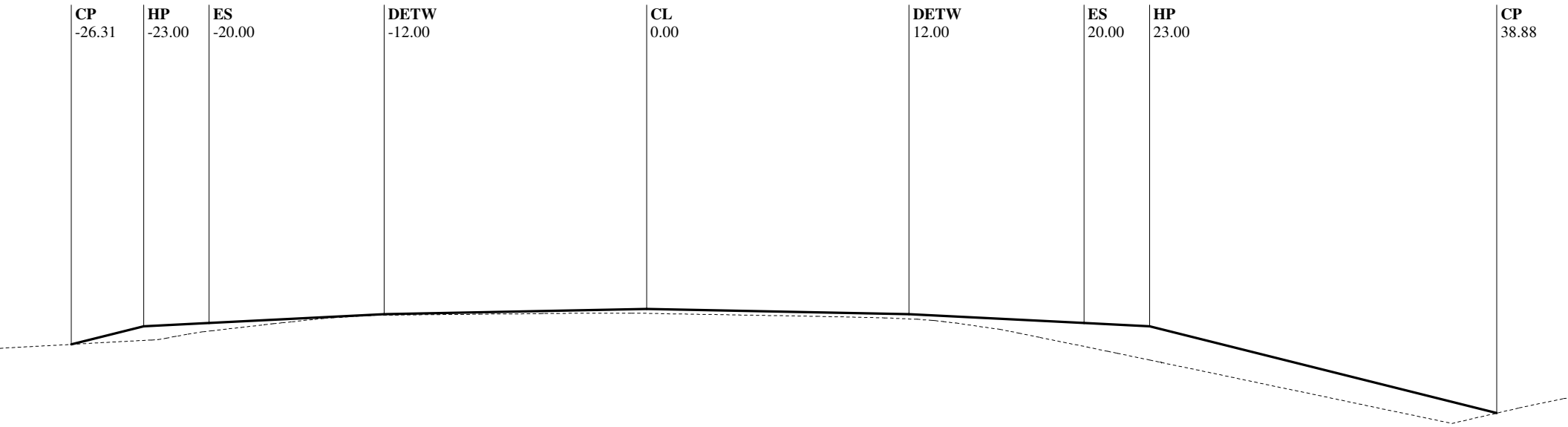

**Alignment Chain CENTER1**
**Station: 146+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.22 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 38.42 |
| -4.37 | -3.56 | -3.41 | -3.01 | -2.77 | -3.01 | -3.41 | -3.56 | -7.42 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.80 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 3.86 |
| @ 3.22 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 15.42 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



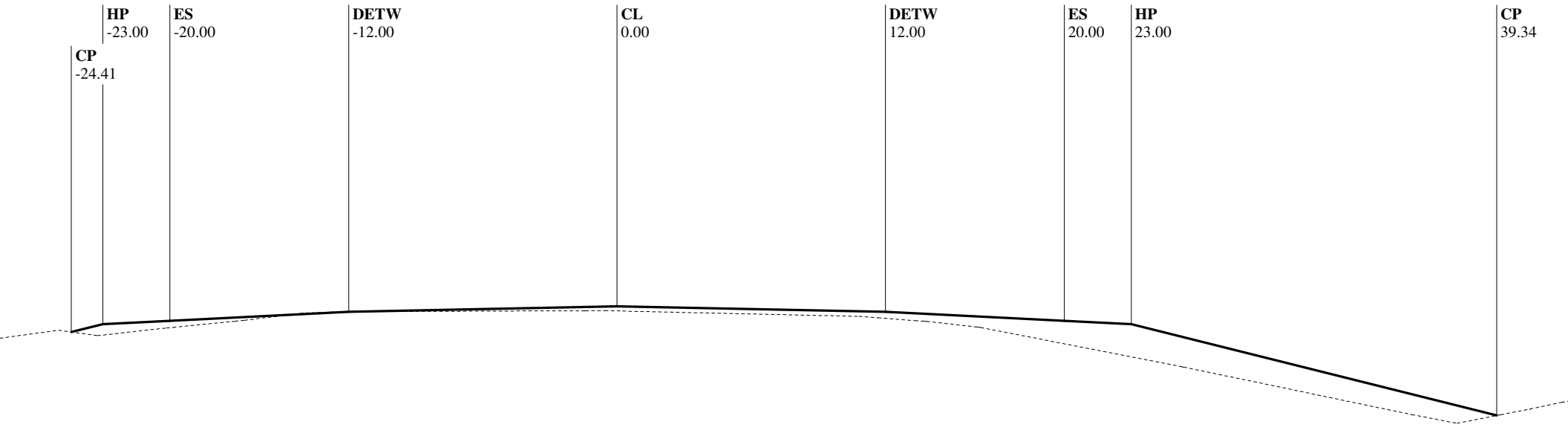

**Alignment Chain CENTER1**
**Station: 147+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.31 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 38.88 |
| -4.20 | -3.37 | -3.22 | -2.82 | -2.58 | -2.82 | -3.22 | -3.37 | -7.34 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.83 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 3.97 |
| @ 3.31 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 15.88 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



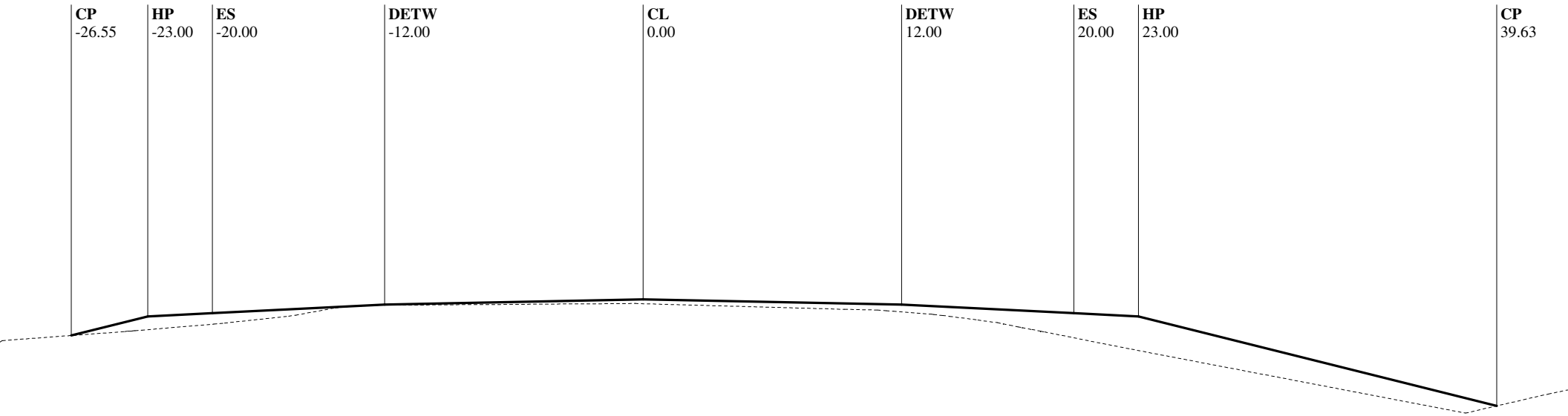

**Alignment Chain CENTER1**
**Station: 147+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -24.41 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 39.34 |
| -3.55 | -3.20 | -3.05 | -2.65 | -2.41 | -2.65 | -3.05 | -3.20 | -7.28 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.35 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 4.09 |
| @ 1.41 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 16.34 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



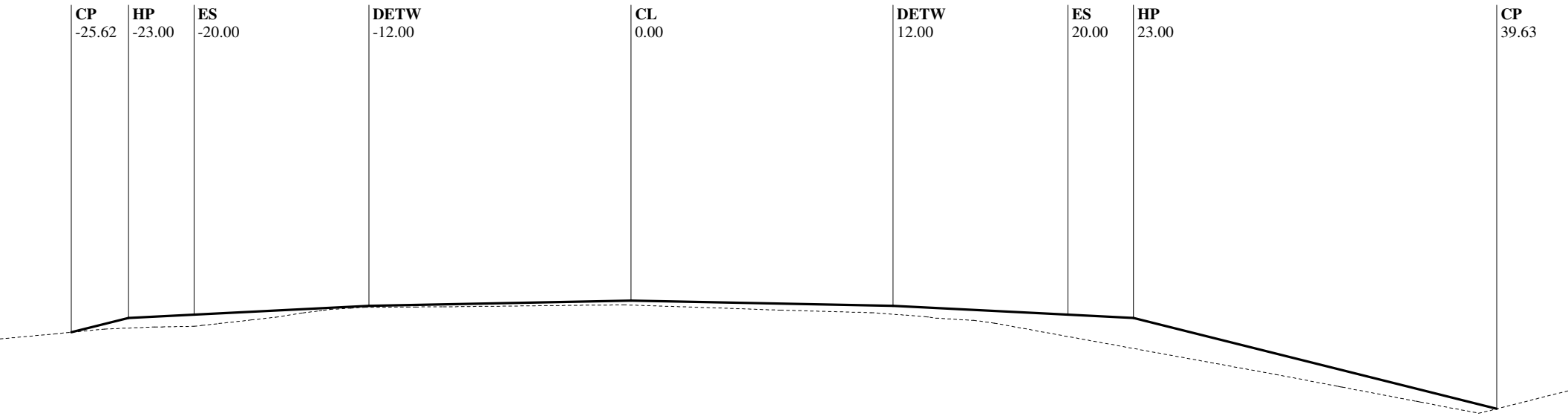

**Alignment Chain CENTER1**
**Station: 148+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.55 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 39.63 |
| -3.88 | -3.00 | -2.85 | -2.45 | -2.21 | -2.45 | -2.85 | -3.00 | -7.15 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.89 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 4.16 |
| @ 3.55 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 16.63 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



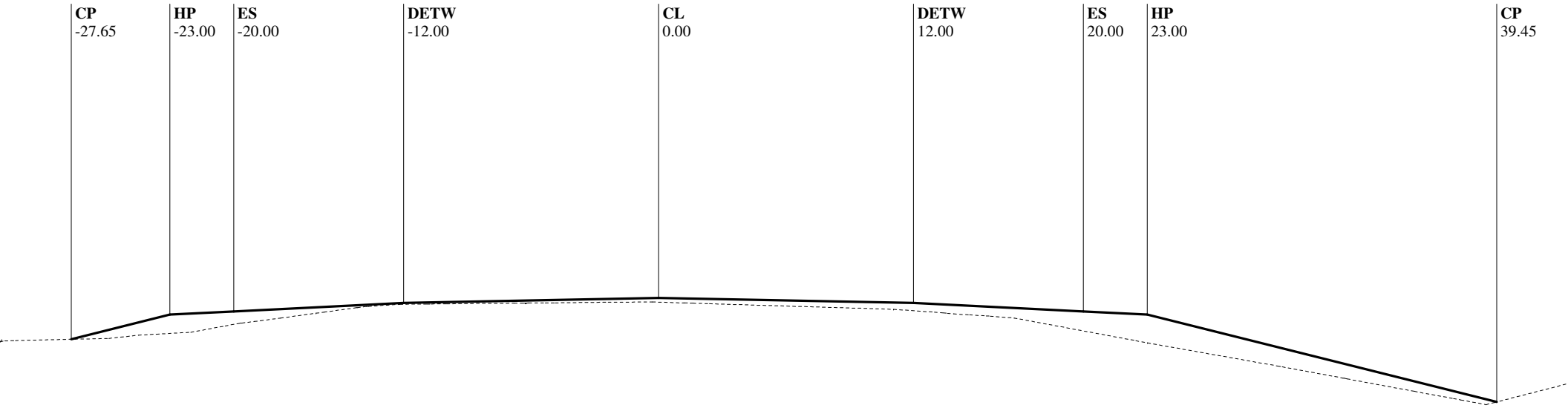

**Alignment Chain CENTER1**
**Station: 148+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -25.62 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 39.63 |
| -3.64 | -2.99 | -2.84 | -2.44 | -2.20 | -2.44 | -2.84 | -2.99 | -7.15 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.66 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 4.16 |
| @ 2.62 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 16.63 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



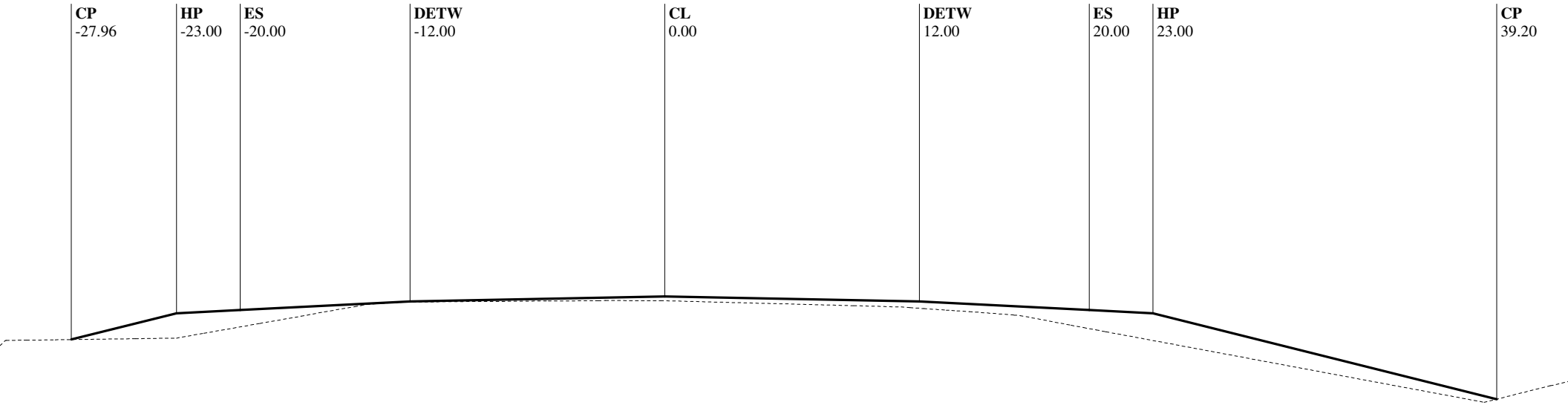

**Alignment Chain CENTER1**
**Station: 149+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.65 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 39.45 |
| -4.14 | -2.98 | -2.83 | -2.43 | -2.19 | -2.43 | -2.83 | -2.98 | -7.09 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.16 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 4.11 |
| @ 4.65 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 16.45 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



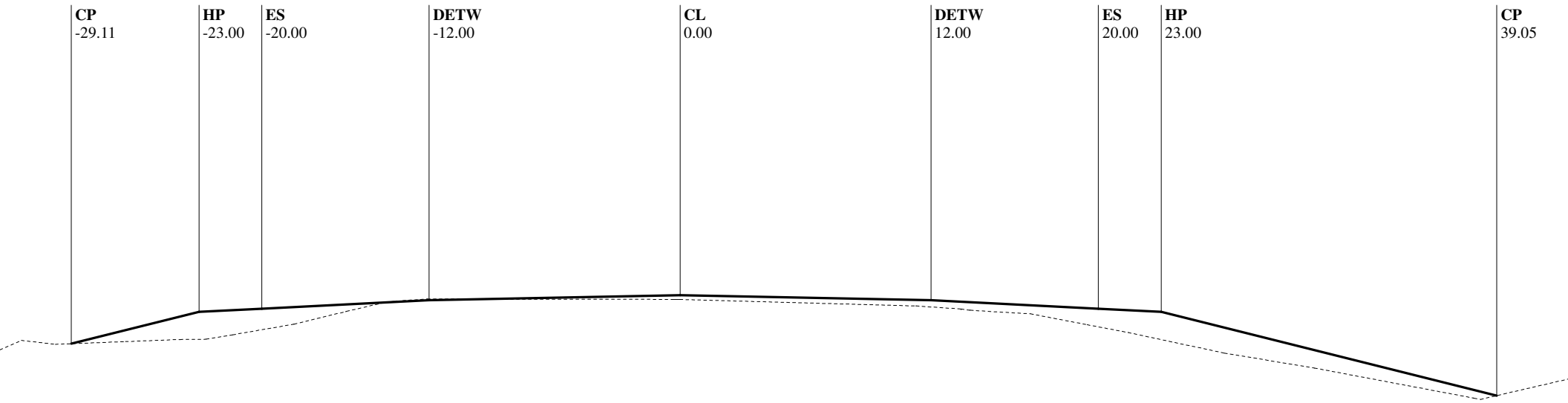

**Alignment Chain CENTER1**
**Station: 149+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.96 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 39.20 |
| -4.17 | -2.92 | -2.77 | -2.37 | -2.13 | -2.37 | -2.77 | -2.92 | -6.97 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.24 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 4.05 |
| @ 4.96 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 16.20 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



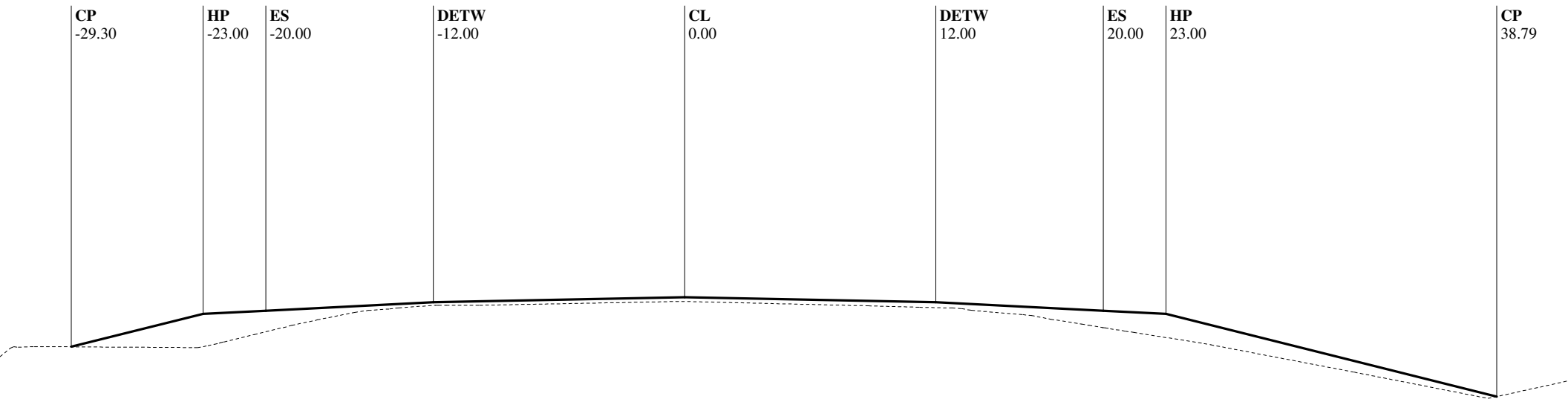

**Alignment Chain CENTER1**
**Station: 150+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -29.11 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 39.05 |
| -4.36 | -2.83 | -2.68 | -2.28 | -2.04 | -2.28 | -2.68 | -2.83 | -6.84 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.53 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 4.01 |
| @ 6.11 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 16.05 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



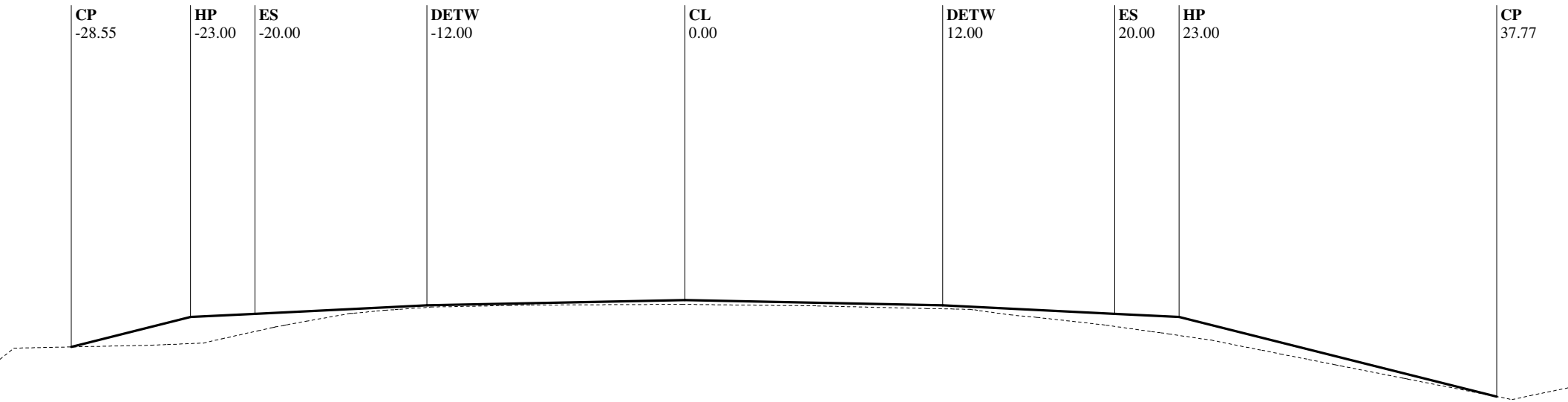

**Alignment Chain CENTER1**
**Station: 150+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -29.30 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 38.79 |
| -4.45 | -2.88 | -2.73 | -2.33 | -2.09 | -2.33 | -2.73 | -2.88 | -6.83 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.57 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 3.95 |
| @ 6.30 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 15.79 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



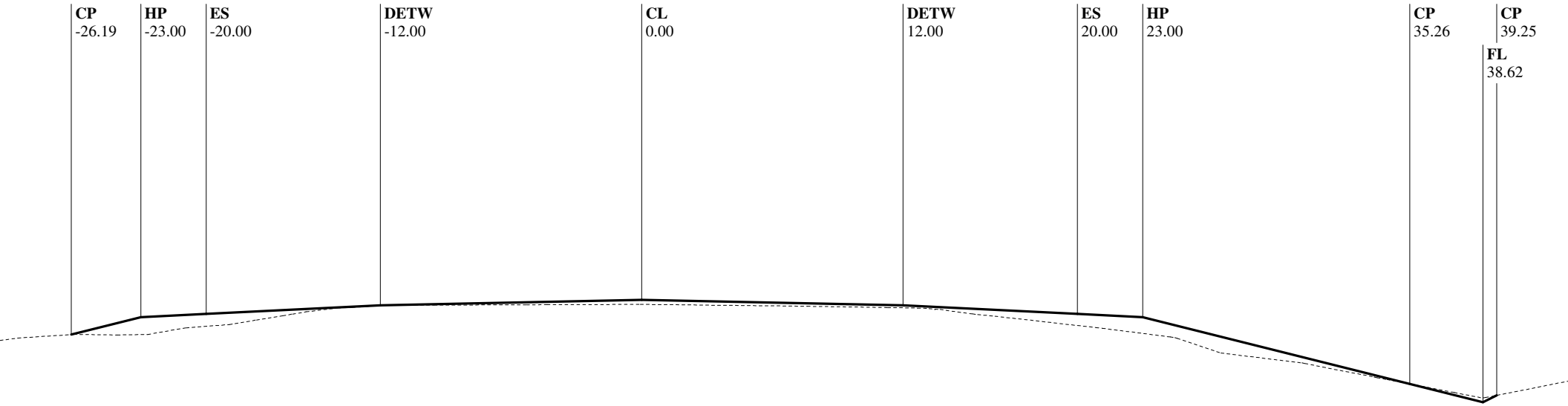

**Alignment Chain CENTER1**
**Station: 151+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.55 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 37.77 |
| -4.36 | -2.98 | -2.83 | -2.43 | -2.19 | -2.43 | -2.83 | -2.98 | -6.67 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.39 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 3.69 |
| @ 5.55 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 14.77 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



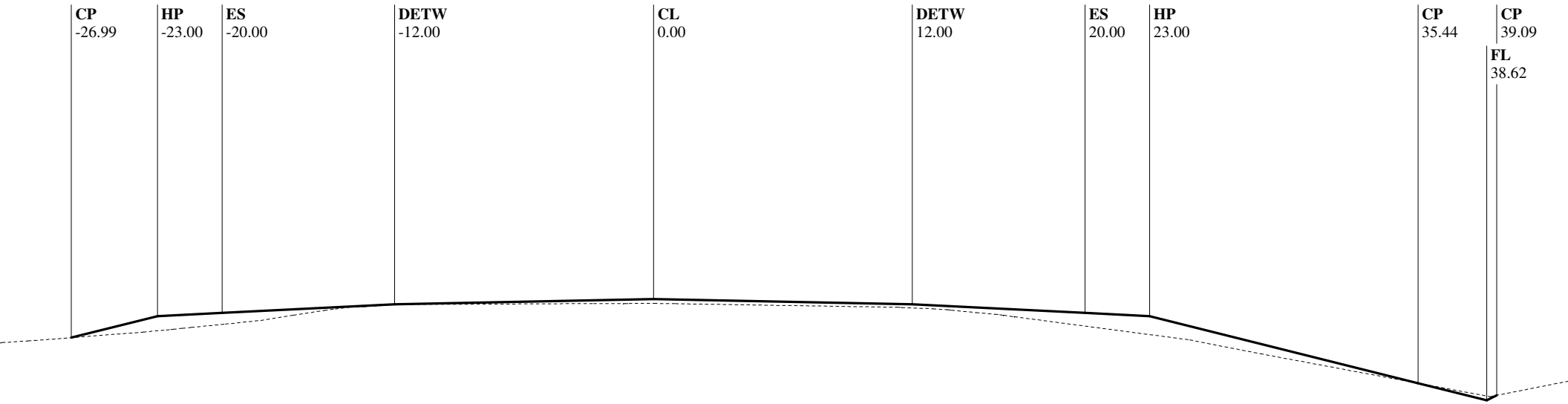

**Alignment Chain CENTER1**
**Station: 151+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -26.19 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 35.26 | 38.62 |
| -3.81 | -3.02 | -2.87 | -2.47 | -2.23 | -2.47 | -2.87 | -3.02 | -6.08 | -6.92 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.80 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 3.07 | F 0.84 |
| @ 3.19 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 12.26 | @ 3.36 |

| CP |
|---|
| 39.25 |
| -6.61 |
| 2.00:1 |
| C 0.32 |
| @ 0.63 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 152+00.00**

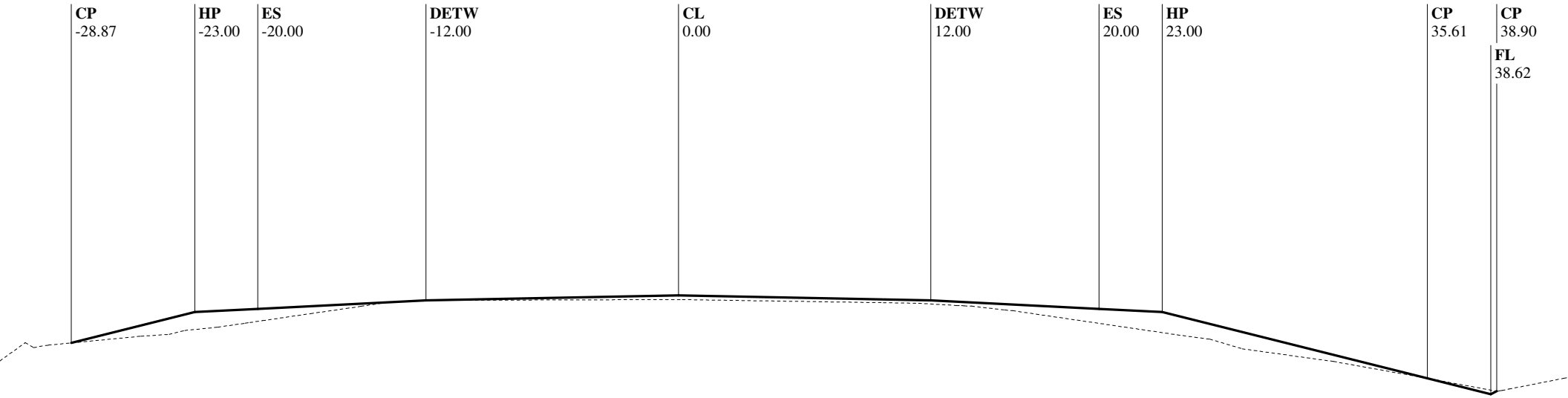
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -26.99 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 35.44 | 38.62 |
| -3.95 | -2.95 | -2.80 | -2.40 | -2.16 | -2.40 | -2.80 | -2.95 | -6.06 | -6.85 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.00 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 3.11 | F 0.80 |
| @ 3.99 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 12.44 | @ 3.18 |

| CP |
|---|
| 39.09 |
| -6.62 |
| 2.00:1 |
| C 0.23 |
| @ 0.47 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



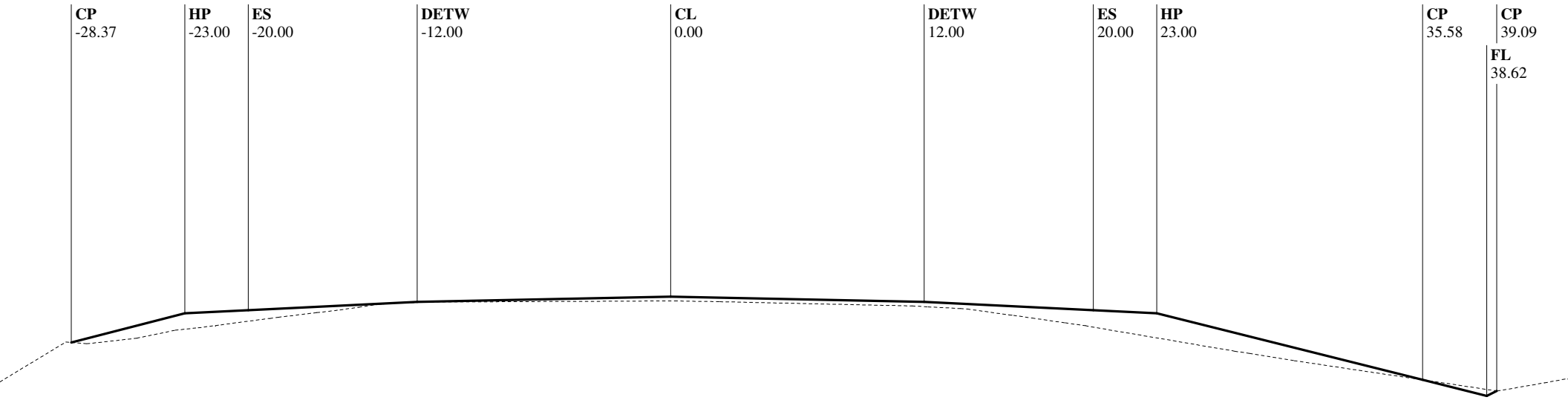

**Alignment Chain CENTER1**
**Station: 152+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -28.87 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 35.61 | 38.62 |
| -4.33 | -2.86 | -2.71 | -2.31 | -2.07 | -2.31 | -2.71 | -2.86 | -6.02 | -6.77 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.47 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 3.15 | F 0.75 |
| @ 5.87 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 12.61 | @ 3.01 |

| CP |
|---|
| 38.90 |
| -6.63 |
| 2.00:1 |
| C 0.14 |
| @ 0.28 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 153+00.00**

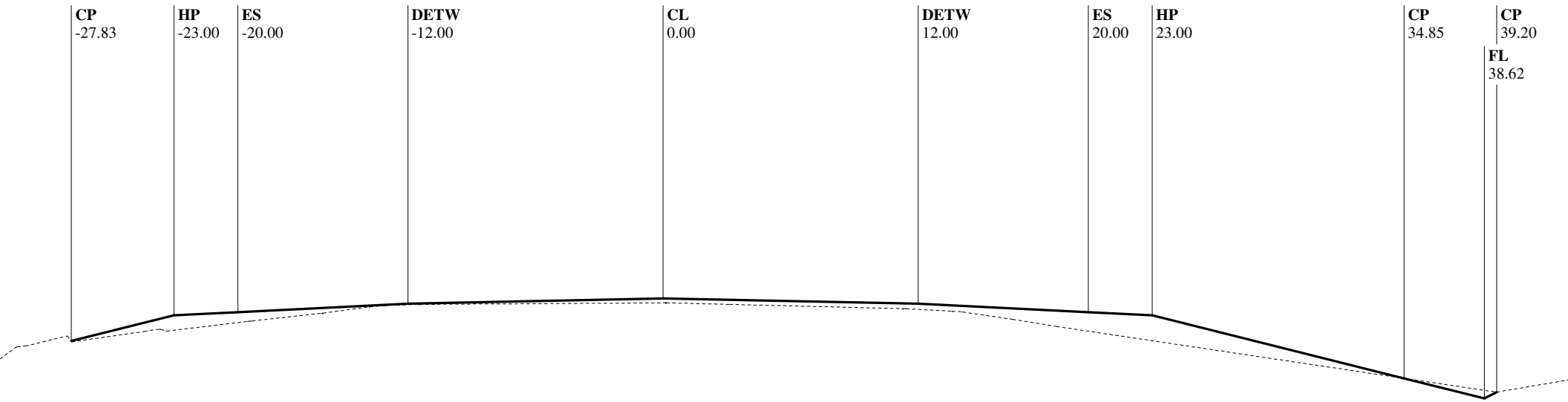
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -28.37 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 35.58 | 38.62 |
| -4.29 | -2.91 | -2.76 | -2.36 | -2.12 | -2.36 | -2.76 | -2.91 | -6.06 | -6.82 |
| -3.90:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.38 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 3.15 | F 0.76 |
| @ 5.37 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 12.58 | @ 3.04 |

| CP |
|---|
| 39.09 |
| -6.58 |
| 2.00:1 |
| C 0.24 |
| @ 0.47 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 153+23.42**

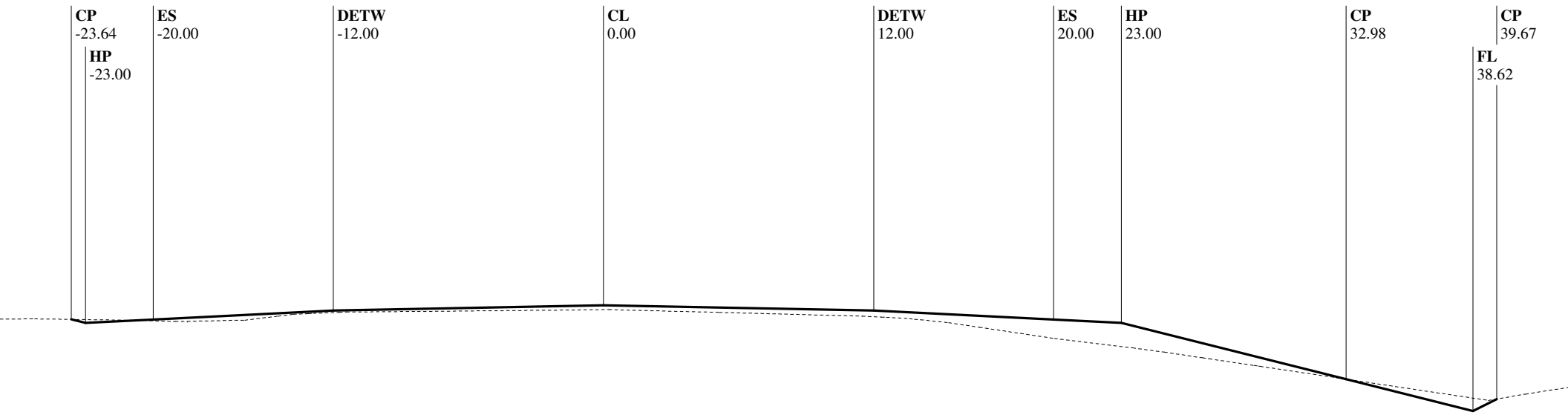
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -27.83 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 34.85 | 38.62 |
| -4.15 | -2.95 | -2.80 | -2.40 | -2.16 | -2.40 | -2.80 | -2.95 | -5.91 | -6.85 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.21 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.96 | F 0.94 |
| @ 4.83 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 11.85 | @ 3.77 |

| CP |
|---|
| 39.20 |
| -6.56 |
| 2.00:1 |
| C 0.29 |
| @ 0.58 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 153+50.00**

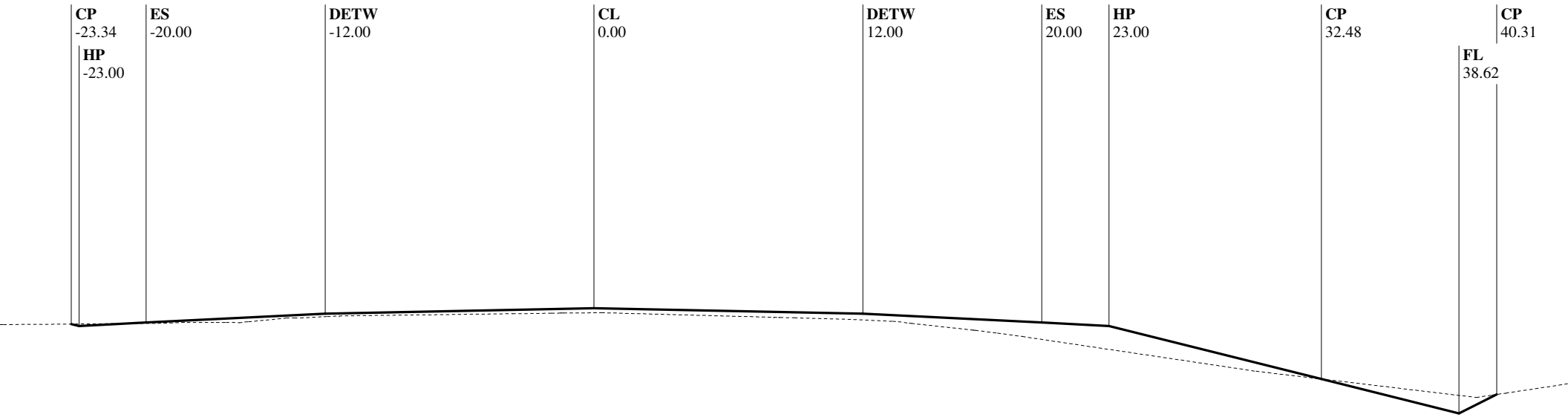
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -23.64 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.98 | 38.62 |
| -2.93 | -3.09 | -2.94 | -2.54 | -2.30 | -2.54 | -2.94 | -3.09 | -5.59 | -7.00 |
| 4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| C 0.16 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.50 | F 1.41 |
| @ 0.64 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.98 | @ 5.64 |

| CP |
|---|
| 39.67 |
| -6.47 |
| 2.00:1 |
| C 0.53 |
| @ 1.05 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 153+89.03**

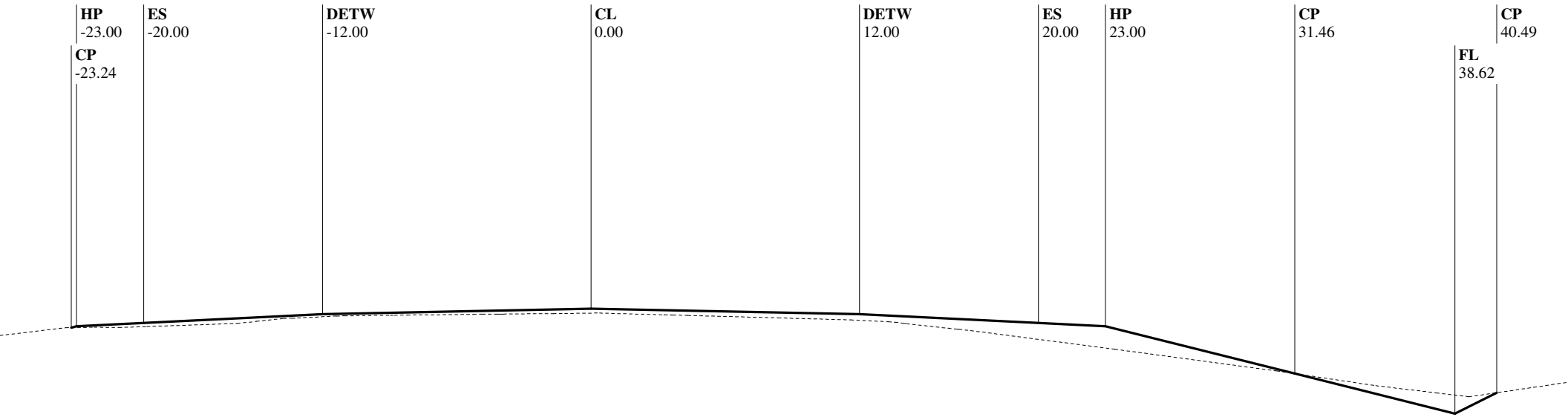
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -23.34 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.48 | 38.62 |
| -3.21 | -3.30 | -3.15 | -2.75 | -2.51 | -2.75 | -3.15 | -3.30 | -5.67 | -7.20 |
| 4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| C 0.09 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.37 | F 1.53 |
| @ 0.34 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.48 | @ 6.14 |

| CP |
|---|
| 40.31 |
| -6.36 |
| 2.00:1 |
| C 0.84 |
| @ 1.69 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 154+00.00**

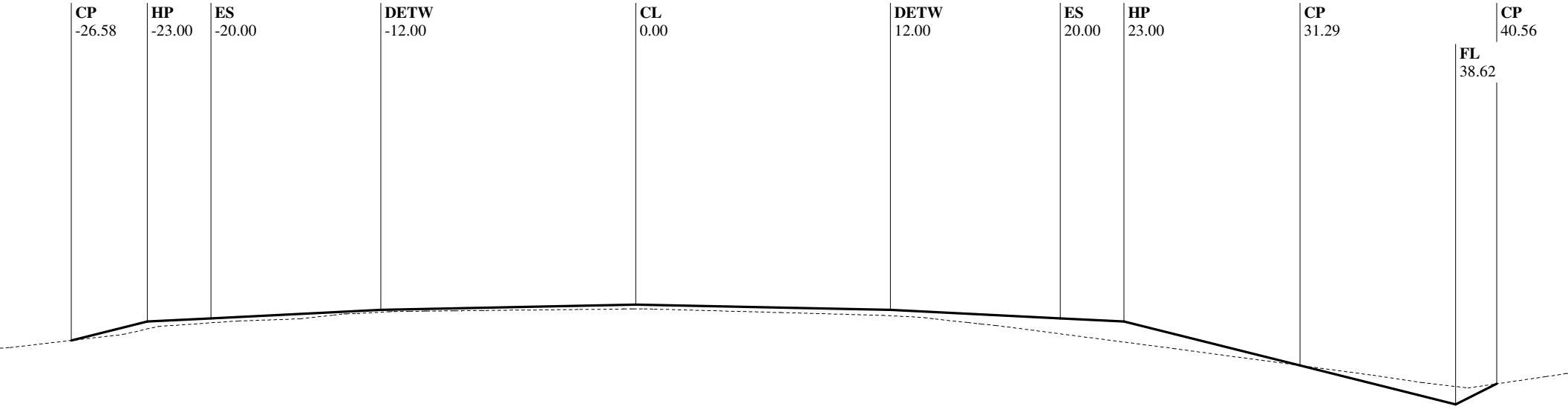
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -23.24 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.46 | 38.62 |
| -3.38 | -3.32 | -3.17 | -2.77 | -2.53 | -2.77 | -3.17 | -3.32 | -5.44 | -7.23 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.06 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.12 | F 1.79 |
| @ 0.24 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.46 | @ 7.16 |

| CP |
|---|
| 40.49 |
| -6.29 |
| 2.00:1 |
| C 0.94 |
| @ 1.87 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 154+03.86**

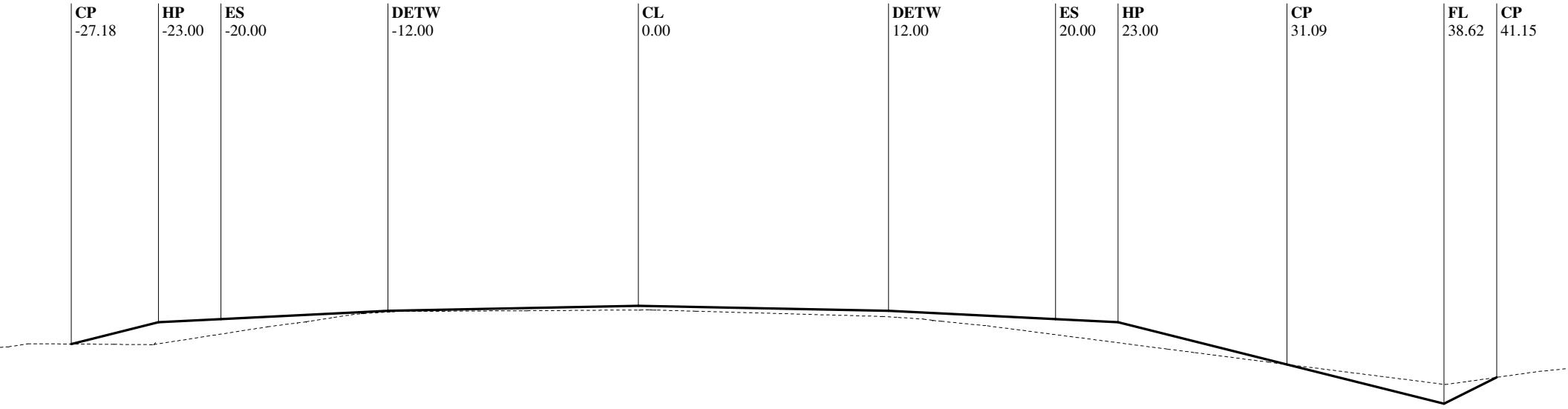
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -26.58 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.29 | 38.62 |
| -4.23 | -3.33 | -3.18 | -2.78 | -2.54 | -2.78 | -3.18 | -3.33 | -5.41 | -7.24 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.90 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.07 | F 1.83 |
| @ 3.58 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.29 | @ 7.33 |

| CP |
|---|
| 40.56 |
| -6.27 |
| 2.00:1 |
| C 0.97 |
| @ 1.94 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 154+42.32**

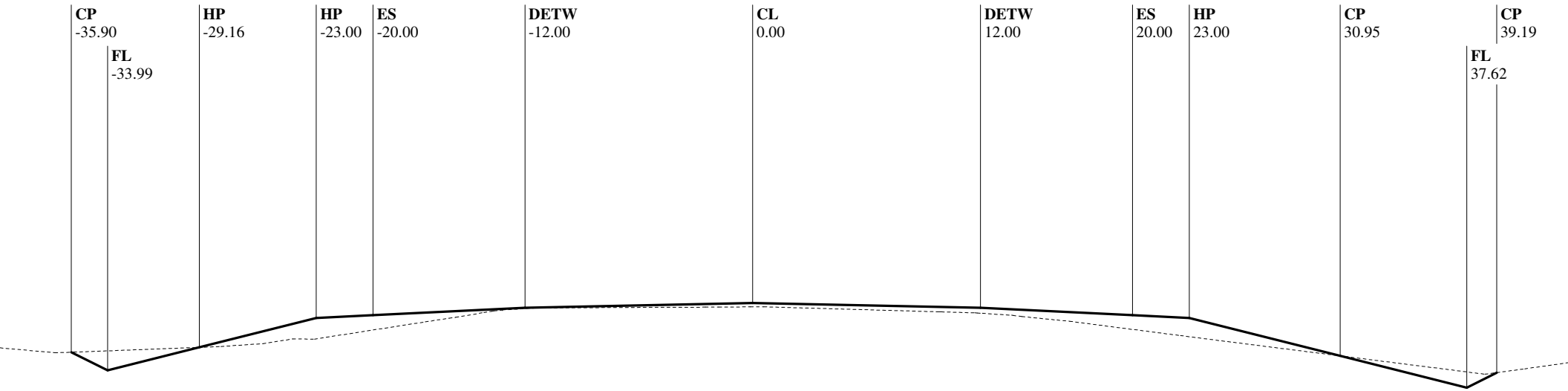
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -27.18 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.09 | 38.62 |
| -4.46 | -3.42 | -3.27 | -2.87 | -2.63 | -2.87 | -3.27 | -3.42 | -5.44 | -7.32 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.04 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.02 | F 1.88 |
| @ 4.18 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.09 | @ 7.53 |

| CP |
|---|
| 41.15 |
| -6.06 |
| 2.00:1 |
| C 1.26 |
| @ 2.53 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 154+50.00**

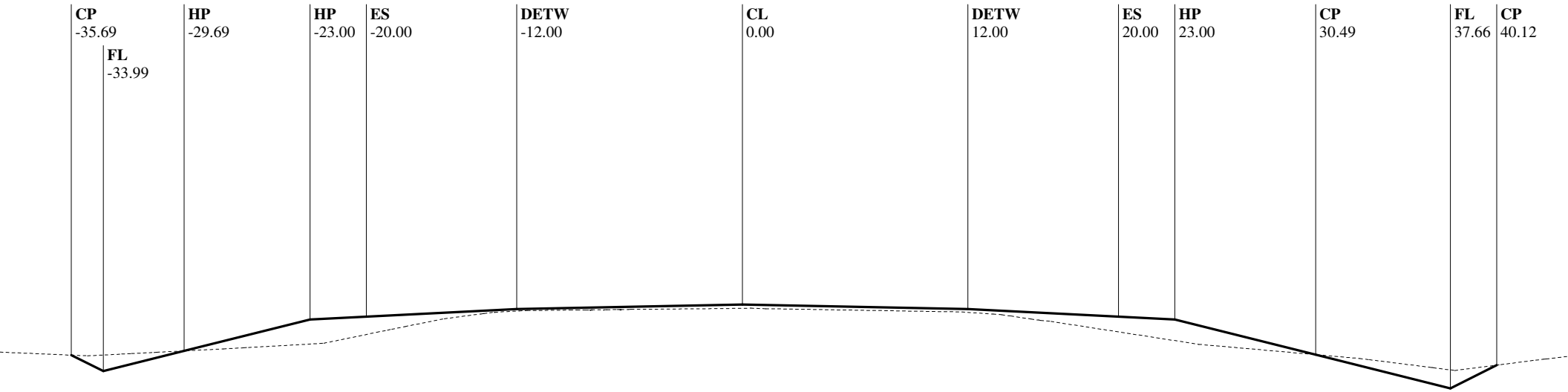
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.16 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.95 | 37.62 |
| -6.18 | -4.98 | -3.44 | -3.29 | -2.89 | -2.65 | -2.89 | -3.29 | -3.44 | -5.42 | -7.09 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.21 | F 1.54 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.99 | F 1.67 |
| @ 4.84 | @ 6.16 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.95 | @ 6.67 |

| CP | CP |
|---|---|
| -35.90 | 39.19 |
| -5.23 | -6.30 |
| 2.00:1 | 2.00:1 |
| C 0.95 | C 0.79 |
| @ 1.91 | @ 1.57 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 155+00.00**

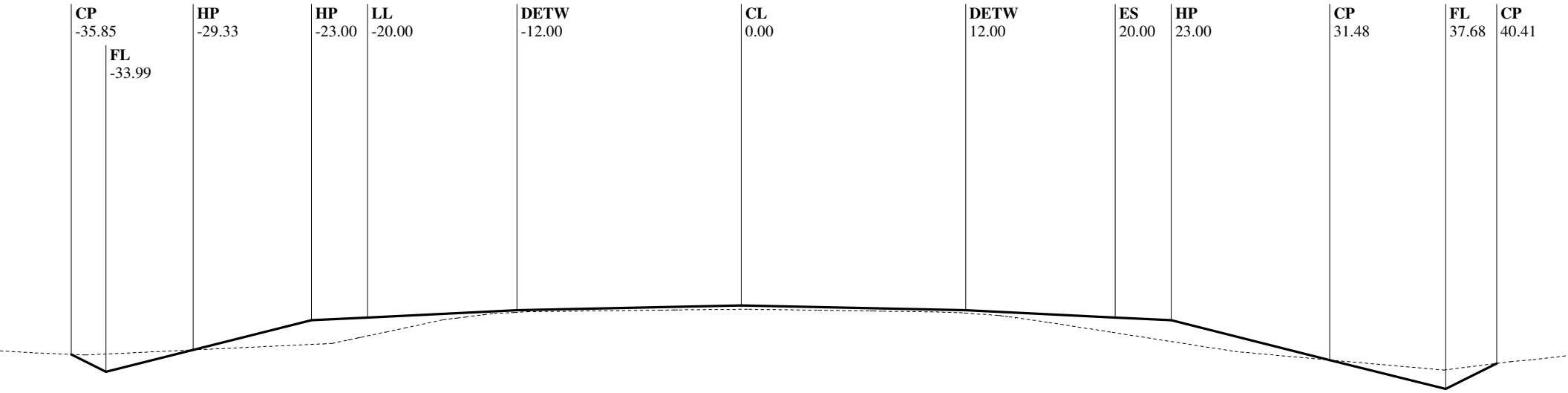
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.69 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.49 | 37.66 |
| -6.34 | -5.26 | -3.59 | -3.44 | -3.04 | -2.80 | -3.04 | -3.44 | -3.59 | -5.46 | -7.25 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.08 | F 1.67 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.87 | F 1.79 |
| @ 4.30 | @ 6.69 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.49 | @ 7.17 |

| CP | CP |
|---|---|
| -35.69 | 40.12 |
| -5.49 | -6.02 |
| 2.00:1 | 2.00:1 |
| C 0.85 | C 1.23 |
| @ 1.70 | @ 2.46 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 155+21.98**

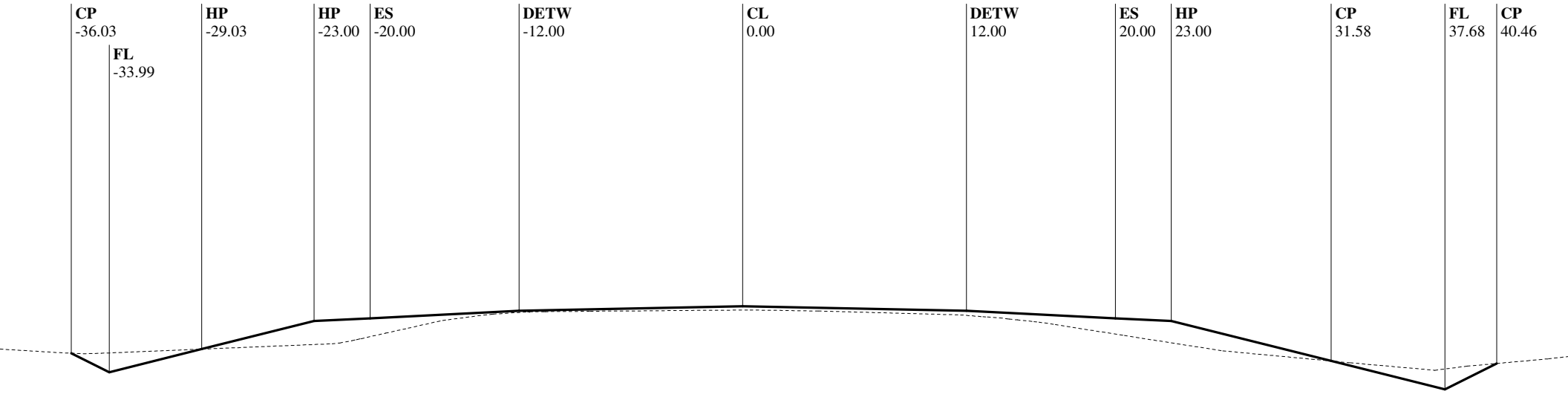
| FL | HP | HP | LL | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.33 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.48 | 37.68 |
| -6.40 | -5.24 | -3.65 | -3.50 | -3.10 | -2.86 | -3.10 | -3.50 | -3.65 | -5.77 | -7.32 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.17 | F 1.58 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.12 | F 1.55 |
| @ 4.67 | @ 6.33 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.48 | @ 6.20 |

| CP | CP |
|---|---|
| -35.85 | 40.41 |
| -5.47 | -5.96 |
| 2.00:1 | 2.00:1 |
| C 0.93 | C 1.37 |
| @ 1.86 | @ 2.74 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 155+50.00**

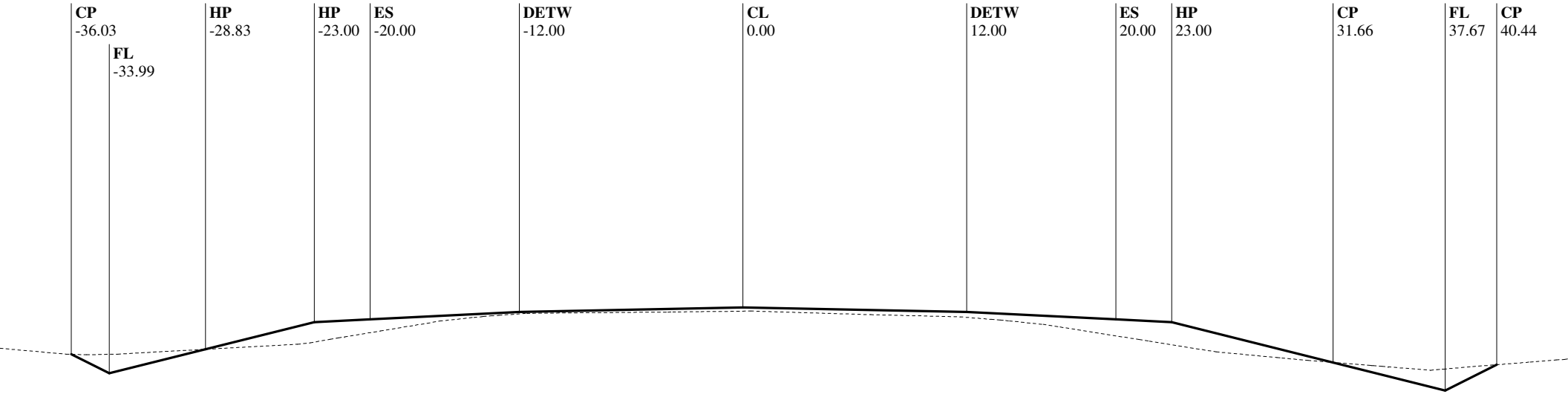
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.03 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.58 | 37.68 |
| -6.49 | -5.25 | -3.74 | -3.59 | -3.19 | -2.95 | -3.19 | -3.59 | -3.74 | -5.89 | -7.41 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.24 | F 1.51 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.14 | F 1.53 |
| @ 4.97 | @ 6.03 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.58 | @ 6.10 |

| CP | CP |
|---|---|
| -36.03 | 40.46 |
| -5.48 | -6.02 |
| 2.00:1 | 2.00:1 |
| C 1.02 | C 1.39 |
| @ 2.04 | @ 2.78 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 156+00.00**

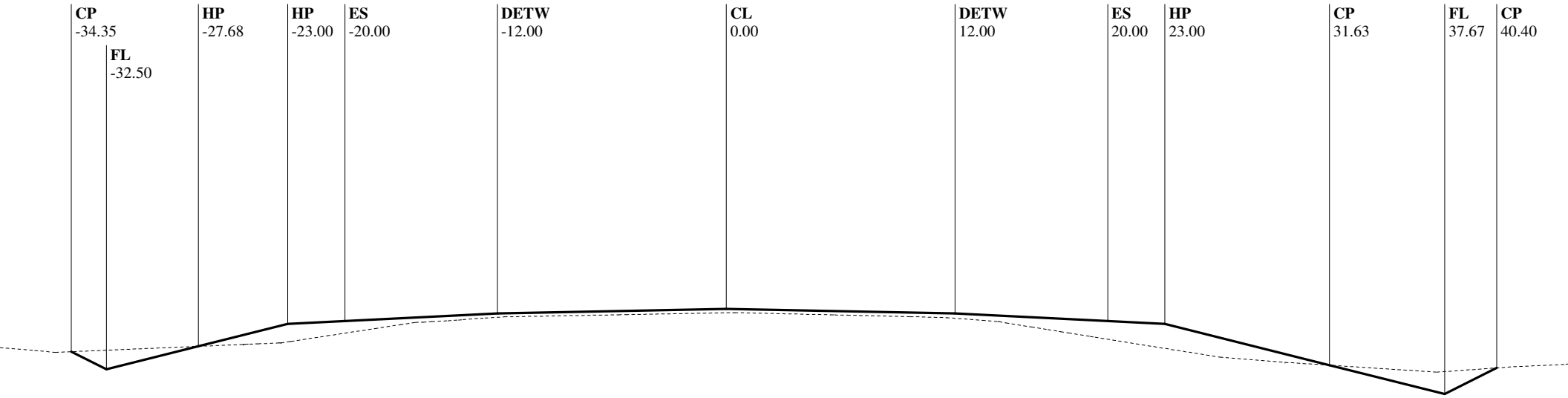
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -28.83 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.66 | 37.67 |
| -6.57 | -5.28 | -3.82 | -3.67 | -3.27 | -3.03 | -3.27 | -3.67 | -3.82 | -5.99 | -7.49 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.29 | F 1.46 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.16 | F 1.50 |
| @ 5.17 | @ 5.83 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.66 | @ 6.02 |

| CP | CP |
|---|---|
| -36.03 | 40.44 |
| -5.55 | -6.11 |
| 2.00:1 | 2.00:1 |
| C 1.02 | C 1.38 |
| @ 2.04 | @ 2.76 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 156+50.00**

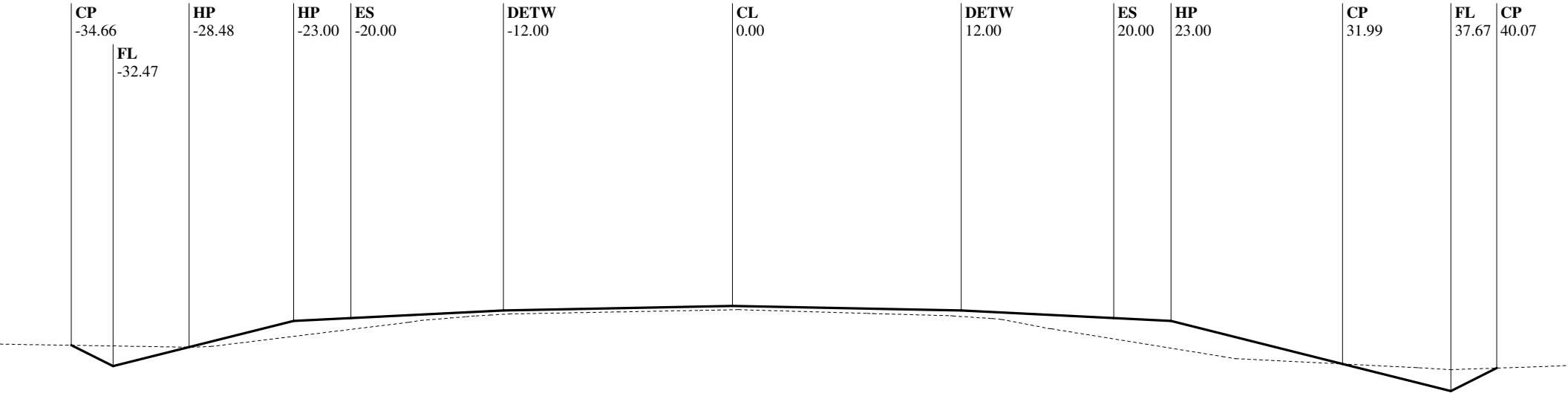
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.50 | -27.68 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.63 | 37.67 |
| -6.16 | -4.95 | -3.78 | -3.63 | -3.23 | -2.99 | -3.23 | -3.63 | -3.78 | -5.94 | -7.45 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.21 | F 1.17 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.16 | F 1.51 |
| @ 4.82 | @ 4.68 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.63 | @ 6.04 |

| CP | CP |
|---|---|
| -34.35 | 40.40 |
| -5.23 | -6.09 |
| 2.00:1 | 2.00:1 |
| C 0.92 | C 1.37 |
| @ 1.85 | @ 2.73 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 157+00.00**

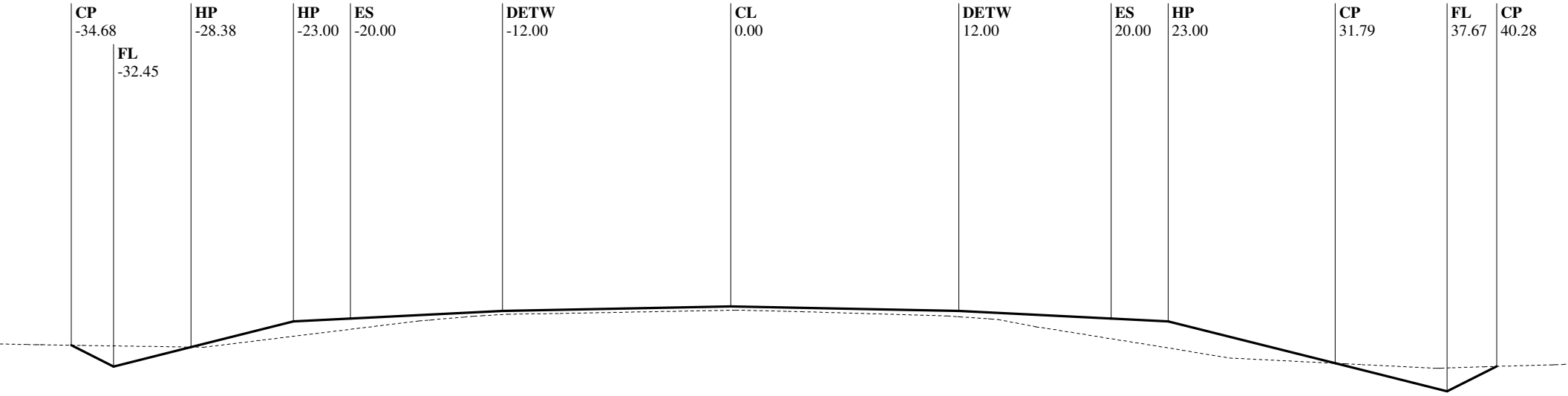
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.47 | -28.48 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.99 | 37.67 |
| -6.02 | -5.03 | -3.66 | -3.51 | -3.11 | -2.87 | -3.11 | -3.51 | -3.66 | -5.91 | -7.32 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.00 | F 1.37 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.25 | F 1.42 |
| @ 3.98 | @ 5.48 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.99 | @ 5.67 |

| CP | CP |
|---|---|
| -34.66 | 40.07 |
| -4.93 | -6.12 |
| 2.00:1 | 2.00:1 |
| C 1.10 | C 1.20 |
| @ 2.19 | @ 2.40 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 157+17.80**

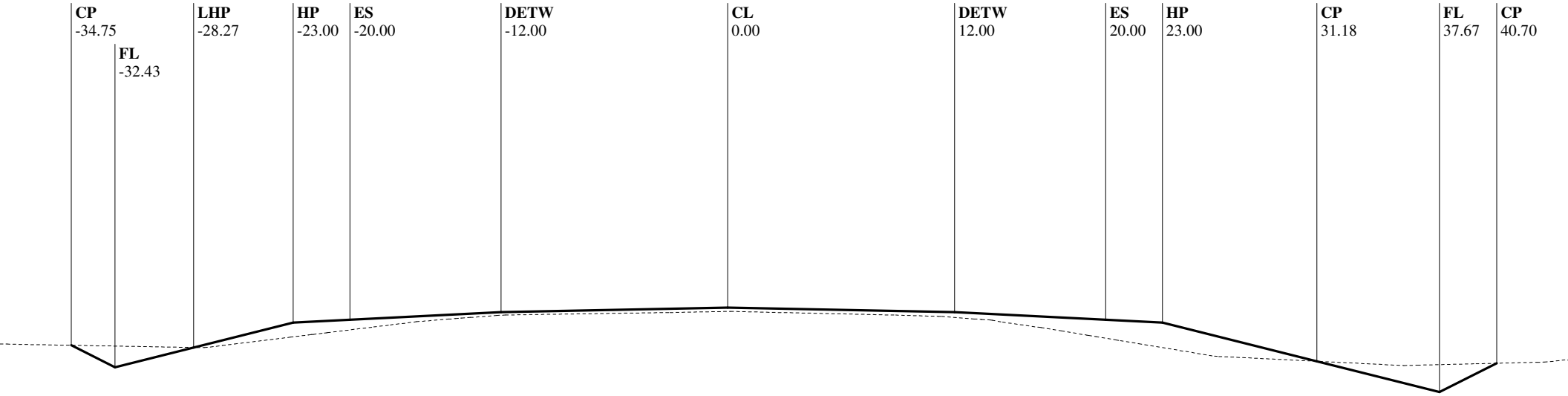
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.45 | -28.38 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.79 | 37.67 |
| -6.06 | -5.04 | -3.70 | -3.55 | -3.15 | -2.91 | -3.15 | -3.55 | -3.70 | -5.89 | -7.36 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.02 | F 1.35 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.20 | F 1.47 |
| @ 4.07 | @ 5.38 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.79 | @ 5.88 |

| CP | CP |
|---|---|
| -34.68 | 40.28 |
| -4.95 | -6.06 |
| 2.00:1 | 2.00:1 |
| C 1.11 | C 1.31 |
| @ 2.22 | @ 2.61 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 157+50.00**

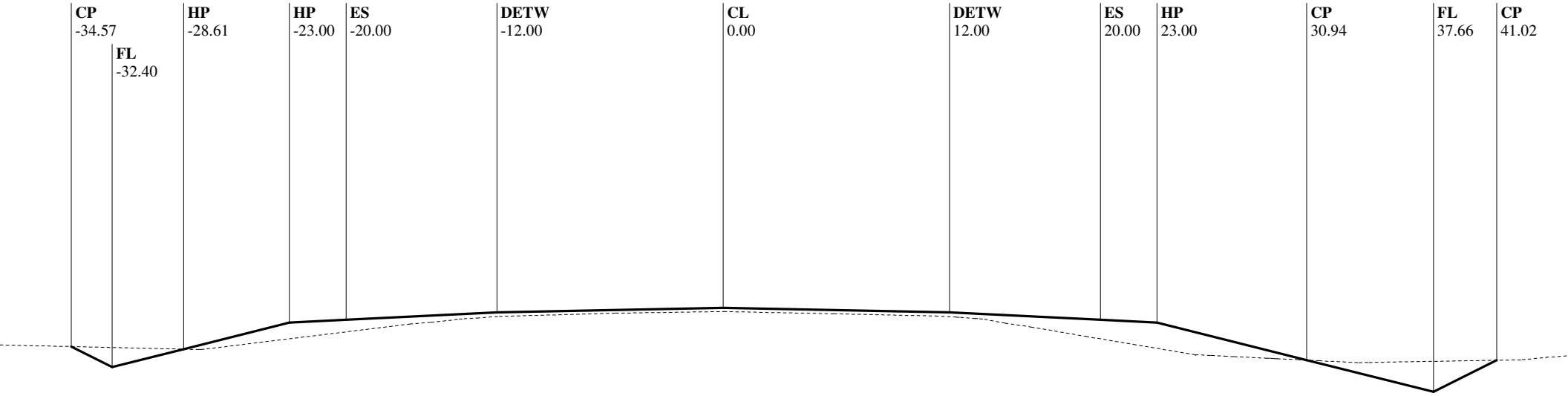
| FL | LHP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.43 | -28.27 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.18 | 37.67 |
| -6.15 | -5.11 | -3.79 | -3.64 | -3.24 | -3.00 | -3.24 | -3.64 | -3.79 | -5.84 | -7.46 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.04 | F 1.32 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.05 | F 1.62 |
| @ 4.17 | @ 5.27 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.18 | @ 6.48 |

| CP | CP |
|---|---|
| -34.75 | 40.70 |
| -4.99 | -5.94 |
| 2.00:1 | 2.00:1 |
| C 1.16 | C 1.52 |
| @ 2.31 | @ 3.03 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 158+00.00**

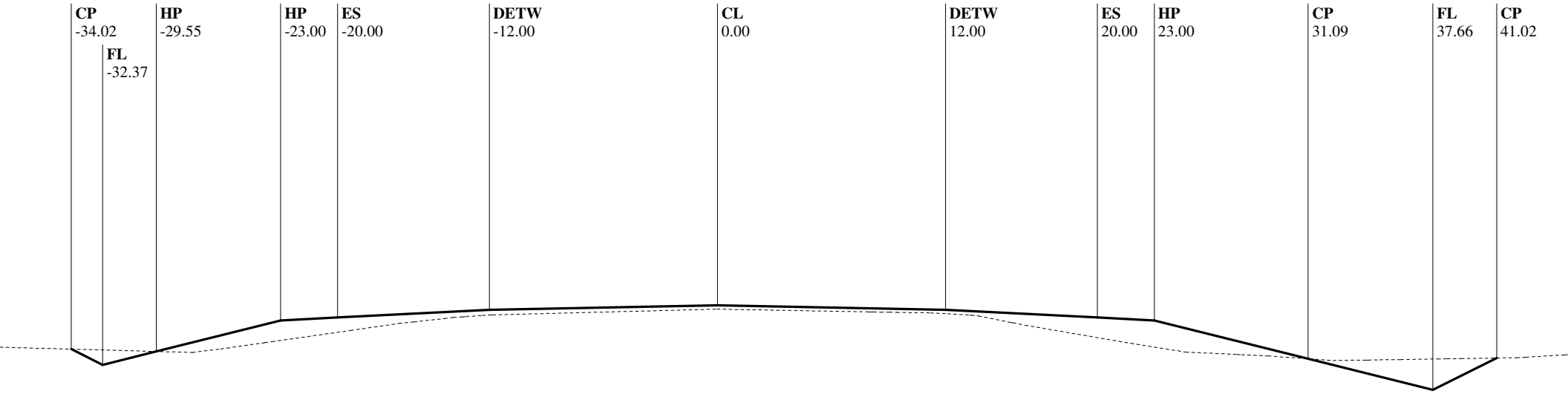
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.40 | -28.61 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.94 | 37.66 |
| -6.16 | -5.21 | -3.81 | -3.66 | -3.26 | -3.02 | -3.26 | -3.66 | -3.81 | -5.79 | -7.47 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.95 | F 1.40 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.98 | F 1.68 |
| @ 3.79 | @ 5.61 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.94 | @ 6.73 |

| CP | CP |
|---|---|
| -34.57 | 41.02 |
| -5.07 | -5.80 |
| 2.00:1 | 2.00:1 |
| C 1.08 | C 1.68 |
| @ 2.17 | @ 3.35 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 158+50.00**

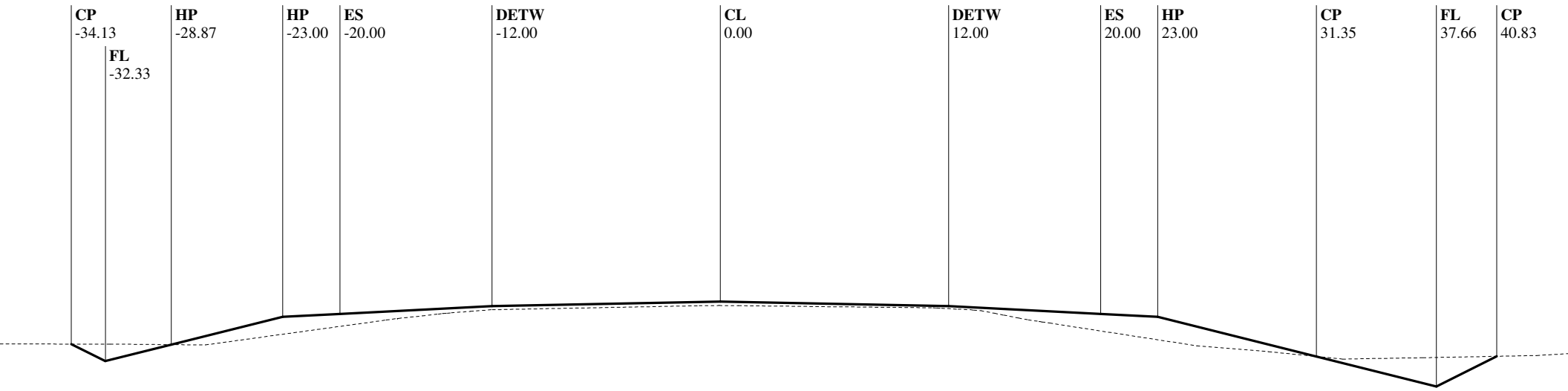
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.37 | -29.55 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.09 | 37.66 |
| -5.99 | -5.29 | -3.65 | -3.50 | -3.10 | -2.86 | -3.10 | -3.50 | -3.65 | -5.67 | -7.31 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.71 | F 1.64 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.02 | F 1.64 |
| @ 2.82 | @ 6.55 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.09 | @ 6.57 |

| CP | CP |
|---|---|
| -34.02 | 41.02 |
| -5.16 | -5.63 |
| 2.00:1 | 2.00:1 |
| C 0.83 | C 1.68 |
| @ 1.65 | @ 3.36 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 159+00.00**

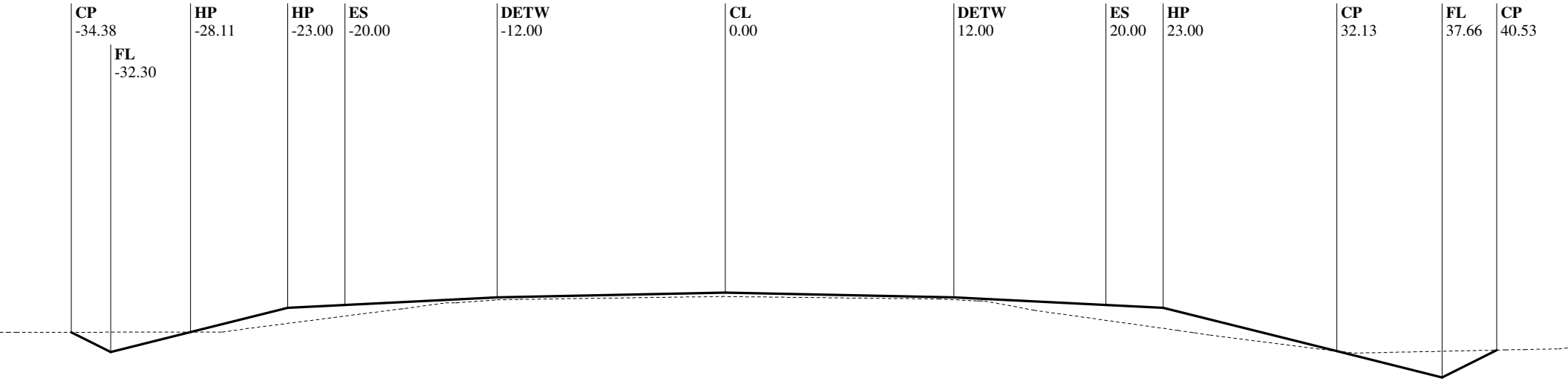
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.33 | -28.87 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.35 | 37.66 |
| -5.67 | -4.80 | -3.33 | -3.18 | -2.78 | -2.54 | -2.78 | -3.18 | -3.33 | -5.42 | -7.00 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.87 | F 1.47 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.09 | F 1.58 |
| @ 3.47 | @ 5.87 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.35 | @ 6.31 |

| CP | CP |
|---|---|
| -34.13 | 40.83 |
| -4.77 | -5.41 |
| 2.00:1 | 2.00:1 |
| C 0.90 | C 1.59 |
| @ 1.79 | @ 3.17 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 159+50.00**

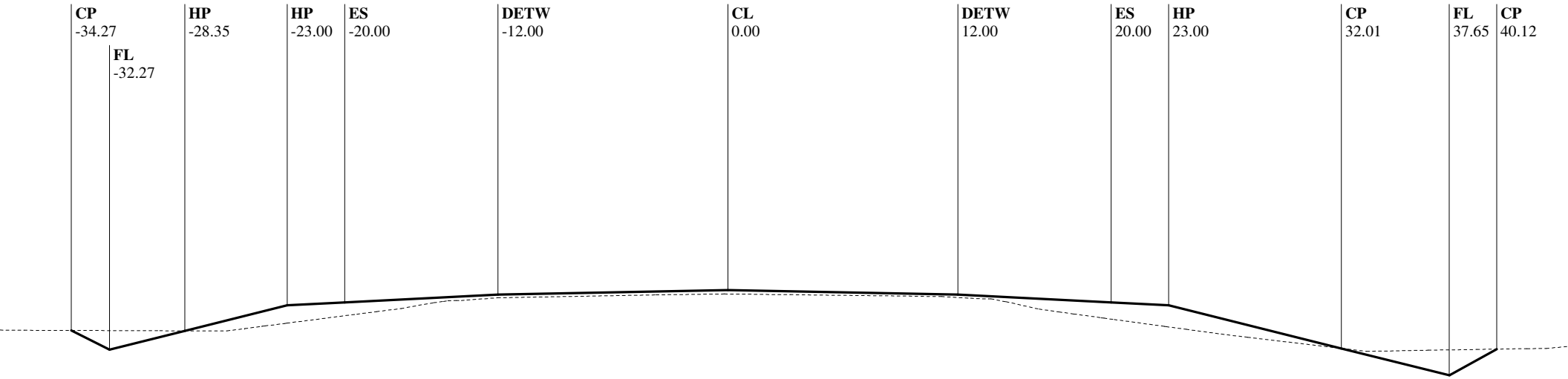
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.30 | -28.11 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.13 | 37.66 |
| -5.29 | -4.24 | -2.97 | -2.82 | -2.42 | -2.18 | -2.42 | -2.82 | -2.97 | -5.25 | -6.63 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.05 | F 1.28 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.28 | F 1.38 |
| @ 4.19 | @ 5.11 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.13 | @ 5.53 |

| CP | CP |
|---|---|
| -34.38 | 40.53 |
| -4.25 | -5.19 |
| 2.00:1 | 2.00:1 |
| C 1.04 | C 1.44 |
| @ 2.08 | @ 2.88 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 160+00.00**

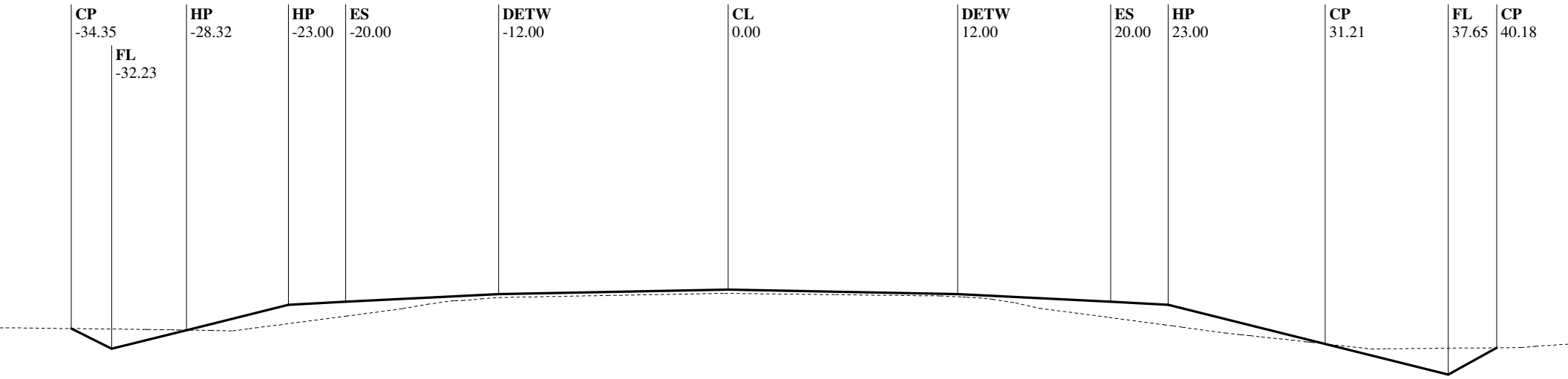
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.27 | -28.35 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.01 | 37.65 |
| -5.12 | -4.14 | -2.81 | -2.66 | -2.26 | -2.02 | -2.26 | -2.66 | -2.81 | -5.06 | -6.47 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.98 | F 1.34 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.25 | F 1.41 |
| @ 3.92 | @ 5.35 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.01 | @ 5.64 |

| CP | CP |
|---|---|
| -34.27 | 40.12 |
| -4.12 | -5.10 |
| 2.00:1 | 1.80:1 |
| C 1.00 | C 1.37 |
| @ 2.00 | @ 2.47 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 160+50.00**

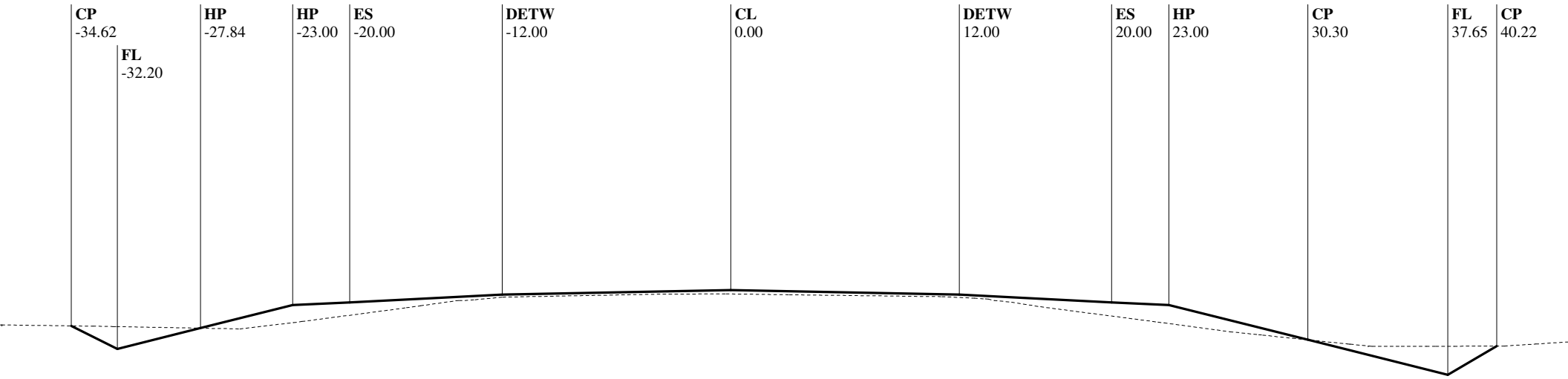
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.23 | -28.32 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.21 | 37.65 |
| -5.07 | -4.09 | -2.76 | -2.61 | -2.21 | -1.97 | -2.21 | -2.61 | -2.76 | -4.82 | -6.43 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.98 | F 1.33 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.05 | F 1.61 |
| @ 3.92 | @ 5.32 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.21 | @ 6.44 |

| CP | CP |
|---|---|
| -34.35 | 40.18 |
| -4.01 | -5.02 |
| 2.00:1 | 1.80:1 |
| C 1.06 | C 1.40 |
| @ 2.12 | @ 2.53 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 161+00.00**

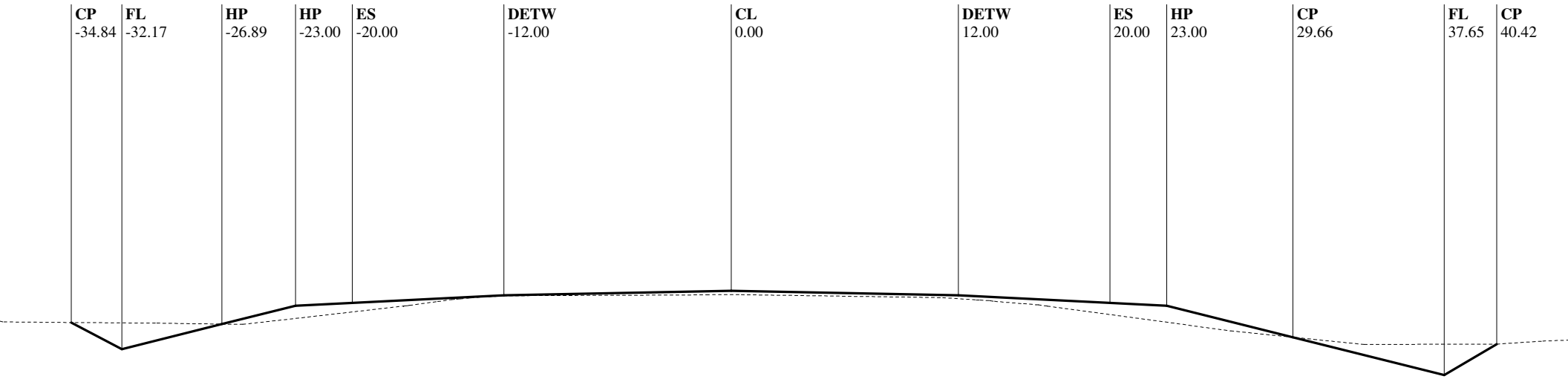
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.20 | -27.84 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.30 | 37.65 |
| -5.10 | -4.01 | -2.80 | -2.65 | -2.25 | -2.01 | -2.25 | -2.65 | -2.80 | -4.63 | -6.46 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.09 | F 1.21 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.82 | F 1.84 |
| @ 4.36 | @ 4.84 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.30 | @ 7.35 |

| CP | CP |
|---|---|
| -34.62 | 40.22 |
| -3.89 | -4.95 |
| 2.00:1 | 1.70:1 |
| C 1.21 | C 1.51 |
| @ 2.42 | @ 2.57 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



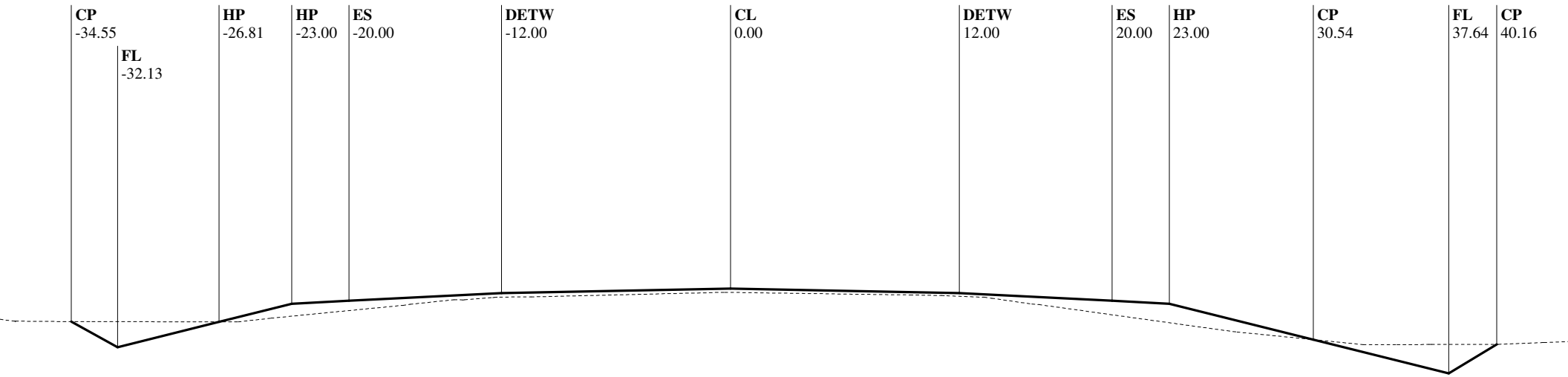

**Alignment Chain CENTER1**
**Station: 161+50.00**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.17 | -26.89 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.66 | 37.65 |
| -5.15 | -3.83 | -2.85 | -2.70 | -2.30 | -2.06 | -2.30 | -2.70 | -2.85 | -4.52 | -6.52 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.32 | F 0.97 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.66 | F 2.00 |
| @ 5.28 | @ 3.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.66 | @ 7.99 |

| CP | CP |
|---|---|
| -34.84 | 40.42 |
| -3.74 | -4.88 |
| 1.90:1 | 1.70:1 |
| C 1.41 | C 1.63 |
| @ 2.67 | @ 2.78 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 162+00.00**

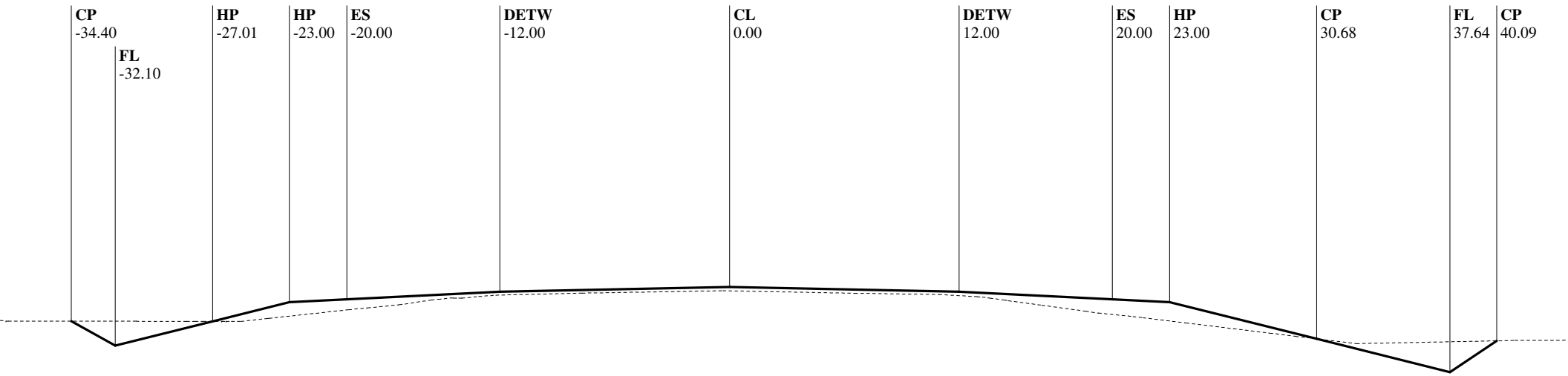
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.13 | -26.81 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.54 | 37.64 |
| -4.96 | -3.63 | -2.68 | -2.53 | -2.13 | -1.89 | -2.13 | -2.53 | -2.68 | -4.56 | -6.34 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.33 | F 0.95 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.89 | F 1.78 |
| @ 5.32 | @ 3.81 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.54 | @ 7.10 |

| CP | CP |
|---|---|
| -34.55 | 40.16 |
| -3.62 | -4.81 |
| 1.80:1 | 1.65:1 |
| C 1.34 | C 1.53 |
| @ 2.42 | @ 2.52 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 162+50.00**

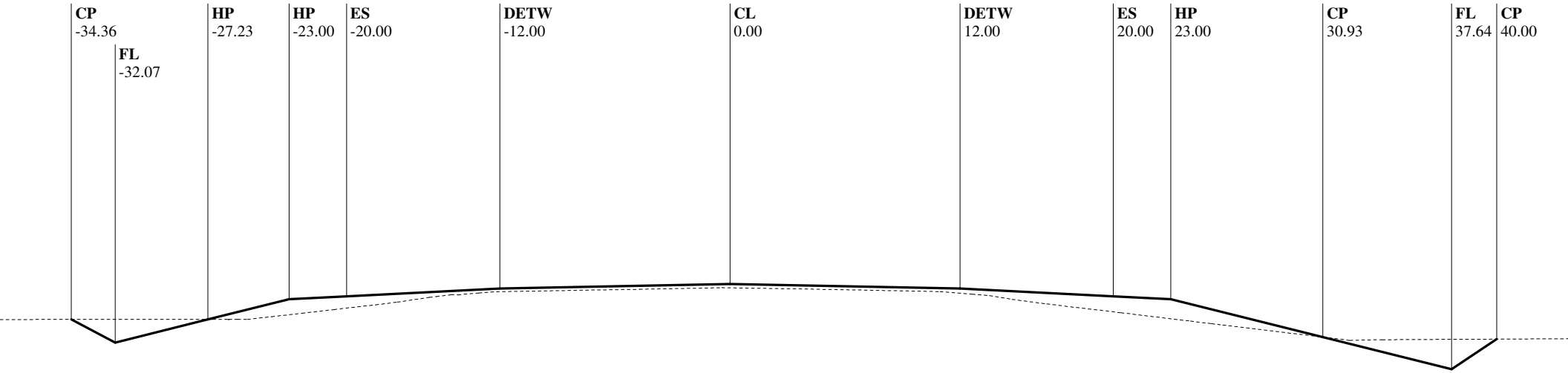
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.10 | -27.01 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.68 | 37.64 |
| -4.85 | -3.58 | -2.58 | -2.43 | -2.03 | -1.79 | -2.03 | -2.43 | -2.58 | -4.50 | -6.24 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.27 | F 1.00 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.92 | F 1.74 |
| @ 5.09 | @ 4.01 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.68 | @ 6.97 |

| CP | CP |
|---|---|
| -34.40 | 40.09 |
| -3.58 | -4.60 |
| 1.80:1 | 1.50:1 |
| C 1.28 | C 1.64 |
| @ 2.30 | @ 2.45 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



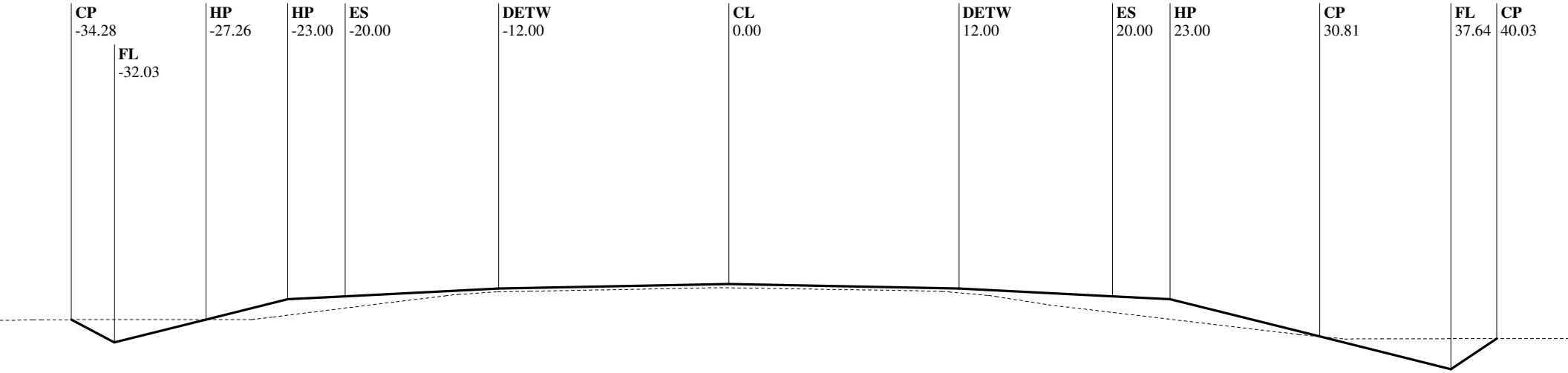

**Alignment Chain CENTER1**
**Station: 163+00.00**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.07 | -27.23 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.93 | 37.64 |
| -4.79 | -3.58 | -2.52 | -2.37 | -1.97 | -1.73 | -1.97 | -2.37 | -2.52 | -4.50 | -6.18 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.21 | F 1.06 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.98 | F 1.68 |
| @ 4.83 | @ 4.23 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.93 | @ 6.71 |

| CP | CP |
|---|---|
| -34.36 | 40.00 |
| -3.58 | -4.61 |
| 1.90:1 | 1.50:1 |
| C 1.21 | C 1.57 |
| @ 2.29 | @ 2.36 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 163+50.00**

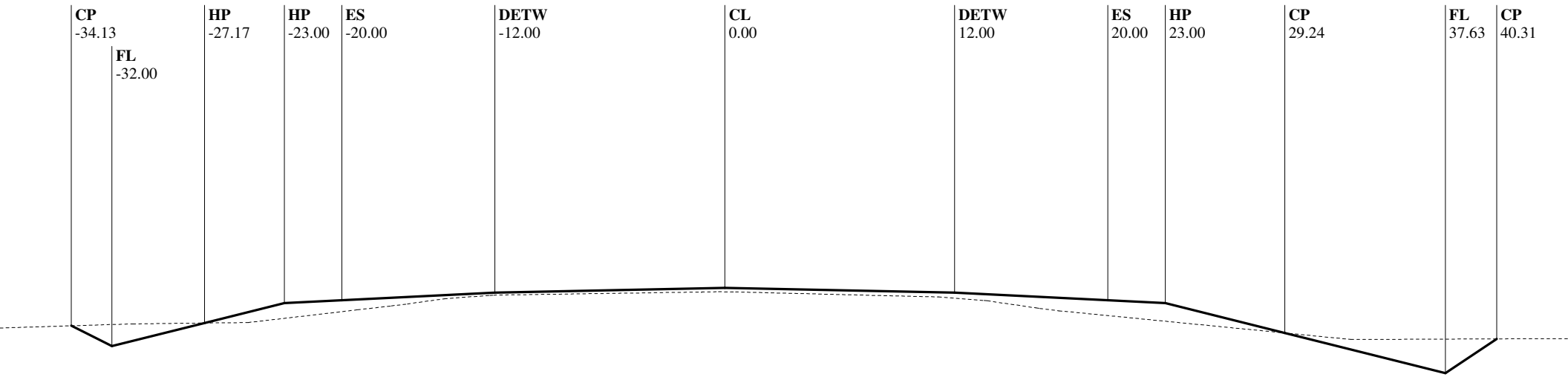
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.03 | -27.26 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.81 | 37.64 |
| -4.78 | -3.59 | -2.52 | -2.37 | -1.97 | -1.73 | -1.97 | -2.37 | -2.52 | -4.47 | -6.18 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.19 | F 1.07 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.95 | F 1.71 |
| @ 4.77 | @ 4.26 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.81 | @ 6.82 |

| CP | CP |
|---|---|
| -34.28 | 40.03 |
| -3.60 | -4.58 |
| 1.90:1 | 1.50:1 |
| C 1.18 | C 1.60 |
| @ 2.25 | @ 2.39 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 164+00.00**

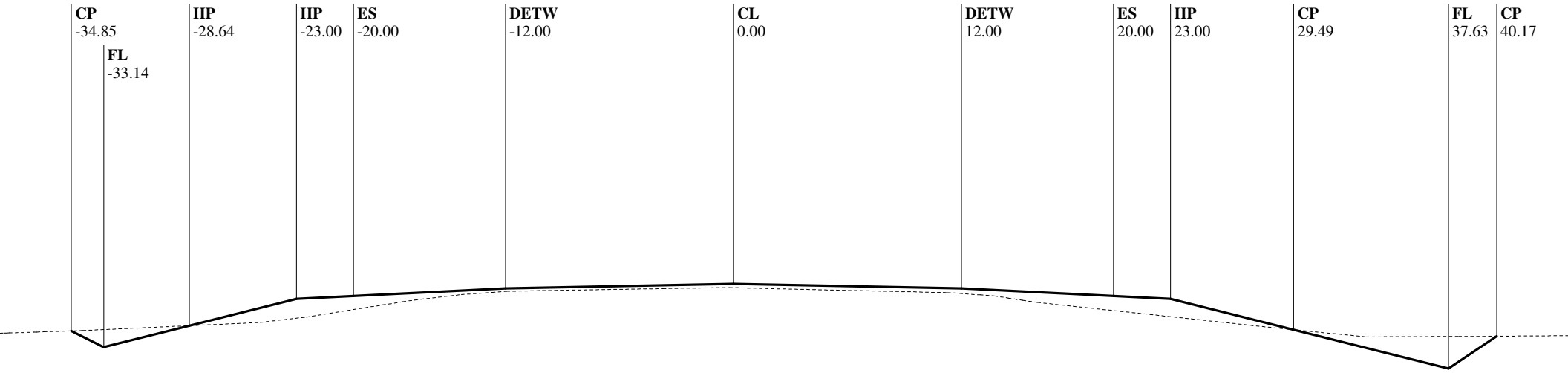
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.00 | -27.17 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.24 | 37.63 |
| -4.88 | -3.67 | -2.63 | -2.48 | -2.08 | -1.84 | -2.08 | -2.48 | -2.63 | -4.19 | -6.29 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.21 | F 1.04 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.56 | F 2.10 |
| @ 4.83 | @ 4.17 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.24 | @ 8.39 |

| CP | CP |
|---|---|
| -34.13 | 40.31 |
| -3.82 | -4.50 |
| 2.00:1 | 1.50:1 |
| C 1.06 | C 1.79 |
| @ 2.13 | @ 2.68 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 164+50.00**

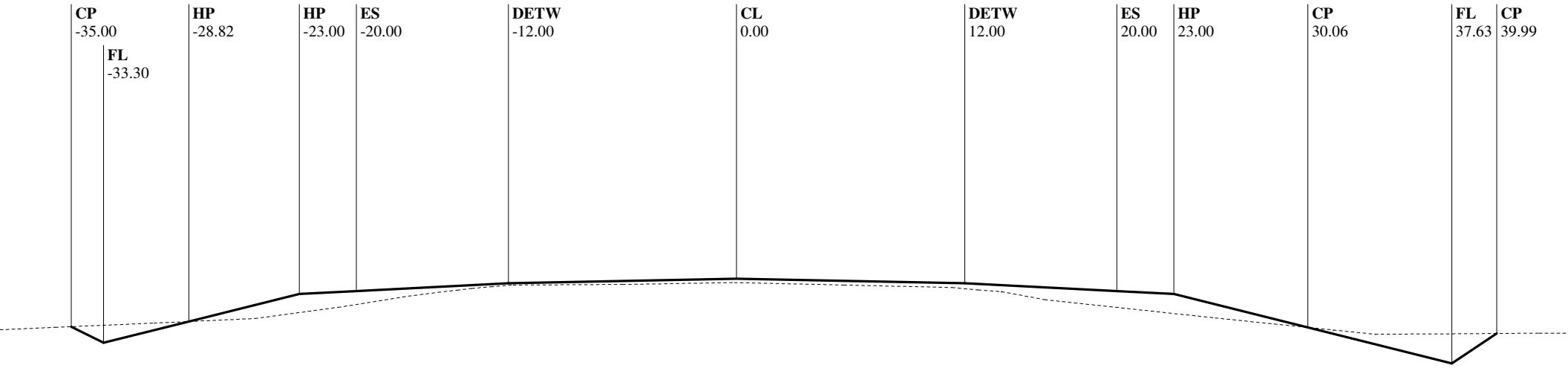
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.14 | -28.64 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.49 | 37.63 |
| -5.00 | -3.88 | -2.47 | -2.32 | -1.92 | -1.68 | -1.92 | -2.32 | -2.47 | -4.09 | -6.12 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.13 | F 1.41 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.62 | F 2.04 |
| @ 4.51 | @ 5.64 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.49 | @ 8.14 |

| CP | CP |
|---|---|
| -34.85 | 40.17 |
| -4.15 | -4.43 |
| 2.00:1 | 1.50:1 |
| C 0.85 | C 1.70 |
| @ 1.70 | @ 2.54 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 165+00.00**

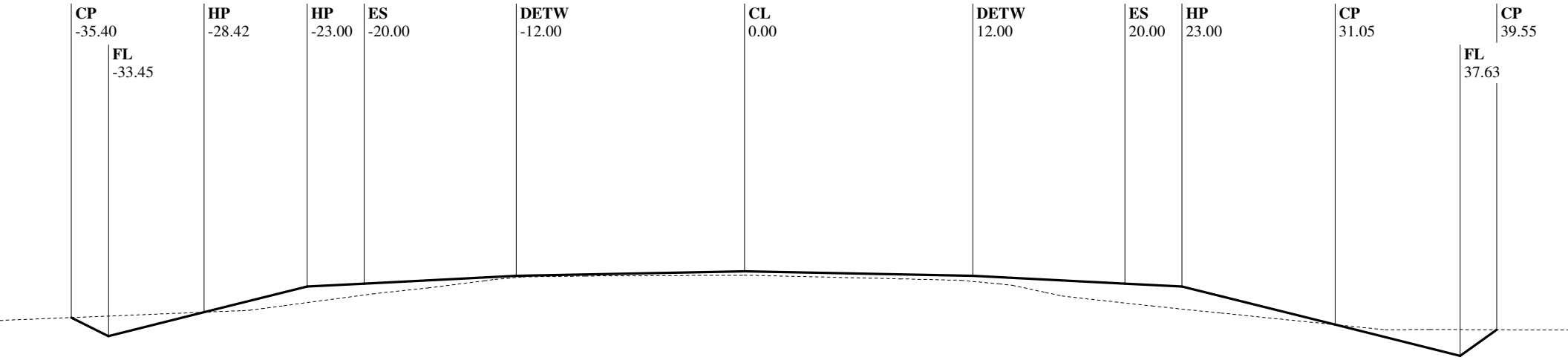
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.30 | -28.82 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.06 | 37.63 |
| -4.77 | -3.65 | -2.19 | -2.04 | -1.64 | -1.40 | -1.64 | -2.04 | -2.19 | -3.96 | -5.85 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.12 | F 1.45 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.77 | F 1.89 |
| @ 4.48 | @ 5.82 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.06 | @ 7.57 |

| CP | CP |
|---|---|
| -35.00 | 39.99 |
| -3.92 | -4.28 |
| 2.00:1 | 1.50:1 |
| C 0.85 | C 1.57 |
| @ 1.70 | @ 2.36 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 165+50.00**

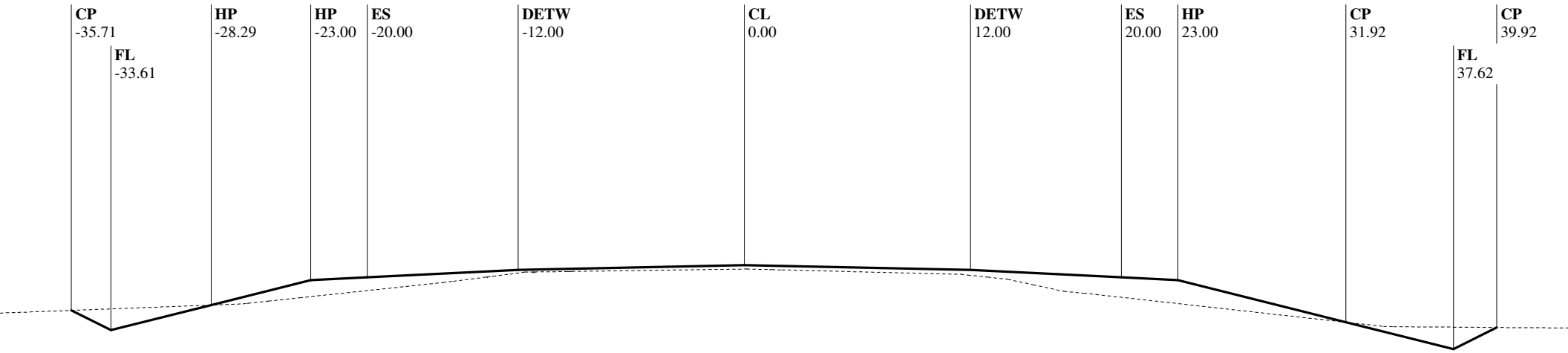
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.45 | -28.42 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.05 | 37.63 |
| -4.46 | -3.20 | -1.84 | -1.69 | -1.29 | -1.05 | -1.29 | -1.69 | -1.84 | -3.86 | -5.50 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.26 | F 1.36 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.01 | F 1.64 |
| @ 5.03 | @ 5.42 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.05 | @ 6.58 |

| CP | CP |
|---|---|
| -35.40 | 39.55 |
| -3.48 | -4.12 |
| 2.00:1 | 1.40:1 |
| C 0.97 | C 1.38 |
| @ 1.95 | @ 1.93 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 166+00.00**

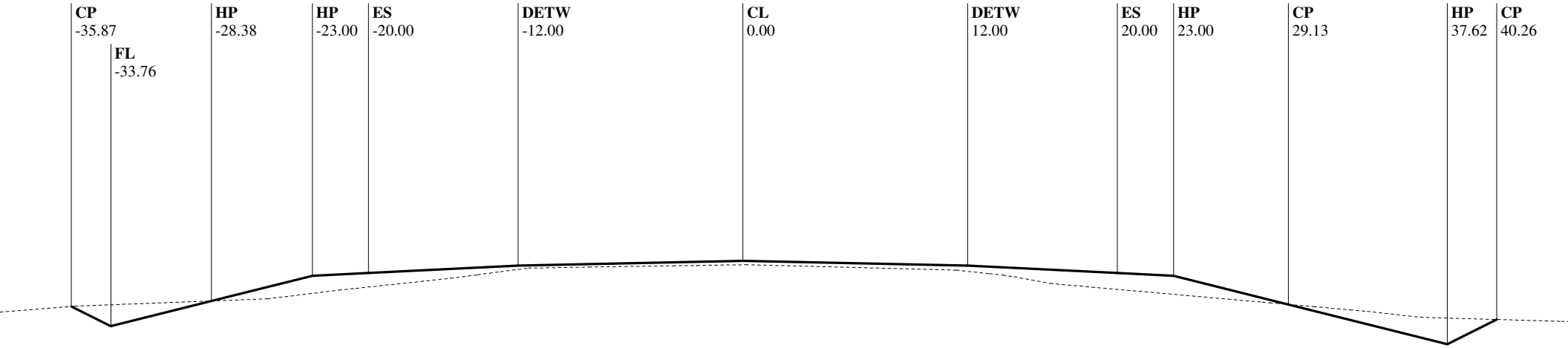
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.61 | -28.29 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.92 | 37.62 |
| -4.12 | -2.79 | -1.47 | -1.32 | -0.92 | -0.68 | -0.92 | -1.32 | -1.47 | -3.70 | -5.12 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.33 | F 1.32 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.23 | F 1.43 |
| @ 5.32 | @ 5.29 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.92 | @ 5.71 |

| CP | CP |
|---|---|
| -35.71 | 39.92 |
| -3.07 | -3.98 |
| 2.00:1 | 2.00:1 |
| C 1.05 | C 1.15 |
| @ 2.10 | @ 2.30 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 166+50.00**

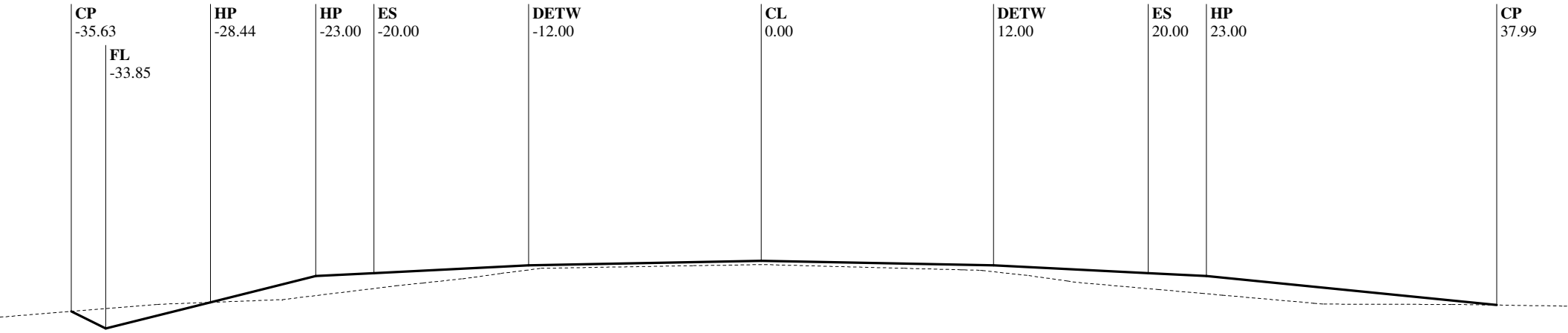
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | HP |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.76 | -28.38 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.13 | 37.62 |
| -4.03 | -2.68 | -1.34 | -1.19 | -0.79 | -0.55 | -0.79 | -1.19 | -1.34 | -2.87 | -4.99 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.35 | F 1.35 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.53 | F 2.12 |
| @ 5.38 | @ 5.38 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.13 | @ 8.49 |

| CP | CP |
|---|---|
| -35.87 | 40.26 |
| -2.98 | -3.67 |
| 2.00:1 | 2.00:1 |
| C 1.05 | C 1.32 |
| @ 2.11 | @ 2.64 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



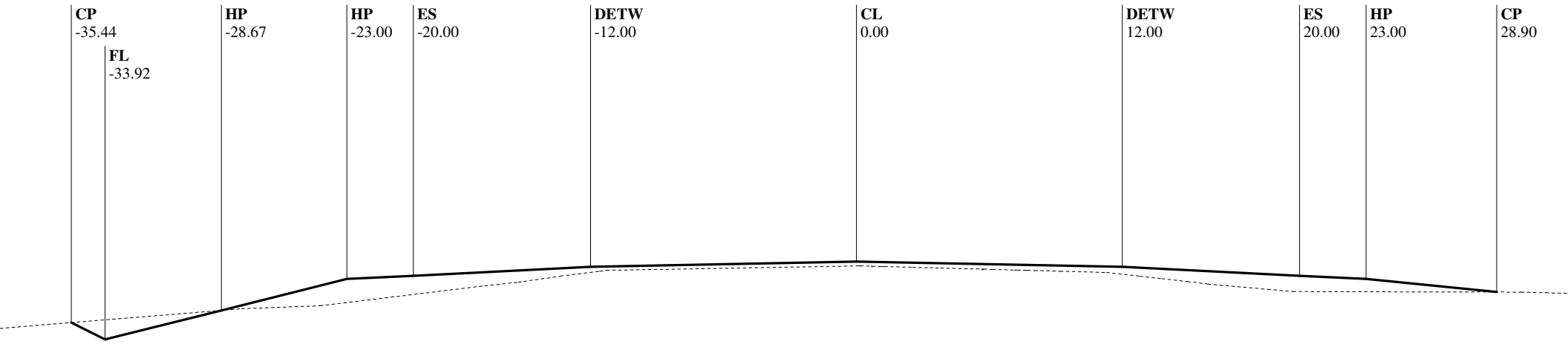

**Alignment Chain CENTER1**
**Station: 166+78.43**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.85 | -28.44 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 37.99 |
| -3.98 | -2.62 | -1.26 | -1.11 | -0.71 | -0.47 | -0.71 | -1.11 | -1.26 | -2.76 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -10.00% |
| F 1.35 | F 1.36 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.50 |
| @ 5.41 | @ 5.44 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 14.99 |

| CP |
|---|
| -35.63 |
| -3.09 |
| 2.00:1 |
| C 0.89 |
| @ 1.77 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 167+00.00**

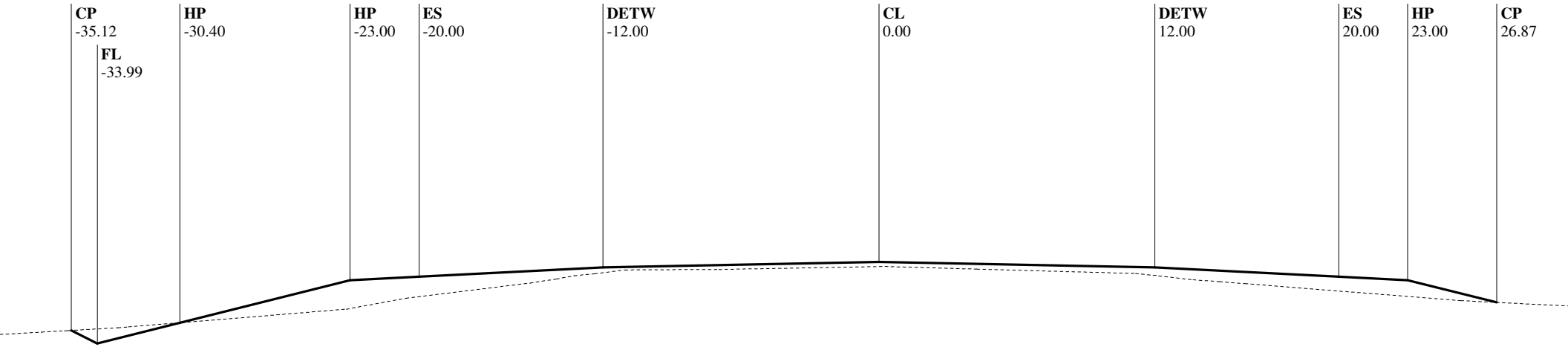
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.92 | -28.67 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.90 |
| -3.94 | -2.63 | -1.21 | -1.06 | -0.66 | -0.42 | -0.66 | -1.06 | -1.21 | -1.80 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -10.00% |
| F 1.31 | F 1.42 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.59 |
| @ 5.25 | @ 5.67 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.90 |

| CP |
|---|
| -35.44 |
| -3.18 |
| 2.00:1 |
| C 0.76 |
| @ 1.52 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 167+50.00**

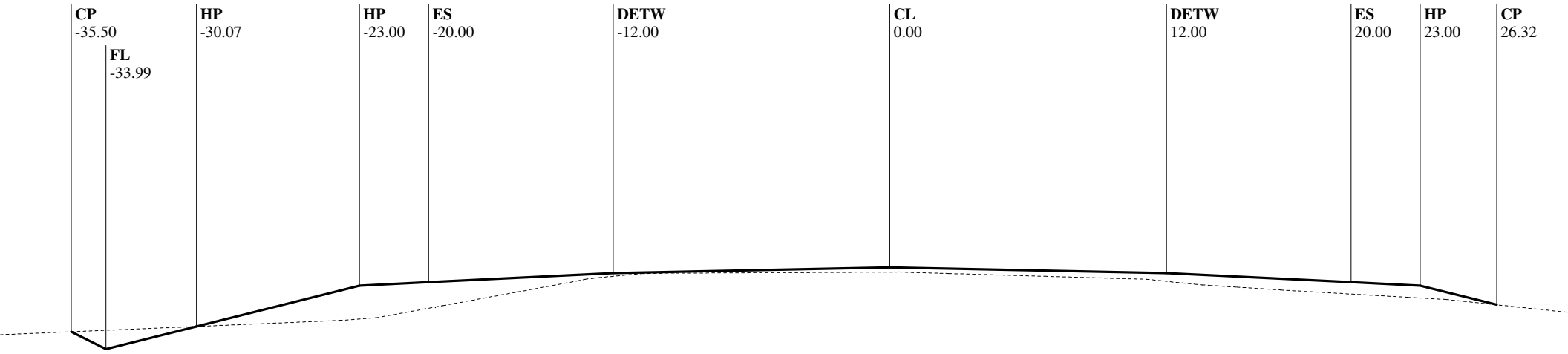
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -30.40 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.87 |
| -3.99 | -3.09 | -1.24 | -1.09 | -0.69 | -0.45 | -0.69 | -1.09 | -1.24 | -2.21 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.90 | F 1.85 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.97 |
| @ 3.59 | @ 7.40 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.87 |

| CP |
|---|
| -35.12 |
| -3.43 |
| 2.00:1 |
| C 0.56 |
| @ 1.13 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 168+00.00**

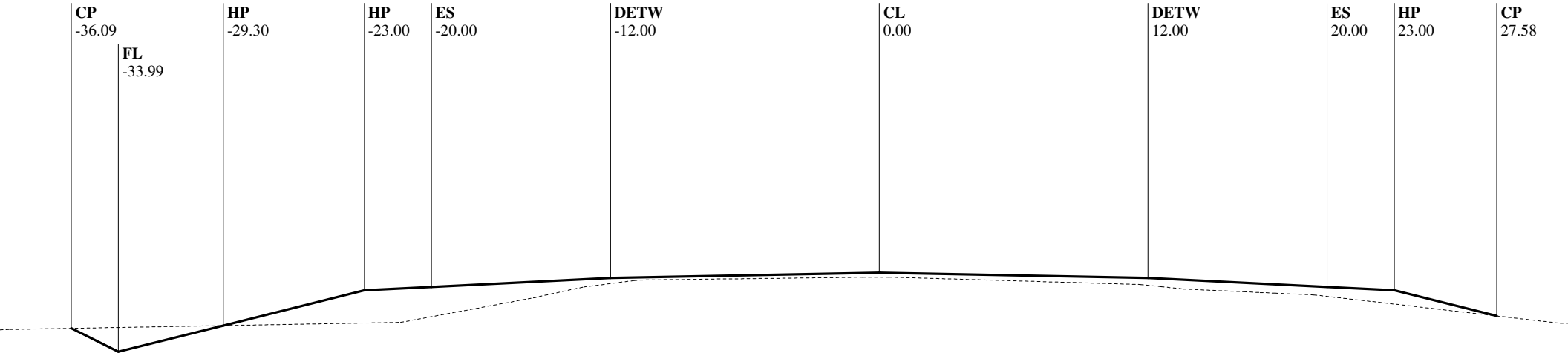
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -30.07 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.32 |
| -4.21 | -3.23 | -1.46 | -1.31 | -0.91 | -0.67 | -0.91 | -1.31 | -1.46 | -2.29 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.98 | F 1.77 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.83 |
| @ 3.92 | @ 7.07 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.32 |

| CP |
|---|
| -35.50 |
| -3.46 |
| 2.00:1 |
| C 0.75 |
| @ 1.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 168+50.00**

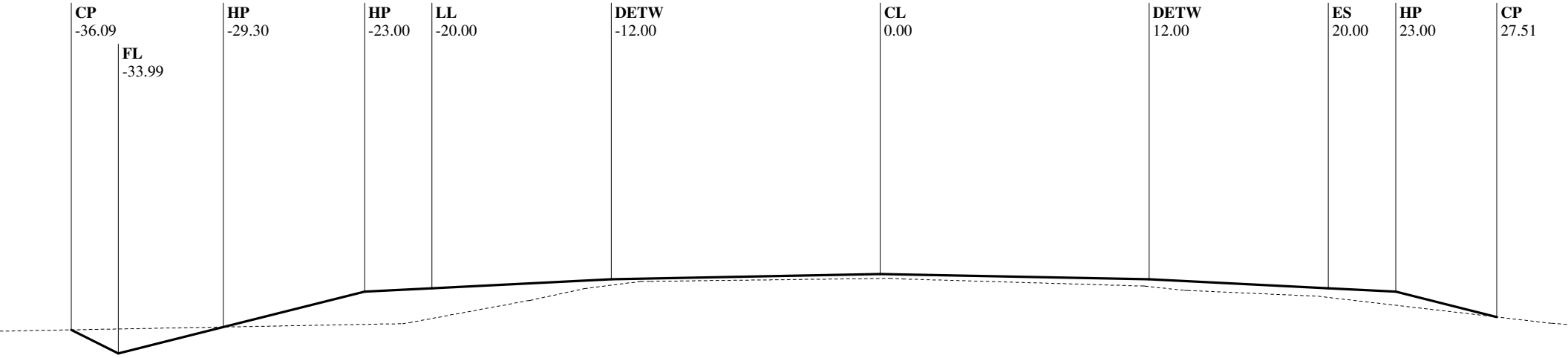
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.30 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.58 |
| -4.52 | -3.35 | -1.78 | -1.63 | -1.23 | -0.99 | -1.23 | -1.63 | -1.78 | -2.92 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.17 | F 1.58 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.14 |
| @ 4.69 | @ 6.30 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.58 |

| CP |
|---|
| -36.09 |
| -3.47 |
| 2.00:1 |
| C 1.05 |
| @ 2.10 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 168+59.78**

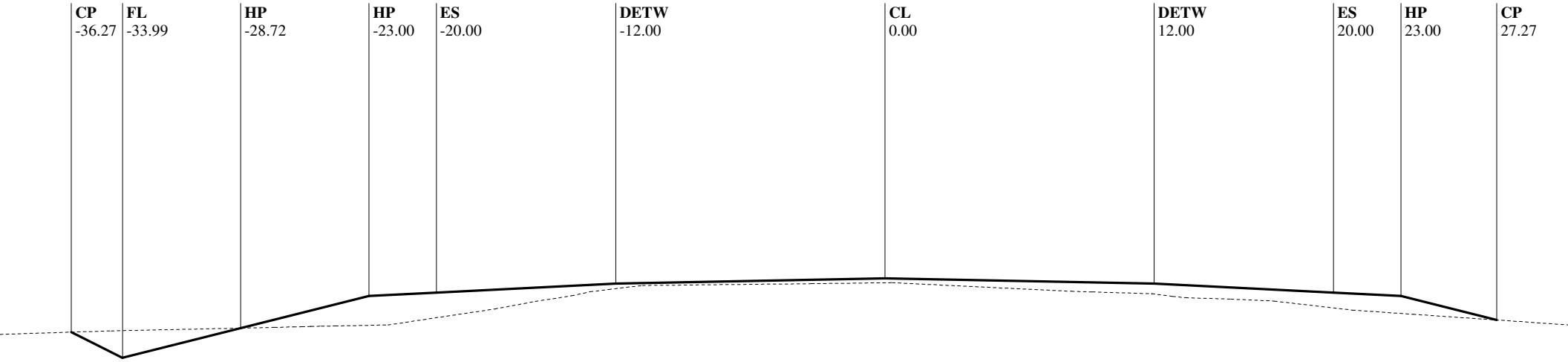
| FL | HP | HP | LL | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.30 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.51 |
| -4.58 | -3.41 | -1.83 | -1.68 | -1.28 | -1.04 | -1.28 | -1.68 | -1.83 | -2.96 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.17 | F 1.57 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.13 |
| @ 4.69 | @ 6.30 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.51 |

| CP |
|---|
| -36.09 |
| -3.54 |
| 2.00:1 |
| C 1.05 |
| @ 2.09 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 169+00.00**

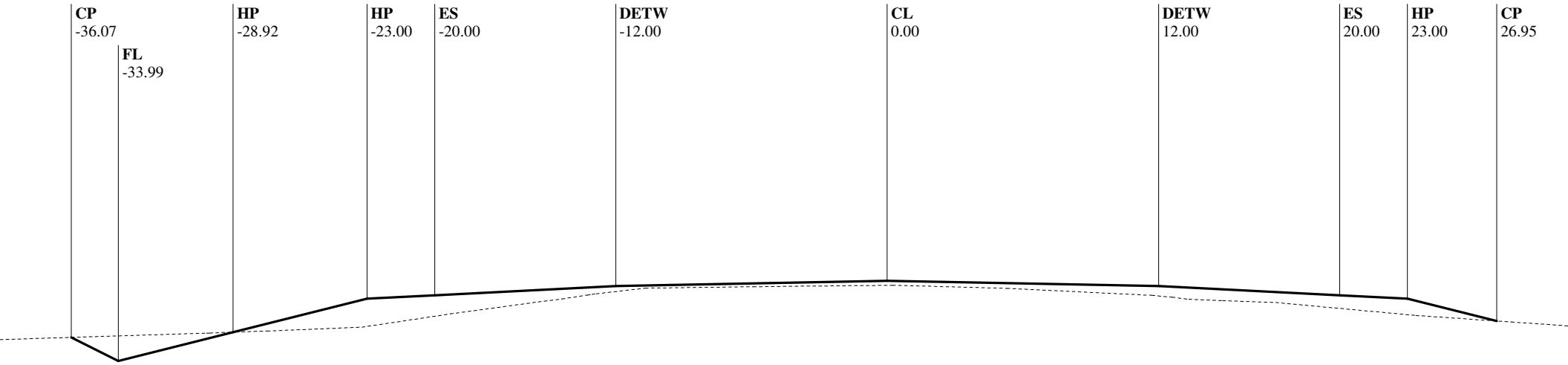
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -28.72 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.27 |
| -4.74 | -3.43 | -2.00 | -1.85 | -1.45 | -1.21 | -1.45 | -1.85 | -2.00 | -3.06 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.32 | F 1.43 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.07 |
| @ 5.28 | @ 5.72 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.27 |

| CP |
|---|
| -36.27 |
| -3.60 |
| 2.00:1 |
| C 1.14 |
| @ 2.28 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 169+50.00**

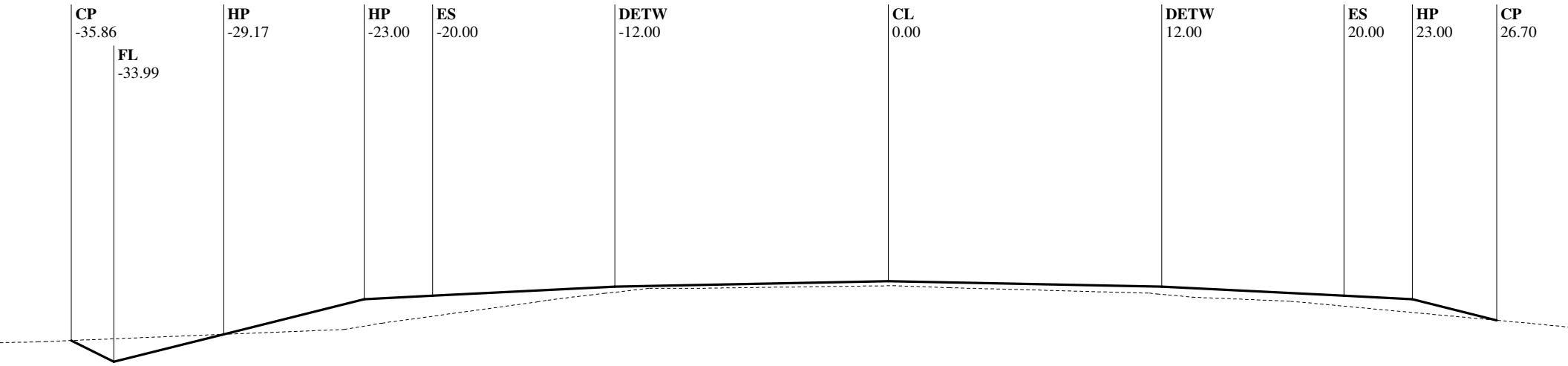
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -28.92 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.95 |
| -4.81 | -3.54 | -2.06 | -1.91 | -1.51 | -1.27 | -1.51 | -1.91 | -2.06 | -3.04 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.27 | F 1.48 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.99 |
| @ 5.08 | @ 5.92 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.95 |

| CP |
|---|
| -36.07 |
| -3.77 |
| 2.00:1 |
| C 1.04 |
| @ 2.08 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 170+00.00**

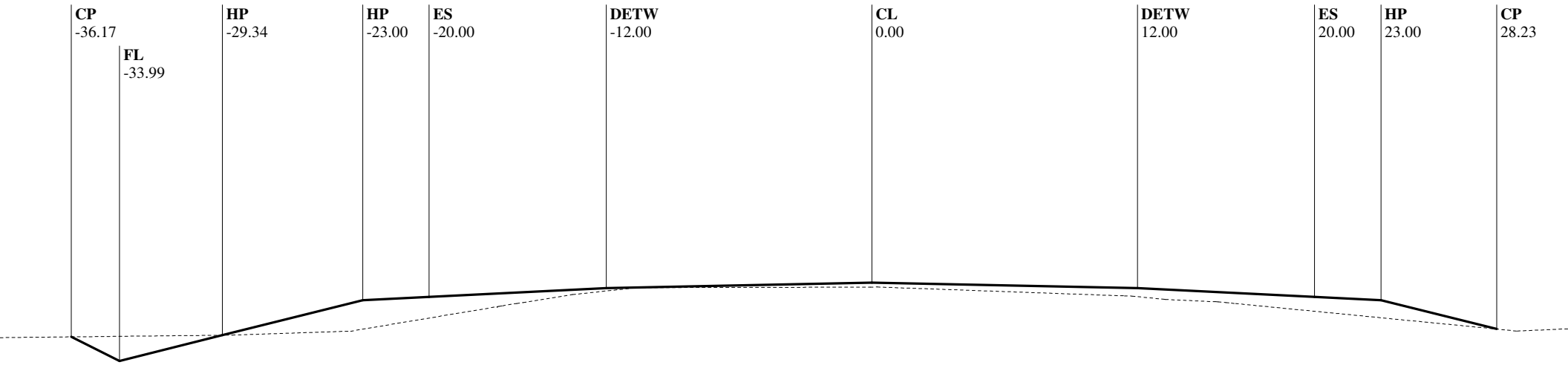
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.17 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.70 |
| -4.81 | -3.61 | -2.06 | -1.91 | -1.51 | -1.27 | -1.51 | -1.91 | -2.06 | -2.99 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.20 | F 1.54 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.93 |
| @ 4.82 | @ 6.17 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.70 |

| CP |
|---|
| -35.86 |
| -3.88 |
| 2.00:1 |
| C 0.93 |
| @ 1.87 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 170+50.00**

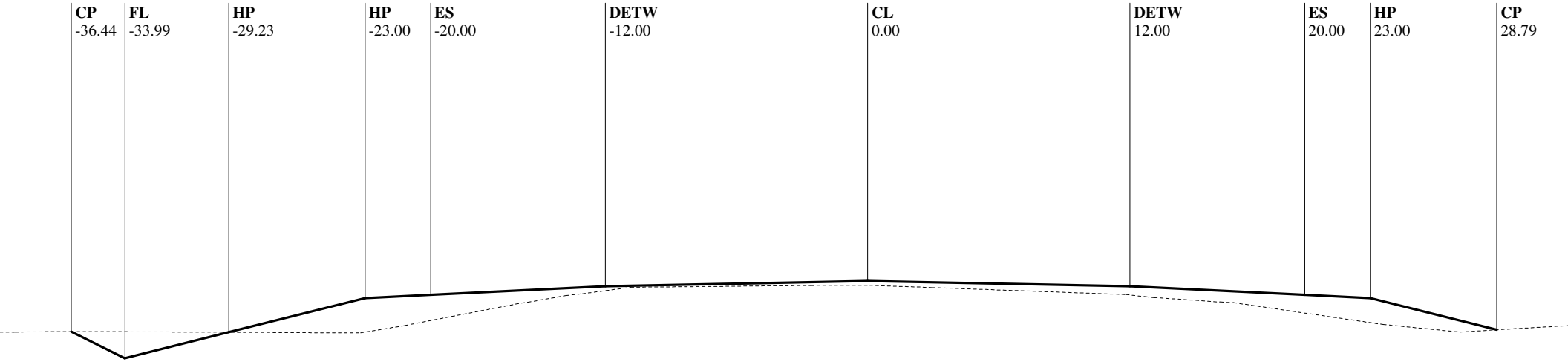
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.34 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.23 |
| -4.91 | -3.75 | -2.16 | -2.01 | -1.61 | -1.37 | -1.61 | -2.01 | -2.16 | -3.47 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.16 | F 1.58 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.31 |
| @ 4.66 | @ 6.34 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.23 |

| CP |
|---|
| -36.17 |
| -3.83 |
| 2.00:1 |
| C 1.09 |
| @ 2.17 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 171+00.00**

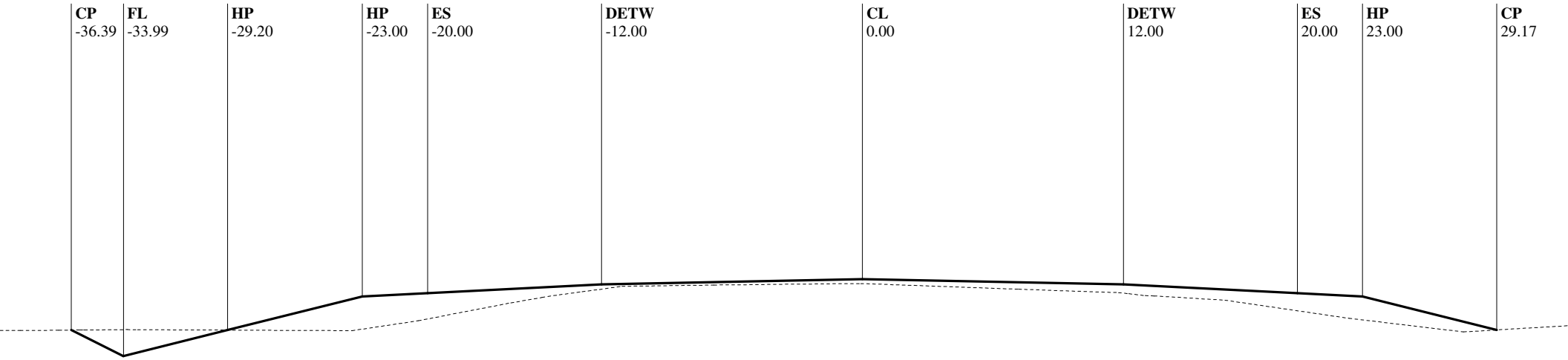
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.23 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.79 |
| -4.91 | -3.72 | -2.16 | -2.01 | -1.61 | -1.37 | -1.61 | -2.01 | -2.16 | -3.60 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.19 | F 1.56 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.45 |
| @ 4.76 | @ 6.23 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.79 |

| CP |
|---|
| -36.44 |
| -3.68 |
| 2.00:1 |
| C 1.23 |
| @ 2.45 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 171+50.00**

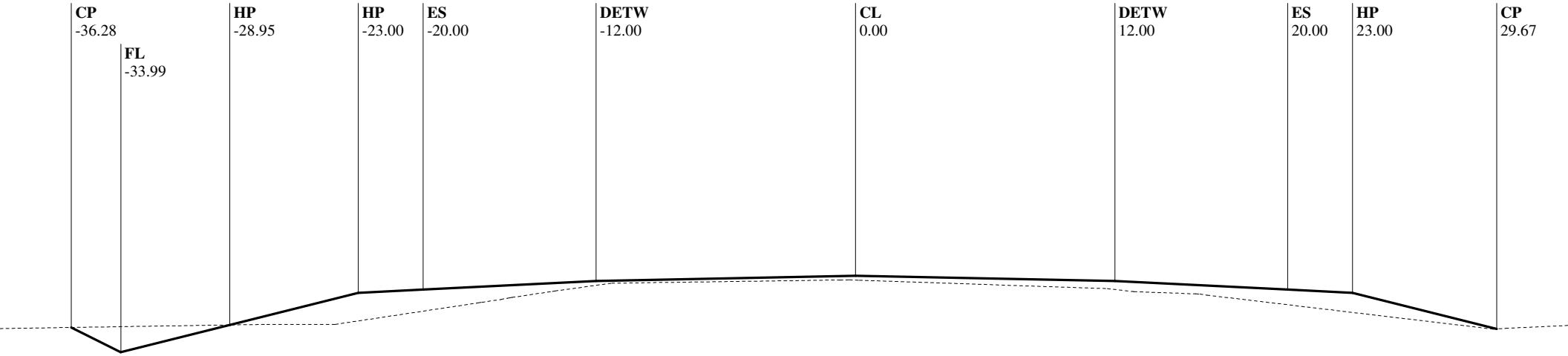
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -29.20 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.17 |
| -4.82 | -3.63 | -2.08 | -1.93 | -1.53 | -1.29 | -1.53 | -1.93 | -2.08 | -3.62 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.20 | F 1.55 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.54 |
| @ 4.79 | @ 6.20 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.17 |

| CP |
|---|
| -36.39 |
| -3.63 |
| 2.00:1 |
| C 1.20 |
| @ 2.40 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 172+00.00**

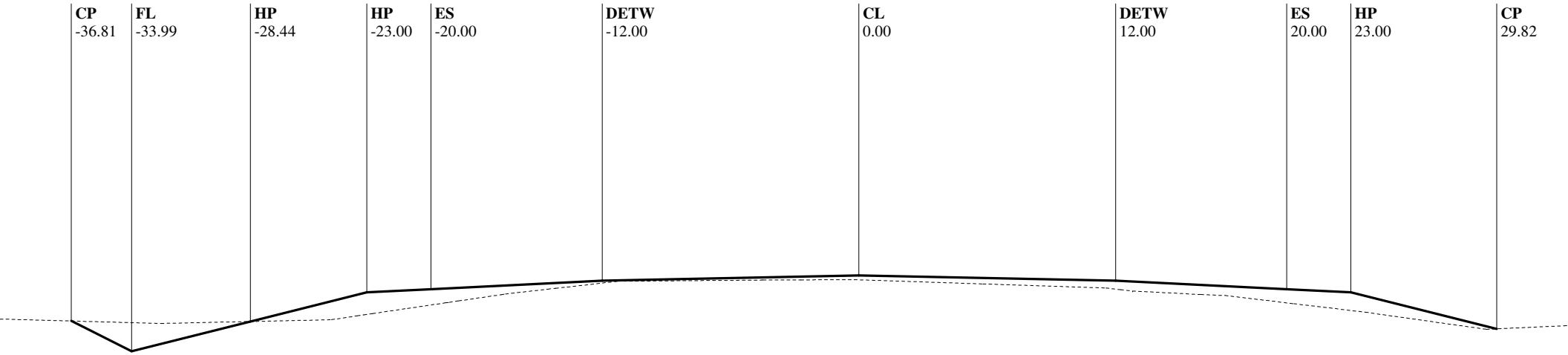
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -28.95 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.67 |
| -4.71 | -3.45 | -1.96 | -1.81 | -1.41 | -1.17 | -1.41 | -1.81 | -1.96 | -3.63 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.26 | F 1.49 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.67 |
| @ 5.05 | @ 5.95 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.67 |

| CP |
|---|
| -36.28 |
| -3.57 |
| 2.00:1 |
| C 1.15 |
| @ 2.29 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 172+50.00**

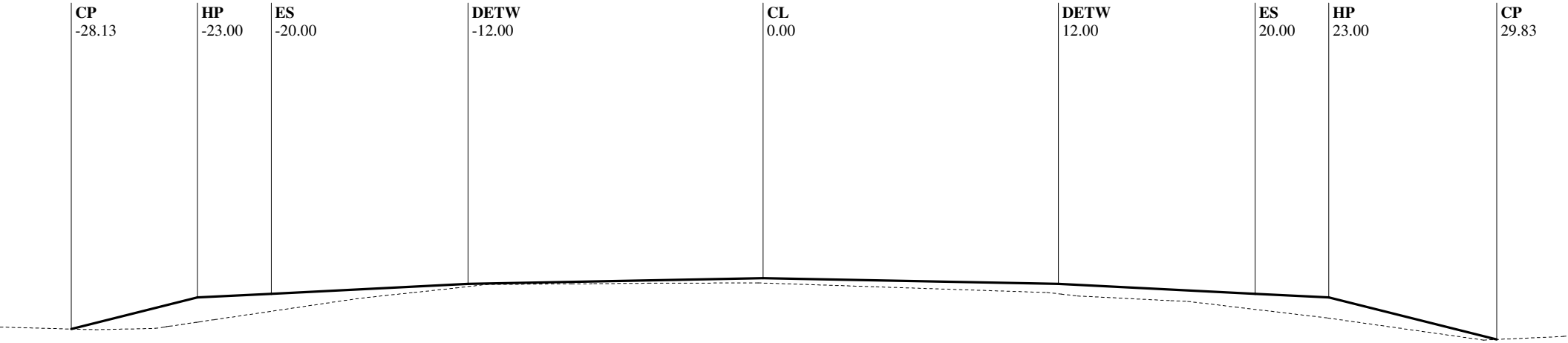
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -28.44 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.82 |
| -4.66 | -3.28 | -1.92 | -1.77 | -1.37 | -1.13 | -1.37 | -1.77 | -1.92 | -3.62 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.39 | F 1.36 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.70 |
| @ 5.55 | @ 5.44 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.82 |

| CP |
|---|
| -36.81 |
| -3.25 |
| 2.00:1 |
| C 1.41 |
| @ 2.82 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



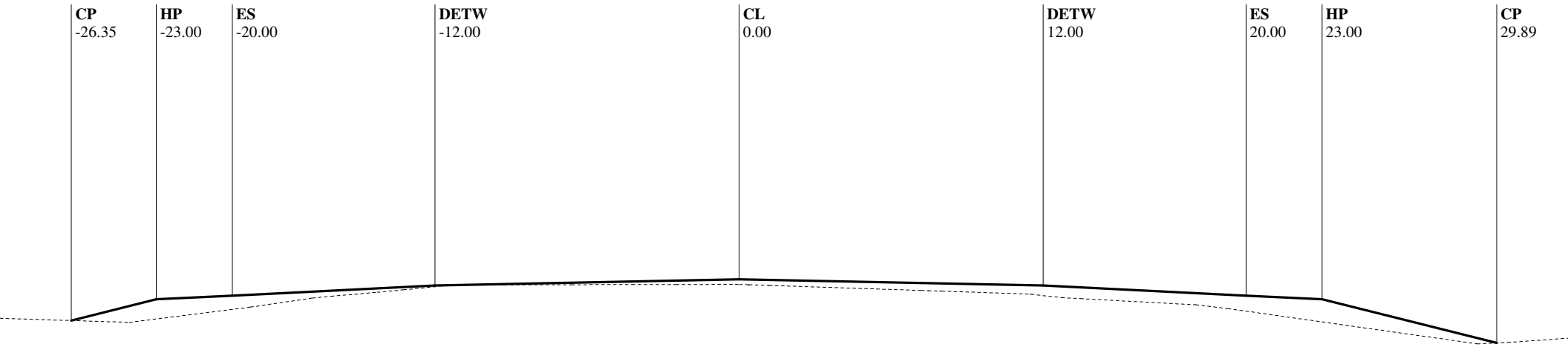

**Alignment Chain CENTER1**
**Station: 172+55.69**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.13 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.83 |
| -3.19 | -1.91 | -1.76 | -1.36 | -1.12 | -1.36 | -1.76 | -1.91 | -3.62 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.28 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.71 |
| @ 5.13 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.83 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



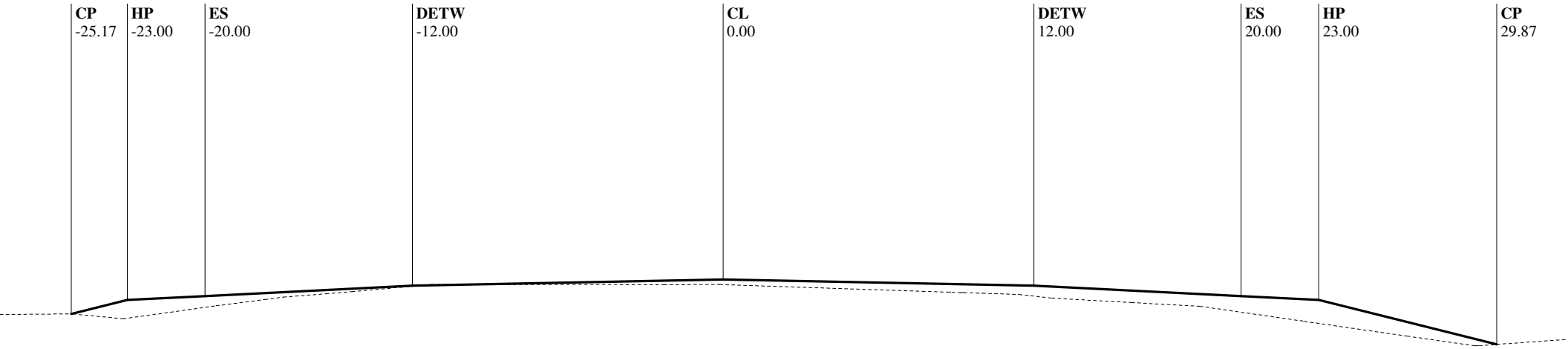

**Alignment Chain CENTER1**
**Station: 172+84.96**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.35 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.89 |
| -2.72 | -1.89 | -1.74 | -1.34 | -1.10 | -1.34 | -1.74 | -1.89 | -3.61 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.84 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.72 |
| @ 3.35 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.89 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



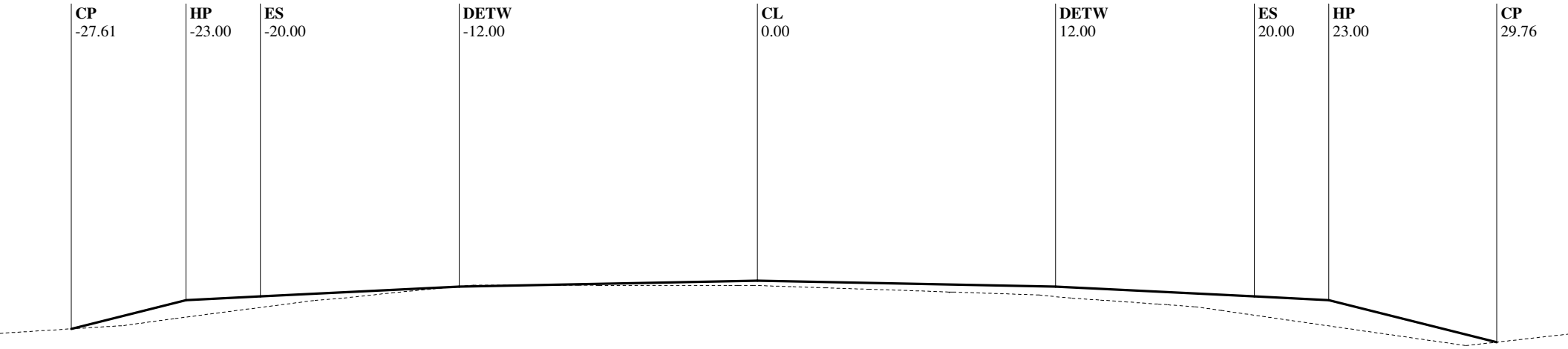

**Alignment Chain CENTER1**
**Station: 173+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -25.17 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.87 |
| -2.42 | -1.87 | -1.72 | -1.32 | -1.08 | -1.32 | -1.72 | -1.87 | -3.59 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.54 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.72 |
| @ 2.17 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.87 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



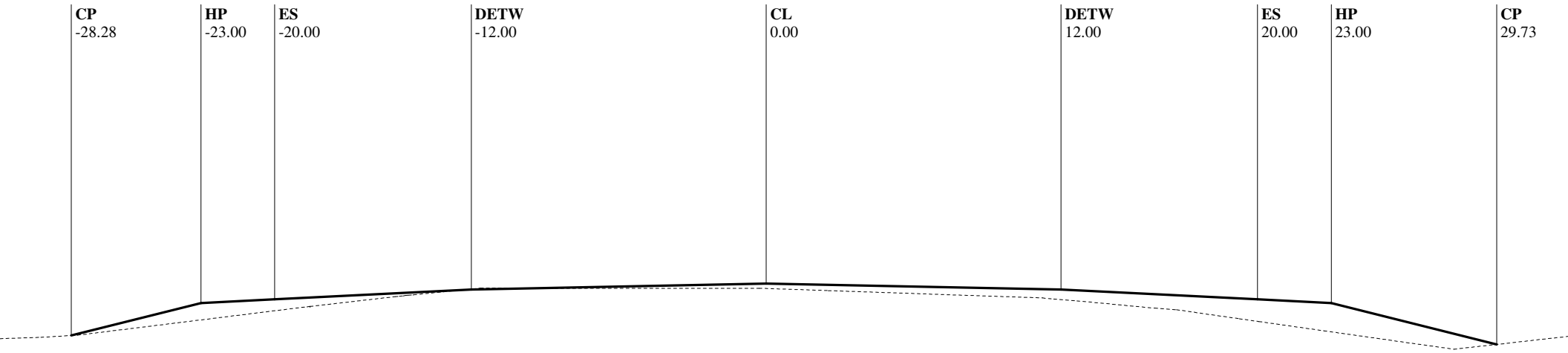

**Alignment Chain CENTER1**
**Station: 173+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.61 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.76 |
| -3.11 | -1.96 | -1.81 | -1.41 | -1.17 | -1.41 | -1.81 | -1.96 | -3.65 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.15 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.69 |
| @ 4.61 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.76 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



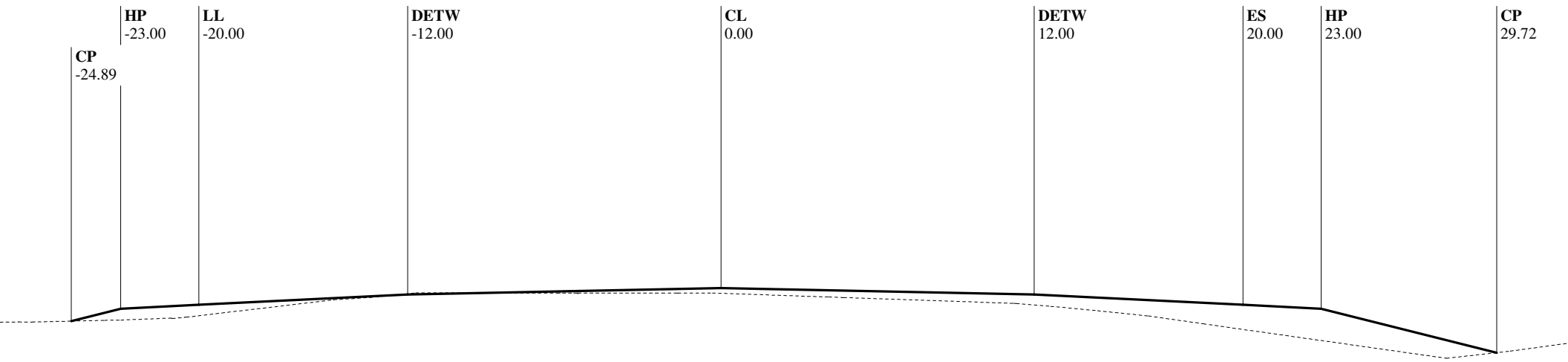

**Alignment Chain CENTER1**
**Station: 174+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.28 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.73 |
| -3.38 | -2.06 | -1.91 | -1.51 | -1.27 | -1.51 | -1.91 | -2.06 | -3.74 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.32 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.68 |
| @ 5.28 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.73 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



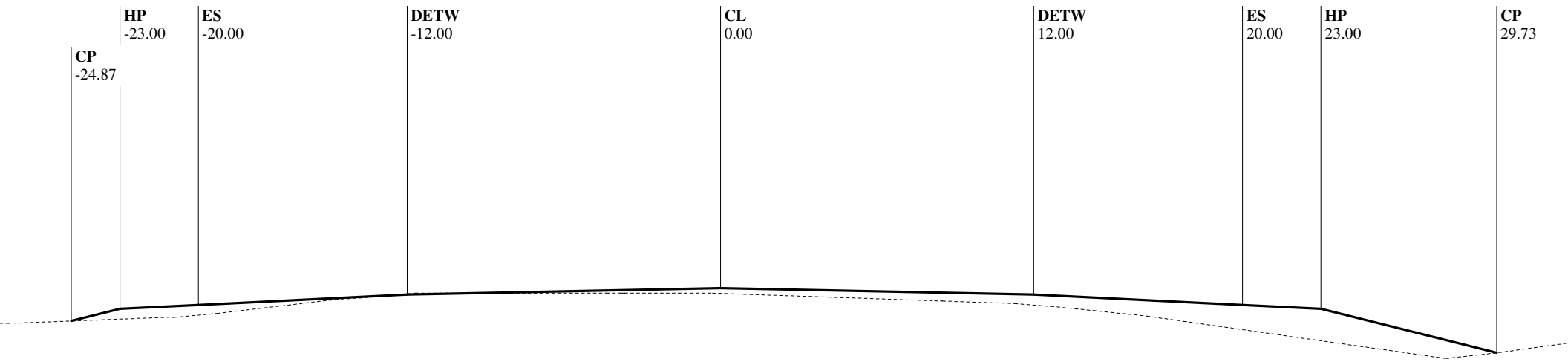

**Alignment Chain CENTER1**
**Station: 174+17.37**

| CP | HP | LL | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -24.89 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.72 |
| -2.56 | -2.09 | -1.94 | -1.54 | -1.30 | -1.54 | -1.94 | -2.09 | -3.77 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.47 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.68 |
| @ 1.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.72 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



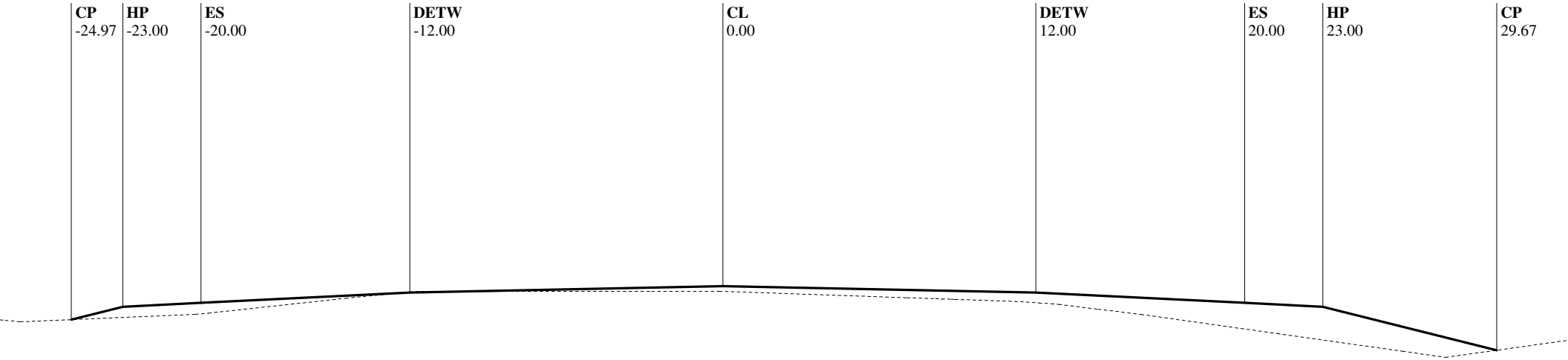

**Alignment Chain CENTER1**
**Station: 174+20.37**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -24.87 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.73 |
| -2.56 | -2.10 | -1.95 | -1.55 | -1.31 | -1.55 | -1.95 | -2.10 | -3.78 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.47 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.68 |
| @ 1.87 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.73 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



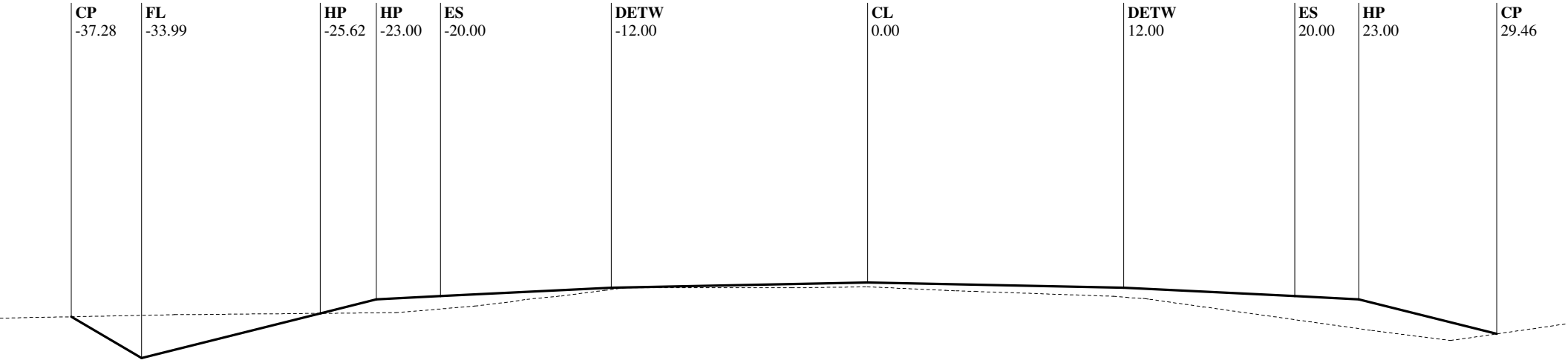

**Alignment Chain CENTER1**
**Station: 174+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -24.97 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.67 |
| -2.64 | -2.15 | -2.00 | -1.60 | -1.36 | -1.60 | -2.00 | -2.15 | -3.81 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.49 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.67 |
| @ 1.97 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.67 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 175+00.00**

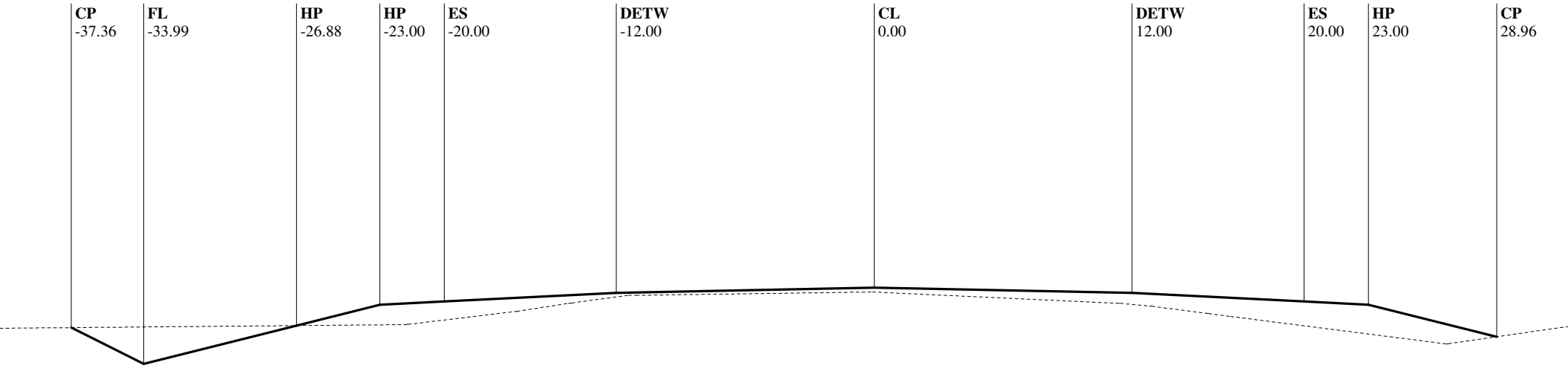
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -25.62 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.46 |
| -5.04 | -2.94 | -2.29 | -2.14 | -1.74 | -1.50 | -1.74 | -2.14 | -2.29 | -3.90 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.09 | F 0.65 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.62 |
| @ 8.38 | @ 2.62 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.46 |

| CP |
|---|
| -37.28 |
| -3.10 |
| 1.70:1 |
| C 1.94 |
| @ 3.29 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 175+50.00**

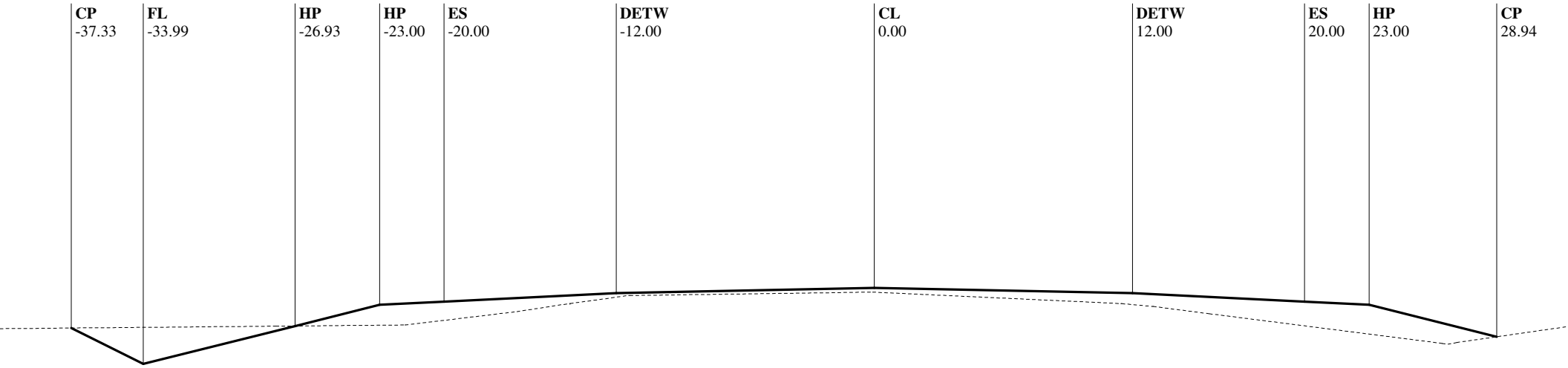
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -26.88 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.96 |
| -5.24 | -3.46 | -2.49 | -2.34 | -1.94 | -1.70 | -1.94 | -2.34 | -2.49 | -3.98 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.78 | F 0.97 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.49 |
| @ 7.11 | @ 3.88 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.96 |

| CP |
|---|
| -37.36 |
| -3.56 |
| 2.00:1 |
| C 1.68 |
| @ 3.36 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 175+51.97**

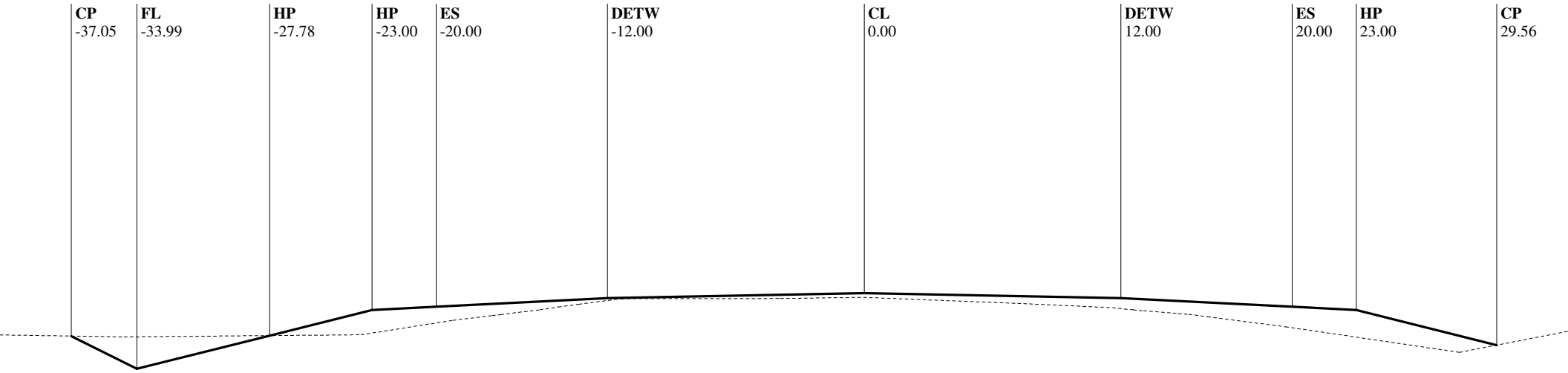
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -26.93 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.94 |
| -5.25 | -3.49 | -2.50 | -2.35 | -1.95 | -1.71 | -1.95 | -2.35 | -2.50 | -3.99 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.76 | F 0.98 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.48 |
| @ 7.06 | @ 3.93 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.94 |

| CP |
|---|
| -37.33 |
| -3.58 |
| 2.00:1 |
| C 1.67 |
| @ 3.34 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 176+00.00**

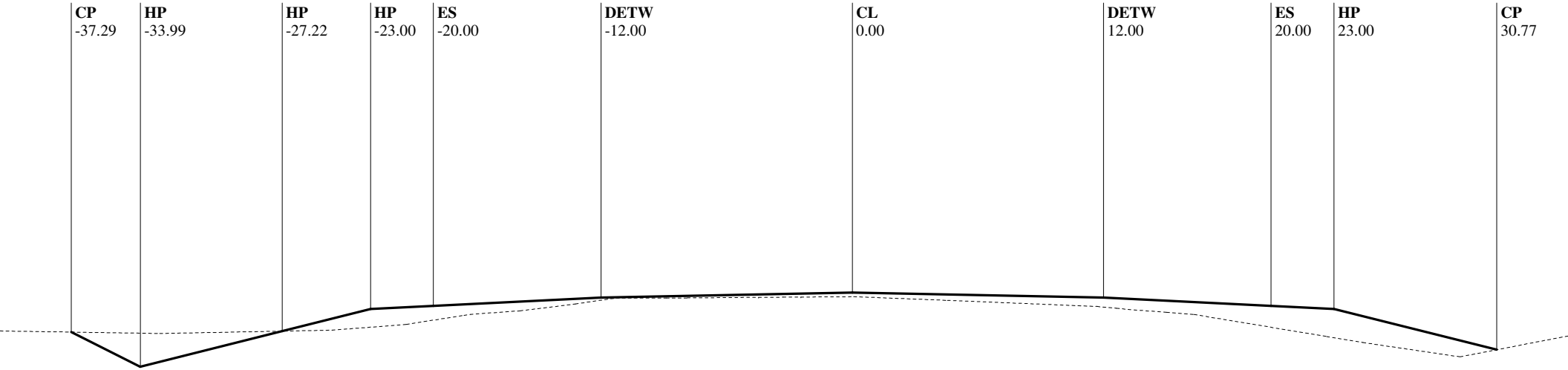
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -27.78 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.56 |
| -5.46 | -3.91 | -2.72 | -2.57 | -2.17 | -1.93 | -2.17 | -2.57 | -2.72 | -4.36 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.55 | F 1.20 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.64 |
| @ 6.21 | @ 4.78 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.56 |

| CP |
|---|
| -37.05 |
| -3.93 |
| 2.00:1 |
| C 1.53 |
| @ 3.06 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 176+50.00**

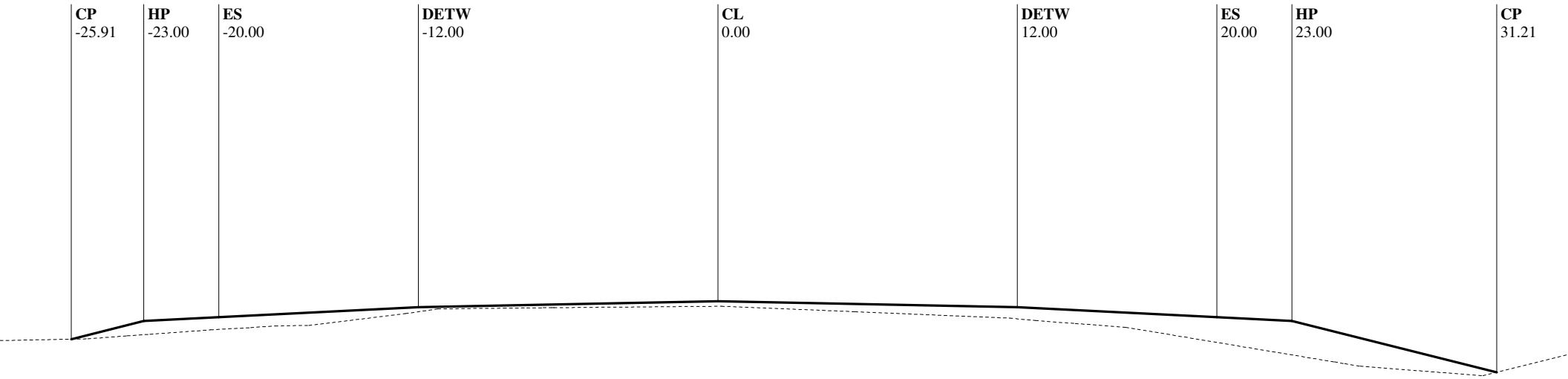
| HP | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -27.22 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.77 |
| -5.54 | -3.84 | -2.79 | -2.64 | -2.24 | -2.00 | -2.24 | -2.64 | -2.79 | -4.73 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.69 | F 1.05 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.94 |
| @ 6.77 | @ 4.22 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.77 |

| CP |
|---|
| -37.29 |
| -3.89 |
| 2.00:1 |
| C 1.65 |
| @ 3.30 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



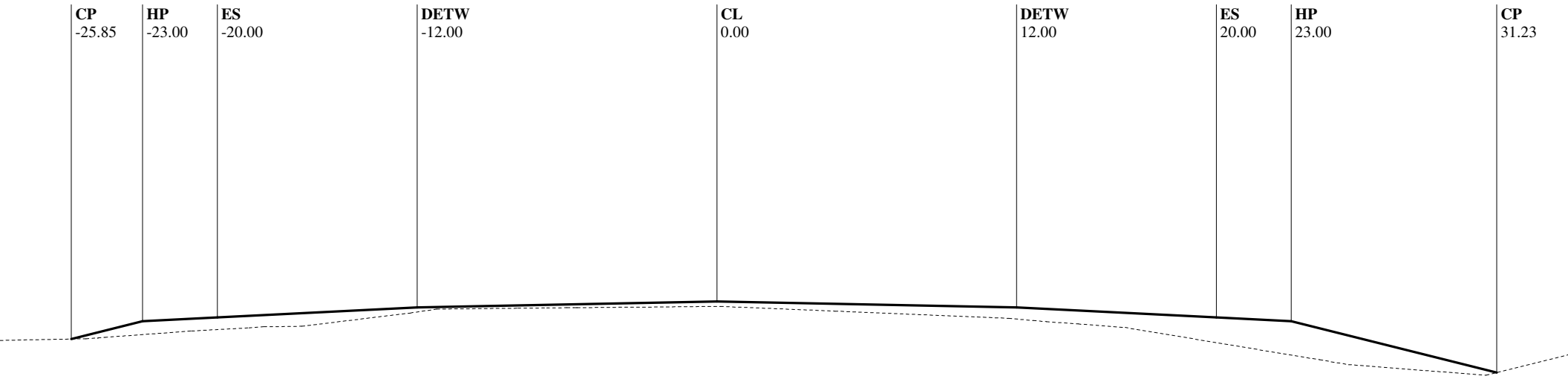

**Alignment Chain CENTER1**
**Station: 176+74.63**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -25.91 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.21 |
| -3.48 | -2.75 | -2.60 | -2.20 | -1.96 | -2.20 | -2.60 | -2.75 | -4.81 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.73 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.05 |
| @ 2.91 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.21 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



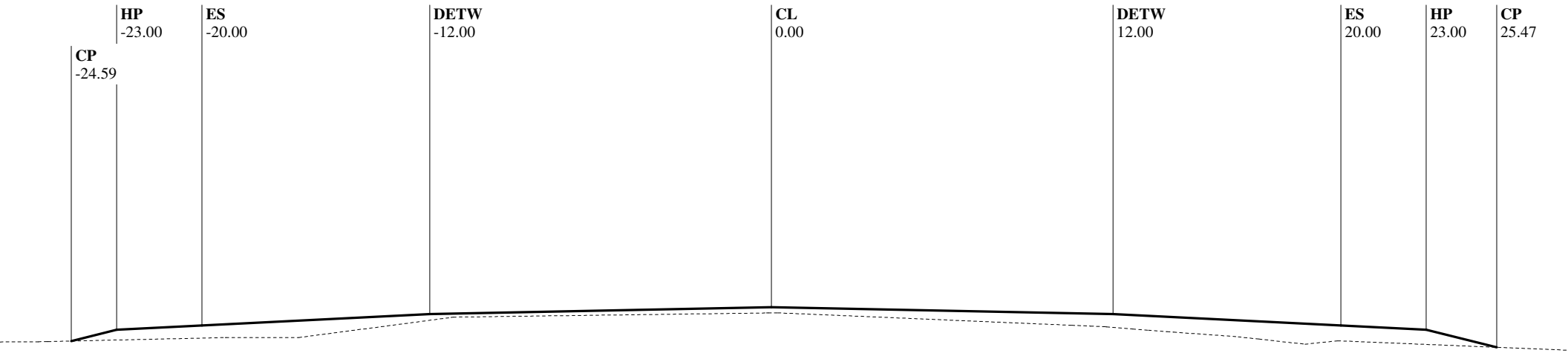

**Alignment Chain CENTER1**
**Station: 176+75.68**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -25.85 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.23 |
| -3.47 | -2.75 | -2.60 | -2.20 | -1.96 | -2.20 | -2.60 | -2.75 | -4.81 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.71 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.06 |
| @ 2.85 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.23 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



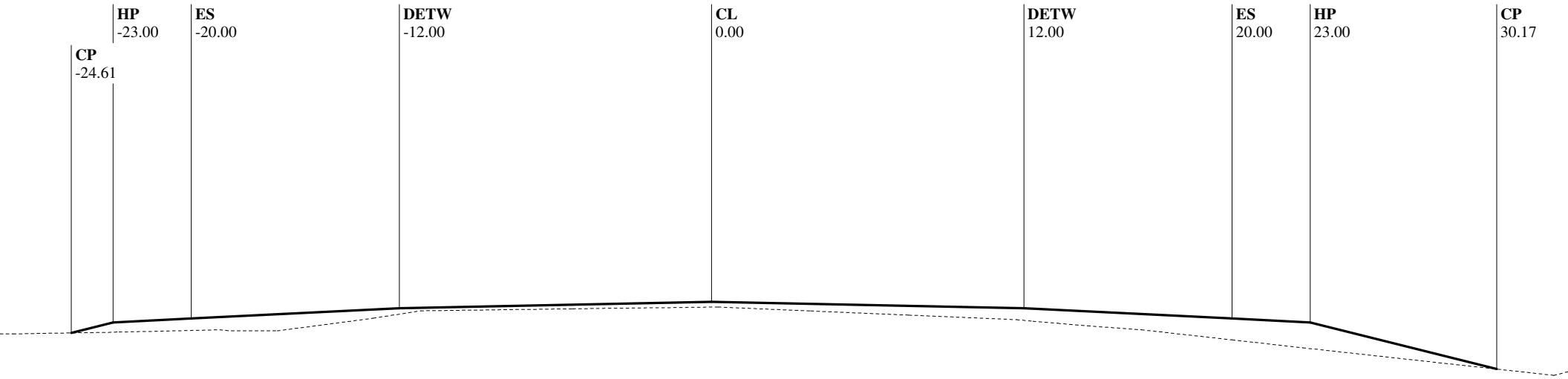

**Alignment Chain CENTER1**
**Station: 177+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -24.59 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.47 |
| -3.12 | -2.72 | -2.57 | -2.17 | -1.93 | -2.17 | -2.57 | -2.72 | -3.34 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.40 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.62 |
| @ 1.59 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.47 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



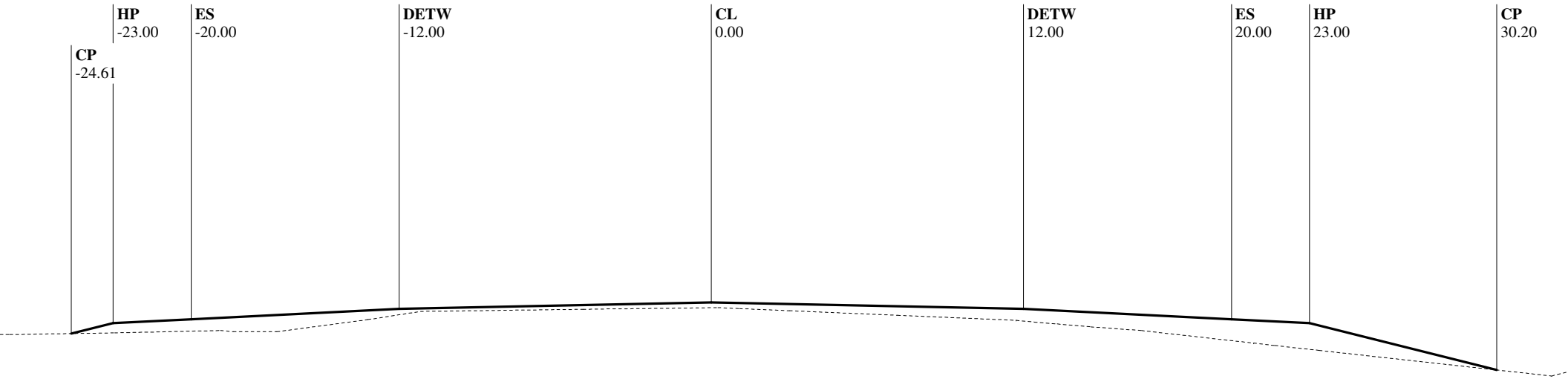

**Alignment Chain CENTER1**
**Station: 177+08.64**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -24.61 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.17 |
| -3.13 | -2.73 | -2.58 | -2.18 | -1.94 | -2.18 | -2.58 | -2.73 | -4.52 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.40 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.79 |
| @ 1.61 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.17 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



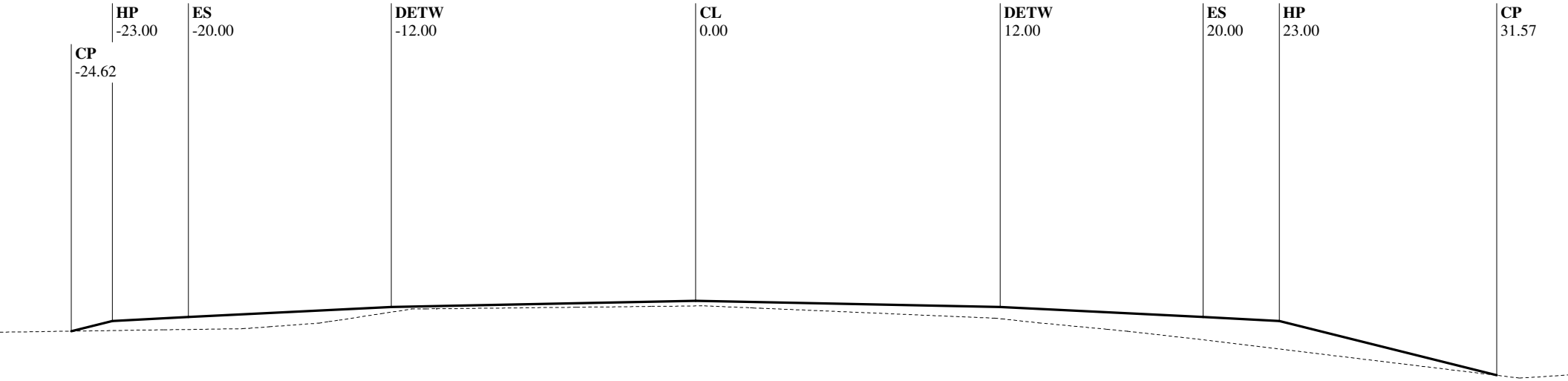

**Alignment Chain CENTER1**
**Station: 177+09.64**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -24.61 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.20 |
| -3.13 | -2.73 | -2.58 | -2.18 | -1.94 | -2.18 | -2.58 | -2.73 | -4.53 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.40 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.80 |
| @ 1.61 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.20 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



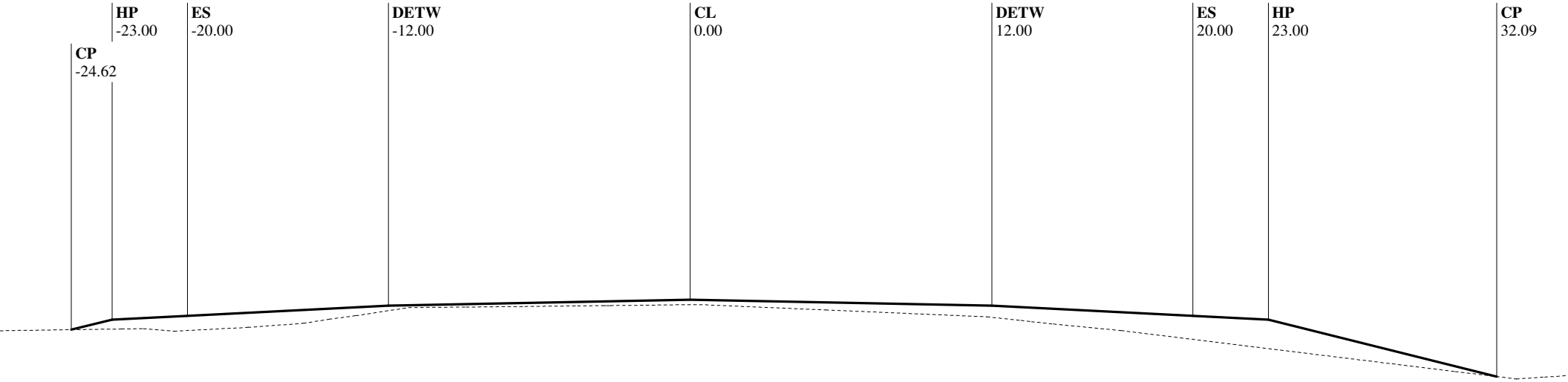

**Alignment Chain CENTER1**
**Station: 177+41.54**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -24.62 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.57 |
| -3.16 | -2.75 | -2.60 | -2.20 | -1.96 | -2.20 | -2.60 | -2.75 | -4.90 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.40 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.14 |
| @ 1.62 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.57 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



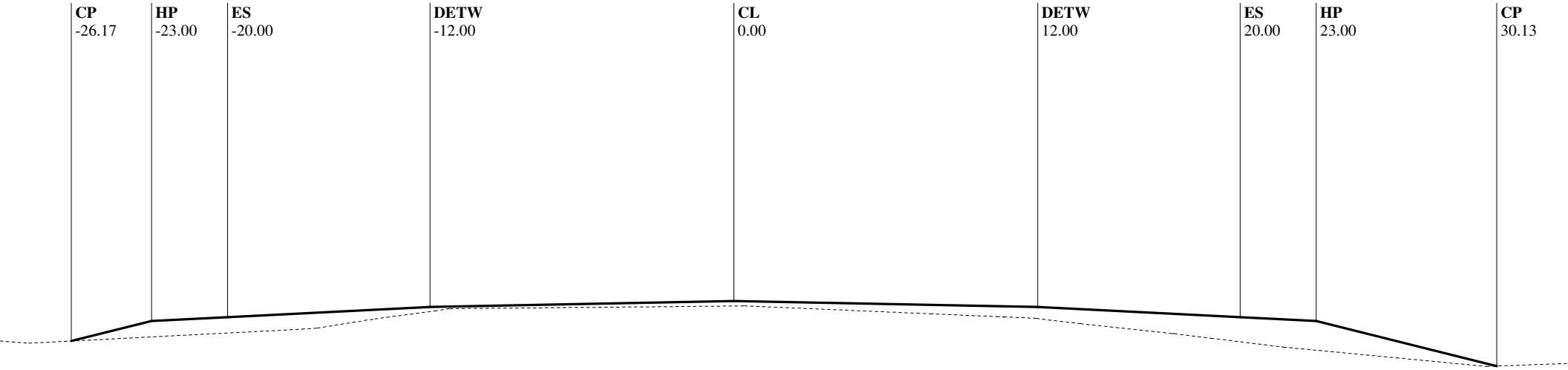

**Alignment Chain CENTER1**
**Station: 177+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -24.62 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.09 |
| -3.17 | -2.76 | -2.61 | -2.21 | -1.97 | -2.21 | -2.61 | -2.76 | -5.03 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.41 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.27 |
| @ 1.62 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.09 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



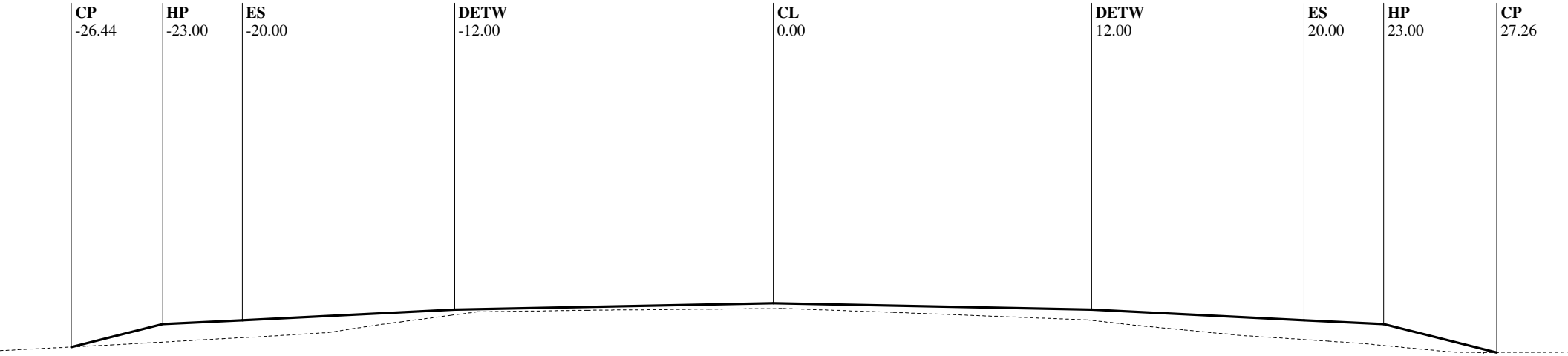

**Alignment Chain CENTER1**
**Station: 177+66.63**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.17 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.13 |
| -3.57 | -2.77 | -2.62 | -2.22 | -1.98 | -2.22 | -2.62 | -2.77 | -4.56 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.79 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.78 |
| @ 3.17 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.13 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



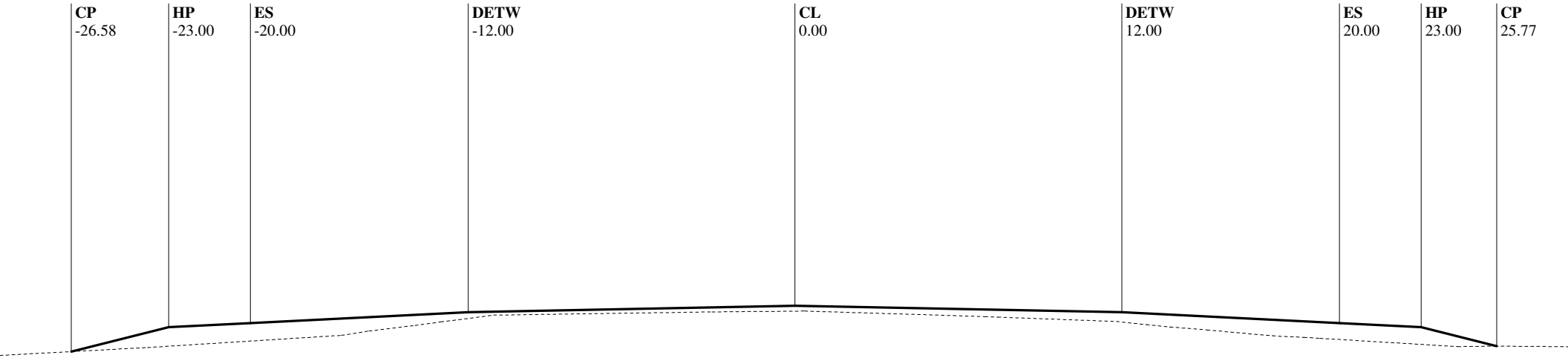

**Alignment Chain CENTER1**
**Station: 177+87.12**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.44 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.26 |
| -3.64 | -2.78 | -2.63 | -2.23 | -1.99 | -2.23 | -2.63 | -2.78 | -3.85 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.86 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.06 |
| @ 3.44 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.26 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



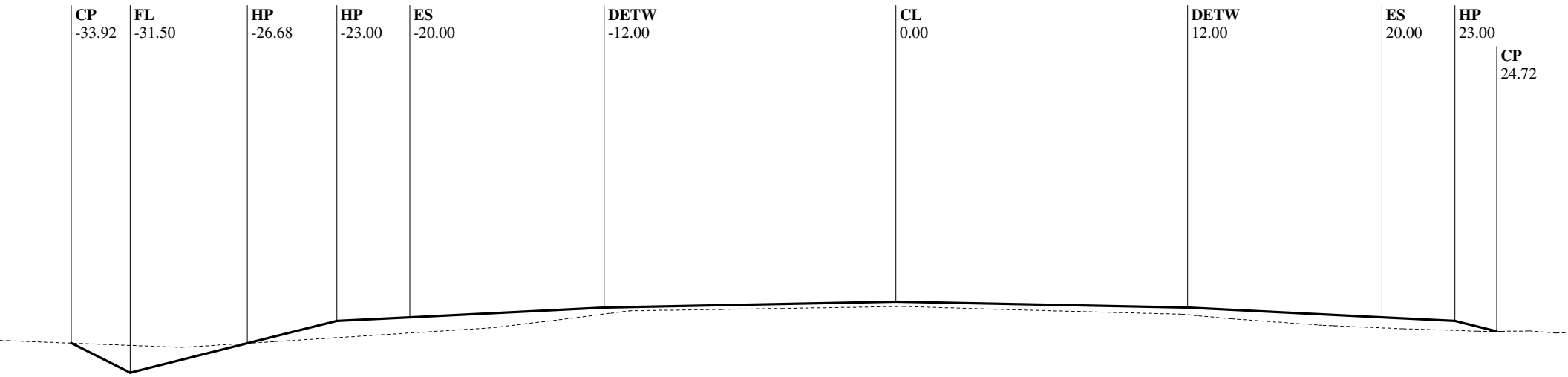

**Alignment Chain CENTER1**
**Station: 178+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.58 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.77 |
| -3.68 | -2.79 | -2.64 | -2.24 | -2.00 | -2.24 | -2.64 | -2.79 | -3.48 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.89 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.69 |
| @ 3.58 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.77 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 178+17.07**

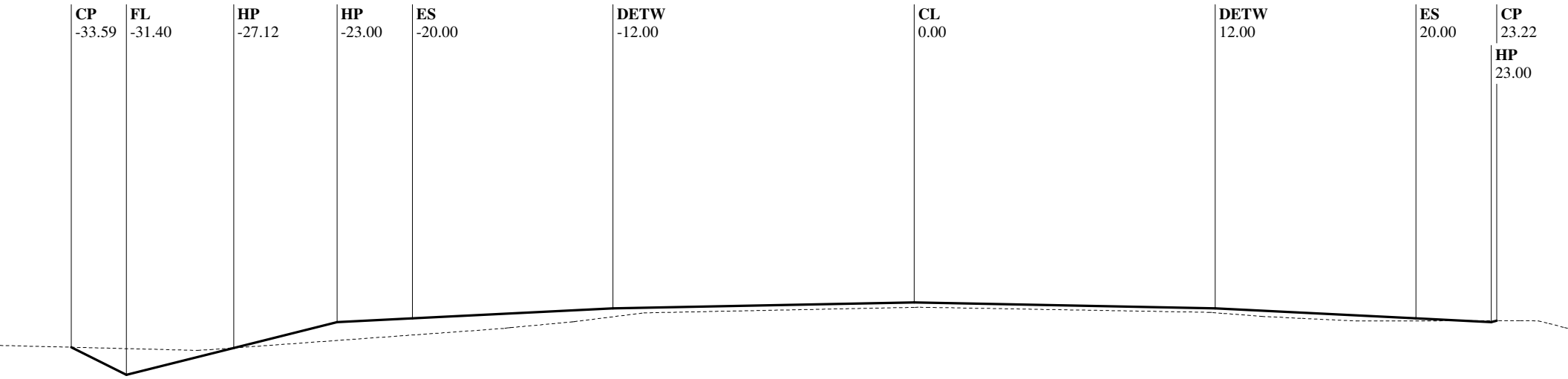
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.50 | -26.68 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 24.72 |
| -4.92 | -3.72 | -2.80 | -2.65 | -2.25 | -2.01 | -2.25 | -2.65 | -2.80 | -3.23 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.20 | F 0.92 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.43 |
| @ 4.82 | @ 3.68 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 1.72 |

| CP |
|---|
| -33.92 |
| -3.71 |
| 2.00:1 |
| C 1.21 |
| @ 2.42 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 178+50.00**

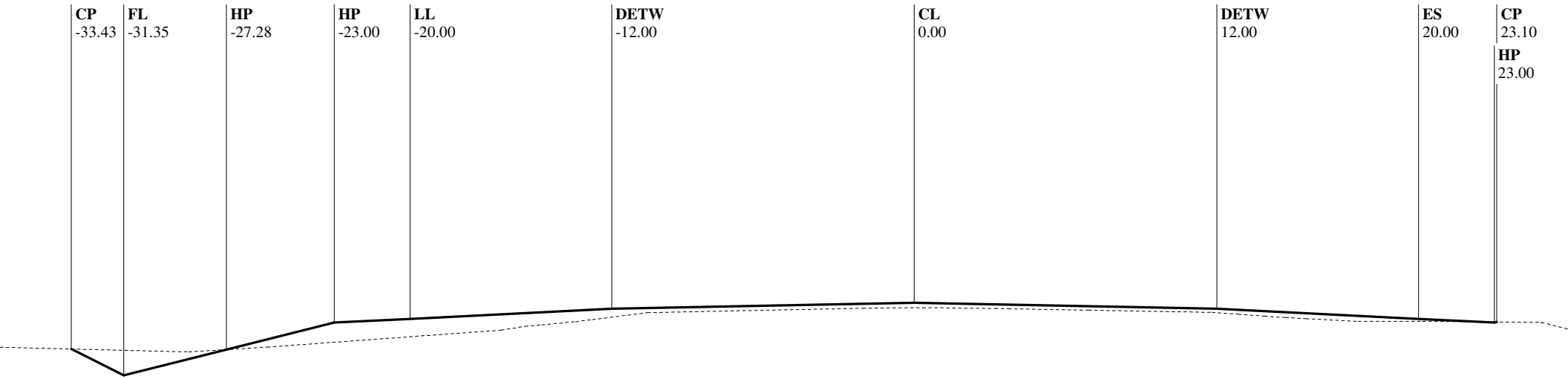
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.40 | -27.12 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.22 |
| -4.90 | -3.83 | -2.81 | -2.66 | -2.26 | -2.02 | -2.26 | -2.66 | -2.81 | -2.75 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.07 | F 1.03 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.05 |
| @ 4.28 | @ 4.12 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.22 |

| CP |
|---|
| -33.59 |
| -3.81 |
| 2.00:1 |
| C 1.10 |
| @ 2.20 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 178+65.57**

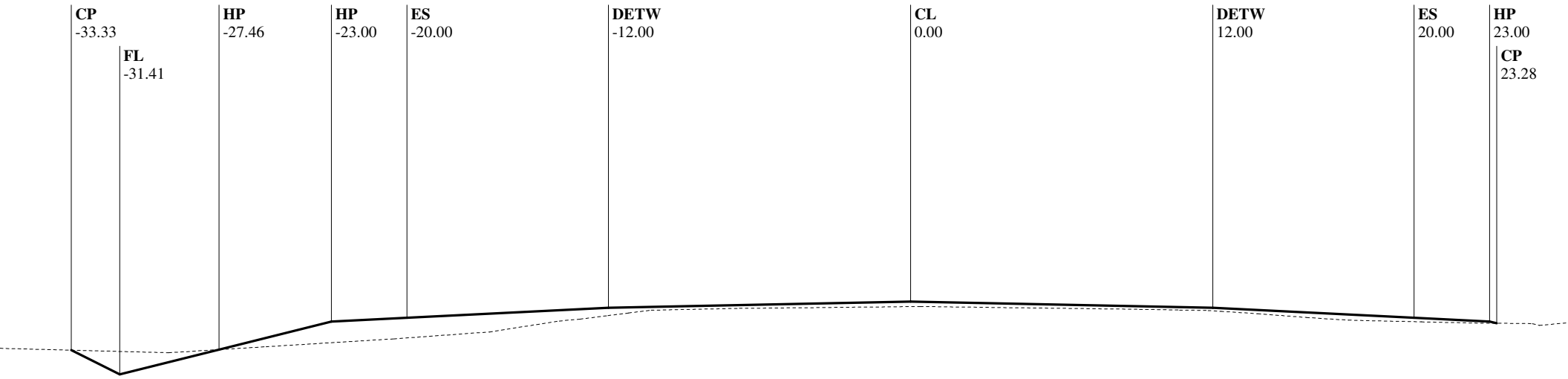
| FL | HP | HP | LL | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.35 | -27.28 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.10 |
| -4.87 | -3.85 | -2.78 | -2.63 | -2.23 | -1.99 | -2.23 | -2.63 | -2.78 | -2.76 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.02 | F 1.07 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.02 |
| @ 4.07 | @ 4.28 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.10 |

| CP |
|---|
| -33.43 |
| -3.83 |
| 2.00:1 |
| C 1.04 |
| @ 2.08 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 179+00.00**

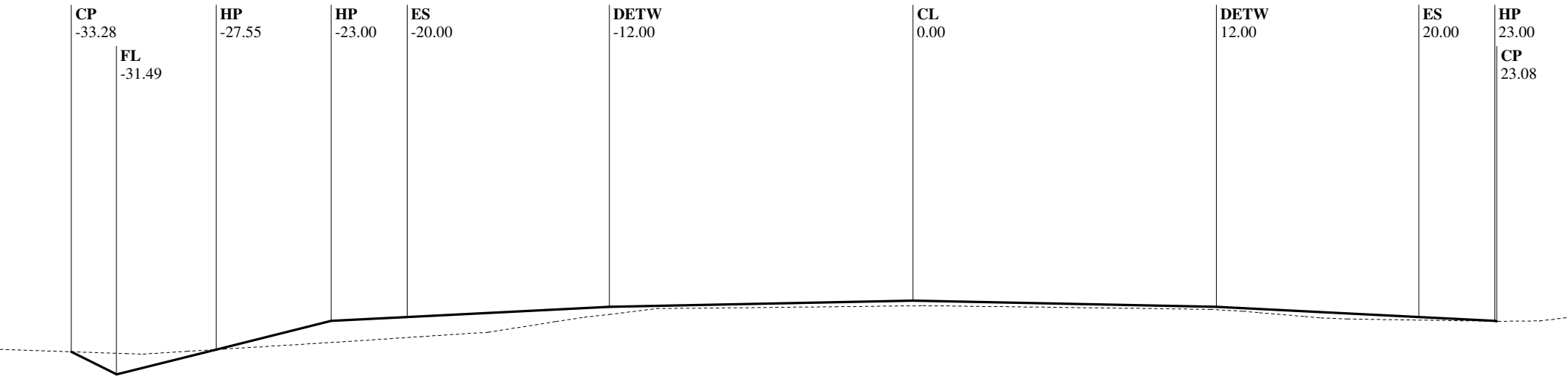
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.41 | -27.46 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.28 |
| -4.83 | -3.84 | -2.73 | -2.58 | -2.18 | -1.94 | -2.18 | -2.58 | -2.73 | -2.80 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.99 | F 1.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.07 |
| @ 3.94 | @ 4.46 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.28 |

| CP |
|---|
| -33.33 |
| -3.87 |
| 2.00:1 |
| C 0.96 |
| @ 1.93 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 179+50.00**

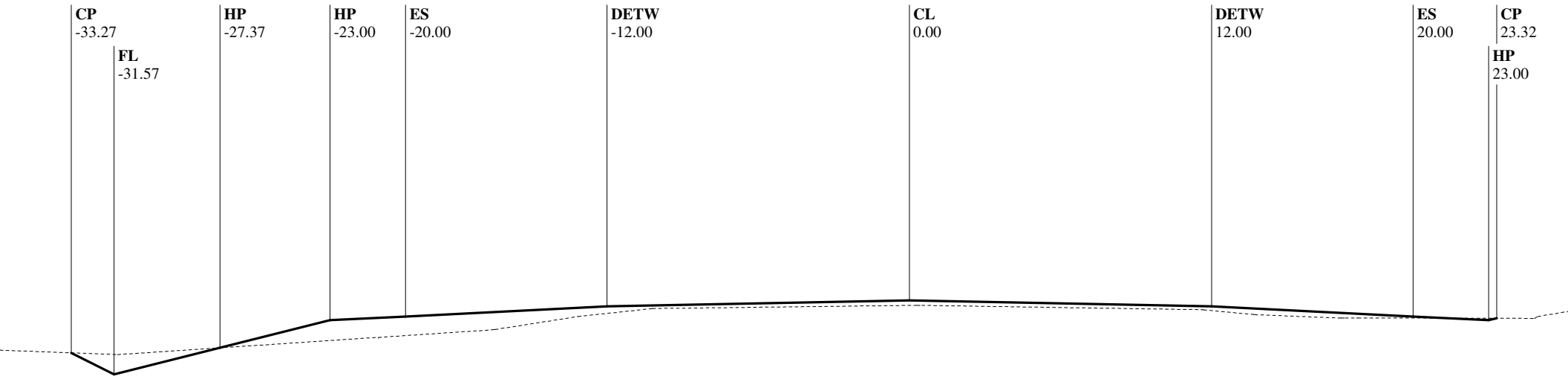
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.49 | -27.55 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.08 |
| -4.81 | -3.82 | -2.69 | -2.54 | -2.14 | -1.90 | -2.14 | -2.54 | -2.69 | -2.71 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.98 | F 1.14 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.02 |
| @ 3.94 | @ 4.55 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.08 |

| CP |
|---|
| -33.28 |
| -3.91 |
| 2.00:1 |
| C 0.90 |
| @ 1.79 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 180+00.00**

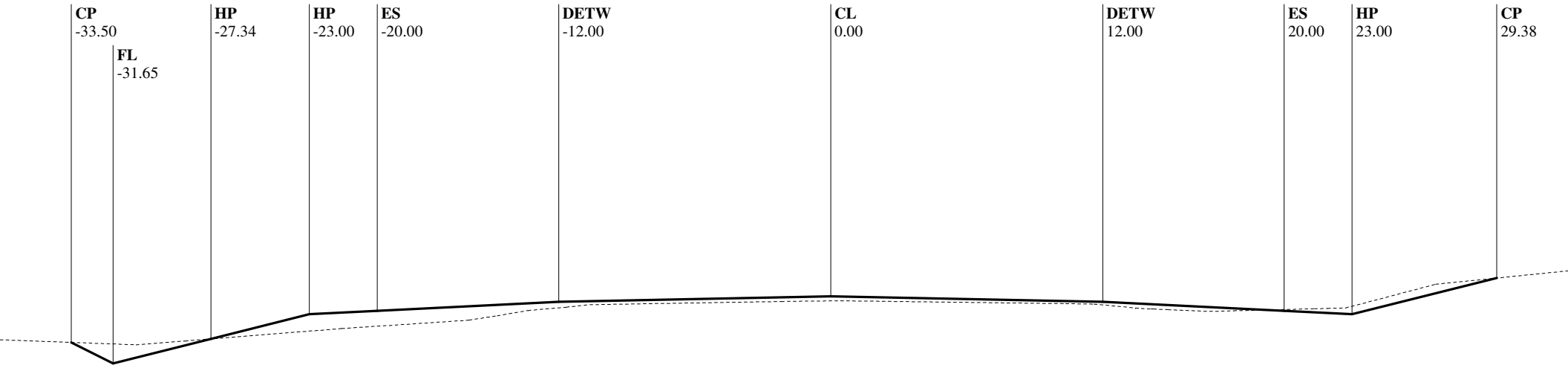
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.57 | -27.37 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.32 |
| -4.82 | -3.77 | -2.68 | -2.53 | -2.13 | -1.89 | -2.13 | -2.53 | -2.68 | -2.60 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.05 | F 1.09 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.08 |
| @ 4.20 | @ 4.37 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.32 |

| CP |
|---|
| -33.27 |
| -3.97 |
| 2.00:1 |
| C 0.85 |
| @ 1.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 180+50.00**

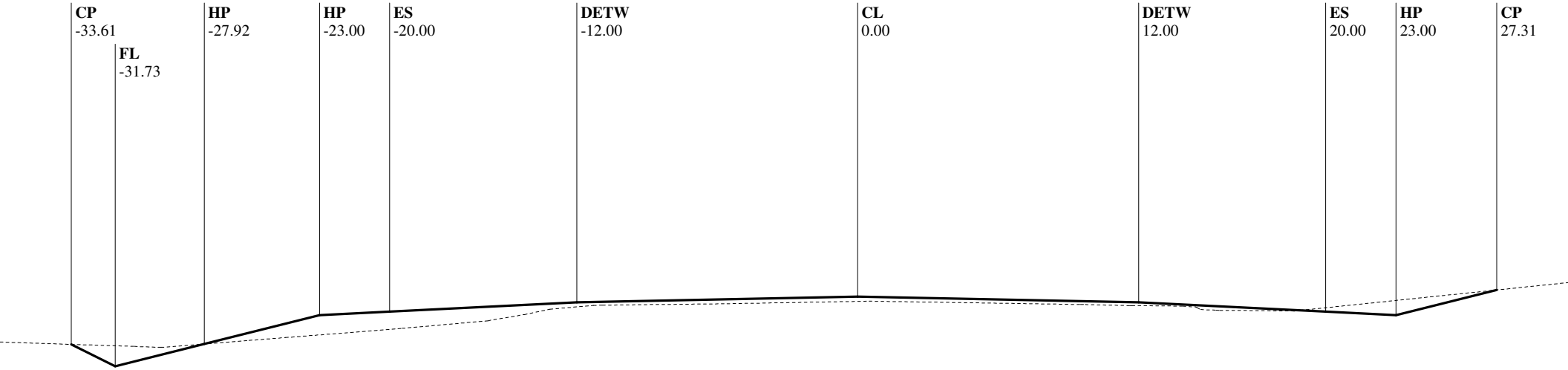
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.65 | -27.34 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.38 |
| -4.90 | -3.82 | -2.74 | -2.59 | -2.19 | -1.95 | -2.19 | -2.59 | -2.74 | -1.14 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.08 | F 1.08 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 1.59 |
| @ 4.31 | @ 4.34 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.38 |

| CP |
|---|
| -33.50 |
| -3.98 |
| 2.00:1 |
| C 0.92 |
| @ 1.85 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 181+00.00**

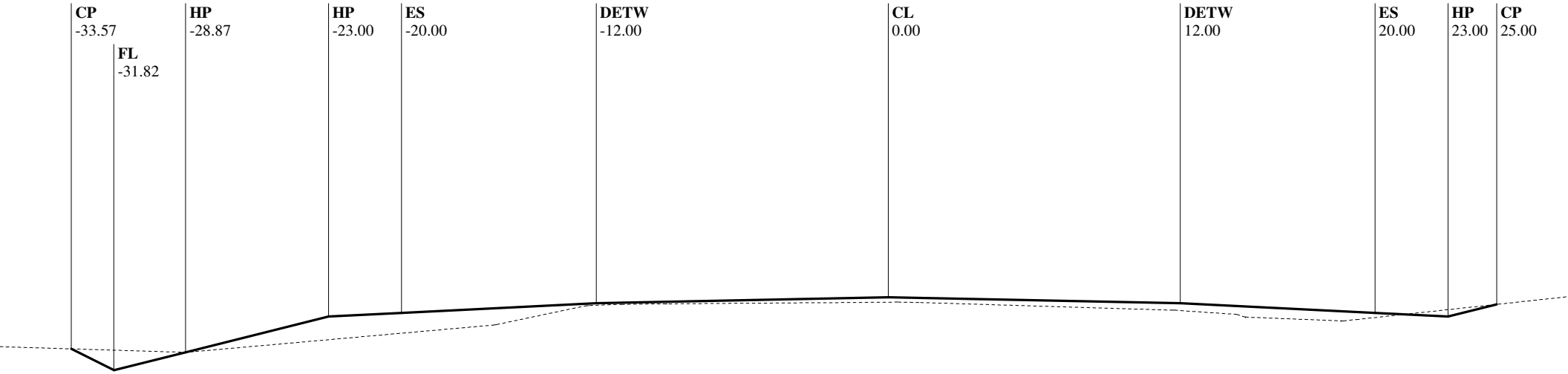
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.73 | -27.92 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.31 |
| -4.94 | -3.98 | -2.75 | -2.60 | -2.20 | -1.96 | -2.20 | -2.60 | -2.75 | -1.68 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.95 | F 1.23 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 1.08 |
| @ 3.82 | @ 4.92 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.31 |

| CP |
|---|
| -33.61 |
| -4.00 |
| 2.00:1 |
| C 0.94 |
| @ 1.88 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 181+50.00**

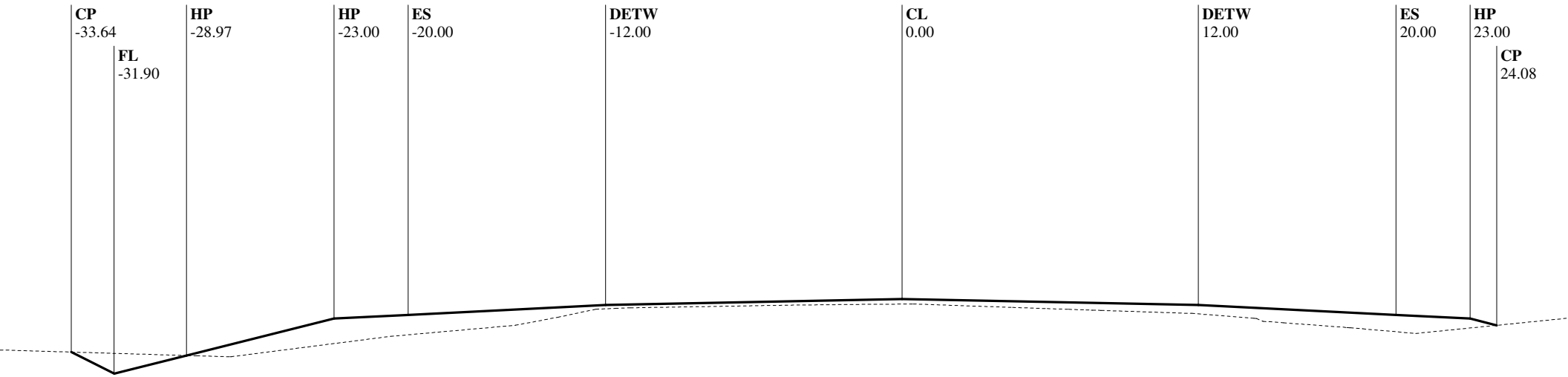
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.82 | -28.87 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.00 |
| -4.91 | -4.17 | -2.71 | -2.56 | -2.16 | -1.92 | -2.16 | -2.56 | -2.71 | -2.21 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.74 | F 1.47 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.50 |
| @ 2.94 | @ 5.87 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.00 |

| CP |
|---|
| -33.57 |
| -4.03 |
| 2.00:1 |
| C 0.88 |
| @ 1.75 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 182+00.00**

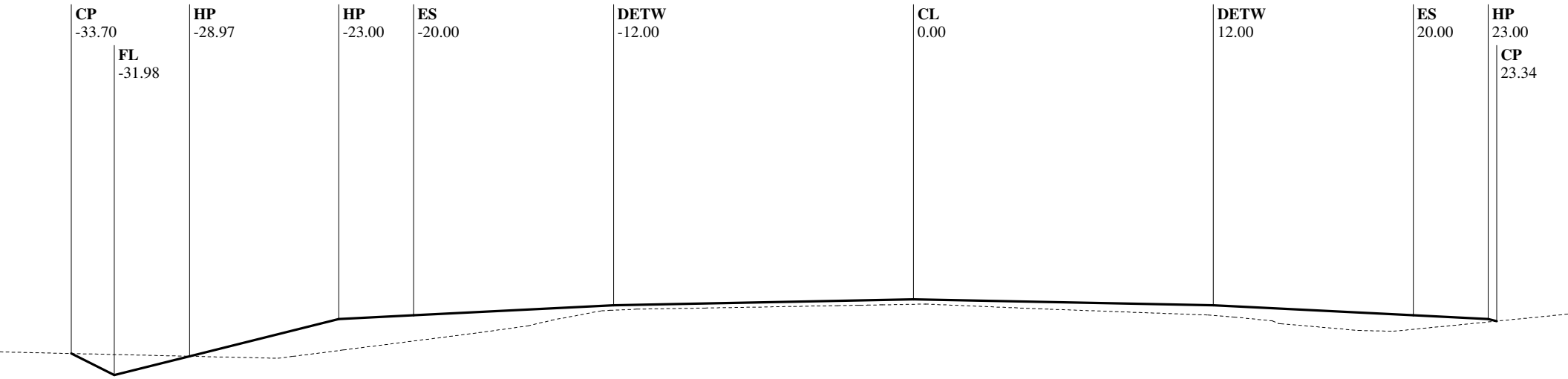
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.90 | -28.97 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 24.08 |
| -4.90 | -4.17 | -2.68 | -2.53 | -2.13 | -1.89 | -2.13 | -2.53 | -2.68 | -2.95 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.73 | F 1.49 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.27 |
| @ 2.92 | @ 5.97 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 1.08 |

| CP |
|---|
| -33.64 |
| -4.03 |
| 2.00:1 |
| C 0.87 |
| @ 1.74 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 182+50.00**

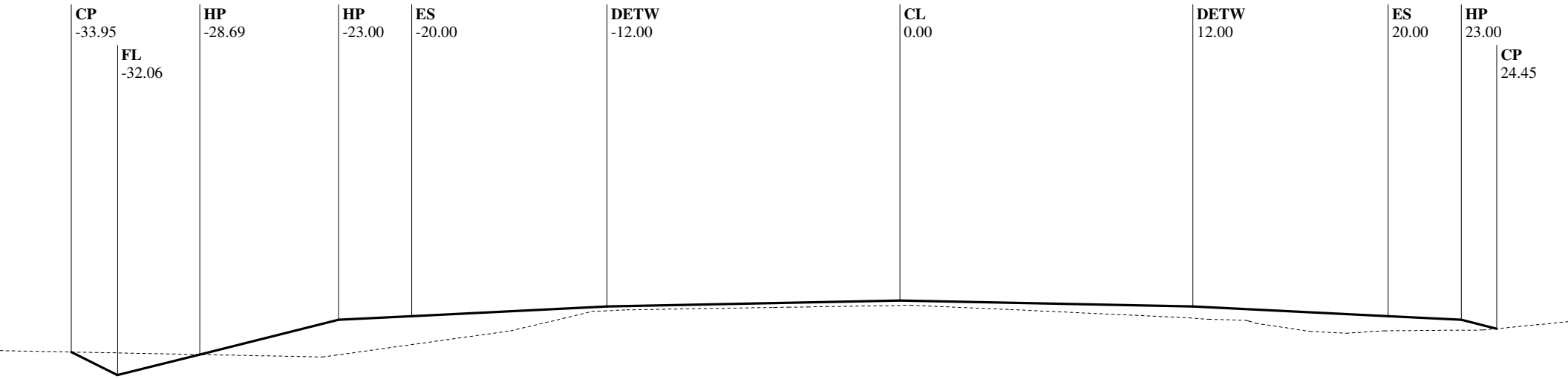
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.98 | -28.97 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.34 |
| -4.94 | -4.19 | -2.70 | -2.55 | -2.15 | -1.91 | -2.15 | -2.55 | -2.70 | -2.78 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.75 | F 1.49 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.08 |
| @ 3.01 | @ 5.97 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.34 |

| CP |
|---|
| -33.70 |
| -4.08 |
| 2.00:1 |
| C 0.86 |
| @ 1.72 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 183+00.00**

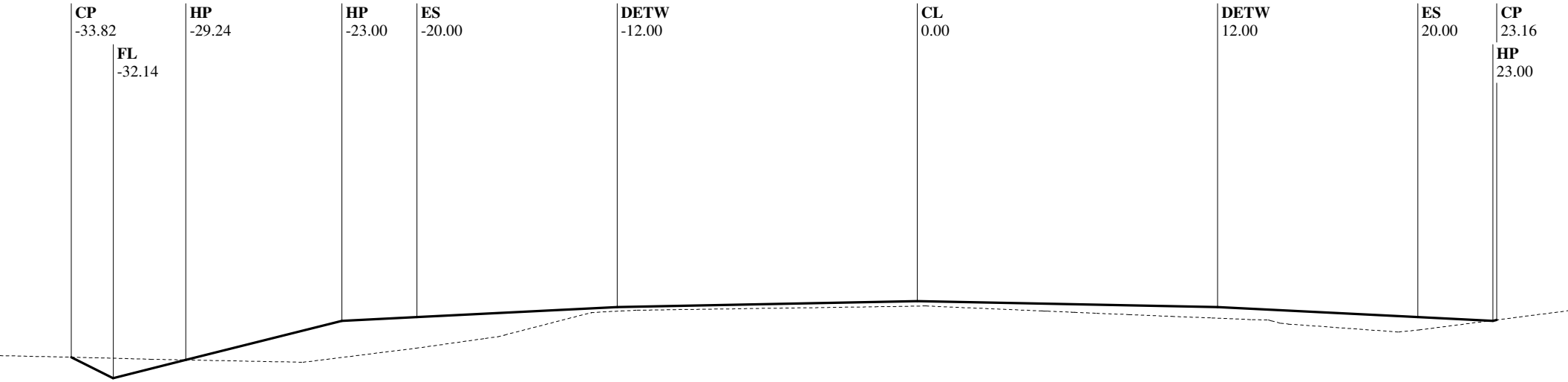
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.06 | -28.69 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 24.45 |
| -5.06 | -4.22 | -2.79 | -2.64 | -2.24 | -2.00 | -2.24 | -2.64 | -2.79 | -3.16 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.84 | F 1.42 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.36 |
| @ 3.37 | @ 5.69 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 1.45 |

| CP |
|---|
| -33.95 |
| -4.11 |
| 2.00:1 |
| C 0.95 |
| @ 1.89 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 183+50.00**

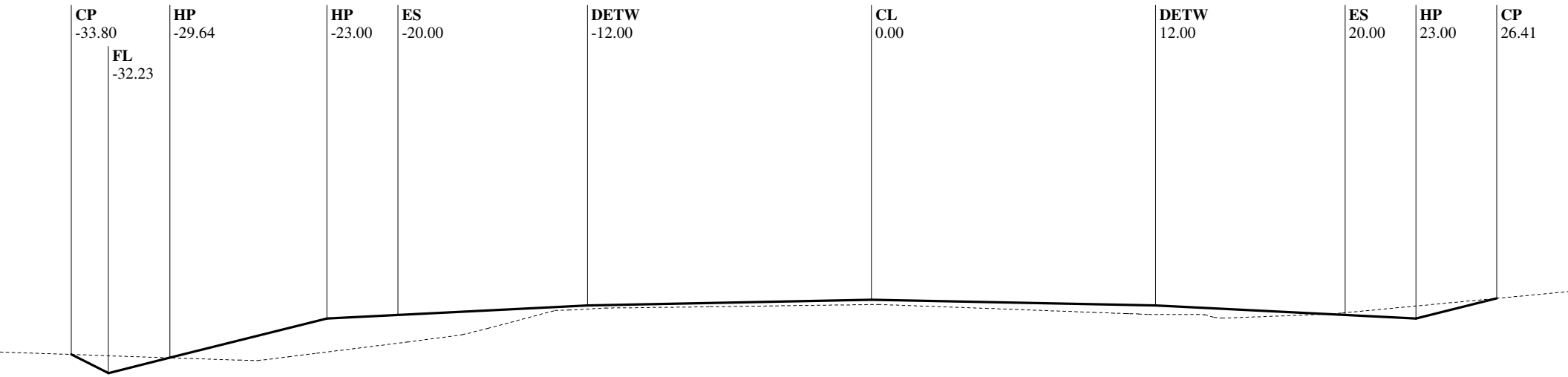
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.14 | -29.24 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.16 |
| -5.07 | -4.34 | -2.78 | -2.63 | -2.23 | -1.99 | -2.23 | -2.63 | -2.78 | -2.74 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.73 | F 1.56 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.04 |
| @ 2.91 | @ 6.24 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.16 |

| CP |
|---|
| -33.82 |
| -4.23 |
| 2.00:1 |
| C 0.84 |
| @ 1.67 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 184+00.00**

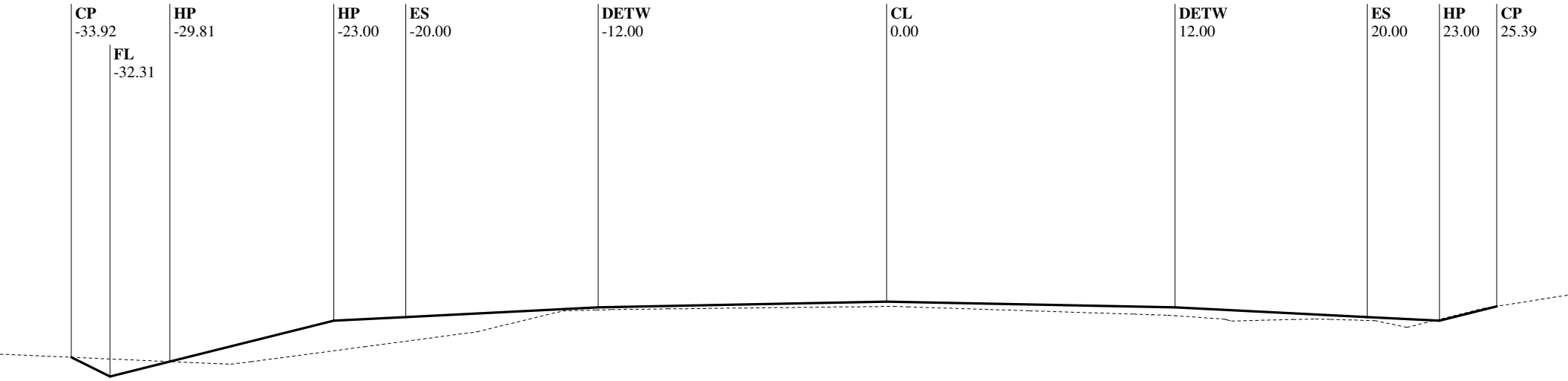
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.23 | -29.64 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.41 |
| -5.09 | -4.44 | -2.78 | -2.63 | -2.23 | -1.99 | -2.23 | -2.63 | -2.78 | -1.93 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.65 | F 1.66 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.85 |
| @ 2.58 | @ 6.64 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.41 |

| CP |
|---|
| -33.80 |
| -4.30 |
| 2.00:1 |
| C 0.79 |
| @ 1.57 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 184+50.00**

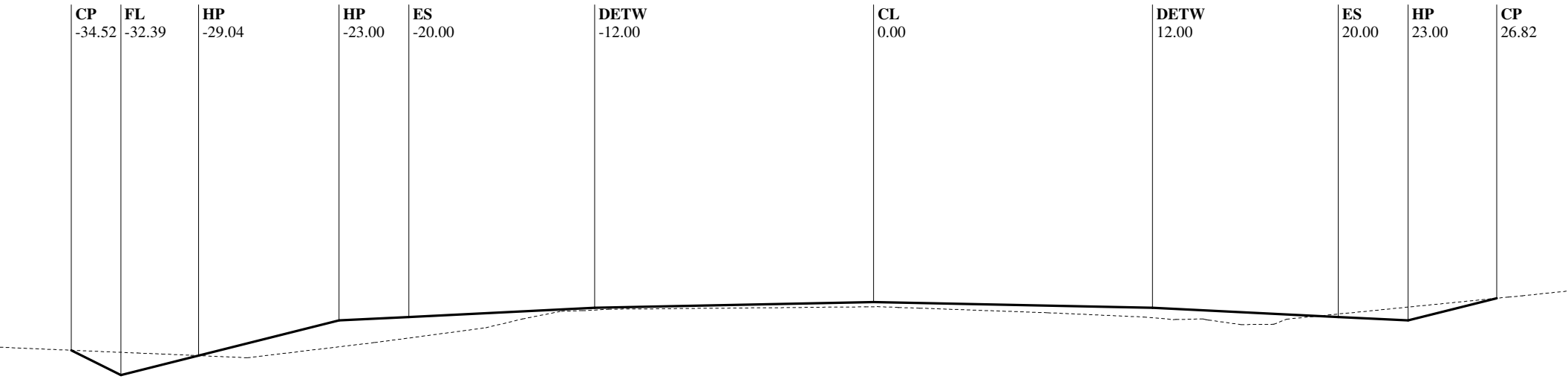
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.31 | -29.81 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.39 |
| -5.20 | -4.57 | -2.87 | -2.72 | -2.32 | -2.08 | -2.32 | -2.72 | -2.87 | -2.27 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.62 | F 1.70 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.60 |
| @ 2.50 | @ 6.81 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.39 |

| CP |
|---|
| -33.92 |
| -4.39 |
| 2.00:1 |
| C 0.80 |
| @ 1.61 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 185+00.00**

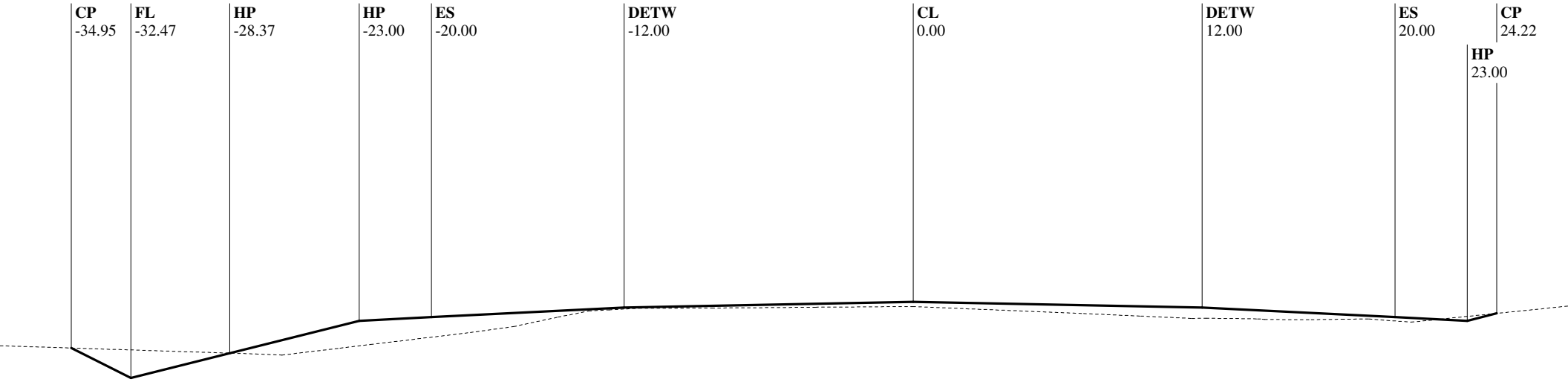
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.39 | -29.04 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.82 |
| -5.27 | -4.43 | -2.92 | -2.77 | -2.37 | -2.13 | -2.37 | -2.77 | -2.92 | -1.97 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.84 | F 1.51 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.95 |
| @ 3.35 | @ 6.04 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.82 |

| CP |
|---|
| -34.52 |
| -4.20 |
| 2.00:1 |
| C 1.07 |
| @ 2.13 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 185+50.00**

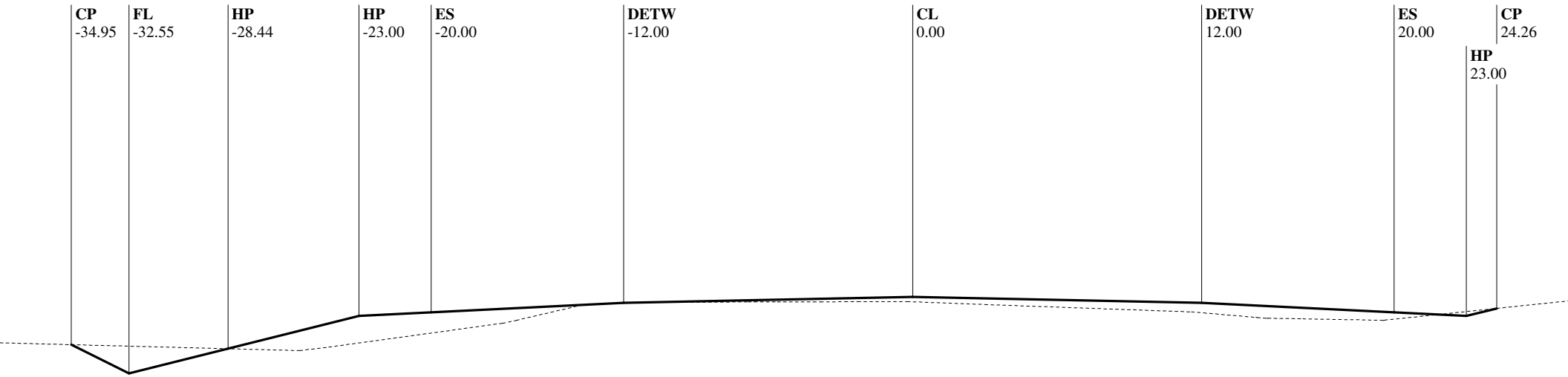
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.47 | -28.37 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 24.22 |
| -5.24 | -4.22 | -2.88 | -2.73 | -2.33 | -2.09 | -2.33 | -2.73 | -2.88 | -2.57 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.03 | F 1.34 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.31 |
| @ 4.10 | @ 5.37 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 1.22 |

| CP |
|---|
| -34.95 |
| -4.01 |
| 2.00:1 |
| C 1.24 |
| @ 2.47 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 186+00.00**

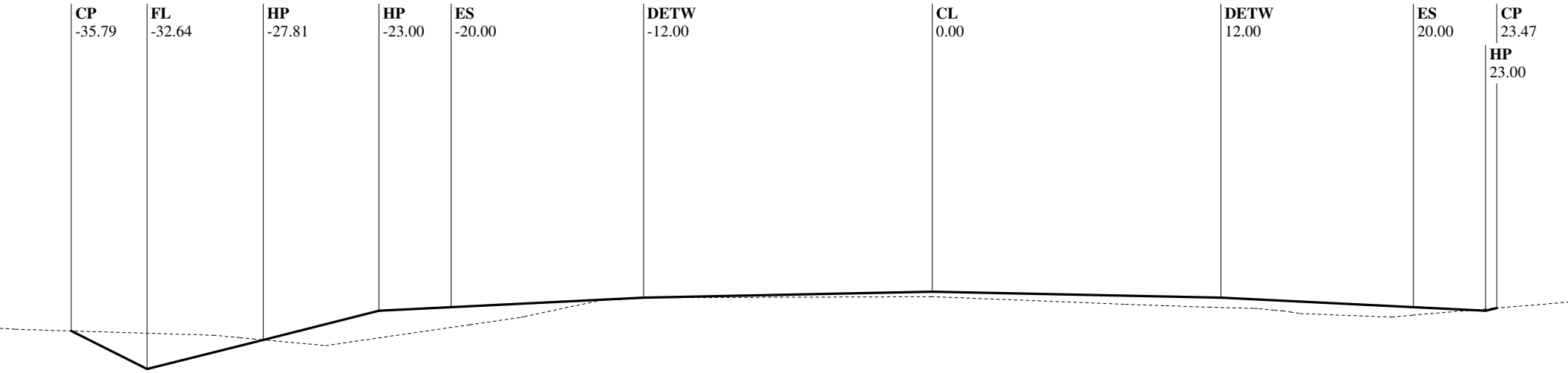
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.55 | -28.44 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 24.26 |
| -5.02 | -4.00 | -2.64 | -2.49 | -2.09 | -1.85 | -2.09 | -2.49 | -2.64 | -2.32 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.03 | F 1.36 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.32 |
| @ 4.11 | @ 5.44 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 1.26 |

| CP |
|---|
| -34.95 |
| -3.83 |
| 2.00:1 |
| C 1.20 |
| @ 2.39 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 186+50.00**

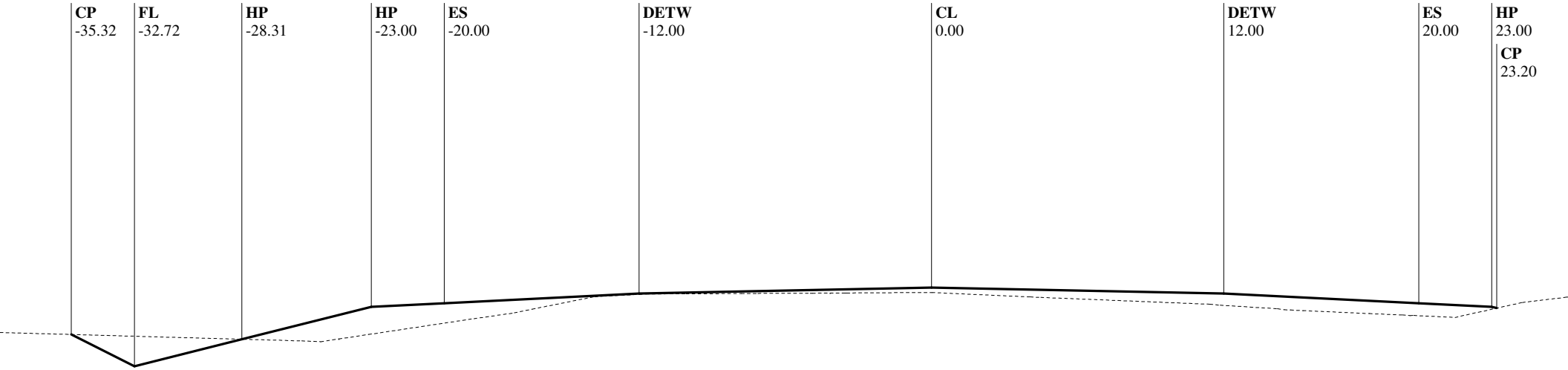
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.64 | -27.81 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.47 |
| -4.86 | -3.66 | -2.46 | -2.31 | -1.91 | -1.67 | -1.91 | -2.31 | -2.46 | -2.34 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.21 | F 1.20 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.12 |
| @ 4.83 | @ 4.81 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.47 |

| CP |
|---|
| -35.79 |
| -3.29 |
| 2.00:1 |
| C 1.58 |
| @ 3.15 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 187+00.00**

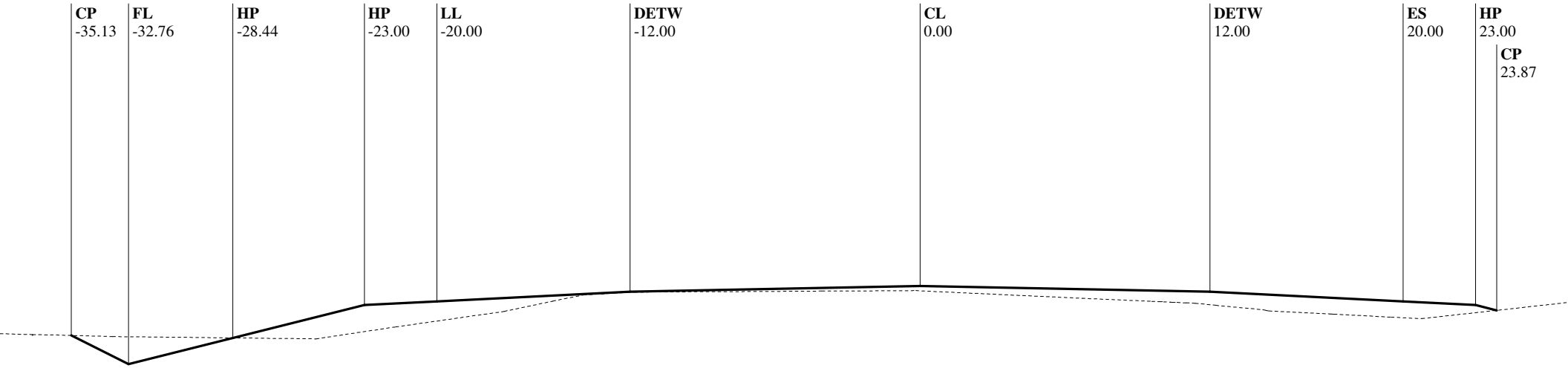
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.72 | -28.31 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.20 |
| -4.73 | -3.63 | -2.30 | -2.15 | -1.75 | -1.51 | -1.75 | -2.15 | -2.30 | -2.35 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.10 | F 1.33 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.05 |
| @ 4.41 | @ 5.31 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.20 |

| CP |
|---|
| -35.32 |
| -3.43 |
| 2.00:1 |
| C 1.30 |
| @ 2.60 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 187+28.10**

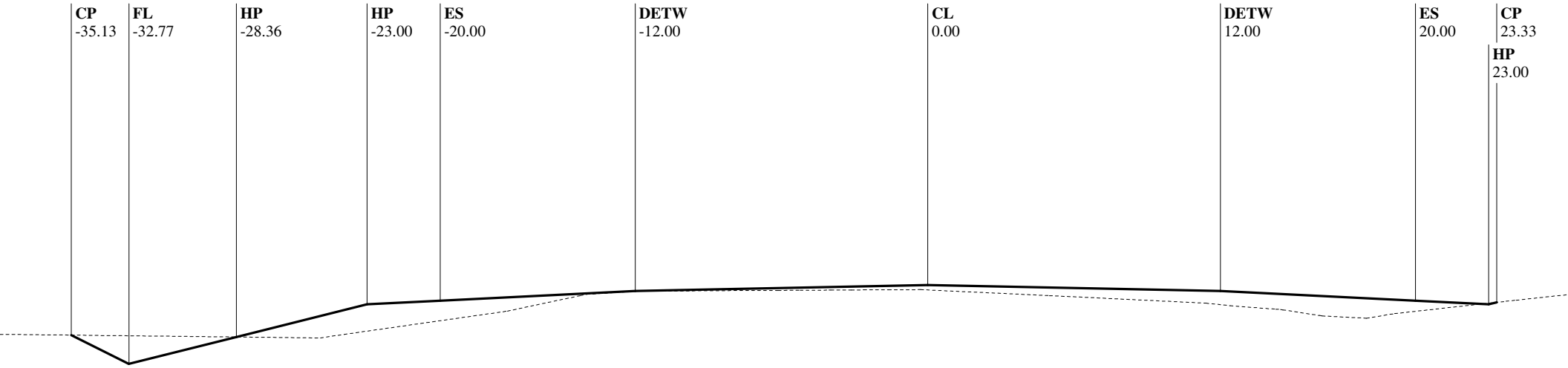
| FL | HP | HP | LL | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.76 | -28.44 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.87 |
| -4.68 | -3.60 | -2.24 | -2.09 | -1.69 | -1.45 | -1.69 | -2.09 | -2.24 | -2.46 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.08 | F 1.36 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.22 |
| @ 4.32 | @ 5.44 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.87 |

| CP |
|---|
| -35.13 |
| -3.49 |
| 2.00:1 |
| C 1.18 |
| @ 2.37 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 187+50.00**

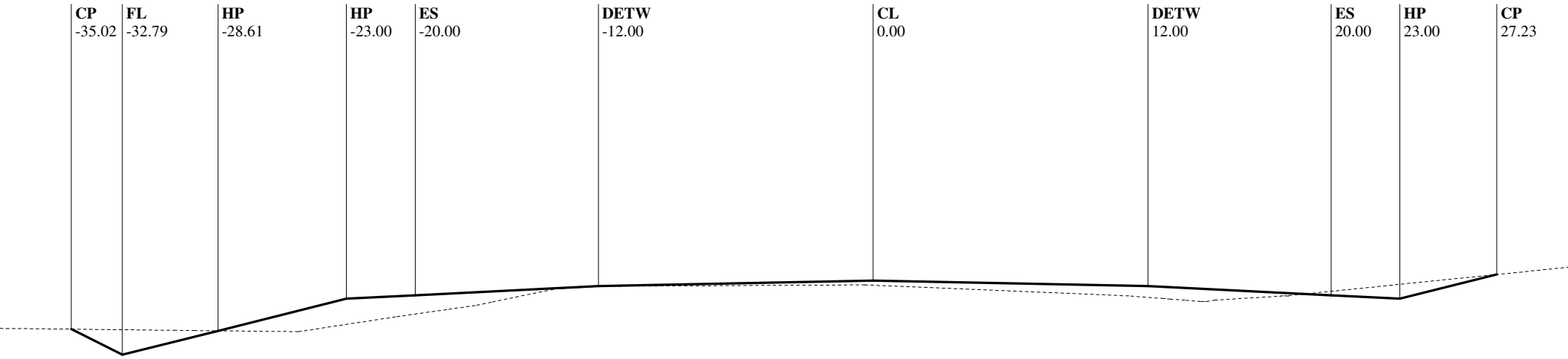
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.77 | -28.36 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.33 |
| -4.63 | -3.52 | -2.19 | -2.04 | -1.64 | -1.40 | -1.64 | -2.04 | -2.19 | -2.10 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.10 | F 1.34 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.08 |
| @ 4.41 | @ 5.36 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.33 |

| CP |
|---|
| -35.13 |
| -3.45 |
| 2.00:1 |
| C 1.18 |
| @ 2.36 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 188+00.00**

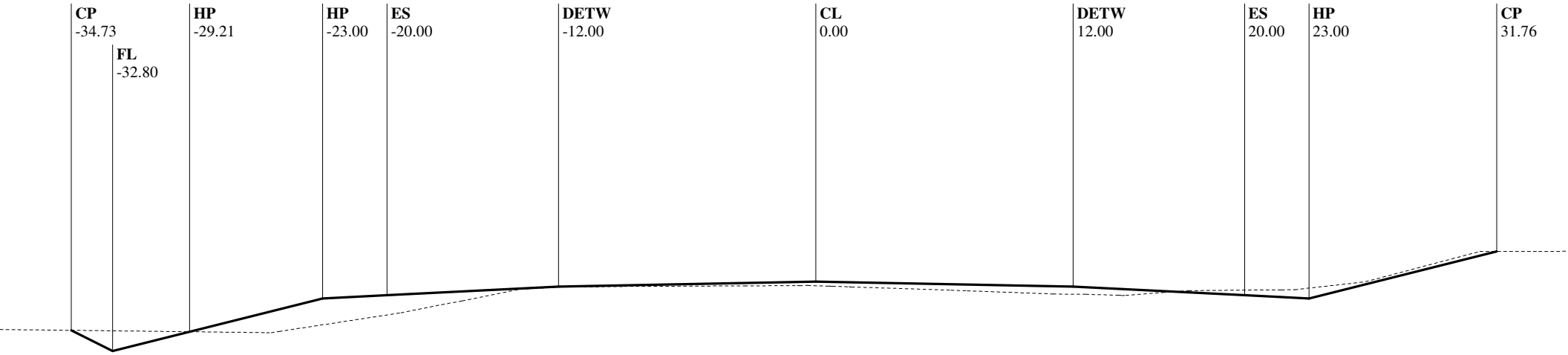
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.79 | -28.61 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.23 |
| -4.51 | -3.46 | -2.06 | -1.91 | -1.51 | -1.27 | -1.51 | -1.91 | -2.06 | -1.00 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.04 | F 1.40 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 1.06 |
| @ 4.18 | @ 5.61 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.23 |

| CP |
|---|
| -35.02 |
| -3.39 |
| 2.00:1 |
| C 1.12 |
| @ 2.23 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 188+50.00**

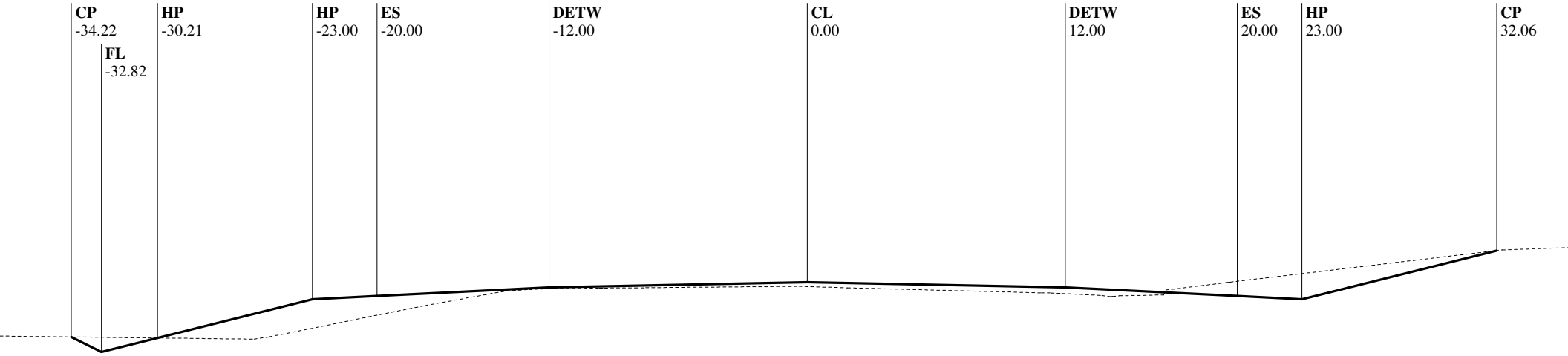
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.80 | -29.21 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.76 |
| -4.33 | -3.43 | -1.88 | -1.73 | -1.33 | -1.09 | -1.33 | -1.73 | -1.88 | 0.31 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.90 | F 1.55 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 2.19 |
| @ 3.60 | @ 6.21 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.76 |

| CP |
|---|
| -34.73 |
| -3.36 |
| 2.00:1 |
| C 0.96 |
| @ 1.93 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 189+00.00**

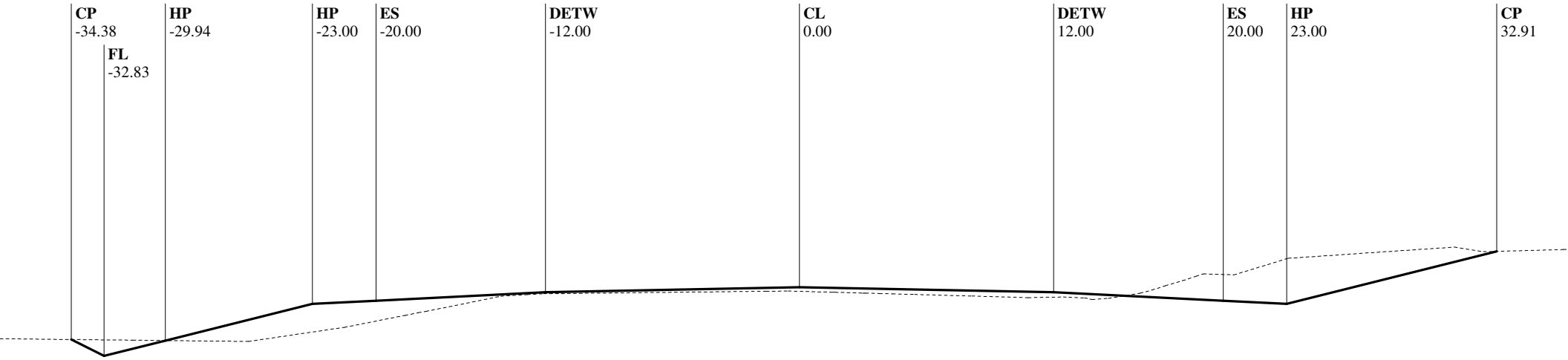
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.82 | -30.21 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.06 |
| -4.04 | -3.39 | -1.59 | -1.44 | -1.04 | -0.80 | -1.04 | -1.44 | -1.59 | 0.68 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.65 | F 1.80 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 2.27 |
| @ 2.60 | @ 7.21 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.06 |

| CP |
|---|
| -34.22 |
| -3.34 |
| 2.00:1 |
| C 0.70 |
| @ 1.40 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 189+50.00**

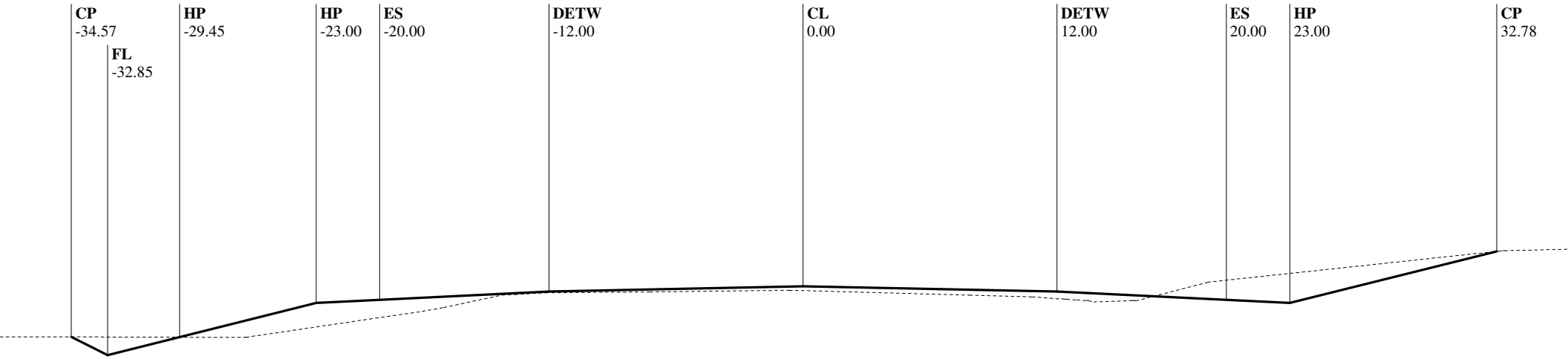
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.83 | -29.94 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.91 |
| -4.10 | -3.37 | -1.64 | -1.49 | -1.09 | -0.85 | -1.09 | -1.49 | -1.64 | 0.84 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.72 | F 1.73 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 2.48 |
| @ 2.90 | @ 6.94 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.91 |

| CP |
|---|
| -34.38 |
| -3.32 |
| 2.00:1 |
| C 0.77 |
| @ 1.55 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



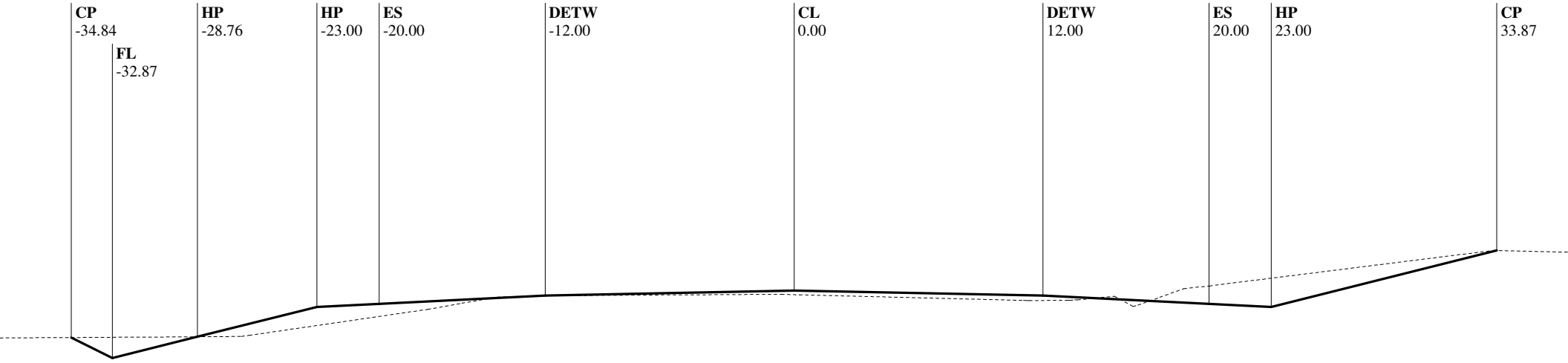

**Alignment Chain CENTER1**
**Station: 190+00.00**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.85 | -29.45 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.78 |
| -4.23 | -3.38 | -1.77 | -1.62 | -1.22 | -0.98 | -1.22 | -1.62 | -1.77 | 0.68 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.85 | F 1.61 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 2.44 |
| @ 3.40 | @ 6.45 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.78 |

| CP |
|---|
| -34.57 |
| -3.37 |
| 2.00:1 |
| C 0.86 |
| @ 1.72 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 190+50.00**

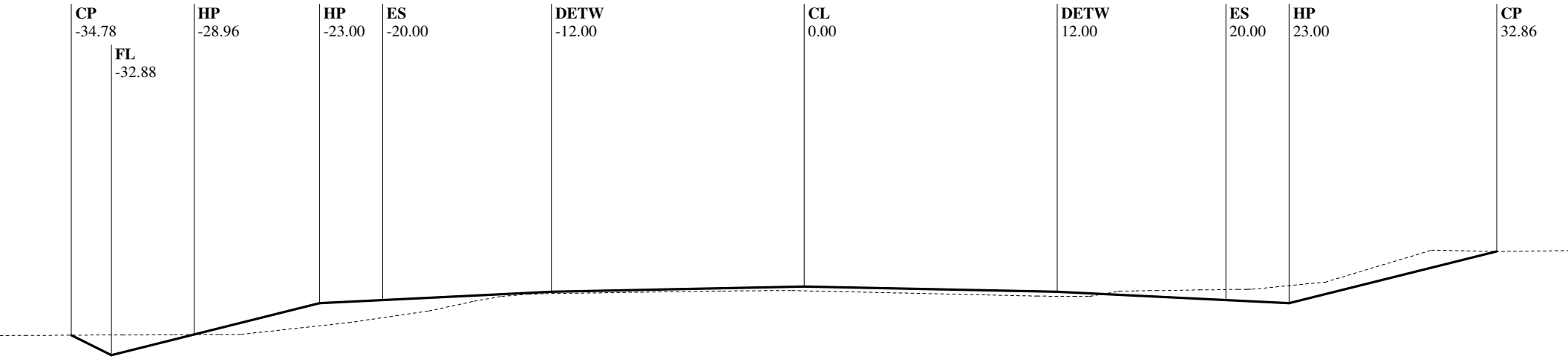
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.87 | -28.76 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 33.87 |
| -4.40 | -3.37 | -1.93 | -1.78 | -1.38 | -1.14 | -1.38 | -1.78 | -1.93 | 0.78 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.03 | F 1.44 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 2.72 |
| @ 4.10 | @ 5.76 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 10.87 |

| CP |
|---|
| -34.84 |
| -3.41 |
| 2.00:1 |
| C 0.99 |
| @ 1.98 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 191+00.00**

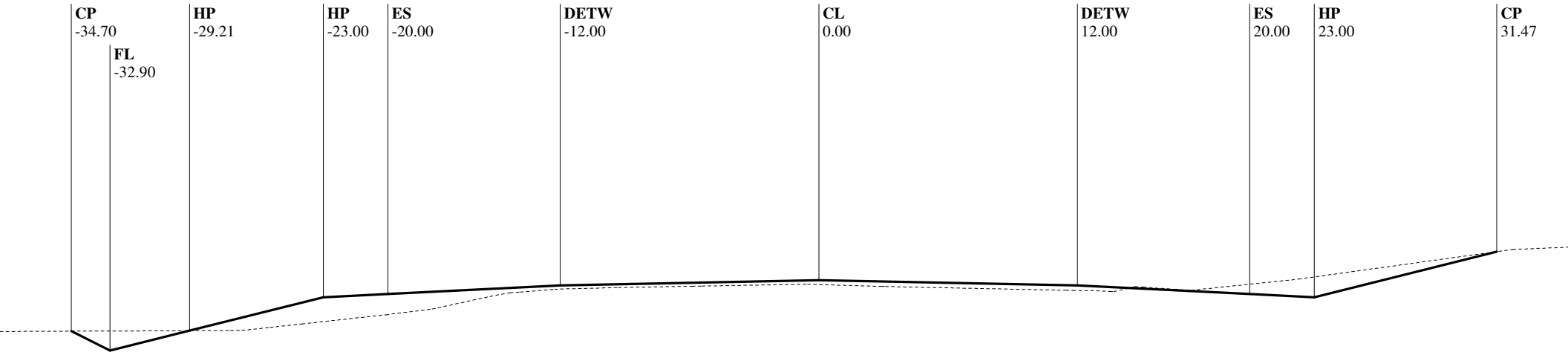
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.88 | -28.96 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.86 |
| -4.41 | -3.43 | -1.94 | -1.79 | -1.39 | -1.15 | -1.39 | -1.79 | -1.94 | 0.52 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.98 | F 1.49 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 2.46 |
| @ 3.92 | @ 5.96 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.86 |

| CP |
|---|
| -34.78 |
| -3.46 |
| 2.00:1 |
| C 0.95 |
| @ 1.90 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 191+50.00**

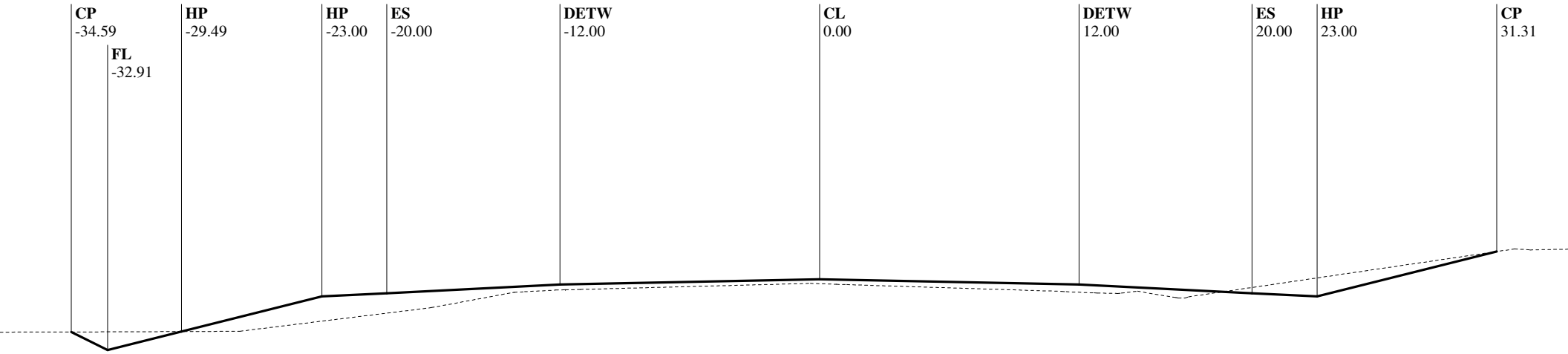
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.90 | -29.21 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.47 |
| -4.41 | -3.49 | -1.94 | -1.79 | -1.39 | -1.15 | -1.39 | -1.79 | -1.94 | 0.18 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.92 | F 1.55 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 2.12 |
| @ 3.69 | @ 6.21 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.47 |

| CP |
|---|
| -34.70 |
| -3.51 |
| 2.00:1 |
| C 0.90 |
| @ 1.80 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 192+00.00**

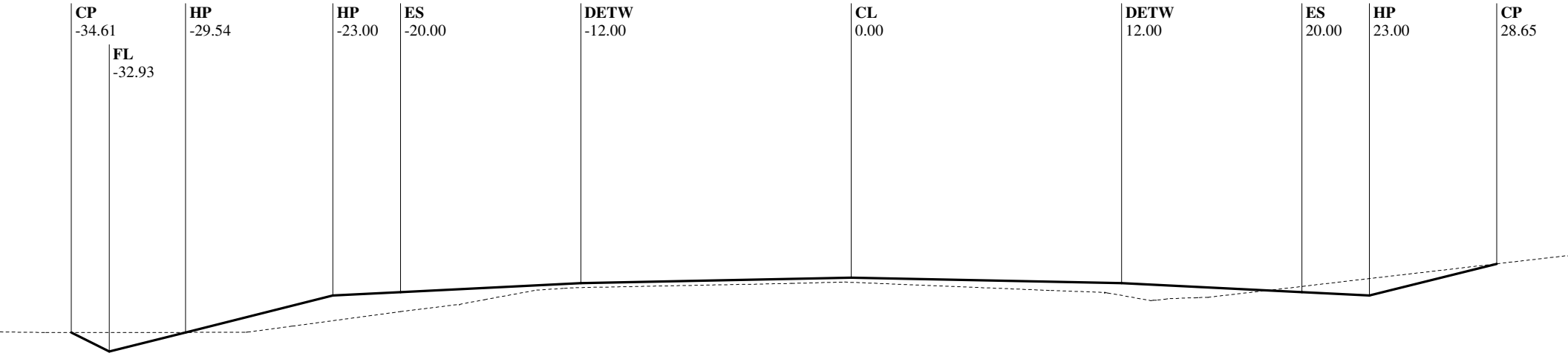
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.91 | -29.49 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.31 |
| -4.41 | -3.55 | -1.93 | -1.78 | -1.38 | -1.14 | -1.38 | -1.78 | -1.93 | 0.15 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.85 | F 1.62 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 2.08 |
| @ 3.42 | @ 6.49 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.31 |

| CP |
|---|
| -34.59 |
| -3.57 |
| 2.00:1 |
| C 0.84 |
| @ 1.68 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 192+50.00**

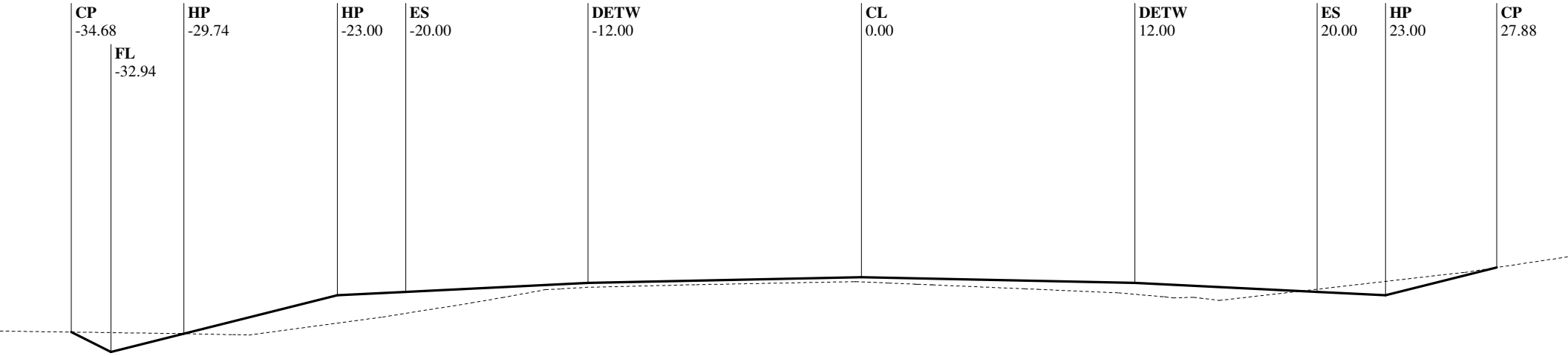
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.93 | -29.54 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.65 |
| -4.47 | -3.63 | -1.99 | -1.84 | -1.44 | -1.20 | -1.44 | -1.84 | -1.99 | -0.58 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.85 | F 1.64 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 1.41 |
| @ 3.38 | @ 6.54 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.65 |

| CP |
|---|
| -34.61 |
| -3.63 |
| 2.00:1 |
| C 0.84 |
| @ 1.68 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 193+00.00**

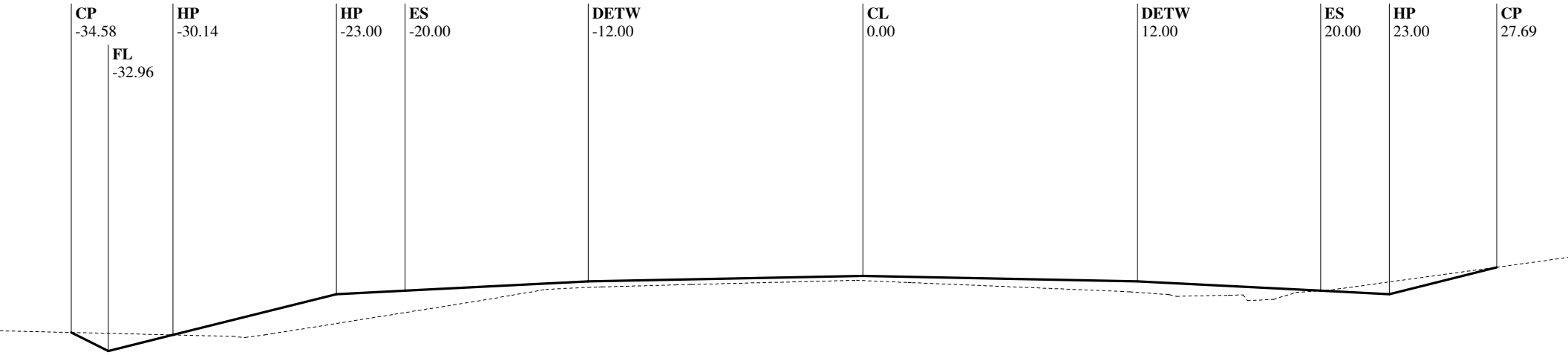
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.94 | -29.74 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.88 |
| -4.45 | -3.65 | -1.97 | -1.82 | -1.42 | -1.18 | -1.42 | -1.82 | -1.97 | -0.74 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.80 | F 1.69 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 1.22 |
| @ 3.20 | @ 6.74 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.88 |

| CP |
|---|
| -34.68 |
| -3.58 |
| 2.00:1 |
| C 0.87 |
| @ 1.74 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 193+50.00**

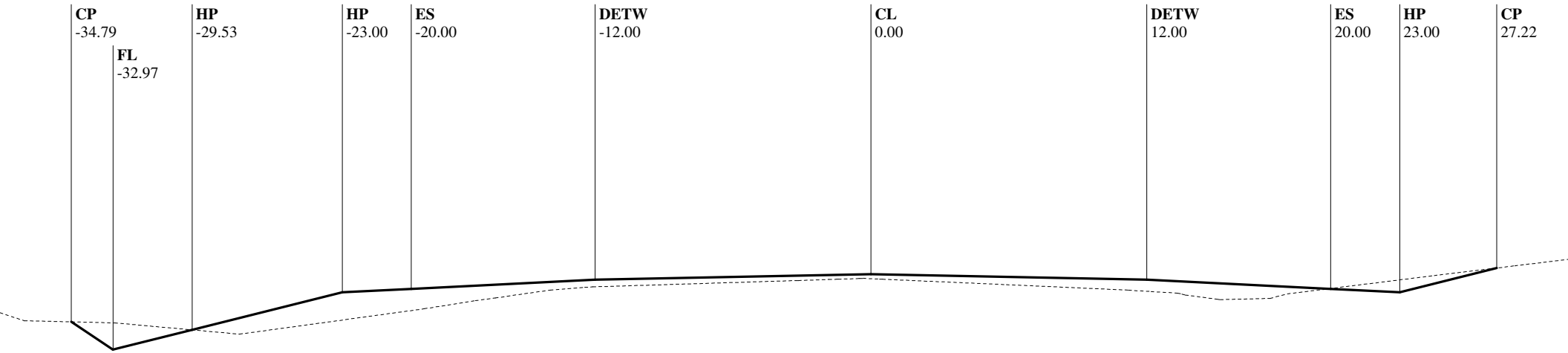
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.96 | -30.14 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.69 |
| -4.35 | -3.65 | -1.86 | -1.71 | -1.31 | -1.07 | -1.31 | -1.71 | -1.86 | -0.69 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.71 | F 1.78 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 1.17 |
| @ 2.82 | @ 7.14 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.69 |

| CP |
|---|
| -34.58 |
| -3.54 |
| 2.00:1 |
| C 0.81 |
| @ 1.62 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 194+00.00**

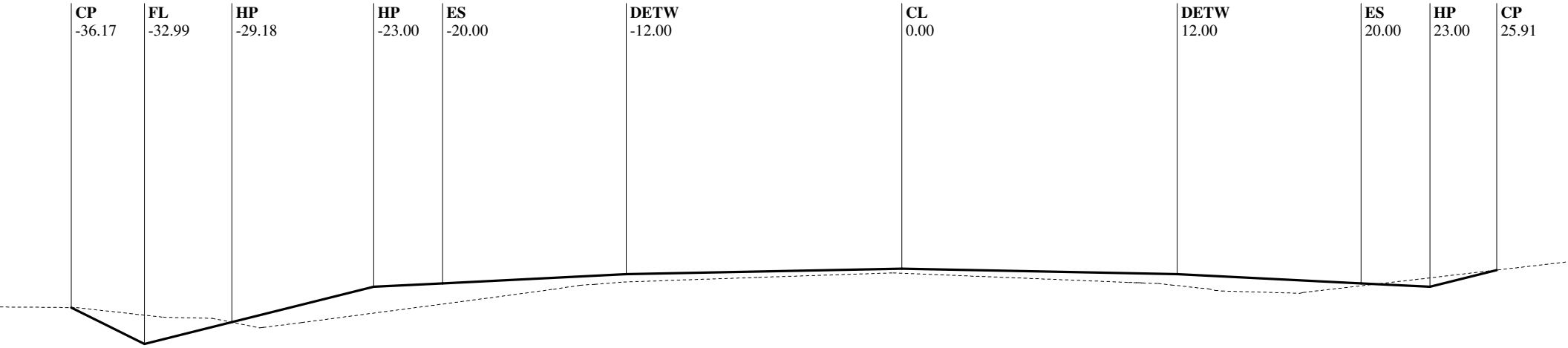
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.97 | -29.53 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.22 |
| -4.23 | -3.37 | -1.74 | -1.59 | -1.19 | -0.95 | -1.19 | -1.59 | -1.74 | -0.69 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.86 | F 1.63 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 1.06 |
| @ 3.44 | @ 6.53 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.22 |

| CP |
|---|
| -34.79 |
| -3.03 |
| 1.50:1 |
| C 1.21 |
| @ 1.81 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 194+50.00**

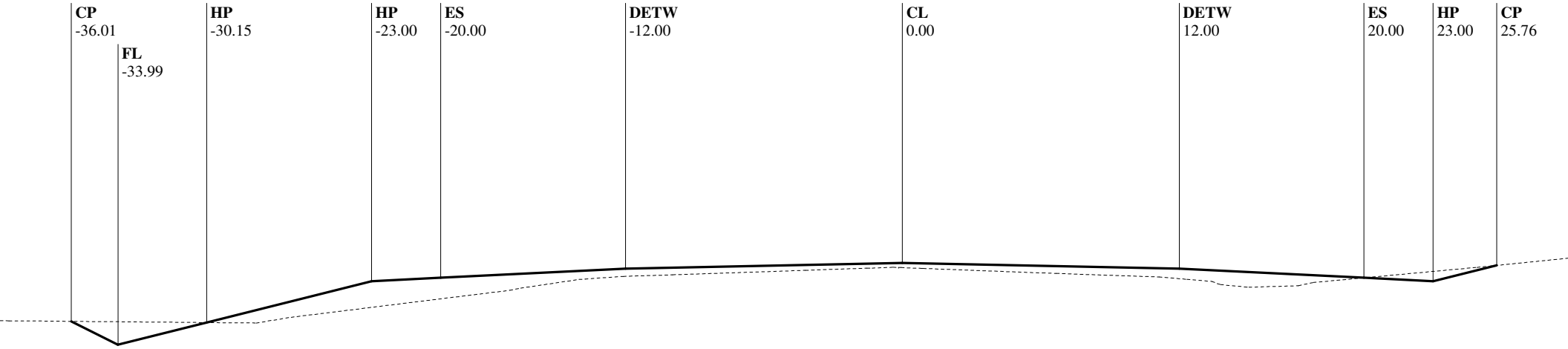
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.99 | -29.18 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.91 |
| -4.07 | -3.11 | -1.57 | -1.42 | -1.02 | -0.78 | -1.02 | -1.42 | -1.57 | -0.84 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.95 | F 1.54 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.73 |
| @ 3.81 | @ 6.18 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.91 |

| CP |
|---|
| -36.17 |
| -2.48 |
| 2.00:1 |
| C 1.59 |
| @ 3.18 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 195+00.00**

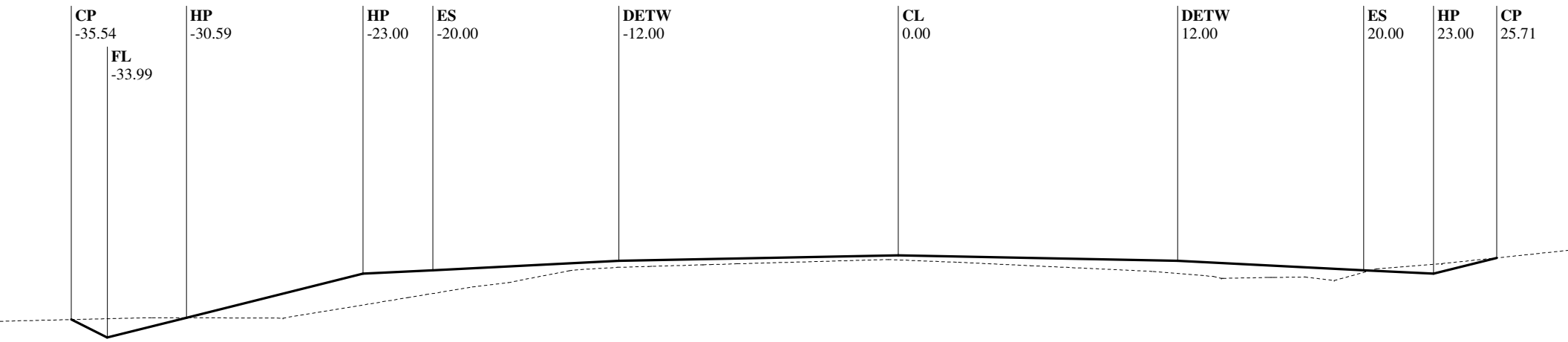
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -30.15 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.76 |
| -4.07 | -3.11 | -1.32 | -1.17 | -0.77 | -0.53 | -0.77 | -1.17 | -1.32 | -0.63 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.96 | F 1.79 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.69 |
| @ 3.84 | @ 7.15 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.76 |

| CP |
|---|
| -36.01 |
| -3.06 |
| 2.00:1 |
| C 1.01 |
| @ 2.02 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 195+50.00**

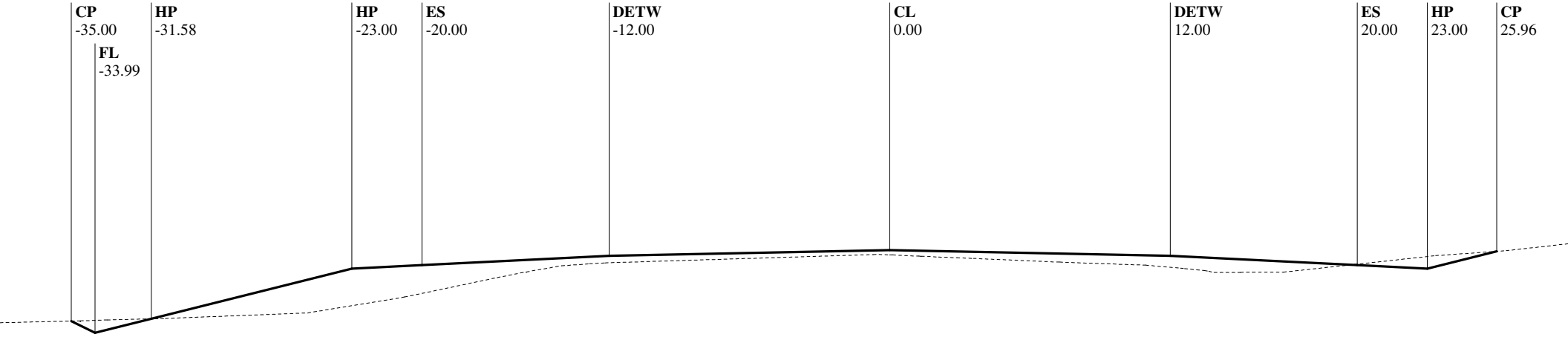
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -30.59 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.71 |
| -3.62 | -2.77 | -0.88 | -0.73 | -0.33 | -0.09 | -0.33 | -0.73 | -0.88 | -0.20 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.85 | F 1.90 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.68 |
| @ 3.40 | @ 7.59 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.71 |

| CP |
|---|
| -35.54 |
| -2.85 |
| 2.00:1 |
| C 0.77 |
| @ 1.55 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 196+00.00**

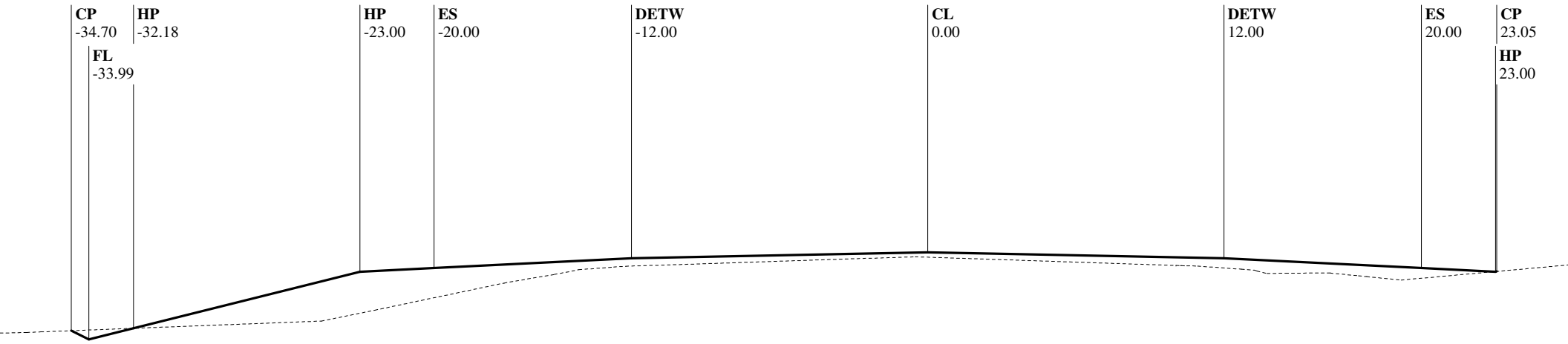
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -31.58 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.96 |
| -3.30 | -2.70 | -0.55 | -0.40 | 0.00 | 0.24 | 0.00 | -0.40 | -0.55 | 0.19 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.60 | F 2.15 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.74 |
| @ 2.41 | @ 8.58 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.96 |

| CP |
|---|
| -35.00 |
| -2.80 |
| 2.00:1 |
| C 0.51 |
| @ 1.01 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 196+50.00**

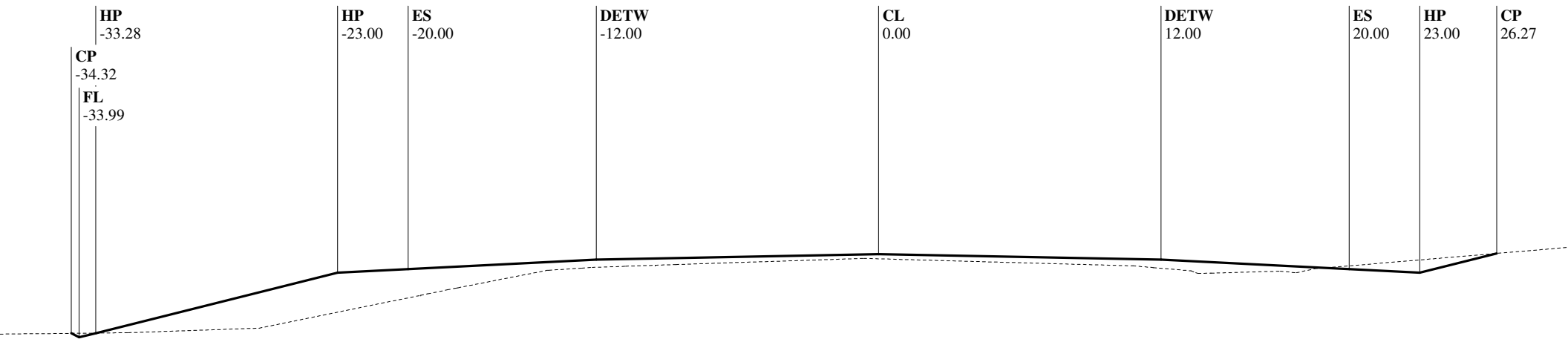
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -32.18 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.05 |
| -3.12 | -2.67 | -0.37 | -0.22 | 0.18 | 0.42 | 0.18 | -0.22 | -0.37 | -0.36 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.45 | F 2.30 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.01 |
| @ 1.81 | @ 9.18 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.05 |

| CP |
|---|
| -34.70 |
| -2.77 |
| 2.00:1 |
| C 0.35 |
| @ 0.71 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



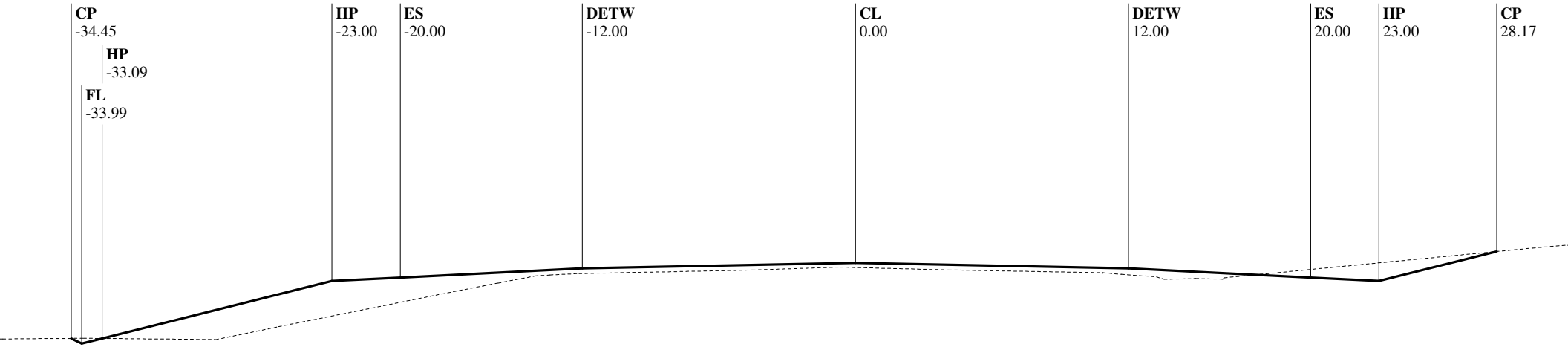

**Alignment Chain CENTER1**
**Station: 197+00.00**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -33.28 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.27 |
| -3.14 | -2.96 | -0.39 | -0.24 | 0.16 | 0.40 | 0.16 | -0.24 | -0.39 | 0.43 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.18 | F 2.57 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.82 |
| @ 0.71 | @ 10.28 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.27 |

| CP |
|---|
| -34.32 |
| -2.97 |
| 2.00:1 |
| C 0.17 |
| @ 0.33 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



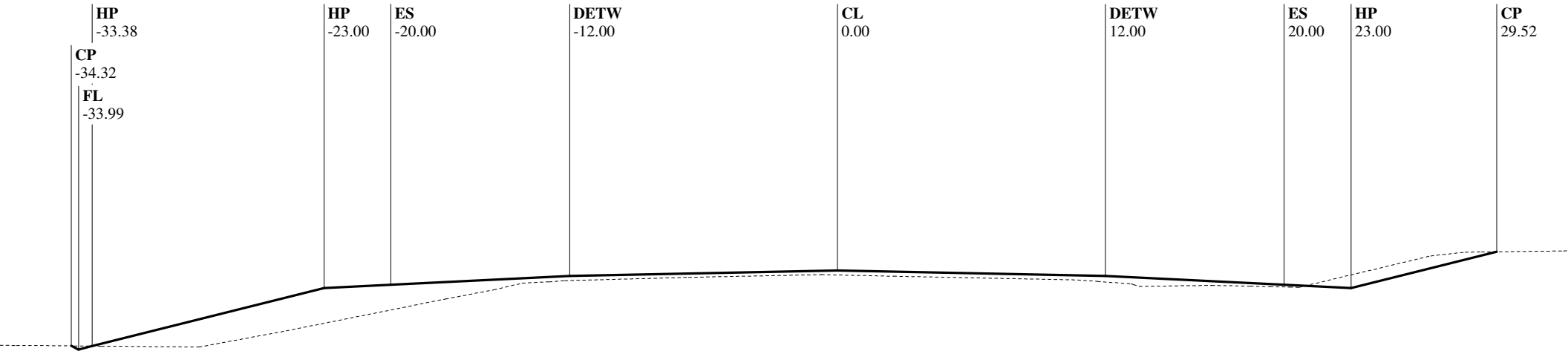

**Alignment Chain CENTER1**
**Station: 197+50.00**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -33.09 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.17 |
| -3.30 | -3.08 | -0.55 | -0.40 | 0.00 | 0.24 | 0.00 | -0.40 | -0.55 | 0.74 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.23 | F 2.52 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 1.29 |
| @ 0.90 | @ 10.09 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.17 |

| CP |
|---|
| -34.45 |
| -3.07 |
| 2.00:1 |
| C 0.23 |
| @ 0.46 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 198+00.00**

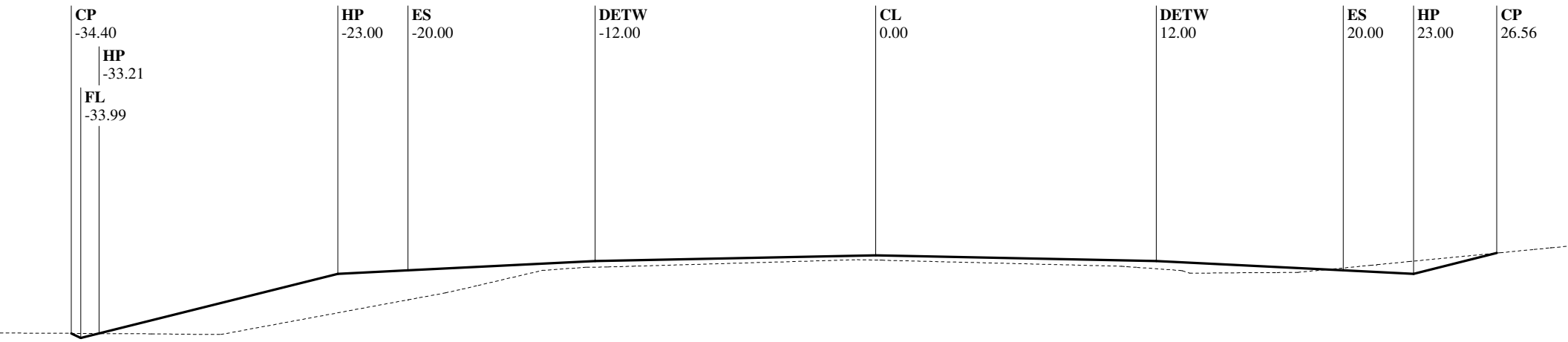
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -33.38 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.52 |
| -3.36 | -3.20 | -0.61 | -0.46 | -0.06 | 0.18 | -0.06 | -0.46 | -0.61 | 1.02 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.15 | F 2.59 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 1.63 |
| @ 0.62 | @ 10.38 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.52 |

| CP |
|---|
| -34.32 |
| -3.20 |
| 2.00:1 |
| C 0.16 |
| @ 0.33 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 198+50.00**

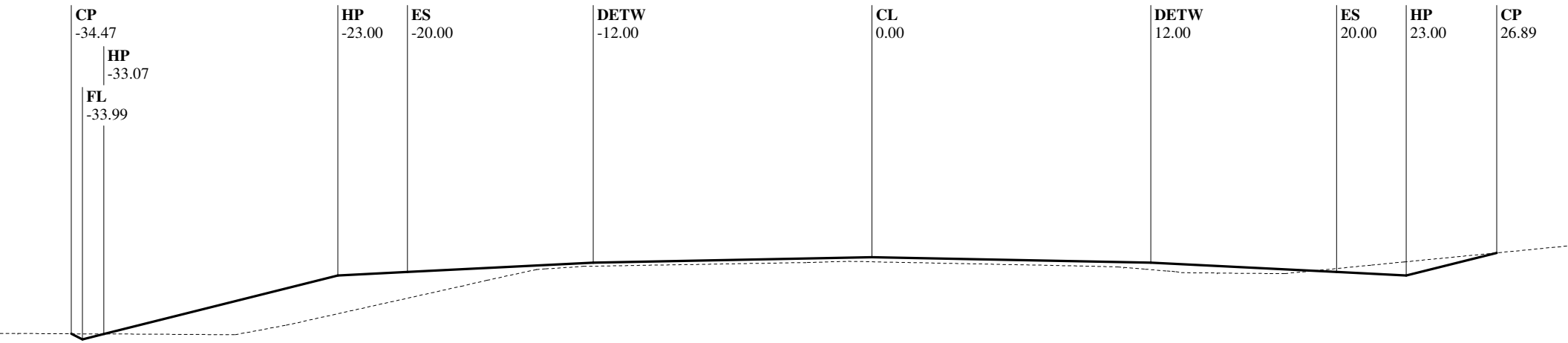
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -33.21 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.56 |
| -3.31 | -3.12 | -0.56 | -0.41 | -0.01 | 0.23 | -0.01 | -0.41 | -0.56 | 0.33 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.19 | F 2.55 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.89 |
| @ 0.78 | @ 10.21 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.56 |

| CP |
|---|
| -34.40 |
| -3.11 |
| 2.00:1 |
| C 0.20 |
| @ 0.40 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 199+00.00**

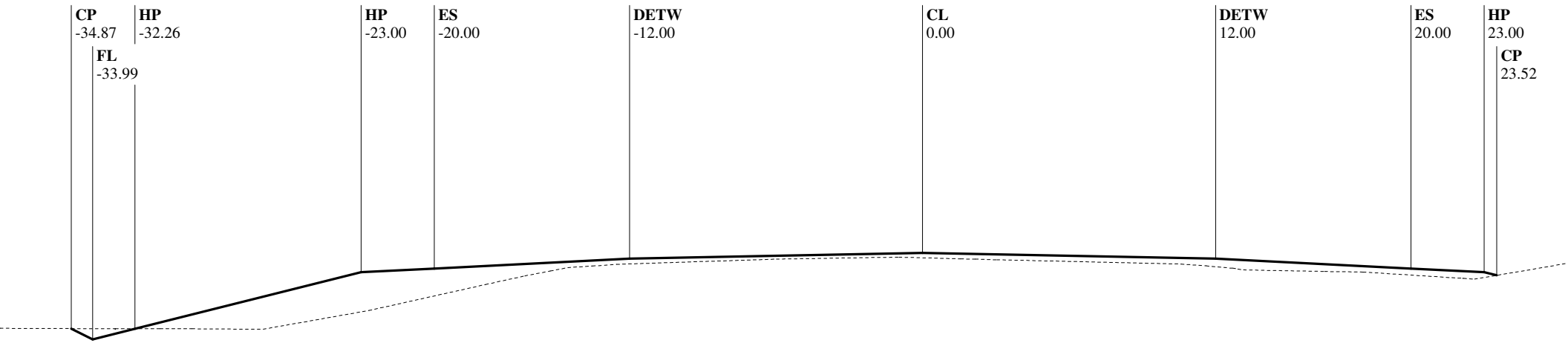
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -33.07 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.89 |
| -3.27 | -3.04 | -0.52 | -0.37 | 0.03 | 0.27 | 0.03 | -0.37 | -0.52 | 0.45 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.23 | F 2.52 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.97 |
| @ 0.93 | @ 10.07 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.89 |

| CP |
|---|
| -34.47 |
| -3.03 |
| 2.00:1 |
| C 0.24 |
| @ 0.48 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 199+50.00**

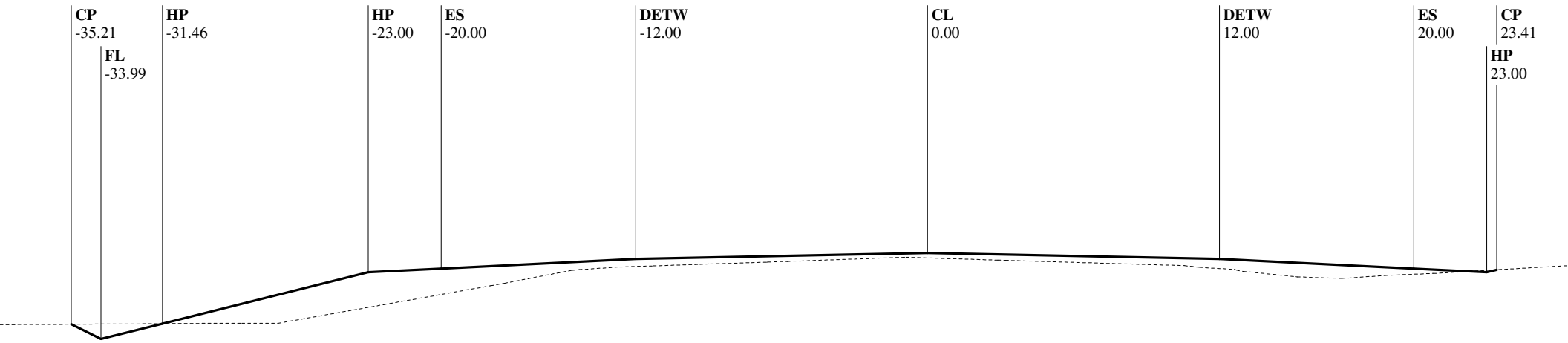
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -32.26 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.52 |
| -3.30 | -2.86 | -0.55 | -0.40 | 0.00 | 0.24 | 0.00 | -0.40 | -0.55 | -0.68 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.43 | F 2.31 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.13 |
| @ 1.74 | @ 9.26 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.52 |

| CP |
|---|
| -34.87 |
| -2.86 |
| 2.00:1 |
| C 0.44 |
| @ 0.88 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 200+00.00**

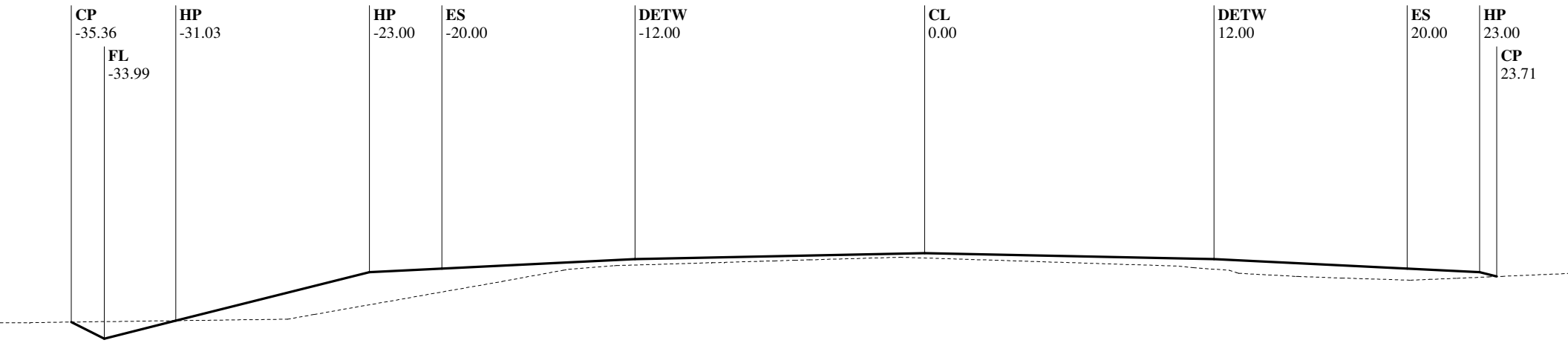
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -31.46 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.41 |
| -3.32 | -2.68 | -0.57 | -0.42 | -0.02 | 0.22 | -0.02 | -0.42 | -0.57 | -0.47 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.63 | F 2.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | C 0.10 |
| @ 2.53 | @ 8.46 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.41 |

| CP |
|---|
| -35.21 |
| -2.71 |
| 2.00:1 |
| C 0.61 |
| @ 1.22 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 200+50.00**

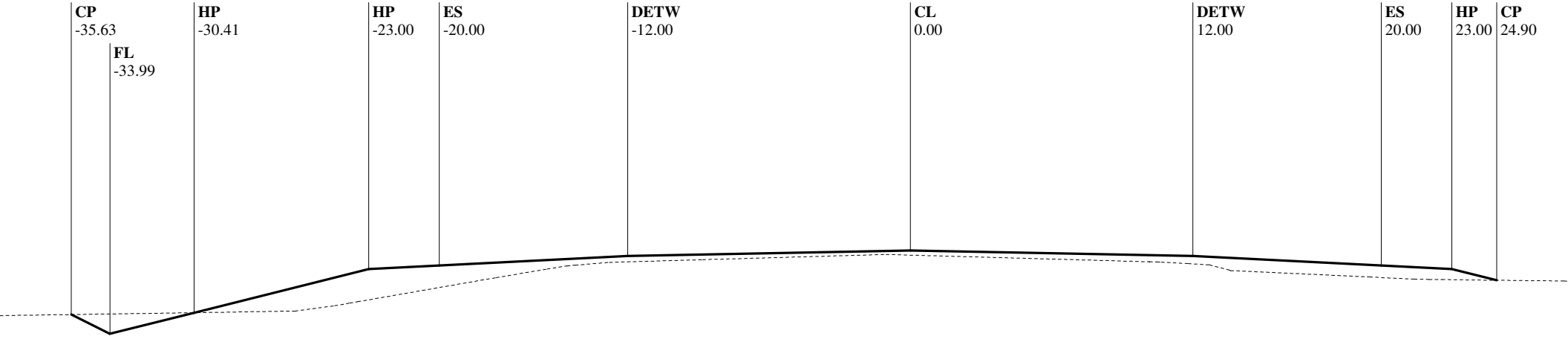
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -31.03 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.71 |
| -3.25 | -2.51 | -0.51 | -0.36 | 0.04 | 0.28 | 0.04 | -0.36 | -0.51 | -0.68 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.74 | F 2.01 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.18 |
| @ 2.96 | @ 8.03 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.71 |

| CP |
|---|
| -35.36 |
| -2.57 |
| 2.00:1 |
| C 0.68 |
| @ 1.37 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 200+99.40**

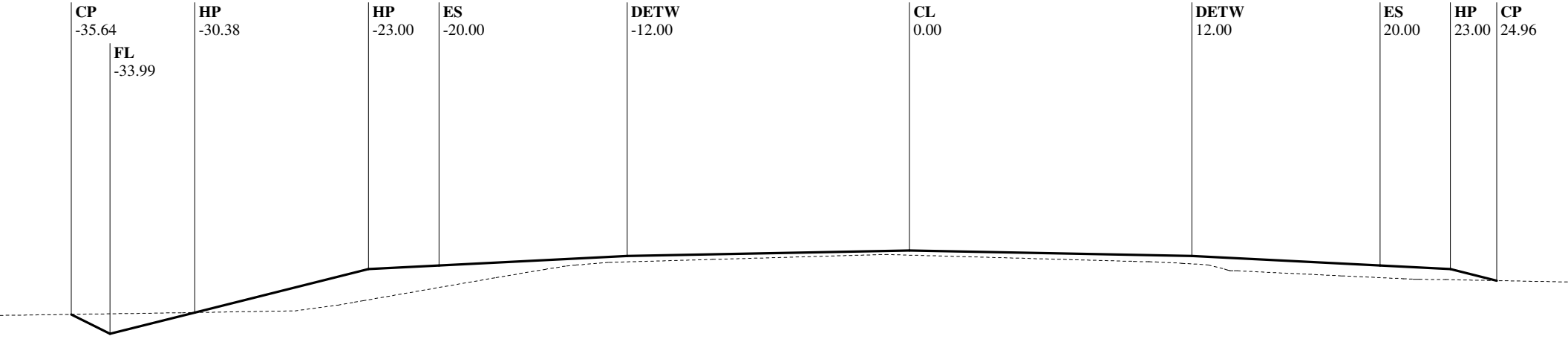
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -30.41 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 24.90 |
| -3.15 | -2.25 | -0.40 | -0.25 | 0.15 | 0.39 | 0.15 | -0.25 | -0.40 | -0.88 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.90 | F 1.85 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.48 |
| @ 3.58 | @ 7.41 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 1.90 |

| CP |
|---|
| -35.63 |
| -2.33 |
| 2.00:1 |
| C 0.82 |
| @ 1.64 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 201+00.00**

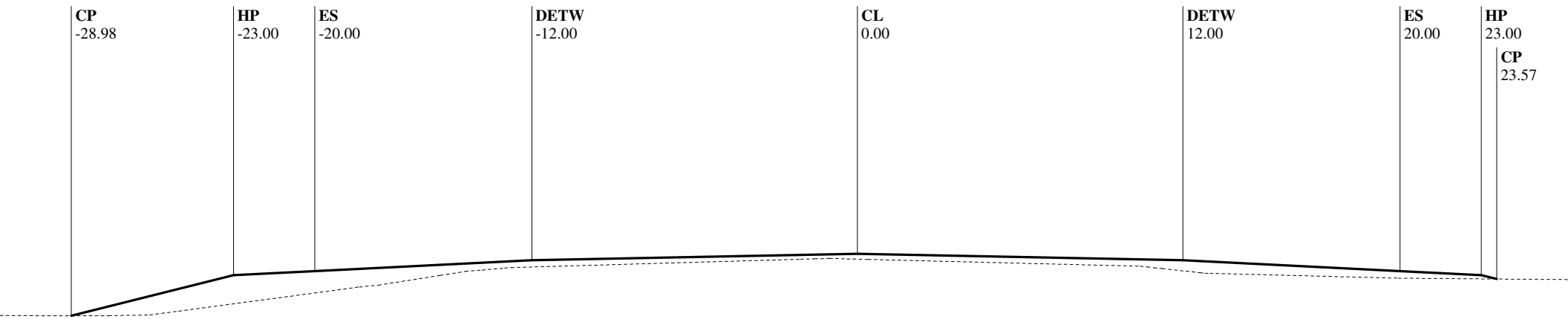
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.99 | -30.38 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 24.96 |
| -3.15 | -2.24 | -0.40 | -0.25 | 0.15 | 0.39 | 0.15 | -0.25 | -0.40 | -0.89 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.90 | F 1.85 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.49 |
| @ 3.61 | @ 7.38 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 1.96 |

| CP |
|---|
| -35.64 |
| -2.32 |
| 2.00:1 |
| C 0.82 |
| @ 1.65 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



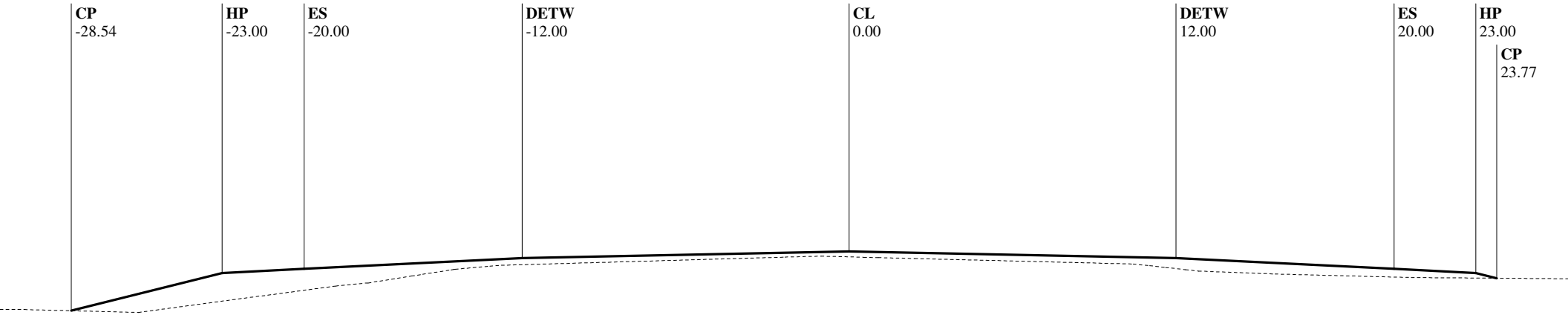

**Alignment Chain CENTER1**
**Station: 201+29.31**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.98 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.57 |
| -1.83 | -0.34 | -0.19 | 0.21 | 0.45 | 0.21 | -0.19 | -0.34 | -0.48 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.49 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.14 |
| @ 5.98 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.57 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



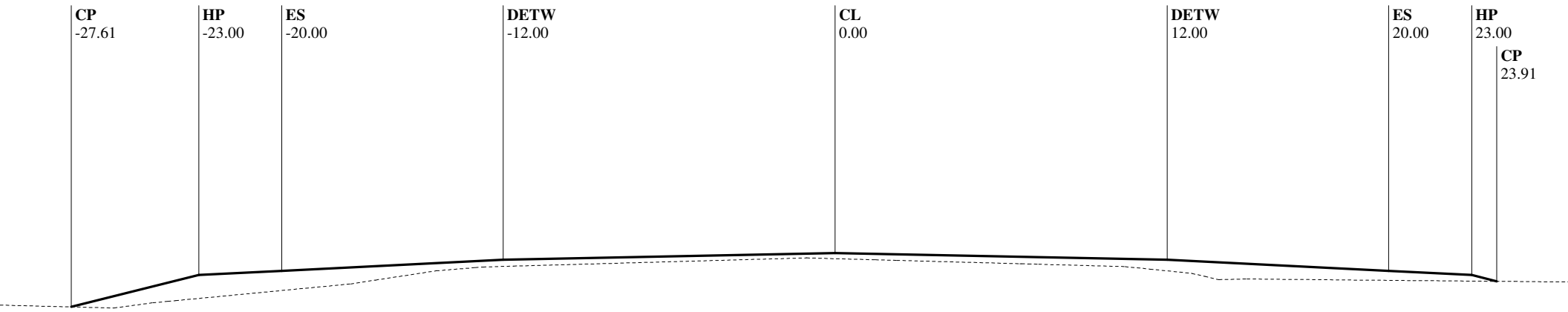

**Alignment Chain CENTER1**
**Station: 201+30.91**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.54 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.77 |
| -1.72 | -0.34 | -0.19 | 0.21 | 0.45 | 0.21 | -0.19 | -0.34 | -0.53 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.39 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.19 |
| @ 5.54 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.77 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

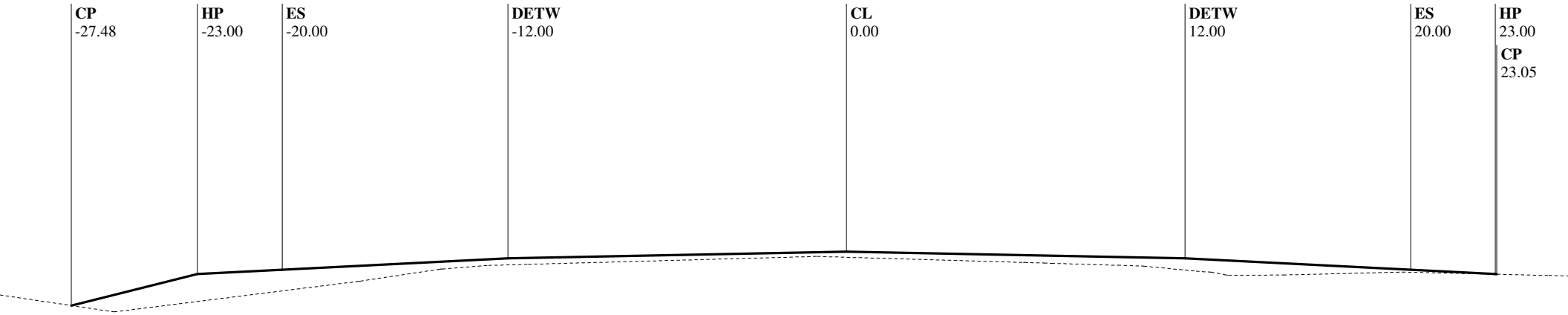



**Alignment Chain CENTER1**
**Station: 201+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.61 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.91 |
| -1.51 | -0.36 | -0.21 | 0.19 | 0.43 | 0.19 | -0.21 | -0.36 | -0.58 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.15 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.23 |
| @ 4.61 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.91 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



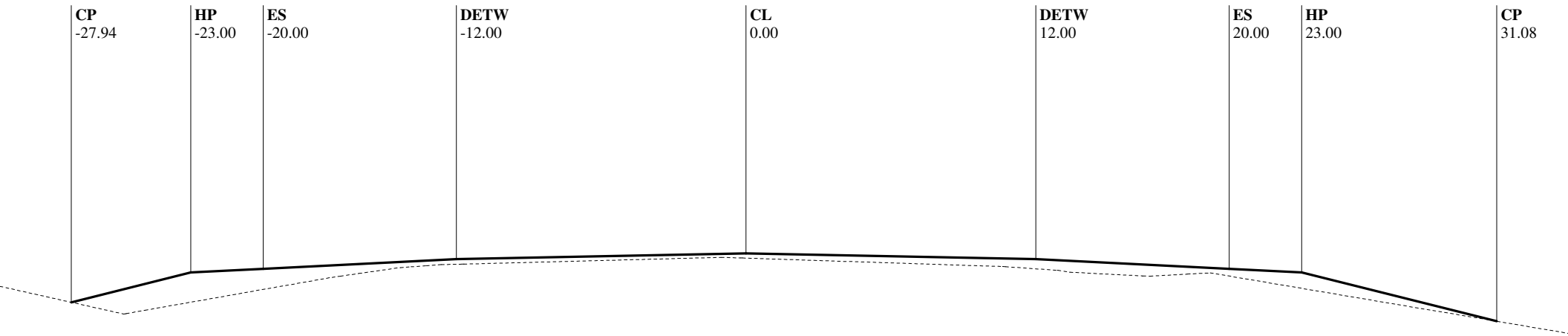

**Alignment Chain CENTER1**
**Station: 201+70.92**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.48 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.05 |
| -1.50 | -0.38 | -0.23 | 0.17 | 0.41 | 0.17 | -0.23 | -0.38 | -0.39 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.01 |
| @ 4.48 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.05 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



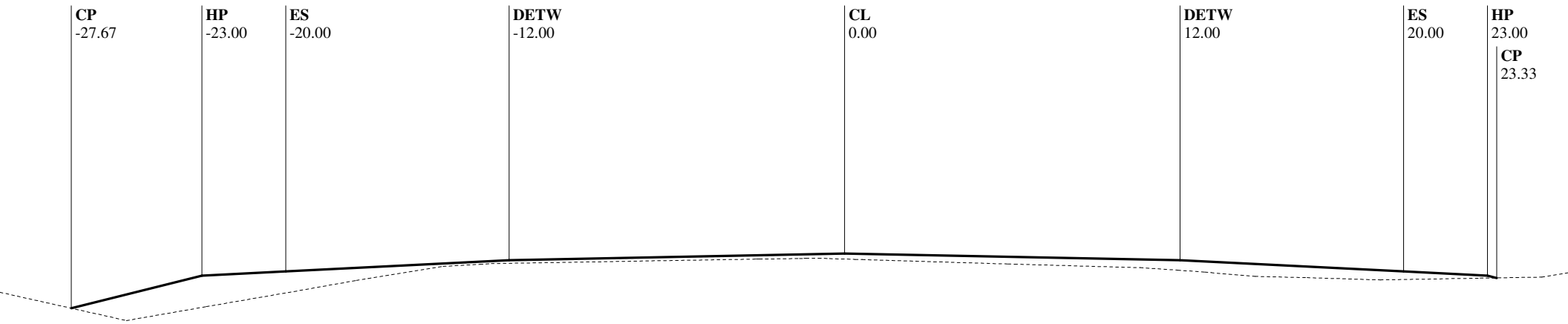

**Alignment Chain CENTER1**
**Station: 202+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.94 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.08 |
| -1.64 | -0.41 | -0.26 | 0.14 | 0.38 | 0.14 | -0.26 | -0.41 | -2.43 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.24 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.02 |
| @ 4.94 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.08 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



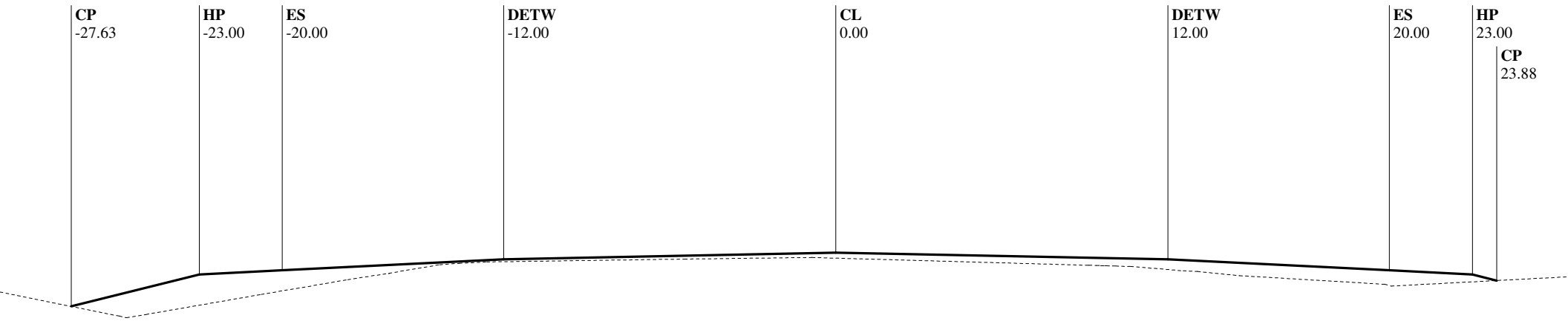

**Alignment Chain CENTER1**
**Station: 202+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.67 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.33 |
| -1.63 | -0.47 | -0.32 | 0.08 | 0.32 | 0.08 | -0.32 | -0.47 | -0.55 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.17 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.08 |
| @ 4.67 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.33 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



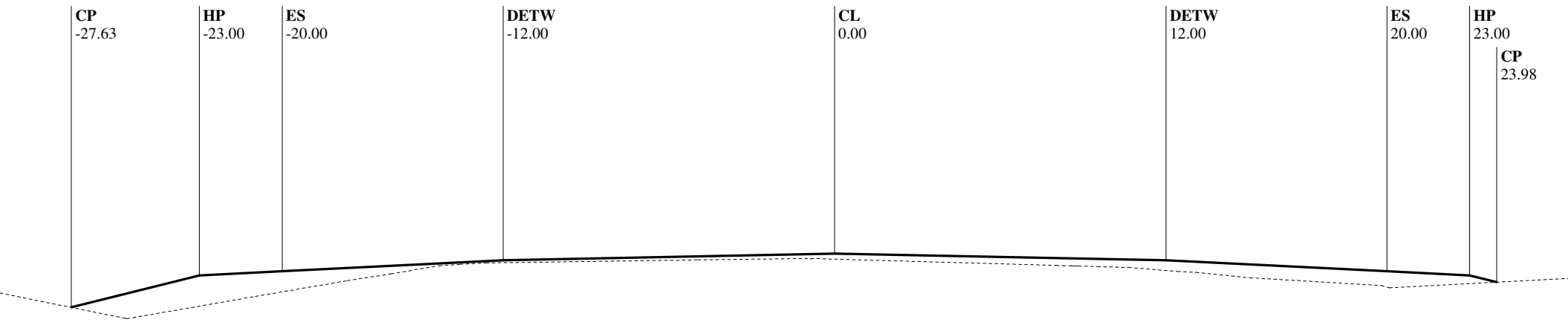

**Alignment Chain CENTER1**
**Station: 202+98.19**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.63 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.88 |
| -1.61 | -0.46 | -0.31 | 0.09 | 0.33 | 0.09 | -0.31 | -0.46 | -0.68 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.16 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.22 |
| @ 4.63 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.88 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



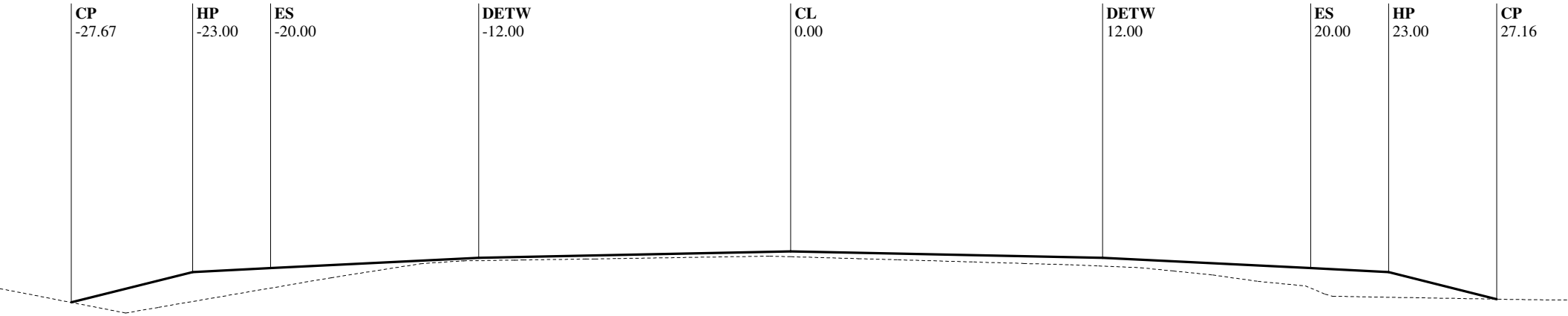

**Alignment Chain CENTER1**
**Station: 203+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.63 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.98 |
| -1.61 | -0.45 | -0.30 | 0.10 | 0.34 | 0.10 | -0.30 | -0.45 | -0.70 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.16 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.25 |
| @ 4.63 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.98 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



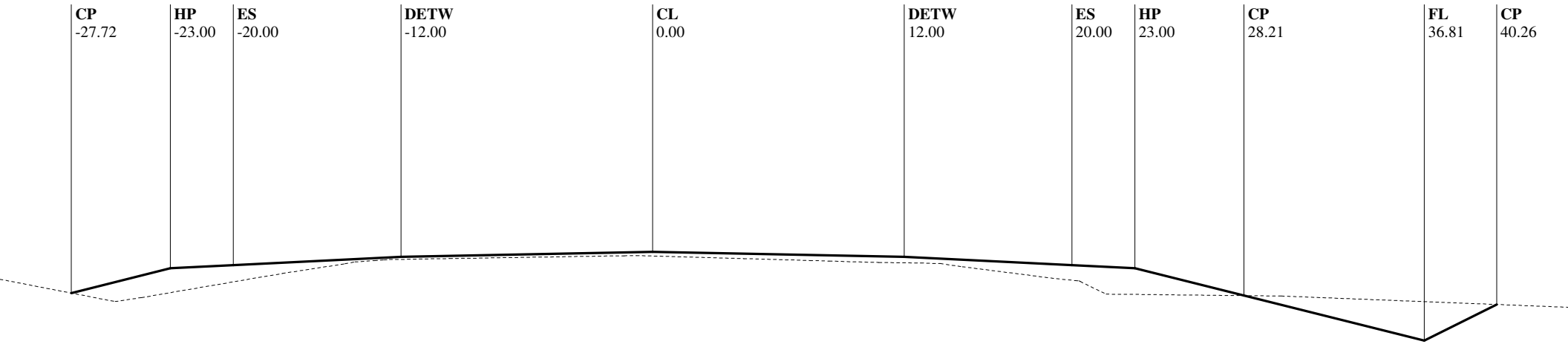

**Alignment Chain CENTER1**
**Station: 203+29.85**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.67 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.16 |
| -1.58 | -0.42 | -0.27 | 0.13 | 0.37 | 0.13 | -0.27 | -0.42 | -1.46 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.17 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.04 |
| @ 4.67 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.16 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 203+50.00**

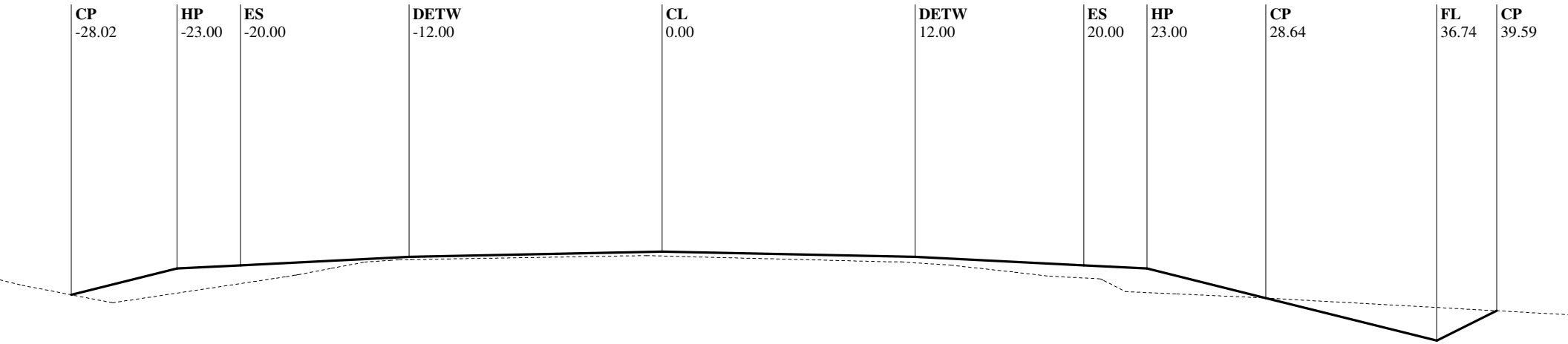
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -27.72 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.21 | 36.81 |
| -1.60 | -0.42 | -0.27 | 0.13 | 0.37 | 0.13 | -0.27 | -0.42 | -1.72 | -3.87 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.18 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.30 | F 2.15 |
| @ 4.72 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.21 | @ 8.60 |

| CP |
|---|
| 40.26 |
| -2.14 |
| 2.00:1 |
| C 1.73 |
| @ 3.45 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



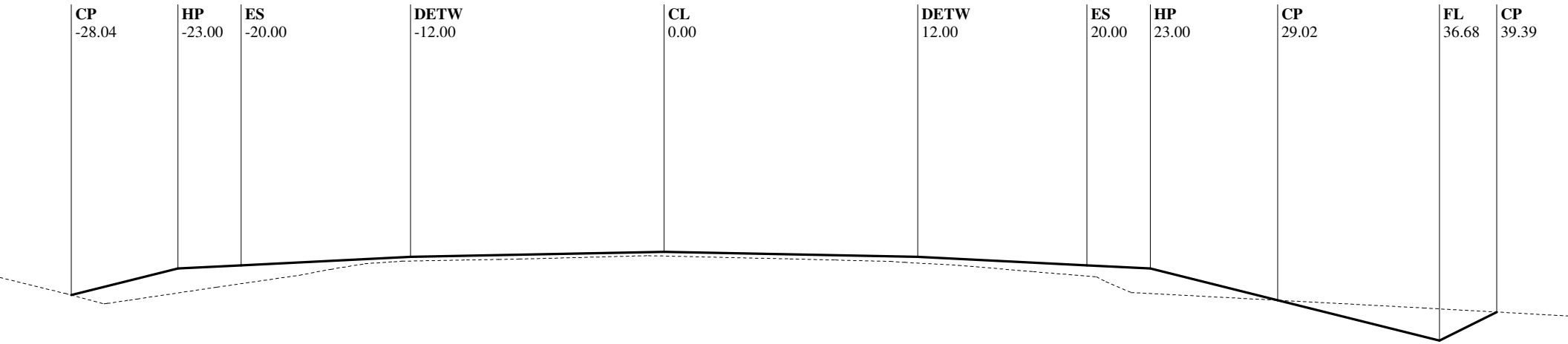

**Alignment Chain CENTER1**
**Station: 204+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -28.02 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.64 | 36.74 |
| -1.75 | -0.49 | -0.34 | 0.06 | 0.30 | 0.06 | -0.34 | -0.49 | -1.90 | -3.93 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.25 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.41 | F 2.03 |
| @ 5.02 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.64 | @ 8.10 |

| CP |
|---|
| 39.59 |
| -2.51 |
| 2.00:1 |
| C 1.42 |
| @ 2.85 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 204+50.00**

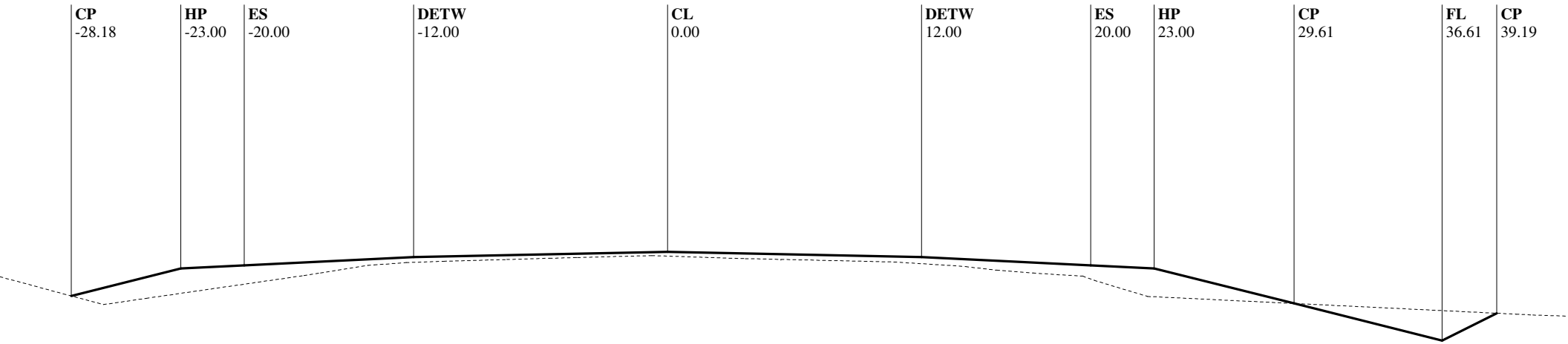
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -28.04 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.02 | 36.68 |
| -1.84 | -0.58 | -0.43 | -0.03 | 0.21 | -0.03 | -0.43 | -0.58 | -2.08 | -4.00 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.26 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.50 | F 1.91 |
| @ 5.04 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.02 | @ 7.66 |

| CP |
|---|
| 39.39 |
| -2.64 |
| 2.00:1 |
| C 1.36 |
| @ 2.71 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 205+00.00**

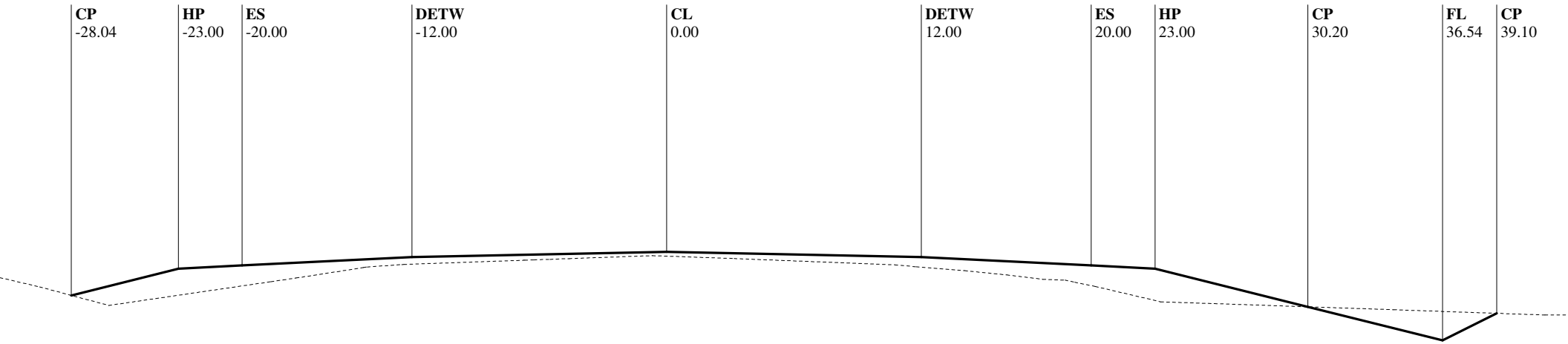
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -28.18 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.61 | 36.61 |
| -1.91 | -0.62 | -0.47 | -0.07 | 0.17 | -0.07 | -0.47 | -0.62 | -2.27 | -4.02 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.29 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.65 | F 1.75 |
| @ 5.18 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.61 | @ 7.00 |

| CP |
|---|
| 39.19 |
| -2.73 |
| 2.00:1 |
| C 1.29 |
| @ 2.58 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 205+50.00**

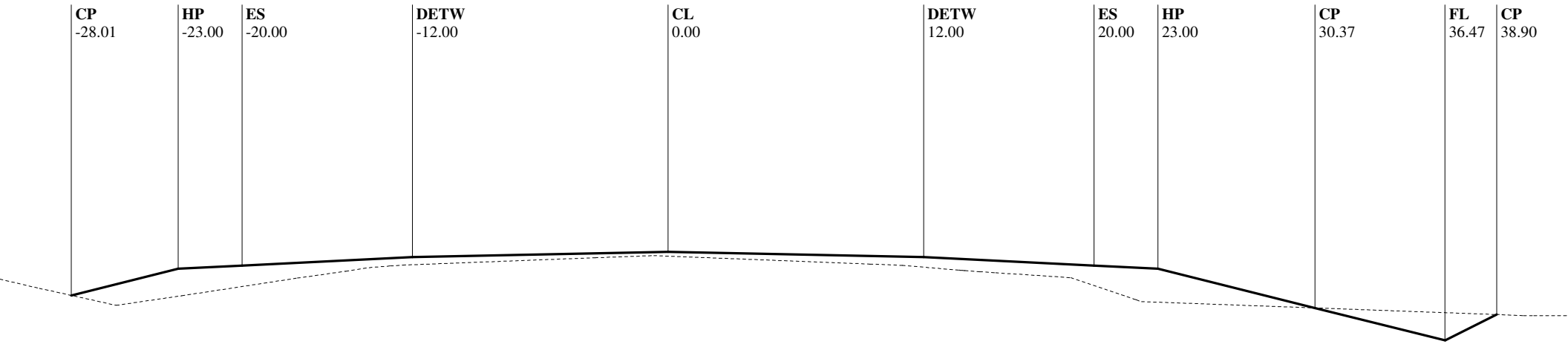
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -28.04 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.20 | 36.54 |
| -1.78 | -0.52 | -0.37 | 0.03 | 0.27 | 0.03 | -0.37 | -0.52 | -2.32 | -3.91 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.26 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.80 | F 1.59 |
| @ 5.04 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.20 | @ 6.34 |

| CP |
|---|
| 39.10 |
| -2.63 |
| 2.00:1 |
| C 1.28 |
| @ 2.56 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 206+00.00**

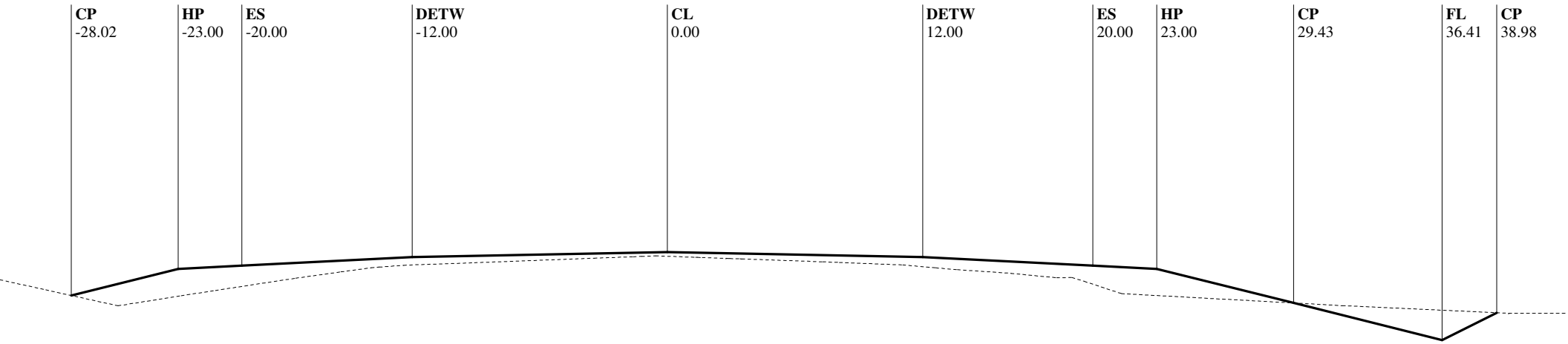
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -28.01 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.37 | 36.47 |
| -1.73 | -0.48 | -0.33 | 0.07 | 0.31 | 0.07 | -0.33 | -0.48 | -2.32 | -3.84 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.25 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.84 | F 1.53 |
| @ 5.01 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.37 | @ 6.10 |

| CP |
|---|
| 38.90 |
| -2.63 |
| 2.00:1 |
| C 1.21 |
| @ 2.43 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 206+50.00**

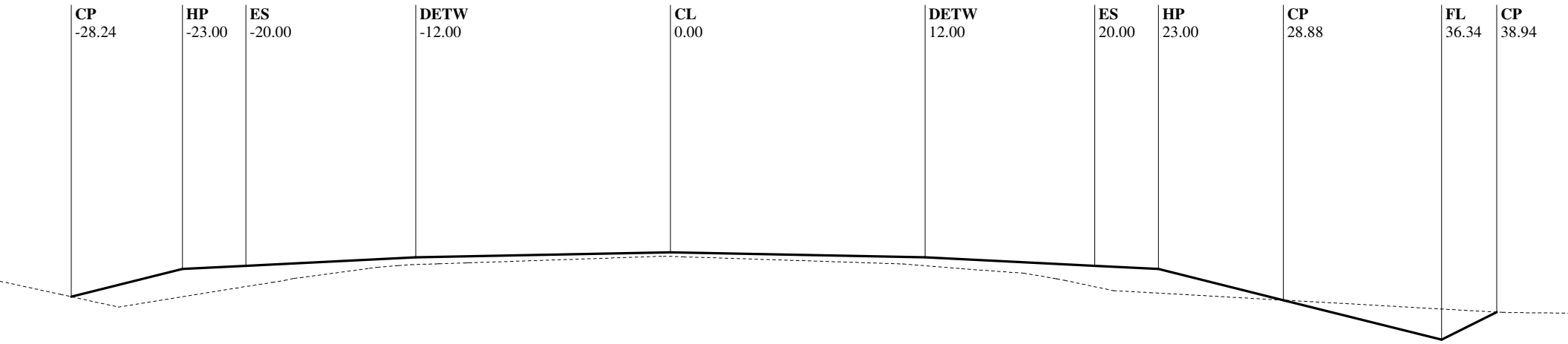
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -28.02 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.43 | 36.41 |
| -1.69 | -0.44 | -0.29 | 0.11 | 0.35 | 0.11 | -0.29 | -0.44 | -2.04 | -3.79 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.26 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.61 | F 1.74 |
| @ 5.02 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.43 | @ 6.98 |

| CP |
|---|
| 38.98 |
| -2.50 |
| 2.00:1 |
| C 1.29 |
| @ 2.57 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 207+00.00**

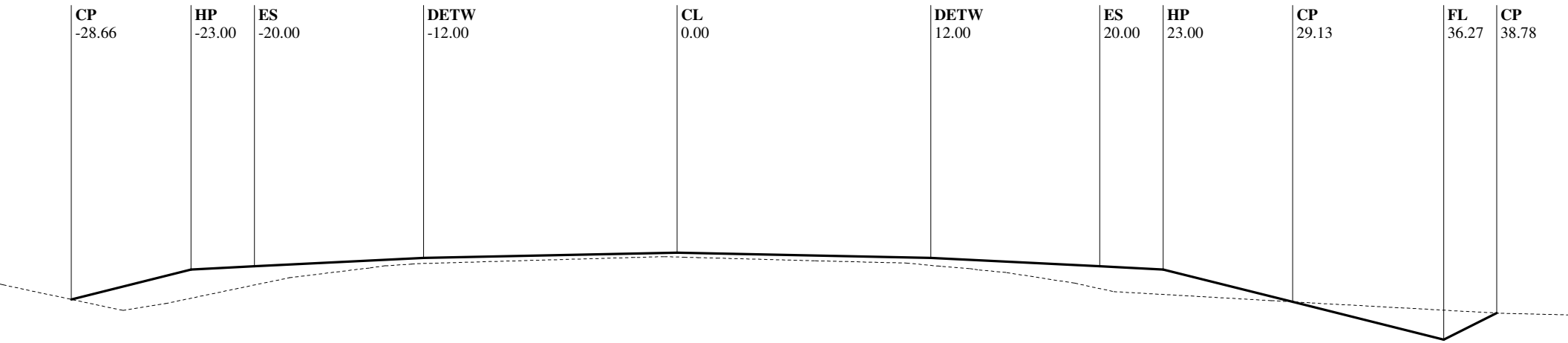
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -28.24 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.88 | 36.34 |
| -1.71 | -0.40 | -0.25 | 0.15 | 0.39 | 0.15 | -0.25 | -0.40 | -1.87 | -3.74 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.31 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.47 | F 1.86 |
| @ 5.24 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.88 | @ 7.45 |

| CP |
|---|
| 38.94 |
| -2.44 |
| 2.00:1 |
| C 1.30 |
| @ 2.60 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 207+50.00**

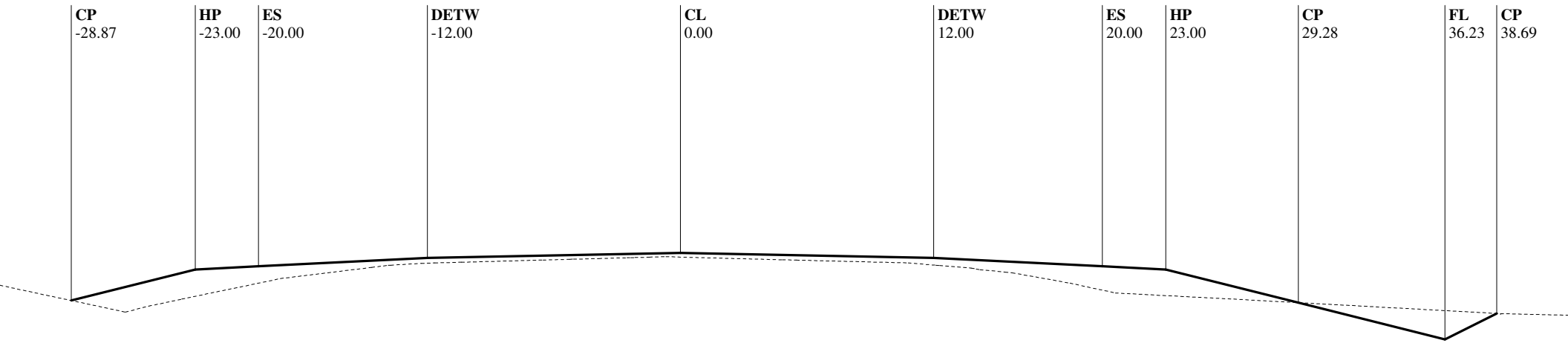
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -28.66 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.13 | 36.27 |
| -1.70 | -0.28 | -0.13 | 0.27 | 0.51 | 0.27 | -0.13 | -0.28 | -1.82 | -3.60 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.42 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.53 | F 1.78 |
| @ 5.66 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.13 | @ 7.14 |

| CP |
|---|
| 38.78 |
| -2.35 |
| 2.00:1 |
| C 1.26 |
| @ 2.51 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 207+81.00**

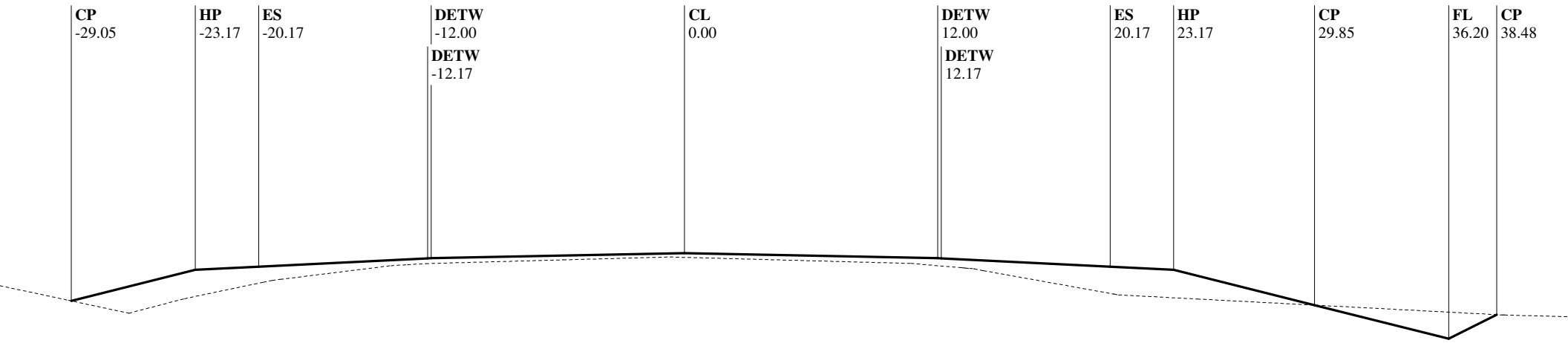
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -28.87 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.28 | 36.23 |
| -1.62 | -0.15 | 0.00 | 0.40 | 0.64 | 0.40 | 0.00 | -0.15 | -1.72 | -3.45 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.47 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.57 | F 1.74 |
| @ 5.87 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.28 | @ 6.95 |

| CP |
|---|
| 38.69 |
| -2.23 |
| 2.00:1 |
| C 1.23 |
| @ 2.46 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 208+00.00**

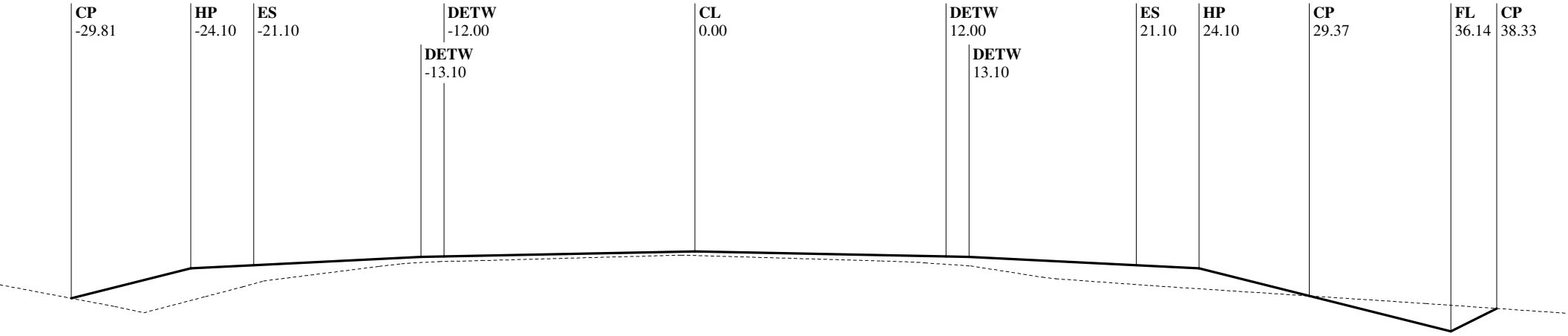
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.05 | -23.17 | -20.17 | -12.17 | -12.00 | 0.00 | 12.00 | 12.17 | 20.17 | 23.17 | 29.85 |
| -1.49 | -0.03 | 0.12 | 0.52 | 0.53 | 0.77 | 0.53 | 0.52 | 0.12 | -0.03 | -1.70 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.47 | F 0.15 | F 0.40 | F 0.00 | F 0.24 | | F 0.24 | F 0.00 | F 0.40 | F 0.15 | F 1.67 |
| @ 5.88 | @ 3.00 | @ 8.00 | @ 0.17 | @ 12.00 | | @ 12.00 | @ 0.17 | @ 8.00 | @ 3.00 | @ 6.68 |

| FL | CP |
|---|---|
| 36.20 | 38.48 |
| -3.28 | -2.15 |
| -4.00:1 | 2.00:1 |
| F 1.59 | C 1.14 |
| @ 6.36 | @ 2.28 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 208+50.00**

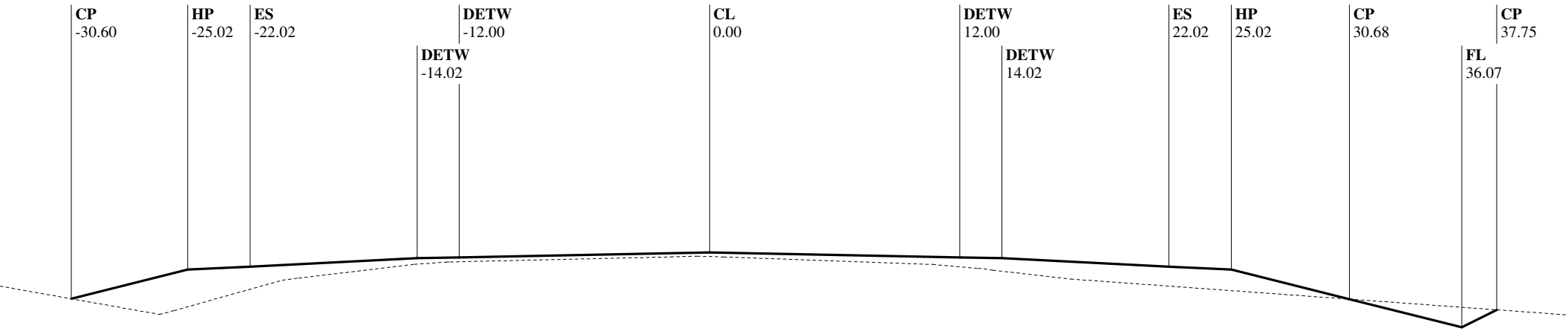
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.81 | -24.10 | -21.10 | -13.10 | -12.00 | 0.00 | 12.00 | 13.10 | 21.10 | 24.10 | 29.37 |
| -1.16 | 0.27 | 0.42 | 0.82 | 0.84 | 1.08 | 0.84 | 0.82 | 0.42 | 0.27 | -1.05 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.43 | F 0.15 | F 0.40 | F 0.02 | F 0.24 | | F 0.24 | F 0.02 | F 0.40 | F 0.15 | F 1.32 |
| @ 5.72 | @ 3.00 | @ 8.00 | @ 1.10 | @ 12.00 | | @ 12.00 | @ 1.10 | @ 8.00 | @ 3.00 | @ 5.27 |

| FL | CP |
|---|---|
| 36.14 | 38.33 |
| -2.74 | -1.64 |
| -4.00:1 | 2.00:1 |
| F 1.69 | C 1.10 |
| @ 6.77 | @ 2.19 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 209+00.00**

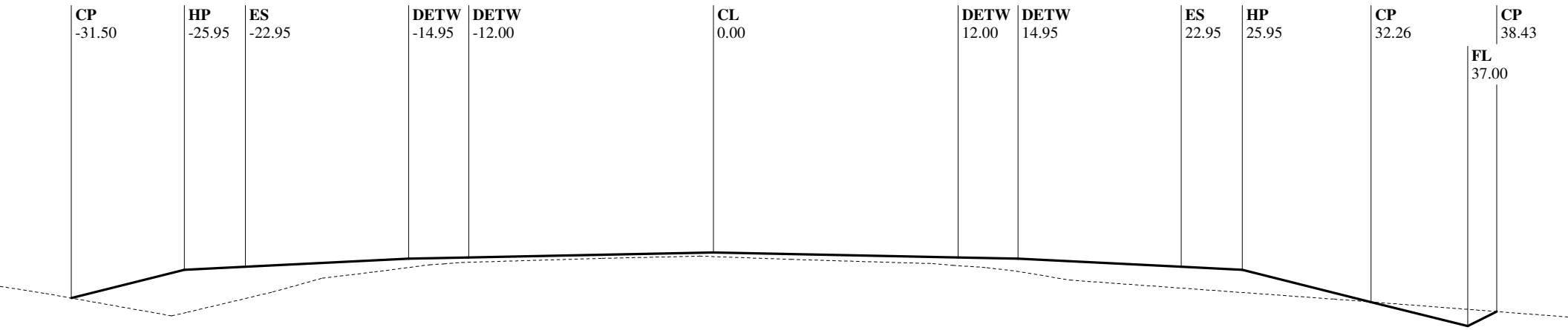
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.60 | -25.02 | -22.02 | -14.02 | -12.00 | 0.00 | 12.00 | 14.02 | 22.02 | 25.02 | 30.68 |
| -0.87 | 0.53 | 0.68 | 1.08 | 1.12 | 1.36 | 1.12 | 1.08 | 0.68 | 0.53 | -0.89 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.40 | F 0.15 | F 0.40 | F 0.04 | F 0.24 | | F 0.24 | F 0.04 | F 0.40 | F 0.15 | F 1.41 |
| @ 5.58 | @ 3.00 | @ 8.00 | @ 2.02 | @ 12.00 | | @ 12.00 | @ 2.02 | @ 8.00 | @ 3.00 | @ 5.65 |

| FL | CP |
|---|---|
| 36.07 | 37.75 |
| -2.23 | -1.40 |
| -4.00:1 | 2.00:1 |
| F 1.35 | C 0.84 |
| @ 5.39 | @ 1.68 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 209+50.00**

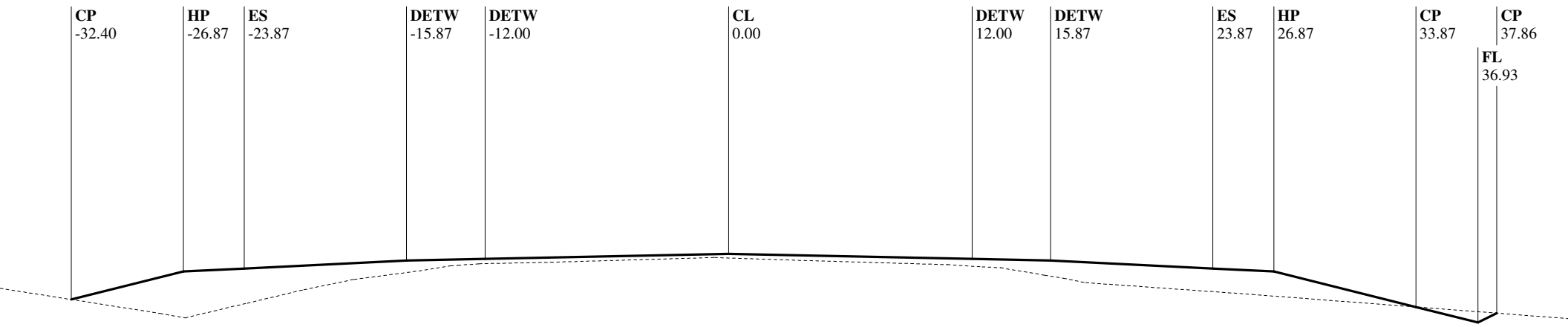
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.50 | -25.95 | -22.95 | -14.95 | -12.00 | 0.00 | 12.00 | 14.95 | 22.95 | 25.95 | 32.26 |
| -0.55 | 0.84 | 0.99 | 1.39 | 1.45 | 1.69 | 1.45 | 1.39 | 0.99 | 0.84 | -0.74 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.39 | F 0.15 | F 0.40 | F 0.06 | F 0.24 | | F 0.24 | F 0.06 | F 0.40 | F 0.15 | F 1.58 |
| @ 5.55 | @ 3.00 | @ 8.00 | @ 2.95 | @ 12.00 | | @ 12.00 | @ 2.95 | @ 8.00 | @ 3.00 | @ 6.31 |

| FL | CP |
|---|---|
| 37.00 | 38.43 |
| -1.93 | -1.21 |
| -4.00:1 | 2.00:1 |
| F 1.19 | C 0.71 |
| @ 4.74 | @ 1.43 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 210+00.00**

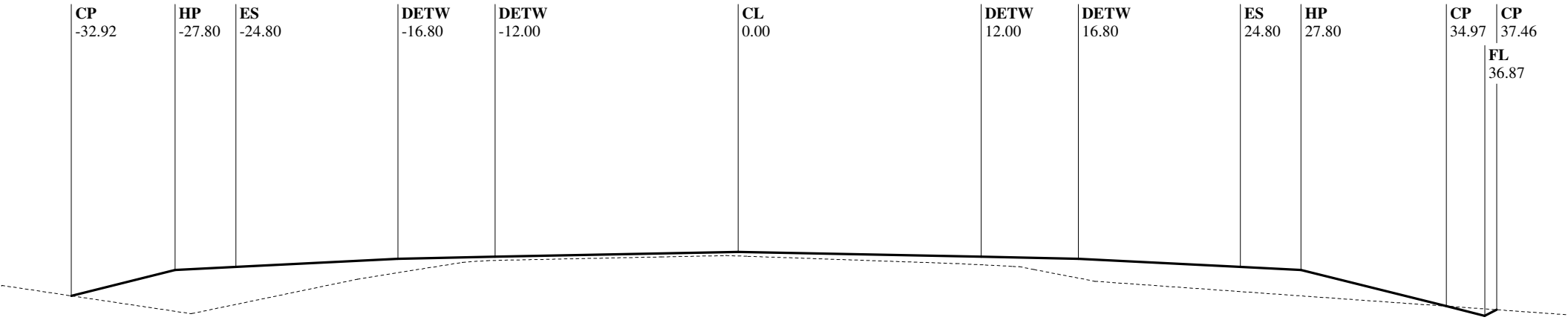
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.40 | -26.87 | -23.87 | -15.87 | -12.00 | 0.00 | 12.00 | 15.87 | 23.87 | 26.87 | 33.87 |
| -0.34 | 1.04 | 1.19 | 1.59 | 1.67 | 1.91 | 1.67 | 1.59 | 1.19 | 1.04 | -0.70 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.38 | F 0.15 | F 0.40 | F 0.08 | F 0.24 | | F 0.24 | F 0.08 | F 0.40 | F 0.15 | F 1.75 |
| @ 5.52 | @ 3.00 | @ 8.00 | @ 3.87 | @ 12.00 | | @ 12.00 | @ 3.87 | @ 8.00 | @ 3.00 | @ 6.99 |

| FL | CP |
|---|---|
| 36.93 | 37.86 |
| -1.47 | -1.01 |
| -4.00:1 | 2.00:1 |
| F 0.77 | C 0.46 |
| @ 3.07 | @ 0.92 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 210+50.00**

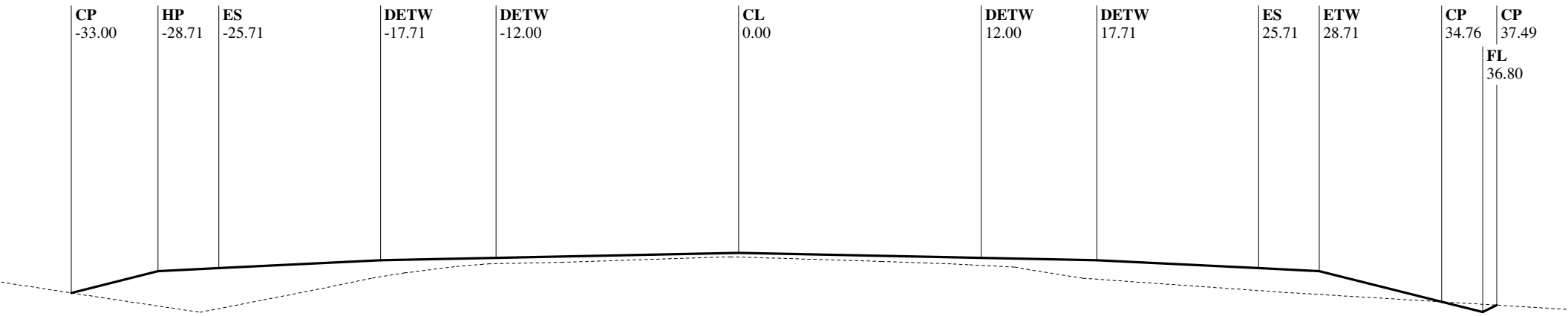
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.92 | -27.80 | -24.80 | -16.80 | -12.00 | 0.00 | 12.00 | 16.80 | 24.80 | 27.80 | 34.97 |
| -0.18 | 1.10 | 1.25 | 1.65 | 1.75 | 1.99 | 1.75 | 1.65 | 1.25 | 1.10 | -0.69 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.28 | F 0.15 | F 0.40 | F 0.10 | F 0.24 | | F 0.24 | F 0.10 | F 0.40 | F 0.15 | F 1.79 |
| @ 5.12 | @ 3.00 | @ 8.00 | @ 4.80 | @ 12.00 | | @ 12.00 | @ 4.80 | @ 8.00 | @ 3.00 | @ 7.17 |

| FL | CP |
|---|---|
| 36.87 | 37.46 |
| -1.17 | -0.87 |
| -4.00:1 | 2.00:1 |
| F 0.47 | C 0.30 |
| @ 1.89 | @ 0.59 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 210+99.20**

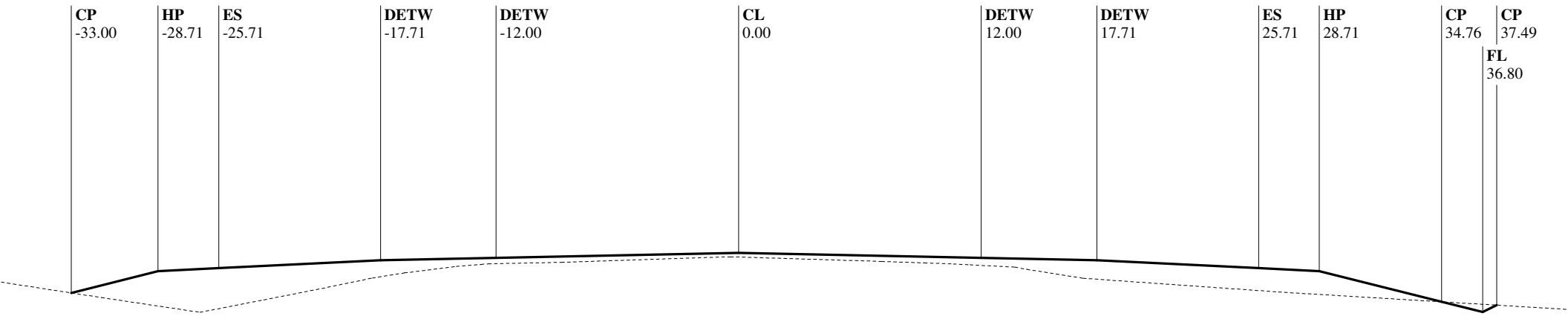
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | ETW | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.00 | -28.71 | -25.71 | -17.71 | -12.00 | 0.00 | 12.00 | 17.71 | 25.71 | 28.71 | 34.76 |
| -0.27 | 0.81 | 0.96 | 1.36 | 1.47 | 1.71 | 1.47 | 1.36 | 0.96 | 0.81 | -0.71 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.07 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.51 |
| @ 4.29 | @ 3.00 | @ 8.00 | @ 5.71 | @ 12.00 | | @ 12.00 | @ 5.71 | @ 8.00 | @ 3.00 | @ 6.05 |

| FL | CP |
|---|---|
| 36.80 | 37.49 |
| -1.21 | -0.87 |
| -4.00:1 | 2.00:1 |
| F 0.51 | C 0.34 |
| @ 2.04 | @ 0.69 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 210+99.23**

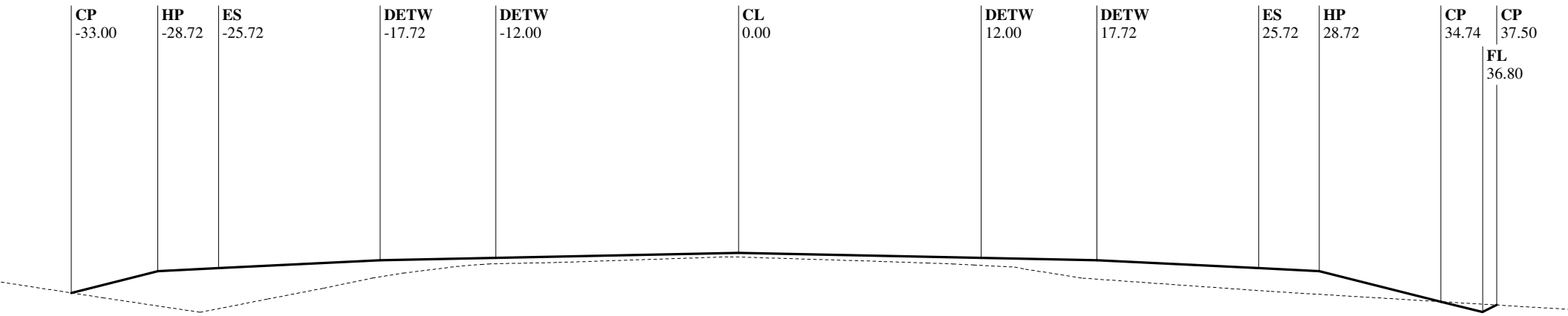
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.00 | -28.71 | -25.71 | -17.71 | -12.00 | 0.00 | 12.00 | 17.71 | 25.71 | 28.71 | 34.76 |
| -0.27 | 0.81 | 0.96 | 1.36 | 1.47 | 1.71 | 1.47 | 1.36 | 0.96 | 0.81 | -0.71 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.07 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.51 |
| @ 4.29 | @ 3.00 | @ 8.00 | @ 5.71 | @ 12.00 | | @ 12.00 | @ 5.71 | @ 8.00 | @ 3.00 | @ 6.05 |

| FL | CP |
|---|---|
| 36.80 | 37.49 |
| -1.21 | -0.87 |
| -4.00:1 | 2.00:1 |
| F 0.51 | C 0.34 |
| @ 2.04 | @ 0.69 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 211+00.00**

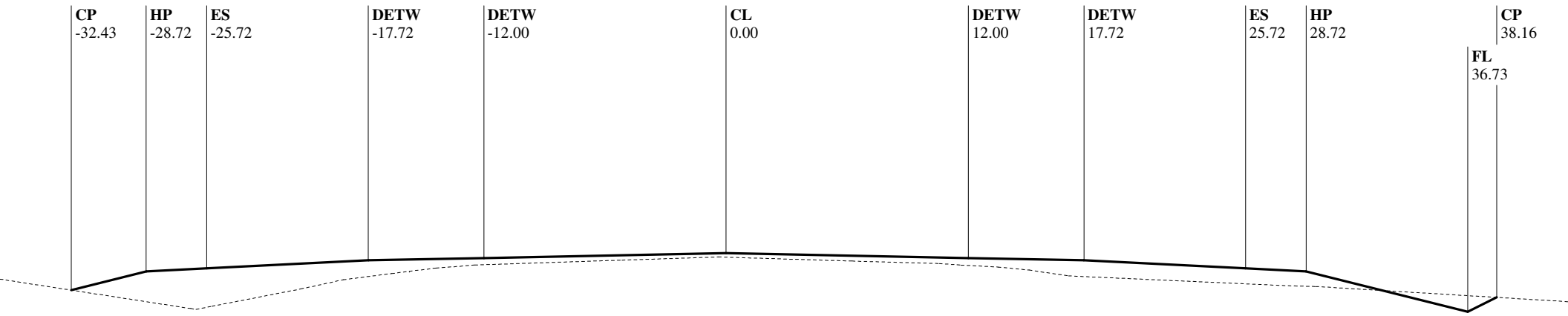
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.00 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 34.74 |
| -0.27 | 0.80 | 0.95 | 1.35 | 1.47 | 1.71 | 1.47 | 1.35 | 0.95 | 0.80 | -0.70 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.07 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.51 |
| @ 4.28 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 6.02 |

| FL | CP |
|---|---|
| 36.80 | 37.50 |
| -1.22 | -0.87 |
| -4.00:1 | 2.00:1 |
| F 0.52 | C 0.35 |
| @ 2.06 | @ 0.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 211+50.00**

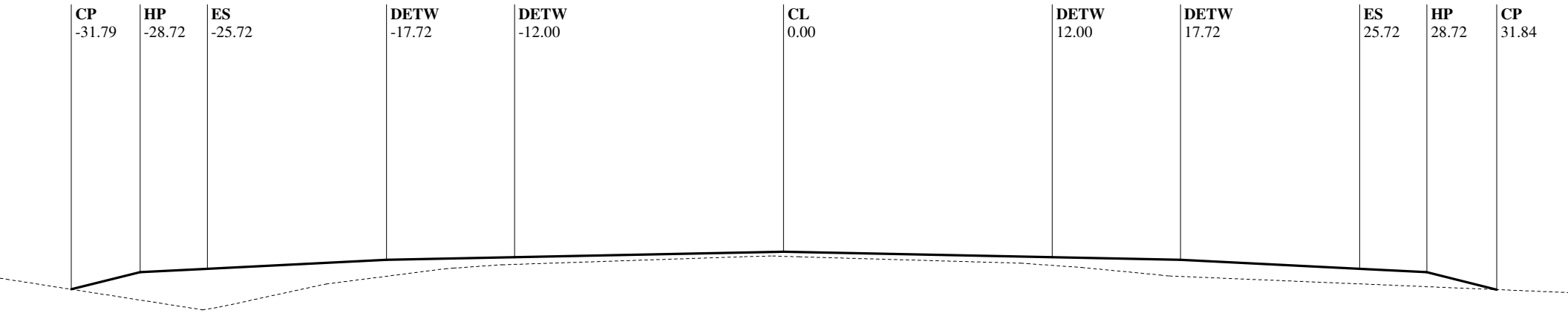
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.43 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 36.73 |
| -0.44 | 0.49 | 0.64 | 1.04 | 1.15 | 1.39 | 1.15 | 1.04 | 0.64 | 0.49 | -1.51 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.93 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 2.00 |
| @ 3.71 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 8.01 |

| CP |
|---|
| 38.16 |
| -0.80 |
| 2.00:1 |
| C 0.72 |
| @ 1.43 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



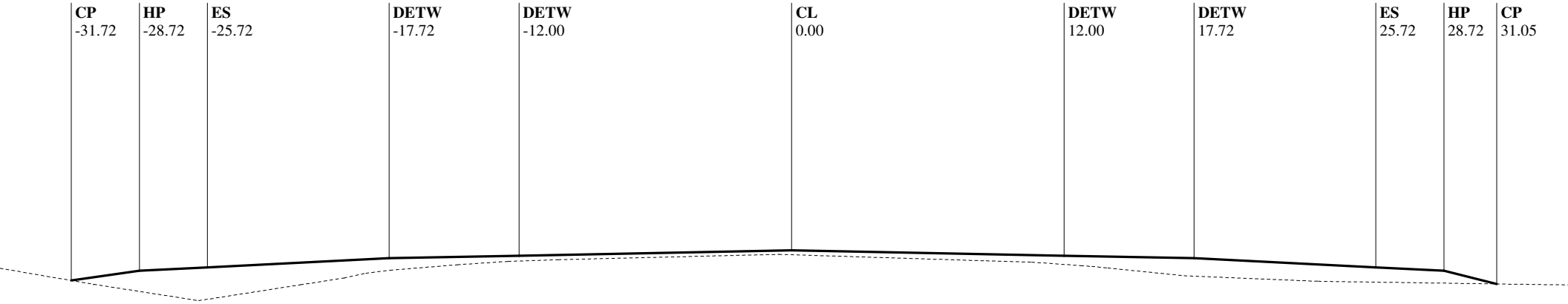

**Alignment Chain CENTER1**
**Station: 212+00.00**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.79 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 31.84 |
| -0.63 | 0.14 | 0.29 | 0.69 | 0.80 | 1.04 | 0.80 | 0.69 | 0.29 | 0.14 | -0.64 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.77 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 0.78 |
| @ 3.08 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 3.12 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



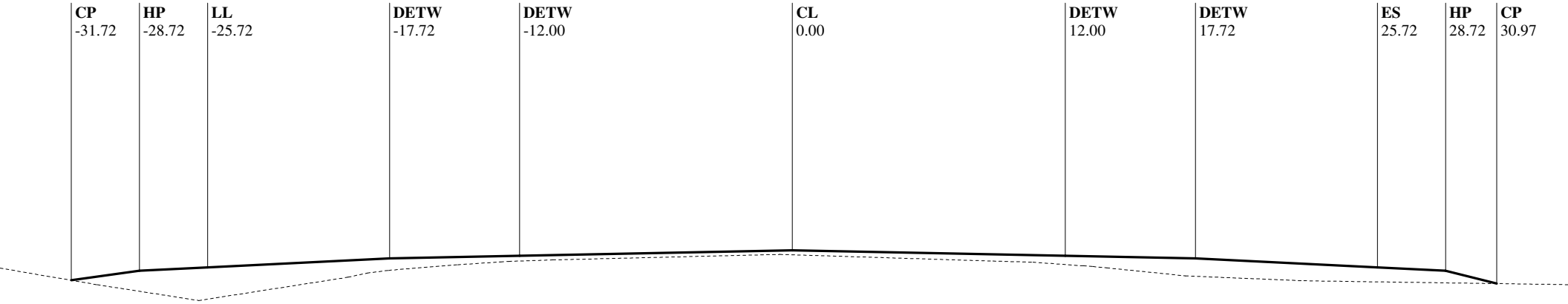

**Alignment Chain CENTER1**
**Station: 212+50.00**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.72 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 31.05 |
| -0.73 | -0.30 | -0.15 | 0.25 | 0.37 | 0.61 | 0.37 | 0.25 | -0.15 | -0.30 | -0.88 |
| -14.34% | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.43 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 0.58 |
| @ 3.00 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 2.33 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



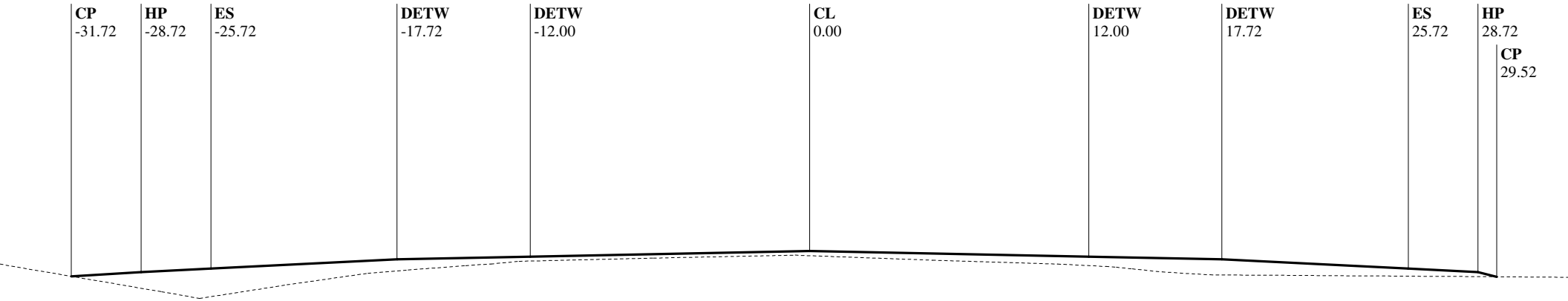

**Alignment Chain CENTER1**
**Station: 212+51.55**

| CP | HP | LL | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.72 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 30.97 |
| -0.73 | -0.31 | -0.16 | 0.24 | 0.35 | 0.59 | 0.35 | 0.24 | -0.16 | -0.31 | -0.88 |
| -13.91% | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.42 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 0.56 |
| @ 3.00 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 2.26 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



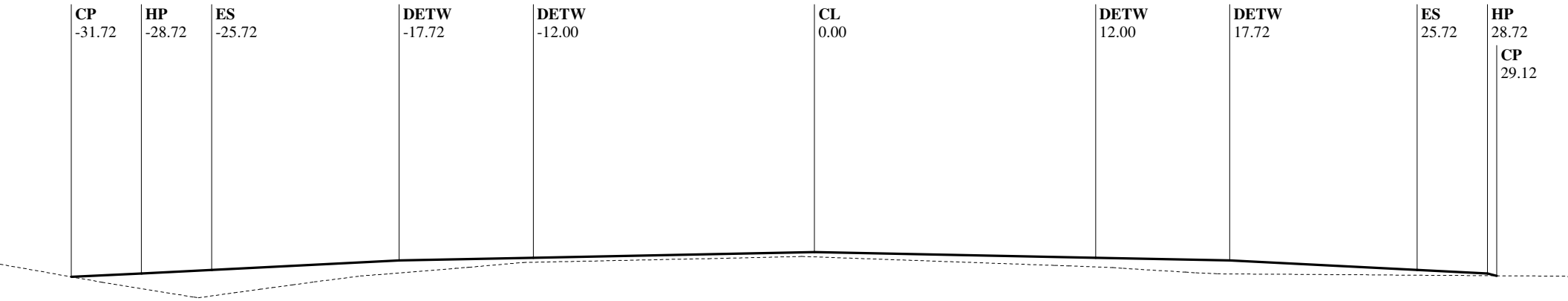

**Alignment Chain CENTER1**
**Station: 213+00.00**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.72 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 29.52 |
| -0.74 | -0.56 | -0.41 | -0.01 | 0.11 | 0.35 | 0.11 | -0.01 | -0.41 | -0.56 | -0.76 |
| -6.07% | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.18 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 0.20 |
| @ 3.00 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 0.81 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



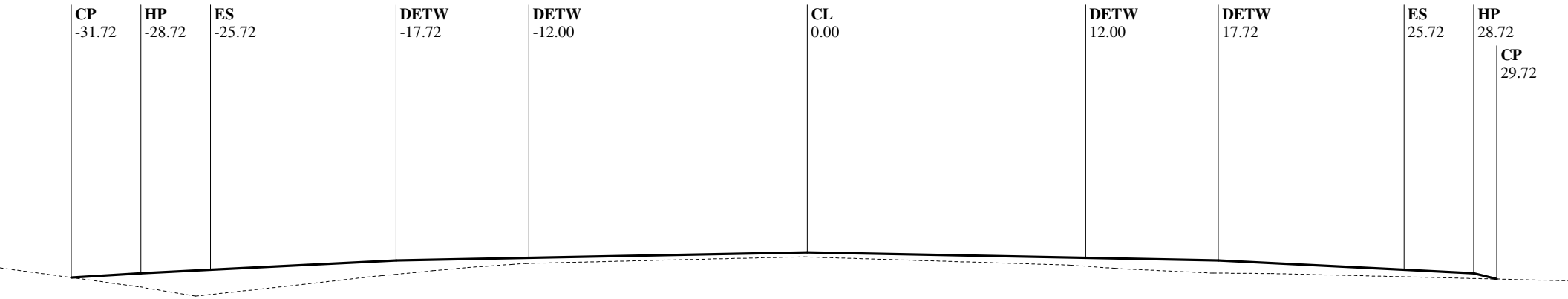

**Alignment Chain CENTER1**
**Station: 213+50.00**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.72 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 29.12 |
| -0.75 | -0.60 | -0.45 | -0.05 | 0.06 | 0.30 | 0.06 | -0.05 | -0.45 | -0.60 | -0.70 |
| -4.84% | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.15 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 0.10 |
| @ 3.00 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 0.40 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



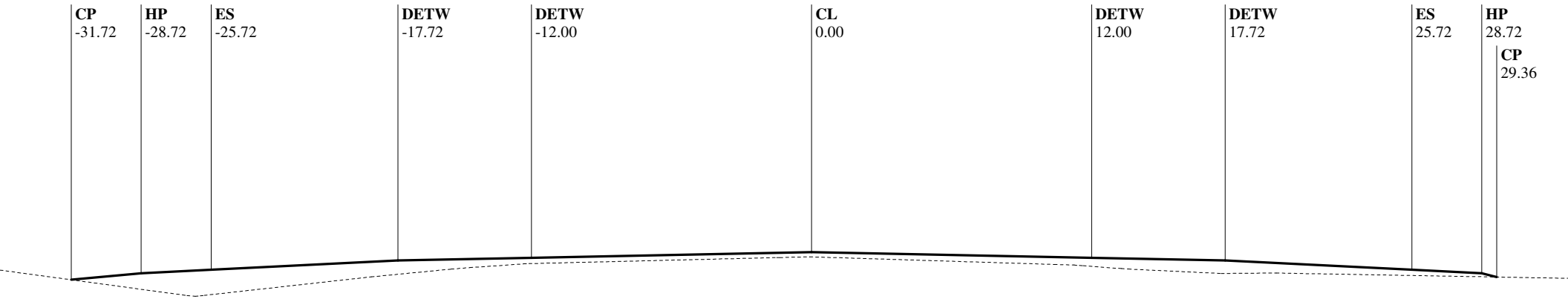

**Alignment Chain CENTER1**
**Station: 214+00.00**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.72 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 29.72 |
| -0.53 | -0.35 | -0.20 | 0.20 | 0.32 | 0.56 | 0.32 | 0.20 | -0.20 | -0.35 | -0.60 |
| -6.22% | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.19 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 0.25 |
| @ 3.00 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 1.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



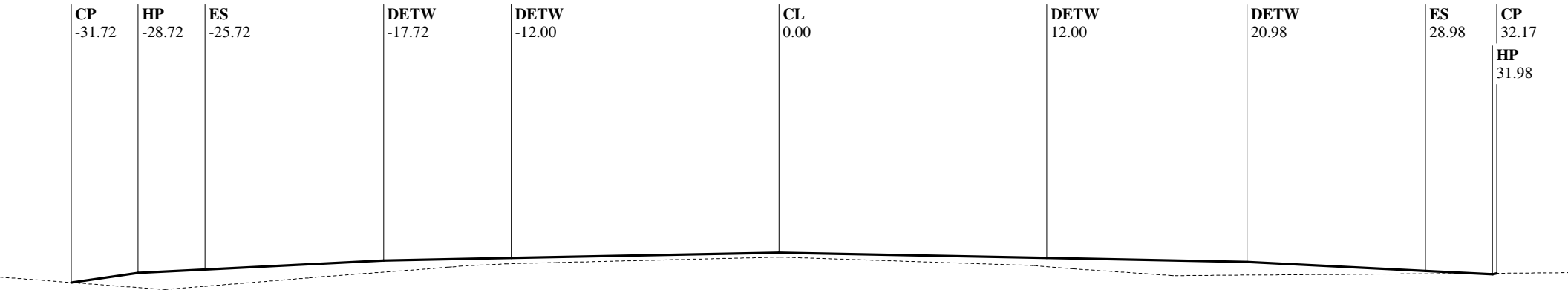

**Alignment Chain CENTER1**
**Station: 214+09.12**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.72 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 29.36 |
| -0.56 | -0.28 | -0.13 | 0.27 | 0.39 | 0.63 | 0.39 | 0.27 | -0.13 | -0.28 | -0.44 |
| -9.31% | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.28 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 0.16 |
| @ 3.00 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 0.64 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



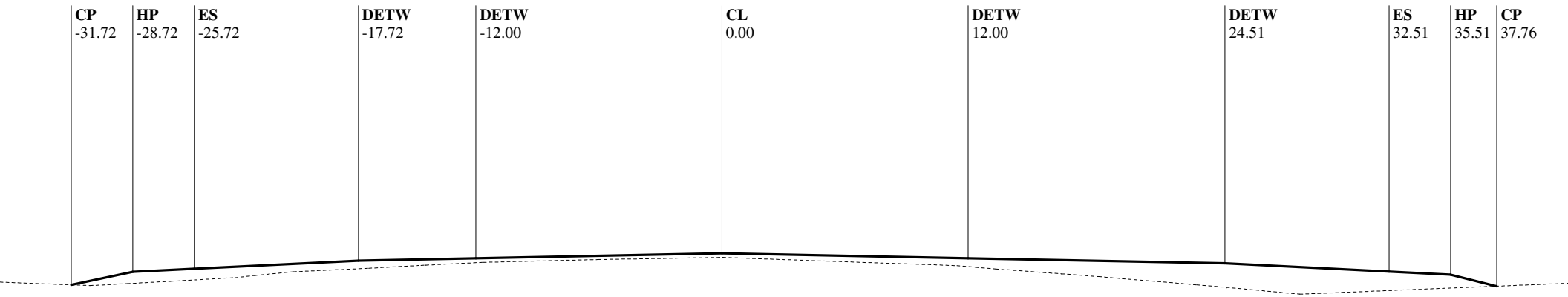

**Alignment Chain CENTER1**
**Station: 214+50.00**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.72 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 20.98 | 28.98 | 31.98 | 32.17 |
| -0.33 | 0.10 | 0.25 | 0.65 | 0.77 | 1.01 | 0.77 | 0.59 | 0.19 | 0.04 | 0.09 |
| -14.49% | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.43 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.18 | F 0.40 | F 0.15 | C 0.05 |
| @ 3.00 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 8.98 | @ 8.00 | @ 3.00 | @ 0.19 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



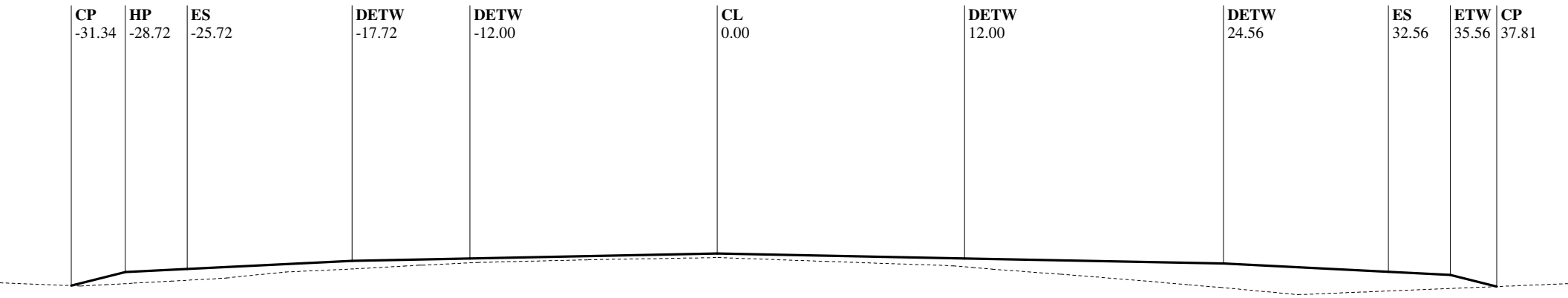

**Alignment Chain CENTER1**
**Station: 214+94.16**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.72 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 24.51 | 32.51 | 35.51 | 37.76 |
| -0.09 | 0.54 | 0.69 | 1.09 | 1.21 | 1.45 | 1.21 | 0.96 | 0.56 | 0.41 | -0.15 |
| -4.73:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.63 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.25 | F 0.40 | F 0.15 | F 0.56 |
| @ 3.00 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 12.51 | @ 8.00 | @ 3.00 | @ 2.25 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



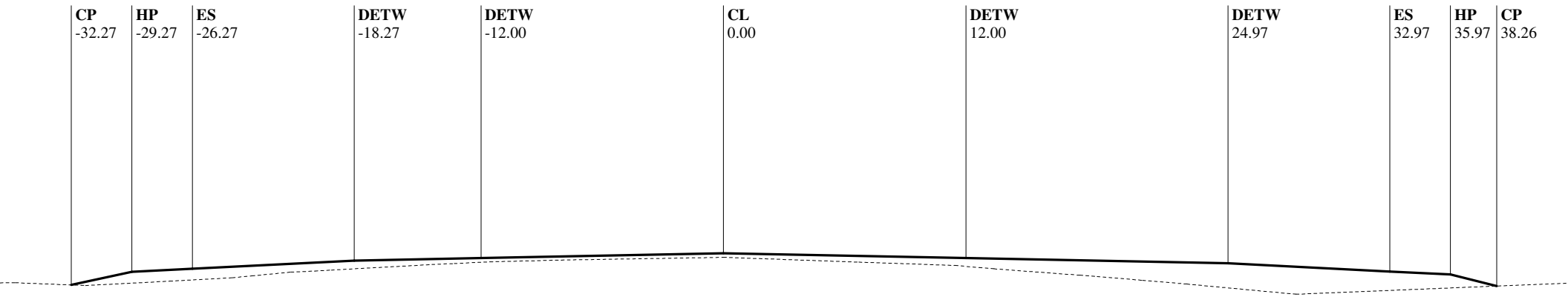

**Alignment Chain CENTER1**
**Station: 214+94.80**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | ETW | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.34 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 24.56 | 32.56 | 35.56 | 37.81 |
| -0.10 | 0.55 | 0.70 | 1.10 | 1.22 | 1.46 | 1.22 | 0.96 | 0.56 | 0.41 | -0.15 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.66 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.25 | F 0.40 | F 0.15 | F 0.56 |
| @ 2.62 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 12.56 | @ 8.00 | @ 3.00 | @ 2.26 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

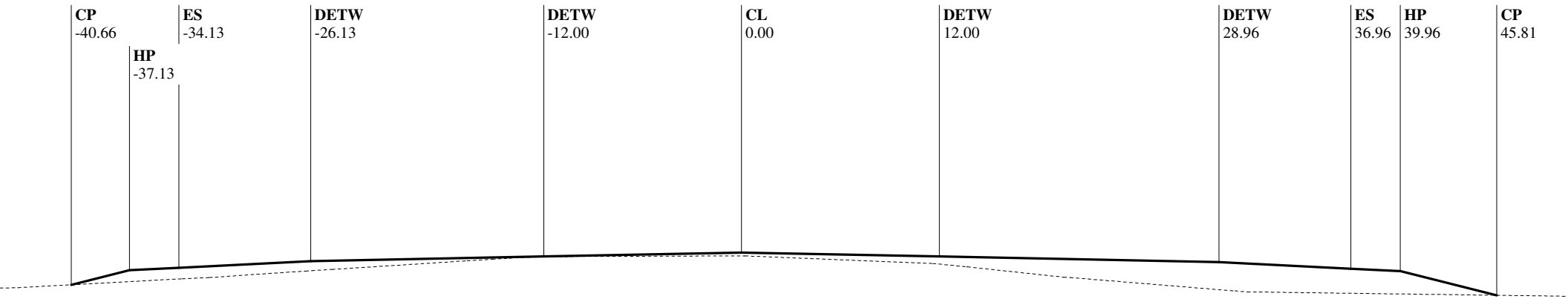



**Alignment Chain CENTER1**
**Station: 215+00.00**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.27 | -29.27 | -26.27 | -18.27 | -12.00 | 0.00 | 12.00 | 24.97 | 32.97 | 35.97 | 38.26 |
| -0.05 | 0.60 | 0.75 | 1.15 | 1.27 | 1.51 | 1.27 | 1.01 | 0.61 | 0.46 | -0.11 |
| -4.60:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.65 | F 0.15 | F 0.40 | F 0.13 | F 0.24 | | F 0.24 | F 0.26 | F 0.40 | F 0.15 | F 0.57 |
| @ 3.00 | @ 3.00 | @ 8.00 | @ 6.27 | @ 12.00 | | @ 12.00 | @ 12.97 | @ 8.00 | @ 3.00 | @ 2.29 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



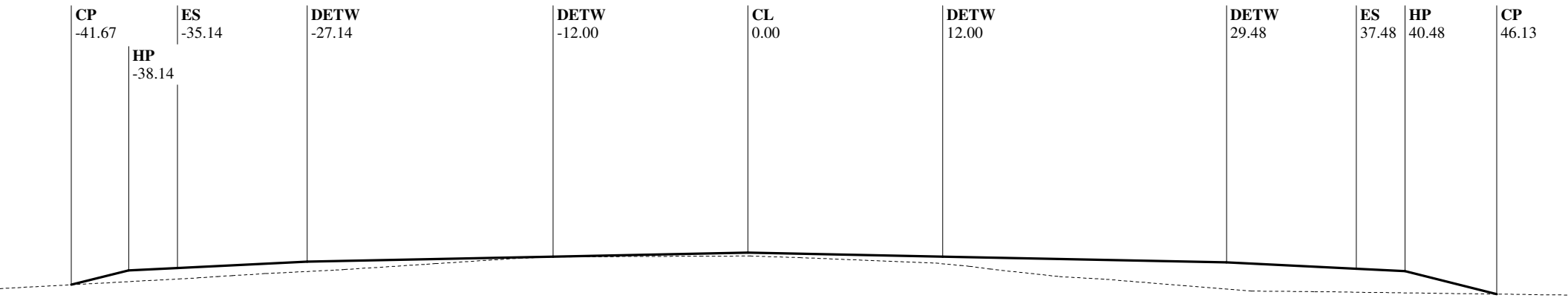

**Alignment Chain CENTER1**
**Station: 215+50.00**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -40.66 | -37.13 | -34.13 | -26.13 | -12.00 | 0.00 | 12.00 | 28.96 | 36.96 | 39.96 | 45.81 |
| 0.36 | 1.24 | 1.39 | 1.79 | 2.07 | 2.31 | 2.07 | 1.73 | 1.33 | 1.18 | -0.28 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.88 | F 0.15 | F 0.40 | F 0.28 | F 0.24 | | F 0.24 | F 0.34 | F 0.40 | F 0.15 | F 1.46 |
| @ 3.53 | @ 3.00 | @ 8.00 | @ 14.13 | @ 12.00 | | @ 12.00 | @ 16.96 | @ 8.00 | @ 3.00 | @ 5.84 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



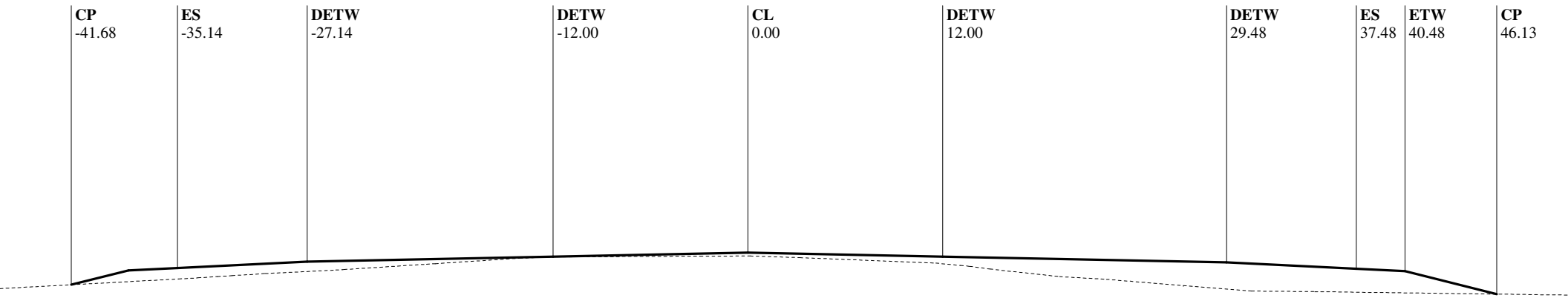

**Alignment Chain CENTER1**
**Station: 215+56.45**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -41.67 | -38.14 | -35.14 | -27.14 | -12.00 | 0.00 | 12.00 | 29.48 | 37.48 | 40.48 | 46.13 |
| 0.46 | 1.34 | 1.49 | 1.89 | 2.19 | 2.43 | 2.19 | 1.84 | 1.44 | 1.29 | -0.12 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.88 | F 0.15 | F 0.40 | F 0.30 | F 0.24 | | F 0.24 | F 0.35 | F 0.40 | F 0.15 | F 1.41 |
| @ 3.53 | @ 3.00 | @ 8.00 | @ 15.14 | @ 12.00 | | @ 12.00 | @ 17.48 | @ 8.00 | @ 3.00 | @ 5.65 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



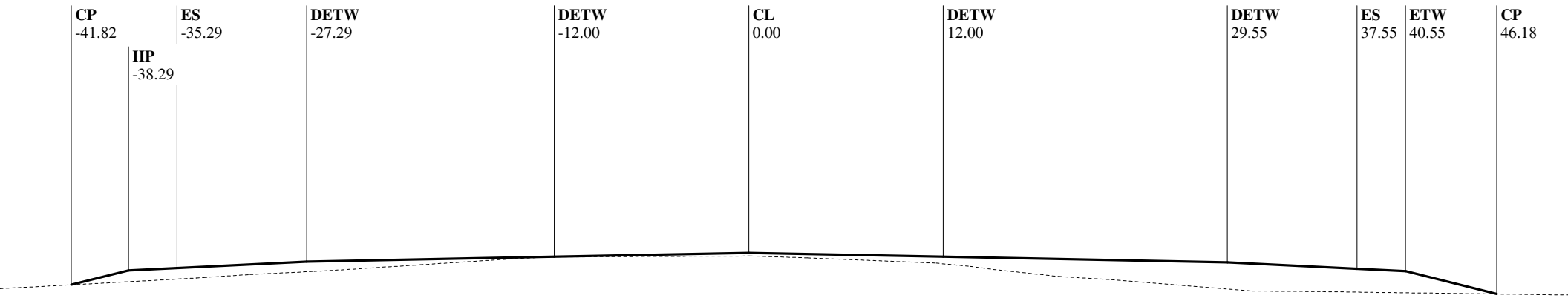

**Alignment Chain CENTER1**
**Station: 215+56.46**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **CP** | | **ES** | **DETW** | **DETW** | **CL** | **DETW** | **DETW** | **ES** | **ETW** | **CP** |
| -41.68 | -38.14 | -35.14 | -27.14 | -12.00 | 0.00 | 12.00 | 29.48 | 37.48 | 40.48 | 46.13 |
| 0.46 | 1.34 | 1.49 | 1.89 | 2.19 | 2.43 | 2.19 | 1.84 | 1.44 | 1.29 | -0.12 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.88 | F 0.15 | F 0.40 | F 0.30 | F 0.24 | | F 0.24 | F 0.35 | F 0.40 | F 0.15 | F 1.41 |
| @ 3.53 | @ 3.00 | @ 8.00 | @ 15.14 | @ 12.00 | | @ 12.00 | @ 17.48 | @ 8.00 | @ 3.00 | @ 5.65 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



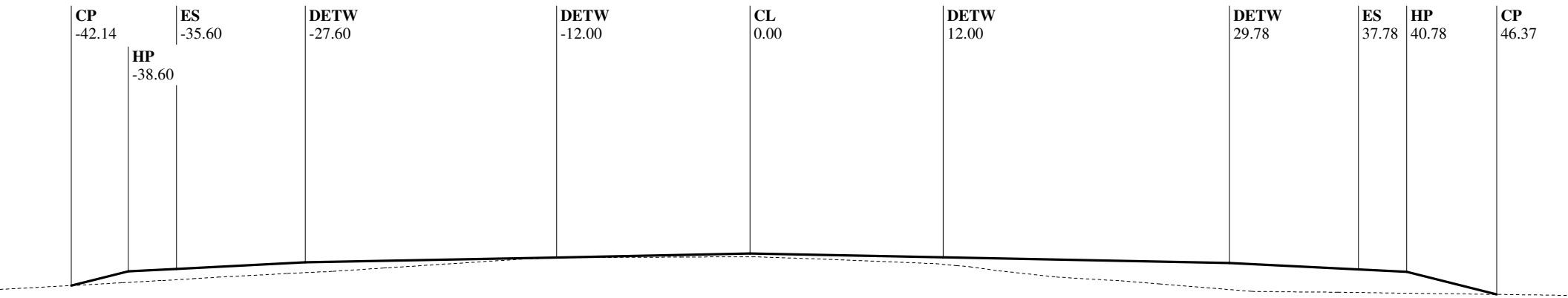

**Alignment Chain CENTER1**
**Station: 215+57.40**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | ETW | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -41.82 | -38.29 | -35.29 | -27.29 | -12.00 | 0.00 | 12.00 | 29.55 | 37.55 | 40.55 | 46.18 |
| 0.47 | 1.35 | 1.50 | 1.90 | 2.21 | 2.45 | 2.21 | 1.86 | 1.46 | 1.31 | -0.10 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.88 | F 0.15 | F 0.40 | F 0.31 | F 0.24 | | F 0.24 | F 0.35 | F 0.40 | F 0.15 | F 1.41 |
| @ 3.53 | @ 3.00 | @ 8.00 | @ 15.29 | @ 12.00 | | @ 12.00 | @ 17.55 | @ 8.00 | @ 3.00 | @ 5.62 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



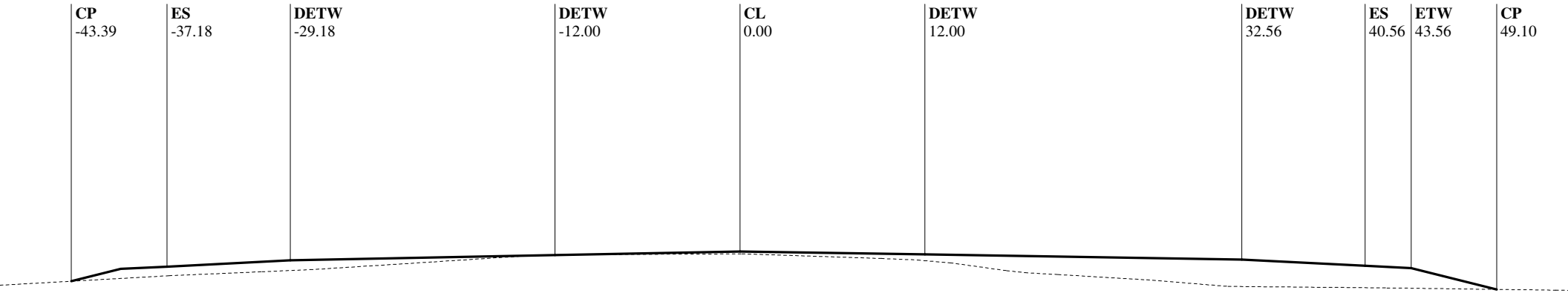

**Alignment Chain CENTER1**
**Station: 215+59.38**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -42.14 | -38.60 | -35.60 | -27.60 | -12.00 | 0.00 | 12.00 | 29.78 | 37.78 | 40.78 | 46.37 |
| 0.50 | 1.38 | 1.53 | 1.93 | 2.25 | 2.49 | 2.25 | 1.90 | 1.50 | 1.35 | -0.05 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -1.98% | -1.98% | -5.00% | -5.00% | -4.00:1 |
| F 0.88 | F 0.15 | F 0.40 | F 0.31 | F 0.24 | | F 0.24 | F 0.35 | F 0.40 | F 0.15 | F 1.40 |
| @ 3.53 | @ 3.00 | @ 8.00 | @ 15.60 | @ 12.00 | | @ 12.00 | @ 17.78 | @ 8.00 | @ 3.00 | @ 5.59 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



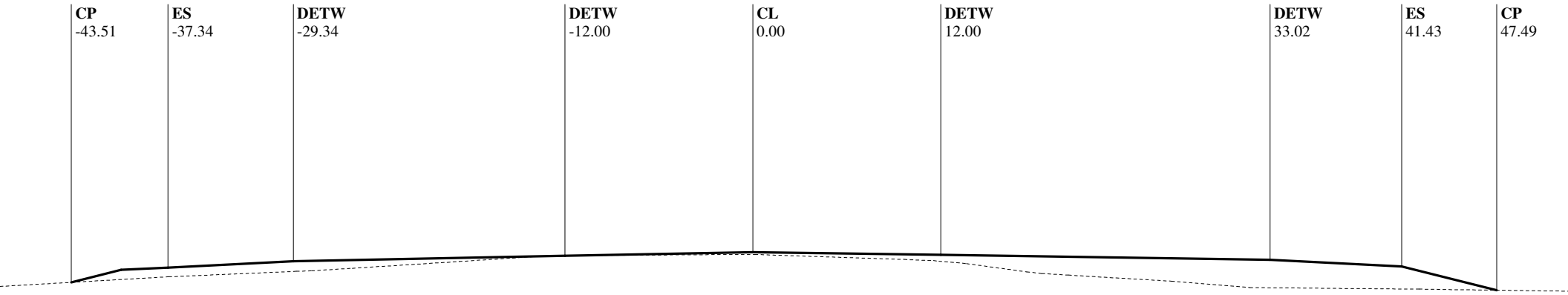

**Alignment Chain CENTER1**
**Station: 215+69.39**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **CP** | | **ES** | **DETW** | **DETW** | **CL** | **DETW** | **DETW** | **ES** | **ETW** | **CP** |
| -43.39 | -40.18 | -37.18 | -29.18 | -12.00 | 0.00 | 12.00 | 32.56 | 40.56 | 43.56 | 49.10 |
| 0.69 | 1.50 | 1.65 | 2.05 | 2.39 | 2.63 | 2.43 | 2.10 | 1.70 | 1.55 | 0.16 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -1.63% | -1.63% | -5.00% | -5.00% | -4.00:1 |
| F 0.80 | F 0.15 | F 0.40 | F 0.34 | F 0.24 | | F 0.20 | F 0.34 | F 0.40 | F 0.15 | F 1.39 |
| @ 3.21 | @ 3.00 | @ 8.00 | @ 17.18 | @ 12.00 | | @ 12.00 | @ 20.56 | @ 8.00 | @ 3.00 | @ 5.54 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

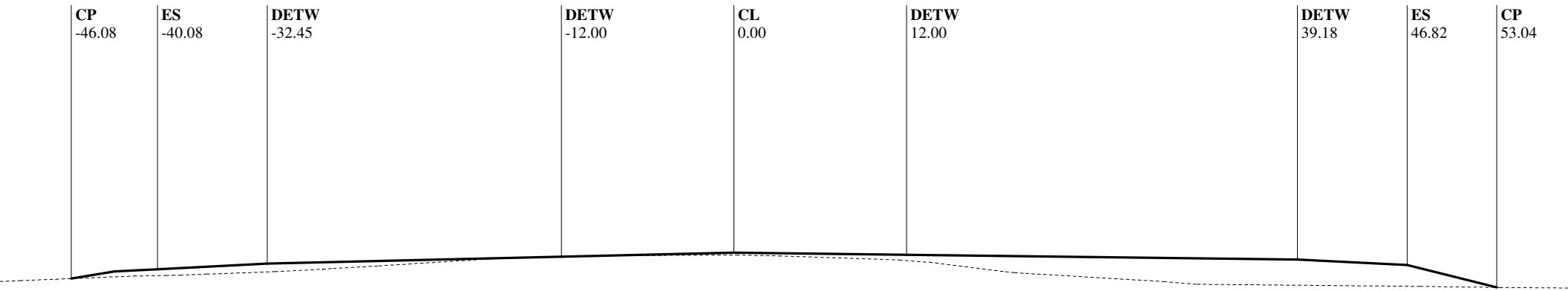



**Alignment Chain CENTER1**
**Station: 215+70.42**

| CP | | ES | DETW | DETW | CL | DETW | DETW | ES | CP |
|---|---|---|---|---|---|---|---|---|---|
| -43.51 | -40.34 | -37.34 | -29.34 | -12.00 | 0.00 | 12.00 | 33.02 | 41.43 | 47.49 |
| 0.71 | 1.51 | 1.66 | 2.06 | 2.40 | 2.64 | 2.46 | 2.15 | 1.73 | 0.21 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -1.51% | -1.51% | -5.00% | -4.00:1 |
| F 0.79 | F 0.15 | F 0.40 | F 0.35 | F 0.24 | | F 0.18 | F 0.32 | F 0.42 | F 1.51 |
| @ 3.18 | @ 3.00 | @ 8.00 | @ 17.34 | @ 12.00 | | @ 12.00 | @ 21.02 | @ 8.42 | @ 6.06 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



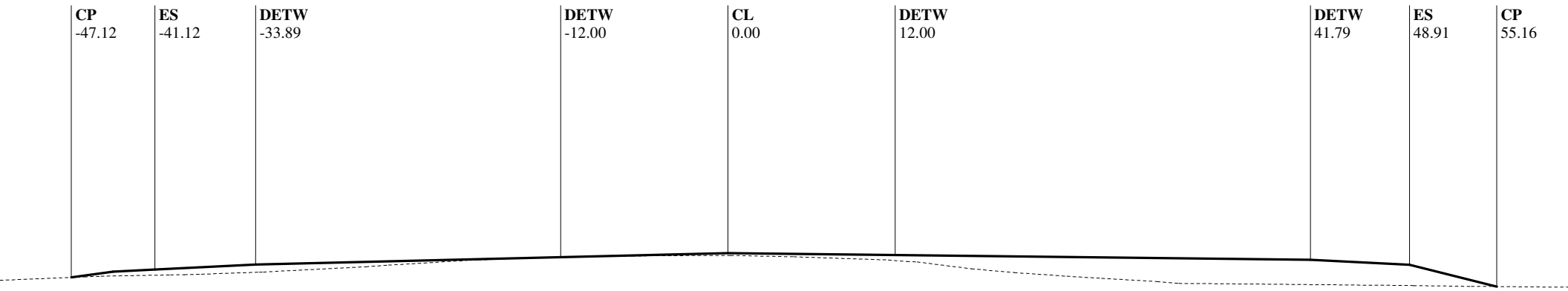

**Alignment Chain CENTER1**
**Station: 215+79.91**

| **CP** | | **ES** | **DETW** | **DETW** | **CL** | **DETW** | **DETW** | **ES** | **CP** |
|---|---|---|---|---|---|---|---|---|---|
| -46.08 | -43.08 | -40.08 | -32.45 | -12.00 | 0.00 | 12.00 | 39.18 | 46.82 | 53.04 |
| 0.99 | 1.49 | 1.64 | 2.03 | 2.50 | 2.78 | 2.64 | 2.31 | 1.93 | 0.37 |
| -5.94:1 | -5.00% | -5.00% | -2.33% | -2.33% | | -1.20% | -1.20% | -5.00% | -4.00:1 |
| F 0.51 | F 0.15 | F 0.38 | F 0.48 | F 0.28 | | F 0.14 | F 0.33 | F 0.38 | F 1.56 |
| @ 3.00 | @ 3.00 | @ 7.63 | @ 20.45 | @ 12.00 | | @ 12.00 | @ 27.18 | @ 7.63 | @ 6.23 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



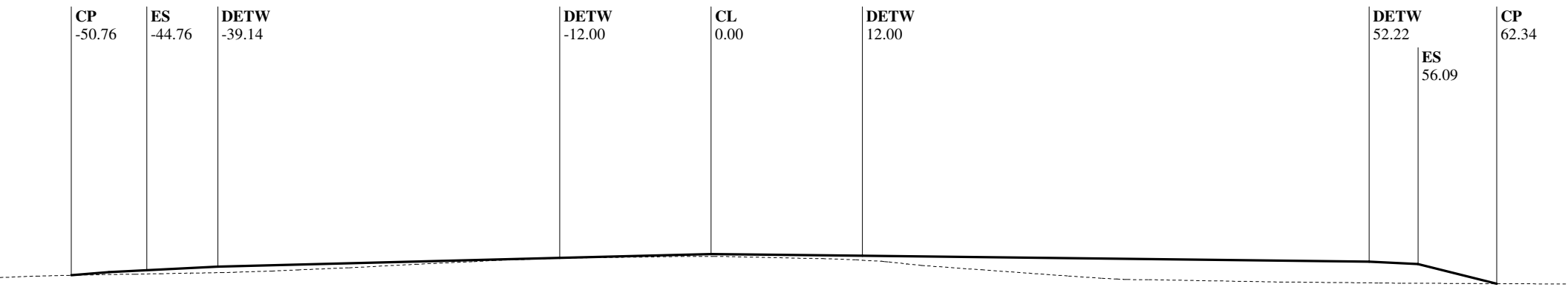

**Alignment Chain CENTER1**
**Station: 215+82.61**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **CP** | | **ES** | **DETW** | **DETW** | **CL** | **DETW** | **DETW** | **ES** | **CP** |
| -47.12 | -44.12 | -41.12 | -33.89 | -12.00 | 0.00 | 12.00 | 41.79 | 48.91 | 55.16 |
| 1.08 | 1.49 | 1.64 | 2.00 | 2.53 | 2.82 | 2.68 | 2.34 | 1.98 | 0.42 |
| -13.67% | -5.00% | -5.00% | -2.42% | -2.42% | | -1.15% | -1.15% | -5.00% | -4.00:1 |
| F 0.41 | F 0.15 | F 0.36 | F 0.53 | F 0.29 | | F 0.14 | F 0.34 | F 0.36 | F 1.56 |
| @ 3.00 | @ 3.00 | @ 7.23 | @ 21.89 | @ 12.00 | | @ 12.00 | @ 29.79 | @ 7.12 | @ 6.25 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



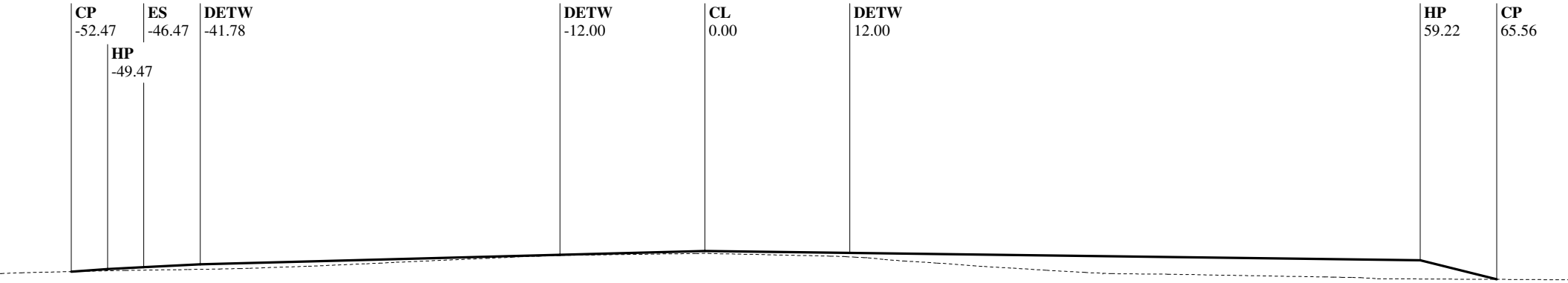

**Alignment Chain CENTER1**
**Station: 215+89.66**

| **CP** | | **ES** | **DETW** | **DETW** | **CL** | **DETW** | **DETW** | **ES** | **CP** |
|---|---|---|---|---|---|---|---|---|---|
| -50.76 | -47.76 | -44.76 | -39.14 | -12.00 | 0.00 | 12.00 | 52.22 | 56.09 | 62.34 |
| 1.23 | 1.48 | 1.63 | 1.91 | 2.61 | 2.92 | 2.78 | 2.32 | 2.12 | 0.56 |
| -8.48% | -5.00% | -5.00% | -2.58% | -2.58% | | -1.16% | -1.16% | -5.00% | -4.00:1 |
| F 0.25 | F 0.15 | F 0.28 | F 0.70 | F 0.31 | | F 0.14 | F 0.47 | F 0.19 | F 1.56 |
| @ 3.00 | @ 3.00 | @ 5.62 | @ 27.14 | @ 12.00 | | @ 12.00 | @ 40.22 | @ 3.87 | @ 6.25 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



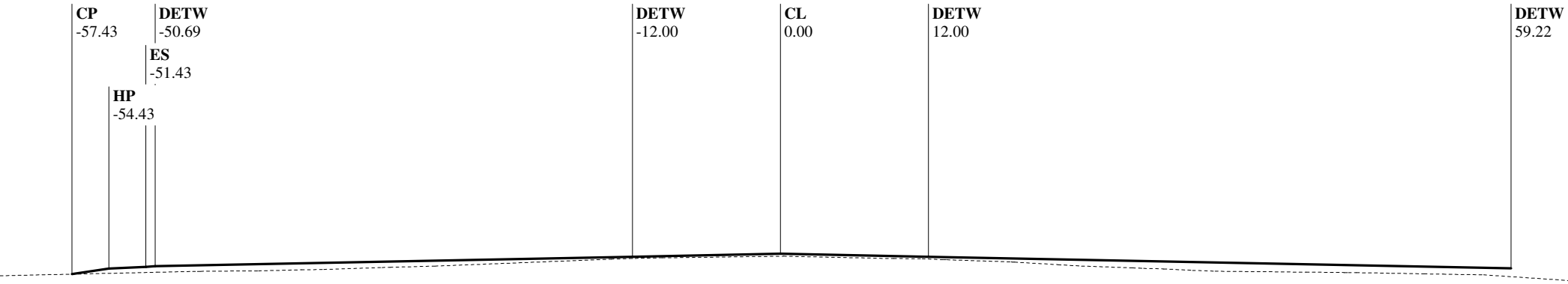

**Alignment Chain CENTER1**
**Station: 215+92.22**

| CP | HP | ES | DETW | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -52.47 | -49.47 | -46.47 | -41.78 | -12.00 | 0.00 | 12.00 | 59.22 | 65.56 |
| 1.26 | 1.48 | 1.63 | 1.86 | 2.64 | 2.96 | 2.81 | 2.20 | 0.61 |
| -7.26% | -5.00% | -5.00% | -2.63% | -2.63% | | -1.28% | -1.28% | -4.00:1 |
| F 0.22 | F 0.15 | F 0.23 | F 0.78 | F 0.32 | | F 0.15 | F 0.61 | F 1.59 |
| @ 3.00 | @ 3.00 | @ 4.69 | @ 29.78 | @ 12.00 | | @ 12.00 | @ 47.22 | @ 6.34 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

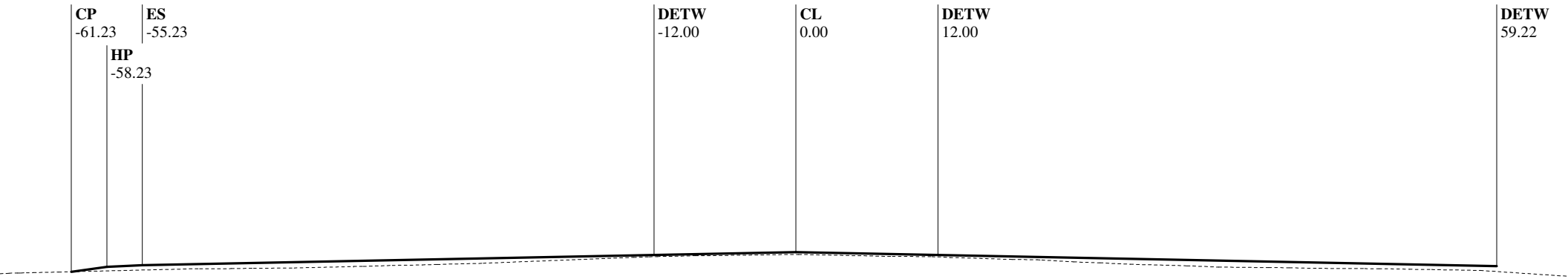



**Alignment Chain CENTER1**
**Station: 215+98.17**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW |
|---|---|---|---|---|---|---|---|
| -57.43 | -54.43 | -51.43 | -50.69 | -12.00 | 0.00 | 12.00 | 59.22 |
| 1.31 | 1.76 | 1.91 | 1.95 | 2.72 | 2.96 | 2.72 | 1.78 |
| -14.99% | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% |
| F 0.45 | F 0.15 | F 0.04 | F 0.77 | F 0.24 | | F 0.24 | F 0.94 |
| @ 3.00 | @ 3.00 | @ 0.74 | @ 38.69 | @ 12.00 | | @ 12.00 | @ 47.22 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

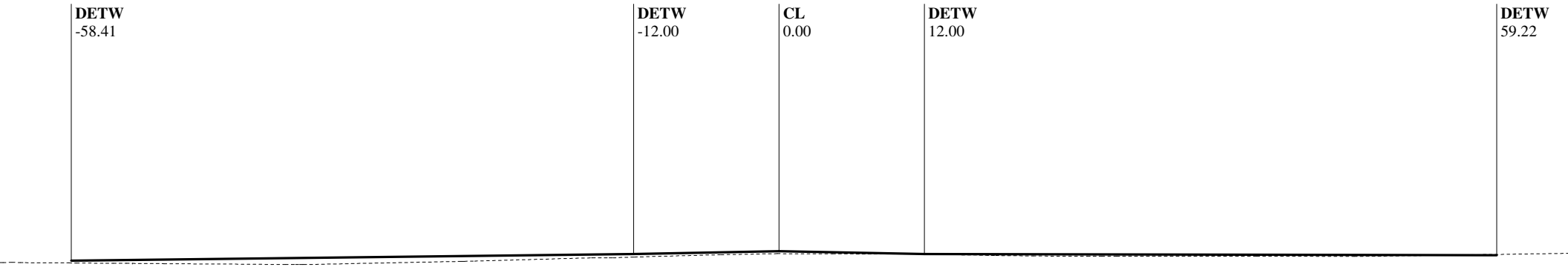



**Alignment Chain CENTER1**
**Station: 216+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW |
|---|---|---|---|---|---|---|
| -61.23 | -58.23 | -55.23 | -12.00 | 0.00 | 12.00 | 59.22 |
| 1.29 | 1.70 | 1.85 | 2.71 | 2.95 | 2.71 | 1.77 |
| -13.57% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% |
| F 0.41 | F 0.15 | F 0.86 | F 0.24 | | F 0.24 | F 0.94 |
| @ 3.00 | @ 3.00 | @ 43.23 | @ 12.00 | | @ 12.00 | @ 47.22 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

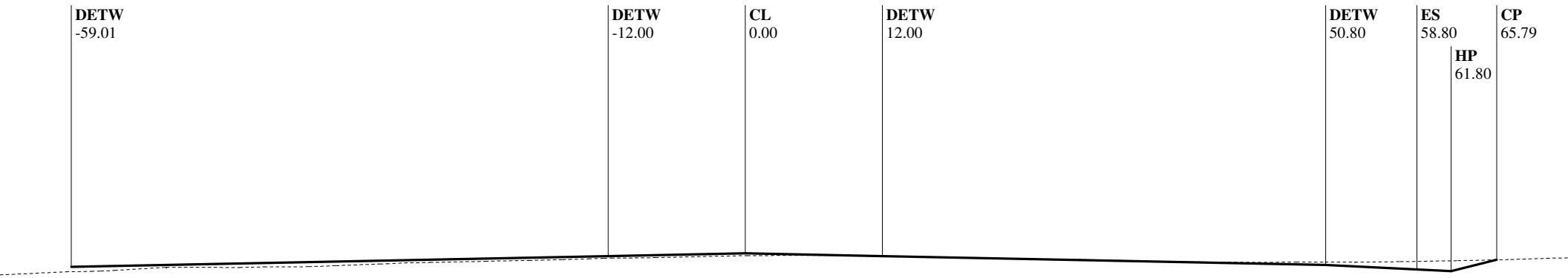



**Alignment Chain CENTER1**
**Station: 216+21.13**

| DETW | DETW | CL | DETW | DETW |
|---|---|---|---|---|
| -58.41 | -12.00 | 0.00 | 12.00 | 59.22 |
| 2.04 | 2.57 | 2.81 | 2.57 | 2.48 |
| -1.15% | -2.00% | | -2.00% | -0.20% |
| F 0.53 | F 0.24 | | F 0.24 | F 0.09 |
| @ 46.41 | @ 12.00 | | @ 12.00 | @ 47.22 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



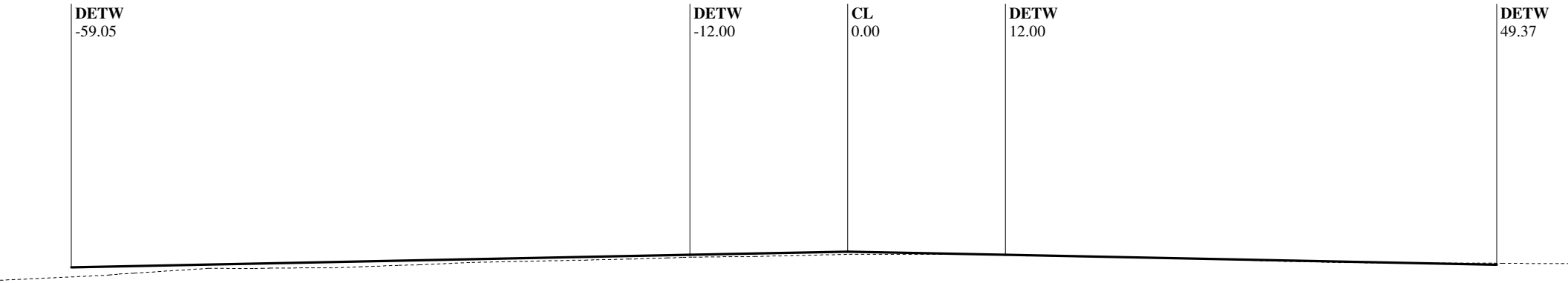

**Alignment Chain CENTER1**
**Station: 216+42.65**

| DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|
| -59.01 | -12.00 | 0.00 | 12.00 | 50.80 | 58.80 | 61.80 | 65.79 |
| 1.17 | 2.11 | 2.35 | 2.11 | 1.34 | 0.94 | 0.79 | 1.79 |
| -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.94 | F 0.24 | | F 0.24 | F 0.78 | F 0.40 | F 0.15 | C 1.00 |
| @ 47.01 | @ 12.00 | | @ 12.00 | @ 38.80 | @ 8.00 | @ 3.00 | @ 3.99 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



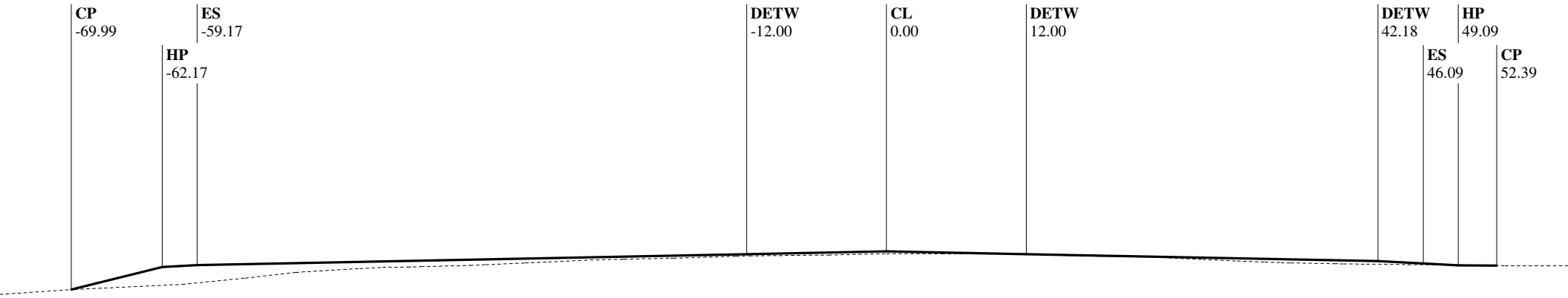

**Alignment Chain CENTER1**
**Station: 216+44.23**

| DETW | DETW | CL | DETW | DETW |
|---|---|---|---|---|
| -59.05 | -12.00 | 0.00 | 12.00 | 49.37 |
| 1.13 | 2.08 | 2.32 | 2.08 | 1.33 |
| -2.00% | -2.00% | | -2.00% | -2.00% |
| F 0.94 | F 0.24 | | F 0.24 | F 0.75 |
| @ 47.05 | @ 12.00 | | @ 12.00 | @ 37.37 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



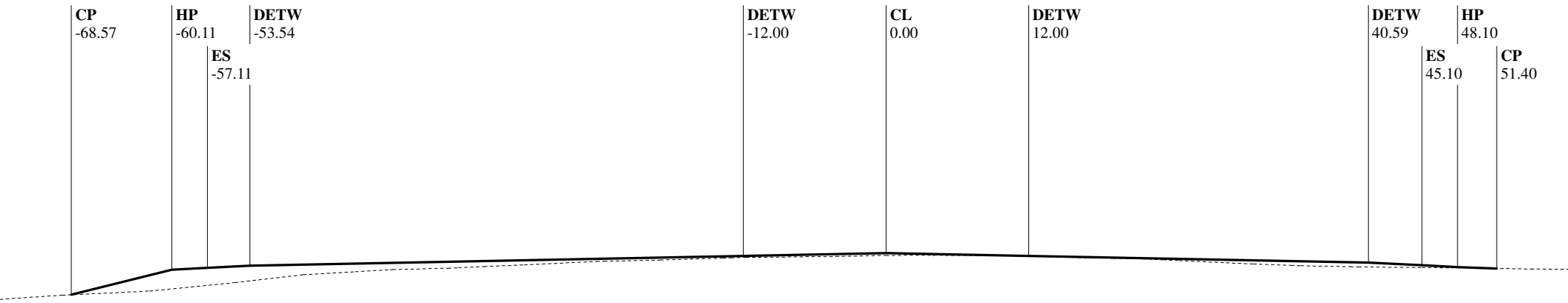

**Alignment Chain CENTER1**
**Station: 216+48.50**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -69.99 | -62.17 | -59.17 | -12.00 | 0.00 | 12.00 | 42.18 | 46.09 | 49.09 | 52.39 |
| -1.08 | 0.88 | 1.03 | 1.97 | 2.21 | 1.97 | 1.37 | 1.17 | 1.02 | 0.99 |
| -4.00:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -0.86% |
| F 1.95 | F 0.15 | F 0.94 | F 0.24 | | F 0.24 | F 0.60 | F 0.20 | F 0.15 | F 0.03 |
| @ 7.82 | @ 3.00 | @ 47.17 | @ 12.00 | | @ 12.00 | @ 30.18 | @ 3.91 | @ 3.00 | @ 3.30 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

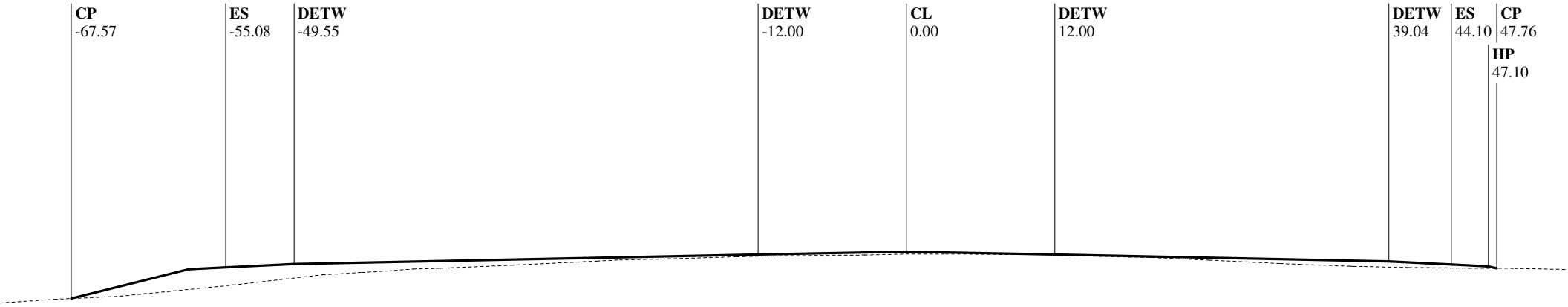



**Alignment Chain CENTER1**
**Station: 216+50.00**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -68.57 | -60.11 | -57.11 | -53.54 | -12.00 | 0.00 | 12.00 | 40.59 | 45.10 | 48.10 | 51.40 |
| -1.34 | 0.78 | 0.93 | 1.10 | 1.94 | 2.18 | 1.94 | 1.36 | 1.14 | 0.99 | 0.88 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -3.34% |
| F 2.12 | F 0.15 | F 0.18 | F 0.83 | F 0.24 | | F 0.24 | F 0.57 | F 0.23 | F 0.15 | F 0.11 |
| @ 8.47 | @ 3.00 | @ 3.56 | @ 41.54 | @ 12.00 | | @ 12.00 | @ 28.59 | @ 4.51 | @ 3.00 | @ 3.30 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



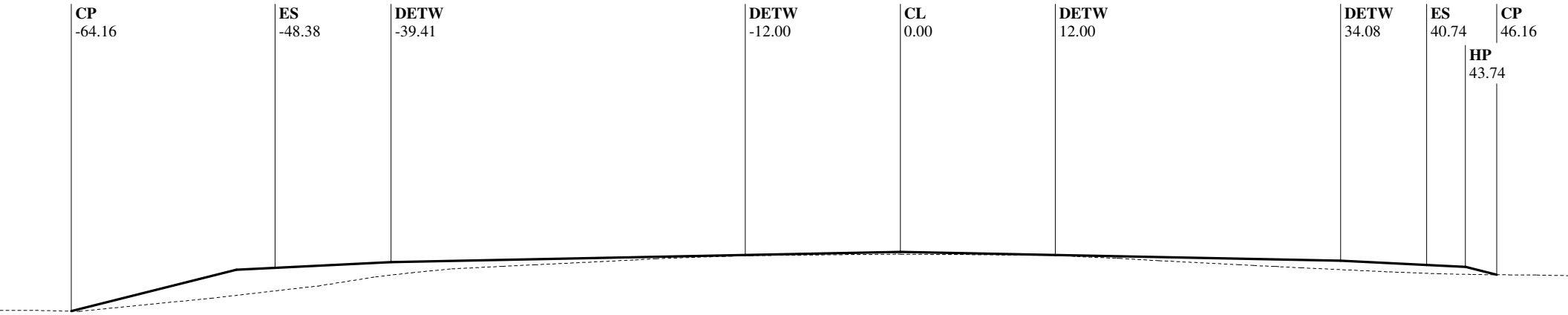

**Alignment Chain CENTER1**
**Station: 216+51.64**

| CP | | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -67.57 | -58.08 | -55.08 | -49.55 | -12.00 | 0.00 | 12.00 | 39.04 | 44.10 | 47.10 | 47.76 |
| -1.66 | 0.71 | 0.86 | 1.14 | 1.89 | 2.13 | 1.89 | 1.35 | 1.10 | 0.95 | 0.78 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.37 | F 0.15 | F 0.28 | F 0.75 | F 0.24 | | F 0.24 | F 0.54 | F 0.25 | F 0.15 | F 0.17 |
| @ 9.49 | @ 3.00 | @ 5.53 | @ 37.55 | @ 12.00 | | @ 12.00 | @ 27.04 | @ 5.06 | @ 3.00 | @ 0.66 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



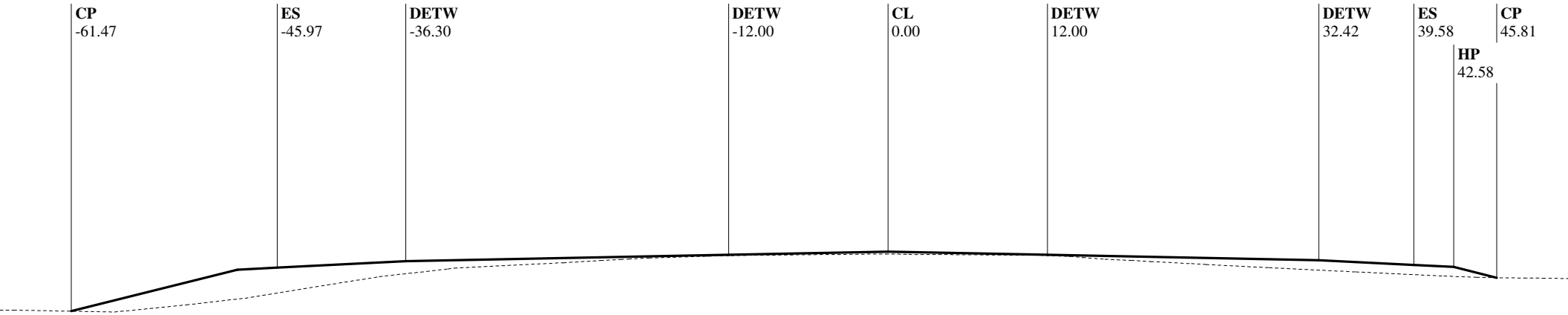

**Alignment Chain CENTER1**
**Station: 216+58.59**

| **CP** | | **ES** | **DETW** | **DETW** | **CL** | **DETW** | **DETW** | **ES** | **HP** | **CP** |
|---|---|---|---|---|---|---|---|---|---|---|
| -64.16 | -51.38 | -48.38 | -39.41 | -12.00 | 0.00 | 12.00 | 34.08 | 40.74 | 43.74 | 46.16 |
| -2.65 | 0.55 | 0.70 | 1.15 | 1.70 | 1.94 | 1.70 | 1.25 | 0.92 | 0.77 | 0.17 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.20 | F 0.15 | F 0.45 | F 0.55 | F 0.24 | | F 0.24 | F 0.44 | F 0.33 | F 0.15 | F 0.60 |
| @ 12.79 | @ 3.00 | @ 8.96 | @ 27.41 | @ 12.00 | | @ 12.00 | @ 22.08 | @ 6.67 | @ 3.00 | @ 2.42 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



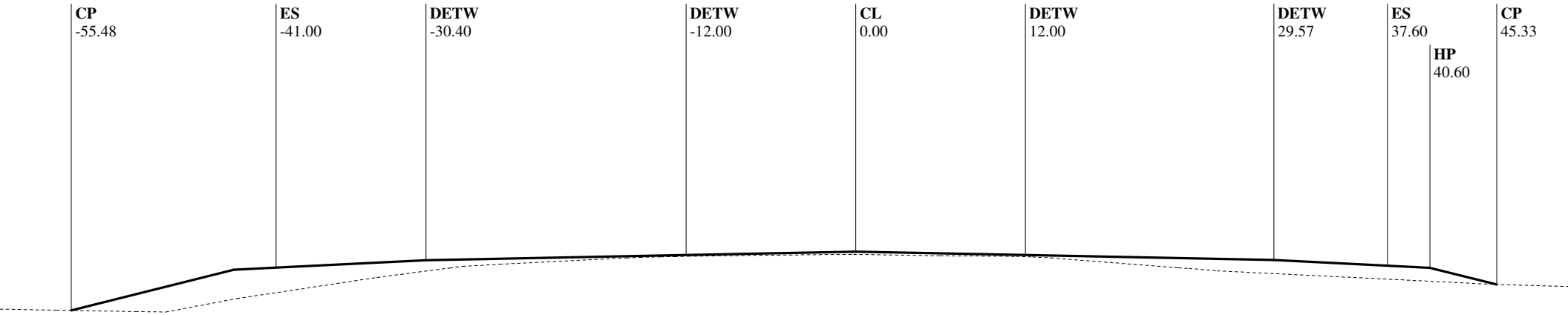

**Alignment Chain CENTER1**
**Station: 216+61.89**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **CP** | | **ES** | **DETW** | **DETW** | **CL** | **DETW** | **DETW** | **ES** | **HP** | **CP** |
| -61.47 | -48.97 | -45.97 | -36.30 | -12.00 | 0.00 | 12.00 | 32.42 | 39.58 | 42.58 | 45.81 |
| -2.64 | 0.48 | 0.63 | 1.12 | 1.60 | 1.84 | 1.60 | 1.20 | 0.84 | 0.69 | -0.12 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.12 | F 0.15 | F 0.48 | F 0.49 | F 0.24 | | F 0.24 | F 0.41 | F 0.36 | F 0.15 | F 0.81 |
| @ 12.50 | @ 3.00 | @ 9.67 | @ 24.30 | @ 12.00 | | @ 12.00 | @ 20.42 | @ 7.16 | @ 3.00 | @ 3.23 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



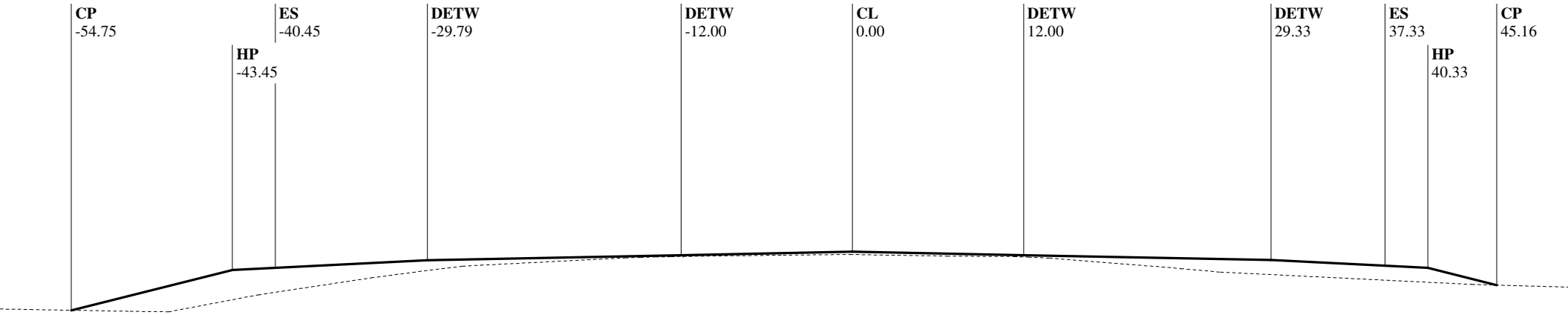

**Alignment Chain CENTER1**
**Station: 216+71.41**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **CP** | | **ES** | **DETW** | **DETW** | **CL** | **DETW** | **DETW** | **ES** | **HP** | **CP** |
| -55.48 | -44.00 | -41.00 | -30.40 | -12.00 | 0.00 | 12.00 | 29.57 | 37.60 | 40.60 | 45.33 |
| -2.58 | 0.29 | 0.44 | 0.97 | 1.34 | 1.58 | 1.34 | 0.99 | 0.59 | 0.44 | -0.75 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.87 | F 0.15 | F 0.53 | F 0.37 | F 0.24 | | F 0.24 | F 0.35 | F 0.40 | F 0.15 | F 1.18 |
| @ 11.49 | @ 3.00 | @ 10.60 | @ 18.40 | @ 12.00 | | @ 12.00 | @ 17.57 | @ 8.03 | @ 3.00 | @ 4.73 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



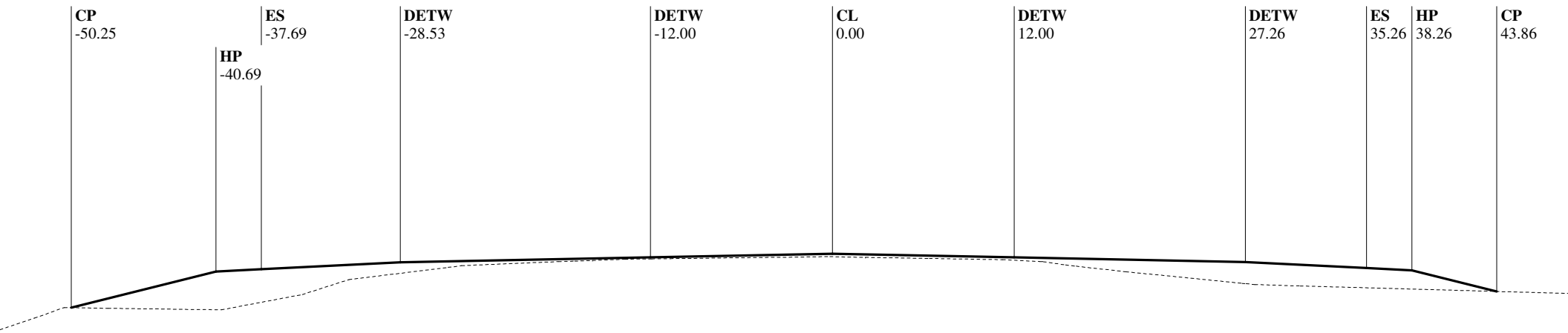

**Alignment Chain CENTER1**
**Station: 216+72.88**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -54.75 | -43.45 | -40.45 | -29.79 | -12.00 | 0.00 | 12.00 | 29.33 | 37.33 | 40.33 | 45.16 |
| -2.57 | 0.26 | 0.41 | 0.94 | 1.30 | 1.54 | 1.30 | 0.95 | 0.55 | 0.40 | -0.81 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.82 | F 0.15 | F 0.53 | F 0.36 | F 0.24 | | F 0.24 | F 0.35 | F 0.40 | F 0.15 | F 1.21 |
| @ 11.30 | @ 3.00 | @ 10.65 | @ 17.79 | @ 12.00 | | @ 12.00 | @ 17.33 | @ 8.00 | @ 3.00 | @ 4.82 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



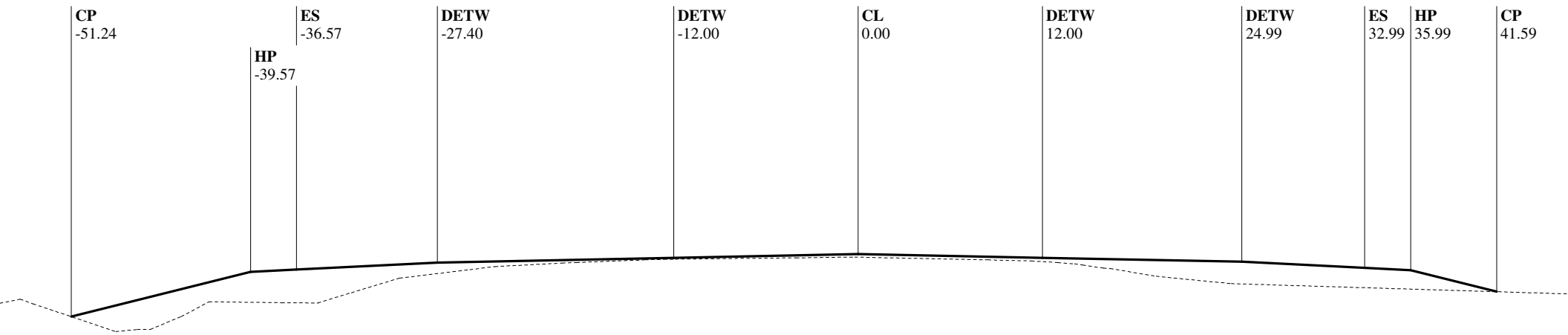

**Alignment Chain CENTER1**
**Station: 216+85.82**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -50.25 | -40.69 | -37.69 | -28.53 | -12.00 | 0.00 | 12.00 | 27.26 | 35.26 | 38.26 | 43.86 |
| -2.40 | -0.01 | 0.14 | 0.60 | 0.93 | 1.17 | 0.93 | 0.62 | 0.22 | 0.07 | -1.33 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.39 | F 0.15 | F 0.46 | F 0.33 | F 0.24 | | F 0.24 | F 0.31 | F 0.40 | F 0.15 | F 1.40 |
| @ 9.55 | @ 3.00 | @ 9.17 | @ 16.53 | @ 12.00 | | @ 12.00 | @ 15.26 | @ 8.00 | @ 3.00 | @ 5.60 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



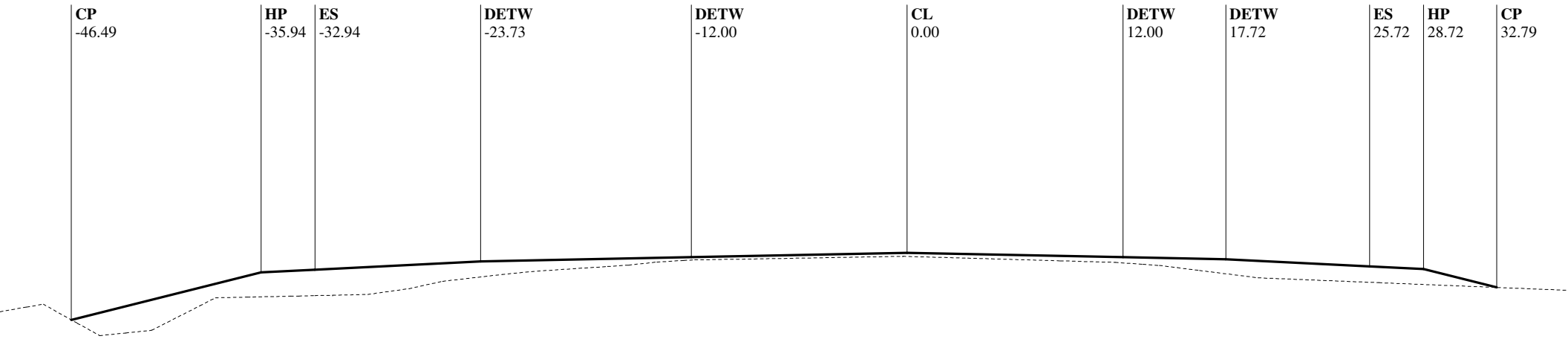

**Alignment Chain CENTER1**
**Station: 217+00.00**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -51.24 | -39.57 | -36.57 | -27.40 | -12.00 | 0.00 | 12.00 | 24.99 | 32.99 | 35.99 | 41.59 |
| -3.26 | -0.35 | -0.20 | 0.26 | 0.57 | 0.81 | 0.57 | 0.31 | -0.09 | -0.24 | -1.64 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.92 | F 0.15 | F 0.46 | F 0.31 | F 0.24 | | F 0.24 | F 0.26 | F 0.40 | F 0.15 | F 1.40 |
| @ 11.67 | @ 3.00 | @ 9.18 | @ 15.40 | @ 12.00 | | @ 12.00 | @ 12.99 | @ 8.00 | @ 3.00 | @ 5.60 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



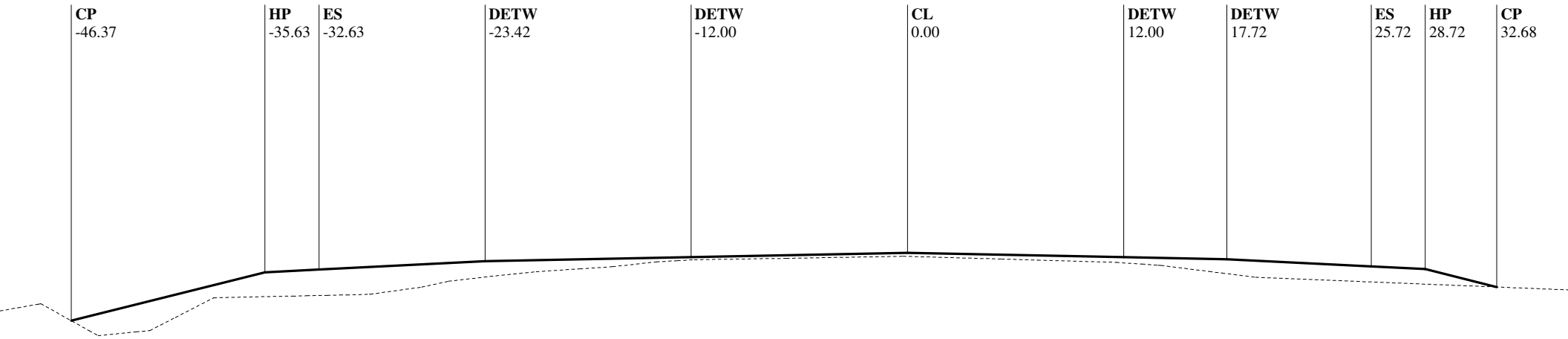

**Alignment Chain CENTER1**
**Station: 217+46.09**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -46.49 | -35.94 | -32.94 | -23.73 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 32.79 |
| -3.51 | -0.87 | -0.72 | -0.26 | -0.02 | 0.22 | -0.02 | -0.14 | -0.54 | -0.69 | -1.71 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.64 | F 0.15 | F 0.46 | F 0.23 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.02 |
| @ 10.55 | @ 3.00 | @ 9.21 | @ 11.73 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 4.07 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



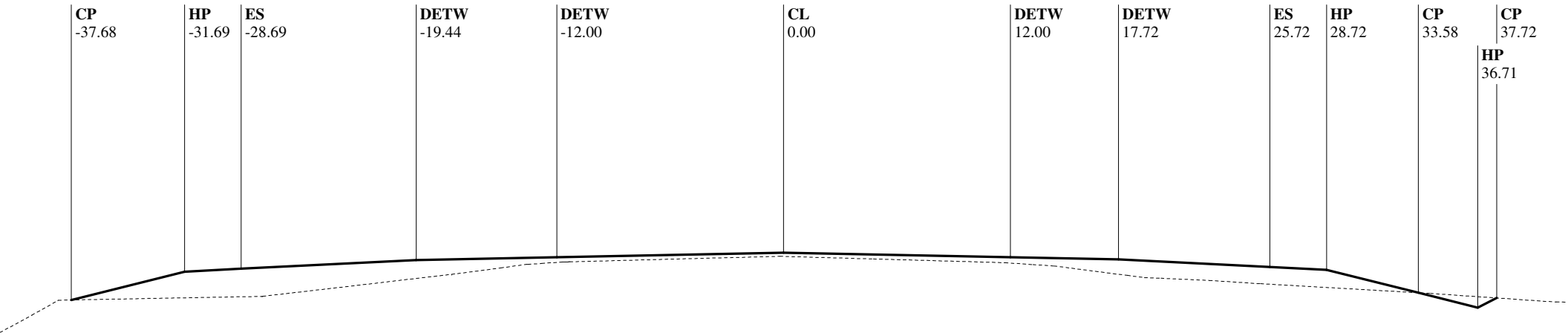

**Alignment Chain CENTER1**
**Station: 217+50.00**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -46.37 | -35.63 | -32.63 | -23.42 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 32.68 |
| -3.56 | -0.88 | -0.73 | -0.27 | -0.04 | 0.20 | -0.04 | -0.15 | -0.55 | -0.70 | -1.69 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.68 | F 0.15 | F 0.46 | F 0.23 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 0.99 |
| @ 10.74 | @ 3.00 | @ 9.21 | @ 11.42 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 3.97 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 218+00.00**

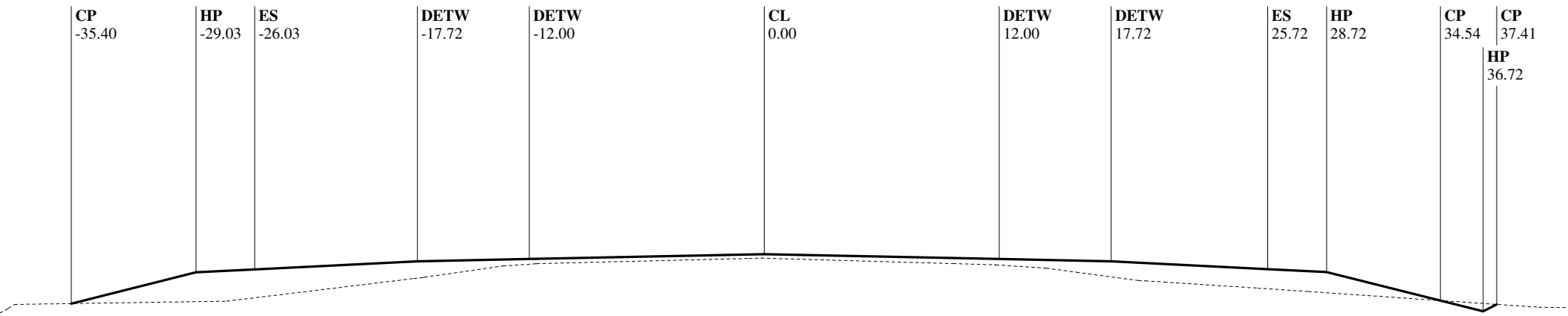
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -37.68 | -31.69 | -28.69 | -19.44 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 33.58 |
| -2.35 | -0.86 | -0.71 | -0.24 | -0.09 | 0.15 | -0.09 | -0.21 | -0.61 | -0.76 | -1.98 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.50 | F 0.15 | F 0.46 | F 0.15 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.22 |
| @ 5.99 | @ 3.00 | @ 9.25 | @ 7.44 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 4.87 |

| HP | CP |
|---|---|
| 36.71 | 37.72 |
| -2.76 | -2.25 |
| -4.00:1 | 2.00:1 |
| F 0.78 | C 0.51 |
| @ 3.13 | @ 1.01 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 218+33.80**

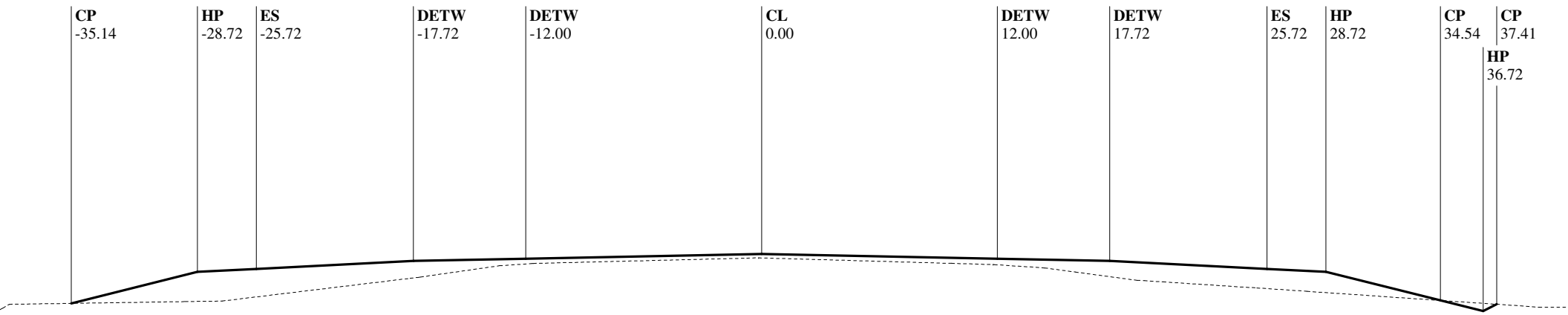
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -35.40 | -29.03 | -26.03 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 34.54 |
| -2.38 | -0.78 | -0.63 | -0.22 | -0.10 | 0.14 | -0.10 | -0.22 | -0.62 | -0.77 | -2.22 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.59 | F 0.15 | F 0.42 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.46 |
| @ 6.37 | @ 3.00 | @ 8.31 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 5.82 |

| HP | CP |
|---|---|
| 36.72 | 37.41 |
| -2.77 | -2.42 |
| -4.00:1 | 2.00:1 |
| F 0.54 | C 0.35 |
| @ 2.18 | @ 0.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 218+33.82**

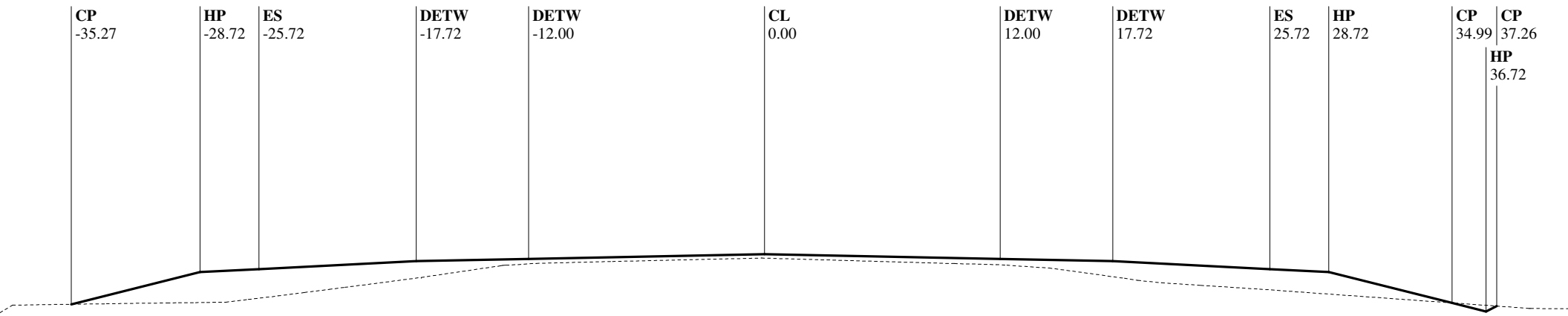
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -35.14 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 34.54 |
| -2.37 | -0.77 | -0.62 | -0.22 | -0.10 | 0.14 | -0.10 | -0.22 | -0.62 | -0.77 | -2.22 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.60 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.46 |
| @ 6.42 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 5.82 |

| HP | CP |
|---|---|
| 36.72 | 37.41 |
| -2.77 | -2.42 |
| -4.00:1 | 2.00:1 |
| F 0.54 | C 0.35 |
| @ 2.18 | @ 0.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 218+50.00**

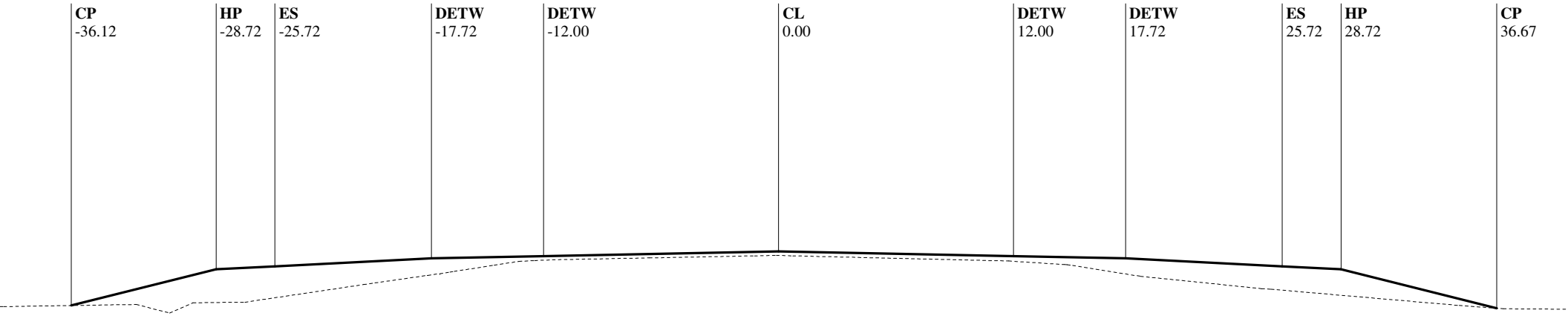
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -35.27 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 34.99 |
| -2.40 | -0.76 | -0.61 | -0.21 | -0.10 | 0.14 | -0.10 | -0.21 | -0.61 | -0.76 | -2.33 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.64 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.57 |
| @ 6.55 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 6.28 |

| HP | CP |
|---|---|
| 36.72 | 37.26 |
| -2.76 | -2.49 |
| -4.00:1 | 2.00:1 |
| F 0.43 | C 0.27 |
| @ 1.73 | @ 0.54 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



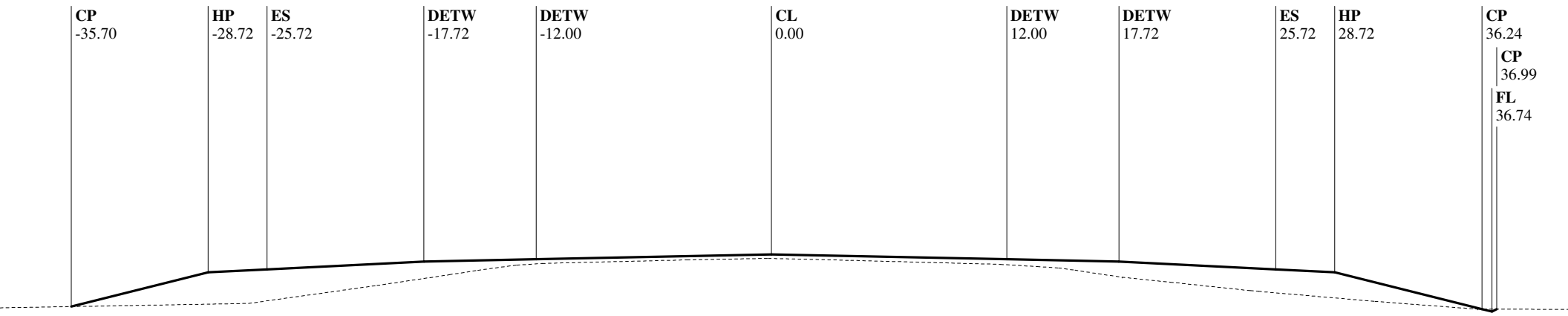

**Alignment Chain CENTER1**
**Station: 219+00.00**

| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -36.12 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 36.67 |
| -2.60 | -0.75 | -0.60 | -0.20 | -0.08 | 0.16 | -0.08 | -0.20 | -0.60 | -0.75 | -2.74 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.85 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.99 |
| @ 7.40 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 7.96 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 219+50.00**

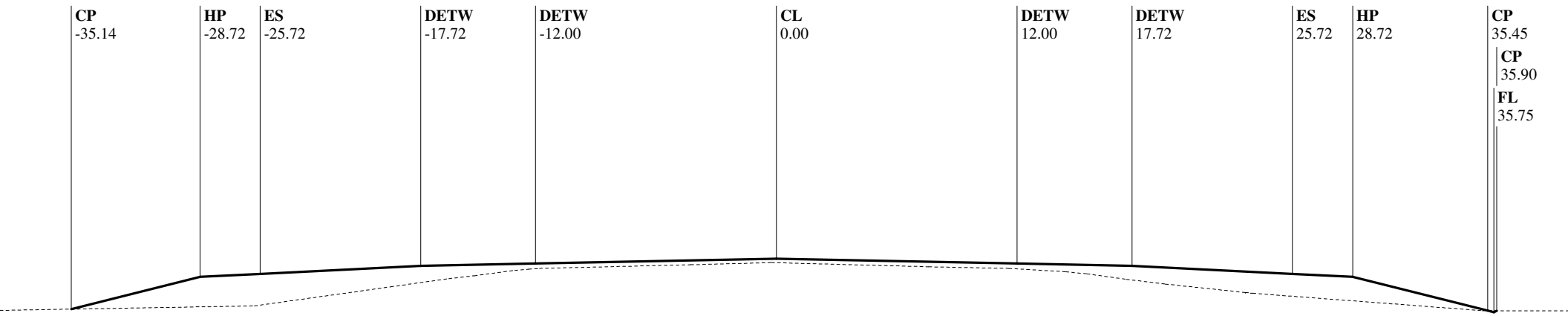
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -35.70 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 36.24 |
| -2.67 | -0.92 | -0.77 | -0.37 | -0.26 | -0.02 | -0.26 | -0.37 | -0.77 | -0.92 | -2.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.75 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.88 |
| @ 6.99 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 7.52 |

| FL | CP |
|---|---|
| 36.74 | 36.99 |
| -2.93 | -2.81 |
| -4.00:1 | 2.00:1 |
| F 0.13 | C 0.12 |
| @ 0.50 | @ 0.25 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 220+00.00**

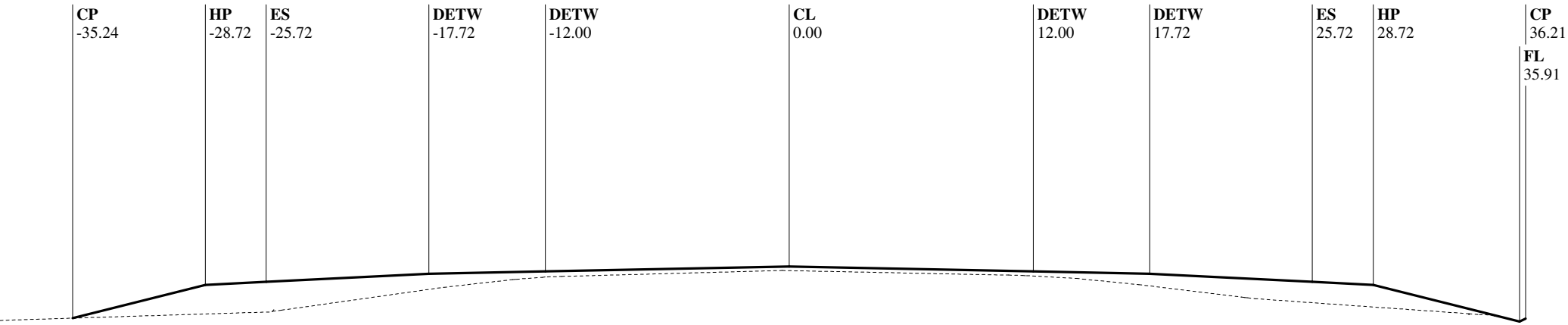
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -35.14 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 35.45 |
| -2.75 | -1.14 | -0.99 | -0.59 | -0.48 | -0.24 | -0.48 | -0.59 | -0.99 | -1.14 | -2.83 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.61 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.68 |
| @ 6.42 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 6.73 |

| FL | CP |
|---|---|
| 35.75 | 35.90 |
| -2.90 | -2.83 |
| -4.00:1 | 2.00:1 |
| F 0.08 | C 0.07 |
| @ 0.30 | @ 0.15 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 220+50.00**

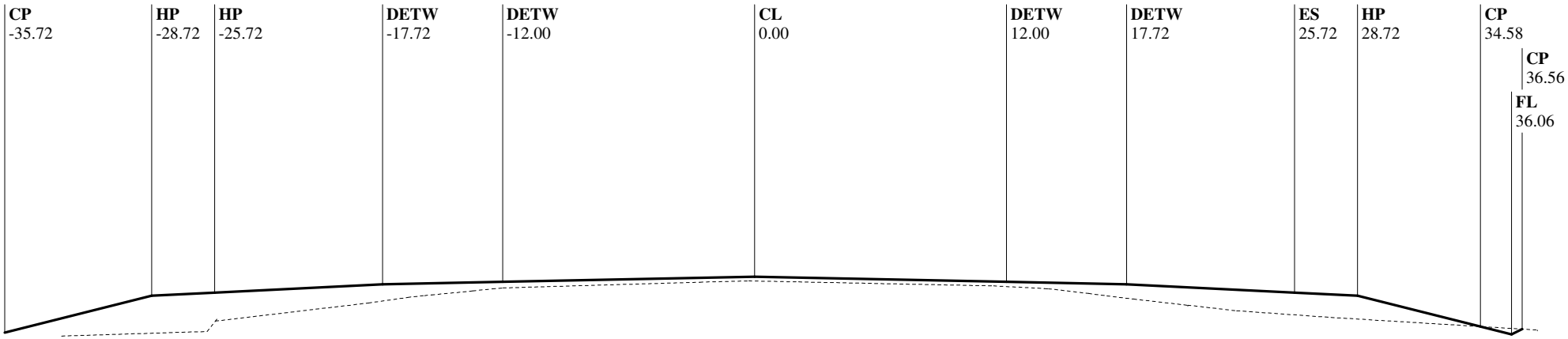
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -35.24 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 35.91 |
| -2.99 | -1.36 | -1.21 | -0.81 | -0.69 | -0.45 | -0.69 | -0.81 | -1.21 | -1.36 | -3.16 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.63 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.80 |
| @ 6.52 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 7.19 |

| CP |
|---|
| 36.21 |
| -3.01 |
| 2.00:1 |
| C 0.15 |
| @ 0.30 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 221+00.00**

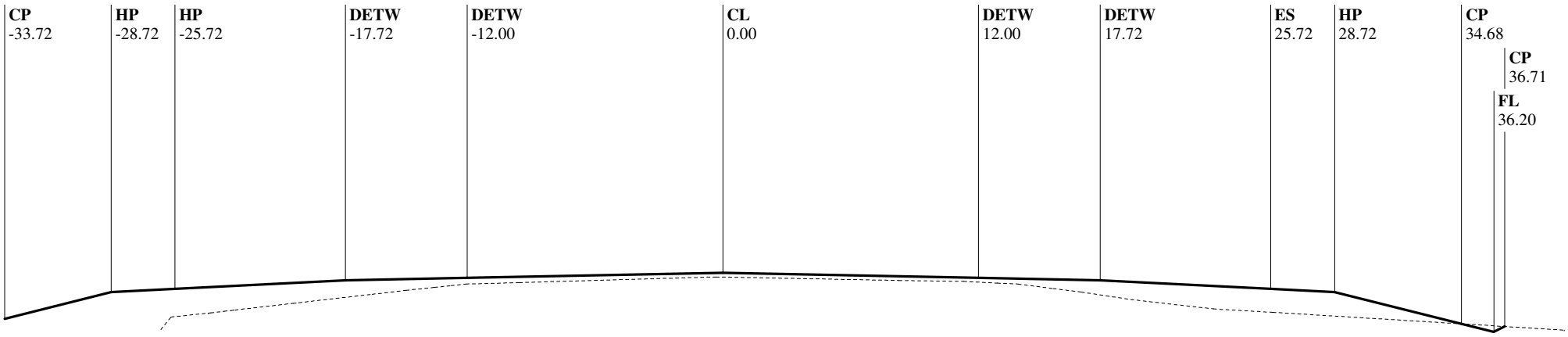
| CP | HP | HP | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -35.72 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 34.58 |
| -3.07 | -1.32 | -1.17 | -0.77 | -0.65 | -0.41 | -0.65 | -0.77 | -1.17 | -1.32 | -2.78 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.75 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.46 |
| @ 7.00 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 5.86 |

| FL | CP |
|---|---|
| 36.06 | 36.56 |
| -3.15 | -2.90 |
| -4.00:1 | 2.00:1 |
| F 0.37 | C 0.25 |
| @ 1.49 | @ 0.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 221+42.51**

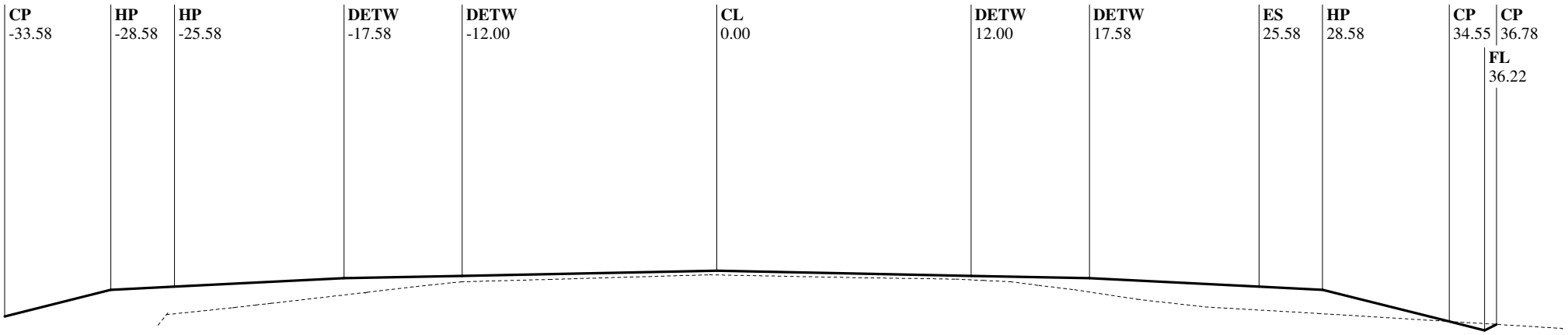
| CP | HP | HP | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.72 | -28.72 | -25.72 | -17.72 | -12.00 | 0.00 | 12.00 | 17.72 | 25.72 | 28.72 | 34.68 |
| -2.49 | -1.24 | -1.09 | -0.69 | -0.58 | -0.34 | -0.58 | -0.69 | -1.09 | -1.24 | -2.73 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.25 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.49 |
| @ 5.00 | @ 3.00 | @ 8.00 | @ 5.72 | @ 12.00 | | @ 12.00 | @ 5.72 | @ 8.00 | @ 3.00 | @ 5.96 |

| FL | CP |
|---|---|
| 36.20 | 36.71 |
| -3.11 | -2.86 |
| -4.00:1 | 2.00:1 |
| F 0.38 | C 0.26 |
| @ 1.52 | @ 0.51 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 221+50.00**

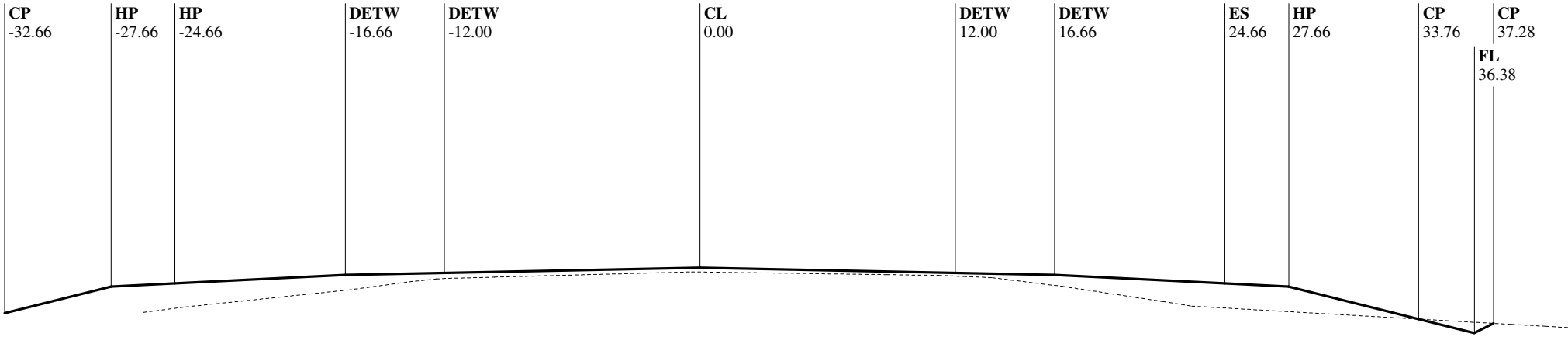
| CP | HP | HP | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.58 | -28.58 | -25.58 | -17.58 | -12.00 | 0.00 | 12.00 | 17.58 | 25.58 | 28.58 | 34.55 |
| -2.48 | -1.23 | -1.08 | -0.68 | -0.56 | -0.32 | -0.56 | -0.68 | -1.08 | -1.23 | -2.72 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.25 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 1.49 |
| @ 5.00 | @ 3.00 | @ 8.00 | @ 5.58 | @ 12.00 | | @ 12.00 | @ 5.58 | @ 8.00 | @ 3.00 | @ 5.97 |

| FL | CP |
|---|---|
| 36.22 | 36.78 |
| -3.13 | -2.85 |
| -4.00:1 | 2.00:1 |
| F 0.42 | C 0.28 |
| @ 1.67 | @ 0.56 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 222+00.00**

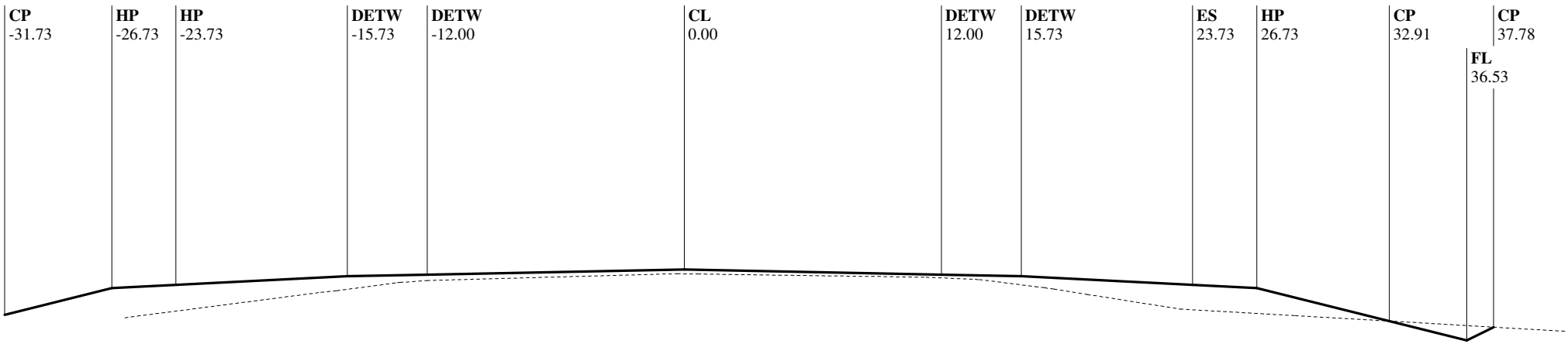
| CP | HP | HP | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.66 | -27.66 | -24.66 | -16.66 | -12.00 | 0.00 | 12.00 | 16.66 | 24.66 | 27.66 | 33.76 |
| -2.39 | -1.14 | -0.99 | -0.59 | -0.49 | -0.25 | -0.49 | -0.59 | -0.99 | -1.14 | -2.66 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.25 | F 0.15 | F 0.40 | F 0.09 | F 0.24 | | F 0.24 | F 0.09 | F 0.40 | F 0.15 | F 1.53 |
| @ 5.00 | @ 3.00 | @ 8.00 | @ 4.66 | @ 12.00 | | @ 12.00 | @ 4.66 | @ 8.00 | @ 3.00 | @ 6.10 |

| FL | CP |
|---|---|
| 36.38 | 37.28 |
| -3.32 | -2.86 |
| -4.00:1 | 2.00:1 |
| F 0.65 | C 0.45 |
| @ 2.62 | @ 0.91 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 222+50.00**

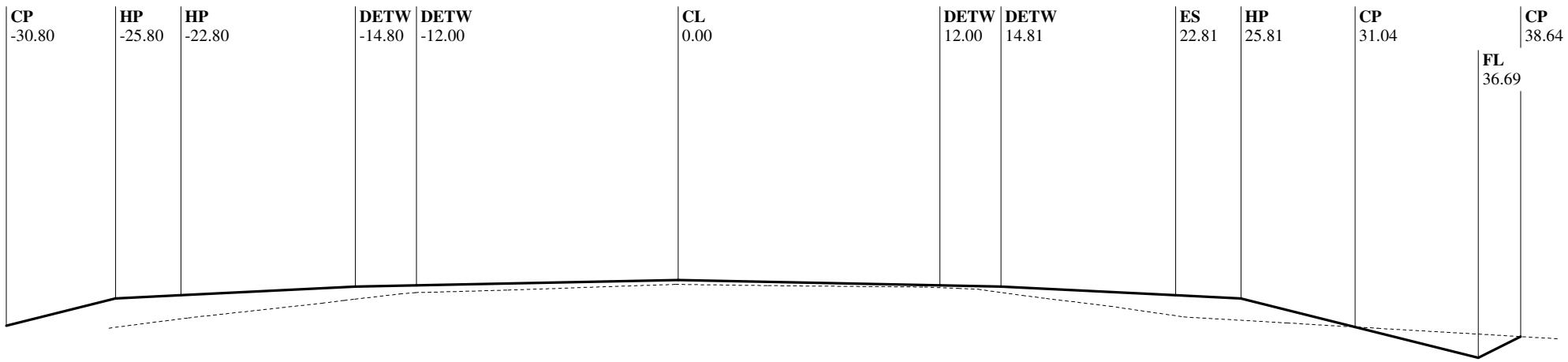
| CP | HP | HP | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.73 | -26.73 | -23.73 | -15.73 | -12.00 | 0.00 | 12.00 | 15.73 | 23.73 | 26.73 | 32.91 |
| -2.38 | -1.13 | -0.98 | -0.58 | -0.50 | -0.26 | -0.50 | -0.58 | -0.98 | -1.13 | -2.67 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.25 | F 0.15 | F 0.40 | F 0.07 | F 0.24 | | F 0.24 | F 0.07 | F 0.40 | F 0.15 | F 1.54 |
| @ 5.00 | @ 3.00 | @ 8.00 | @ 3.73 | @ 12.00 | | @ 12.00 | @ 3.73 | @ 8.00 | @ 3.00 | @ 6.17 |

| FL | CP |
|---|---|
| 36.53 | 37.78 |
| -3.58 | -2.95 |
| -4.00:1 | 2.00:1 |
| F 0.91 | C 0.62 |
| @ 3.63 | @ 1.25 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 223+00.00**

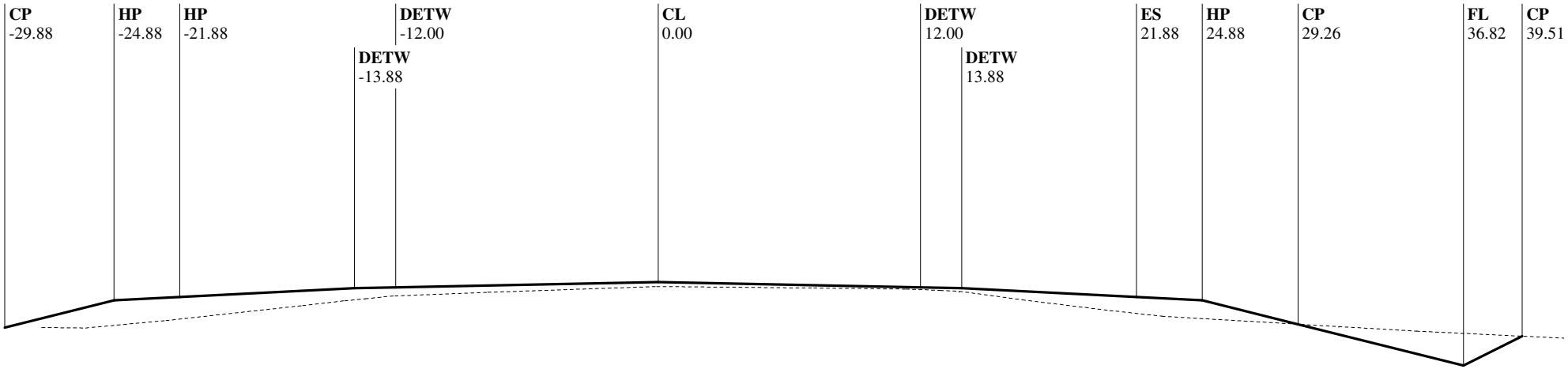
| CP | HP | HP | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.80 | -25.80 | -22.80 | -14.80 | -12.00 | 0.00 | 12.00 | 14.81 | 22.81 | 25.81 | 31.04 |
| -2.57 | -1.32 | -1.17 | -0.77 | -0.71 | -0.47 | -0.71 | -0.77 | -1.17 | -1.32 | -2.63 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.25 | F 0.15 | F 0.40 | F 0.06 | F 0.24 | | F 0.24 | F 0.06 | F 0.40 | F 0.15 | F 1.31 |
| @ 5.00 | @ 3.00 | @ 8.00 | @ 2.80 | @ 12.00 | | @ 12.00 | @ 2.81 | @ 8.00 | @ 3.00 | @ 5.23 |

| FL | CP |
|---|---|
| 36.69 | 38.64 |
| -4.04 | -3.07 |
| -4.00:1 | 2.00:1 |
| F 1.41 | C 0.97 |
| @ 5.66 | @ 1.94 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 223+50.00**

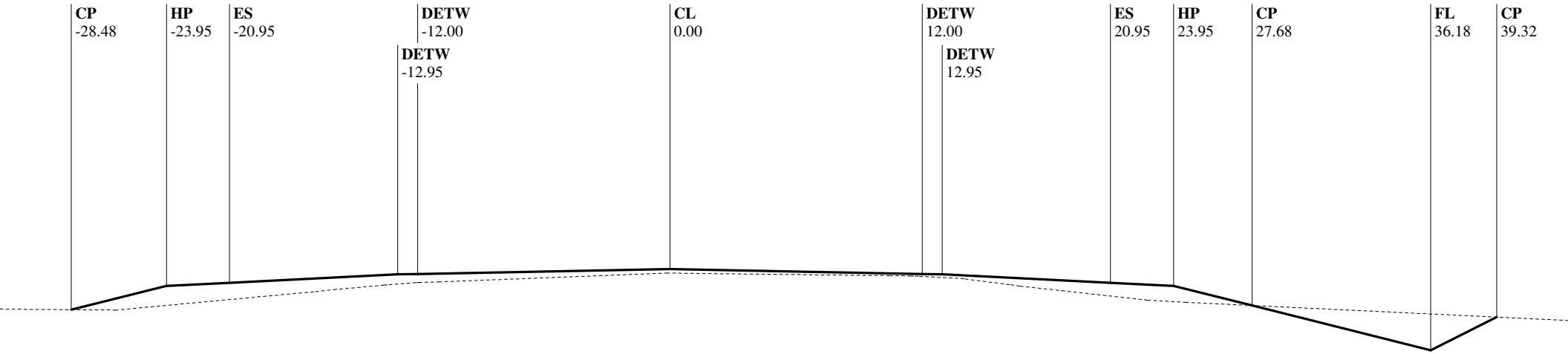
| CP | HP | HP | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.88 | -24.88 | -21.88 | -13.88 | -12.00 | 0.00 | 12.00 | 13.88 | 21.88 | 24.88 | 29.26 |
| -2.75 | -1.50 | -1.35 | -0.95 | -0.92 | -0.68 | -0.92 | -0.95 | -1.35 | -1.50 | -2.60 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.25 | F 0.15 | F 0.40 | F 0.04 | F 0.24 | | F 0.24 | F 0.04 | F 0.40 | F 0.15 | F 1.09 |
| @ 5.00 | @ 3.00 | @ 8.00 | @ 1.88 | @ 12.00 | | @ 12.00 | @ 1.88 | @ 8.00 | @ 3.00 | @ 4.38 |

| FL | CP |
|---|---|
| 36.82 | 39.51 |
| -4.49 | -3.15 |
| -4.00:1 | 2.00:1 |
| F 1.89 | C 1.34 |
| @ 7.57 | @ 2.69 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 224+00.00**

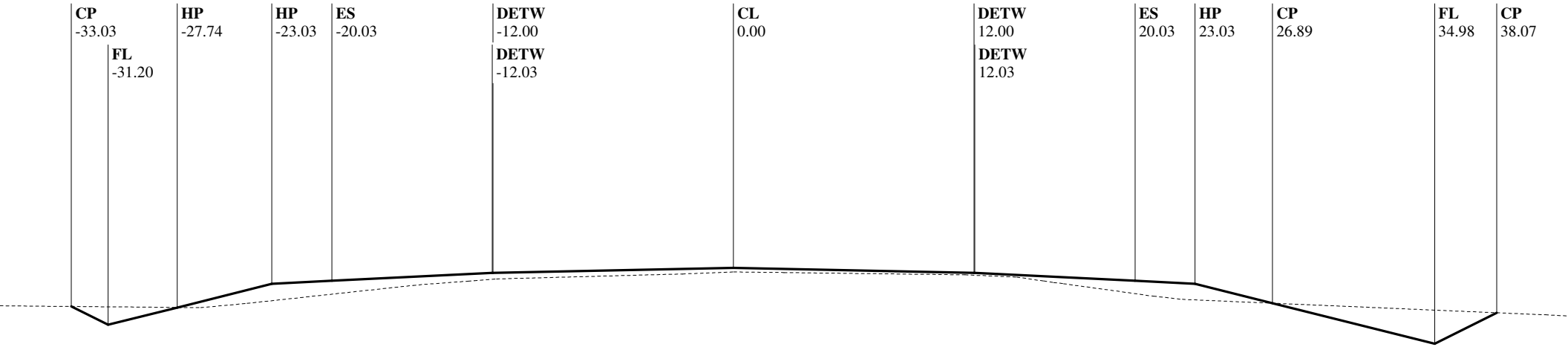
| CP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -28.48 | -23.95 | -20.95 | -12.95 | -12.00 | 0.00 | 12.00 | 12.95 | 20.95 | 23.95 | 27.68 |
| -2.77 | -1.64 | -1.49 | -1.09 | -1.07 | -0.83 | -1.07 | -1.09 | -1.49 | -1.64 | -2.57 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.13 | F 0.15 | F 0.40 | F 0.02 | F 0.24 | | F 0.24 | F 0.02 | F 0.40 | F 0.15 | F 0.93 |
| @ 4.53 | @ 3.00 | @ 8.00 | @ 0.95 | @ 12.00 | | @ 12.00 | @ 0.95 | @ 8.00 | @ 3.00 | @ 3.72 |

| FL | CP |
|---|---|
| 36.18 | 39.32 |
| -4.69 | -3.12 |
| -4.00:1 | 2.00:1 |
| F 2.12 | C 1.57 |
| @ 8.50 | @ 3.14 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 224+50.00**

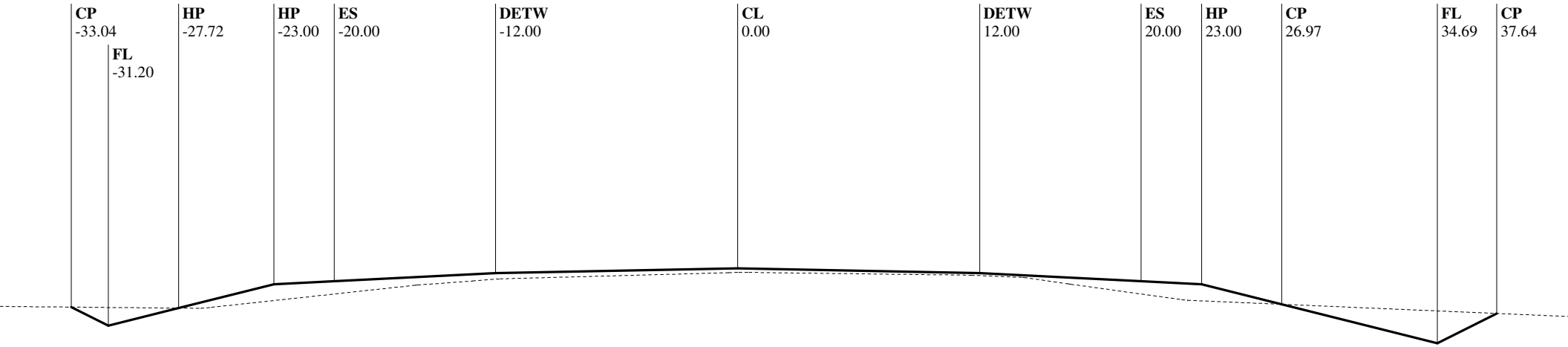
| HP | HP | ES | DETW | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -27.74 | -23.03 | -20.03 | -12.03 | -12.00 | 0.00 | 12.00 | 12.03 | 20.03 | 23.03 | 26.89 |
| -2.79 | -1.62 | -1.47 | -1.07 | -1.07 | -0.83 | -1.07 | -1.07 | -1.47 | -1.62 | -2.58 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.18 | F 0.15 | F 0.40 | F 0.00 | F 0.24 | | F 0.24 | F 0.00 | F 0.40 | F 0.15 | F 0.97 |
| @ 4.71 | @ 3.00 | @ 8.00 | @ 0.03 | @ 12.00 | | @ 12.00 | @ 0.03 | @ 8.00 | @ 3.00 | @ 3.87 |

| CP | FL | FL | CP |
|---|---|---|---|
| -33.03 | -31.20 | 34.98 | 38.07 |
| -2.74 | -3.66 | -4.60 | -3.06 |
| 2.00:1 | -4.00:1 | -4.00:1 | 2.00:1 |
| C 0.91 | F 0.87 | F 2.02 | C 1.55 |
| @ 1.83 | @ 3.46 | @ 8.09 | @ 3.09 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 224+62.42**

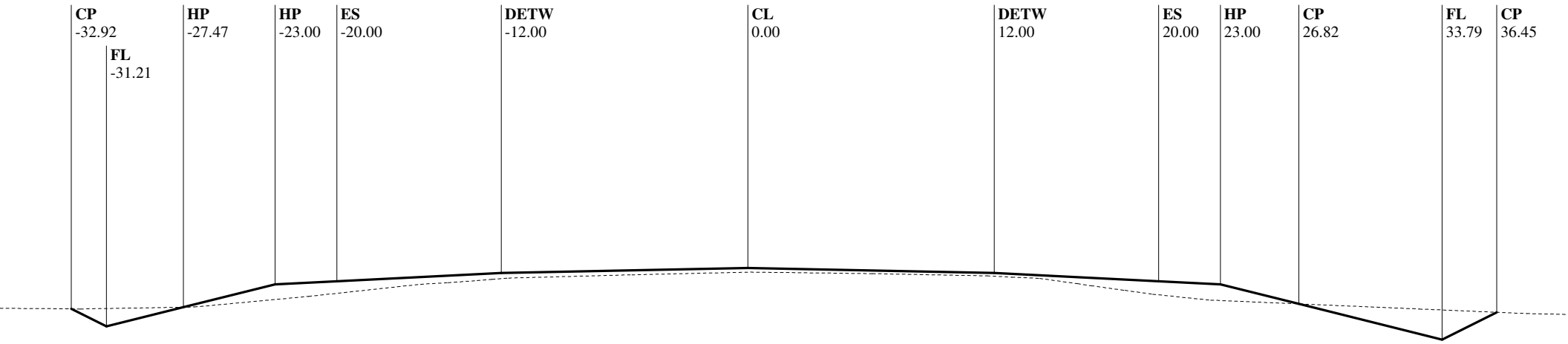
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.20 | -27.72 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.97 | 34.69 |
| -3.67 | -2.80 | -1.62 | -1.47 | -1.07 | -0.83 | -1.07 | -1.47 | -1.62 | -2.61 | -4.54 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.87 | F 1.18 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.99 | F 1.93 |
| @ 3.48 | @ 4.72 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.97 | @ 7.72 |

| CP | CP |
|---|---|
| -33.04 | 37.64 |
| -2.75 | -3.06 |
| 2.00:1 | 2.00:1 |
| C 0.92 | C 1.48 |
| @ 1.84 | @ 2.95 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 225+00.00**

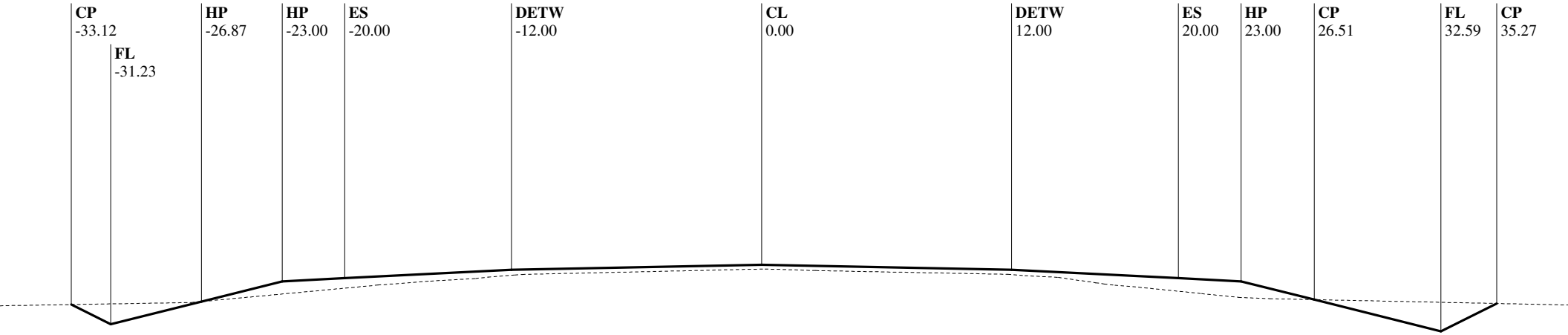
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.21 | -27.47 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.82 | 33.79 |
| -3.62 | -2.68 | -1.56 | -1.41 | -1.01 | -0.77 | -1.01 | -1.41 | -1.56 | -2.52 | -4.26 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.94 | F 1.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.96 | F 1.74 |
| @ 3.75 | @ 4.47 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.82 | @ 6.97 |

| CP | CP |
|---|---|
| -32.92 | 36.45 |
| -2.76 | -2.93 |
| 2.00:1 | 2.00:1 |
| C 0.85 | C 1.33 |
| @ 1.71 | @ 2.66 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



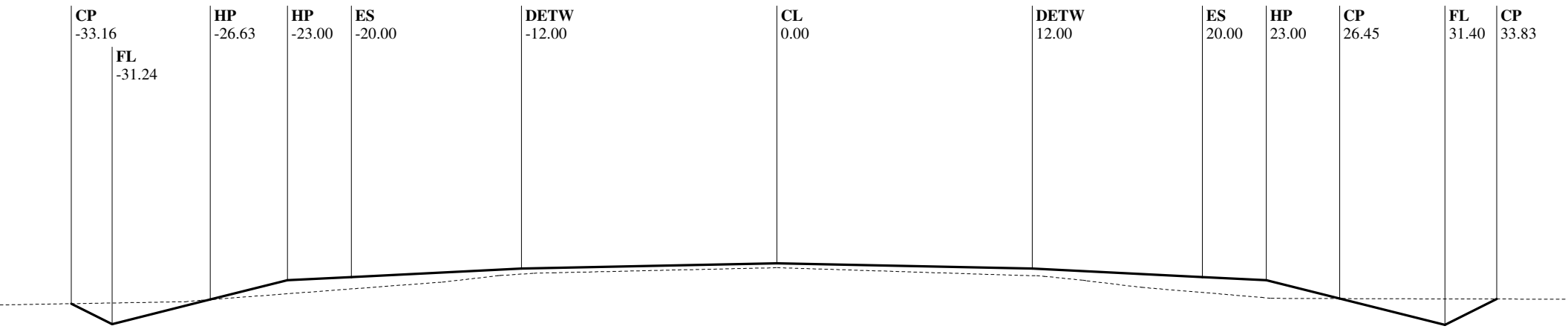

**Alignment Chain CENTER1**
**Station: 225+50.00**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.23 | -26.87 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.51 | 32.59 |
| -3.51 | -2.42 | -1.45 | -1.30 | -0.90 | -0.66 | -0.90 | -1.30 | -1.45 | -2.33 | -3.85 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.09 | F 0.97 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.88 | F 1.52 |
| @ 4.36 | @ 3.87 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.51 | @ 6.09 |

| CP | CP |
|---|---|
| -33.12 | 35.27 |
| -2.57 | -2.51 |
| 2.00:1 | 2.00:1 |
| C 0.94 | C 1.34 |
| @ 1.89 | @ 2.67 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 226+00.00**

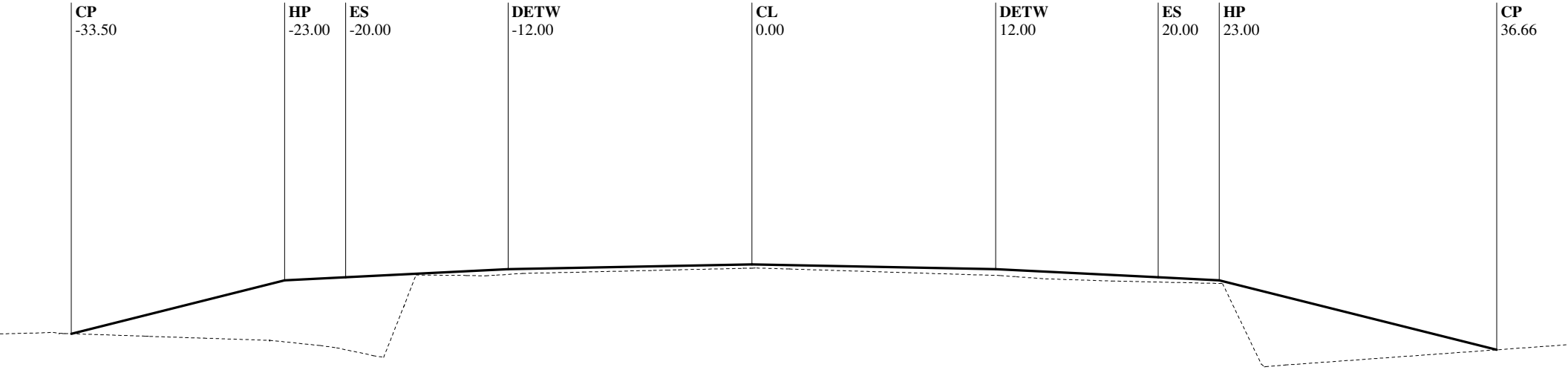
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.24 | -26.63 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.45 | 31.40 |
| -3.31 | -2.16 | -1.25 | -1.10 | -0.70 | -0.46 | -0.70 | -1.10 | -1.25 | -2.11 | -3.35 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.15 | F 0.91 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.86 | F 1.24 |
| @ 4.61 | @ 3.63 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.45 | @ 4.95 |

| CP | CP |
|---|---|
| -33.16 | 33.83 |
| -2.36 | -2.14 |
| 2.00:1 | 2.00:1 |
| C 0.96 | C 1.22 |
| @ 1.92 | @ 2.43 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



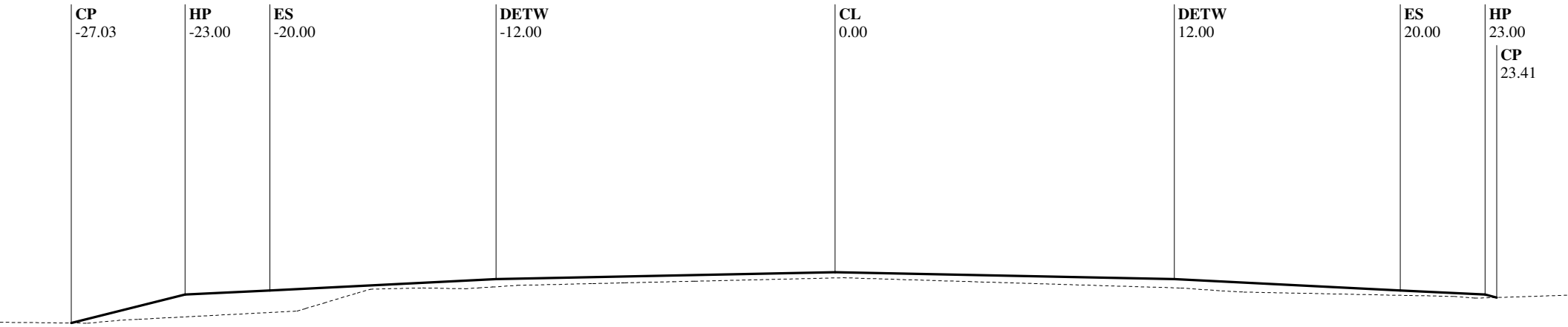

**Alignment Chain CENTER1**
**Station: 226+31.20**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -33.50 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 36.66 |
| -4.09 | -1.47 | -1.32 | -0.92 | -0.68 | -0.92 | -1.32 | -1.47 | -4.88 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.62 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 3.41 |
| @ 10.50 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 13.66 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

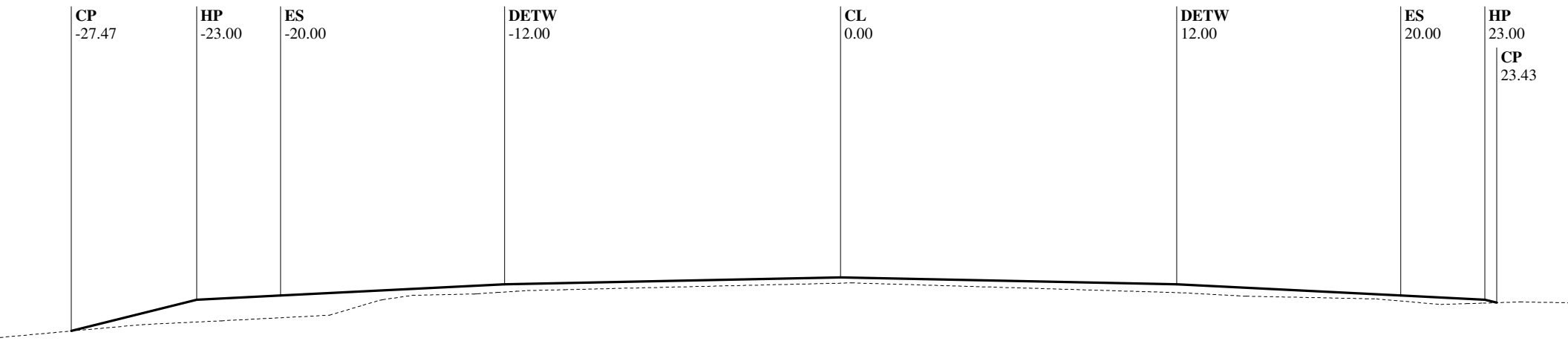



**Alignment Chain CENTER1**
**Station: 226+39.15**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.03 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.41 |
| -2.53 | -1.52 | -1.37 | -0.97 | -0.73 | -0.97 | -1.37 | -1.52 | -1.63 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.01 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.10 |
| @ 4.03 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.41 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



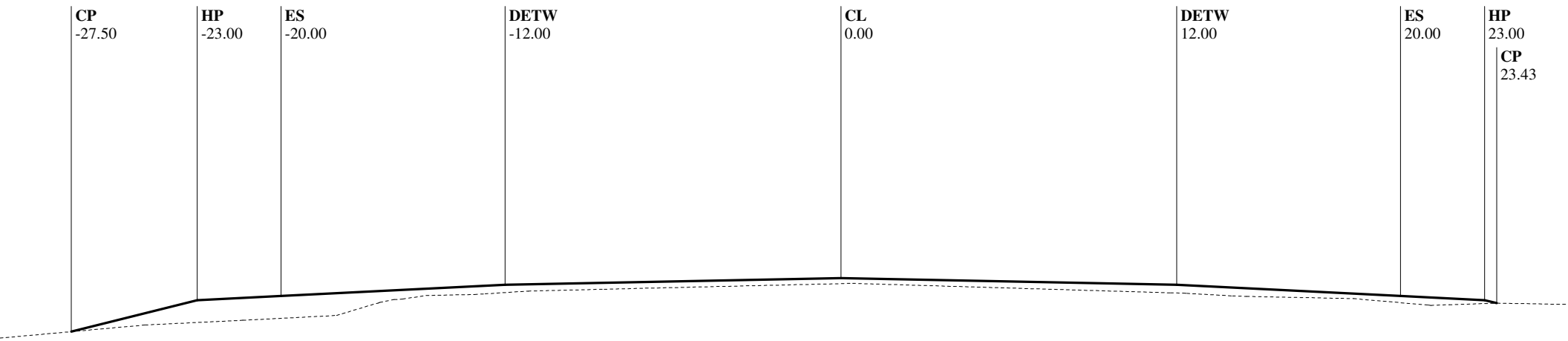

**Alignment Chain CENTER1**
**Station: 226+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.47 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.43 |
| -2.74 | -1.62 | -1.47 | -1.07 | -0.83 | -1.07 | -1.47 | -1.62 | -1.72 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.11 |
| @ 4.47 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.43 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



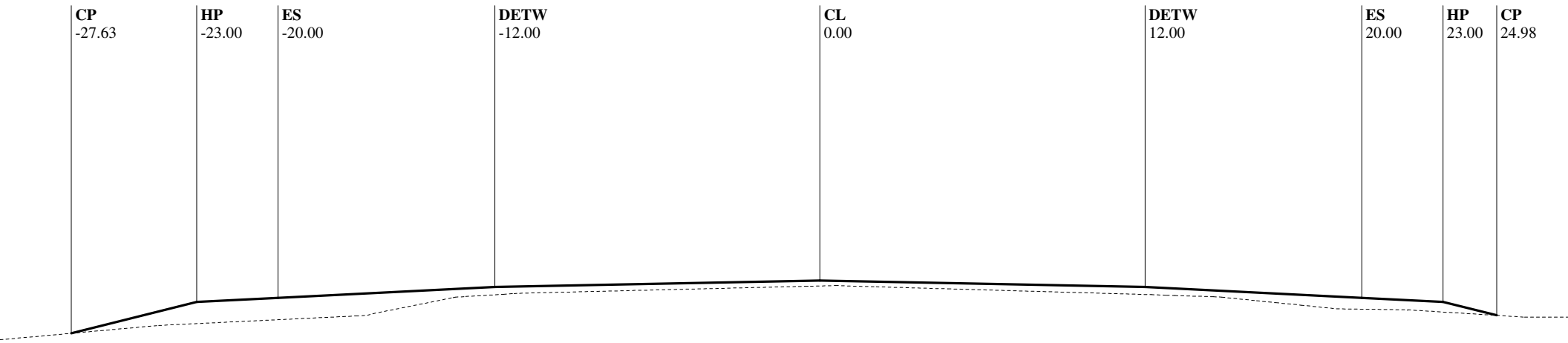

**Alignment Chain CENTER1**
**Station: 226+53.18**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.50 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.43 |
| -2.77 | -1.64 | -1.49 | -1.09 | -0.85 | -1.09 | -1.49 | -1.64 | -1.75 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.11 |
| @ 4.50 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.43 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



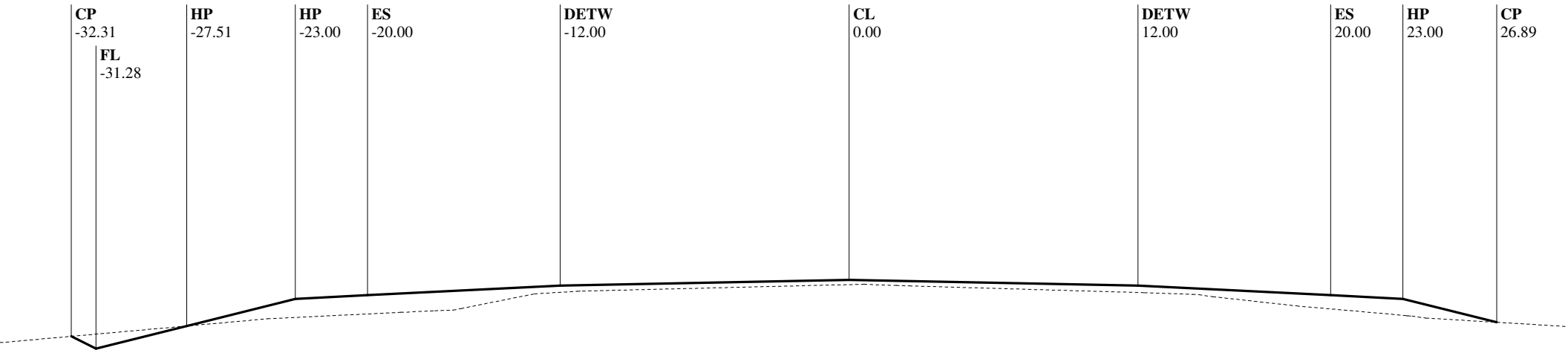

**Alignment Chain CENTER1**
**Station: 226+71.31**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.63 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 24.98 |
| -2.96 | -1.80 | -1.65 | -1.25 | -1.01 | -1.25 | -1.65 | -1.80 | -2.30 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.16 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.50 |
| @ 4.63 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 1.98 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 226+81.74**

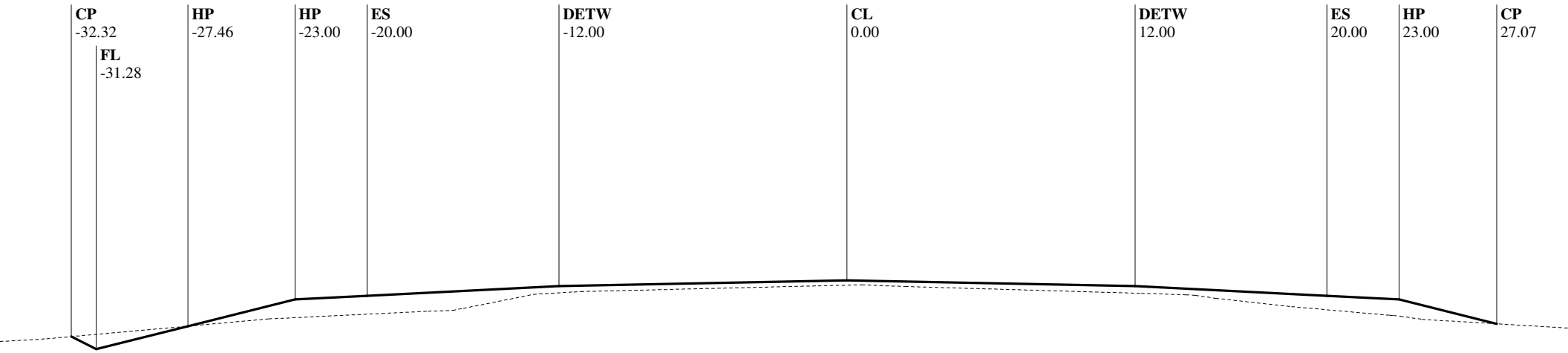
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.28 | -27.51 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.89 |
| -3.99 | -3.04 | -1.92 | -1.77 | -1.37 | -1.13 | -1.37 | -1.77 | -1.92 | -2.89 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.94 | F 1.13 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.97 |
| @ 3.77 | @ 4.51 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.89 |

| CP |
|---|
| -32.31 |
| -3.47 |
| 2.00:1 |
| C 0.51 |
| @ 1.03 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 226+84.50**

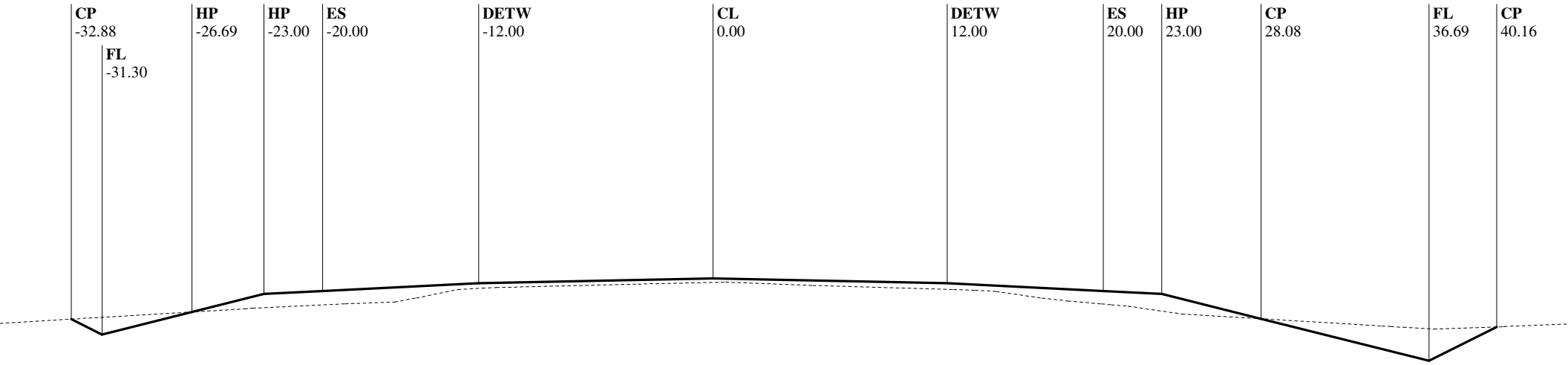
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.28 | -27.46 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.07 |
| -4.02 | -3.07 | -1.95 | -1.80 | -1.40 | -1.16 | -1.40 | -1.80 | -1.95 | -2.97 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.96 | F 1.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.02 |
| @ 3.82 | @ 4.46 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.07 |

| CP |
|---|
| -32.32 |
| -3.50 |
| 2.00:1 |
| C 0.52 |
| @ 1.04 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 227+00.00**

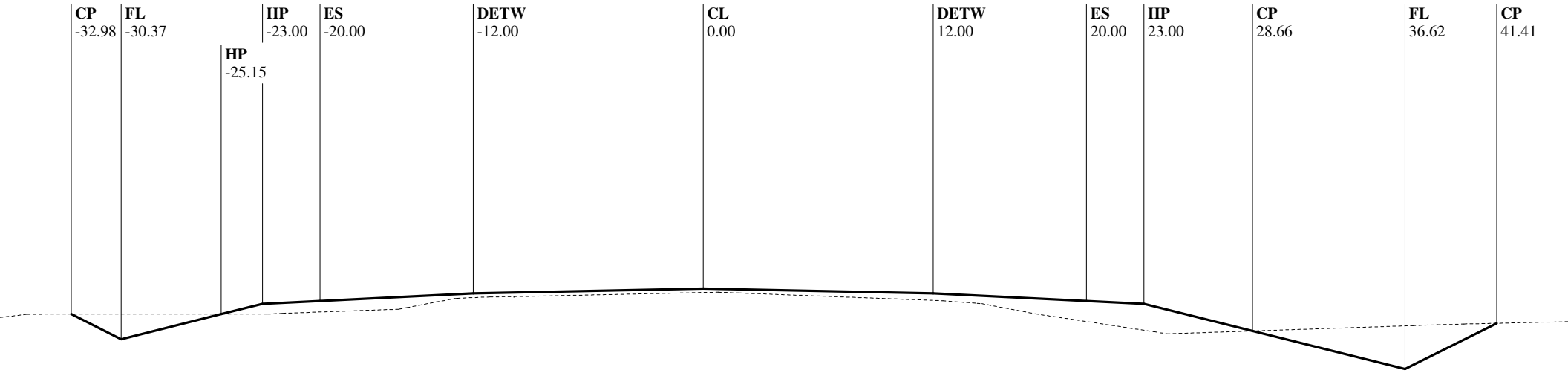
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.30 | -26.69 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.08 | 36.69 |
| -4.22 | -3.07 | -2.14 | -1.99 | -1.59 | -1.35 | -1.59 | -1.99 | -2.14 | -3.41 | -5.57 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.15 | F 0.92 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.27 | F 2.15 |
| @ 4.61 | @ 3.69 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.08 | @ 8.61 |

| CP | CP |
|---|---|
| -32.88 | 40.16 |
| -3.43 | -3.83 |
| 2.00:1 | 2.00:1 |
| C 0.79 | C 1.73 |
| @ 1.57 | @ 3.47 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



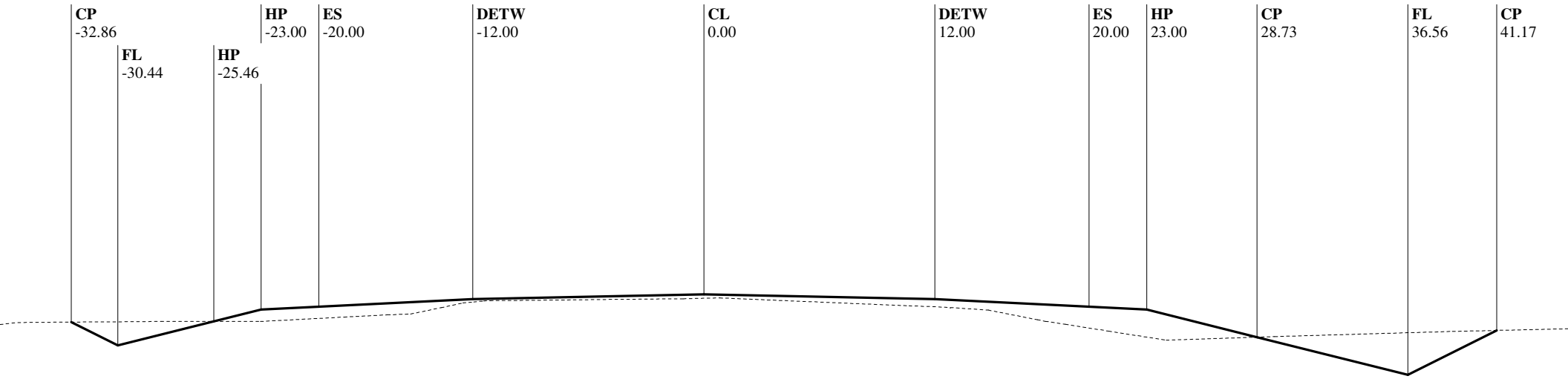

**Alignment Chain CENTER1**
**Station: 227+50.00**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.37 | -25.15 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.66 | 36.62 |
| -4.56 | -3.26 | -2.72 | -2.57 | -2.17 | -1.93 | -2.17 | -2.57 | -2.72 | -4.13 | -6.12 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.30 | F 0.54 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.42 | F 1.99 |
| @ 5.22 | @ 2.15 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.66 | @ 7.96 |

| CP | CP |
|---|---|
| -32.98 | 41.41 |
| -3.26 | -3.73 |
| 2.00:1 | 2.00:1 |
| C 1.30 | C 2.39 |
| @ 2.61 | @ 4.78 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 228+00.00**

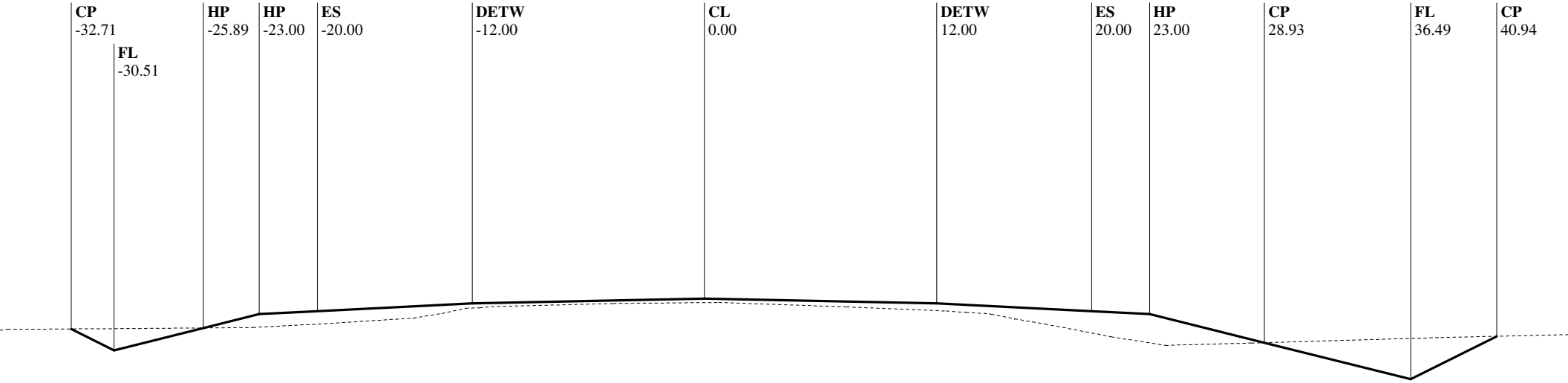
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.44 | -25.46 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.73 | 36.56 |
| -4.87 | -3.62 | -3.01 | -2.86 | -2.46 | -2.22 | -2.46 | -2.86 | -3.01 | -4.44 | -6.40 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.24 | F 0.62 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.43 | F 1.96 |
| @ 4.97 | @ 2.46 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.73 | @ 7.83 |

| CP | CP |
|---|---|
| -32.86 | 41.17 |
| -3.66 | -4.09 |
| 2.00:1 | 2.00:1 |
| C 1.21 | C 2.31 |
| @ 2.42 | @ 4.62 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 228+50.00**

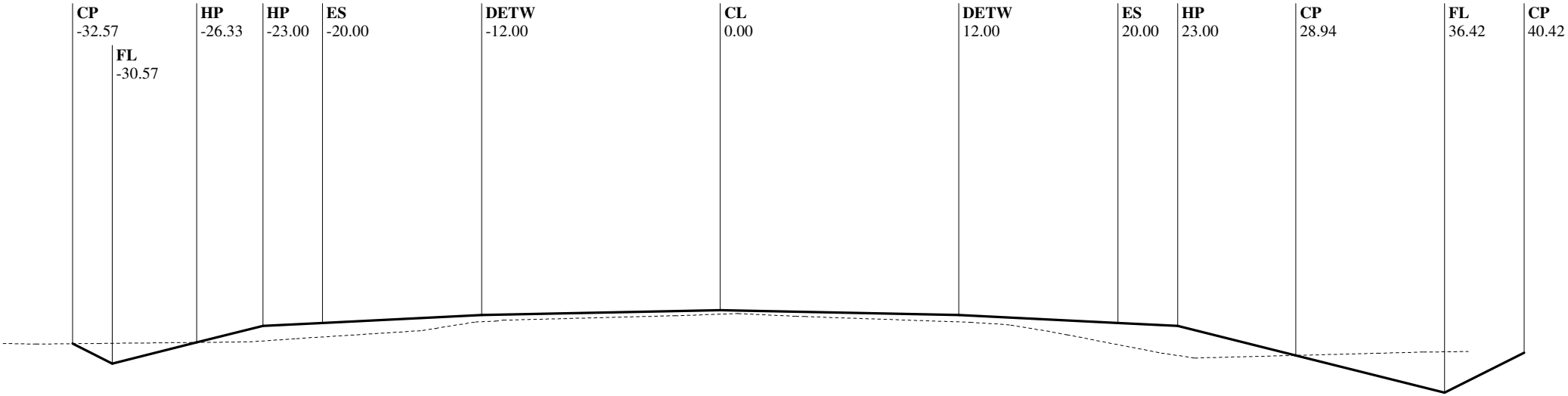
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.51 | -25.89 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.93 | 36.49 |
| -5.17 | -4.01 | -3.29 | -3.14 | -2.74 | -2.50 | -2.74 | -3.14 | -3.29 | -4.77 | -6.66 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.15 | F 0.72 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.48 | F 1.89 |
| @ 4.62 | @ 2.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.93 | @ 7.56 |

| CP | CP |
|---|---|
| -32.71 | 40.94 |
| -4.06 | -4.44 |
| 2.00:1 | 2.00:1 |
| C 1.10 | C 2.22 |
| @ 2.21 | @ 4.44 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 229+00.00**

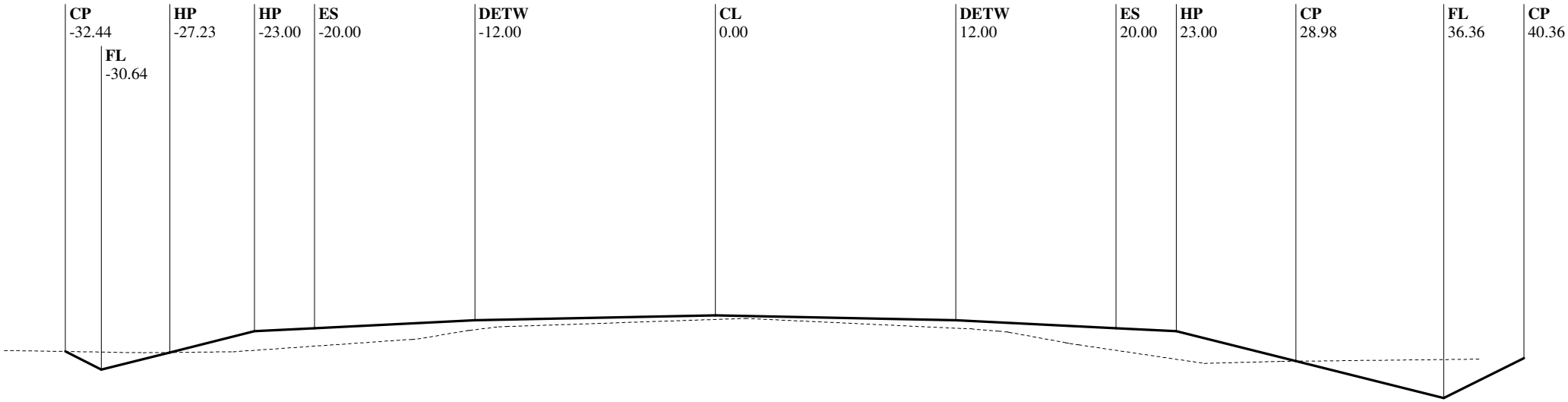
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.57 | -26.33 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.94 | 36.42 |
| -5.44 | -4.38 | -3.54 | -3.39 | -2.99 | -2.75 | -2.99 | -3.39 | -3.54 | -5.03 | -6.90 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.06 | F 0.83 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.48 | F 1.87 |
| @ 4.25 | @ 3.33 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.94 | @ 7.49 |

| CP | CP |
|---|---|
| -32.57 | 40.42 |
| -4.44 | -4.90 |
| 2.00:1 | 2.00:1 |
| C 1.00 | C 2.00 |
| @ 2.00 | @ 4.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



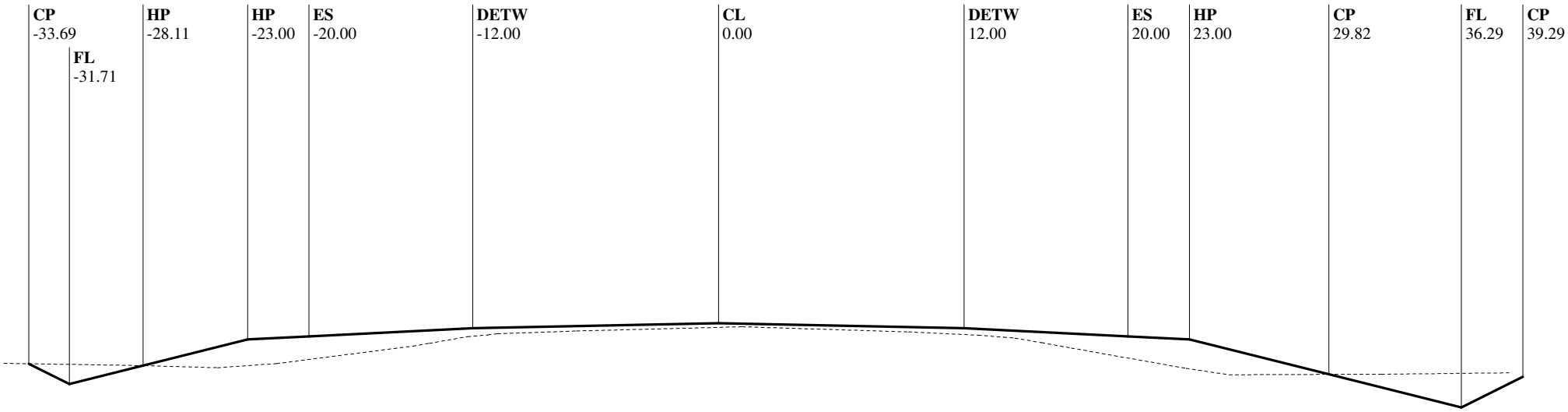

**Alignment Chain CENTER1**
**Station: 229+50.00**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.64 | -27.23 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.98 | 36.36 |
| -5.58 | -4.73 | -3.67 | -3.52 | -3.12 | -2.88 | -3.12 | -3.52 | -3.67 | -5.17 | -7.01 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.85 | F 1.06 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.49 | F 1.84 |
| @ 3.41 | @ 4.23 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.98 | @ 7.38 |

| CP | CP |
|---|---|
| -32.44 | 40.36 |
| -4.68 | -5.01 |
| 2.00:1 | 2.00:1 |
| C 0.90 | C 2.00 |
| @ 1.80 | @ 4.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 230+00.00**

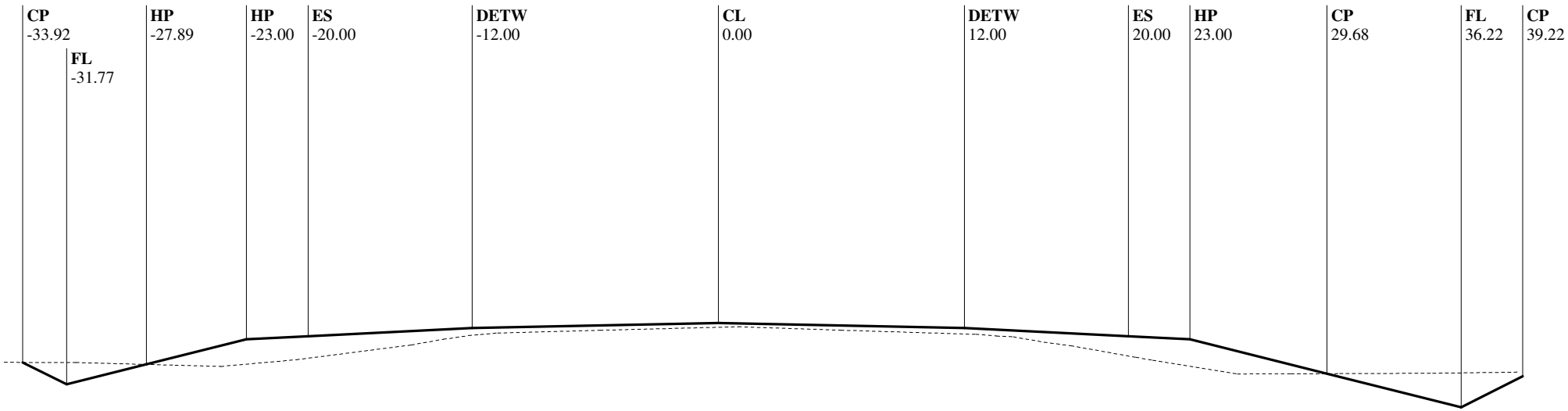
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.71 | -28.11 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.82 | 36.29 |
| -5.85 | -4.95 | -3.67 | -3.52 | -3.12 | -2.88 | -3.12 | -3.52 | -3.67 | -5.38 | -6.99 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.90 | F 1.28 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.71 | F 1.62 |
| @ 3.60 | @ 5.11 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.82 | @ 6.47 |

| CP | CP |
|---|---|
| -33.69 | 39.29 |
| -4.85 | -5.49 |
| 2.00:1 | 2.00:1 |
| C 0.99 | C 1.50 |
| @ 1.98 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 230+50.00**

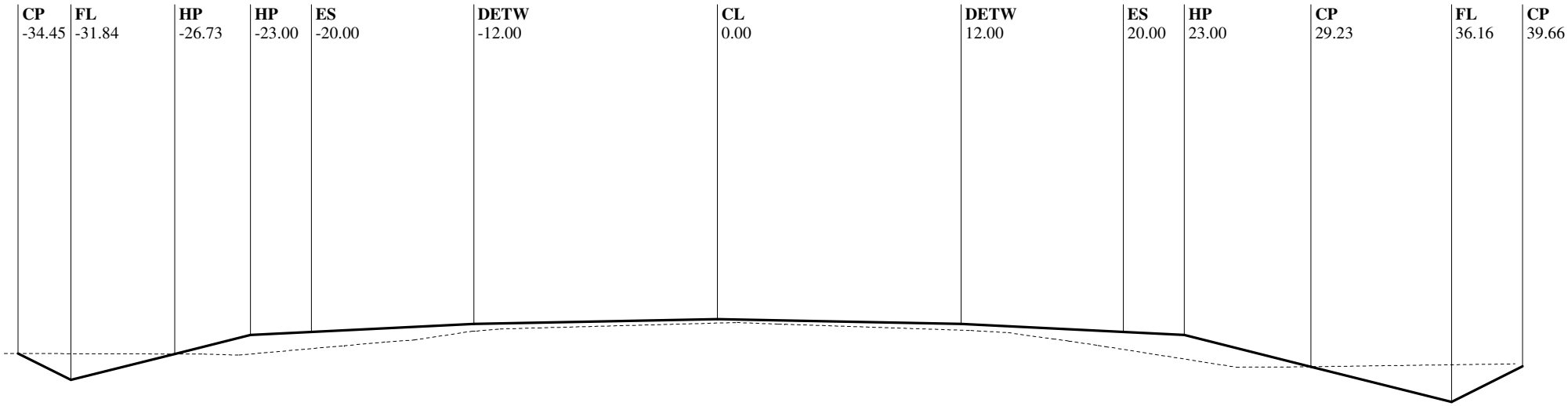
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.77 | -27.89 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.68 | 36.22 |
| -5.78 | -4.81 | -3.59 | -3.44 | -3.04 | -2.80 | -3.04 | -3.44 | -3.59 | -5.26 | -6.89 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.97 | F 1.22 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.67 | F 1.64 |
| @ 3.88 | @ 4.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.68 | @ 6.54 |

| CP | CP |
|---|---|
| -33.92 | 39.22 |
| -4.71 | -5.39 |
| 2.00:1 | 2.00:1 |
| C 1.07 | C 1.50 |
| @ 2.14 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 231+00.00**

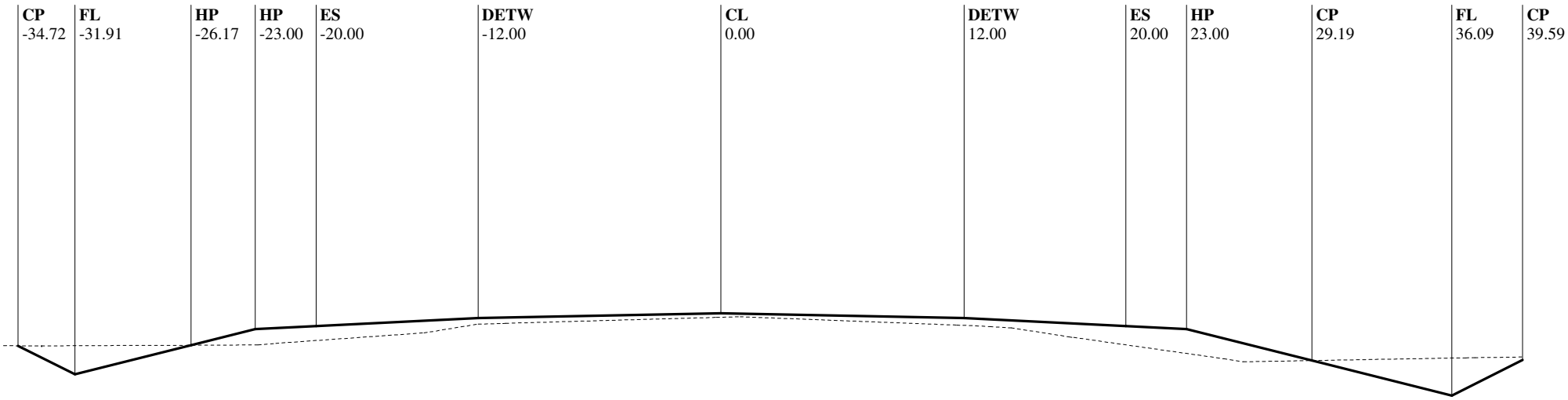
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.84 | -26.73 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.23 | 36.16 |
| -5.61 | -4.33 | -3.40 | -3.25 | -2.85 | -2.61 | -2.85 | -3.25 | -3.40 | -4.96 | -6.69 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.28 | F 0.93 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.56 | F 1.73 |
| @ 5.11 | @ 3.73 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.23 | @ 6.92 |

| CP | CP |
|---|---|
| -34.45 | 39.66 |
| -4.31 | -4.94 |
| 2.00:1 | 2.00:1 |
| C 1.30 | C 1.75 |
| @ 2.61 | @ 3.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 231+50.00**

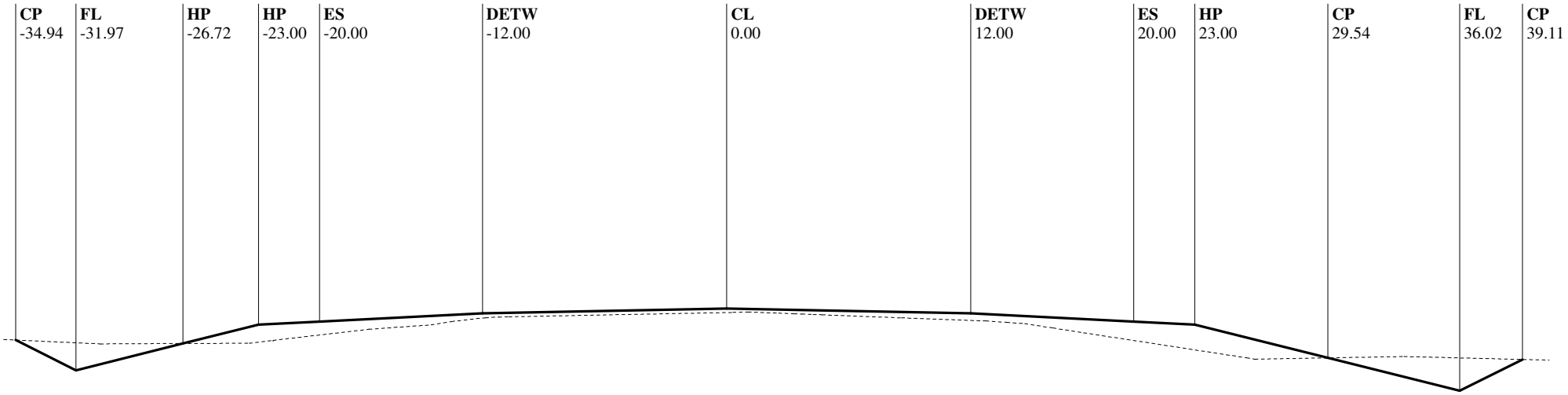
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.91 | -26.17 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.19 | 36.09 |
| -5.32 | -3.88 | -3.09 | -2.94 | -2.54 | -2.30 | -2.54 | -2.94 | -3.09 | -4.64 | -6.36 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.43 | F 0.79 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.55 | F 1.72 |
| @ 5.74 | @ 3.17 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.19 | @ 6.90 |

| CP | CP |
|---|---|
| -34.72 | 39.59 |
| -3.91 | -4.61 |
| 2.00:1 | 2.00:1 |
| C 1.41 | C 1.75 |
| @ 2.81 | @ 3.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 232+00.00**

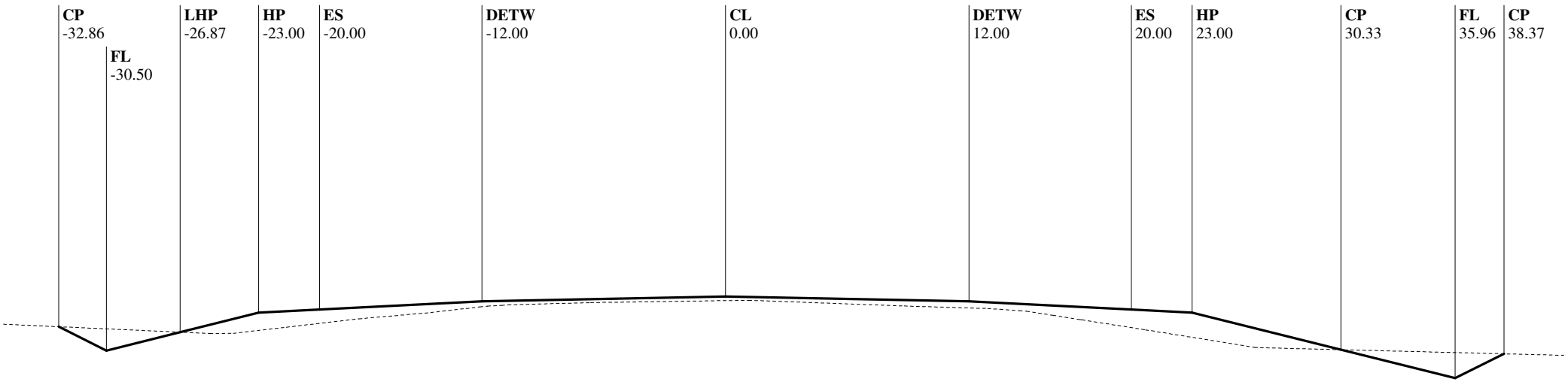
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.97 | -26.72 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.54 | 36.02 |
| -5.13 | -3.82 | -2.89 | -2.74 | -2.34 | -2.10 | -2.34 | -2.74 | -2.89 | -4.53 | -6.15 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.31 | F 0.93 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.64 | F 1.62 |
| @ 5.25 | @ 3.72 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.54 | @ 6.48 |

| CP | CP |
|---|---|
| -34.94 | 39.11 |
| -3.65 | -4.61 |
| 2.00:1 | 2.00:1 |
| C 1.48 | C 1.54 |
| @ 2.96 | @ 3.08 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 232+50.00**

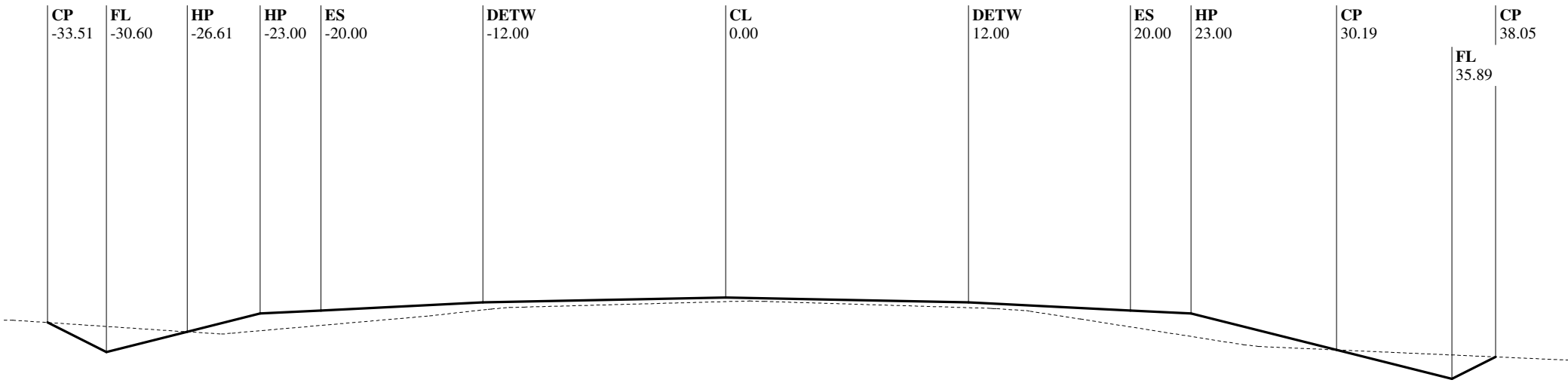
| FL | LHP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.50 | -26.87 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.33 | 35.96 |
| -4.67 | -3.76 | -2.79 | -2.64 | -2.24 | -2.00 | -2.24 | -2.64 | -2.79 | -4.62 | -6.03 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.91 | F 0.97 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.83 | F 1.41 |
| @ 3.63 | @ 3.87 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.33 | @ 5.63 |

| CP | CP |
|---|---|
| -32.86 | 38.37 |
| -3.49 | -4.82 |
| 2.00:1 | 2.00:1 |
| C 1.18 | C 1.21 |
| @ 2.36 | @ 2.41 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 233+00.00**

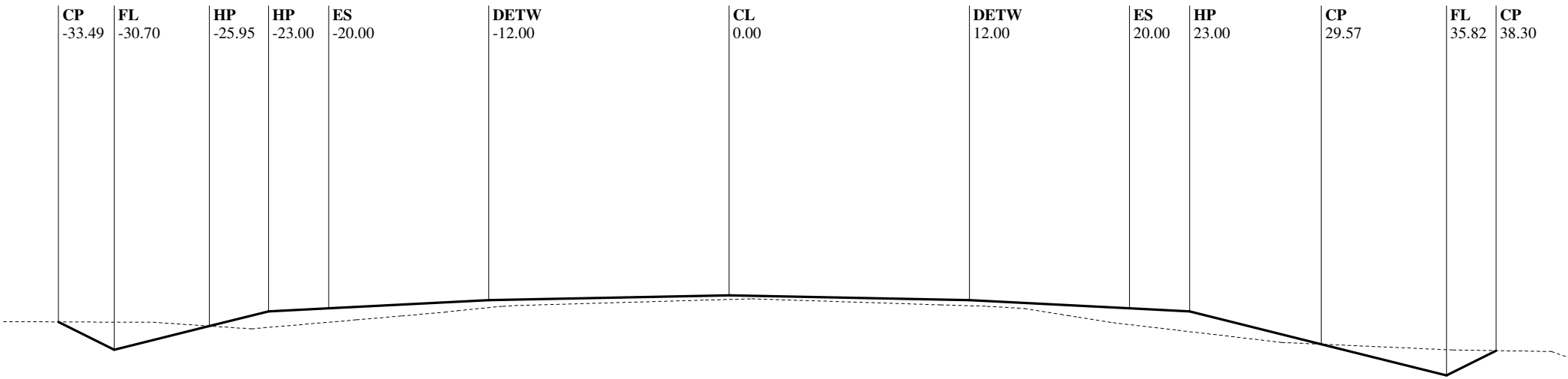
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.60 | -26.61 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.19 | 35.89 |
| -4.70 | -3.70 | -2.80 | -2.65 | -2.25 | -2.01 | -2.25 | -2.65 | -2.80 | -4.60 | -6.03 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.00 | F 0.90 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.80 | F 1.43 |
| @ 3.99 | @ 3.61 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.19 | @ 5.70 |

| CP | CP |
|---|---|
| -33.51 | 38.05 |
| -3.25 | -4.95 |
| 2.00:1 | 2.00:1 |
| C 1.46 | C 1.08 |
| @ 2.91 | @ 2.16 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 233+50.00**

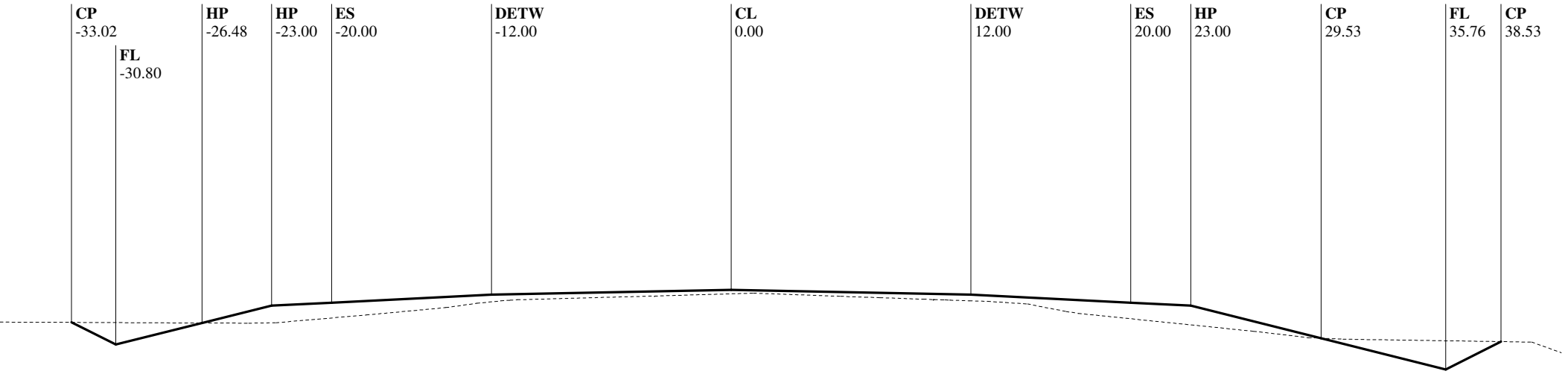
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.70 | -25.95 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.57 | 35.82 |
| -4.71 | -3.52 | -2.78 | -2.63 | -2.23 | -1.99 | -2.23 | -2.63 | -2.78 | -4.43 | -5.99 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.19 | F 0.74 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.64 | F 1.56 |
| @ 4.75 | @ 2.95 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.57 | @ 6.25 |

| CP | CP |
|---|---|
| -33.49 | 38.30 |
| -3.31 | -4.75 |
| 2.00:1 | 2.00:1 |
| C 1.40 | C 1.24 |
| @ 2.79 | @ 2.48 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 234+00.00**

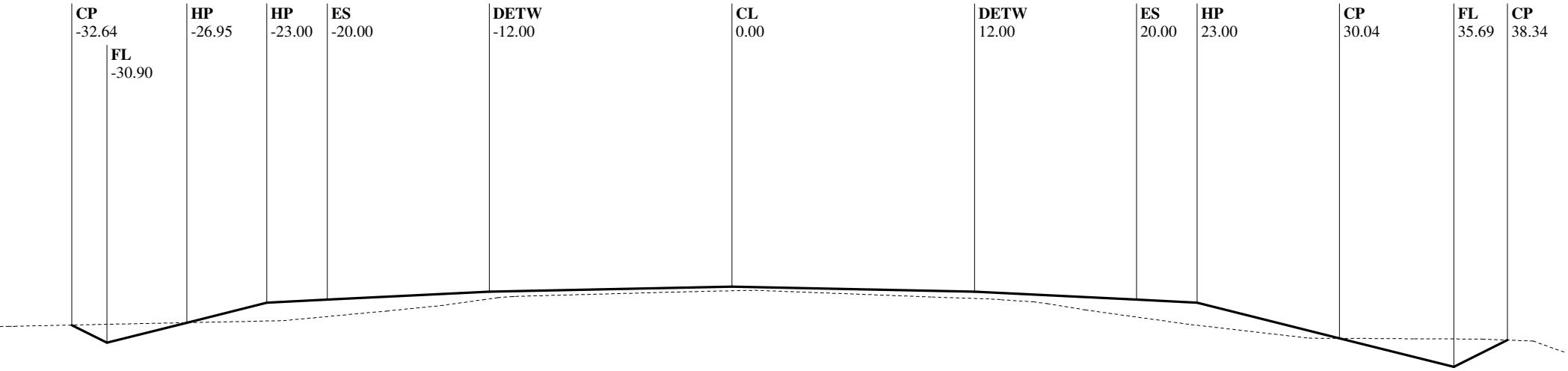
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.80 | -26.48 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.53 | 35.76 |
| -4.60 | -3.52 | -2.65 | -2.50 | -2.10 | -1.86 | -2.10 | -2.50 | -2.65 | -4.28 | -5.84 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.08 | F 0.87 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.63 | F 1.56 |
| @ 4.32 | @ 3.48 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.53 | @ 6.23 |

| CP | CP |
|---|---|
| -33.02 | 38.53 |
| -3.49 | -4.45 |
| 2.00:1 | 2.00:1 |
| C 1.11 | C 1.39 |
| @ 2.22 | @ 2.77 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 234+50.00**

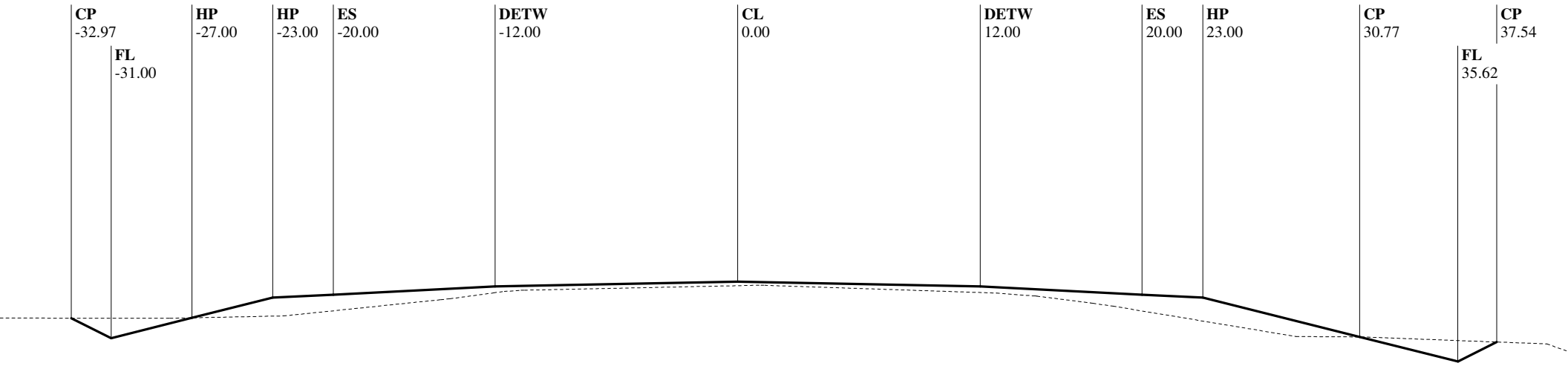
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.90 | -26.95 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.04 | 35.69 |
| -4.42 | -3.44 | -2.45 | -2.30 | -1.90 | -1.66 | -1.90 | -2.30 | -2.45 | -4.21 | -5.62 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.99 | F 0.99 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.76 | F 1.41 |
| @ 3.95 | @ 3.95 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.04 | @ 5.65 |

| CP | CP |
|---|---|
| -32.64 | 38.34 |
| -3.55 | -4.30 |
| 2.00:1 | 2.00:1 |
| C 0.87 | C 1.33 |
| @ 1.74 | @ 2.65 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 235+00.00**

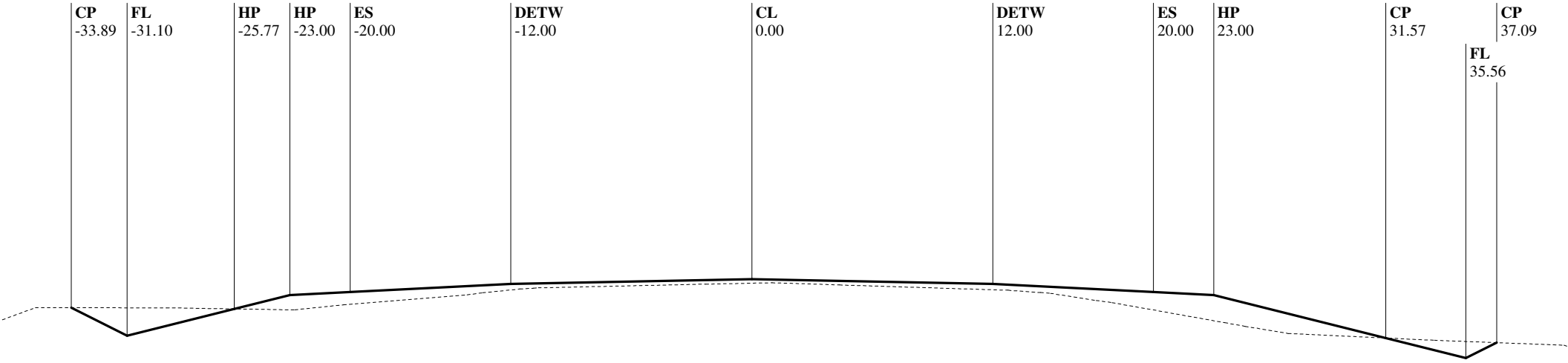
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.00 | -27.00 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.77 | 35.62 |
| -4.24 | -3.24 | -2.24 | -2.09 | -1.69 | -1.45 | -1.69 | -2.09 | -2.24 | -4.18 | -5.40 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.00 | F 1.00 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.94 | F 1.21 |
| @ 4.00 | @ 4.00 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.77 | @ 4.85 |

| CP | CP |
|---|---|
| -32.97 | 37.54 |
| -3.26 | -4.44 |
| 2.00:1 | 2.00:1 |
| C 0.98 | C 0.96 |
| @ 1.97 | @ 1.92 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 235+50.00**

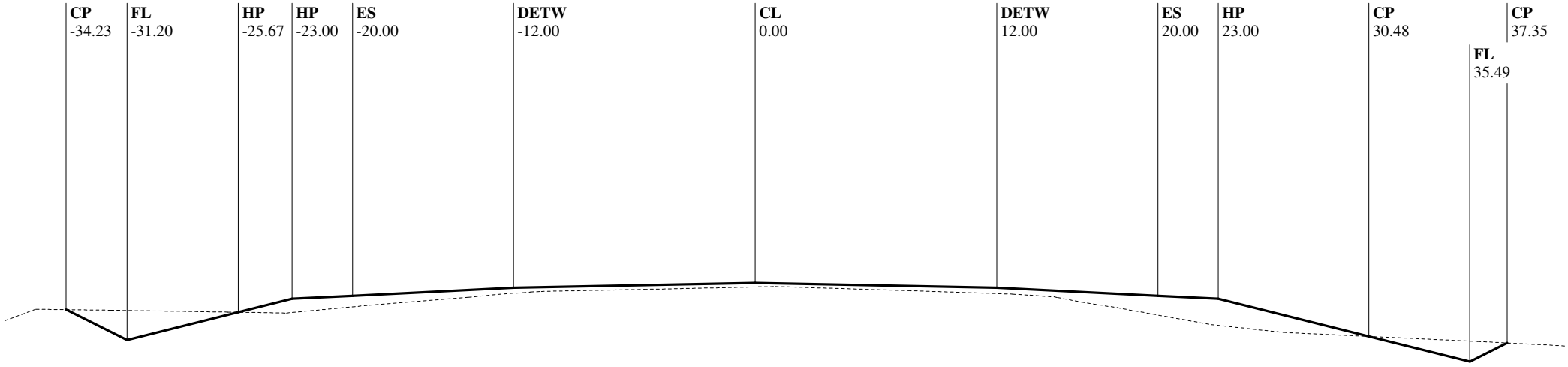
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.10 | -25.77 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.57 | 35.56 |
| -4.24 | -2.91 | -2.22 | -2.07 | -1.67 | -1.43 | -1.67 | -2.07 | -2.22 | -4.36 | -5.36 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.33 | F 0.69 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.14 | F 1.00 |
| @ 5.33 | @ 2.77 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.57 | @ 3.99 |

| CP | CP |
|---|---|
| -33.89 | 37.09 |
| -2.85 | -4.59 |
| 2.00:1 | 2.00:1 |
| C 1.39 | C 0.77 |
| @ 2.79 | @ 1.53 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 236+00.00**

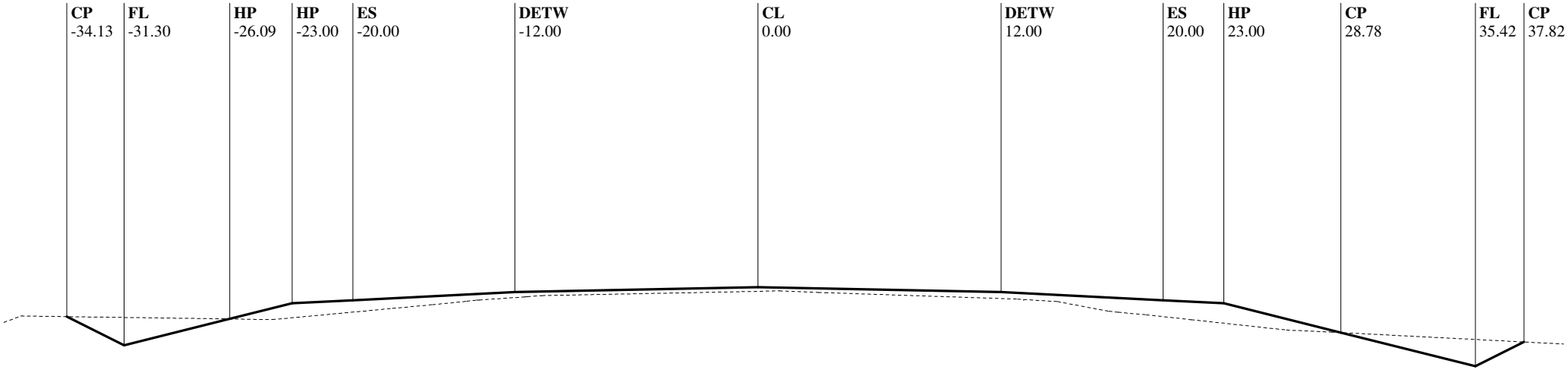
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.20 | -25.67 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.48 | 35.49 |
| -4.31 | -2.93 | -2.26 | -2.11 | -1.71 | -1.47 | -1.71 | -2.11 | -2.26 | -4.13 | -5.38 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.38 | F 0.67 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.87 | F 1.25 |
| @ 5.53 | @ 2.67 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.48 | @ 5.01 |

| CP | CP |
|---|---|
| -34.23 | 37.35 |
| -2.80 | -4.45 |
| 2.00:1 | 2.00:1 |
| C 1.51 | C 0.93 |
| @ 3.03 | @ 1.86 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 236+50.00**

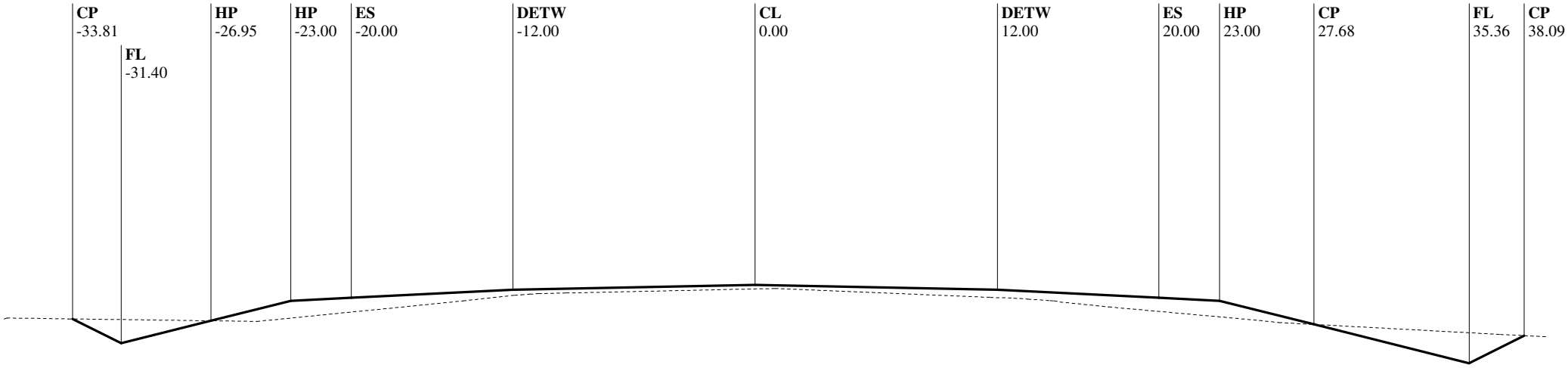
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.30 | -26.09 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.78 | 35.42 |
| -4.38 | -3.08 | -2.31 | -2.16 | -1.76 | -1.52 | -1.76 | -2.16 | -2.31 | -3.75 | -5.41 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.30 | F 0.77 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.45 | F 1.66 |
| @ 5.21 | @ 3.09 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.78 | @ 6.64 |

| CP | CP |
|---|---|
| -34.13 | 37.82 |
| -2.97 | -4.22 |
| 2.00:1 | 2.00:1 |
| C 1.42 | C 1.20 |
| @ 2.83 | @ 2.40 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 237+00.00**

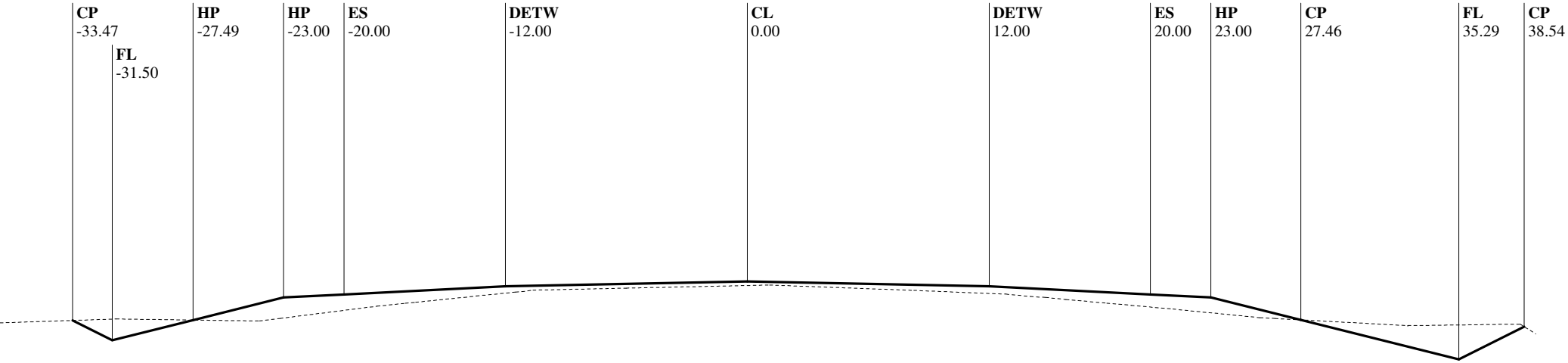
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.40 | -26.95 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.68 | 35.36 |
| -4.34 | -3.23 | -2.24 | -2.09 | -1.69 | -1.45 | -1.69 | -2.09 | -2.24 | -3.41 | -5.33 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.11 | F 0.99 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.17 | F 1.92 |
| @ 4.45 | @ 3.95 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.68 | @ 7.68 |

| CP | CP |
|---|---|
| -33.81 | 38.09 |
| -3.14 | -3.97 |
| 2.00:1 | 2.00:1 |
| C 1.20 | C 1.37 |
| @ 2.41 | @ 2.73 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 237+50.00**

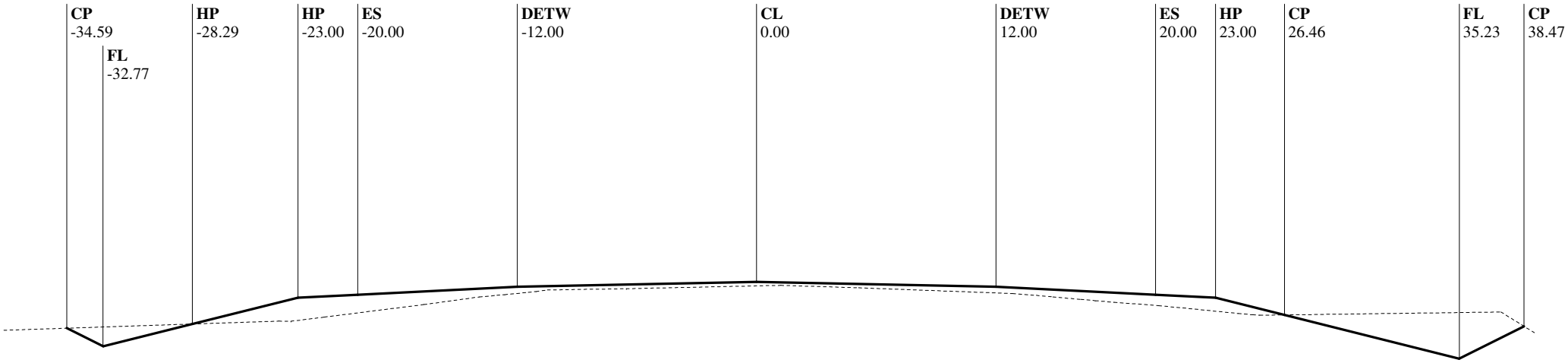
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.50 | -27.49 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.46 | 35.29 |
| -4.22 | -3.21 | -2.09 | -1.94 | -1.54 | -1.30 | -1.54 | -1.94 | -2.09 | -3.20 | -5.16 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.00 | F 1.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.11 | F 1.96 |
| @ 4.01 | @ 4.49 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.46 | @ 7.83 |

| CP | CP |
|---|---|
| -33.47 | 38.54 |
| -3.23 | -3.54 |
| 2.00:1 | 2.00:1 |
| C 0.98 | C 1.62 |
| @ 1.97 | @ 3.24 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 238+00.00**

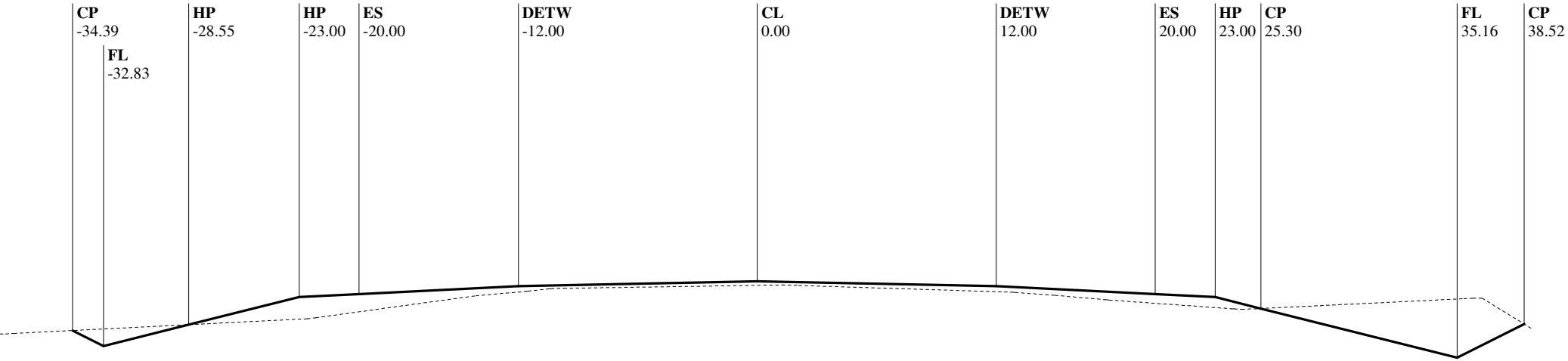
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.77 | -28.29 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.46 | 35.23 |
| -4.47 | -3.35 | -2.02 | -1.87 | -1.47 | -1.23 | -1.47 | -1.87 | -2.02 | -2.89 | -5.08 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.12 | F 1.32 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.87 | F 2.19 |
| @ 4.48 | @ 5.29 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.46 | @ 8.76 |

| CP | CP |
|---|---|
| -34.59 | 38.47 |
| -3.56 | -3.46 |
| 2.00:1 | 2.00:1 |
| C 0.91 | C 1.62 |
| @ 1.82 | @ 3.24 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 238+50.00**

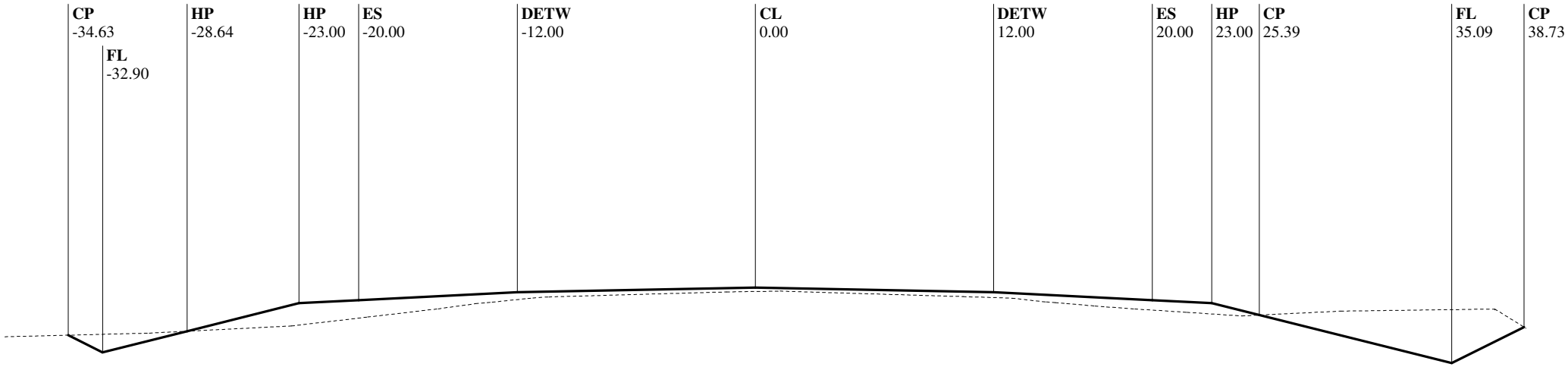
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.83 | -28.55 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.30 | 35.16 |
| -4.55 | -3.48 | -2.09 | -1.94 | -1.54 | -1.30 | -1.54 | -1.94 | -2.09 | -2.67 | -5.13 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.07 | F 1.39 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.57 | F 2.47 |
| @ 4.29 | @ 5.55 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.30 | @ 9.86 |

| CP | CP |
|---|---|
| -34.39 | 38.52 |
| -3.77 | -3.45 |
| 2.00:1 | 2.00:1 |
| C 0.78 | C 1.68 |
| @ 1.56 | @ 3.37 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 239+00.00**

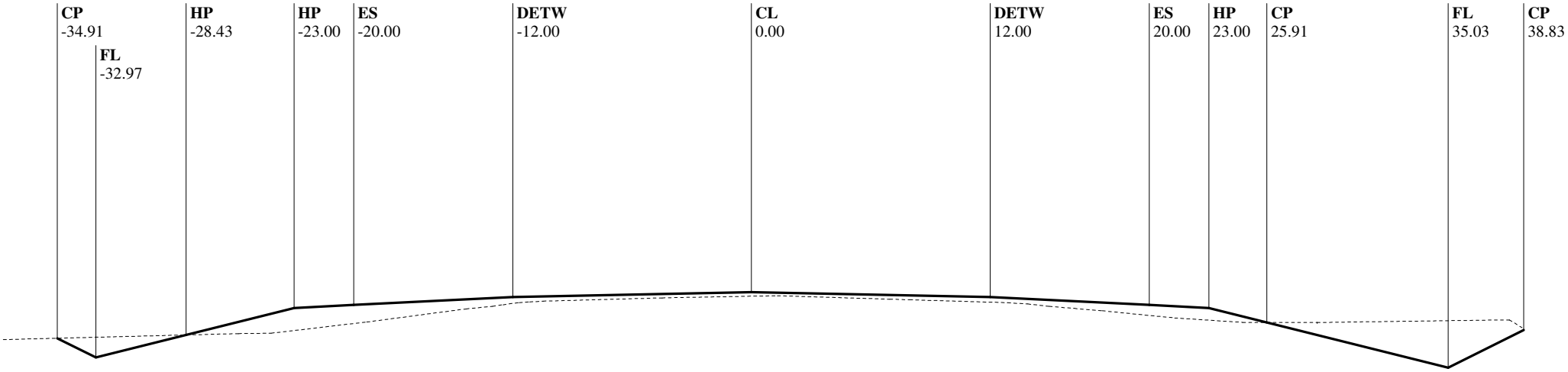
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.90 | -28.64 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.39 | 35.09 |
| -4.81 | -3.74 | -2.33 | -2.18 | -1.78 | -1.54 | -1.78 | -2.18 | -2.33 | -2.93 | -5.36 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.06 | F 1.41 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.60 | F 2.43 |
| @ 4.26 | @ 5.64 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.39 | @ 9.70 |

| CP | CP |
|---|---|
| -34.63 | 38.73 |
| -3.94 | -3.54 |
| 2.00:1 | 2.00:1 |
| C 0.86 | C 1.82 |
| @ 1.73 | @ 3.64 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 239+50.00**

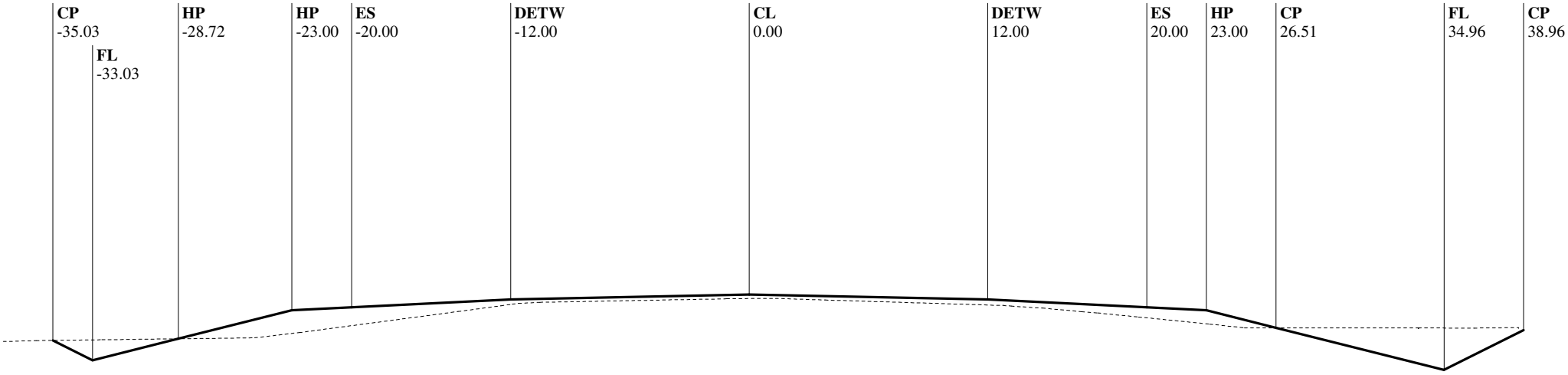
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.97 | -28.43 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.91 | 35.03 |
| -5.00 | -3.86 | -2.51 | -2.36 | -1.96 | -1.72 | -1.96 | -2.36 | -2.51 | -3.23 | -5.51 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.13 | F 1.36 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.73 | F 2.28 |
| @ 4.54 | @ 5.43 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.91 | @ 9.12 |

| CP | CP |
|---|---|
| -34.91 | 38.83 |
| -4.03 | -3.61 |
| 2.00:1 | 2.00:1 |
| C 0.97 | C 1.90 |
| @ 1.94 | @ 3.80 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 240+00.00**

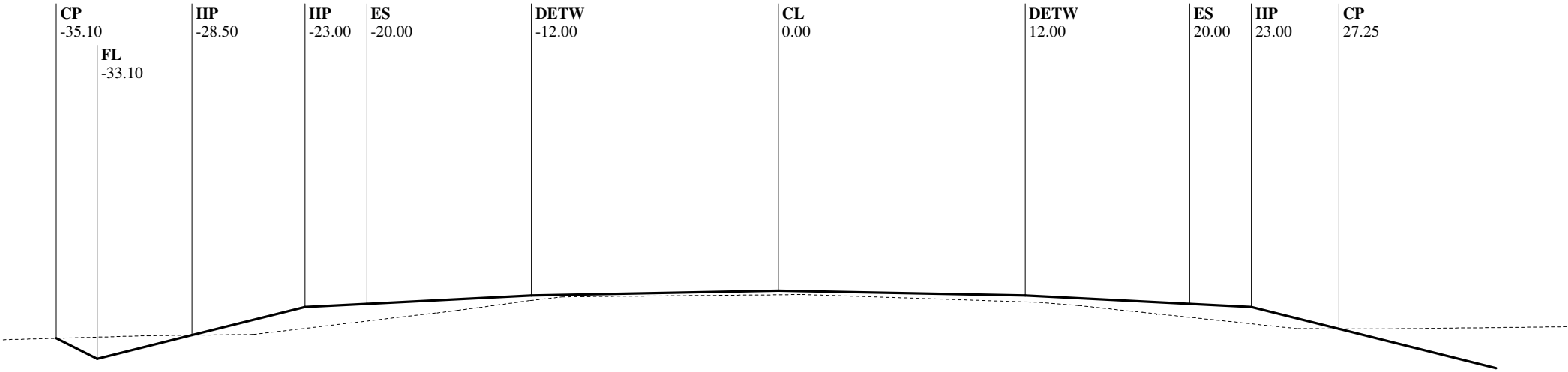
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.03 | -28.72 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.51 | 34.96 |
| -5.10 | -4.02 | -2.59 | -2.44 | -2.04 | -1.80 | -2.04 | -2.44 | -2.59 | -3.47 | -5.58 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.08 | F 1.43 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.88 | F 2.11 |
| @ 4.31 | @ 5.72 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.51 | @ 8.44 |

| CP | CP |
|---|---|
| -35.03 | 38.96 |
| -4.10 | -3.58 |
| 2.00:1 | 2.00:1 |
| C 1.00 | C 2.00 |
| @ 1.99 | @ 4.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 240+50.00**

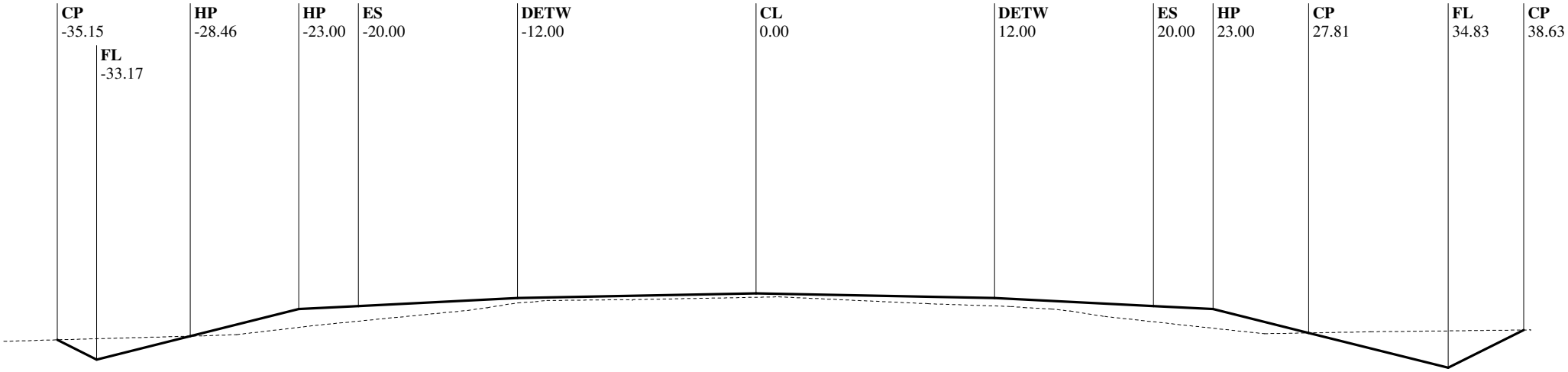
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.10 | -28.50 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.25 | 34.89 |
| -5.10 | -3.95 | -2.57 | -2.42 | -2.02 | -1.78 | -2.02 | -2.42 | -2.57 | -3.64 | -5.55 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.15 | F 1.37 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.06 | F 1.91 |
| @ 4.60 | @ 5.50 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.25 | @ 7.64 |

| CP |
|---|
| -35.10 |
| -4.10 |
| 2.00:1 |
| C 1.00 |
| @ 2.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 241+00.00**

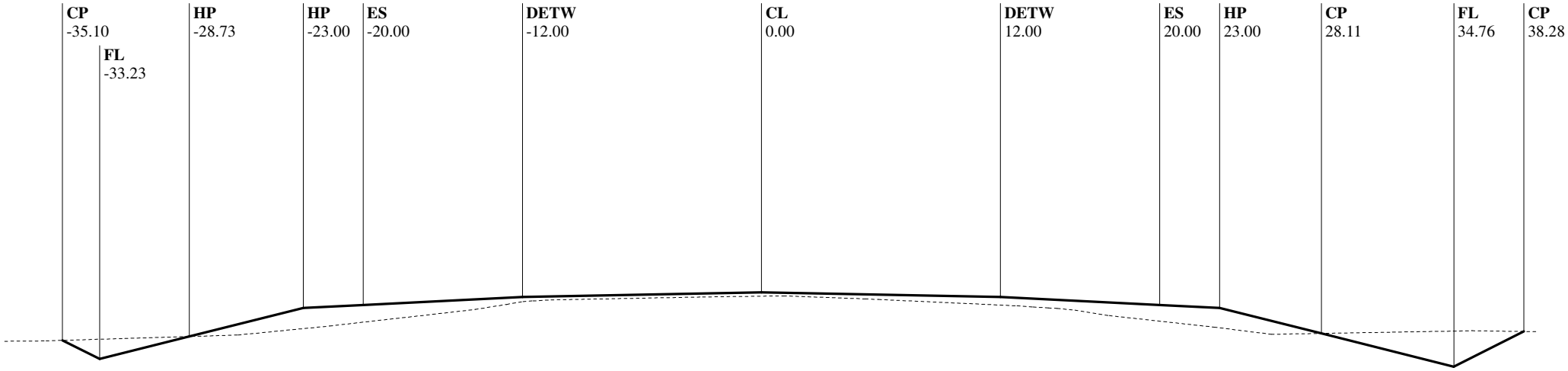
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.17 | -28.46 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.81 | 34.83 |
| -5.10 | -3.93 | -2.56 | -2.41 | -2.01 | -1.77 | -2.01 | -2.41 | -2.56 | -3.76 | -5.52 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.18 | F 1.36 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.20 | F 1.75 |
| @ 4.71 | @ 5.46 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.81 | @ 7.02 |

| CP | CP |
|---|---|
| -35.15 | 38.63 |
| -4.11 | -3.62 |
| 2.00:1 | 2.00:1 |
| C 0.99 | C 1.90 |
| @ 1.98 | @ 3.80 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 241+50.00**

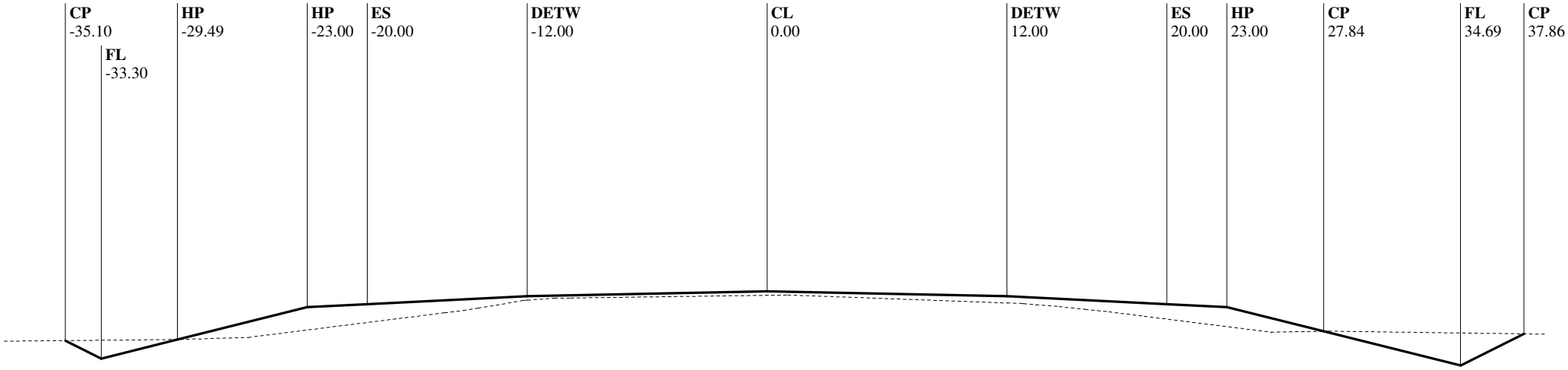
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.23 | -28.73 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.11 | 34.76 |
| -5.09 | -3.97 | -2.53 | -2.38 | -1.98 | -1.74 | -1.98 | -2.38 | -2.53 | -3.81 | -5.47 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.13 | F 1.43 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.28 | F 1.66 |
| @ 4.50 | @ 5.73 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.11 | @ 6.65 |

| CP | CP |
|---|---|
| -35.10 | 38.28 |
| -4.16 | -3.71 |
| 2.00:1 | 2.00:1 |
| C 0.93 | C 1.76 |
| @ 1.86 | @ 3.52 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 242+00.00**

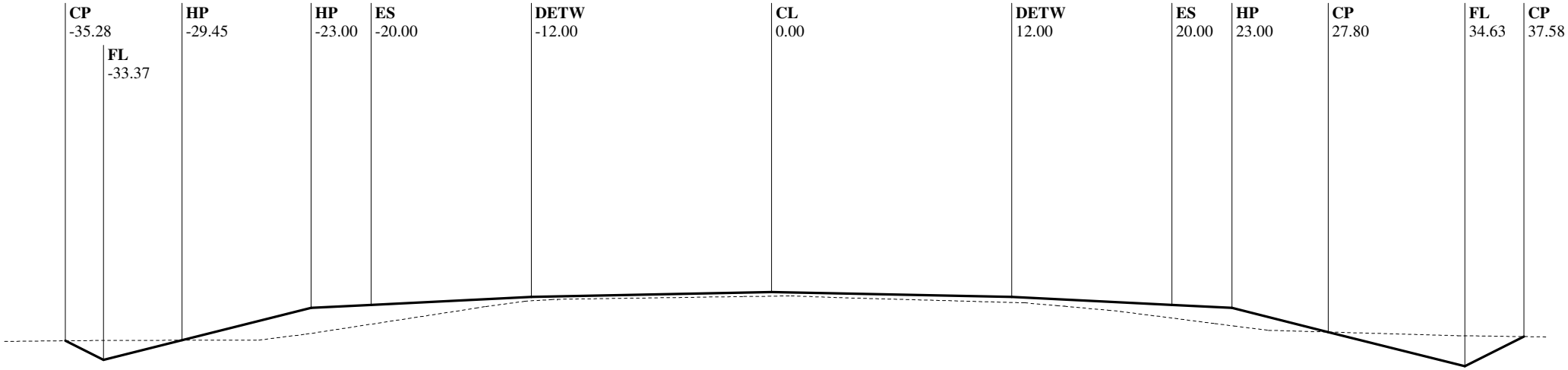
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.30 | -29.49 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.84 | 34.69 |
| -5.09 | -4.14 | -2.52 | -2.37 | -1.97 | -1.73 | -1.97 | -2.37 | -2.52 | -3.72 | -5.44 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.95 | F 1.62 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.21 | F 1.71 |
| @ 3.81 | @ 6.49 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.84 | @ 6.86 |

| CP | CP |
|---|---|
| -35.10 | 37.86 |
| -4.19 | -3.85 |
| 2.00:1 | 2.00:1 |
| C 0.90 | C 1.58 |
| @ 1.80 | @ 3.17 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 242+50.00**

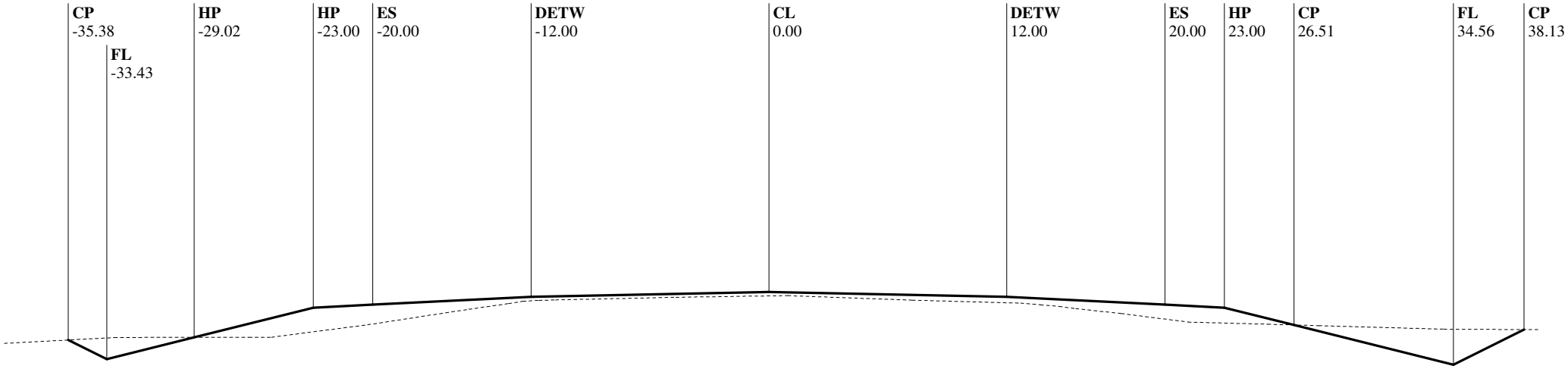
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.37 | -29.45 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.80 | 34.63 |
| -5.16 | -4.18 | -2.57 | -2.42 | -2.02 | -1.78 | -2.02 | -2.42 | -2.57 | -3.77 | -5.48 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.98 | F 1.61 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.20 | F 1.71 |
| @ 3.92 | @ 6.45 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.80 | @ 6.82 |

| CP | CP |
|---|---|
| -35.28 | 37.58 |
| -4.21 | -4.00 |
| 2.00:1 | 2.00:1 |
| C 0.95 | C 1.48 |
| @ 1.91 | @ 2.96 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 243+00.00**

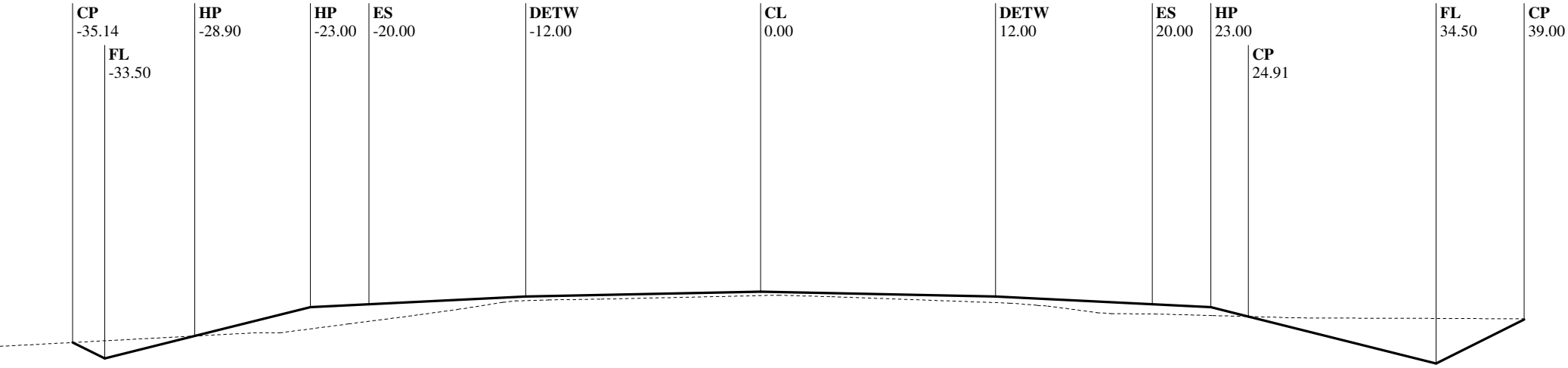
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.43 | -29.02 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.51 | 34.56 |
| -5.22 | -4.11 | -2.61 | -2.46 | -2.06 | -1.82 | -2.06 | -2.46 | -2.61 | -3.49 | -5.50 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.10 | F 1.50 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.88 | F 2.01 |
| @ 4.42 | @ 6.02 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.51 | @ 8.05 |

| CP | CP |
|---|---|
| -35.38 | 38.13 |
| -4.24 | -3.71 |
| 2.00:1 | 2.00:1 |
| C 0.97 | C 1.78 |
| @ 1.94 | @ 3.57 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 243+50.00**

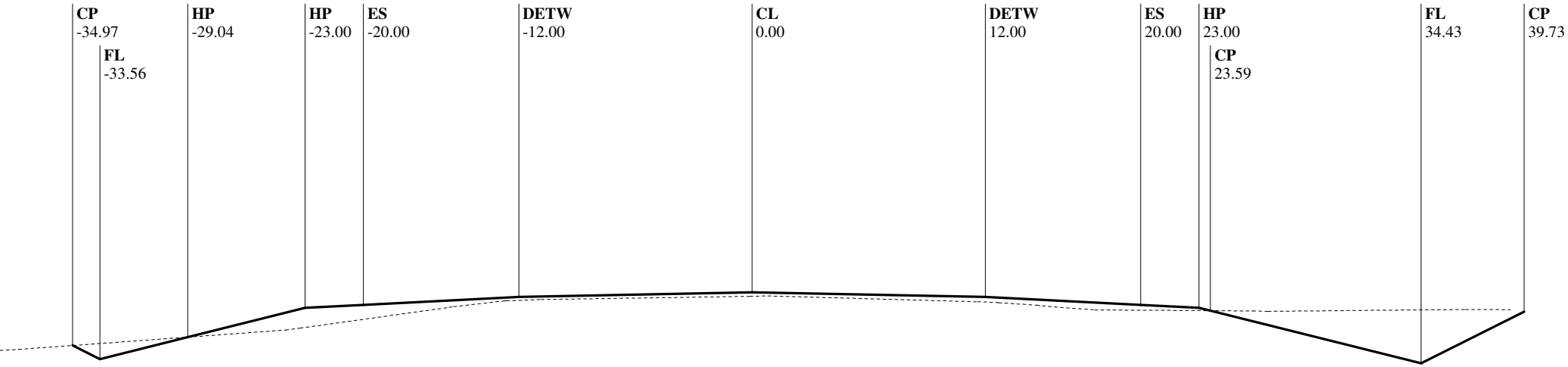
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.50 | -28.90 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 24.91 | 34.50 |
| -5.27 | -4.12 | -2.64 | -2.49 | -2.09 | -1.85 | -2.09 | -2.49 | -2.64 | -3.12 | -5.52 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.15 | F 1.47 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.48 | F 2.40 |
| @ 4.60 | @ 5.90 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 1.91 | @ 9.58 |

| CP | CP |
|---|---|
| -35.14 | 39.00 |
| -4.45 | -3.27 |
| 2.00:1 | 2.00:1 |
| C 0.82 | C 2.25 |
| @ 1.64 | @ 4.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 244+00.00**

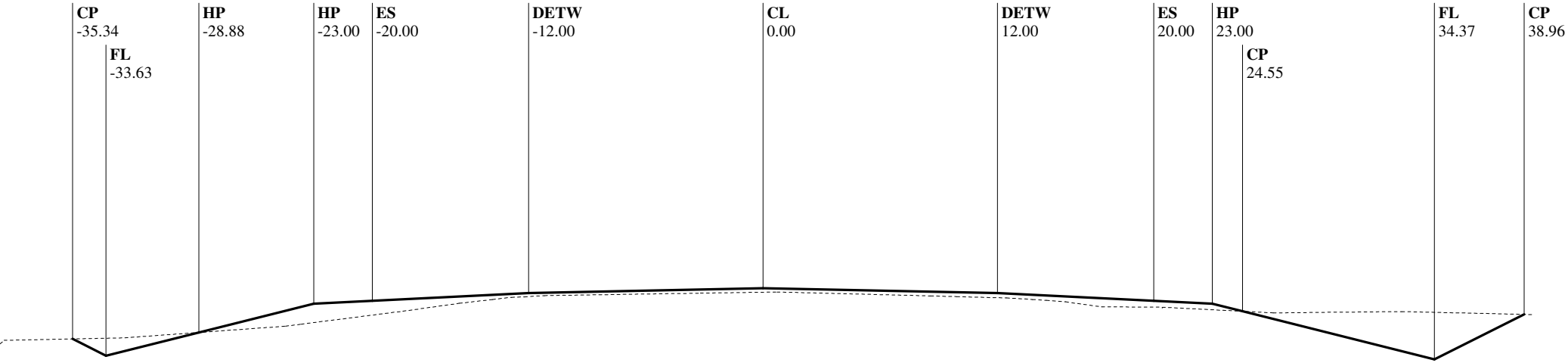
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.56 | -29.04 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 23.59 | 34.43 |
| -5.30 | -4.17 | -2.66 | -2.51 | -2.11 | -1.87 | -2.11 | -2.51 | -2.66 | -2.81 | -5.52 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.13 | F 1.51 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.15 | F 2.71 |
| @ 4.52 | @ 6.04 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 0.59 | @ 10.84 |

| CP | CP |
|---|---|
| -34.97 | 39.73 |
| -4.60 | -2.87 |
| 2.00:1 | 2.00:1 |
| C 0.70 | C 2.65 |
| @ 1.40 | @ 5.30 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 244+50.00**

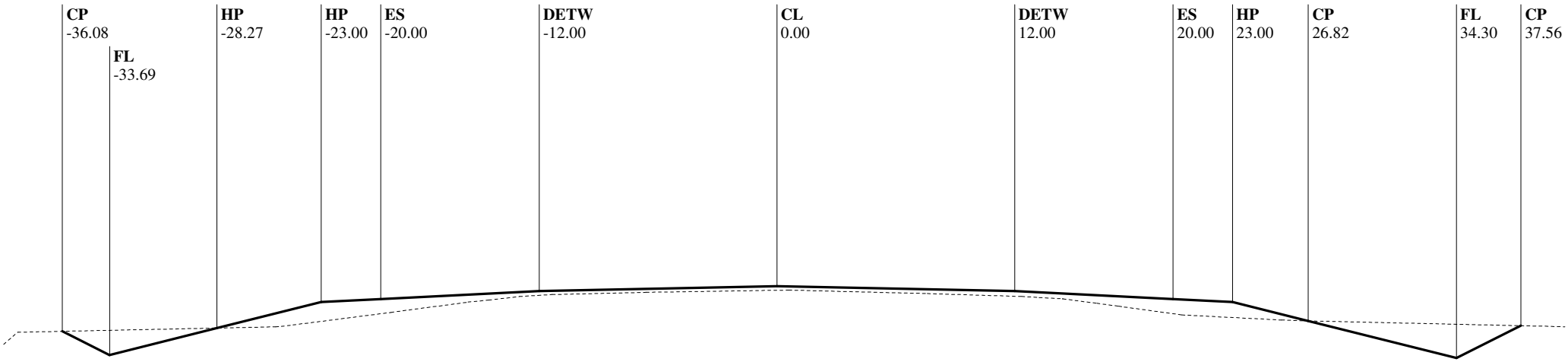
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.63 | -28.88 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 24.55 | 34.37 |
| -5.14 | -3.95 | -2.48 | -2.33 | -1.93 | -1.69 | -1.93 | -2.33 | -2.48 | -2.86 | -5.32 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.19 | F 1.47 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.39 | F 2.45 |
| @ 4.75 | @ 5.88 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 1.55 | @ 9.82 |

| CP | CP |
|---|---|
| -35.34 | 38.96 |
| -4.28 | -3.02 |
| 2.00:1 | 2.00:1 |
| C 0.86 | C 2.30 |
| @ 1.71 | @ 4.60 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 245+00.00**

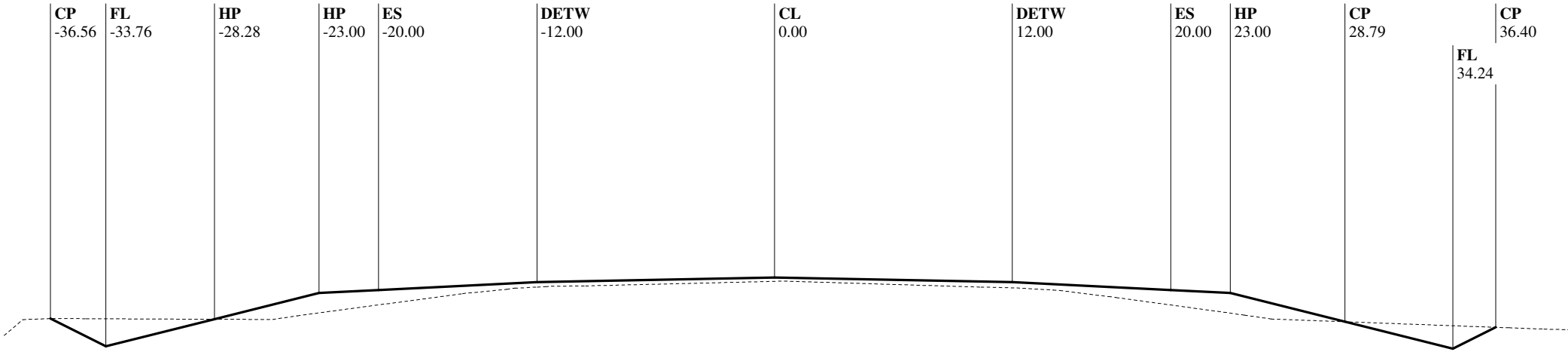
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.69 | -28.27 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 26.82 | 34.30 |
| -4.89 | -3.53 | -2.21 | -2.06 | -1.66 | -1.42 | -1.66 | -2.06 | -2.21 | -3.17 | -5.04 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.36 | F 1.32 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.95 | F 1.87 |
| @ 5.42 | @ 5.27 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 3.82 | @ 7.48 |

| CP | CP |
|---|---|
| -36.08 | 37.56 |
| -3.69 | -3.41 |
| 2.00:1 | 2.00:1 |
| C 1.19 | C 1.63 |
| @ 2.38 | @ 3.26 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 245+50.00**

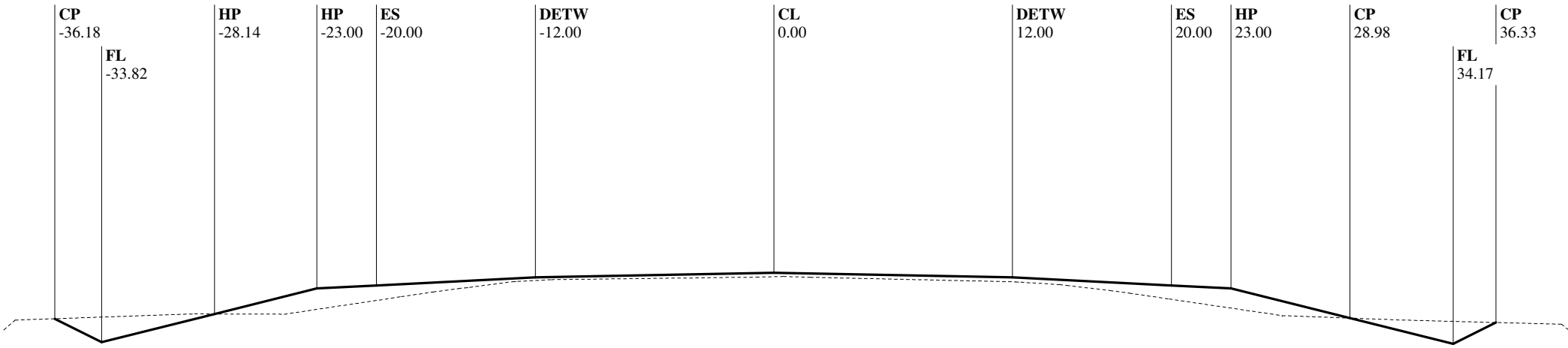
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.76 | -28.28 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.79 | 34.24 |
| -4.61 | -3.24 | -1.92 | -1.77 | -1.37 | -1.13 | -1.37 | -1.77 | -1.92 | -3.36 | -4.73 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.37 | F 1.32 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.45 | F 1.36 |
| @ 5.48 | @ 5.28 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.79 | @ 5.45 |

| CP | CP |
|---|---|
| -36.56 | 36.40 |
| -3.21 | -3.64 |
| 2.00:1 | 2.00:1 |
| C 1.40 | C 1.08 |
| @ 2.80 | @ 2.16 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 246+00.00**

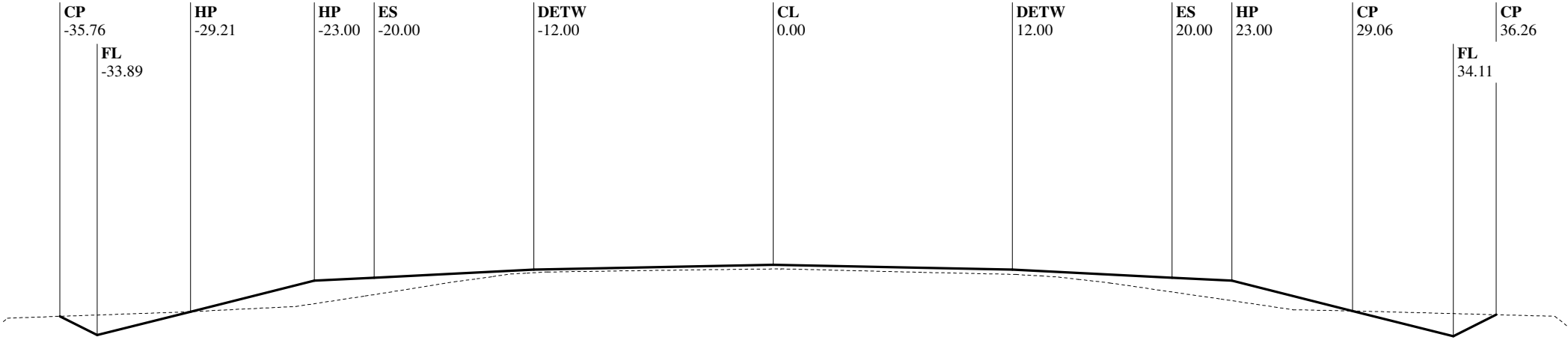
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.82 | -28.14 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.98 | 34.17 |
| -4.39 | -2.97 | -1.68 | -1.53 | -1.13 | -0.89 | -1.13 | -1.53 | -1.68 | -3.18 | -4.48 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.42 | F 1.28 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.50 | F 1.30 |
| @ 5.68 | @ 5.14 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.98 | @ 5.19 |

| CP | CP |
|---|---|
| -36.18 | 36.33 |
| -3.21 | -3.40 |
| 2.00:1 | 2.00:1 |
| C 1.18 | C 1.08 |
| @ 2.36 | @ 2.15 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 246+50.00**

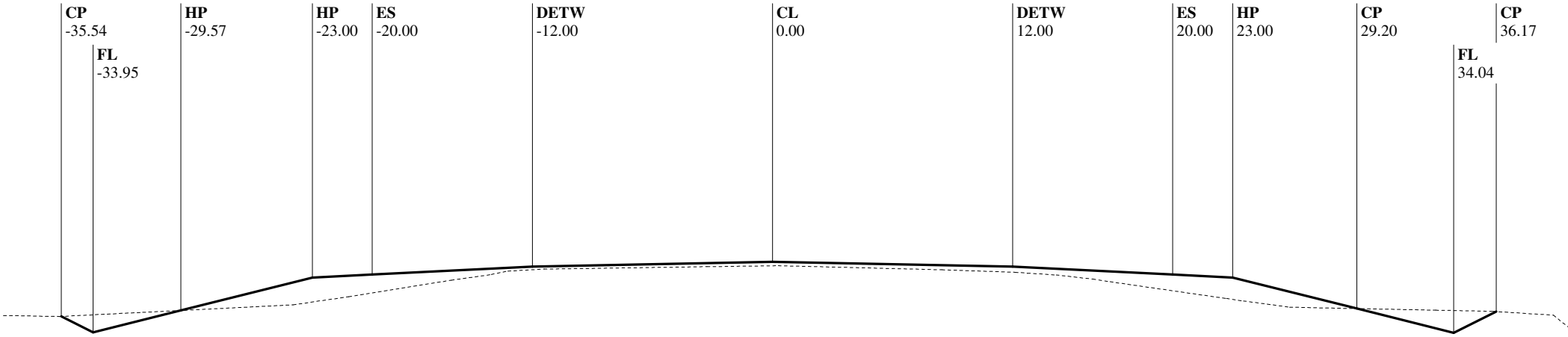
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.89 | -29.21 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.06 | 34.11 |
| -4.15 | -2.98 | -1.42 | -1.27 | -0.87 | -0.63 | -0.87 | -1.27 | -1.42 | -2.94 | -4.20 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.17 | F 1.55 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.51 | F 1.26 |
| @ 4.67 | @ 6.21 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.06 | @ 5.05 |

| CP | CP |
|---|---|
| -35.76 | 36.26 |
| -3.21 | -3.13 |
| 2.00:1 | 2.00:1 |
| C 0.94 | C 1.07 |
| @ 1.88 | @ 2.15 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 247+00.00**

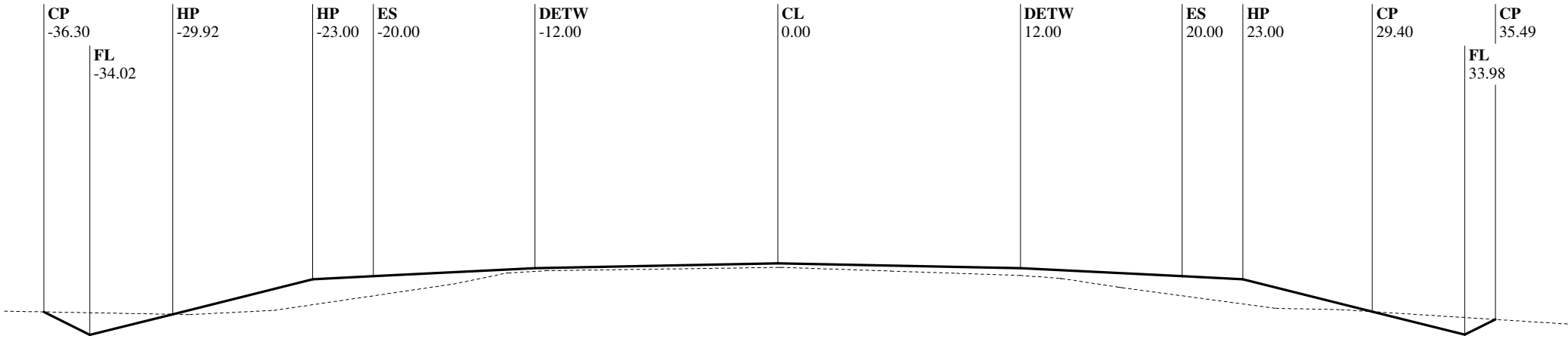
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.95 | -29.57 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.20 | 34.04 |
| -3.98 | -2.88 | -1.24 | -1.09 | -0.69 | -0.45 | -0.69 | -1.09 | -1.24 | -2.79 | -4.00 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.10 | F 1.64 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.55 | F 1.21 |
| @ 4.38 | @ 6.57 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.20 | @ 4.85 |

| CP | CP |
|---|---|
| -35.54 | 36.17 |
| -3.18 | -2.94 |
| 2.00:1 | 2.00:1 |
| C 0.80 | C 1.06 |
| @ 1.59 | @ 2.13 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 247+50.00**

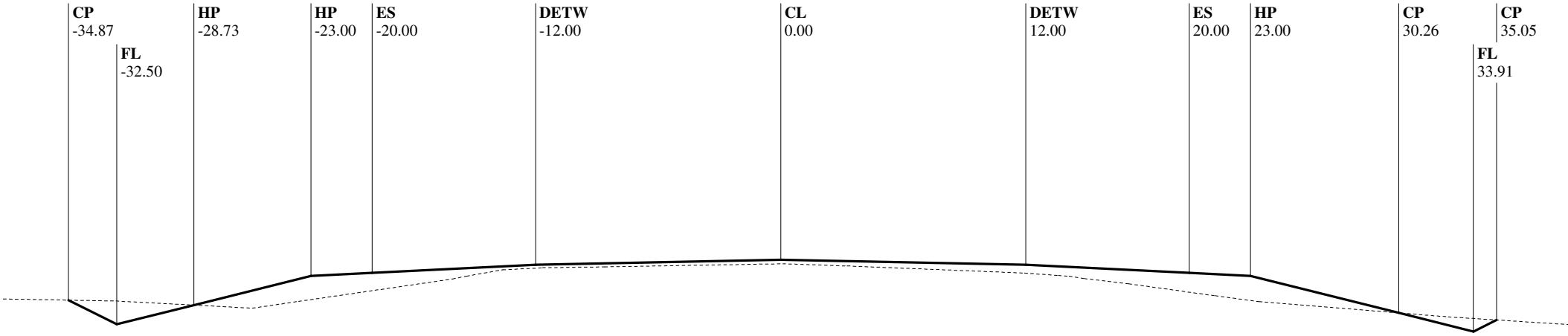
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.02 | -29.92 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.40 | 33.98 |
| -3.91 | -2.89 | -1.16 | -1.01 | -0.61 | -0.37 | -0.61 | -1.01 | -1.16 | -2.76 | -3.90 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.02 | F 1.73 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.60 | F 1.14 |
| @ 4.09 | @ 6.92 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.40 | @ 4.57 |

| CP | CP |
|---|---|
| -36.30 | 35.49 |
| -2.77 | -3.14 |
| 2.00:1 | 2.00:1 |
| C 1.14 | C 0.76 |
| @ 2.28 | @ 1.51 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 248+00.00**

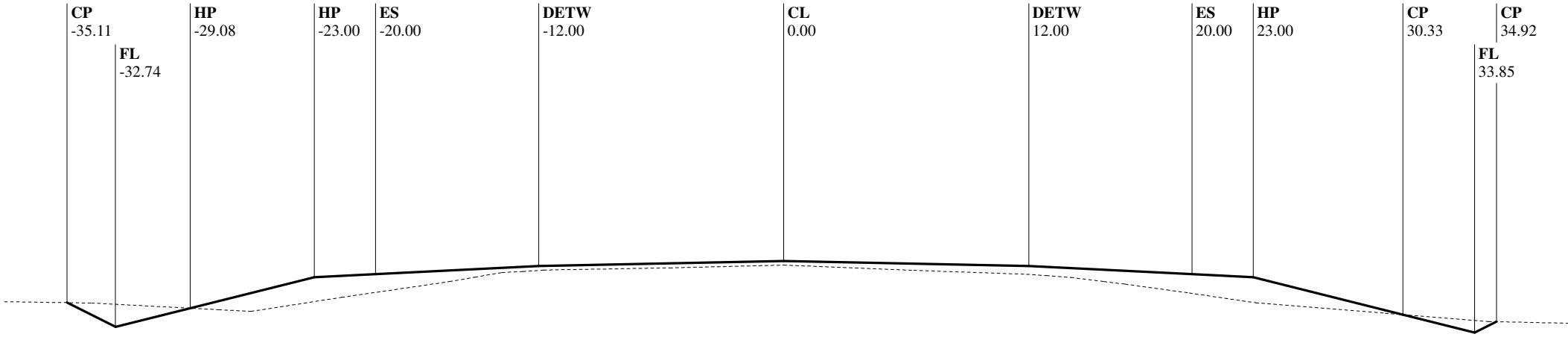
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.50 | -28.73 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.26 | 33.91 |
| -3.58 | -2.64 | -1.20 | -1.05 | -0.65 | -0.41 | -0.65 | -1.05 | -1.20 | -3.02 | -3.93 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.94 | F 1.43 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.82 | F 0.91 |
| @ 3.77 | @ 5.73 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.26 | @ 3.65 |

| CP | CP |
|---|---|
| -34.87 | 35.05 |
| -2.39 | -3.37 |
| 2.00:1 | 2.00:1 |
| C 1.19 | C 0.57 |
| @ 2.37 | @ 1.13 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 248+50.00**

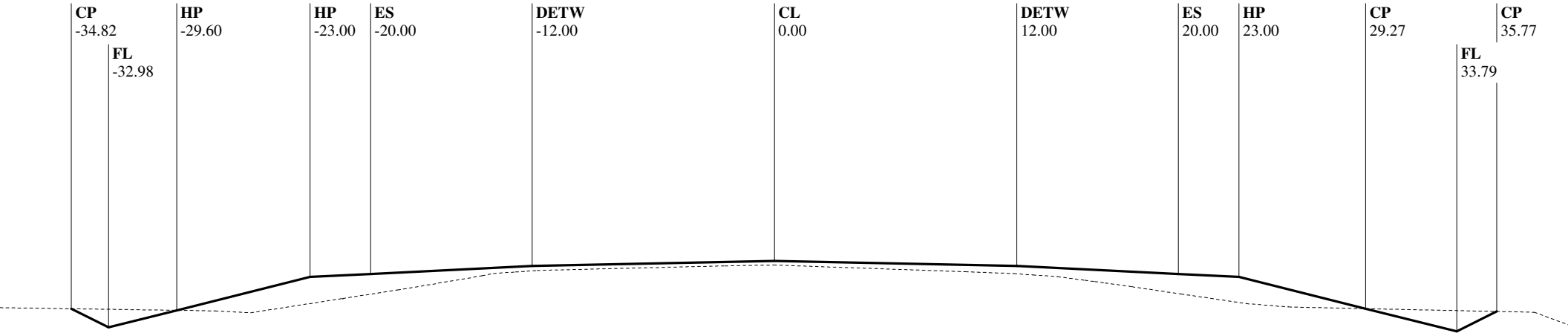
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.74 | -29.08 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.33 | 33.85 |
| -3.67 | -2.75 | -1.23 | -1.08 | -0.68 | -0.44 | -0.68 | -1.08 | -1.23 | -3.06 | -3.94 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.92 | F 1.52 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.83 | F 0.88 |
| @ 3.66 | @ 6.08 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.33 | @ 3.52 |

| CP | CP |
|---|---|
| -35.11 | 34.92 |
| -2.48 | -3.41 |
| 2.00:1 | 2.00:1 |
| C 1.19 | C 0.53 |
| @ 2.38 | @ 1.07 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 249+00.00**

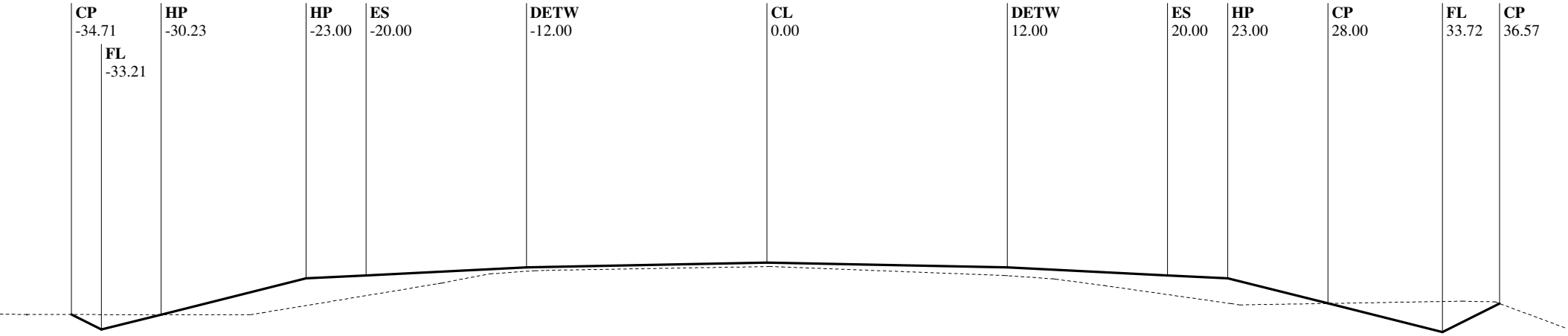
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.98 | -29.60 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.27 | 33.79 |
| -3.76 | -2.92 | -1.27 | -1.12 | -0.72 | -0.48 | -0.72 | -1.12 | -1.27 | -2.84 | -3.97 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.84 | F 1.65 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.57 | F 1.13 |
| @ 3.38 | @ 6.60 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.27 | @ 4.52 |

| CP | CP |
|---|---|
| -34.82 | 35.77 |
| -2.84 | -2.98 |
| 2.00:1 | 2.00:1 |
| C 0.92 | C 0.99 |
| @ 1.85 | @ 1.98 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 249+50.00**

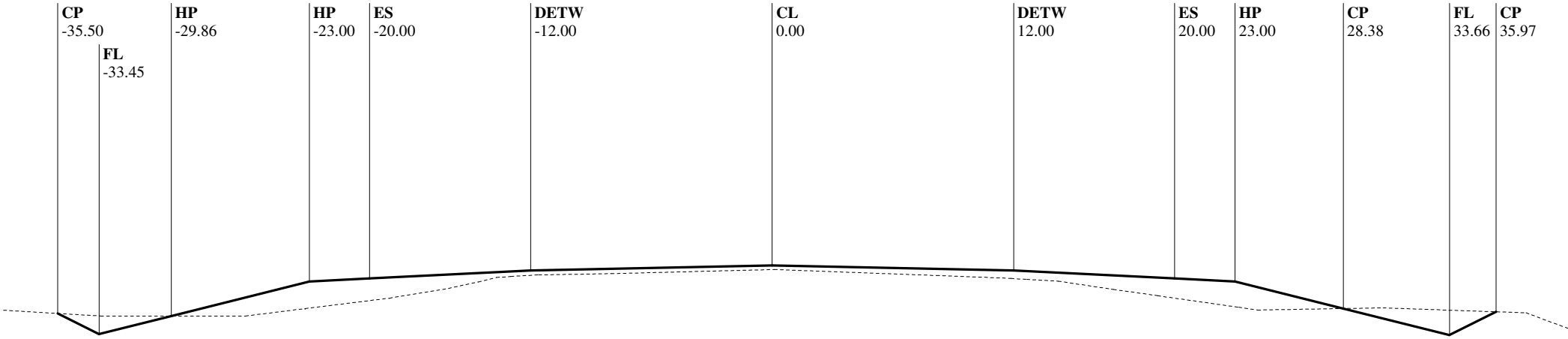
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.21 | -30.23 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.00 | 33.72 |
| -3.92 | -3.17 | -1.36 | -1.21 | -0.81 | -0.57 | -0.81 | -1.21 | -1.36 | -2.61 | -4.04 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.75 | F 1.81 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.25 | F 1.43 |
| @ 2.98 | @ 7.23 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.00 | @ 5.72 |

| CP | CP |
|---|---|
| -34.71 | 36.57 |
| -3.17 | -2.62 |
| 2.00:1 | 2.00:1 |
| C 0.75 | C 1.42 |
| @ 1.50 | @ 2.85 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 250+00.00**

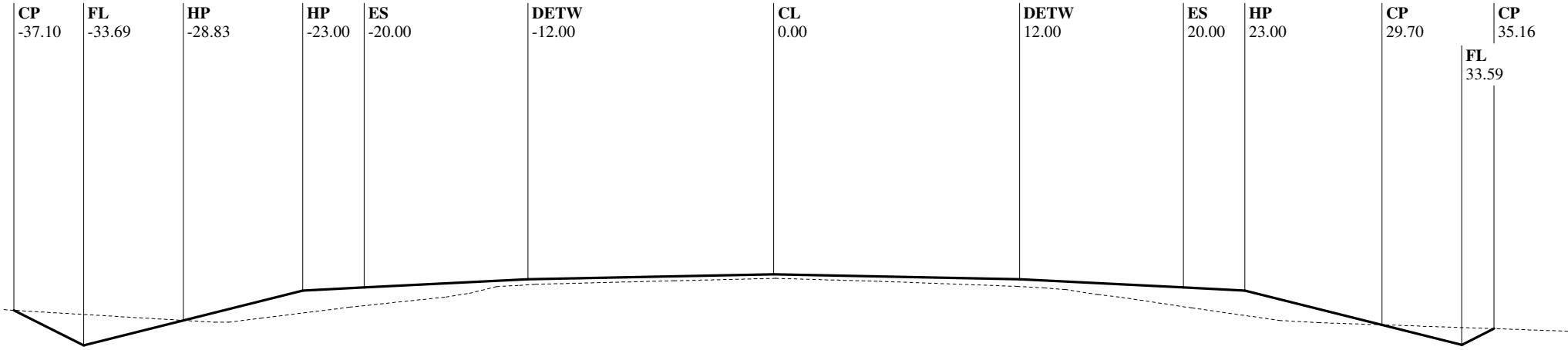
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.45 | -29.86 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.38 | 33.66 |
| -4.01 | -3.11 | -1.40 | -1.25 | -0.85 | -0.61 | -0.85 | -1.25 | -1.40 | -2.74 | -4.06 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.90 | F 1.71 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.35 | F 1.32 |
| @ 3.59 | @ 6.86 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.38 | @ 5.27 |

| CP | CP |
|---|---|
| -35.50 | 35.97 |
| -2.99 | -2.90 |
| 2.00:1 | 2.00:1 |
| C 1.03 | C 1.16 |
| @ 2.05 | @ 2.32 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 250+50.00**

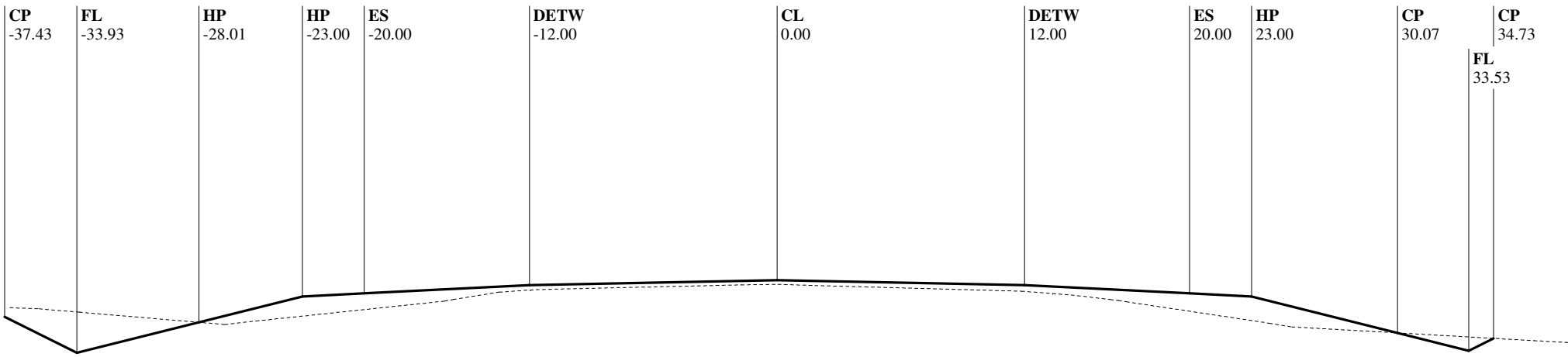
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.69 | -28.83 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.70 | 33.59 |
| -4.16 | -2.95 | -1.49 | -1.34 | -0.94 | -0.70 | -0.94 | -1.34 | -1.49 | -3.16 | -4.14 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.22 | F 1.46 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.67 | F 0.97 |
| @ 4.86 | @ 5.83 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.70 | @ 3.89 |

| CP | CP |
|---|---|
| -37.10 | 35.16 |
| -2.46 | -3.35 |
| 2.00:1 | 2.00:1 |
| C 1.70 | C 0.79 |
| @ 3.41 | @ 1.57 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 251+00.00**

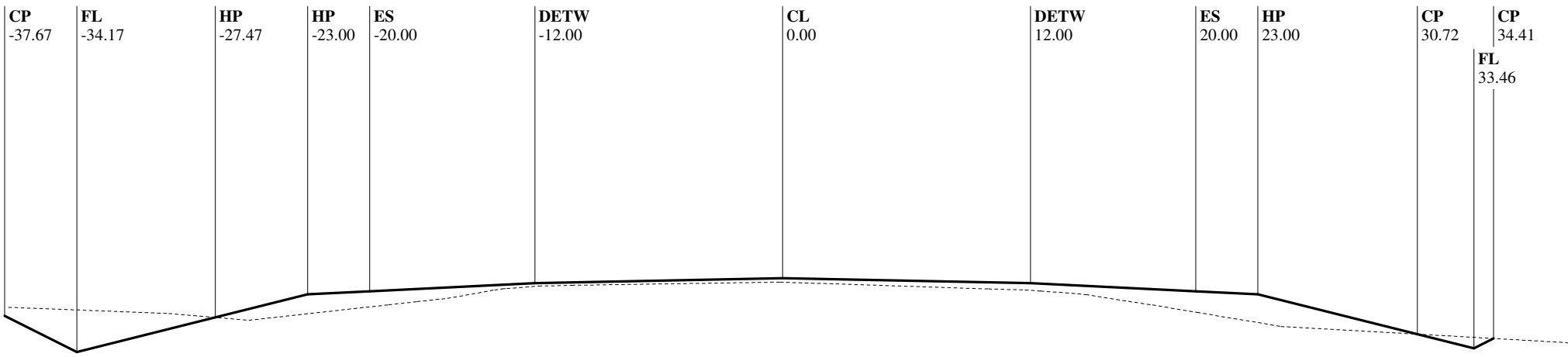
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.93 | -28.01 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.07 | 33.53 |
| -4.30 | -2.82 | -1.56 | -1.41 | -1.01 | -0.77 | -1.01 | -1.41 | -1.56 | -3.33 | -4.20 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.48 | F 1.25 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.77 | F 0.86 |
| @ 5.92 | @ 5.01 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.07 | @ 3.45 |

| CP | CP |
|---|---|
| -37.43 | 34.73 |
| -2.55 | -3.60 |
| 2.00:1 | 2.00:1 |
| C 1.75 | C 0.60 |
| @ 3.50 | @ 1.20 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 251+50.00**

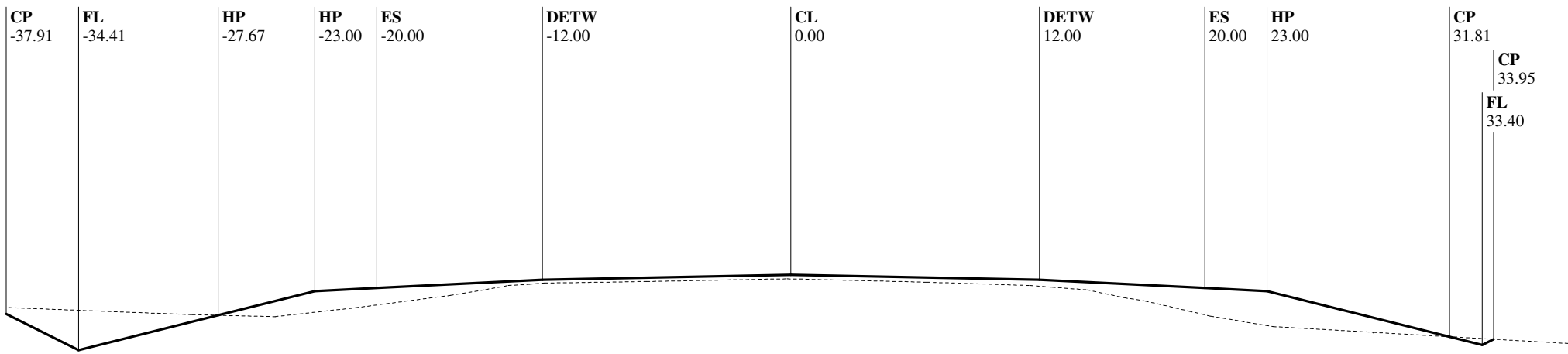
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.17 | -27.47 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.72 | 33.46 |
| -4.24 | -2.56 | -1.44 | -1.29 | -0.89 | -0.65 | -0.89 | -1.29 | -1.44 | -3.37 | -4.06 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.67 | F 1.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.93 | F 0.69 |
| @ 6.70 | @ 4.47 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.72 | @ 2.74 |

| CP | CP |
|---|---|
| -37.67 | 34.41 |
| -2.49 | -3.59 |
| 2.00:1 | 2.00:1 |
| C 1.75 | C 0.48 |
| @ 3.50 | @ 0.95 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 252+00.00**

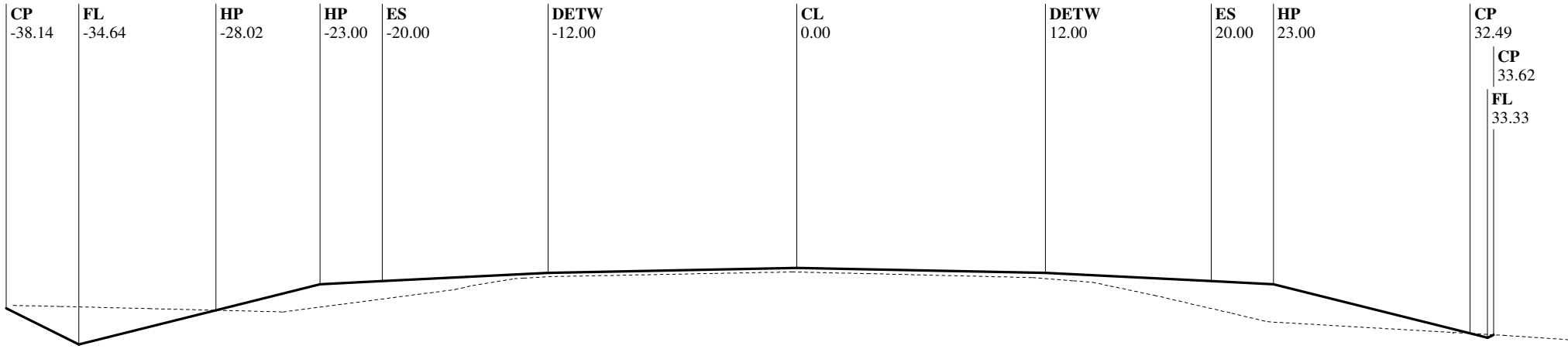
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.41 | -27.67 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.81 | 33.40 |
| -4.09 | -2.41 | -1.24 | -1.09 | -0.69 | -0.45 | -0.69 | -1.09 | -1.24 | -3.44 | -3.84 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.68 | F 1.17 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.20 | F 0.40 |
| @ 6.73 | @ 4.67 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.81 | @ 1.59 |

| CP | CP |
|---|---|
| -37.91 | 33.95 |
| -2.34 | -3.57 |
| 2.00:1 | 2.00:1 |
| C 1.75 | C 0.27 |
| @ 3.50 | @ 0.55 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



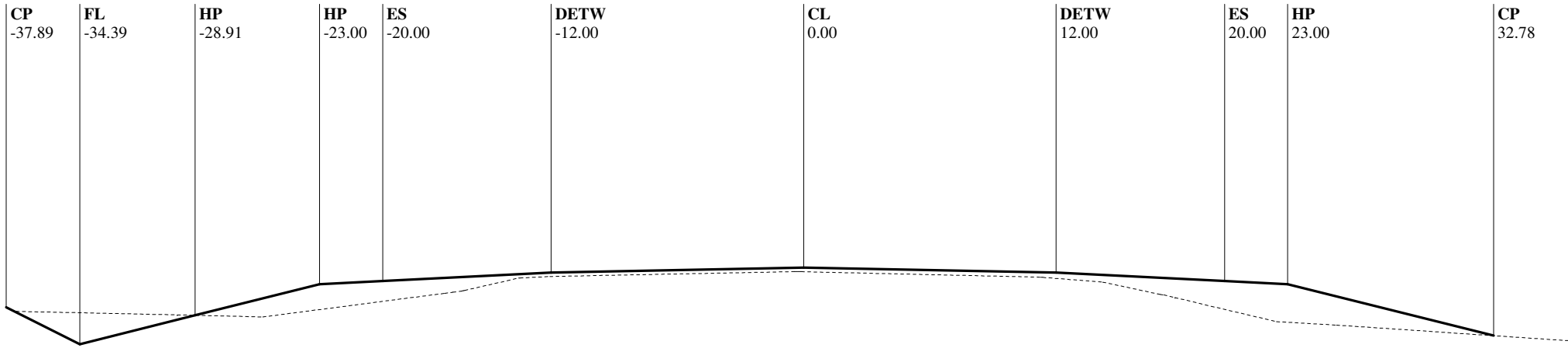

**Alignment Chain CENTER1**
**Station: 252+50.00**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.64 | -28.02 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.49 | 33.33 |
| -4.00 | -2.34 | -1.08 | -0.93 | -0.53 | -0.29 | -0.53 | -0.93 | -1.08 | -3.46 | -3.67 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.66 | F 1.26 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.37 | F 0.21 |
| @ 6.62 | @ 5.02 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.49 | @ 0.84 |

| CP | CP |
|---|---|
| -38.14 | 33.62 |
| -2.25 | -3.52 |
| 2.00:1 | 2.00:1 |
| C 1.75 | C 0.14 |
| @ 3.50 | @ 0.29 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 253+00.00**

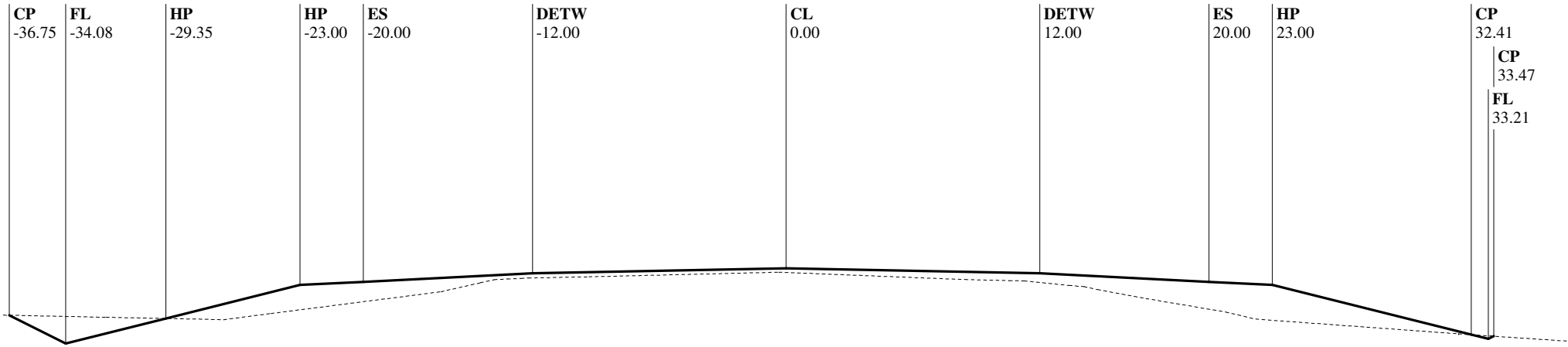
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.39 | -28.91 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.78 |
| -3.87 | -2.50 | -1.02 | -0.87 | -0.47 | -0.23 | -0.47 | -0.87 | -1.02 | -3.47 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.37 | F 1.48 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.45 |
| @ 5.48 | @ 5.91 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.78 |

| CP |
|---|
| -37.89 |
| -2.12 |
| 2.00:1 |
| C 1.75 |
| @ 3.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 253+50.00**

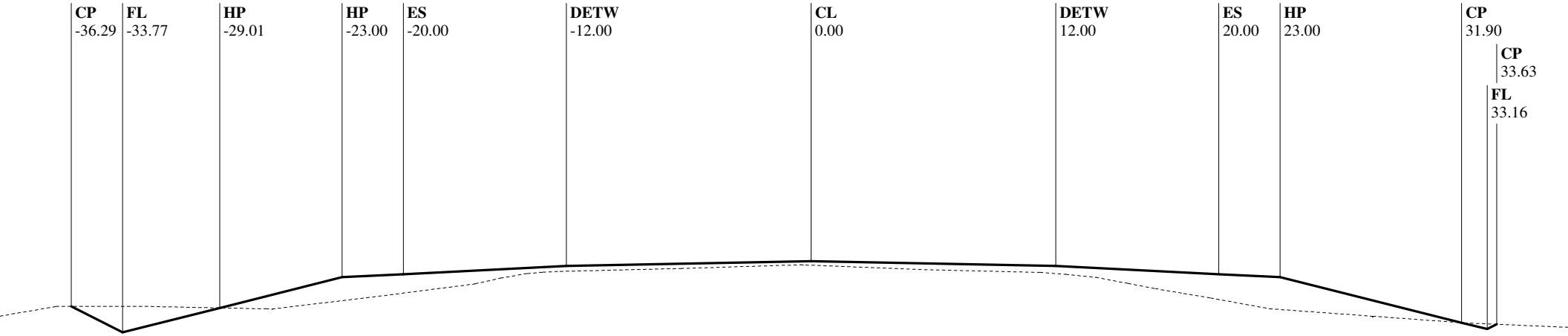
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.08 | -29.35 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.41 | 33.21 |
| -3.87 | -2.69 | -1.10 | -0.95 | -0.55 | -0.31 | -0.55 | -0.95 | -1.10 | -3.45 | -3.65 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.18 | F 1.59 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.35 | F 0.20 |
| @ 4.73 | @ 6.35 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.41 | @ 0.80 |

| CP | CP |
|---|---|
| -36.75 | 33.47 |
| -2.53 | -3.52 |
| 2.00:1 | 2.00:1 |
| C 1.34 | C 0.13 |
| @ 2.67 | @ 0.26 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 254+00.00**

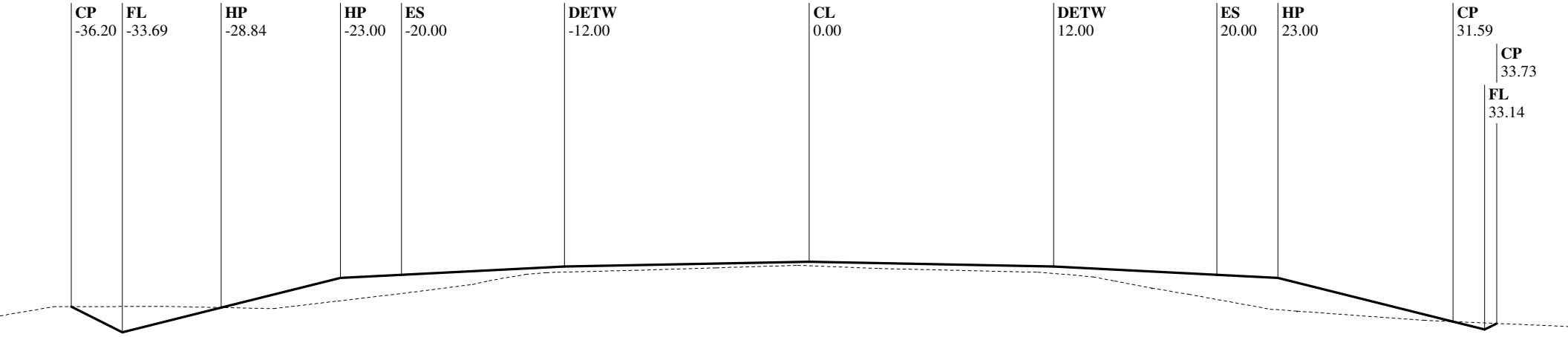
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.77 | -29.01 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.90 | 33.16 |
| -3.98 | -2.79 | -1.28 | -1.13 | -0.73 | -0.49 | -0.73 | -1.13 | -1.28 | -3.51 | -3.82 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.19 | F 1.50 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.23 | F 0.31 |
| @ 4.76 | @ 6.01 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.90 | @ 1.25 |

| CP | CP |
|---|---|
| -36.29 | 33.63 |
| -2.72 | -3.59 |
| 2.00:1 | 2.00:1 |
| C 1.26 | C 0.24 |
| @ 2.52 | @ 0.47 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 254+12.20**

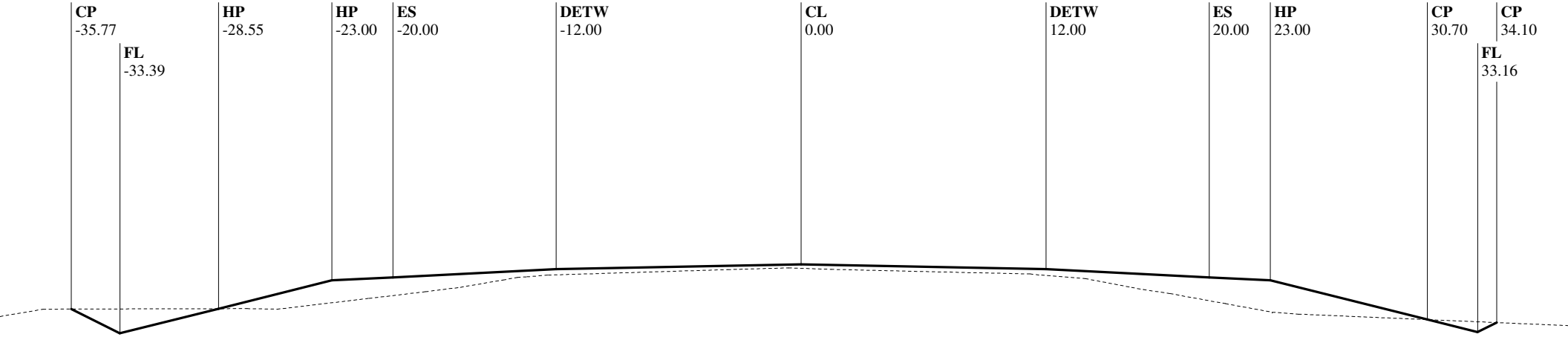
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.69 | -28.84 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.59 | 33.14 |
| -4.01 | -2.80 | -1.34 | -1.19 | -0.79 | -0.55 | -0.79 | -1.19 | -1.34 | -3.49 | -3.88 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.21 | F 1.46 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.15 | F 0.39 |
| @ 4.85 | @ 5.84 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.59 | @ 1.55 |

| CP | CP |
|---|---|
| -36.20 | 33.73 |
| -2.76 | -3.58 |
| 2.00:1 | 2.00:1 |
| C 1.25 | C 0.30 |
| @ 2.51 | @ 0.59 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 254+50.00**

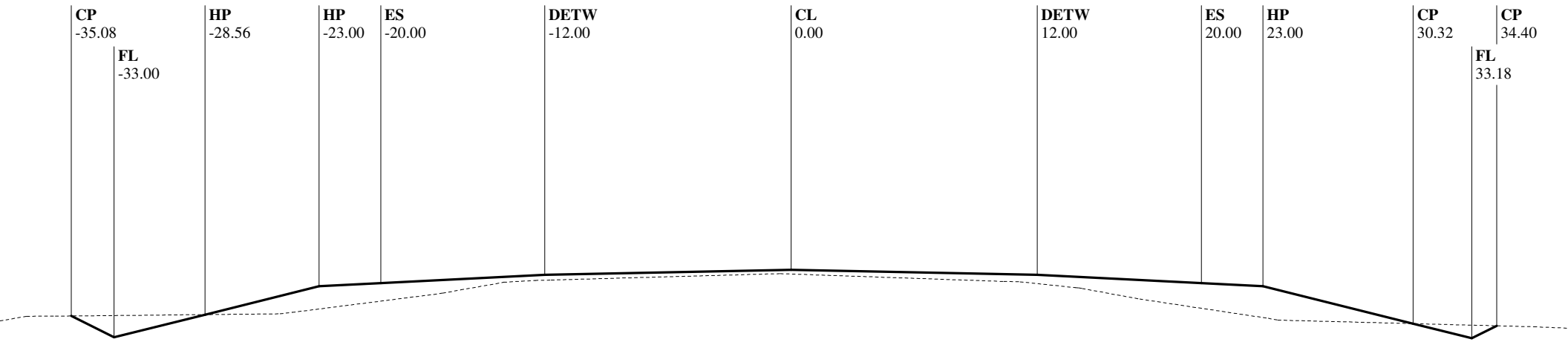
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.39 | -28.55 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.70 | 33.16 |
| -4.09 | -2.88 | -1.49 | -1.34 | -0.94 | -0.70 | -0.94 | -1.34 | -1.49 | -3.41 | -4.03 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.21 | F 1.39 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.92 | F 0.61 |
| @ 4.84 | @ 5.55 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.70 | @ 2.46 |

| CP | CP |
|---|---|
| -35.77 | 34.10 |
| -2.90 | -3.56 |
| 2.00:1 | 2.00:1 |
| C 1.19 | C 0.47 |
| @ 2.38 | @ 0.94 |

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

# SLOPE STAKE LISTING & DIAGRAM

June 4, 2013 2:35:44 PM




**Alignment Chain CENTER1**
**Station: 255+00.00**

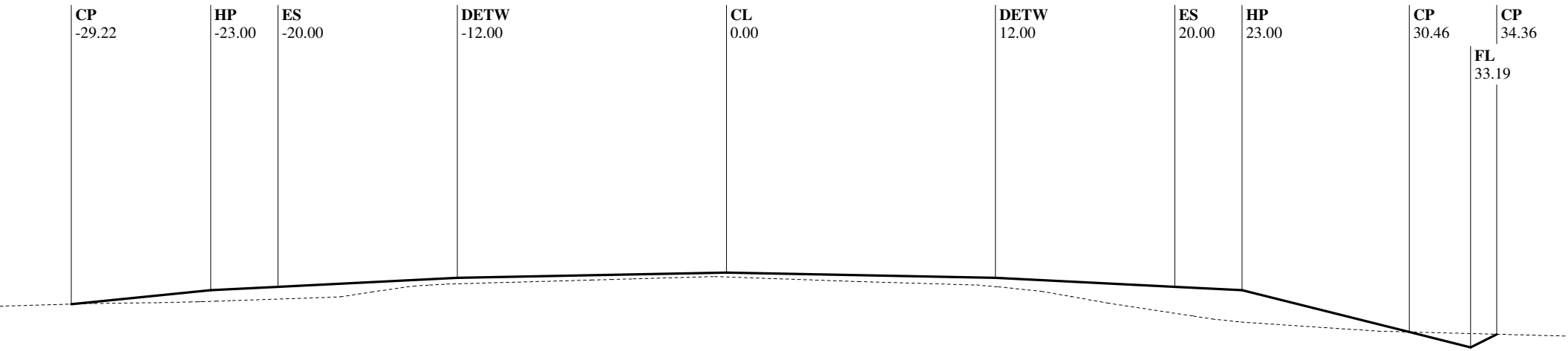
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.00 | -28.56 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.32 | 33.18 |
| -4.12 | -3.01 | -1.62 | -1.47 | -1.07 | -0.83 | -1.07 | -1.47 | -1.62 | -3.45 | -4.16 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.11 | F 1.39 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.83 | F 0.72 |
| @ 4.44 | @ 5.56 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.32 | @ 2.86 |

| CP | CP |
|---|---|
| -35.08 | 34.40 |
| -3.07 | -3.55 |
| 2.00:1 | 2.00:1 |
| C 1.04 | C 0.61 |
| @ 2.08 | @ 1.22 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 255+27.75**

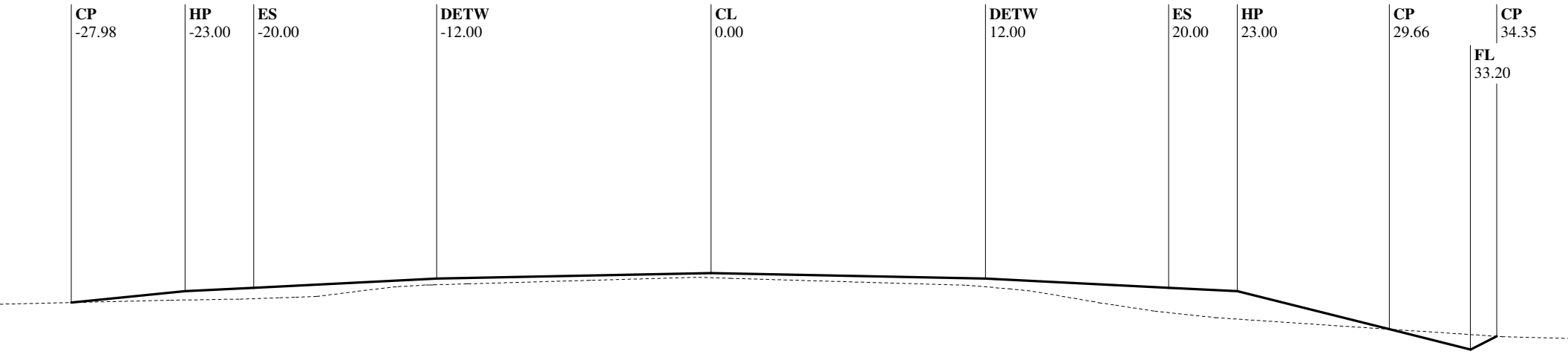
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -29.22 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.46 | 33.19 |
| -2.30 | -1.68 | -1.53 | -1.13 | -0.89 | -1.13 | -1.53 | -1.68 | -3.54 | -4.22 |
| -10.00% | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.62 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.86 | F 0.68 |
| @ 6.22 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.46 | @ 2.74 |

| CP |
|---|
| 34.36 |
| -3.64 |
| 2.00:1 |
| C 0.58 |
| @ 1.17 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 255+50.00**

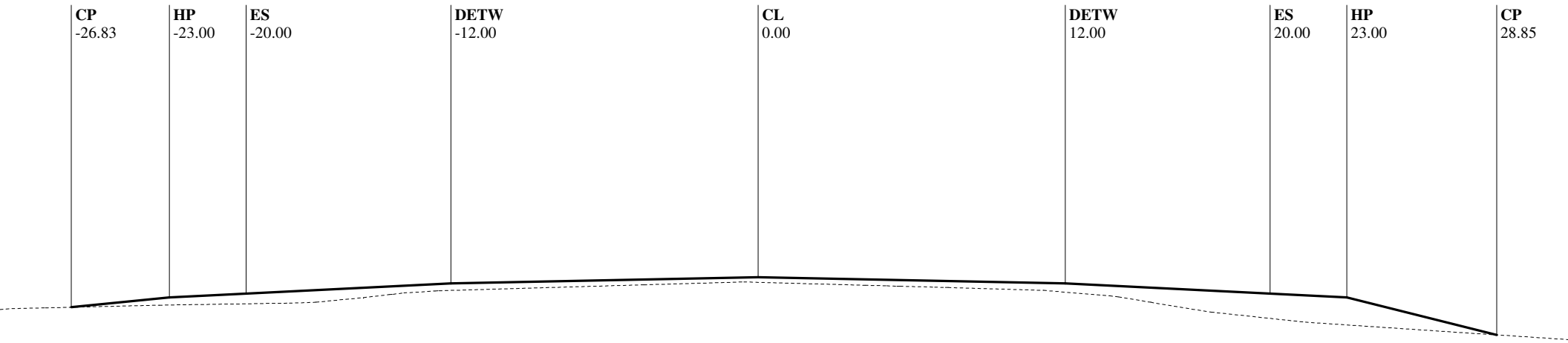
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -27.98 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.66 | 33.20 |
| -2.22 | -1.72 | -1.57 | -1.17 | -0.93 | -1.17 | -1.57 | -1.72 | -3.39 | -4.27 |
| -10.00% | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.50 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.66 | F 0.89 |
| @ 4.98 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.66 | @ 3.54 |

| CP |
|---|
| 34.35 |
| -3.70 |
| 2.00:1 |
| C 0.57 |
| @ 1.15 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



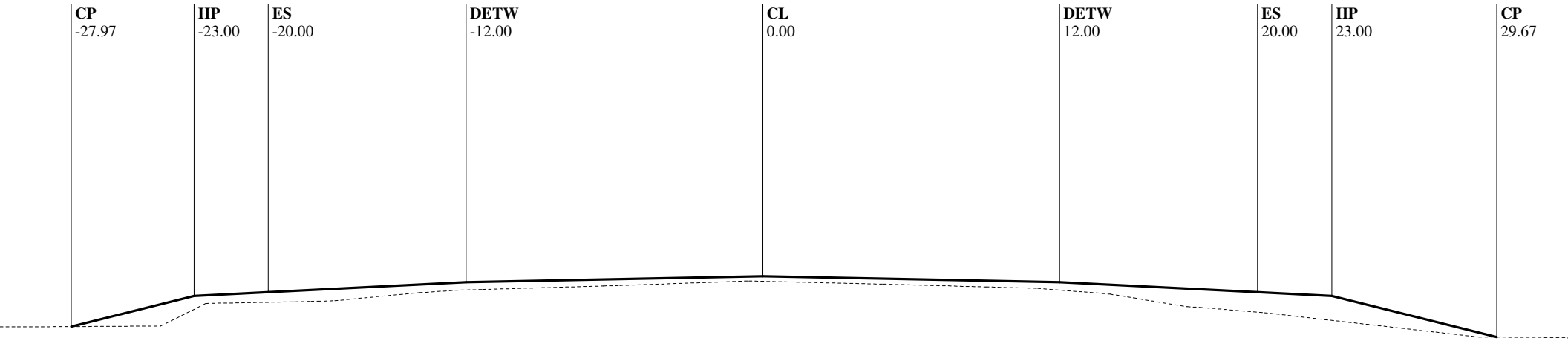

**Alignment Chain CENTER1**
**Station: 255+66.69**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.83 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.85 |
| -2.14 | -1.75 | -1.60 | -1.20 | -0.96 | -1.20 | -1.60 | -1.75 | -3.22 |
| -10.00% | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.38 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.46 |
| @ 3.83 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.85 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



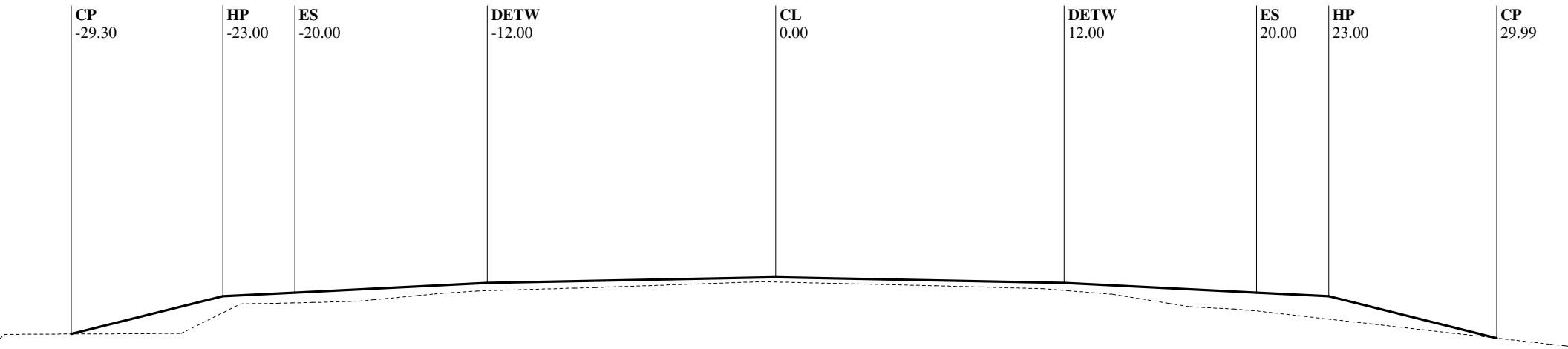

**Alignment Chain CENTER1**
**Station: 255+93.81**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.97 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.67 |
| -3.02 | -1.78 | -1.63 | -1.23 | -0.99 | -1.23 | -1.63 | -1.78 | -3.44 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.24 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.67 |
| @ 4.97 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.67 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



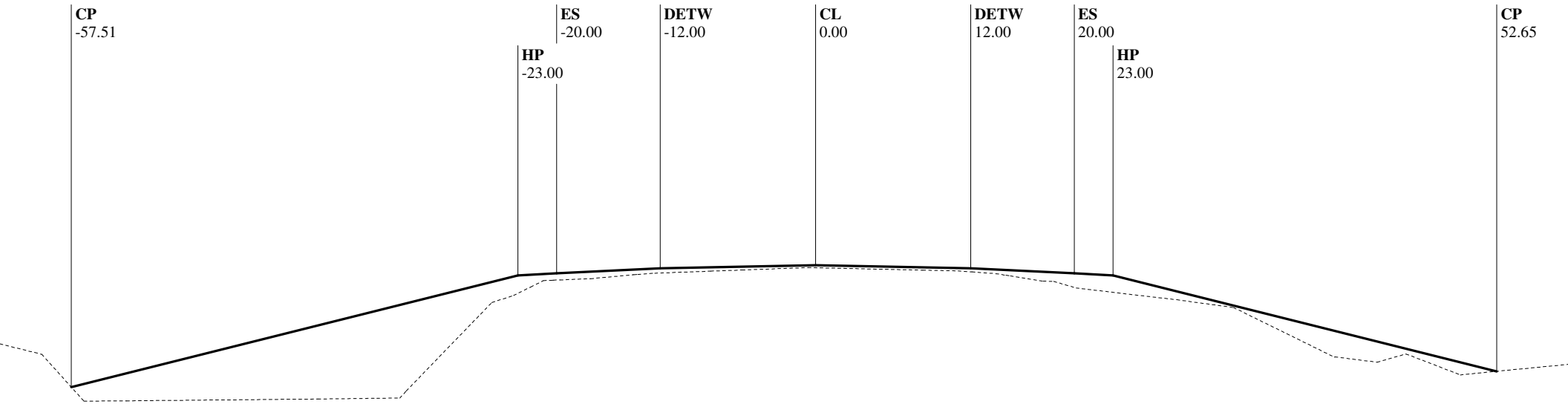

**Alignment Chain CENTER1**
**Station: 256+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -29.30 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.99 |
| -3.35 | -1.78 | -1.63 | -1.23 | -0.99 | -1.23 | -1.63 | -1.78 | -3.53 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.58 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.75 |
| @ 6.30 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.99 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



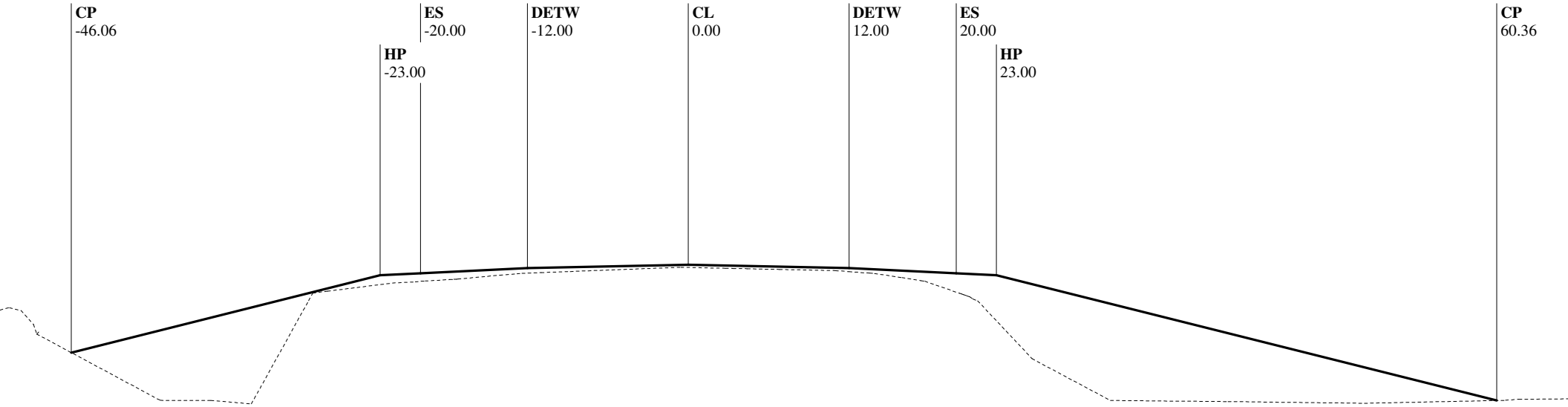

**Alignment Chain CENTER1**
**Station: 256+30.09**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -57.51 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 52.65 |
| -10.42 | -1.79 | -1.64 | -1.24 | -1.00 | -1.24 | -1.64 | -1.79 | -9.20 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 8.63 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 7.41 |
| @ 34.51 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 29.65 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



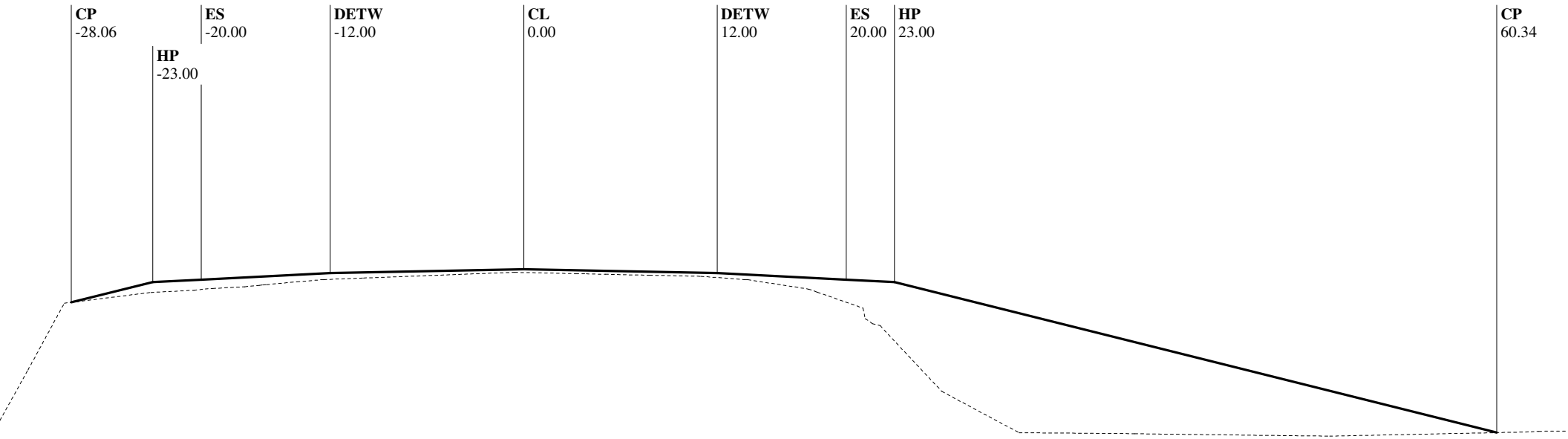

**Alignment Chain CENTER1**
**Station: 256+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -46.06 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 60.36 |
| -7.57 | -1.81 | -1.66 | -1.26 | -1.02 | -1.26 | -1.66 | -1.81 | -11.15 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 5.77 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 9.34 |
| @ 23.06 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 37.36 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



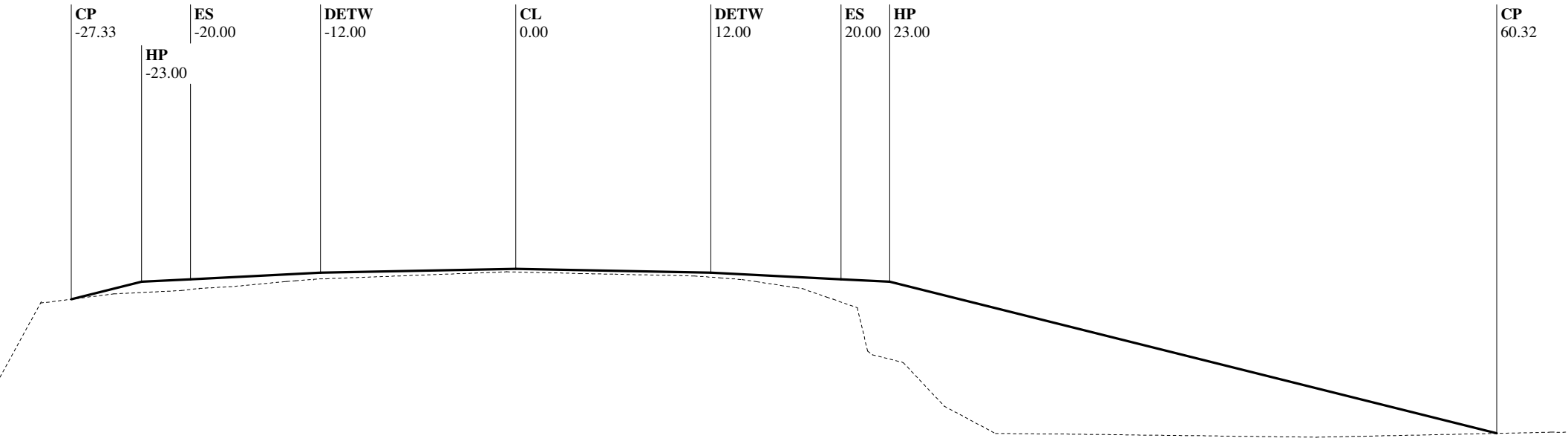

**Alignment Chain CENTER1**
**Station: 256+51.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.06 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 60.34 |
| -3.07 | -1.81 | -1.66 | -1.26 | -1.02 | -1.26 | -1.66 | -1.81 | -11.14 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.26 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 9.34 |
| @ 5.06 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 37.34 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



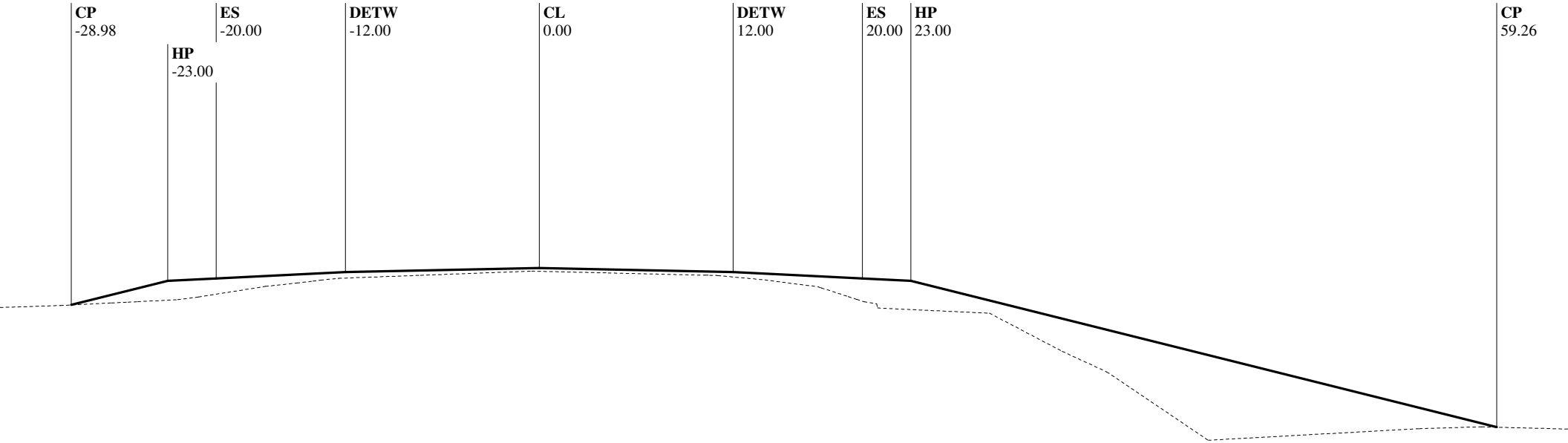

**Alignment Chain CENTER1**
**Station: 256+52.53**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.33 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 60.32 |
| -2.89 | -1.81 | -1.66 | -1.26 | -1.02 | -1.26 | -1.66 | -1.81 | -11.14 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.08 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 9.33 |
| @ 4.33 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 37.32 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



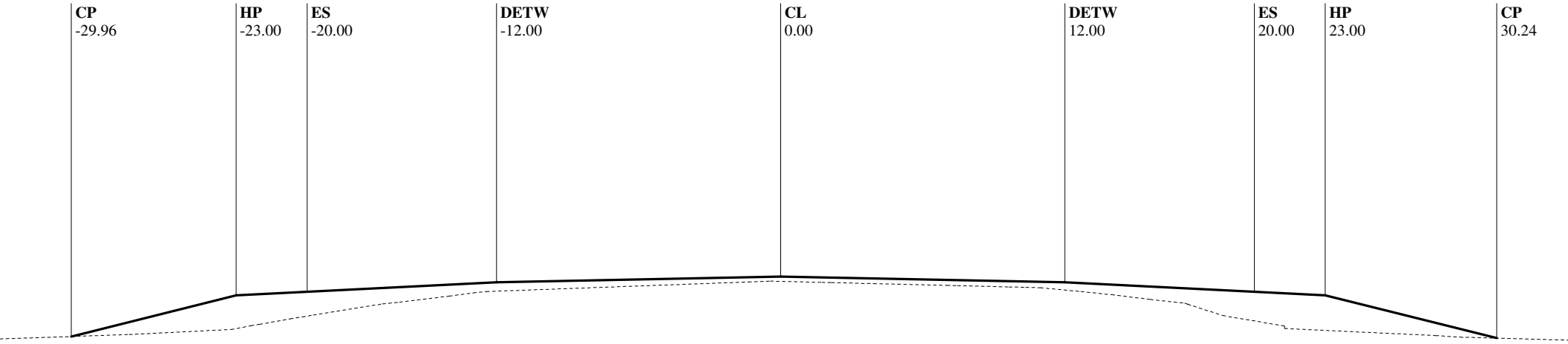

**Alignment Chain CENTER1**
**Station: 256+80.98**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.98 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 59.26 |
| -3.36 | -1.86 | -1.71 | -1.31 | -1.07 | -1.31 | -1.71 | -1.86 | -10.93 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.49 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 9.07 |
| @ 5.98 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 36.26 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



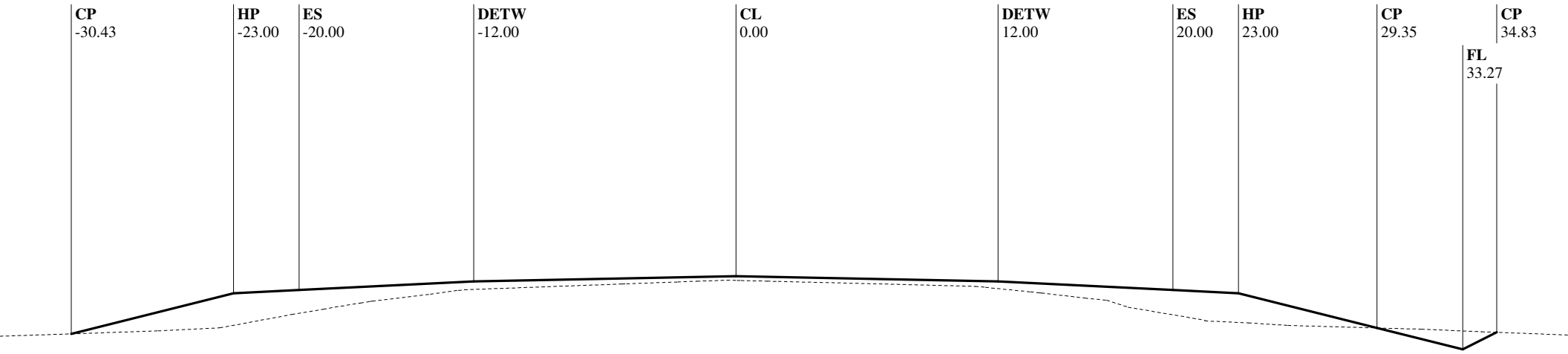

**Alignment Chain CENTER1**
**Station: 256+93.68**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -29.96 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.24 |
| -3.63 | -1.89 | -1.74 | -1.34 | -1.10 | -1.34 | -1.74 | -1.89 | -3.70 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.74 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.81 |
| @ 6.96 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.24 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 257+00.00**

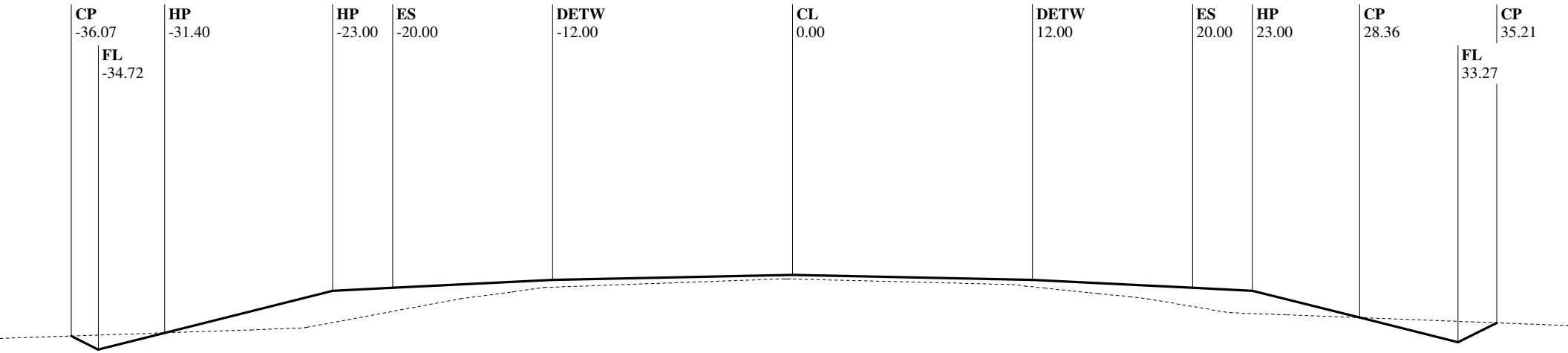
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -30.43 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.35 | 33.27 |
| -3.75 | -1.90 | -1.75 | -1.35 | -1.11 | -1.35 | -1.75 | -1.90 | -3.49 | -4.47 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.86 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.59 | F 0.98 |
| @ 7.43 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.35 | @ 3.92 |

| CP |
|---|
| 34.83 |
| -3.69 |
| 2.00:1 |
| C 0.78 |
| @ 1.56 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 257+13.20**

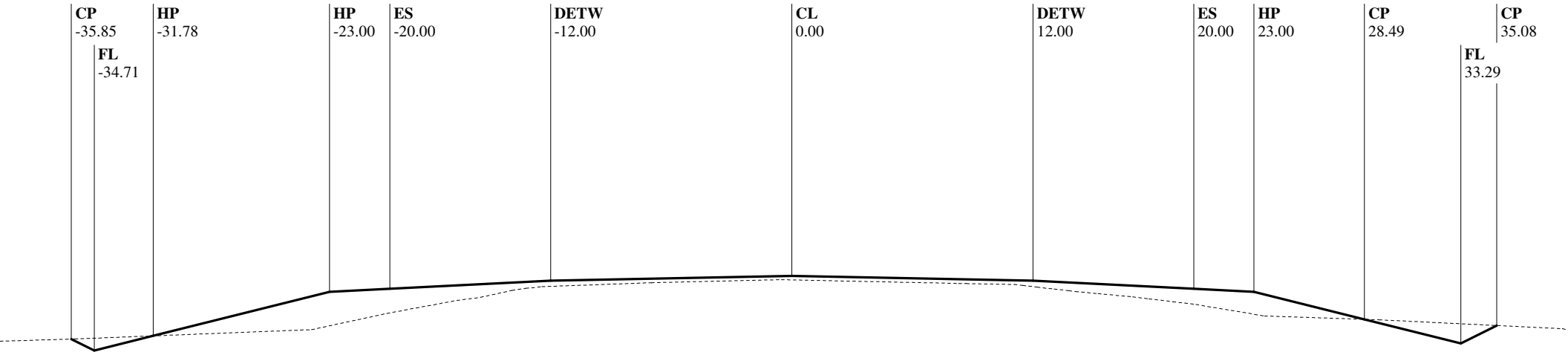
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.72 | -31.40 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.36 | 33.27 |
| -4.85 | -4.02 | -1.92 | -1.77 | -1.37 | -1.13 | -1.37 | -1.77 | -1.92 | -3.26 | -4.49 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.83 | F 2.10 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.34 | F 1.23 |
| @ 3.32 | @ 8.40 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.36 | @ 4.92 |

| CP | CP |
|---|---|
| -36.07 | 35.21 |
| -4.18 | -3.52 |
| 2.00:1 | 2.00:1 |
| C 0.67 | C 0.97 |
| @ 1.35 | @ 1.94 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 257+50.00**

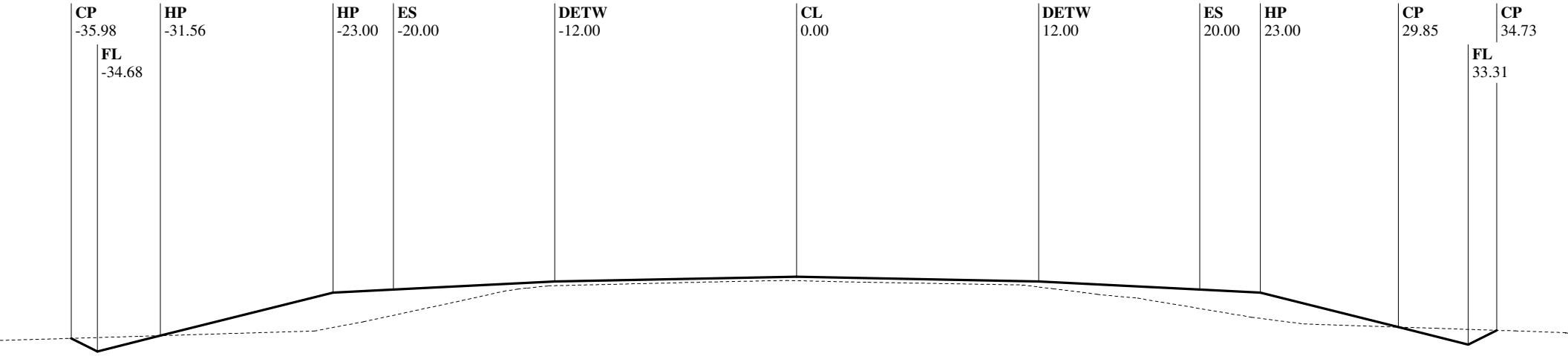
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.71 | -31.78 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.49 | 33.29 |
| -4.92 | -4.19 | -2.00 | -1.85 | -1.45 | -1.21 | -1.45 | -1.85 | -2.00 | -3.37 | -4.57 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.73 | F 2.20 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.37 | F 1.20 |
| @ 2.92 | @ 8.78 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.49 | @ 4.81 |

| CP | CP |
|---|---|
| -35.85 | 35.08 |
| -4.35 | -3.68 |
| 2.00:1 | 2.00:1 |
| C 0.57 | C 0.89 |
| @ 1.14 | @ 1.79 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 258+00.00**

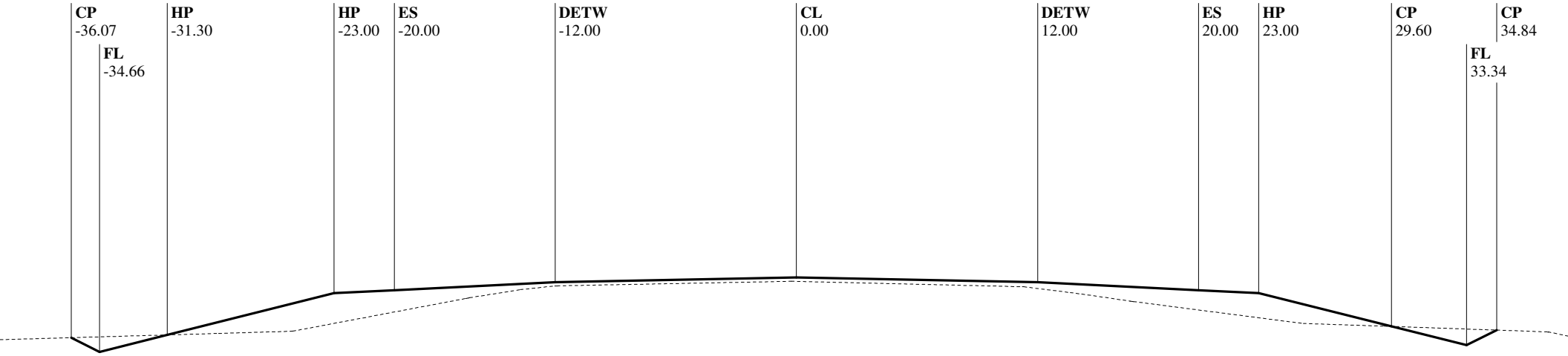
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.68 | -31.56 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.85 | 33.31 |
| -5.00 | -4.22 | -2.08 | -1.93 | -1.53 | -1.29 | -1.53 | -1.93 | -2.08 | -3.79 | -4.66 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.78 | F 2.14 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.71 | F 0.87 |
| @ 3.13 | @ 8.56 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.85 | @ 3.46 |

| CP | CP |
|---|---|
| -35.98 | 34.73 |
| -4.35 | -3.95 |
| 2.00:1 | 2.00:1 |
| C 0.65 | C 0.71 |
| @ 1.30 | @ 1.41 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 258+50.00**

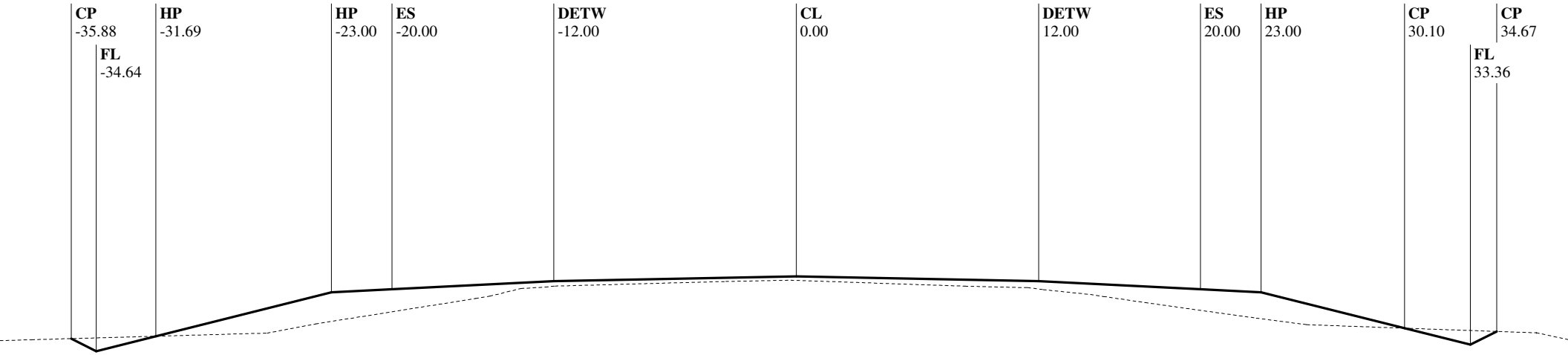
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.66 | -31.30 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.60 | 33.34 |
| -5.04 | -4.20 | -2.12 | -1.97 | -1.57 | -1.33 | -1.57 | -1.97 | -2.12 | -3.77 | -4.71 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.84 | F 2.07 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.65 | F 0.93 |
| @ 3.37 | @ 8.30 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.60 | @ 3.73 |

| CP | CP |
|---|---|
| -36.07 | 34.84 |
| -4.34 | -3.96 |
| 2.00:1 | 2.00:1 |
| C 0.70 | C 0.75 |
| @ 1.41 | @ 1.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 259+00.00**

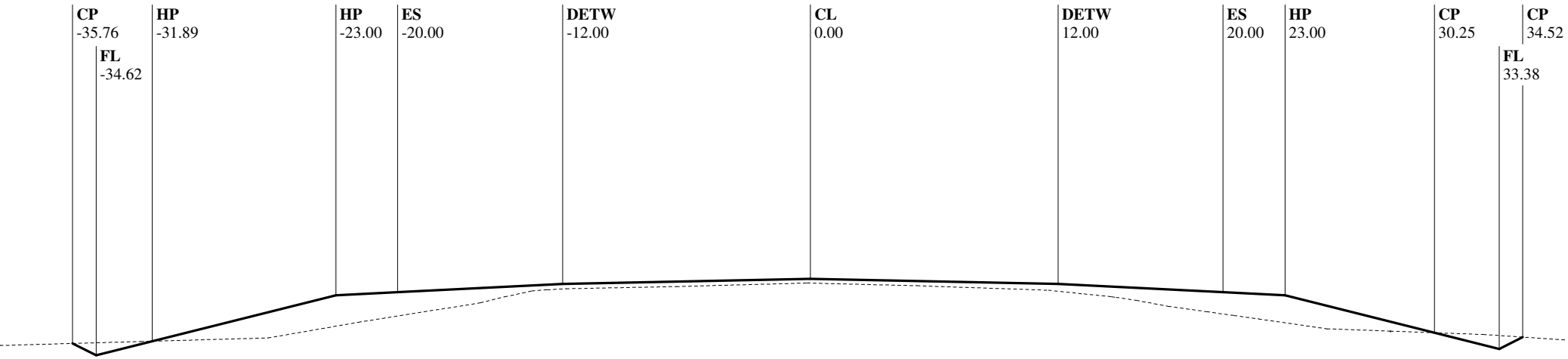
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.64 | -31.69 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.10 | 33.36 |
| -4.93 | -4.20 | -2.02 | -1.87 | -1.47 | -1.23 | -1.47 | -1.87 | -2.02 | -3.80 | -4.61 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.74 | F 2.17 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.78 | F 0.81 |
| @ 2.95 | @ 8.69 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.10 | @ 3.26 |

| CP | CP |
|---|---|
| -35.88 | 34.67 |
| -4.31 | -3.96 |
| 2.00:1 | 2.00:1 |
| C 0.62 | C 0.65 |
| @ 1.24 | @ 1.31 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



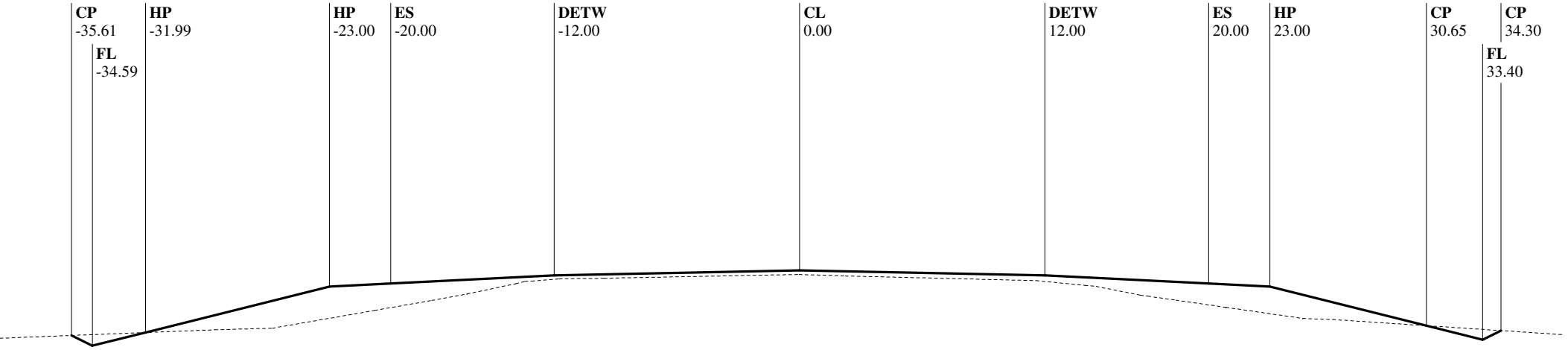

**Alignment Chain CENTER1**
**Station: 259+50.00**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.62 | -31.89 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.25 | 33.38 |
| -4.77 | -4.09 | -1.87 | -1.72 | -1.32 | -1.08 | -1.32 | -1.72 | -1.87 | -3.68 | -4.47 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.68 | F 2.22 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.81 | F 0.78 |
| @ 2.72 | @ 8.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.25 | @ 3.13 |

| CP | CP |
|---|---|
| -35.76 | 34.52 |
| -4.20 | -3.90 |
| 2.00:1 | 2.00:1 |
| C 0.57 | C 0.57 |
| @ 1.14 | @ 1.14 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



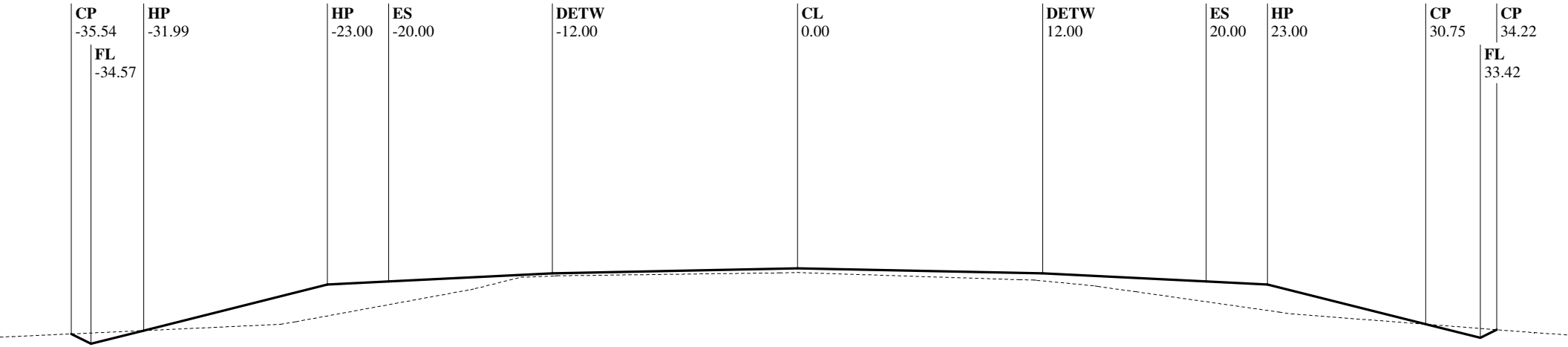

**Alignment Chain CENTER1**
**Station: 260+00.00**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.59 | -31.99 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.65 | 33.40 |
| -4.61 | -3.96 | -1.72 | -1.57 | -1.17 | -0.93 | -1.17 | -1.57 | -1.72 | -3.63 | -4.32 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.65 | F 2.25 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.91 | F 0.69 |
| @ 2.60 | @ 8.99 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.65 | @ 2.75 |

| CP | CP |
|---|---|
| -35.61 | 34.30 |
| -4.11 | -3.87 |
| 2.00:1 | 2.00:1 |
| C 0.51 | C 0.45 |
| @ 1.02 | @ 0.90 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 260+50.00**

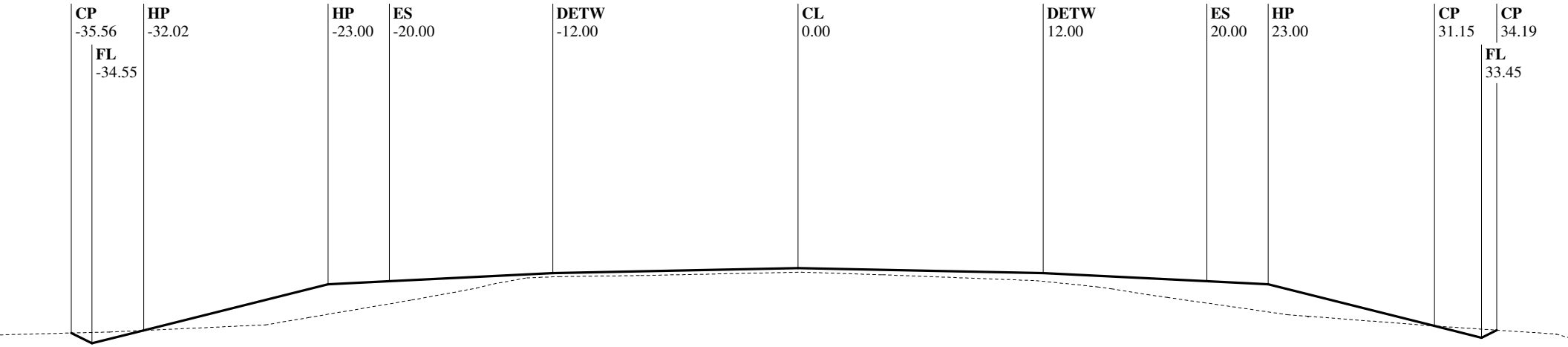
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.57 | -31.99 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.75 | 33.42 |
| -4.52 | -3.87 | -1.62 | -1.47 | -1.07 | -0.83 | -1.07 | -1.47 | -1.62 | -3.56 | -4.23 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.64 | F 2.25 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.94 | F 0.67 |
| @ 2.58 | @ 8.99 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.75 | @ 2.67 |

| CP | CP |
|---|---|
| -35.54 | 34.22 |
| -4.03 | -3.83 |
| 2.00:1 | 2.00:1 |
| C 0.48 | C 0.40 |
| @ 0.97 | @ 0.80 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 261+00.00**

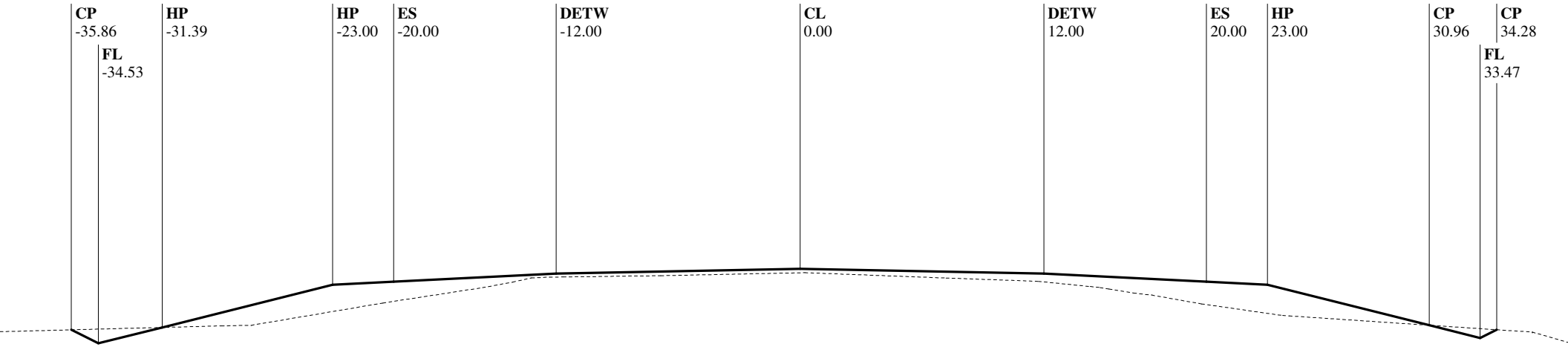
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.55 | -32.02 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.15 | 33.45 |
| -4.49 | -3.86 | -1.60 | -1.45 | -1.05 | -0.81 | -1.05 | -1.45 | -1.60 | -3.64 | -4.21 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.63 | F 2.26 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.04 | F 0.58 |
| @ 2.53 | @ 9.02 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.15 | @ 2.30 |

| CP | CP |
|---|---|
| -35.56 | 34.19 |
| -3.98 | -3.84 |
| 2.00:1 | 2.00:1 |
| C 0.51 | C 0.37 |
| @ 1.01 | @ 0.74 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 261+50.00**

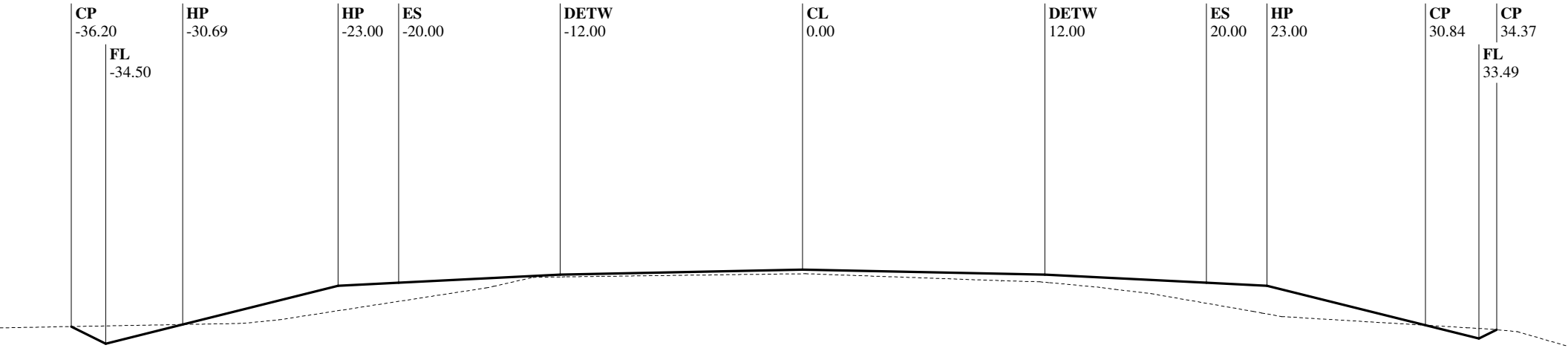
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.53 | -31.39 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.96 | 33.47 |
| -4.51 | -3.73 | -1.63 | -1.48 | -1.08 | -0.84 | -1.08 | -1.48 | -1.63 | -3.62 | -4.25 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.78 | F 2.10 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.99 | F 0.63 |
| @ 3.13 | @ 8.39 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.96 | @ 2.51 |

| CP | CP |
|---|---|
| -35.86 | 34.28 |
| -3.85 | -3.84 |
| 2.00:1 | 2.00:1 |
| C 0.67 | C 0.41 |
| @ 1.33 | @ 0.81 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 262+00.00**

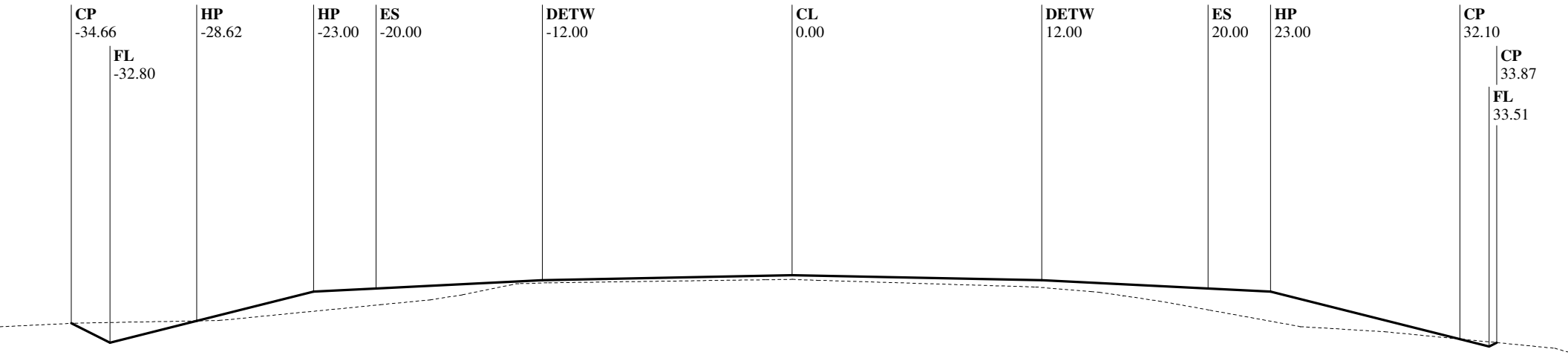
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.50 | -30.69 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.84 | 33.49 |
| -4.60 | -3.64 | -1.72 | -1.57 | -1.17 | -0.93 | -1.17 | -1.57 | -1.72 | -3.68 | -4.35 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.95 | F 1.92 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.96 | F 0.66 |
| @ 3.81 | @ 7.69 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.84 | @ 2.65 |

| CP | CP |
|---|---|
| -36.20 | 34.37 |
| -3.75 | -3.90 |
| 2.00:1 | 2.00:1 |
| C 0.85 | C 0.44 |
| @ 1.70 | @ 0.88 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 262+50.00**

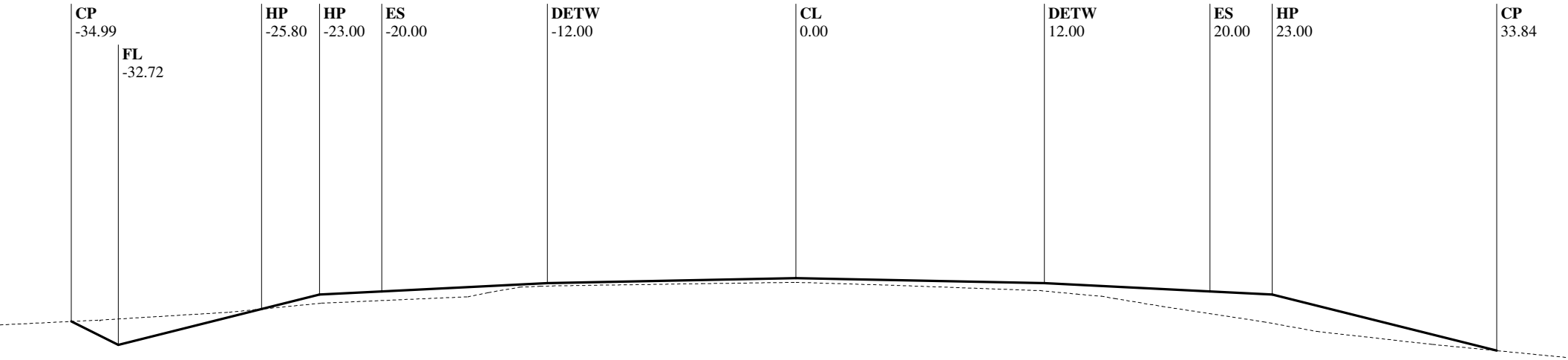
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.80 | -28.62 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.10 | 33.51 |
| -4.33 | -3.28 | -1.88 | -1.73 | -1.33 | -1.09 | -1.33 | -1.73 | -1.88 | -4.16 | -4.51 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.05 | F 1.40 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.28 | F 0.35 |
| @ 4.18 | @ 5.62 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.10 | @ 1.41 |

| CP | CP |
|---|---|
| -34.66 | 33.87 |
| -3.40 | -4.33 |
| 2.00:1 | 2.00:1 |
| C 0.93 | C 0.18 |
| @ 1.86 | @ 0.36 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 263+00.00**

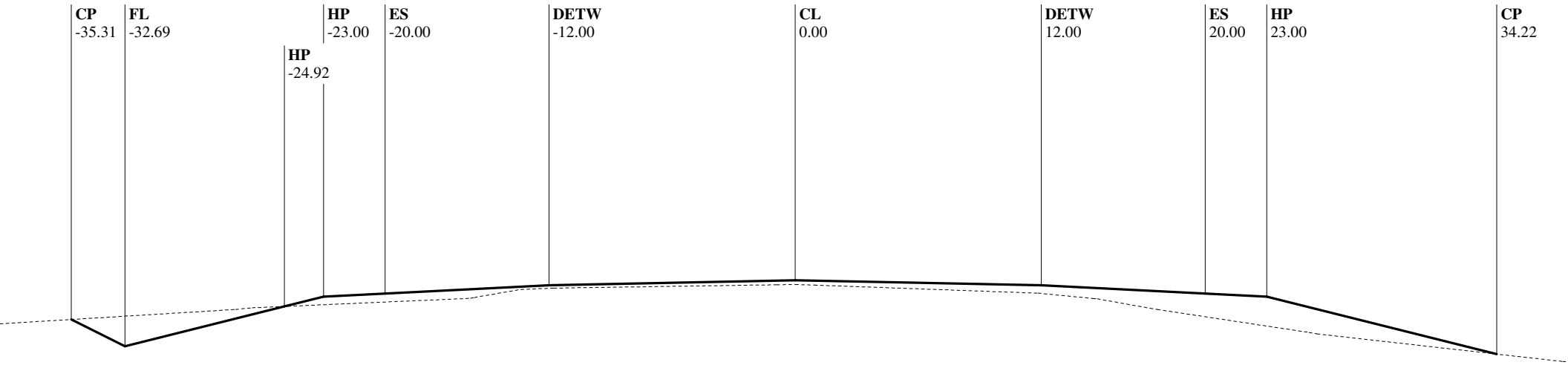
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.72 | -25.80 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 33.84 |
| -4.52 | -2.78 | -2.09 | -1.94 | -1.54 | -1.30 | -1.54 | -1.94 | -2.09 | -4.80 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.73 | F 0.70 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.71 |
| @ 6.93 | @ 2.80 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 10.84 |

| CP |
|---|
| -34.99 |
| -3.39 |
| 2.00:1 |
| C 1.13 |
| @ 2.26 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 263+20.87**

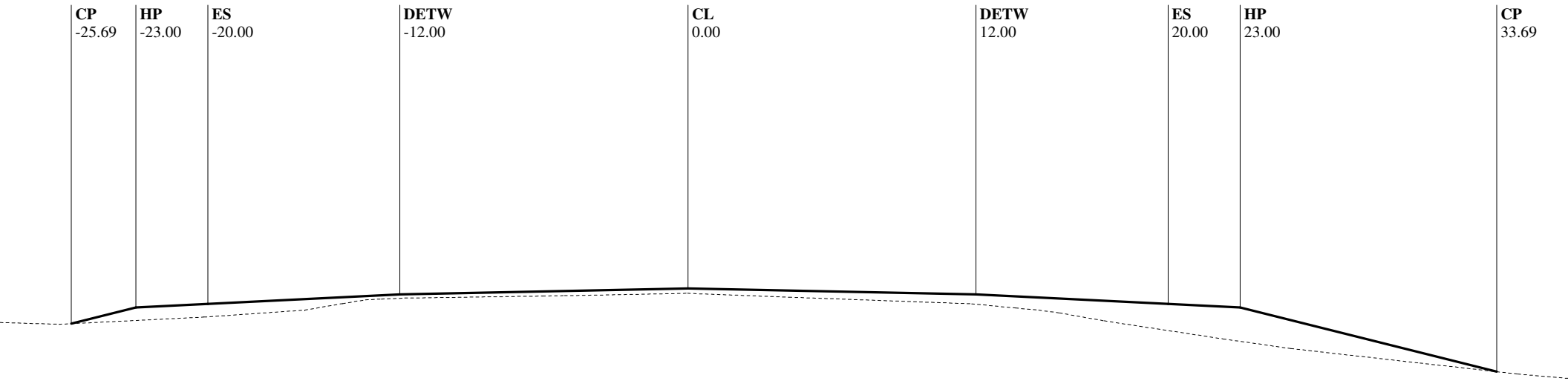
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.69 | -24.92 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 34.22 |
| -4.60 | -2.66 | -2.18 | -2.03 | -1.63 | -1.39 | -1.63 | -2.03 | -2.18 | -4.98 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.94 | F 0.48 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.81 |
| @ 7.77 | @ 1.92 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 11.22 |

| CP |
|---|
| -35.31 |
| -3.29 |
| 2.00:1 |
| C 1.31 |
| @ 2.61 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



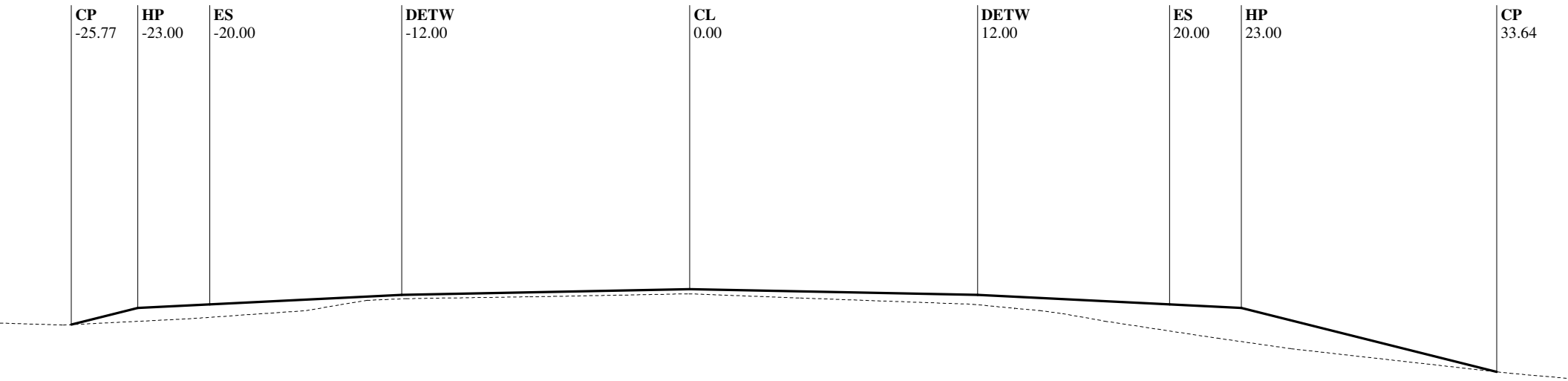

**Alignment Chain CENTER1**
**Station: 263+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -25.69 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 33.69 |
| -2.96 | -2.29 | -2.14 | -1.74 | -1.50 | -1.74 | -2.14 | -2.29 | -4.96 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.67 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.67 |
| @ 2.69 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 10.69 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



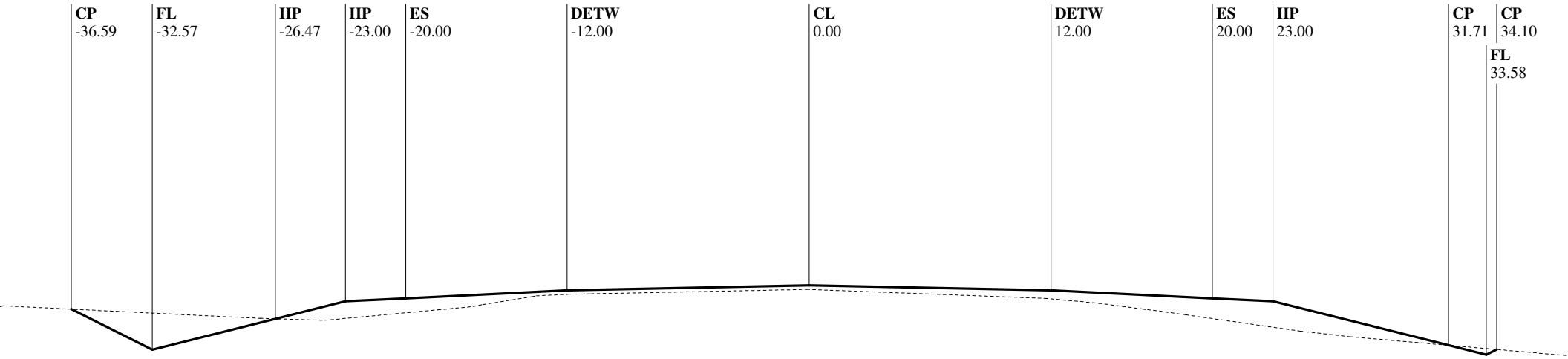

**Alignment Chain CENTER1**
**Station: 263+52.36**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -25.77 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 33.64 |
| -2.99 | -2.29 | -2.14 | -1.74 | -1.50 | -1.74 | -2.14 | -2.29 | -4.95 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.69 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.66 |
| @ 2.77 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 10.64 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 264+00.00**

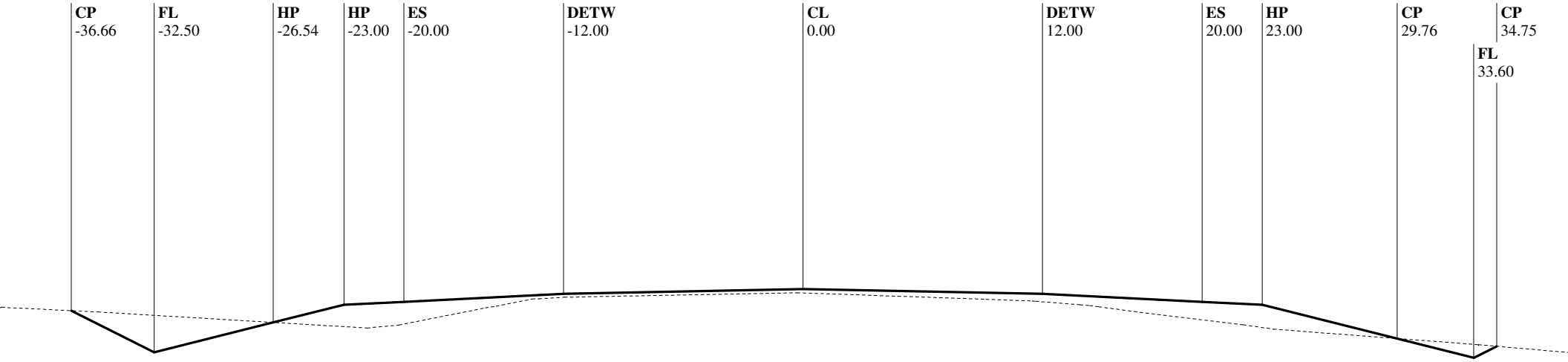
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.57 | -26.47 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.71 | 33.58 |
| -4.87 | -3.34 | -2.47 | -2.32 | -1.92 | -1.68 | -1.92 | -2.32 | -2.47 | -4.65 | -5.12 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.53 | F 0.87 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.18 | F 0.47 |
| @ 6.11 | @ 3.47 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.71 | @ 1.87 |

| CP | CP |
|---|---|
| -36.59 | 34.10 |
| -2.86 | -4.86 |
| 2.00:1 | 2.00:1 |
| C 2.01 | C 0.26 |
| @ 4.02 | @ 0.52 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 264+50.00**

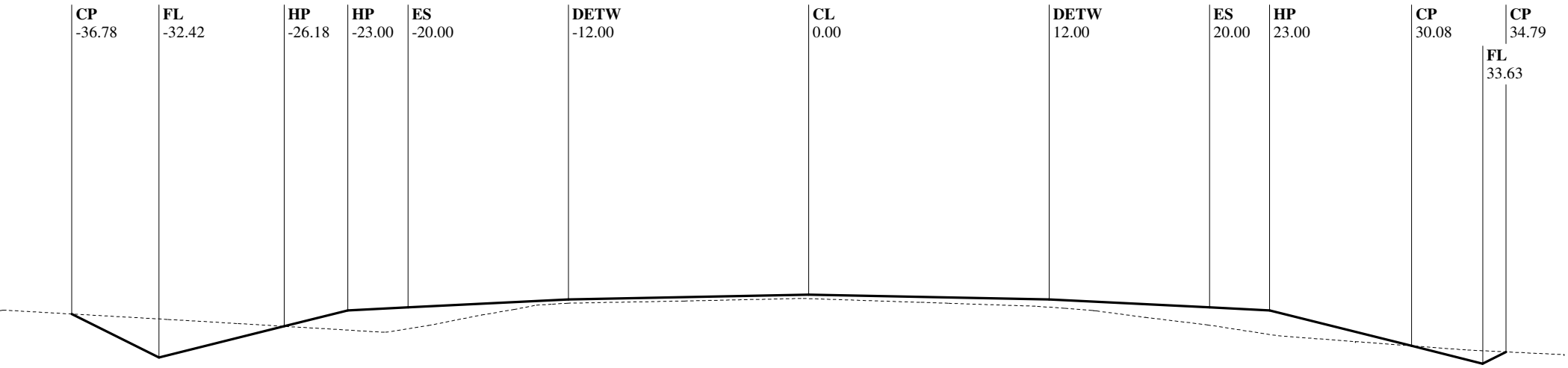
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.50 | -26.54 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.76 | 33.60 |
| -5.05 | -3.56 | -2.68 | -2.53 | -2.13 | -1.89 | -2.13 | -2.53 | -2.68 | -4.37 | -5.33 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.49 | F 0.88 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.69 | F 0.96 |
| @ 5.96 | @ 3.54 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.76 | @ 3.85 |

| CP | CP |
|---|---|
| -36.66 | 34.75 |
| -2.98 | -4.76 |
| 2.00:1 | 2.00:1 |
| C 2.08 | C 0.57 |
| @ 4.16 | @ 1.15 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 265+00.00**

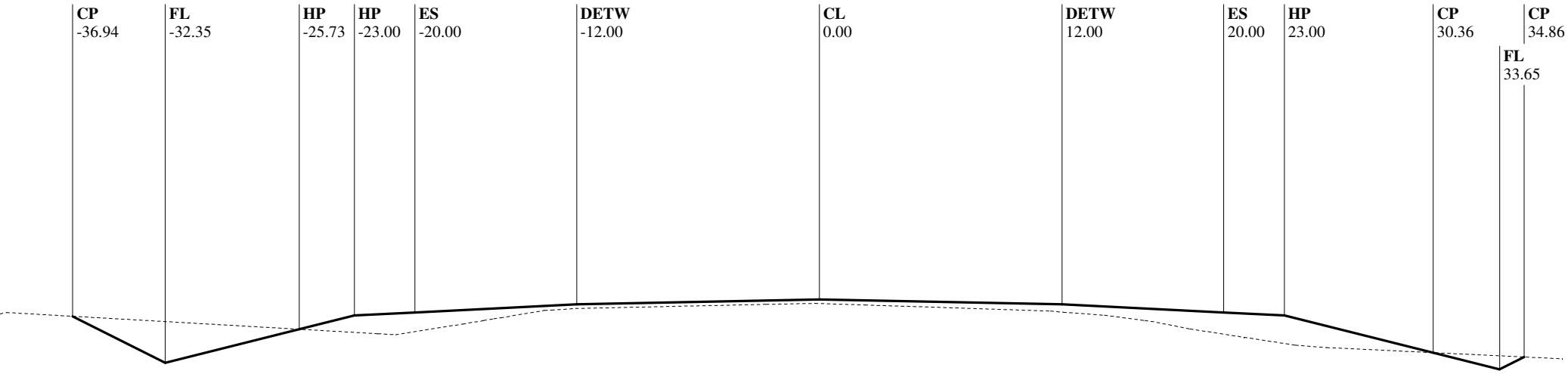
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.42 | -26.18 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.08 | 33.63 |
| -5.19 | -3.63 | -2.83 | -2.68 | -2.28 | -2.04 | -2.28 | -2.68 | -2.83 | -4.60 | -5.49 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.56 | F 0.80 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.77 | F 0.89 |
| @ 6.24 | @ 3.18 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.08 | @ 3.55 |

| CP | CP |
|---|---|
| -36.78 | 34.79 |
| -3.01 | -4.91 |
| 2.00:1 | 2.00:1 |
| C 2.18 | C 0.58 |
| @ 4.36 | @ 1.17 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 265+50.00**

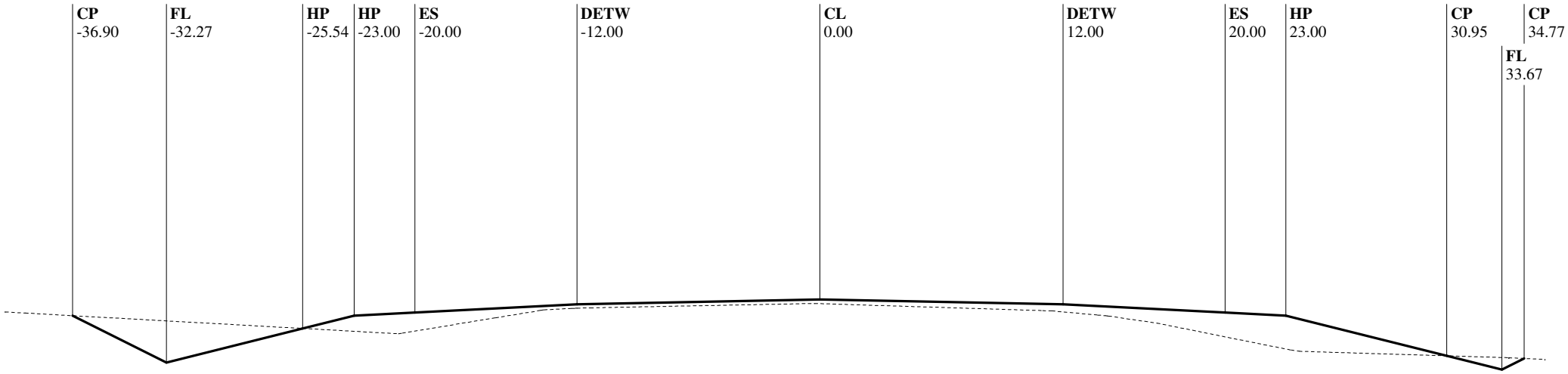
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.35 | -25.73 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.36 | 33.65 |
| -5.27 | -3.61 | -2.93 | -2.78 | -2.38 | -2.14 | -2.38 | -2.78 | -2.93 | -4.77 | -5.59 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.66 | F 0.68 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.84 | F 0.82 |
| @ 6.62 | @ 2.73 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.36 | @ 3.29 |

| CP | CP |
|---|---|
| -36.94 | 34.86 |
| -2.97 | -4.98 |
| 2.00:1 | 2.00:1 |
| C 2.29 | C 0.61 |
| @ 4.59 | @ 1.22 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 266+00.00**

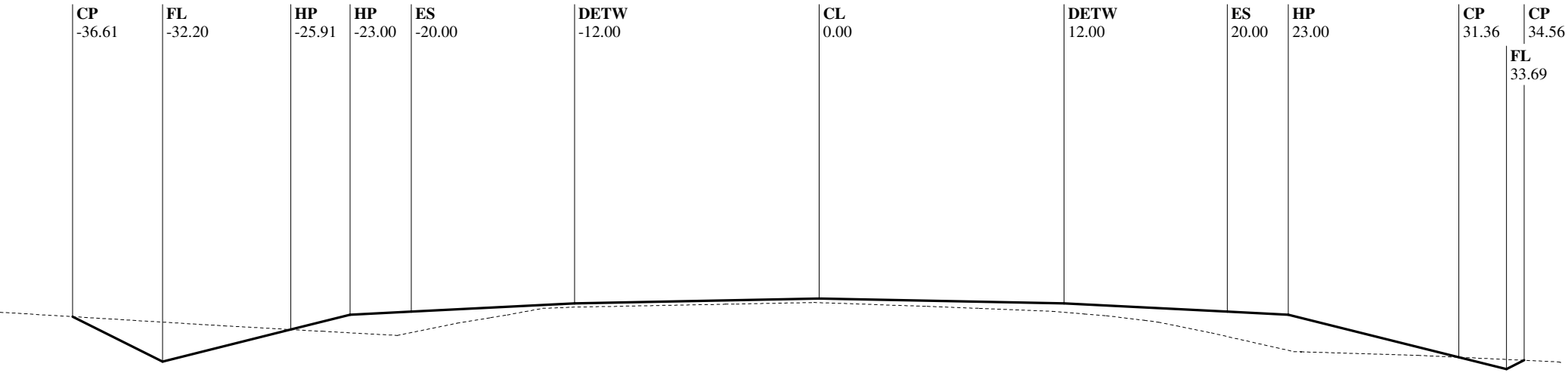
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.27 | -25.54 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.95 | 33.67 |
| -5.26 | -3.57 | -2.94 | -2.79 | -2.39 | -2.15 | -2.39 | -2.79 | -2.94 | -4.93 | -5.60 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.68 | F 0.64 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.99 | F 0.68 |
| @ 6.73 | @ 2.54 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.95 | @ 2.72 |

| CP | CP |
|---|---|
| -36.90 | 34.77 |
| -2.94 | -5.06 |
| 2.00:1 | 2.00:1 |
| C 2.31 | C 0.55 |
| @ 4.63 | @ 1.10 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 266+50.00**

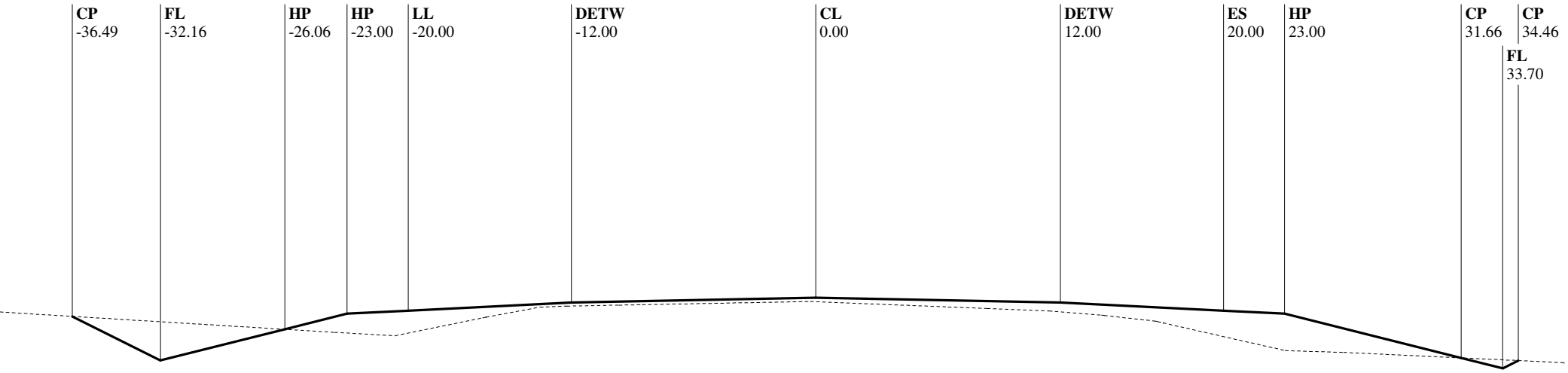
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.20 | -25.91 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.36 | 33.69 |
| -5.18 | -3.61 | -2.88 | -2.73 | -2.33 | -2.09 | -2.33 | -2.73 | -2.88 | -4.97 | -5.55 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.57 | F 0.73 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.09 | F 0.58 |
| @ 6.29 | @ 2.91 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.36 | @ 2.33 |

| CP | CP |
|---|---|
| -36.61 | 34.56 |
| -2.98 | -5.12 |
| 2.00:1 | 2.00:1 |
| C 2.20 | C 0.43 |
| @ 4.41 | @ 0.87 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 266+73.84**

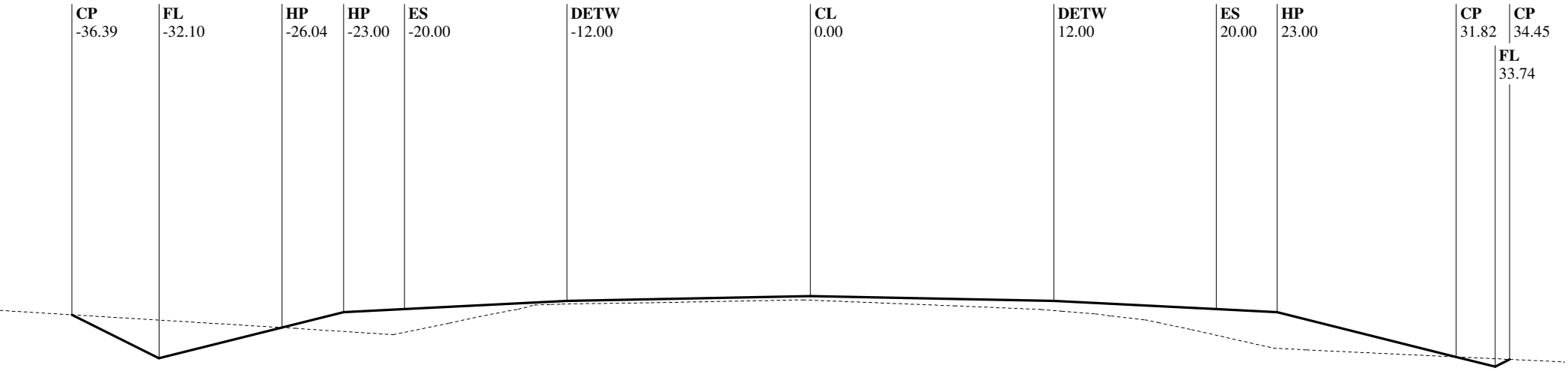
| FL | HP | HP | LL | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.16 | -26.06 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.66 | 33.70 |
| -5.15 | -3.62 | -2.85 | -2.70 | -2.30 | -2.06 | -2.30 | -2.70 | -2.85 | -5.02 | -5.53 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.53 | F 0.76 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.16 | F 0.51 |
| @ 6.11 | @ 3.06 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.66 | @ 2.05 |

| CP | CP |
|---|---|
| -36.49 | 34.46 |
| -2.98 | -5.15 |
| 2.00:1 | 2.00:1 |
| C 2.16 | C 0.38 |
| @ 4.32 | @ 0.76 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 267+00.00**

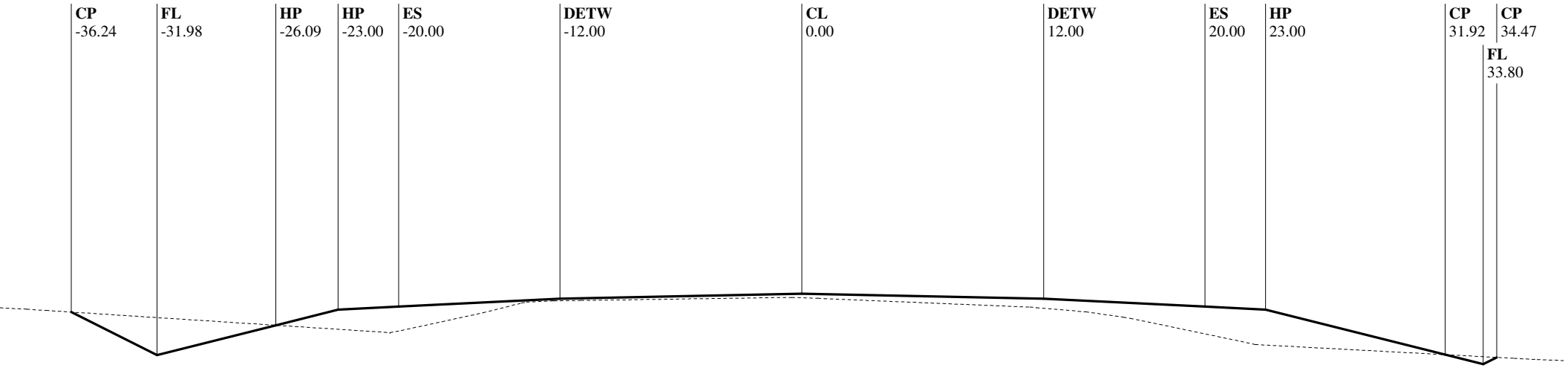
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.10 | -26.04 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.82 | 33.74 |
| -5.14 | -3.62 | -2.86 | -2.71 | -2.31 | -2.07 | -2.31 | -2.71 | -2.86 | -5.06 | -5.54 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.52 | F 0.76 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.20 | F 0.48 |
| @ 6.06 | @ 3.04 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.82 | @ 1.92 |

| CP | CP |
|---|---|
| -36.39 | 34.45 |
| -2.99 | -5.19 |
| 2.00:1 | 2.00:1 |
| C 2.15 | C 0.36 |
| @ 4.29 | @ 0.71 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 267+50.00**

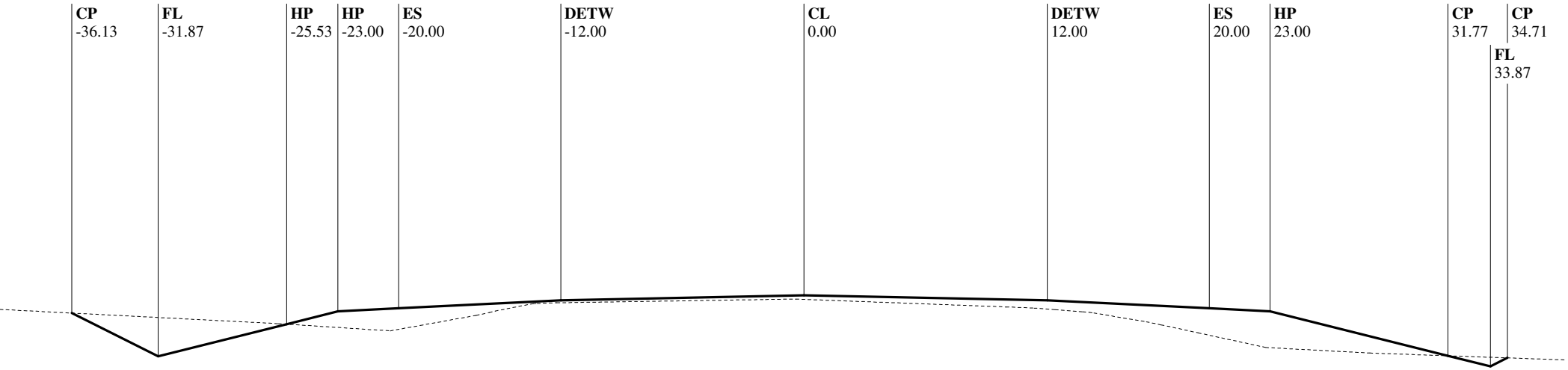
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.98 | -26.09 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.92 | 33.80 |
| -5.11 | -3.64 | -2.87 | -2.72 | -2.32 | -2.08 | -2.32 | -2.72 | -2.87 | -5.10 | -5.57 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.47 | F 0.77 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.23 | F 0.47 |
| @ 5.90 | @ 3.09 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.92 | @ 1.89 |

| CP | CP |
|---|---|
| -36.24 | 34.47 |
| -2.99 | -5.23 |
| 2.00:1 | 2.00:1 |
| C 2.13 | C 0.34 |
| @ 4.25 | @ 0.67 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 268+00.00**

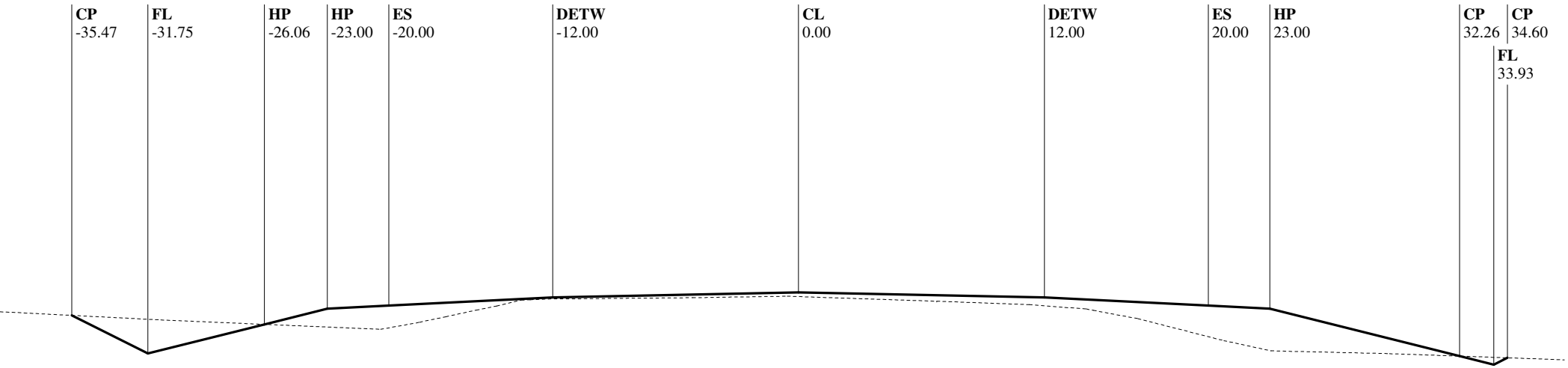
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.87 | -25.53 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.77 | 33.87 |
| -5.09 | -3.51 | -2.88 | -2.73 | -2.33 | -2.09 | -2.33 | -2.73 | -2.88 | -5.07 | -5.59 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.58 | F 0.63 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.19 | F 0.52 |
| @ 6.34 | @ 2.53 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.77 | @ 2.09 |

| CP | CP |
|---|---|
| -36.13 | 34.71 |
| -2.96 | -5.17 |
| 2.00:1 | 2.00:1 |
| C 2.13 | C 0.42 |
| @ 4.26 | @ 0.84 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 268+50.00**

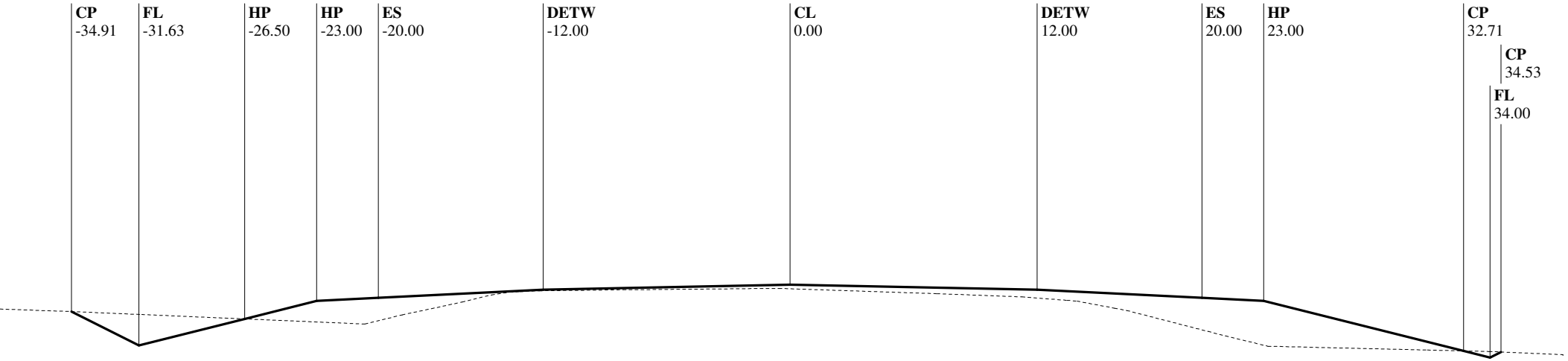
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.75 | -26.06 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.26 | 33.93 |
| -4.85 | -3.43 | -2.67 | -2.52 | -2.12 | -1.88 | -2.12 | -2.52 | -2.67 | -4.98 | -5.40 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.42 | F 0.77 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.32 | F 0.42 |
| @ 5.69 | @ 3.06 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.26 | @ 1.67 |

| CP | CP |
|---|---|
| -35.47 | 34.60 |
| -2.99 | -5.06 |
| 2.00:1 | 2.00:1 |
| C 1.86 | C 0.34 |
| @ 3.72 | @ 0.67 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 269+00.00**

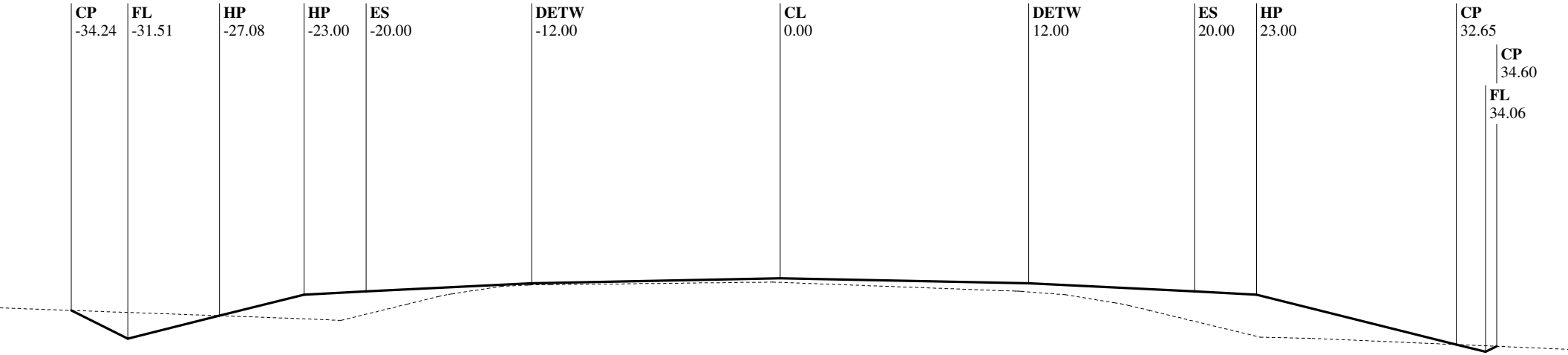
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.63 | -26.50 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.71 | 34.00 |
| -4.54 | -3.26 | -2.39 | -2.24 | -1.84 | -1.60 | -1.84 | -2.24 | -2.39 | -4.81 | -5.14 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.28 | F 0.87 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.43 | F 0.32 |
| @ 5.13 | @ 3.50 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.71 | @ 1.29 |

| CP | CP |
|---|---|
| -34.91 | 34.53 |
| -2.90 | -4.87 |
| 2.00:1 | 2.00:1 |
| C 1.64 | C 0.27 |
| @ 3.28 | @ 0.53 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 269+50.00**

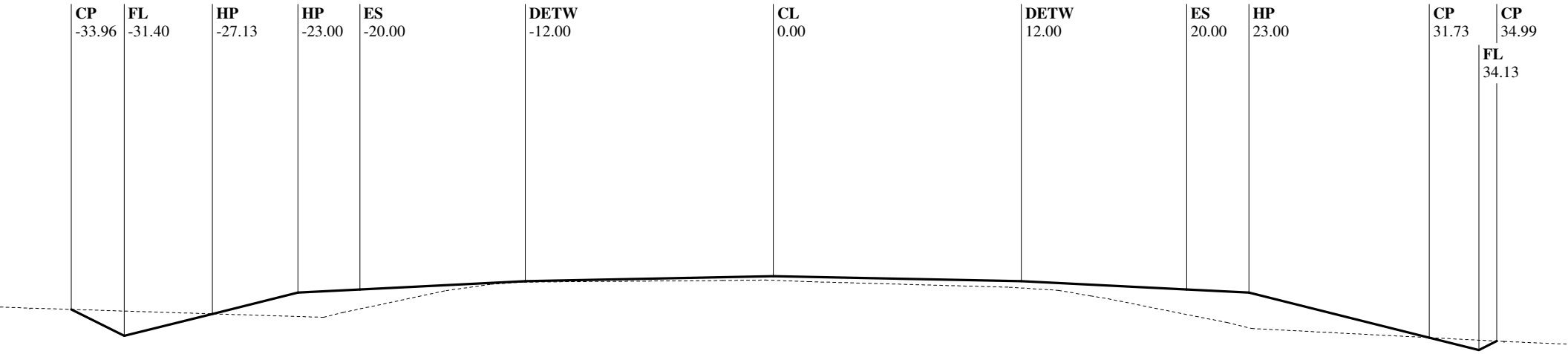
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.51 | -27.08 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.65 | 34.06 |
| -4.23 | -3.12 | -2.10 | -1.95 | -1.55 | -1.31 | -1.55 | -1.95 | -2.10 | -4.51 | -4.86 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.11 | F 1.02 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.41 | F 0.35 |
| @ 4.43 | @ 4.08 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.65 | @ 1.41 |

| CP | CP |
|---|---|
| -34.24 | 34.60 |
| -2.86 | -4.59 |
| 2.00:1 | 2.00:1 |
| C 1.36 | C 0.27 |
| @ 2.73 | @ 0.54 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 270+00.00**

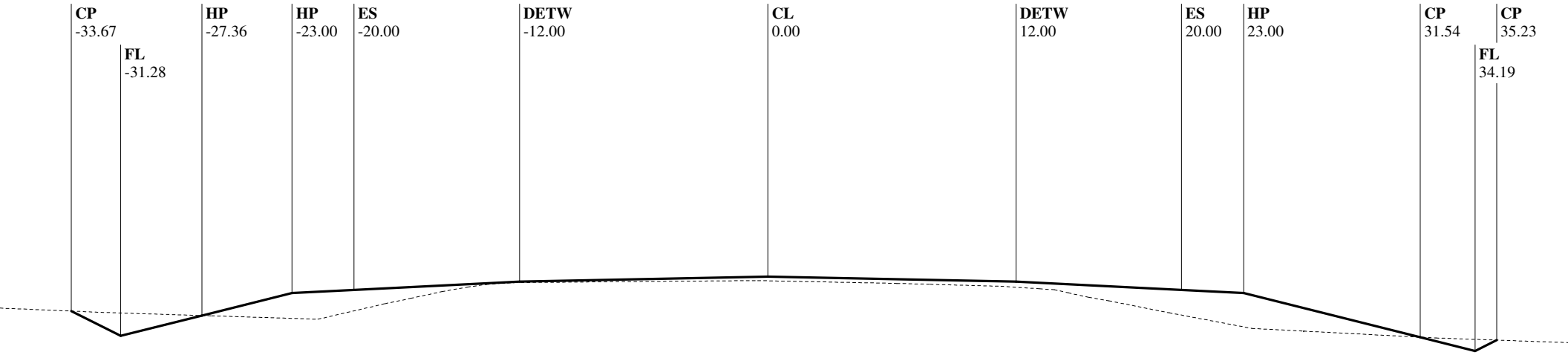
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.40 | -27.13 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.73 | 34.13 |
| -4.08 | -3.01 | -1.98 | -1.83 | -1.43 | -1.19 | -1.43 | -1.83 | -1.98 | -4.16 | -4.76 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.07 | F 1.03 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.18 | F 0.60 |
| @ 4.27 | @ 4.13 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.73 | @ 2.40 |

| CP | CP |
|---|---|
| -33.96 | 34.99 |
| -2.80 | -4.33 |
| 2.00:1 | 2.00:1 |
| C 1.28 | C 0.43 |
| @ 2.56 | @ 0.86 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 270+50.00**

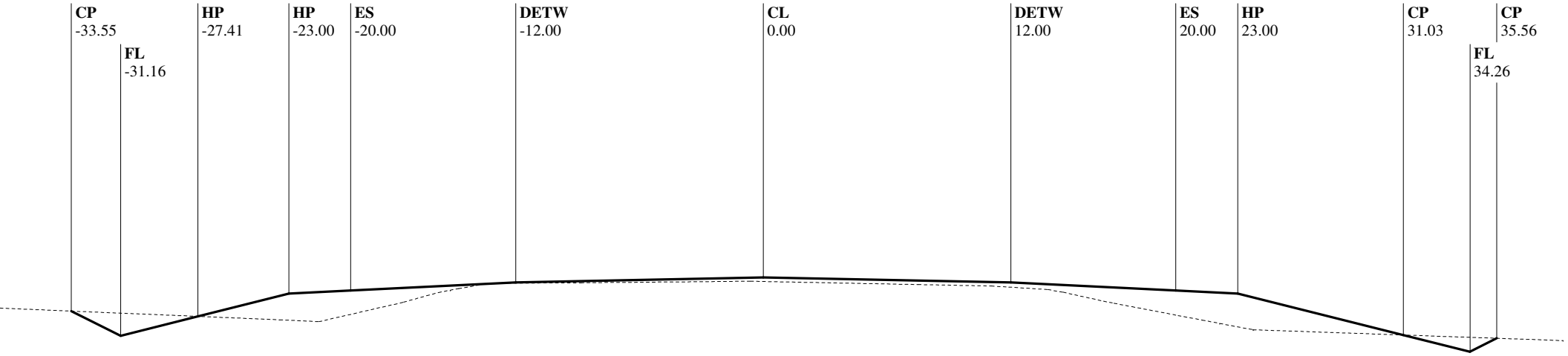
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.28 | -27.36 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.54 | 34.19 |
| -4.07 | -3.09 | -2.01 | -1.86 | -1.46 | -1.22 | -1.46 | -1.86 | -2.01 | -4.14 | -4.80 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.98 | F 1.09 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.13 | F 0.66 |
| @ 3.92 | @ 4.36 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.54 | @ 2.65 |

| CP | CP |
|---|---|
| -33.67 | 35.23 |
| -2.88 | -4.28 |
| 2.00:1 | 2.00:1 |
| C 1.20 | C 0.52 |
| @ 2.39 | @ 1.04 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 271+00.00**

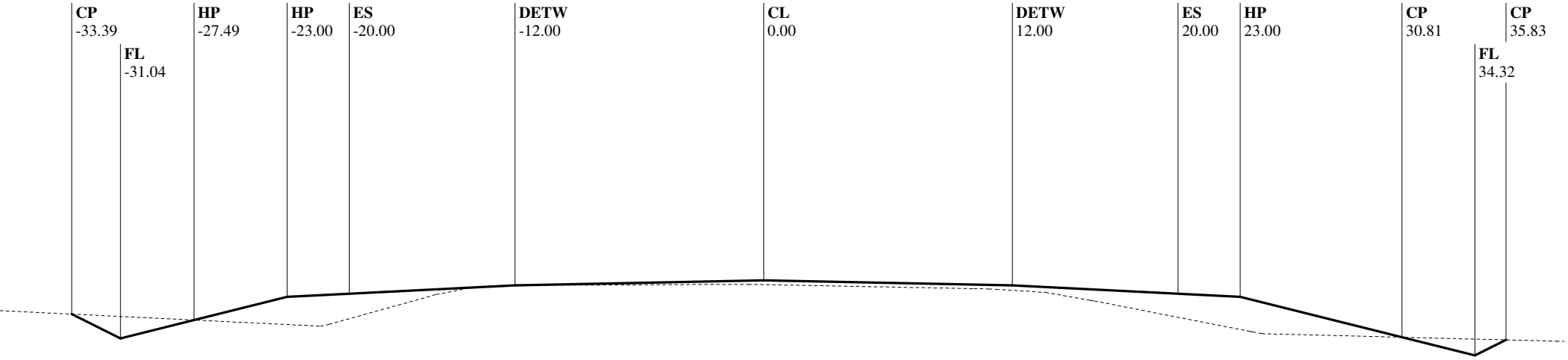
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.16 | -27.41 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.03 | 34.26 |
| -4.13 | -3.19 | -2.09 | -1.94 | -1.54 | -1.30 | -1.54 | -1.94 | -2.09 | -4.09 | -4.90 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.94 | F 1.10 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.01 | F 0.81 |
| @ 3.75 | @ 4.41 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.03 | @ 3.23 |

| CP | CP |
|---|---|
| -33.55 | 35.56 |
| -2.93 | -4.25 |
| 2.00:1 | 2.00:1 |
| C 1.19 | C 0.65 |
| @ 2.39 | @ 1.30 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 271+50.00**

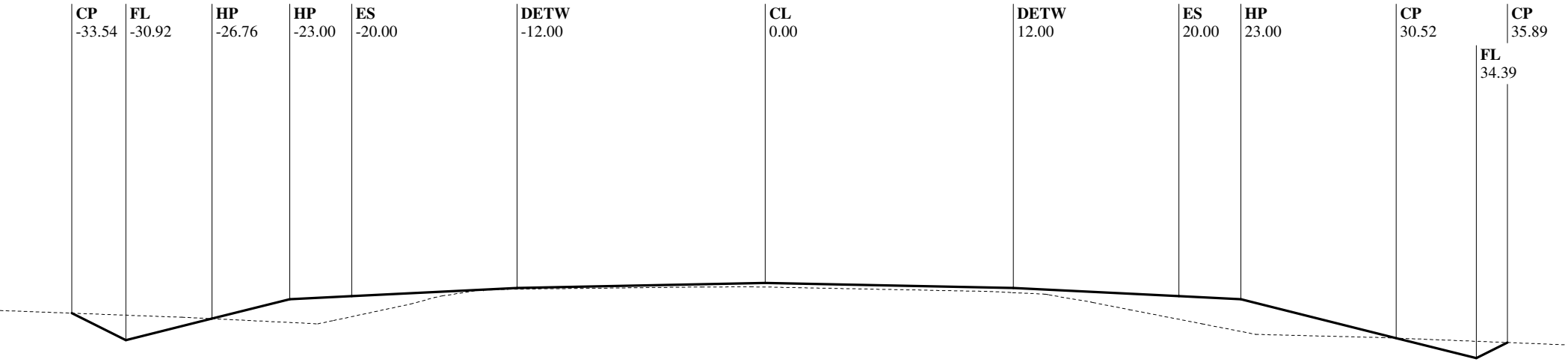
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -31.04 | -27.49 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.81 | 34.32 |
| -4.18 | -3.29 | -2.17 | -2.02 | -1.62 | -1.38 | -1.62 | -2.02 | -2.17 | -4.12 | -5.00 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.89 | F 1.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.95 | F 0.88 |
| @ 3.56 | @ 4.49 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.81 | @ 3.51 |

| CP | CP |
|---|---|
| -33.39 | 35.83 |
| -3.00 | -4.25 |
| 2.00:1 | 2.00:1 |
| C 1.17 | C 0.75 |
| @ 2.35 | @ 1.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 272+00.00**

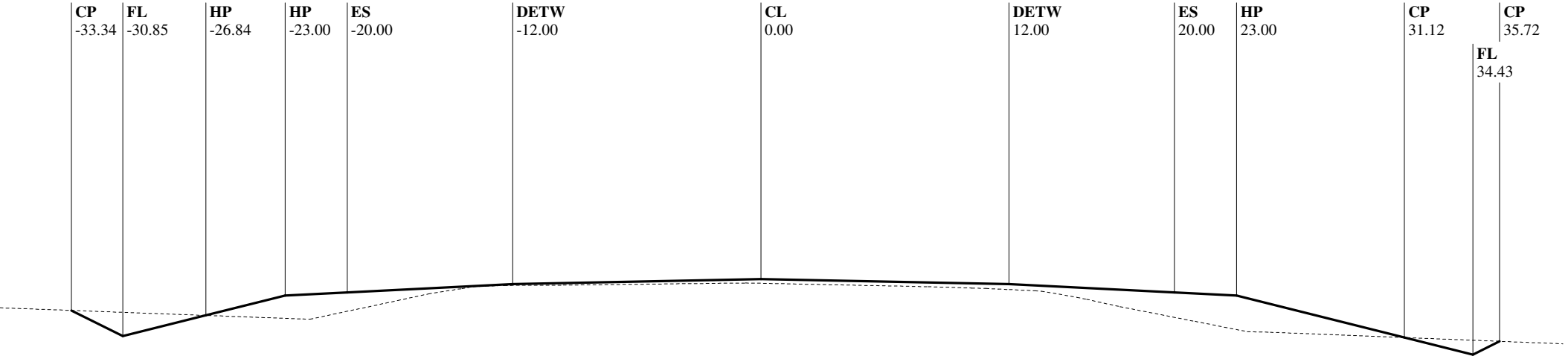
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.92 | -26.76 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.52 | 34.39 |
| -4.19 | -3.15 | -2.21 | -2.06 | -1.66 | -1.42 | -1.66 | -2.06 | -2.21 | -4.09 | -5.06 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.04 | F 0.94 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.88 | F 0.97 |
| @ 4.16 | @ 3.76 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.52 | @ 3.86 |

| CP | CP |
|---|---|
| -33.54 | 35.89 |
| -2.89 | -4.31 |
| 2.00:1 | 2.00:1 |
| C 1.31 | C 0.75 |
| @ 2.61 | @ 1.51 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 272+30.88**

| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.85 | -26.84 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.12 | 34.43 |
| -4.11 | -3.10 | -2.14 | -1.99 | -1.59 | -1.35 | -1.59 | -1.99 | -2.14 | -4.17 | -5.00 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.00 | F 0.96 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.03 | F 0.83 |
| @ 4.01 | @ 3.84 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.12 | @ 3.31 |

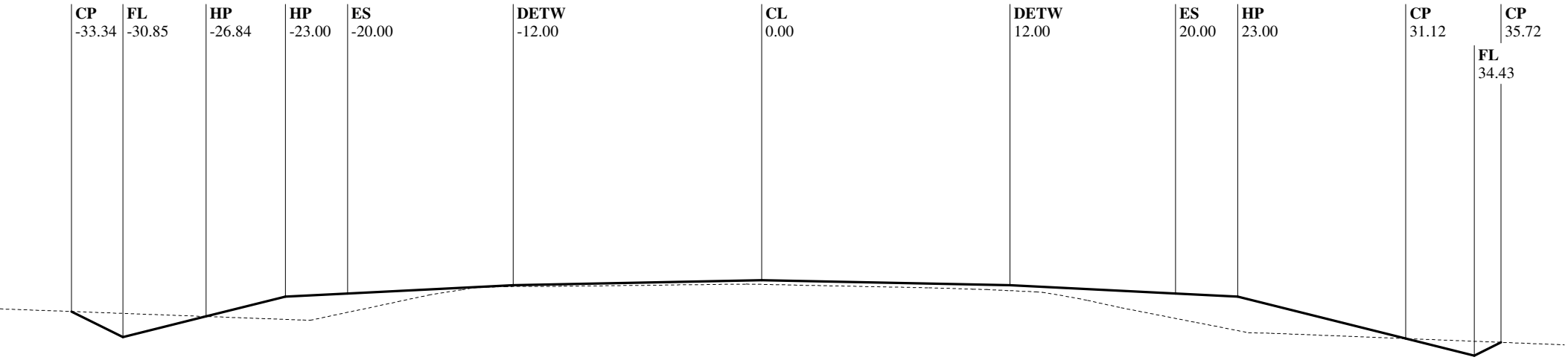
| CP | CP |
|---|---|
| -33.34 | 35.72 |
| -2.86 | -4.35 |
| 2.00:1 | 2.00:1 |
| C 1.24 | C 0.65 |
| @ 2.48 | @ 1.29 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

# SLOPE STAKE LISTING & DIAGRAM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

June 4, 2013 2:35:44 PM




**Alignment Chain CENTER1**
**Station: 272+30.90**

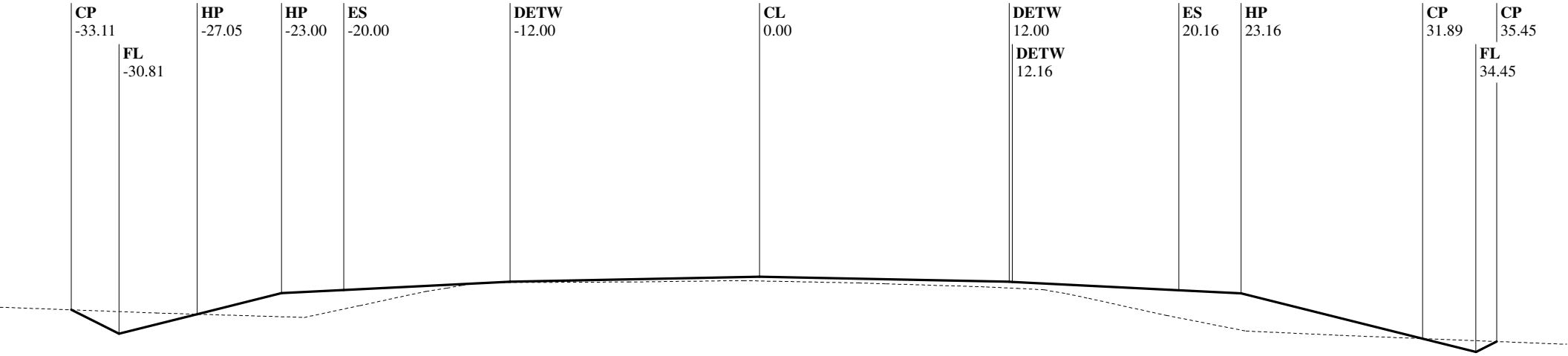
| FL | HP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.85 | -26.84 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.12 | 34.43 |
| -4.11 | -3.10 | -2.14 | -1.99 | -1.59 | -1.35 | -1.59 | -1.99 | -2.14 | -4.17 | -5.00 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.00 | F 0.96 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.03 | F 0.83 |
| @ 4.01 | @ 3.84 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.12 | @ 3.31 |

| CP | CP |
|---|---|
| -33.34 | 35.72 |
| -2.86 | -4.35 |
| 2.00:1 | 2.00:1 |
| C 1.24 | C 0.65 |
| @ 2.48 | @ 1.29 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 272+50.00**

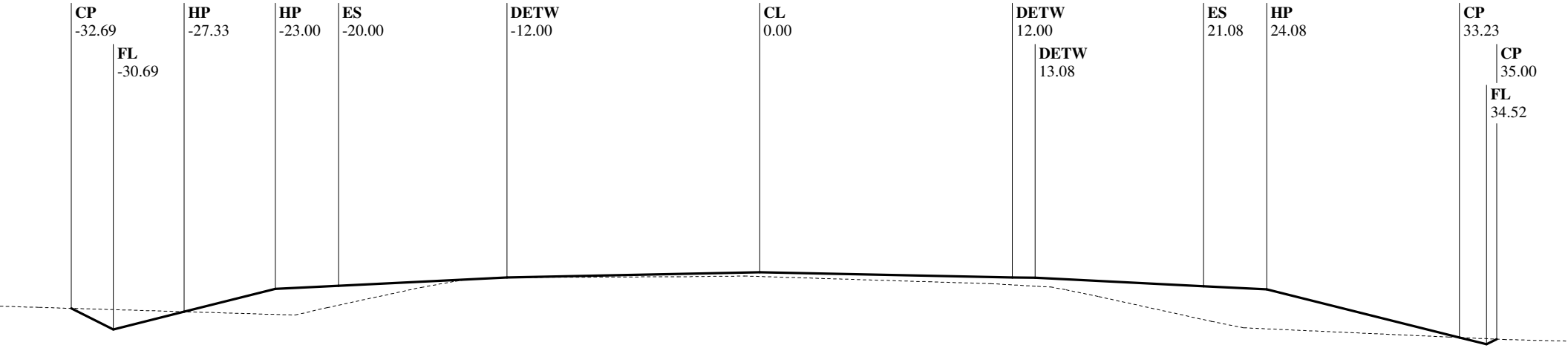
| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.81 | -27.05 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 12.16 | 20.16 | 23.16 | 31.89 |
| -4.00 | -3.06 | -2.05 | -1.90 | -1.50 | -1.26 | -1.50 | -1.51 | -1.91 | -2.06 | -4.24 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.94 | F 1.01 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.00 | F 0.40 | F 0.15 | F 2.18 |
| @ 3.76 | @ 4.05 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 0.16 | @ 8.00 | @ 3.00 | @ 8.73 |

| CP | FL | CP |
|---|---|---|
| -33.11 | 34.45 | 35.45 |
| -2.85 | -4.88 | -4.38 |
| 2.00:1 | -4.00:1 | 2.00:1 |
| C 1.15 | F 0.64 | C 0.50 |
| @ 2.30 | @ 2.57 | @ 1.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 273+00.00**

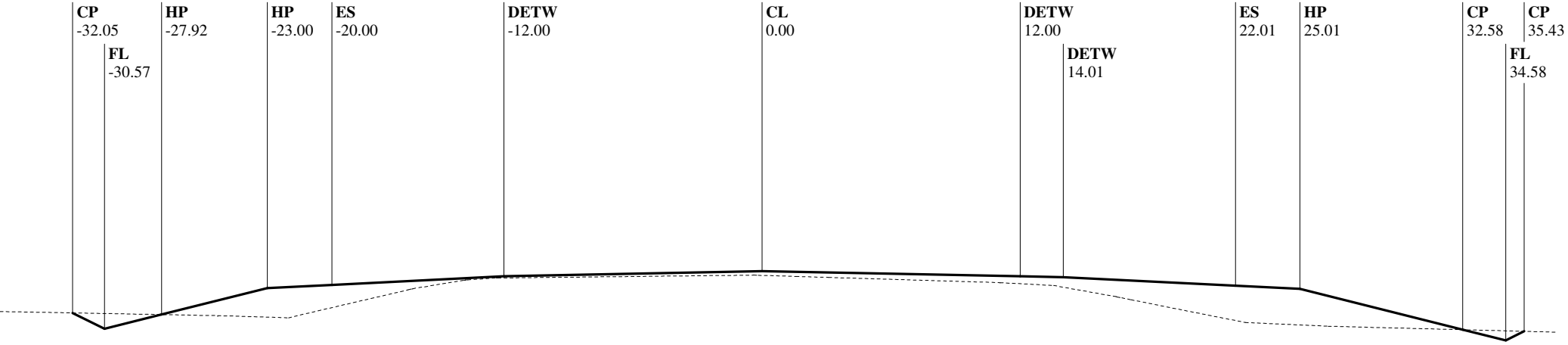
| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.69 | -27.33 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 13.08 | 21.08 | 24.08 | 33.23 |
| -3.74 | -2.90 | -1.82 | -1.67 | -1.27 | -1.03 | -1.27 | -1.29 | -1.69 | -1.84 | -4.12 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.84 | F 1.08 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.02 | F 0.40 | F 0.15 | F 2.29 |
| @ 3.36 | @ 4.33 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 1.08 | @ 8.00 | @ 3.00 | @ 9.14 |

| CP | FL | CP |
|---|---|---|
| -32.69 | 34.52 | 35.00 |
| -2.74 | -4.45 | -4.20 |
| 2.00:1 | -4.00:1 | 2.00:1 |
| C 1.00 | F 0.32 | C 0.24 |
| @ 2.00 | @ 1.29 | @ 0.49 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 273+50.00**

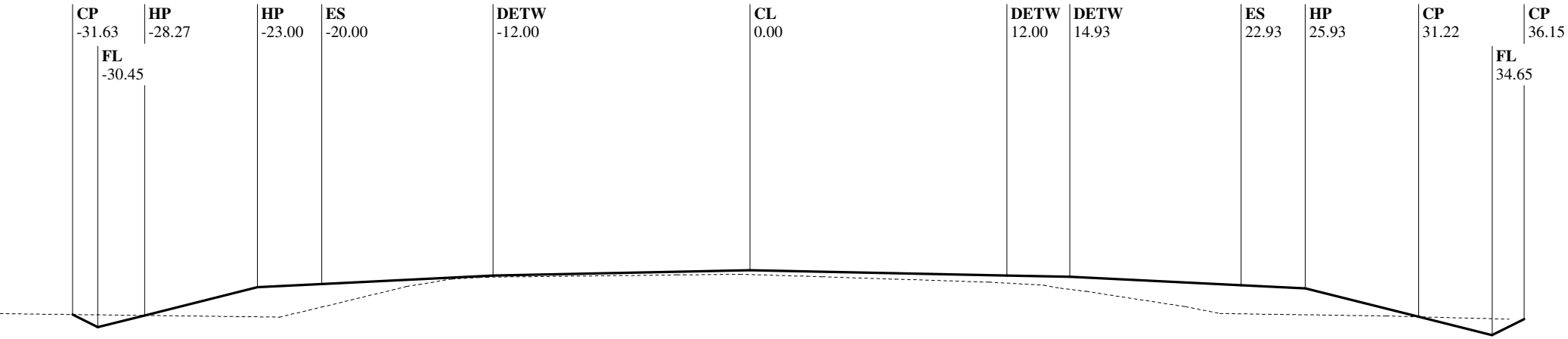
| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.57 | -27.92 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 14.01 | 22.01 | 25.01 | 32.58 |
| -3.45 | -2.79 | -1.56 | -1.41 | -1.01 | -0.77 | -1.01 | -1.05 | -1.45 | -1.60 | -3.49 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.66 | F 1.23 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.04 | F 0.40 | F 0.15 | F 1.89 |
| @ 2.65 | @ 4.92 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 2.01 | @ 8.00 | @ 3.00 | @ 7.58 |

| CP | FL | CP |
|---|---|---|
| -32.05 | 34.58 | 35.43 |
| -2.71 | -3.99 | -3.57 |
| 2.00:1 | -4.00:1 | 2.00:1 |
| C 0.74 | F 0.50 | C 0.43 |
| @ 1.48 | @ 2.00 | @ 0.85 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 274+00.00**

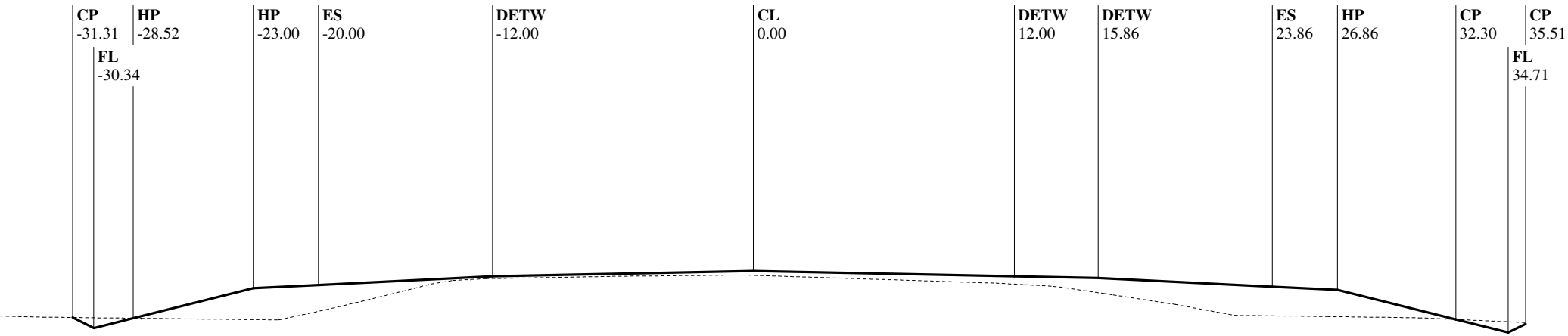
| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.45 | -28.27 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 14.93 | 22.93 | 25.93 | 31.22 |
| -3.29 | -2.74 | -1.42 | -1.27 | -0.87 | -0.63 | -0.87 | -0.93 | -1.33 | -1.48 | -2.80 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.55 | F 1.32 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.06 | F 0.40 | F 0.15 | F 1.32 |
| @ 2.18 | @ 5.27 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 2.93 | @ 8.00 | @ 3.00 | @ 5.29 |

| CP | FL | CP |
|---|---|---|
| -31.63 | 34.65 | 36.15 |
| -2.70 | -3.66 | -2.91 |
| 2.00:1 | -4.00:1 | 2.00:1 |
| C 0.59 | F 0.86 | C 0.75 |
| @ 1.18 | @ 3.42 | @ 1.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 274+50.00**

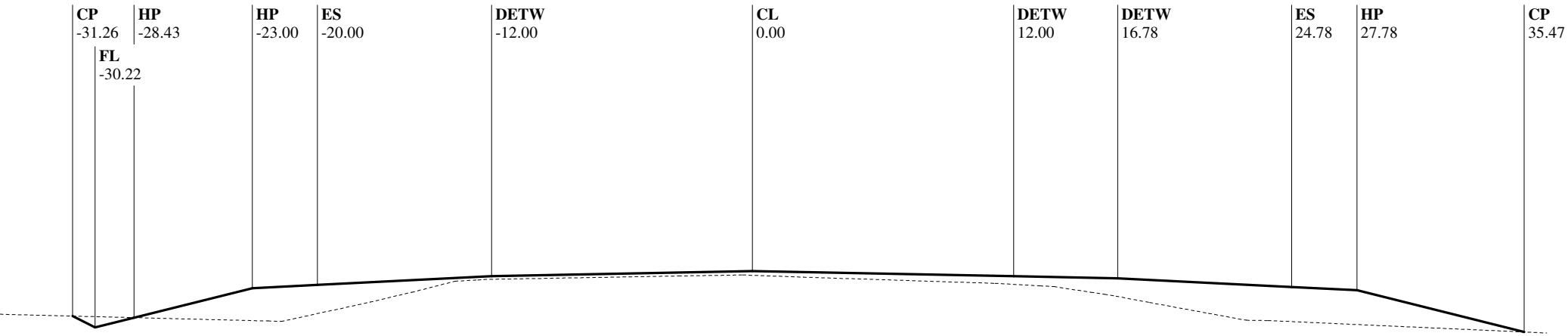
| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.34 | -28.52 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 15.86 | 23.86 | 26.86 | 32.30 |
| -3.23 | -2.78 | -1.40 | -1.25 | -0.85 | -0.61 | -0.85 | -0.93 | -1.33 | -1.48 | -2.84 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.45 | F 1.38 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.08 | F 0.40 | F 0.15 | F 1.36 |
| @ 1.81 | @ 5.52 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 3.86 | @ 8.00 | @ 3.00 | @ 5.44 |

| CP | FL | CP |
|---|---|---|
| -31.31 | 34.71 | 35.51 |
| -2.75 | -3.44 | -3.04 |
| 2.00:1 | -4.00:1 | 2.00:1 |
| C 0.49 | F 0.60 | C 0.40 |
| @ 0.97 | @ 2.42 | @ 0.80 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



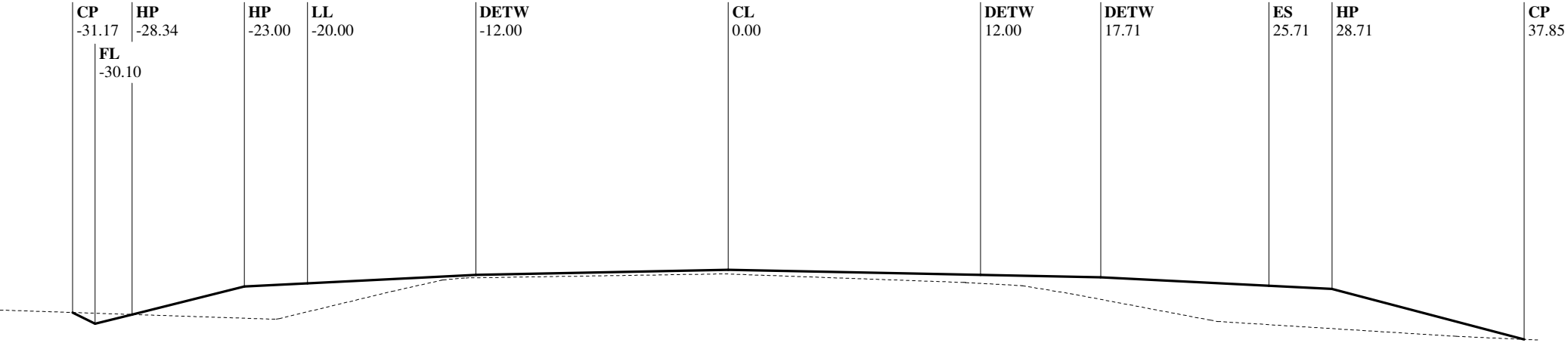

**Alignment Chain CENTER1**
**Station: 275+00.00**

| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.22 | -28.43 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 16.78 | 24.78 | 27.78 | 35.47 |
| -3.25 | -2.80 | -1.45 | -1.30 | -0.90 | -0.66 | -0.90 | -0.99 | -1.39 | -1.54 | -3.46 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.45 | F 1.36 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.10 | F 0.40 | F 0.15 | F 1.92 |
| @ 1.79 | @ 5.43 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 4.78 | @ 8.00 | @ 3.00 | @ 7.68 |

| CP |
|---|
| -31.26 |
| -2.73 |
| 2.00:1 |
| C 0.52 |
| @ 1.04 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 275+50.00**

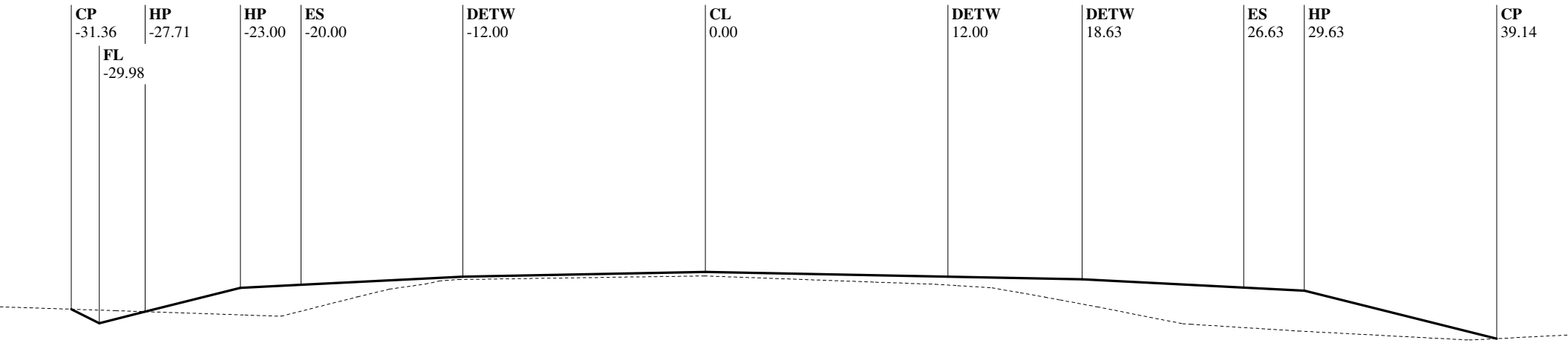
| FL | HP | HP | LL | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.10 | -28.34 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 17.71 | 25.71 | 28.71 | 37.85 |
| -3.31 | -2.87 | -1.53 | -1.38 | -0.98 | -0.74 | -0.98 | -1.10 | -1.50 | -1.65 | -4.05 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -3.80:1 |
| F 0.44 | F 1.33 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.11 | F 0.40 | F 0.15 | F 2.40 |
| @ 1.76 | @ 5.34 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 5.71 | @ 8.00 | @ 3.00 | @ 9.14 |

| CP |
|---|
| -31.17 |
| -2.77 |
| 2.00:1 |
| C 0.54 |
| @ 1.07 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 276+00.00**

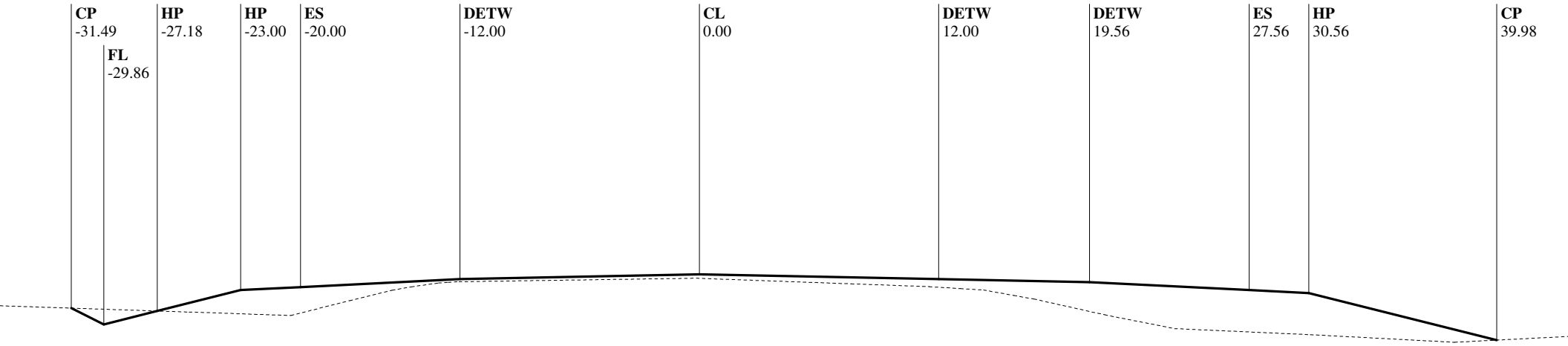
| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.98 | -27.71 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 18.63 | 26.63 | 29.63 | 39.14 |
| -3.49 | -2.92 | -1.75 | -1.60 | -1.20 | -0.96 | -1.20 | -1.33 | -1.73 | -1.88 | -4.25 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.57 | F 1.18 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.13 | F 0.40 | F 0.15 | F 2.38 |
| @ 2.27 | @ 4.71 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 6.63 | @ 8.00 | @ 3.00 | @ 9.51 |

| CP |
|---|
| -31.36 |
| -2.80 |
| 2.00:1 |
| C 0.69 |
| @ 1.38 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



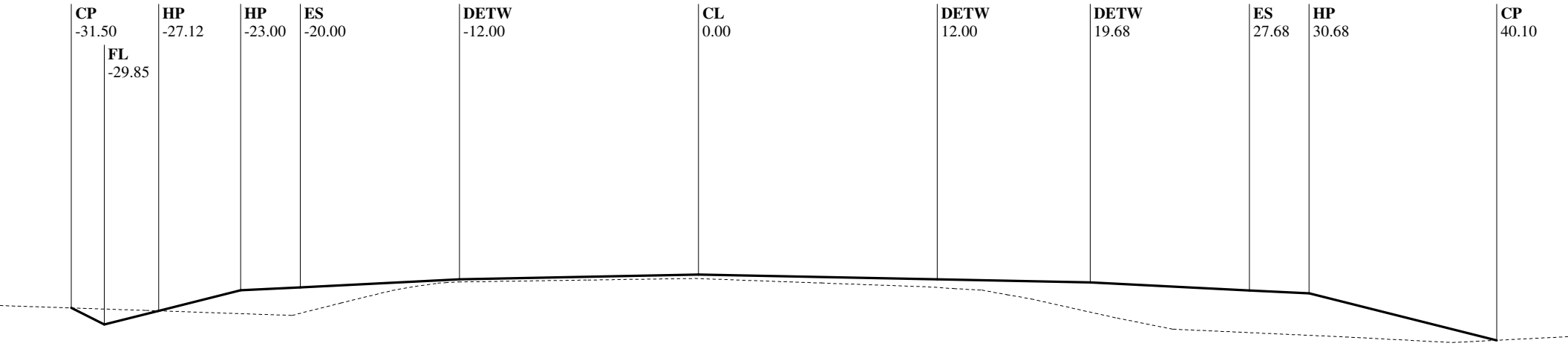

**Alignment Chain CENTER1**
**Station: 276+50.00**

| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.86 | -27.18 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 19.56 | 27.56 | 30.56 | 39.98 |
| -3.64 | -2.97 | -1.92 | -1.77 | -1.37 | -1.13 | -1.37 | -1.53 | -1.93 | -2.08 | -4.43 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.67 | F 1.05 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.15 | F 0.40 | F 0.15 | F 2.36 |
| @ 2.68 | @ 4.18 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 7.56 | @ 8.00 | @ 3.00 | @ 9.42 |

| CP |
|---|
| -31.49 |
| -2.83 |
| 2.00:1 |
| C 0.81 |
| @ 1.63 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 276+56.56**

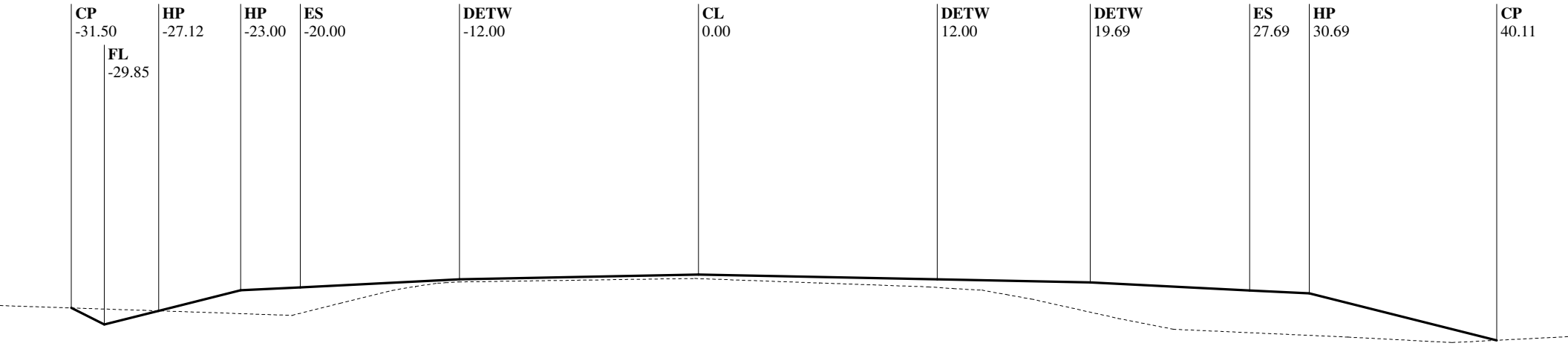
| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.85 | -27.12 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 19.68 | 27.68 | 30.68 | 40.10 |
| -3.66 | -2.98 | -1.94 | -1.79 | -1.39 | -1.15 | -1.39 | -1.55 | -1.95 | -2.10 | -4.45 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.68 | F 1.03 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.15 | F 0.40 | F 0.15 | F 2.35 |
| @ 2.72 | @ 4.12 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 7.68 | @ 8.00 | @ 3.00 | @ 9.42 |

**CP**
-31.50
-2.83
2.00:1
C 0.83
@ 1.66

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 276+57.00**

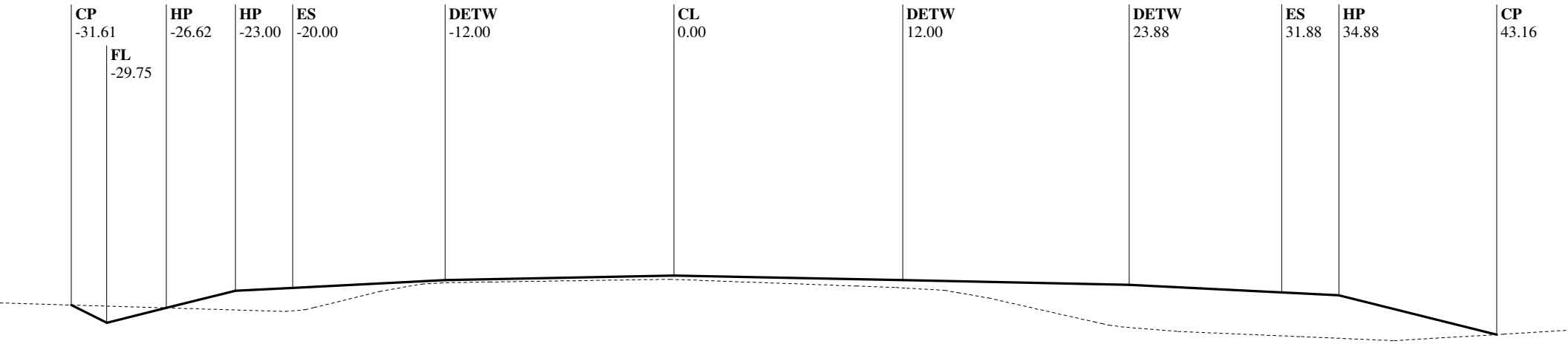
| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.85 | -27.12 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 19.69 | 27.69 | 30.69 | 40.11 |
| -3.66 | -2.98 | -1.95 | -1.80 | -1.40 | -1.16 | -1.40 | -1.55 | -1.95 | -2.10 | -4.45 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.68 | F 1.03 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.15 | F 0.40 | F 0.15 | F 2.36 |
| @ 2.73 | @ 4.12 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 7.69 | @ 8.00 | @ 3.00 | @ 9.42 |

| CP |
|---|
| -31.50 |
| -2.83 |
| 2.00:1 |
| C 0.83 |
| @ 1.66 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 277+00.00**

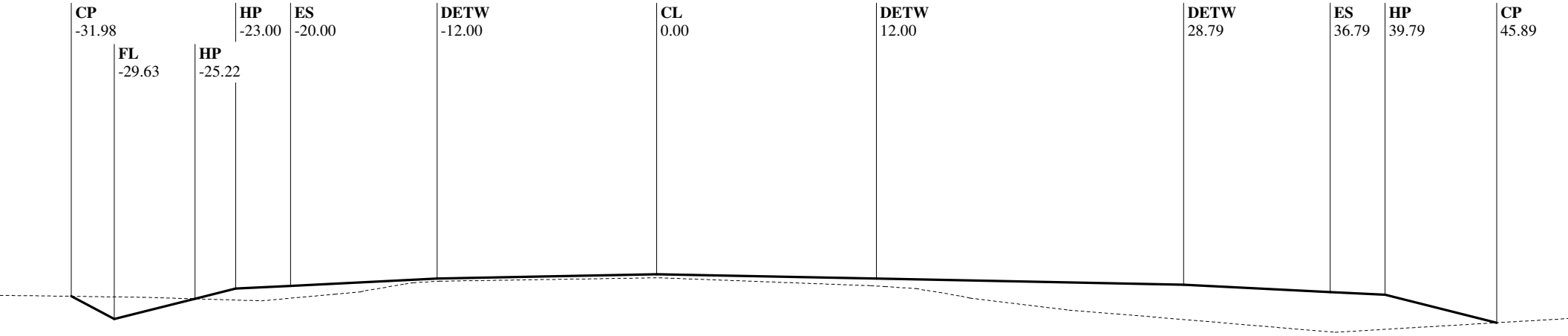
| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.75 | -26.62 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.88 | 31.88 | 34.88 | 43.16 |
| -3.73 | -2.95 | -2.04 | -1.89 | -1.49 | -1.25 | -1.49 | -1.73 | -2.13 | -2.28 | -4.35 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.78 | F 0.91 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.24 | F 0.40 | F 0.15 | F 2.07 |
| @ 3.13 | @ 3.62 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.88 | @ 8.00 | @ 3.00 | @ 8.28 |

| CP |
|---|
| -31.61 |
| -2.80 |
| 2.00:1 |
| C 0.93 |
| @ 1.86 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 277+50.00**

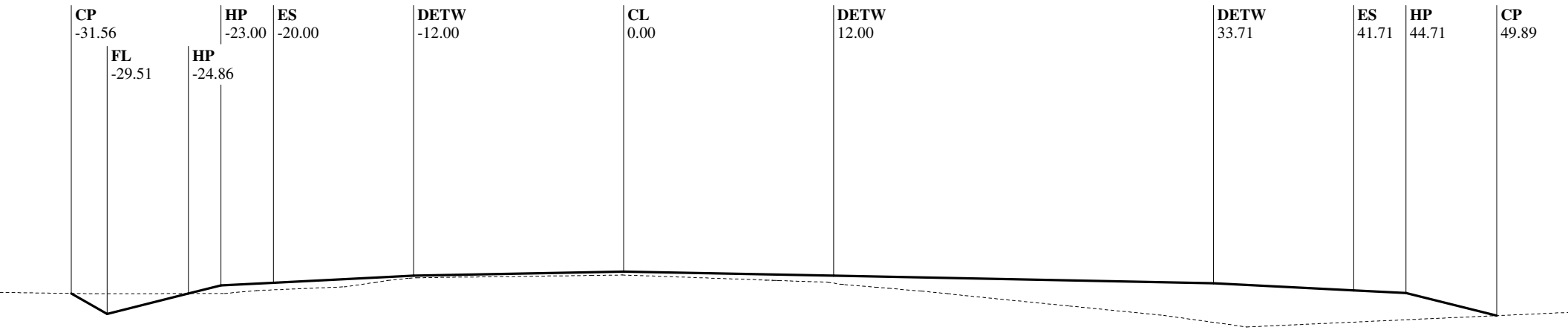
| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.63 | -25.22 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 28.79 | 36.79 | 39.79 | 45.89 |
| -3.71 | -2.61 | -2.05 | -1.90 | -1.50 | -1.26 | -1.50 | -1.84 | -2.24 | -2.39 | -3.91 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.10 | F 0.56 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.34 | F 0.40 | F 0.15 | F 1.53 |
| @ 4.40 | @ 2.22 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 16.79 | @ 8.00 | @ 3.00 | @ 6.10 |

| CP |
|---|
| -31.98 |
| -2.47 |
| 1.90:1 |
| C 1.24 |
| @ 2.36 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 278+00.00**

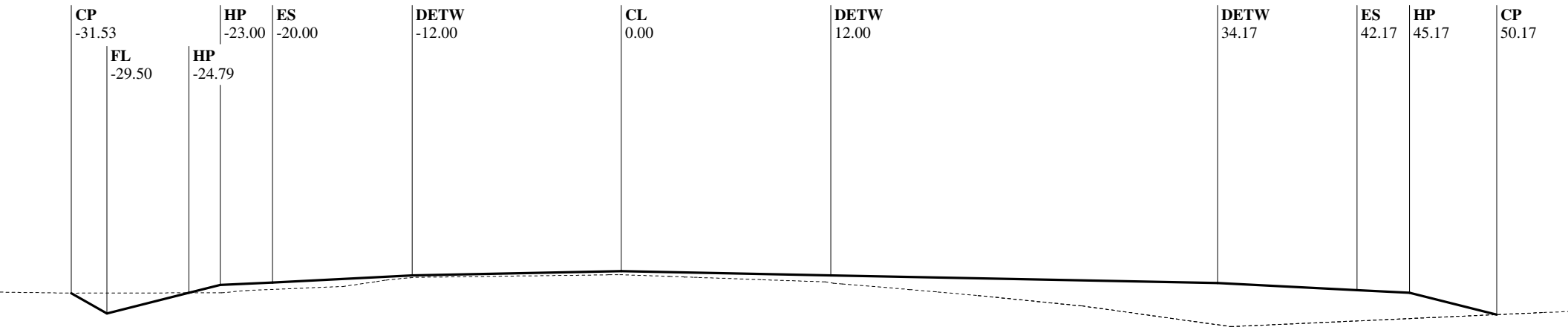
| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.51 | -24.86 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 33.71 | 41.71 | 44.71 | 49.89 |
| -3.47 | -2.31 | -1.84 | -1.69 | -1.29 | -1.05 | -1.29 | -1.73 | -2.13 | -2.28 | -3.57 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.16 | F 0.47 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.43 | F 0.40 | F 0.15 | F 1.30 |
| @ 4.65 | @ 1.86 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 21.71 | @ 8.00 | @ 3.00 | @ 5.18 |

| CP |
|---|
| -31.56 |
| -2.30 |
| 1.75:1 |
| C 1.17 |
| @ 2.05 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 278+04.67**

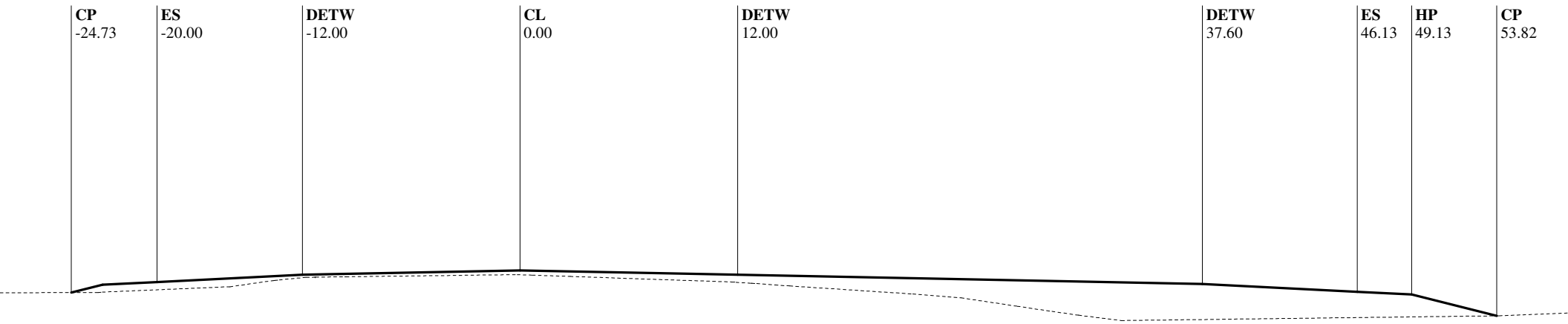
| FL | HP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.50 | -24.79 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 34.17 | 42.17 | 45.17 | 50.17 |
| -3.45 | -2.27 | -1.82 | -1.67 | -1.27 | -1.03 | -1.27 | -1.72 | -2.12 | -2.27 | -3.52 |
| -4.00:1 | -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.18 | F 0.45 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.44 | F 0.40 | F 0.15 | F 1.25 |
| @ 4.71 | @ 1.79 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 22.17 | @ 8.00 | @ 3.00 | @ 5.01 |

**CP**
-31.53
-2.29
1.75:1
C 1.16
@ 2.03

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



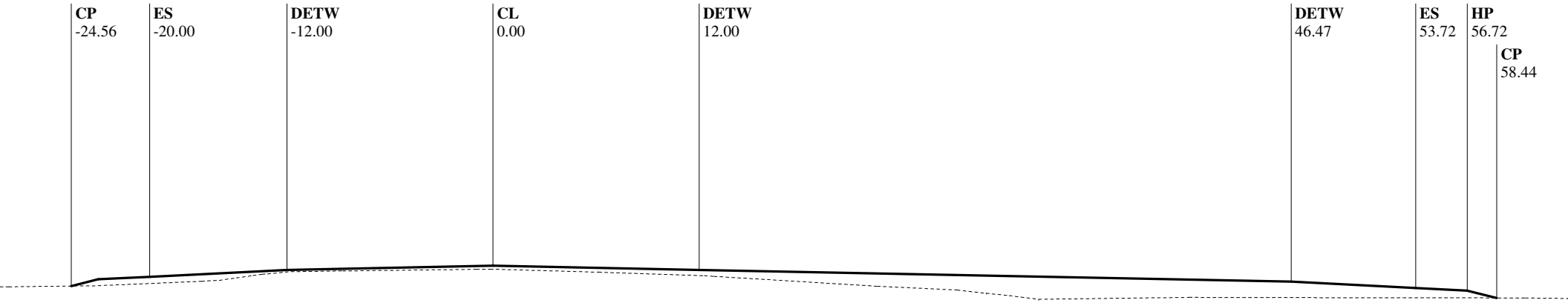

**Alignment Chain CENTER1**
**Station: 278+18.79**

| CP | | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -24.73 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 37.60 | 46.13 | 49.13 | 53.82 |
| -2.15 | -1.72 | -1.57 | -1.17 | -0.93 | -1.17 | -1.68 | -2.11 | -2.26 | -3.43 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.43 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.51 | F 0.43 | F 0.15 | F 1.17 |
| @ 1.73 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 25.60 | @ 8.52 | @ 3.00 | @ 4.69 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



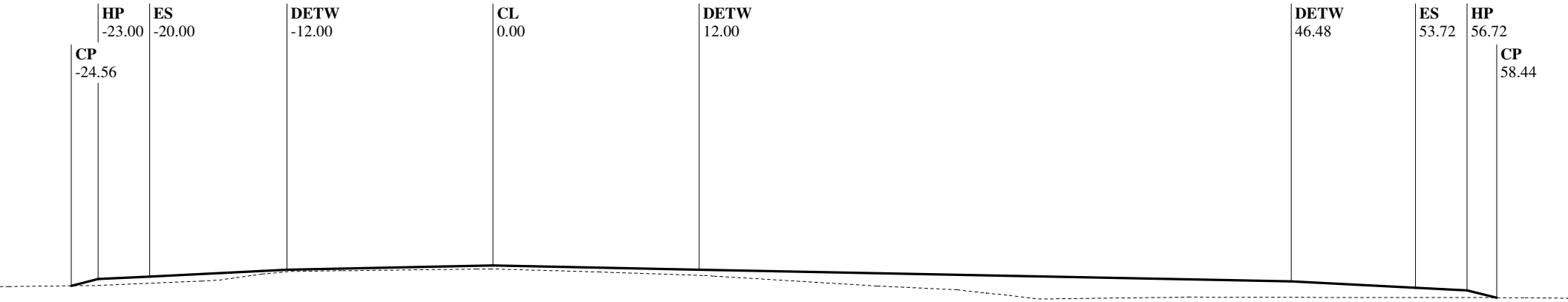

**Alignment Chain CENTER1**
**Station: 278+31.26**

| CP | | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -24.56 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 46.47 | 53.72 | 56.72 | 58.44 |
| -2.02 | -1.63 | -1.48 | -1.08 | -0.84 | -1.08 | -1.77 | -2.13 | -2.28 | -2.71 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.39 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.69 | F 0.36 | F 0.15 | F 0.43 |
| @ 1.56 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 34.47 | @ 7.25 | @ 3.00 | @ 1.72 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



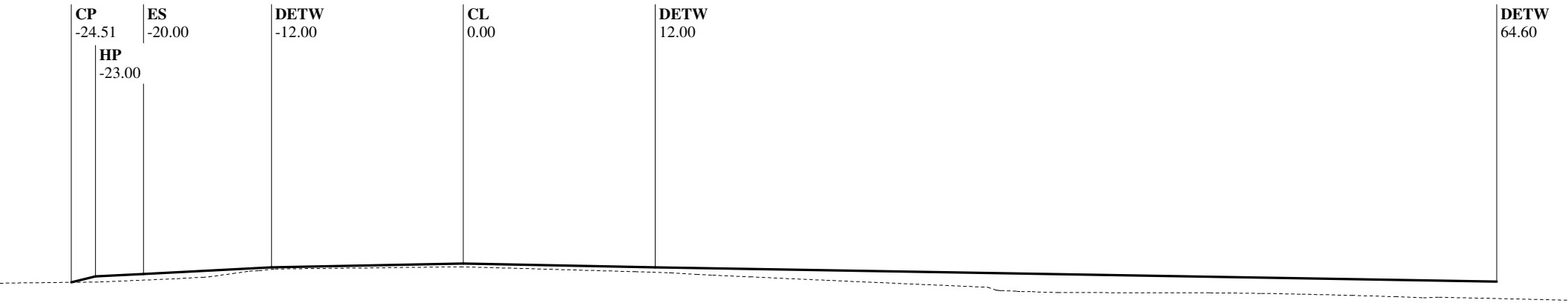

**Alignment Chain CENTER1**
**Station: 278+31.27**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -24.56 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 46.48 | 53.72 | 56.72 | 58.44 |
| -2.02 | -1.63 | -1.48 | -1.08 | -0.84 | -1.08 | -1.77 | -2.13 | -2.28 | -2.71 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.39 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.69 | F 0.36 | F 0.15 | F 0.43 |
| @ 1.56 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 34.48 | @ 7.25 | @ 3.00 | @ 1.72 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



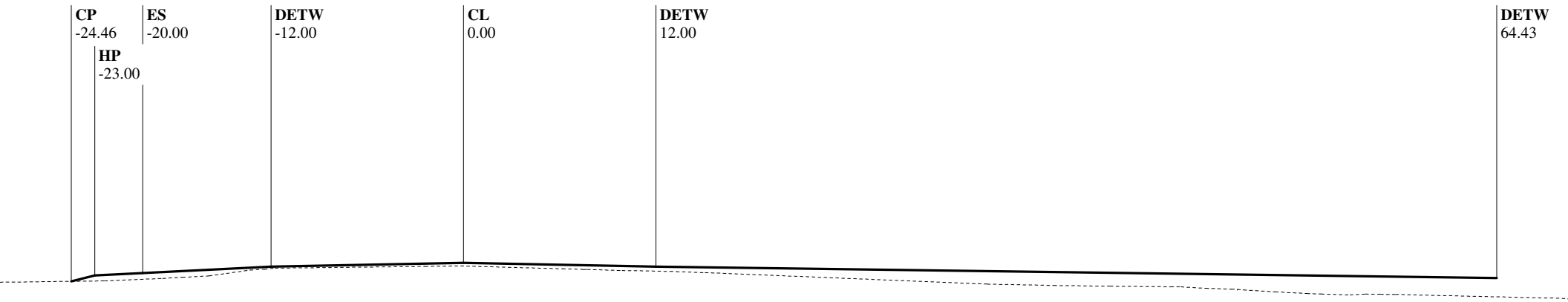

**Alignment Chain CENTER1**
**Station: 278+41.01**

| CP | HP | ES | DETW | CL | DETW | DETW |
|---|---|---|---|---|---|---|
| -24.51 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 64.60 |
| -1.90 | -1.52 | -1.37 | -0.97 | -0.73 | -0.97 | -1.84 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -1.66% |
| F 0.38 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.88 |
| @ 1.51 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 52.60 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

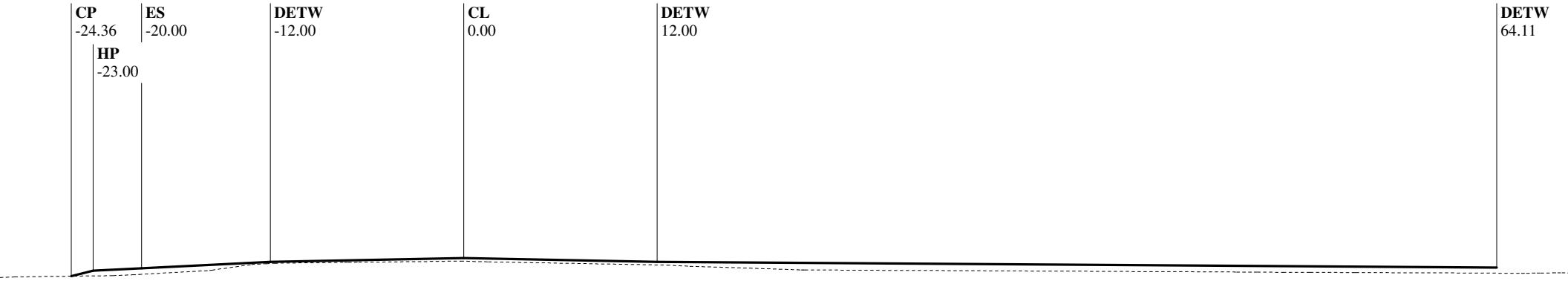



**Alignment Chain CENTER1**
**Station: 278+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW |
|---|---|---|---|---|---|---|
| -24.46 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 64.43 |
| -1.78 | -1.42 | -1.27 | -0.87 | -0.63 | -0.87 | -1.58 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -1.35% |
| F 0.37 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.71 |
| @ 1.46 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 52.43 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



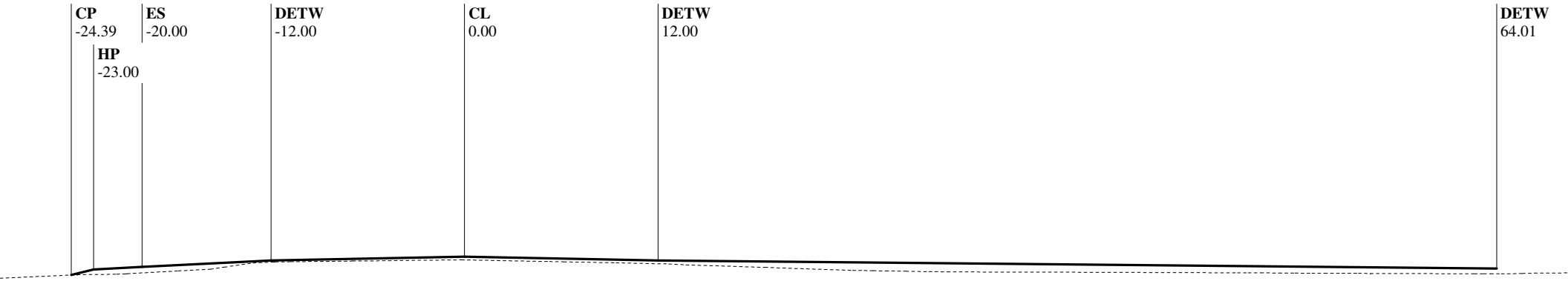

**Alignment Chain CENTER1**
**Station: 278+68.92**

| CP | HP | ES | DETW | CL | DETW | DETW |
|---|---|---|---|---|---|---|
| -24.36 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 64.11 |
| -1.54 | -1.20 | -1.05 | -0.65 | -0.41 | -0.65 | -1.02 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -0.70% |
| F 0.34 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.36 |
| @ 1.36 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 52.11 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



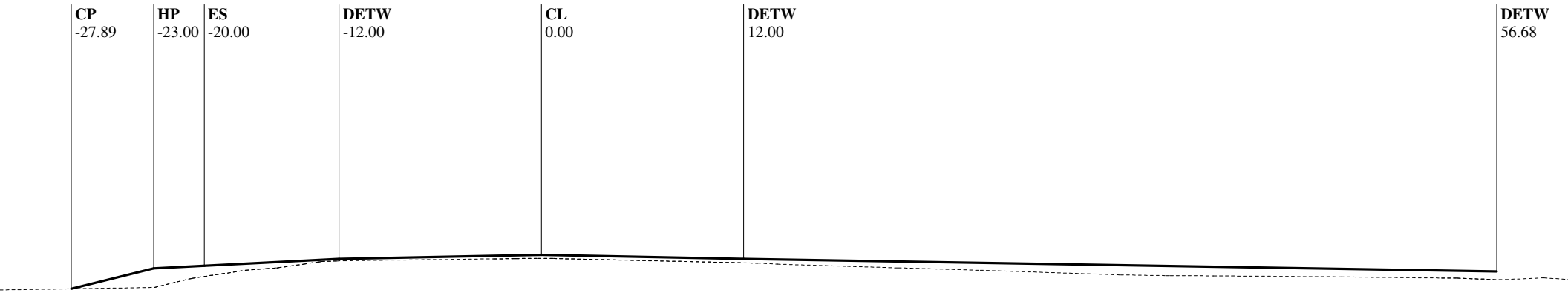

**Alignment Chain CENTER1**
**Station: 278+74.58**

| CP | HP | ES | DETW | CL | DETW | DETW |
|---|---|---|---|---|---|---|
| -24.39 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 64.01 |
| -1.48 | -1.14 | -0.99 | -0.59 | -0.35 | -0.59 | -1.07 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -0.94% |
| F 0.35 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.49 |
| @ 1.39 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 52.01 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



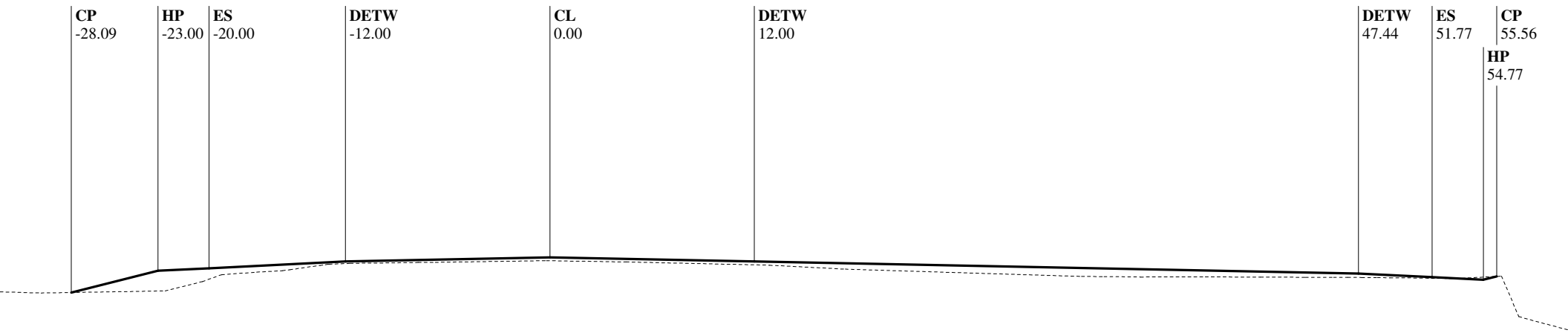

**Alignment Chain CENTER1**
**Station: 278+91.40**

| CP | HP | ES | DETW | CL | DETW | DETW |
|---|---|---|---|---|---|---|
| -27.89 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 56.68 |
| -2.19 | -0.97 | -0.82 | -0.42 | -0.18 | -0.42 | -1.15 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -1.64% |
| F 1.22 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.73 |
| @ 4.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 44.68 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



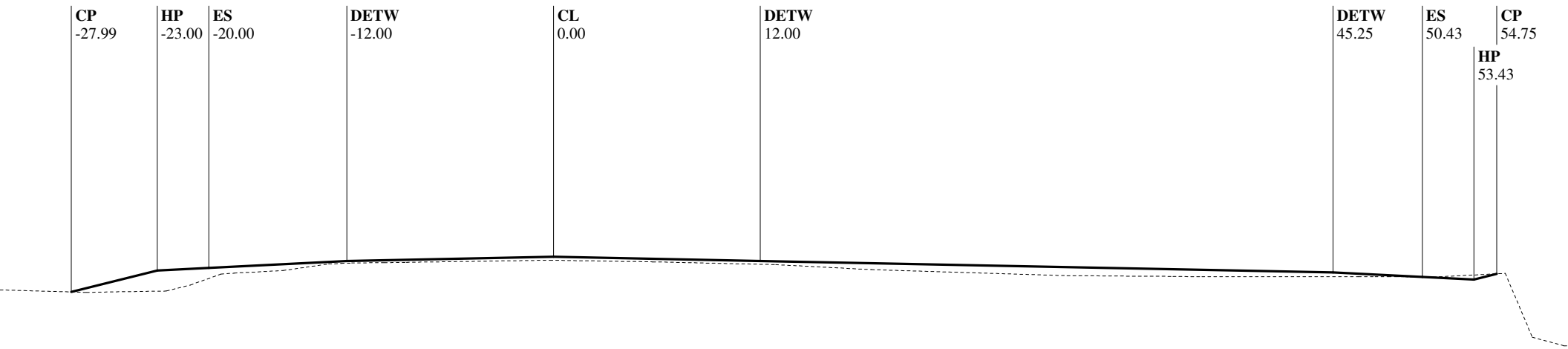

**Alignment Chain CENTER1**
**Station: 278+97.80**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -28.09 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 47.44 | 51.77 | 54.77 | 55.56 |
| -2.25 | -0.98 | -0.83 | -0.43 | -0.19 | -0.43 | -1.14 | -1.36 | -1.51 | -1.31 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.27 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.71 | F 0.22 | F 0.15 | C 0.20 |
| @ 5.09 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 35.44 | @ 4.33 | @ 3.00 | @ 0.79 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



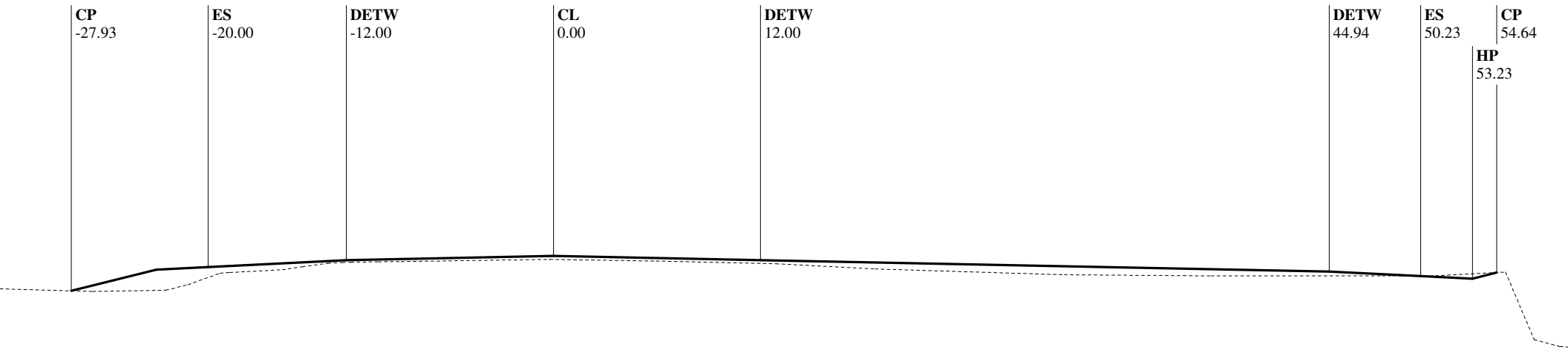

**Alignment Chain CENTER1**
**Station: 279+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -27.99 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 45.25 | 50.43 | 53.43 | 54.75 |
| -2.23 | -0.98 | -0.83 | -0.43 | -0.19 | -0.43 | -1.10 | -1.36 | -1.51 | -1.18 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.25 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.67 | F 0.26 | F 0.15 | C 0.33 |
| @ 4.99 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 33.25 | @ 5.17 | @ 3.00 | @ 1.32 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



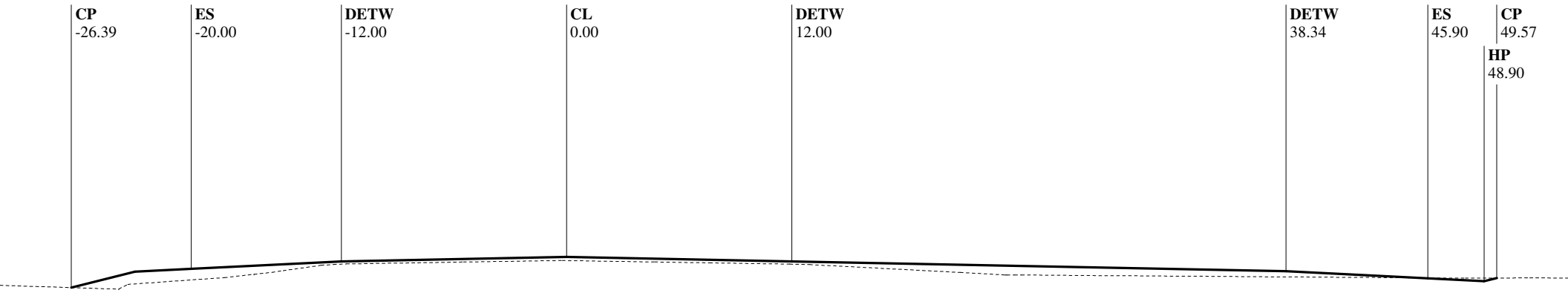

**Alignment Chain CENTER1**
**Station: 279+00.34**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **CP** | | **ES** | **DETW** | **CL** | **DETW** | **DETW** | **ES** | **HP** | **CP** |
| -27.93 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 44.94 | 50.23 | 53.23 | 54.64 |
| -2.22 | -0.98 | -0.83 | -0.43 | -0.19 | -0.43 | -1.09 | -1.36 | -1.51 | -1.16 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 1.23 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.66 | F 0.26 | F 0.15 | C 0.35 |
| @ 4.93 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 32.94 | @ 5.29 | @ 3.00 | @ 1.41 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



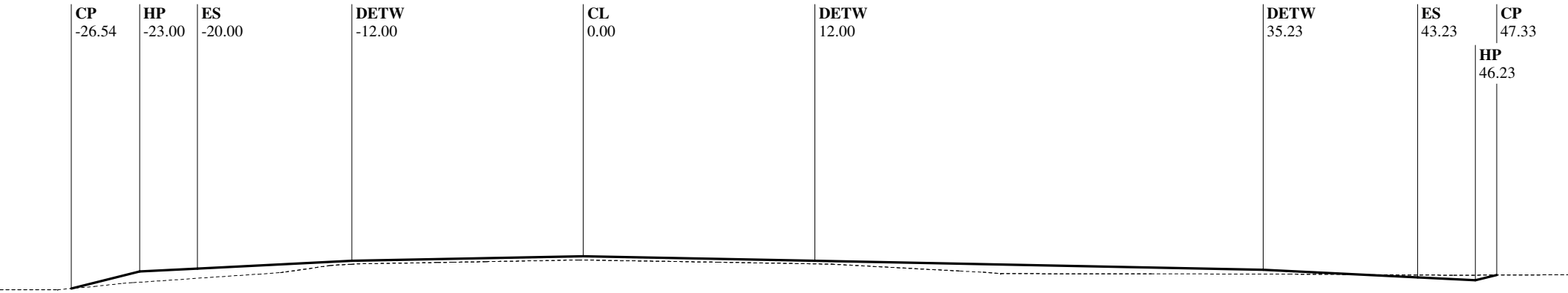

**Alignment Chain CENTER1**
**Station: 279+10.49**

| CP | | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -26.39 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 38.34 | 45.90 | 48.90 | 49.57 |
| -1.85 | -1.01 | -0.86 | -0.46 | -0.22 | -0.46 | -0.98 | -1.36 | -1.51 | -1.34 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.85 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.53 | F 0.38 | F 0.15 | C 0.17 |
| @ 3.39 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 26.34 | @ 7.56 | @ 3.00 | @ 0.67 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



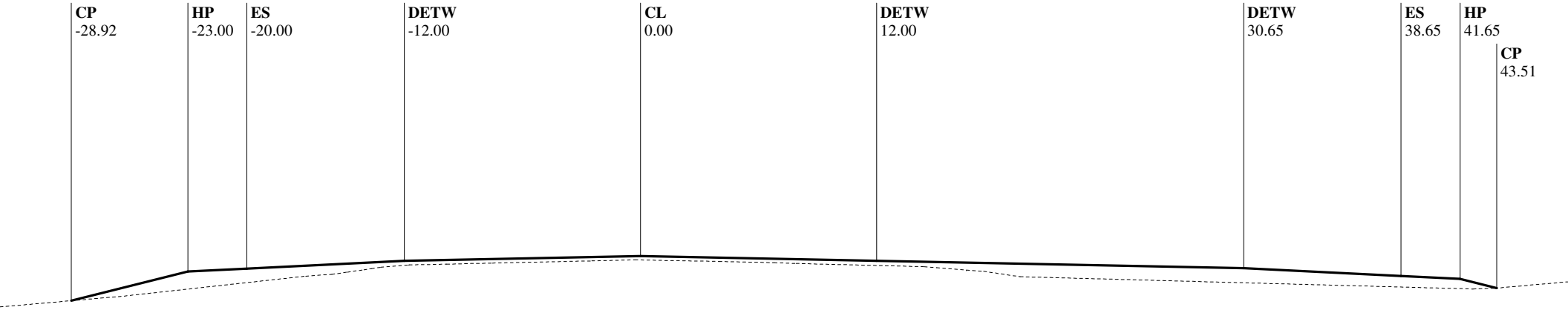

**Alignment Chain CENTER1**
**Station: 279+21.34**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -26.54 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 35.23 | 43.23 | 46.23 | 47.33 |
| -1.91 | -1.03 | -0.88 | -0.48 | -0.24 | -0.48 | -0.94 | -1.34 | -1.49 | -1.22 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | 4.00:1 |
| F 0.88 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.46 | F 0.40 | F 0.15 | C 0.28 |
| @ 3.54 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 23.23 | @ 8.00 | @ 3.00 | @ 1.10 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



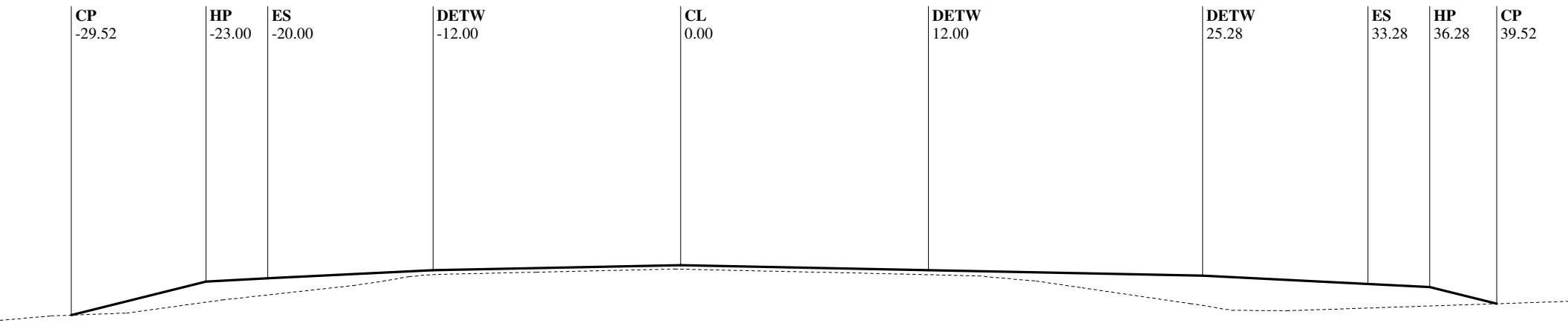

**Alignment Chain CENTER1**
**Station: 279+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -28.92 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 30.65 | 38.65 | 41.65 | 43.51 |
| -2.57 | -1.08 | -0.93 | -0.53 | -0.29 | -0.53 | -0.91 | -1.31 | -1.46 | -1.92 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.48 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.37 | F 0.40 | F 0.15 | F 0.47 |
| @ 5.92 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 18.65 | @ 8.00 | @ 3.00 | @ 1.86 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



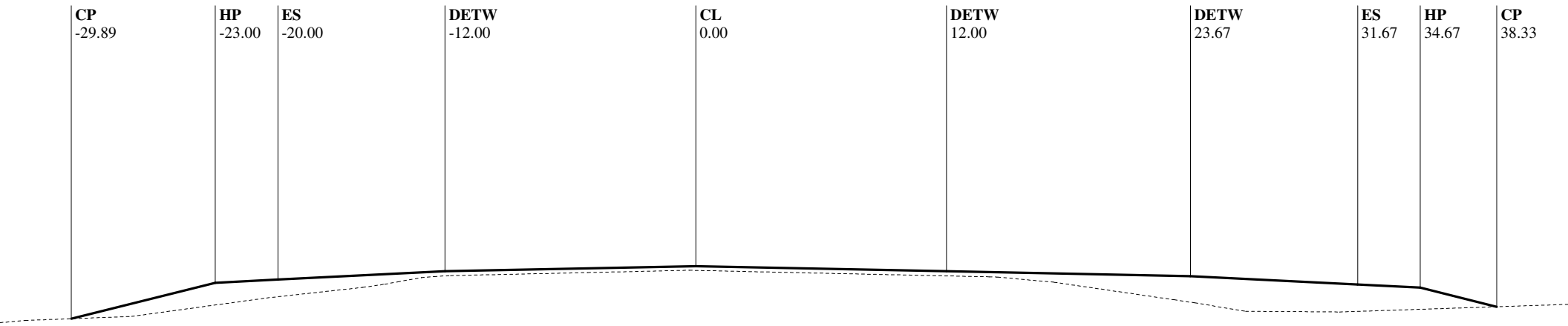

**Alignment Chain CENTER1**
**Station: 279+83.60**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -29.52 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 25.28 | 33.28 | 36.28 | 39.52 |
| -2.96 | -1.33 | -1.18 | -0.78 | -0.54 | -0.78 | -1.05 | -1.45 | -1.60 | -2.41 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.63 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.27 | F 0.40 | F 0.15 | F 0.81 |
| @ 6.52 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 13.28 | @ 8.00 | @ 3.00 | @ 3.25 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



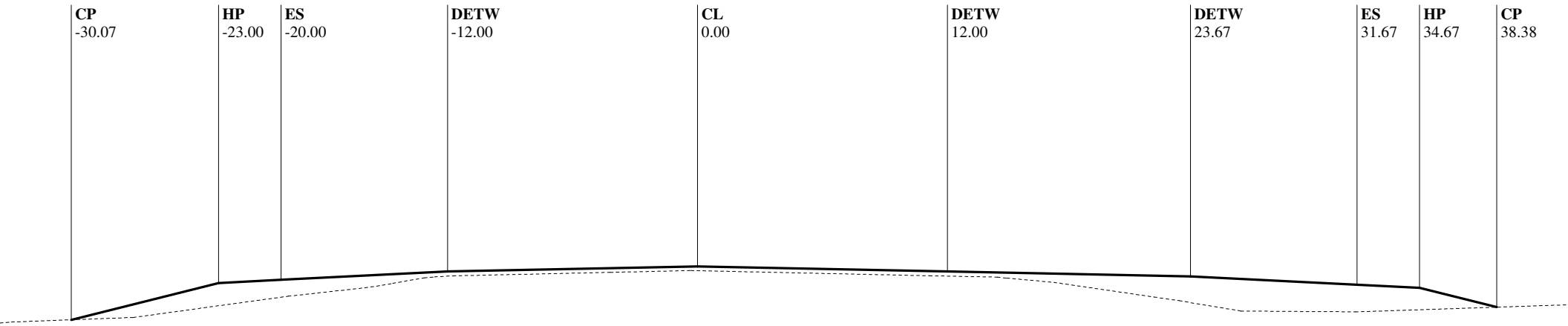

**Alignment Chain CENTER1**
**Station: 279+94.26**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -29.89 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.67 | 31.67 | 34.67 | 38.33 |
| -3.13 | -1.41 | -1.26 | -0.86 | -0.62 | -0.86 | -1.09 | -1.49 | -1.64 | -2.56 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.72 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.23 | F 0.40 | F 0.15 | F 0.92 |
| @ 6.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.67 | @ 8.00 | @ 3.00 | @ 3.66 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



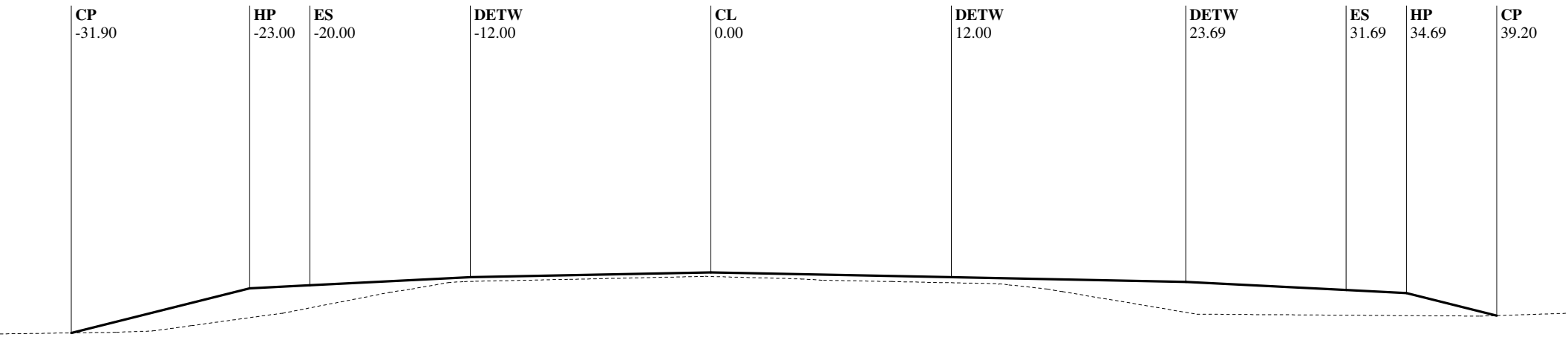

**Alignment Chain CENTER1**
**Station: 280+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -30.07 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.67 | 31.67 | 34.67 | 38.38 |
| -3.22 | -1.46 | -1.31 | -0.91 | -0.67 | -0.91 | -1.14 | -1.54 | -1.69 | -2.62 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.77 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.23 | F 0.40 | F 0.15 | F 0.93 |
| @ 7.07 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.67 | @ 8.00 | @ 3.00 | @ 3.71 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



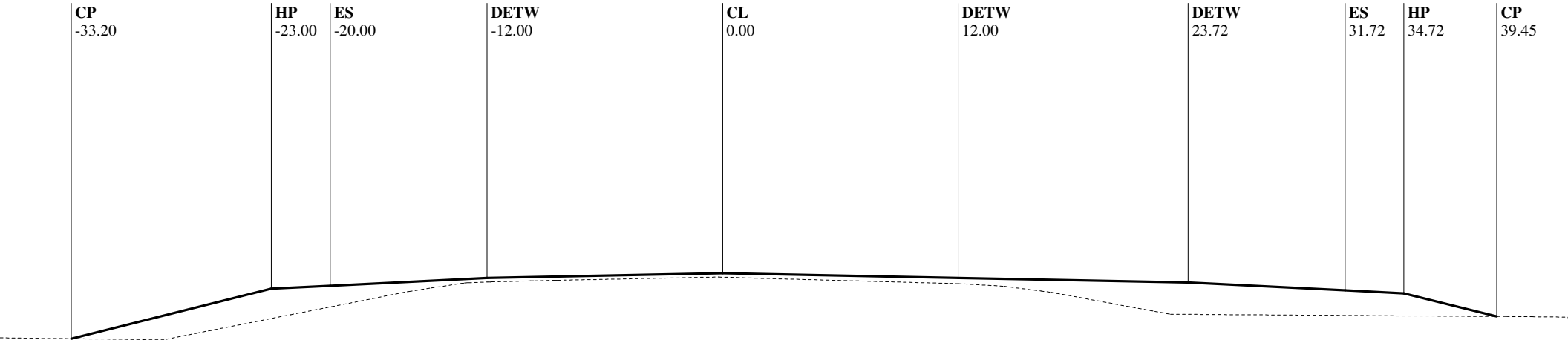

**Alignment Chain CENTER1**
**Station: 280+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.90 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.69 | 31.69 | 34.69 | 39.20 |
| -3.97 | -1.75 | -1.60 | -1.20 | -0.96 | -1.20 | -1.43 | -1.83 | -1.98 | -3.11 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.23 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.23 | F 0.40 | F 0.15 | F 1.13 |
| @ 8.90 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.69 | @ 8.00 | @ 3.00 | @ 4.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



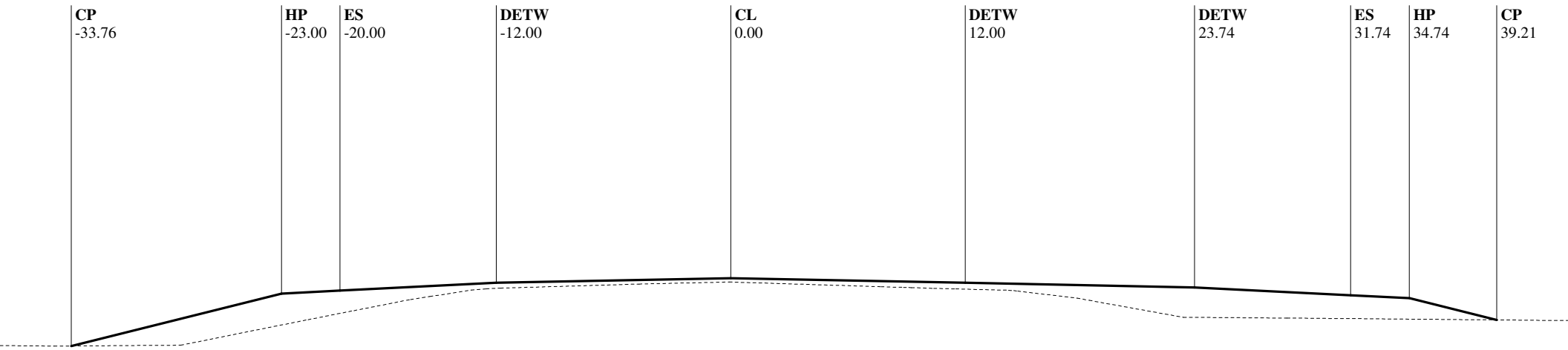

**Alignment Chain CENTER1**
**Station: 281+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.20 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.72 | 31.72 | 34.72 | 39.45 |
| -4.48 | -1.94 | -1.79 | -1.39 | -1.15 | -1.39 | -1.62 | -2.02 | -2.17 | -3.35 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.55 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.23 | F 0.40 | F 0.15 | F 1.18 |
| @ 10.20 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.72 | @ 8.00 | @ 3.00 | @ 4.73 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

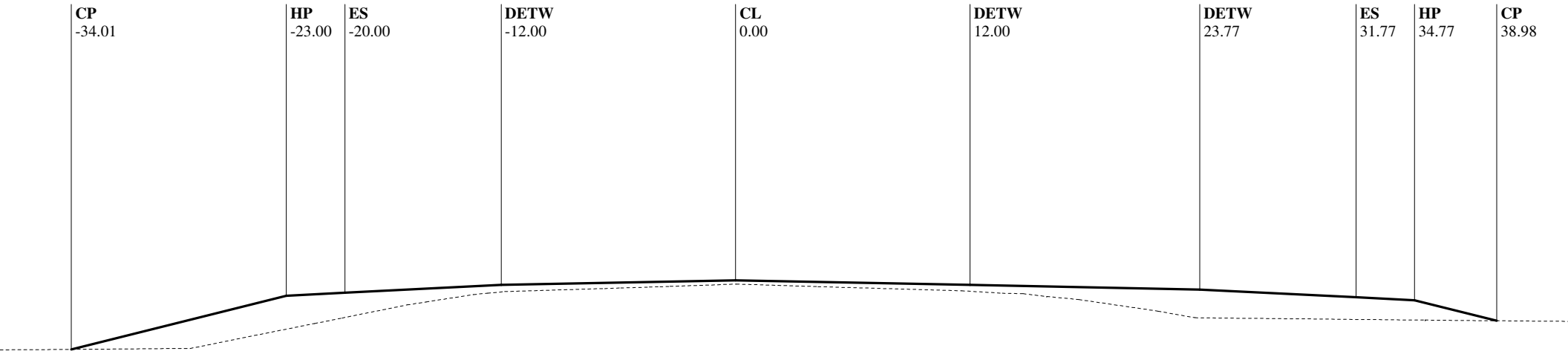



**Alignment Chain CENTER1**
**Station: 281+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.76 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.74 | 31.74 | 34.74 | 39.21 |
| -4.78 | -2.09 | -1.94 | -1.54 | -1.30 | -1.54 | -1.77 | -2.17 | -2.32 | -3.44 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.69 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.23 | F 0.40 | F 0.15 | F 1.12 |
| @ 10.76 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.74 | @ 8.00 | @ 3.00 | @ 4.47 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



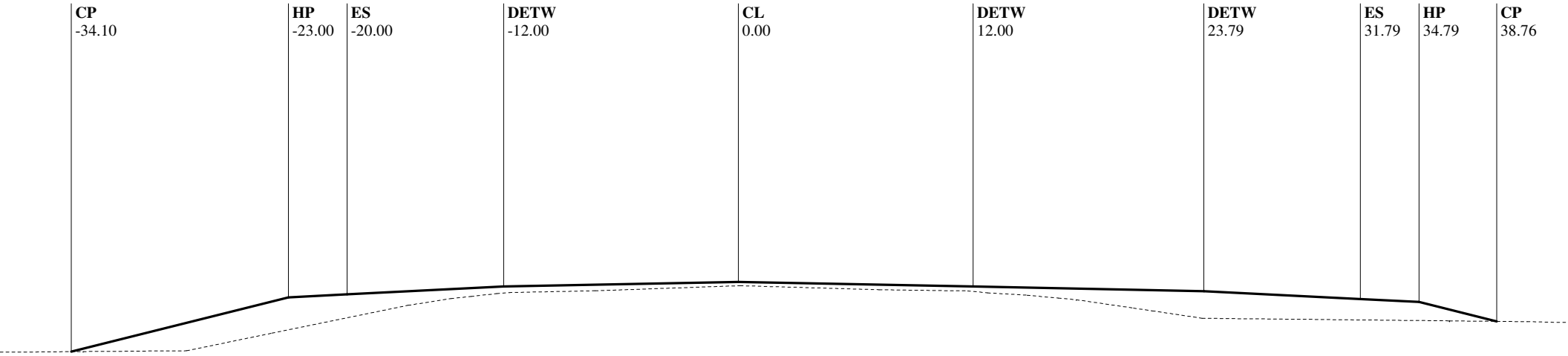

**Alignment Chain CENTER1**
**Station: 282+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.01 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.77 | 31.77 | 34.77 | 38.98 |
| -5.00 | -2.24 | -2.09 | -1.69 | -1.45 | -1.69 | -1.93 | -2.33 | -2.48 | -3.53 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.75 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.24 | F 0.40 | F 0.15 | F 1.05 |
| @ 11.01 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.77 | @ 8.00 | @ 3.00 | @ 4.21 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



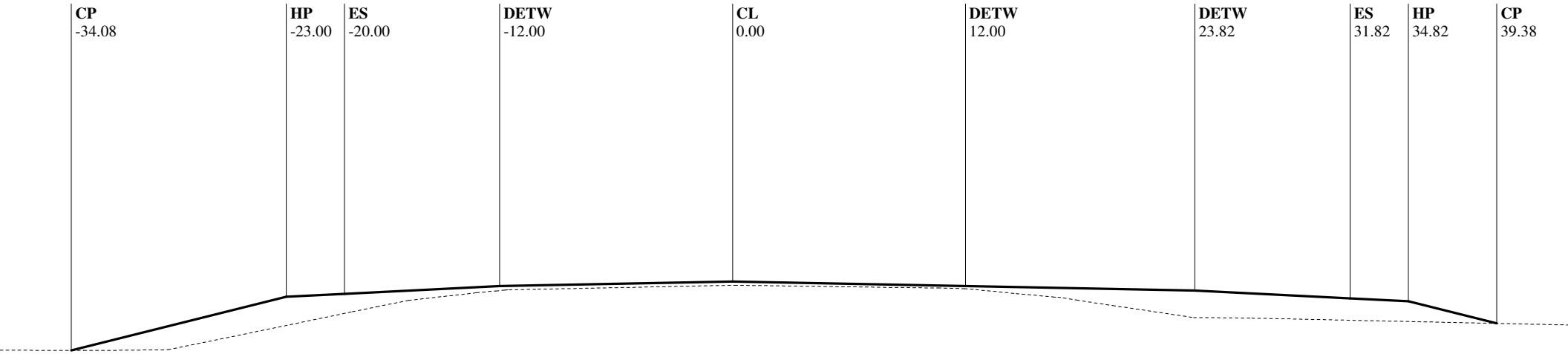

**Alignment Chain CENTER1**
**Station: 282+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.10 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.79 | 31.79 | 34.79 | 38.76 |
| -5.12 | -2.34 | -2.19 | -1.79 | -1.55 | -1.79 | -2.03 | -2.43 | -2.58 | -3.57 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.78 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.24 | F 0.40 | F 0.15 | F 0.99 |
| @ 11.10 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.79 | @ 8.00 | @ 3.00 | @ 3.97 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



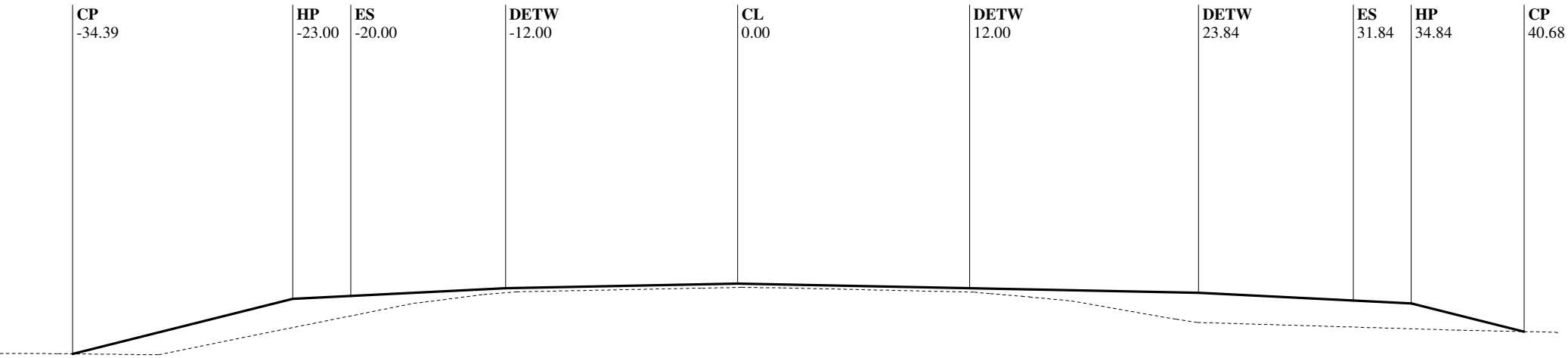

**Alignment Chain CENTER1**
**Station: 283+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.08 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.82 | 31.82 | 34.82 | 39.38 |
| -5.11 | -2.34 | -2.19 | -1.79 | -1.55 | -1.79 | -2.02 | -2.42 | -2.57 | -3.71 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.77 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.24 | F 0.40 | F 0.15 | F 1.14 |
| @ 11.08 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.82 | @ 8.00 | @ 3.00 | @ 4.56 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

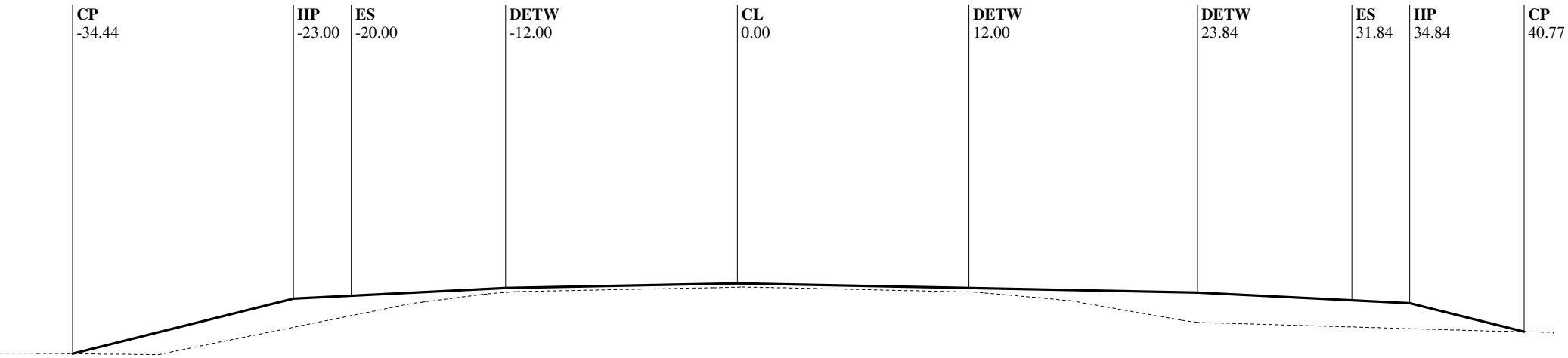



**Alignment Chain CENTER1**
**Station: 283+46.63**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.39 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.84 | 31.84 | 34.84 | 40.68 |
| -5.03 | -2.19 | -2.04 | -1.64 | -1.40 | -1.64 | -1.87 | -2.27 | -2.42 | -3.88 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.85 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.24 | F 0.40 | F 0.15 | F 1.46 |
| @ 11.39 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.84 | @ 8.00 | @ 3.00 | @ 5.84 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

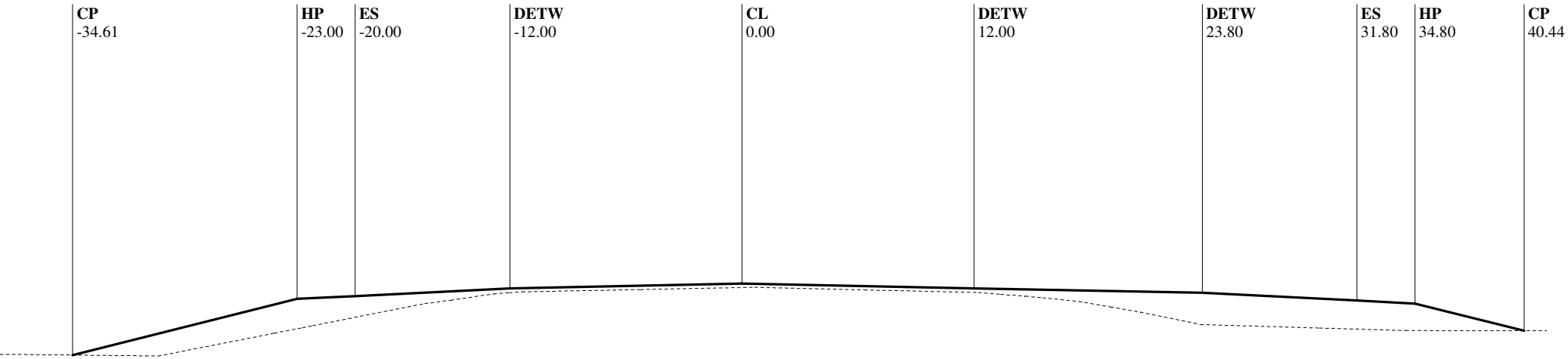



**Alignment Chain CENTER1**
**Station: 283+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.44 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.84 | 31.84 | 34.84 | 40.77 |
| -5.03 | -2.17 | -2.02 | -1.62 | -1.38 | -1.62 | -1.86 | -2.26 | -2.41 | -3.89 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.86 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.24 | F 0.40 | F 0.15 | F 1.48 |
| @ 11.44 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.84 | @ 8.00 | @ 3.00 | @ 5.93 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



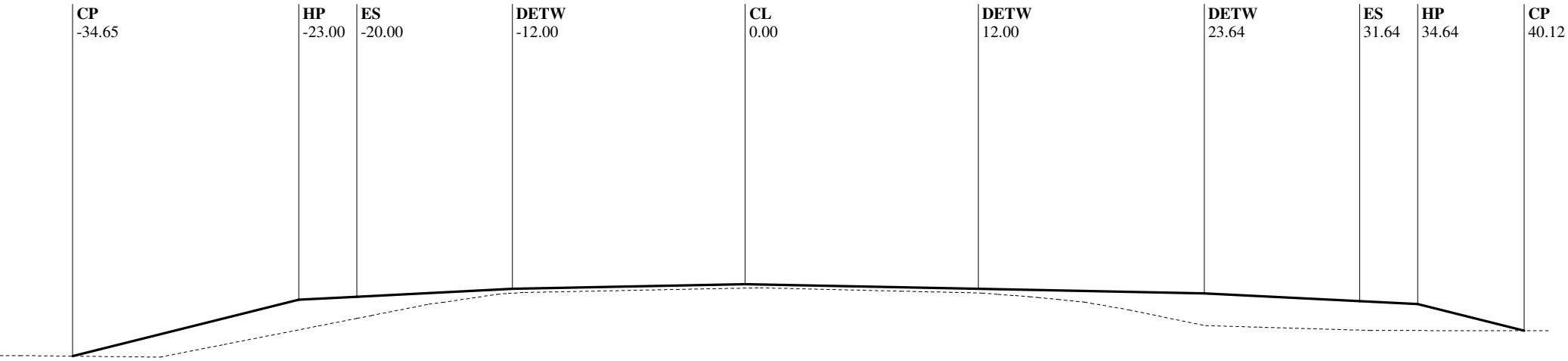

**Alignment Chain CENTER1**
**Station: 283+91.04**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.61 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.80 | 31.80 | 34.80 | 40.44 |
| -5.11 | -2.20 | -2.05 | -1.65 | -1.41 | -1.65 | -1.89 | -2.29 | -2.44 | -3.85 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.90 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.24 | F 0.40 | F 0.15 | F 1.41 |
| @ 11.61 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.80 | @ 8.00 | @ 3.00 | @ 5.64 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



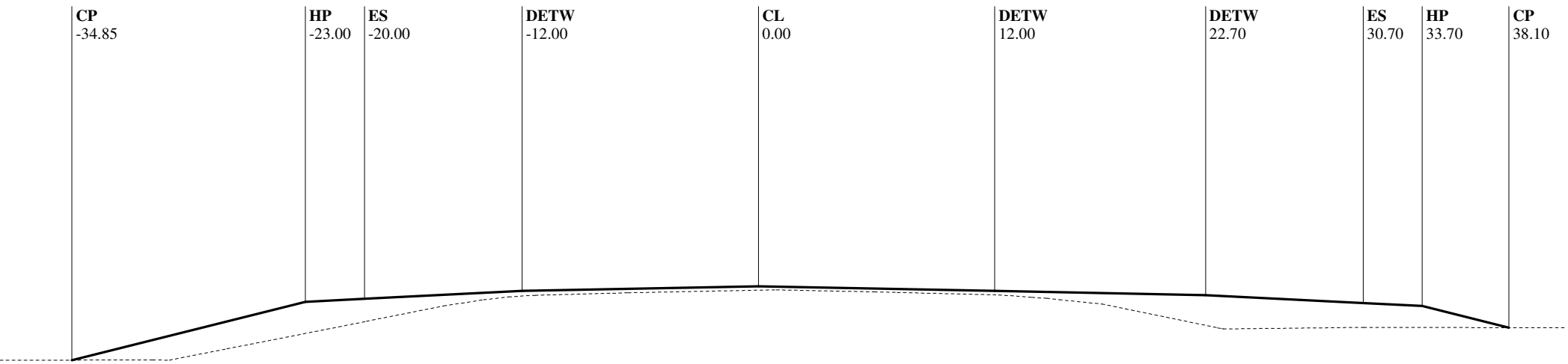

**Alignment Chain CENTER1**
**Station: 284+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.65 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 23.64 | 31.64 | 34.64 | 40.12 |
| -5.13 | -2.22 | -2.07 | -1.67 | -1.43 | -1.67 | -1.90 | -2.30 | -2.45 | -3.82 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.91 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.23 | F 0.40 | F 0.15 | F 1.37 |
| @ 11.65 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 11.64 | @ 8.00 | @ 3.00 | @ 5.48 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



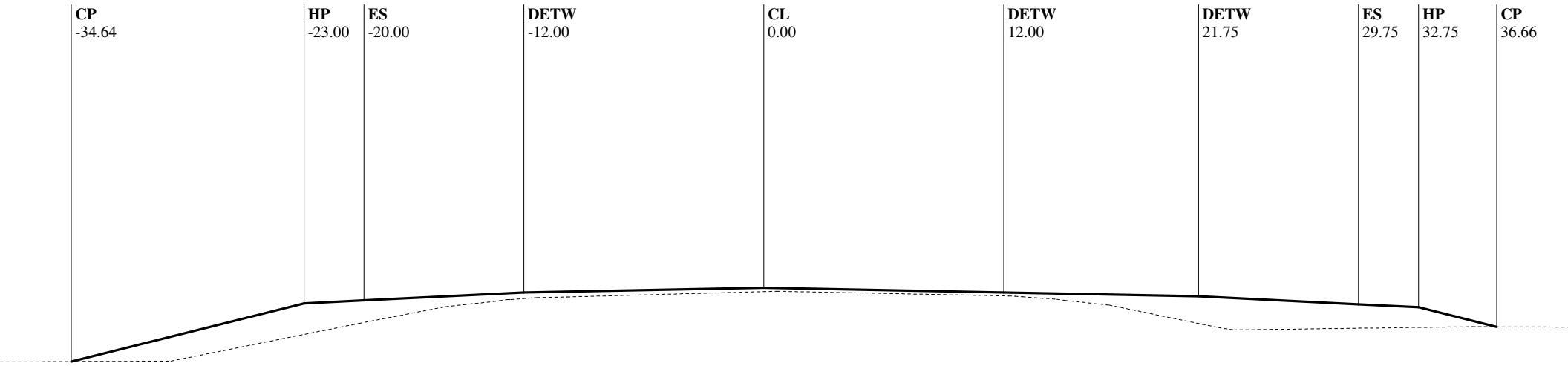

**Alignment Chain CENTER1**
**Station: 284+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.85 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 22.70 | 30.70 | 33.70 | 38.10 |
| -5.31 | -2.35 | -2.20 | -1.80 | -1.56 | -1.80 | -2.01 | -2.41 | -2.56 | -3.67 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.96 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.21 | F 0.40 | F 0.15 | F 1.10 |
| @ 11.85 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 10.70 | @ 8.00 | @ 3.00 | @ 4.40 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



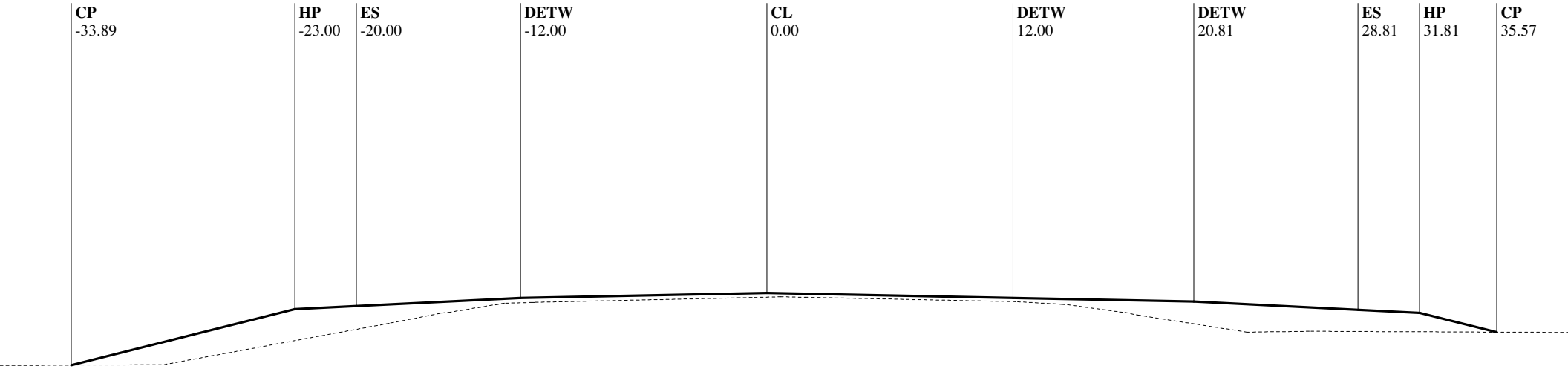

**Alignment Chain CENTER1**
**Station: 285+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.64 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 21.75 | 29.75 | 32.75 | 36.66 |
| -5.47 | -2.56 | -2.41 | -2.01 | -1.77 | -2.01 | -2.20 | -2.60 | -2.75 | -3.73 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.91 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.20 | F 0.40 | F 0.15 | F 0.98 |
| @ 11.64 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 9.75 | @ 8.00 | @ 3.00 | @ 3.91 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



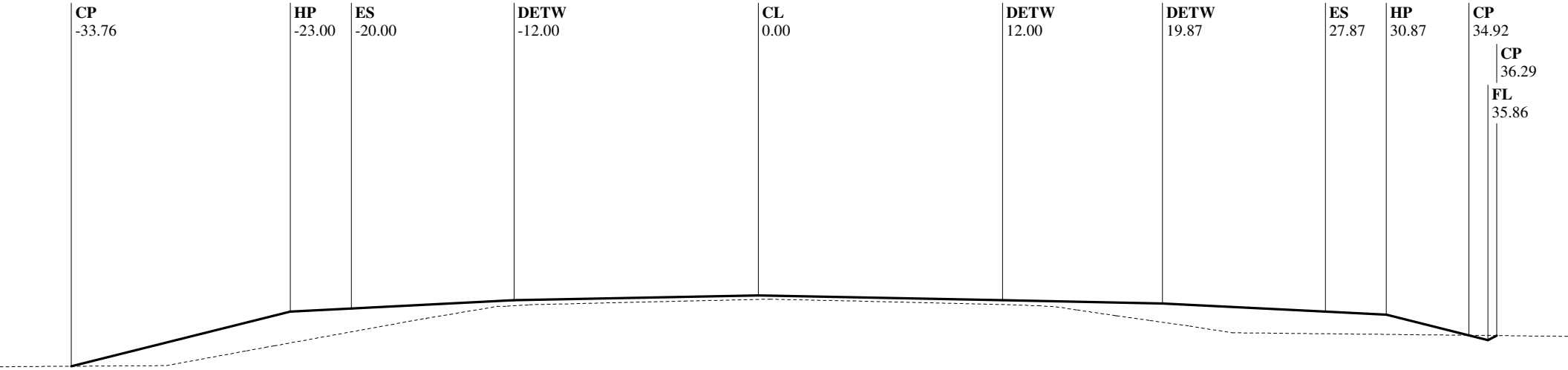

**Alignment Chain CENTER1**
**Station: 285+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.89 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.81 | 28.81 | 31.81 | 35.57 |
| -5.57 | -2.84 | -2.69 | -2.29 | -2.05 | -2.29 | -2.47 | -2.87 | -3.02 | -3.96 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.72 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.18 | F 0.40 | F 0.15 | F 0.94 |
| @ 10.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.81 | @ 8.00 | @ 3.00 | @ 3.75 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 286+00.00**

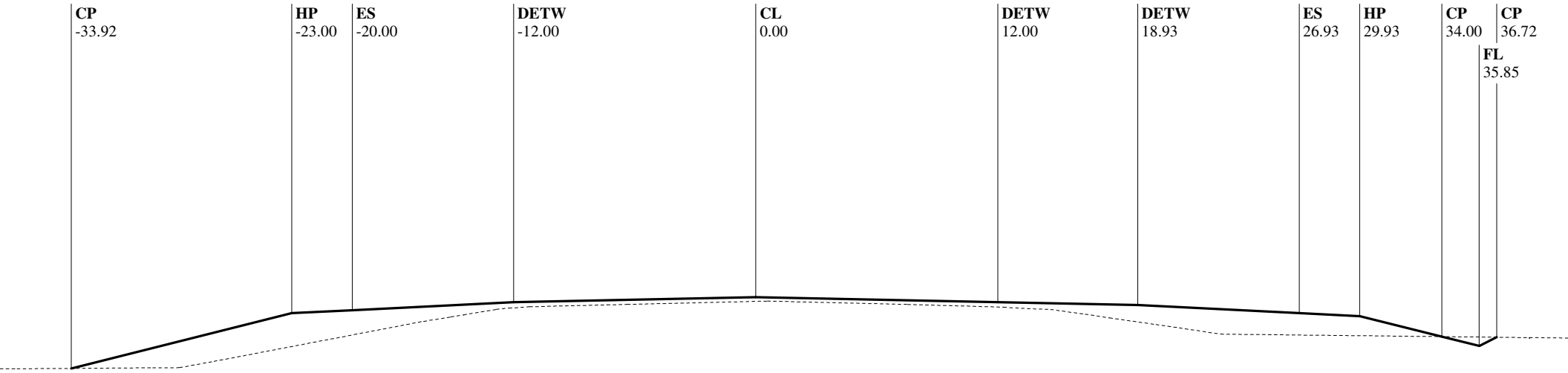
| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.76 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 19.87 | 27.87 | 30.87 | 34.92 |
| -5.67 | -2.98 | -2.83 | -2.43 | -2.19 | -2.43 | -2.59 | -2.99 | -3.14 | -4.15 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.69 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.16 | F 0.40 | F 0.15 | F 1.01 |
| @ 10.76 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 7.87 | @ 8.00 | @ 3.00 | @ 4.05 |

| FL | CP |
|---|---|
| 35.86 | 36.29 |
| -4.39 | -4.17 |
| -4.00:1 | 2.00:1 |
| F 0.23 | C 0.22 |
| @ 0.93 | @ 0.44 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 286+50.00**

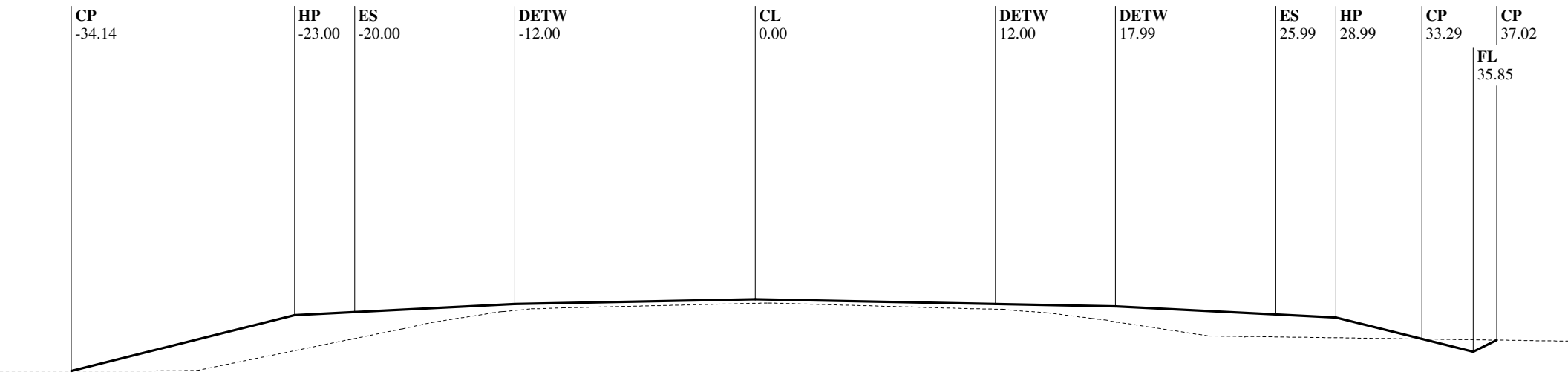
| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.92 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 18.93 | 26.93 | 29.93 | 34.00 |
| -5.77 | -3.04 | -2.89 | -2.49 | -2.25 | -2.49 | -2.63 | -3.03 | -3.18 | -4.20 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.73 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.14 | F 0.40 | F 0.15 | F 1.02 |
| @ 10.92 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 6.93 | @ 8.00 | @ 3.00 | @ 4.07 |

| FL | CP |
|---|---|
| 35.85 | 36.72 |
| -4.66 | -4.23 |
| -4.00:1 | 2.00:1 |
| F 0.46 | C 0.43 |
| @ 1.85 | @ 0.86 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 287+00.00**

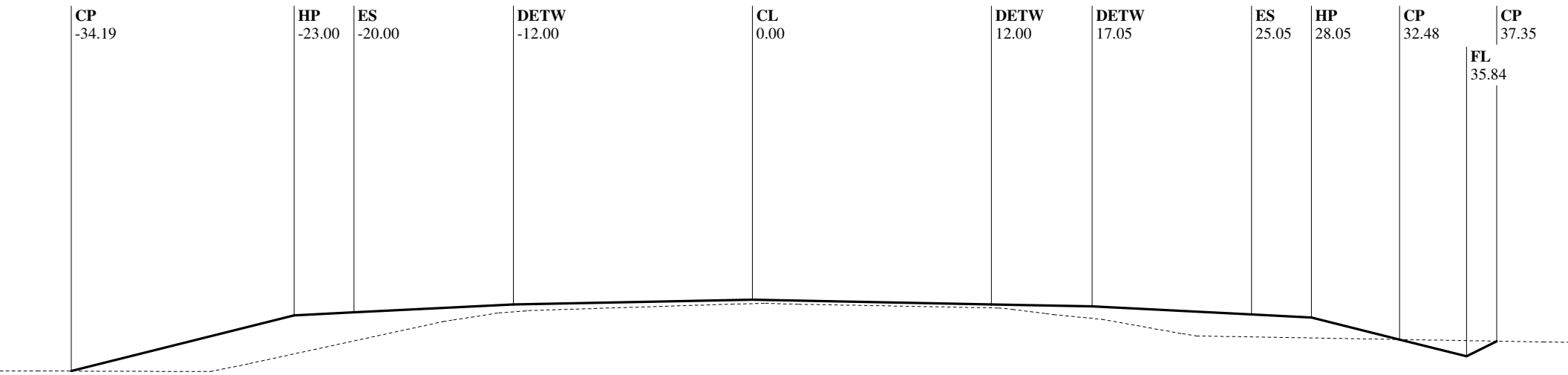
| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.14 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 17.99 | 25.99 | 28.99 | 33.29 |
| -5.84 | -3.06 | -2.91 | -2.51 | -2.27 | -2.51 | -2.63 | -3.03 | -3.18 | -4.25 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.79 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.12 | F 0.40 | F 0.15 | F 1.07 |
| @ 11.14 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 5.99 | @ 8.00 | @ 3.00 | @ 4.30 |

| FL | CP |
|---|---|
| 35.85 | 37.02 |
| -4.89 | -4.30 |
| -4.00:1 | 2.00:1 |
| F 0.64 | C 0.59 |
| @ 2.56 | @ 1.17 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 287+50.00**

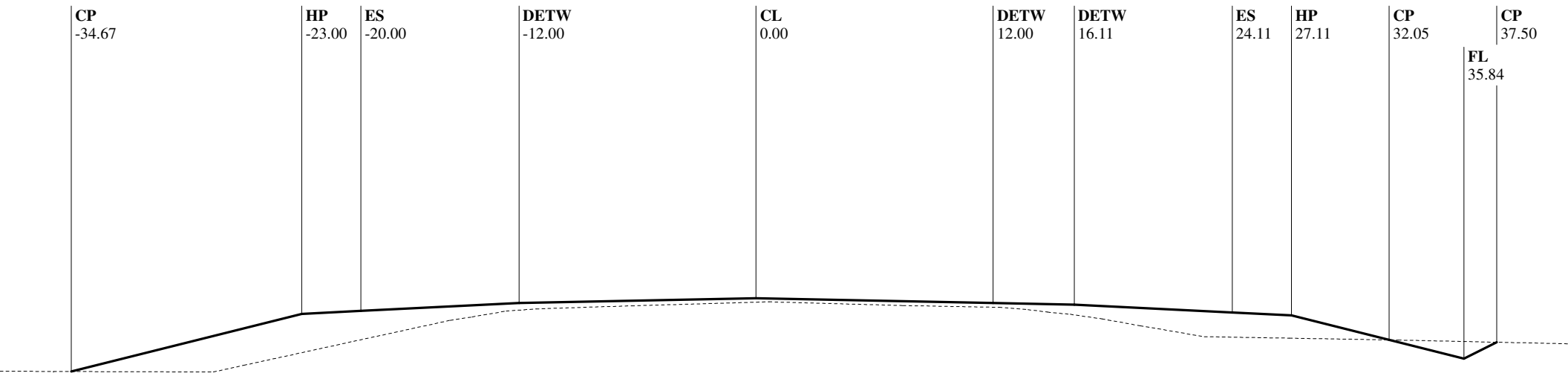
| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.19 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 17.05 | 25.05 | 28.05 | 32.48 |
| -5.90 | -3.10 | -2.95 | -2.55 | -2.31 | -2.55 | -2.65 | -3.05 | -3.20 | -4.31 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.80 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.10 | F 0.40 | F 0.15 | F 1.11 |
| @ 11.19 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 5.05 | @ 8.00 | @ 3.00 | @ 4.43 |

| FL | CP |
|---|---|
| 35.84 | 37.35 |
| -5.15 | -4.39 |
| -4.00:1 | 2.00:1 |
| F 0.84 | C 0.76 |
| @ 3.36 | @ 1.51 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 288+00.00**

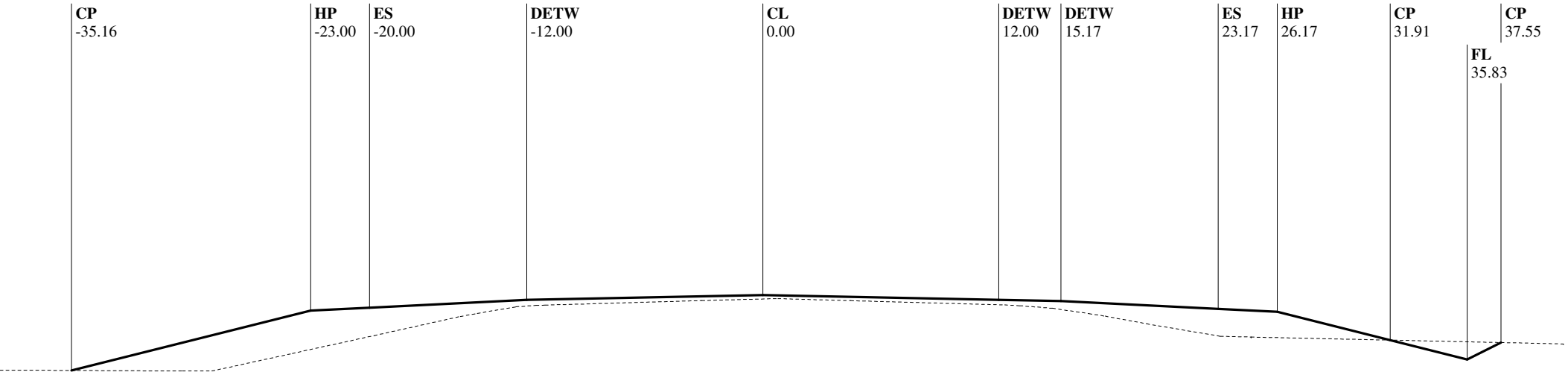
| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.67 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 16.11 | 24.11 | 27.11 | 32.05 |
| -5.96 | -3.04 | -2.89 | -2.49 | -2.25 | -2.49 | -2.58 | -2.98 | -3.13 | -4.36 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.92 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.08 | F 0.40 | F 0.15 | F 1.23 |
| @ 11.67 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 4.11 | @ 8.00 | @ 3.00 | @ 4.94 |

| FL | CP |
|---|---|
| 35.84 | 37.50 |
| -5.31 | -4.48 |
| -4.00:1 | 2.00:1 |
| F 0.95 | C 0.83 |
| @ 3.79 | @ 1.66 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 288+50.00**

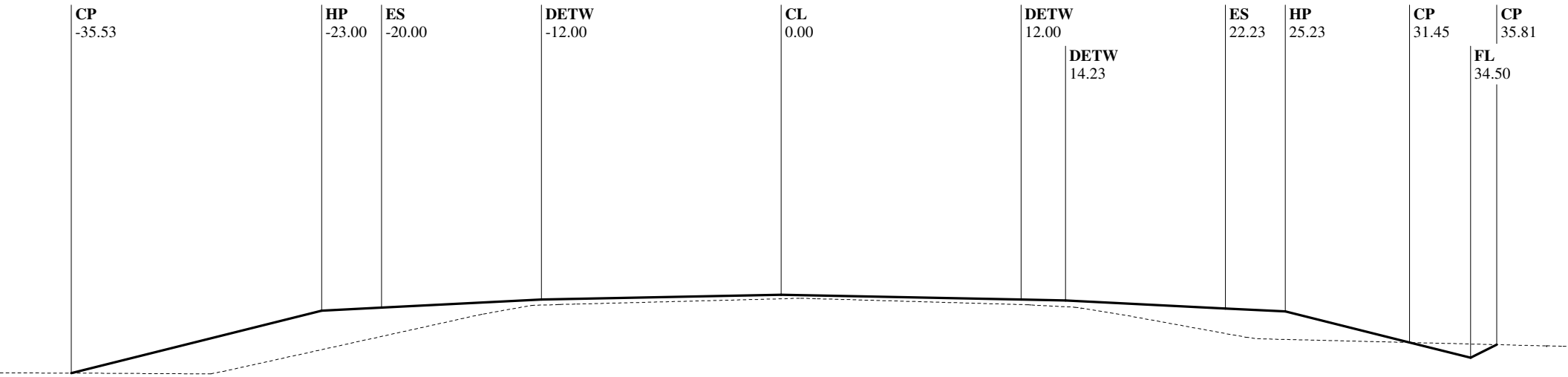
| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -35.16 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 15.17 | 23.17 | 26.17 | 31.91 |
| -6.01 | -2.96 | -2.81 | -2.41 | -2.17 | -2.41 | -2.48 | -2.88 | -3.03 | -4.46 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.04 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.06 | F 0.40 | F 0.15 | F 1.44 |
| @ 12.16 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 3.17 | @ 8.00 | @ 3.00 | @ 5.74 |

| FL | CP |
|---|---|
| 35.83 | 37.55 |
| -5.44 | -4.59 |
| -4.00:1 | 2.00:1 |
| F 0.98 | C 0.86 |
| @ 3.92 | @ 1.71 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 289+00.00**

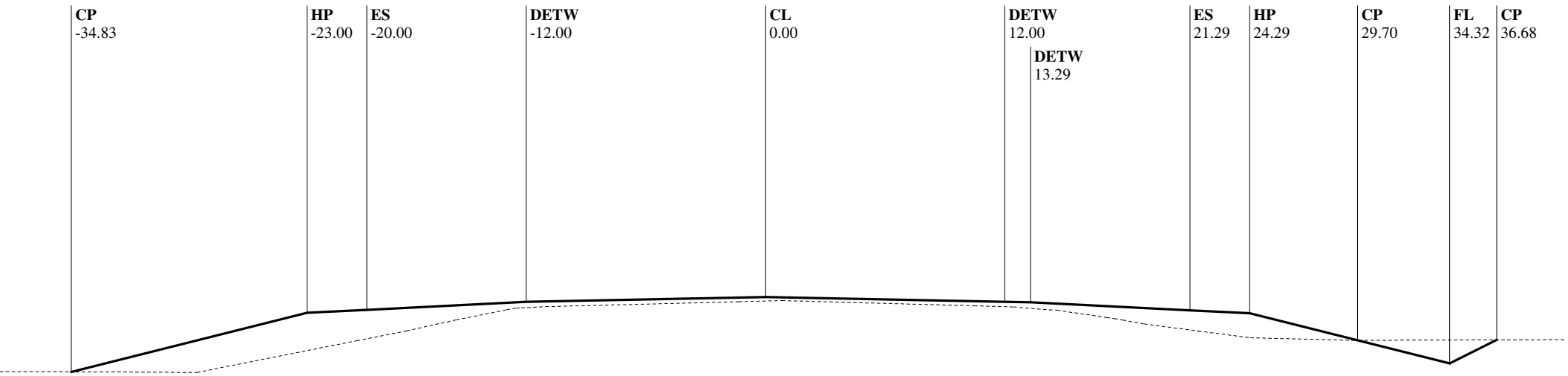
| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -35.53 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 14.23 | 22.23 | 25.23 | 31.45 |
| -6.04 | -2.91 | -2.76 | -2.36 | -2.12 | -2.36 | -2.41 | -2.81 | -2.96 | -4.51 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.13 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.04 | F 0.40 | F 0.15 | F 1.55 |
| @ 12.53 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 2.23 | @ 8.00 | @ 3.00 | @ 6.22 |

| FL | CP |
|---|---|
| 34.50 | 35.81 |
| -5.27 | -4.62 |
| -4.00:1 | 2.00:1 |
| F 0.76 | C 0.66 |
| @ 3.05 | @ 1.31 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 289+50.00**

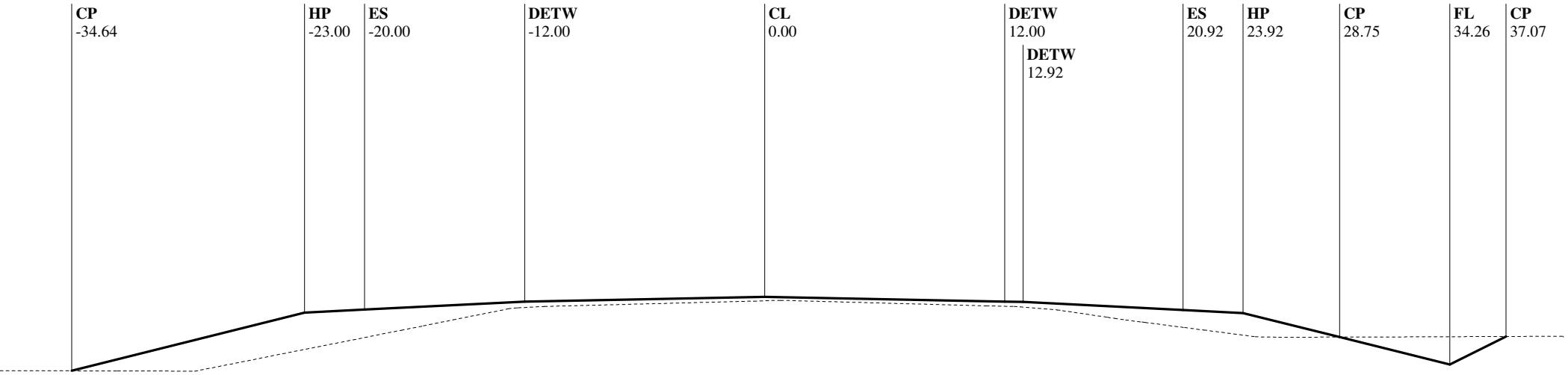
| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.83 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 13.29 | 21.29 | 24.29 | 29.70 |
| -5.93 | -2.97 | -2.82 | -2.42 | -2.18 | -2.42 | -2.45 | -2.85 | -3.00 | -4.35 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.96 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.03 | F 0.40 | F 0.15 | F 1.35 |
| @ 11.83 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 1.29 | @ 8.00 | @ 3.00 | @ 5.41 |

| FL | CP |
|---|---|
| 34.32 | 36.68 |
| -5.51 | -4.33 |
| -4.00:1 | 2.00:1 |
| F 1.15 | C 1.18 |
| @ 4.62 | @ 2.36 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



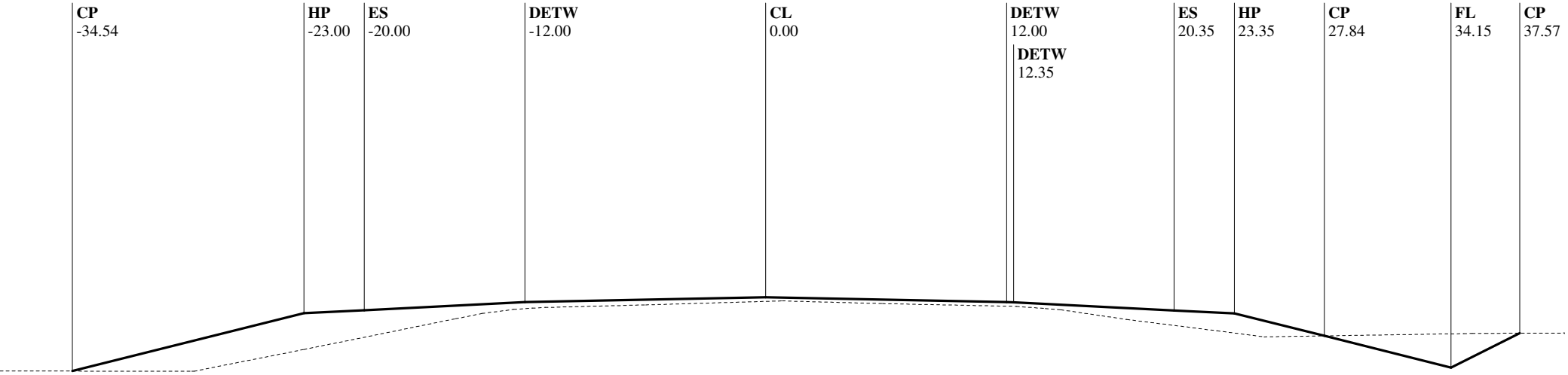

**Alignment Chain CENTER1**
**Station: 289+69.56**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.64 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 12.92 | 20.92 | 23.92 | 28.75 |
| -5.89 | -2.98 | -2.83 | -2.43 | -2.19 | -2.43 | -2.45 | -2.85 | -3.00 | -4.21 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.91 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.02 | F 0.40 | F 0.15 | F 1.21 |
| @ 11.64 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 0.92 | @ 8.00 | @ 3.00 | @ 4.82 |

| FL | CP |
|---|---|
| 34.26 | 37.07 |
| -5.58 | -4.18 |
| -4.00:1 | 2.00:1 |
| F 1.38 | C 1.41 |
| @ 5.51 | @ 2.81 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 290+00.00**

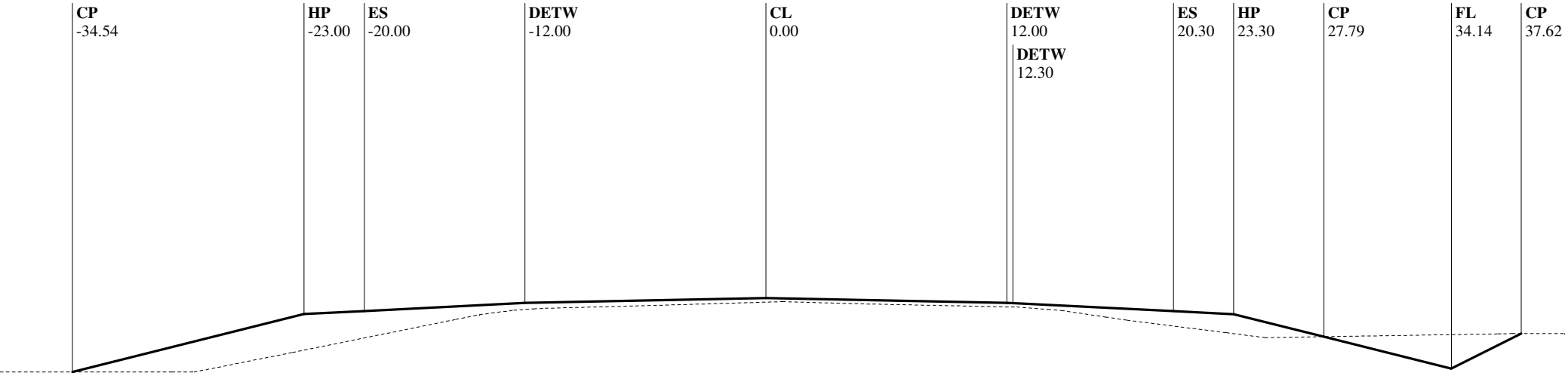
| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.54 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 12.35 | 20.35 | 23.35 | 27.84 |
| -5.83 | -2.95 | -2.80 | -2.40 | -2.16 | -2.40 | -2.41 | -2.81 | -2.96 | -4.08 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.89 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.01 | F 0.40 | F 0.15 | F 1.12 |
| @ 11.54 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 0.35 | @ 8.00 | @ 3.00 | @ 4.49 |

| FL | CP |
|---|---|
| 34.15 | 37.57 |
| -5.66 | -3.94 |
| -4.00:1 | 2.00:1 |
| F 1.58 | C 1.71 |
| @ 6.31 | @ 3.42 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



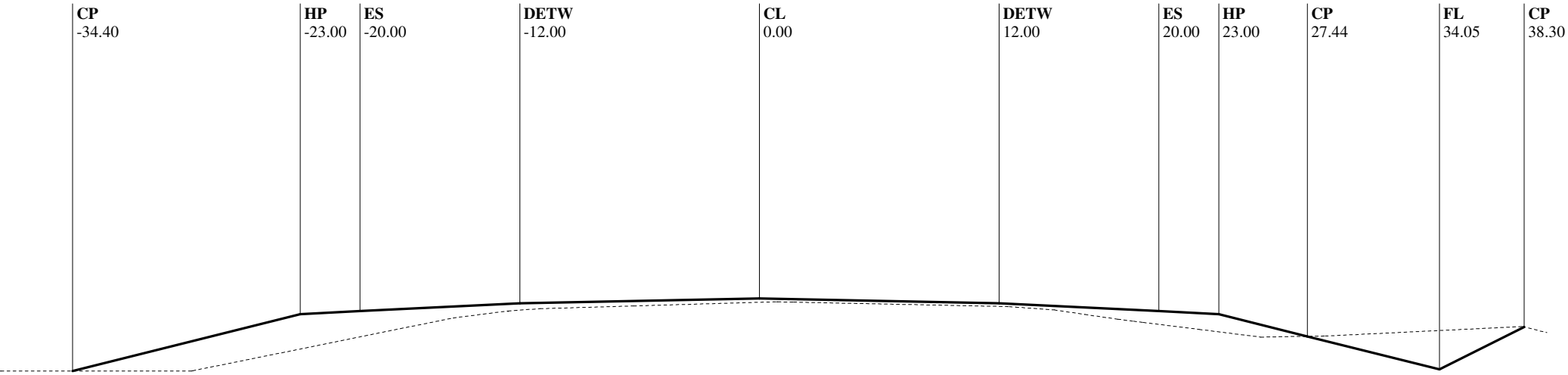

**Alignment Chain CENTER1**
**Station: 290+02.90**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.54 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 12.30 | 20.30 | 23.30 | 27.79 |
| -5.83 | -2.95 | -2.80 | -2.40 | -2.16 | -2.40 | -2.40 | -2.80 | -2.95 | -4.07 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.88 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.01 | F 0.40 | F 0.15 | F 1.12 |
| @ 11.54 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 0.30 | @ 8.00 | @ 3.00 | @ 4.49 |

| FL | CP |
|---|---|
| 34.14 | 37.62 |
| -5.66 | -3.92 |
| -4.00:1 | 2.00:1 |
| F 1.59 | C 1.74 |
| @ 6.35 | @ 3.48 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



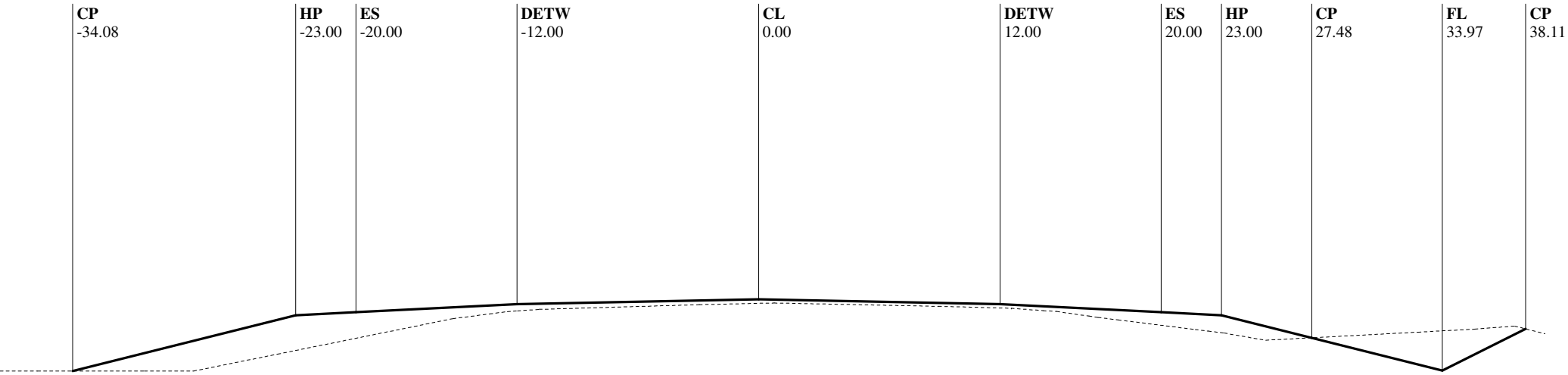

**Alignment Chain CENTER1**
**Station: 290+28.30**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -34.40 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.44 | 34.05 |
| -5.78 | -2.93 | -2.78 | -2.38 | -2.14 | -2.38 | -2.78 | -2.93 | -4.03 | -5.69 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.85 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.11 | F 1.65 |
| @ 11.40 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.44 | @ 6.61 |

| CP |
|---|
| 38.30 |
| -3.56 |
| 2.00:1 |
| C 2.12 |
| @ 4.25 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 290+50.00**

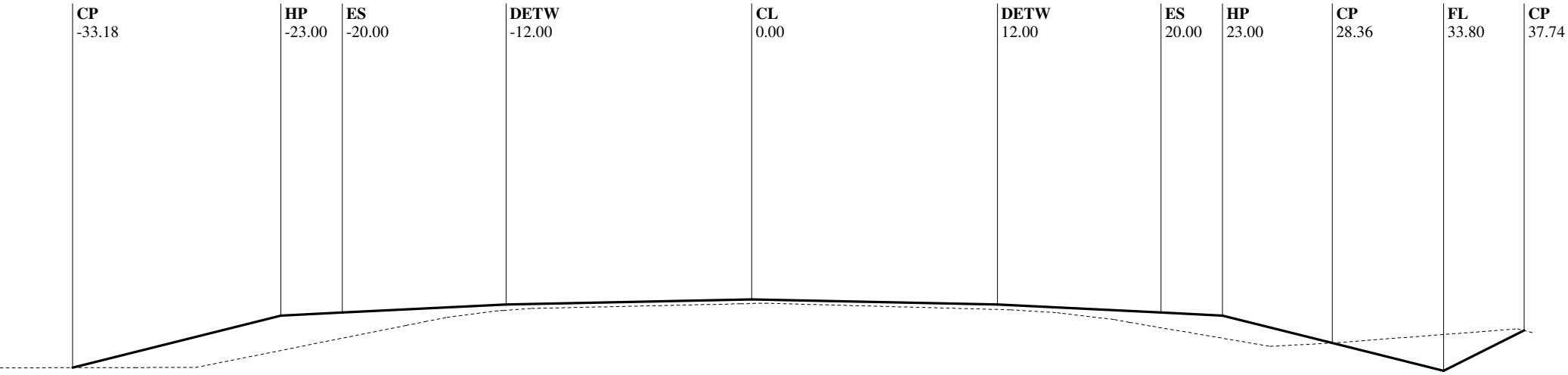
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -34.08 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.48 | 33.97 |
| -5.68 | -2.91 | -2.76 | -2.36 | -2.12 | -2.36 | -2.76 | -2.91 | -4.03 | -5.65 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.77 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.12 | F 1.62 |
| @ 11.08 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.48 | @ 6.50 |

| CP |
|---|
| 38.11 |
| -3.59 |
| 2.00:1 |
| C 2.07 |
| @ 4.14 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 291+00.00**

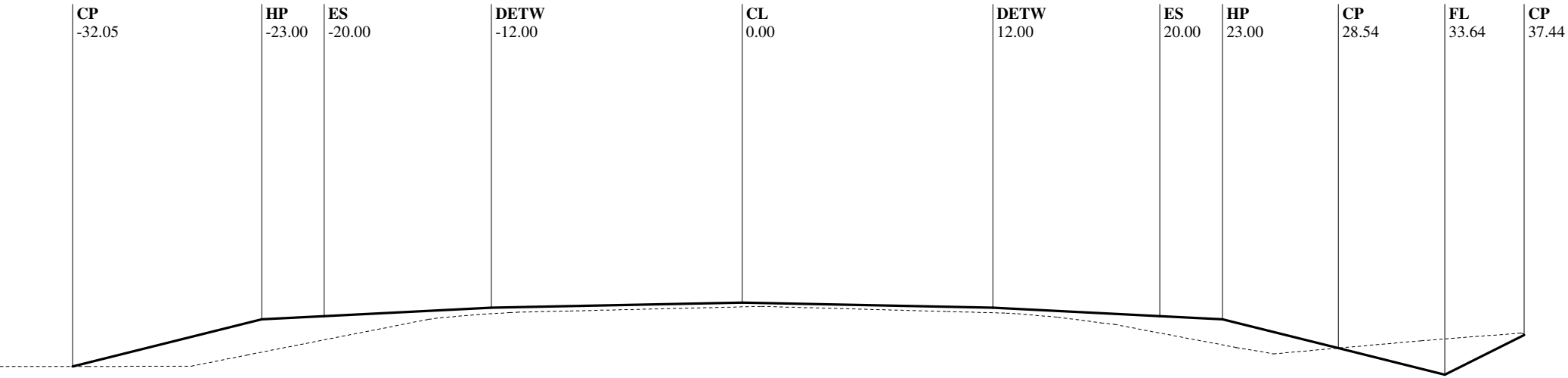
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -33.18 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.36 | 33.80 |
| -5.46 | -2.92 | -2.77 | -2.37 | -2.13 | -2.37 | -2.77 | -2.92 | -4.26 | -5.62 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.54 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.34 | F 1.36 |
| @ 10.18 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.36 | @ 5.44 |

| CP |
|---|
| 37.74 |
| -3.65 |
| 2.00:1 |
| C 1.97 |
| @ 3.94 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



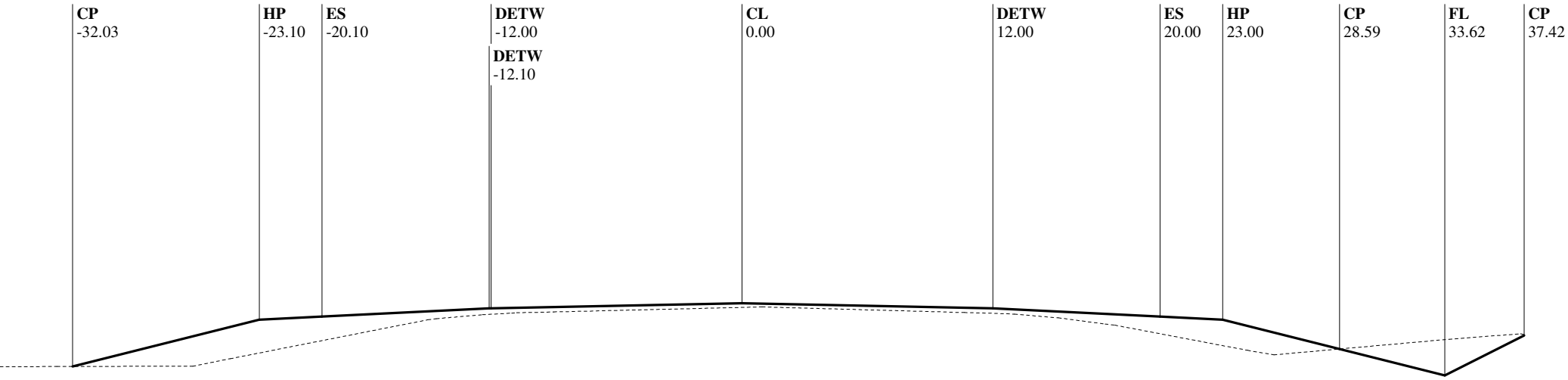

**Alignment Chain CENTER1**
**Station: 291+45.39**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -32.05 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.54 | 33.64 |
| -5.27 | -3.00 | -2.85 | -2.45 | -2.21 | -2.45 | -2.85 | -3.00 | -4.39 | -5.66 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.26 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.38 | F 1.27 |
| @ 9.05 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.54 | @ 5.10 |

| CP |
|---|
| 37.44 |
| -3.76 |
| 2.00:1 |
| C 1.90 |
| @ 3.80 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 291+50.00**

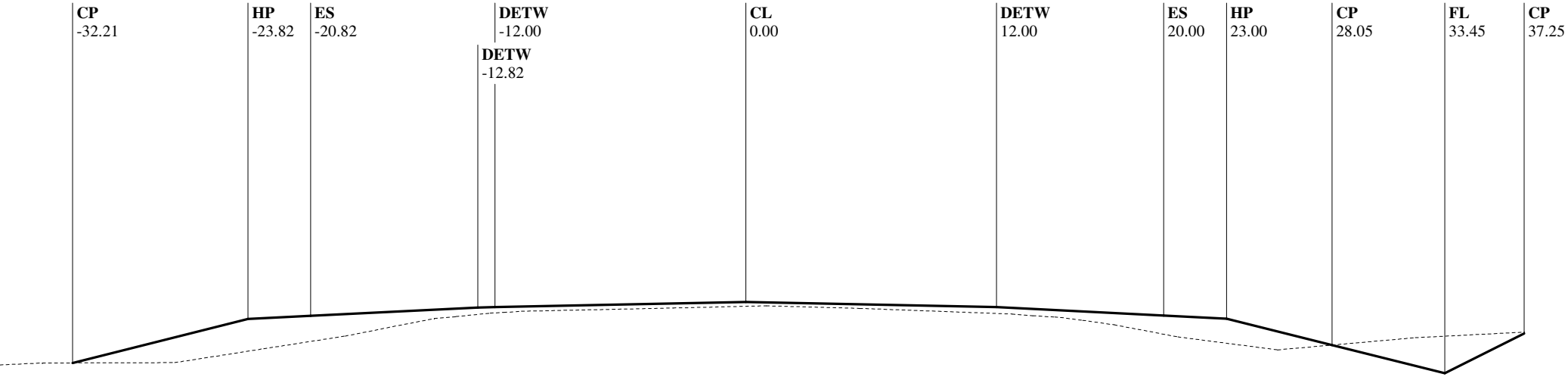
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.03 | -23.10 | -20.10 | -12.10 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.59 | 33.62 |
| -5.25 | -3.02 | -2.87 | -2.47 | -2.46 | -2.22 | -2.46 | -2.86 | -3.01 | -4.41 | -5.67 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.23 | F 0.15 | F 0.40 | F 0.00 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.40 | F 1.26 |
| @ 8.93 | @ 3.00 | @ 8.00 | @ 0.10 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.59 | @ 5.03 |

| CP |
|---|
| 37.42 |
| -3.77 |
| 2.00:1 |
| C 1.90 |
| @ 3.80 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



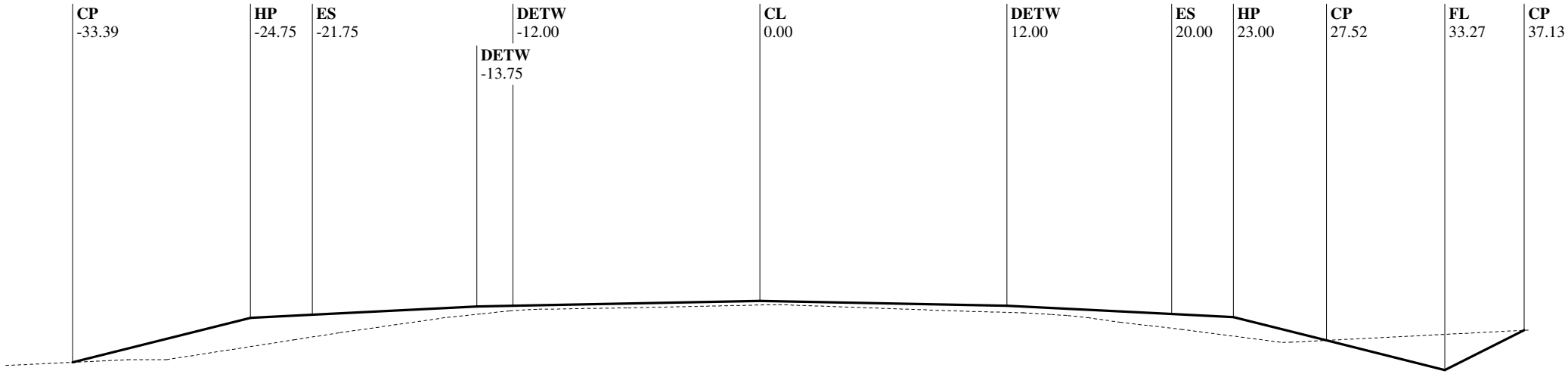

**Alignment Chain CENTER1**
**Station: 292+00.00**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -32.21 | -23.82 | -20.82 | -12.82 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.05 | 33.45 |
| -5.14 | -3.04 | -2.89 | -2.49 | -2.47 | -2.23 | -2.47 | -2.87 | -3.02 | -4.28 | -5.63 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.10 | F 0.15 | F 0.40 | F 0.02 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.26 | F 1.35 |
| @ 8.39 | @ 3.00 | @ 8.00 | @ 0.82 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.05 | @ 5.39 |

| CP |
|---|
| 37.25 |
| -3.73 |
| 2.00:1 |
| C 1.90 |
| @ 3.80 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



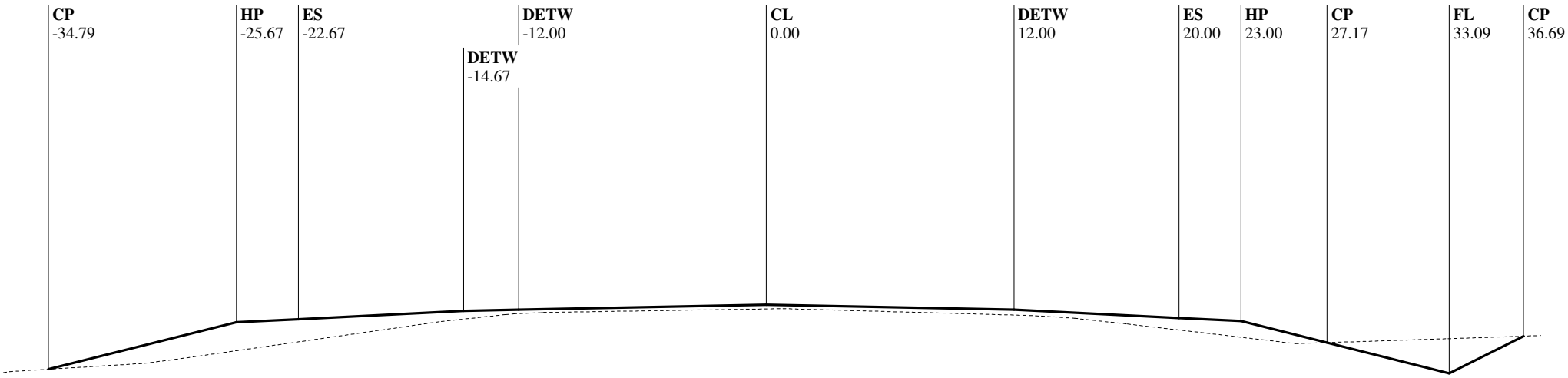

**Alignment Chain CENTER1**
**Station: 292+50.00**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.39 | -24.75 | -21.75 | -13.75 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.52 | 33.27 |
| -5.17 | -3.01 | -2.86 | -2.46 | -2.42 | -2.18 | -2.42 | -2.82 | -2.97 | -4.10 | -5.54 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.16 | F 0.15 | F 0.40 | F 0.03 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.13 | F 1.44 |
| @ 8.65 | @ 3.00 | @ 8.00 | @ 1.75 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.52 | @ 5.75 |

| CP |
|---|
| 37.13 |
| -3.61 |
| 2.00:1 |
| C 1.93 |
| @ 3.86 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



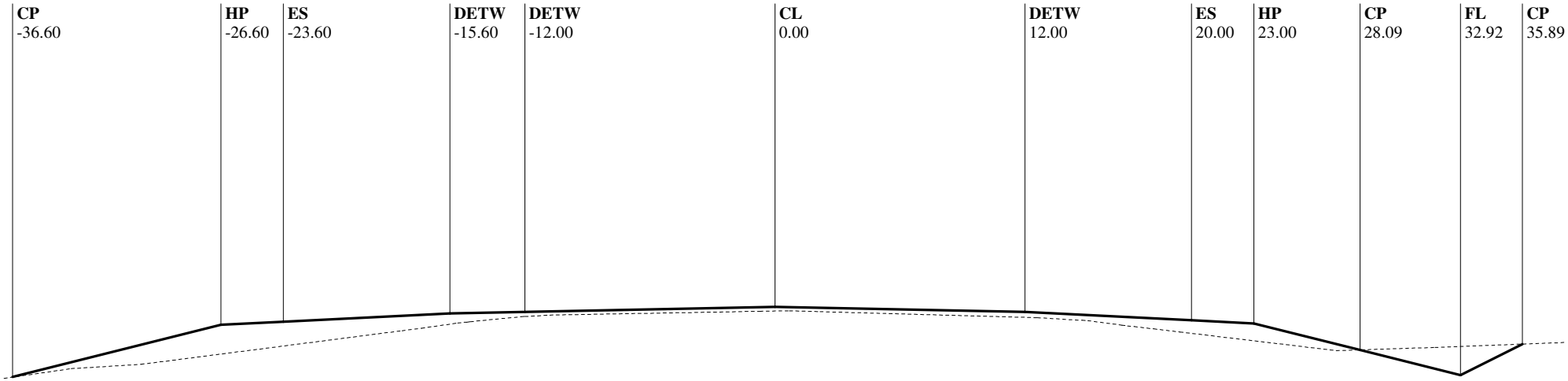

**Alignment Chain CENTER1**
**Station: 293+00.00**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.79 | -25.67 | -22.67 | -14.67 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.17 | 33.09 |
| -5.22 | -2.94 | -2.79 | -2.39 | -2.34 | -2.10 | -2.34 | -2.74 | -2.89 | -3.93 | -5.41 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.28 | F 0.15 | F 0.40 | F 0.05 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.04 | F 1.48 |
| @ 9.11 | @ 3.00 | @ 8.00 | @ 2.67 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.17 | @ 5.93 |

| CP |
|---|
| 36.69 |
| -3.62 |
| 2.00:1 |
| C 1.80 |
| @ 3.59 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 293+50.00**

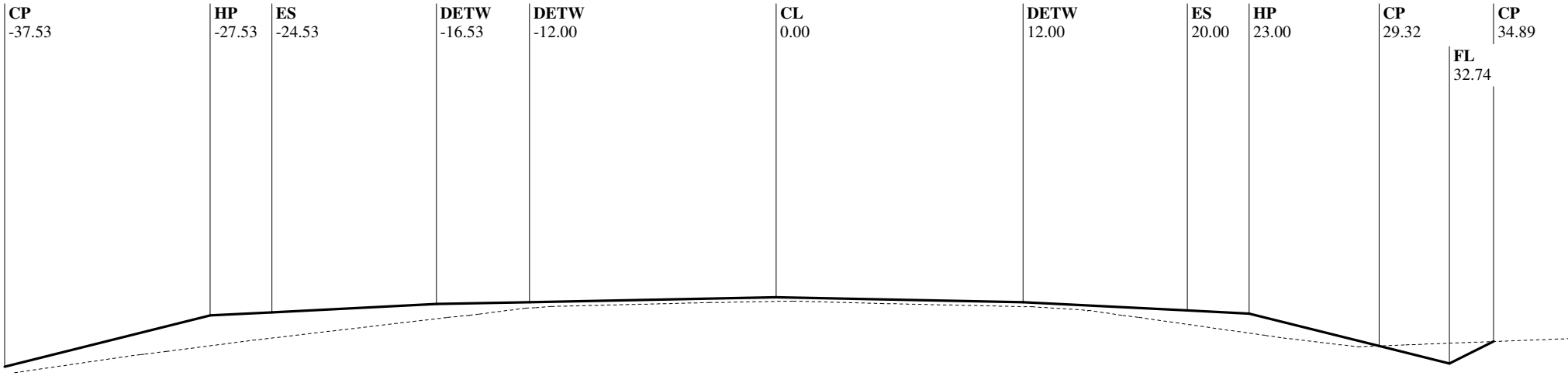
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -36.60 | -26.60 | -23.60 | -15.60 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.09 | 32.92 |
| -5.31 | -2.81 | -2.66 | -2.26 | -2.19 | -1.95 | -2.19 | -2.59 | -2.74 | -4.01 | -5.22 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.50 | F 0.15 | F 0.40 | F 0.07 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.27 | F 1.21 |
| @ 10.00 | @ 3.00 | @ 8.00 | @ 3.60 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.09 | @ 4.83 |

| CP |
|---|
| 35.89 |
| -3.74 |
| 2.00:1 |
| C 1.48 |
| @ 2.97 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 294+00.00**

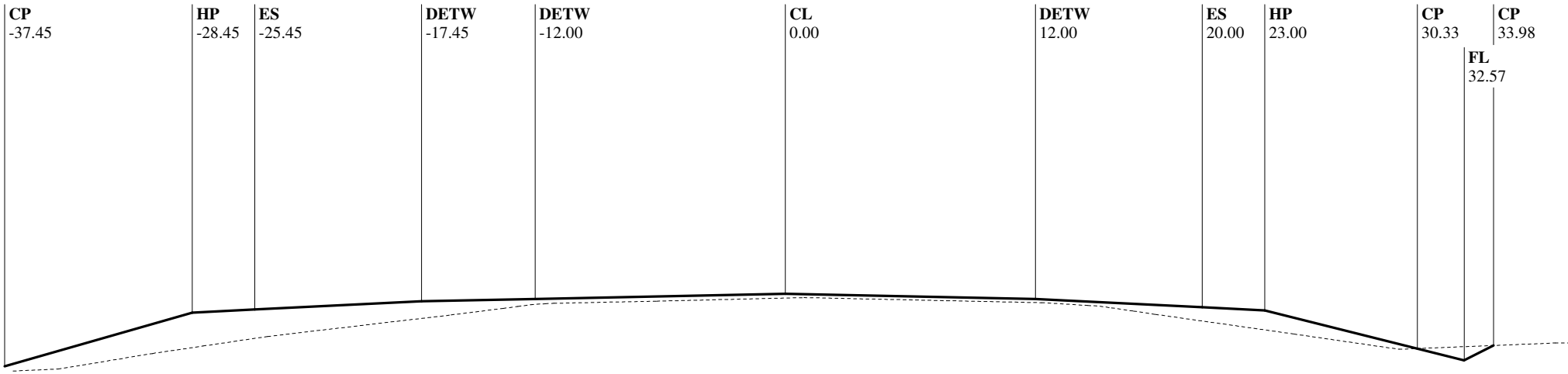
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -37.53 | -27.53 | -24.53 | -16.53 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.32 | 32.74 |
| -5.09 | -2.59 | -2.44 | -2.04 | -1.95 | -1.71 | -1.95 | -2.35 | -2.50 | -4.08 | -4.93 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.50 | F 0.15 | F 0.40 | F 0.09 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.58 | F 0.86 |
| @ 10.00 | @ 3.00 | @ 8.00 | @ 4.53 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.32 | @ 3.43 |

| CP |
|---|
| 34.89 |
| -3.86 |
| 2.00:1 |
| C 1.07 |
| @ 2.14 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 294+50.00**

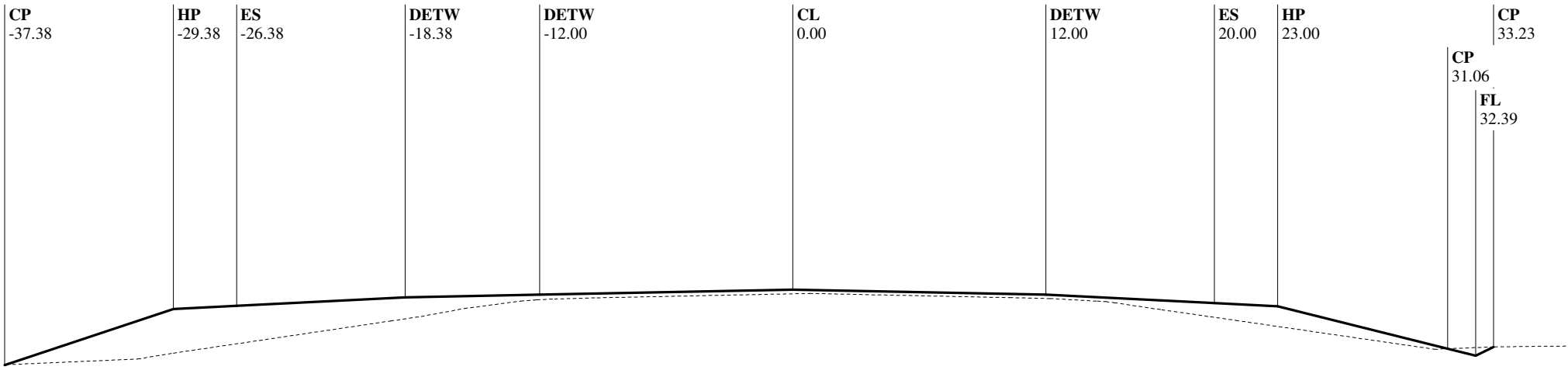
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -37.45 | -28.45 | -25.45 | -17.45 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.33 | 32.57 |
| -4.94 | -2.37 | -2.22 | -1.82 | -1.71 | -1.47 | -1.71 | -2.11 | -2.26 | -4.09 | -4.65 |
| -3.50:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.57 | F 0.15 | F 0.40 | F 0.11 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.83 | F 0.56 |
| @ 9.00 | @ 3.00 | @ 8.00 | @ 5.45 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.33 | @ 2.24 |

| CP |
|---|
| 33.98 |
| -3.95 |
| 2.00:1 |
| C 0.71 |
| @ 1.41 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 295+00.00**

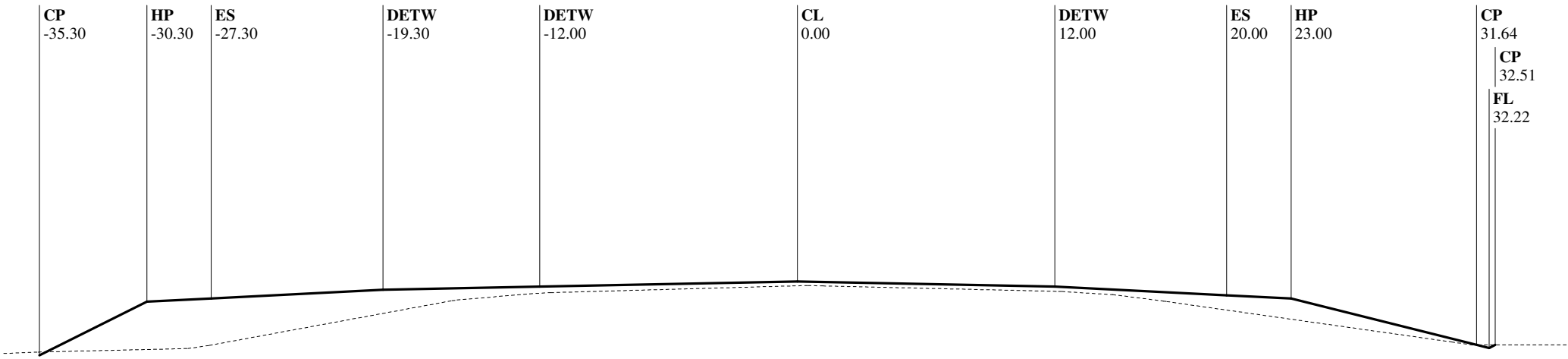
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -37.38 | -29.38 | -26.38 | -18.38 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.06 | 32.39 |
| -4.83 | -2.17 | -2.02 | -1.62 | -1.49 | -1.25 | -1.49 | -1.89 | -2.04 | -4.05 | -4.39 |
| -3.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.67 | F 0.15 | F 0.40 | F 0.13 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.01 | F 0.33 |
| @ 8.00 | @ 3.00 | @ 8.00 | @ 6.38 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.06 | @ 1.34 |

| CP |
|---|
| 33.23 |
| -3.97 |
| 2.00:1 |
| C 0.42 |
| @ 0.84 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



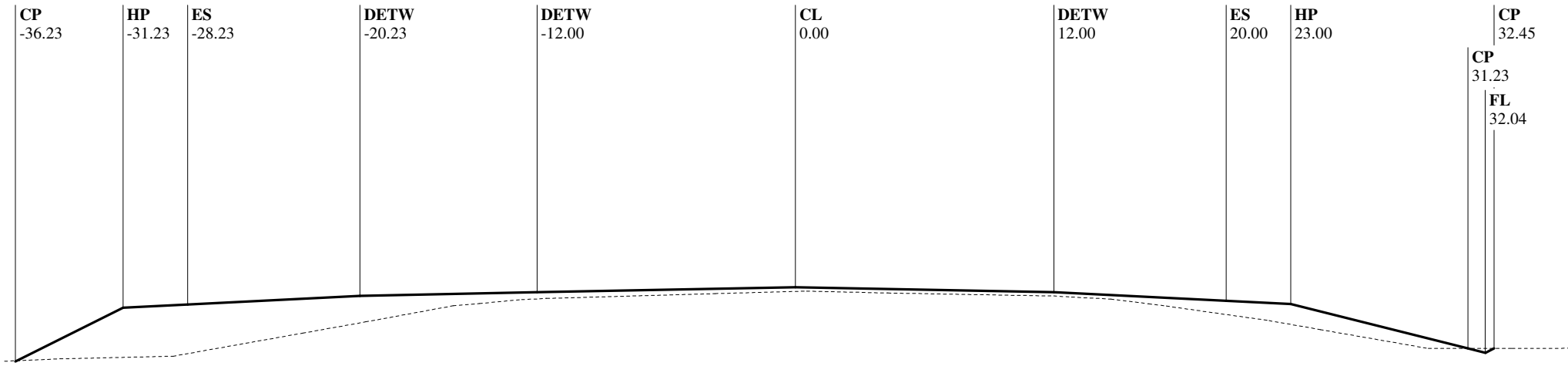

**Alignment Chain CENTER1**
**Station: 295+50.00**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -35.30 | -30.30 | -27.30 | -19.30 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.64 | 32.22 |
| -4.52 | -2.02 | -1.87 | -1.47 | -1.32 | -1.08 | -1.32 | -1.72 | -1.87 | -4.03 | -4.17 |
| -2.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.50 | F 0.15 | F 0.40 | F 0.15 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.16 | F 0.14 |
| @ 5.00 | @ 3.00 | @ 8.00 | @ 7.30 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.64 | @ 0.57 |

| CP |
|---|
| 32.51 |
| -4.03 |
| 2.00:1 |
| C 0.14 |
| @ 0.29 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 296+00.00**

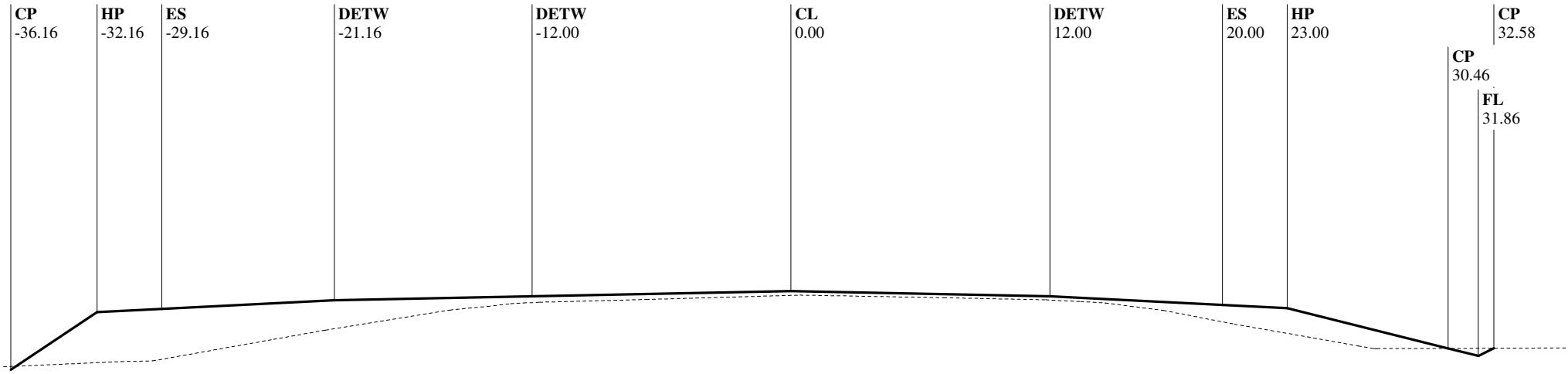
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -36.23 | -31.23 | -28.23 | -20.23 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.23 | 32.04 |
| -4.62 | -2.12 | -1.97 | -1.57 | -1.41 | -1.17 | -1.41 | -1.81 | -1.96 | -4.02 | -4.22 |
| -2.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.50 | F 0.15 | F 0.40 | F 0.16 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.06 | F 0.20 |
| @ 5.00 | @ 3.00 | @ 8.00 | @ 8.23 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.23 | @ 0.81 |

| CP |
|---|
| 32.45 |
| -4.01 |
| 2.00:1 |
| C 0.20 |
| @ 0.41 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 296+50.00**

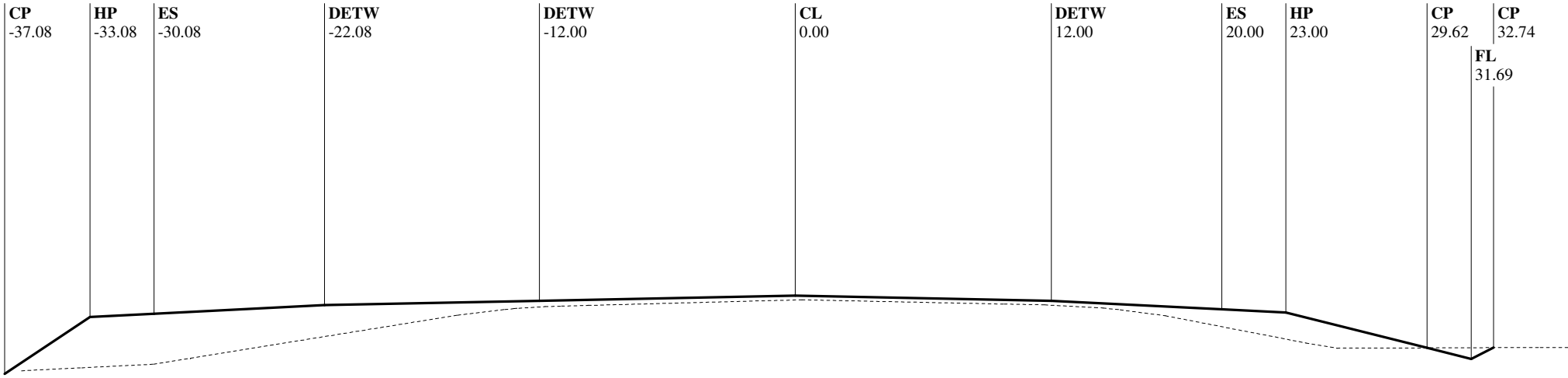
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -36.16 | -32.16 | -29.16 | -21.16 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.46 | 31.86 |
| -4.99 | -2.32 | -2.17 | -1.77 | -1.59 | -1.35 | -1.59 | -1.99 | -2.14 | -4.00 | -4.35 |
| -1.50:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.67 | F 0.15 | F 0.40 | F 0.18 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.87 | F 0.35 |
| @ 4.00 | @ 3.00 | @ 8.00 | @ 9.16 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.46 | @ 1.40 |

| CP |
|---|
| 32.58 |
| -3.99 |
| 2.00:1 |
| C 0.36 |
| @ 0.72 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



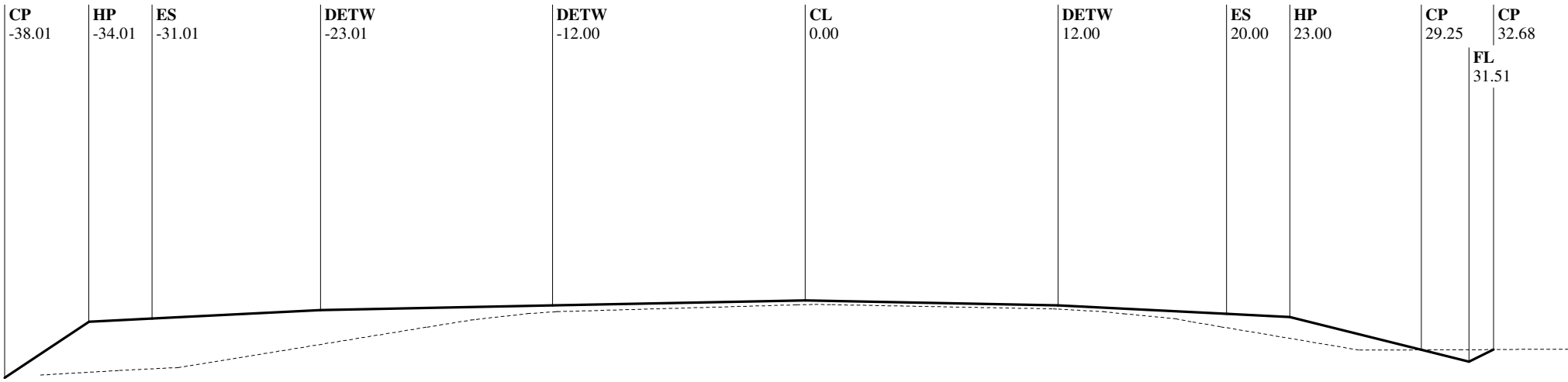

**Alignment Chain CENTER1**
**Station: 297+00.00**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -37.08 | -33.08 | -30.08 | -22.08 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.62 | 31.69 |
| -5.23 | -2.56 | -2.41 | -2.01 | -1.81 | -1.57 | -1.81 | -2.21 | -2.36 | -4.01 | -4.53 |
| -1.50:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.67 | F 0.15 | F 0.40 | F 0.20 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.66 | F 0.52 |
| @ 4.00 | @ 3.00 | @ 8.00 | @ 10.08 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.62 | @ 2.07 |

| CP |
|---|
| 32.74 |
| -4.00 |
| 2.00:1 |
| C 0.53 |
| @ 1.05 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 297+50.00**

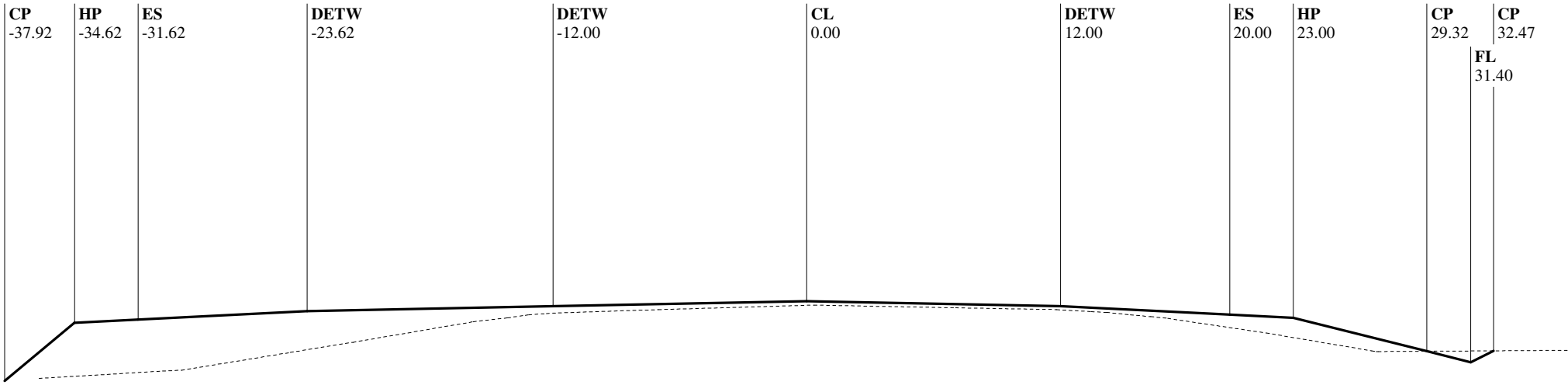
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -38.01 | -34.01 | -31.01 | -23.01 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.25 | 31.51 |
| -5.45 | -2.78 | -2.63 | -2.23 | -2.01 | -1.77 | -2.01 | -2.41 | -2.56 | -4.12 | -4.69 |
| -1.50:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.67 | F 0.15 | F 0.40 | F 0.22 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.56 | F 0.57 |
| @ 4.00 | @ 3.00 | @ 8.00 | @ 11.01 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.25 | @ 2.26 |

| CP |
|---|
| 32.68 |
| -4.11 |
| 2.00:1 |
| C 0.58 |
| @ 1.16 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 297+83.30**

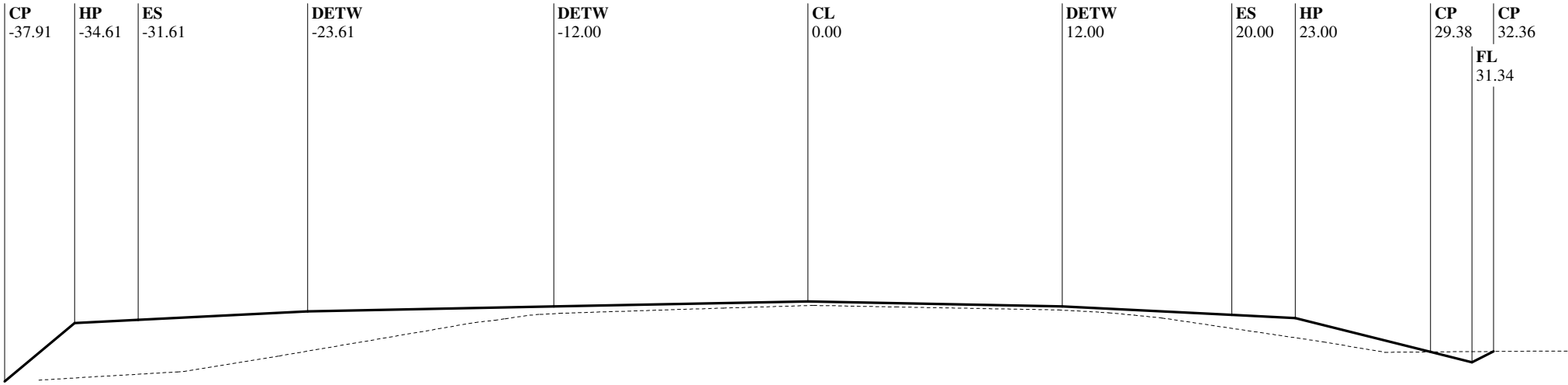
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -37.92 | -34.62 | -31.62 | -23.62 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.32 | 31.40 |
| -5.59 | -2.84 | -2.69 | -2.29 | -2.06 | -1.82 | -2.06 | -2.46 | -2.61 | -4.19 | -4.71 |
| -1.20:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.75 | F 0.15 | F 0.40 | F 0.23 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.58 | F 0.52 |
| @ 3.30 | @ 3.00 | @ 8.00 | @ 11.62 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.32 | @ 2.08 |

| CP |
|---|
| 32.47 |
| -4.17 |
| 2.00:1 |
| C 0.54 |
| @ 1.08 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 298+00.00**

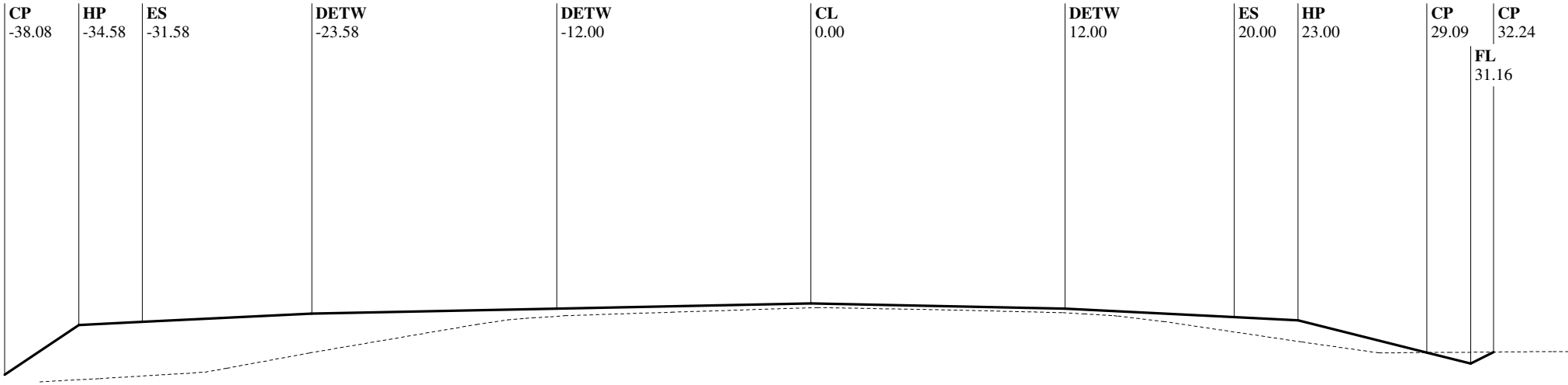
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -37.91 | -34.61 | -31.61 | -23.61 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.38 | 31.34 |
| -5.61 | -2.86 | -2.71 | -2.31 | -2.07 | -1.83 | -2.07 | -2.47 | -2.62 | -4.22 | -4.71 |
| -1.20:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.75 | F 0.15 | F 0.40 | F 0.23 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.60 | F 0.49 |
| @ 3.30 | @ 3.00 | @ 8.00 | @ 11.61 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.38 | @ 1.95 |

| CP |
|---|
| 32.36 |
| -4.20 |
| 2.00:1 |
| C 0.51 |
| @ 1.02 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



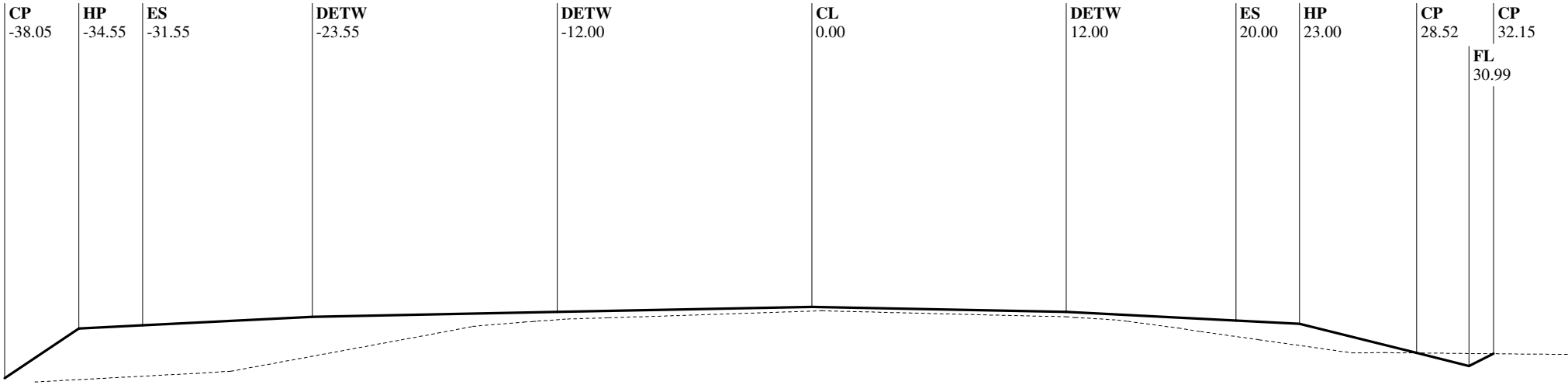

**Alignment Chain CENTER1**
**Station: 298+50.00**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -38.08 | -34.58 | -31.58 | -23.58 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.09 | 31.16 |
| -5.30 | -2.97 | -2.82 | -2.42 | -2.19 | -1.95 | -2.19 | -2.59 | -2.74 | -4.26 | -4.78 |
| -1.50:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.33 | F 0.15 | F 0.40 | F 0.23 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.52 | F 0.52 |
| @ 3.50 | @ 3.00 | @ 8.00 | @ 11.58 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.09 | @ 2.07 |

| CP |
|---|
| 32.24 |
| -4.24 |
| 2.00:1 |
| C 0.54 |
| @ 1.08 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 299+00.00**

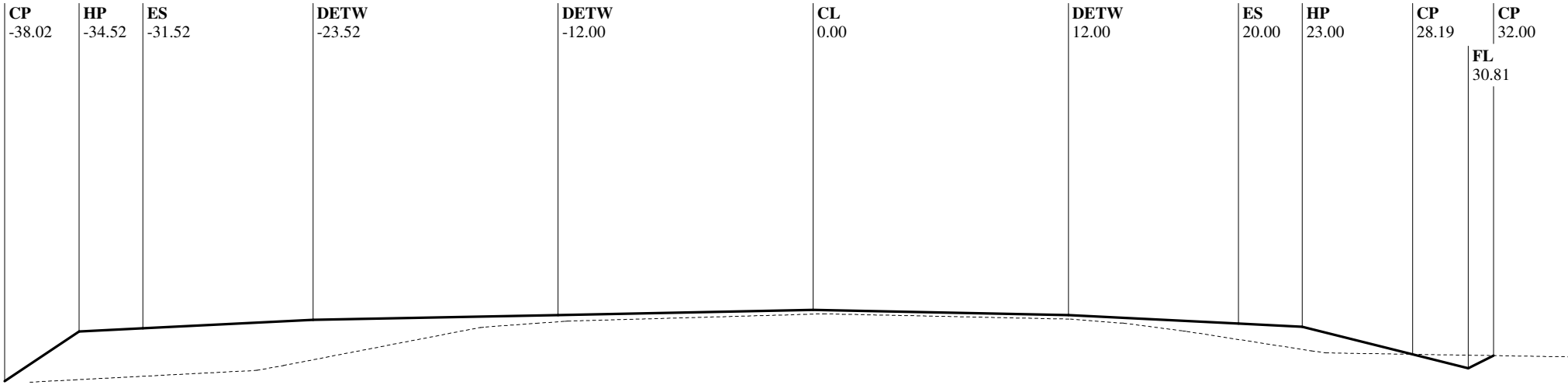
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -38.05 | -34.55 | -31.55 | -23.55 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.52 | 30.99 |
| -5.46 | -3.13 | -2.98 | -2.58 | -2.35 | -2.11 | -2.35 | -2.75 | -2.90 | -4.27 | -4.89 |
| -1.50:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.33 | F 0.15 | F 0.40 | F 0.23 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.38 | F 0.62 |
| @ 3.50 | @ 3.00 | @ 8.00 | @ 11.55 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.52 | @ 2.47 |

| CP |
|---|
| 32.15 |
| -4.31 |
| 2.00:1 |
| C 0.58 |
| @ 1.16 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 299+50.00**

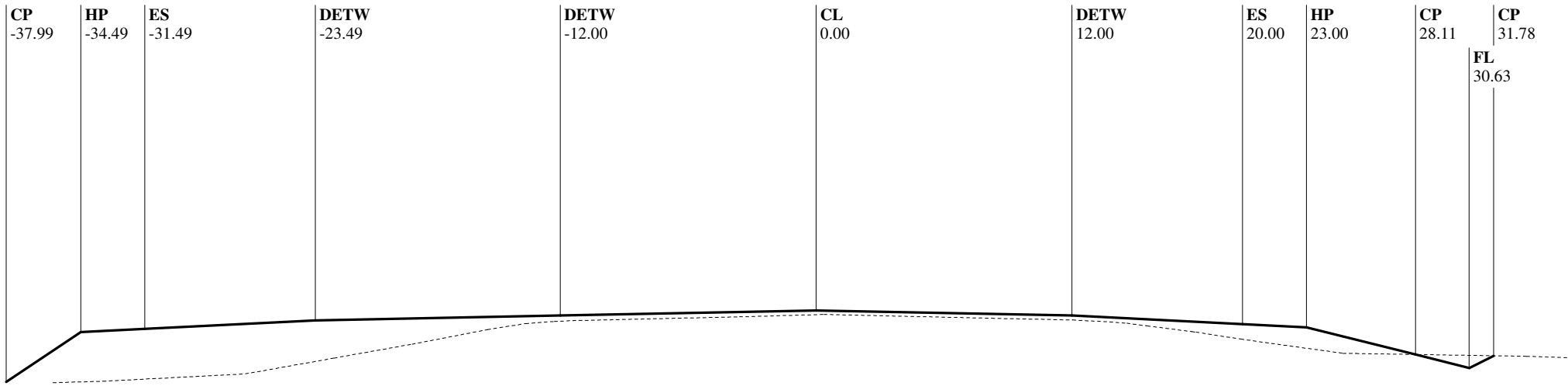
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -38.02 | -34.52 | -31.52 | -23.52 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.19 | 30.81 |
| -5.60 | -3.26 | -3.11 | -2.71 | -2.48 | -2.24 | -2.48 | -2.88 | -3.03 | -4.33 | -4.99 |
| -1.50:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.33 | F 0.15 | F 0.40 | F 0.23 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.30 | F 0.65 |
| @ 3.50 | @ 3.00 | @ 8.00 | @ 11.52 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.19 | @ 2.62 |

| CP |
|---|
| 32.00 |
| -4.39 |
| 2.00:1 |
| C 0.59 |
| @ 1.19 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



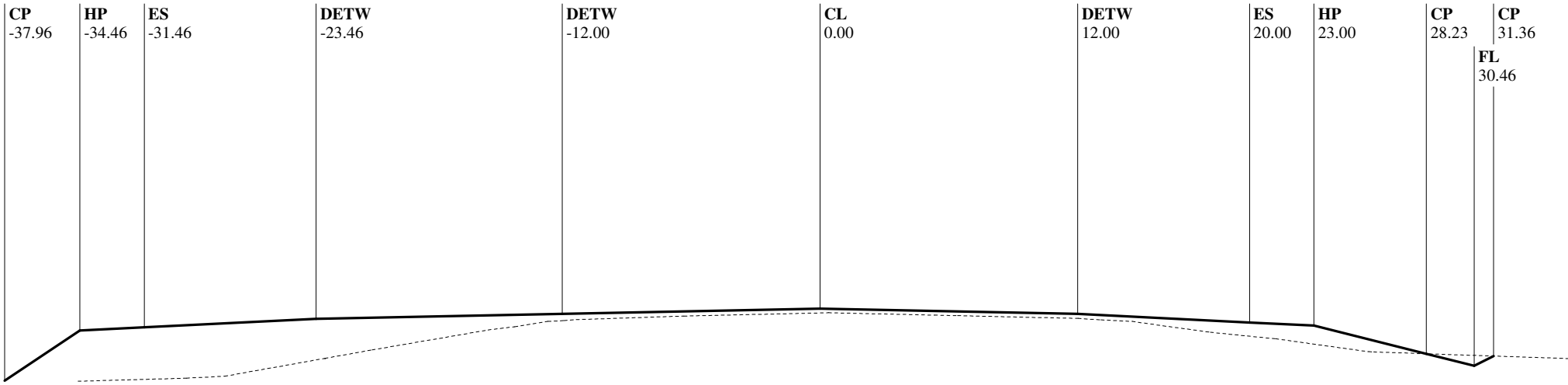

**Alignment Chain CENTER1**
**Station: 300+00.00**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -37.99 | -34.49 | -31.49 | -23.49 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.11 | 30.63 |
| -5.55 | -3.22 | -3.07 | -2.67 | -2.44 | -2.20 | -2.44 | -2.84 | -2.99 | -4.27 | -4.90 |
| -1.50:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.33 | F 0.15 | F 0.40 | F 0.23 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.28 | F 0.63 |
| @ 3.50 | @ 3.00 | @ 8.00 | @ 11.49 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.11 | @ 2.53 |

| CP |
|---|
| 31.78 |
| -4.32 |
| 2.00:1 |
| C 0.57 |
| @ 1.15 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 300+50.00**

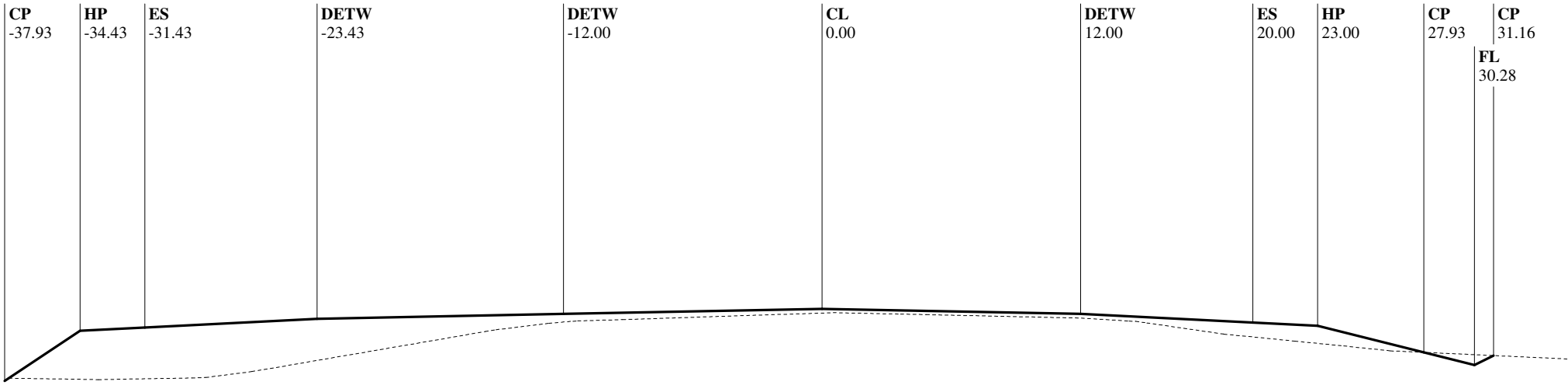
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -37.96 | -34.46 | -31.46 | -23.46 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.23 | 30.46 |
| -5.50 | -3.17 | -3.02 | -2.62 | -2.39 | -2.15 | -2.39 | -2.79 | -2.94 | -4.25 | -4.80 |
| -1.50:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.33 | F 0.15 | F 0.40 | F 0.23 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.31 | F 0.56 |
| @ 3.50 | @ 3.00 | @ 8.00 | @ 11.46 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.23 | @ 2.23 |

| CP |
|---|
| 31.36 |
| -4.35 |
| 2.00:1 |
| C 0.45 |
| @ 0.90 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 301+00.00**

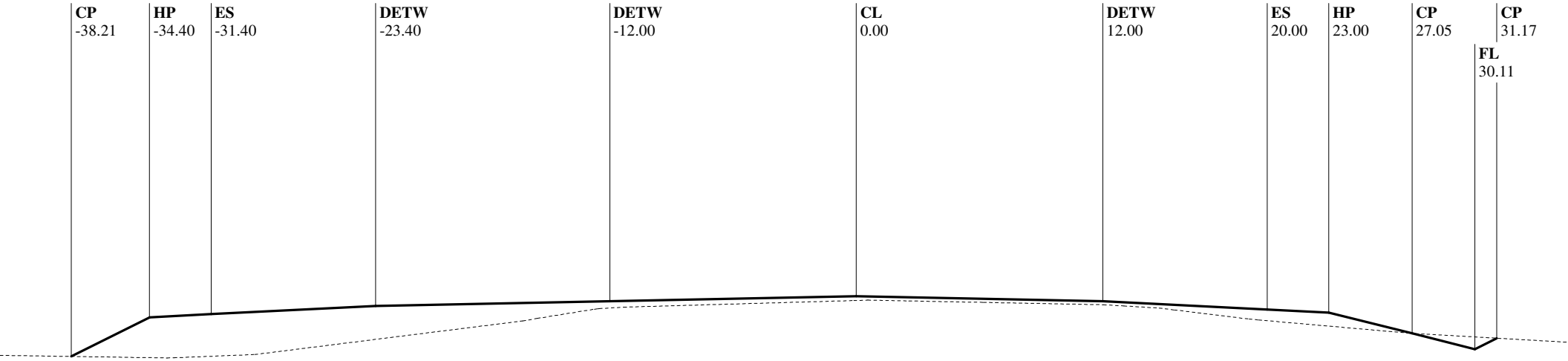
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -37.93 | -34.43 | -31.43 | -23.43 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.93 | 30.28 |
| -5.49 | -3.16 | -3.01 | -2.61 | -2.38 | -2.14 | -2.38 | -2.78 | -2.93 | -4.16 | -4.75 |
| -1.50:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.33 | F 0.15 | F 0.40 | F 0.23 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.23 | F 0.59 |
| @ 3.50 | @ 3.00 | @ 8.00 | @ 11.43 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.93 | @ 2.36 |

| CP |
|---|
| 31.16 |
| -4.31 |
| 2.00:1 |
| C 0.44 |
| @ 0.88 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 301+50.00**

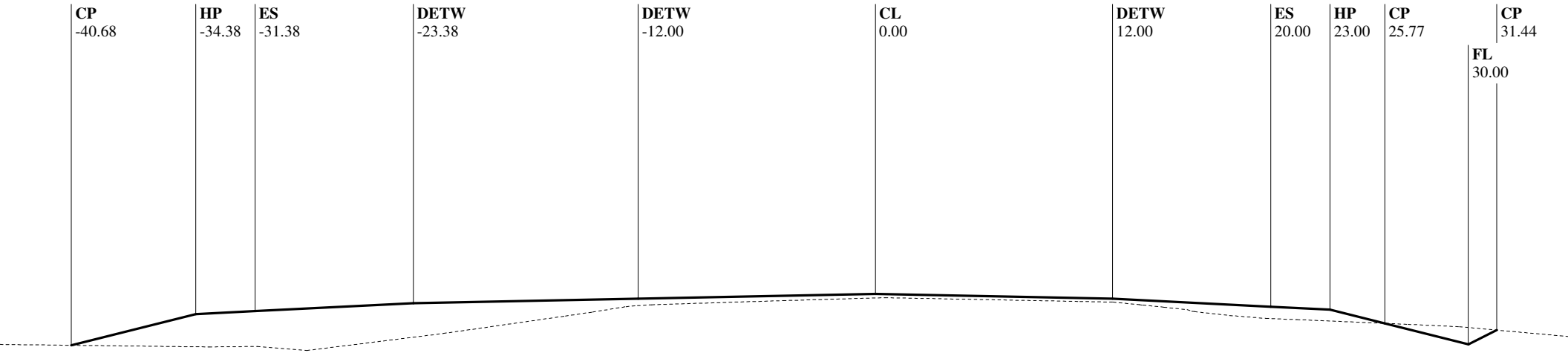
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -38.21 | -34.40 | -31.40 | -23.40 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 27.05 | 30.11 |
| -5.14 | -3.23 | -3.08 | -2.68 | -2.45 | -2.21 | -2.45 | -2.85 | -3.00 | -4.02 | -4.78 |
| -2.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.90 | F 0.15 | F 0.40 | F 0.23 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.01 | F 0.76 |
| @ 3.81 | @ 3.00 | @ 8.00 | @ 11.40 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 4.05 | @ 3.06 |

| CP |
|---|
| 31.17 |
| -4.25 |
| 2.00:1 |
| C 0.53 |
| @ 1.06 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 301+79.95**

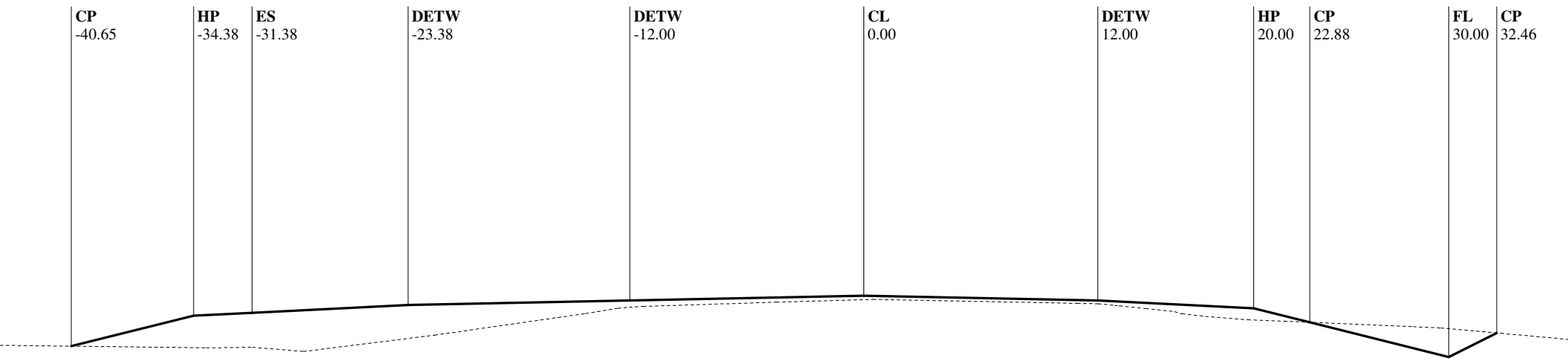
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -40.68 | -34.38 | -31.38 | -23.38 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.77 | 30.00 |
| -4.72 | -3.14 | -2.99 | -2.59 | -2.37 | -2.13 | -2.37 | -2.77 | -2.92 | -3.61 | -4.67 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.58 | F 0.15 | F 0.40 | F 0.23 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.69 | F 1.06 |
| @ 6.30 | @ 3.00 | @ 8.00 | @ 11.38 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.77 | @ 4.23 |

| CP |
|---|
| 31.44 |
| -3.95 |
| 2.00:1 |
| C 0.72 |
| @ 1.43 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



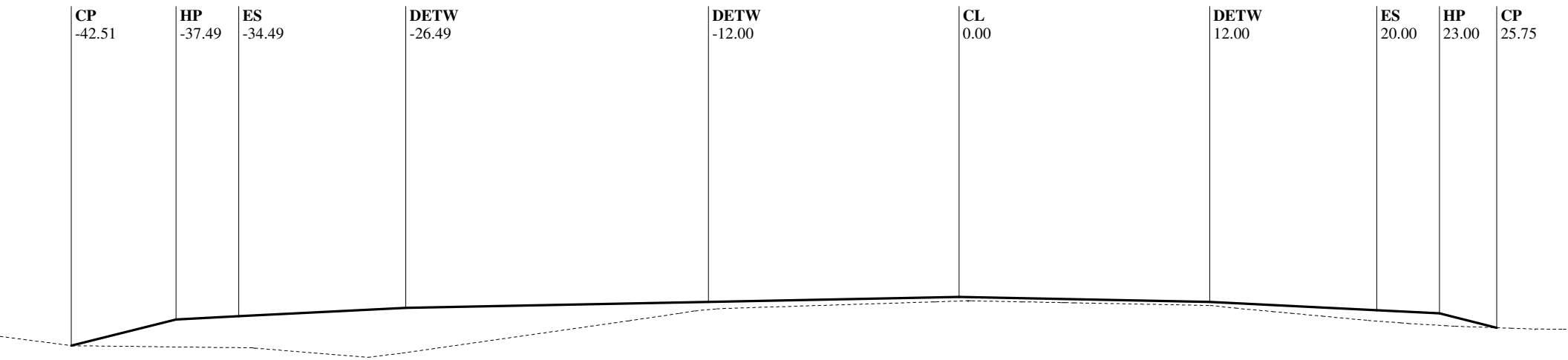

**Alignment Chain CENTER1**
**Station: 301+80.60**

| CP | HP | ES | DETW | DETW | CL | DETW | HP | CP | FL | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -40.65 | -34.38 | -31.38 | -23.38 | -12.00 | 0.00 | 12.00 | 20.00 | 22.88 | 30.00 | 32.46 |
| -4.71 | -3.14 | -2.99 | -2.59 | -2.36 | -2.12 | -2.36 | -2.76 | -3.49 | -5.26 | -4.03 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -4.00:1 | -4.00:1 | 2.00:1 |
| F 1.57 | F 0.15 | F 0.40 | F 0.23 | F 0.24 | | F 0.24 | F 0.40 | F 0.72 | F 1.78 | C 1.23 |
| @ 6.27 | @ 3.00 | @ 8.00 | @ 11.38 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 2.88 | @ 7.12 | @ 2.46 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



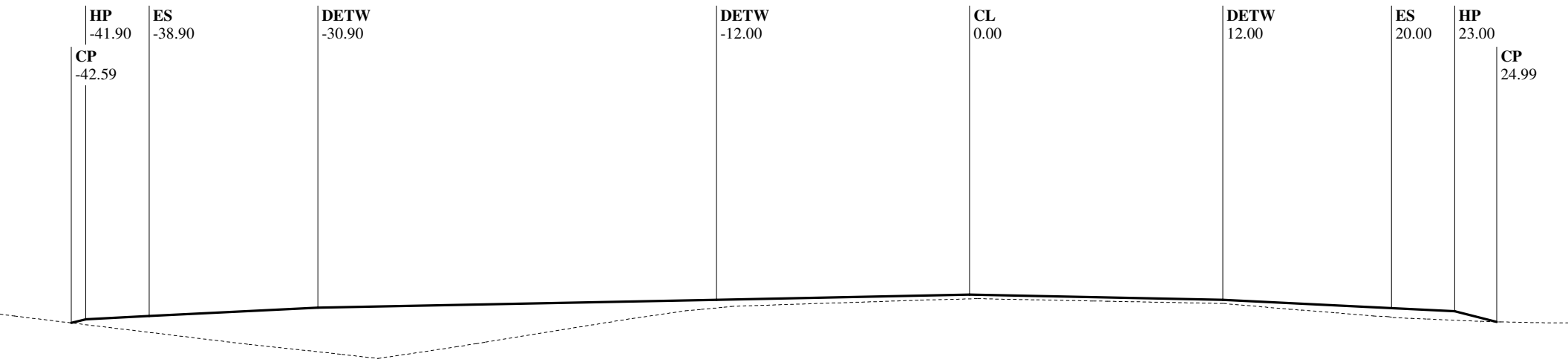

**Alignment Chain CENTER1**
**Station: 302+00.00**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -42.51 | -37.49 | -34.49 | -26.49 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.75 |
| -4.39 | -3.14 | -2.99 | -2.59 | -2.30 | -2.06 | -2.30 | -2.70 | -2.85 | -3.53 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.25 | F 0.15 | F 0.40 | F 0.29 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.69 |
| @ 5.02 | @ 3.00 | @ 8.00 | @ 14.49 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.75 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



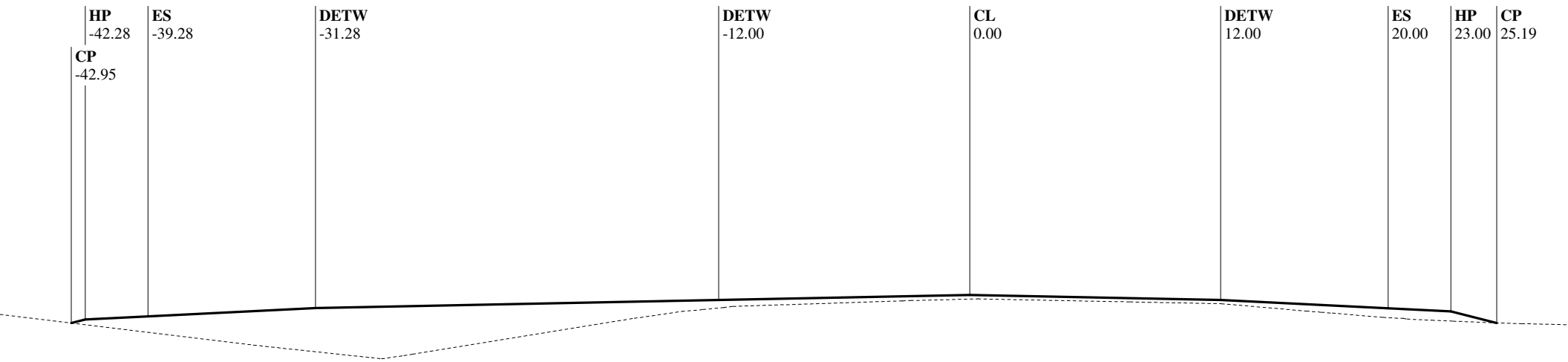

**Alignment Chain CENTER1**
**Station: 302+27.53**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -42.59 | -41.90 | -38.90 | -30.90 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 24.99 |
| -3.31 | -3.13 | -2.98 | -2.58 | -2.21 | -1.97 | -2.21 | -2.61 | -2.76 | -3.25 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.17 | F 0.15 | F 0.40 | F 0.38 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.50 |
| @ 0.69 | @ 3.00 | @ 8.00 | @ 18.90 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 1.99 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



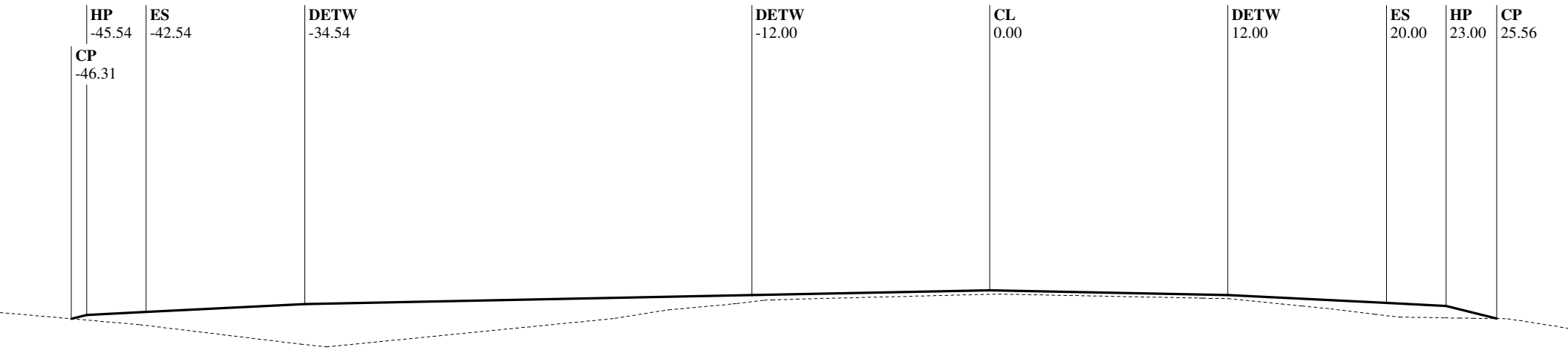

**Alignment Chain CENTER1**
**Station: 302+29.84**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -42.95 | -42.28 | -39.28 | -31.28 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.19 |
| -3.30 | -3.14 | -2.99 | -2.59 | -2.20 | -1.96 | -2.20 | -2.60 | -2.75 | -3.30 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.17 | F 0.15 | F 0.40 | F 0.39 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.55 |
| @ 0.67 | @ 3.00 | @ 8.00 | @ 19.28 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.19 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



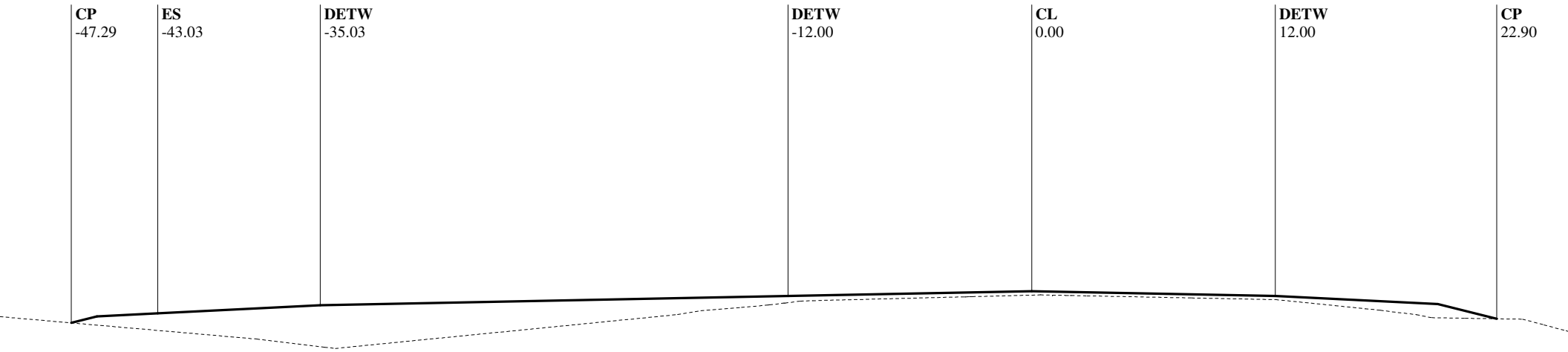

**Alignment Chain CENTER1**
**Station: 302+50.00**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -46.31 | -45.54 | -42.54 | -34.54 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.56 |
| -3.34 | -3.15 | -3.00 | -2.60 | -2.15 | -1.91 | -2.15 | -2.55 | -2.70 | -3.34 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.19 | F 0.15 | F 0.40 | F 0.45 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.64 |
| @ 0.78 | @ 3.00 | @ 8.00 | @ 22.54 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.56 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

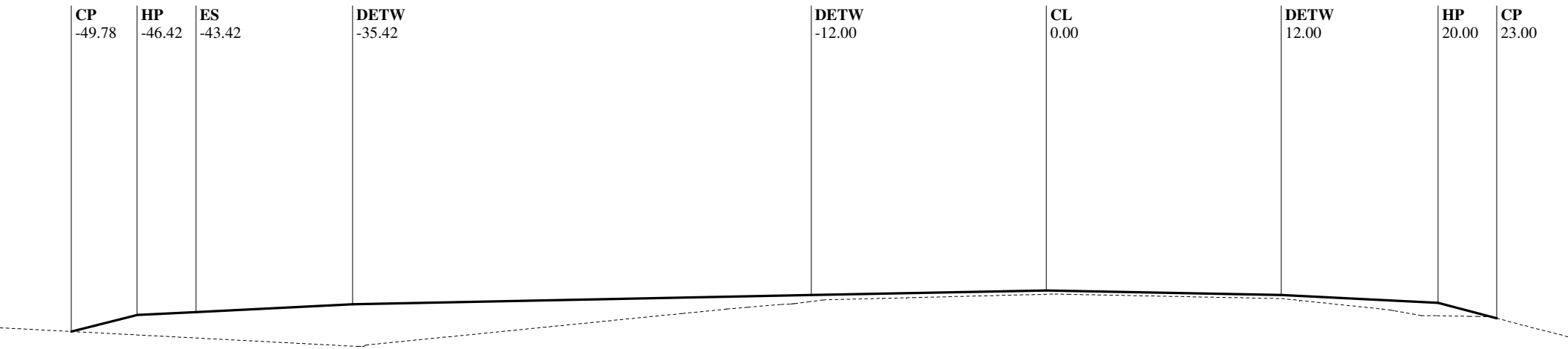



**Alignment Chain CENTER1**
**Station: 302+53.04**

| **CP** | | **ES** | **DETW** | **DETW** | **CL** | **DETW** | | **CP** |
|---|---|---|---|---|---|---|---|---|
| -47.29 | -46.03 | -43.03 | -35.03 | -12.00 | 0.00 | 12.00 | 20.00 | 22.90 |
| -3.47 | -3.15 | -3.00 | -2.60 | -2.14 | -1.90 | -2.14 | -2.54 | -3.27 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -4.00:1 |
| F 0.32 | F 0.15 | F 0.40 | F 0.46 | F 0.24 | | F 0.24 | F 0.40 | F 0.72 |
| @ 1.26 | @ 3.00 | @ 8.00 | @ 23.03 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 2.90 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 302+55.35**

| CP | HP | ES | DETW | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -49.78 | -46.42 | -43.42 | -35.42 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -4.00 | -3.15 | -3.00 | -2.60 | -2.14 | -1.90 | -2.13 | -2.53 | -3.32 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -3.83:1 |
| F 0.84 | F 0.15 | F 0.40 | F 0.47 | F 0.24 | | F 0.24 | F 0.40 | F 0.78 |
| @ 3.37 | @ 3.00 | @ 8.00 | @ 23.41 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

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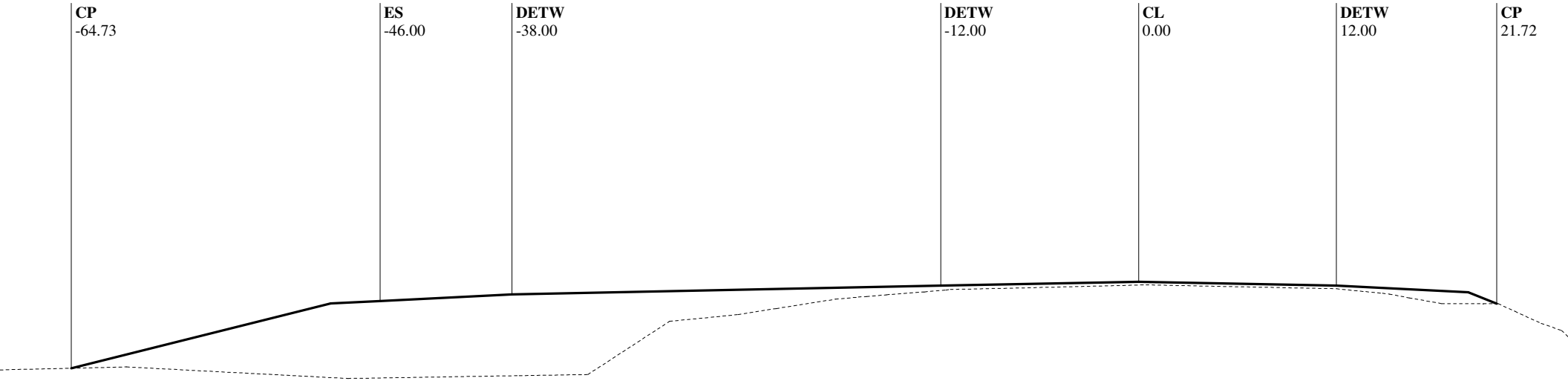
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



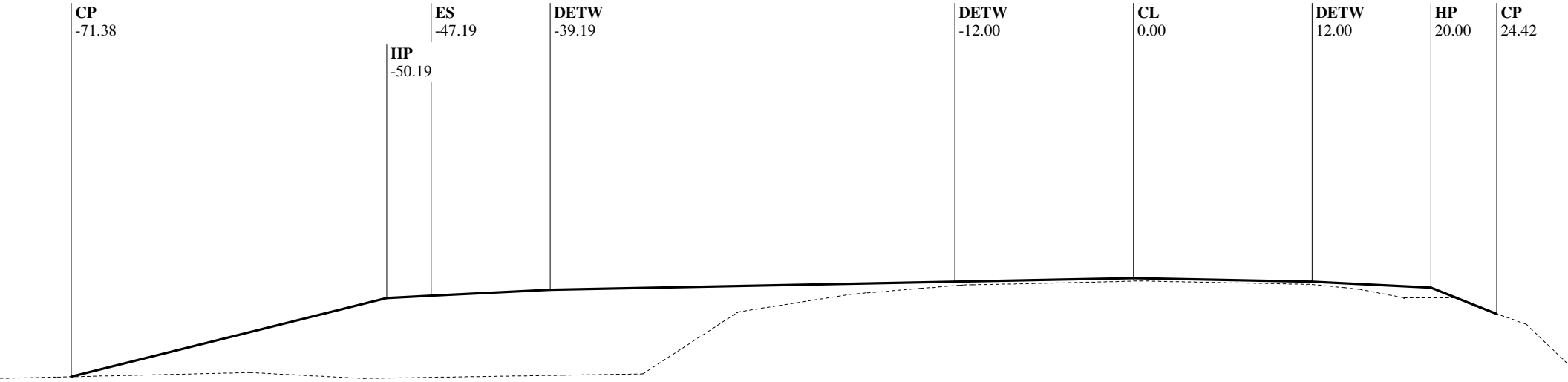

**Alignment Chain CENTER1**
**Station: 302+63.80**

| CP | | ES | DETW | DETW | CL | DETW | | CP |
|---|---|---|---|---|---|---|---|---|
| -64.73 | -49.00 | -46.00 | -38.00 | -12.00 | 0.00 | 12.00 | 20.00 | 21.72 |
| -7.11 | -3.18 | -3.03 | -2.63 | -2.11 | -1.87 | -2.11 | -2.51 | -3.20 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -2.50:1 |
| F 3.93 | F 0.15 | F 0.40 | F 0.52 | F 0.24 | | F 0.24 | F 0.40 | F 0.69 |
| @ 15.73 | @ 3.00 | @ 8.00 | @ 26.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 1.72 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



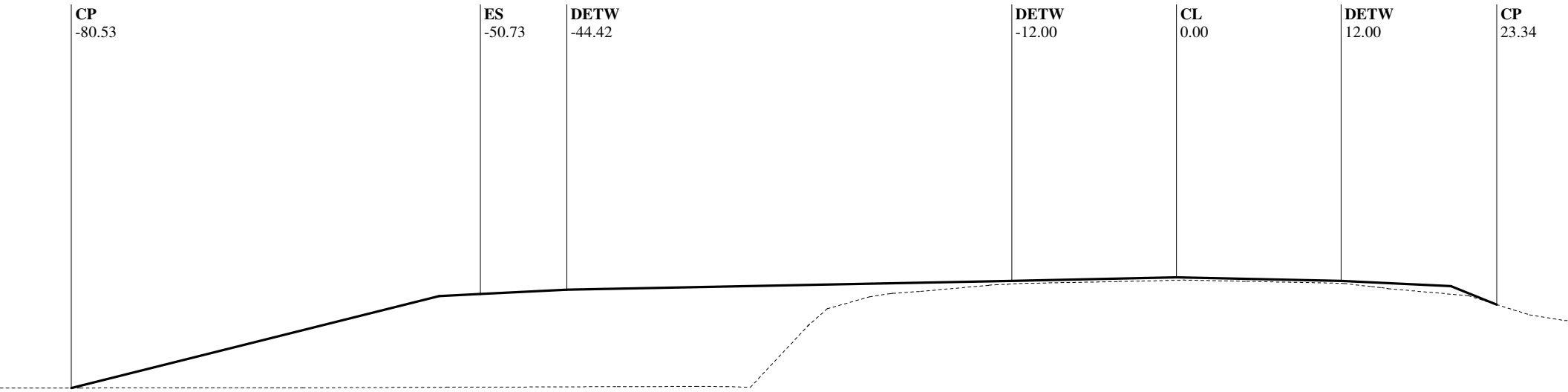

**Alignment Chain CENTER1**
**Station: 302+66.30**

| CP | HP | ES | DETW | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -71.38 | -50.19 | -47.19 | -39.19 | -12.00 | 0.00 | 12.00 | 20.00 | 24.42 |
| -8.50 | -3.20 | -3.05 | -2.65 | -2.11 | -1.87 | -2.11 | -2.51 | -4.27 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -2.50:1 |
| F 5.30 | F 0.15 | F 0.40 | F 0.54 | F 0.24 | | F 0.24 | F 0.40 | F 1.77 |
| @ 21.19 | @ 3.00 | @ 8.00 | @ 27.19 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 4.42 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



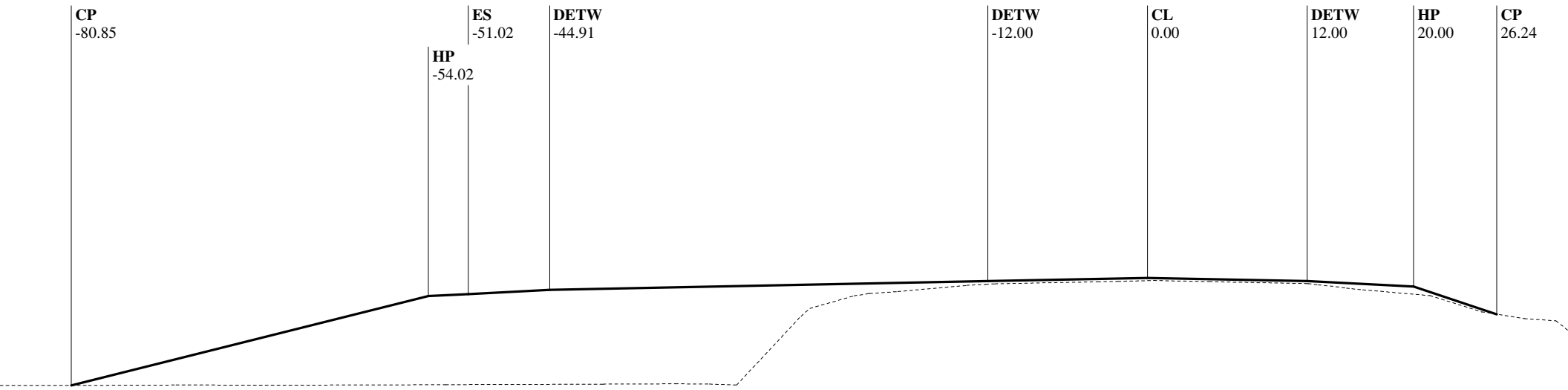

**Alignment Chain CENTER1**
**Station: 302+73.98**

| CP | | ES | DETW | DETW | CL | DETW | | CP |
|---|---|---|---|---|---|---|---|---|
| -80.53 | -53.73 | -50.73 | -44.42 | -12.00 | 0.00 | 12.00 | 20.00 | 23.34 |
| -9.90 | -3.20 | -3.05 | -2.74 | -2.09 | -1.85 | -2.09 | -2.49 | -3.82 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -2.50:1 |
| F 6.70 | F 0.15 | F 0.32 | F 0.65 | F 0.24 | | F 0.24 | F 0.40 | F 1.34 |
| @ 26.81 | @ 3.00 | @ 6.30 | @ 32.42 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.35 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



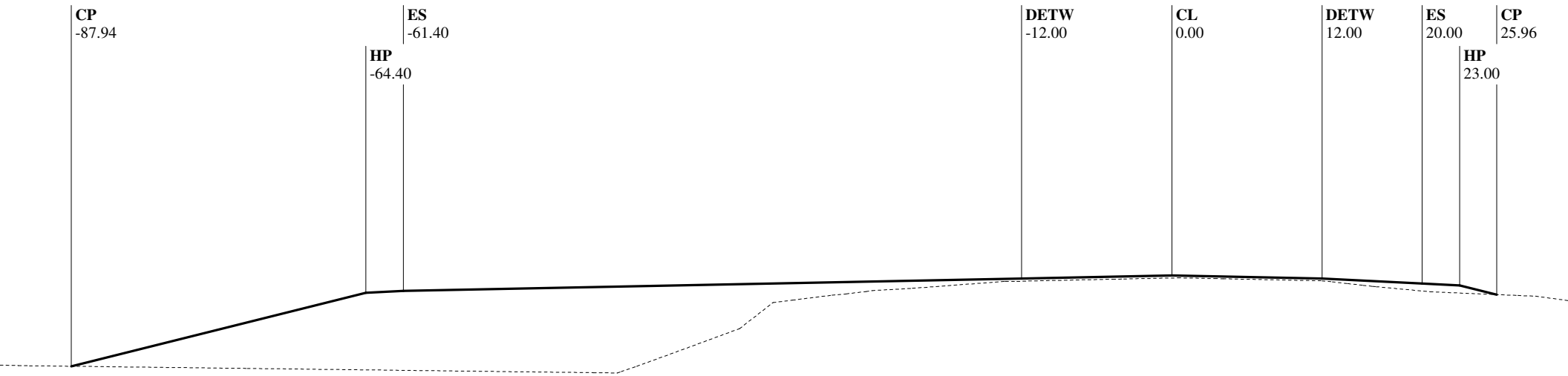

**Alignment Chain CENTER1**
**Station: 302+74.53**

| CP | HP | ES | DETW | DETW | CL | DETW | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -80.85 | -54.02 | -51.02 | -44.91 | -12.00 | 0.00 | 12.00 | 20.00 | 26.24 |
| -9.91 | -3.20 | -3.05 | -2.74 | -2.09 | -1.85 | -2.09 | -2.49 | -4.57 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -3.00:1 |
| F 6.71 | F 0.15 | F 0.31 | F 0.66 | F 0.24 | | F 0.24 | F 0.40 | F 2.08 |
| @ 26.83 | @ 3.00 | @ 6.11 | @ 32.91 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 6.24 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



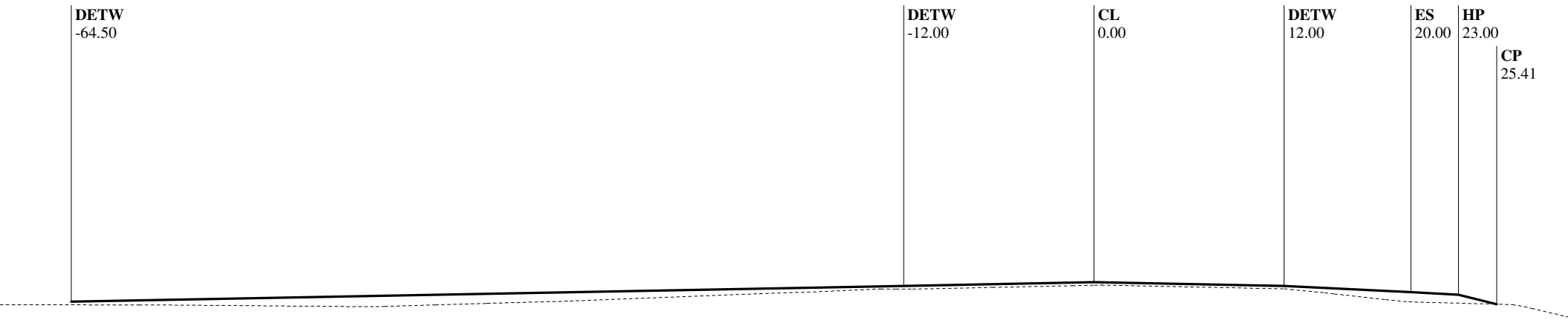

**Alignment Chain CENTER1**
**Station: 302+85.61**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -87.94 | -64.40 | -61.40 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.96 |
| -9.10 | -3.21 | -3.06 | -2.08 | -1.84 | -2.08 | -2.48 | -2.63 | -3.37 |
| -4.00:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 5.88 | F 0.15 | F 0.99 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.74 |
| @ 23.53 | @ 3.00 | @ 49.40 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.96 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



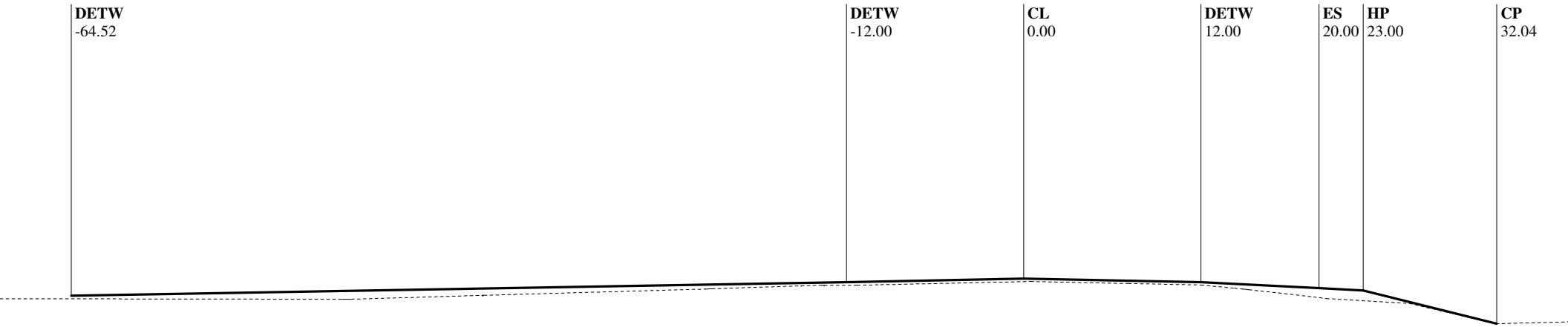

**Alignment Chain CENTER1**
**Station: 303+00.00**

| DETW | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|
| -64.50 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 25.41 |
| -3.09 | -2.09 | -1.85 | -2.09 | -2.49 | -2.64 | -3.24 |
| -1.90% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.00 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.60 |
| @ 52.50 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 2.41 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



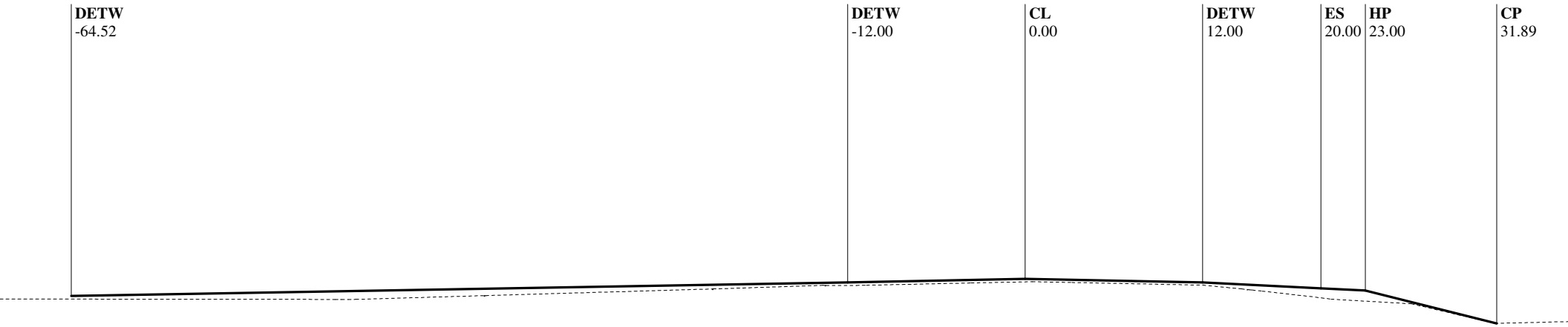

**Alignment Chain CENTER1**
**Station: 303+04.97**

| DETW | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|
| -64.52 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.04 |
| -3.01 | -2.09 | -1.85 | -2.09 | -2.49 | -2.64 | -4.90 |
| -1.75% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.92 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.26 |
| @ 52.51 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.04 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



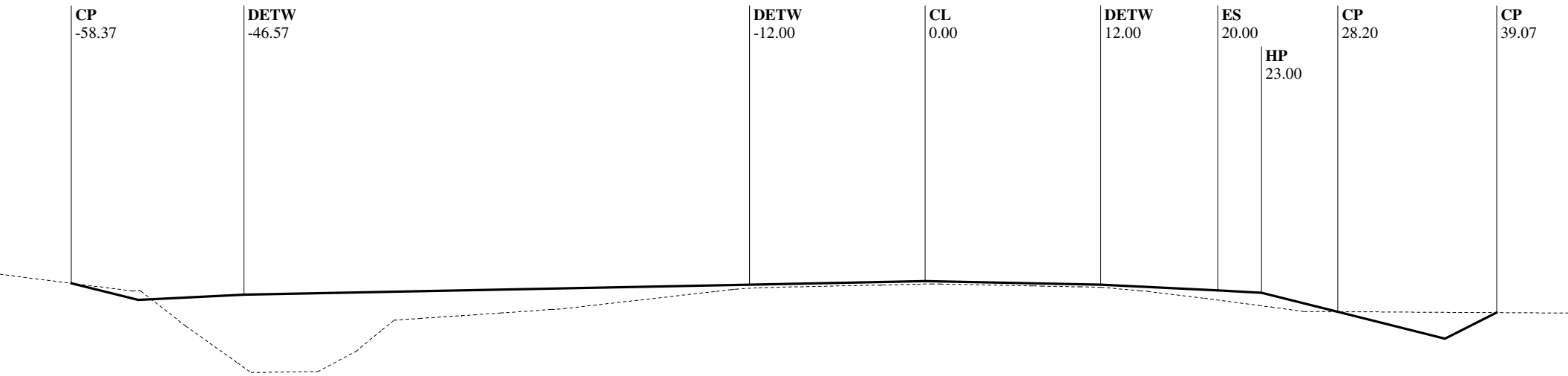

**Alignment Chain CENTER1**
**Station: 303+05.19**

| DETW | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|
| -64.52 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.89 |
| -3.01 | -2.09 | -1.85 | -2.09 | -2.49 | -2.64 | -4.87 |
| -1.75% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.92 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.22 |
| @ 52.51 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.90 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 303+43.43**

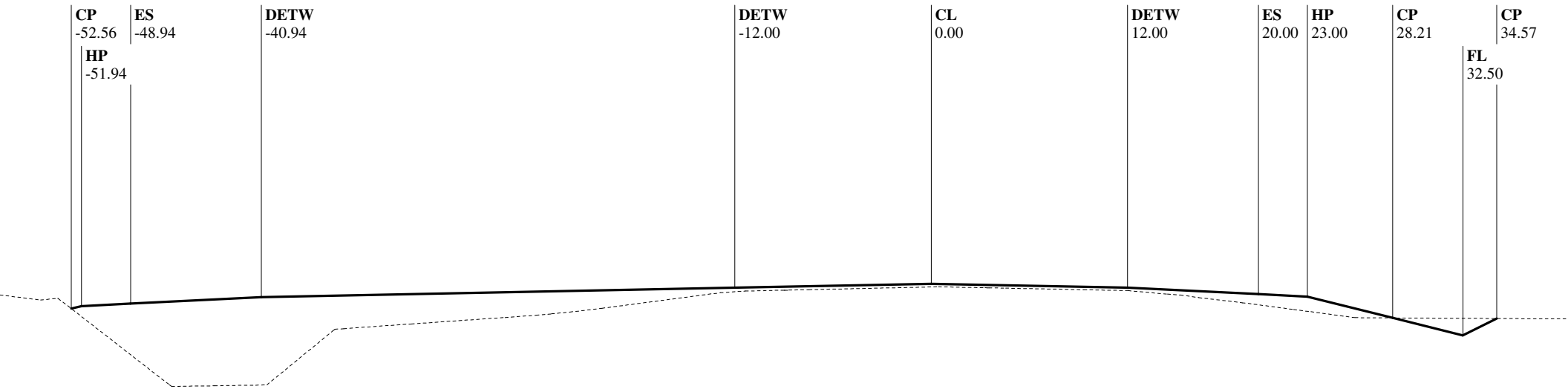
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **CP** | | **DETW** | **DETW** | **CL** | **DETW** | **ES** | **HP** | **CP** | |
| -58.37 | -53.80 | -46.57 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.20 | 35.53 |
| -2.04 | -3.18 | -2.82 | -2.13 | -1.89 | -2.13 | -2.53 | -2.68 | -3.98 | -5.81 |
| 4.00:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| C 1.14 | F 0.36 | F 0.69 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.30 | F 1.83 |
| @ 4.57 | @ 7.23 | @ 34.56 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.21 | @ 7.32 |

| |
|---|
| **CP** |
| 39.07 |
| -4.04 |
| 2.00:1 |
| C 1.77 |
| @ 3.54 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 303+50.00**

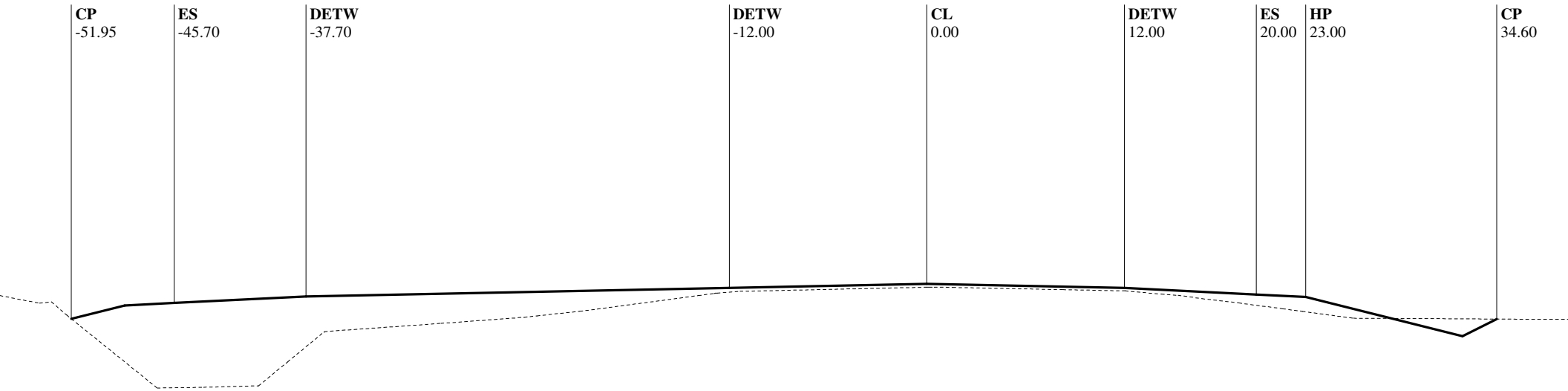
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -52.56 | -51.94 | -48.94 | -40.94 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.21 | 32.50 |
| -3.42 | -3.26 | -3.11 | -2.71 | -2.13 | -1.89 | -2.13 | -2.53 | -2.68 | -3.99 | -5.06 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.15 | F 0.15 | F 0.40 | F 0.58 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.30 | F 1.07 |
| @ 0.62 | @ 3.00 | @ 8.00 | @ 28.94 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.21 | @ 4.29 |

| CP |
|---|
| 34.57 |
| -4.02 |
| 2.00:1 |
| C 1.04 |
| @ 2.07 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



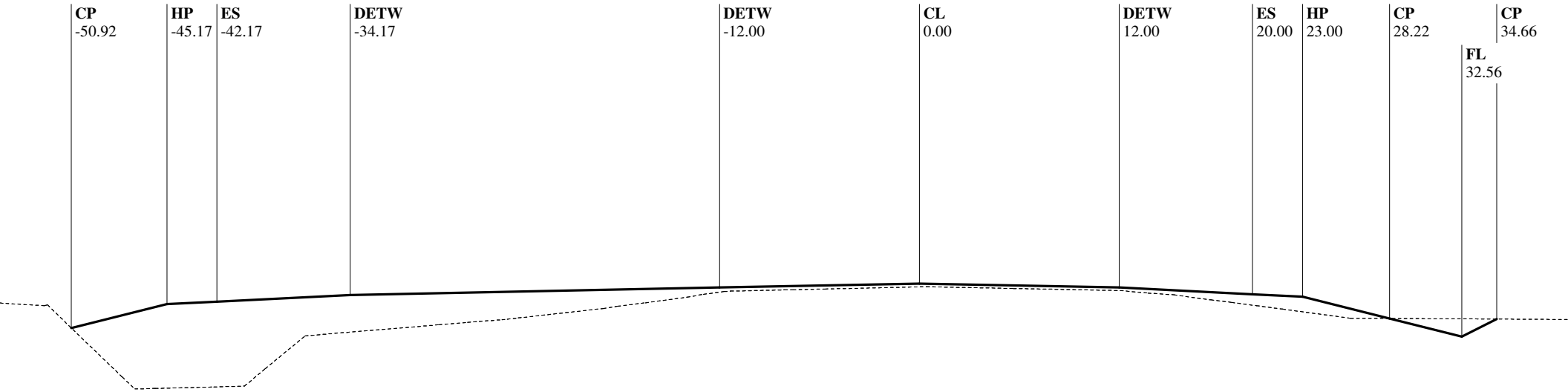

**Alignment Chain CENTER1**
**Station: 303+55.74**

| CP | | ES | DETW | DETW | CL | DETW | ES | HP | | CP |
|---|---|---|---|---|---|---|---|---|---|---|
| -51.95 | -48.70 | -45.70 | -37.70 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 32.52 | 34.60 |
| -4.01 | -3.20 | -3.05 | -2.65 | -2.14 | -1.90 | -2.14 | -2.54 | -2.69 | -5.07 | -4.03 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | 2.00:1 |
| F 0.81 | F 0.15 | F 0.40 | F 0.51 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.38 | C 1.04 |
| @ 3.24 | @ 3.00 | @ 8.00 | @ 25.70 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 9.52 | @ 2.08 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 303+69.71**

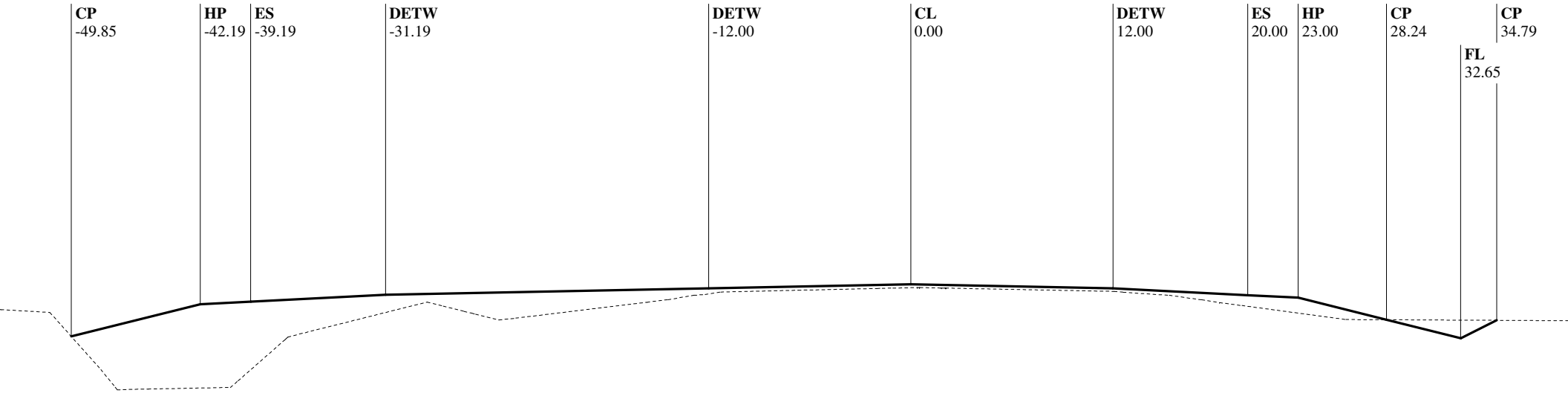
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -50.92 | -45.17 | -42.17 | -34.17 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.22 | 32.56 |
| -4.58 | -3.14 | -2.99 | -2.59 | -2.15 | -1.91 | -2.15 | -2.55 | -2.70 | -4.01 | -5.09 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.44 | F 0.15 | F 0.40 | F 0.44 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.31 | F 1.08 |
| @ 5.74 | @ 3.00 | @ 8.00 | @ 22.17 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.22 | @ 4.34 |

| CP |
|---|
| 34.66 |
| -4.04 |
| 2.00:1 |
| C 1.05 |
| @ 2.10 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 304+00.00**

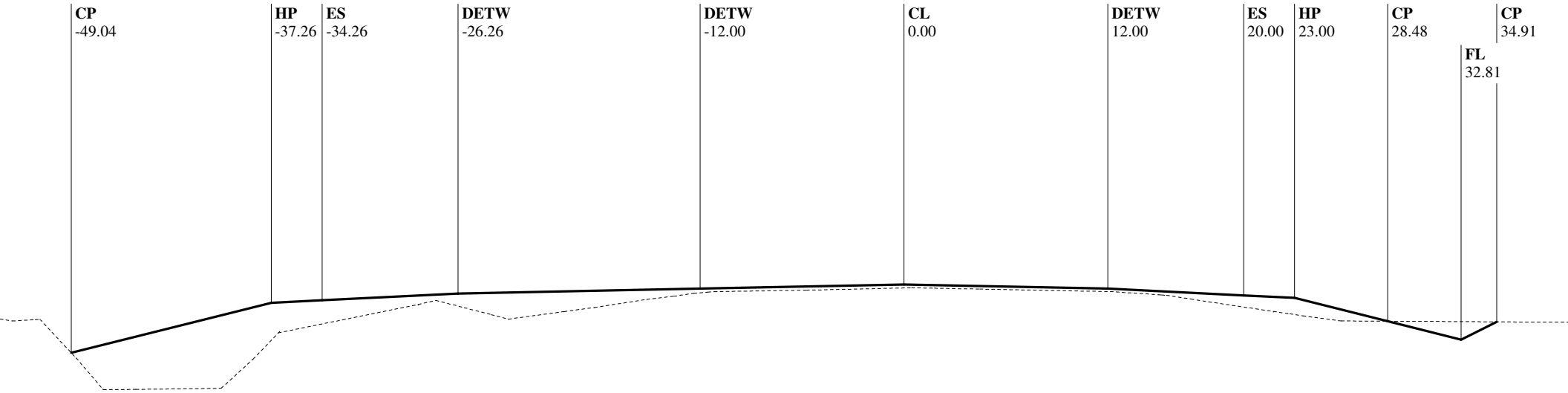
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -49.85 | -42.19 | -39.19 | -31.19 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.24 | 32.65 |
| -5.03 | -3.11 | -2.96 | -2.56 | -2.18 | -1.94 | -2.18 | -2.58 | -2.73 | -4.04 | -5.14 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.92 | F 0.15 | F 0.40 | F 0.38 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.31 | F 1.10 |
| @ 7.66 | @ 3.00 | @ 8.00 | @ 19.19 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.24 | @ 4.42 |

| CP |
|---|
| 34.79 |
| -4.07 |
| 2.00:1 |
| C 1.07 |
| @ 2.14 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 304+50.00**

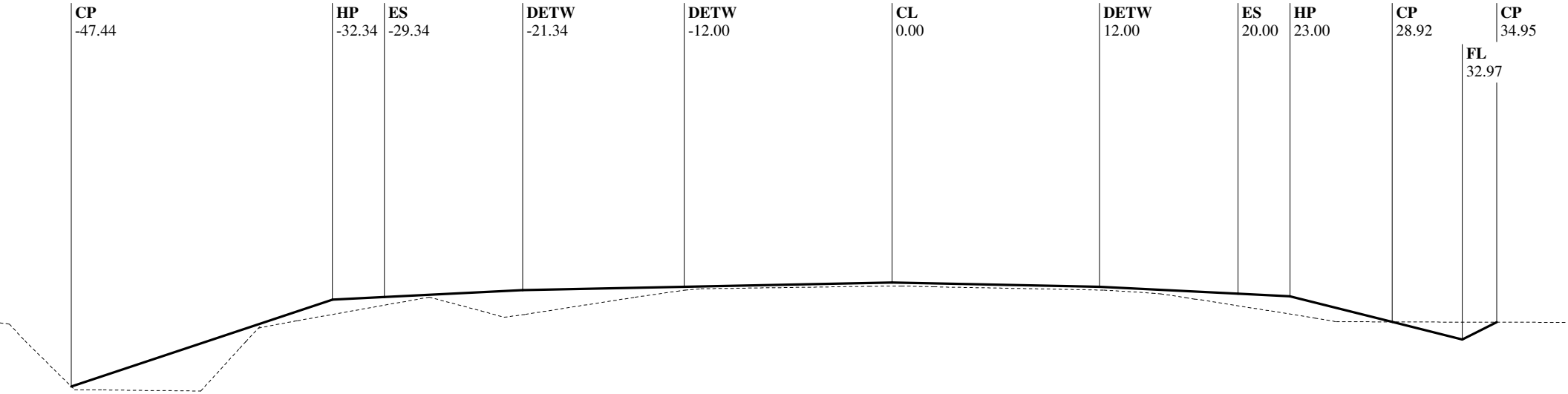
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -49.04 | -37.26 | -34.26 | -26.26 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.48 | 32.81 |
| -5.95 | -3.01 | -2.86 | -2.46 | -2.17 | -1.93 | -2.17 | -2.57 | -2.72 | -4.09 | -5.17 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 2.94 | F 0.15 | F 0.40 | F 0.29 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.37 | F 1.08 |
| @ 11.77 | @ 3.00 | @ 8.00 | @ 14.26 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.48 | @ 4.33 |

| CP |
|---|
| 34.91 |
| -4.13 |
| 2.00:1 |
| C 1.05 |
| @ 2.10 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 305+00.00**

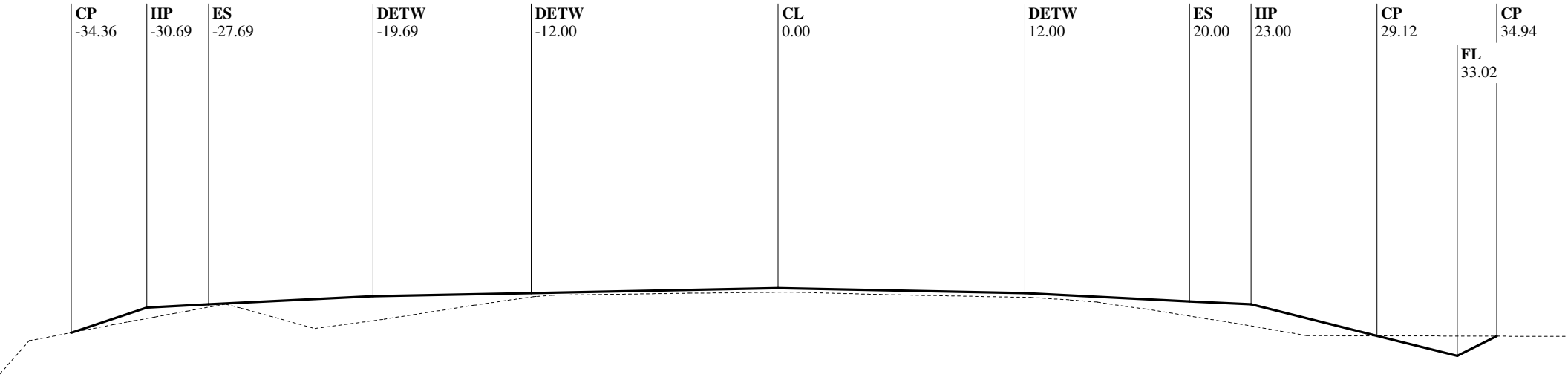
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -47.44 | -32.34 | -29.34 | -21.34 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 28.92 | 32.97 |
| -7.86 | -2.82 | -2.67 | -2.27 | -2.09 | -1.85 | -2.09 | -2.49 | -2.64 | -4.12 | -5.13 |
| -3.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 5.03 | F 0.15 | F 0.40 | F 0.19 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.48 | F 1.01 |
| @ 15.10 | @ 3.00 | @ 8.00 | @ 9.34 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 5.92 | @ 4.04 |

| CP |
|---|
| 34.95 |
| -4.14 |
| 2.00:1 |
| C 0.99 |
| @ 1.99 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 305+17.53**

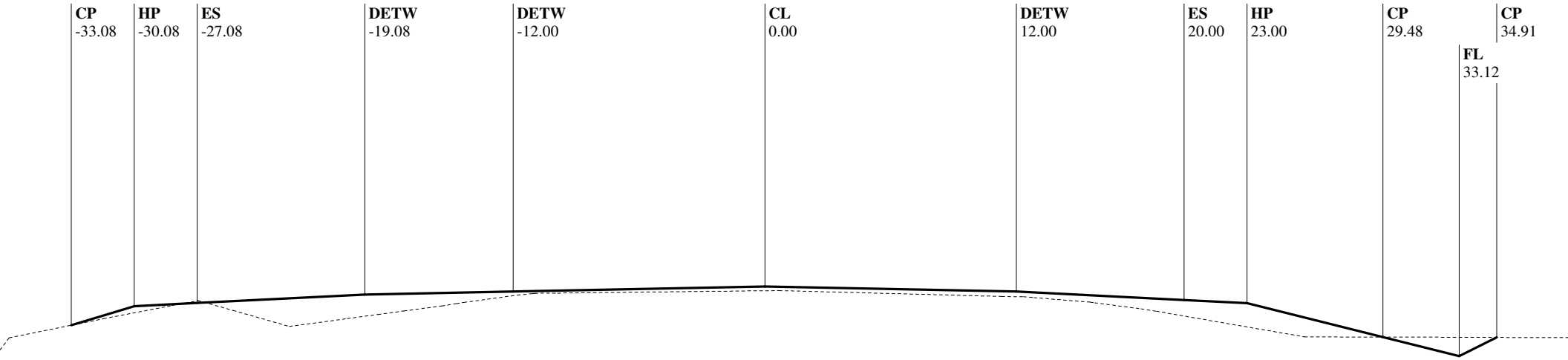
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -34.36 | -30.69 | -27.69 | -19.69 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.12 | 33.02 |
| -3.96 | -2.73 | -2.58 | -2.18 | -2.03 | -1.79 | -2.03 | -2.43 | -2.58 | -4.11 | -5.09 |
| -3.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.22 | F 0.15 | F 0.40 | F 0.15 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.53 | F 0.98 |
| @ 3.67 | @ 3.00 | @ 8.00 | @ 7.68 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.12 | @ 3.90 |

| CP |
|---|
| 34.94 |
| -4.13 |
| 2.00:1 |
| C 0.96 |
| @ 1.92 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 305+50.00**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -33.08 | -30.08 | -27.08 | -19.08 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.48 | 33.12 |
| -3.53 | -2.61 | -2.46 | -2.06 | -1.92 | -1.68 | -1.92 | -2.32 | -2.47 | -4.09 | -5.00 |
| -3.28:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.92 | F 0.15 | F 0.40 | F 0.14 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.62 | F 0.91 |
| @ 3.00 | @ 3.00 | @ 8.00 | @ 7.08 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.48 | @ 3.64 |

| CP |
|---|
| 34.91 |
| -4.11 |
| 2.00:1 |
| C 0.89 |
| @ 1.79 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
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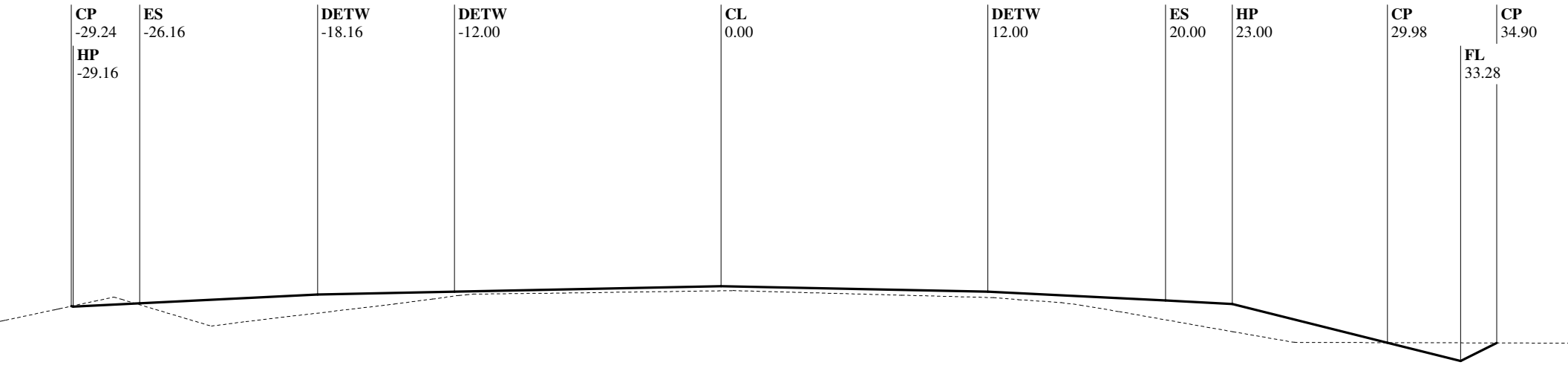
SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



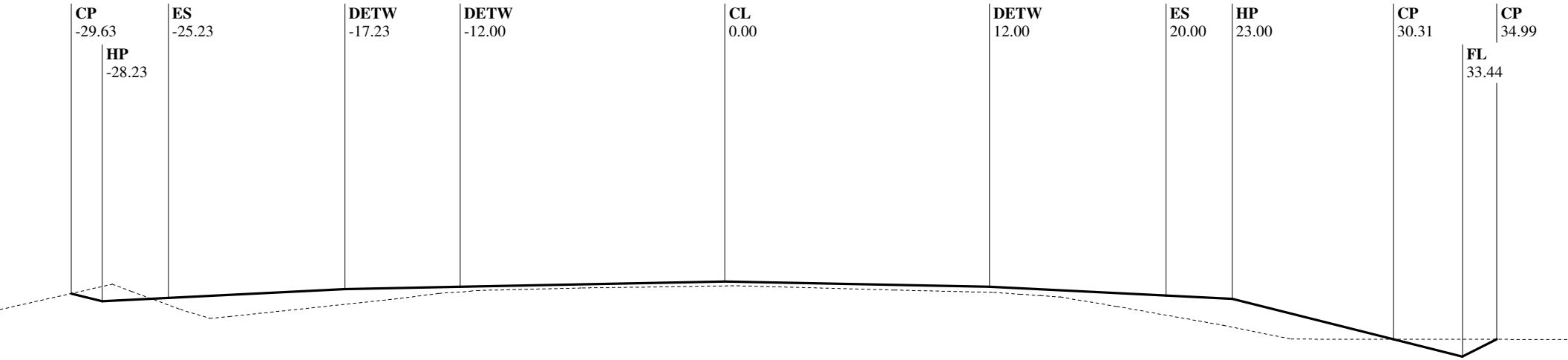

**Alignment Chain CENTER1**
**Station: 306+00.00**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.24 | -29.16 | -26.16 | -18.16 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.98 | 33.28 |
| -2.43 | -2.45 | -2.30 | -1.90 | -1.78 | -1.54 | -1.78 | -2.18 | -2.33 | -4.07 | -4.90 |
| 4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| C 0.02 | F 0.15 | F 0.40 | F 0.12 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.74 | F 0.83 |
| @ 0.08 | @ 3.00 | @ 8.00 | @ 6.16 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.98 | @ 3.30 |

| CP |
|---|
| 34.90 |
| -4.08 |
| 2.00:1 |
| C 0.81 |
| @ 1.62 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



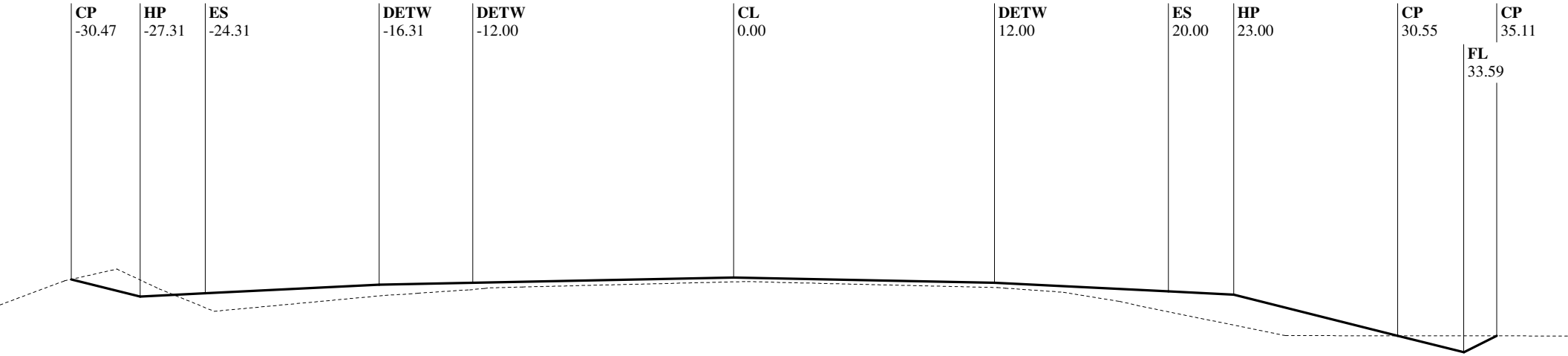

**Alignment Chain CENTER1**
**Station: 306+50.00**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -29.63 | -28.23 | -25.23 | -17.23 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.31 | 33.44 |
| -1.92 | -2.27 | -2.12 | -1.72 | -1.62 | -1.38 | -1.62 | -2.02 | -2.17 | -3.99 | -4.78 |
| 4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| C 0.35 | F 0.15 | F 0.40 | F 0.10 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.83 | F 0.78 |
| @ 1.40 | @ 3.00 | @ 8.00 | @ 5.23 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.31 | @ 3.13 |

| CP |
|---|
| 34.99 |
| -4.00 |
| 2.00:1 |
| C 0.78 |
| @ 1.56 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 307+00.00**

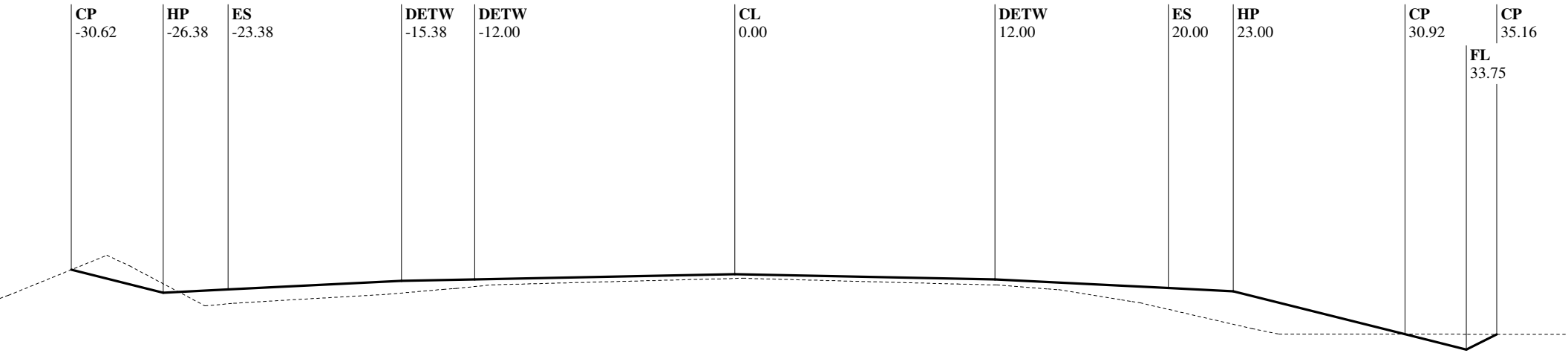
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.47 | -27.31 | -24.31 | -16.31 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.55 | 33.59 |
| -1.29 | -2.08 | -1.93 | -1.53 | -1.45 | -1.21 | -1.45 | -1.85 | -2.00 | -3.88 | -4.65 |
| 4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| C 0.79 | F 0.15 | F 0.40 | F 0.09 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.89 | F 0.76 |
| @ 3.17 | @ 3.00 | @ 8.00 | @ 4.31 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.55 | @ 3.04 |

| CP |
|---|
| 35.11 |
| -3.89 |
| 2.00:1 |
| C 0.76 |
| @ 1.51 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 307+50.00**

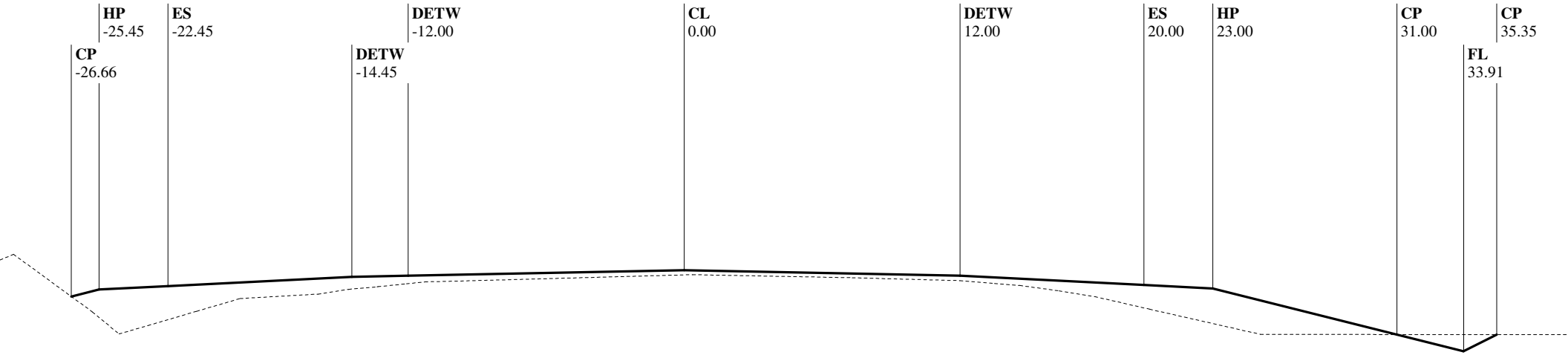
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -30.62 | -26.38 | -23.38 | -15.38 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.92 | 33.75 |
| -0.80 | -1.86 | -1.71 | -1.31 | -1.25 | -1.01 | -1.25 | -1.65 | -1.80 | -3.78 | -4.48 |
| 4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| C 1.06 | F 0.15 | F 0.40 | F 0.07 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.98 | F 0.71 |
| @ 4.24 | @ 3.00 | @ 8.00 | @ 3.38 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.92 | @ 2.83 |

| CP |
|---|
| 35.16 |
| -3.78 |
| 2.00:1 |
| C 0.70 |
| @ 1.41 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 308+00.00**

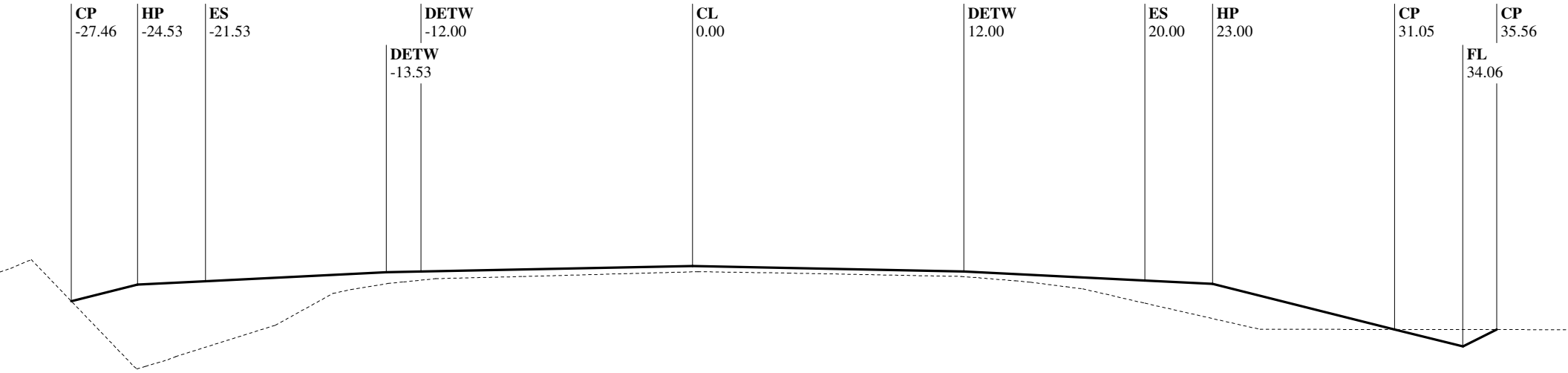
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -26.66 | -25.45 | -22.45 | -14.45 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.00 | 33.91 |
| -1.96 | -1.66 | -1.51 | -1.11 | -1.06 | -0.82 | -1.06 | -1.46 | -1.61 | -3.61 | -4.34 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.30 | F 0.15 | F 0.40 | F 0.05 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.00 | F 0.73 |
| @ 1.20 | @ 3.00 | @ 8.00 | @ 2.45 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.01 | @ 2.90 |

| CP |
|---|
| 35.35 |
| -3.62 |
| 2.00:1 |
| C 0.72 |
| @ 1.44 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 308+50.00**

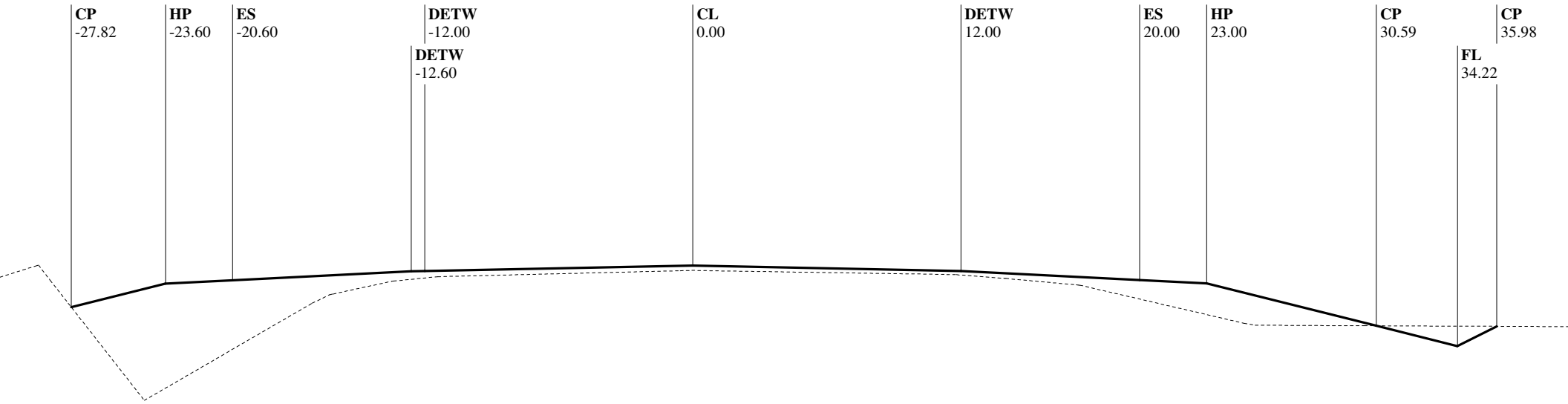
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -27.46 | -24.53 | -21.53 | -13.53 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 31.05 | 34.06 |
| -2.18 | -1.45 | -1.30 | -0.90 | -0.87 | -0.63 | -0.87 | -1.27 | -1.42 | -3.43 | -4.19 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.73 | F 0.15 | F 0.40 | F 0.03 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 2.01 | F 0.75 |
| @ 2.93 | @ 3.00 | @ 8.00 | @ 1.53 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 8.05 | @ 3.02 |

| CP |
|---|
| 35.56 |
| -3.44 |
| 2.00:1 |
| C 0.75 |
| @ 1.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 309+00.00**

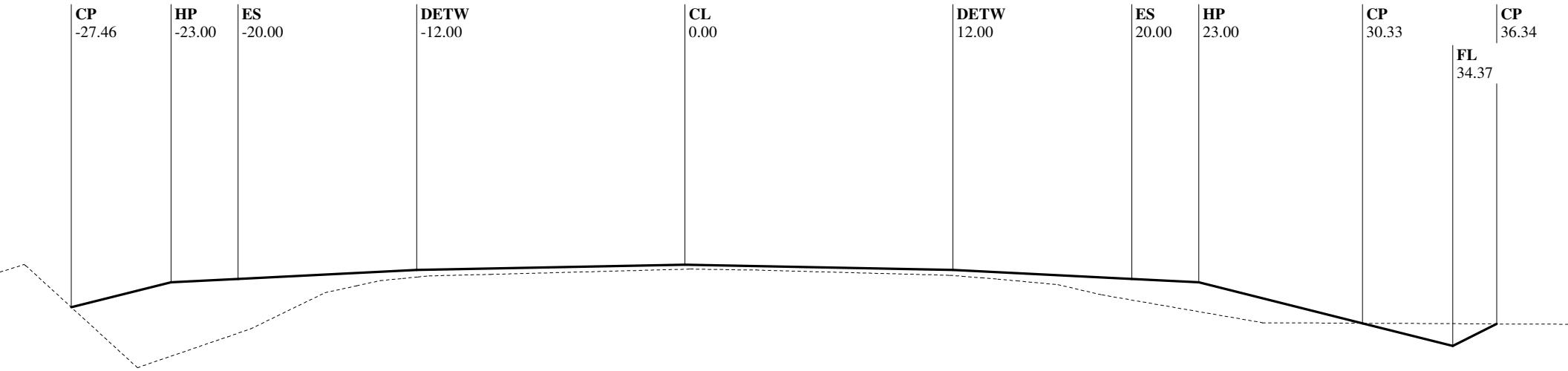
| CP | HP | ES | DETW | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| -27.82 | -23.60 | -20.60 | -12.60 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.59 | 34.22 |
| -2.45 | -1.39 | -1.24 | -0.84 | -0.83 | -0.59 | -0.83 | -1.23 | -1.38 | -3.28 | -4.19 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.05 | F 0.15 | F 0.40 | F 0.01 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.90 | F 0.91 |
| @ 4.21 | @ 3.00 | @ 8.00 | @ 0.60 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.60 | @ 3.62 |

| CP |
|---|
| 35.98 |
| -3.30 |
| 2.00:1 |
| C 0.88 |
| @ 1.76 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 309+50.00**

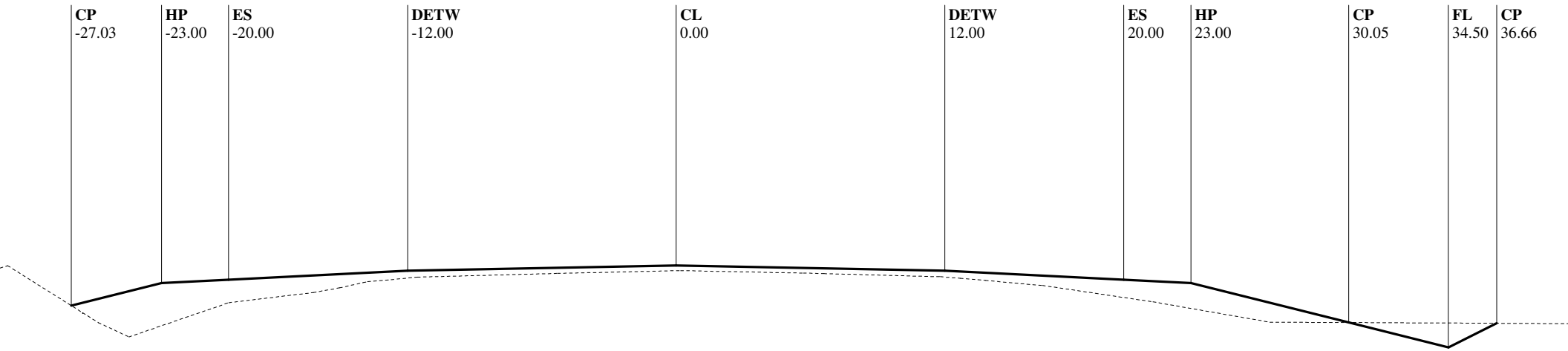
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -27.46 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.33 | 34.37 |
| -2.49 | -1.37 | -1.22 | -0.82 | -0.58 | -0.82 | -1.22 | -1.37 | -3.20 | -4.21 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.83 | F 1.01 |
| @ 4.46 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.33 | @ 4.04 |

| CP |
|---|
| 36.34 |
| -3.23 |
| 2.00:1 |
| C 0.98 |
| @ 1.96 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 310+00.00**

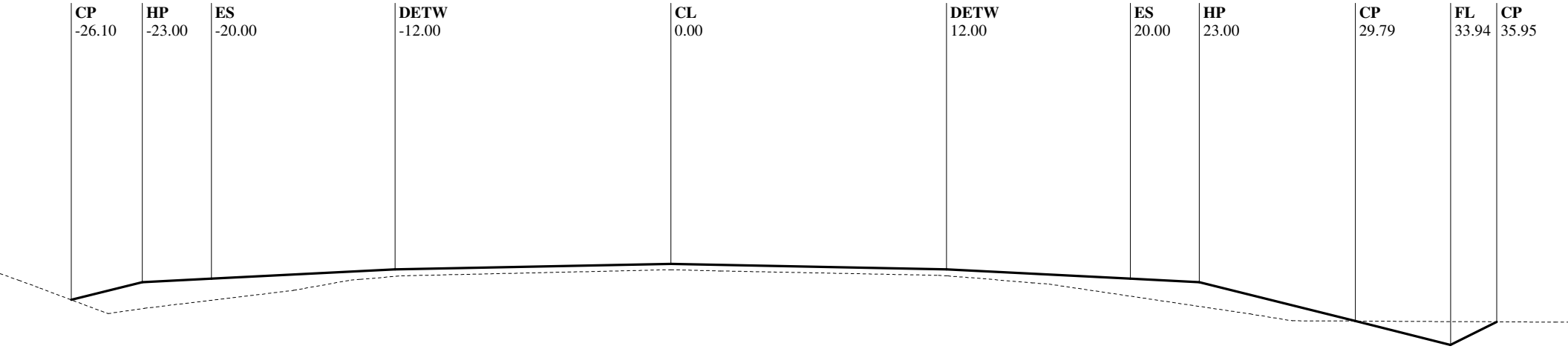
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -27.03 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.05 | 34.50 |
| -2.37 | -1.36 | -1.21 | -0.81 | -0.57 | -0.81 | -1.21 | -1.36 | -3.13 | -4.24 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.01 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.76 | F 1.11 |
| @ 4.03 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.06 | @ 4.45 |

| CP |
|---|
| 36.66 |
| -3.16 |
| 2.00:1 |
| C 1.08 |
| @ 2.16 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 310+50.00**

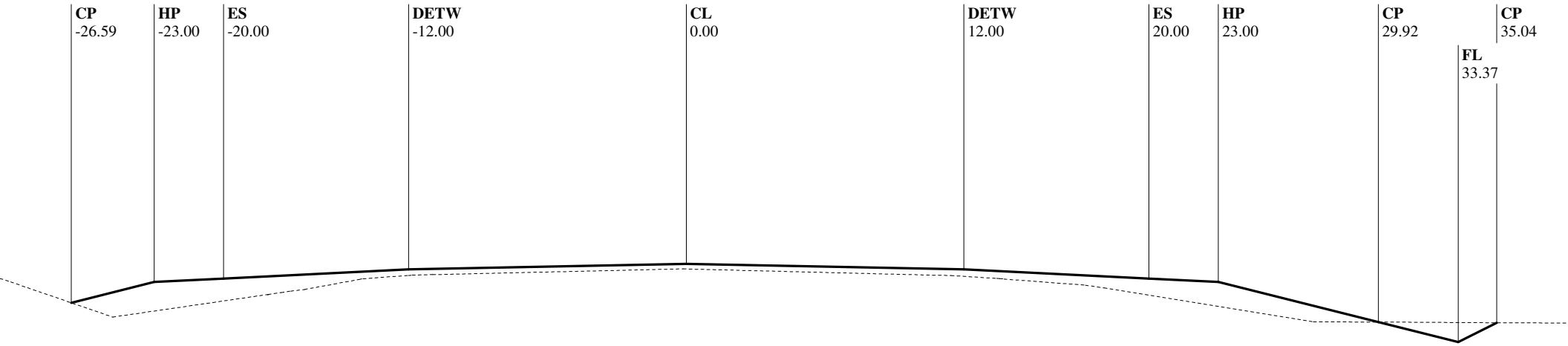
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -26.10 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.79 | 33.94 |
| -2.14 | -1.37 | -1.22 | -0.82 | -0.58 | -0.82 | -1.22 | -1.37 | -3.06 | -4.10 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.77 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.70 | F 1.04 |
| @ 3.09 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.79 | @ 4.15 |

| CP |
|---|
| 35.95 |
| -3.09 |
| 2.00:1 |
| C 1.01 |
| @ 2.01 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 311+00.00**

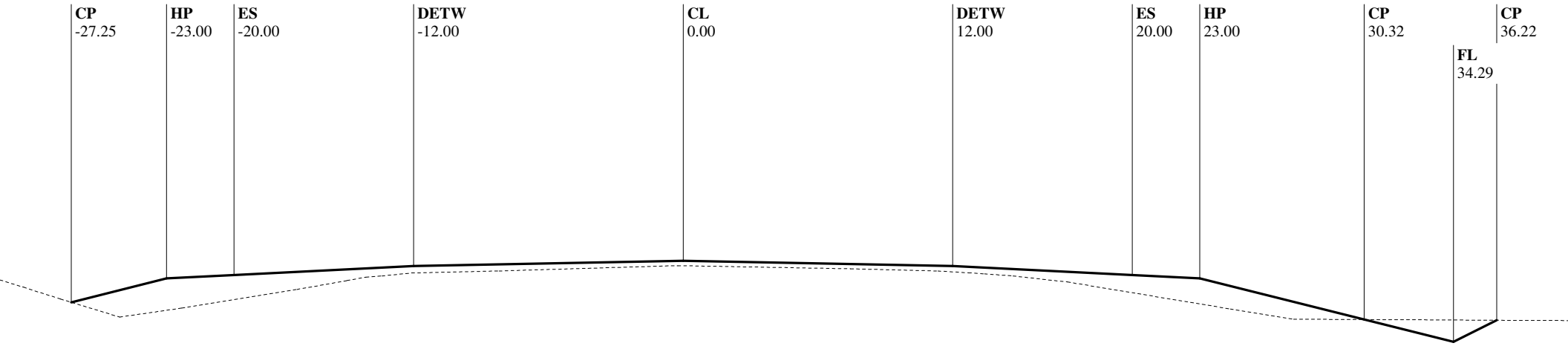
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -26.59 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 29.92 | 33.37 |
| -2.20 | -1.31 | -1.16 | -0.76 | -0.52 | -0.76 | -1.16 | -1.31 | -3.04 | -3.90 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 0.90 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.73 | F 0.86 |
| @ 3.59 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 6.92 | @ 3.45 |

| CP |
|---|
| 35.04 |
| -3.06 |
| 2.00:1 |
| C 0.83 |
| @ 1.67 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 311+50.00**

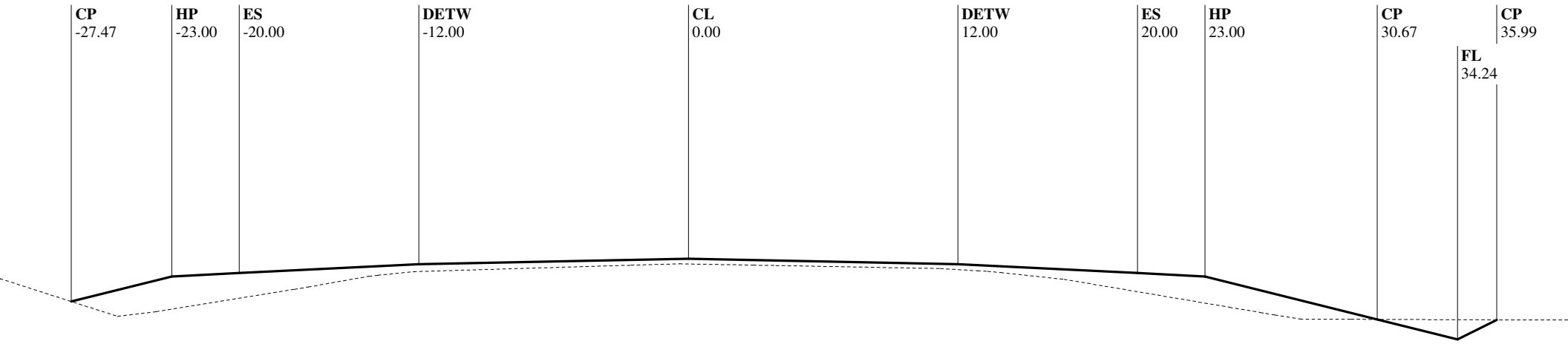
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -27.25 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.32 | 34.29 |
| -2.24 | -1.18 | -1.03 | -0.63 | -0.39 | -0.63 | -1.03 | -1.18 | -3.01 | -4.01 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.06 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.83 | F 0.99 |
| @ 4.25 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.32 | @ 3.98 |

| CP |
|---|
| 36.22 |
| -3.04 |
| 2.00:1 |
| C 0.96 |
| @ 1.93 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 311+85.70**

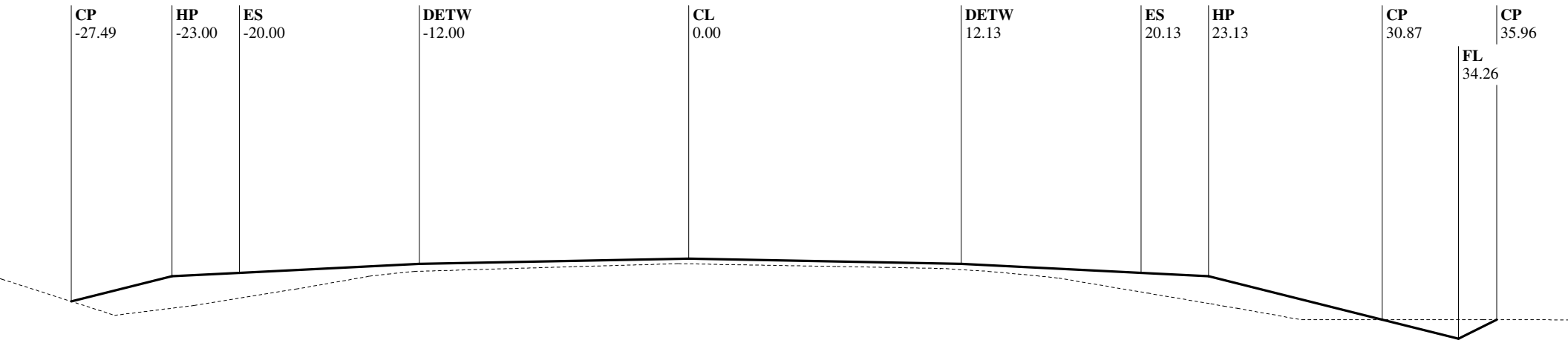
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -27.47 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 | 30.67 | 34.24 |
| -2.19 | -1.08 | -0.93 | -0.53 | -0.29 | -0.53 | -0.93 | -1.08 | -2.99 | -3.89 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.92 | F 0.89 |
| @ 4.47 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 | @ 7.67 | @ 3.57 |

| CP |
|---|
| 35.99 |
| -3.01 |
| 2.00:1 |
| C 0.88 |
| @ 1.75 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 312+00.00**

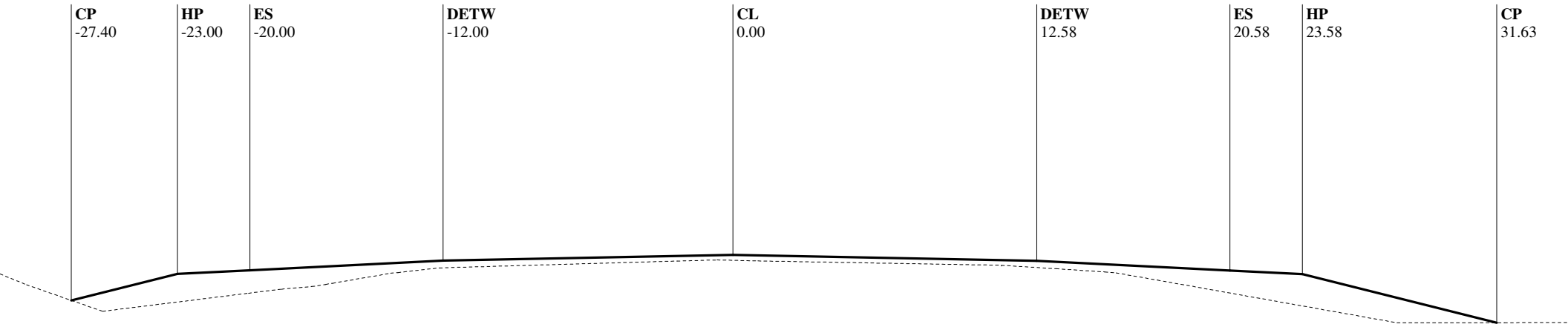
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -27.49 | -23.00 | -20.00 | -12.00 | 0.00 | 12.13 | 20.13 | 23.13 | 30.87 | 34.26 |
| -2.15 | -1.03 | -0.88 | -0.48 | -0.24 | -0.48 | -0.88 | -1.03 | -2.97 | -3.81 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 | -4.00:1 |
| F 1.12 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 1.93 | F 0.85 |
| @ 4.49 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.13 | @ 8.00 | @ 3.00 | @ 7.74 | @ 3.39 |

| CP |
|---|
| 35.96 |
| -2.96 |
| 2.00:1 |
| C 0.85 |
| @ 1.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



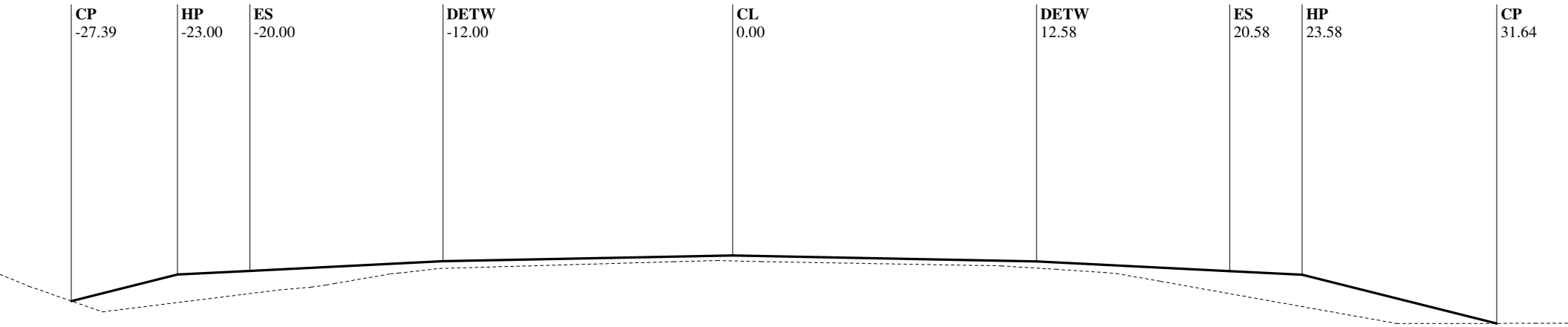

**Alignment Chain CENTER1**
**Station: 312+49.21**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.40 | -23.00 | -20.00 | -12.00 | 0.00 | 12.58 | 20.58 | 23.58 | 31.63 |
| -2.02 | -0.92 | -0.77 | -0.37 | -0.13 | -0.38 | -0.78 | -0.93 | -2.94 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.10 | F 0.15 | F 0.40 | F 0.24 | | F 0.25 | F 0.40 | F 0.15 | F 2.01 |
| @ 4.40 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.58 | @ 8.00 | @ 3.00 | @ 8.05 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



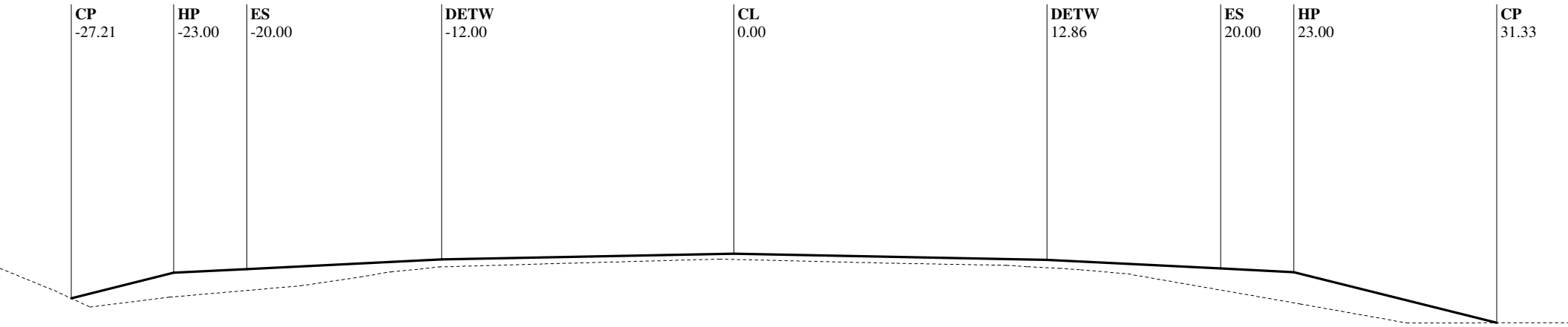

**Alignment Chain CENTER1**
**Station: 312+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.39 | -23.00 | -20.00 | -12.00 | 0.00 | 12.58 | 20.58 | 23.58 | 31.64 |
| -2.01 | -0.92 | -0.77 | -0.37 | -0.13 | -0.38 | -0.78 | -0.93 | -2.94 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.10 | F 0.15 | F 0.40 | F 0.24 | | F 0.25 | F 0.40 | F 0.15 | F 2.01 |
| @ 4.39 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.58 | @ 8.00 | @ 3.00 | @ 8.05 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



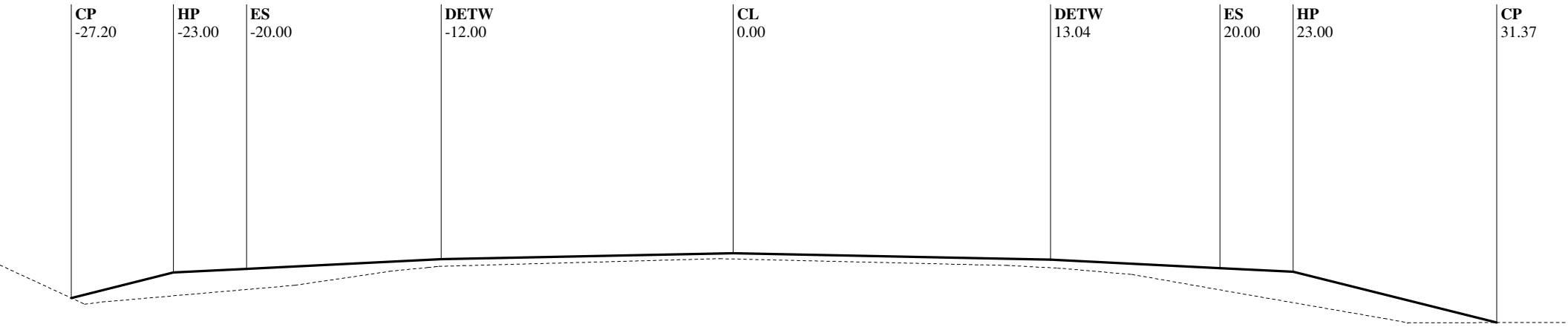

**Alignment Chain CENTER1**
**Station: 312+80.71**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.21 | -23.00 | -20.00 | -12.00 | 0.00 | 12.86 | 20.00 | 23.00 | 31.33 |
| -1.92 | -0.87 | -0.72 | -0.32 | -0.08 | -0.34 | -0.69 | -0.84 | -2.93 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.05 | F 0.15 | F 0.40 | F 0.24 | | F 0.26 | F 0.36 | F 0.15 | F 2.08 |
| @ 4.21 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.86 | @ 7.14 | @ 3.00 | @ 8.33 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



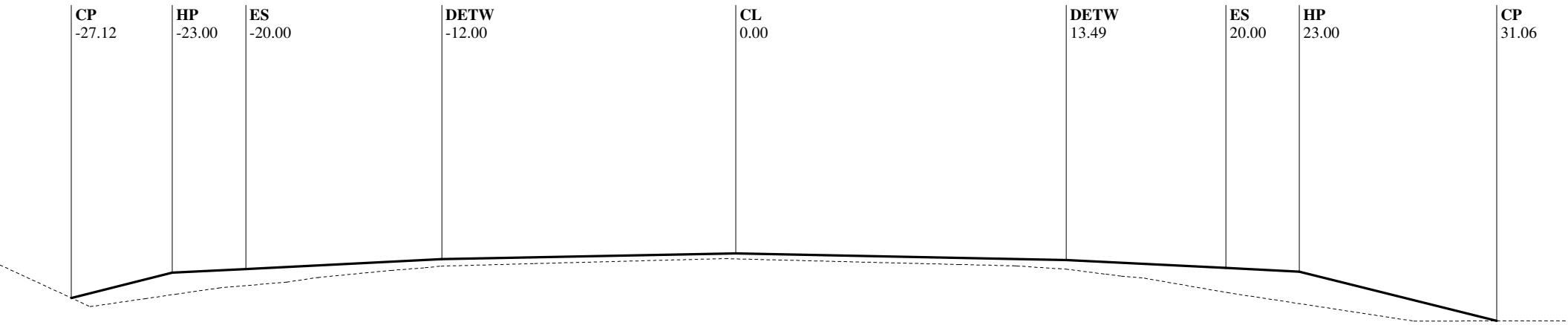

**Alignment Chain CENTER1**
**Station: 313+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.20 | -23.00 | -20.00 | -12.00 | 0.00 | 13.04 | 20.00 | 23.00 | 31.37 |
| -1.90 | -0.85 | -0.70 | -0.30 | -0.06 | -0.32 | -0.67 | -0.82 | -2.92 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.05 | F 0.15 | F 0.40 | F 0.24 | | F 0.26 | F 0.35 | F 0.15 | F 2.09 |
| @ 4.20 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 13.04 | @ 6.96 | @ 3.00 | @ 8.37 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



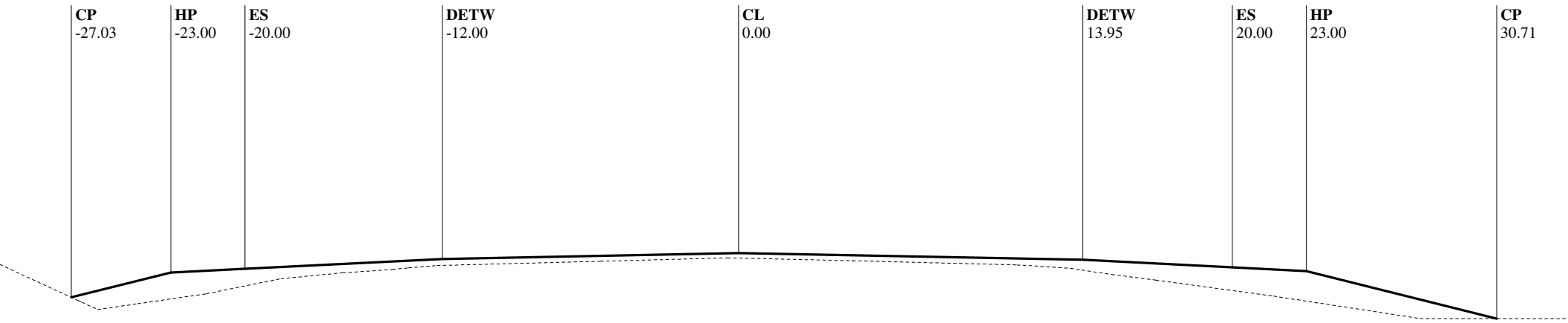

**Alignment Chain CENTER1**
**Station: 313+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.12 | -23.00 | -20.00 | -12.00 | 0.00 | 13.49 | 20.00 | 23.00 | 31.06 |
| -1.85 | -0.82 | -0.67 | -0.27 | -0.03 | -0.30 | -0.62 | -0.77 | -2.79 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.03 | F 0.15 | F 0.40 | F 0.24 | | F 0.27 | F 0.33 | F 0.15 | F 2.01 |
| @ 4.12 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 13.49 | @ 6.51 | @ 3.00 | @ 8.06 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



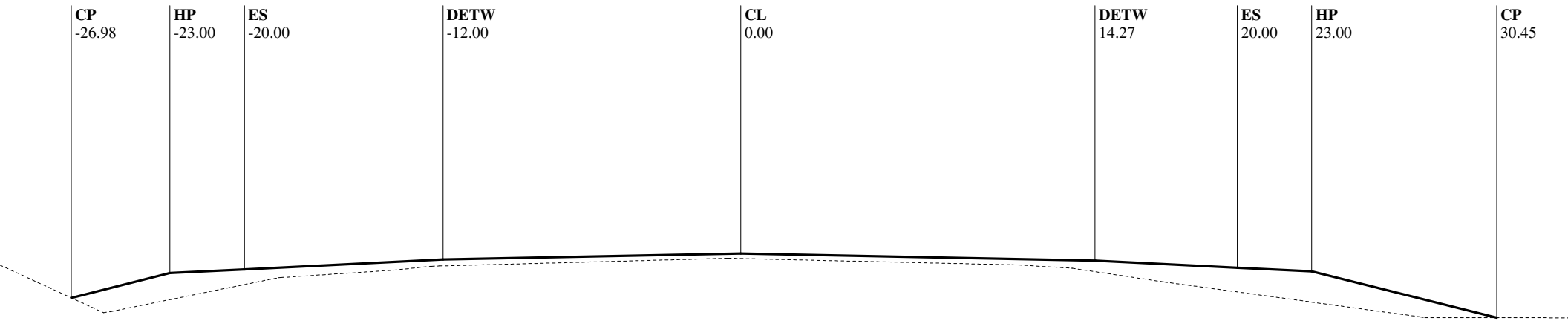

**Alignment Chain CENTER1**
**Station: 314+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.03 | -23.00 | -20.00 | -12.00 | 0.00 | 13.95 | 20.00 | 23.00 | 30.71 |
| -1.80 | -0.79 | -0.64 | -0.24 | 0.00 | -0.28 | -0.58 | -0.73 | -2.66 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.01 | F 0.15 | F 0.40 | F 0.24 | | F 0.28 | F 0.30 | F 0.15 | F 1.93 |
| @ 4.03 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 13.95 | @ 6.05 | @ 3.00 | @ 7.71 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



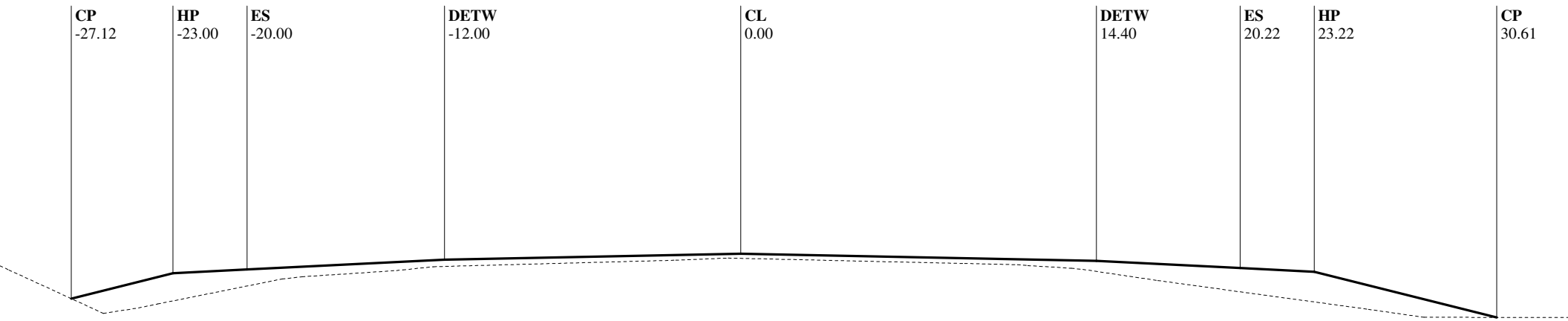

**Alignment Chain CENTER1**
**Station: 314+36.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.98 | -23.00 | -20.00 | -12.00 | 0.00 | 14.27 | 20.00 | 23.00 | 30.45 |
| -1.76 | -0.77 | -0.62 | -0.22 | 0.02 | -0.26 | -0.55 | -0.70 | -2.56 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.99 | F 0.15 | F 0.40 | F 0.24 | | F 0.29 | F 0.29 | F 0.15 | F 1.86 |
| @ 3.98 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 14.27 | @ 5.73 | @ 3.00 | @ 7.45 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



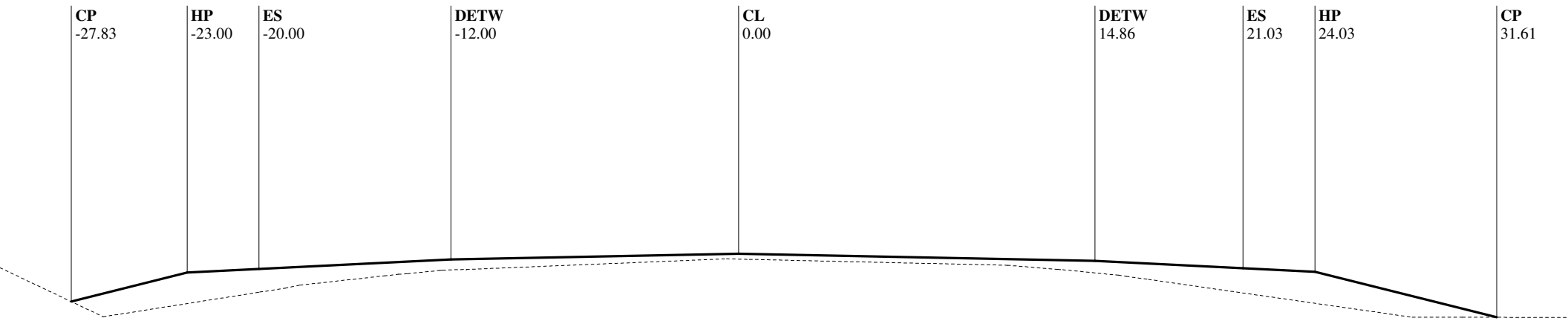

**Alignment Chain CENTER1**
**Station: 314+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.12 | -23.00 | -20.00 | -12.00 | 0.00 | 14.40 | 20.22 | 23.22 | 30.61 |
| -1.79 | -0.76 | -0.61 | -0.21 | 0.03 | -0.26 | -0.55 | -0.70 | -2.55 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.03 | F 0.15 | F 0.40 | F 0.24 | | F 0.29 | F 0.29 | F 0.15 | F 1.85 |
| @ 4.12 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 14.40 | @ 5.82 | @ 3.00 | @ 7.39 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



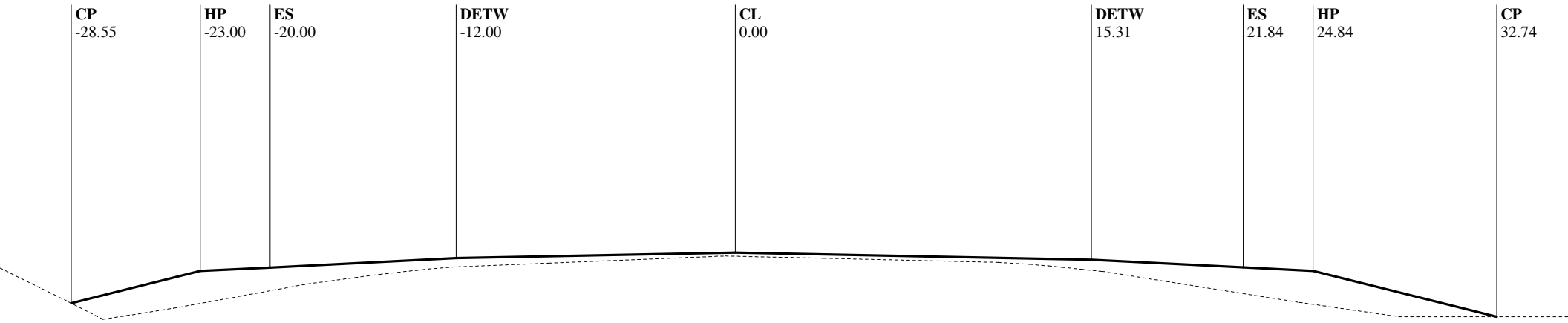

**Alignment Chain CENTER1**
**Station: 315+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.83 | -23.00 | -20.00 | -12.00 | 0.00 | 14.86 | 21.03 | 24.03 | 31.61 |
| -1.84 | -0.64 | -0.49 | -0.09 | 0.15 | -0.14 | -0.45 | -0.60 | -2.50 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.21 | F 0.15 | F 0.40 | F 0.24 | | F 0.30 | F 0.31 | F 0.15 | F 1.90 |
| @ 4.83 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 14.86 | @ 6.17 | @ 3.00 | @ 7.58 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



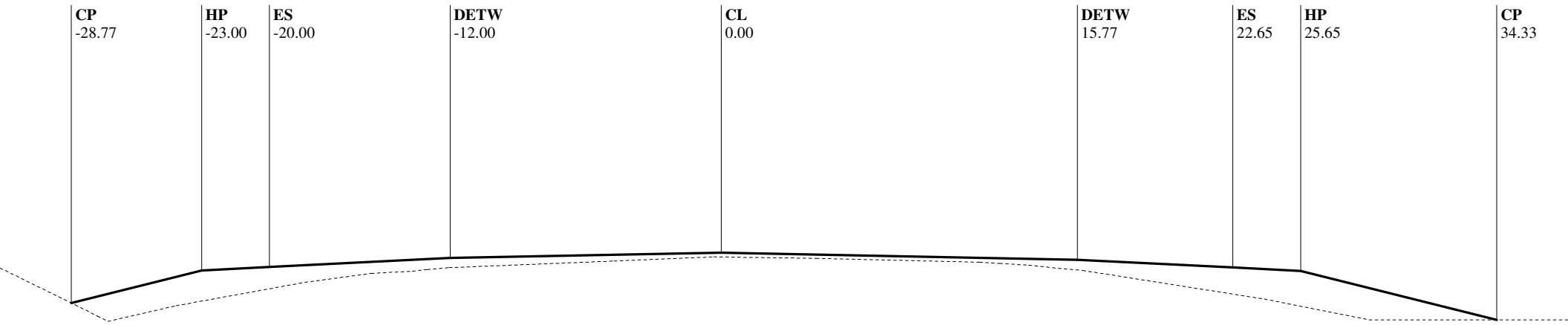

**Alignment Chain CENTER1**
**Station: 315+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.55 | -23.00 | -20.00 | -12.00 | 0.00 | 15.31 | 21.84 | 24.84 | 32.74 |
| -1.87 | -0.49 | -0.34 | 0.06 | 0.30 | 0.00 | -0.33 | -0.48 | -2.45 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.39 | F 0.15 | F 0.40 | F 0.24 | | F 0.31 | F 0.33 | F 0.15 | F 1.97 |
| @ 5.55 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 15.31 | @ 6.53 | @ 3.00 | @ 7.90 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



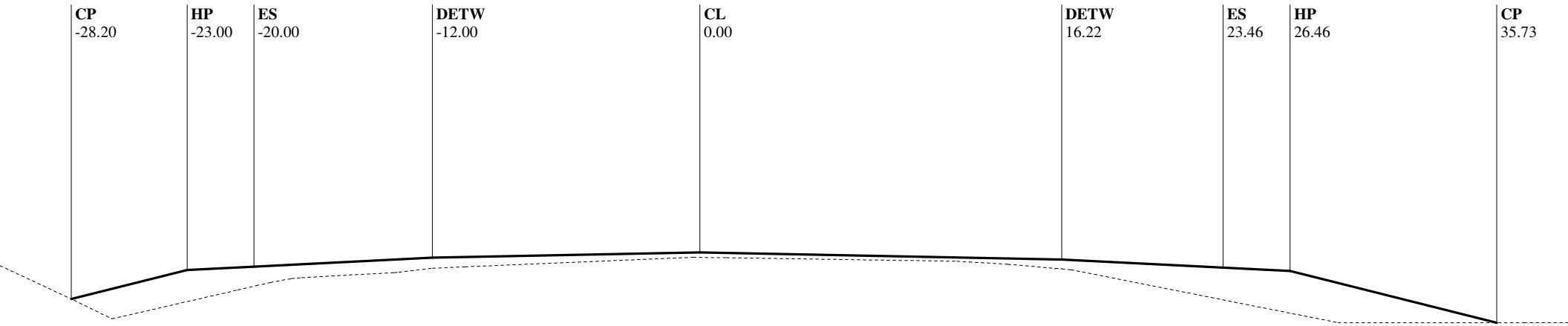

**Alignment Chain CENTER1**
**Station: 316+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.77 | -23.00 | -20.00 | -12.00 | 0.00 | 15.77 | 22.65 | 25.65 | 34.33 |
| -1.64 | -0.20 | -0.05 | 0.35 | 0.59 | 0.27 | -0.07 | -0.22 | -2.39 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.44 | F 0.15 | F 0.40 | F 0.24 | | F 0.32 | F 0.34 | F 0.15 | F 2.17 |
| @ 5.77 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 15.77 | @ 6.89 | @ 3.00 | @ 8.68 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



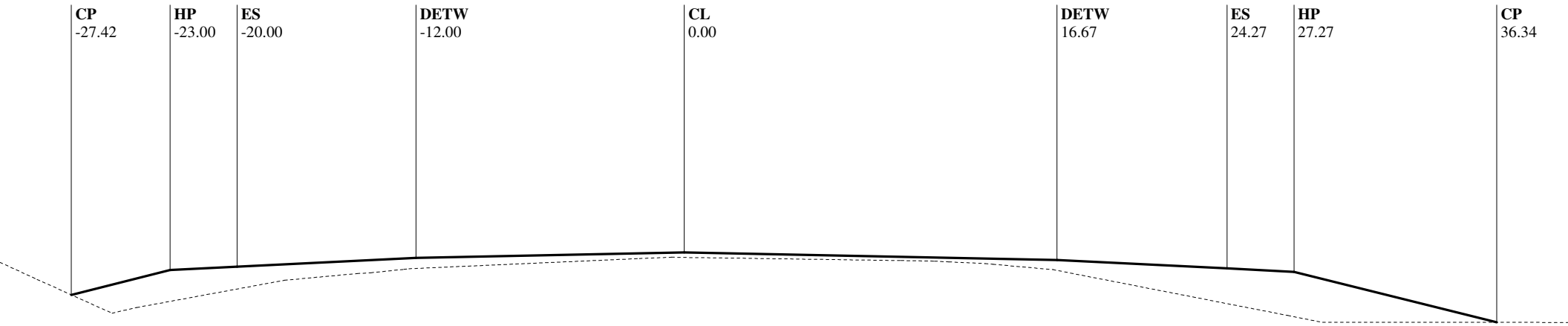

**Alignment Chain CENTER1**
**Station: 316+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.20 | -23.00 | -20.00 | -12.00 | 0.00 | 16.22 | 23.46 | 26.46 | 35.73 |
| -1.26 | 0.04 | 0.19 | 0.59 | 0.83 | 0.51 | 0.15 | 0.00 | -2.32 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.30 | F 0.15 | F 0.40 | F 0.24 | | F 0.32 | F 0.36 | F 0.15 | F 2.32 |
| @ 5.20 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 16.22 | @ 7.24 | @ 3.00 | @ 9.27 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



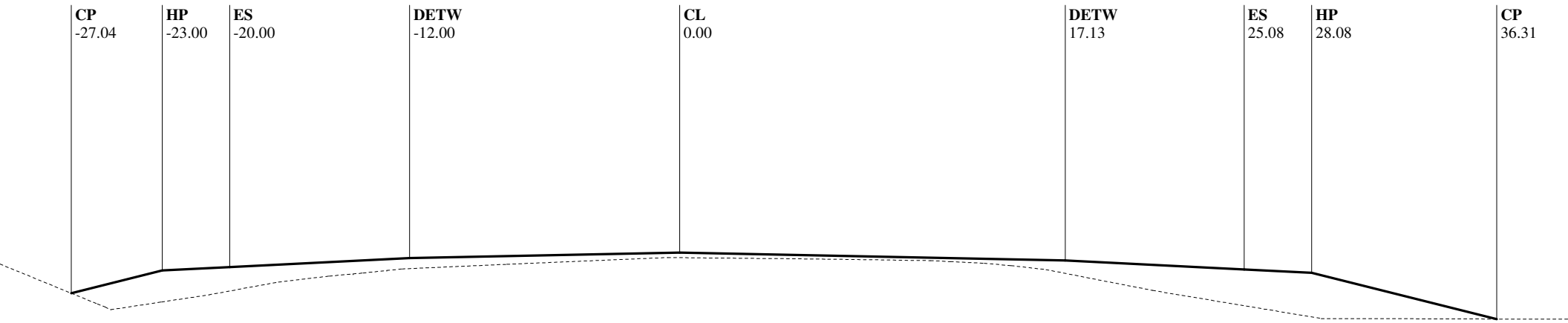

**Alignment Chain CENTER1**
**Station: 317+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.42 | -23.00 | -20.00 | -12.00 | 0.00 | 16.67 | 24.27 | 27.27 | 36.34 |
| -1.02 | 0.09 | 0.24 | 0.64 | 0.88 | 0.54 | 0.16 | 0.01 | -2.25 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.10 | F 0.15 | F 0.40 | F 0.24 | | F 0.33 | F 0.38 | F 0.15 | F 2.27 |
| @ 4.42 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 16.67 | @ 7.60 | @ 3.00 | @ 9.06 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



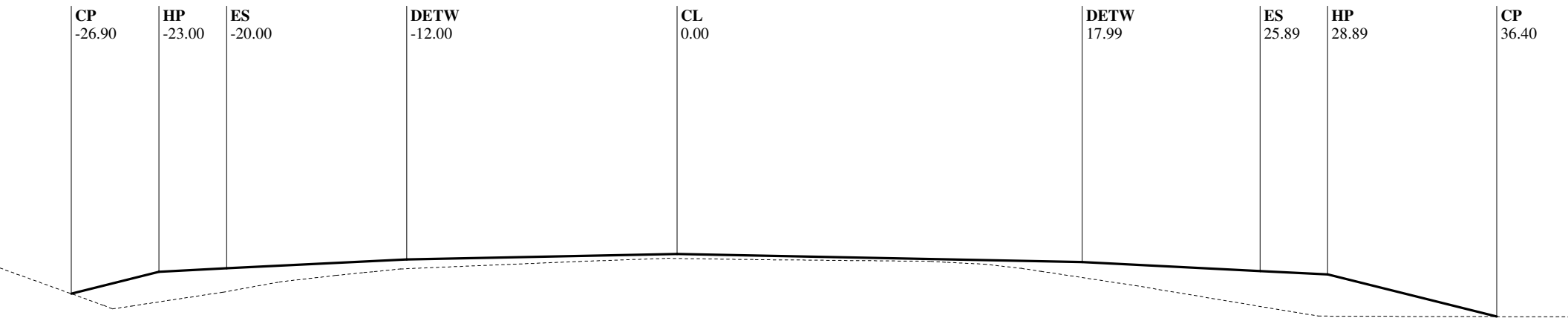

**Alignment Chain CENTER1**
**Station: 317+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.04 | -23.00 | -20.00 | -12.00 | 0.00 | 17.13 | 25.08 | 28.08 | 36.31 |
| -0.98 | 0.02 | 0.17 | 0.57 | 0.81 | 0.47 | 0.07 | -0.08 | -2.13 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.01 | F 0.15 | F 0.40 | F 0.24 | | F 0.34 | F 0.40 | F 0.15 | F 2.06 |
| @ 4.04 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 17.13 | @ 7.96 | @ 3.00 | @ 8.22 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



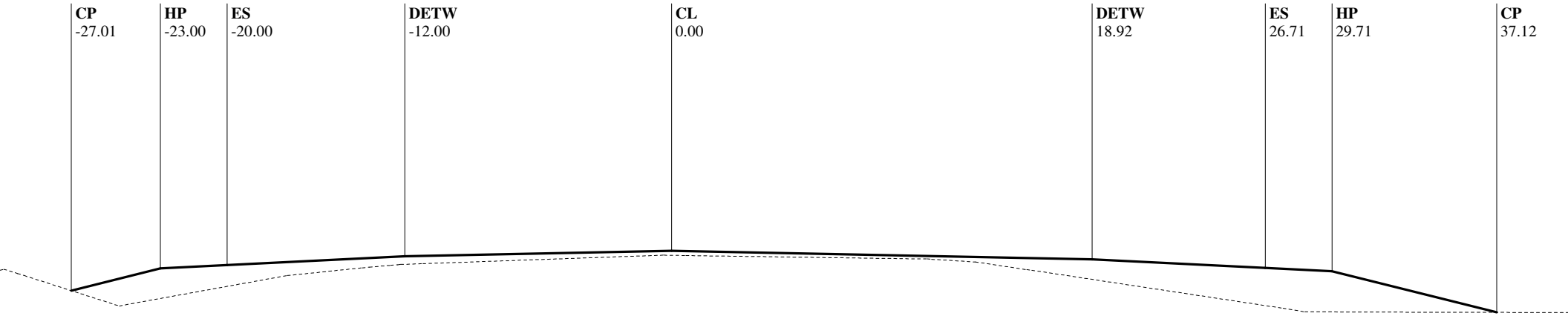

**Alignment Chain CENTER1**
**Station: 318+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.90 | -23.00 | -20.00 | -12.00 | 0.00 | 17.99 | 25.89 | 28.89 | 36.40 |
| -0.96 | 0.02 | 0.17 | 0.57 | 0.81 | 0.45 | 0.05 | -0.10 | -1.97 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.97 | F 0.15 | F 0.40 | F 0.24 | | F 0.36 | F 0.40 | F 0.15 | F 1.88 |
| @ 3.90 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 17.99 | @ 7.91 | @ 3.00 | @ 7.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



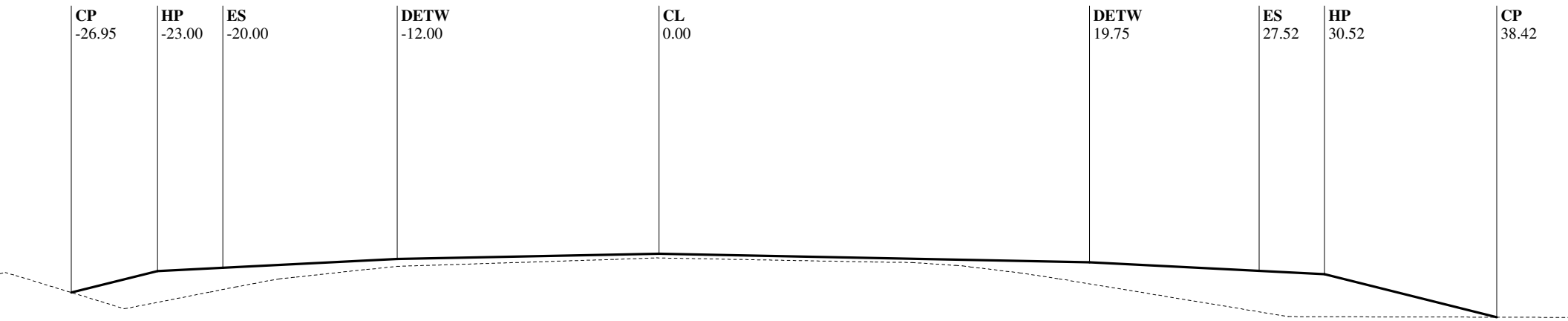

**Alignment Chain CENTER1**
**Station: 318+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.01 | -23.00 | -20.00 | -12.00 | 0.00 | 18.92 | 26.71 | 29.71 | 37.12 |
| -0.86 | 0.14 | 0.29 | 0.69 | 0.93 | 0.56 | 0.17 | 0.02 | -1.84 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.00 | F 0.15 | F 0.40 | F 0.24 | | F 0.38 | F 0.39 | F 0.15 | F 1.85 |
| @ 4.01 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 18.92 | @ 7.79 | @ 3.00 | @ 7.42 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



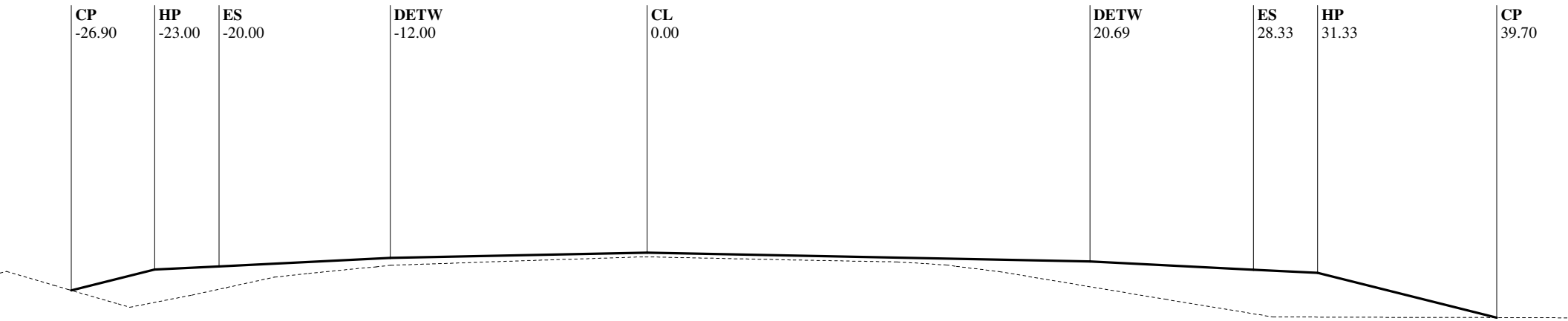

**Alignment Chain CENTER1**
**Station: 319+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.95 | -23.00 | -20.00 | -12.00 | 0.00 | 19.75 | 27.52 | 30.52 | 38.42 |
| -0.73 | 0.25 | 0.40 | 0.80 | 1.04 | 0.65 | 0.26 | 0.11 | -1.87 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.99 | F 0.15 | F 0.40 | F 0.24 | | F 0.40 | F 0.39 | F 0.15 | F 1.98 |
| @ 3.95 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 19.75 | @ 7.77 | @ 3.00 | @ 7.90 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



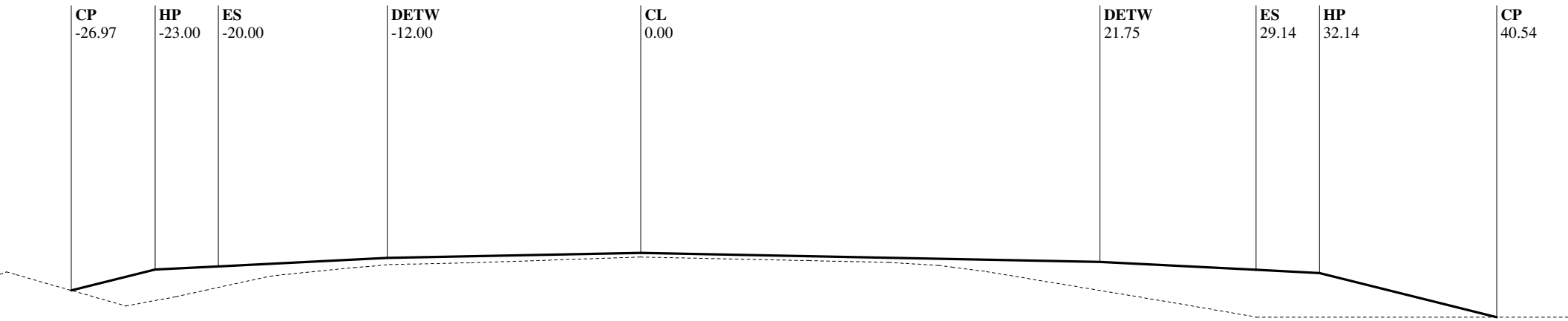

**Alignment Chain CENTER1**
**Station: 319+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.90 | -23.00 | -20.00 | -12.00 | 0.00 | 20.69 | 28.33 | 31.33 | 39.70 |
| -0.62 | 0.36 | 0.51 | 0.91 | 1.15 | 0.73 | 0.35 | 0.20 | -1.89 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.98 | F 0.15 | F 0.40 | F 0.24 | | F 0.41 | F 0.38 | F 0.15 | F 2.09 |
| @ 3.90 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 20.69 | @ 7.64 | @ 3.00 | @ 8.37 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



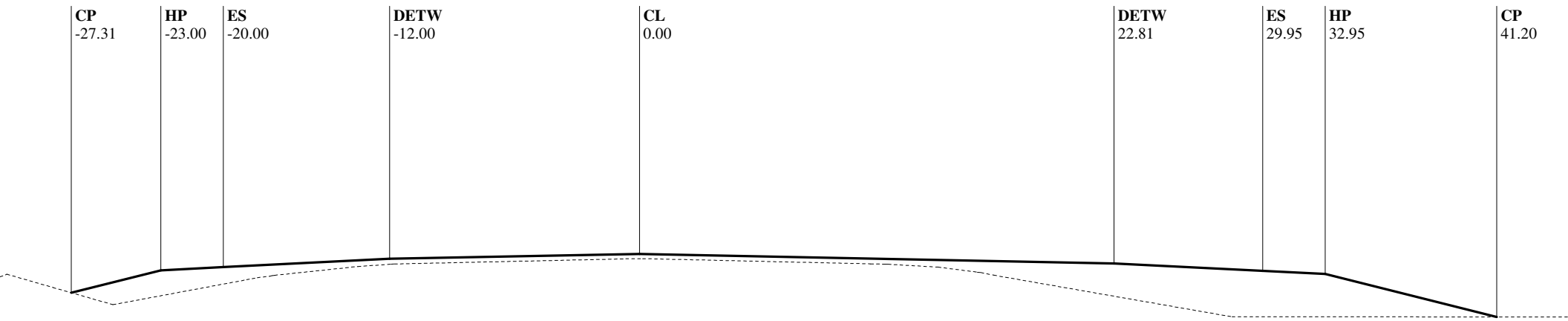

**Alignment Chain CENTER1**
**Station: 320+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.97 | -23.00 | -20.00 | -12.00 | 0.00 | 21.75 | 29.14 | 32.14 | 40.54 |
| -0.58 | 0.41 | 0.56 | 0.96 | 1.20 | 0.77 | 0.40 | 0.25 | -1.85 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.99 | F 0.15 | F 0.40 | F 0.24 | | F 0.43 | F 0.37 | F 0.15 | F 2.10 |
| @ 3.97 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 21.75 | @ 7.39 | @ 3.00 | @ 8.40 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



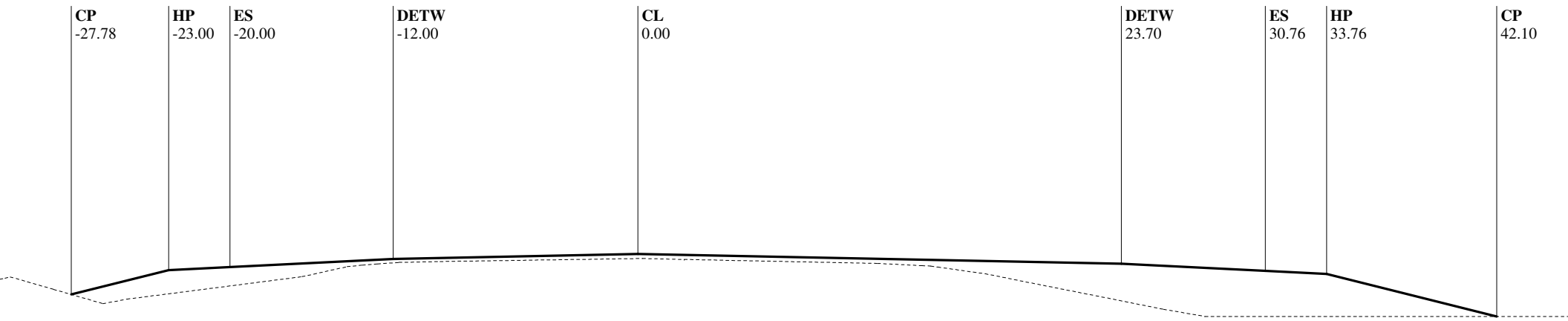

**Alignment Chain CENTER1**
**Station: 320+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.31 | -23.00 | -20.00 | -12.00 | 0.00 | 22.81 | 29.95 | 32.95 | 41.20 |
| -0.62 | 0.46 | 0.61 | 1.01 | 1.25 | 0.79 | 0.43 | 0.28 | -1.78 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.08 | F 0.15 | F 0.40 | F 0.24 | | F 0.46 | F 0.36 | F 0.15 | F 2.06 |
| @ 4.31 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 22.81 | @ 7.14 | @ 3.00 | @ 8.25 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



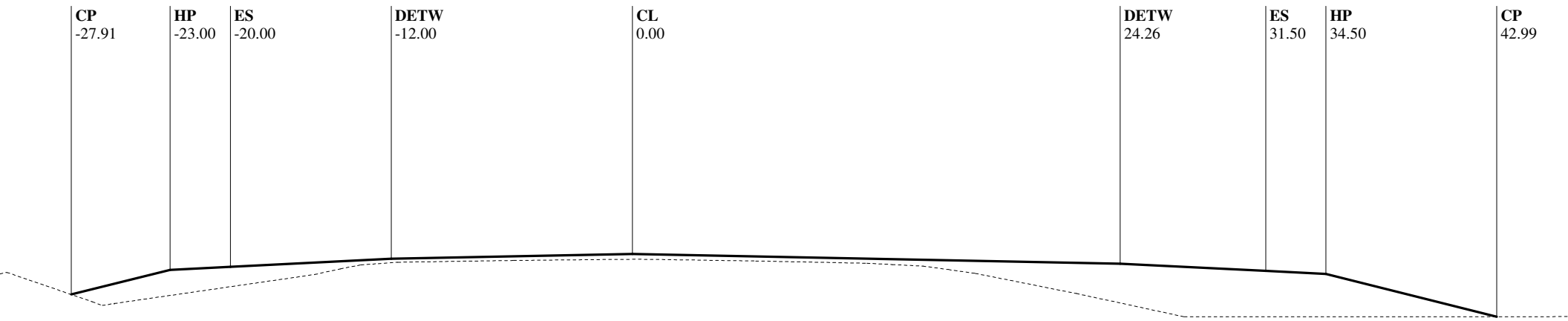

**Alignment Chain CENTER1**
**Station: 321+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.78 | -23.00 | -20.00 | -12.00 | 0.00 | 23.70 | 30.76 | 33.76 | 42.10 |
| -0.62 | 0.57 | 0.72 | 1.12 | 1.36 | 0.89 | 0.53 | 0.38 | -1.70 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.19 | F 0.15 | F 0.40 | F 0.24 | | F 0.47 | F 0.35 | F 0.15 | F 2.08 |
| @ 4.78 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 23.70 | @ 7.07 | @ 3.00 | @ 8.34 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



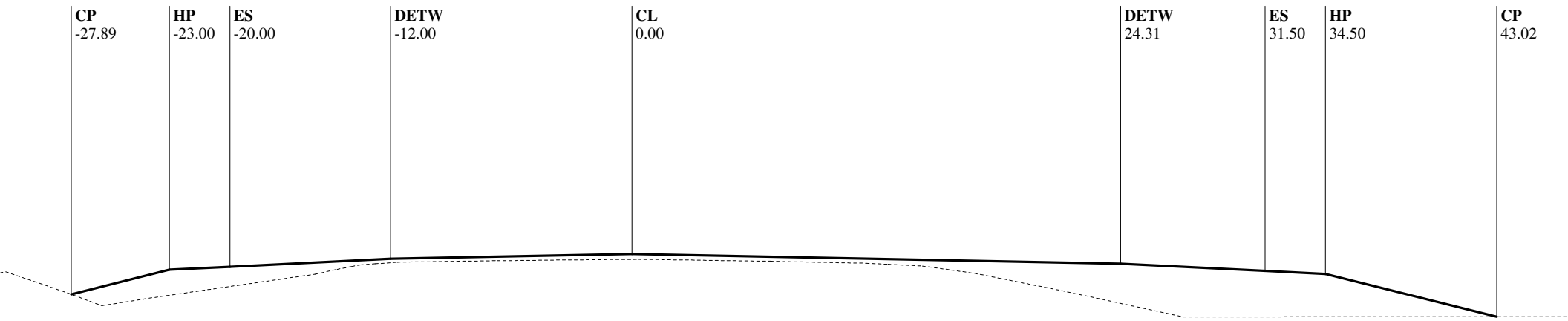

**Alignment Chain CENTER1**
**Station: 321+45.59**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.91 | -23.00 | -20.00 | -12.00 | 0.00 | 24.26 | 31.50 | 34.50 | 42.99 |
| -0.50 | 0.73 | 0.88 | 1.28 | 1.52 | 1.03 | 0.67 | 0.52 | -1.60 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.23 | F 0.15 | F 0.40 | F 0.24 | | F 0.49 | F 0.36 | F 0.15 | F 2.12 |
| @ 4.91 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.26 | @ 7.24 | @ 3.00 | @ 8.49 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



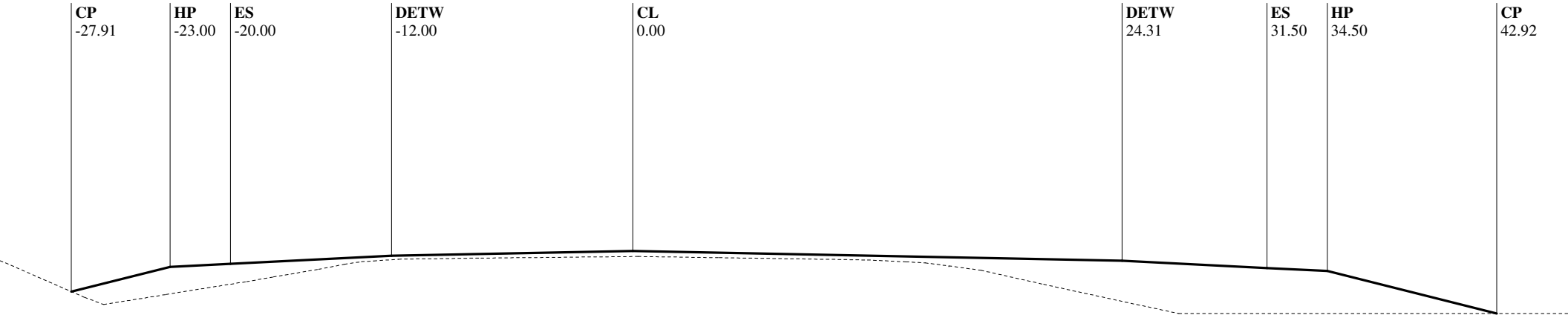

**Alignment Chain CENTER1**
**Station: 321+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.89 | -23.00 | -20.00 | -12.00 | 0.00 | 24.31 | 31.50 | 34.50 | 43.02 |
| -0.48 | 0.74 | 0.89 | 1.29 | 1.53 | 1.05 | 0.69 | 0.54 | -1.59 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.22 | F 0.15 | F 0.40 | F 0.24 | | F 0.49 | F 0.36 | F 0.15 | F 2.13 |
| @ 4.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.31 | @ 7.19 | @ 3.00 | @ 8.52 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



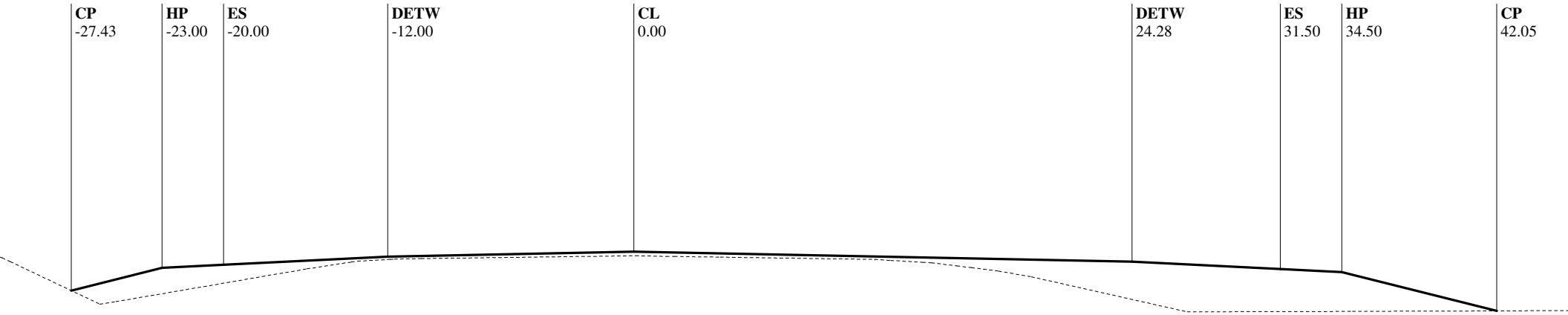

**Alignment Chain CENTER1**
**Station: 322+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.91 | -23.00 | -20.00 | -12.00 | 0.00 | 24.31 | 31.50 | 34.50 | 42.92 |
| -0.40 | 0.83 | 0.98 | 1.38 | 1.62 | 1.13 | 0.77 | 0.62 | -1.48 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.23 | F 0.15 | F 0.40 | F 0.24 | | F 0.49 | F 0.36 | F 0.15 | F 2.10 |
| @ 4.91 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.31 | @ 7.19 | @ 3.00 | @ 8.42 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



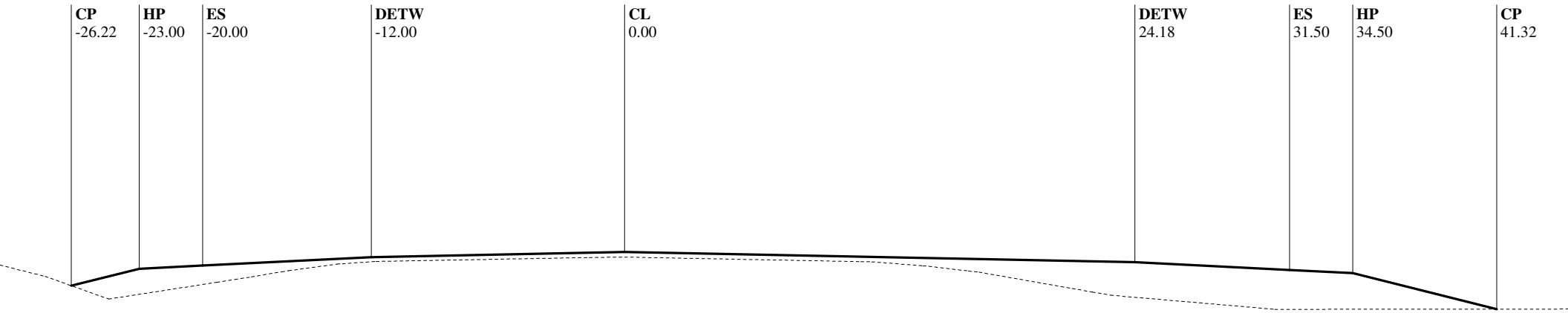

**Alignment Chain CENTER1**
**Station: 322+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -27.43 | -23.00 | -20.00 | -12.00 | 0.00 | 24.28 | 31.50 | 34.50 | 42.05 |
| -0.31 | 0.79 | 0.94 | 1.34 | 1.58 | 1.10 | 0.74 | 0.59 | -1.30 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.11 | F 0.15 | F 0.40 | F 0.24 | | F 0.49 | F 0.36 | F 0.15 | F 1.89 |
| @ 4.43 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.28 | @ 7.22 | @ 3.00 | @ 7.55 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



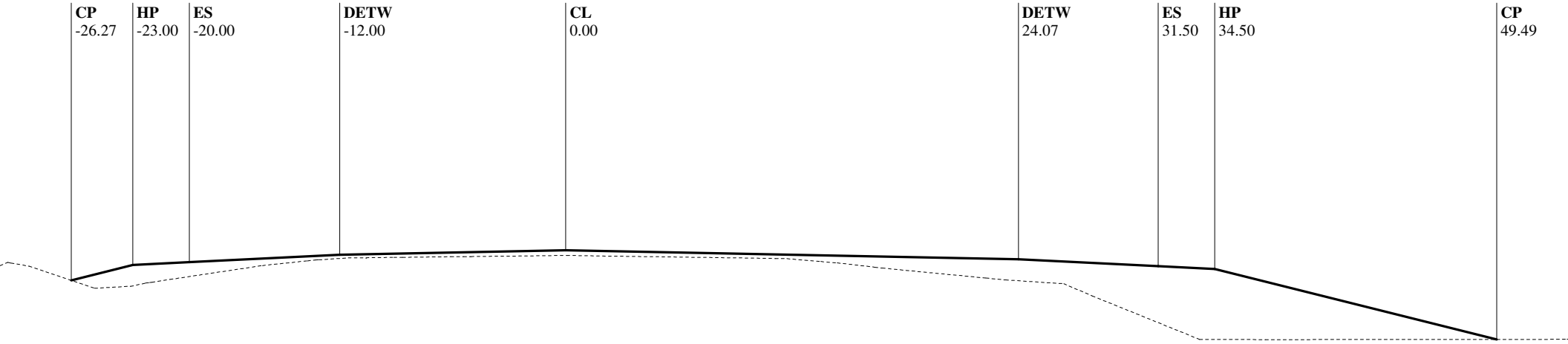

**Alignment Chain CENTER1**
**Station: 323+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.22 | -23.00 | -20.00 | -12.00 | 0.00 | 24.18 | 31.50 | 34.50 | 41.32 |
| 0.11 | 0.91 | 1.06 | 1.46 | 1.70 | 1.22 | 0.85 | 0.70 | -1.00 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.80 | F 0.15 | F 0.40 | F 0.24 | | F 0.48 | F 0.37 | F 0.15 | F 1.71 |
| @ 3.22 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.18 | @ 7.32 | @ 3.00 | @ 6.82 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



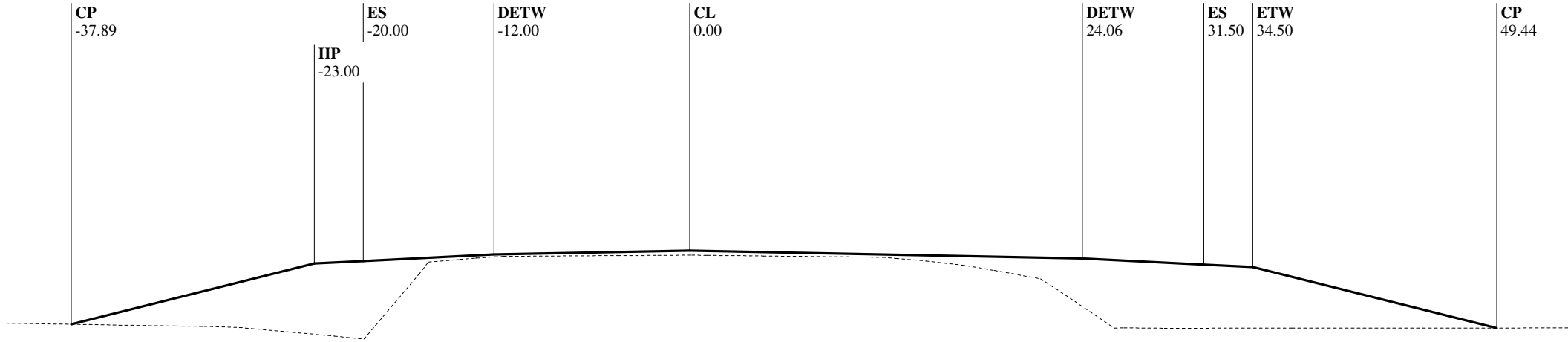

**Alignment Chain CENTER1**
**Station: 323+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -26.27 | -23.00 | -20.00 | -12.00 | 0.00 | 24.07 | 31.50 | 34.50 | 49.49 |
| 0.15 | 0.97 | 1.12 | 1.52 | 1.76 | 1.28 | 0.91 | 0.76 | -2.99 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 0.82 | F 0.15 | F 0.40 | F 0.24 | | F 0.48 | F 0.37 | F 0.15 | F 3.75 |
| @ 3.27 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.07 | @ 7.43 | @ 3.00 | @ 14.99 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



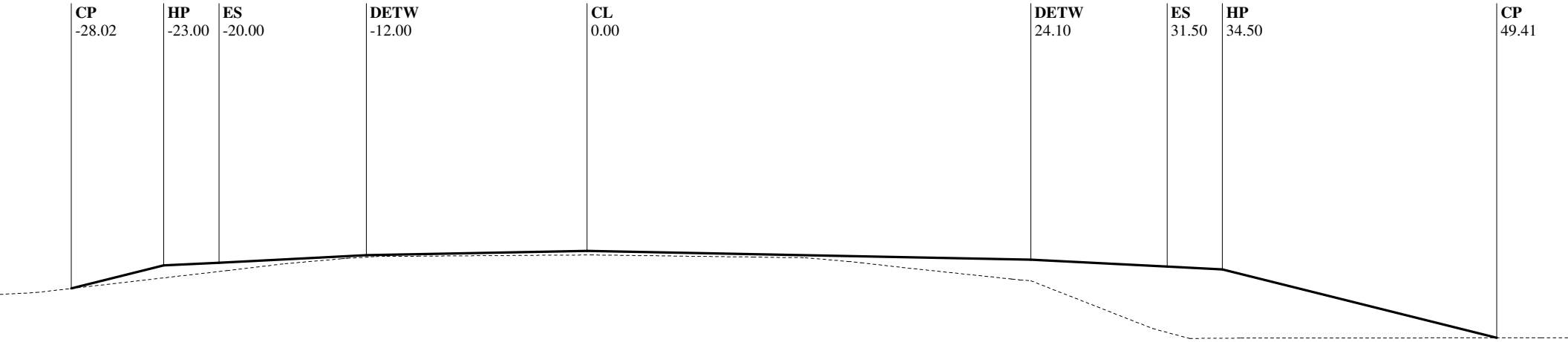

**Alignment Chain CENTER1**
**Station: 323+78.00**

| CP | HP | ES | DETW | CL | DETW | ES | ETW | CP |
|---|---|---|---|---|---|---|---|---|
| -37.89 | -23.00 | -20.00 | -12.00 | 0.00 | 24.06 | 31.50 | 34.50 | 49.44 |
| -2.76 | 0.97 | 1.12 | 1.52 | 1.76 | 1.27 | 0.90 | 0.75 | -2.98 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.72 | F 0.15 | F 0.40 | F 0.24 | | F 0.48 | F 0.37 | F 0.15 | F 3.74 |
| @ 14.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.06 | @ 7.44 | @ 3.00 | @ 14.94 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



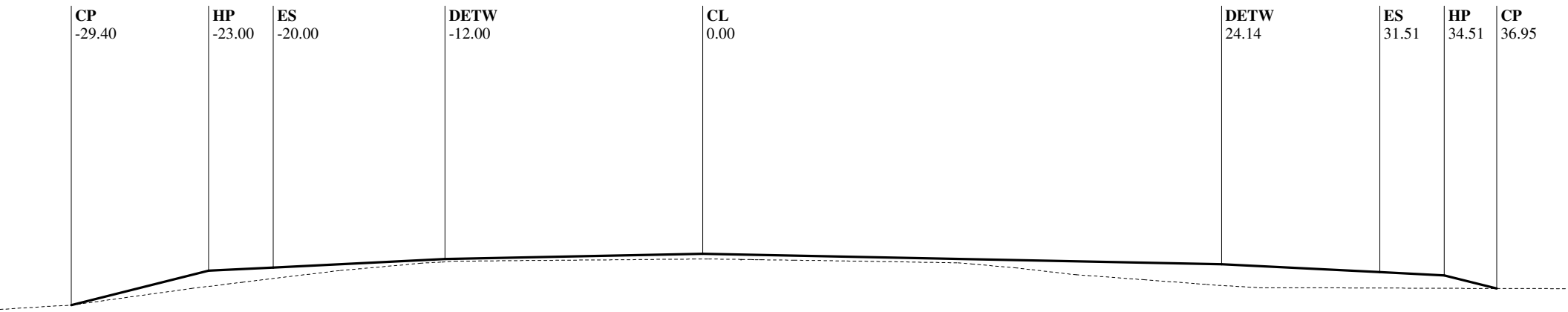

**Alignment Chain CENTER1**
**Station: 324+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.02 | -23.00 | -20.00 | -12.00 | 0.00 | 24.10 | 31.50 | 34.50 | 49.41 |
| -0.29 | 0.96 | 1.11 | 1.51 | 1.75 | 1.27 | 0.90 | 0.75 | -2.98 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.26 | F 0.15 | F 0.40 | F 0.24 | | F 0.48 | F 0.37 | F 0.15 | F 3.73 |
| @ 5.02 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.10 | @ 7.40 | @ 3.00 | @ 14.91 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



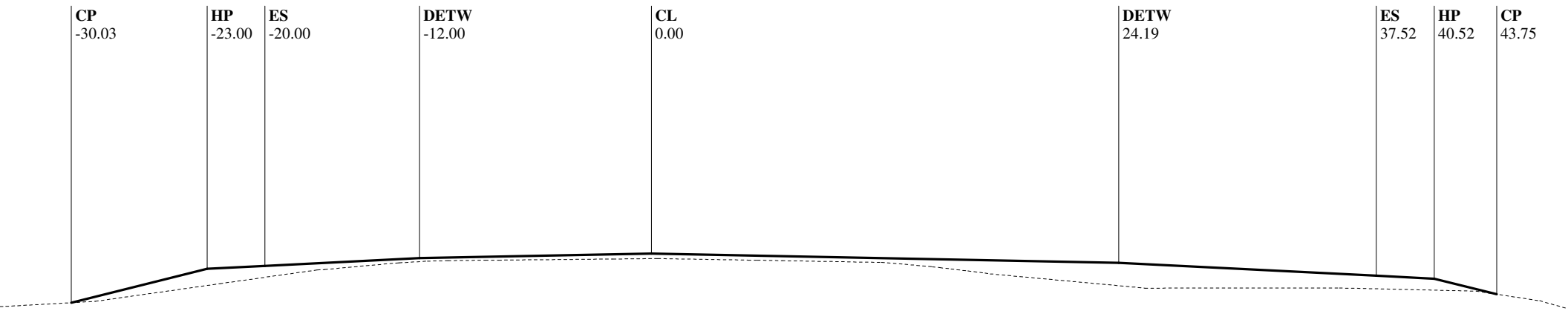

**Alignment Chain CENTER1**
**Station: 324+23.92**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -29.40 | -23.00 | -20.00 | -12.00 | 0.00 | 24.14 | 31.51 | 34.51 | 36.95 |
| -0.56 | 1.04 | 1.19 | 1.59 | 1.83 | 1.35 | 0.98 | 0.83 | 0.22 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.60 | F 0.15 | F 0.40 | F 0.24 | | F 0.48 | F 0.37 | F 0.15 | F 0.61 |
| @ 6.40 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.14 | @ 7.36 | @ 3.00 | @ 2.45 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



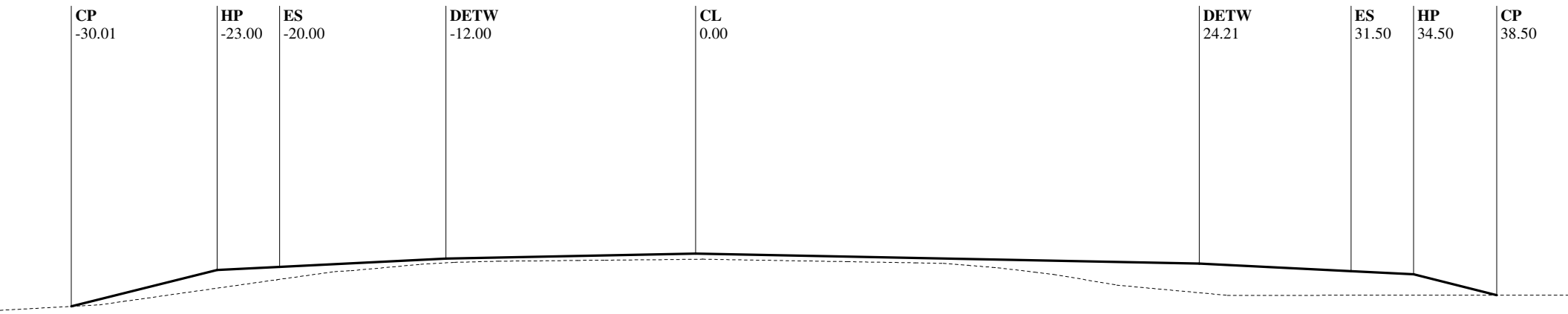

**Alignment Chain CENTER1**
**Station: 324+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -30.03 | -23.00 | -20.00 | -12.00 | 0.00 | 24.19 | 37.52 | 40.52 | 43.75 |
| -0.68 | 1.08 | 1.23 | 1.63 | 1.87 | 1.39 | 0.72 | 0.57 | -0.24 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.76 | F 0.15 | F 0.40 | F 0.24 | | F 0.48 | F 0.67 | F 0.15 | F 0.81 |
| @ 7.03 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.19 | @ 13.32 | @ 3.00 | @ 3.24 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



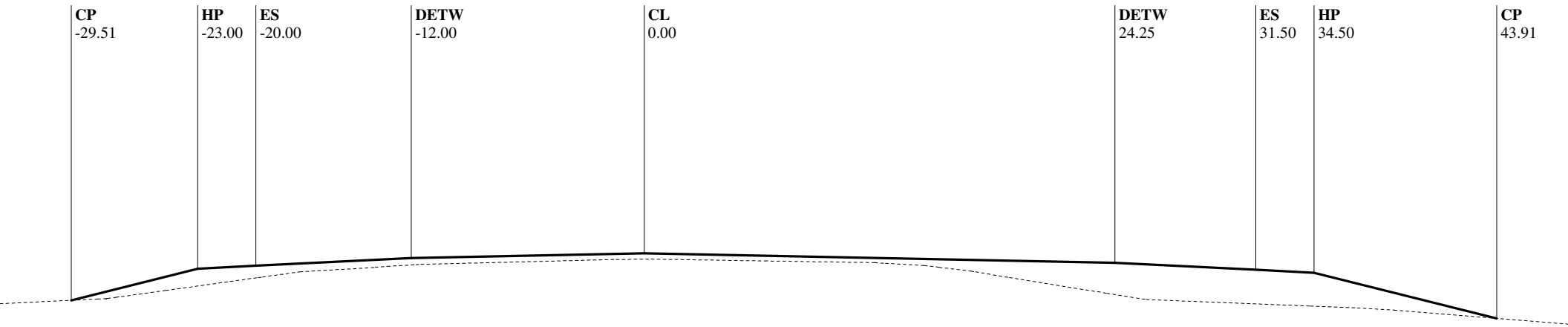

**Alignment Chain CENTER1**
**Station: 324+55.73**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -30.01 | -23.00 | -20.00 | -12.00 | 0.00 | 24.21 | 31.50 | 34.50 | 38.50 |
| -0.69 | 1.06 | 1.21 | 1.61 | 1.85 | 1.36 | 1.00 | 0.85 | -0.15 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.75 | F 0.15 | F 0.40 | F 0.24 | | F 0.48 | F 0.36 | F 0.15 | F 1.00 |
| @ 7.01 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.21 | @ 7.29 | @ 3.00 | @ 4.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



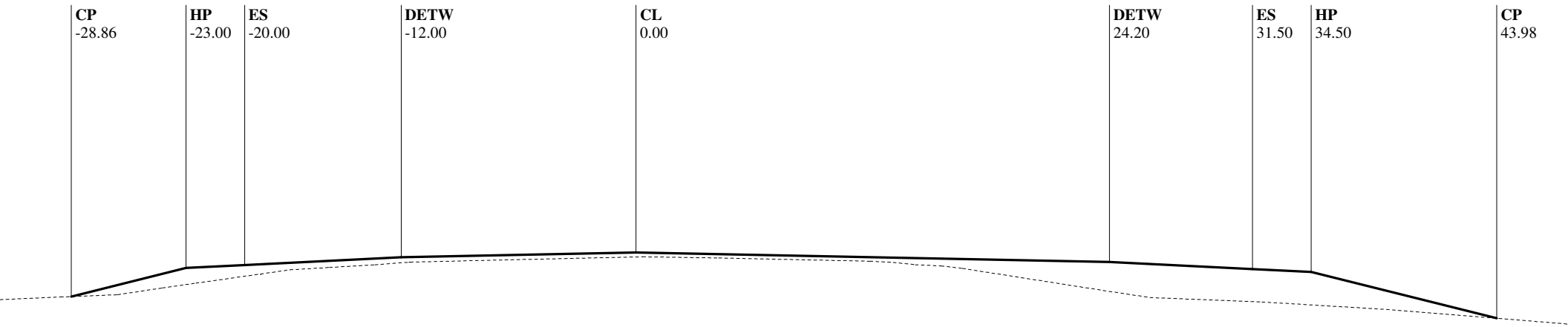

**Alignment Chain CENTER1**
**Station: 325+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -29.51 | -23.00 | -20.00 | -12.00 | 0.00 | 24.25 | 31.50 | 34.50 | 43.91 |
| -0.79 | 0.83 | 0.98 | 1.38 | 1.62 | 1.14 | 0.78 | 0.63 | -1.73 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.63 | F 0.15 | F 0.40 | F 0.24 | | F 0.48 | F 0.36 | F 0.15 | F 2.35 |
| @ 6.51 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.25 | @ 7.25 | @ 3.00 | @ 9.41 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



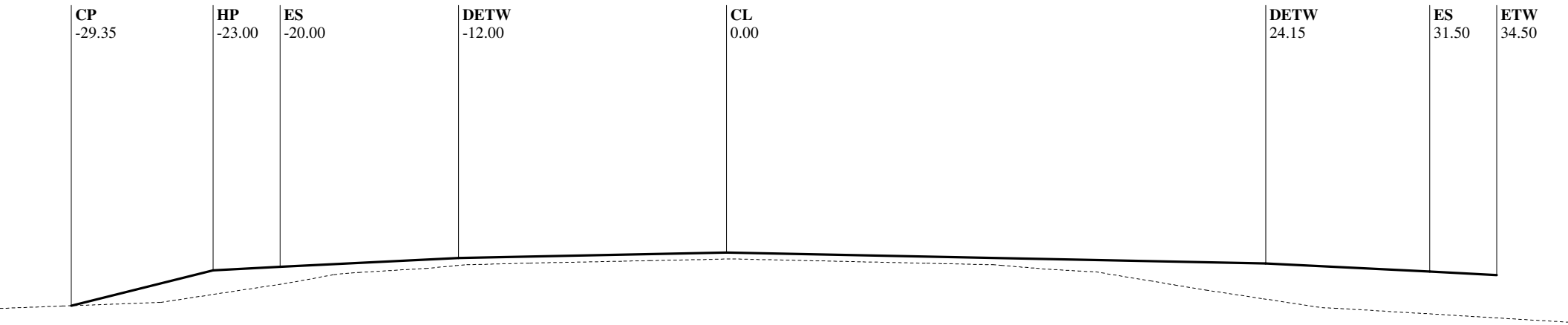

**Alignment Chain CENTER1**
**Station: 325+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.86 | -23.00 | -20.00 | -12.00 | 0.00 | 24.20 | 31.50 | 34.50 | 43.98 |
| -0.89 | 0.57 | 0.72 | 1.12 | 1.36 | 0.88 | 0.51 | 0.36 | -2.01 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.46 | F 0.15 | F 0.40 | F 0.24 | | F 0.48 | F 0.37 | F 0.15 | F 2.37 |
| @ 5.86 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.20 | @ 7.30 | @ 3.00 | @ 9.48 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



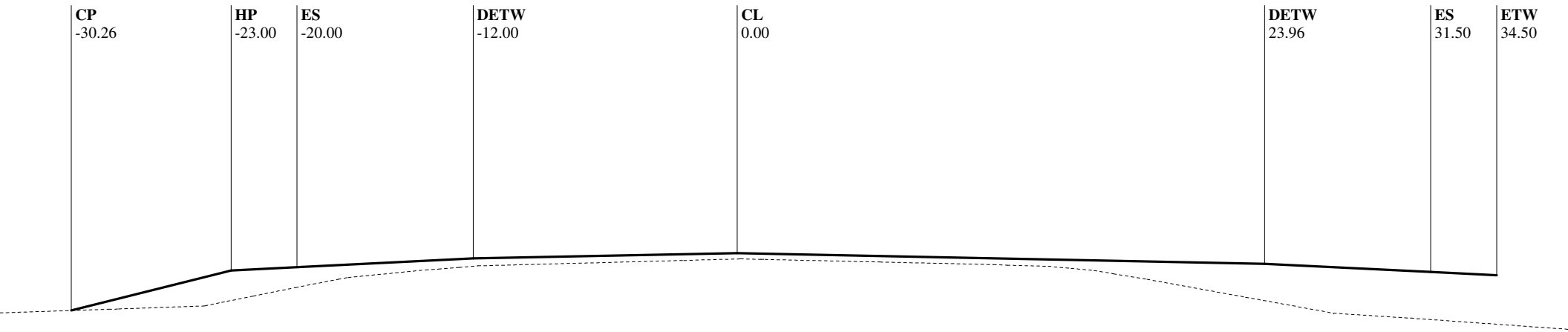

**Alignment Chain CENTER1**
**Station: 326+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | ETW |
|---|---|---|---|---|---|---|---|
| -29.35 | -23.00 | -20.00 | -12.00 | 0.00 | 24.15 | 31.50 | 34.50 |
| -1.04 | 0.55 | 0.70 | 1.10 | 1.34 | 0.85 | 0.49 | 0.34 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% |
| F 1.59 | F 0.15 | F 0.40 | F 0.24 | | F 0.48 | F 0.37 | F 0.15 |
| @ 6.35 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 24.15 | @ 7.35 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



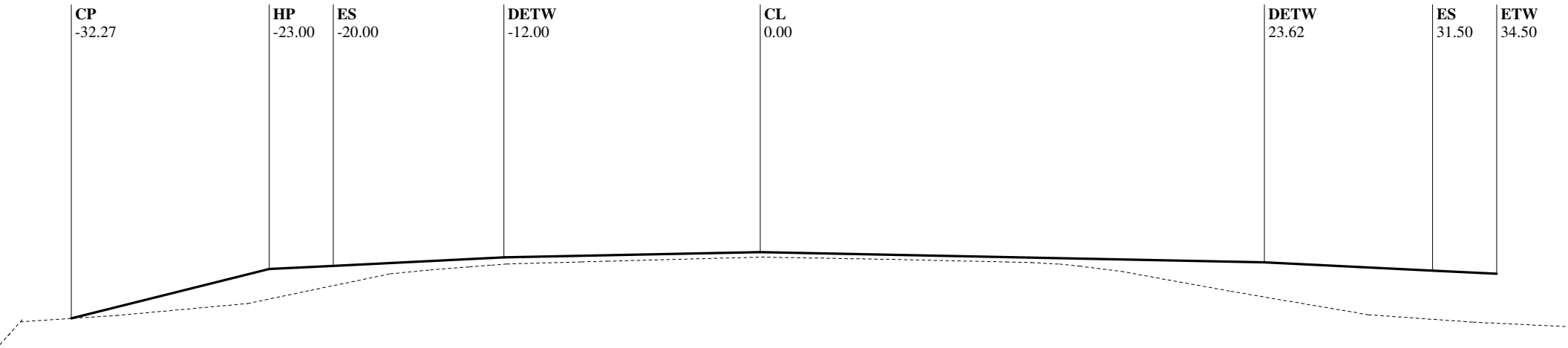

**Alignment Chain CENTER1**
**Station: 326+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | ETW |
|---|---|---|---|---|---|---|---|
| -30.26 | -23.00 | -20.00 | -12.00 | 0.00 | 23.96 | 31.50 | 34.50 |
| -1.20 | 0.62 | 0.77 | 1.17 | 1.41 | 0.93 | 0.55 | 0.40 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% |
| F 1.81 | F 0.15 | F 0.40 | F 0.24 | | F 0.48 | F 0.38 | F 0.15 |
| @ 7.26 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 23.96 | @ 7.54 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



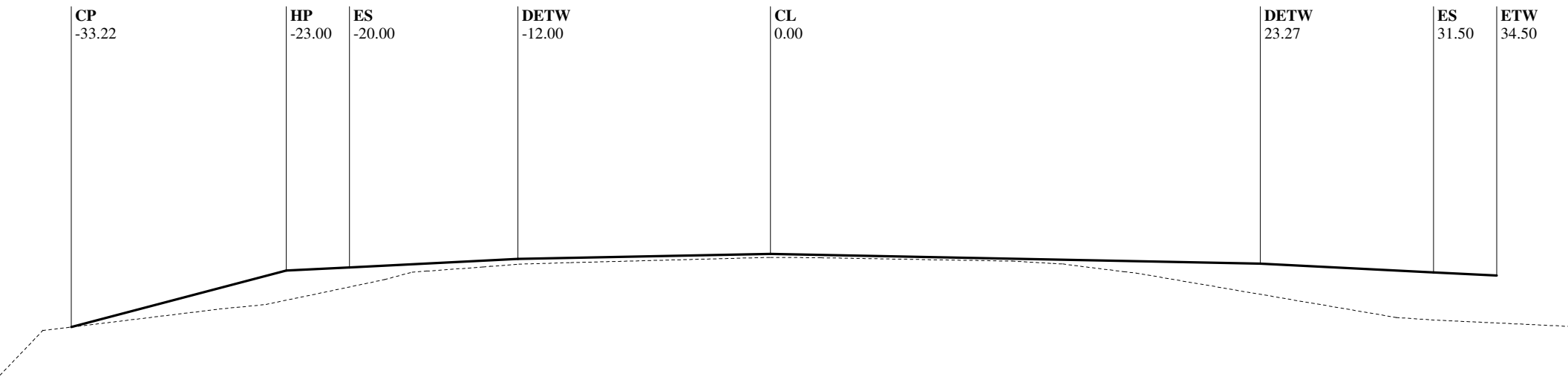

**Alignment Chain CENTER1**
**Station: 327+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | ETW |
|---|---|---|---|---|---|---|---|
| -32.27 | -23.00 | -20.00 | -12.00 | 0.00 | 23.62 | 31.50 | 34.50 |
| -1.64 | 0.67 | 0.82 | 1.22 | 1.46 | 0.99 | 0.60 | 0.45 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% |
| F 2.32 | F 0.15 | F 0.40 | F 0.24 | | F 0.47 | F 0.39 | F 0.15 |
| @ 9.27 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 23.62 | @ 7.88 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



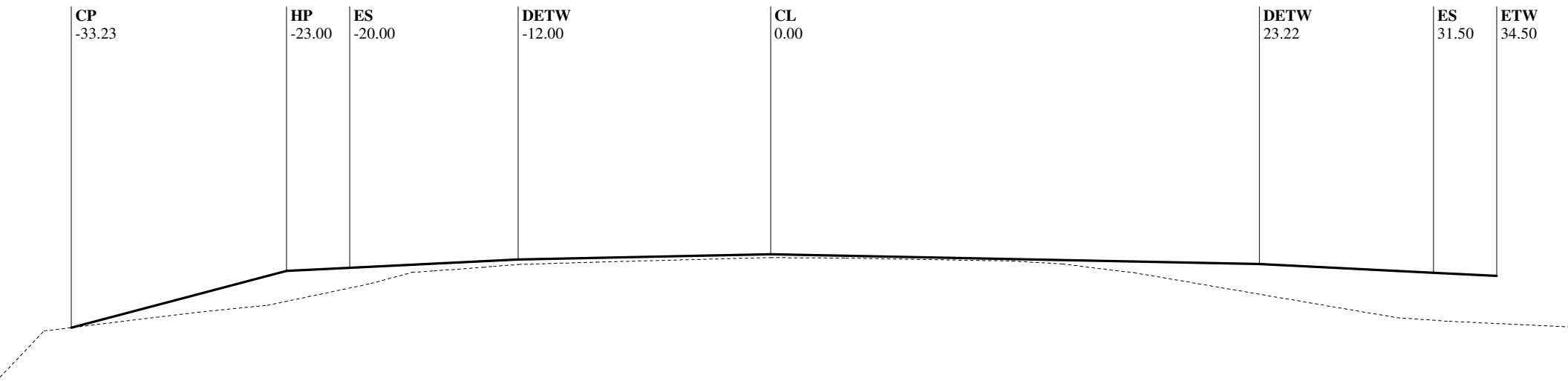

**Alignment Chain CENTER1**
**Station: 327+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | ETW |
|---|---|---|---|---|---|---|---|
| -33.22 | -23.00 | -20.00 | -12.00 | 0.00 | 23.27 | 31.50 | 34.50 |
| -2.01 | 0.68 | 0.83 | 1.23 | 1.47 | 1.01 | 0.59 | 0.44 |
| -3.80:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% |
| F 2.69 | F 0.15 | F 0.40 | F 0.24 | | F 0.47 | F 0.41 | F 0.15 |
| @ 10.22 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 23.27 | @ 8.23 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



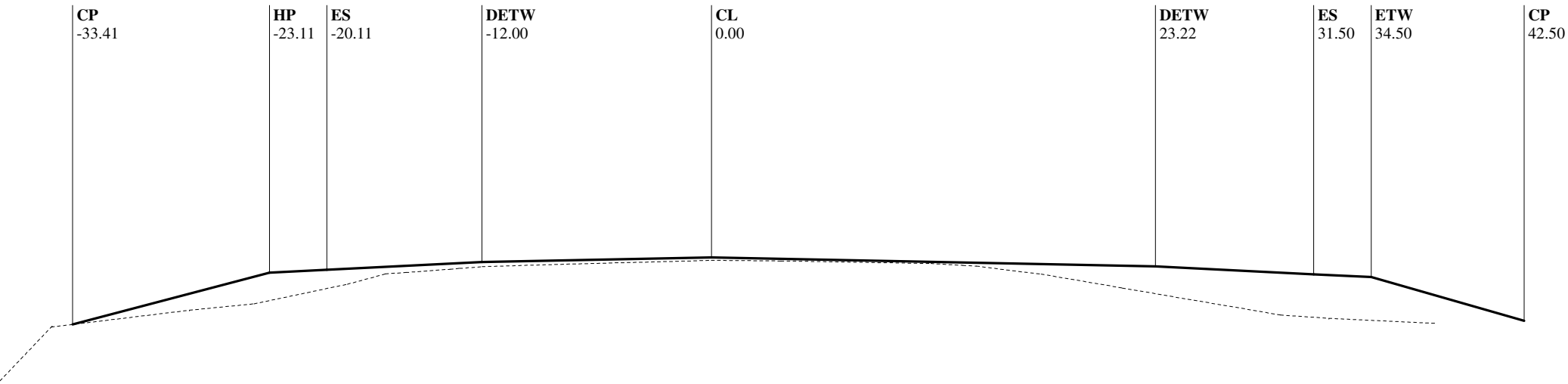

**Alignment Chain CENTER1**
**Station: 327+57.56**

| CP | HP | ES | DETW | CL | DETW | ES | ETW |
|---|---|---|---|---|---|---|---|
| -33.23 | -23.00 | -20.00 | -12.00 | 0.00 | 23.22 | 31.50 | 34.50 |
| -2.01 | 0.68 | 0.83 | 1.23 | 1.47 | 1.01 | 0.59 | 0.44 |
| -3.80:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% |
| F 2.69 | F 0.15 | F 0.40 | F 0.24 | | F 0.46 | F 0.41 | F 0.15 |
| @ 10.23 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 23.22 | @ 8.28 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



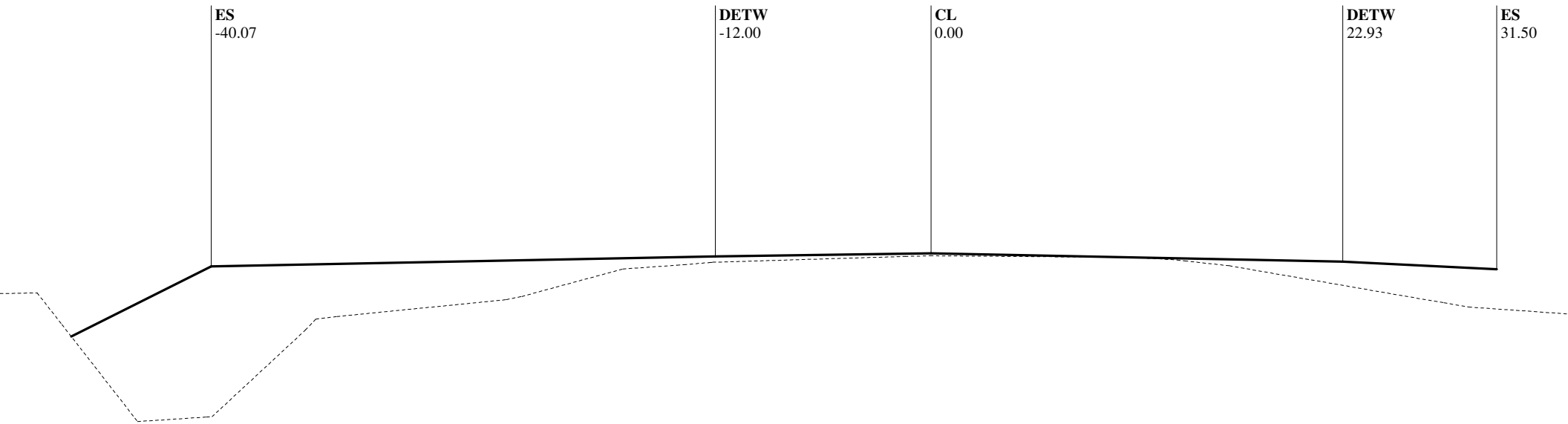

**Alignment Chain CENTER1**
**Station: 327+58.00**

| CP | HP | ES | DETW | CL | DETW | ES | ETW | CP |
|---|---|---|---|---|---|---|---|---|
| -33.41 | -23.11 | -20.11 | -12.00 | 0.00 | 23.22 | 31.50 | 34.50 | 42.50 |
| -2.03 | 0.68 | 0.83 | 1.23 | 1.47 | 1.01 | 0.59 | 0.44 | -1.84 |
| -3.80:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -3.50:1 |
| F 2.71 | F 0.15 | F 0.41 | F 0.24 | | F 0.46 | F 0.41 | F 0.15 | F 2.29 |
| @ 10.29 | @ 3.00 | @ 8.11 | @ 12.00 | | @ 23.22 | @ 8.29 | @ 3.00 | @ 8.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



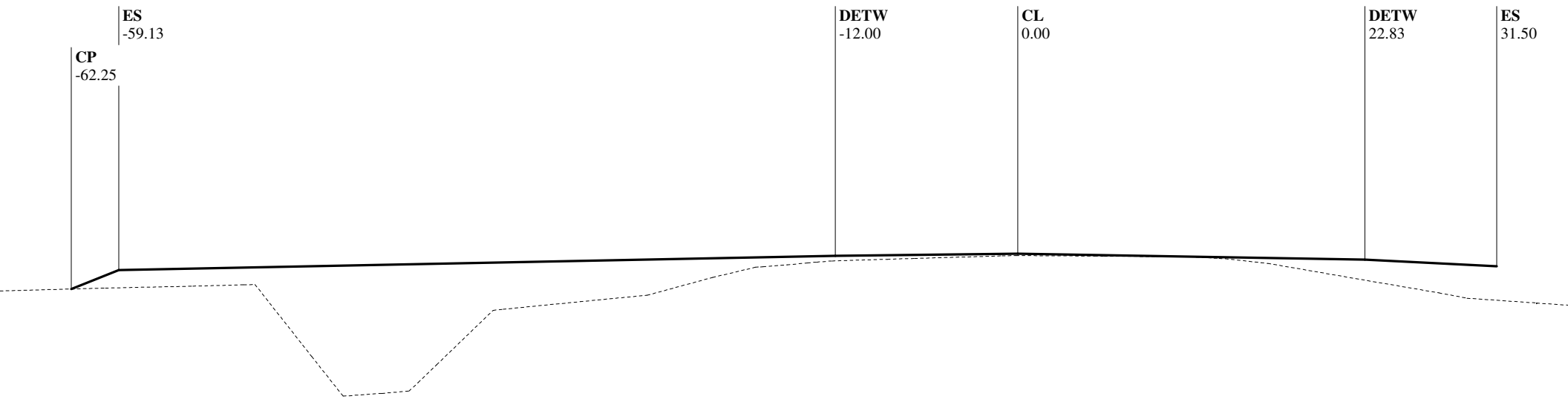

**Alignment Chain CENTER1**
**Station: 328+00.00**

| | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|
| -47.87 | -40.07 | -12.00 | 0.00 | 22.93 | 31.50 |
| -3.11 | 0.78 | 1.35 | 1.52 | 1.06 | 0.63 |
| -2.00:1 | -2.00% | -1.45% | | -2.00% | -5.00% |
| F 3.90 | F 0.56 | F 0.17 | | F 0.46 | F 0.43 |
| @ 7.79 | @ 28.07 | @ 12.00 | | @ 22.93 | @ 8.58 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



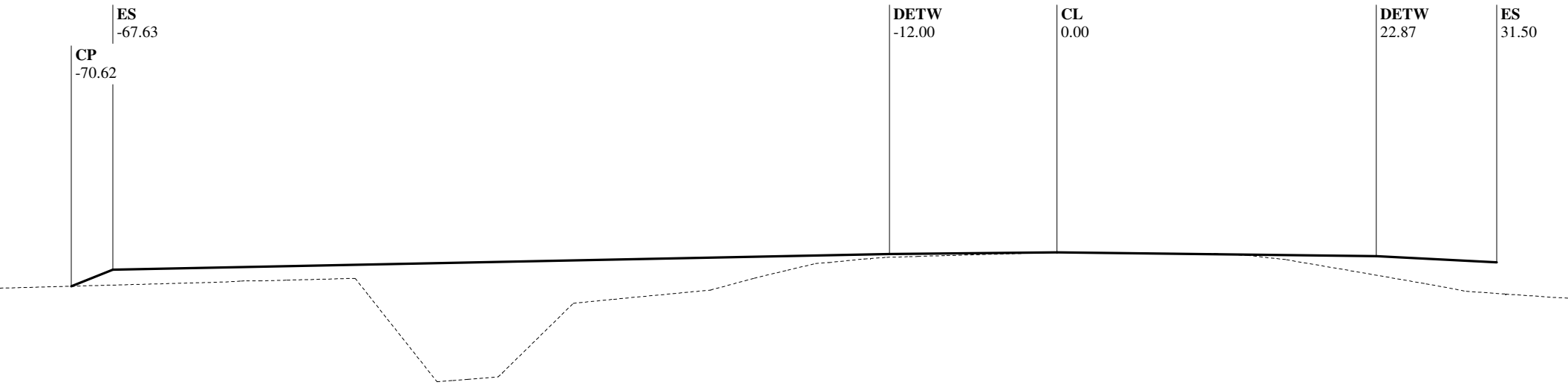

**Alignment Chain CENTER1**
**Station: 328+20.63**

| CP | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|
| -62.25 | -59.13 | -12.00 | 0.00 | 22.83 | 31.50 |
| -0.81 | 0.44 | 1.38 | 1.52 | 1.13 | 0.69 |
| -2.50:1 | -2.00% | -1.18% | | -1.75% | -5.00% |
| F 1.25 | F 0.94 | F 0.14 | | F 0.40 | F 0.43 |
| @ 3.12 | @ 47.13 | @ 12.00 | | @ 22.83 | @ 8.67 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



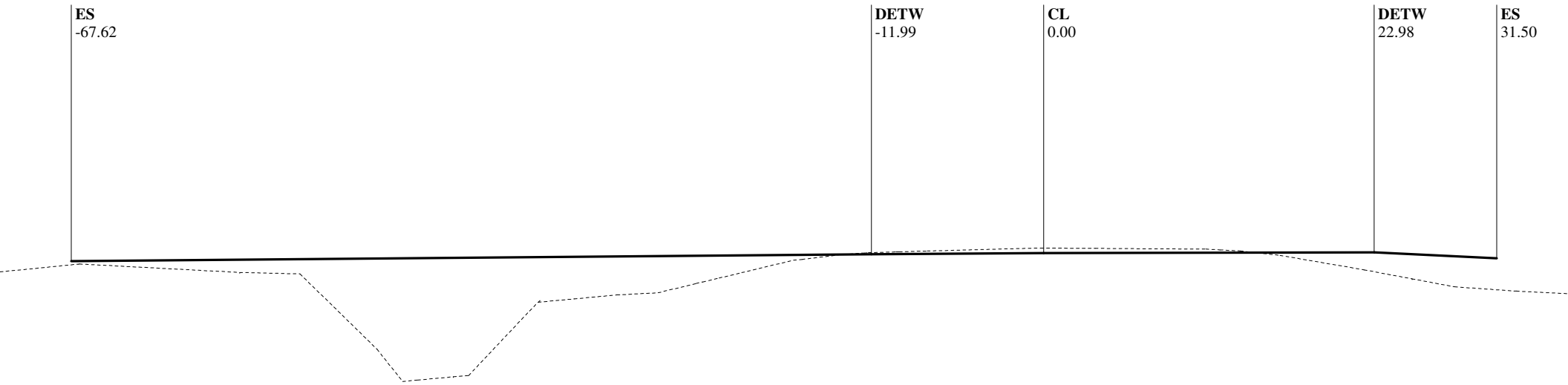

**Alignment Chain CENTER1**
**Station: 328+27.36**

| CP | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|
| -70.62 | -67.63 | -12.00 | 0.00 | 22.87 | 31.50 |
| -1.02 | 0.18 | 1.29 | 1.42 | 1.13 | 0.70 |
| -2.50:1 | -2.00% | -1.09% | | -1.25% | -5.00% |
| F 1.19 | F 1.11 | F 0.13 | | F 0.29 | F 0.43 |
| @ 2.99 | @ 55.63 | @ 12.00 | | @ 22.87 | @ 8.63 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



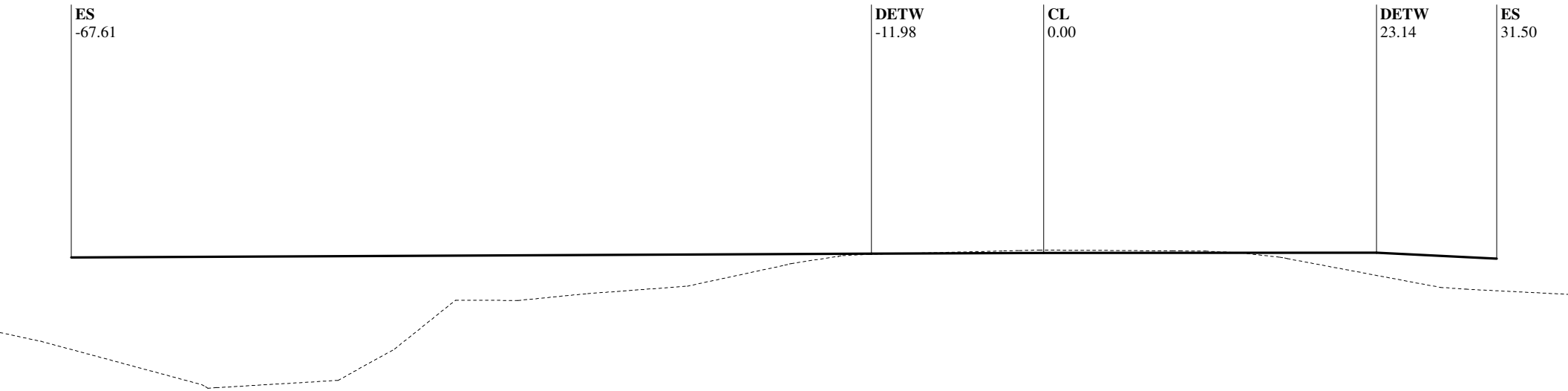

**Alignment Chain CENTER1**
**Station: 328+50.00**

| ES | DETW | CL | DETW | ES |
|---|---|---|---|---|
| -67.62 | -11.99 | 0.00 | 22.98 | 31.50 |
| 0.50 | 0.97 | 1.07 | 1.11 | 0.69 |
| -0.85% | -0.79% | | 0.18% | -5.00% |
| F 0.47 | F 0.09 | | C 0.04 | F 0.43 |
| @ 55.63 | @ 11.99 | | @ 22.98 | @ 8.52 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



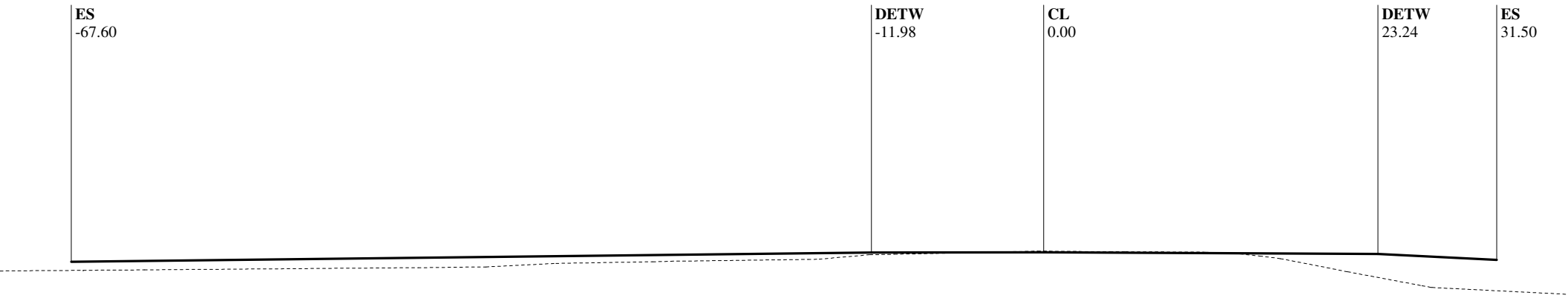

**Alignment Chain CENTER1**
**Station: 328+80.05**

| ES | DETW | CL | DETW | ES |
|---|---|---|---|---|
| -67.61 | -11.98 | 0.00 | 23.14 | 31.50 |
| 0.91 | 1.18 | 1.22 | 1.25 | 0.83 |
| -0.48% | -0.40% | | 0.11% | -5.00% |
| F 0.27 | F 0.05 | | C 0.03 | F 0.42 |
| @ 55.63 | @ 11.98 | | @ 23.14 | @ 8.36 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



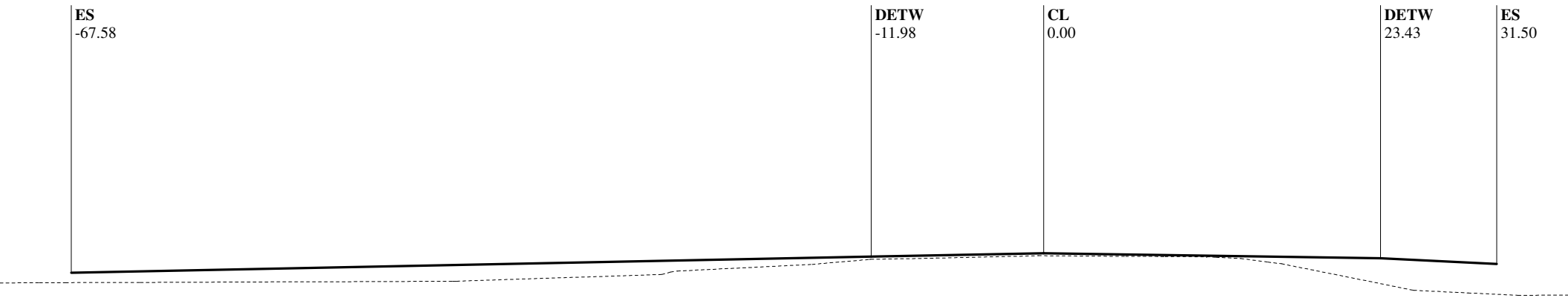

**Alignment Chain CENTER1**
**Station: 329+00.00**

| ES | DETW | CL | DETW | ES |
|---|---|---|---|---|
| -67.60 | -11.98 | 0.00 | 23.24 | 31.50 |
| 0.69 | 1.34 | 1.36 | 1.24 | 0.83 |
| -1.16% | -0.14% | | -0.50% | -5.00% |
| F 0.65 | F 0.02 | | F 0.12 | F 0.41 |
| @ 55.62 | @ 11.98 | | @ 23.24 | @ 8.26 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



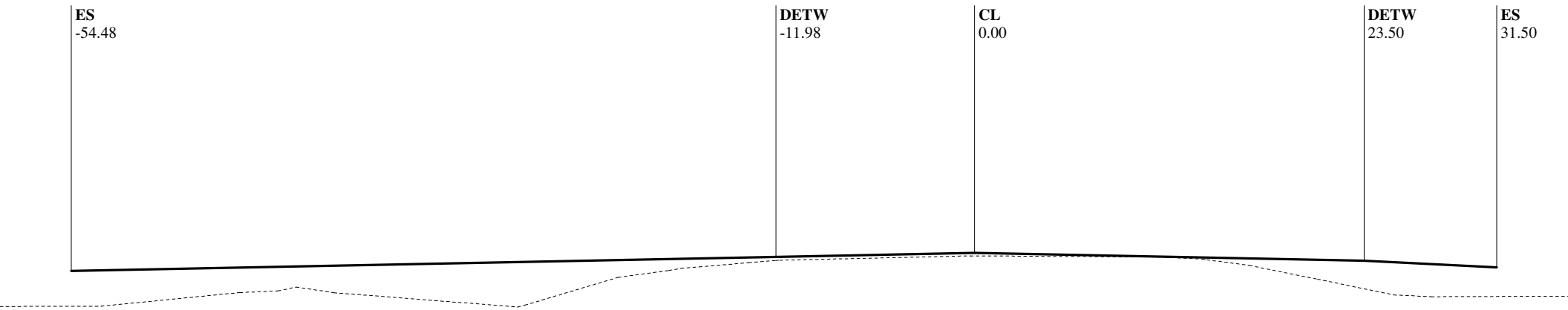

**Alignment Chain CENTER1**
**Station: 329+36.27**

| ES | DETW | CL | DETW | ES |
|---|---|---|---|---|
| -67.58 | -11.98 | 0.00 | 23.43 | 31.50 |
| 0.28 | 1.40 | 1.64 | 1.28 | 0.88 |
| -2.00% | -2.00% | | -1.50% | -5.00% |
| F 1.11 | F 0.24 | | F 0.35 | F 0.40 |
| @ 55.59 | @ 11.98 | | @ 23.43 | @ 8.07 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



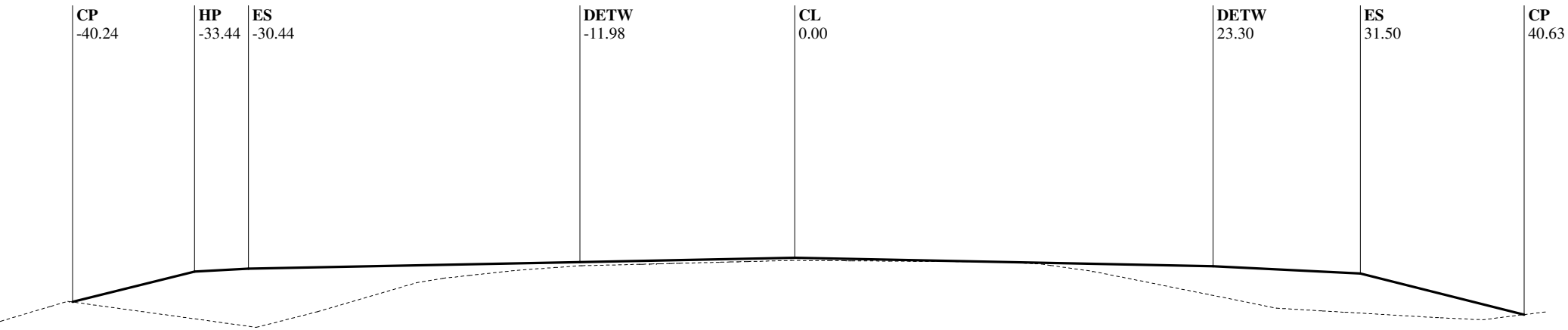

**Alignment Chain CENTER1**
**Station: 329+50.00**

| ES | DETW | CL | DETW | ES |
|---|---|---|---|---|
| -54.48 | -11.98 | 0.00 | 23.50 | 31.50 |
| 0.56 | 1.41 | 1.64 | 1.17 | 0.78 |
| -2.00% | -2.00% | | -2.00% | -5.00% |
| F 0.85 | F 0.24 | | F 0.47 | F 0.40 |
| @ 42.50 | @ 11.98 | | @ 23.50 | @ 8.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



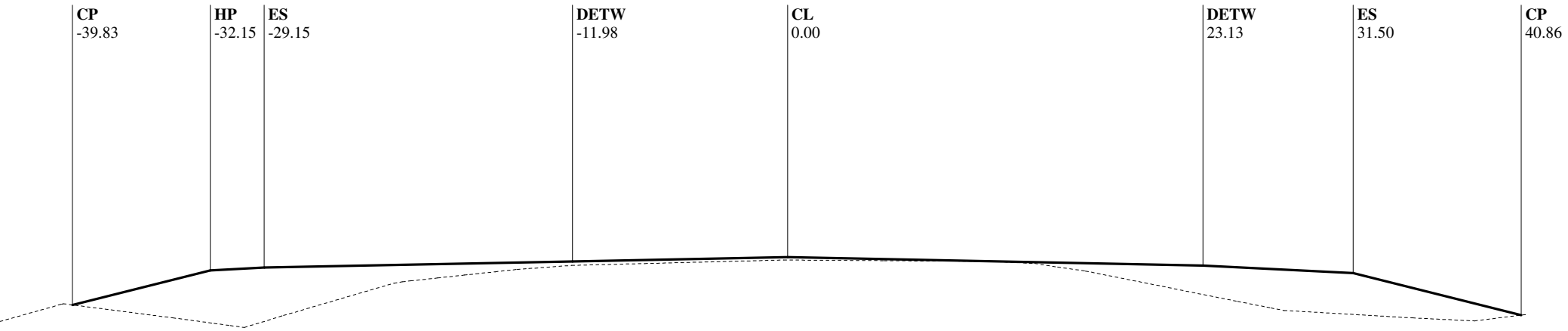

**Alignment Chain CENTER1**
**Station: 330+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|---|
| -40.24 | -33.44 | -30.44 | -11.98 | 0.00 | 23.30 | 31.50 | 40.63 |
| -0.80 | 0.90 | 1.05 | 1.42 | 1.66 | 1.20 | 0.79 | -1.50 |
| -4.00:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -4.00:1 |
| F 1.70 | F 0.15 | F 0.37 | F 0.24 | | F 0.47 | F 0.41 | F 2.28 |
| @ 6.80 | @ 3.00 | @ 18.45 | @ 11.98 | | @ 23.30 | @ 8.20 | @ 9.13 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



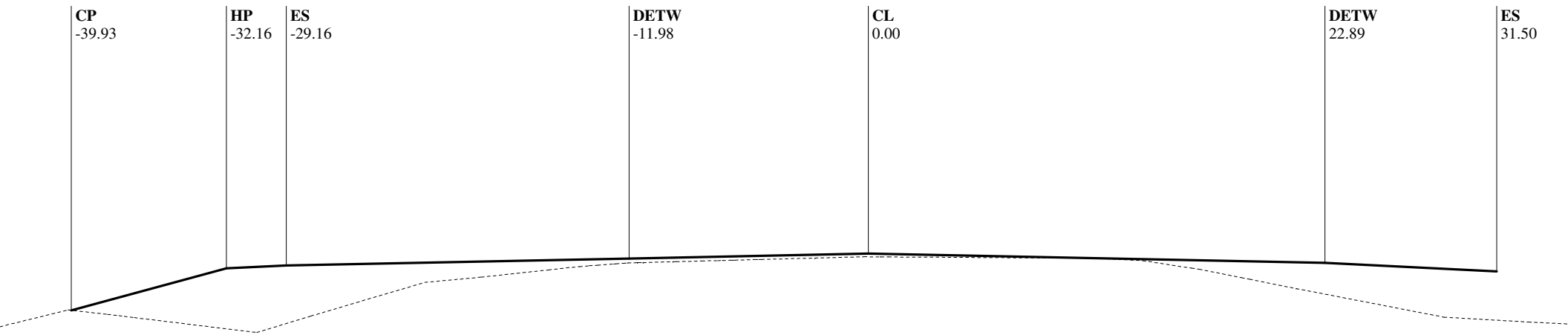

**Alignment Chain CENTER1**
**Station: 330+20.24**

| CP | HP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|---|
| -39.83 | -32.15 | -29.15 | -11.98 | 0.00 | 23.13 | 31.50 | 40.86 |
| -0.97 | 0.95 | 1.10 | 1.45 | 1.69 | 1.23 | 0.81 | -1.53 |
| -4.00:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% | -4.00:1 |
| F 1.92 | F 0.15 | F 0.34 | F 0.24 | | F 0.46 | F 0.42 | F 2.34 |
| @ 7.68 | @ 3.00 | @ 17.16 | @ 11.98 | | @ 23.13 | @ 8.36 | @ 9.36 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

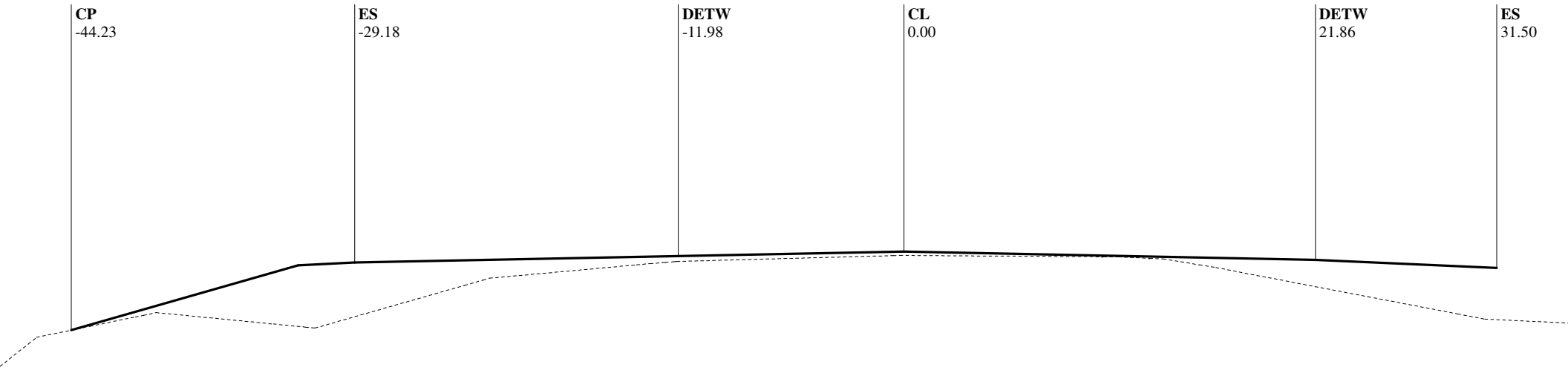



**Alignment Chain CENTER1**
**Station: 330+50.00**

| CP | HP | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -39.93 | -32.16 | -29.16 | -11.98 | 0.00 | 22.89 | 31.50 |
| -1.12 | 0.98 | 1.13 | 1.47 | 1.71 | 1.25 | 0.82 |
| -3.70:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% |
| F 2.10 | F 0.15 | F 0.34 | F 0.24 | | F 0.46 | F 0.43 |
| @ 7.78 | @ 3.00 | @ 17.17 | @ 11.98 | | @ 22.89 | @ 8.61 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



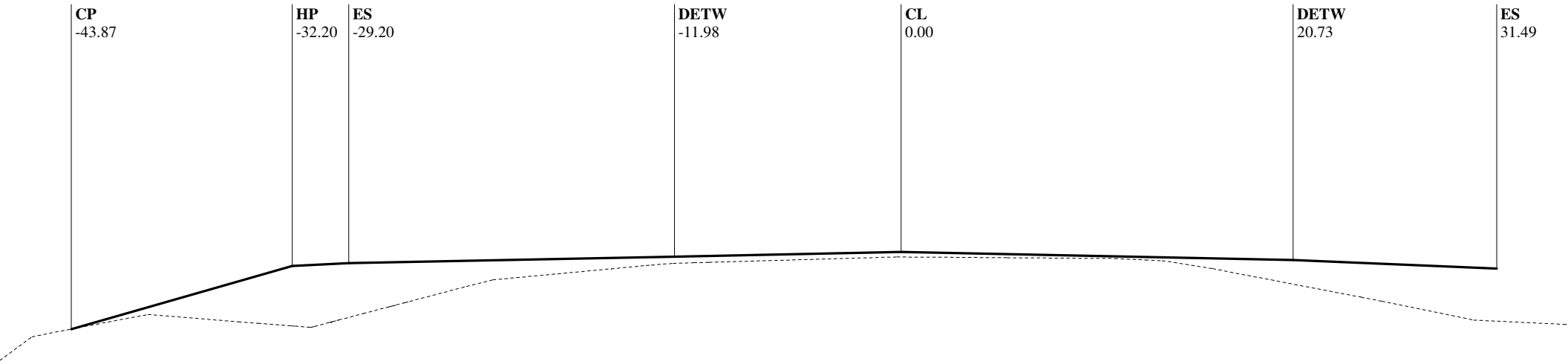

**Alignment Chain CENTER1**
**Station: 331+00.00**

| CP | | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -44.23 | -32.18 | -29.18 | -11.98 | 0.00 | 21.86 | 31.50 |
| -2.37 | 1.07 | 1.22 | 1.56 | 1.80 | 1.37 | 0.93 |
| -3.50:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -4.50% |
| F 3.44 | F 0.15 | F 0.34 | F 0.24 | | F 0.44 | F 0.43 |
| @ 12.06 | @ 3.00 | @ 17.19 | @ 11.98 | | @ 21.86 | @ 9.64 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



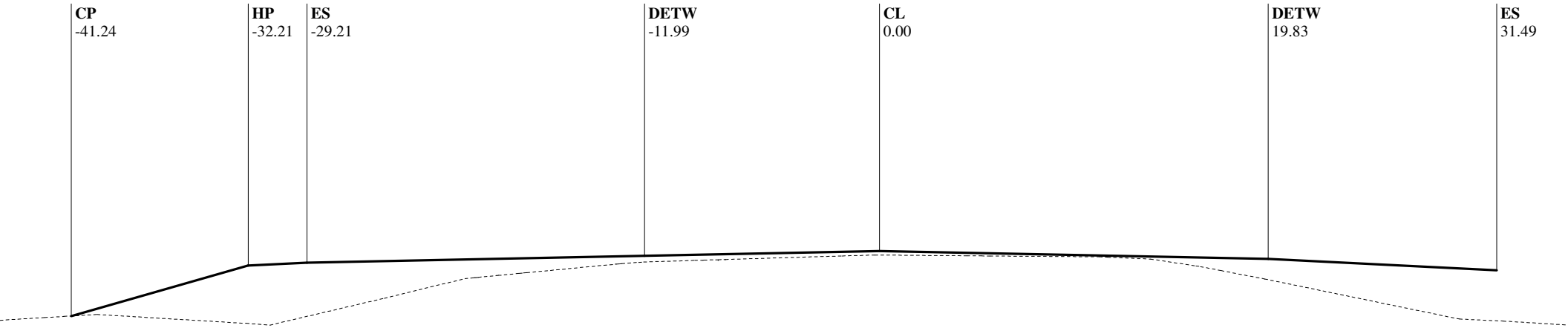

**Alignment Chain CENTER1**
**Station: 331+50.00**

| CP | HP | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -43.87 | -32.20 | -29.20 | -11.98 | 0.00 | 20.73 | 31.49 |
| -2.23 | 1.11 | 1.26 | 1.60 | 1.84 | 1.43 | 0.97 |
| -3.50:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -4.25% |
| F 3.34 | F 0.15 | F 0.34 | F 0.24 | | F 0.41 | F 0.46 |
| @ 11.68 | @ 3.00 | @ 17.21 | @ 11.98 | | @ 20.73 | @ 10.76 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



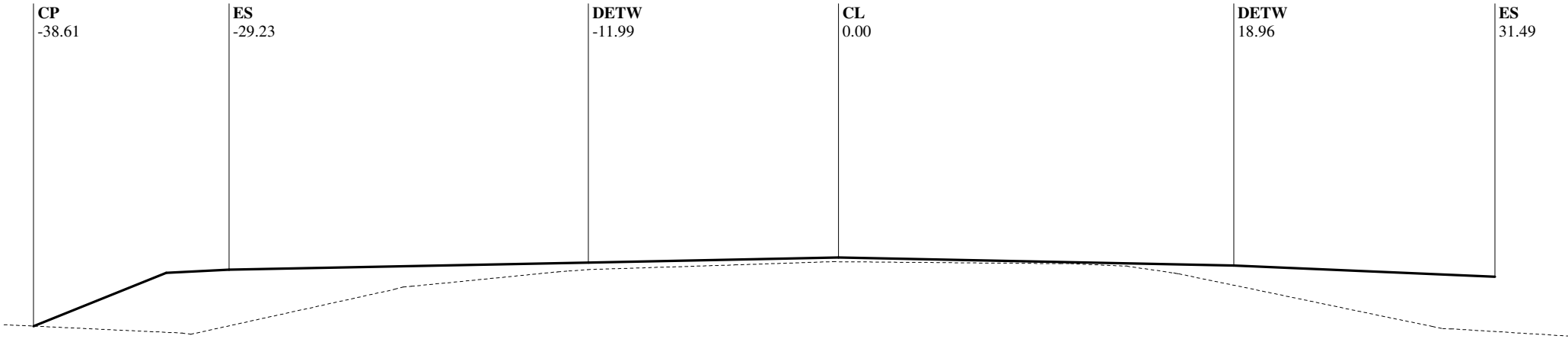

**Alignment Chain CENTER1**
**Station: 332+00.00**

| CP | HP | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -41.24 | -32.21 | -29.21 | -11.99 | 0.00 | 19.83 | 31.49 |
| -1.55 | 1.03 | 1.18 | 1.52 | 1.76 | 1.37 | 0.78 |
| -3.50:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% |
| F 2.58 | F 0.15 | F 0.34 | F 0.24 | | F 0.40 | F 0.58 |
| @ 9.02 | @ 3.00 | @ 17.23 | @ 11.99 | | @ 19.83 | @ 11.66 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



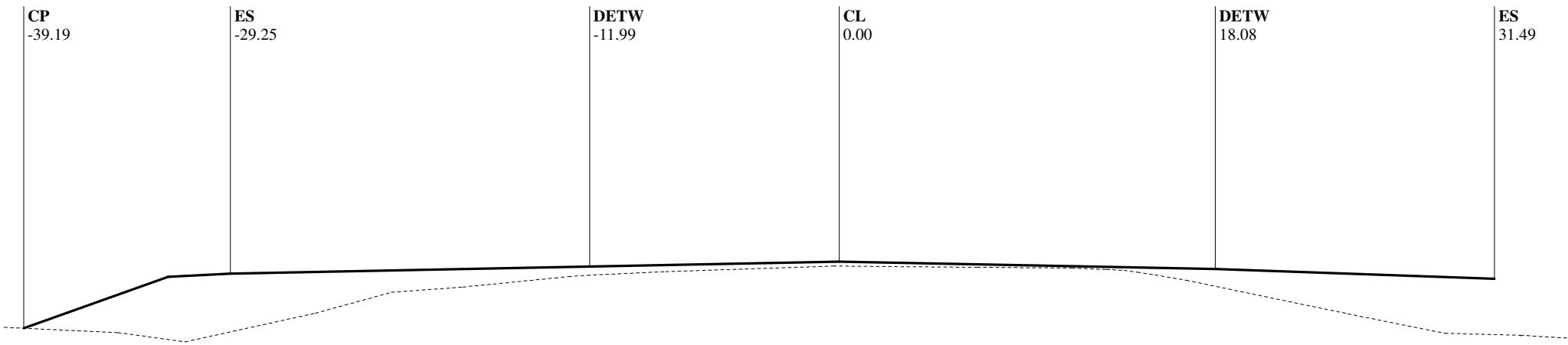

**Alignment Chain CENTER1**
**Station: 332+50.00**

| CP | | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -38.61 | -32.23 | -29.23 | -11.99 | 0.00 | 18.96 | 31.49 |
| -1.55 | 1.00 | 1.15 | 1.49 | 1.73 | 1.35 | 0.82 |
| -2.50:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -4.30% |
| F 2.55 | F 0.15 | F 0.34 | F 0.24 | | F 0.38 | F 0.54 |
| @ 6.37 | @ 3.00 | @ 17.25 | @ 11.99 | | @ 18.96 | @ 12.54 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



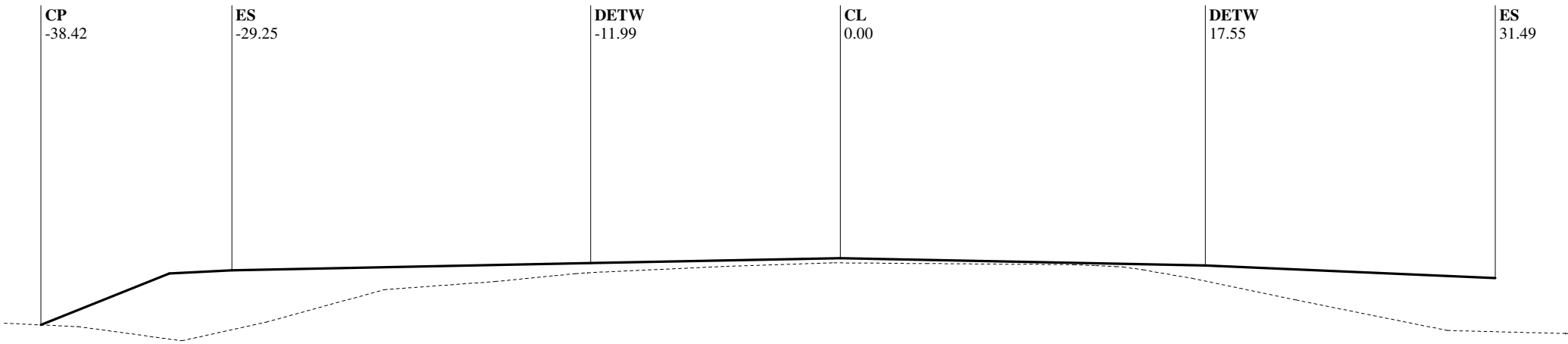

**Alignment Chain CENTER1**
**Station: 333+00.00**

| CP | | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -39.19 | -32.25 | -29.25 | -11.99 | 0.00 | 18.08 | 31.49 |
| -1.54 | 0.93 | 1.08 | 1.43 | 1.67 | 1.31 | 0.84 |
| -2.80:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -3.50% |
| F 2.48 | F 0.15 | F 0.35 | F 0.24 | | F 0.36 | F 0.47 |
| @ 6.93 | @ 3.00 | @ 17.27 | @ 11.99 | | @ 18.08 | @ 13.41 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



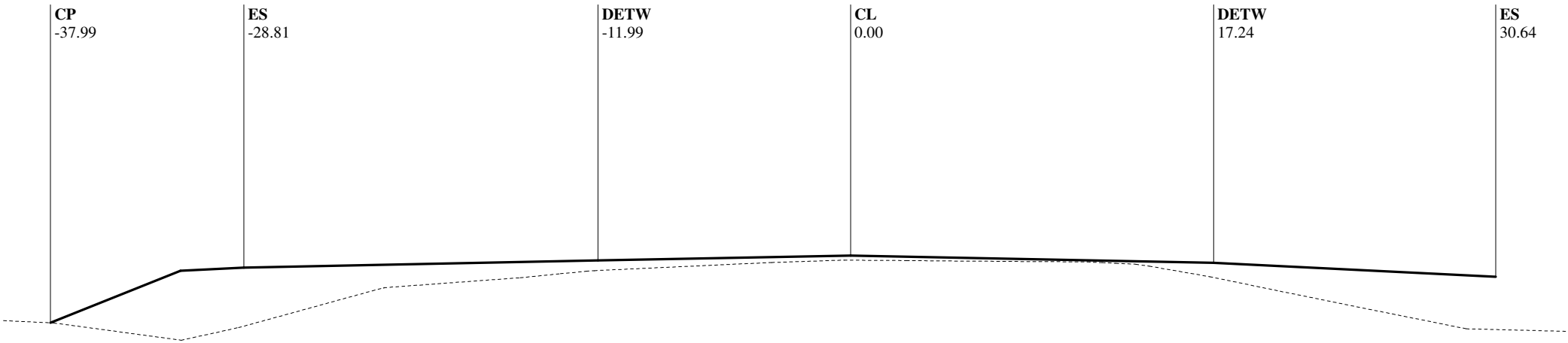

**Alignment Chain CENTER1**
**Station: 333+31.20**

| CP | | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -38.42 | -32.25 | -29.25 | -11.99 | 0.00 | 17.55 | 31.49 |
| -1.59 | 0.88 | 1.03 | 1.38 | 1.61 | 1.26 | 0.66 |
| -2.50:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -4.30% |
| F 2.47 | F 0.15 | F 0.35 | F 0.24 | | F 0.35 | F 0.60 |
| @ 6.18 | @ 3.00 | @ 17.26 | @ 11.99 | | @ 17.55 | @ 13.94 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



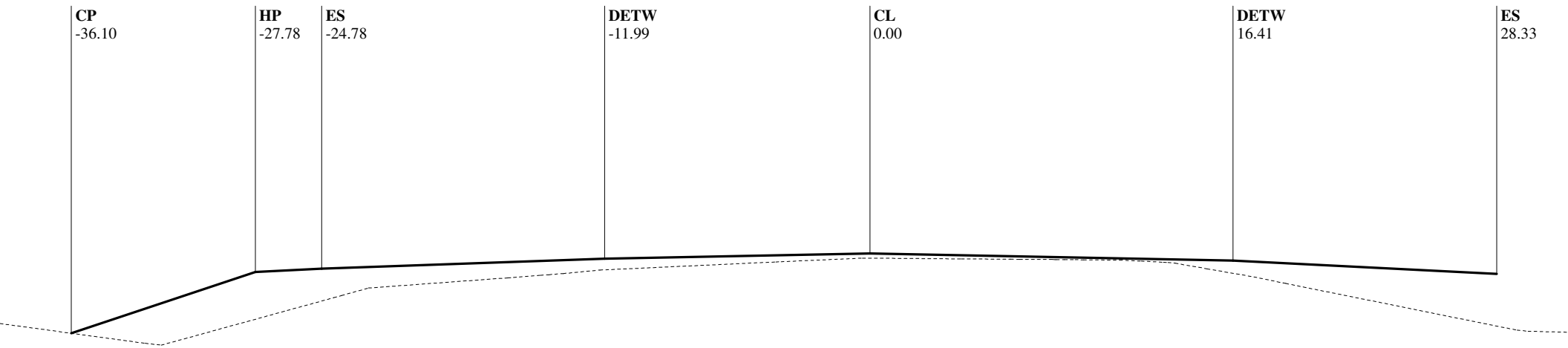

**Alignment Chain CENTER1**
**Station: 333+50.00**

| CP | | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -37.99 | -31.81 | -28.81 | -11.99 | 0.00 | 17.24 | 30.64 |
| -1.62 | 0.85 | 1.00 | 1.34 | 1.58 | 1.23 | 0.56 |
| -2.50:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -5.00% |
| F 2.47 | F 0.15 | F 0.34 | F 0.24 | | F 0.34 | F 0.67 |
| @ 6.18 | @ 3.00 | @ 16.83 | @ 11.99 | | @ 17.24 | @ 13.40 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



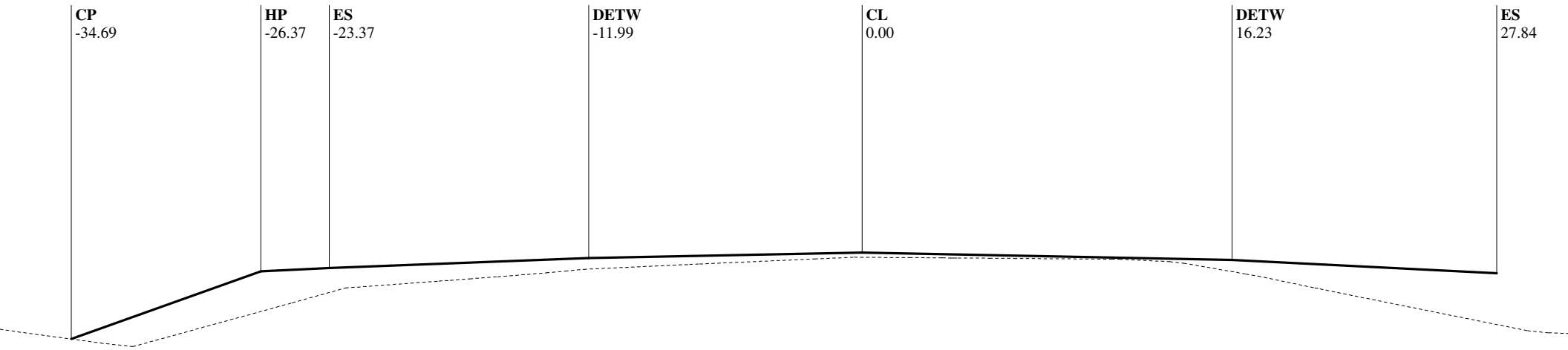

**Alignment Chain CENTER1**
**Station: 334+00.00**

| CP | HP | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -36.10 | -27.78 | -24.78 | -11.99 | 0.00 | 16.41 | 28.33 |
| -2.11 | 0.67 | 0.82 | 1.26 | 1.50 | 1.18 | 0.58 |
| -3.00:1 | -5.00% | -3.50% | -2.00% | | -2.00% | -5.00% |
| F 2.77 | F 0.15 | F 0.45 | F 0.24 | | F 0.33 | F 0.60 |
| @ 8.32 | @ 3.00 | @ 12.79 | @ 11.99 | | @ 16.41 | @ 11.92 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



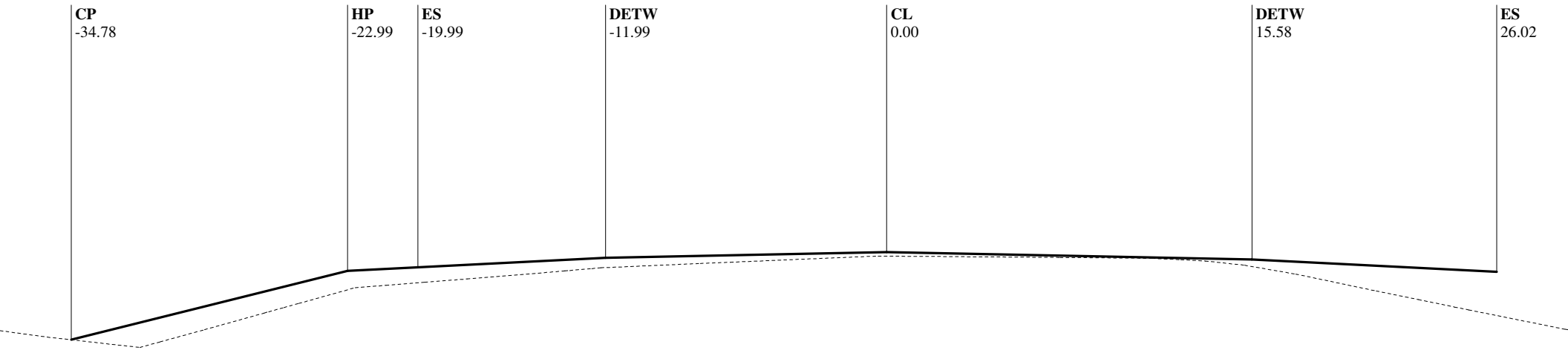

**Alignment Chain CENTER1**
**Station: 334+10.72**

| CP | HP | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -34.69 | -26.37 | -23.37 | -11.99 | 0.00 | 16.23 | 27.84 |
| -2.31 | 0.67 | 0.82 | 1.25 | 1.49 | 1.17 | 0.59 |
| -2.80:1 | -5.00% | -3.82% | -2.00% | | -2.00% | -5.00% |
| F 2.97 | F 0.15 | F 0.43 | F 0.24 | | F 0.32 | F 0.58 |
| @ 8.32 | @ 3.00 | @ 11.38 | @ 11.99 | | @ 16.23 | @ 11.61 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



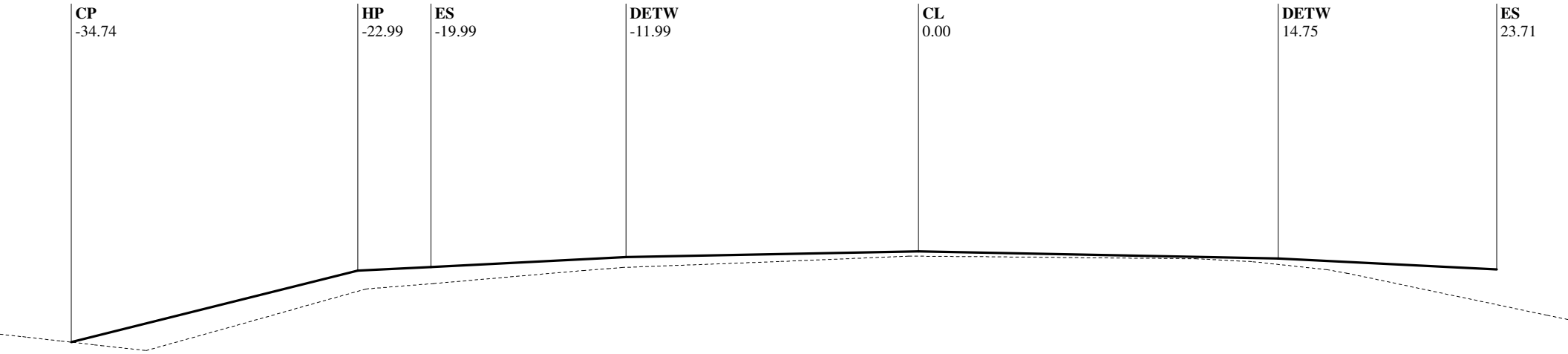

**Alignment Chain CENTER1**
**Station: 334+50.00**

| CP | HP | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -34.78 | -22.99 | -19.99 | -11.99 | 0.00 | 15.58 | 26.02 |
| -2.30 | 0.65 | 0.80 | 1.20 | 1.44 | 1.13 | 0.60 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% |
| F 2.95 | F 0.15 | F 0.40 | F 0.24 | | F 0.31 | F 0.52 |
| @ 11.79 | @ 3.00 | @ 8.00 | @ 11.99 | | @ 15.58 | @ 10.44 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



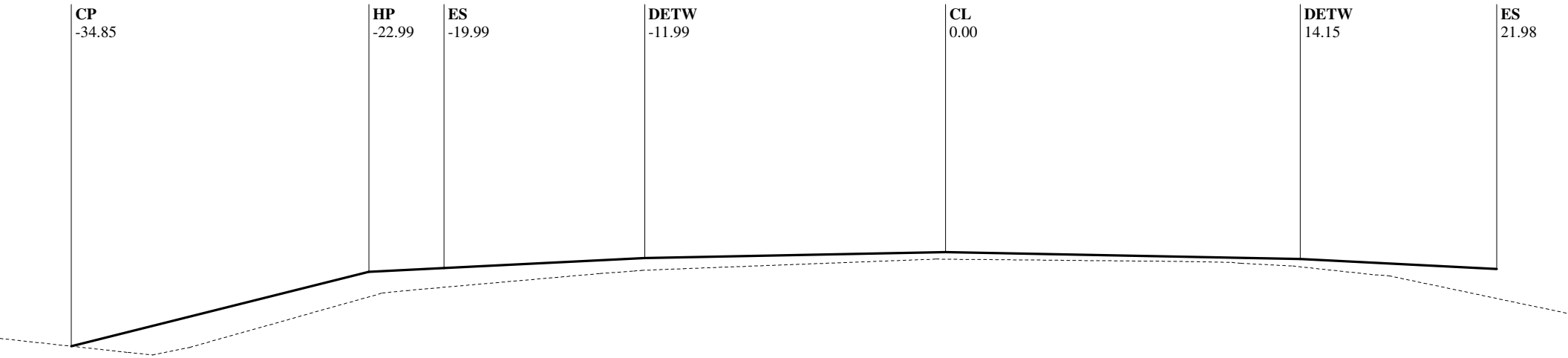

**Alignment Chain CENTER1**
**Station: 335+00.00**

| CP | HP | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -34.74 | -22.99 | -19.99 | -11.99 | 0.00 | 14.75 | 23.71 |
| -2.27 | 0.67 | 0.82 | 1.22 | 1.46 | 1.16 | 0.71 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% |
| F 2.94 | F 0.15 | F 0.40 | F 0.24 | | F 0.29 | F 0.45 |
| @ 11.75 | @ 3.00 | @ 8.00 | @ 11.99 | | @ 14.75 | @ 8.97 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



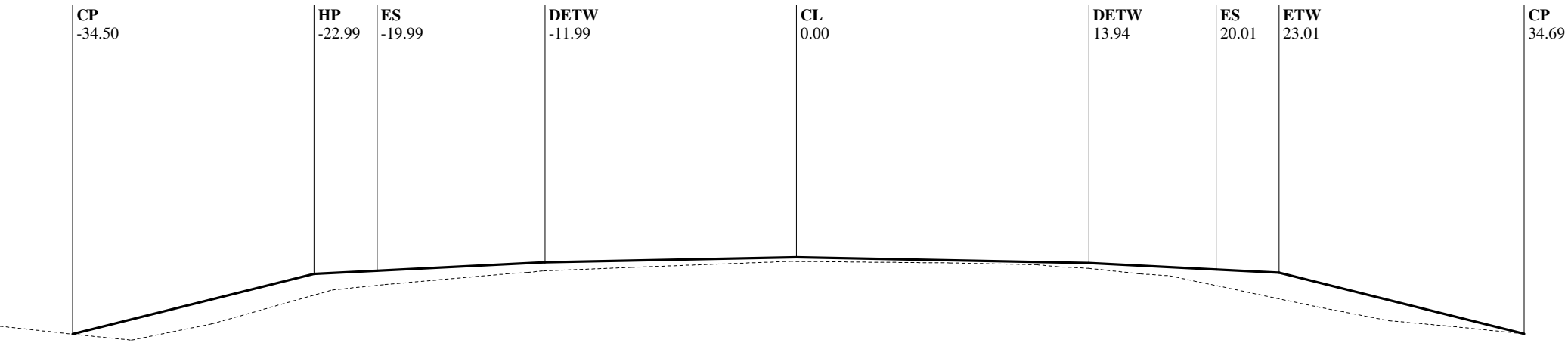

**Alignment Chain CENTER1**
**Station: 335+50.00**

| CP | HP | ES | DETW | CL | DETW | ES |
|---|---|---|---|---|---|---|
| -34.85 | -22.99 | -19.99 | -11.99 | 0.00 | 14.15 | 21.98 |
| -2.27 | 0.70 | 0.85 | 1.25 | 1.49 | 1.21 | 0.81 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% |
| F 2.97 | F 0.15 | F 0.40 | F 0.24 | | F 0.28 | F 0.39 |
| @ 11.86 | @ 3.00 | @ 8.00 | @ 11.99 | | @ 14.15 | @ 7.83 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



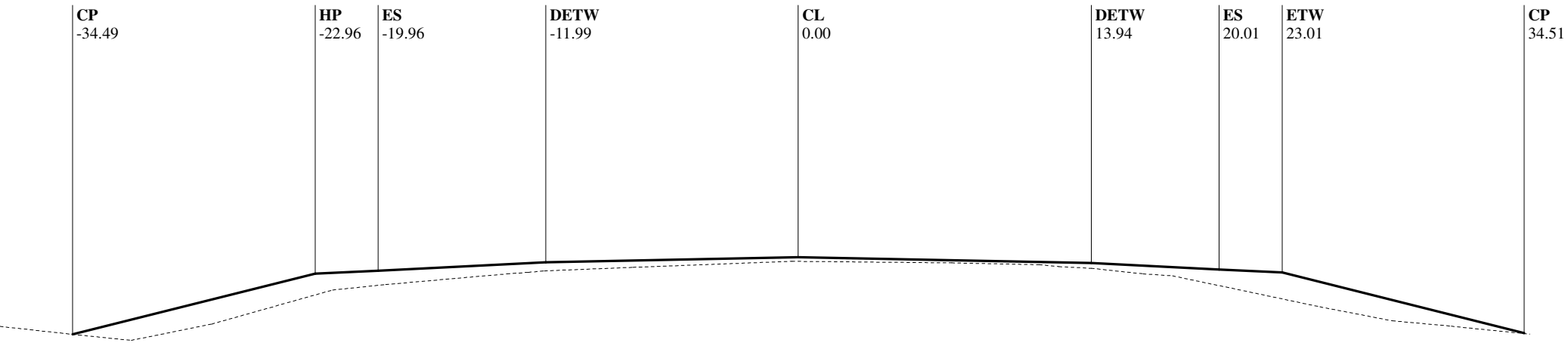

**Alignment Chain CENTER1**
**Station: 335+80.35**

| CP | HP | ES | DETW | CL | DETW | ES | ETW | CP |
|---|---|---|---|---|---|---|---|---|
| -34.50 | -22.99 | -19.99 | -11.99 | 0.00 | 13.94 | 20.01 | 23.01 | 34.69 |
| -2.33 | 0.55 | 0.70 | 1.10 | 1.34 | 1.06 | 0.75 | 0.60 | -2.32 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.88 | F 0.15 | F 0.40 | F 0.24 | | F 0.28 | F 0.30 | F 0.15 | F 2.92 |
| @ 11.51 | @ 3.00 | @ 8.00 | @ 11.99 | | @ 13.94 | @ 6.06 | @ 3.00 | @ 11.68 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



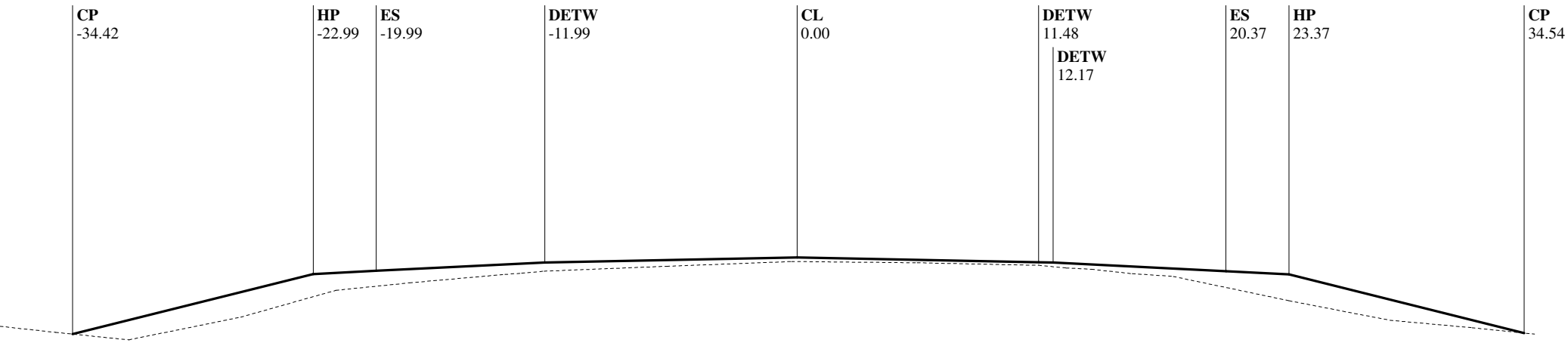

**Alignment Chain CENTER1**
**Station: 335+80.50**

| CP | HP | ES | DETW | CL | DETW | ES | ETW | CP |
|---|---|---|---|---|---|---|---|---|
| -34.49 | -22.96 | -19.96 | -11.99 | 0.00 | 13.94 | 20.01 | 23.01 | 34.51 |
| -2.33 | 0.55 | 0.70 | 1.10 | 1.34 | 1.06 | 0.75 | 0.60 | -2.27 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.88 | F 0.15 | F 0.40 | F 0.24 | | F 0.28 | F 0.30 | F 0.15 | F 2.88 |
| @ 11.53 | @ 3.00 | @ 7.97 | @ 11.99 | | @ 13.94 | @ 6.07 | @ 3.00 | @ 11.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



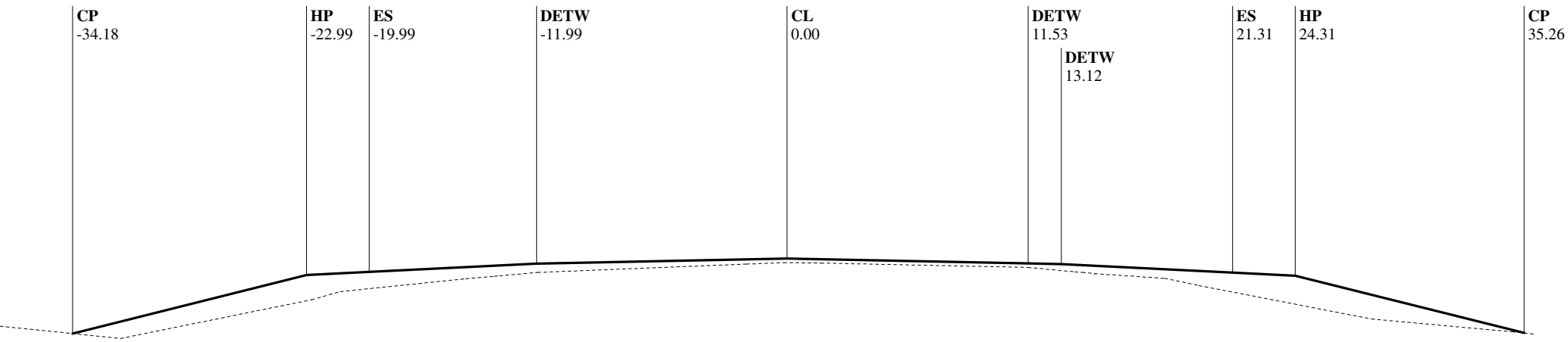

**Alignment Chain CENTER1**
**Station: 336+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.42 | -22.99 | -19.99 | -11.99 | 0.00 | 11.48 | 12.17 | 20.37 | 23.37 | 34.54 |
| -2.35 | 0.50 | 0.65 | 1.05 | 1.29 | 1.06 | 1.05 | 0.64 | 0.49 | -2.30 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.86 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.01 | F 0.41 | F 0.15 | F 2.79 |
| @ 11.43 | @ 3.00 | @ 8.00 | @ 11.99 | | @ 11.48 | @ 0.69 | @ 8.21 | @ 3.00 | @ 11.17 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



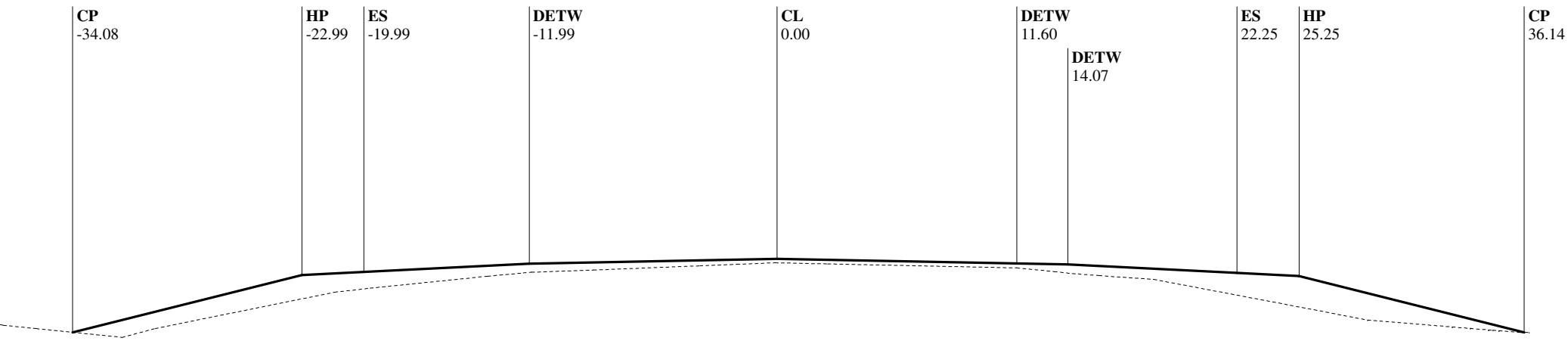

**Alignment Chain CENTER1**
**Station: 336+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.18 | -22.99 | -19.99 | -11.99 | 0.00 | 11.53 | 13.12 | 21.31 | 24.31 | 35.26 |
| -2.40 | 0.39 | 0.54 | 0.94 | 1.18 | 0.95 | 0.92 | 0.51 | 0.36 | -2.38 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.80 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.03 | F 0.41 | F 0.15 | F 2.74 |
| @ 11.19 | @ 3.00 | @ 8.00 | @ 11.99 | | @ 11.53 | @ 1.58 | @ 8.19 | @ 3.00 | @ 10.95 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



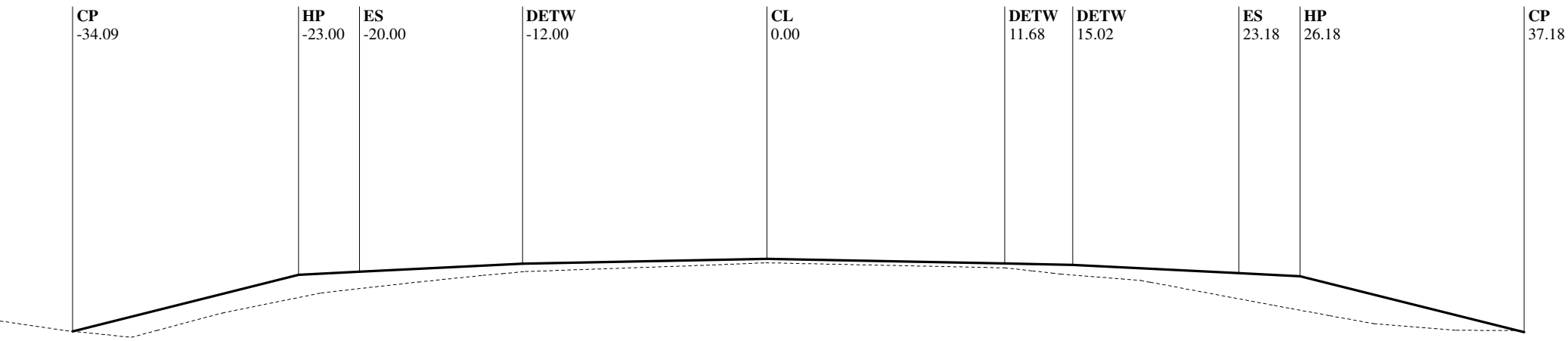

**Alignment Chain CENTER1**
**Station: 337+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.08 | -22.99 | -19.99 | -11.99 | 0.00 | 11.60 | 14.07 | 22.25 | 25.25 | 36.14 |
| -2.49 | 0.28 | 0.43 | 0.83 | 1.07 | 0.84 | 0.79 | 0.38 | 0.23 | -2.49 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.77 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.05 | F 0.41 | F 0.15 | F 2.72 |
| @ 11.09 | @ 3.00 | @ 8.00 | @ 11.99 | | @ 11.60 | @ 2.47 | @ 8.18 | @ 3.00 | @ 10.89 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



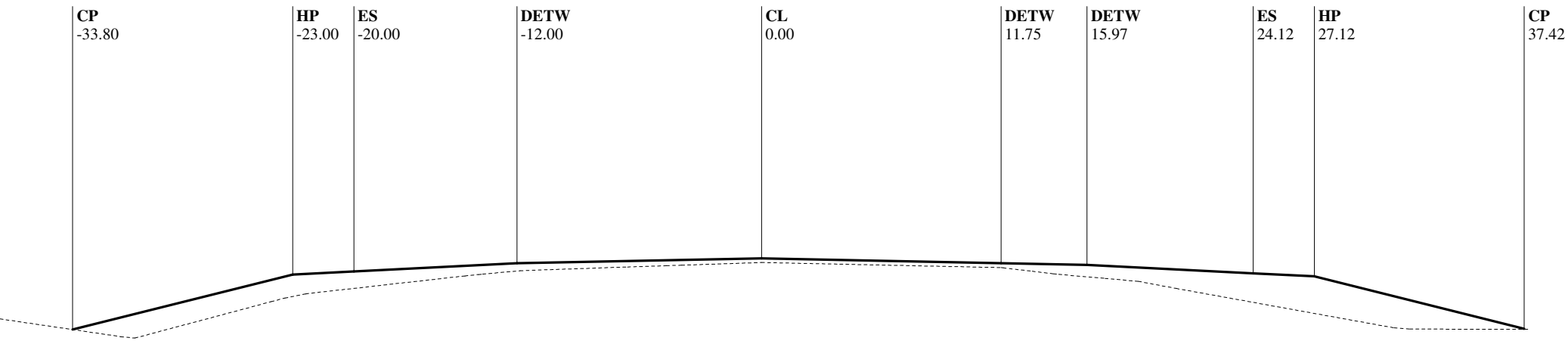

**Alignment Chain CENTER1**
**Station: 337+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.09 | -23.00 | -20.00 | -12.00 | 0.00 | 11.68 | 15.02 | 23.18 | 26.18 | 37.18 |
| -2.60 | 0.17 | 0.32 | 0.72 | 0.96 | 0.73 | 0.66 | 0.25 | 0.10 | -2.65 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.77 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.07 | F 0.41 | F 0.15 | F 2.75 |
| @ 11.10 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.68 | @ 3.34 | @ 8.17 | @ 3.00 | @ 11.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



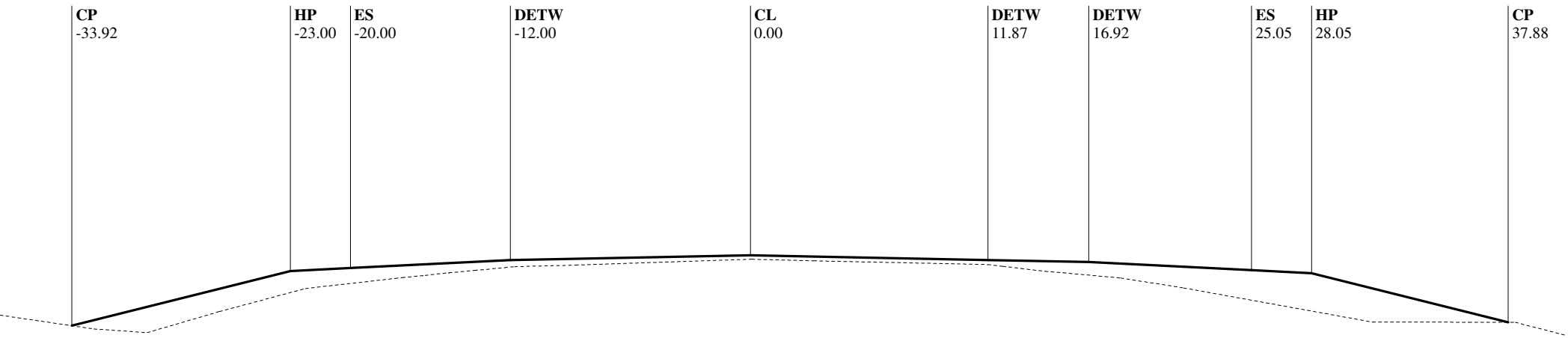

**Alignment Chain CENTER1**
**Station: 338+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.80 | -23.00 | -20.00 | -12.00 | 0.00 | 11.75 | 15.97 | 24.12 | 27.12 | 37.42 |
| -2.64 | 0.06 | 0.21 | 0.61 | 0.85 | 0.61 | 0.53 | 0.12 | -0.03 | -2.61 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.70 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.08 | F 0.41 | F 0.15 | F 2.58 |
| @ 10.80 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.75 | @ 4.21 | @ 8.15 | @ 3.00 | @ 10.30 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



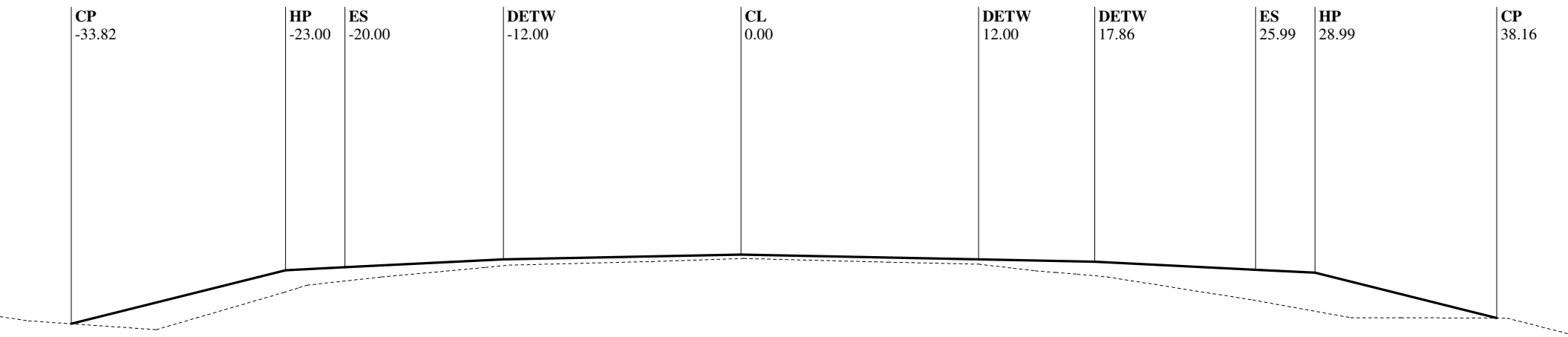

**Alignment Chain CENTER1**
**Station: 338+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.92 | -23.00 | -20.00 | -12.00 | 0.00 | 11.87 | 16.92 | 25.05 | 28.05 | 37.88 |
| -2.80 | -0.07 | 0.08 | 0.48 | 0.72 | 0.48 | 0.38 | -0.03 | -0.18 | -2.63 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.73 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.10 | F 0.41 | F 0.15 | F 2.46 |
| @ 10.93 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.87 | @ 5.04 | @ 8.14 | @ 3.00 | @ 9.83 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



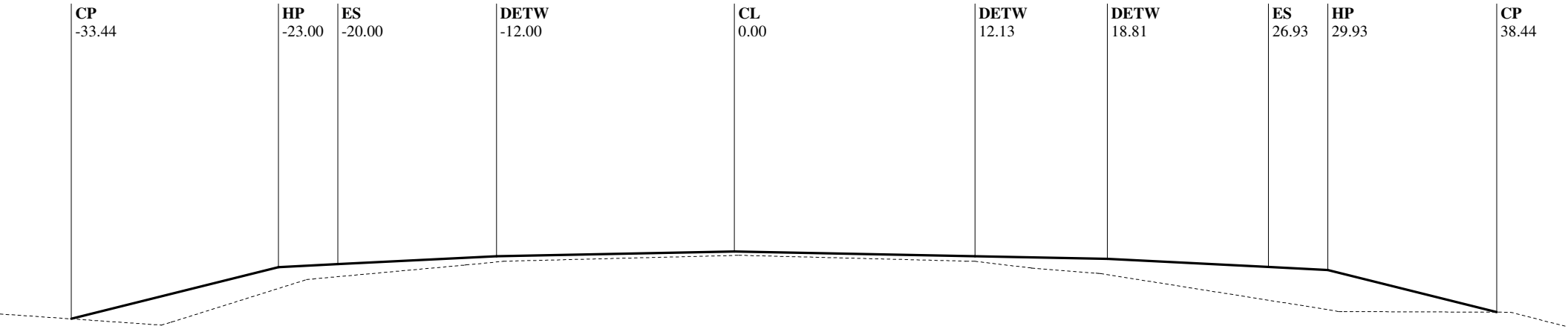

**Alignment Chain CENTER1**
**Station: 339+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.82 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 17.86 | 25.99 | 28.99 | 38.16 |
| -2.90 | -0.20 | -0.05 | 0.35 | 0.59 | 0.35 | 0.23 | -0.17 | -0.32 | -2.62 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.70 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.12 | F 0.41 | F 0.15 | F 2.29 |
| @ 10.82 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 5.86 | @ 8.13 | @ 3.00 | @ 9.17 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



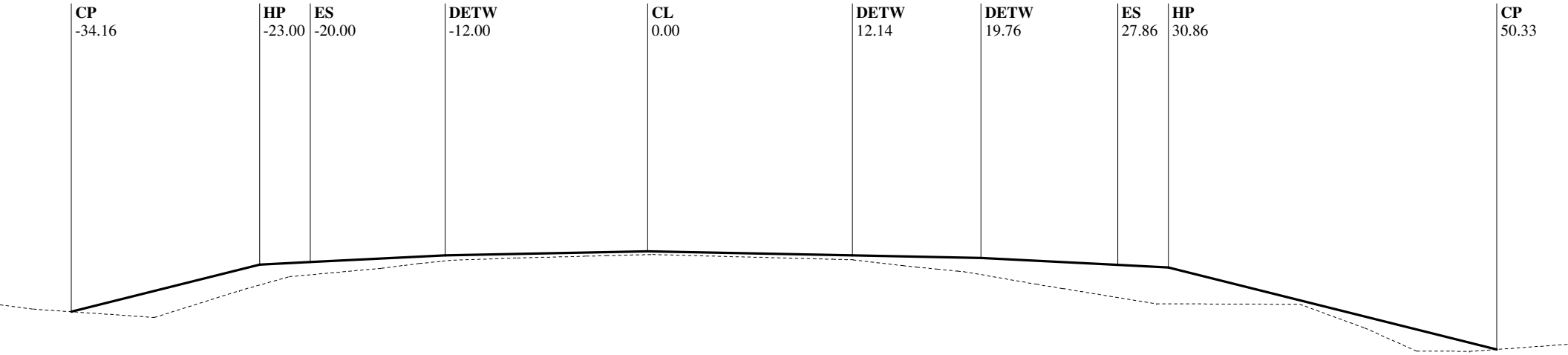

**Alignment Chain CENTER1**
**Station: 339+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.44 | -23.00 | -20.00 | -12.00 | 0.00 | 12.13 | 18.81 | 26.93 | 29.93 | 38.44 |
| -2.94 | -0.33 | -0.18 | 0.22 | 0.46 | 0.22 | 0.08 | -0.32 | -0.47 | -2.60 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.61 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.13 | F 0.41 | F 0.15 | F 2.13 |
| @ 10.44 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.13 | @ 6.68 | @ 8.11 | @ 3.00 | @ 8.52 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



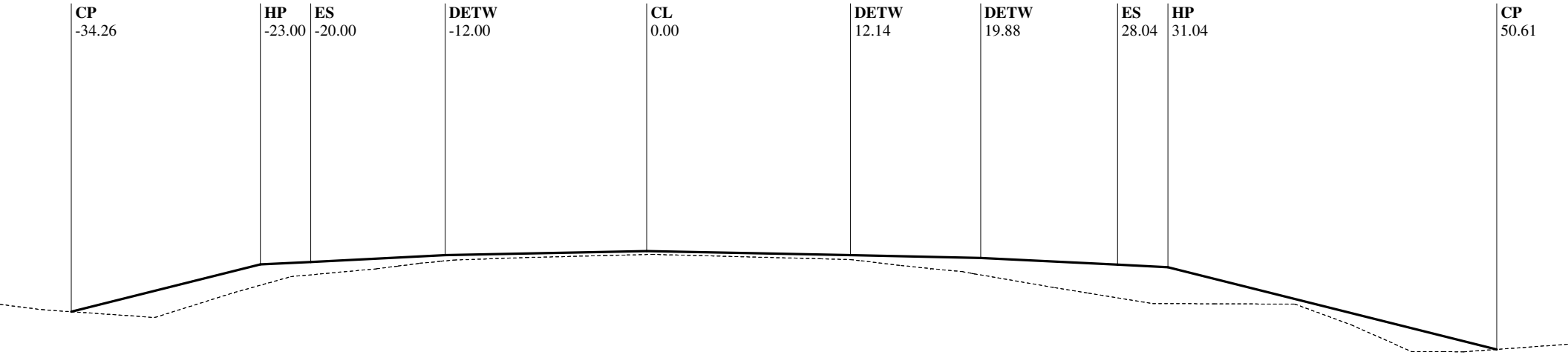

**Alignment Chain CENTER1**
**Station: 340+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.16 | -23.00 | -20.00 | -12.00 | 0.00 | 12.14 | 19.76 | 27.86 | 30.86 | 50.33 |
| -3.09 | -0.30 | -0.15 | 0.25 | 0.49 | 0.24 | 0.09 | -0.31 | -0.46 | -5.33 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.79 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.15 | F 0.40 | F 0.15 | F 4.87 |
| @ 11.16 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.14 | @ 7.63 | @ 8.10 | @ 3.00 | @ 19.47 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



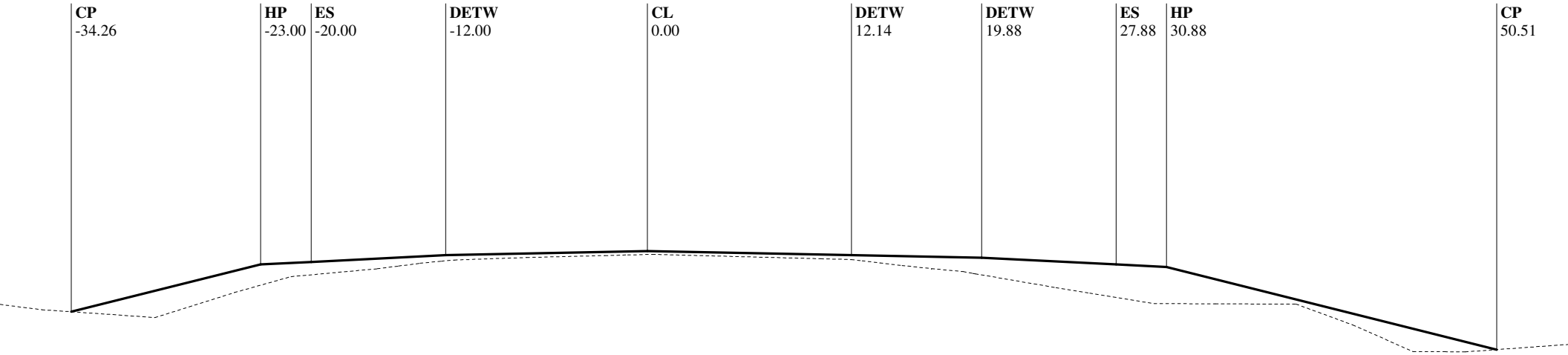

**Alignment Chain CENTER1**
**Station: 340+06.09**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.26 | -23.00 | -20.00 | -12.00 | 0.00 | 12.14 | 19.88 | 28.04 | 31.04 | 50.61 |
| -3.11 | -0.30 | -0.15 | 0.25 | 0.49 | 0.25 | 0.10 | -0.31 | -0.46 | -5.36 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.82 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.15 | F 0.41 | F 0.15 | F 4.89 |
| @ 11.26 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.14 | @ 7.74 | @ 8.16 | @ 3.00 | @ 19.58 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



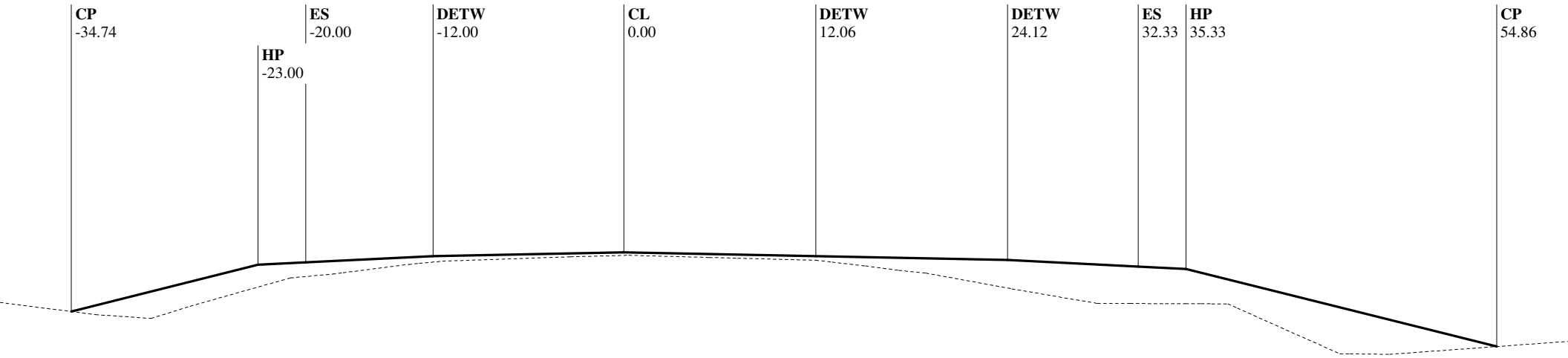

**Alignment Chain CENTER1**
**Station: 340+06.10**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.26 | -23.00 | -20.00 | -12.00 | 0.00 | 12.14 | 19.88 | 27.88 | 30.88 | 50.51 |
| -3.11 | -0.30 | -0.15 | 0.25 | 0.49 | 0.25 | 0.10 | -0.30 | -0.45 | -5.36 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.82 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.15 | F 0.40 | F 0.15 | F 4.91 |
| @ 11.26 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.14 | @ 7.74 | @ 8.00 | @ 3.00 | @ 19.64 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



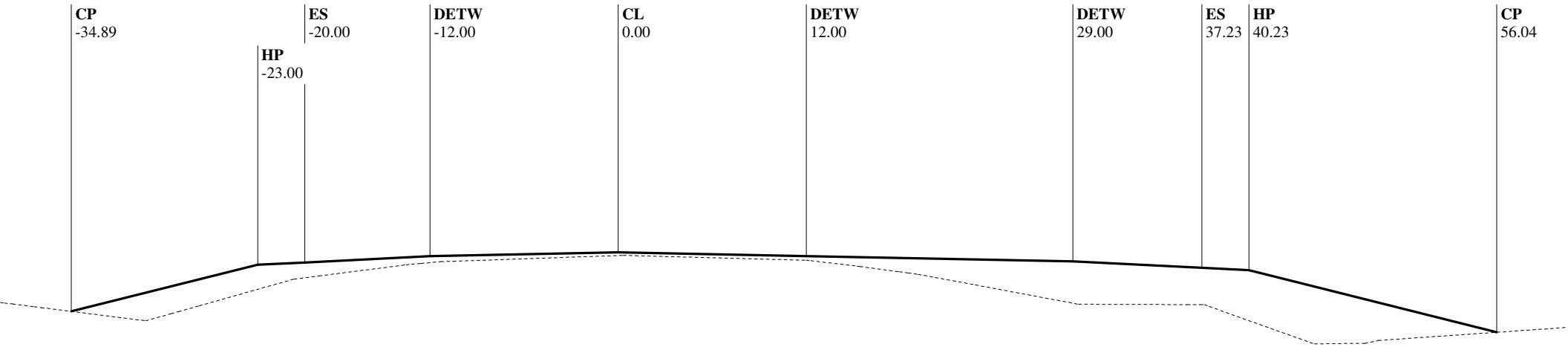

**Alignment Chain CENTER1**
**Station: 340+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.74 | -23.00 | -20.00 | -12.00 | 0.00 | 12.06 | 24.12 | 32.33 | 35.33 | 54.86 |
| -3.19 | -0.26 | -0.11 | 0.29 | 0.53 | 0.29 | 0.05 | -0.36 | -0.51 | -5.39 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.93 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.24 | F 0.41 | F 0.15 | F 4.88 |
| @ 11.74 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.06 | @ 12.06 | @ 8.21 | @ 3.00 | @ 19.53 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



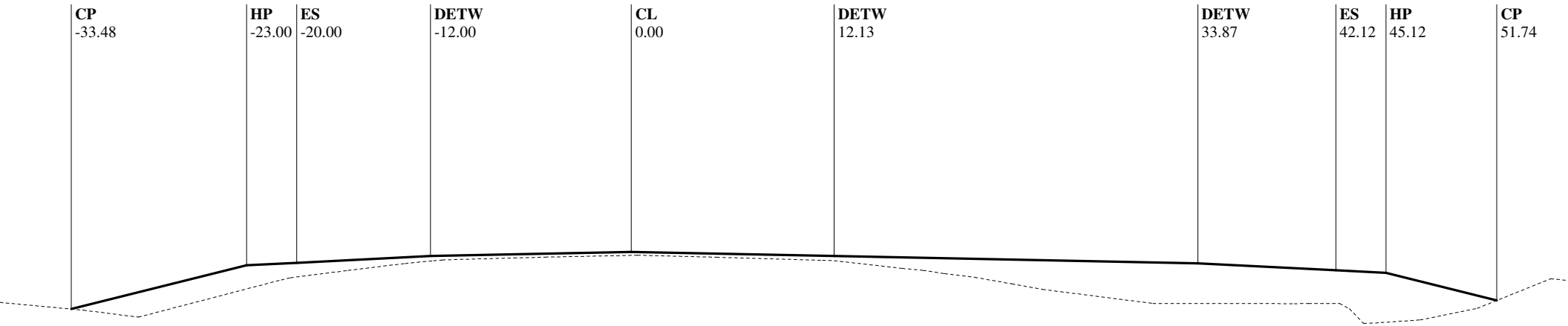

**Alignment Chain CENTER1**
**Station: 341+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.89 | -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 29.00 | 37.23 | 40.23 | 56.04 |
| -3.20 | -0.22 | -0.07 | 0.33 | 0.57 | 0.33 | -0.01 | -0.43 | -0.58 | -4.53 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.97 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.34 | F 0.41 | F 0.15 | F 3.95 |
| @ 11.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 17.00 | @ 8.23 | @ 3.00 | @ 15.81 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

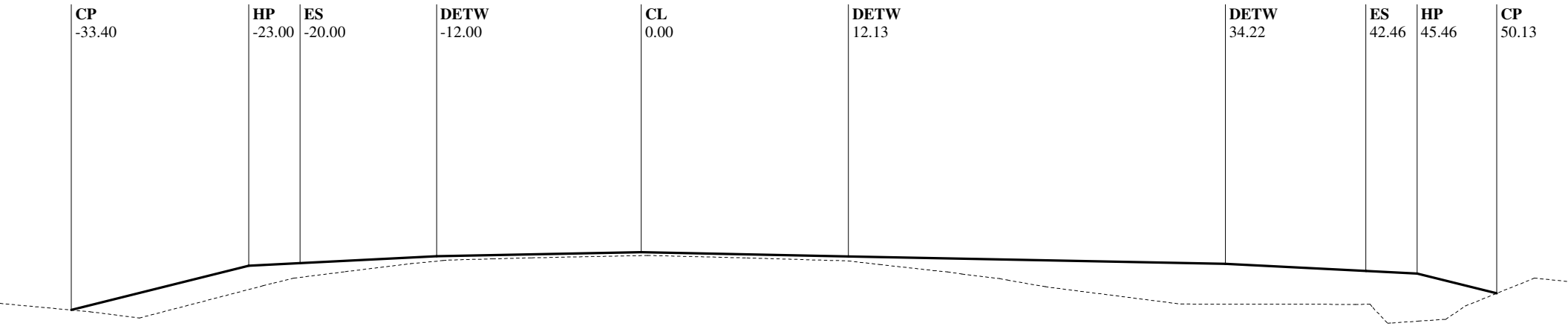



**Alignment Chain CENTER1**
**Station: 341+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.48 | -23.00 | -20.00 | -12.00 | 0.00 | 12.13 | 33.87 | 42.12 | 45.12 | 51.74 |
| -3.04 | -0.42 | -0.27 | 0.13 | 0.37 | 0.12 | -0.31 | -0.72 | -0.87 | -2.53 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.62 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.43 | F 0.41 | F 0.15 | F 1.66 |
| @ 10.48 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.13 | @ 21.74 | @ 8.25 | @ 3.00 | @ 6.62 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



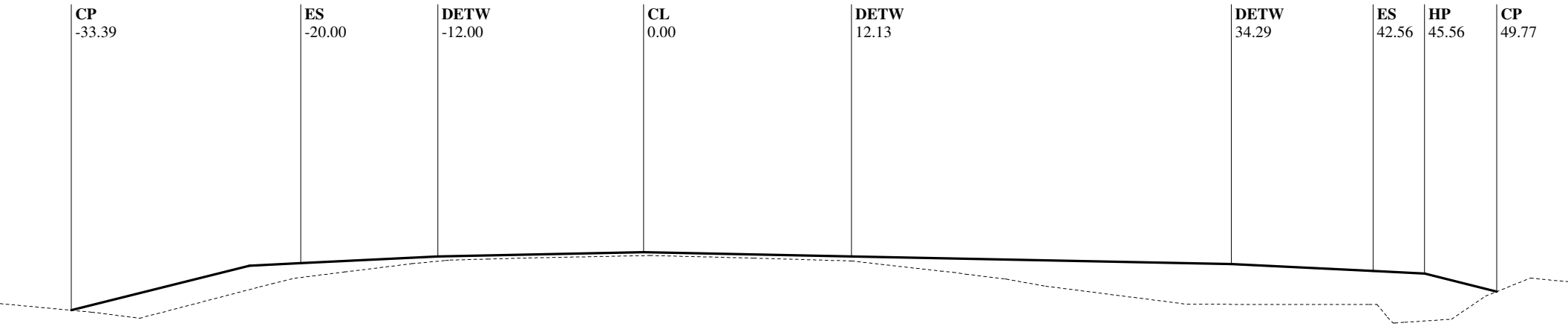

**Alignment Chain CENTER1**
**Station: 341+53.51**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.40 | -23.00 | -20.00 | -12.00 | 0.00 | 12.13 | 34.22 | 42.46 | 45.46 | 50.13 |
| -3.04 | -0.44 | -0.29 | 0.11 | 0.35 | 0.11 | -0.33 | -0.75 | -0.90 | -2.06 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.60 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.44 | F 0.41 | F 0.15 | F 1.17 |
| @ 10.40 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.13 | @ 22.08 | @ 8.25 | @ 3.00 | @ 4.66 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



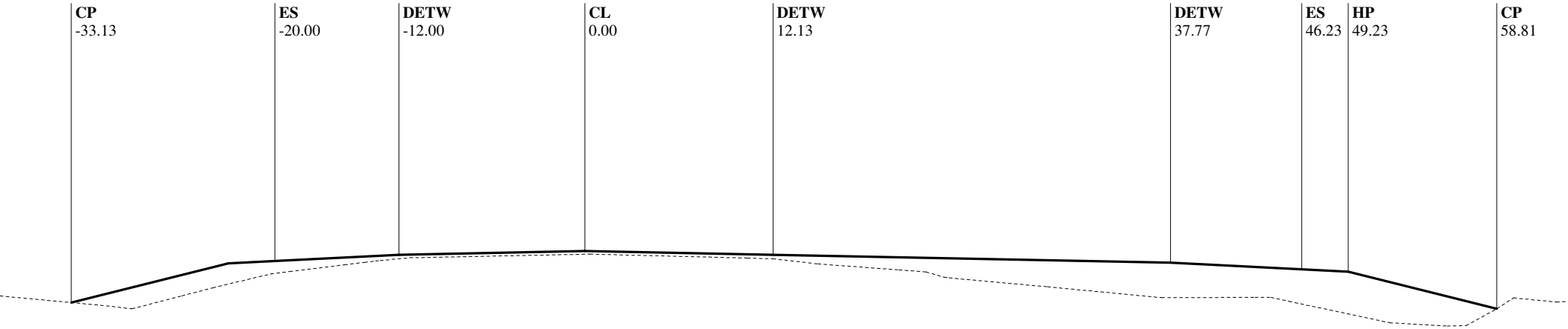

**Alignment Chain CENTER1**
**Station: 341+54.30**

| CP | | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.39 | -23.00 | -20.00 | -12.00 | 0.00 | 12.13 | 34.29 | 42.56 | 45.56 | 49.77 |
| -3.04 | -0.44 | -0.29 | 0.11 | 0.35 | 0.11 | -0.34 | -0.75 | -0.90 | -1.95 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.60 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.44 | F 0.41 | F 0.15 | F 1.05 |
| @ 10.39 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.13 | @ 22.16 | @ 8.27 | @ 3.00 | @ 4.21 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



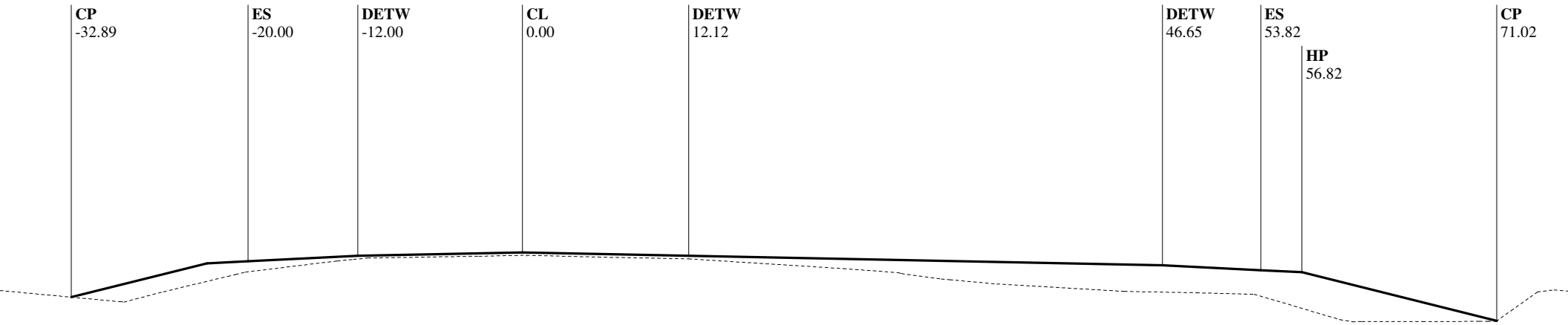

**Alignment Chain CENTER1**
**Station: 341+67.46**

| CP | | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.13 | -23.00 | -20.00 | -12.00 | 0.00 | 12.13 | 37.77 | 46.23 | 49.23 | 58.81 |
| -3.02 | -0.49 | -0.34 | 0.06 | 0.30 | 0.06 | -0.46 | -0.88 | -1.03 | -3.43 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.53 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.51 | F 0.42 | F 0.15 | F 2.40 |
| @ 10.13 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.13 | @ 25.64 | @ 8.46 | @ 3.00 | @ 9.58 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



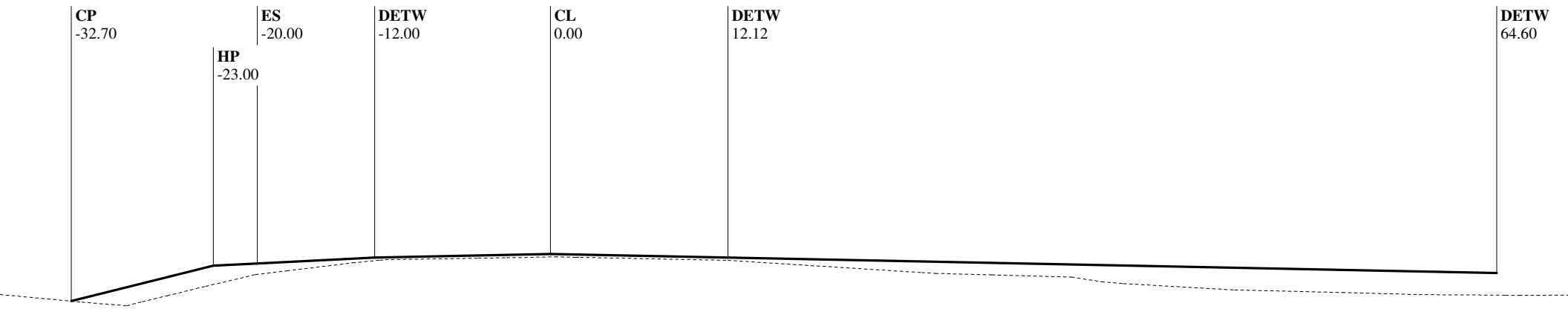

**Alignment Chain CENTER1**
**Station: 341+79.75**

| **CP** | | **ES** | **DETW** | **CL** | **DETW** | **DETW** | **ES** | **HP** | **CP** |
|---|---|---|---|---|---|---|---|---|---|
| -32.89 | -23.00 | -20.00 | -12.00 | 0.00 | 12.12 | 46.65 | 53.82 | 56.82 | 71.02 |
| -3.01 | -0.54 | -0.39 | 0.01 | 0.25 | 0.01 | -0.68 | -1.04 | -1.19 | -4.74 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.47 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.69 | F 0.36 | F 0.15 | F 3.55 |
| @ 9.89 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.12 | @ 34.53 | @ 7.17 | @ 3.00 | @ 14.20 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



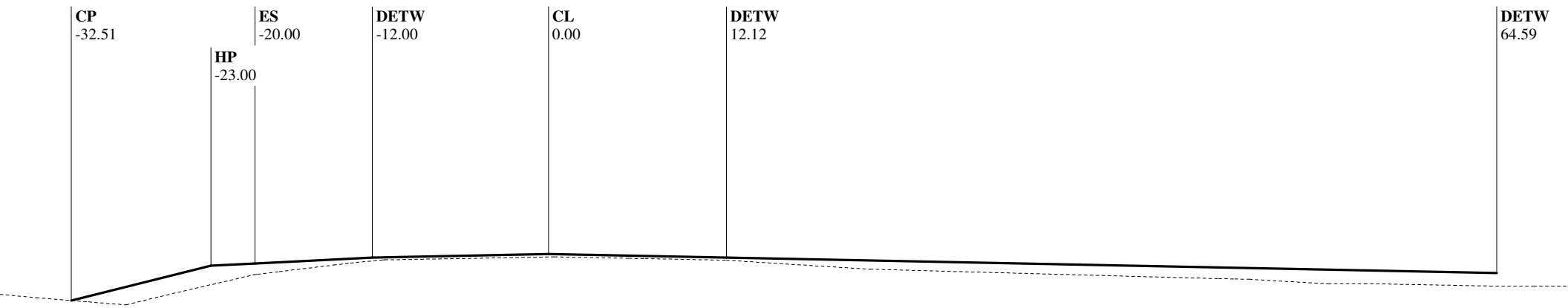

**Alignment Chain CENTER1**
**Station: 341+89.36**

| CP | HP | ES | DETW | CL | DETW | DETW |
|---|---|---|---|---|---|---|
| -32.70 | -23.00 | -20.00 | -12.00 | 0.00 | 12.12 | 64.60 |
| -3.00 | -0.57 | -0.42 | -0.02 | 0.22 | -0.03 | -1.08 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% |
| F 2.43 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 1.05 |
| @ 9.70 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.12 | @ 52.48 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



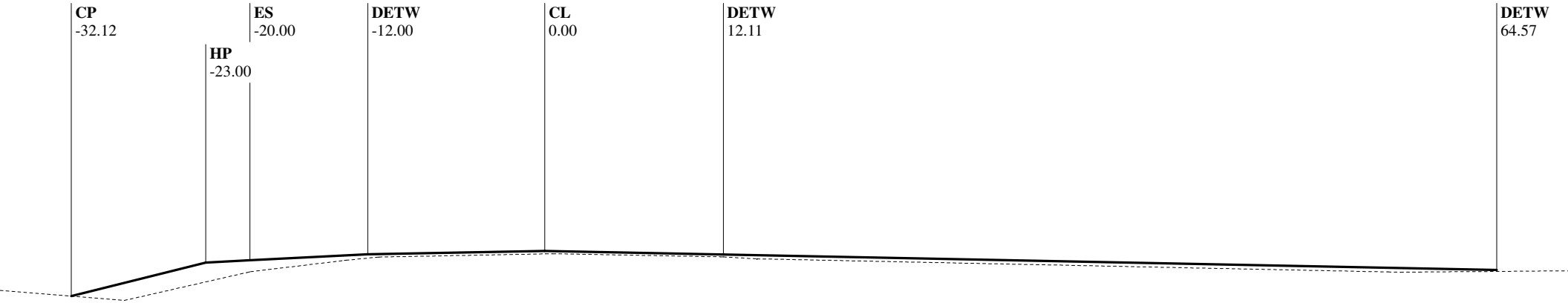

**Alignment Chain CENTER1**
**Station: 342+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW |
|---|---|---|---|---|---|---|
| -32.51 | -23.00 | -20.00 | -12.00 | 0.00 | 12.12 | 64.59 |
| -2.96 | -0.58 | -0.43 | -0.03 | 0.21 | -0.03 | -1.08 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% |
| F 2.38 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 1.05 |
| @ 9.51 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.12 | @ 52.47 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



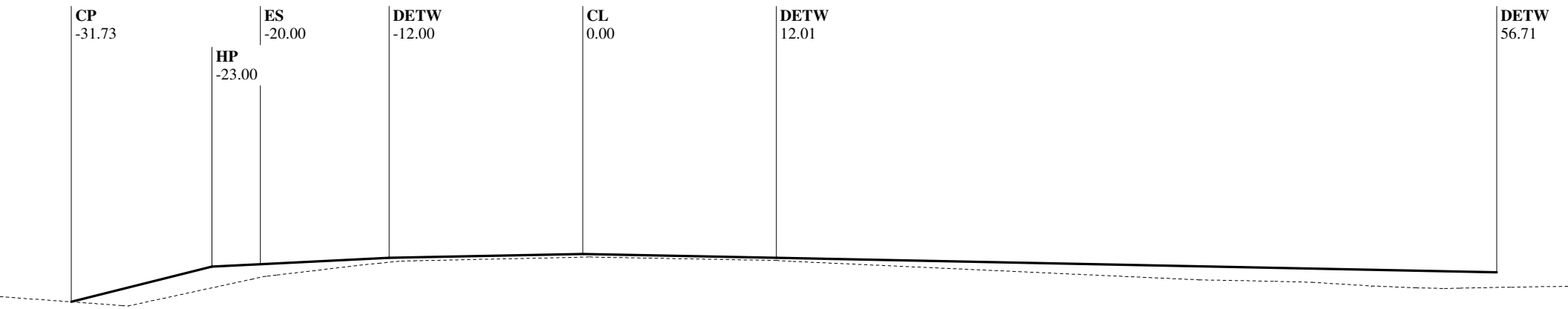

**Alignment Chain CENTER1**
**Station: 342+18.29**

| CP | HP | ES | DETW | CL | DETW | DETW |
|---|---|---|---|---|---|---|
| -32.12 | -23.00 | -20.00 | -12.00 | 0.00 | 12.11 | 64.57 |
| -2.87 | -0.59 | -0.44 | -0.04 | 0.20 | -0.04 | -1.09 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% |
| F 2.28 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 1.05 |
| @ 9.12 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.11 | @ 52.46 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



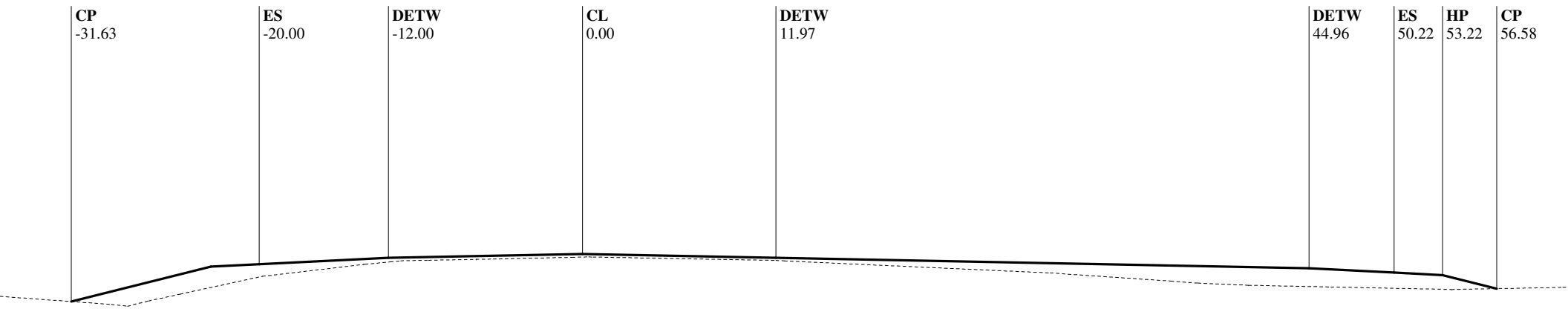

**Alignment Chain CENTER1**
**Station: 342+39.87**

| CP | HP | ES | DETW | CL | DETW | DETW |
|---|---|---|---|---|---|---|
| -31.73 | -23.00 | -20.00 | -12.00 | 0.00 | 12.01 | 56.71 |
| -2.78 | -0.60 | -0.45 | -0.05 | 0.19 | -0.05 | -0.95 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% |
| F 2.18 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.89 |
| @ 8.73 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.01 | @ 44.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



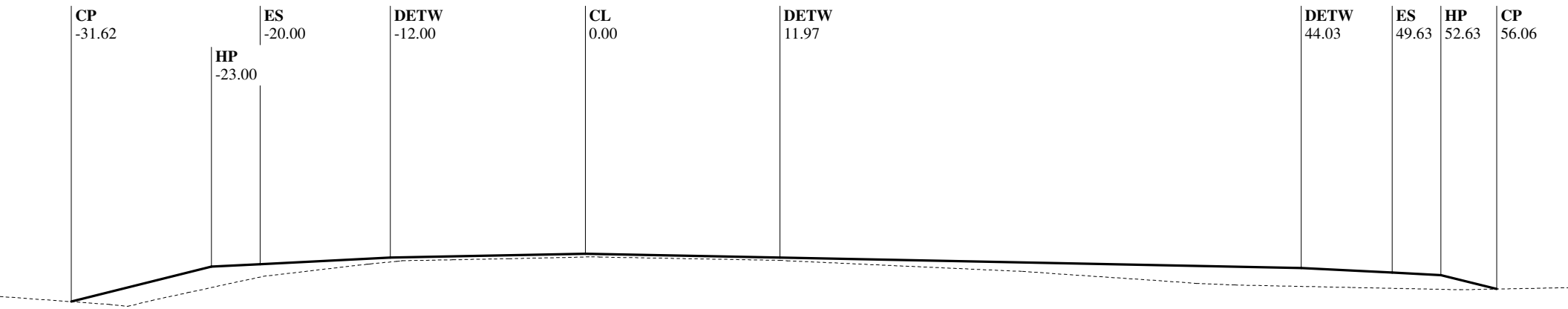

**Alignment Chain CENTER1**
**Station: 342+48.91**

| CP | | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.63 | -23.00 | -20.00 | -12.00 | 0.00 | 11.97 | 44.96 | 50.22 | 53.22 | 56.58 |
| -2.77 | -0.61 | -0.46 | -0.06 | 0.18 | -0.06 | -0.72 | -0.98 | -1.13 | -1.97 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.16 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.66 | F 0.26 | F 0.15 | F 0.84 |
| @ 8.63 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.97 | @ 32.99 | @ 5.26 | @ 3.00 | @ 3.35 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



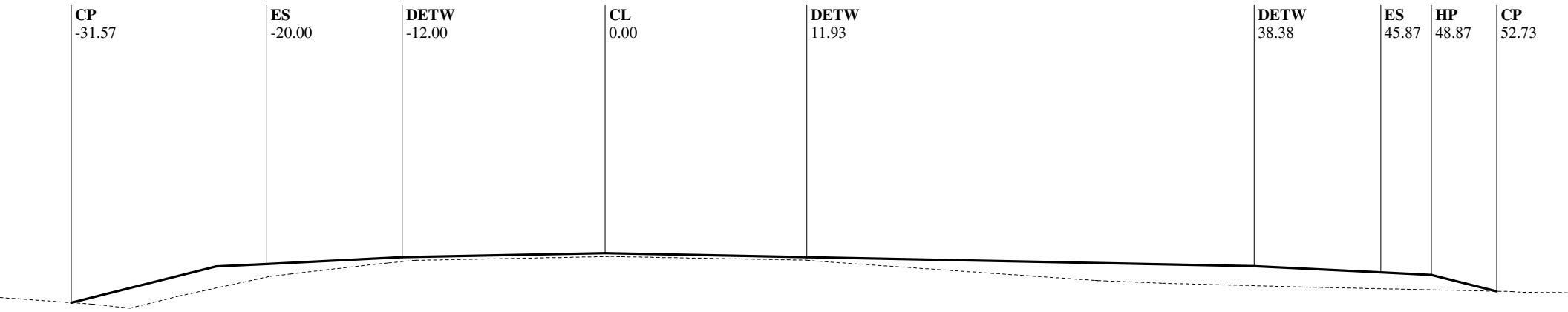

**Alignment Chain CENTER1**
**Station: 342+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.62 | -23.00 | -20.00 | -12.00 | 0.00 | 11.97 | 44.03 | 49.63 | 52.63 | 56.06 |
| -2.76 | -0.61 | -0.46 | -0.06 | 0.18 | -0.06 | -0.70 | -0.98 | -1.13 | -1.99 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.16 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.64 | F 0.28 | F 0.15 | F 0.86 |
| @ 8.62 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.97 | @ 32.06 | @ 5.60 | @ 3.00 | @ 3.43 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



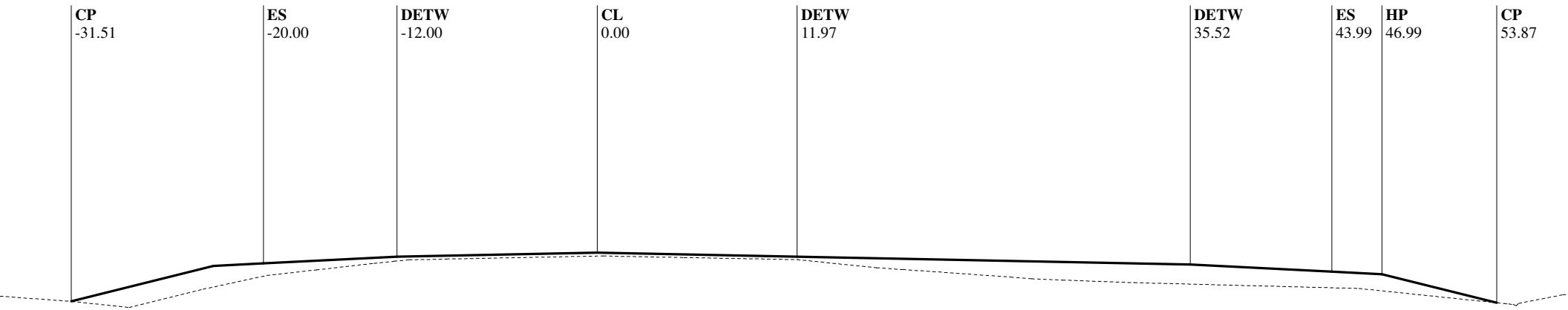

**Alignment Chain CENTER1**
**Station: 342+59.17**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **CP** | | **ES** | **DETW** | **CL** | **DETW** | **DETW** | **ES** | **HP** | **CP** |
| -31.57 | -23.00 | -20.00 | -12.00 | 0.00 | 11.93 | 38.38 | 45.87 | 48.87 | 52.73 |
| -2.74 | -0.60 | -0.45 | -0.05 | 0.19 | -0.05 | -0.58 | -0.95 | -1.10 | -2.07 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.14 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.53 | F 0.37 | F 0.15 | F 0.96 |
| @ 8.57 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.93 | @ 26.45 | @ 7.49 | @ 3.00 | @ 3.86 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



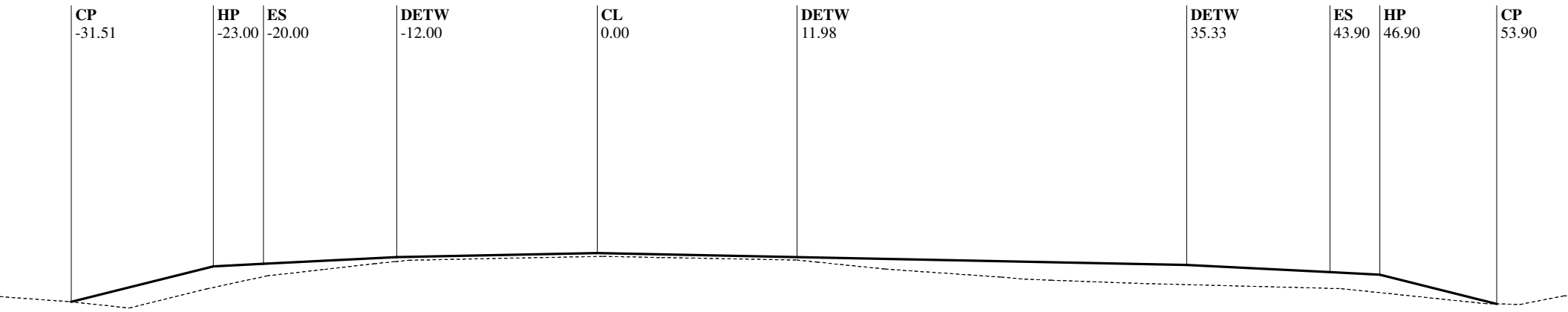

**Alignment Chain CENTER1**
**Station: 342+68.90**

| CP | | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.51 | -23.00 | -20.00 | -12.00 | 0.00 | 11.97 | 35.52 | 43.99 | 46.99 | 53.87 |
| -2.72 | -0.59 | -0.44 | -0.04 | 0.20 | -0.04 | -0.51 | -0.93 | -1.08 | -2.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.13 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.47 | F 0.42 | F 0.15 | F 1.72 |
| @ 8.51 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.97 | @ 23.55 | @ 8.47 | @ 3.00 | @ 6.87 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



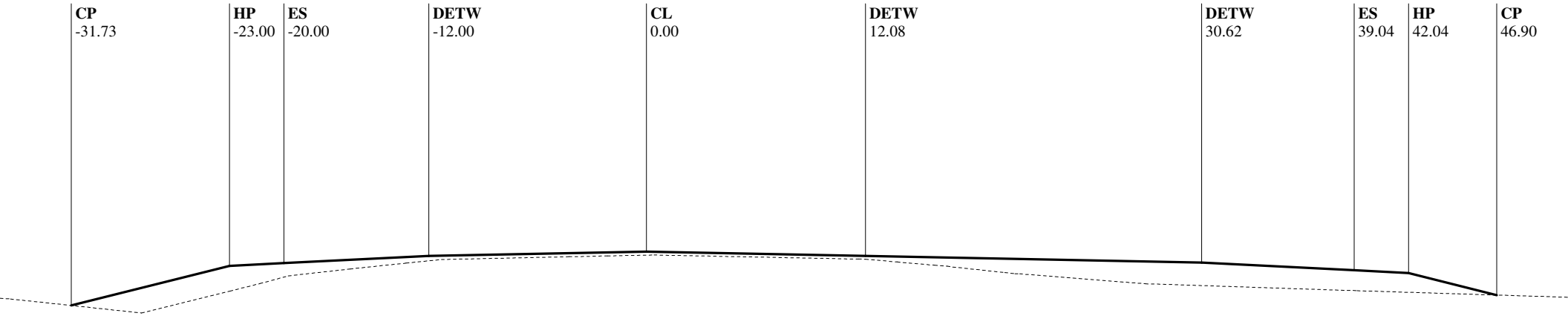

**Alignment Chain CENTER1**
**Station: 342+70.14**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.51 | -23.00 | -20.00 | -12.00 | 0.00 | 11.98 | 35.33 | 43.90 | 46.90 | 53.90 |
| -2.72 | -0.59 | -0.44 | -0.04 | 0.20 | -0.04 | -0.51 | -0.93 | -1.08 | -2.83 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.13 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.47 | F 0.43 | F 0.15 | F 1.75 |
| @ 8.51 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.98 | @ 23.35 | @ 8.57 | @ 3.00 | @ 7.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



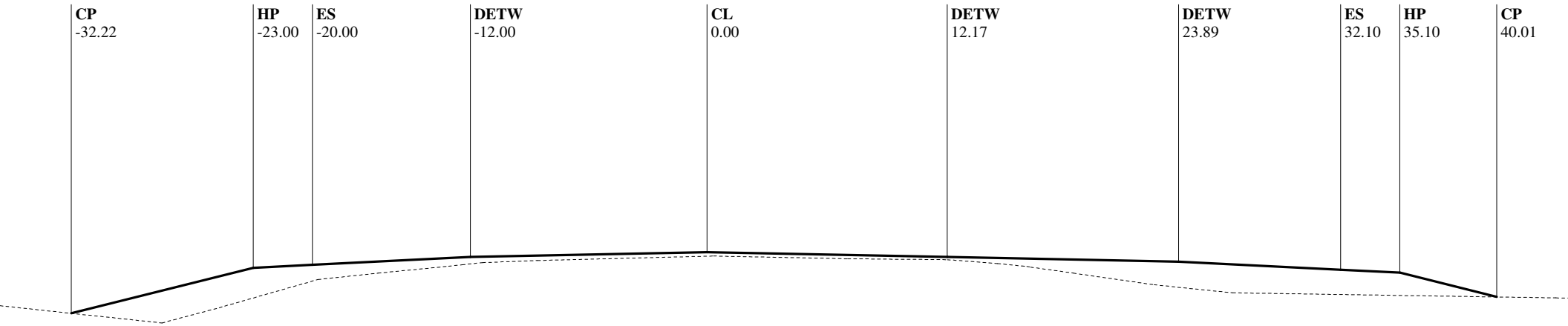

**Alignment Chain CENTER1**
**Station: 343+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -31.73 | -23.00 | -20.00 | -12.00 | 0.00 | 12.08 | 30.62 | 39.04 | 42.04 | 46.90 |
| -2.72 | -0.54 | -0.39 | 0.01 | 0.25 | 0.01 | -0.36 | -0.79 | -0.94 | -2.15 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.18 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.37 | F 0.42 | F 0.15 | F 1.21 |
| @ 8.73 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.08 | @ 18.53 | @ 8.42 | @ 3.00 | @ 4.86 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



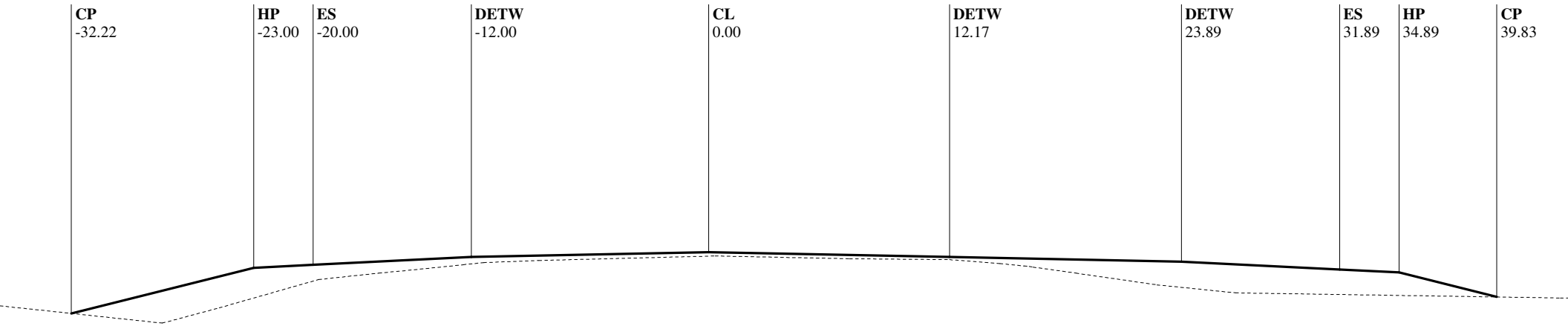

**Alignment Chain CENTER1**
**Station: 343+42.66**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.22 | -23.00 | -20.00 | -12.00 | 0.00 | 12.17 | 23.89 | 32.10 | 35.10 | 40.01 |
| -2.72 | -0.41 | -0.26 | 0.14 | 0.38 | 0.14 | -0.10 | -0.51 | -0.66 | -1.89 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.30 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.23 | F 0.41 | F 0.15 | F 1.23 |
| @ 9.22 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.17 | @ 11.72 | @ 8.21 | @ 3.00 | @ 4.91 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



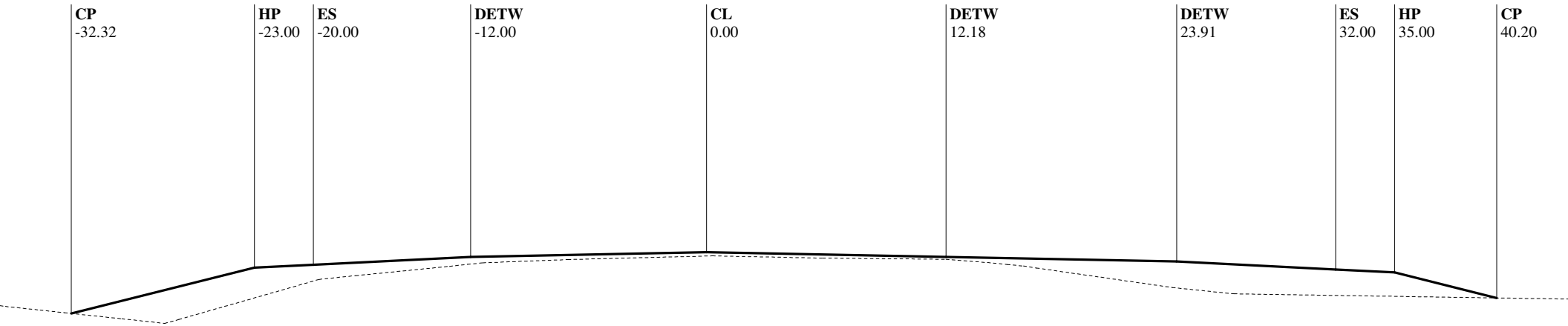

**Alignment Chain CENTER1**
**Station: 343+42.70**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.22 | -23.00 | -20.00 | -12.00 | 0.00 | 12.17 | 23.89 | 31.89 | 34.89 | 39.83 |
| -2.72 | -0.41 | -0.26 | 0.14 | 0.38 | 0.14 | -0.10 | -0.50 | -0.65 | -1.88 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.30 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.23 | F 0.40 | F 0.15 | F 1.24 |
| @ 9.22 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.17 | @ 11.72 | @ 8.00 | @ 3.00 | @ 4.94 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

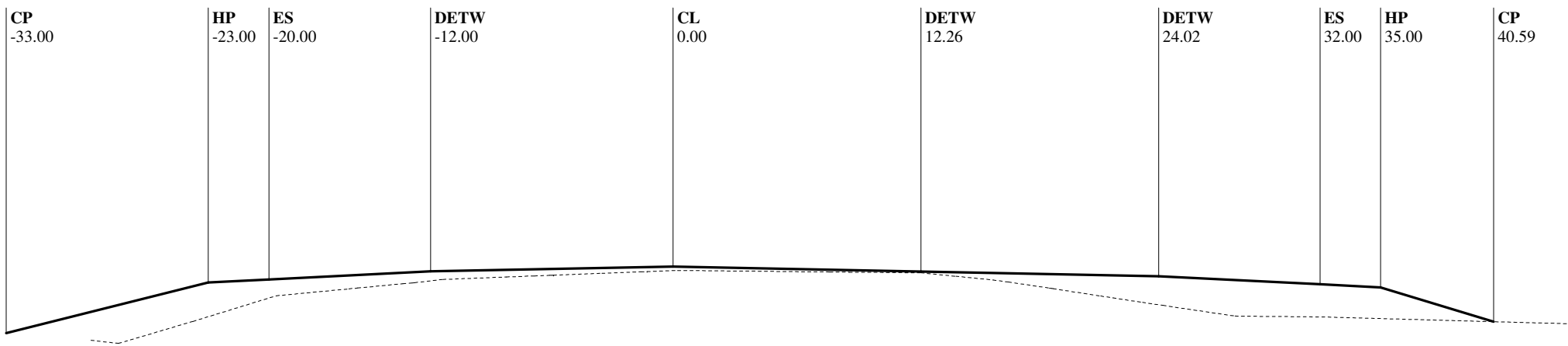



**Alignment Chain CENTER1**
**Station: 343+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.32 | -23.00 | -20.00 | -12.00 | 0.00 | 12.18 | 23.91 | 32.00 | 35.00 | 40.20 |
| -2.71 | -0.38 | -0.23 | 0.17 | 0.41 | 0.16 | -0.07 | -0.48 | -0.63 | -1.93 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.33 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.23 | F 0.40 | F 0.15 | F 1.30 |
| @ 9.32 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.18 | @ 11.72 | @ 8.09 | @ 3.00 | @ 5.20 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



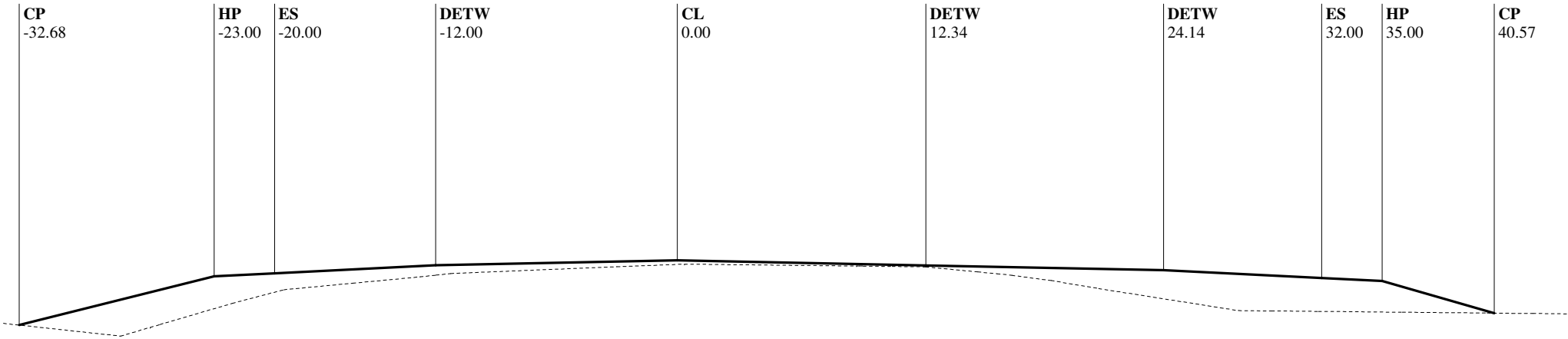

**Alignment Chain CENTER1**
**Station: 344+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.00 | -23.00 | -20.00 | -12.00 | 0.00 | 12.26 | 24.02 | 32.00 | 35.00 | 40.59 |
| -2.70 | -0.20 | -0.05 | 0.35 | 0.59 | 0.34 | 0.11 | -0.29 | -0.44 | -2.13 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -3.30:1 |
| F 2.50 | F 0.15 | F 0.40 | F 0.24 | | F 0.25 | F 0.24 | F 0.40 | F 0.15 | F 1.69 |
| @ 10.00 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.26 | @ 11.76 | @ 7.98 | @ 3.00 | @ 5.59 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



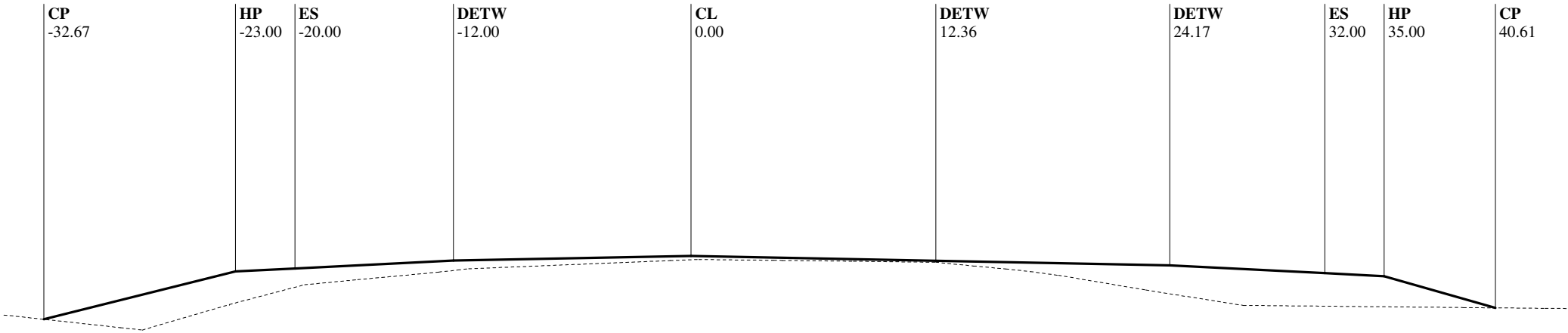

**Alignment Chain CENTER1**
**Station: 344+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.68 | -23.00 | -20.00 | -12.00 | 0.00 | 12.34 | 24.14 | 32.00 | 35.00 | 40.57 |
| -2.43 | -0.01 | 0.14 | 0.54 | 0.78 | 0.53 | 0.29 | -0.10 | -0.25 | -1.84 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -3.50:1 |
| F 2.42 | F 0.15 | F 0.40 | F 0.24 | | F 0.25 | F 0.24 | F 0.39 | F 0.15 | F 1.59 |
| @ 9.68 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.34 | @ 11.80 | @ 7.86 | @ 3.00 | @ 5.57 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



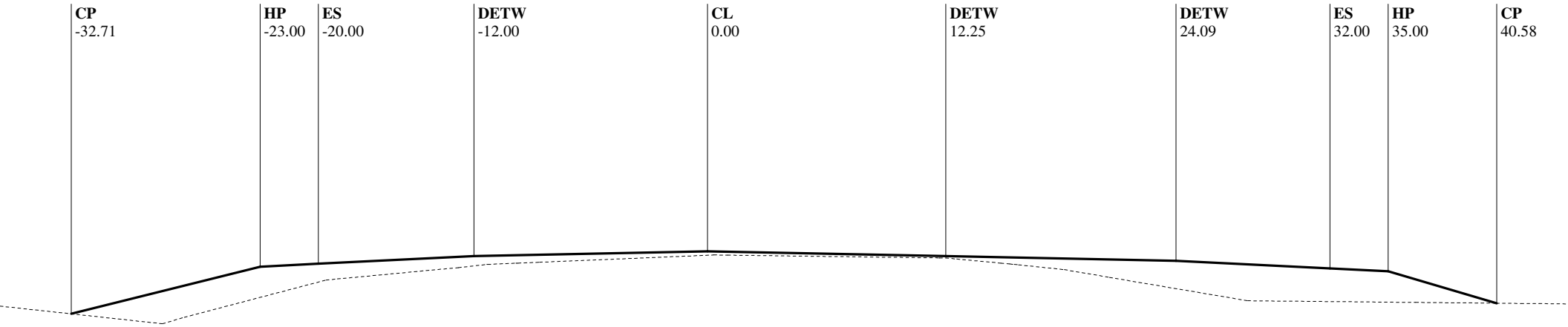

**Alignment Chain CENTER1**
**Station: 344+63.04**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.67 | -23.00 | -20.00 | -12.00 | 0.00 | 12.36 | 24.17 | 32.00 | 35.00 | 40.61 |
| -2.38 | 0.04 | 0.19 | 0.59 | 0.83 | 0.58 | 0.34 | -0.05 | -0.20 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -3.50:1 |
| F 2.42 | F 0.15 | F 0.40 | F 0.24 | | F 0.25 | F 0.24 | F 0.39 | F 0.15 | F 1.60 |
| @ 9.67 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.36 | @ 11.81 | @ 7.83 | @ 3.00 | @ 5.61 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



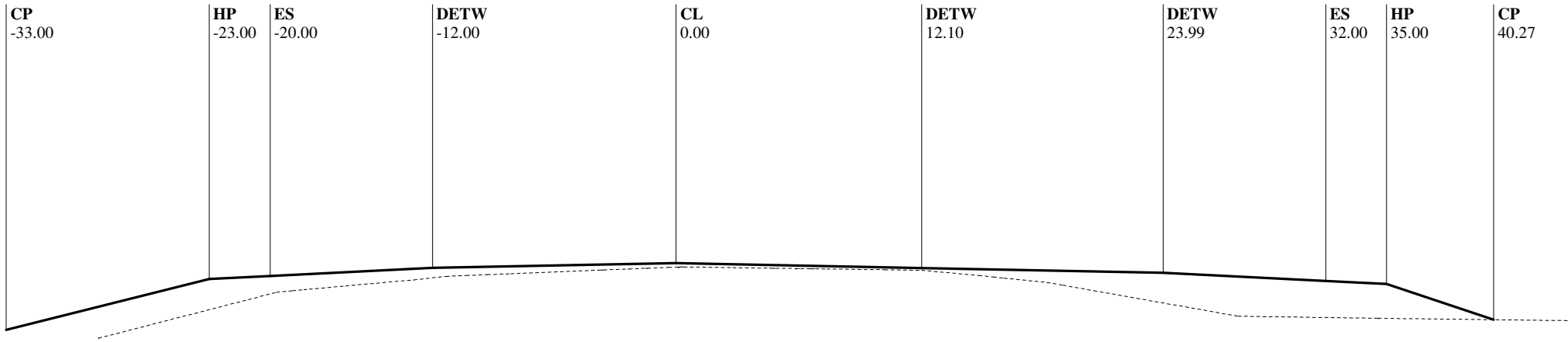

**Alignment Chain CENTER1**
**Station: 345+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -32.71 | -23.00 | -20.00 | -12.00 | 0.00 | 12.25 | 24.09 | 32.00 | 35.00 | 40.58 |
| -2.25 | 0.18 | 0.33 | 0.73 | 0.97 | 0.73 | 0.49 | 0.09 | -0.06 | -1.70 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -3.40:1 |
| F 2.43 | F 0.15 | F 0.40 | F 0.24 | | F 0.25 | F 0.24 | F 0.40 | F 0.15 | F 1.64 |
| @ 9.71 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.25 | @ 11.84 | @ 7.91 | @ 3.00 | @ 5.58 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



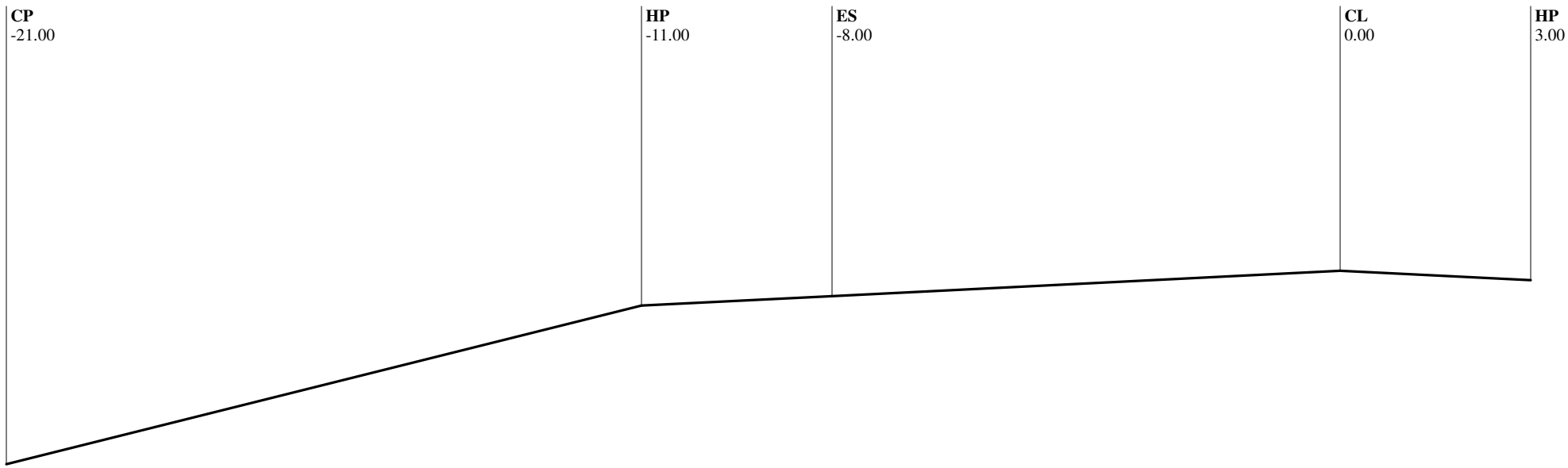

**Alignment Chain CENTER1**
**Station: 345+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.00 | -23.00 | -20.00 | -12.00 | 0.00 | 12.10 | 23.99 | 32.00 | 35.00 | 40.27 |
| -2.12 | 0.38 | 0.53 | 0.93 | 1.17 | 0.92 | 0.69 | 0.28 | 0.13 | -1.62 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -3.00:1 |
| F 2.50 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.24 | F 0.40 | F 0.15 | F 1.76 |
| @ 10.00 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.10 | @ 11.89 | @ 8.01 | @ 3.00 | @ 5.27 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



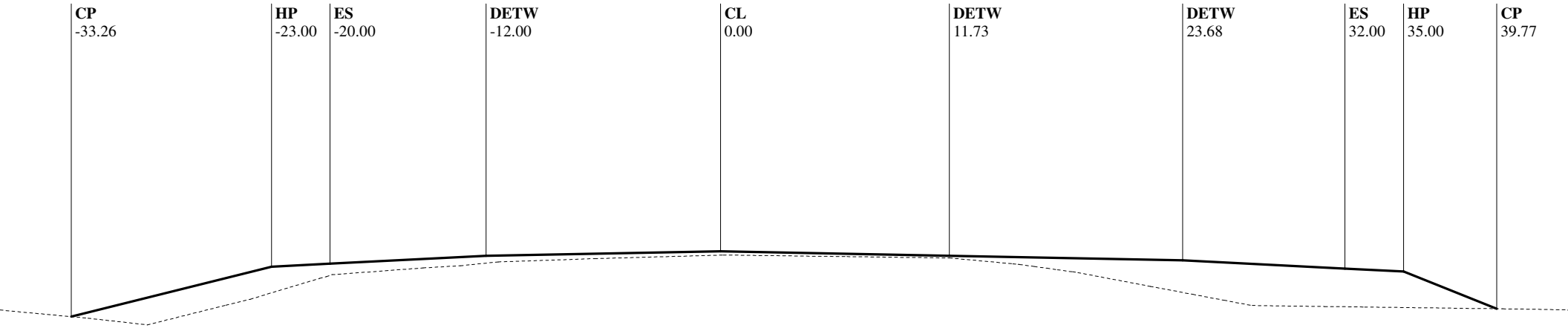

**Alignment Chain CENTER1**
**Station: 346+00.00**

| CP | HP | ES | CL | HP |
|---|---|---|---|---|
| -21.00 | -11.00 | -8.00 | 0.00 | 3.00 |
| -1.69 | 0.81 | 0.96 | 1.36 | 1.21 |
| -4.00:1 | -5.00% | -5.00% | | -5.00% |
| F 2.50 | F 0.15 | F 0.40 | | F 0.15 |
| @ 10.00 | @ 3.00 | @ 8.00 | | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



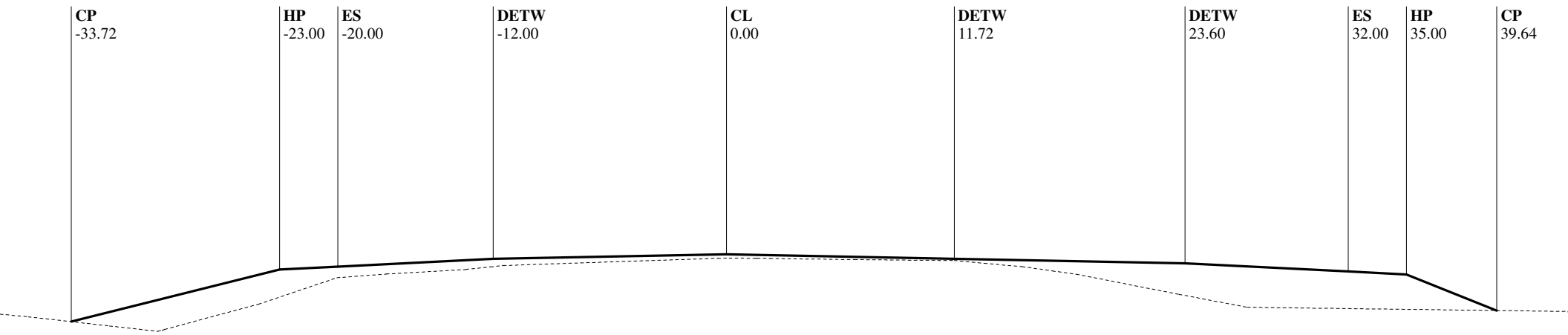

**Alignment Chain CENTER1**
**Station: 347+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.26 | -23.00 | -20.00 | -12.00 | 0.00 | 11.73 | 23.68 | 32.00 | 35.00 | 39.77 |
| -1.74 | 0.82 | 0.97 | 1.37 | 1.61 | 1.38 | 1.14 | 0.72 | 0.57 | -1.34 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -2.50:1 |
| F 2.56 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.24 | F 0.42 | F 0.15 | F 1.91 |
| @ 10.26 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.73 | @ 11.95 | @ 8.32 | @ 3.00 | @ 4.77 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



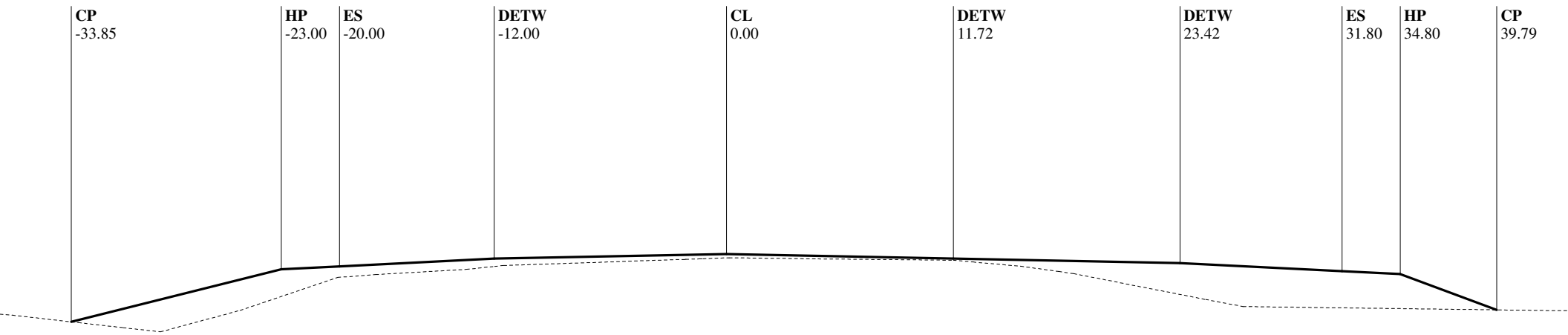

**Alignment Chain CENTER1**
**Station: 347+39.35**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.72 | -23.00 | -20.00 | -12.00 | 0.00 | 11.72 | 23.60 | 32.00 | 35.00 | 39.64 |
| -1.85 | 0.83 | 0.98 | 1.38 | 1.62 | 1.38 | 1.14 | 0.72 | 0.57 | -1.28 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -2.50:1 |
| F 2.68 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.24 | F 0.42 | F 0.15 | F 1.86 |
| @ 10.72 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.72 | @ 11.88 | @ 8.40 | @ 3.00 | @ 4.64 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



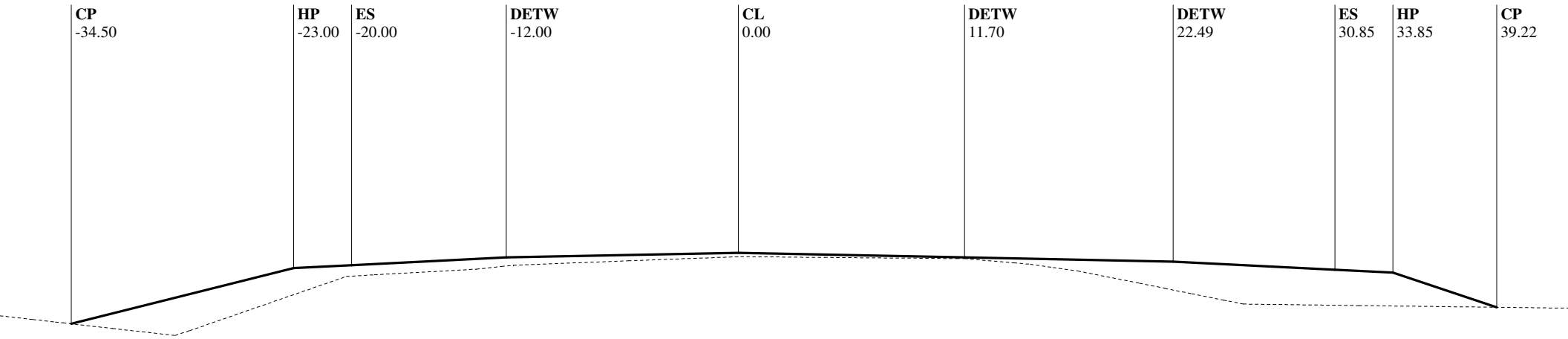

**Alignment Chain CENTER1**
**Station: 347+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -33.85 | -23.00 | -20.00 | -12.00 | 0.00 | 11.72 | 23.42 | 31.80 | 34.80 | 39.79 |
| -1.89 | 0.83 | 0.98 | 1.38 | 1.62 | 1.38 | 1.15 | 0.73 | 0.58 | -1.27 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -2.70:1 |
| F 2.71 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.23 | F 0.42 | F 0.15 | F 1.85 |
| @ 10.85 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.72 | @ 11.70 | @ 8.38 | @ 3.00 | @ 4.99 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



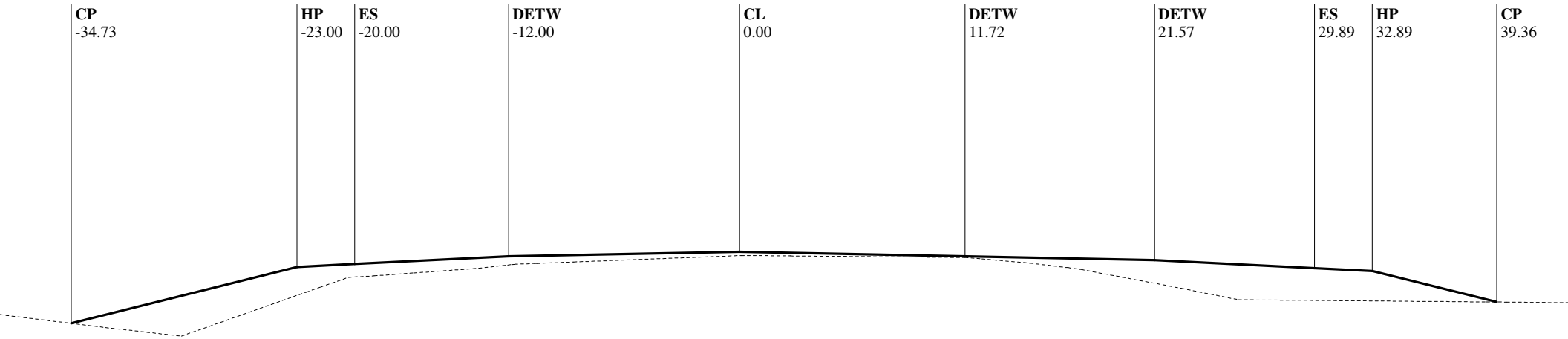

**Alignment Chain CENTER1**
**Station: 348+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.50 | -23.00 | -20.00 | -12.00 | 0.00 | 11.70 | 22.49 | 30.85 | 33.85 | 39.22 |
| -2.04 | 0.83 | 0.98 | 1.38 | 1.62 | 1.39 | 1.17 | 0.75 | 0.60 | -1.19 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -3.00:1 |
| F 2.88 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.22 | F 0.42 | F 0.15 | F 1.79 |
| @ 11.50 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.70 | @ 10.79 | @ 8.35 | @ 3.00 | @ 5.38 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



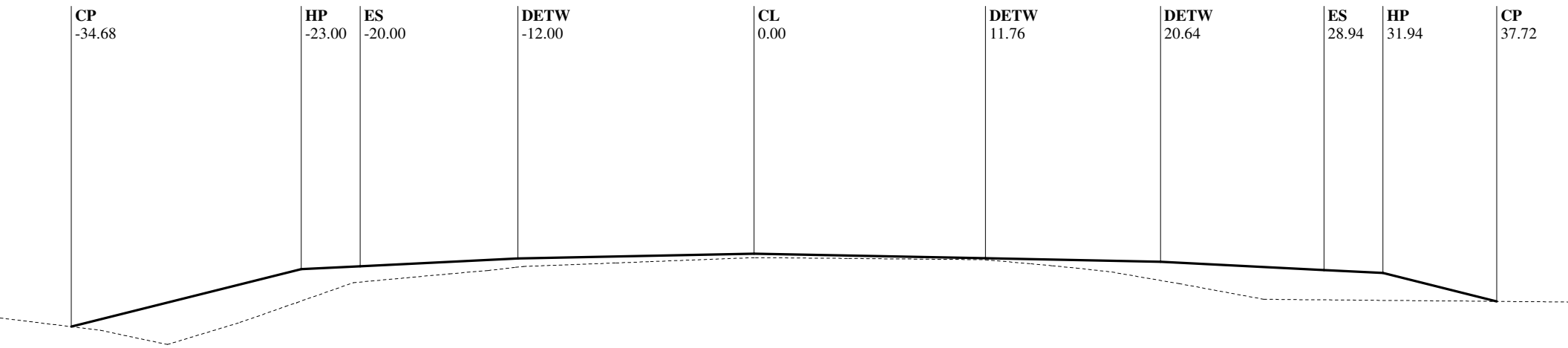

**Alignment Chain CENTER1**
**Station: 348+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.73 | -23.00 | -20.00 | -12.00 | 0.00 | 11.72 | 21.57 | 29.89 | 32.89 | 39.36 |
| -2.23 | 0.71 | 0.86 | 1.26 | 1.50 | 1.26 | 1.07 | 0.65 | 0.50 | -1.12 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.93 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.20 | F 0.42 | F 0.15 | F 1.62 |
| @ 11.73 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.72 | @ 9.84 | @ 8.33 | @ 3.00 | @ 6.46 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



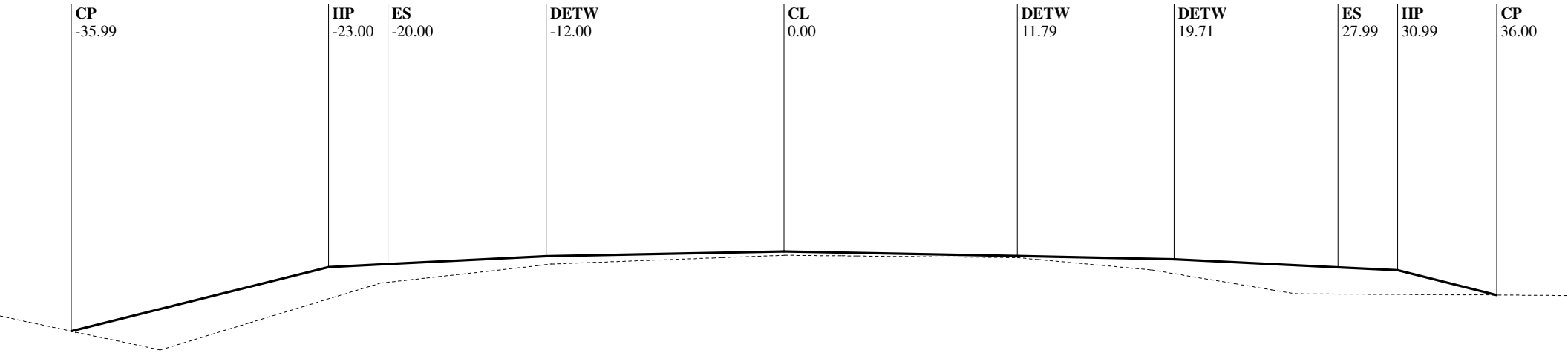

**Alignment Chain CENTER1**
**Station: 349+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -34.68 | -23.00 | -20.00 | -12.00 | 0.00 | 11.76 | 20.64 | 28.94 | 31.94 | 37.72 |
| -2.38 | 0.54 | 0.69 | 1.09 | 1.33 | 1.09 | 0.92 | 0.50 | 0.35 | -1.09 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 2.92 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.18 | F 0.42 | F 0.15 | F 1.44 |
| @ 11.68 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.76 | @ 8.88 | @ 8.30 | @ 3.00 | @ 5.78 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



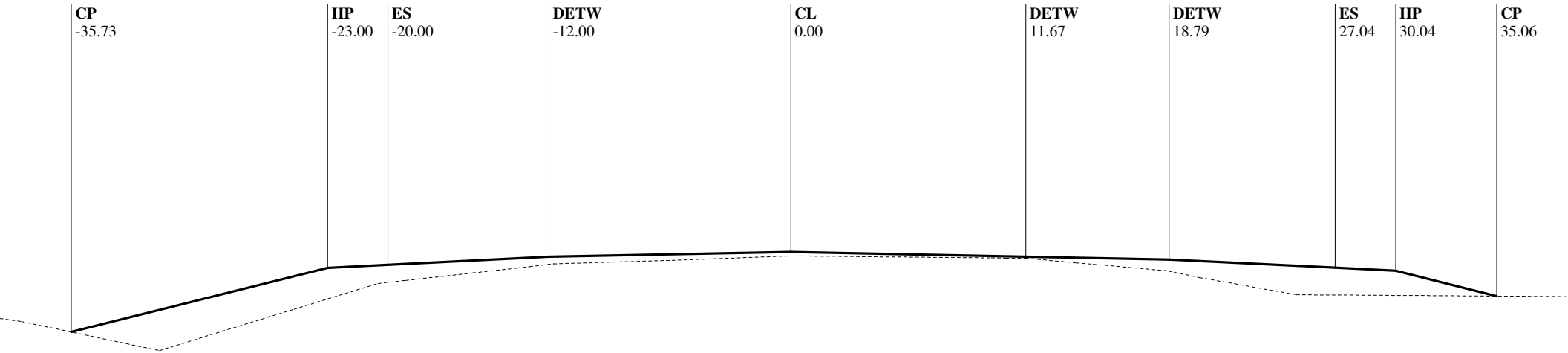

**Alignment Chain CENTER1**
**Station: 349+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -35.99 | -23.00 | -20.00 | -12.00 | 0.00 | 11.79 | 19.71 | 27.99 | 30.99 | 36.00 |
| -2.87 | 0.38 | 0.53 | 0.93 | 1.17 | 0.93 | 0.77 | 0.36 | 0.21 | -1.04 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.25 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.16 | F 0.41 | F 0.15 | F 1.25 |
| @ 12.99 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.79 | @ 7.93 | @ 8.28 | @ 3.00 | @ 5.01 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



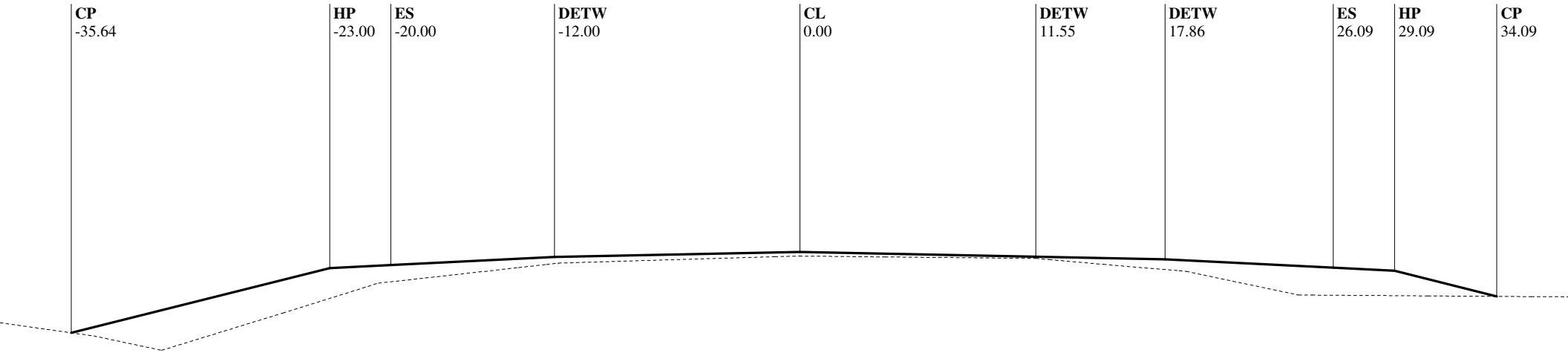

**Alignment Chain CENTER1**
**Station: 350+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -35.73 | -23.00 | -20.00 | -12.00 | 0.00 | 11.67 | 18.79 | 27.04 | 30.04 | 35.06 |
| -2.74 | 0.44 | 0.59 | 0.99 | 1.23 | 1.00 | 0.85 | 0.44 | 0.29 | -0.96 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.18 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.14 | F 0.41 | F 0.15 | F 1.25 |
| @ 12.73 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.67 | @ 7.12 | @ 8.25 | @ 3.00 | @ 5.02 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



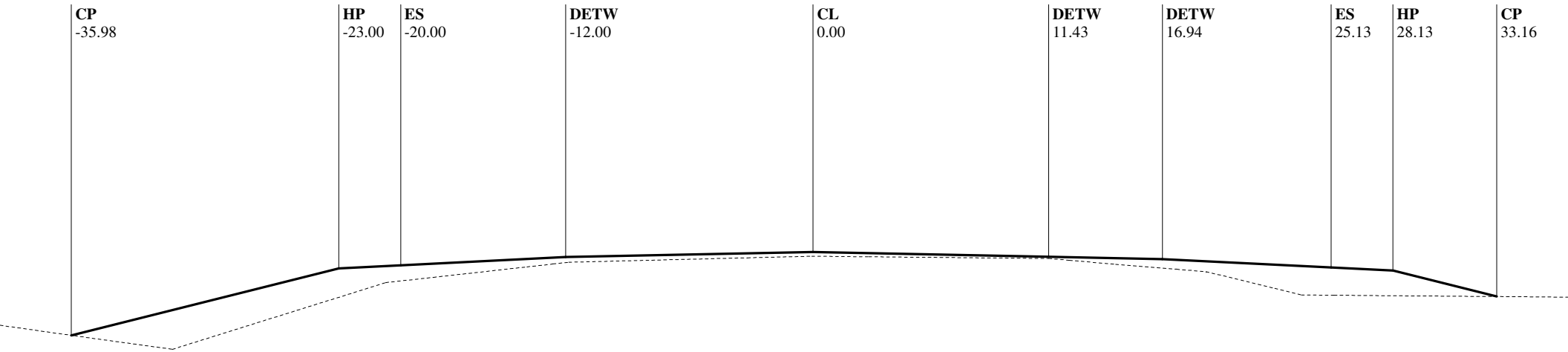

**Alignment Chain CENTER1**
**Station: 350+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -35.64 | -23.00 | -20.00 | -12.00 | 0.00 | 11.55 | 17.86 | 26.09 | 29.09 | 34.09 |
| -2.66 | 0.50 | 0.65 | 1.05 | 1.29 | 1.06 | 0.93 | 0.52 | 0.37 | -0.88 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.16 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.13 | F 0.41 | F 0.15 | F 1.25 |
| @ 12.64 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.55 | @ 6.31 | @ 8.22 | @ 3.00 | @ 5.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



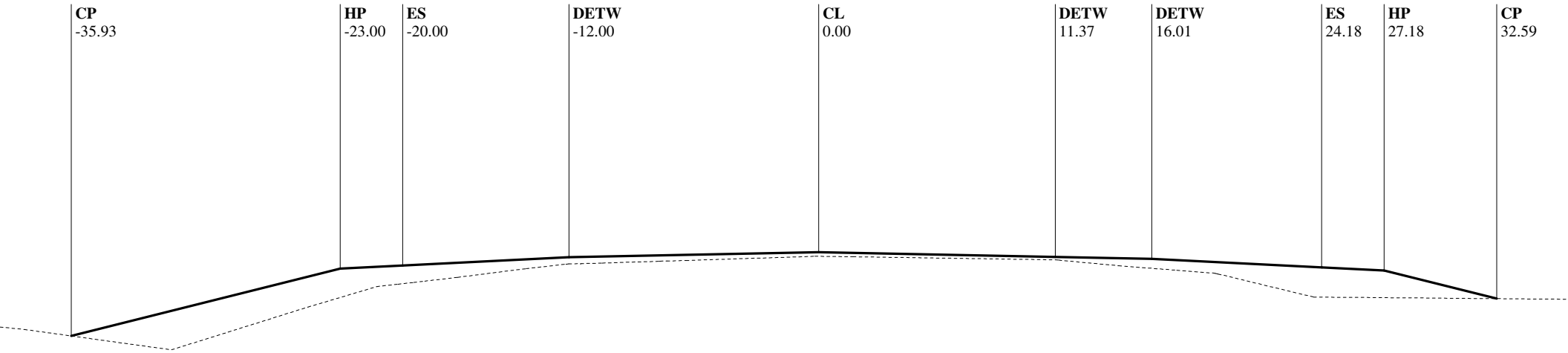

**Alignment Chain CENTER1**
**Station: 351+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -35.98 | -23.00 | -20.00 | -12.00 | 0.00 | 11.43 | 16.94 | 25.13 | 28.13 | 33.16 |
| -2.69 | 0.56 | 0.71 | 1.11 | 1.35 | 1.12 | 1.01 | 0.60 | 0.45 | -0.81 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.24 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.11 | F 0.41 | F 0.15 | F 1.26 |
| @ 12.98 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.43 | @ 5.51 | @ 8.20 | @ 3.00 | @ 5.03 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



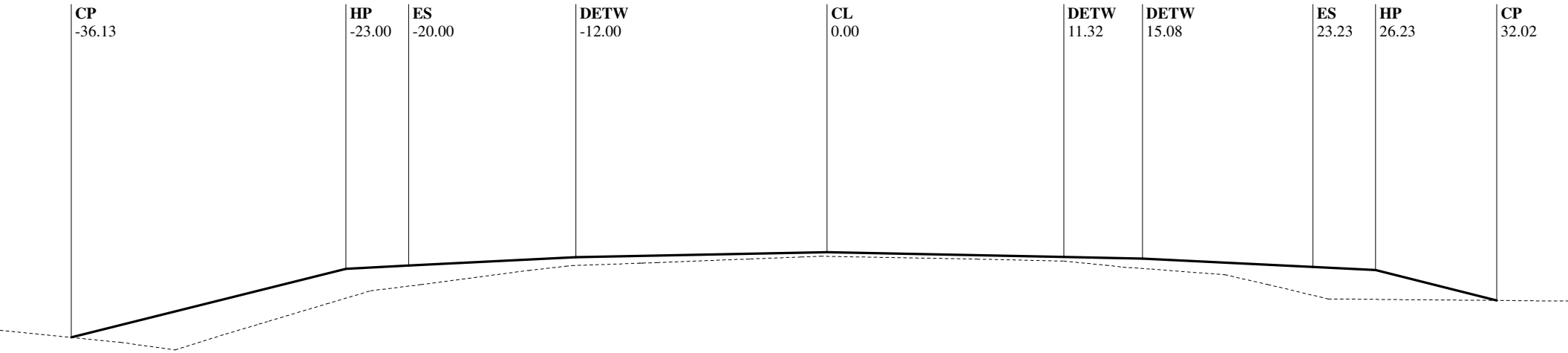

**Alignment Chain CENTER1**
**Station: 351+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -35.93 | -23.00 | -20.00 | -12.00 | 0.00 | 11.37 | 16.01 | 24.18 | 27.18 | 32.59 |
| -2.51 | 0.73 | 0.88 | 1.28 | 1.52 | 1.29 | 1.20 | 0.79 | 0.64 | -0.71 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.23 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.09 | F 0.41 | F 0.15 | F 1.35 |
| @ 12.93 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.37 | @ 4.64 | @ 8.17 | @ 3.00 | @ 5.41 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



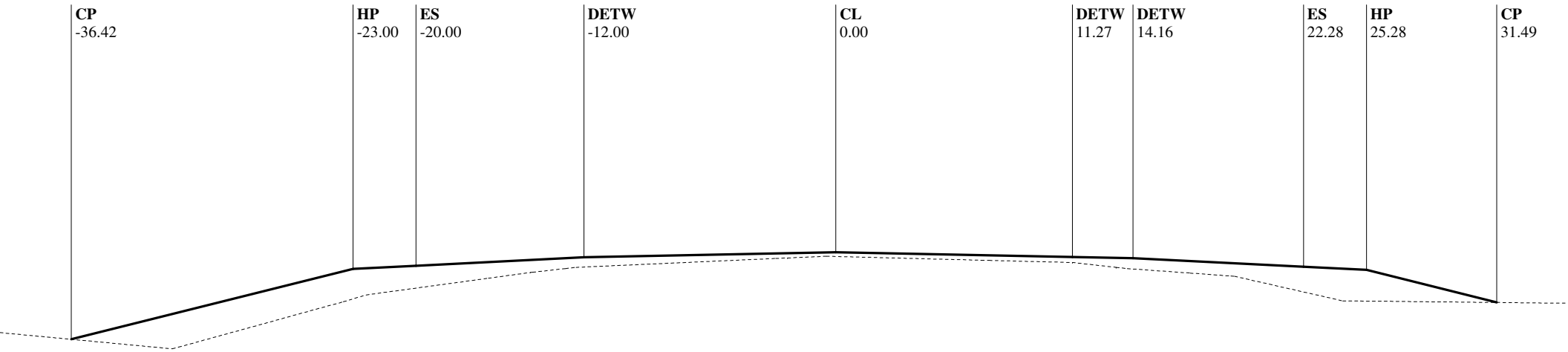

**Alignment Chain CENTER1**
**Station: 352+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -36.13 | -23.00 | -20.00 | -12.00 | 0.00 | 11.32 | 15.08 | 23.23 | 26.23 | 32.02 |
| -2.38 | 0.90 | 1.05 | 1.45 | 1.69 | 1.47 | 1.39 | 0.98 | 0.83 | -0.61 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.28 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.08 | F 0.41 | F 0.15 | F 1.45 |
| @ 13.13 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.32 | @ 3.76 | @ 8.15 | @ 3.00 | @ 5.79 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



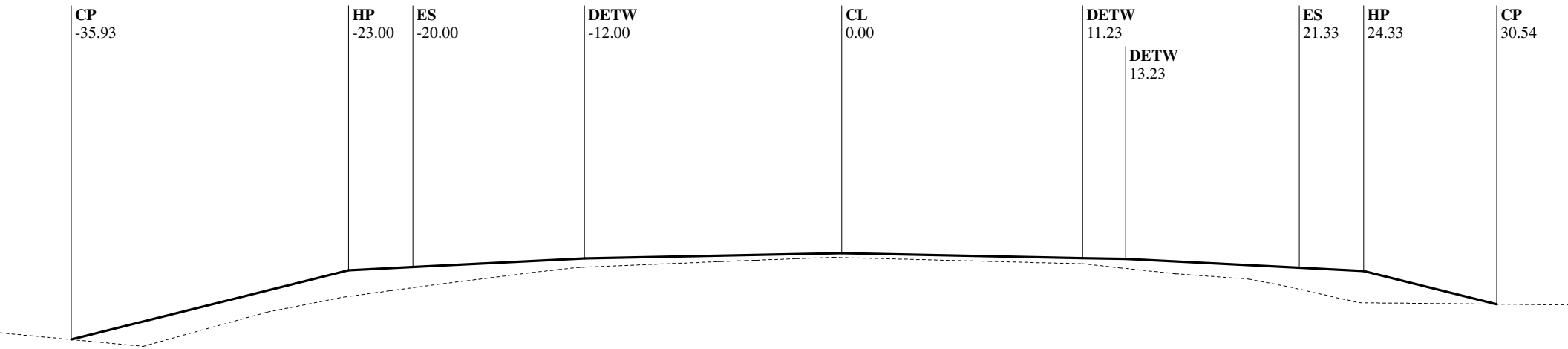

**Alignment Chain CENTER1**
**Station: 352+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -36.42 | -23.00 | -20.00 | -12.00 | 0.00 | 11.27 | 14.16 | 22.28 | 25.28 | 31.49 |
| -2.28 | 1.08 | 1.23 | 1.63 | 1.87 | 1.64 | 1.58 | 1.18 | 1.03 | -0.53 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.35 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.06 | F 0.41 | F 0.15 | F 1.55 |
| @ 13.42 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.27 | @ 2.89 | @ 8.12 | @ 3.00 | @ 6.21 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



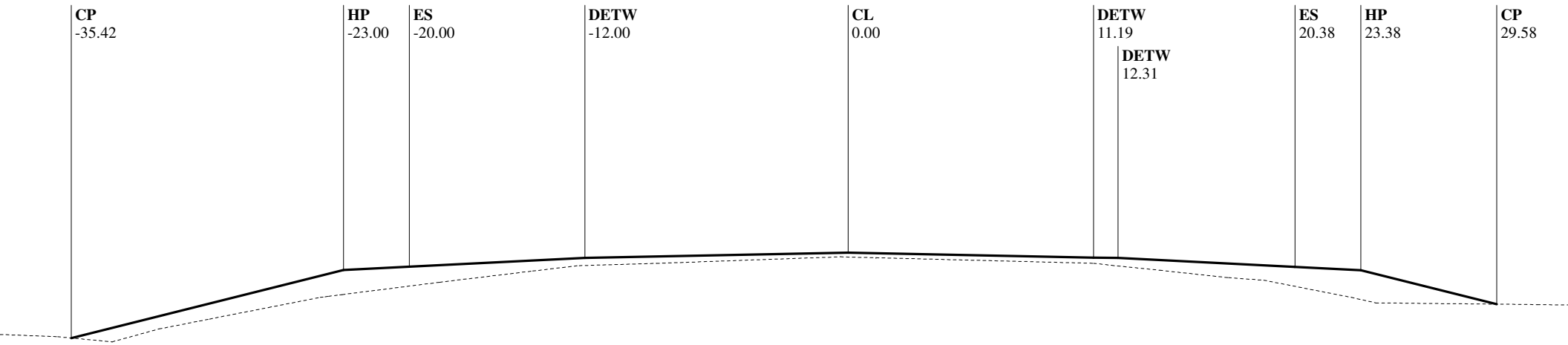

**Alignment Chain CENTER1**
**Station: 353+00.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -35.93 | -23.00 | -20.00 | -12.00 | 0.00 | 11.23 | 13.23 | 21.33 | 24.33 | 30.54 |
| -2.11 | 1.12 | 1.27 | 1.67 | 1.91 | 1.68 | 1.64 | 1.24 | 1.09 | -0.46 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.23 | F 0.15 | F 0.40 | F 0.24 | | F 0.22 | F 0.04 | F 0.40 | F 0.15 | F 1.55 |
| @ 12.93 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.23 | @ 2.00 | @ 8.10 | @ 3.00 | @ 6.21 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



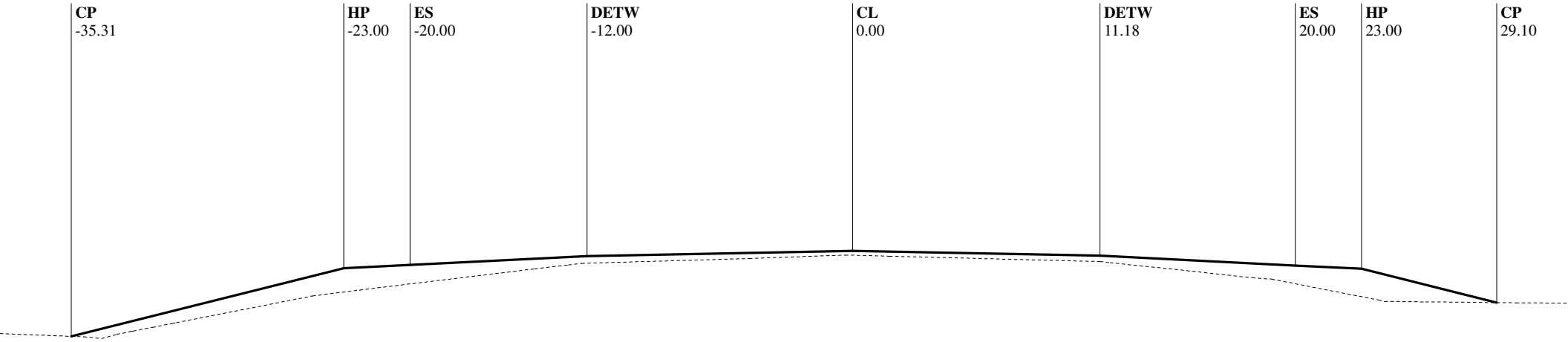

**Alignment Chain CENTER1**
**Station: 353+50.00**

| CP | HP | ES | DETW | CL | DETW | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|---|
| -35.42 | -23.00 | -20.00 | -12.00 | 0.00 | 11.19 | 12.31 | 20.38 | 23.38 | 29.58 |
| -1.95 | 1.16 | 1.31 | 1.71 | 1.95 | 1.72 | 1.70 | 1.30 | 1.15 | -0.40 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.10 | F 0.15 | F 0.40 | F 0.24 | | F 0.22 | F 0.02 | F 0.40 | F 0.15 | F 1.55 |
| @ 12.42 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.19 | @ 1.12 | @ 8.07 | @ 3.00 | @ 6.20 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



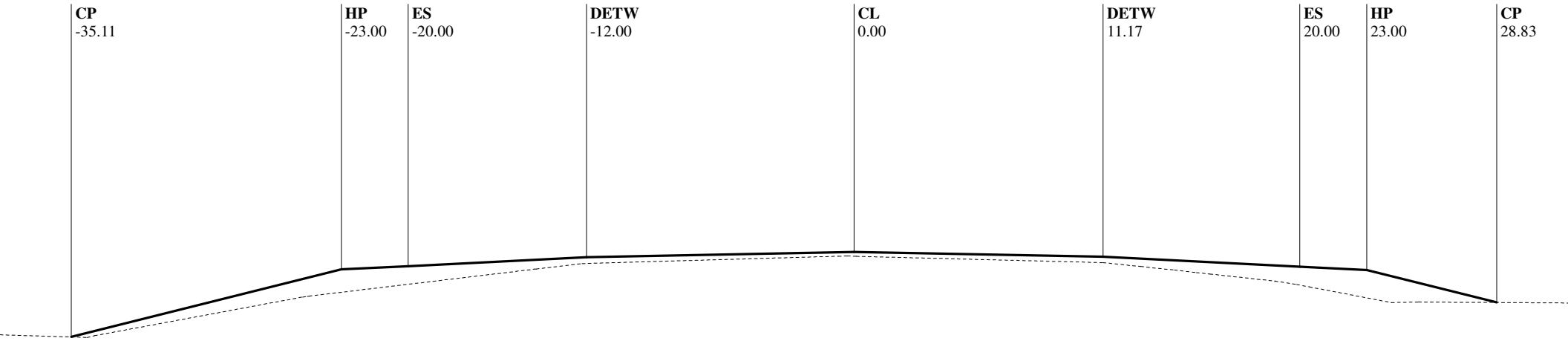

**Alignment Chain CENTER1**
**Station: 353+69.74**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -35.31 | -23.00 | -20.00 | -12.00 | 0.00 | 11.18 | 20.00 | 23.00 | 29.10 |
| -1.90 | 1.17 | 1.32 | 1.72 | 1.96 | 1.74 | 1.30 | 1.15 | -0.38 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.08 | F 0.15 | F 0.40 | F 0.24 | | F 0.22 | F 0.44 | F 0.15 | F 1.53 |
| @ 12.31 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.18 | @ 8.82 | @ 3.00 | @ 6.10 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



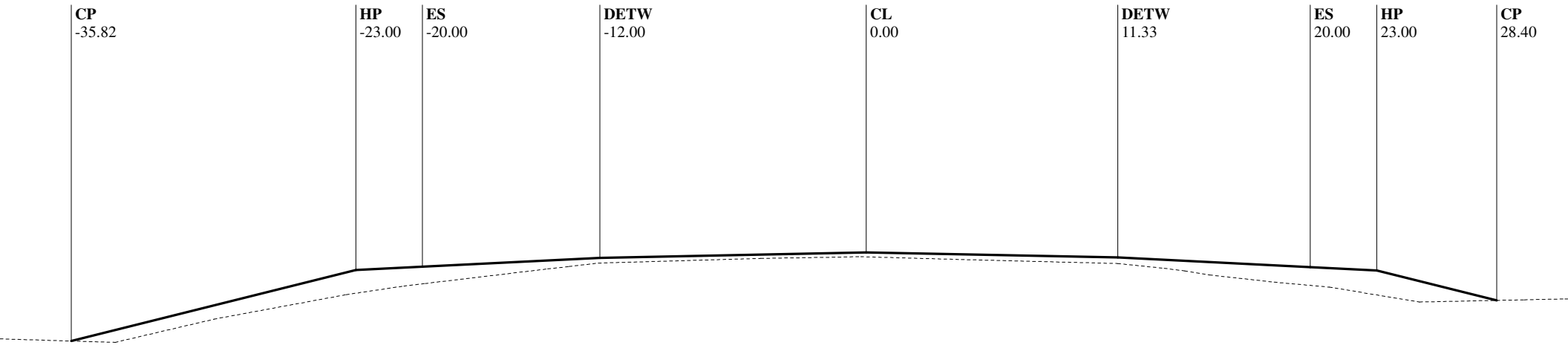

**Alignment Chain CENTER1**
**Station: 354+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -35.11 | -23.00 | -20.00 | -12.00 | 0.00 | 11.17 | 20.00 | 23.00 | 28.83 |
| -1.84 | 1.19 | 1.34 | 1.74 | 1.98 | 1.76 | 1.32 | 1.17 | -0.29 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.03 | F 0.15 | F 0.40 | F 0.24 | | F 0.22 | F 0.44 | F 0.15 | F 1.46 |
| @ 12.11 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.17 | @ 8.83 | @ 3.00 | @ 5.83 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



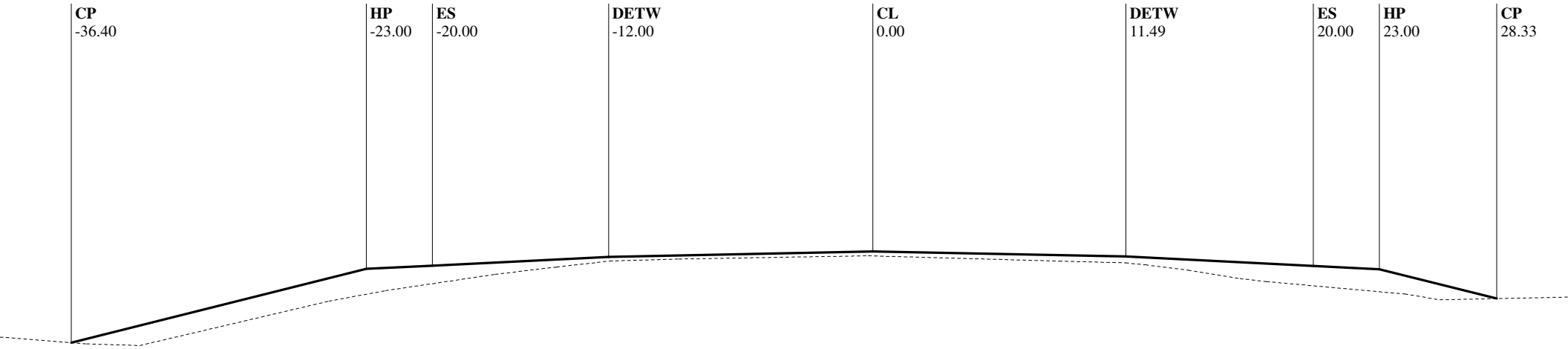

**Alignment Chain CENTER1**
**Station: 354+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -35.82 | -23.00 | -20.00 | -12.00 | 0.00 | 11.33 | 20.00 | 23.00 | 28.40 |
| -2.04 | 1.17 | 1.32 | 1.72 | 1.96 | 1.73 | 1.30 | 1.15 | -0.21 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.20 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.35 |
| @ 12.82 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.33 | @ 8.67 | @ 3.00 | @ 5.40 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



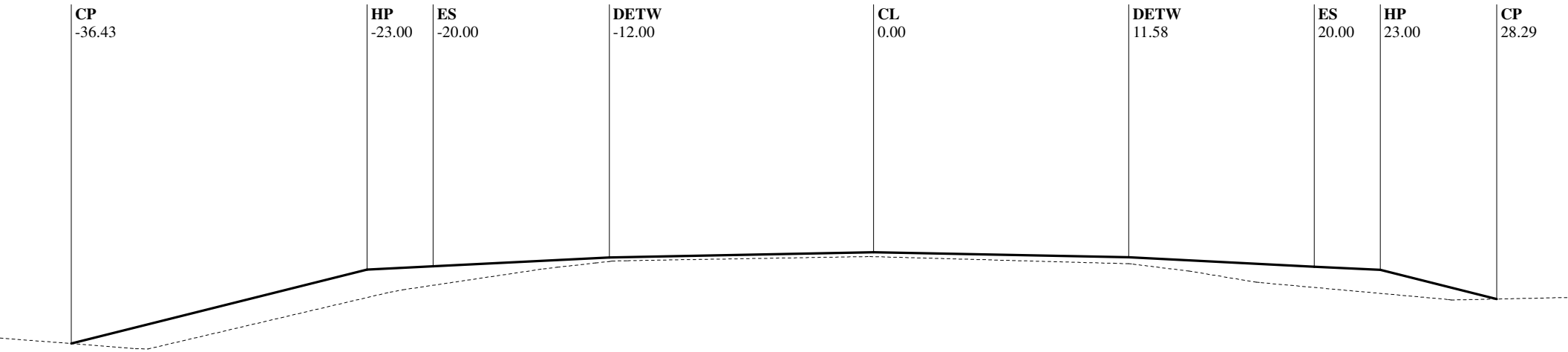

**Alignment Chain CENTER1**
**Station: 355+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -36.40 | -23.00 | -20.00 | -12.00 | 0.00 | 11.49 | 20.00 | 23.00 | 28.33 |
| -2.21 | 1.14 | 1.29 | 1.69 | 1.93 | 1.70 | 1.27 | 1.12 | -0.21 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.35 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.33 |
| @ 13.40 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.49 | @ 8.52 | @ 3.00 | @ 5.33 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



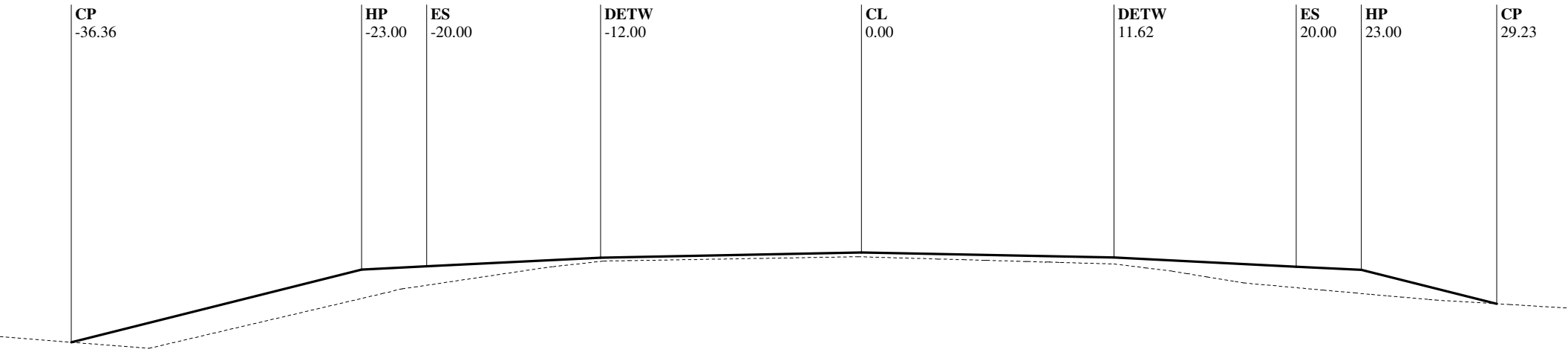

**Alignment Chain CENTER1**
**Station: 355+29.23**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -36.43 | -23.00 | -20.00 | -12.00 | 0.00 | 11.58 | 20.00 | 23.00 | 28.29 |
| -2.23 | 1.13 | 1.28 | 1.68 | 1.92 | 1.68 | 1.26 | 1.11 | -0.21 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.36 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.42 | F 0.15 | F 1.32 |
| @ 13.43 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.58 | @ 8.43 | @ 3.00 | @ 5.29 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



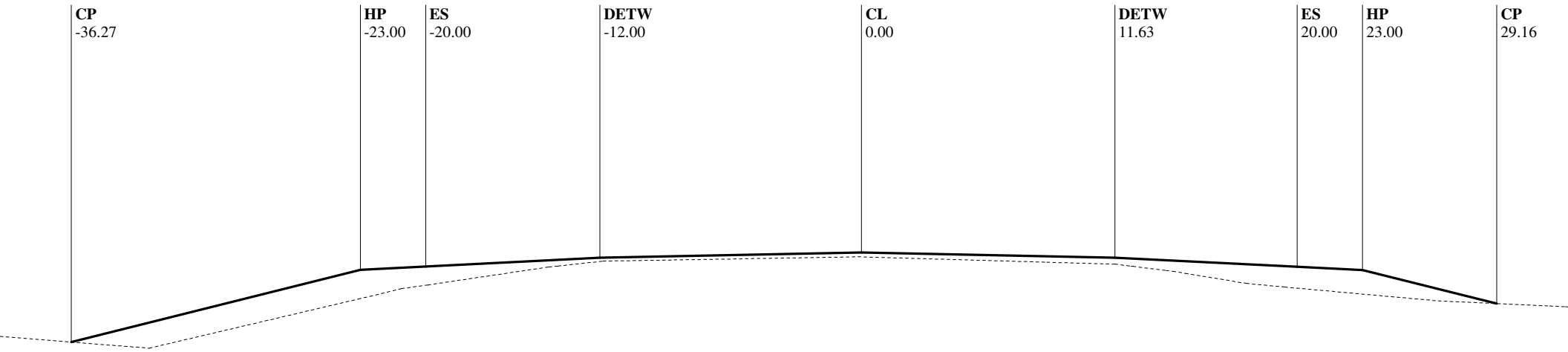

**Alignment Chain CENTER1**
**Station: 355+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -36.36 | -23.00 | -20.00 | -12.00 | 0.00 | 11.62 | 20.00 | 23.00 | 29.23 |
| -2.26 | 1.08 | 1.23 | 1.63 | 1.87 | 1.64 | 1.22 | 1.07 | -0.49 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.34 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.42 | F 0.15 | F 1.56 |
| @ 13.36 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.62 | @ 8.38 | @ 3.00 | @ 6.23 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



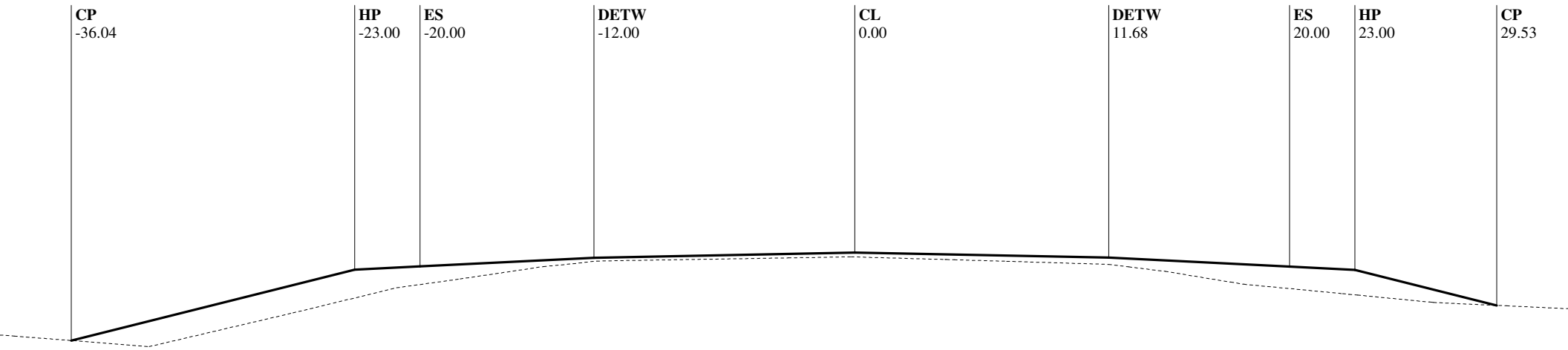

**Alignment Chain CENTER1**
**Station: 355+63.73**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -36.27 | -23.00 | -20.00 | -12.00 | 0.00 | 11.63 | 20.00 | 23.00 | 29.16 |
| -2.29 | 1.03 | 1.18 | 1.58 | 1.82 | 1.59 | 1.17 | 1.02 | -0.52 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.32 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.42 | F 0.15 | F 1.54 |
| @ 13.27 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.63 | @ 8.37 | @ 3.00 | @ 6.16 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



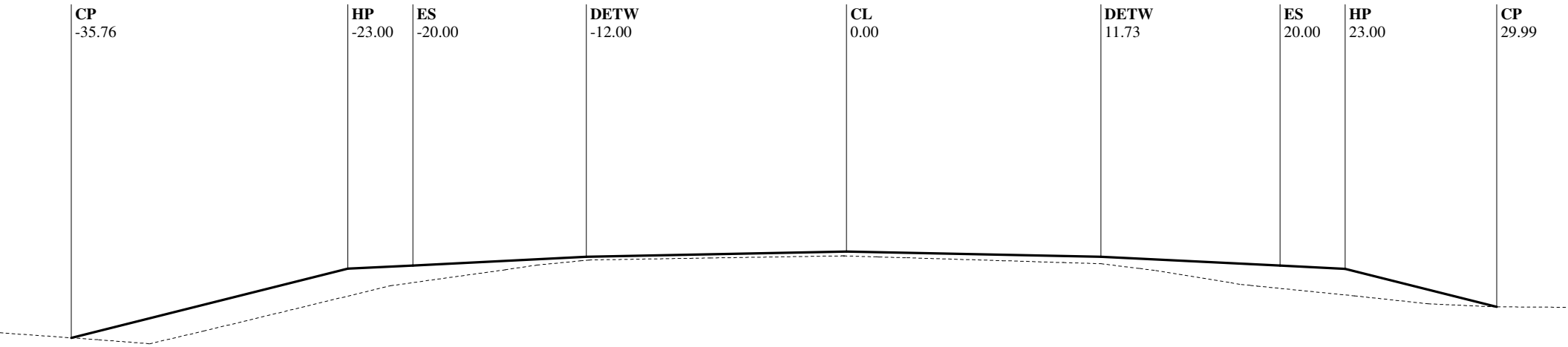

**Alignment Chain CENTER1**
**Station: 356+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -36.04 | -23.00 | -20.00 | -12.00 | 0.00 | 11.68 | 20.00 | 23.00 | 29.53 |
| -2.36 | 0.90 | 1.05 | 1.45 | 1.69 | 1.46 | 1.04 | 0.89 | -0.74 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.26 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.42 | F 0.15 | F 1.63 |
| @ 13.04 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.68 | @ 8.32 | @ 3.00 | @ 6.53 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



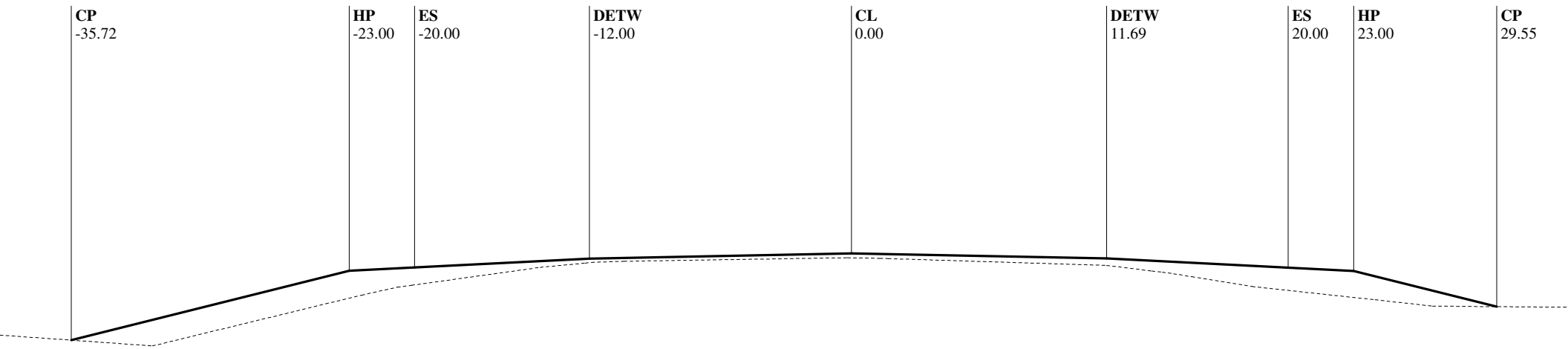

**Alignment Chain CENTER1**
**Station: 356+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -35.76 | -23.00 | -20.00 | -12.00 | 0.00 | 11.73 | 20.00 | 23.00 | 29.99 |
| -2.47 | 0.72 | 0.87 | 1.27 | 1.51 | 1.28 | 0.86 | 0.71 | -1.03 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.19 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.41 | F 0.15 | F 1.75 |
| @ 12.76 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.73 | @ 8.27 | @ 3.00 | @ 6.99 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



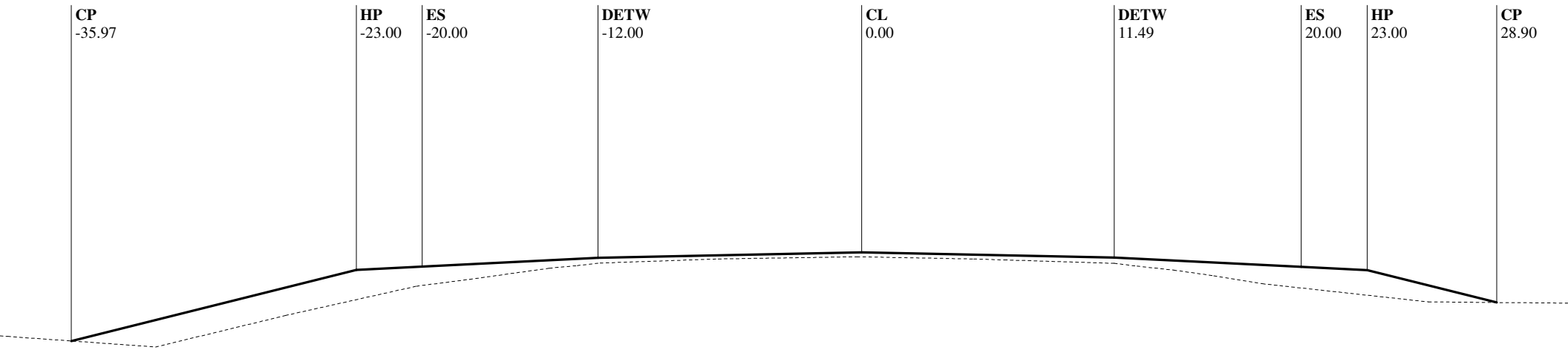

**Alignment Chain CENTER1**
**Station: 357+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -35.72 | -23.00 | -20.00 | -12.00 | 0.00 | 11.69 | 20.00 | 23.00 | 29.55 |
| -2.60 | 0.58 | 0.73 | 1.13 | 1.37 | 1.13 | 0.72 | 0.57 | -1.07 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.18 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.42 | F 0.15 | F 1.64 |
| @ 12.72 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.69 | @ 8.31 | @ 3.00 | @ 6.55 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



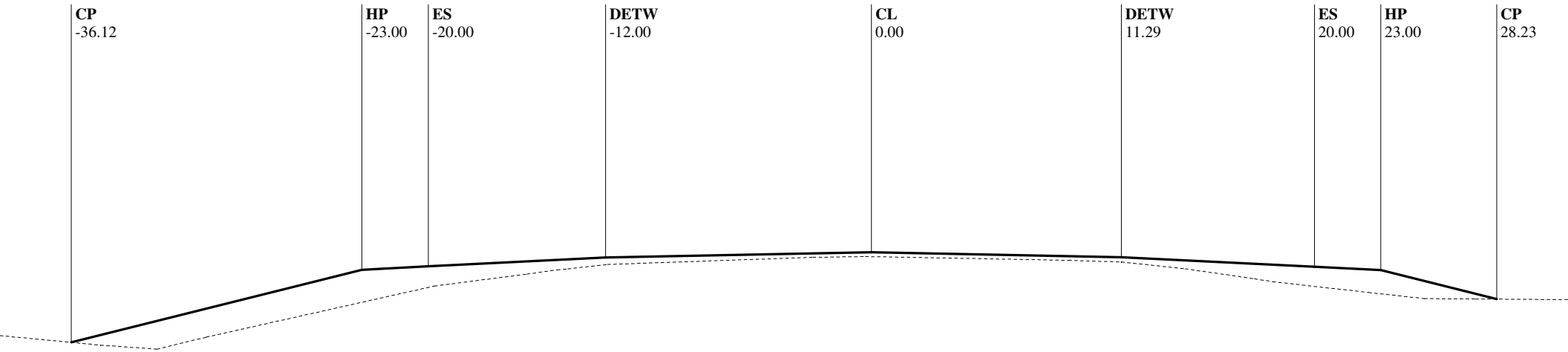

**Alignment Chain CENTER1**
**Station: 357+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -35.97 | -23.00 | -20.00 | -12.00 | 0.00 | 11.49 | 20.00 | 23.00 | 28.90 |
| -2.76 | 0.48 | 0.63 | 1.03 | 1.27 | 1.04 | 0.62 | 0.47 | -1.01 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.24 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.47 |
| @ 12.97 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.49 | @ 8.51 | @ 3.00 | @ 5.90 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



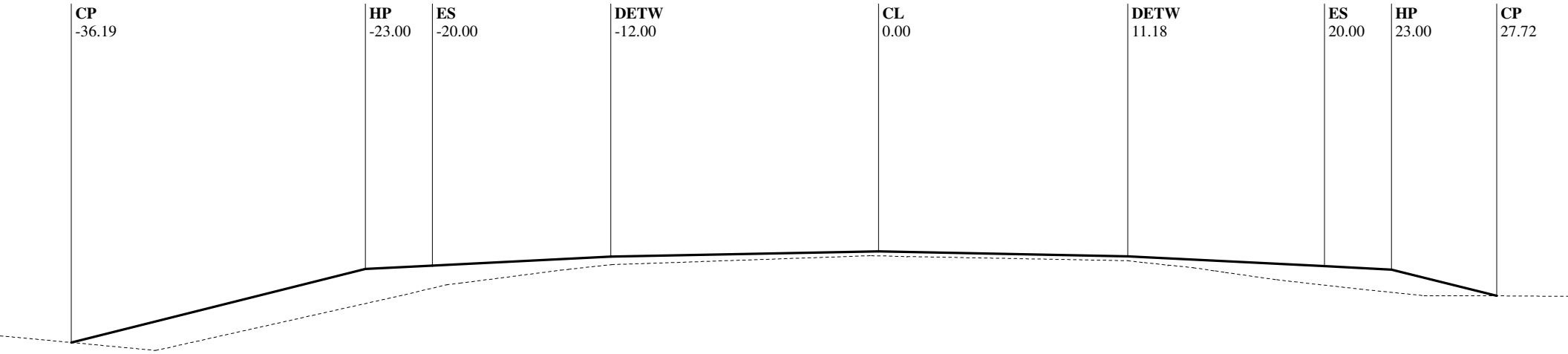

**Alignment Chain CENTER1**
**Station: 358+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -36.12 | -23.00 | -20.00 | -12.00 | 0.00 | 11.29 | 20.00 | 23.00 | 28.23 |
| -2.90 | 0.38 | 0.53 | 0.93 | 1.17 | 0.95 | 0.51 | 0.36 | -0.94 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.28 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.44 | F 0.15 | F 1.31 |
| @ 13.12 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.29 | @ 8.71 | @ 3.00 | @ 5.23 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



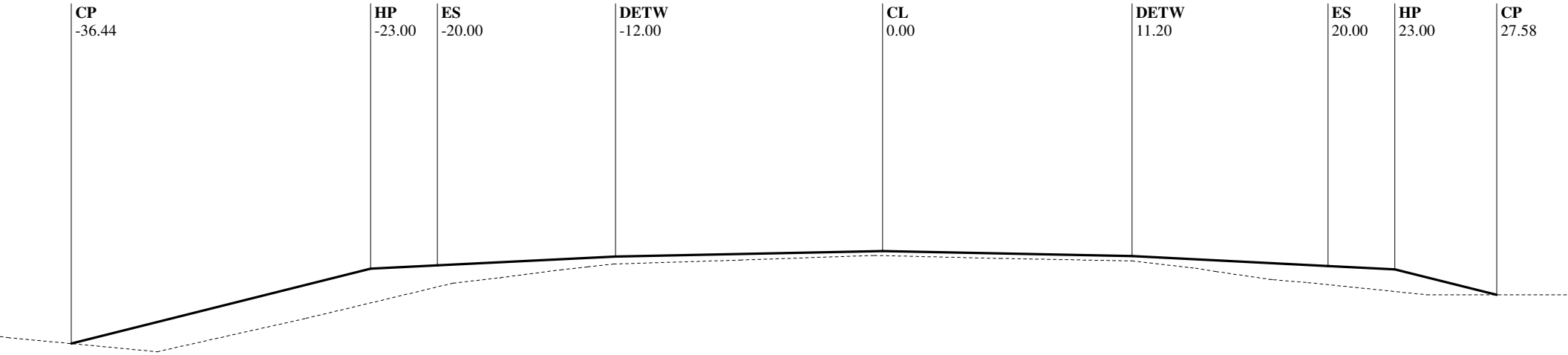

**Alignment Chain CENTER1**
**Station: 358+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -36.19 | -23.00 | -20.00 | -12.00 | 0.00 | 11.18 | 20.00 | 23.00 | 27.72 |
| -2.99 | 0.31 | 0.46 | 0.86 | 1.10 | 0.87 | 0.43 | 0.28 | -0.90 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.30 | F 0.15 | F 0.40 | F 0.24 | | F 0.22 | F 0.44 | F 0.15 | F 1.18 |
| @ 13.19 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.18 | @ 8.82 | @ 3.00 | @ 4.72 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



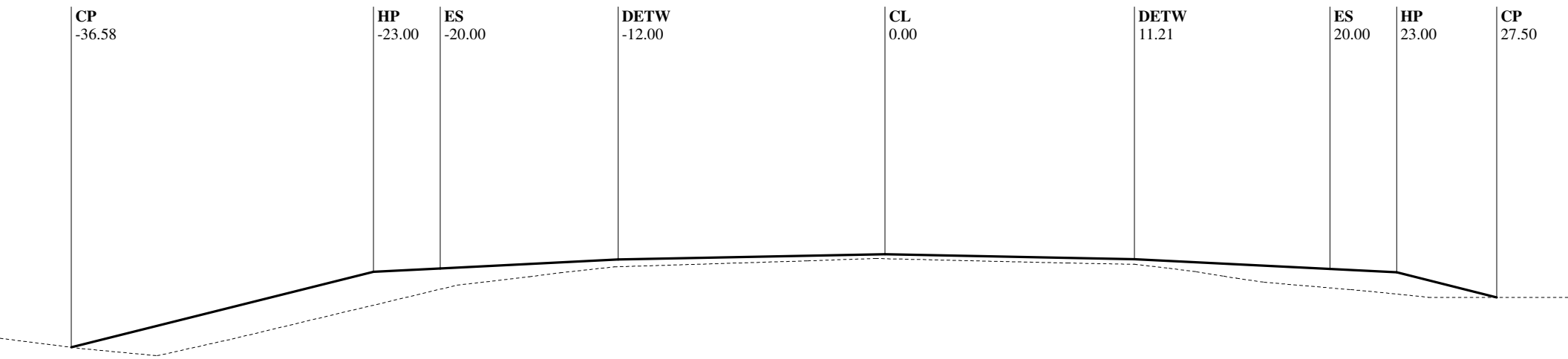

**Alignment Chain CENTER1**
**Station: 359+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -36.44 | -23.00 | -20.00 | -12.00 | 0.00 | 11.20 | 20.00 | 23.00 | 27.58 |
| -3.10 | 0.26 | 0.41 | 0.81 | 1.05 | 0.83 | 0.39 | 0.24 | -0.91 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.36 | F 0.15 | F 0.40 | F 0.24 | | F 0.22 | F 0.44 | F 0.15 | F 1.15 |
| @ 13.44 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.20 | @ 8.80 | @ 3.00 | @ 4.58 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



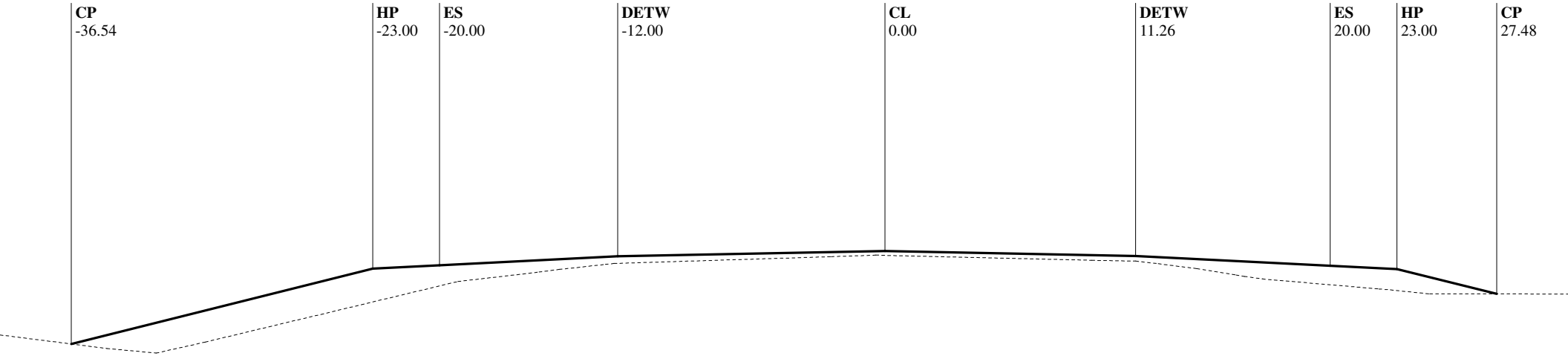

**Alignment Chain CENTER1**
**Station: 359+36.94**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -36.58 | -23.00 | -20.00 | -12.00 | 0.00 | 11.21 | 20.00 | 23.00 | 27.50 |
| -3.17 | 0.22 | 0.37 | 0.77 | 1.01 | 0.79 | 0.35 | 0.20 | -0.92 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.40 | F 0.15 | F 0.40 | F 0.24 | | F 0.22 | F 0.44 | F 0.15 | F 1.12 |
| @ 13.58 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.21 | @ 8.79 | @ 3.00 | @ 4.50 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



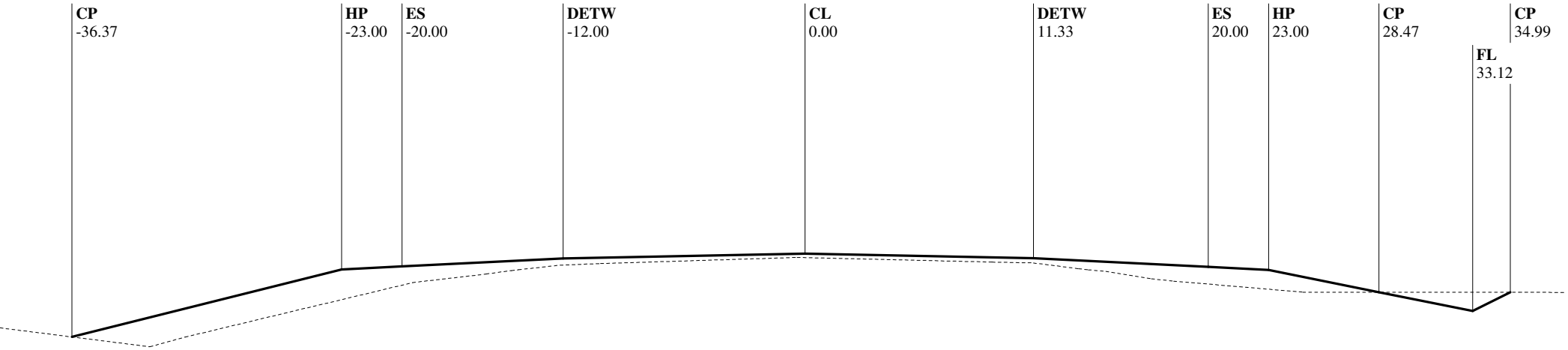

**Alignment Chain CENTER1**
**Station: 359+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -36.54 | -23.00 | -20.00 | -12.00 | 0.00 | 11.26 | 20.00 | 23.00 | 27.48 |
| -3.17 | 0.21 | 0.36 | 0.76 | 1.00 | 0.78 | 0.34 | 0.19 | -0.93 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 3.38 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.44 | F 0.15 | F 1.12 |
| @ 13.54 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.26 | @ 8.74 | @ 3.00 | @ 4.48 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 360+00.00**

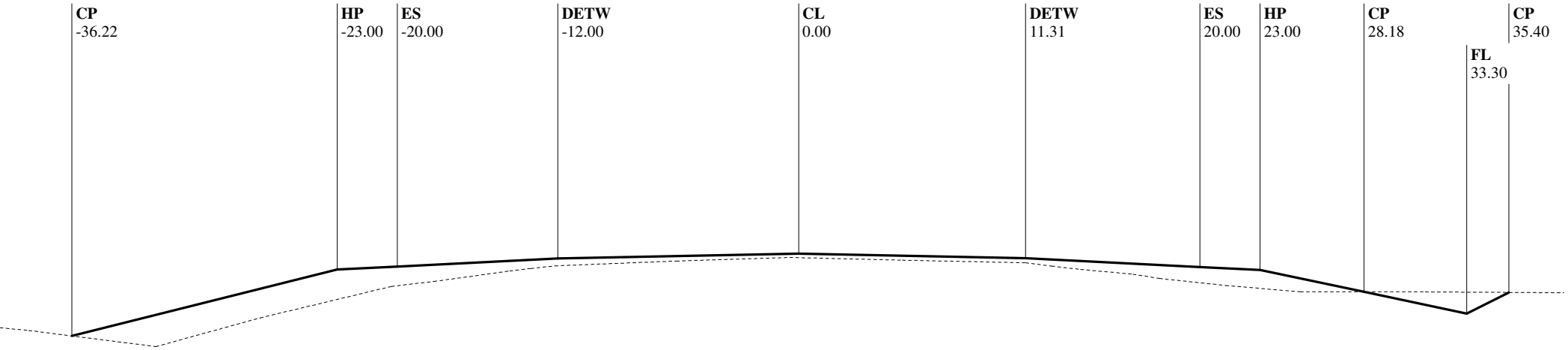
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.37 | -23.00 | -20.00 | -12.00 | 0.00 | 11.33 | 20.00 | 23.00 | 28.47 | 33.12 |
| -3.08 | 0.26 | 0.41 | 0.81 | 1.05 | 0.82 | 0.39 | 0.24 | -0.86 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.96:1 | -4.96:1 |
| F 3.34 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.10 | F 0.94 |
| @ 13.37 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.33 | @ 8.67 | @ 3.00 | @ 5.47 | @ 4.65 |

| CP |
|---|
| 34.99 |
| -0.86 |
| 2.00:1 |
| C 0.94 |
| @ 1.87 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



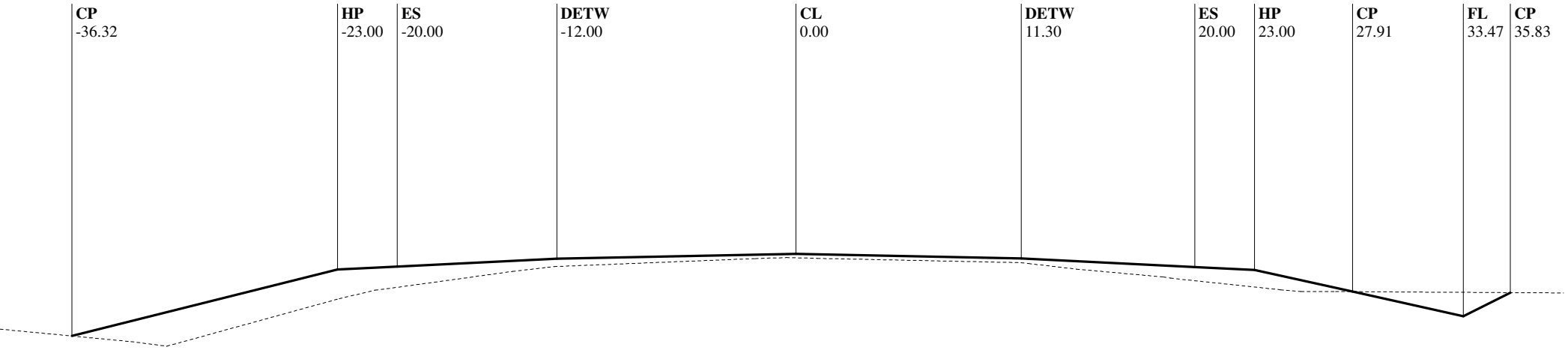

**Alignment Chain CENTER1**
**Station: 360+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.22 | -23.00 | -20.00 | -12.00 | 0.00 | 11.31 | 20.00 | 23.00 | 28.18 | 33.30 |
| -2.91 | 0.40 | 0.55 | 0.95 | 1.19 | 0.96 | 0.52 | 0.37 | -0.72 | -1.79 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.75:1 | -4.75:1 |
| F 3.31 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.09 | F 1.08 |
| @ 13.22 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.31 | @ 8.69 | @ 3.00 | @ 5.18 | @ 5.12 |

| CP |
|---|
| 35.40 |
| -0.74 |
| 2.00:1 |
| C 1.05 |
| @ 2.10 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 361+00.00**

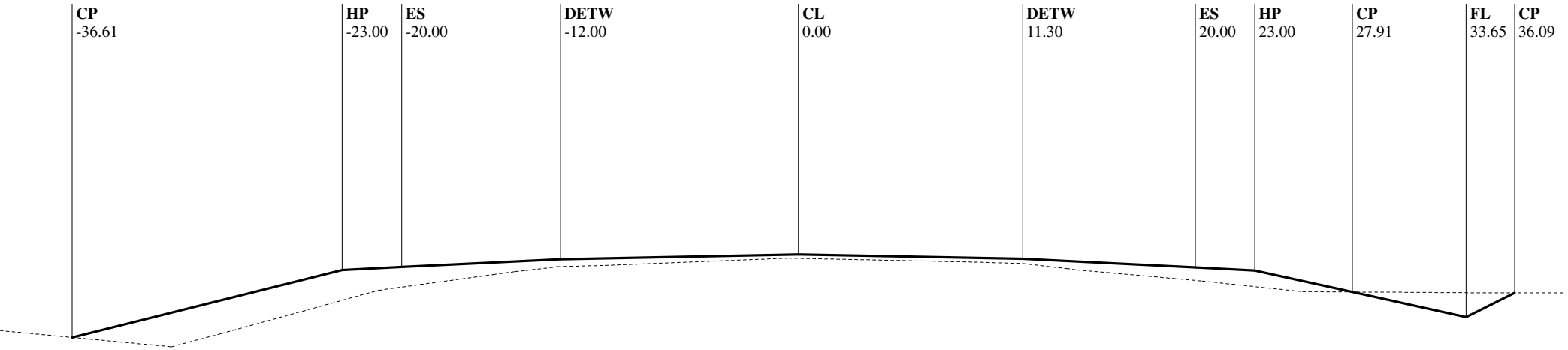
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.32 | -23.00 | -20.00 | -12.00 | 0.00 | 11.30 | 20.00 | 23.00 | 27.91 | 33.47 |
| -2.80 | 0.53 | 0.68 | 1.08 | 1.32 | 1.09 | 0.66 | 0.51 | -0.57 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.53:1 | -4.53:1 |
| F 3.33 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.44 | F 0.15 | F 1.08 | F 1.23 |
| @ 13.32 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.30 | @ 8.70 | @ 3.00 | @ 4.91 | @ 5.56 |

| CP |
|---|
| 35.83 |
| -0.62 |
| 2.00:1 |
| C 1.18 |
| @ 2.35 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 361+50.00**

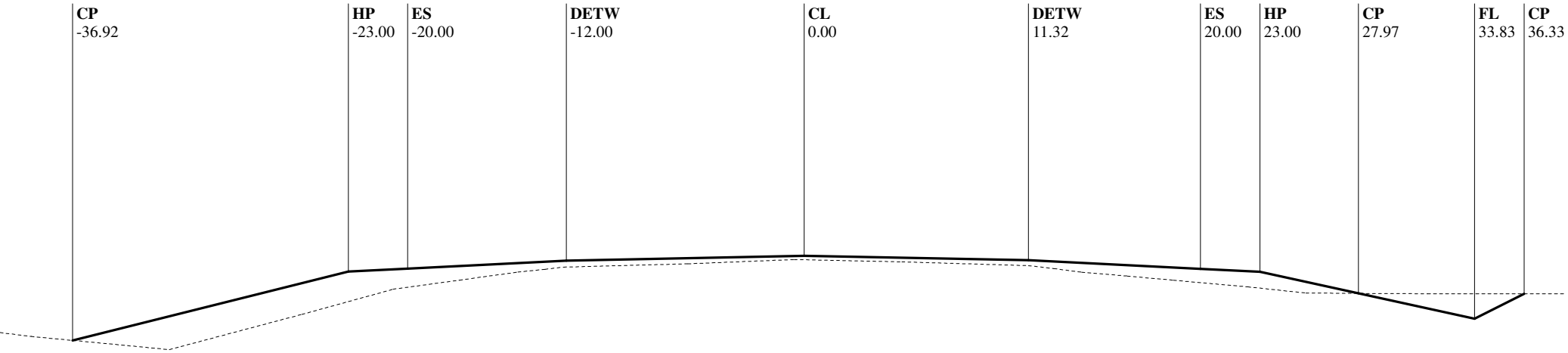
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.61 | -23.00 | -20.00 | -12.00 | 0.00 | 11.30 | 20.00 | 23.00 | 27.91 | 33.65 |
| -2.82 | 0.58 | 0.73 | 1.13 | 1.37 | 1.14 | 0.71 | 0.56 | -0.53 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.51:1 | -4.51:1 |
| F 3.40 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.09 | F 1.27 |
| @ 13.61 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.30 | @ 8.70 | @ 3.00 | @ 4.91 | @ 5.74 |

| CP |
|---|
| 36.09 |
| -0.58 |
| 2.00:1 |
| C 1.22 |
| @ 2.45 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 362+00.00**

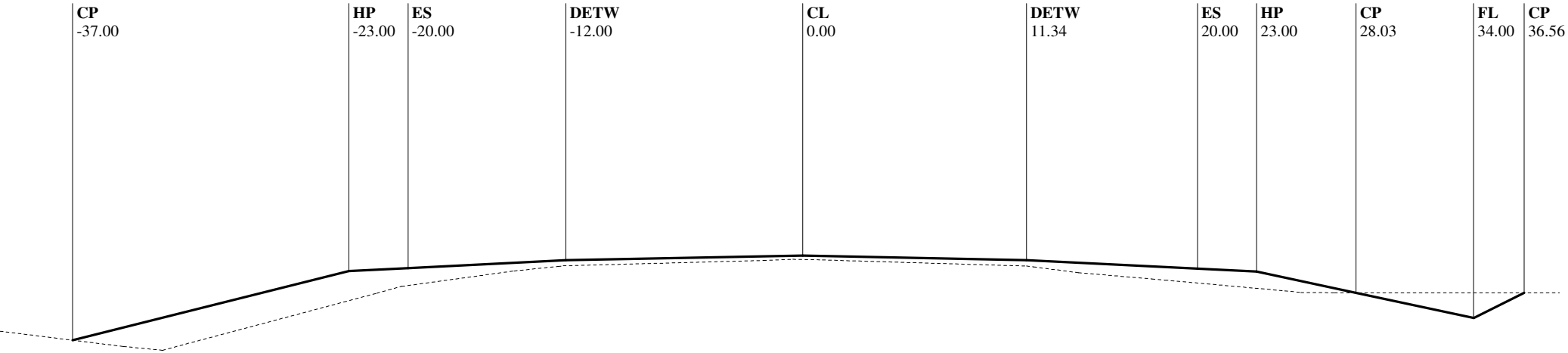
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.92 | -23.00 | -20.00 | -12.00 | 0.00 | 11.32 | 20.00 | 23.00 | 27.97 | 33.83 |
| -2.90 | 0.58 | 0.73 | 1.13 | 1.37 | 1.14 | 0.71 | 0.56 | -0.53 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.59:1 | -4.59:1 |
| F 3.48 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.08 | F 1.28 |
| @ 13.92 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.32 | @ 8.68 | @ 3.00 | @ 4.97 | @ 5.85 |

| CP |
|---|
| 36.33 |
| -0.55 |
| 2.00:1 |
| C 1.25 |
| @ 2.51 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 362+50.00**

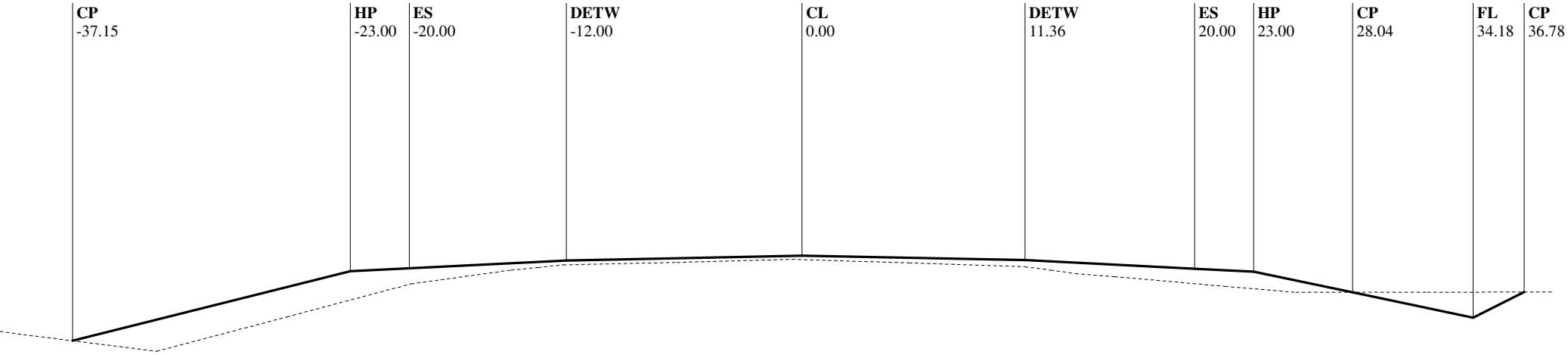
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -37.00 | -23.00 | -20.00 | -12.00 | 0.00 | 11.34 | 20.00 | 23.00 | 28.03 | 34.00 |
| -2.93 | 0.57 | 0.72 | 1.12 | 1.36 | 1.13 | 0.70 | 0.55 | -0.52 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.68:1 | -4.68:1 |
| F 3.50 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.07 | F 1.28 |
| @ 14.00 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.34 | @ 8.66 | @ 3.00 | @ 5.03 | @ 5.98 |

| CP |
|---|
| 36.56 |
| -0.52 |
| 2.00:1 |
| C 1.28 |
| @ 2.56 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 363+00.00**

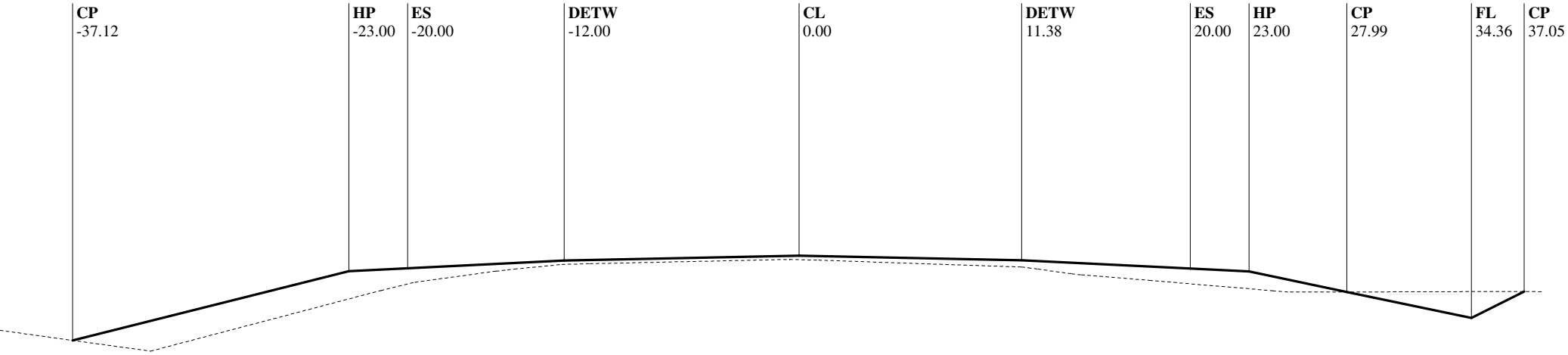
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -37.15 | -23.00 | -20.00 | -12.00 | 0.00 | 11.36 | 20.00 | 23.00 | 28.04 | 34.18 |
| -2.97 | 0.56 | 0.71 | 1.11 | 1.35 | 1.13 | 0.69 | 0.54 | -0.51 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.78:1 | -4.78:1 |
| F 3.54 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.05 | F 1.29 |
| @ 14.15 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.36 | @ 8.64 | @ 3.00 | @ 5.04 | @ 6.14 |

| CP |
|---|
| 36.78 |
| -0.50 |
| 2.00:1 |
| C 1.30 |
| @ 2.60 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 363+50.00**

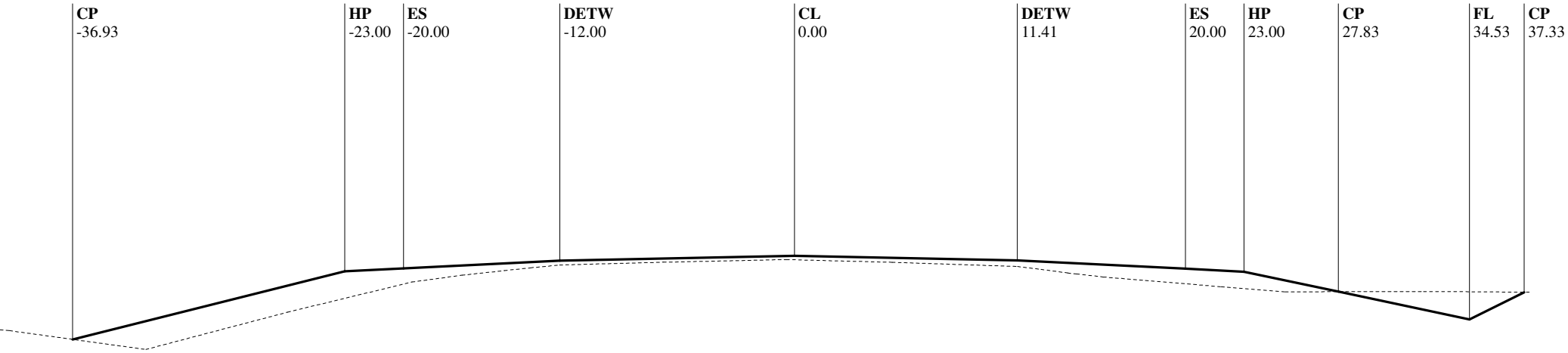
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -37.12 | -23.00 | -20.00 | -12.00 | 0.00 | 11.38 | 20.00 | 23.00 | 27.99 | 34.36 |
| -2.94 | 0.59 | 0.74 | 1.14 | 1.38 | 1.15 | 0.72 | 0.57 | -0.47 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.79:1 | -4.79:1 |
| F 3.53 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.04 | F 1.33 |
| @ 14.12 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.38 | @ 8.62 | @ 3.00 | @ 4.99 | @ 6.37 |

| CP |
|---|
| 37.05 |
| -0.45 |
| 2.00:1 |
| C 1.35 |
| @ 2.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 364+00.00**

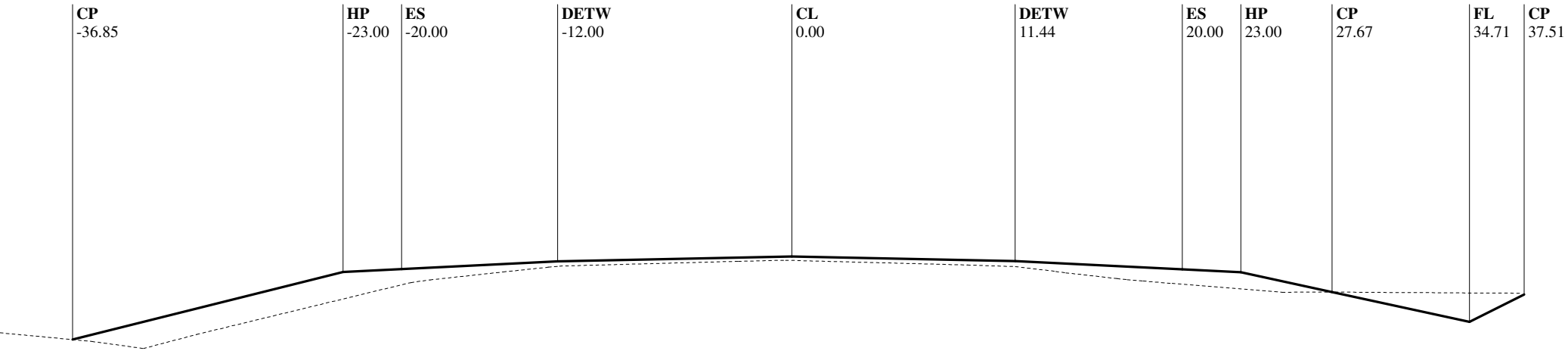
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.93 | -23.00 | -20.00 | -12.00 | 0.00 | 11.41 | 20.00 | 23.00 | 27.83 | 34.53 |
| -2.81 | 0.67 | 0.82 | 1.22 | 1.46 | 1.23 | 0.80 | 0.65 | -0.37 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.71:1 | -4.71:1 |
| F 3.48 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.03 | F 1.42 |
| @ 13.93 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.41 | @ 8.59 | @ 3.00 | @ 4.83 | @ 6.70 |

| CP |
|---|
| 37.33 |
| -0.40 |
| 2.00:1 |
| C 1.40 |
| @ 2.80 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



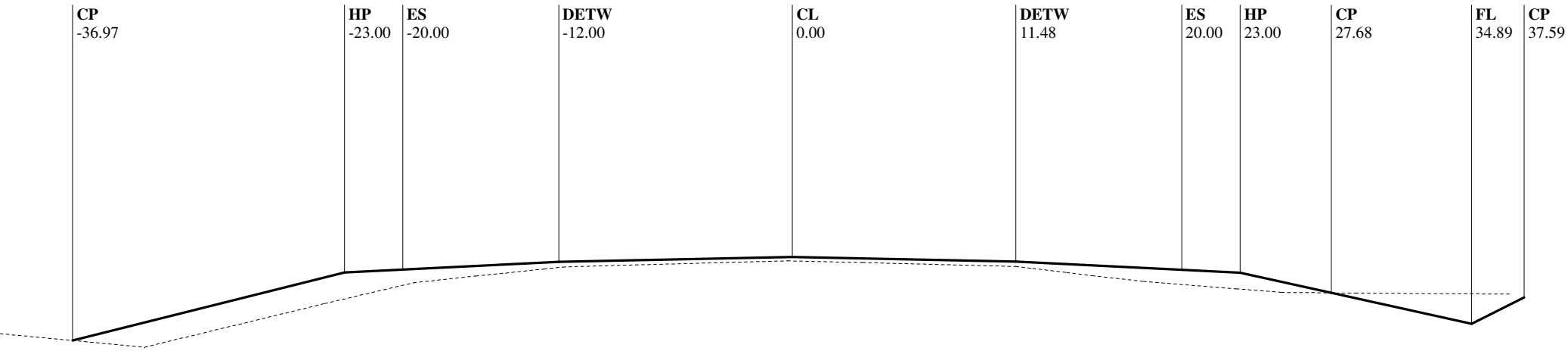

**Alignment Chain CENTER1**
**Station: 364+50.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.85 | -23.00 | -20.00 | -12.00 | 0.00 | 11.44 | 20.00 | 23.00 | 27.67 | 34.71 |
| -2.71 | 0.75 | 0.90 | 1.30 | 1.54 | 1.31 | 0.89 | 0.74 | -0.28 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.61:1 | -4.61:1 |
| F 3.46 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.01 | F 1.53 |
| @ 13.85 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.44 | @ 8.56 | @ 3.00 | @ 4.67 | @ 7.04 |

| CP |
|---|
| 37.51 |
| -0.40 |
| 2.00:1 |
| C 1.40 |
| @ 2.80 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 365+00.00**

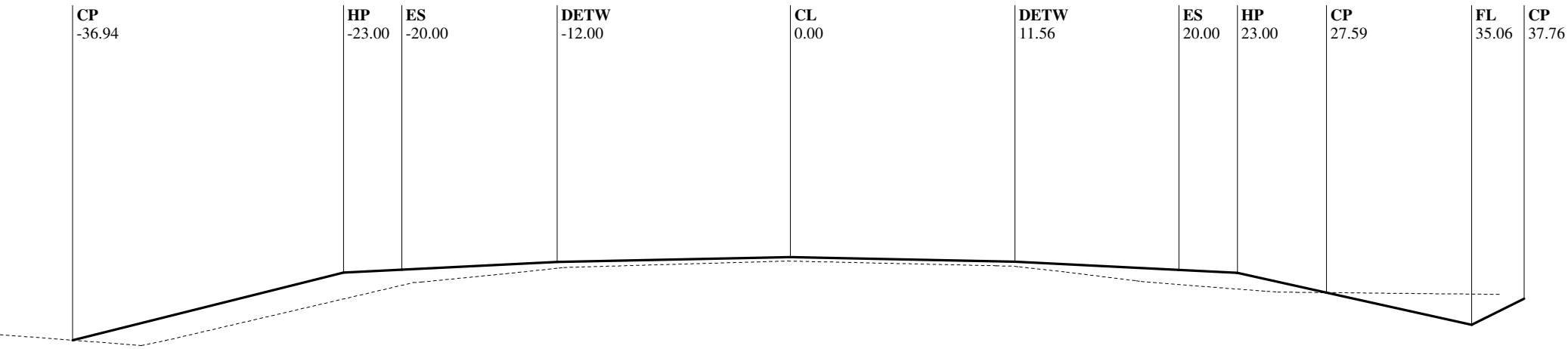
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.97 | -23.00 | -20.00 | -12.00 | 0.00 | 11.48 | 20.00 | 23.00 | 27.68 | 34.89 |
| -2.66 | 0.83 | 0.98 | 1.38 | 1.62 | 1.39 | 0.97 | 0.82 | -0.21 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.54:1 | -4.54:1 |
| F 3.49 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.43 | F 0.15 | F 1.03 | F 1.59 |
| @ 13.97 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.48 | @ 8.52 | @ 3.00 | @ 4.68 | @ 7.20 |

| CP |
|---|
| 37.59 |
| -0.45 |
| 2.00:1 |
| C 1.35 |
| @ 2.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 365+50.00**

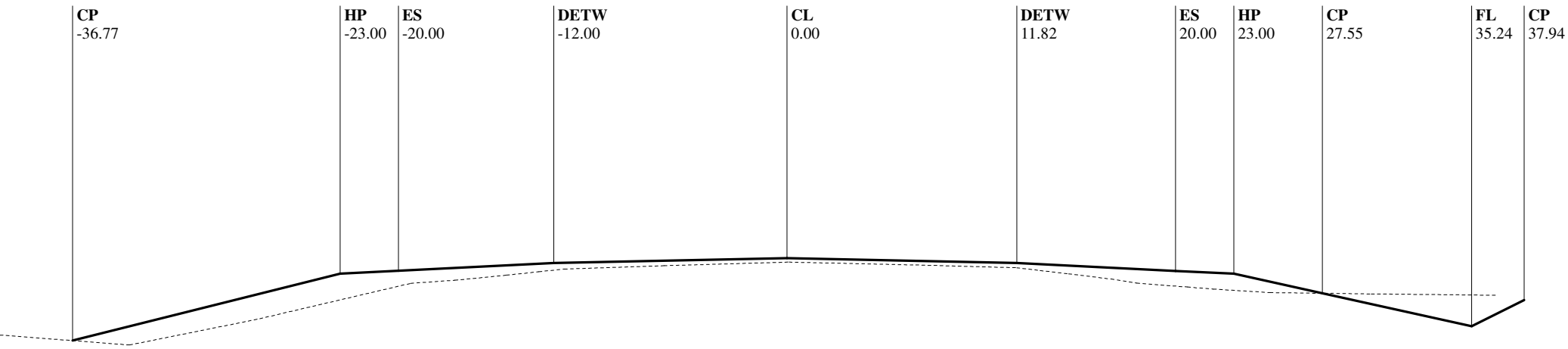
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.94 | -23.00 | -20.00 | -12.00 | 0.00 | 11.56 | 20.00 | 23.00 | 27.59 | 35.06 |
| -2.59 | 0.90 | 1.05 | 1.45 | 1.69 | 1.46 | 1.03 | 0.88 | -0.14 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.50:1 | -4.50:1 |
| F 3.49 | F 0.15 | F 0.40 | F 0.24 | | F 0.23 | F 0.42 | F 0.15 | F 1.02 | F 1.66 |
| @ 13.94 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.56 | @ 8.44 | @ 3.00 | @ 4.59 | @ 7.47 |

| CP |
|---|
| 37.76 |
| -0.45 |
| 2.00:1 |
| C 1.35 |
| @ 2.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 366+00.00**

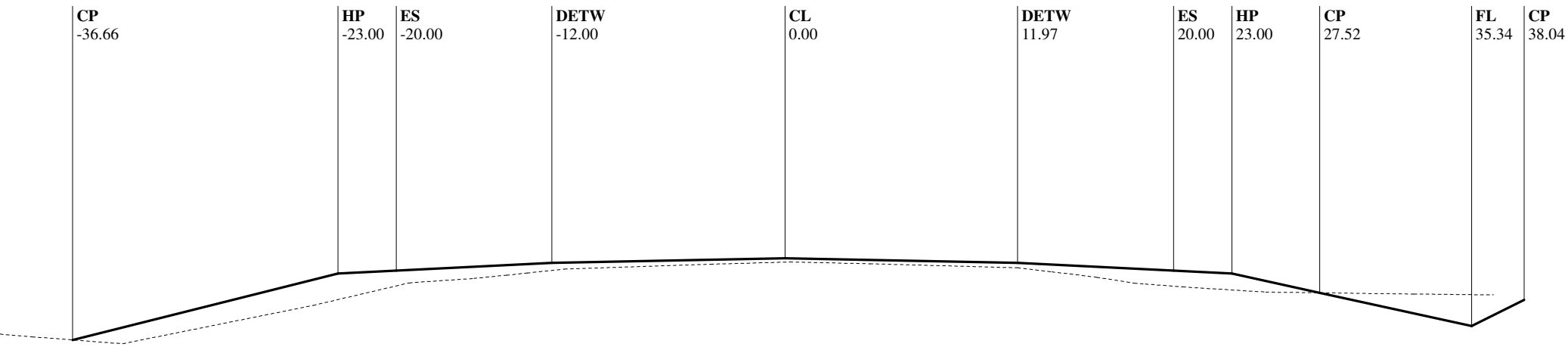
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.77 | -23.00 | -20.00 | -12.00 | 0.00 | 11.82 | 20.00 | 23.00 | 27.55 | 35.24 |
| -2.54 | 0.90 | 1.05 | 1.45 | 1.69 | 1.46 | 1.05 | 0.90 | -0.11 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.53:1 | -4.53:1 |
| F 3.44 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.41 | F 0.15 | F 1.00 | F 1.70 |
| @ 13.77 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.82 | @ 8.18 | @ 3.00 | @ 4.55 | @ 7.69 |

| CP |
|---|
| 37.94 |
| -0.45 |
| 2.00:1 |
| C 1.35 |
| @ 2.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 366+28.44**

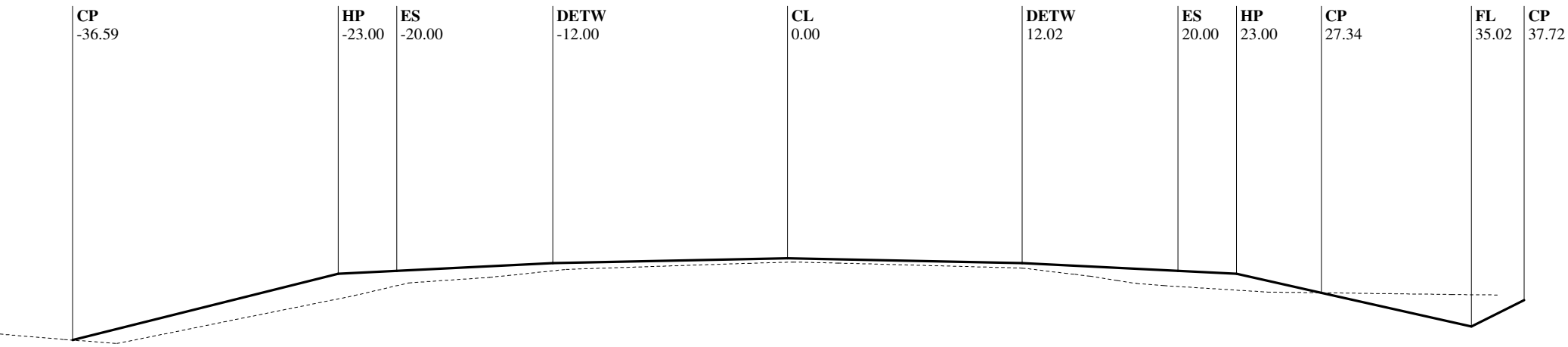
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.66 | -23.00 | -20.00 | -12.00 | 0.00 | 11.97 | 20.00 | 23.00 | 27.52 | 35.34 |
| -2.51 | 0.90 | 1.05 | 1.45 | 1.69 | 1.45 | 1.05 | 0.90 | -0.09 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.57:1 | -4.57:1 |
| F 3.41 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.99 | F 1.71 |
| @ 13.66 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.97 | @ 8.03 | @ 3.00 | @ 4.52 | @ 7.82 |

| CP |
|---|
| 38.04 |
| -0.45 |
| 2.00:1 |
| C 1.35 |
| @ 2.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 366+50.00**

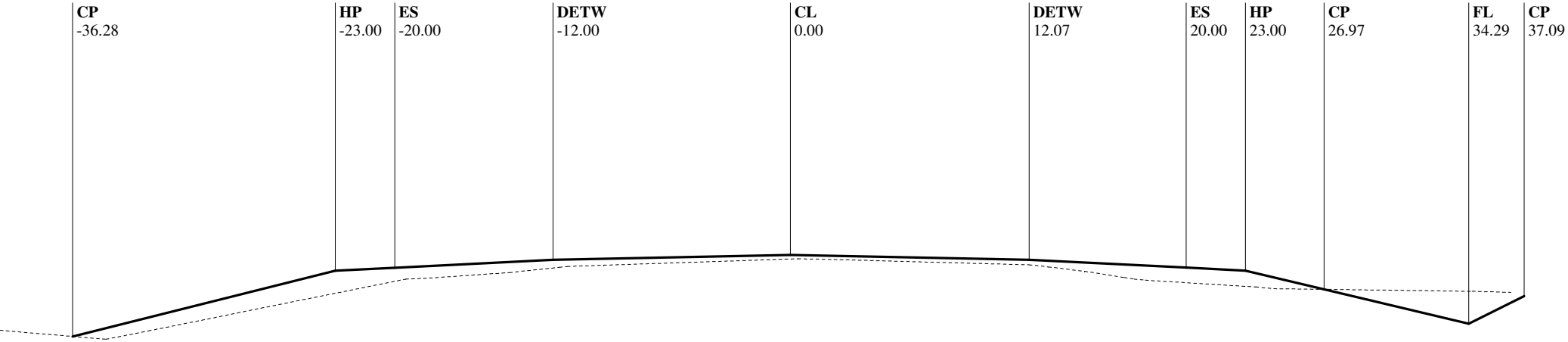
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.59 | -23.00 | -20.00 | -12.00 | 0.00 | 12.02 | 20.00 | 23.00 | 27.34 | 35.02 |
| -2.50 | 0.90 | 1.05 | 1.45 | 1.69 | 1.45 | 1.05 | 0.90 | -0.07 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.45:1 | -4.45:1 |
| F 3.40 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.98 | F 1.73 |
| @ 13.59 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.02 | @ 7.98 | @ 3.00 | @ 4.34 | @ 7.68 |

| CP |
|---|
| 37.72 |
| -0.45 |
| 2.00:1 |
| C 1.35 |
| @ 2.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 367+00.00**

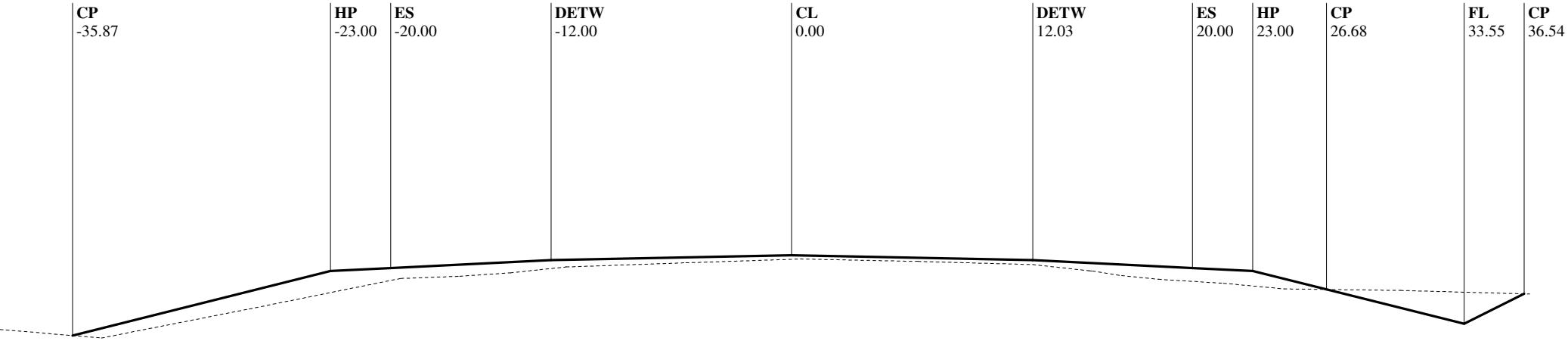
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -36.28 | -23.00 | -20.00 | -12.00 | 0.00 | 12.07 | 20.00 | 23.00 | 26.97 | 34.29 |
| -2.44 | 0.88 | 1.03 | 1.43 | 1.67 | 1.43 | 1.03 | 0.88 | -0.06 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.21:1 | -4.21:1 |
| F 3.32 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.94 | F 1.74 |
| @ 13.28 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.07 | @ 7.93 | @ 3.00 | @ 3.97 | @ 7.31 |

| CP |
|---|
| 37.09 |
| -0.40 |
| 2.00:1 |
| C 1.40 |
| @ 2.80 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 367+50.00**

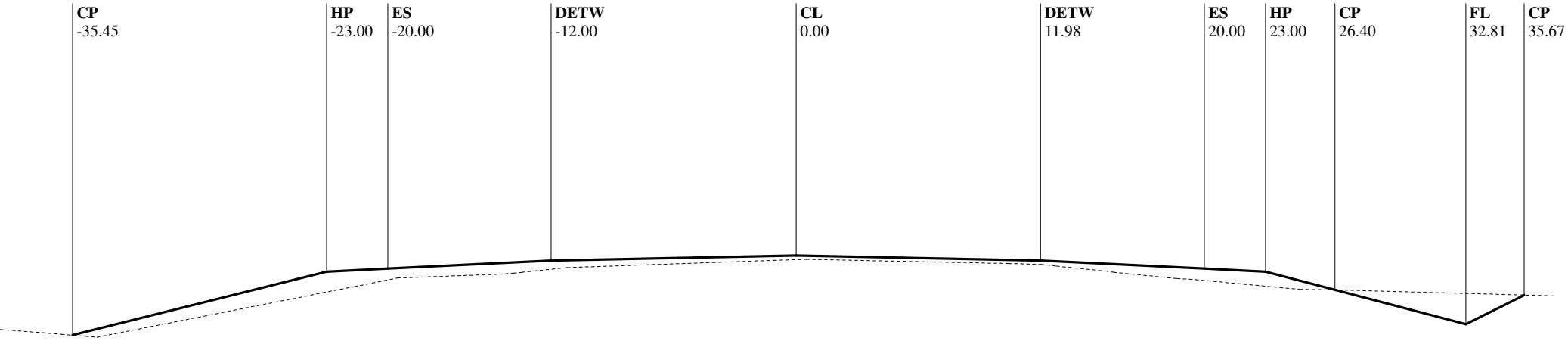
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -35.87 | -23.00 | -20.00 | -12.00 | 0.00 | 12.03 | 20.00 | 23.00 | 26.68 | 33.55 |
| -2.39 | 0.83 | 0.98 | 1.38 | 1.62 | 1.38 | 0.98 | 0.83 | -0.09 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.01:1 | -4.01:1 |
| F 3.22 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.92 | F 1.71 |
| @ 12.87 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.03 | @ 7.97 | @ 3.00 | @ 3.68 | @ 6.87 |

| CP |
|---|
| 36.54 |
| -0.31 |
| 2.00:1 |
| C 1.50 |
| @ 2.99 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 368+00.00**

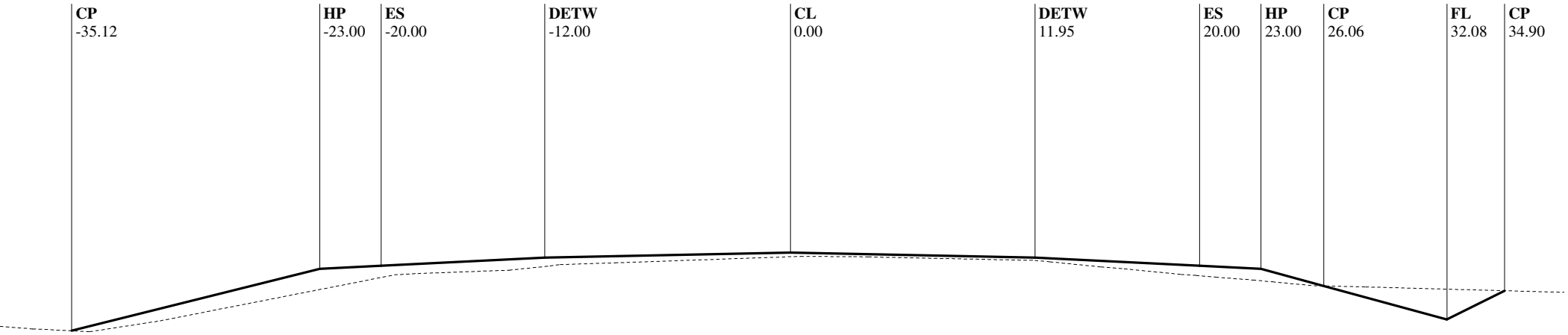
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -35.45 | -23.00 | -20.00 | -12.00 | 0.00 | 11.98 | 20.00 | 23.00 | 26.40 | 32.81 |
| -2.34 | 0.77 | 0.92 | 1.32 | 1.56 | 1.32 | 0.92 | 0.77 | -0.12 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -3.82:1 | -3.82:1 |
| F 3.11 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.89 | F 1.68 |
| @ 12.45 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.98 | @ 8.02 | @ 3.00 | @ 3.40 | @ 6.41 |

| CP |
|---|
| 35.67 |
| -0.37 |
| 2.00:1 |
| C 1.43 |
| @ 2.86 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 368+50.00**

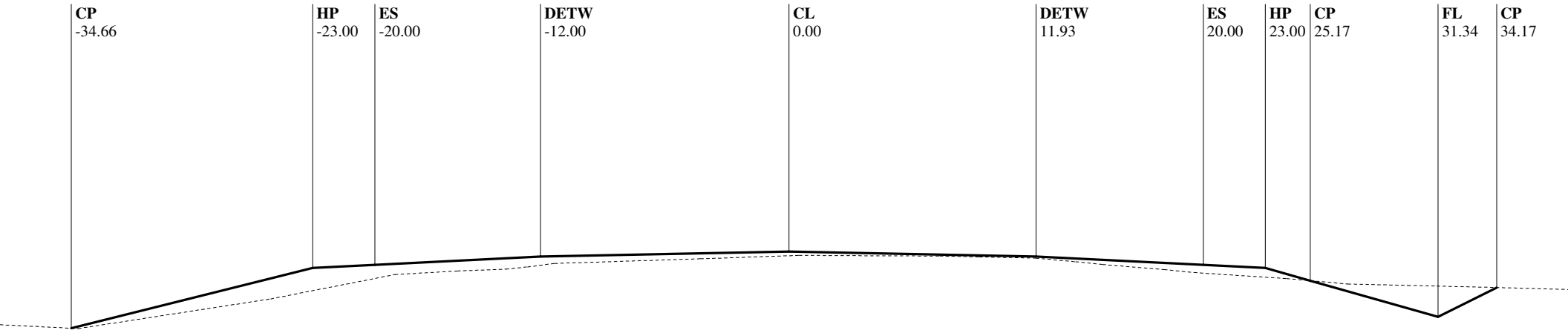
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -35.12 | -23.00 | -20.00 | -12.00 | 0.00 | 11.95 | 20.00 | 23.00 | 26.06 | 32.08 |
| -2.35 | 0.68 | 0.83 | 1.23 | 1.47 | 1.23 | 0.83 | 0.68 | -0.16 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -3.66:1 | -3.66:1 |
| F 3.03 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.84 | F 1.64 |
| @ 12.12 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.95 | @ 8.05 | @ 3.00 | @ 3.06 | @ 6.01 |

| CP |
|---|
| 34.90 |
| -0.39 |
| 2.00:1 |
| C 1.41 |
| @ 2.82 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 369+00.00**

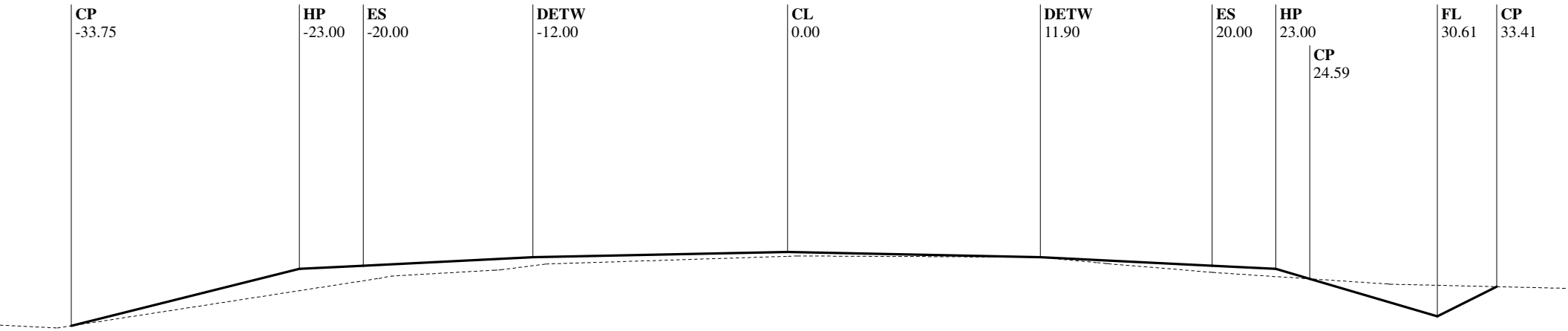
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -34.66 | -23.00 | -20.00 | -12.00 | 0.00 | 11.93 | 20.00 | 23.00 | 25.17 | 31.34 |
| -2.35 | 0.56 | 0.71 | 1.11 | 1.35 | 1.11 | 0.71 | 0.56 | -0.06 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -3.53:1 | -3.53:1 |
| F 2.91 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.15 | F 0.61 | F 1.75 |
| @ 11.66 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.93 | @ 8.07 | @ 3.00 | @ 2.17 | @ 6.17 |

| CP |
|---|
| 34.17 |
| -0.39 |
| 2.00:1 |
| C 1.42 |
| @ 2.83 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 369+50.00**

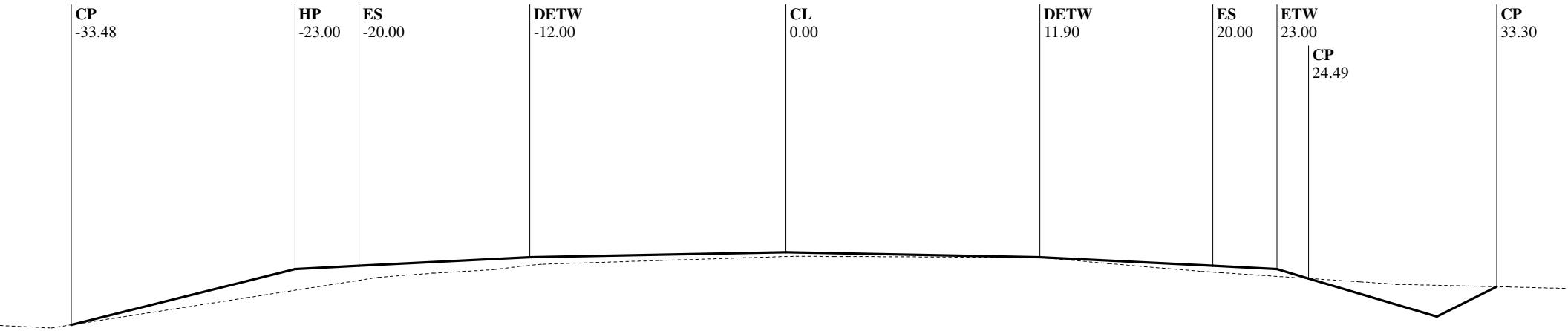
| CP | HP | ES | DETW | CL | DETW | ES | HP | CP | FL |
|---|---|---|---|---|---|---|---|---|---|
| -33.75 | -23.00 | -20.00 | -12.00 | 0.00 | 11.90 | 20.00 | 23.00 | 24.59 | 30.61 |
| -2.25 | 0.44 | 0.59 | 0.99 | 1.23 | 0.99 | 0.59 | 0.44 | -0.03 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -3.40:1 | -3.40:1 |
| F 2.69 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.41 | F 0.15 | F 0.47 | F 1.77 |
| @ 10.75 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.90 | @ 8.10 | @ 3.00 | @ 1.59 | @ 6.02 |

| CP |
|---|
| 33.41 |
| -0.40 |
| 2.00:1 |
| C 1.40 |
| @ 2.80 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 369+57.20**

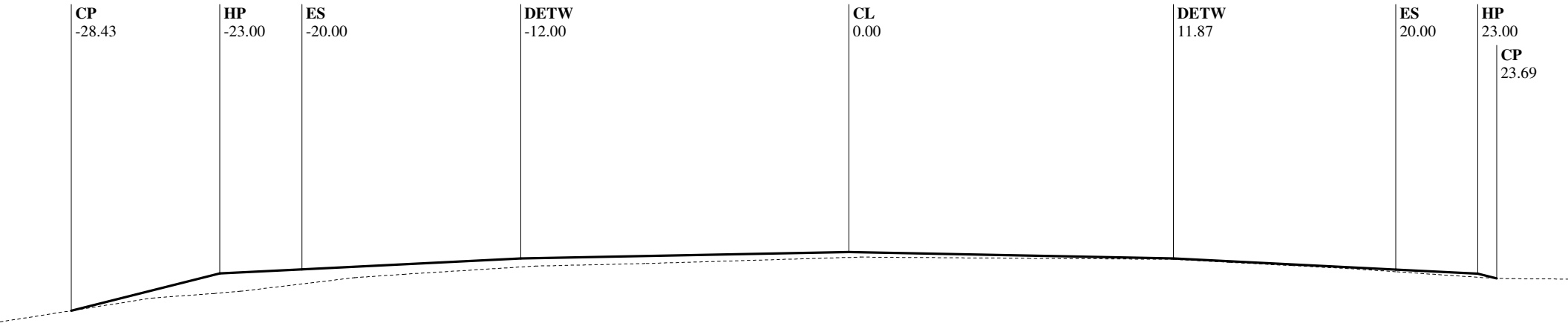
| CP | HP | ES | DETW | CL | DETW | ES | ETW | CP | |
|---|---|---|---|---|---|---|---|---|---|
| -33.48 | -23.00 | -20.00 | -12.00 | 0.00 | 11.90 | 20.00 | 23.00 | 24.49 | 30.50 |
| -2.18 | 0.44 | 0.59 | 0.99 | 1.23 | 0.99 | 0.58 | 0.43 | -0.01 | -1.80 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -3.36:1 | -3.36:1 |
| F 2.62 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.41 | F 0.15 | F 0.44 | F 1.79 |
| @ 10.48 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.90 | @ 8.10 | @ 3.00 | @ 1.49 | @ 6.01 |

| CP |
|---|
| 33.30 |
| -0.40 |
| 2.00:1 |
| C 1.40 |
| @ 2.80 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



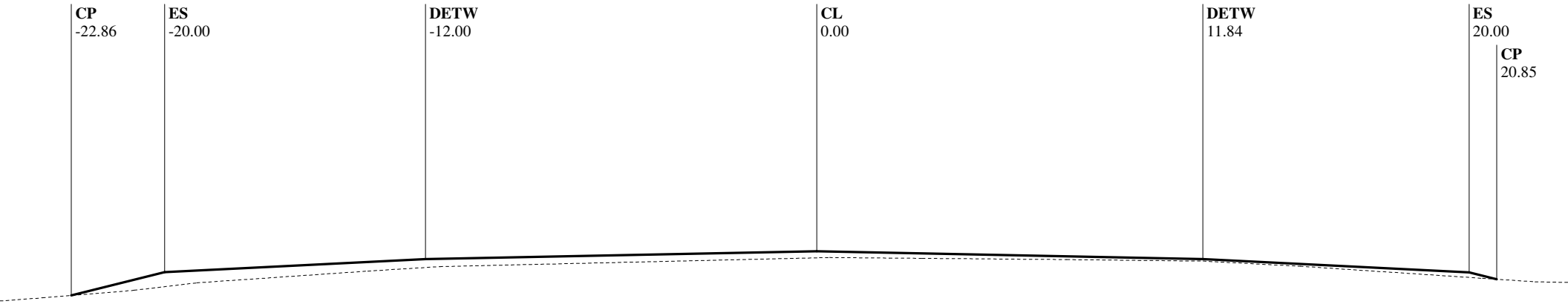

**Alignment Chain CENTER1**
**Station: 370+00.00**

| CP | HP | ES | DETW | CL | DETW | ES | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -28.43 | -23.00 | -20.00 | -12.00 | 0.00 | 11.87 | 20.00 | 23.00 | 23.69 |
| -0.95 | 0.41 | 0.56 | 0.96 | 1.20 | 0.96 | 0.55 | 0.40 | 0.23 |
| -4.00:1 | -5.00% | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00% | -4.00:1 |
| F 1.36 | F 0.15 | F 0.40 | F 0.24 | | F 0.24 | F 0.41 | F 0.15 | F 0.17 |
| @ 5.43 | @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.87 | @ 8.13 | @ 3.00 | @ 0.69 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



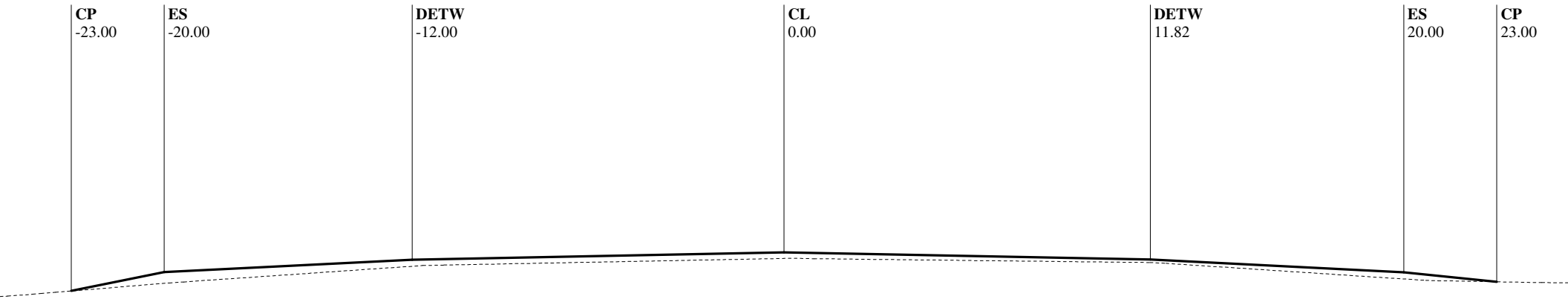

**Alignment Chain CENTER1**
**Station: 370+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -22.86 | -20.00 | -12.00 | 0.00 | 11.84 | 20.00 | 20.85 |
| -0.18 | 0.54 | 0.94 | 1.18 | 0.94 | 0.53 | 0.32 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -4.00:1 |
| F 0.72 | F 0.40 | F 0.24 | | F 0.24 | F 0.41 | F 0.21 |
| @ 2.86 | @ 8.00 | @ 12.00 | | @ 11.84 | @ 8.16 | @ 0.85 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



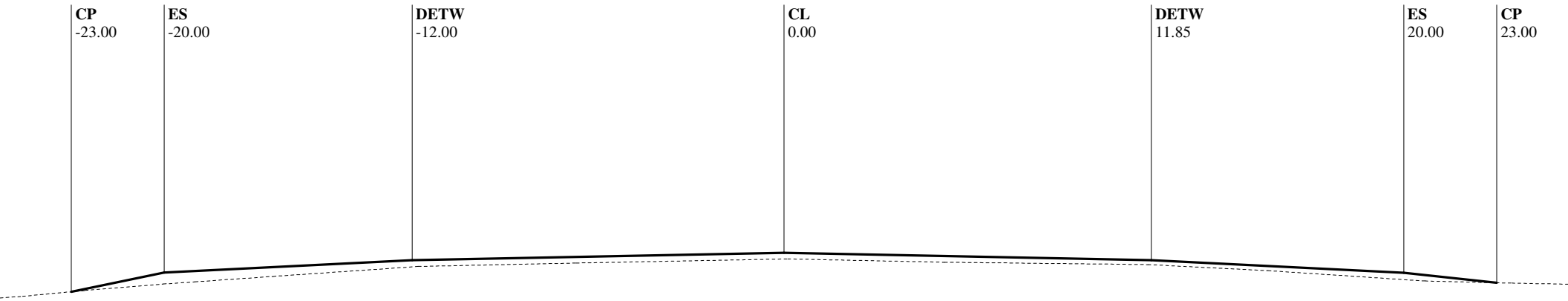

**Alignment Chain CENTER1**
**Station: 371+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 11.82 | 20.00 | 23.00 |
| -0.09 | 0.52 | 0.92 | 1.16 | 0.92 | 0.51 | 0.21 |
| -4.92:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -10.26% |
| F 0.61 | F 0.40 | F 0.24 | | F 0.24 | F 0.41 | F 0.31 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.82 | @ 8.18 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



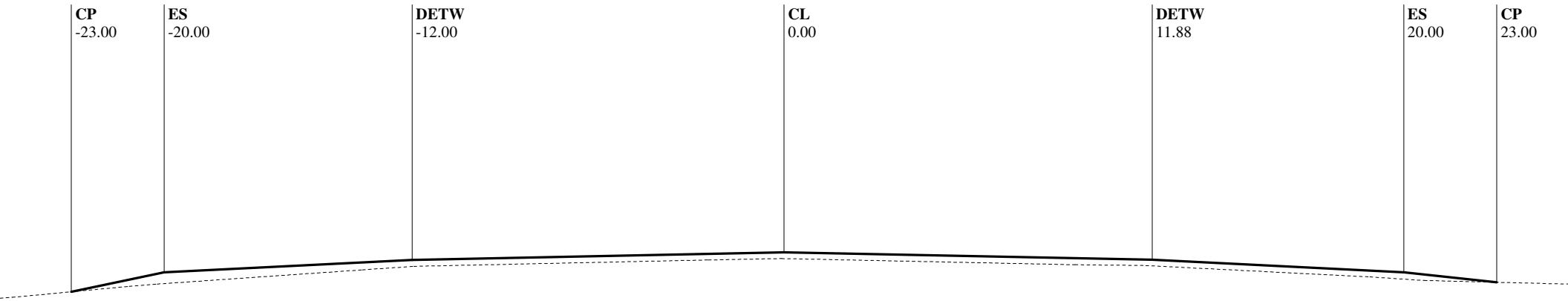

**Alignment Chain CENTER1**
**Station: 371+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 11.85 | 20.00 | 23.00 |
| -0.09 | 0.52 | 0.92 | 1.16 | 0.93 | 0.52 | 0.20 |
| -4.87:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -10.72% |
| F 0.62 | F 0.40 | F 0.24 | | F 0.24 | F 0.41 | F 0.32 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.85 | @ 8.15 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



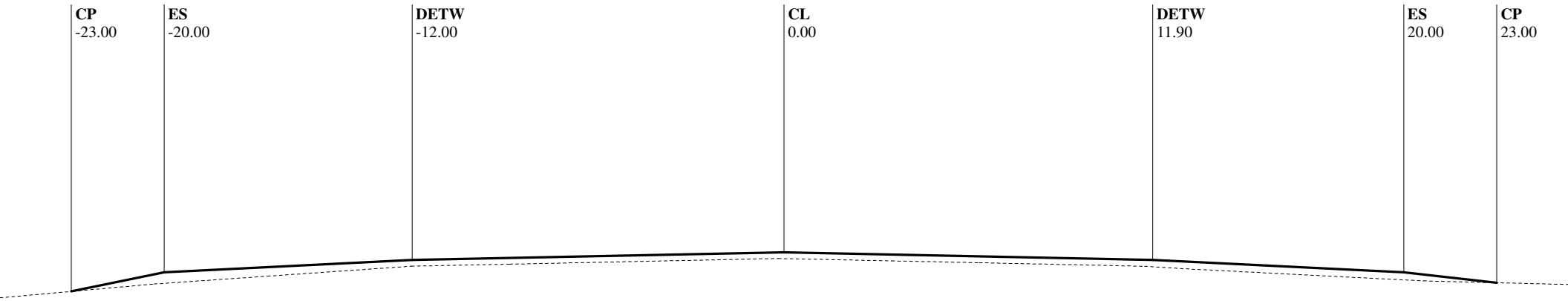

**Alignment Chain CENTER1**
**Station: 372+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 11.88 | 20.00 | 23.00 |
| -0.10 | 0.53 | 0.93 | 1.17 | 0.93 | 0.52 | 0.20 |
| -4.76:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -10.67% |
| F 0.63 | F 0.40 | F 0.24 | | F 0.24 | F 0.41 | F 0.32 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.88 | @ 8.12 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



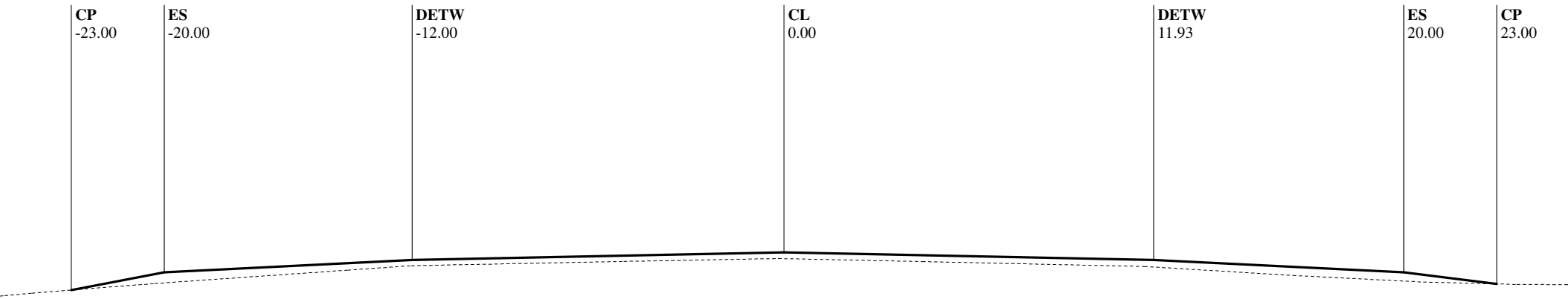

**Alignment Chain CENTER1**
**Station: 372+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 11.90 | 20.00 | 23.00 |
| -0.08 | 0.54 | 0.94 | 1.18 | 0.94 | 0.53 | 0.20 |
| -4.86:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -11.15% |
| F 0.62 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.33 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.90 | @ 8.10 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



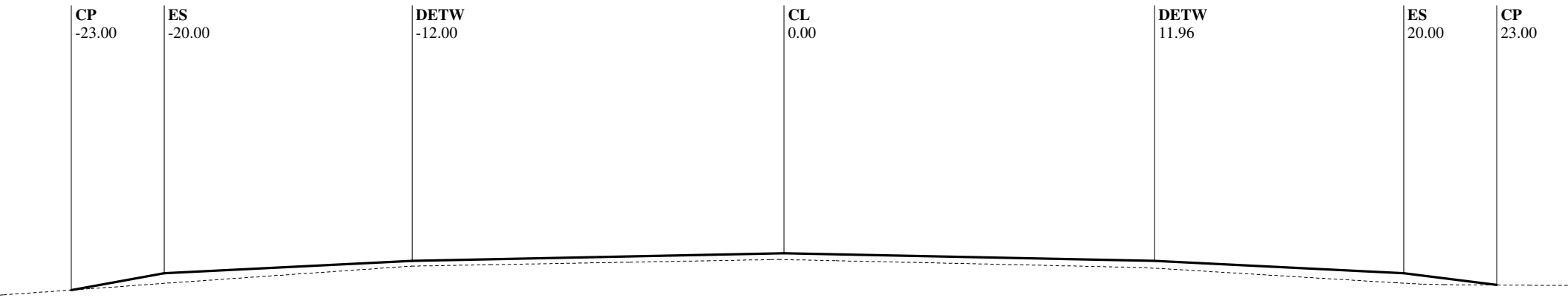

**Alignment Chain CENTER1**
**Station: 373+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 11.93 | 20.00 | 23.00 |
| -0.02 | 0.55 | 0.95 | 1.19 | 0.96 | 0.55 | 0.18 |
| -5.21:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -12.42% |
| F 0.58 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.37 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.93 | @ 8.07 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



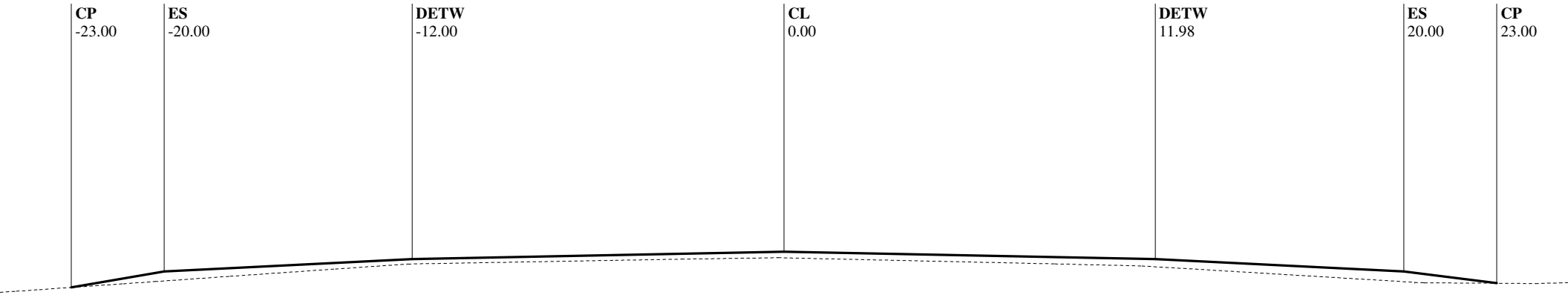

**Alignment Chain CENTER1**
**Station: 373+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 11.96 | 20.00 | 23.00 |
| 0.03 | 0.57 | 0.97 | 1.21 | 0.97 | 0.57 | 0.19 |
| -5.52:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -12.64% |
| F 0.54 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.38 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.96 | @ 8.04 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



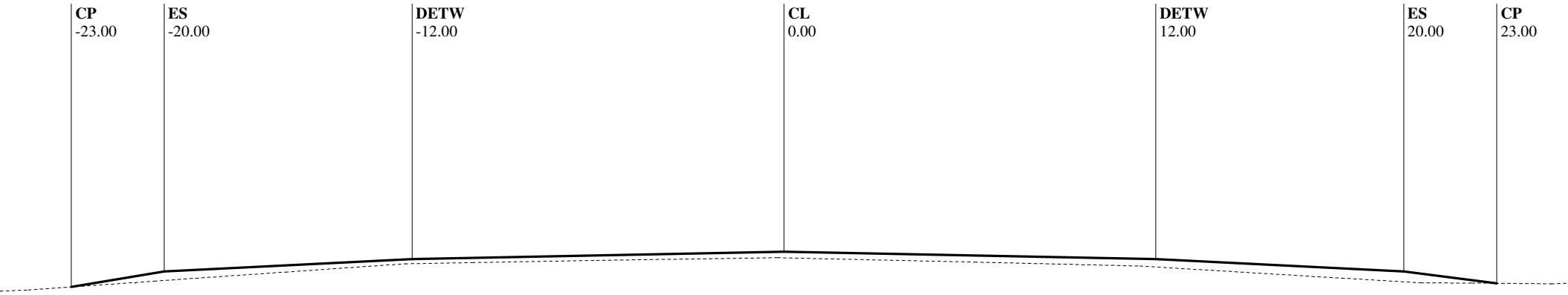

**Alignment Chain CENTER1**
**Station: 374+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 11.98 | 20.00 | 23.00 |
| 0.05 | 0.56 | 0.96 | 1.20 | 0.96 | 0.56 | 0.18 |
| -5.85:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -12.62% |
| F 0.51 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.38 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 11.98 | @ 8.02 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



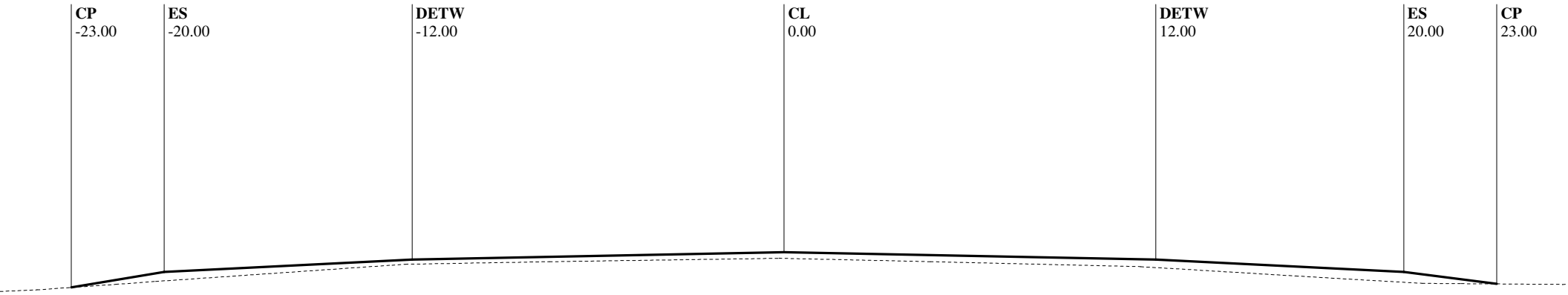

**Alignment Chain CENTER1**
**Station: 374+31.70**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.05 | 0.55 | 0.95 | 1.19 | 0.95 | 0.55 | 0.17 |
| -6.01:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -12.69% |
| F 0.50 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.38 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



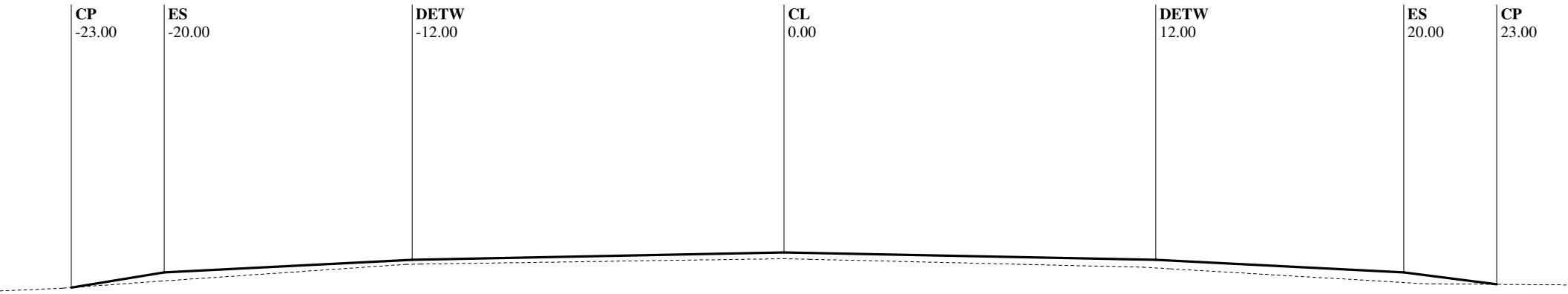

**Alignment Chain CENTER1**
**Station: 374+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.05 | 0.54 | 0.94 | 1.18 | 0.94 | 0.54 | 0.16 |
| -6.04:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -12.76% |
| F 0.50 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.38 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



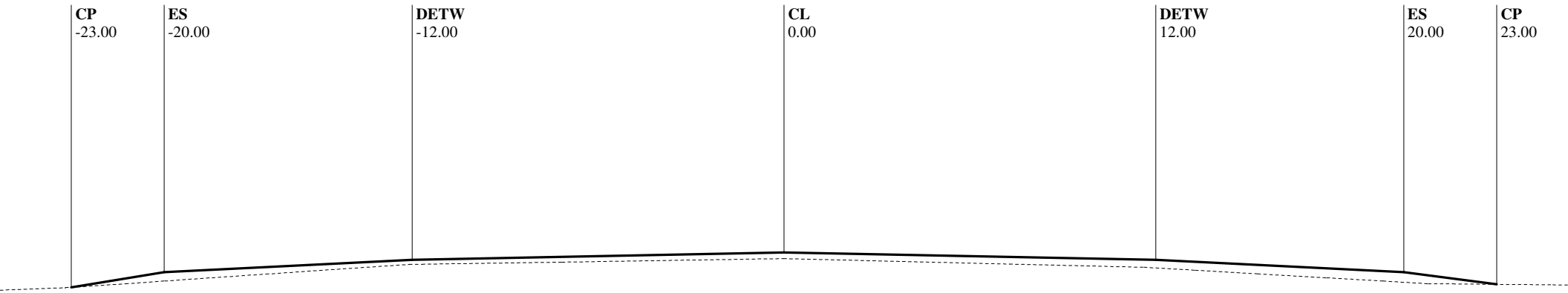

**Alignment Chain CENTER1**
**Station: 375+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.04 | 0.53 | 0.93 | 1.17 | 0.93 | 0.53 | 0.14 |
| -6.10:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -12.93% |
| F 0.49 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.39 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



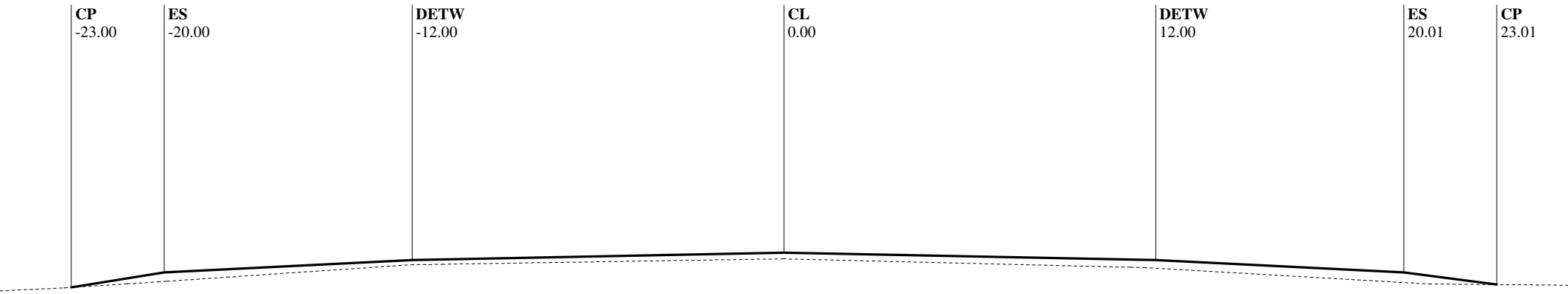

**Alignment Chain CENTER1**
**Station: 375+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.02 | 0.51 | 0.91 | 1.15 | 0.91 | 0.51 | 0.12 |
| -6.17:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -13.02% |
| F 0.49 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.39 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



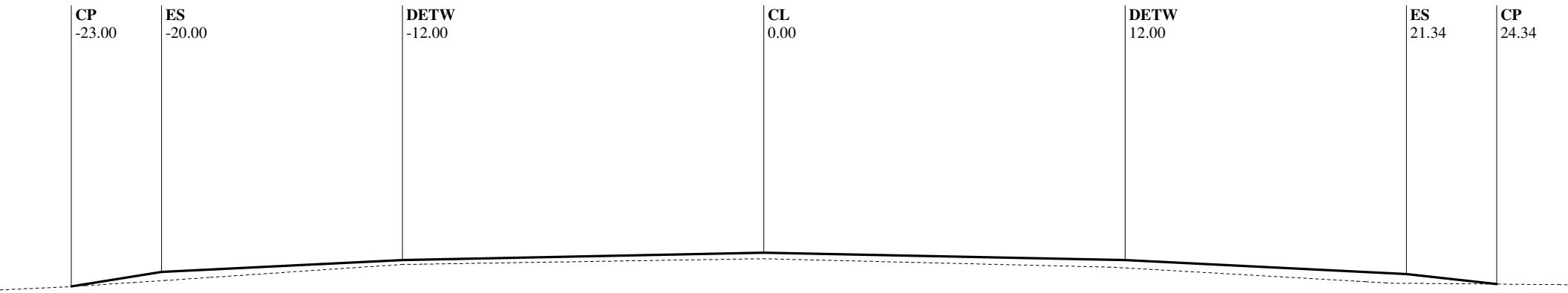

**Alignment Chain CENTER1**
**Station: 375+71.33**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.01 | 23.01 |
| 0.02 | 0.50 | 0.90 | 1.14 | 0.90 | 0.50 | 0.11 |
| -6.21:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -13.01% |
| F 0.48 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.39 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.01 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



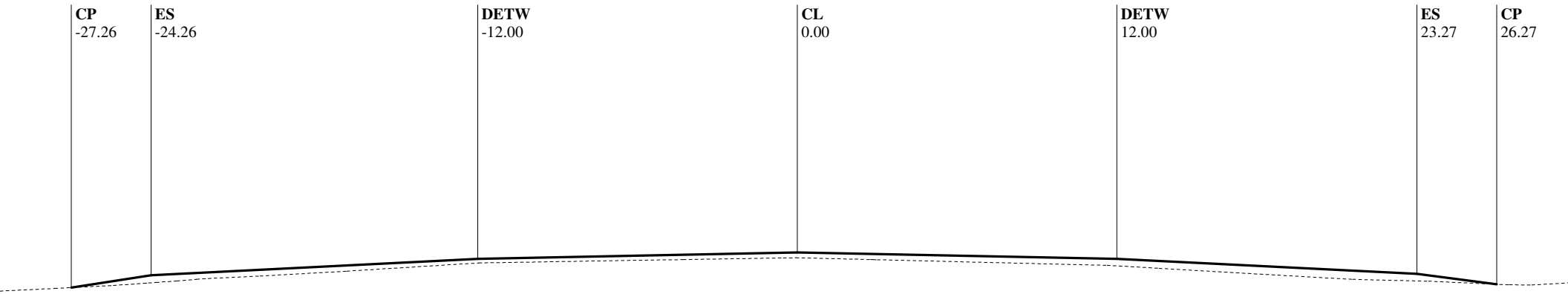

**Alignment Chain CENTER1**
**Station: 375+72.69**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 21.34 | 24.34 |
| 0.02 | 0.50 | 0.90 | 1.14 | 0.90 | 0.43 | 0.10 |
| -6.21:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -11.18% |
| F 0.48 | F 0.40 | F 0.24 | | F 0.24 | F 0.47 | F 0.34 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 9.34 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



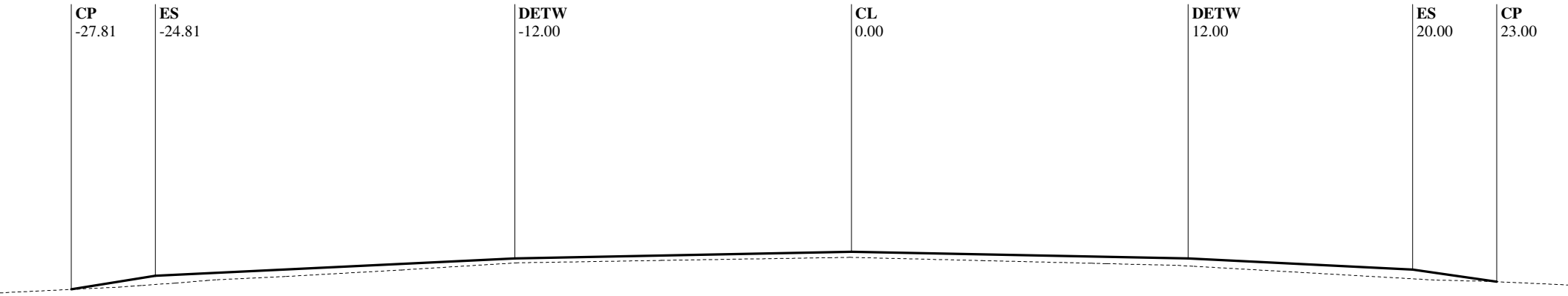

**Alignment Chain CENTER1**
**Station: 376+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -27.26 | -24.26 | -12.00 | 0.00 | 12.00 | 23.27 | 26.27 |
| -0.19 | 0.27 | 0.89 | 1.13 | 0.89 | 0.32 | -0.07 |
| -6.41:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -13.08% |
| F 0.47 | F 0.61 | F 0.24 | | F 0.24 | F 0.56 | F 0.39 |
| @ 3.00 | @ 12.26 | @ 12.00 | | @ 12.00 | @ 11.27 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



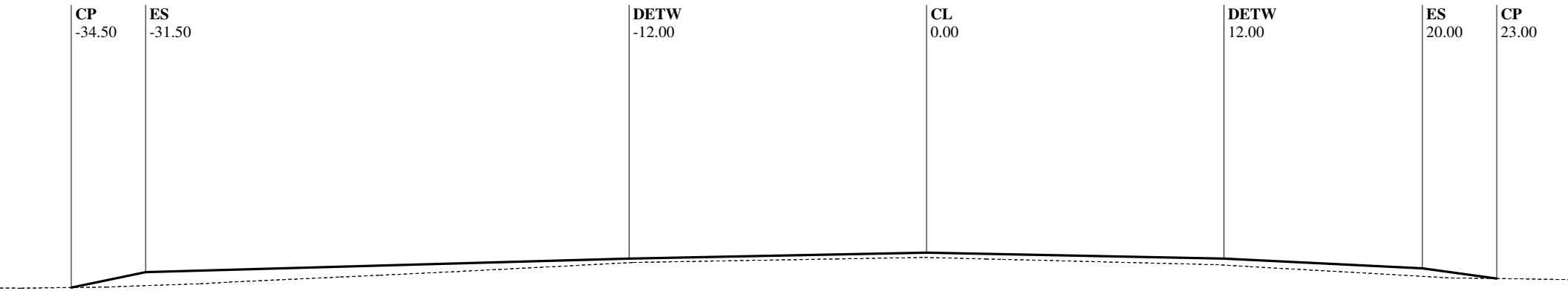

**Alignment Chain CENTER1**
**Station: 376+03.51**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -27.81 | -24.81 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.22 | 0.27 | 0.89 | 1.13 | 0.89 | 0.49 | 0.06 |
| -6.21:1 | -4.84% | -2.00% | | -2.00% | -5.00% | -14.27% |
| F 0.48 | F 0.62 | F 0.24 | | F 0.24 | F 0.40 | F 0.43 |
| @ 3.00 | @ 12.81 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



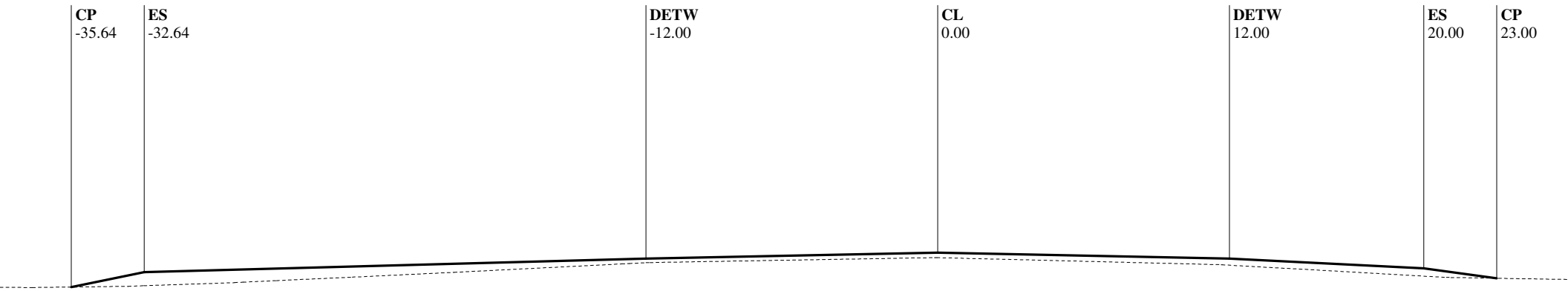

**Alignment Chain CENTER1**
**Station: 376+46.41**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.31 | 0.31 | 0.87 | 1.11 | 0.87 | 0.47 | 0.06 |
| -4.85:1 | -2.85% | -2.00% | | -2.00% | -5.00% | -13.54% |
| F 0.62 | F 0.55 | F 0.24 | | F 0.24 | F 0.40 | F 0.41 |
| @ 3.00 | @ 19.50 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



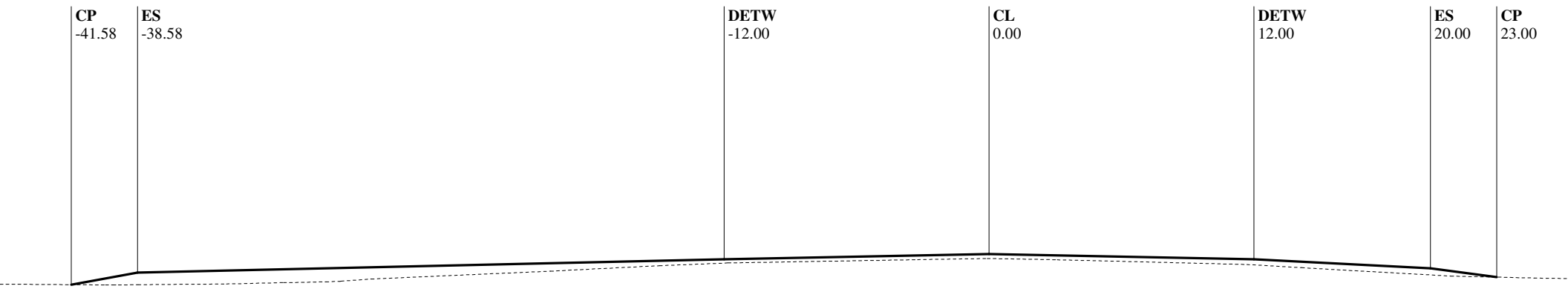

**Alignment Chain CENTER1**
**Station: 376+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -35.64 | -32.64 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.30 | 0.31 | 0.87 | 1.11 | 0.87 | 0.47 | 0.06 |
| -4.87:1 | -2.68% | -2.00% | | -2.00% | -5.00% | -13.59% |
| F 0.62 | F 0.55 | F 0.24 | | F 0.24 | F 0.40 | F 0.41 |
| @ 3.00 | @ 20.64 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



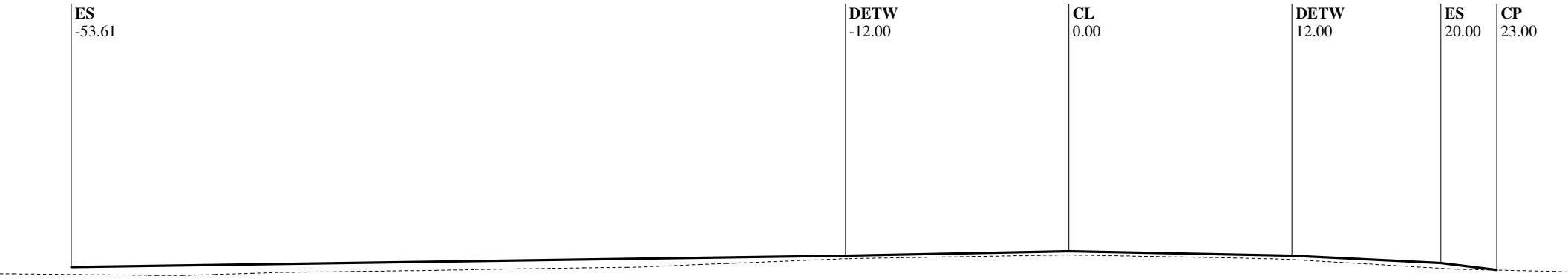

**Alignment Chain CENTER1**
**Station: 376+62.36**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -41.58 | -38.58 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.28 | 0.26 | 0.86 | 1.10 | 0.86 | 0.46 | 0.06 |
| -5.53:1 | -2.26% | -2.00% | | -2.00% | -5.00% | -13.46% |
| F 0.54 | F 0.60 | F 0.24 | | F 0.24 | F 0.40 | F 0.40 |
| @ 3.00 | @ 26.58 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



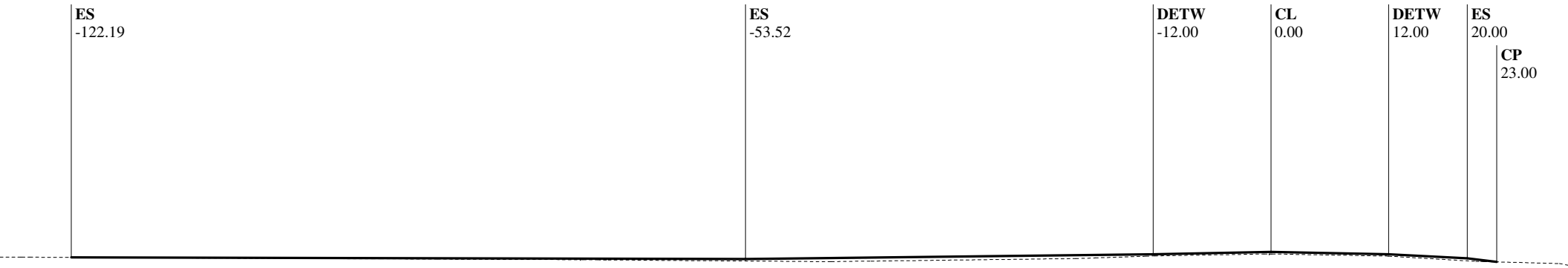

**Alignment Chain CENTER1**
**Station: 376+85.39**

| ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|
| -53.61 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.24 | 0.86 | 1.10 | 0.86 | 0.46 | 0.08 |
| -1.49% | -2.00% | | -2.00% | -5.00% | -12.52% |
| F 0.62 | F 0.24 | | F 0.24 | F 0.40 | F 0.38 |
| @ 41.61 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



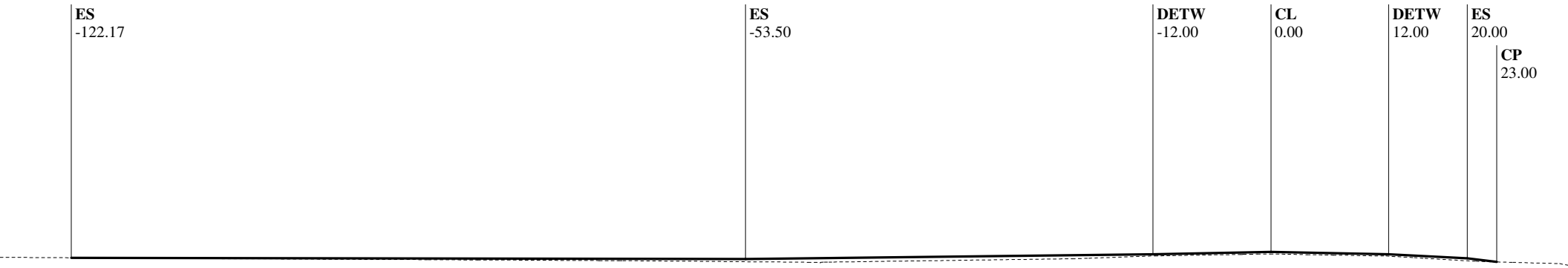

**Alignment Chain CENTER1**
**Station: 376+96.93**

| ES | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -122.19 | -53.52 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.55 | 0.38 | 0.85 | 1.09 | 0.85 | 0.45 | 0.08 |
| 0.25% | -1.15% | -2.00% | | -2.00% | -5.00% | -12.34% |
| C 0.17 | F 0.48 | F 0.24 | | F 0.24 | F 0.40 | F 0.37 |
| @ 68.67 | @ 41.52 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



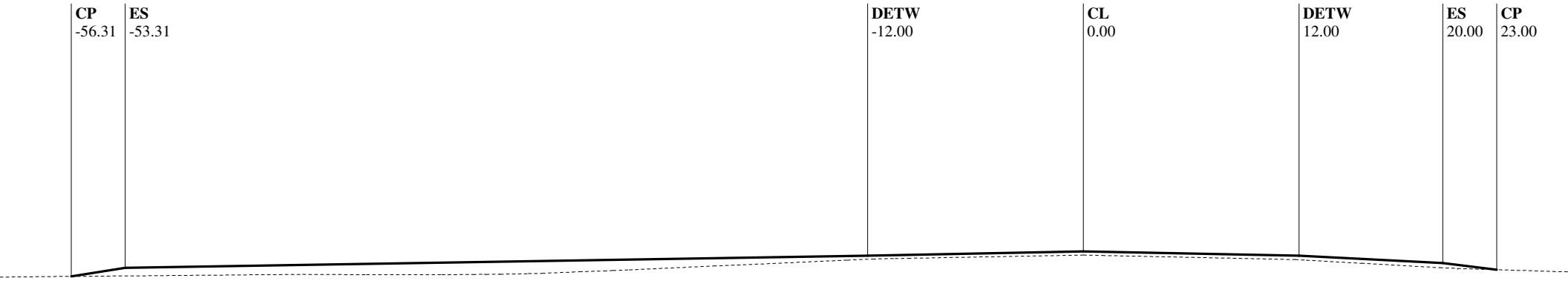

**Alignment Chain CENTER1**
**Station: 377+00.00**

| ES | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -122.17 | -53.50 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.50 | 0.38 | 0.86 | 1.10 | 0.86 | 0.46 | 0.08 |
| 0.18% | -1.15% | -2.00% | | -2.00% | -5.00% | -12.54% |
| C 0.12 | F 0.48 | F 0.24 | | F 0.24 | F 0.40 | F 0.38 |
| @ 68.67 | @ 41.50 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



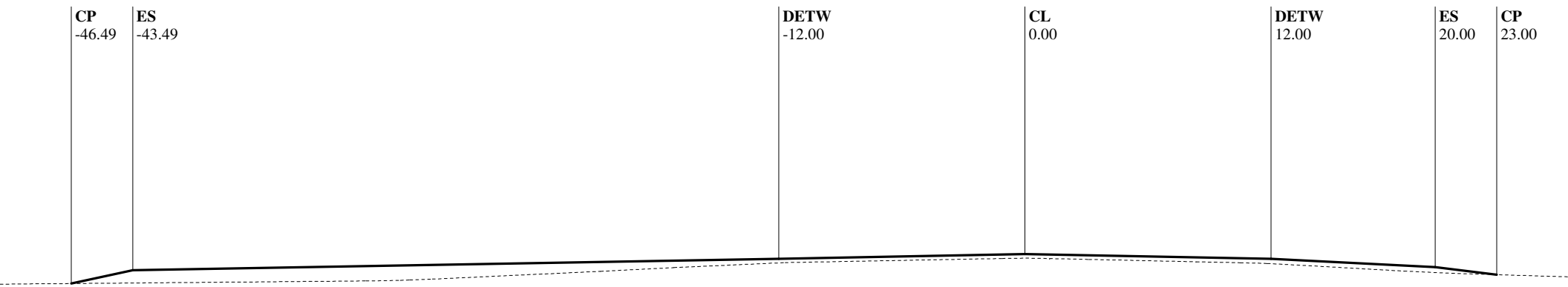

**Alignment Chain CENTER1**
**Station: 377+26.31**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -56.31 | -53.31 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.25 | 0.22 | 0.89 | 1.13 | 0.89 | 0.49 | 0.12 |
| -6.34:1 | -1.63% | -2.00% | | -2.00% | -5.00% | -12.39% |
| F 0.47 | F 0.67 | F 0.24 | | F 0.24 | F 0.40 | F 0.37 |
| @ 3.00 | @ 41.31 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



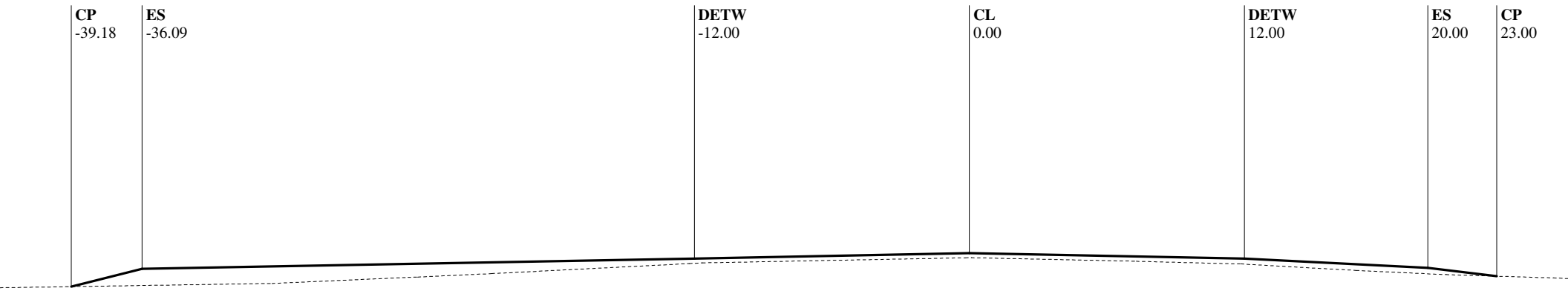

**Alignment Chain CENTER1**
**Station: 377+36.12**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -46.49 | -43.49 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.30 | 0.36 | 0.90 | 1.14 | 0.90 | 0.50 | 0.13 |
| -4.57:1 | -1.73% | -2.00% | | -2.00% | -5.00% | -12.30% |
| F 0.66 | F 0.55 | F 0.24 | | F 0.24 | F 0.40 | F 0.37 |
| @ 3.00 | @ 31.49 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



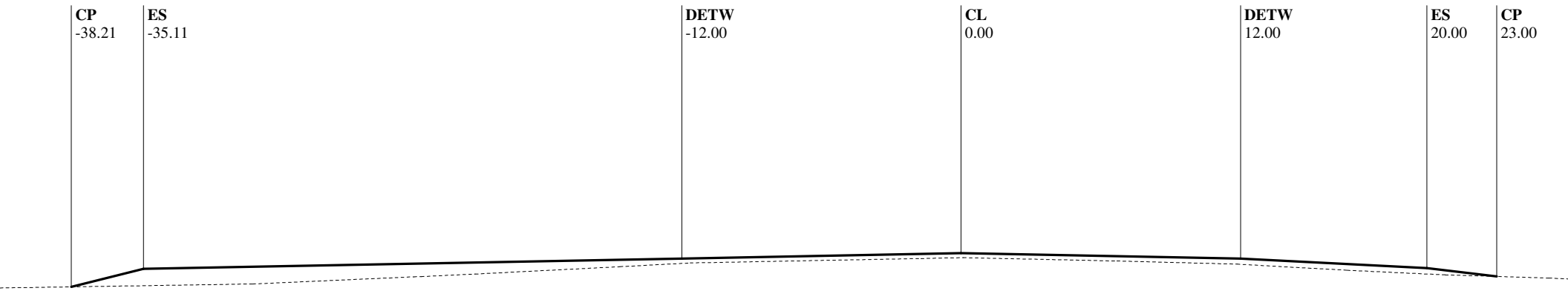

**Alignment Chain CENTER1**
**Station: 377+47.87**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -39.18 | -36.09 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.30 | 0.47 | 0.92 | 1.16 | 0.92 | 0.52 | 0.15 |
| -4.00:1 | -1.86% | -2.00% | | -2.00% | -5.00% | -12.19% |
| F 0.77 | F 0.45 | F 0.24 | | F 0.24 | F 0.40 | F 0.37 |
| @ 3.09 | @ 24.09 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



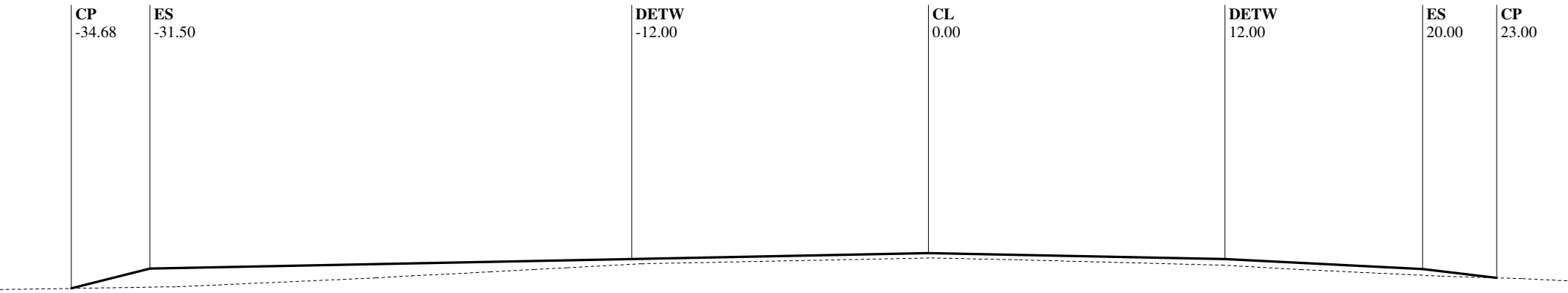

**Alignment Chain CENTER1**
**Station: 377+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -38.21 | -35.11 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.29 | 0.48 | 0.92 | 1.16 | 0.92 | 0.52 | 0.15 |
| -4.00:1 | -1.89% | -2.00% | | -2.00% | -5.00% | -12.17% |
| F 0.78 | F 0.44 | F 0.24 | | F 0.24 | F 0.40 | F 0.37 |
| @ 3.10 | @ 23.11 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



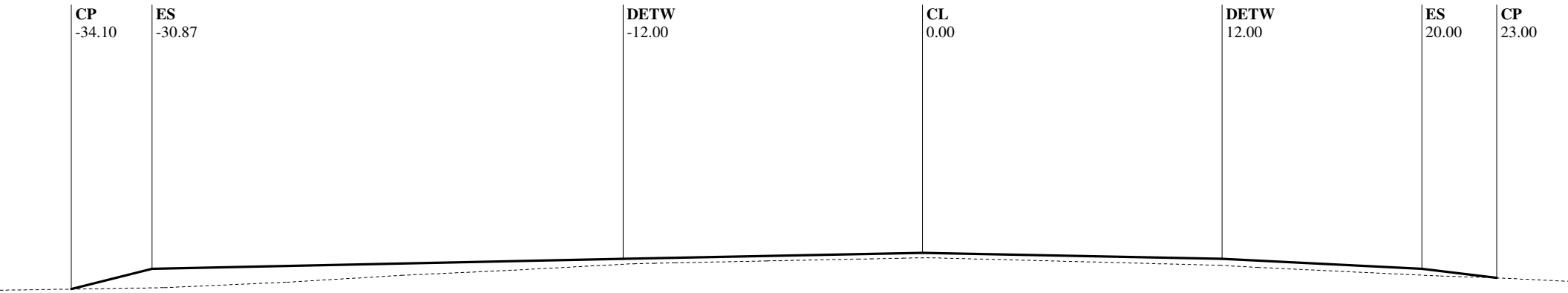

**Alignment Chain CENTER1**
**Station: 377+60.97**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -34.68 | -31.50 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.26 | 0.54 | 0.93 | 1.17 | 0.93 | 0.53 | 0.17 |
| -4.00:1 | -2.01% | -2.00% | | -2.00% | -5.00% | -12.06% |
| F 0.80 | F 0.39 | F 0.24 | | F 0.24 | F 0.40 | F 0.36 |
| @ 3.18 | @ 19.50 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



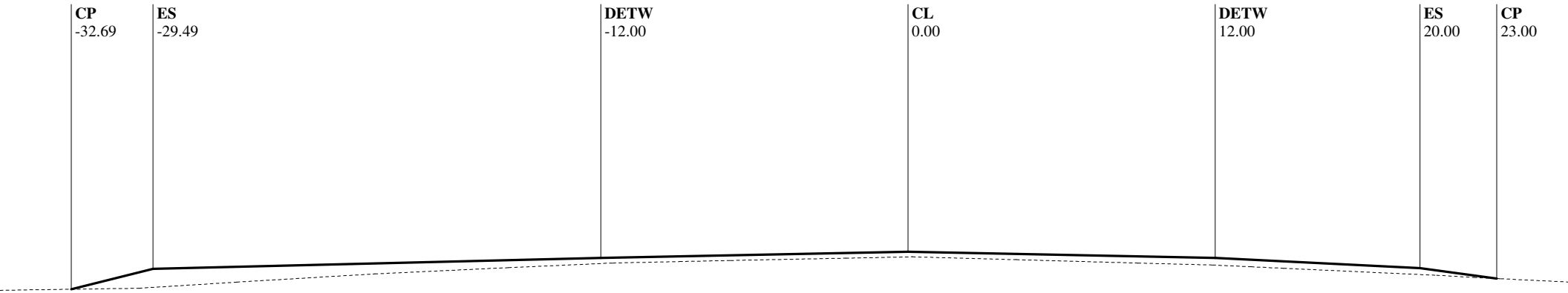

**Alignment Chain CENTER1**
**Station: 377+72.93**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -34.10 | -30.87 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.27 | 0.54 | 0.94 | 1.18 | 0.94 | 0.54 | 0.18 |
| -4.00:1 | -2.14% | -2.00% | | -2.00% | -5.00% | -12.10% |
| F 0.81 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.36 |
| @ 3.24 | @ 18.87 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



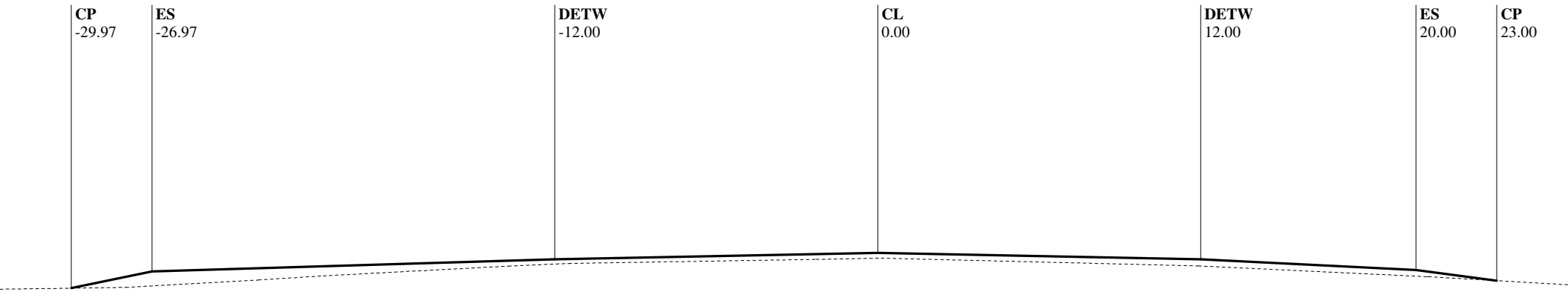

**Alignment Chain CENTER1**
**Station: 378+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -32.69 | -29.49 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.25 | 0.54 | 0.97 | 1.21 | 0.97 | 0.57 | 0.17 |
| -4.00:1 | -2.44% | -2.00% | | -2.00% | -5.00% | -13.54% |
| F 0.80 | F 0.43 | F 0.24 | | F 0.24 | F 0.40 | F 0.41 |
| @ 3.19 | @ 17.49 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

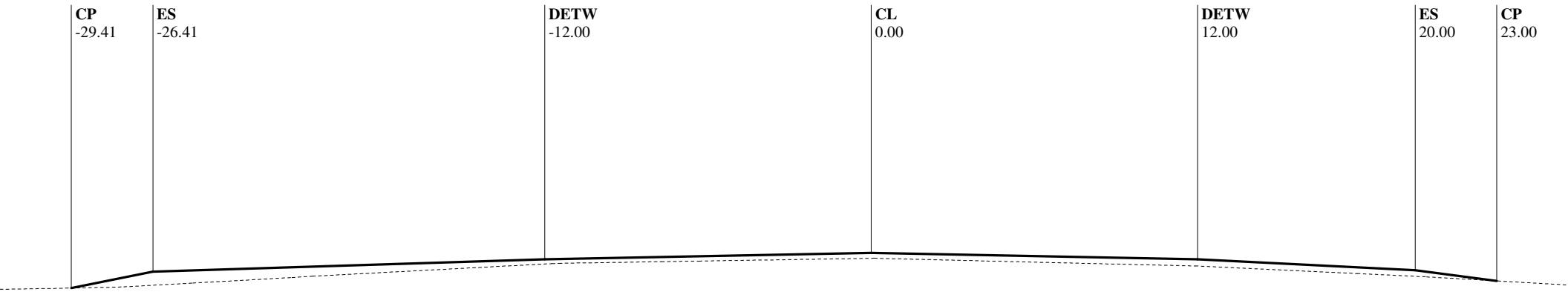



**Alignment Chain CENTER1**
**Station: 378+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -29.97 | -26.97 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.07 | 0.55 | 1.00 | 1.24 | 1.00 | 0.60 | 0.21 |
| -4.80:1 | -2.99% | -2.00% | | -2.00% | -5.00% | -13.13% |
| F 0.62 | F 0.45 | F 0.24 | | F 0.24 | F 0.40 | F 0.39 |
| @ 3.00 | @ 14.97 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



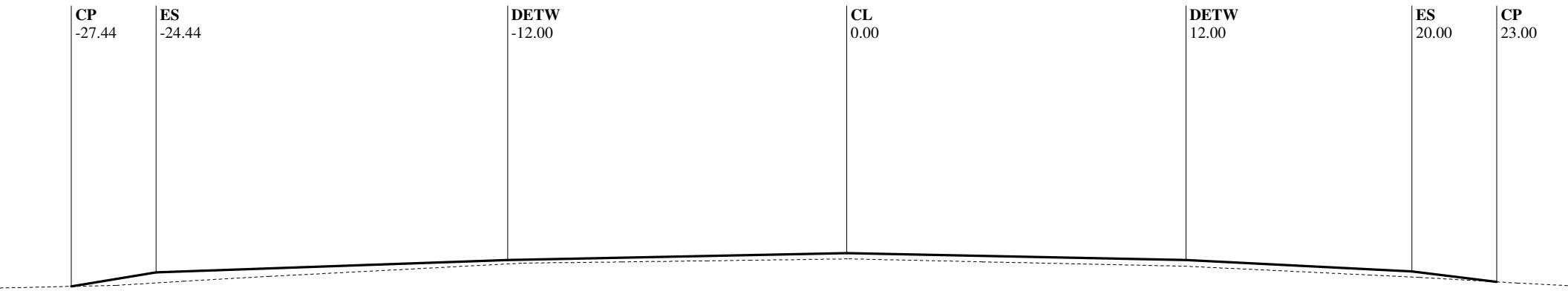

**Alignment Chain CENTER1**
**Station: 378+60.97**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -29.41 | -26.41 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| -0.05 | 0.56 | 1.01 | 1.25 | 1.01 | 0.61 | 0.22 |
| -4.96:1 | -3.11% | -2.00% | | -2.00% | -5.00% | -12.98% |
| F 0.60 | F 0.45 | F 0.24 | | F 0.24 | F 0.40 | F 0.39 |
| @ 3.00 | @ 14.41 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



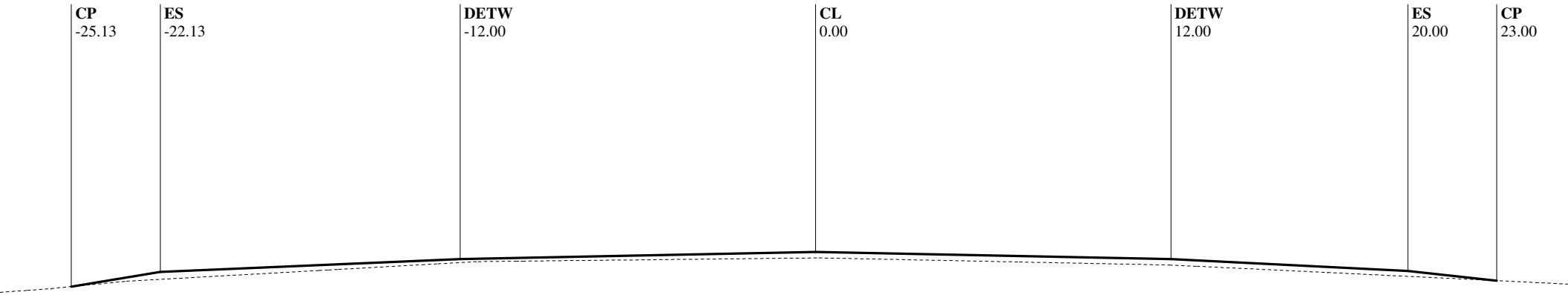

**Alignment Chain CENTER1**
**Station: 379+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -27.44 | -24.44 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.10 | 0.59 | 1.03 | 1.27 | 1.03 | 0.63 | 0.26 |
| -6.08:1 | -3.54% | -2.00% | | -2.00% | -5.00% | -12.44% |
| F 0.49 | F 0.44 | F 0.24 | | F 0.24 | F 0.40 | F 0.37 |
| @ 3.00 | @ 12.44 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



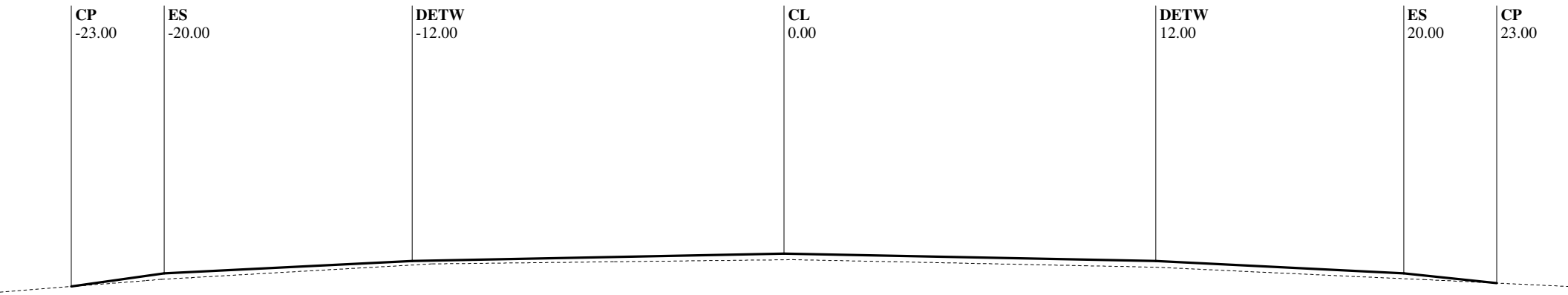

**Alignment Chain CENTER1**
**Station: 379+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -25.13 | -22.13 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.13 | 0.63 | 1.06 | 1.30 | 1.06 | 0.66 | 0.33 |
| -6.10:1 | -4.29% | -2.00% | | -2.00% | -5.00% | -10.86% |
| F 0.49 | F 0.43 | F 0.24 | | F 0.24 | F 0.40 | F 0.33 |
| @ 3.00 | @ 10.13 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



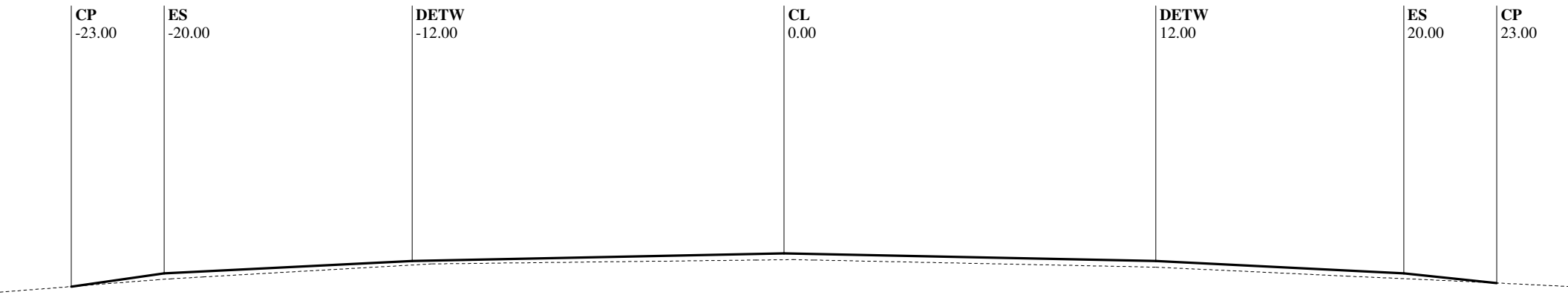

**Alignment Chain CENTER1**
**Station: 379+97.27**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.27 | 0.69 | 1.09 | 1.33 | 1.09 | 0.69 | 0.38 |
| -14.08% | -5.00% | -2.00% | | -2.00% | -5.00% | -10.39% |
| F 0.42 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.31 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



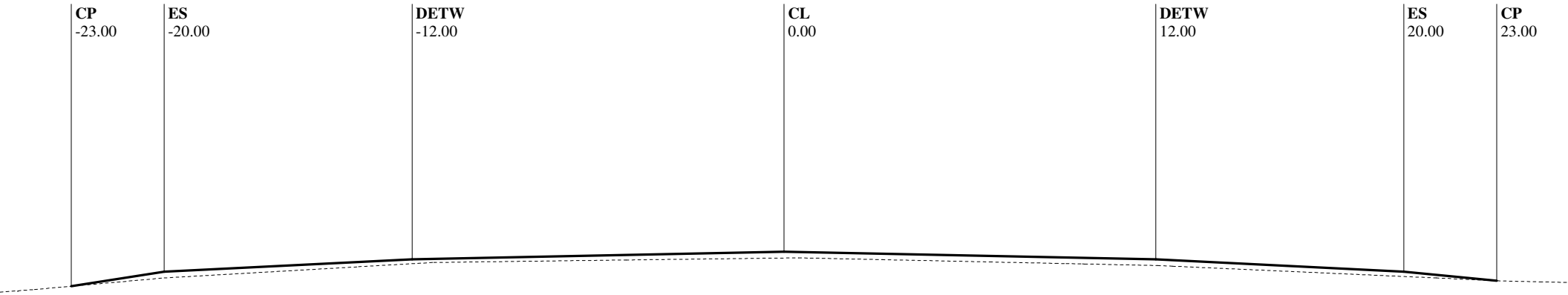

**Alignment Chain CENTER1**
**Station: 380+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.26 | 0.69 | 1.09 | 1.33 | 1.09 | 0.69 | 0.38 |
| -14.19% | -5.00% | -2.00% | | -2.00% | -5.00% | -10.36% |
| F 0.43 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.31 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



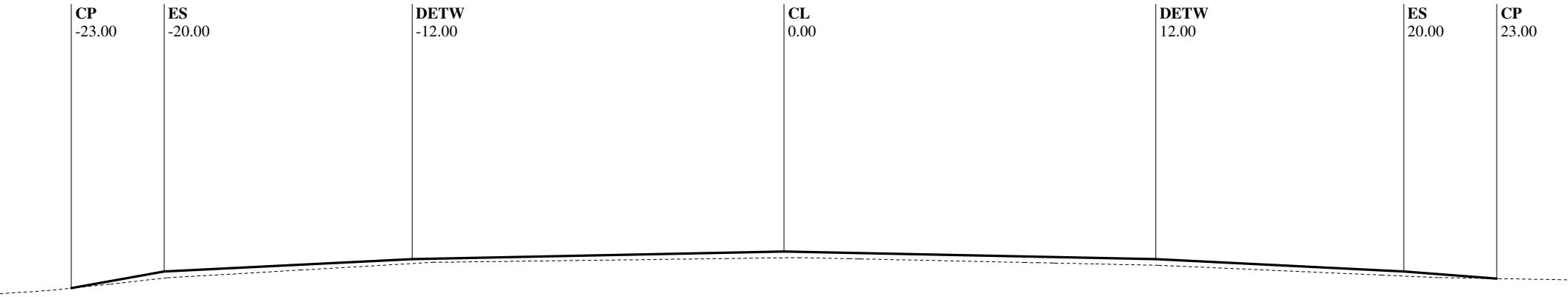

**Alignment Chain CENTER1**
**Station: 380+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.25 | 0.72 | 1.12 | 1.36 | 1.12 | 0.72 | 0.42 |
| -6.39:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -9.85% |
| F 0.47 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.30 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



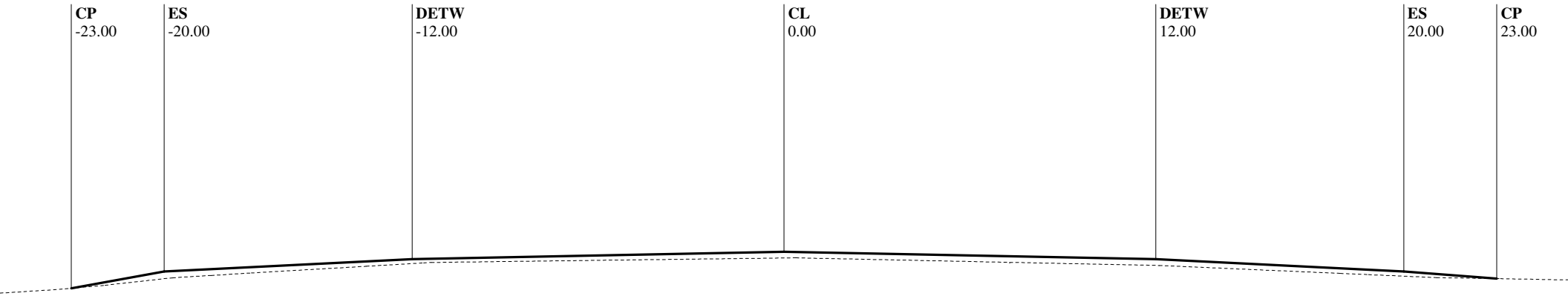

**Alignment Chain CENTER1**
**Station: 381+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.23 | 0.77 | 1.17 | 1.41 | 1.17 | 0.77 | 0.54 |
| -5.56:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -7.73% |
| F 0.54 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.23 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



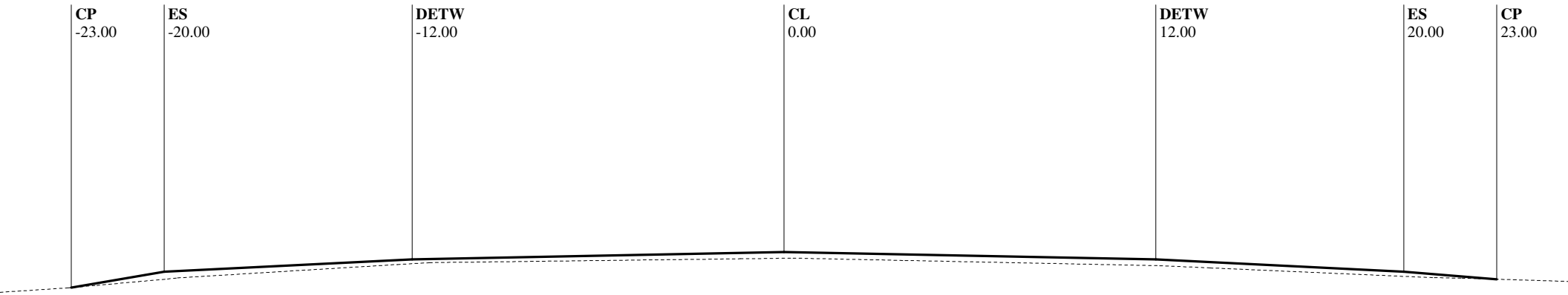

**Alignment Chain CENTER1**
**Station: 381+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.30 | 0.84 | 1.24 | 1.48 | 1.24 | 0.84 | 0.61 |
| -5.57:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -7.58% |
| F 0.54 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.23 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

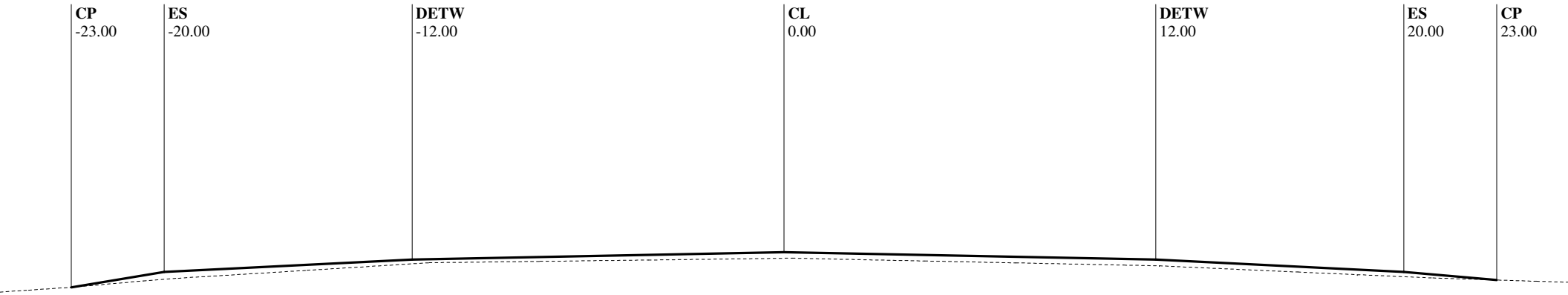



**Alignment Chain CENTER1**
**Station: 382+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.39 | 0.90 | 1.30 | 1.54 | 1.30 | 0.90 | 0.66 |
| -5.90:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -7.93% |
| F 0.51 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.24 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



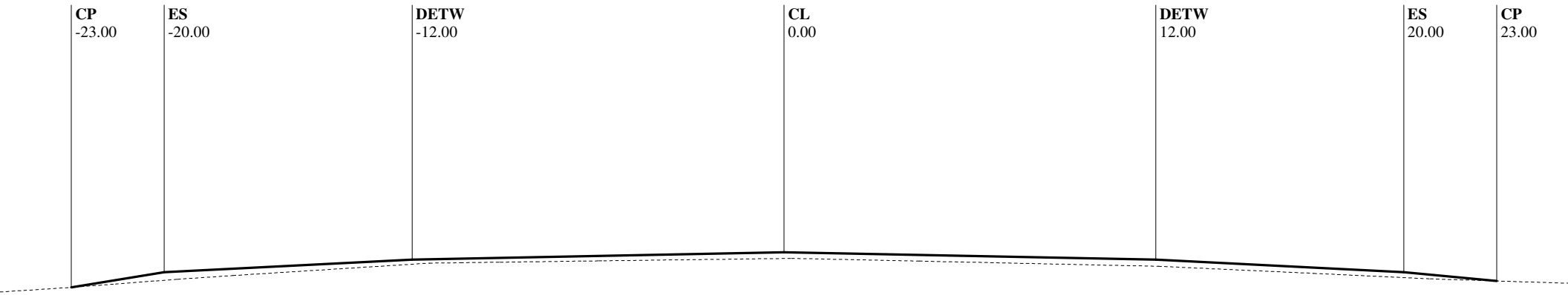

**Alignment Chain CENTER1**
**Station: 382+18.59**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.43 | 0.93 | 1.33 | 1.57 | 1.33 | 0.93 | 0.67 |
| -6.03:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -8.67% |
| F 0.50 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.26 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



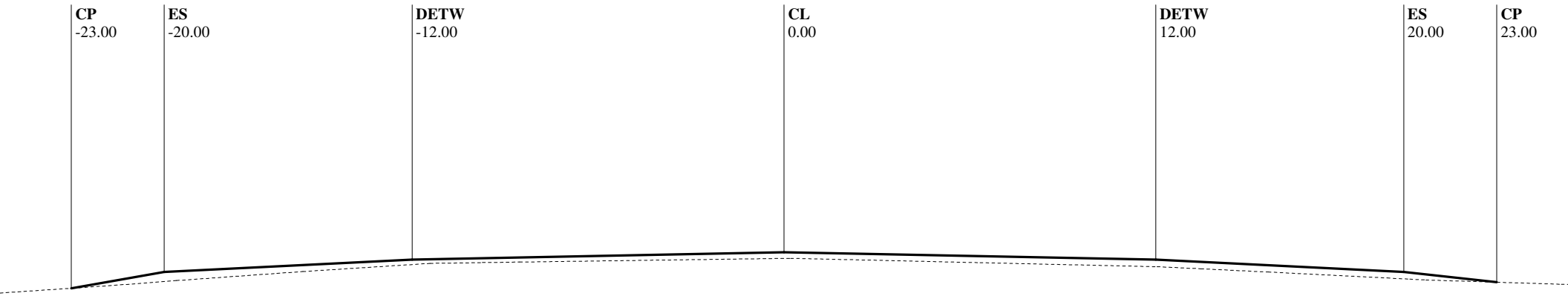

**Alignment Chain CENTER1**
**Station: 382+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.48 | 0.97 | 1.37 | 1.61 | 1.37 | 0.97 | 0.68 |
| -6.09:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -9.56% |
| F 0.49 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.29 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



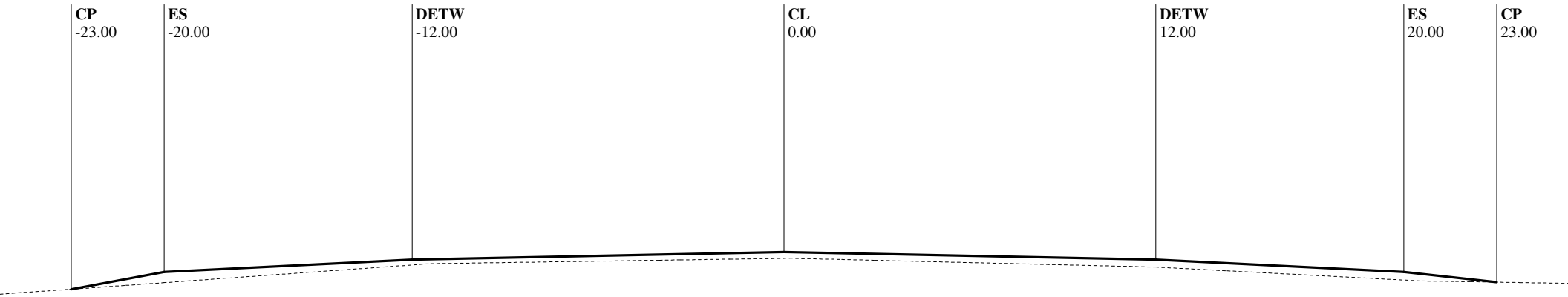

**Alignment Chain CENTER1**
**Station: 383+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.51 | 1.04 | 1.44 | 1.68 | 1.44 | 1.04 | 0.71 |
| -5.70:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -10.98% |
| F 0.53 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.33 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

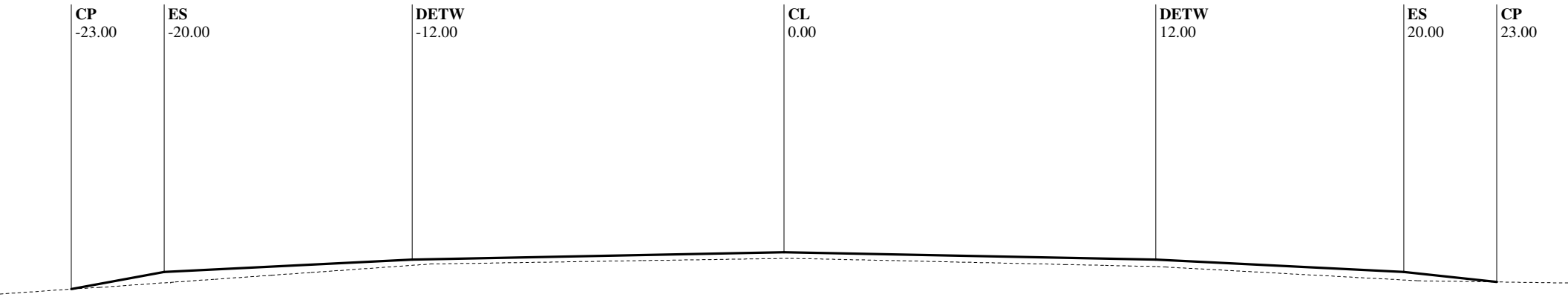



**Alignment Chain CENTER1**
**Station: 383+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.54 | 1.10 | 1.50 | 1.74 | 1.50 | 1.10 | 0.77 |
| -5.37:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -11.02% |
| F 0.56 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.33 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



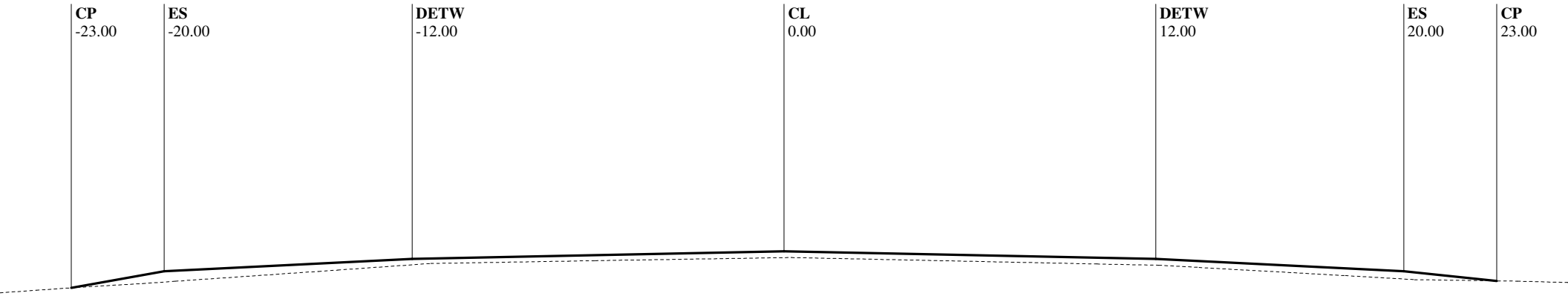

**Alignment Chain CENTER1**
**Station: 384+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.59 | 1.14 | 1.54 | 1.78 | 1.54 | 1.14 | 0.83 |
| -5.45:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -10.64% |
| F 0.55 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.32 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



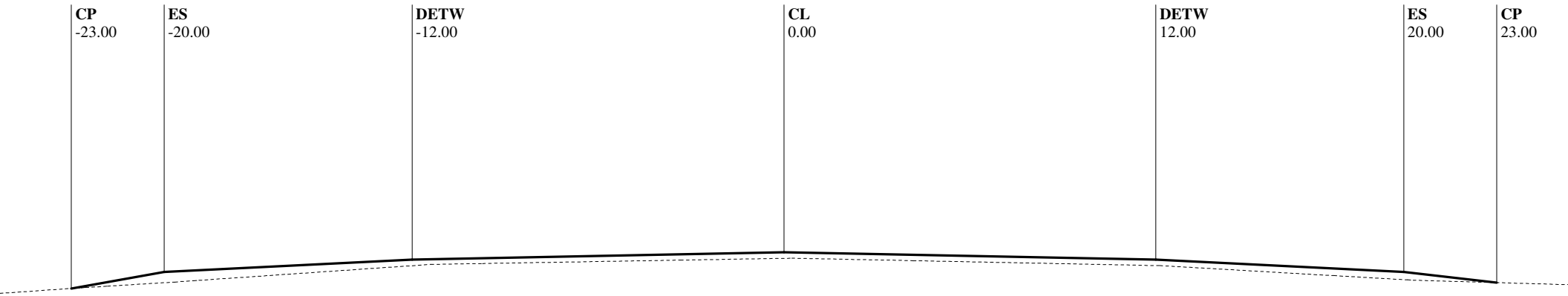

**Alignment Chain CENTER1**
**Station: 384+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.65 | 1.19 | 1.59 | 1.83 | 1.59 | 1.19 | 0.88 |
| -5.61:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -10.35% |
| F 0.53 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.31 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

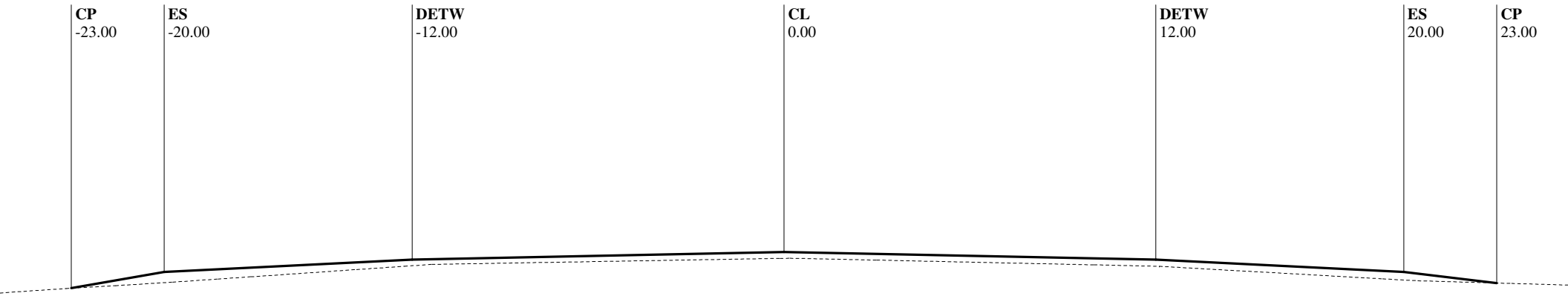



**Alignment Chain CENTER1**
**Station: 385+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.71 | 1.25 | 1.65 | 1.89 | 1.65 | 1.25 | 0.90 |
| -5.62:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -11.47% |
| F 0.53 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.34 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



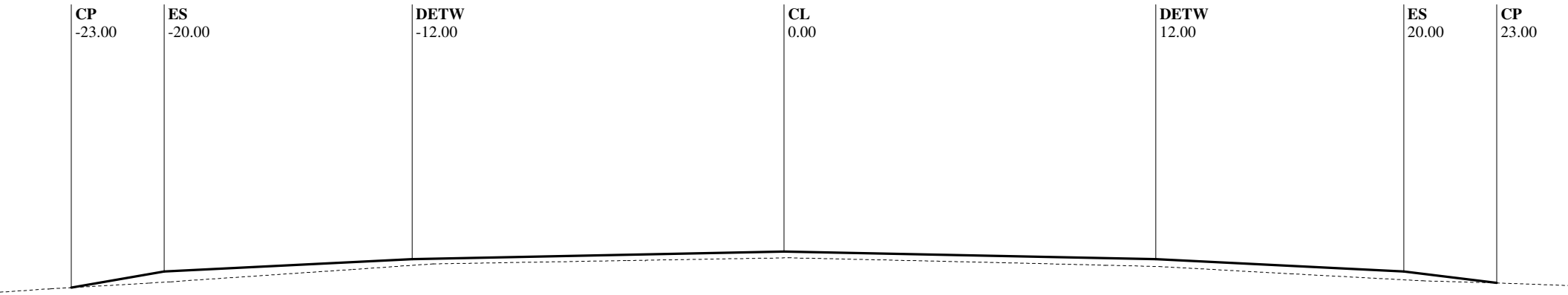

**Alignment Chain CENTER1**
**Station: 385+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.83 | 1.35 | 1.75 | 1.99 | 1.75 | 1.35 | 1.00 |
| -5.71:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -11.91% |
| F 0.53 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.36 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



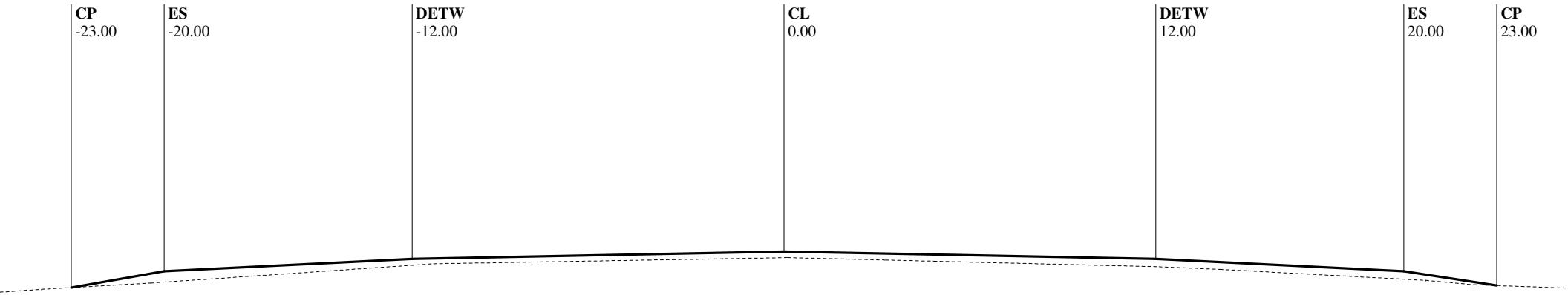

**Alignment Chain CENTER1**
**Station: 386+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 0.94 | 1.46 | 1.86 | 2.10 | 1.86 | 1.46 | 1.09 |
| -5.77:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -12.36% |
| F 0.52 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.37 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



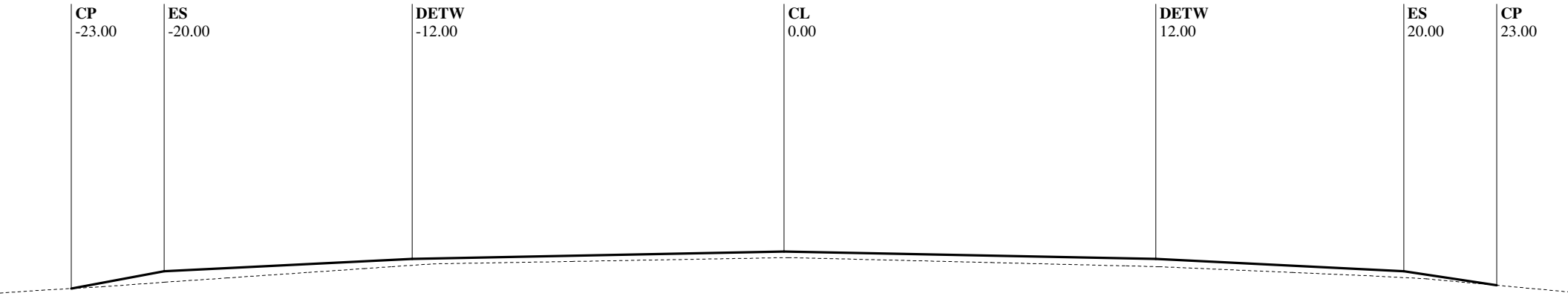

**Alignment Chain CENTER1**
**Station: 386+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.01 | 1.54 | 1.94 | 2.18 | 1.94 | 1.54 | 1.08 |
| -5.70:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -6.50:1 |
| F 0.53 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.46 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



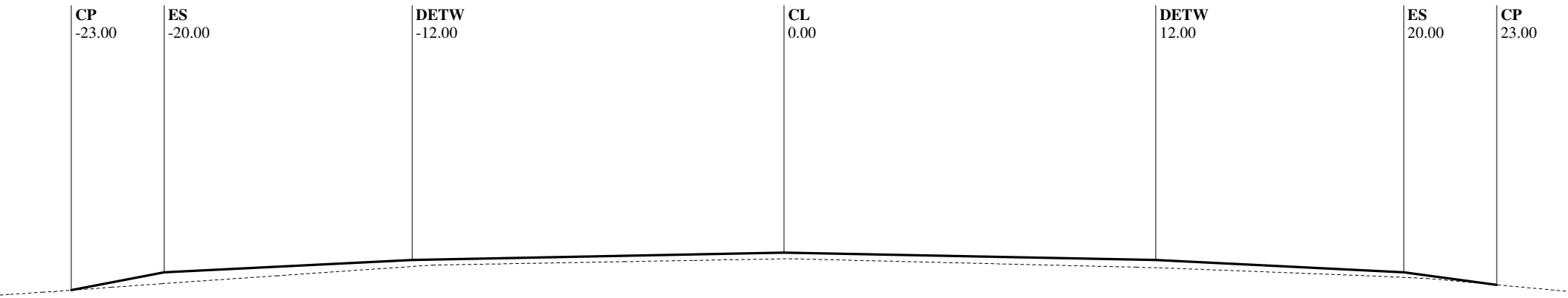

**Alignment Chain CENTER1**
**Station: 387+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.02 | 1.58 | 1.98 | 2.22 | 1.98 | 1.58 | 1.13 |
| -5.40:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -6.64:1 |
| F 0.56 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.45 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



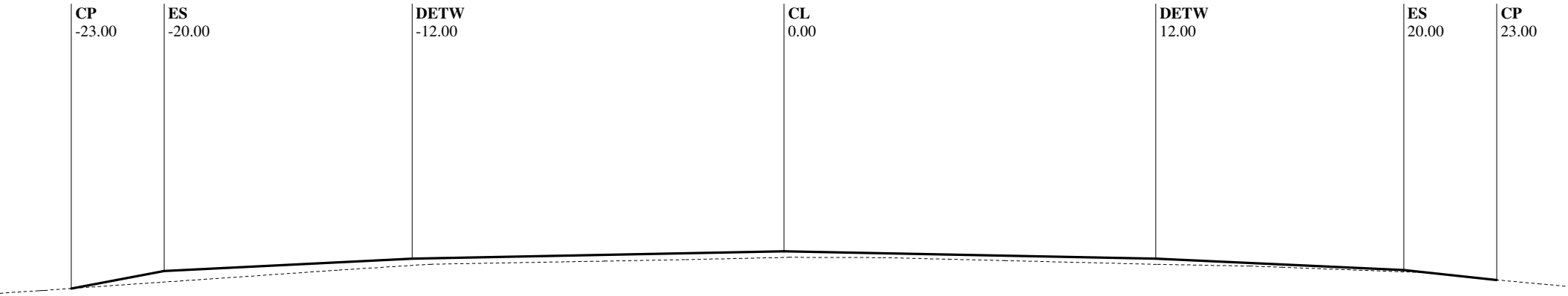

**Alignment Chain CENTER1**
**Station: 387+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.04 | 1.61 | 2.01 | 2.25 | 2.01 | 1.61 | 1.21 |
| -5.21:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -13.37% |
| F 0.58 | F 0.40 | F 0.24 | | F 0.24 | F 0.40 | F 0.40 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



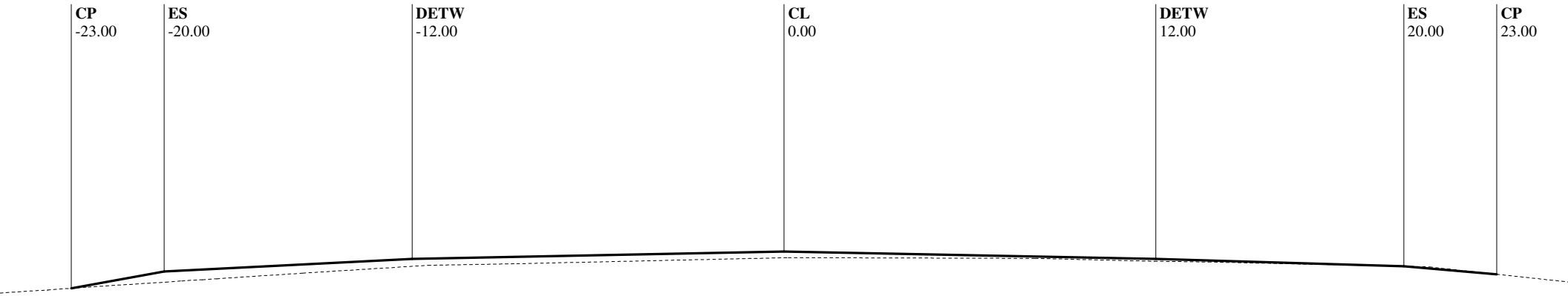

**Alignment Chain CENTER1**
**Station: 388+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.10 | 1.67 | 2.07 | 2.31 | 2.07 | 1.70 | 1.38 |
| -5.35:1 | -5.00% | -2.00% | | -2.00% | -4.60% | -10.63% |
| F 0.56 | F 0.40 | F 0.24 | | F 0.24 | F 0.37 | F 0.32 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



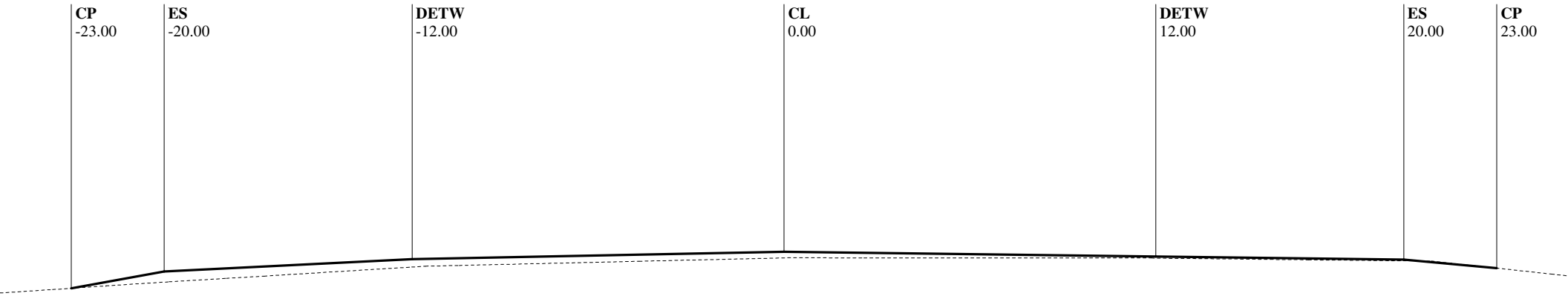

**Alignment Chain CENTER1**
**Station: 388+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.18 | 1.73 | 2.13 | 2.37 | 2.13 | 1.90 | 1.64 |
| -5.51:1 | -5.00% | -2.00% | | -2.00% | -2.93% | -8.59% |
| F 0.54 | F 0.40 | F 0.24 | | F 0.24 | F 0.23 | F 0.26 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



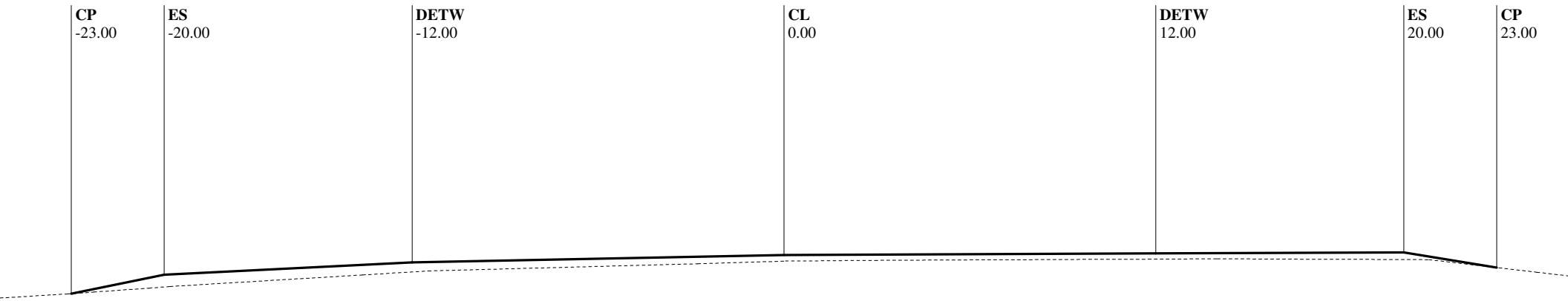

**Alignment Chain CENTER1**
**Station: 389+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.25 | 1.79 | 2.19 | 2.43 | 2.28 | 2.18 | 1.90 |
| -5.55:1 | -5.00% | -2.00% | | -1.27% | -1.27% | -9.24% |
| F 0.54 | F 0.40 | F 0.24 | | F 0.15 | F 0.10 | F 0.28 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



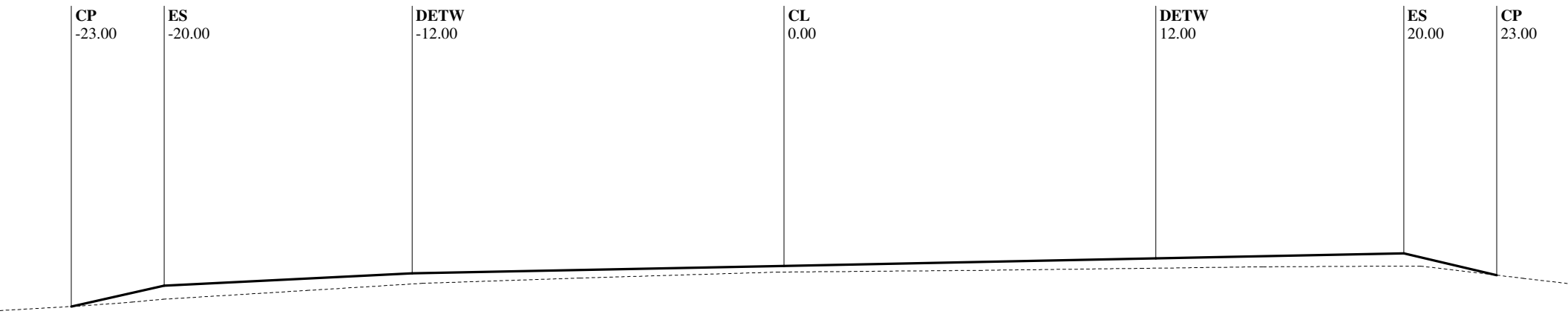

**Alignment Chain CENTER1**
**Station: 389+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.27 | 1.88 | 2.28 | 2.52 | 2.57 | 2.60 | 2.11 |
| -4.91:1 | -5.00% | -2.00% | | 0.40% | 0.40% | -6.13:1 |
| F 0.61 | F 0.40 | F 0.24 | | C 0.05 | C 0.03 | F 0.49 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



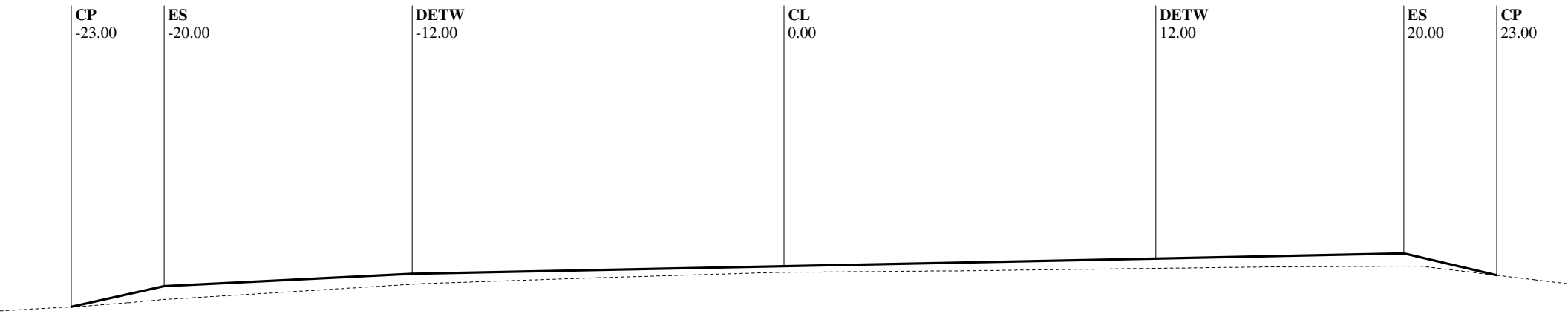

**Alignment Chain CENTER1**
**Station: 389+97.99**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.28 | 1.96 | 2.36 | 2.60 | 2.84 | 3.00 | 2.30 |
| -4.46:1 | -5.00% | -2.00% | | 2.00% | 2.00% | -4.29:1 |
| F 0.67 | F 0.40 | F 0.24 | | C 0.24 | C 0.16 | F 0.70 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



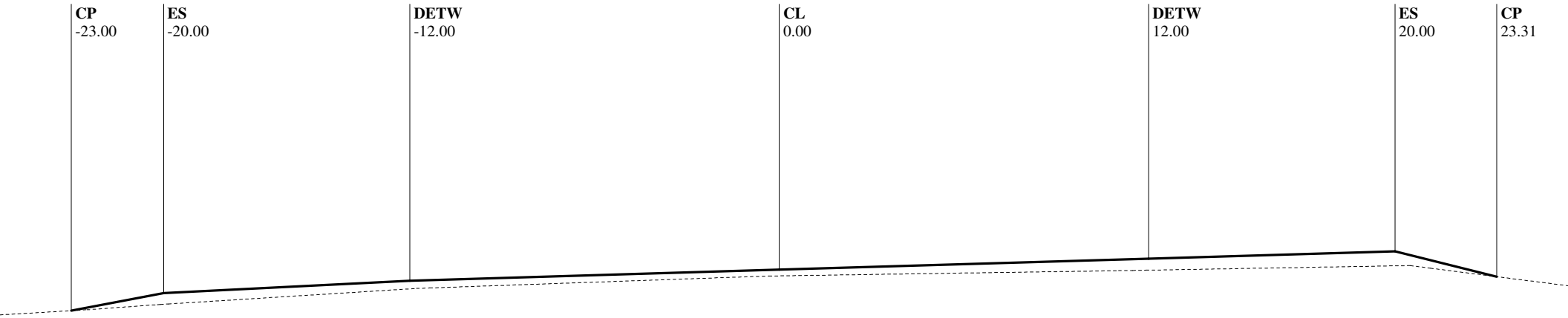

**Alignment Chain CENTER1**
**Station: 390+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.28 | 1.95 | 2.35 | 2.60 | 2.85 | 3.01 | 2.30 |
| -4.49:1 | -5.00% | -2.07% | | 2.07% | 2.07% | -4.23:1 |
| F 0.67 | F 0.40 | F 0.25 | | C 0.25 | C 0.17 | F 0.71 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



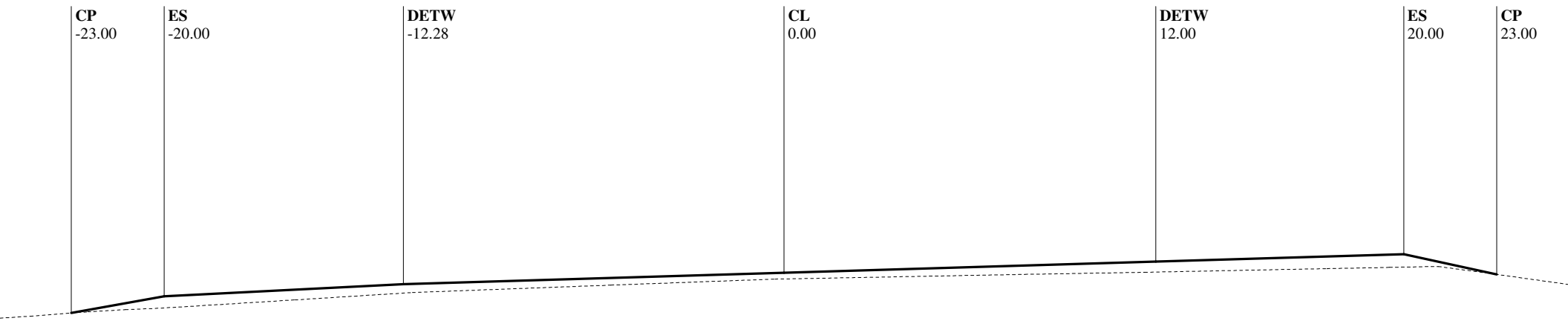

**Alignment Chain CENTER1**
**Station: 390+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.00 | 0.00 | 12.00 | 20.00 | 23.31 |
| 1.34 | 1.91 | 2.31 | 2.67 | 3.03 | 3.27 | 2.45 |
| -5.23:1 | -5.00% | -3.00% | | 3.00% | 3.00% | -4.00:1 |
| F 0.57 | F 0.40 | F 0.36 | | C 0.36 | C 0.24 | F 0.83 |
| @ 3.00 | @ 8.00 | @ 12.00 | | @ 12.00 | @ 8.00 | @ 3.31 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



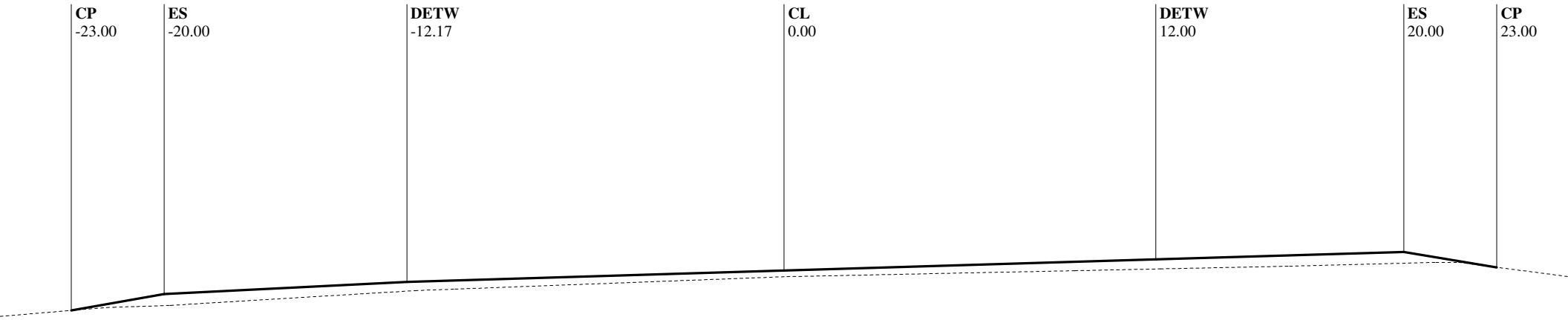

**Alignment Chain CENTER1**
**Station: 391+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.28 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.41 | 1.96 | 2.35 | 2.71 | 3.07 | 3.31 | 2.66 |
| -5.50:1 | -5.00% | -3.00% | | 3.00% | 3.00% | -4.59:1 |
| F 0.55 | F 0.39 | F 0.37 | | C 0.36 | C 0.24 | F 0.65 |
| @ 3.00 | @ 7.72 | @ 12.28 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



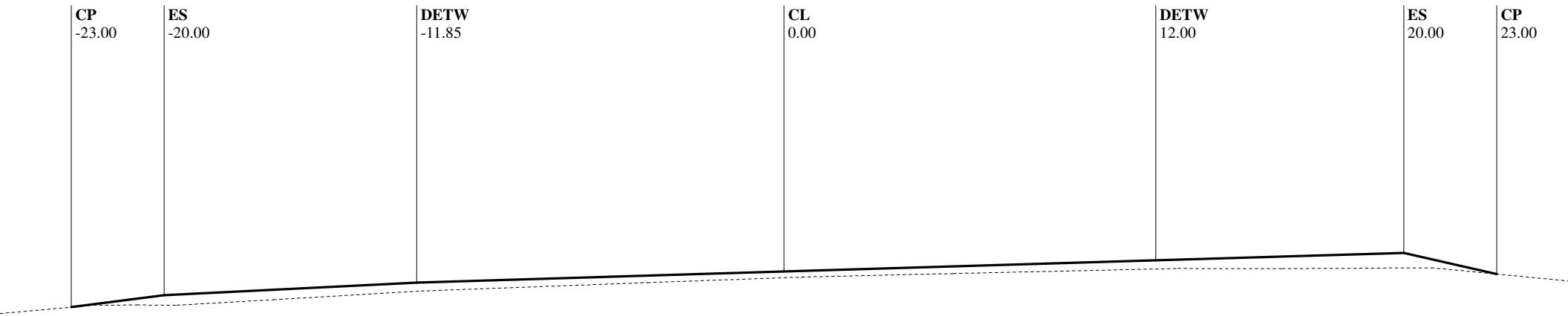

**Alignment Chain CENTER1**
**Station: 391+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.17 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.45 | 1.98 | 2.37 | 2.73 | 3.09 | 3.33 | 2.84 |
| -5.65:1 | -5.00% | -3.00% | | 3.00% | 3.00% | -6.06:1 |
| F 0.53 | F 0.39 | F 0.37 | | C 0.36 | C 0.24 | F 0.50 |
| @ 3.00 | @ 7.83 | @ 12.17 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



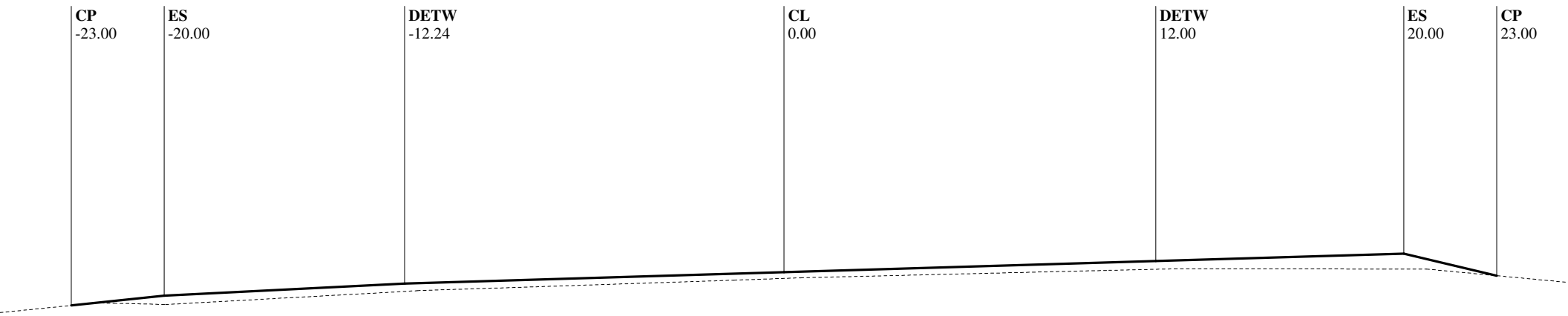

**Alignment Chain CENTER1**
**Station: 392+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -11.85 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.59 | 1.98 | 2.39 | 2.75 | 3.11 | 3.35 | 2.66 |
| -12.93% | -5.00% | -3.00% | | 3.00% | 3.00% | -4.40:1 |
| F 0.39 | F 0.41 | F 0.36 | | C 0.36 | C 0.24 | F 0.68 |
| @ 3.00 | @ 8.15 | @ 11.85 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



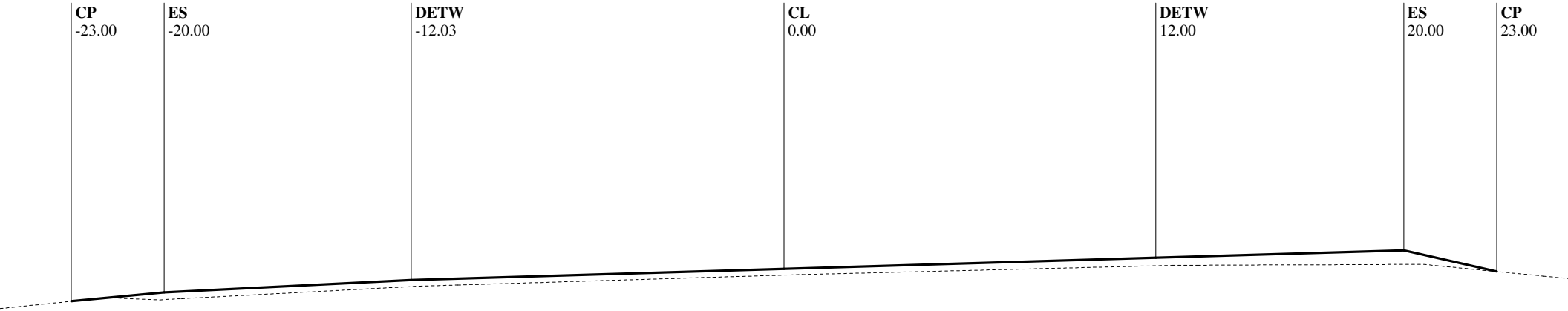

**Alignment Chain CENTER1**
**Station: 392+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.24 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.70 | 2.02 | 2.41 | 2.78 | 3.14 | 3.38 | 2.67 |
| -10.62% | -5.00% | -3.00% | | 3.00% | 3.00% | -4.21:1 |
| F 0.32 | F 0.39 | F 0.37 | | C 0.36 | C 0.24 | F 0.71 |
| @ 3.00 | @ 7.76 | @ 12.24 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



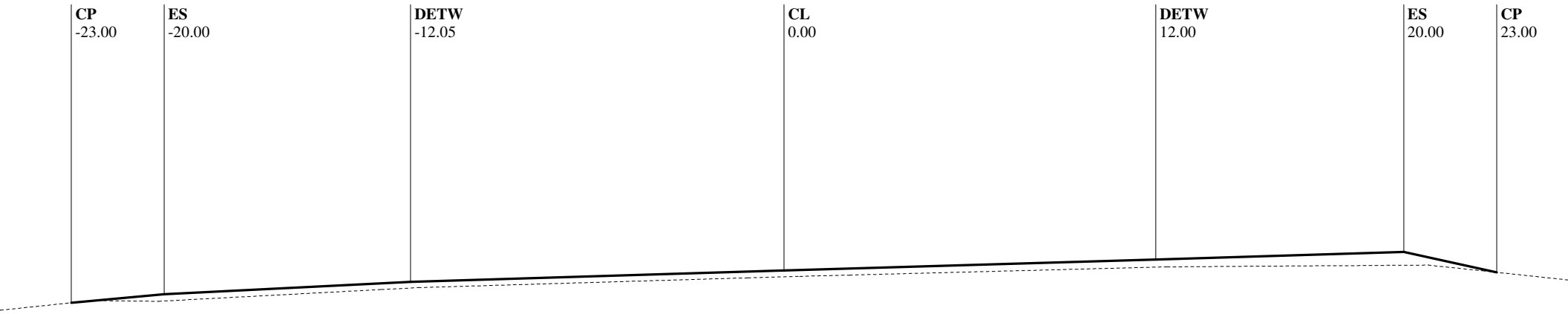

**Alignment Chain CENTER1**
**Station: 393+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.03 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.77 | 2.05 | 2.45 | 2.81 | 3.17 | 3.41 | 2.73 |
| -9.49% | -5.00% | -3.00% | | 3.00% | 3.00% | -4.39:1 |
| F 0.28 | F 0.40 | F 0.36 | | C 0.36 | C 0.24 | F 0.68 |
| @ 3.00 | @ 7.97 | @ 12.03 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



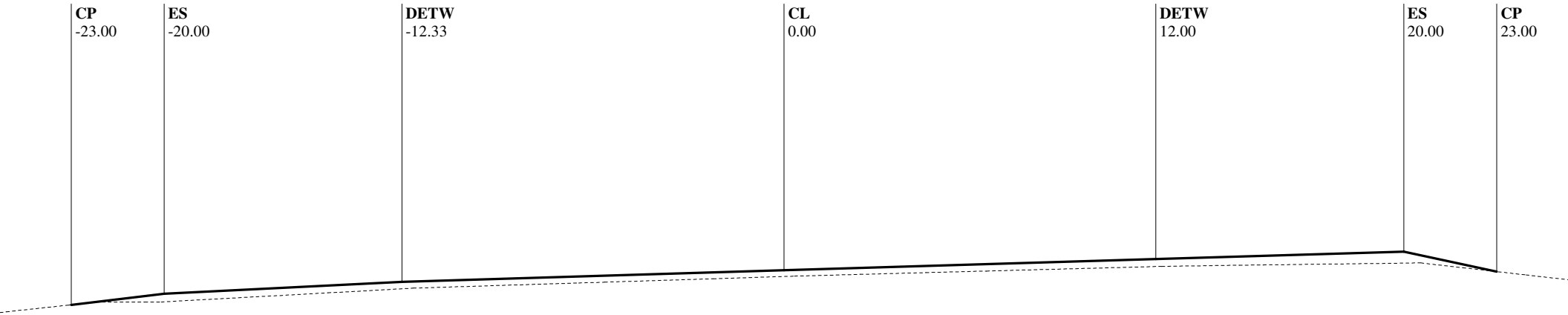

**Alignment Chain CENTER1**
**Station: 393+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.05 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.82 | 2.10 | 2.50 | 2.86 | 3.22 | 3.46 | 2.81 |
| -9.36% | -5.00% | -3.00% | | 3.00% | 3.00% | -4.58:1 |
| F 0.28 | F 0.40 | F 0.36 | | C 0.36 | C 0.24 | F 0.66 |
| @ 3.00 | @ 7.95 | @ 12.05 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



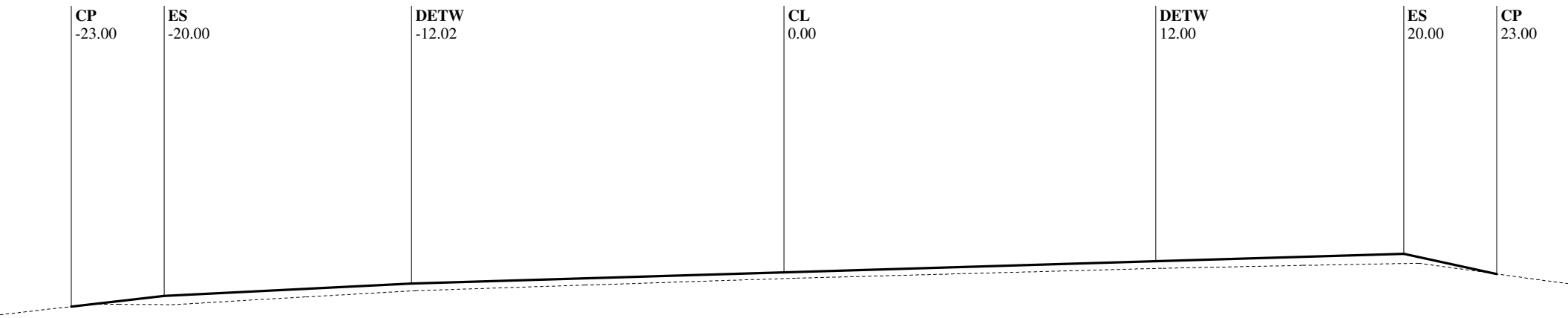

**Alignment Chain CENTER1**
**Station: 394+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.33 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.81 | 2.17 | 2.56 | 2.93 | 3.29 | 3.53 | 2.88 |
| -12.00% | -5.00% | -3.00% | | 3.00% | 3.00% | -4.67:1 |
| F 0.36 | F 0.38 | F 0.37 | | C 0.36 | C 0.24 | F 0.64 |
| @ 3.00 | @ 7.67 | @ 12.33 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



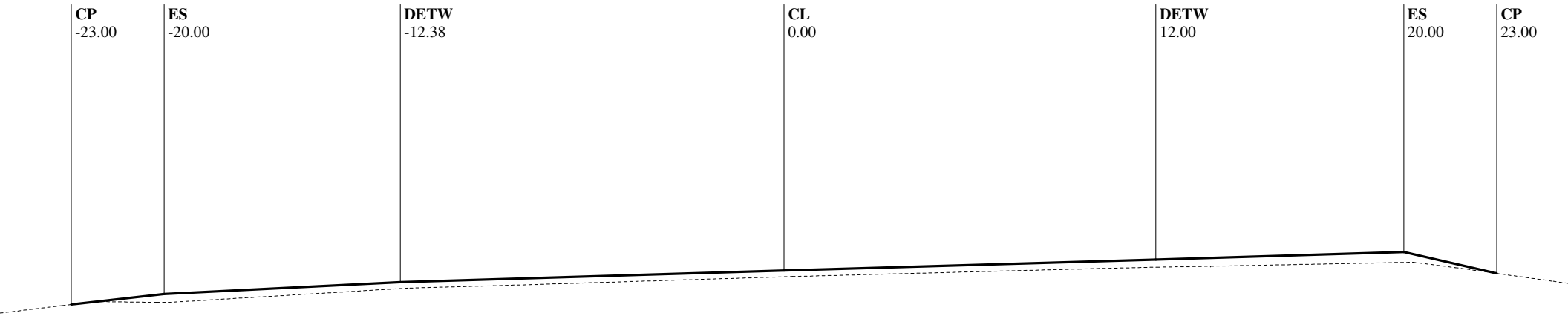

**Alignment Chain CENTER1**
**Station: 394+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.02 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.88 | 2.22 | 2.62 | 2.98 | 3.34 | 3.58 | 2.93 |
| -11.51% | -5.00% | -3.00% | | 3.00% | 3.00% | -4.61:1 |
| F 0.35 | F 0.40 | F 0.36 | | C 0.36 | C 0.24 | F 0.65 |
| @ 3.00 | @ 7.98 | @ 12.02 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



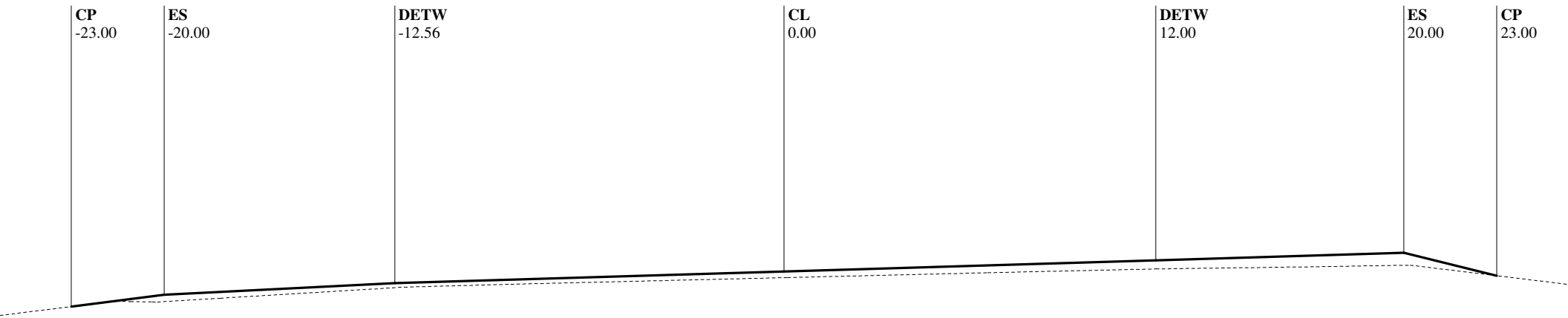

**Alignment Chain CENTER1**
**Station: 395+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.38 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.93 | 2.28 | 2.66 | 3.03 | 3.39 | 3.63 | 2.94 |
| -11.40% | -5.00% | -3.00% | | 3.00% | 3.00% | -4.35:1 |
| F 0.34 | F 0.38 | F 0.37 | | C 0.36 | C 0.24 | F 0.69 |
| @ 3.00 | @ 7.62 | @ 12.38 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



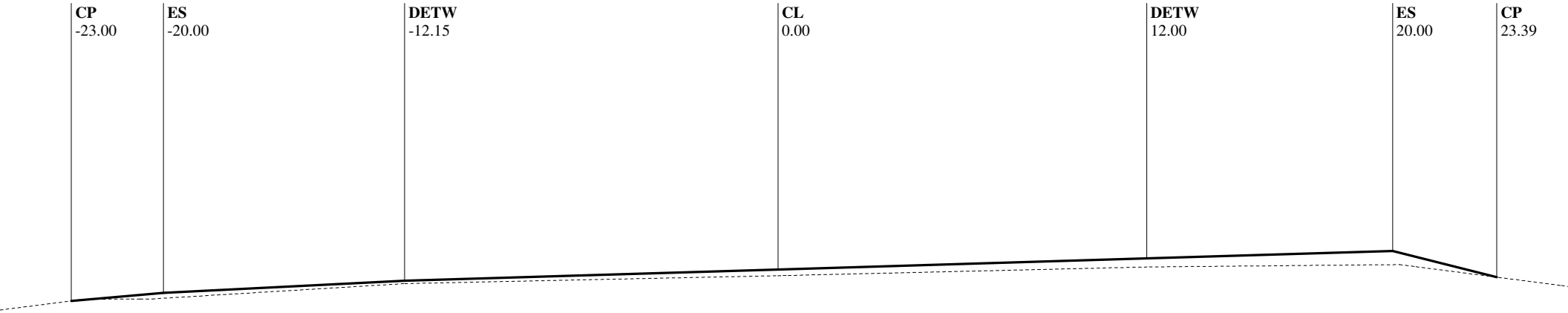

**Alignment Chain CENTER1**
**Station: 395+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.56 | 0.00 | 12.00 | 20.00 | 23.00 |
| 1.93 | 2.32 | 2.69 | 3.07 | 3.43 | 3.67 | 2.93 |
| -12.90% | -5.00% | -3.00% | | 3.00% | 3.00% | -4.07:1 |
| F 0.39 | F 0.37 | F 0.38 | | C 0.36 | C 0.24 | F 0.74 |
| @ 3.00 | @ 7.44 | @ 12.56 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



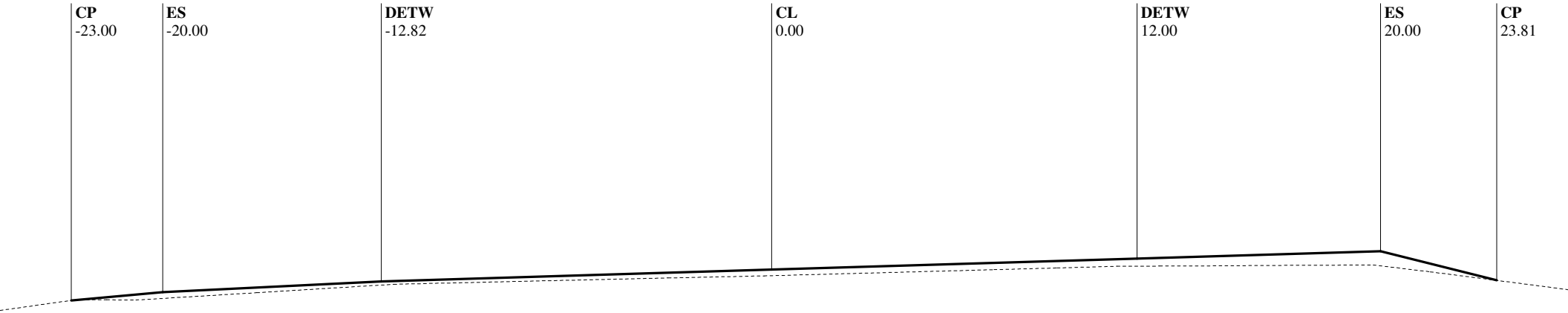

**Alignment Chain CENTER1**
**Station: 396+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.15 | 0.00 | 12.00 | 20.00 | 23.39 |
| 2.09 | 2.35 | 2.74 | 3.11 | 3.47 | 3.71 | 2.86 |
| -8.76% | -5.00% | -3.00% | | 3.00% | 3.00% | -4.00:1 |
| F 0.26 | F 0.39 | F 0.36 | | C 0.36 | C 0.24 | F 0.85 |
| @ 3.00 | @ 7.85 | @ 12.15 | | @ 12.00 | @ 8.00 | @ 3.39 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



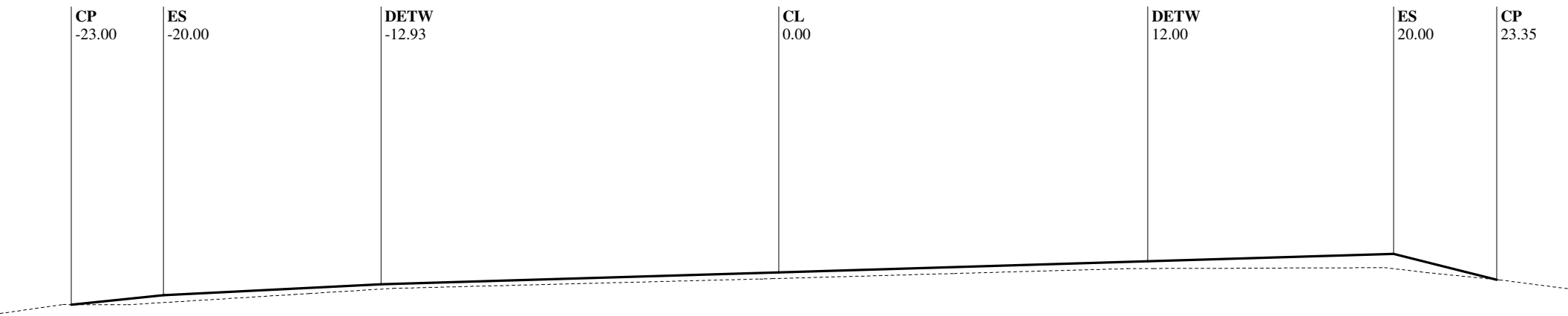

**Alignment Chain CENTER1**
**Station: 396+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.82 | 0.00 | 12.00 | 20.00 | 23.81 |
| 2.17 | 2.43 | 2.79 | 3.18 | 3.54 | 3.78 | 2.82 |
| -8.88% | -5.00% | -3.00% | | 3.00% | 3.00% | -4.00:1 |
| F 0.27 | F 0.36 | F 0.38 | | C 0.36 | C 0.24 | F 0.95 |
| @ 3.00 | @ 7.18 | @ 12.82 | | @ 12.00 | @ 8.00 | @ 3.81 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

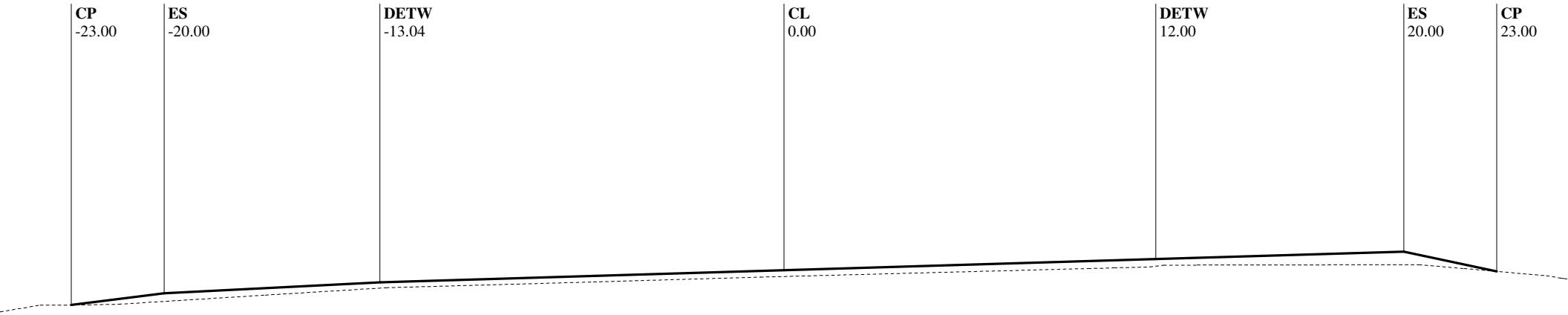



**Alignment Chain CENTER1**
**Station: 397+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -12.93 | 0.00 | 12.00 | 20.00 | 23.35 |
| 2.21 | 2.51 | 2.87 | 3.25 | 3.61 | 3.85 | 3.02 |
| -10.21% | -5.00% | -3.00% | | 3.00% | 3.00% | -4.00:1 |
| F 0.31 | F 0.35 | F 0.39 | | C 0.36 | C 0.24 | F 0.84 |
| @ 3.00 | @ 7.07 | @ 12.93 | | @ 12.00 | @ 8.00 | @ 3.35 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



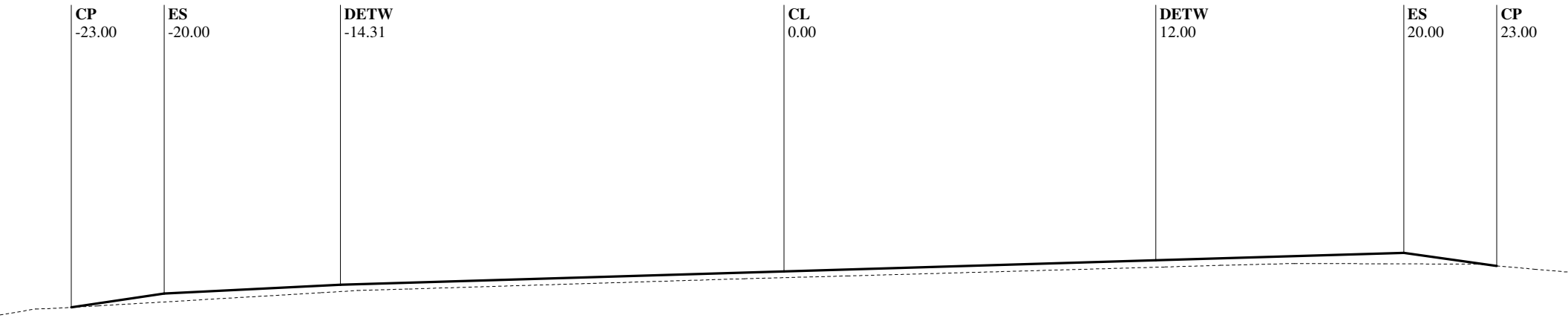

**Alignment Chain CENTER1**
**Station: 397+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -13.04 | 0.00 | 12.00 | 20.00 | 23.00 |
| 2.21 | 2.59 | 2.94 | 3.33 | 3.69 | 3.93 | 3.29 |
| -12.67% | -5.00% | -3.00% | | 3.00% | 3.00% | -4.72:1 |
| F 0.38 | F 0.35 | F 0.39 | | C 0.36 | C 0.24 | F 0.64 |
| @ 3.00 | @ 6.96 | @ 13.04 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



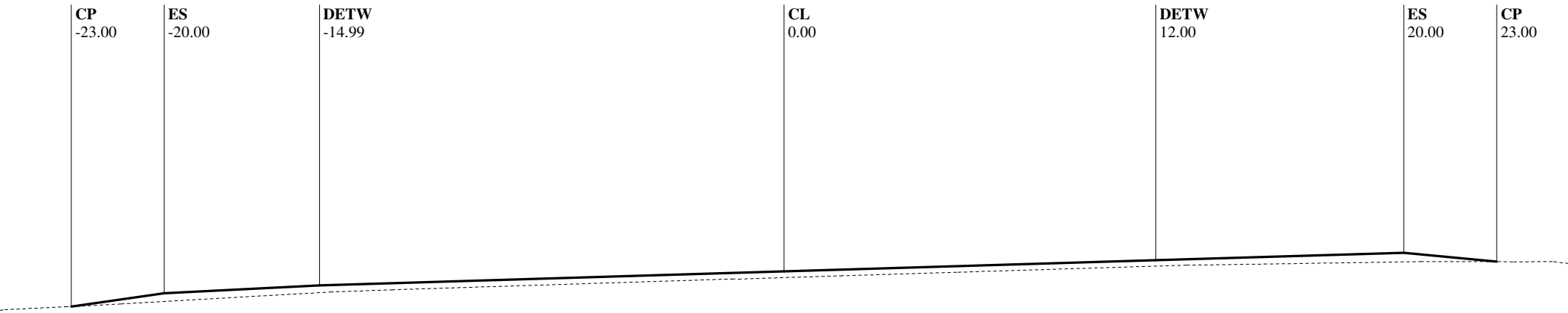

**Alignment Chain CENTER1**
**Station: 398+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -14.31 | 0.00 | 12.00 | 20.00 | 23.00 |
| 2.25 | 2.69 | 2.98 | 3.41 | 3.77 | 4.01 | 3.59 |
| -14.80% | -5.00% | -3.00% | | 3.00% | 3.00% | -14.00% |
| F 0.44 | F 0.28 | F 0.43 | | C 0.36 | C 0.24 | F 0.42 |
| @ 3.00 | @ 5.69 | @ 14.31 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



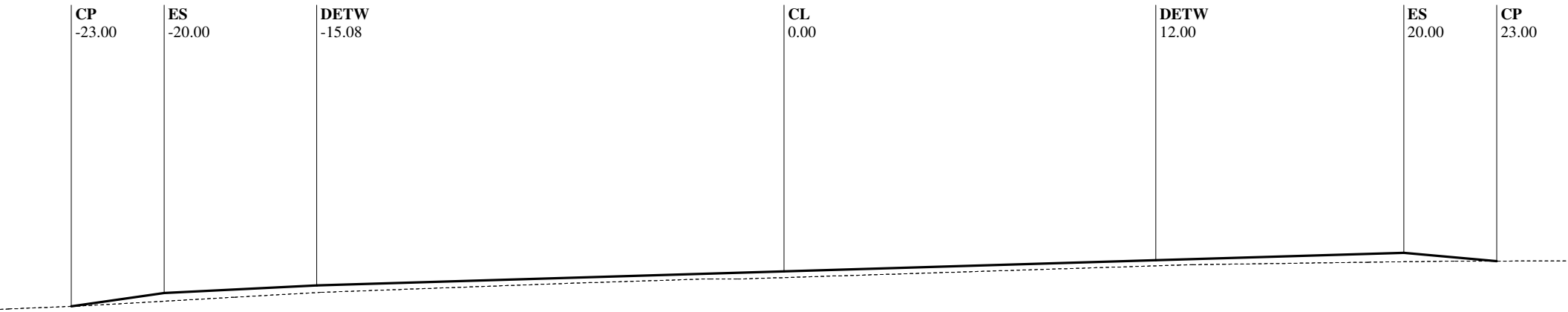

**Alignment Chain CENTER1**
**Station: 398+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -14.99 | 0.00 | 12.00 | 20.00 | 23.00 |
| 2.35 | 2.78 | 3.03 | 3.48 | 3.84 | 4.08 | 3.79 |
| -14.37% | -5.00% | -3.00% | | 3.00% | 3.00% | -9.56% |
| F 0.43 | F 0.25 | F 0.45 | | C 0.36 | C 0.24 | F 0.29 |
| @ 3.00 | @ 5.01 | @ 14.99 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



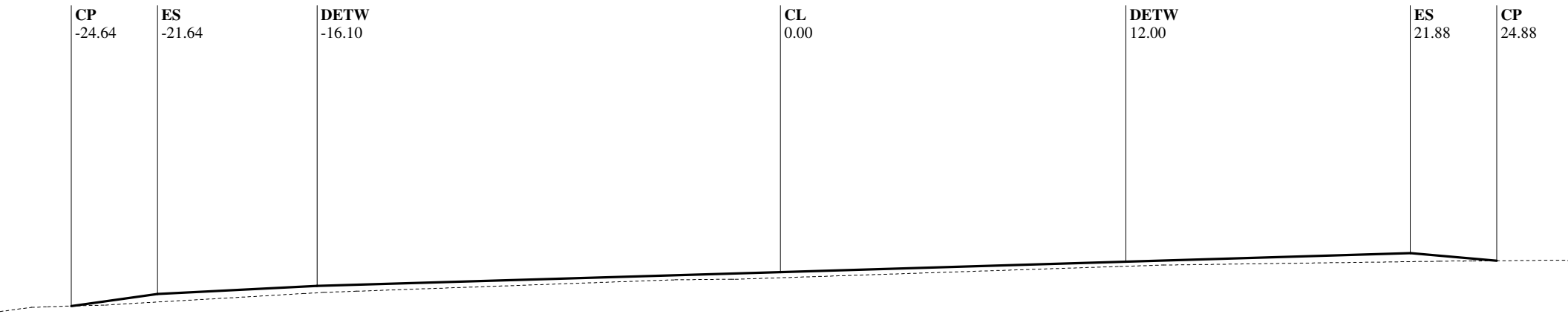

**Alignment Chain CENTER1**
**Station: 398+63.89**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.00 | -20.00 | -15.08 | 0.00 | 12.00 | 20.00 | 23.00 |
| 2.37 | 2.80 | 3.05 | 3.50 | 3.86 | 4.10 | 3.83 |
| -14.33% | -5.00% | -3.00% | | 3.00% | 3.00% | -8.84% |
| F 0.43 | F 0.25 | F 0.45 | | C 0.36 | C 0.24 | F 0.27 |
| @ 3.00 | @ 4.92 | @ 15.08 | | @ 12.00 | @ 8.00 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



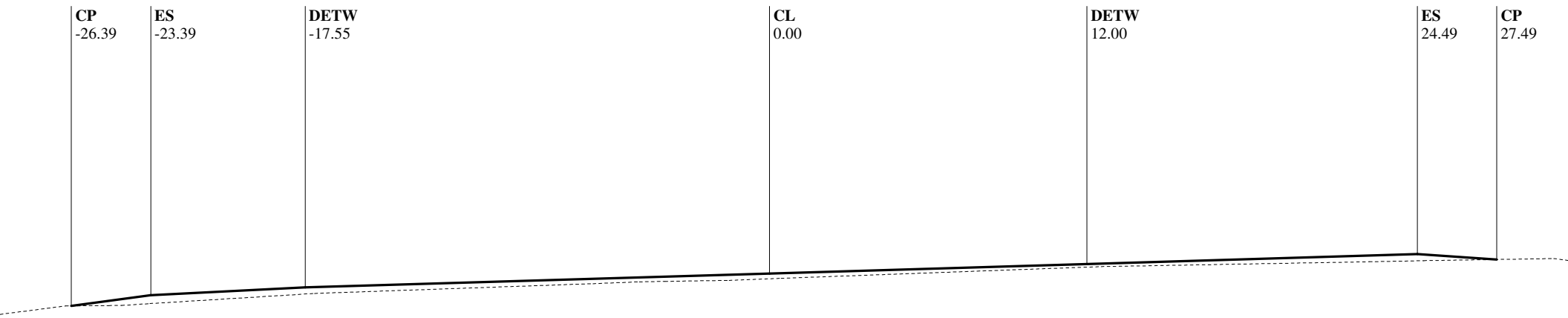

**Alignment Chain CENTER1**
**Station: 399+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -24.64 | -21.64 | -16.10 | 0.00 | 12.00 | 21.88 | 24.88 |
| 2.36 | 2.79 | 3.06 | 3.55 | 3.91 | 4.20 | 3.94 |
| -14.08% | -5.00% | -3.00% | | 3.00% | 3.00% | -8.80% |
| F 0.42 | F 0.28 | F 0.48 | | C 0.36 | C 0.30 | F 0.26 |
| @ 3.00 | @ 5.53 | @ 16.10 | | @ 12.00 | @ 9.88 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



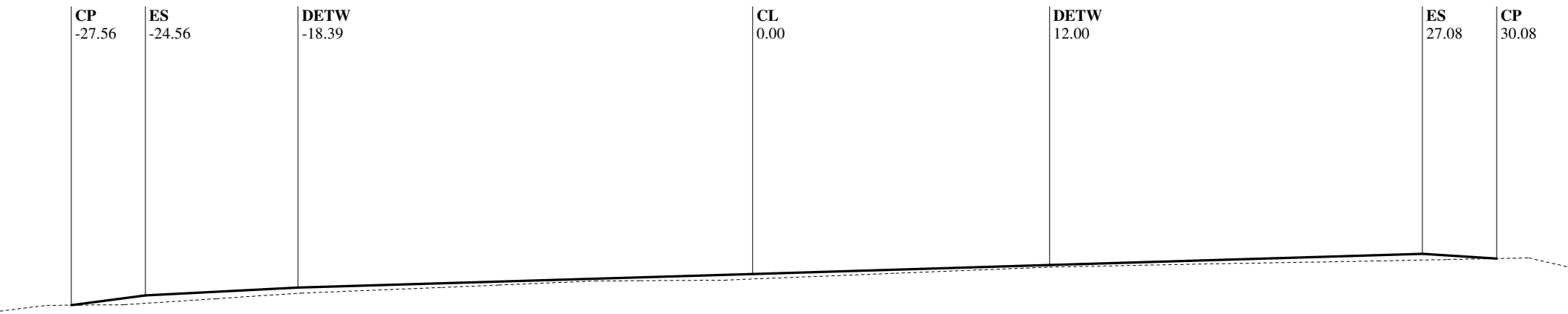

**Alignment Chain CENTER1**
**Station: 399+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -26.39 | -23.39 | -17.55 | 0.00 | 12.00 | 24.49 | 27.49 |
| 2.38 | 2.79 | 3.08 | 3.61 | 3.97 | 4.34 | 4.14 |
| -13.54% | -5.00% | -3.00% | | 3.00% | 3.00% | -6.87% |
| F 0.41 | F 0.29 | F 0.53 | | C 0.36 | C 0.37 | F 0.21 |
| @ 3.00 | @ 5.85 | @ 17.55 | | @ 12.00 | @ 12.49 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



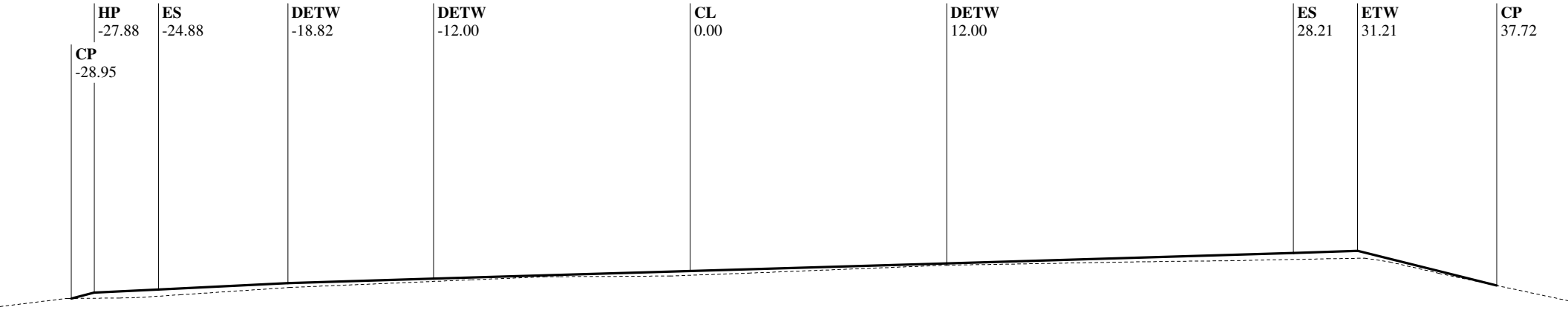

**Alignment Chain CENTER1**
**Station: 400+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -27.56 | -24.56 | -18.39 | 0.00 | 12.00 | 27.08 | 30.08 |
| 2.39 | 2.79 | 3.10 | 3.65 | 4.01 | 4.46 | 4.28 |
| -13.32% | -5.00% | -3.00% | | 3.00% | 3.00% | -6.22% |
| F 0.40 | F 0.31 | F 0.55 | | C 0.36 | C 0.45 | F 0.19 |
| @ 3.00 | @ 6.16 | @ 18.39 | | @ 12.00 | @ 15.08 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



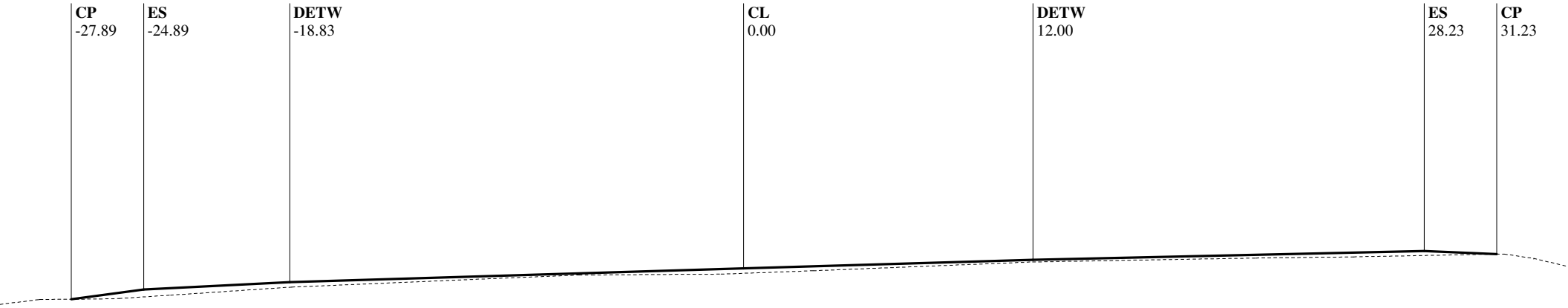

**Alignment Chain CENTER1**
**Station: 400+21.80**

| CP | HP | ES | DETW | DETW | CL | DETW | ES | ETW | CP |
|---|---|---|---|---|---|---|---|---|---|
| -28.95 | -27.88 | -24.88 | -18.82 | -12.00 | 0.00 | 12.00 | 28.21 | 31.21 | 37.72 |
| 2.39 | 2.66 | 2.81 | 3.11 | 3.32 | 3.68 | 4.04 | 4.52 | 4.62 | 2.99 |
| -4.00:1 | -5.00% | -5.00% | -3.00% | -3.00% | | 3.00% | 3.00% | 3.30% | -4.00:1 |
| F 0.27 | F 0.15 | F 0.30 | F 0.20 | F 0.36 | | C 0.36 | C 0.49 | C 0.10 | F 1.63 |
| @ 1.07 | @ 3.00 | @ 6.07 | @ 6.82 | @ 12.00 | | @ 12.00 | @ 16.21 | @ 3.00 | @ 6.51 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



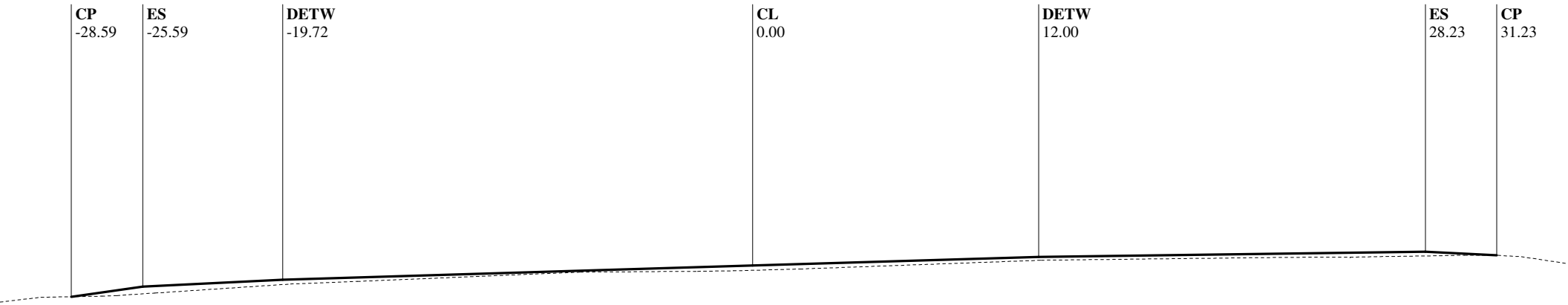

**Alignment Chain CENTER1**
**Station: 400+22.11**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -27.89 | -24.89 | -18.83 | 0.00 | 12.00 | 28.23 | 31.23 |
| 2.40 | 2.81 | 3.11 | 3.68 | 4.04 | 4.40 | 4.27 |
| -13.59% | -5.00% | -3.00% | | 3.00% | 2.26% | -4.44% |
| F 0.41 | F 0.30 | F 0.56 | | C 0.36 | C 0.37 | F 0.13 |
| @ 3.00 | @ 6.06 | @ 18.83 | | @ 12.00 | @ 16.23 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



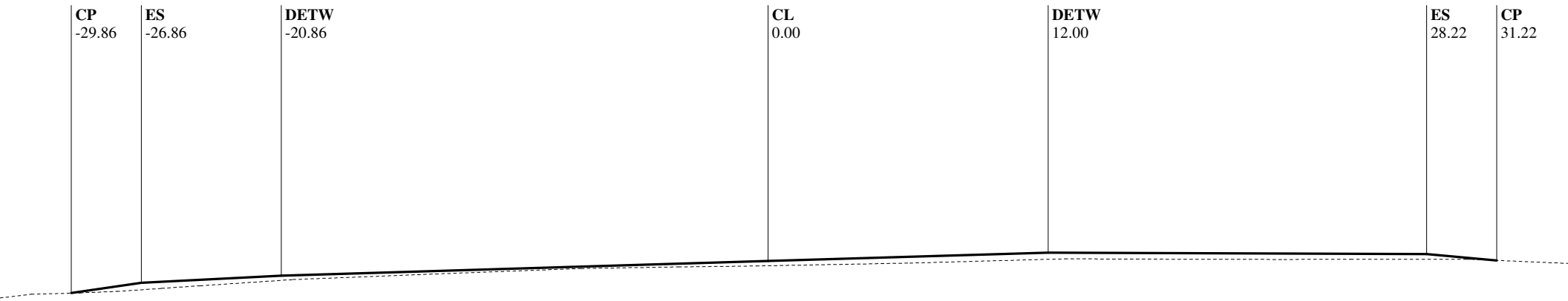

**Alignment Chain CENTER1**
**Station: 400+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -28.59 | -25.59 | -19.72 | 0.00 | 12.00 | 28.23 | 31.23 |
| 2.42 | 2.84 | 3.13 | 3.72 | 4.08 | 4.30 | 4.15 |
| -14.14% | -5.00% | -3.00% | | 3.00% | 1.33% | -4.93% |
| F 0.42 | F 0.29 | F 0.59 | | C 0.36 | C 0.22 | F 0.15 |
| @ 3.00 | @ 5.88 | @ 19.72 | | @ 12.00 | @ 16.23 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



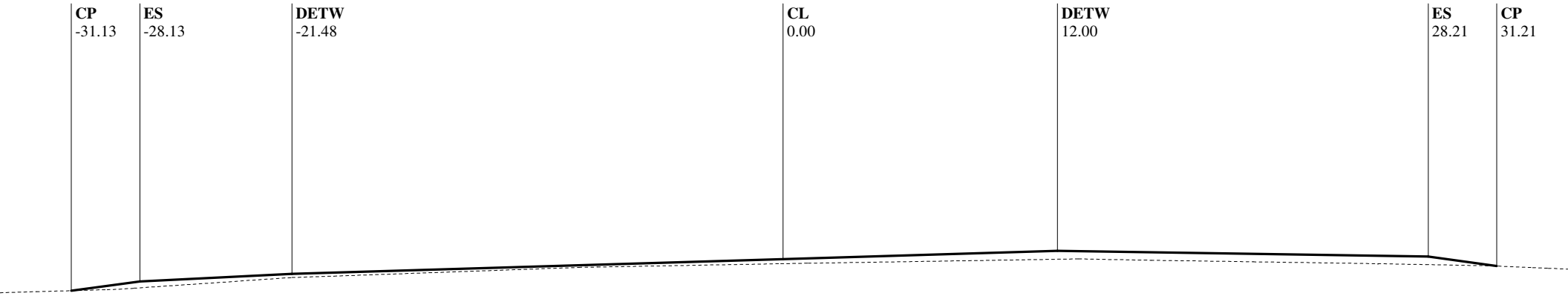

**Alignment Chain CENTER1**
**Station: 401+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -29.86 | -26.86 | -20.86 | 0.00 | 12.00 | 28.22 | 31.22 |
| 2.47 | 2.91 | 3.21 | 3.84 | 4.20 | 4.14 | 3.87 |
| -14.97% | -5.00% | -3.00% | | 3.00% | -0.35% | -9.15% |
| F 0.45 | F 0.30 | F 0.63 | | C 0.36 | F 0.06 | F 0.27 |
| @ 3.00 | @ 6.00 | @ 20.86 | | @ 12.00 | @ 16.22 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



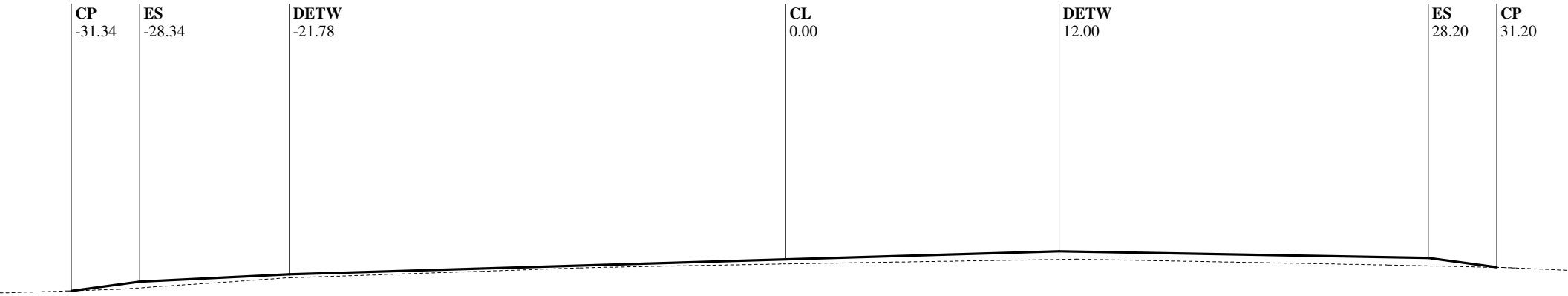

**Alignment Chain CENTER1**
**Station: 401+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -31.13 | -28.13 | -21.48 | 0.00 | 12.00 | 28.21 | 31.21 |
| 2.58 | 2.98 | 3.31 | 3.96 | 4.32 | 4.07 | 3.65 |
| -13.50% | -5.00% | -3.00% | | 3.00% | -1.51% | -14.03% |
| F 0.40 | F 0.33 | F 0.64 | | C 0.36 | F 0.24 | F 0.42 |
| @ 3.00 | @ 6.65 | @ 21.48 | | @ 12.00 | @ 16.21 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



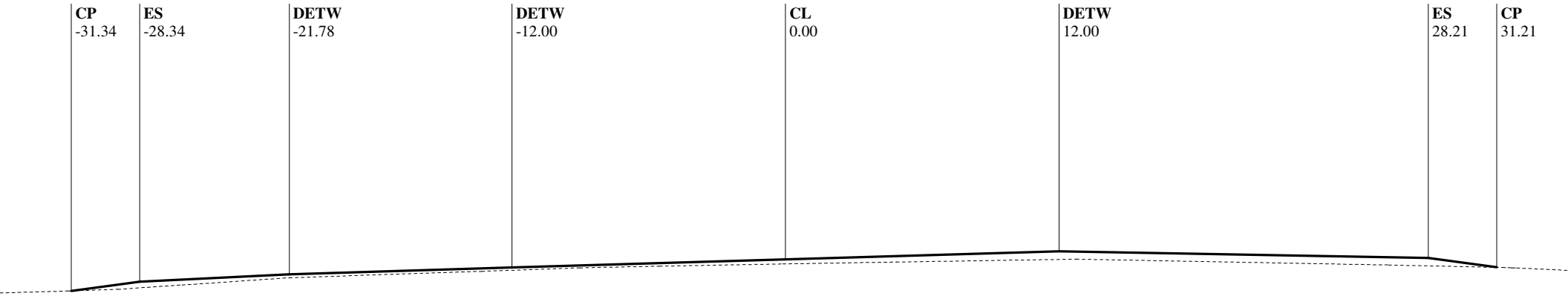

**Alignment Chain CENTER1**
**Station: 401+58.37**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -31.34 | -28.34 | -21.78 | 0.00 | 12.00 | 28.20 | 31.20 |
| 2.59 | 3.00 | 3.33 | 3.98 | 4.34 | 4.04 | 3.63 |
| -13.44% | -5.00% | -3.00% | | 3.00% | -1.87% | -13.66% |
| F 0.40 | F 0.33 | F 0.65 | | C 0.36 | F 0.30 | F 0.41 |
| @ 3.00 | @ 6.56 | @ 21.78 | | @ 12.00 | @ 16.20 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



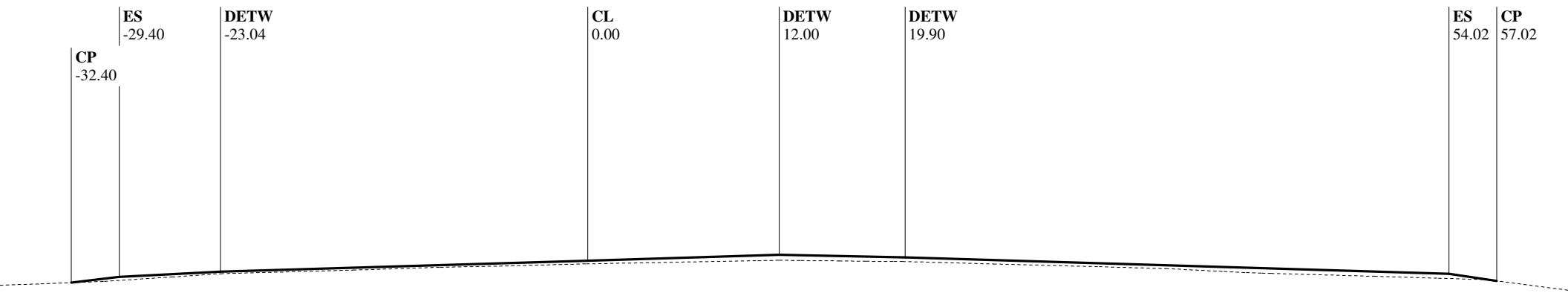

**Alignment Chain CENTER1**
**Station: 401+58.40**

| CP | ES | DETW | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|---|
| -31.34 | -28.34 | -21.78 | -12.00 | 0.00 | 12.00 | 28.21 | 31.21 |
| 2.59 | 3.00 | 3.33 | 3.62 | 3.98 | 4.34 | 4.04 | 3.63 |
| -13.44% | -5.00% | -3.00% | -3.00% | | 3.00% | -1.87% | -13.66% |
| F 0.40 | F 0.33 | F 0.29 | F 0.36 | | C 0.36 | F 0.30 | F 0.41 |
| @ 3.00 | @ 6.56 | @ 9.78 | @ 12.00 | | @ 12.00 | @ 16.21 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



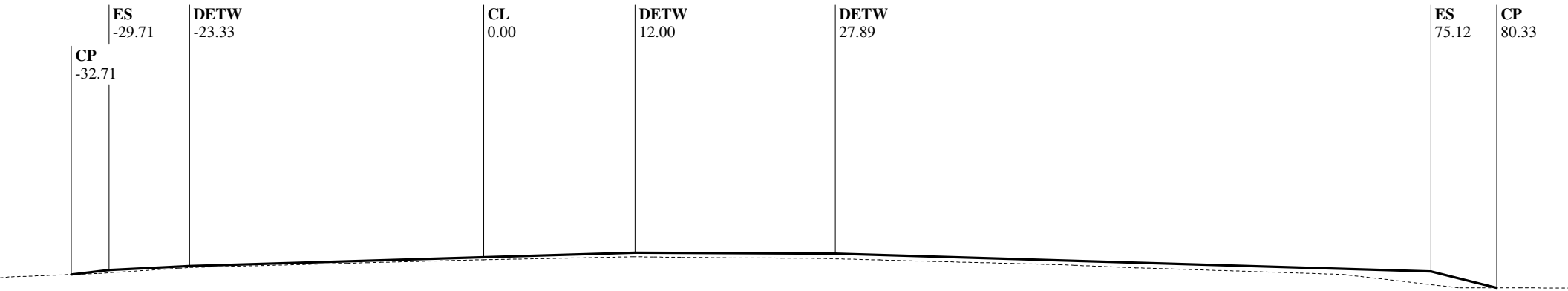

**Alignment Chain CENTER1**
**Station: 402+00.00**

| CP | ES | DETW | CL | DETW | DETW | ES | CP |
|---|---|---|---|---|---|---|---|
| -32.40 | -29.40 | -23.04 | 0.00 | 12.00 | 19.90 | 54.02 | 57.02 |
| 2.70 | 3.07 | 3.39 | 4.08 | 4.44 | 4.28 | 3.26 | 2.81 |
| -12.38% | -5.00% | -3.00% | | 3.00% | -2.00% | -3.00% | -14.86% |
| F 0.37 | F 0.32 | F 0.69 | | C 0.36 | F 0.16 | F 1.02 | F 0.45 |
| @ 3.00 | @ 6.36 | @ 23.04 | | @ 12.00 | @ 7.90 | @ 34.12 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



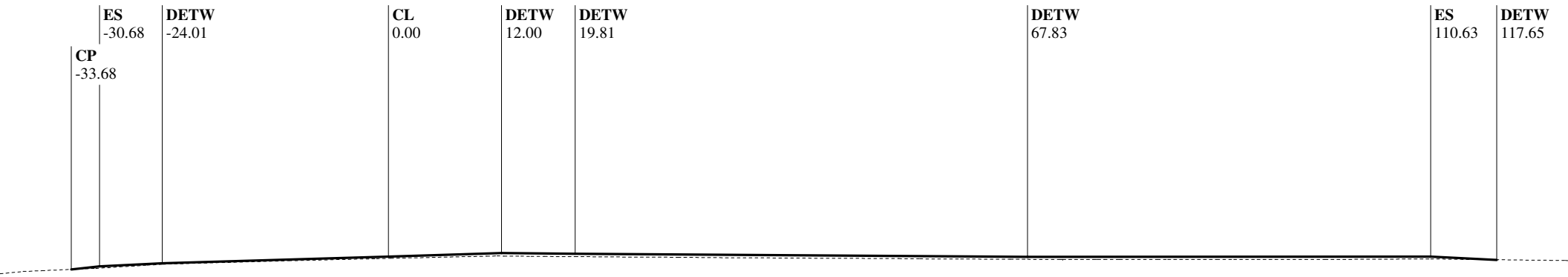

**Alignment Chain CENTER1**
**Station: 402+11.96**

| CP | ES | DETW | CL | DETW | DETW | ES | CP |
|---|---|---|---|---|---|---|---|
| -32.71 | -29.71 | -23.33 | 0.00 | 12.00 | 27.89 | 75.12 | 80.33 |
| 2.73 | 3.09 | 3.41 | 4.11 | 4.47 | 4.39 | 2.97 | 1.67 |
| -11.96% | -5.00% | -3.00% | | 3.00% | -0.50% | -3.00% | -4.00:1 |
| F 0.36 | F 0.32 | F 0.70 | | C 0.36 | F 0.08 | F 1.42 | F 1.30 |
| @ 3.00 | @ 6.38 | @ 23.33 | | @ 12.00 | @ 15.89 | @ 47.23 | @ 5.21 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



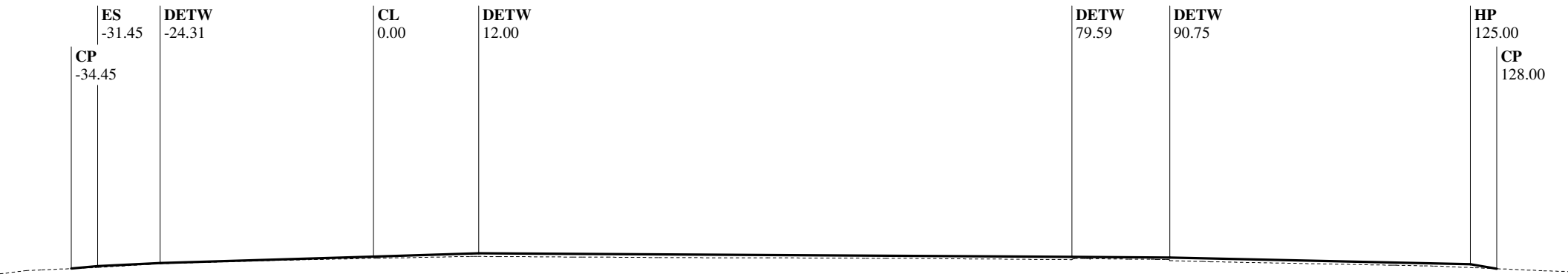

**Alignment Chain CENTER1**
**Station: 402+50.00**

| CP | ES | DETW | CL | DETW | DETW | DETW | ES | DETW |
|---|---|---|---|---|---|---|---|---|
| -33.68 | -30.68 | -24.01 | 0.00 | 12.00 | 19.81 | 67.83 | 110.63 | 117.65 |
| 2.82 | 3.14 | 3.47 | 4.19 | 4.55 | 4.49 | 4.16 | 4.18 | 3.83 |
| -10.62% | -5.00% | -3.00% | | 3.00% | -0.82% | -0.68% | 0.05% | -5.00% |
| F 0.32 | F 0.33 | F 0.72 | | C 0.36 | F 0.06 | F 0.33 | C 0.02 | F 0.35 |
| @ 3.00 | @ 6.67 | @ 24.01 | | @ 12.00 | @ 7.81 | @ 48.02 | @ 42.80 | @ 7.02 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



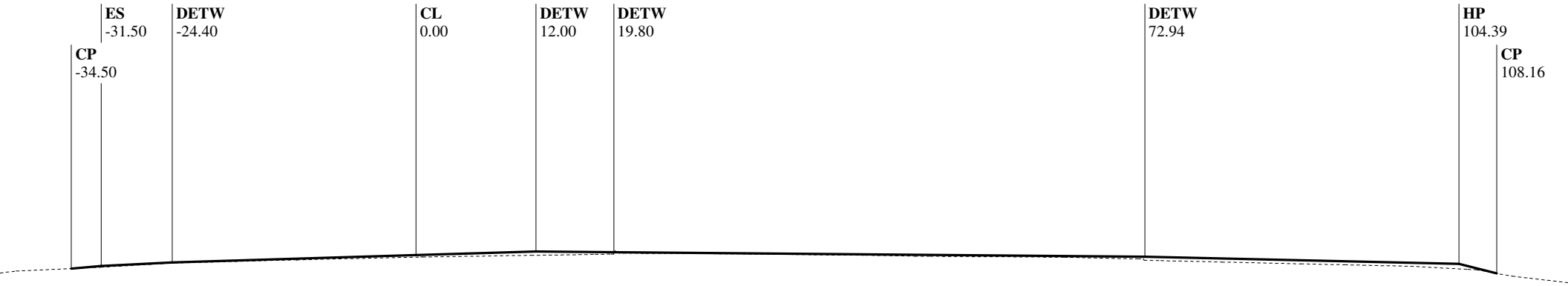

**Alignment Chain CENTER1**
**Station: 402+80.19**

| CP | ES | DETW | CL | DETW | DETW | DETW | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -34.45 | -31.45 | -24.31 | 0.00 | 12.00 | 79.59 | 90.75 | 125.00 | 128.00 |
| 2.87 | 3.15 | 3.51 | 4.24 | 4.60 | 4.19 | 4.13 | 3.36 | 2.85 |
| -9.58% | -5.00% | -3.00% | | 3.00% | -0.60% | -0.60% | -2.25% | -5.99:1 |
| F 0.29 | F 0.36 | F 0.73 | | C 0.36 | F 0.41 | F 0.07 | F 0.77 | F 0.50 |
| @ 3.00 | @ 7.14 | @ 24.31 | | @ 12.00 | @ 67.59 | @ 11.16 | @ 34.25 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



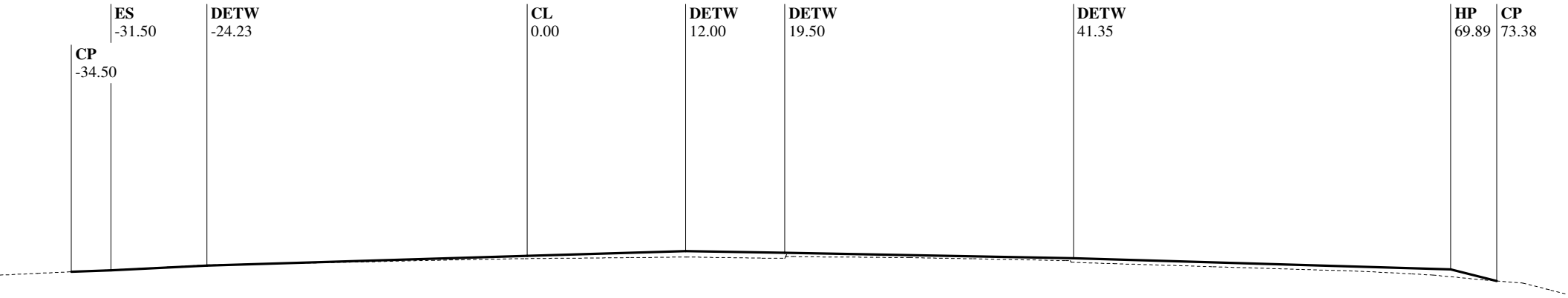

**Alignment Chain CENTER1**
**Station: 403+00.00**

| CP | ES | DETW | CL | DETW | DETW | DETW | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -24.40 | 0.00 | 12.00 | 19.80 | 72.94 | 104.39 | 108.16 |
| 2.91 | 3.16 | 3.52 | 4.25 | 4.61 | 4.54 | 4.08 | 3.37 | 2.43 |
| -8.41% | -5.00% | -3.00% | | 3.00% | -0.87% | -0.87% | -2.26% | -4.00:1 |
| F 0.25 | F 0.36 | F 0.73 | | C 0.36 | F 0.07 | F 0.46 | F 0.71 | F 0.94 |
| @ 3.00 | @ 7.10 | @ 24.40 | | @ 12.00 | @ 7.80 | @ 53.14 | @ 31.45 | @ 3.77 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



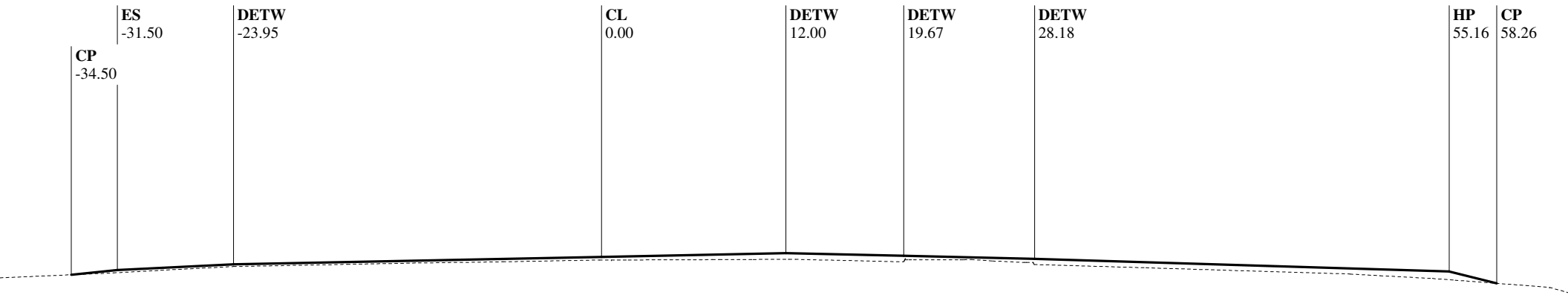

**Alignment Chain CENTER1**
**Station: 403+50.00**

| CP | ES | DETW | CL | DETW | DETW | DETW | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -24.23 | 0.00 | 12.00 | 19.50 | 41.35 | 69.89 | 73.38 |
| 2.99 | 3.10 | 3.47 | 4.20 | 4.56 | 4.44 | 4.03 | 3.17 | 2.30 |
| -3.72% | -5.00% | -3.00% | | 3.00% | -1.54% | -1.90% | -3.00% | -4.00:1 |
| F 0.11 | F 0.36 | F 0.73 | | C 0.36 | F 0.12 | F 0.41 | F 0.86 | F 0.87 |
| @ 3.00 | @ 7.27 | @ 24.23 | | @ 12.00 | @ 7.50 | @ 21.85 | @ 28.54 | @ 3.49 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



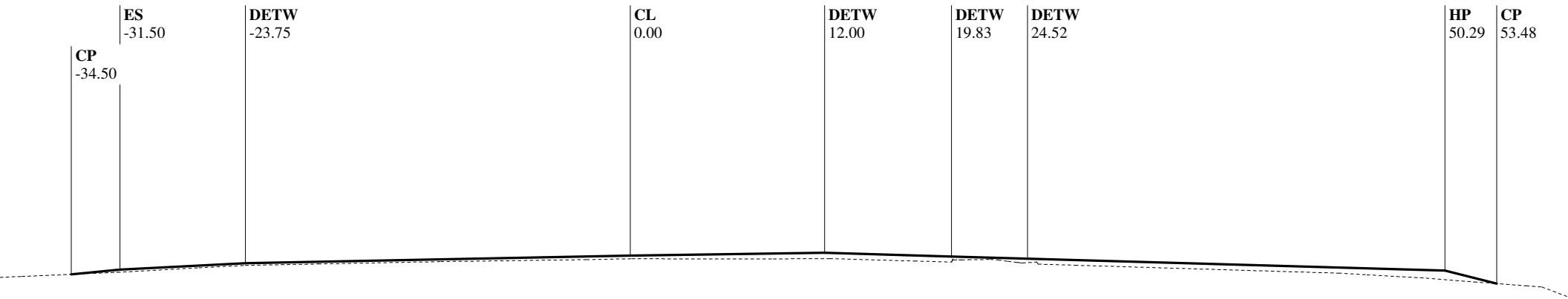

**Alignment Chain CENTER1**
**Station: 403+82.92**

| CP | ES | DETW | CL | DETW | DETW | DETW | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -23.95 | 0.00 | 12.00 | 19.67 | 28.18 | 55.16 | 58.26 |
| 3.00 | 3.31 | 3.68 | 4.16 | 4.40 | 4.23 | 4.04 | 3.22 | 2.44 |
| -10.12% | -5.00% | -2.00% | | 2.00% | -2.24% | -2.24% | -3.04% | -4.00:1 |
| F 0.30 | F 0.38 | F 0.48 | | C 0.24 | F 0.17 | F 0.19 | F 0.82 | F 0.78 |
| @ 3.00 | @ 7.55 | @ 23.95 | | @ 12.00 | @ 7.67 | @ 8.50 | @ 26.98 | @ 3.10 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



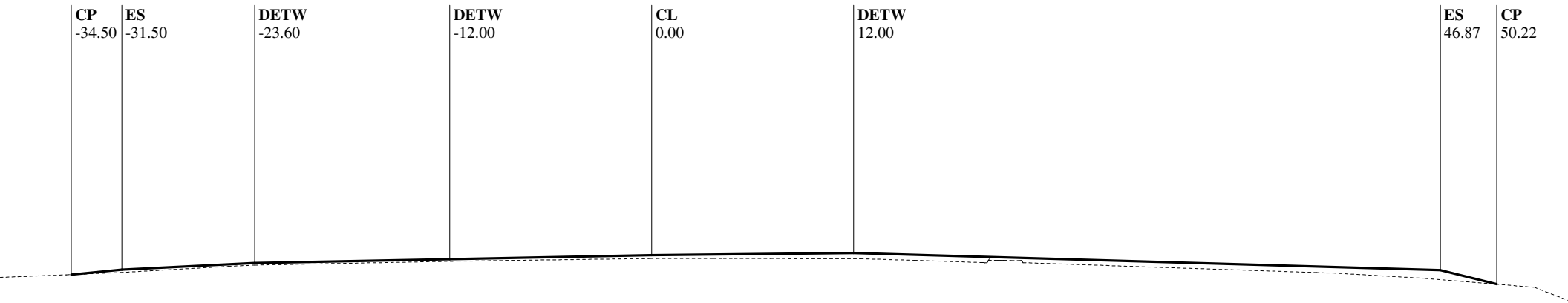

**Alignment Chain CENTER1**
**Station: 404+00.00**

| CP | ES | DETW | CL | DETW | DETW | DETW | HP | CP |
|---|---|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -23.75 | 0.00 | 12.00 | 19.83 | 24.52 | 50.29 | 53.48 |
| 3.00 | 3.30 | 3.68 | 4.16 | 4.33 | 4.10 | 3.97 | 3.23 | 2.43 |
| -9.90% | -5.00% | -2.00% | | 1.43% | -2.88% | -2.88% | -2.88% | -4.00:1 |
| F 0.30 | F 0.39 | F 0.47 | | C 0.17 | F 0.23 | F 0.14 | F 0.74 | F 0.80 |
| @ 3.00 | @ 7.75 | @ 23.75 | | @ 12.00 | @ 7.83 | @ 4.68 | @ 25.77 | @ 3.20 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



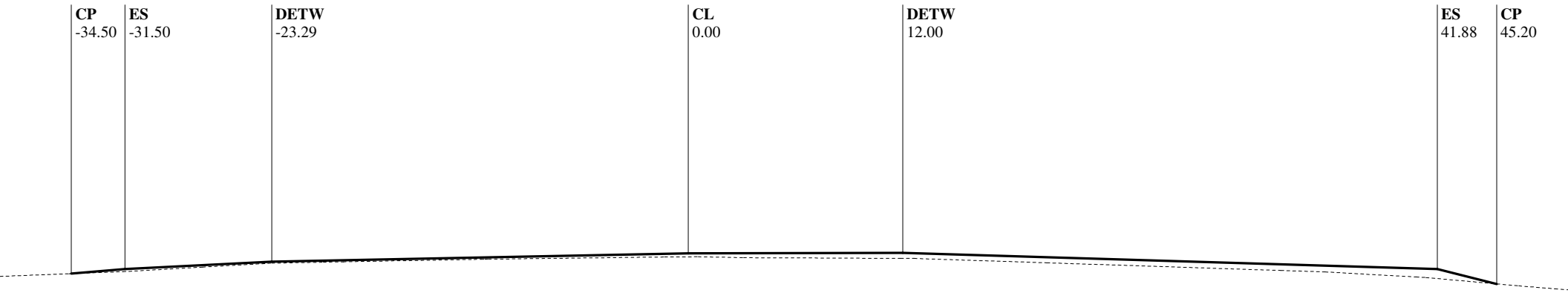

**Alignment Chain CENTER1**
**Station: 404+12.00**

| CP | ES | DETW | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -23.60 | -12.00 | 0.00 | 12.00 | 46.87 | 50.22 |
| 3.00 | 3.29 | 3.68 | 3.92 | 4.16 | 4.28 | 3.26 | 2.42 |
| -9.76% | -5.00% | -2.00% | -2.00% | | 1.03% | -2.92% | -4.00:1 |
| F 0.29 | F 0.39 | F 0.23 | F 0.24 | | C 0.12 | F 1.02 | F 0.84 |
| @ 3.00 | @ 7.90 | @ 11.60 | @ 12.00 | | @ 12.00 | @ 34.87 | @ 3.36 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



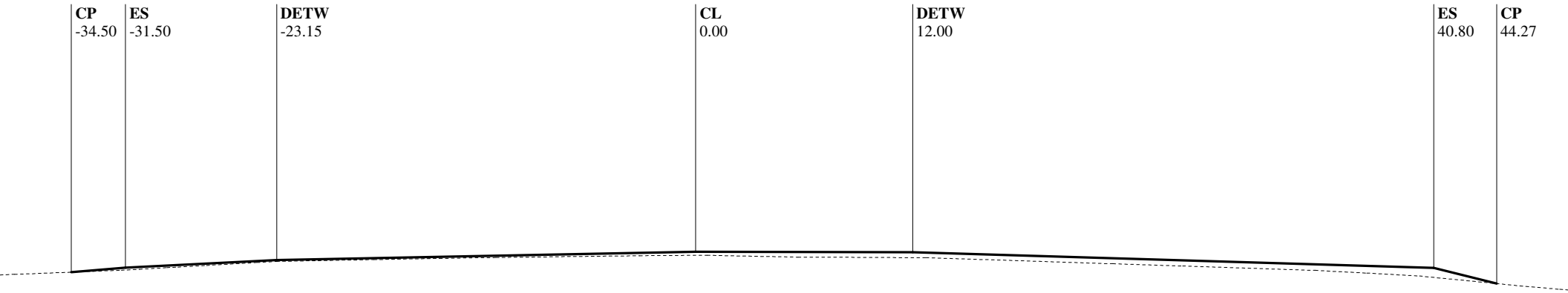

**Alignment Chain CENTER1**
**Station: 404+38.42**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -23.29 | 0.00 | 12.00 | 41.88 | 45.20 |
| 3.01 | 3.27 | 3.68 | 4.15 | 4.17 | 3.27 | 2.44 |
| -8.69% | -5.00% | -2.00% | | 0.15% | -3.00% | -4.00:1 |
| F 0.26 | F 0.41 | F 0.47 | | C 0.02 | F 0.90 | F 0.83 |
| @ 3.00 | @ 8.21 | @ 23.29 | | @ 12.00 | @ 29.88 | @ 3.33 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



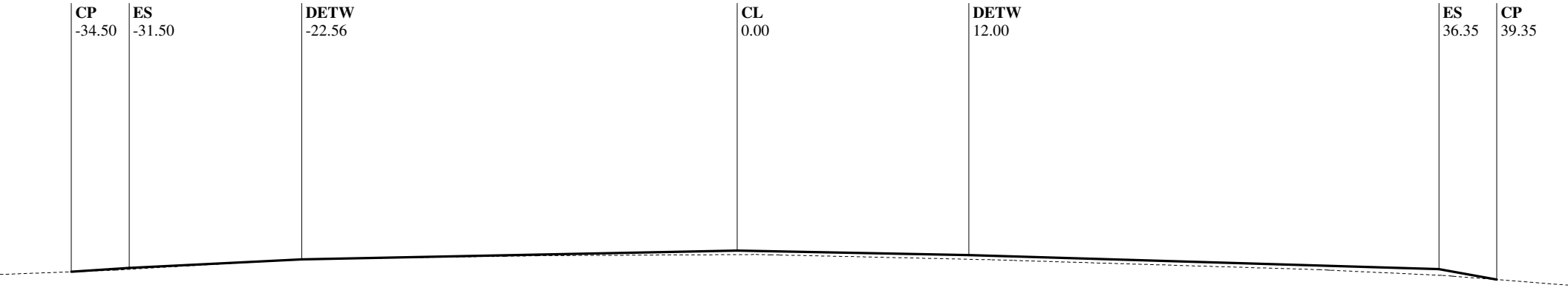

**Alignment Chain CENTER1**
**Station: 404+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -23.15 | 0.00 | 12.00 | 40.80 | 44.27 |
| 3.02 | 3.27 | 3.68 | 4.15 | 4.12 | 3.26 | 2.39 |
| -8.26% | -5.00% | -2.00% | | -0.24% | -3.00% | -4.00:1 |
| F 0.25 | F 0.42 | F 0.46 | | F 0.03 | F 0.86 | F 0.87 |
| @ 3.00 | @ 8.35 | @ 23.15 | | @ 12.00 | @ 28.80 | @ 3.47 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



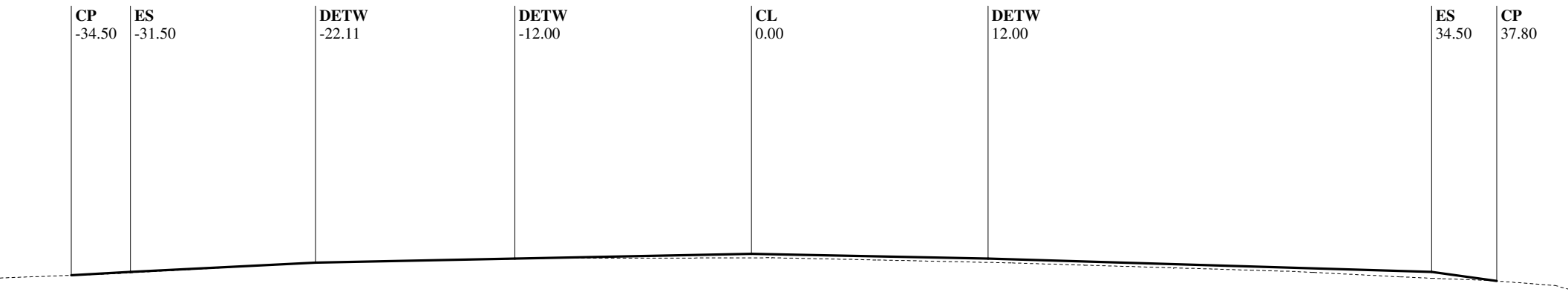

**Alignment Chain CENTER1**
**Station: 405+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -22.56 | 0.00 | 12.00 | 36.35 | 39.35 |
| 3.05 | 3.24 | 3.69 | 4.14 | 3.91 | 3.18 | 2.64 |
| -6.45% | -5.00% | -2.00% | | -1.90% | -3.00% | -5.59:1 |
| F 0.19 | F 0.45 | F 0.45 | | F 0.23 | F 0.73 | F 0.54 |
| @ 3.00 | @ 8.94 | @ 22.56 | | @ 12.00 | @ 24.35 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

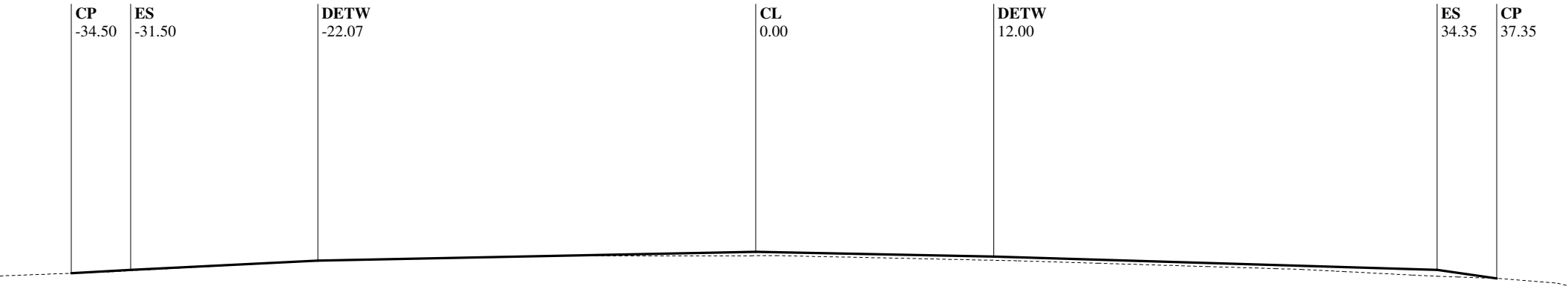



**Alignment Chain CENTER1**
**Station: 405+46.30**

| CP | ES | DETW | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -22.11 | -12.00 | 0.00 | 12.00 | 34.50 | 37.80 |
| 3.08 | 3.25 | 3.72 | 3.92 | 4.16 | 3.92 | 3.25 | 2.79 |
| -5.76% | -5.00% | -2.00% | -2.00% | | -1.99% | -3.00% | -13.96% |
| F 0.17 | F 0.47 | F 0.20 | F 0.24 | | F 0.24 | F 0.68 | F 0.46 |
| @ 3.00 | @ 9.39 | @ 10.11 | @ 12.00 | | @ 12.00 | @ 22.50 | @ 3.30 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

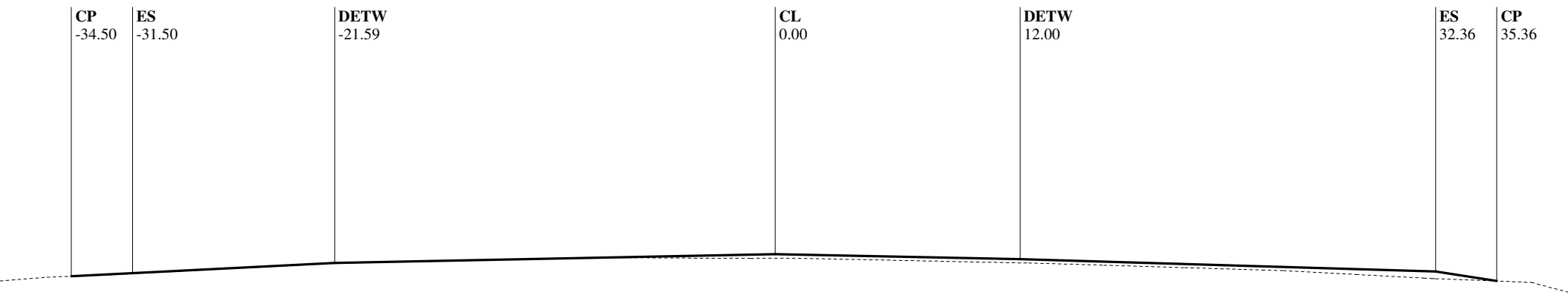



**Alignment Chain CENTER1**
**Station: 405+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -22.07 | 0.00 | 12.00 | 34.35 | 37.35 |
| 3.08 | 3.25 | 3.72 | 4.17 | 3.93 | 3.26 | 2.82 |
| -5.71% | -5.00% | -2.00% | | -2.00% | -3.00% | -14.47% |
| F 0.17 | F 0.47 | F 0.44 | | F 0.24 | F 0.67 | F 0.43 |
| @ 3.00 | @ 9.43 | @ 22.07 | | @ 12.00 | @ 22.35 | @ 3.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



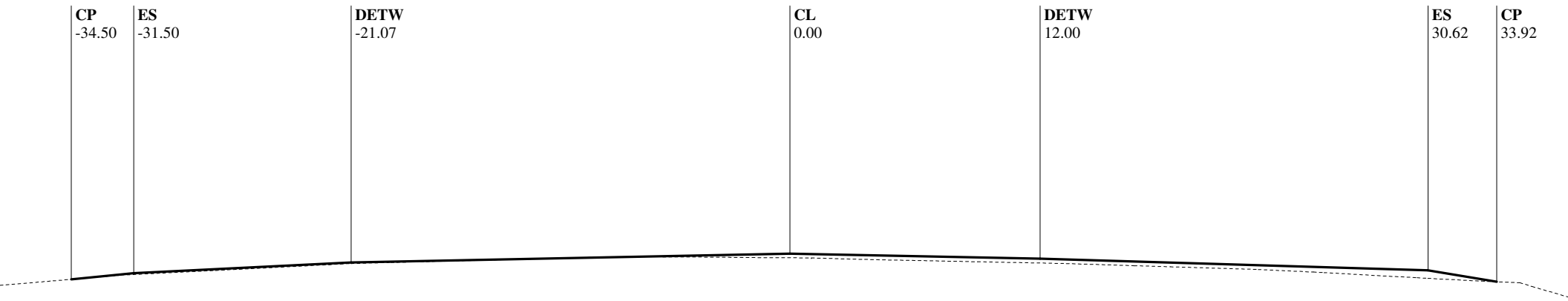

**Alignment Chain CENTER1**
**Station: 406+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -21.59 | 0.00 | 12.00 | 32.36 | 35.36 |
| 3.12 | 3.27 | 3.77 | 4.20 | 3.96 | 3.35 | 2.89 |
| -5.10% | -5.00% | -2.00% | | -2.00% | -3.00% | -6.50:1 |
| F 0.15 | F 0.50 | F 0.43 | | F 0.24 | F 0.61 | F 0.46 |
| @ 3.00 | @ 9.91 | @ 21.59 | | @ 12.00 | @ 20.36 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



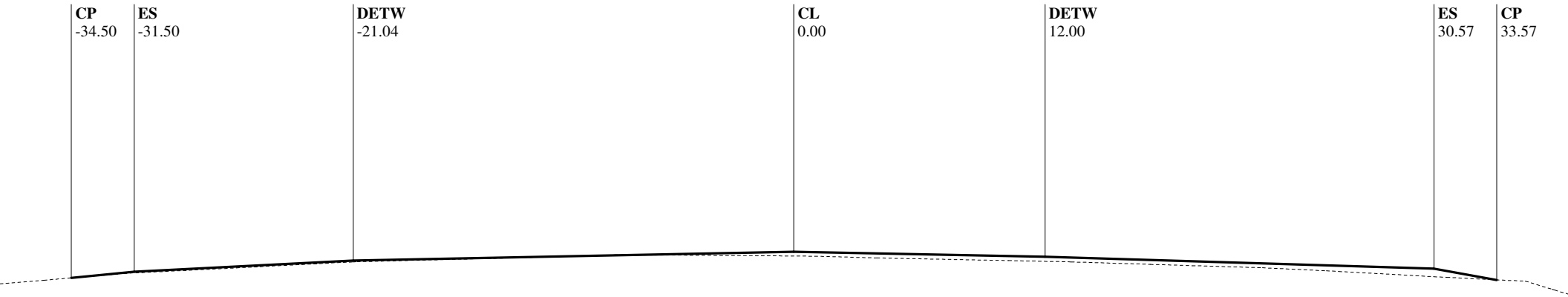

**Alignment Chain CENTER1**
**Station: 406+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -21.07 | 0.00 | 12.00 | 30.62 | 33.92 |
| 3.02 | 3.31 | 3.83 | 4.26 | 4.02 | 3.46 | 2.91 |
| -9.70% | -5.00% | -2.00% | | -2.00% | -3.00% | -5.99:1 |
| F 0.29 | F 0.52 | F 0.42 | | F 0.24 | F 0.56 | F 0.55 |
| @ 3.00 | @ 10.43 | @ 21.07 | | @ 12.00 | @ 18.62 | @ 3.30 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



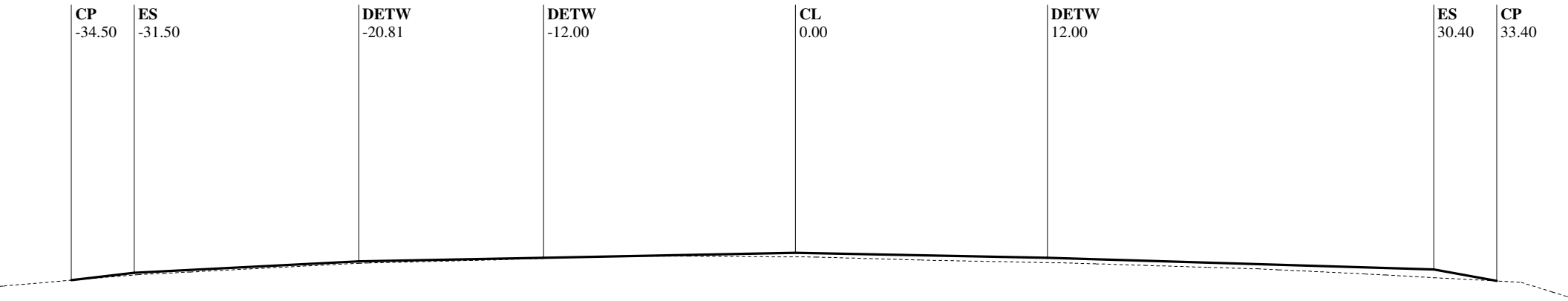

**Alignment Chain CENTER1**
**Station: 406+52.30**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -21.04 | 0.00 | 12.00 | 30.57 | 33.57 |
| 3.01 | 3.32 | 3.84 | 4.26 | 4.02 | 3.46 | 2.92 |
| -10.07% | -5.00% | -2.00% | | -2.00% | -3.00% | -5.52:1 |
| F 0.30 | F 0.52 | F 0.42 | | F 0.24 | F 0.56 | F 0.54 |
| @ 3.00 | @ 10.46 | @ 21.04 | | @ 12.00 | @ 18.57 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet

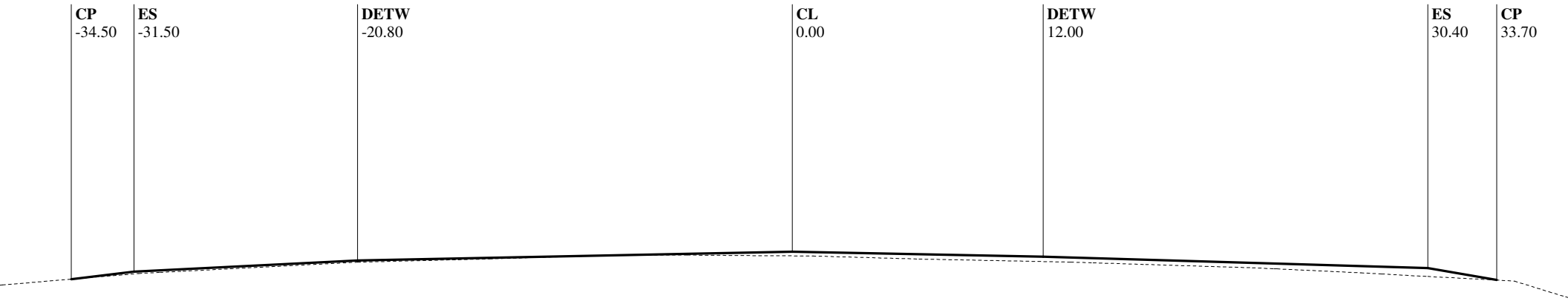



**Alignment Chain CENTER1**
**Station: 406+63.60**

| CP | ES | DETW | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -20.81 | -12.00 | 0.00 | 12.00 | 30.40 | 33.40 |
| 2.97 | 3.33 | 3.86 | 4.04 | 4.28 | 4.04 | 3.49 | 2.94 |
| -12.04% | -5.00% | -2.00% | -2.00% | | -2.00% | -3.00% | -5.45:1 |
| F 0.36 | F 0.53 | F 0.18 | F 0.24 | | F 0.24 | F 0.55 | F 0.55 |
| @ 3.00 | @ 10.69 | @ 8.81 | @ 12.00 | | @ 12.00 | @ 18.40 | @ 3.00 |

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



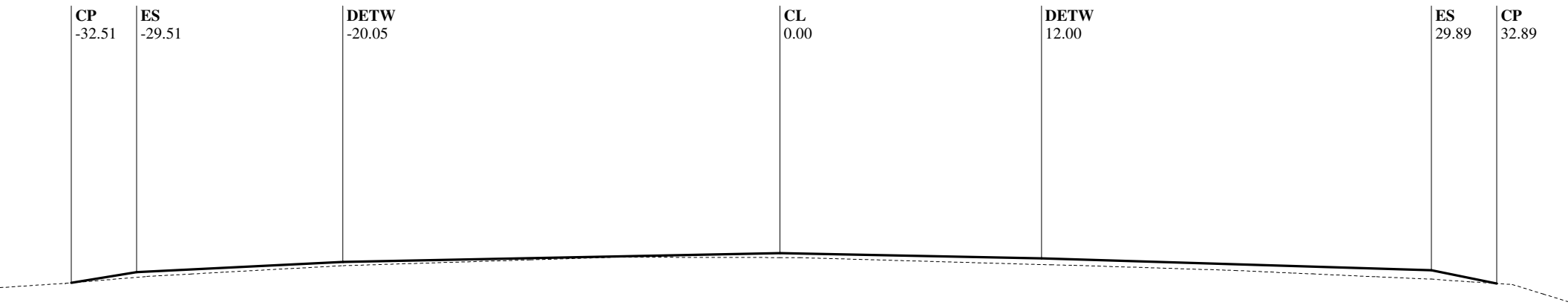

**Alignment Chain CENTER1**
**Station: 406+64.06**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -34.50 | -31.50 | -20.80 | 0.00 | 12.00 | 30.40 | 33.70 |
| 2.97 | 3.33 | 3.86 | 4.28 | 4.04 | 3.49 | 2.92 |
| -12.12% | -5.00% | -2.00% | | -2.00% | -3.00% | -5.81:1 |
| F 0.36 | F 0.54 | F 0.42 | | F 0.24 | F 0.55 | F 0.57 |
| @ 3.00 | @ 10.70 | @ 20.80 | | @ 12.00 | @ 18.40 | @ 3.30 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



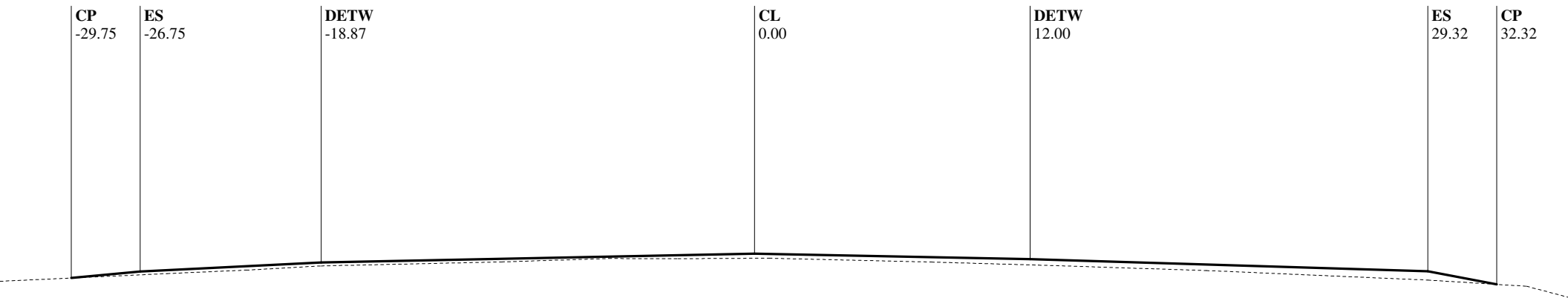

**Alignment Chain CENTER1**
**Station: 407+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -32.51 | -29.51 | -20.05 | 0.00 | 12.00 | 29.89 | 32.89 |
| 2.98 | 3.47 | 3.94 | 4.34 | 4.10 | 3.57 | 2.95 |
| -6.16:1 | -5.00% | -2.00% | | -2.00% | -3.00% | -4.88:1 |
| F 0.49 | F 0.47 | F 0.40 | | F 0.24 | F 0.54 | F 0.61 |
| @ 3.00 | @ 9.47 | @ 20.05 | | @ 12.00 | @ 17.89 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



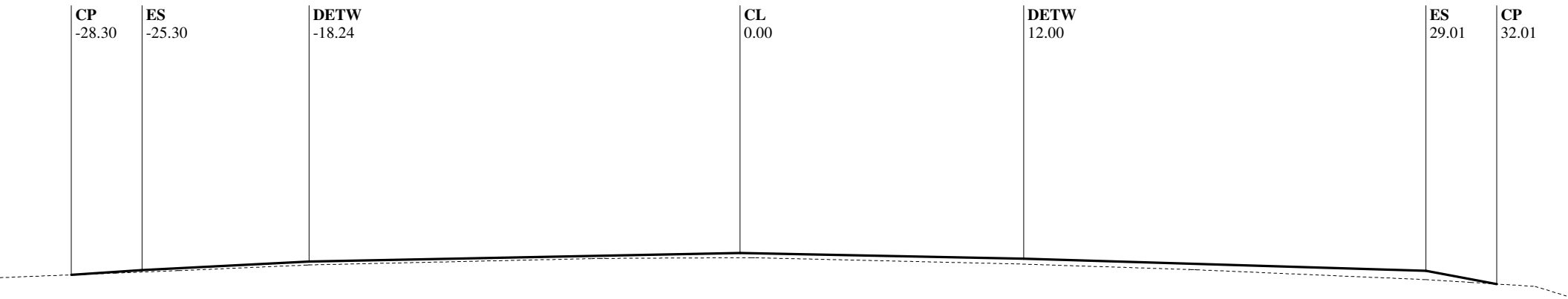

**Alignment Chain CENTER1**
**Station: 407+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -29.75 | -26.75 | -18.87 | 0.00 | 12.00 | 29.32 | 32.32 |
| 3.36 | 3.65 | 4.04 | 4.42 | 4.18 | 3.66 | 3.09 |
| -9.54% | -5.00% | -2.00% | | -2.00% | -3.00% | -5.22:1 |
| F 0.29 | F 0.39 | F 0.38 | | F 0.24 | F 0.52 | F 0.57 |
| @ 3.00 | @ 7.88 | @ 18.87 | | @ 12.00 | @ 17.32 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



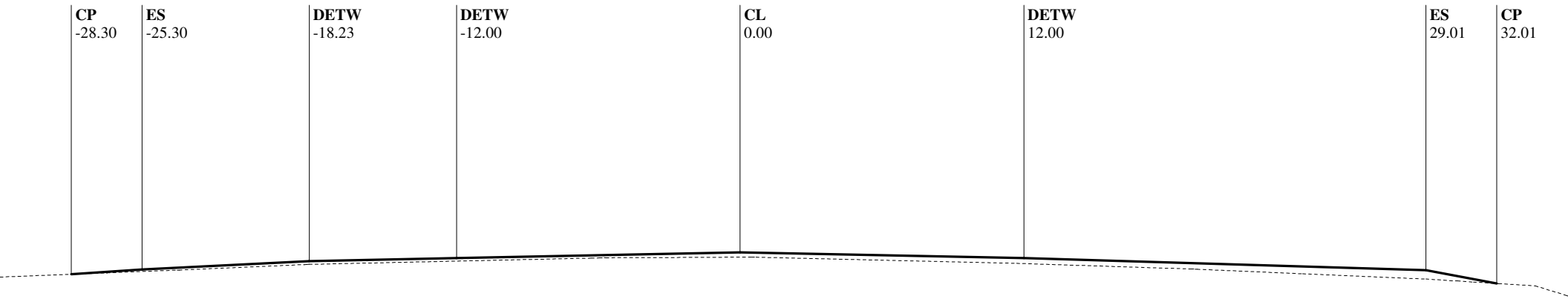

**Alignment Chain CENTER1**
**Station: 407+76.25**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -28.30 | -25.30 | -18.24 | 0.00 | 12.00 | 29.01 | 32.01 |
| 3.55 | 3.75 | 4.11 | 4.47 | 4.23 | 3.72 | 3.16 |
| -6.86% | -5.00% | -2.00% | | -2.00% | -3.00% | -5.33:1 |
| F 0.21 | F 0.35 | F 0.36 | | F 0.24 | F 0.51 | F 0.56 |
| @ 3.00 | @ 7.06 | @ 18.24 | | @ 12.00 | @ 17.01 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



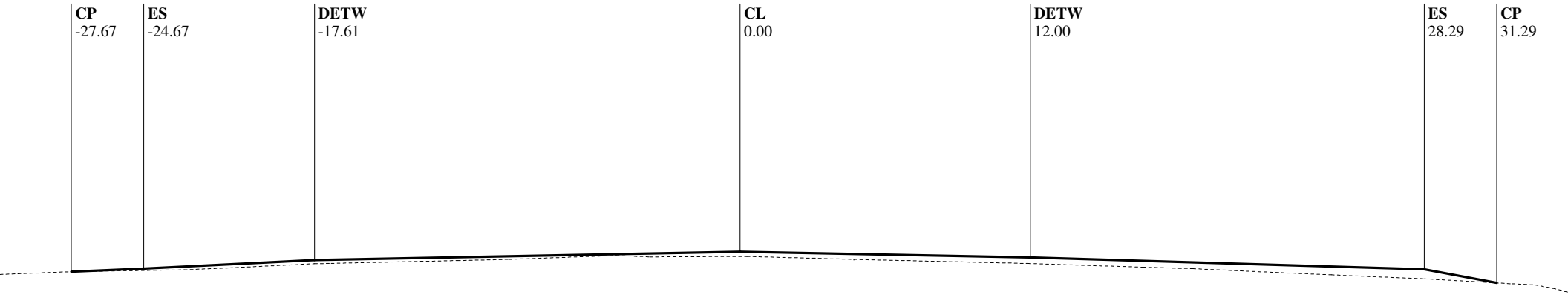

**Alignment Chain CENTER1**
**Station: 407+76.30**

| CP | ES | DETW | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|---|
| -28.30 | -25.30 | -18.23 | -12.00 | 0.00 | 12.00 | 29.01 | 32.01 |
| 3.55 | 3.75 | 4.11 | 4.23 | 4.47 | 4.23 | 3.72 | 3.16 |
| -6.86% | -5.00% | -2.00% | -2.00% | | -2.00% | -3.00% | -5.33:1 |
| F 0.21 | F 0.35 | F 0.12 | F 0.24 | | F 0.24 | F 0.51 | F 0.56 |
| @ 3.00 | @ 7.06 | @ 6.23 | @ 12.00 | | @ 12.00 | @ 17.01 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



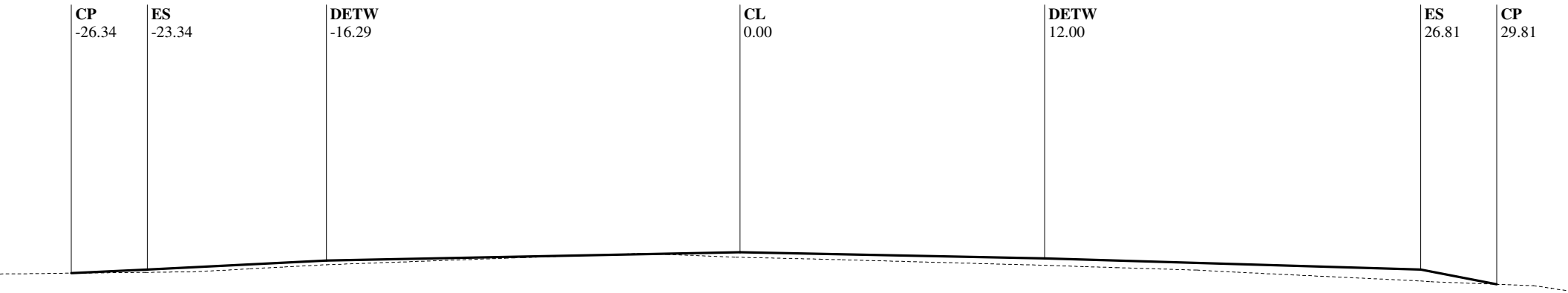

**Alignment Chain CENTER1**
**Station: 408+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -27.67 | -24.67 | -17.61 | 0.00 | 12.00 | 28.29 | 31.29 |
| 3.75 | 3.88 | 4.23 | 4.58 | 4.34 | 3.86 | 3.29 |
| -4.16% | -5.00% | -2.00% | | -2.00% | -3.00% | -5.30:1 |
| F 0.12 | F 0.35 | F 0.35 | | F 0.24 | F 0.49 | F 0.57 |
| @ 3.00 | @ 7.06 | @ 17.61 | | @ 12.00 | @ 16.29 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



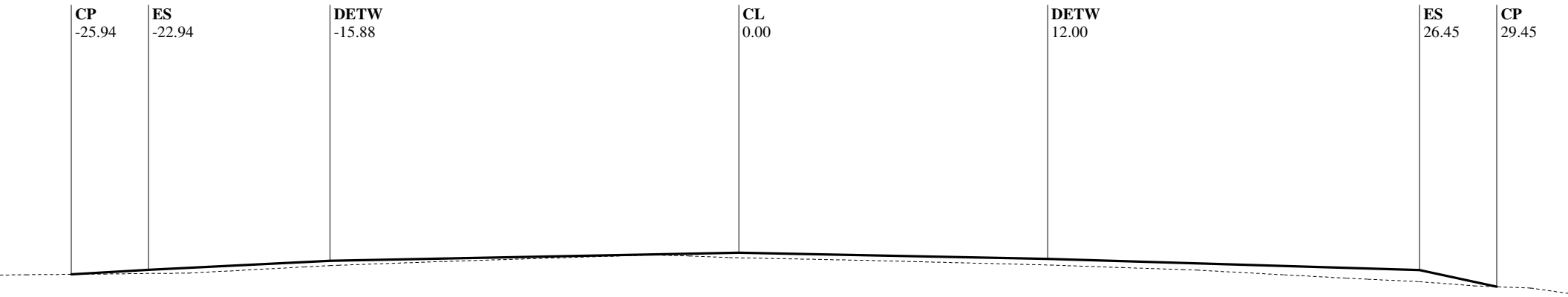

**Alignment Chain CENTER1**
**Station: 408+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -26.34 | -23.34 | -16.29 | 0.00 | 12.00 | 26.81 | 29.81 |
| 4.02 | 4.17 | 4.52 | 4.85 | 4.61 | 4.17 | 3.59 |
| -4.94% | -5.00% | -2.00% | | -2.00% | -3.00% | -5.18:1 |
| F 0.15 | F 0.35 | F 0.33 | | F 0.24 | F 0.44 | F 0.58 |
| @ 3.00 | @ 7.05 | @ 16.29 | | @ 12.00 | @ 14.81 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



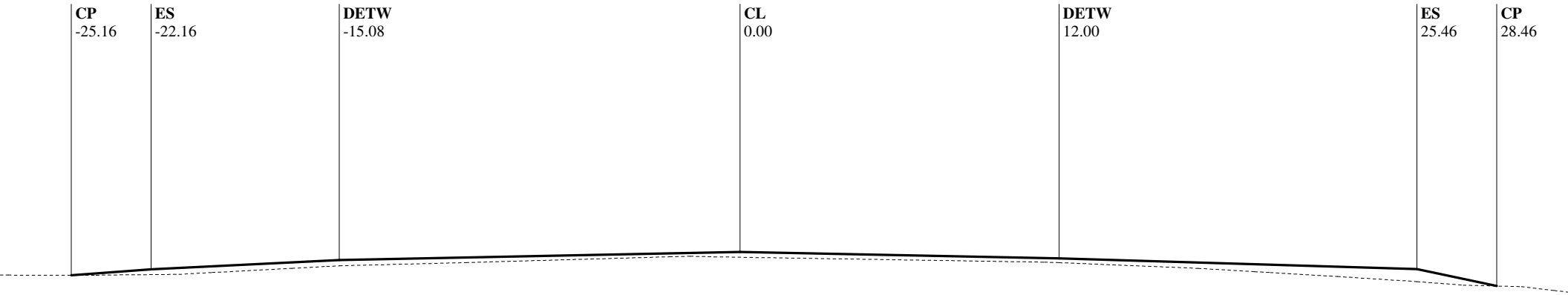

**Alignment Chain CENTER1**
**Station: 408+65.06**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -25.94 | -22.94 | -15.88 | 0.00 | 12.00 | 26.45 | 29.45 |
| 4.16 | 4.33 | 4.69 | 5.00 | 4.76 | 4.33 | 3.68 |
| -5.70% | -5.00% | -2.00% | | -2.00% | -3.00% | -4.61:1 |
| F 0.17 | F 0.35 | F 0.32 | | F 0.24 | F 0.43 | F 0.65 |
| @ 3.00 | @ 7.06 | @ 15.88 | | @ 12.00 | @ 14.45 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



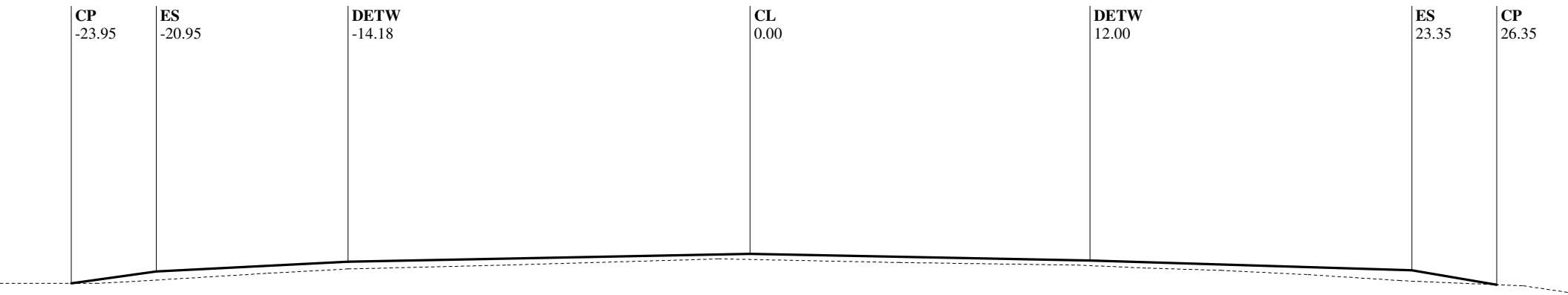

**Alignment Chain CENTER1**
**Station: 409+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -25.16 | -22.16 | -15.08 | 0.00 | 12.00 | 25.46 | 28.46 |
| 4.49 | 4.70 | 5.06 | 5.36 | 5.12 | 4.72 | 4.08 |
| -7.24% | -5.00% | -2.00% | | -2.00% | -3.00% | -4.71:1 |
| F 0.22 | F 0.35 | F 0.30 | | F 0.24 | F 0.40 | F 0.64 |
| @ 3.00 | @ 7.09 | @ 15.08 | | @ 12.00 | @ 13.46 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



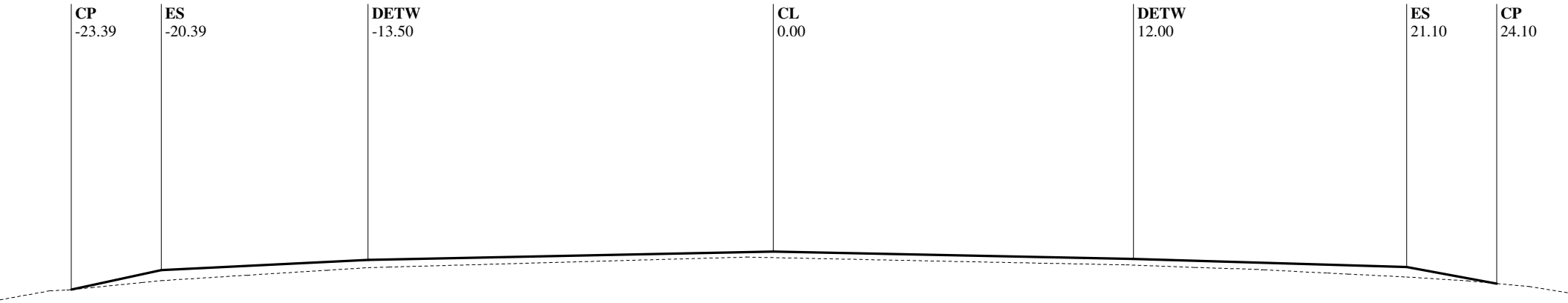

**Alignment Chain CENTER1**
**Station: 409+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.95 | -20.95 | -14.18 | 0.00 | 12.00 | 23.35 | 26.35 |
| 5.06 | 5.48 | 5.82 | 6.10 | 5.86 | 5.52 | 5.01 |
| -14.06% | -5.00% | -2.00% | | -2.00% | -3.00% | -5.90:1 |
| F 0.42 | F 0.34 | F 0.28 | | F 0.24 | F 0.34 | F 0.51 |
| @ 3.00 | @ 6.77 | @ 14.18 | | @ 12.00 | @ 11.35 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



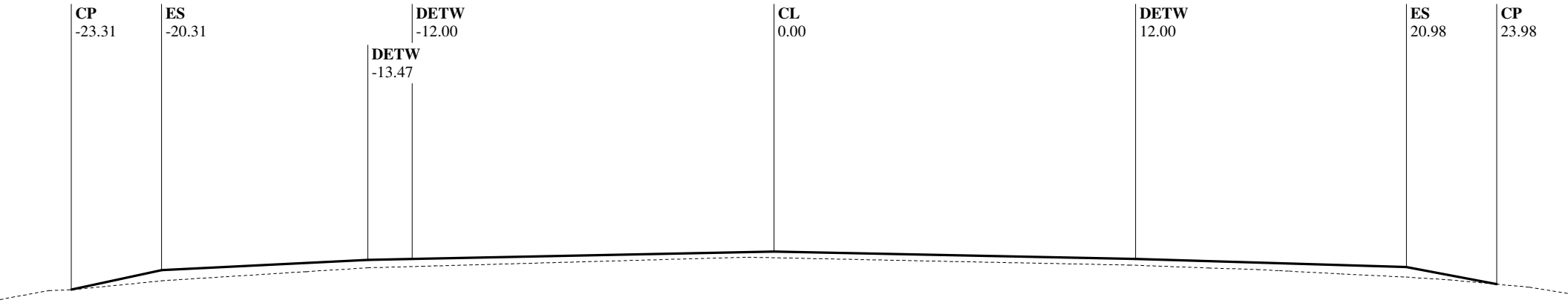

**Alignment Chain CENTER1**
**Station: 410+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.39 | -20.39 | -13.50 | 0.00 | 12.00 | 21.10 | 24.10 |
| 5.78 | 6.43 | 6.78 | 7.05 | 6.81 | 6.54 | 5.99 |
| -4.60:1 | -5.00% | -2.00% | | -2.00% | -3.00% | -5.46:1 |
| F 0.65 | F 0.34 | F 0.27 | | F 0.24 | F 0.27 | F 0.55 |
| @ 3.00 | @ 6.89 | @ 13.50 | | @ 12.00 | @ 9.10 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



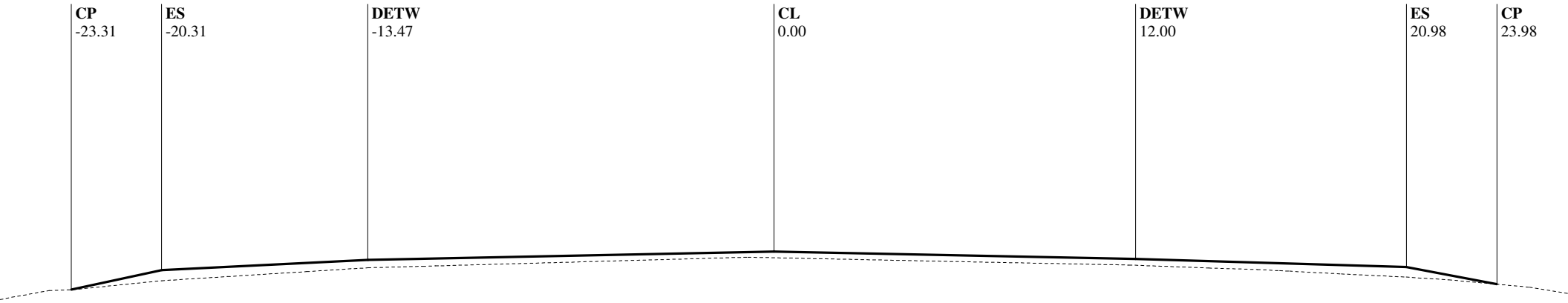

**Alignment Chain CENTER1**
**Station: 410+03.00**

| CP | ES | DETW | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|---|
| -23.31 | -20.31 | -13.47 | -12.00 | 0.00 | 12.00 | 20.98 | 23.98 |
| 5.86 | 6.51 | 6.85 | 6.88 | 7.12 | 6.88 | 6.61 | 6.04 |
| -4.62:1 | -5.00% | -2.00% | -2.00% | | -2.00% | -3.00% | -5.28:1 |
| F 0.65 | F 0.34 | F 0.03 | F 0.24 | | F 0.24 | F 0.27 | F 0.57 |
| @ 3.00 | @ 6.84 | @ 1.47 | @ 12.00 | | @ 12.00 | @ 8.98 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



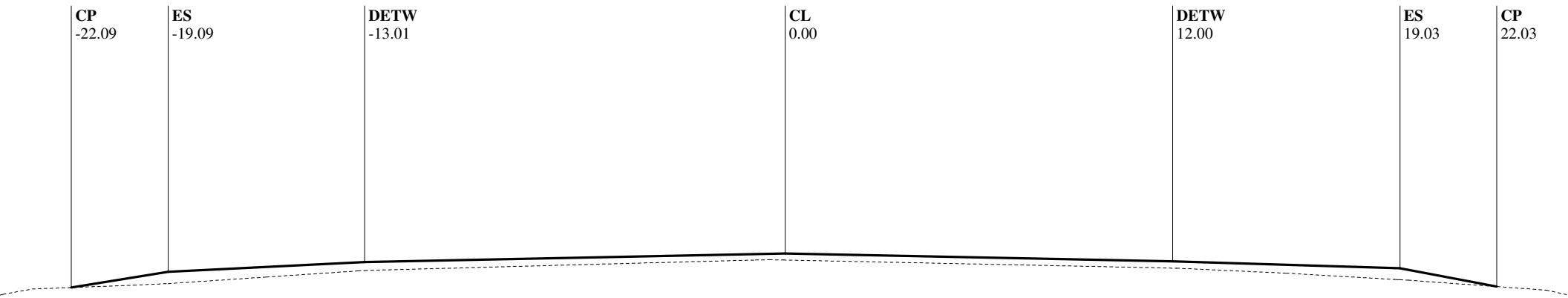

**Alignment Chain CENTER1**
**Station: 410+03.03**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -23.31 | -20.31 | -13.47 | 0.00 | 12.00 | 20.98 | 23.98 |
| 5.86 | 6.51 | 6.85 | 7.12 | 6.88 | 6.61 | 6.04 |
| -4.62:1 | -5.00% | -2.00% | | -2.00% | -3.00% | -5.28:1 |
| F 0.65 | F 0.34 | F 0.27 | | F 0.24 | F 0.27 | F 0.57 |
| @ 3.00 | @ 6.84 | @ 13.47 | | @ 12.00 | @ 8.98 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



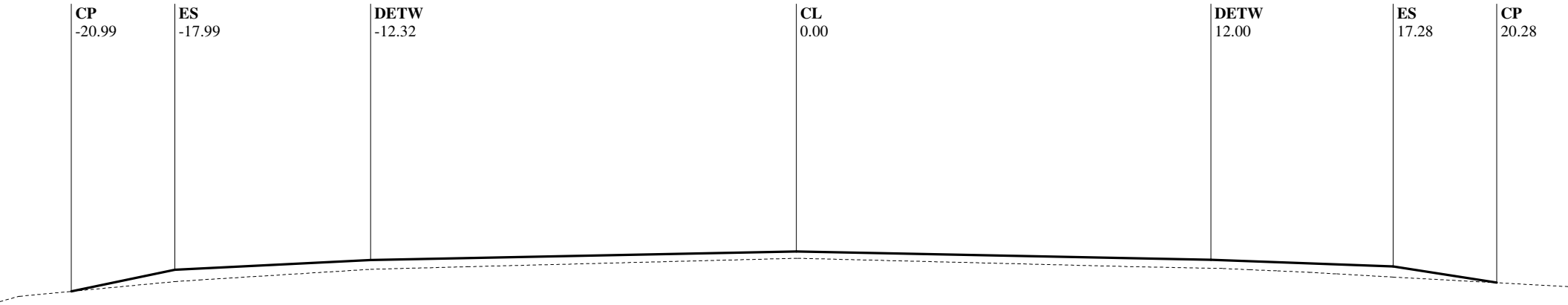

**Alignment Chain CENTER1**
**Station: 410+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -22.09 | -19.09 | -13.01 | 0.00 | 12.00 | 19.03 | 22.03 |
| 7.18 | 7.66 | 7.97 | 8.23 | 7.99 | 7.78 | 7.21 |
| -6.18:1 | -5.00% | -2.00% | | -2.00% | -3.00% | -5.27:1 |
| F 0.49 | F 0.30 | F 0.26 | | F 0.24 | F 0.21 | F 0.57 |
| @ 3.00 | @ 6.08 | @ 13.01 | | @ 12.00 | @ 7.03 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



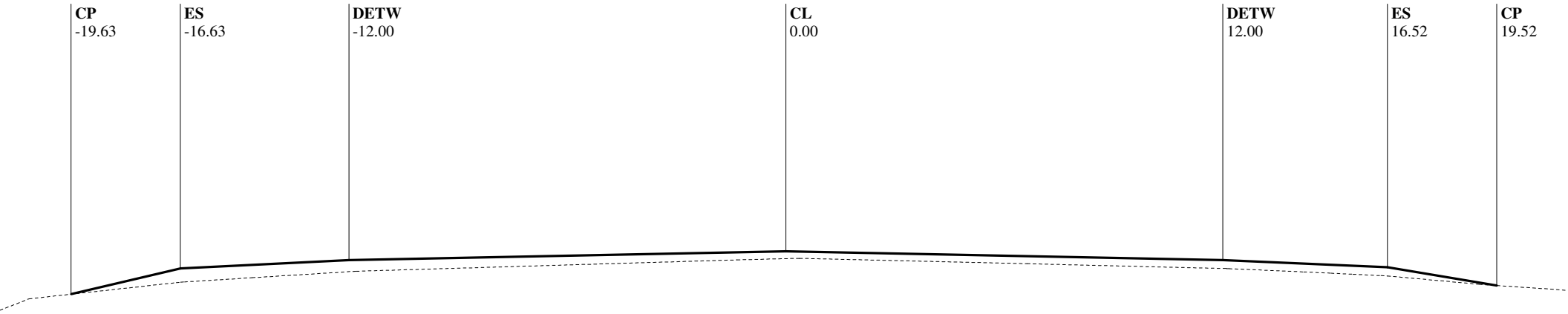

**Alignment Chain CENTER1**
**Station: 411+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -20.99 | -17.99 | -12.32 | 0.00 | 12.00 | 17.28 | 20.28 |
| 8.66 | 9.29 | 9.57 | 9.82 | 9.58 | 9.39 | 8.91 |
| -4.77:1 | -5.00% | -2.00% | | -2.00% | -3.67% | -6.33:1 |
| F 0.63 | F 0.28 | F 0.25 | | F 0.24 | F 0.19 | F 0.47 |
| @ 3.00 | @ 5.67 | @ 12.32 | | @ 12.00 | @ 5.28 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



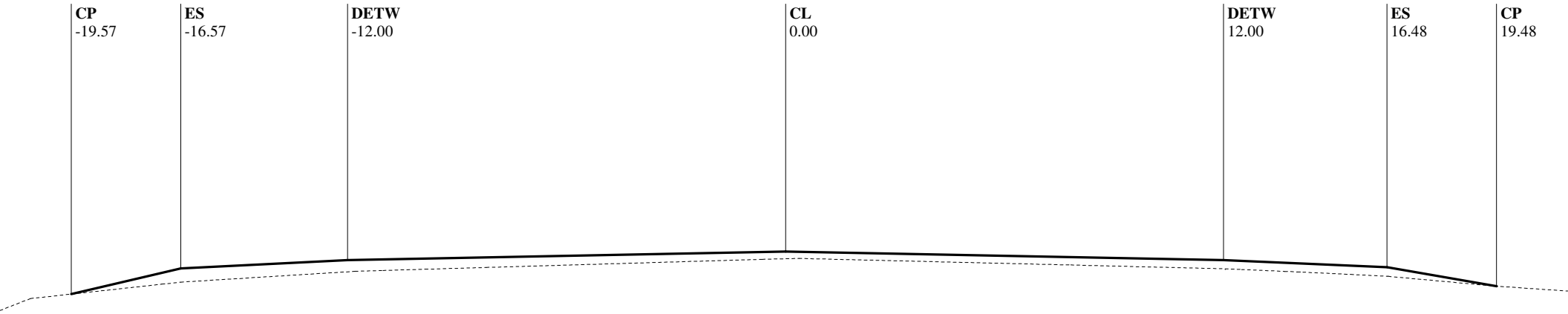

**Alignment Chain CENTER1**
**Station: 411+47.80**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -19.63 | -16.63 | -12.00 | 0.00 | 12.00 | 16.52 | 19.52 |
| 10.31 | 11.02 | 11.25 | 11.49 | 11.25 | 11.05 | 10.55 |
| -4.26:1 | -5.00% | -2.00% | | -2.00% | -4.30% | -5.97:1 |
| F 0.70 | F 0.23 | F 0.24 | | F 0.24 | F 0.19 | F 0.50 |
| @ 3.00 | @ 4.63 | @ 12.00 | | @ 12.00 | @ 4.52 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



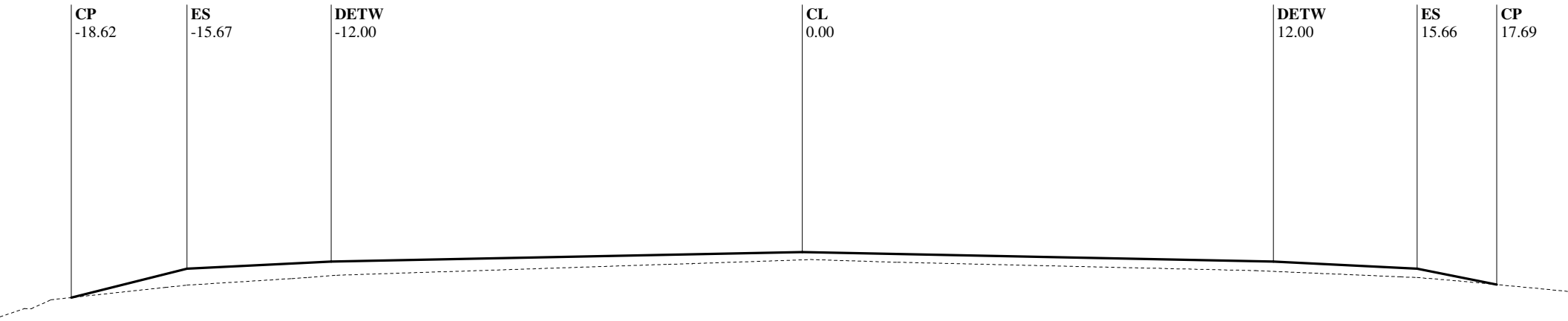

**Alignment Chain CENTER1**
**Station: 411+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -19.57 | -16.57 | -12.00 | 0.00 | 12.00 | 16.48 | 19.48 |
| 10.40 | 11.10 | 11.33 | 11.57 | 11.33 | 11.13 | 10.62 |
| -4.28:1 | -5.00% | -2.00% | | -2.00% | -4.33% | -5.79:1 |
| F 0.70 | F 0.23 | F 0.24 | | F 0.24 | F 0.19 | F 0.52 |
| @ 3.00 | @ 4.57 | @ 12.00 | | @ 12.00 | @ 4.48 | @ 3.00 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



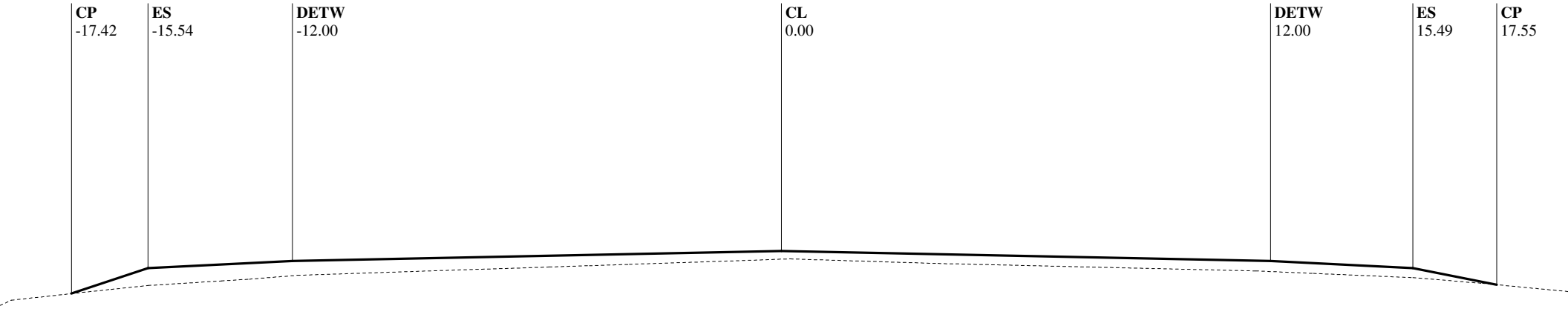

**Alignment Chain CENTER1**
**Station: 411+93.20**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -18.62 | -15.67 | -12.00 | 0.00 | 12.00 | 15.66 | 17.69 |
| 11.99 | 12.73 | 12.91 | 13.15 | 12.91 | 12.73 | 12.32 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00:1 |
| F 0.74 | F 0.18 | F 0.24 | | F 0.24 | F 0.18 | F 0.41 |
| @ 2.95 | @ 3.67 | @ 12.00 | | @ 12.00 | @ 3.66 | @ 2.03 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



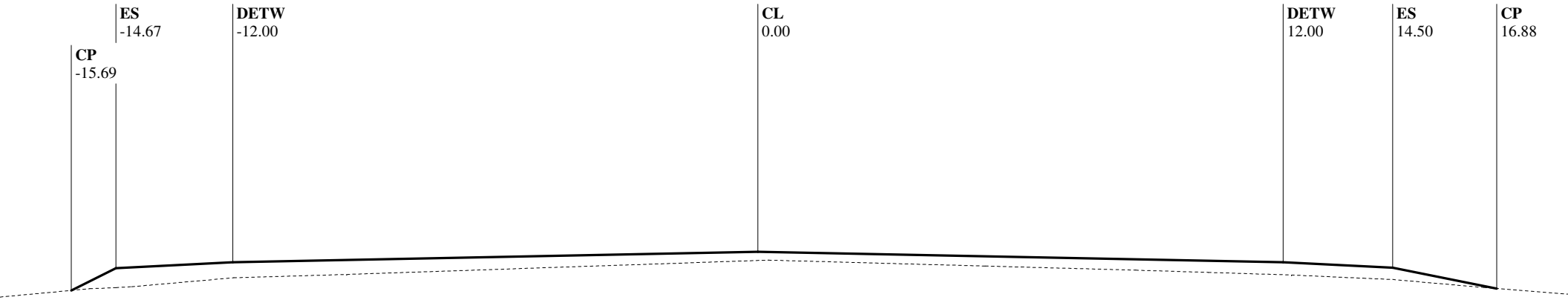

**Alignment Chain CENTER1**
**Station: 412+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -17.42 | -15.54 | -12.00 | 0.00 | 12.00 | 15.49 | 17.55 |
| 12.35 | 12.98 | 13.16 | 13.40 | 13.16 | 12.98 | 12.57 |
| -3.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00:1 |
| F 0.63 | F 0.18 | F 0.24 | | F 0.24 | F 0.17 | F 0.41 |
| @ 1.89 | @ 3.54 | @ 12.00 | | @ 12.00 | @ 3.49 | @ 2.06 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



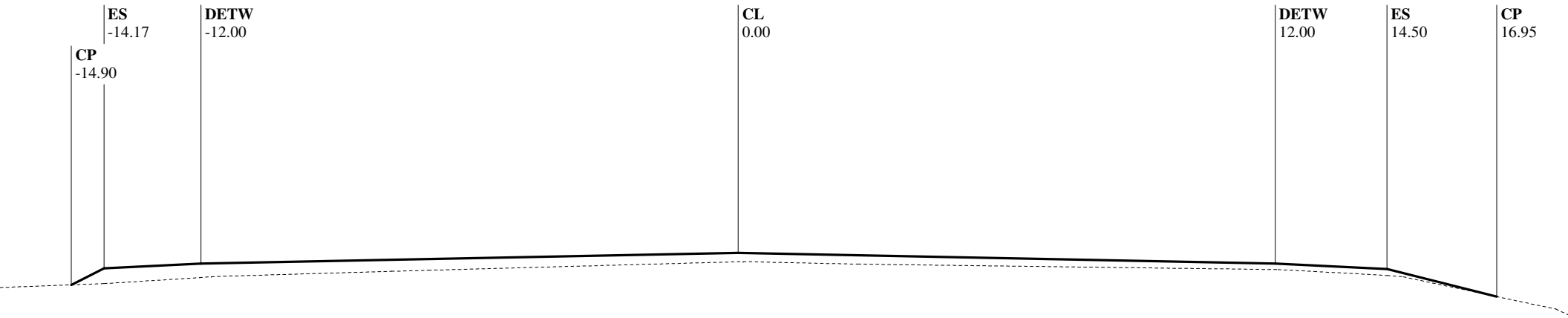

**Alignment Chain CENTER1**
**Station: 412+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -15.69 | -14.67 | -12.00 | 0.00 | 12.00 | 14.50 | 16.88 |
| 14.32 | 14.83 | 14.96 | 15.20 | 14.96 | 14.83 | 14.36 |
| -2.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00:1 |
| F 0.51 | F 0.13 | F 0.24 | | F 0.24 | F 0.12 | F 0.48 |
| @ 1.02 | @ 2.67 | @ 12.00 | | @ 12.00 | @ 2.50 | @ 2.38 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



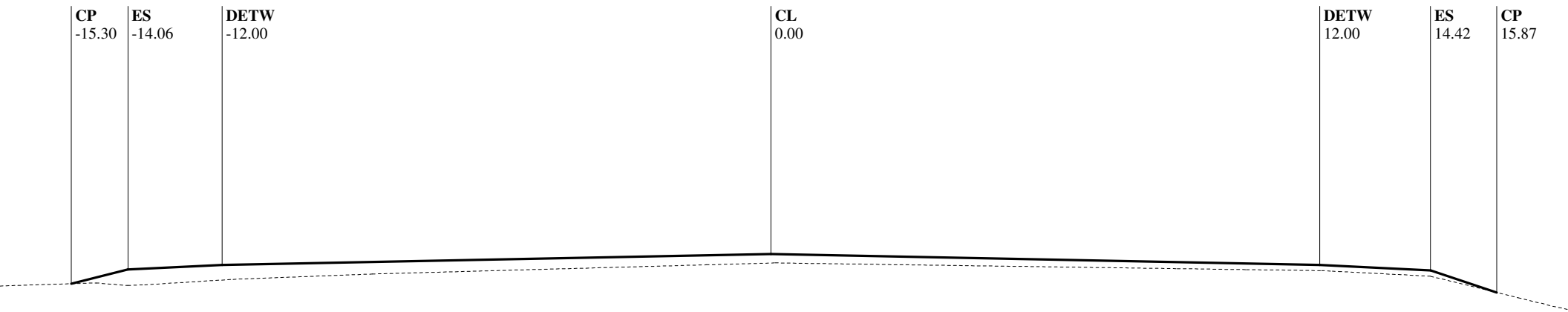

**Alignment Chain CENTER1**
**Station: 413+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -14.90 | -14.17 | -12.00 | 0.00 | 12.00 | 14.50 | 16.95 |
| 16.24 | 16.61 | 16.72 | 16.96 | 16.72 | 16.59 | 15.98 |
| -2.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -4.00:1 |
| F 0.37 | F 0.11 | F 0.24 | | F 0.24 | F 0.13 | F 0.61 |
| @ 0.73 | @ 2.17 | @ 12.00 | | @ 12.00 | @ 2.50 | @ 2.45 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



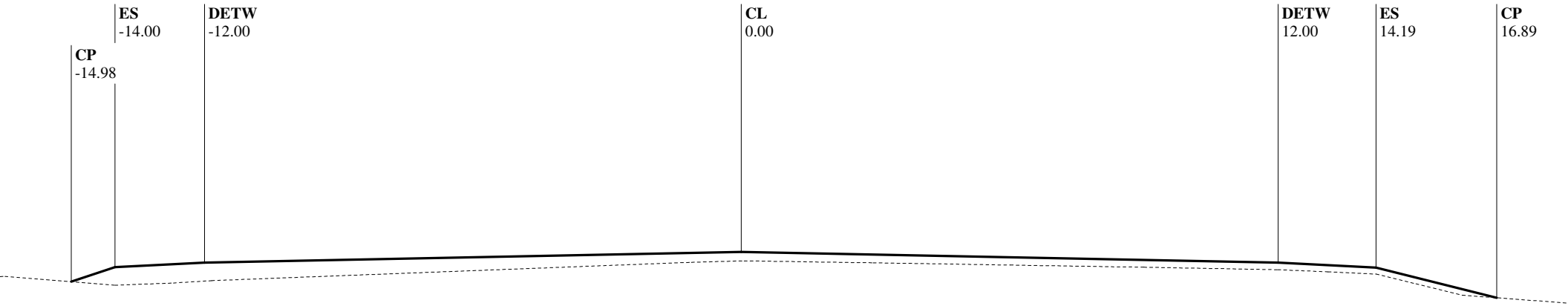

**Alignment Chain CENTER1**
**Station: 413+18.82**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -15.30 | -14.06 | -12.00 | 0.00 | 12.00 | 14.42 | 15.87 |
| 16.97 | 17.28 | 17.38 | 17.62 | 17.38 | 17.26 | 16.78 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -3.00:1 |
| F 0.31 | F 0.10 | F 0.24 | | F 0.24 | F 0.12 | F 0.48 |
| @ 1.24 | @ 2.06 | @ 12.00 | | @ 12.00 | @ 2.42 | @ 1.44 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



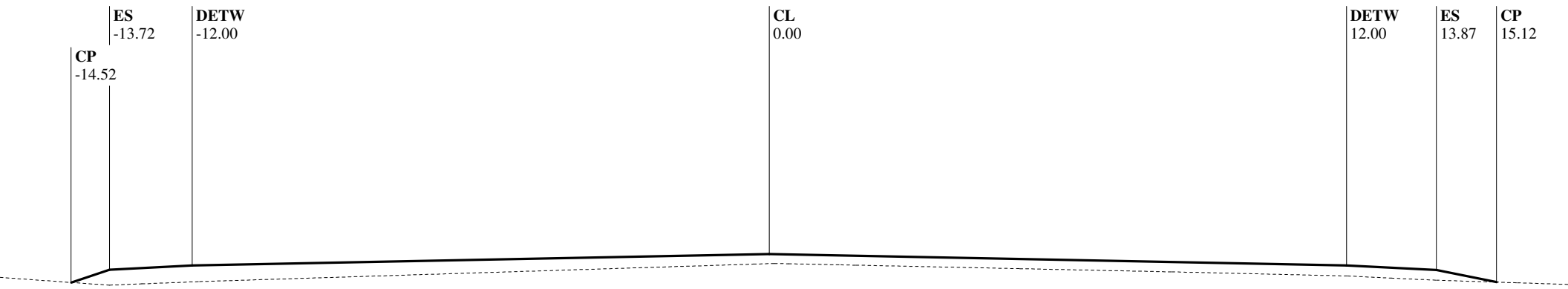

**Alignment Chain CENTER1**
**Station: 413+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -14.98 | -14.00 | -12.00 | 0.00 | 12.00 | 14.19 | 16.89 |
| 18.07 | 18.39 | 18.49 | 18.73 | 18.49 | 18.38 | 17.71 |
| -3.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -4.00:1 |
| F 0.32 | F 0.10 | F 0.24 | | F 0.24 | F 0.11 | F 0.67 |
| @ 0.97 | @ 2.00 | @ 12.00 | | @ 12.00 | @ 2.19 | @ 2.70 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



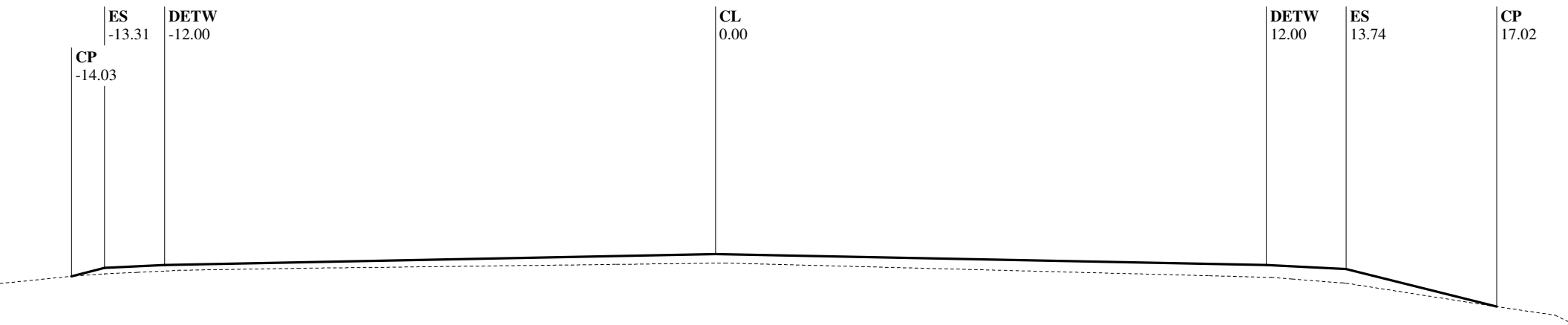

**Alignment Chain CENTER1**
**Station: 414+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -14.52 | -13.72 | -12.00 | 0.00 | 12.00 | 13.87 | 15.12 |
| 19.93 | 20.20 | 20.28 | 20.52 | 20.28 | 20.19 | 19.94 |
| -3.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.00:1 |
| F 0.27 | F 0.09 | F 0.24 | | F 0.24 | F 0.09 | F 0.25 |
| @ 0.80 | @ 1.72 | @ 12.00 | | @ 12.00 | @ 1.87 | @ 1.26 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet



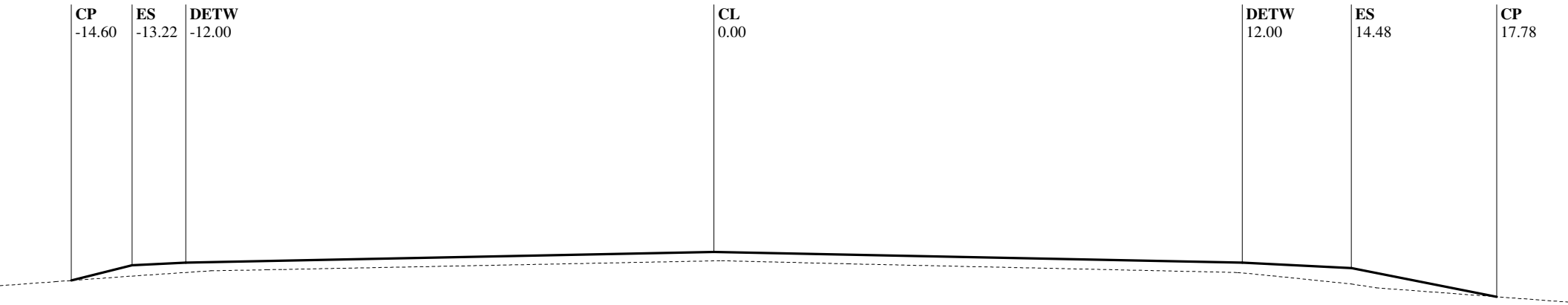

**Alignment Chain CENTER1**
**Station: 414+50.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -14.03 | -13.31 | -12.00 | 0.00 | 12.00 | 13.74 | 17.02 |
| 21.76 | 21.94 | 22.01 | 22.25 | 22.01 | 21.92 | 21.10 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -4.00:1 |
| F 0.18 | F 0.07 | F 0.24 | | F 0.24 | F 0.09 | F 0.82 |
| @ 0.73 | @ 1.31 | @ 12.00 | | @ 12.00 | @ 1.74 | @ 3.28 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break

SLOPE STAKE LISTING & DIAGRAM
June 4, 2013 2:35:44 PM

Station Range: 104+16.00 to 415+00.00
Project Units: US Survey Feet




**Alignment Chain CENTER1**
**Station: 415+00.00**

| CP | ES | DETW | CL | DETW | ES | CP |
|---|---|---|---|---|---|---|
| -14.60 | -13.22 | -12.00 | 0.00 | 12.00 | 14.48 | 17.78 |
| 22.88 | 23.23 | 23.29 | 23.53 | 23.29 | 23.16 | 22.51 |
| -4.00:1 | -5.00% | -2.00% | | -2.00% | -5.00% | -5.06:1 |
| F 0.35 | F 0.06 | F 0.24 | | F 0.24 | F 0.12 | F 0.65 |
| @ 1.38 | @ 1.22 | @ 12.00 | | @ 12.00 | @ 2.48 | @ 3.30 |

EAR Filename: S:\tale\Design\Hongloan\00198\2-25-13\finaldesign.ear
C/F information is calculated from CP to CL for each grade break