This chapter contains the following sections:

Overview	6-3
Inspector's Responsibilities – Earthwork Items	6-3
Office Engineer's Responsibilities – Earthwork Items	6-8



# **OVERVIEW**

Earthwork Items have different documentation requirements depending on the item. All Earthwork Items may be paid by plan or are measured and calculated. Documentation examples for a few selected Earthwork Items are illustrated in this chapter. Some minor modifications may be required to show the unusual circumstances that may occur with different items, but the general format should be followed. If there are items that cannot be documented according to the following examples, contact the Construction Admin Services Section for assistance.

Prior to excavation operations ensure survey of surfaces are complete in the event of re-measurement and/or re-calculation requests made by the Contractor or Resident Engineer.

# INSPECTOR'S RESPONSIBILITIES – EARTHWORK ITEMS

- Use the Agreement Estimate report as a reference to ensure that items and quantities are paid in the correct category (AEB).
- Use the Summary of Earthwork Quantities sheet(s), (Figure 6-1) located in the Contract plans, to help identify items, quantities, descriptions and locations. When quantity totals on the Summary of Earthwork Quantities sheet do not match quantity totals in the AEB refer to additional Structure Lists.

|                       |   |   | SUMMARY  
   | OFE   
   
   | ARTHWORK  | QUANTITIE  | S  
  |   |  |   
  |  | STATE<br>NEVADA   
  | PROJECT NO.<br>\$1-050-4(008)  | LANDER  | NO.   |
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---|
|                       |   |   | ALL QUA  
   | NTITIES   
   
   | MEASURED IN C   | UBIC YARDS   |  
  |   |  |   
  |  |   
  |  |   |   |
| LO                    | CATIO   | M   |  
   | SIDE  
   
   | ROADWAY<br>EXCAVATION   | STRUCTURE  | DRAINAGE<br>EXCAVATION   
  | SHRINK/SWELL  | TOTAL<br>EXCAVATION  | EMBANKMENT  
  | (BORROW)<br>OR   | ** TOPSOIL<br>SALVAGE   
  |  | NOTES   |   |
| ation                 | to  |   | Station  
   |   
   
   |   |  |  
  |   |  |   
  | EXCESS   |   
  |  |   |   |
| 36+03.92              | to  | "P"   | 75+00.00   
   | LT  
   
   | 29,348.44   |  |  
  | -10.00%   | 26,413.60  | 12,910.38   
  | 13,503.22  | 3,843.  
  | 34   | Slope   | Flattenin   |
| 36+03.92              | to  | "P"   | 125.00.00  
   | RI  
   
   | 15,441.24   | 49.30  | 18.10  
  | -10.00%   | 13,957.78  | 23,740.97   
  | (9,783.19)   | 3,892.  
  | 68   | Slope   | Flattenin   |
| 75+00.00              | 10  | P   | 135+00.00  
   | DT  
   
   | 12,700.47   | 54.40  | 024.40   
  | -10.00%   | 11,435.02  | 7,304.09  
  | 4,070.95   | 3,057.  
  | 13   | Slope   | Flattenin   |
| 25+00.00              | to  | *D*   | 105+00.00  
   | IT  
   
   | 11,200.00   | 51.10  | 034.10   
  | -10.00%   | 10,949.10  | 2,007,27  
  | (2.252.20)   | 3,535.  
  | 4/   | Slope   | Flattenin   |
| 135+00.00             | to  | -   | 195+00.00  
   | RT  
   
   | 24.68   | 76.30  | 13.40  
  | -10.00%   | 102.94   | 5 314 43  
  | (5,232.38)   | 2,334   
  | 50   | Slope   | Flattenin   |
| 95+00.00              | to  | "P"   | 255+00.00  
   | IT  
   
   | 15.11   | 10.50  | 10.40  
  | -10.00%   | 13.60  | 4 374 71  
  | (4 361 11)   | 2,550   
  | 10   | Slope   | Flattenin   |
| 95+00.00              | to  | "P"   | 255+00.00  
   | RT  
   
   | 15.30   |  |  
  | -10.00%   | 13.77  | 5 553 84  
  | (5.540.07)   | 2 640   
  | 57   | Slope   | Flattenin   |
| 55+00.00              | to  | "P"   | 315+00.00  
   | LT  
   
   | 17.03   |  |  
  | -10.00%   | 15.33  | 8,191,45  
  | (8,176,12)   | 2.959   
  | 47   | Slope   | Flattenin   |
| 55+00.00              | to  | "P"   | 315+00.00  
   | RT  
   
   | 6.65  |  |  
  | -10.00%   | 5.99   | 8,744.09  
  | (8,738.11)   | 2,962   
  | 88   | Slope   | Flattenin   |
| 315+00.00             | to  | "P"   | 375+00.00  
   | LT  
   
   | 1,811.54  |  |  
  | -10.00%   | 1,630.39   | 7,702.42  
  | (6,072.03)   | 3,649   
  | 00   | Slope   | Flattenin   |
| 15+00.00              | to  | "P"   | 375+00.00  
   | RT  
   
   | 2,748.19  | 47.90  | 5.50   
  | -10.00%   | 2,521.43   | 11,643.32   
  | (9,121.89)   | 3,965.  
  | 20   | Slope   | Flattenin   |
| 375+00.00             | to  | "P"   | 435+00.00  
   | LT  
   
   | 3,335.55  |  | 100000   
  | -10.00%   | 3,002.00   | 1,198.30  
  | 1,803.70   | 3,305.  
  | 81   | Slope   | Flattenin   |
| 75+00.00              | to  | "P"   | 435+00.00  
   | RT  
   
   | 1,392.83  | 392.00   | 124.90   
  | -10.00%   | 1,718.76   | 8,765.07  
  | (7,046.31)   | 3,204.  
  | 05   | Slope   | Flattenin   |
| 35+00.00              | to  | "P"   | 495+00.00  
   | LT  
   
   | 538.05  |  |  
  | -10.00%   | 484.25   | 5,029.26  
  | (4,545.02)   | 3,092.  
  | 64   | Slope   | Flattenin   |
| 35+00.00              | to  | "P"   | 495+00.00  
   | RT  
   
   | 2,922.23  | 93.60  |  
  | -10.00%   | 2,714.25   | 3,194.19  
  | (479.94)   | 3,486.  
  | 29   | Slope   | Flattenin   |
| 95+00.00              | to  | "P"   | 555+00.00  
   | LT  
   
   | 1,559.54  |  |  
  | -10.00%   | 1,403.59   | 5,220.20  
  | (3,816.61)   | 3,330.  
  | 65   | Slope   | Flattenin   |
| 95+00.00              | to  | "P"   | 555+00.00  
   | RT  
   
   | 4,755.71  | 84.30  | 4.80   
  | -10.00%   | 4,360.33   | 2,935.88  
  | 1,424.45   | 3,518.  
  | 50   | Slope   | Flattenin   |
| 55+00.00              | to  | "P"   | 615+00.00  
   | LT  
   
   | 3,196.02  |  |  
  | -10.00%   | 2,876.42   | 2,901.57  
  | (25.15)  | 3,081.  
  | 59   | Slope   | Flattenin   |
| 55+00.00              | to  | -P-   | 615+00.00  
   | RI  
   
   | 3,067.21  |  |  
  | -10.00%   | 2,760.49   | 6,636.13  
  | (3,875.64)   | 3,621.  
  | 86   | Slope   | Flattenin   |
| 515+00.00             | to  | "P"   | 675+00.00  
   | LI  
   
   | 1,485.59  |  |  
  | -10.00%   | 1,337.03   | 4,114.24  
  | (2,777.21)   | 3,124.  
  | 89   | Slope   | Flattenin   |
| 515+00.00             | to  | -P-   | 675+00.00  
   | RI  
   
   | 1,012.63  |  |  
  | -10.00%   | 911.37   | 6,239.36  
  | (5,327.99)   | 3,209.  
  | 49   | Slope   | Flattening  |
| 75+00.00              | 10  | P   | 735+00.00  
   | DT  
   
   | 2,364.07  | 44.00  |  
  | -10.00%   | 2,127.00   | 7,052.05  
  | (4,924.97)   | 3,409   
  | 19   | Slope   | Flattenin   |
| 125+00.00             | to  | "D"   | 735+00.00  
   | IT  
   
   | 2,475.91  | 14.00  |  
  | -10.00%   | 2,241.04   | 0,990.03  
  | (0,754.99)   | 3,744.  
  | 10   | Slope   | Flattenin   |
| 35+00.00              | to  | "D"   | 705+00.00  
   | DT  
   
   | 2,505.57  | E4 20  |  
  | -10.00%   | 2,050.01   | 10 751 05   
  | (7,902,40)   | 4 160   
  | 00   | Slope   | Flattonin   |
| 05±00.00              | to  | "D"   | 855+00.00  
   | IT  
   
   | 1,687,68  | 34.20  |  
  | -10.00%   | 2,030.40   | 8.076.52  
  | (6,557,61)   | 4,103   
  | 33   | Slope   | Flattenin   |
| 95+00.00              | to  | "P"   | 855+00.00  
   | RT  
   
   | 844 70  | 30.20  |  
  | -10.00%   | 787 41   | 15 083 12   
  | (14 295 71)  | 3,469   
  | 44   | Slope   | Flattenin   |
| 55+00.00              | to  | "P"   | 915+00.00  
   | IT  
   
   | 210.35  | 00.20  |  
  | -10.00%   | 189.32   | 5 595 28  
  | (5 405 97)   | 2 513   
  | 41   | Slope   | Flattenin   |
| 55+00.00              | to  | "P"   | 915+00.00  
   | RT  
   
   | 338.38  | 27.10  |  
  | -10.00%   | 328 93   | 5 447 39  
  | (5 118 46)   | 2 476   
  | 03   | Slope   | Flattenin   |
| 15+00.00              | to  | "P"   | 975+00.00  
   | IT  
   
   | 27.40   | 27.10  |  
  | -10.00%   | 24.66  | 13 112 30   
  | (13 087 64)  | 3,359   
  | 16   | Slope   | Flattenin   |
| 15+00.00              | to  | "P"   | 975+00.00  
   | RT  
   
   | 31.55   | 63.90  |  
  | -10.00%   | 85.91  | 11.551.34   
  | (11,465,44)  | 3,198   
  | 61   | Slope   | Flattenin   |
| 75+00.00              | to  | "P"   | 1035+00.00   
   | LT  
   
   | 33.61   |  |  
  | -10.00%   | 30.25  | 6,130.01  
  | (6,099.76)   | 2,769.  
  | 23   | Slope   | Flattenin   |
| 75+00.00              | to  | "P"   | 1035+00.00   
   | RT  
   
   | 133.53  | 29.60  |  
  | -10.00%   | 146.82   | 6,388.77  
  | (6,241.95)   | 2,940.  
  | 45   | Slope   | Flattenin   |
| 035+00.00             | to  | "P"   | 1095+00.00   
   | LT  
   
   | 882.48  |  |  
  | -10.00%   | 794.23   | 7,769.10  
  | (6,974.87)   | 3,186.  
  | 56   | Slope   | Flattenin   |
| 035+00.00             | to  | "P"   | 1095+00.00   
   | RT  
   
   | 1,363.41  | 14.90  |  
  | -10.00%   | 1,240.48   | 7,374.36  
  | (6,133.88)   | 3,248.  
  | 91   | Slope   | Flattenin   |
| 095+00.00             | to  | "P"   | 1155+00.00   
   | LT  
   
   | 6,407.88  |  |  
  | -10.00%   | 5,767.09   | 2,351.46  
  | 3,415.63   | 3,518.  
  | 31   | Slope   | Flattenin   |
| 095+00.00             | to  | "P"   | 1155+00.00   
   | RT  
   
   | 5,863.72  | 12.00  | 1.30   
  | -10.00%   | 5,289.32   | 2,649.82  
  | 2,639.50   | 3,658.  
  | 22   | Slope   | Flattenin   |
| 155+00.00             | to  | "P"   | 1215+00.00   
   | LT  
   
   | 11,172.41   |  |  
  | -10.00%   | 10,055.17  | 43,057.83   
  | (33,002.66)  | 6,130.  
  | 51   | Slope   | Flattenin   |
| 155+00.00             | to  | "P"   | 1215+00.00   
   | RT  
   
   | 7,242.42  | 290.30   | 124.60   
  | -10.00%   | 6,891.59   | 41,574.54   
  | (34,682.95)  | 5,505.  
  | 55   | Slope   | Flattenin   |
| 243+20.00             | to  | "P"   | 1249+80.00   
   | LT  
   
   | 590.98  |  |  
  | -10.00%   | 531.88   | 200.26  
  | 331.62   | 496.  
  | 23   |   | Widenin   |
| 61+99.21<br>PLICT ADD | to  | "P"   | 65+08.48   
   | LT  
   
   | 553.73  |  |  
  | -10.00%   | 498.36   | 2,212.67  
  | (1,714.31)   |   
  |  | Re  | econstruc   |
| RUCTAPP               | RUAU  | nes   |  
   | DUIN  
   
   | 1,093.00  | 4 240 00   | 4 420 00   
  | -10.00%   | 1,703.70   | 265 050 00  
  | 1,703.70   | 426.030   
  | 0.0  |   |   |
|                       | tion           4+03 92           5+00 00           35+0 | tion         bo           8403 S2         10           8400 S0         10           8440 S0         10           8440 S0         10           85400 00         10           85400 00         10           85400 00         10           85400 00         10           85400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00         10           18400 00 | iton         io           8403.92         io         PP           8400.00         io <th>Ion         Do         Station           6403.92         Io         P         75400.00           6403.92         Io         P         75400.00           6403.92         Io         P         75400.00           6403.92         Io         P         135400.00           6400.00         Io         P         135400.00           6500.00         Io         P         155400.00           6500.00         Io         P         135400.00           6500.00         Io         P         355400.00           6500.00         Io         P         35540.00           6500.00         Io         P         75540.00           6500.00         Io         P         75540.00           6500.00         Io         P         75540.00<!--</th--><th>ton         to         Station           8403.82         to         "P"         75400.00         LT           8403.82         to         "P"         75400.00         RT           8403.82         to         "P"         75400.00         RT           8403.82         to         "P"         75400.00         RT           8540.00         to         "P"         135400.00         RT           8540.00         to         "P"         135400.00         RT           8540.00         to         "P"         135400.00         RT           8540.00         to         "P"         31540.00         RT           8540.00         to         "P"         35540.00         RT           8540.00         to         "P"         7540.00         RT           8540.00         to         "P"         75440.00         RT</th><th>EXCAVATION         EXCAVATION           Red 32         to         PP         75+00.00         L1         23,345 44           640.3 20         to         PP         75+00.00         RT         12,345 441.24           640.3 20         to         PP         75+00.00         RT         11,240.55           640.3 20         to         PP         75+00.00         RT         11,240.55           65+00.00         to         PP         135+00.00         RT         11,240.55           65+00.00         to         PP         135+00.00         RT         14,2468           65+00.00         to         PP         135+00.00         RT         15,355           65+00.00         to         PP         315+00.00         RT         16,335,55           65+00.00         to         PP         375+00.00         RT         13,325,55           65+00.00         to         PP         355+00.00         RT         13,226,35           65+00.00         to         PP         435+00.00         RT         13,226,35           65+00.00         to         PP         435+00.00         RT         13,226,35           65+00.00         to         P</th><th>EXCAVATION         EXCAVATION           8403.92         10         12         32,348.44           8403.92         10         12         32,348.44           8403.92         10         12         75400.00         RT         15,441.24         49,30           5400.00         10         12         135400.00         RT         11,240.55         15,10           55400.00         10         12         135400.00         RT         11,240.55         15,10           55400.00         10         12         135400.00         RT         14,240         49,30           55400.00         10         12         135400.00         RT         14,240         76,30           55400.00         10         12         135400.00         RT         15,30         55400.00         RT         15,30           55400.00         10         12         375400.00         RT         1,315.4         47,50           15400.00         10         12         34540.00         RT         1,322.83         322.00           15400.00         14         455400.00         RT         1,322.83         322.00           15400.00         12         4455400.00         RT<!--</th--><th>Station         Station         EXCAVATION         EXCAVATION         EXCAVATION           8403 52         10         1P         75400.00         LT         29,348.44           6403 52         10         1P         75400.00         LT         29,348.44           6403 52         10         1P         75400.00         LT         12,276.47         15.00           6400 10         1P         193400.00         LT         12,276.47         15.00         15.01         15.41           6500 00         1P         19540.00         LT         42.98         76.30         13.40           6500 00         1P         15540.00         LT         14.98         55.00         55.00           6500 00         1P         73540.00         LT         13.55         55.00           6500 00         1P         73540.00         LT         13.32.83         392.00         124.90           6500 00         1P         73540.00         LT         13.55.50         55.00         55.00         55.00         55.00         14.95.91         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00&lt;</th><th>Station         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION           8403.52         10         1P         75400.00         LT         23,38.4         -10.05%           8403.52         10         1P         75400.00         LT         23,38.4         -10.05%           5400.00         10         77         75400.00         LT         12,348.4         43.30         18.10         -10.00%           5400.00         10         79         13540.00         LT         142.95         51.10         534.10         -10.00%           5500.00         10         79         15540.00         LT         44.98         -10.00%           5500.00         10         79         15540.00         LT         115.50         -10.00%           5500.00         10         79         37540.00         LT         13.32         392.00         10.00%           5600.00         10         79         37540.00         LT         13.32.83         92.00         10.00%           5600.00         10         79         43540.00         LT         3.33.55         -10.00%           5600.00         17         43540.00         LT         &lt;</th><th>Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION           8403.52         to         19"         75:400.00         LT         23,388.44         -100.05%         23,413.08           8403.52         to         19"         75:400.00         LT         12,348.44         49.30         118.10         210.00%         23,413.08           5400.00         to         19"         715:400.00         RT         112,200.52         51.10         63.01.00%         113.457.02         110.00%         11,435.62           55:00.00         to         79"         15:40.00.01         RT         112,200.52         51.10         63.01.00%         110.244.44           55:00.00         to         79"         15:50.00.01         RT         15.30         -10.00%         113.32           55:00.00         to         79"         31:50.00.00         LT         13.11.54         -10.00%         15.03           16:00.00         to         79"         35:50.00.00         LT         13.32.83         392.00         12.21.93         -10.00%         3.002.00           56:00.00         to         79"         455:00.00         RT         1.32.65.64         -10.00%         2.21.43     <th>Image: Note of the station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION           8403.52         to         th*         77.940.00         L1         23,38.44         -100.00%         23,413.60         1210.35           6403.62         to         th*         77.940.00         LT         12,348.44         49.30         110.00%         13,857.72         23,740.97           5400.00         to         th*         115.400.05         RT         112,00.85         51.10         63.01.07         10.00%         113,457         23,737           5500.00         to         th*         155.40.00         LT         44.86         32,2737           5500.00         to         th*         155.40.00         LT         143.86         -10.00%         113,37         65.538.85           5500.00         to         th*         79.354.00.00         LT         131.154         -10.00%        
15.33         81.744.09         15.00.07         15.538.85         16.00.07         15.72.744.39         17.02.748.39         -10.00%         15.93.98         17.742.24         11.84.32.27.145         11.84.32.27.145         11.84.32.27.145         11.84.32.25.55         -10.00%         12.92.143         11.84.32.25.5</th><th>Image: Construction         EXCAVATION         <t< th=""><th>Internet         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         CRC 8           8403.52         10         197         75400.00         LT         23,948.44         -40.00%         28,413.60         11,503.22         3,843.           5403.02         10         197         7540.00         LT         11,200.55         3,842.         -40.00%         28,413.60         11,910.35         3,852.         3,842.           5400.00         10         197         1354.000         LT         11,200.55         51.10         B3.41.01         -10.00%         11,435.52         7,344.86         4,070.03         3,020.22         3,535.5         50.000         10         197         1554.000         LT         4,486         3,227.37         (2,523.39         1,857.000         1,857.000         10,337         6,553.84         (2,611.47         2,348.47</th><th>Cont         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           8403.52         10         1P         75400.00         LT         23,948.44         -100.0%         23,413.60         11,910.36         13,503.22         3,843.34           5400.00         1p         79,784.00         LT         12,706.47         -100.0%         13,877.26         7,344.86         4,000.93         3,852.68           5400.00         to         TP         1354.000         LT         12,206.8         51.10         B34.10         -100.0%         11,435.52         7,344.86         4,000.93         3,852.68           5500.00         to         TP         1554.000         LT         44.88         3,227.37         (3,252.39         1,857.44           5500.00         to         TP         3554.000         LT         115.38         -100.076         15.33         1,814.45         (1,712.2         2,989.47           5500.00         tr         79.354.000         RT         15.82.65         -100.076         15.33         1,814.93         (4,64.93.13         3,985.33           5500.00         tr         79.354.000         RT         13.22.48         1.00.076<!--</th--><th>Image: Construct on the station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           6403.20         b         P<sup>2</sup>         7540.00         LT         23,943.44         -10.00%         23,943.56         12,910.38         13,503.22         3,843.35         Slope           6403.00         b         P<sup>2</sup>         7540.00         LT         12,704.47         Hold -10.00%         11,445.82         7,754.88         4,070.33         3,877.47         Slope           5400.00         b         P<sup>2</sup>         1560.00         LT         449.85         11.00%         11,45.82         7,544.84         4,070.33         3,877.47         Slope           5500.00         b         P<sup>2</sup>         1560.00         RT         15.91         -10.00%         11.46.82         7,344.86         (5,31.14)         2,387.37         Slope         Slop</th></th></t<></th></th></th></th> | Ion         Do         Station           6403.92         Io         P         75400.00           6403.92         Io         P         75400.00           6403.92         Io         P         75400.00           6403.92         Io         P         135400.00           6400.00         Io         P         135400.00           6500.00         Io         P         155400.00           6500.00         Io         P         135400.00           6500.00         Io         P         355400.00           6500.00         Io         P         35540.00           6500.00         Io         P         75540.00           6500.00         Io         P         75540.00           6500.00         Io         P         75540.00 </th <th>ton         to         Station           8403.82         to         "P"         75400.00         LT           8403.82         to         "P"         75400.00         RT           8403.82         to         "P"         75400.00         RT           8403.82         to         "P"         75400.00         RT           8540.00         to         "P"         135400.00         RT           8540.00         to         "P"         135400.00         RT           8540.00         to         "P"         135400.00         RT           8540.00         to         "P"         31540.00         RT           8540.00         to         "P"         35540.00         RT           8540.00         to         "P"         7540.00         RT           8540.00         to         "P"         75440.00         RT</th> <th>EXCAVATION         EXCAVATION           Red 32         to         PP         75+00.00         L1         23,345 44           640.3 20         to         PP         75+00.00         RT         12,345 441.24           640.3 20         to         PP         75+00.00         RT         11,240.55           640.3 20         to         PP         75+00.00         RT         11,240.55           65+00.00         to         PP         135+00.00         RT         11,240.55           65+00.00         to         PP         135+00.00         RT         14,2468           65+00.00         to         PP         135+00.00         RT         15,355           65+00.00         to         PP         315+00.00         RT         16,335,55           65+00.00         to         PP         375+00.00         RT         13,325,55           65+00.00         to         PP         355+00.00         RT         13,226,35           65+00.00         to         PP         435+00.00         RT         13,226,35           65+00.00         to         PP         435+00.00         RT         13,226,35           65+00.00         to         P</th> <th>EXCAVATION         EXCAVATION           8403.92         10         12         32,348.44           8403.92         10         12         32,348.44           8403.92         10         12         75400.00         RT         15,441.24         49,30           5400.00         10         12         135400.00         RT         11,240.55         15,10           55400.00         10         12         135400.00         RT         11,240.55         15,10           55400.00         10         12         135400.00         RT         14,240         49,30           55400.00         10         12         135400.00         RT         14,240         76,30           55400.00         10         12         135400.00         RT         15,30         55400.00         RT         15,30           55400.00         10         12         375400.00         RT         1,315.4         47,50           15400.00         10         12         34540.00         RT         1,322.83         322.00           15400.00         14         455400.00         RT         1,322.83         322.00           15400.00         12         4455400.00         RT<!--</th--><th>Station         Station         EXCAVATION         EXCAVATION         EXCAVATION           8403 52         10         1P         75400.00         LT         29,348.44           6403 52         10         1P         75400.00         LT         29,348.44           6403 52         10         1P         75400.00         LT         12,276.47         15.00           6400 10         1P         193400.00         LT         12,276.47         15.00         15.01         15.41           6500 00         1P         19540.00         LT         42.98         76.30         13.40           6500 00         1P         15540.00         LT         14.98         55.00         55.00           6500 00         1P         73540.00         LT         13.55         55.00           6500 00         1P         73540.00         LT         13.32.83         392.00         124.90           6500 00         1P         73540.00         LT         13.55.50         55.00         55.00         55.00         55.00         14.95.91         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00&lt;</th><th>Station         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION           8403.52         10         1P         75400.00         LT         23,38.4         -10.05%           8403.52         10         1P         75400.00         LT         23,38.4         -10.05%           5400.00         10         77         75400.00         LT         12,348.4         43.30         18.10         -10.00%           5400.00         10         79         13540.00         LT         142.95         51.10         534.10         -10.00%           5500.00         10         79         15540.00         LT         44.98         -10.00%           5500.00         10         79         15540.00         LT         115.50         -10.00%           5500.00         10         79         37540.00         LT         13.32         392.00         10.00%           5600.00         10         79         37540.00         LT         13.32.83         92.00         10.00%           5600.00         10         79         43540.00         LT         3.33.55         -10.00%           5600.00         17         43540.00         LT         &lt;</th><th>Station         EXCAVATION        
EXCAVATION         EXCAVATION         EXCAVATION           8403.52         to         19"         75:400.00         LT         23,388.44         -100.05%         23,413.08           8403.52         to         19"         75:400.00         LT         12,348.44         49.30         118.10         210.00%         23,413.08           5400.00         to         19"         715:400.00         RT         112,200.52         51.10         63.01.00%         113.457.02         110.00%         11,435.62           55:00.00         to         79"         15:40.00.01         RT         112,200.52         51.10         63.01.00%         110.244.44           55:00.00         to         79"         15:50.00.01         RT         15.30         -10.00%         113.32           55:00.00         to         79"         31:50.00.00         LT         13.11.54         -10.00%         15.03           16:00.00         to         79"         35:50.00.00         LT         13.32.83         392.00         12.21.93         -10.00%         3.002.00           56:00.00         to         79"         455:00.00         RT         1.32.65.64         -10.00%         2.21.43     <th>Image: Note of the station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION           8403.52         to         th*         77.940.00         L1         23,38.44         -100.00%         23,413.60         1210.35           6403.62         to         th*         77.940.00         LT         12,348.44         49.30         110.00%         13,857.72         23,740.97           5400.00         to         th*         115.400.05         RT         112,00.85         51.10         63.01.07         10.00%         113,457         23,737           5500.00         to         th*         155.40.00         LT         44.86         32,2737           5500.00         to         th*         155.40.00         LT         143.86         -10.00%         113,37         65.538.85           5500.00         to         th*         79.354.00.00         LT         131.154         -10.00%         15.33         81.744.09         15.00.07         15.538.85         16.00.07         15.72.744.39         17.02.748.39         -10.00%         15.93.98         17.742.24         11.84.32.27.145         11.84.32.27.145         11.84.32.27.145         11.84.32.25.55         -10.00%         12.92.143         11.84.32.25.5</th><th>Image: Construction         EXCAVATION         <t< th=""><th>Internet         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         CRC 8           8403.52         10         197         75400.00         LT         23,948.44         -40.00%         28,413.60         11,503.22         3,843.           5403.02         10         197         7540.00         LT         11,200.55         3,842.         -40.00%         28,413.60         11,910.35         3,852.         3,842.           5400.00         10         197         1354.000         LT         11,200.55         51.10         B3.41.01         -10.00%         11,435.52         7,344.86         4,070.03         3,020.22         3,535.5         50.000         10         197         1554.000         LT         4,486         3,227.37         (2,523.39         1,857.000         1,857.000         10,337         6,553.84         (2,611.47         2,348.47</th><th>Cont         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           8403.52         10         1P         75400.00         LT         23,948.44         -100.0%         23,413.60         11,910.36         13,503.22         3,843.34           5400.00         1p         79,784.00         LT         12,706.47         -100.0%         13,877.26         7,344.86         4,000.93         3,852.68           5400.00         to         TP         1354.000         LT         12,206.8         51.10         B34.10         -100.0%         11,435.52         7,344.86         4,000.93         3,852.68           5500.00         to         TP         1554.000         LT         44.88         3,227.37         (3,252.39         1,857.44           5500.00         to         TP         3554.000         LT         115.38         -100.076         15.33         1,814.45         (1,712.2         2,989.47           5500.00         tr         79.354.000         RT         15.82.65         -100.076         15.33         1,814.93         (4,64.93.13         3,985.33           5500.00         tr         79.354.000         RT         13.22.48         1.00.076<!--</th--><th>Image: Construct on the station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           6403.20         b         P<sup>2</sup>         7540.00         LT         23,943.44         -10.00%         23,943.56         12,910.38         13,503.22         3,843.35         Slope           6403.00         b         P<sup>2</sup>         7540.00         LT         12,704.47         Hold -10.00%         11,445.82         7,754.88         4,070.33         3,877.47         Slope           5400.00         b         P<sup>2</sup>         1560.00         LT         449.85         11.00%         11,45.82         7,544.84         4,070.33         3,877.47         Slope           5500.00         b         P<sup>2</sup>         1560.00         RT         15.91         -10.00%         11.46.82         7,344.86         (5,31.14)         2,387.37         Slope         Slop</th></th></t<></th></th></th> | ton         to         Station           8403.82         to         "P"         75400.00         LT           8403.82         to         "P"         75400.00         RT           8403.82         to         "P"         75400.00         RT           8403.82         to         "P"         75400.00         RT           8540.00         to         "P"         135400.00         RT           8540.00         to         "P"         135400.00         RT           8540.00         to         "P"         135400.00         RT           8540.00         to         "P"         31540.00         RT           8540.00         to         "P"         35540.00         RT           8540.00         to         "P"         7540.00         RT           8540.00         to         "P"         75440.00         RT | EXCAVATION         EXCAVATION           Red 32         to         PP         75+00.00         L1         23,345 44           640.3 20         to         PP         75+00.00         RT         12,345 441.24           640.3 20         to         PP         75+00.00         RT         11,240.55           640.3 20         to         PP         75+00.00         RT         11,240.55           65+00.00         to         PP         135+00.00         RT         11,240.55           65+00.00         to         PP         135+00.00         RT         14,2468           65+00.00         to         PP         135+00.00         RT         15,355           65+00.00         to         PP         315+00.00         RT         16,335,55           65+00.00         to         PP         375+00.00         RT         13,325,55           65+00.00         to         PP         355+00.00         RT         13,226,35           65+00.00         to         PP         435+00.00         RT         13,226,35           65+00.00         to         PP         435+00.00         RT         13,226,35           65+00.00         to         P | EXCAVATION         EXCAVATION           8403.92         10         12         32,348.44           8403.92         10         12         32,348.44           8403.92         10         12         75400.00         RT         15,441.24         49,30           5400.00         10         12         135400.00         RT         11,240.55         15,10           55400.00         10         12         135400.00         RT         11,240.55         15,10           55400.00         10         12         135400.00         RT         14,240         49,30           55400.00         10         12         135400.00         RT         14,240         76,30           55400.00         10         12         135400.00         RT         15,30         55400.00         RT         15,30           55400.00         10         12         375400.00         RT         1,315.4         47,50           15400.00         10         12         34540.00         RT         1,322.83         322.00           15400.00         14         455400.00         RT         1,322.83         322.00           15400.00         12         4455400.00         RT </th <th>Station         Station         EXCAVATION         EXCAVATION         EXCAVATION           8403 52         10         1P         75400.00         LT         29,348.44           6403 52         10         1P         75400.00         LT         29,348.44           6403 52         10         1P         75400.00         LT         12,276.47         15.00           6400 10         1P         193400.00         LT         12,276.47         15.00         15.01         15.41           6500 00         1P         19540.00         LT         42.98         76.30         13.40           6500 00         1P         15540.00         LT         14.98         55.00         55.00           6500 00         1P         73540.00         LT         13.55         55.00           6500 00         1P         73540.00         LT         13.32.83         392.00         124.90           6500 00         1P         73540.00         LT         13.55.50         55.00         55.00         55.00         55.00         14.95.91         45.00 
       45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00&lt;</th> <th>Station         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION           8403.52         10         1P         75400.00         LT         23,38.4         -10.05%           8403.52         10         1P         75400.00         LT         23,38.4         -10.05%           5400.00         10         77         75400.00         LT         12,348.4         43.30         18.10         -10.00%           5400.00         10         79         13540.00         LT         142.95         51.10         534.10         -10.00%           5500.00         10         79         15540.00         LT         44.98         -10.00%           5500.00         10         79         15540.00         LT         115.50         -10.00%           5500.00         10         79         37540.00         LT         13.32         392.00         10.00%           5600.00         10         79         37540.00         LT         13.32.83         92.00         10.00%           5600.00         10         79         43540.00         LT         3.33.55         -10.00%           5600.00         17         43540.00         LT         &lt;</th> <th>Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION           8403.52         to         19"         75:400.00         LT         23,388.44         -100.05%         23,413.08           8403.52         to         19"         75:400.00         LT         12,348.44         49.30         118.10         210.00%         23,413.08           5400.00         to         19"         715:400.00         RT         112,200.52         51.10         63.01.00%         113.457.02         110.00%         11,435.62           55:00.00         to         79"         15:40.00.01         RT         112,200.52         51.10         63.01.00%         110.244.44           55:00.00         to         79"         15:50.00.01         RT         15.30         -10.00%         113.32           55:00.00         to         79"         31:50.00.00         LT         13.11.54         -10.00%         15.03           16:00.00         to         79"         35:50.00.00         LT         13.32.83         392.00         12.21.93         -10.00%         3.002.00           56:00.00         to         79"         455:00.00         RT         1.32.65.64         -10.00%         2.21.43     <th>Image: Note of the station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION           8403.52         to         th*         77.940.00         L1         23,38.44         -100.00%         23,413.60         1210.35           6403.62         to         th*         77.940.00         LT         12,348.44         49.30         110.00%         13,857.72         23,740.97           5400.00         to         th*         115.400.05         RT         112,00.85         51.10         63.01.07         10.00%         113,457         23,737           5500.00         to         th*         155.40.00         LT         44.86         32,2737           5500.00         to         th*         155.40.00         LT         143.86         -10.00%         113,37         65.538.85           5500.00         to         th*         79.354.00.00         LT         131.154         -10.00%         15.33         81.744.09         15.00.07         15.538.85         16.00.07         15.72.744.39         17.02.748.39         -10.00%         15.93.98         17.742.24         11.84.32.27.145         11.84.32.27.145         11.84.32.27.145         11.84.32.25.55         -10.00%         12.92.143         11.84.32.25.5</th><th>Image: Construction         EXCAVATION         <t< th=""><th>Internet         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         CRC 8           8403.52         10         197         75400.00         LT         23,948.44         -40.00%         28,413.60         11,503.22         3,843.           5403.02         10         197         7540.00         LT         11,200.55         3,842.         -40.00%         28,413.60         11,910.35         3,852.         3,842.           5400.00         10         197         1354.000         LT         11,200.55         51.10         B3.41.01         -10.00%         11,435.52         7,344.86         4,070.03         3,020.22         3,535.5         50.000         10         197         1554.000         LT         4,486         3,227.37         (2,523.39         1,857.000         1,857.000         10,337         6,553.84         (2,611.47         2,348.47</th><th>Cont         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           8403.52         10         1P         75400.00         LT         23,948.44         -100.0%         23,413.60         11,910.36         13,503.22         3,843.34           5400.00         1p         79,784.00         LT         12,706.47         -100.0%         13,877.26         7,344.86         4,000.93         3,852.68           5400.00         to         TP         1354.000         LT         12,206.8         51.10         B34.10         -100.0%         11,435.52         7,344.86         4,000.93         3,852.68           5500.00         to         TP         1554.000         LT         44.88         3,227.37         (3,252.39         1,857.44           5500.00         to         TP         3554.000         LT         115.38         -100.076         15.33         1,814.45         (1,712.2         2,989.47           5500.00         tr         79.354.000         RT         15.82.65         -100.076         15.33         1,814.93         (4,64.93.13         3,985.33           5500.00         tr         79.354.000         RT         13.22.48         1.00.076<!--</th--><th>Image: Construct on the station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           6403.20         b         P<sup>2</sup>         7540.00         LT         23,943.44         -10.00%         23,943.56         12,910.38         13,503.22         3,843.35         Slope           6403.00         b         P<sup>2</sup>         7540.00         LT         12,704.47         Hold -10.00%         11,445.82         7,754.88         4,070.33         3,877.47         Slope           5400.00         b         P<sup>2</sup>         1560.00         LT         449.85         11.00%         11,45.82         7,544.84         4,070.33         3,877.47         Slope           5500.00         b         P<sup>2</sup>         1560.00         RT         15.91         -10.00%         11.46.82         7,344.86         (5,31.14)         2,387.37         Slope         Slop</th></th></t<></th></th> | Station         Station         EXCAVATION         EXCAVATION         EXCAVATION           8403 52         10         1P         75400.00         LT         29,348.44           6403 52         10         1P         75400.00         LT         29,348.44           6403 52         10         1P         75400.00         LT         12,276.47         15.00           6400 10         1P         193400.00         LT         12,276.47         15.00         15.01         15.41           6500 00         1P         19540.00         LT         42.98         76.30         13.40           6500 00         1P         15540.00         LT         14.98         55.00         55.00           6500 00         1P         73540.00         LT         13.55         55.00           6500 00         1P         73540.00         LT         13.32.83         392.00         124.90           6500 00         1P         73540.00         LT         13.55.50         55.00         55.00         55.00         55.00         14.95.91         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00         45.00< | Station         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION           8403.52         10         1P         75400.00         LT         23,38.4         -10.05%           8403.52         10         1P         75400.00         LT         23,38.4         -10.05%           5400.00         10         77         75400.00         LT         12,348.4         43.30         18.10         -10.00%           5400.00         10         79         13540.00         LT         142.95         51.10         534.10         -10.00%           5500.00         10         79         15540.00         LT         44.98         -10.00%           5500.00         10         79         15540.00         LT         115.50         -10.00%           5500.00         10         79         37540.00         LT         13.32         392.00         10.00%           5600.00         10         79         37540.00         LT         13.32.83         92.00         10.00%           5600.00         10         79         43540.00         LT         3.33.55         -10.00%           5600.00         17         43540.00         LT         < | Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION           8403.52         to         19"         75:400.00         LT         23,388.44         -100.05%         23,413.08           8403.52         to         19"         75:400.00         LT         12,348.44         49.30         118.10         210.00%         23,413.08           5400.00         to         19"        
715:400.00         RT         112,200.52         51.10         63.01.00%         113.457.02         110.00%         11,435.62           55:00.00         to         79"         15:40.00.01         RT         112,200.52         51.10         63.01.00%         110.244.44           55:00.00         to         79"         15:50.00.01         RT         15.30         -10.00%         113.32           55:00.00         to         79"         31:50.00.00         LT         13.11.54         -10.00%         15.03           16:00.00         to         79"         35:50.00.00         LT         13.32.83         392.00         12.21.93         -10.00%         3.002.00           56:00.00         to         79"         455:00.00         RT         1.32.65.64         -10.00%         2.21.43 <th>Image: Note of the station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION           8403.52         to         th*         77.940.00         L1         23,38.44         -100.00%         23,413.60         1210.35           6403.62         to         th*         77.940.00         LT         12,348.44         49.30         110.00%         13,857.72         23,740.97           5400.00         to         th*         115.400.05         RT         112,00.85         51.10         63.01.07         10.00%         113,457         23,737           5500.00         to         th*         155.40.00         LT         44.86         32,2737           5500.00         to         th*         155.40.00         LT         143.86         -10.00%         113,37         65.538.85           5500.00         to         th*         79.354.00.00         LT         131.154         -10.00%         15.33         81.744.09         15.00.07         15.538.85         16.00.07         15.72.744.39         17.02.748.39         -10.00%         15.93.98         17.742.24         11.84.32.27.145         11.84.32.27.145         11.84.32.27.145         11.84.32.25.55         -10.00%         12.92.143         11.84.32.25.5</th> <th>Image: Construction         EXCAVATION         <t< th=""><th>Internet         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         CRC 8           8403.52         10         197         75400.00         LT         23,948.44         -40.00%         28,413.60         11,503.22         3,843.           5403.02         10         197         7540.00         LT         11,200.55         3,842.         -40.00%         28,413.60         11,910.35         3,852.         3,842.           5400.00         10         197         1354.000         LT         11,200.55         51.10         B3.41.01         -10.00%         11,435.52         7,344.86         4,070.03         3,020.22         3,535.5         50.000         10         197         1554.000         LT         4,486         3,227.37         (2,523.39         1,857.000         1,857.000         10,337         6,553.84         (2,611.47         2,348.47</th><th>Cont         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           8403.52         10         1P         75400.00         LT         23,948.44         -100.0%         23,413.60         11,910.36         13,503.22         3,843.34           5400.00         1p         79,784.00         LT         12,706.47         -100.0%         13,877.26         7,344.86         4,000.93         3,852.68           5400.00         to         TP         1354.000         LT         12,206.8         51.10         B34.10         -100.0%         11,435.52         7,344.86         4,000.93         3,852.68           5500.00         to         TP         1554.000         LT         44.88         3,227.37         (3,252.39         1,857.44           5500.00         to         TP         3554.000         LT         115.38         -100.076         15.33         1,814.45         (1,712.2         2,989.47           5500.00         tr         79.354.000         RT         15.82.65         -100.076         15.33         1,814.93         (4,64.93.13         3,985.33           5500.00         tr         79.354.000         RT         13.22.48         1.00.076<!--</th--><th>Image: Construct on the station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           6403.20         b         P<sup>2</sup>         7540.00         LT         23,943.44         -10.00%         23,943.56         12,910.38         13,503.22         3,843.35         Slope           6403.00         b         P<sup>2</sup>         7540.00         LT         12,704.47         Hold -10.00%         11,445.82         7,754.88         4,070.33         3,877.47         Slope           5400.00         b         P<sup>2</sup>         1560.00         LT         449.85         11.00%         11,45.82         7,544.84         4,070.33         3,877.47         Slope           5500.00         b         P<sup>2</sup>         1560.00         RT         15.91         -10.00%         11.46.82         7,344.86         (5,31.14)         2,387.37         Slope         Slop</th></th></t<></th> | Image: Note of the station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION           8403.52         to         th*         77.940.00         L1         23,38.44         -100.00%         23,413.60         1210.35           6403.62         to         th*         77.940.00         LT         12,348.44         49.30         110.00%         13,857.72         23,740.97           5400.00         to         th*         115.400.05         RT         112,00.85         51.10         63.01.07         10.00%         113,457         23,737           5500.00         to         th*         155.40.00         LT         44.86         32,2737           5500.00         to         th*         155.40.00         LT         143.86         -10.00%         113,37         65.538.85           5500.00         to         th*         79.354.00.00         LT         131.154         -10.00%         15.33         81.744.09         15.00.07         15.538.85         16.00.07         15.72.744.39         17.02.748.39         -10.00%         15.93.98         17.742.24         11.84.32.27.145         11.84.32.27.145         11.84.32.27.145         11.84.32.25.55         -10.00%         12.92.143         11.84.32.25.5 | Image: Construction         EXCAVATION         EXCAVATION <t< th=""><th>Internet         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         CRC 8           8403.52         10         197         75400.00         LT         23,948.44         -40.00%         28,413.60         11,503.22         3,843.           5403.02         10         197         7540.00         LT         11,200.55         3,842.         -40.00%         28,413.60         11,910.35         3,852.         3,842.           5400.00         10         197         1354.000         LT         11,200.55         51.10         B3.41.01         -10.00%         11,435.52         7,344.86         4,070.03         3,020.22         3,535.5         50.000         10         197         1554.000         LT         4,486         3,227.37         (2,523.39         1,857.000         1,857.000         10,337         6,553.84         (2,611.47         2,348.47</th><th>Cont         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           8403.52         10         1P         75400.00         LT         23,948.44         -100.0%         23,413.60         11,910.36         13,503.22         3,843.34           5400.00         1p         79,784.00         LT         12,706.47         -100.0%         13,877.26         7,344.86         4,000.93         3,852.68           5400.00         to         TP         1354.000         LT         12,206.8         51.10         B34.10         -100.0%         11,435.52         7,344.86         4,000.93         3,852.68           5500.00         to         TP         1554.000         LT         44.88         3,227.37         (3,252.39         1,857.44           5500.00         to         TP         3554.000         LT         115.38         -100.076         15.33         1,814.45         (1,712.2         2,989.47           5500.00         tr         79.354.000         RT         15.82.65         -100.076         15.33         1,814.93         (4,64.93.13         3,985.33           5500.00         tr         79.354.000         RT         13.22.48         1.00.076<!--</th--><th>Image: Construct on the station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           6403.20         b         P<sup>2</sup>         7540.00         LT         23,943.44         -10.00%         23,943.56         12,910.38         13,503.22         3,843.35         Slope           6403.00         b         P<sup>2</sup>         7540.00         LT         12,704.47         Hold -10.00%         11,445.82         7,754.88         4,070.33         3,877.47         Slope           5400.00         b         P<sup>2</sup>         1560.00         LT         449.85        
11.00%         11,45.82         7,544.84         4,070.33         3,877.47         Slope           5500.00         b         P<sup>2</sup>         1560.00         RT         15.91         -10.00%         11.46.82         7,344.86         (5,31.14)         2,387.37         Slope         Slop</th></th></t<> | Internet         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         CRC 8           8403.52         10         197         75400.00         LT         23,948.44         -40.00%         28,413.60         11,503.22         3,843.           5403.02         10         197         7540.00         LT         11,200.55         3,842.         -40.00%         28,413.60         11,910.35         3,852.         3,842.           5400.00         10         197         1354.000         LT         11,200.55         51.10         B3.41.01         -10.00%         11,435.52         7,344.86         4,070.03         3,020.22         3,535.5         50.000         10         197         1554.000         LT         4,486         3,227.37         (2,523.39         1,857.000         1,857.000         10,337         6,553.84         (2,611.47         2,348.47 | Cont         Station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           8403.52         10         1P         75400.00         LT         23,948.44         -100.0%         23,413.60         11,910.36         13,503.22         3,843.34           5400.00         1p         79,784.00         LT         12,706.47         -100.0%         13,877.26         7,344.86         4,000.93         3,852.68           5400.00         to         TP         1354.000         LT         12,206.8         51.10         B34.10         -100.0%         11,435.52         7,344.86         4,000.93         3,852.68           5500.00         to         TP         1554.000         LT         44.88         3,227.37         (3,252.39         1,857.44           5500.00         to         TP         3554.000         LT         115.38         -100.076         15.33         1,814.45         (1,712.2         2,989.47           5500.00         tr         79.354.000         RT         15.82.65         -100.076         15.33         1,814.93         (4,64.93.13         3,985.33           5500.00         tr         79.354.000         RT         13.22.48         1.00.076 </th <th>Image: Construct on the station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           6403.20         b         P<sup>2</sup>         7540.00         LT         23,943.44         -10.00%         23,943.56         12,910.38         13,503.22         3,843.35         Slope           6403.00         b         P<sup>2</sup>         7540.00         LT         12,704.47         Hold -10.00%         11,445.82         7,754.88         4,070.33         3,877.47         Slope           5400.00         b         P<sup>2</sup>         1560.00         LT         449.85         11.00%         11,45.82         7,544.84         4,070.33         3,877.47         Slope           5500.00         b         P<sup>2</sup>         1560.00         RT         15.91         -10.00%         11.46.82         7,344.86         (5,31.14)         2,387.37         Slope         Slop</th> | Image: Construct on the station         EXCAVATION         EXCAVATION         EXCAVATION         EXCAVATION         OR         SALVAGE           6403.20         b         P <sup>2</sup> 7540.00         LT         23,943.44         -10.00%         23,943.56         12,910.38         13,503.22         3,843.35         Slope           6403.00         b         P <sup>2</sup> 7540.00         LT         12,704.47         Hold -10.00%         11,445.82         7,754.88         4,070.33         3,877.47         Slope           5400.00         b         P <sup>2</sup> 1560.00         LT         449.85         11.00%         11,45.82         7,544.84         4,070.33         3,877.47         Slope           5500.00         b         P <sup>2</sup> 1560.00         RT         15.91         -10.00%         11.46.82         7,344.86         (5,31.14)         2,387.37         Slope         Slop |

#### Figure 6-1: Example of a Summary of Earthwork Quantities Sheet

- Review the following for accuracy:
  - Special Provisions
  - Supplemental Notices
  - Contract Modifications

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**Note:** When any changes are made to an item, reference the Contract Modification number in the IDR item posting remarks.

Turn in ALL earthwork item calculation sheets to the Office Engineer.

## INSPECTOR DAILY REPORT (IDR) - MOBILE INSPECTOR

- Create an IDR in Mobile Inspector daily to document the activity being monitored. Refer to the <u>Mobile Inspector User Guide</u> for details on using this application.
  - Report Details daily activities
  - Item Postings item(s) and quantity(s)
  - · Equipment type and hours
  - Personnel title and hours
- 2. Record the following required information in the Report Details window (Figure 6-2):
  - Date
  - Weather
  - Low and high temperature
  - Attachments (N/A) Send ALL photos via email
  - Remarks Verify with the Resident Engineer on what information is required.

Date:	Tue 03/21/2017
Weather:	Partly cloudy and warm
_ow Temp:	40 °F
ligh Temp:	65_ °F
Attachments:	0

#### Figure 6-2: IDR Report Detail Window

- 3. Record the following required information in the New Item Postings window:
  - Item
  - Proj/Catg Refer to the AEB report.
  - Contractor ALWAYS the Prime Contractor (Subs are not allowed).
  - Qty Based on plan, measurements and calculations
  - Location Must show line designation, LT, RT or CL and offset if known.
  - Station From/To Refer to Contract plans.
  - Attention Flag Use to bring attention to Resident Engineer and Office Engineer for overruns and plan errors.
  - Remarks Must show calculations when appropriate, refer to Calculation Sheet when appropriate (refer to Appendix B, Calculation Formulas, in this Manual for a Calculation Sheet example), other information relevant to item posting, and explanations when Attention Flag is checked.

NOTES for Earthwork Item postings:

- Refer to Subsection 203.04.01, (Excavation and Embankment) Measurement, of the Standard Specifications for additional details/requirements on measurement for payment of excavation and embankment items.
- When excavation is utilized to construct embankment, it is only paid ONCE as an excavation item.
- The limit for payment of excavation items are based upon the Standard Plans or plan details. Changes to these limits for contractor convenience or methods of construction do not affect quantity for payment.
- The Inspector will base the quantity posted on the percent of earthwork completed.
- Refer to Figure 6-3 through Figure 6-6 for examples of Earthwork Item postings.

Item:	ROADWAY EXCAVATION		
Proj/Catg:	60458C2C, 15, CONSTR *		
Contractor: FISHER SAND & GRAVE			
Qty: 312.78 CUYD			
Location:	"S" LT to RT		
Station From:	0 + 22.00		
Station To:	5 + 10.00		
Attention Flag:			
Remarks:			
Plan qty. for this section Additional qty to correct $200 \times 7 \times 1.5 / 27 = 77.7$	= 235.00 <u>cuyd</u> . cross slope. 78 cuyd.		

Figure 6-3: IDR Item Posting - Earthwork CUYD

AN AN UN			
Item:	BORROW EMBANKMENT		
Proj/Catg:	60638C2C, 10, Construct		
Contractor: LAS VEGAS PAVING CO			
Qty:	244.35 CUY		
Location:	"S" LT to RT		
Station From:	0 + 22.00		
Station To:	5 + 10.00		
Attention Flag:			
Remarks:			
Plan qty. for this section	= 1629.00 CUYD		
15% complete			
$1629.00 \times .15 = 244.35$	CUYD		

Figure 6-4: IDR Item Posting - Earthwork CUYD

NOTES for Earthwork CUYD (Figure 6-3):

- Payment for CUYD item will be based on plan quantity or field measure and calculations if different than plan.
- Calculation for CUYD if different than plan =LxWxD ÷ 27
- In Location, enter the Line Designation and LT, RT, or CL.
- Sig. Fig. = .01

NOTES for Earthwork CUYD (Figure 6-4):

- Payment for CUYD item will be based on plan quantity or field measure and calculations if different than plan.
- Calculation for CUYD if different than plan = L x W x D ÷ 27
- In Location, enter the Line Designation and LT, RT, or CL.
- Sig. Fig. = .01

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	New Item Posting				
Item:	CHANNEL EXCAVATION				
Proj/Catg:	60638C2C, 08, Landscape &				
Contractor:	LAS VEGAS PAVING CORP				
Qty:	[ 179.20 CUYE				
Location:	"X" 33+79 LT				
Station From:	+				
Station To:	+				
Attention Flag:					
Remarks:					
Plan qty for this section 36% previous paid = 10 280.00 - 100.80 = 179.2 Item 100% complete	= 280.00 CUYD 10.80 CUYD 20 CUYD				

NOTES for Earthwork CUYD (Figure 6-5):

- Payment for CUYD item will be based on plan quantity or field measure and calculations if different than plan.
- Calculation for CUYD if different than plan = L x W x D ÷ 27
- In Location, enter the Line Designation and LT, RT, or CL.
- Sig. Fig. = .01



	New Item Posting	
Item:	TOP SOIL (SALVAGE)	_
Proj/Catg:	60638C2C, 08, Landscape &	NOTES for Earthwork CLIVD (Figure 6-6):
Contractor:	LAS VEGAS PAVING CORP	<ul> <li>Payment for CUYD item will be based on plan</li> </ul>
Qty:	12.96 CUYD	quantity or field measure and calculations if dif-
Location:	"LNE" RT	ferent than plan.
Station From:	355 + 11	Calculation for COYD if different than plan = L x     WxD ÷ 27
Station To:	367 + 23	• Pay .5 when item is removed and .5 when it's
Attention Flag:		<ul> <li>replaced.</li> <li>In Location, enter the Line Designation and LT.</li> </ul>
Remarks:		RT. or CL.
Replaced topsoil to orig 10 x 5 x 7 / 27 = 12.96	inal location. CUYD	• Sig. Fig. = .01
	192 remaining	



- 4. Record the following required information in the New Equipment window (Figure 6-7 and Figure 6-8):
  - Contractor Actual contractor performing the work (including subcontractors)
  - Type Detailed description of the equipment (e.g., diesel, HP, model, make)
  - Number How many of each type
  - Hours Total hours in use

Note: An attachment to an equipment's base configuration must have its own record.

Contractor:	LAS VEGAS PAVI *
Туре:	Bobcat 256C Skid *
Number:	1
Hours:	8

## Figure 6-7: IDR Equipment Entry

LAS VEGAS PA	VING CORPORATION
Bobcat 256C Sk	id Steer, Diesel, 82HP, 2350lbs
Number: 1.00	Hours: 8.00
LAS VEGAS PA	VING CORPORATION
Bobcat Auger Lo	ader, Attachment, 15C w/12" bit

### Figure 6-8: IDR Equipment List

- 5. Record the following required information in the New Personnel window (Figure 2-9 and Figure 2-10):
  - Contractor Actual contractor performing the work (including subcontractors)
  - Type Details of personnel type (e.g., foreman, laborer, truck driver)
  - Number How many of each title
  - Hours Total hours worked

Contractor:	LAS VEGAS PAVING CO
Туре:	Foreman - Donald Driver
Number:	1
Hours:	8
nours.	

Figure 6-9: IDR Personnel Entry

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### Figure 6-10: IDR Personnel List

6. Complete a final review of the IDR and lock it.

**Note:** When a Mobile Inspector IDR is completed and locked the information is uploaded into a FieldManager IDR, where it is reviewed and generated for processing progress payments.

# OFFICE ENGINEER'S RESPONSIBILITIES – Earthwork items

- Save Earthwork Item photos in the appropriate EDOC Contract Files\Contract Files\Division No. 3 Multimedia Records\3.# Photographs with Descriptions directory.
- Review Earthwork Item calculation sheets for accuracy and save electronically in the appropriate EDOC Contract Files\Contract Files\Division No. 7 - Construction Pay Estimate and Related Data\7.# IDR Calculation Sheets directory using this naming convention: IDR YYYY-MM-DD Inspectors Initials, (e.g. IDR 2016-03-19 KMM).

## INSPECTOR DAILY REPORT (IDR) - FIELDMANAGER

When a Mobile Inspector IDR is locked by an Inspector, the information is uploaded into a FieldManager IDR. Refer to Chapter 7, Inspector Daily Report, in the FieldManager User Guide for details.

- 1. Verify the following:
  - Information in the Comments and Remarks
  - Information in the Contractor tab (Personnel and Equipment)
  - That all items are paid correctly according to the contract documents (e.g., plans, supplemental notices, Contract Modifications).
  - Item quantities
  - Quantities in postings are documented to the correct Significant Figure
  - Stations and Line Designations in the Locations
  - Calculations are correct.
  - Check that the Inspector's IDRs reference calculation sheets, if applicable.

**Note:** Length does not always equal the difference between the beginning and ending station. Sometimes there is a curve or an obstacle that will affect the distance. Always check with the Inspector before assuming the calculations are incorrect.

2. Generate the IDR.