

### Lampiran 3 Hasil Report AutoCAD CIVIL 3D

# Alignment Incremental Station Report

**Client:**

Program Studi Teknik Sipil  
 FTSP UII  
 Jalan Kaliurang Km 14,5 Sleman DIY  
 Date: 23/03/2018 06:58:14

**Prepared by:**

Taufiq Adin  
 Mahasiswa Teknik Sipil FTSP UII

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Alignment Name: Rail\_alinyemen

Description:

Station Range: Start: 5+420.00, End: 29+237.00

Station Increment: 20.00

Station	Northing	Easting	Tangential Direction
5+420.00	9,138,500.6495m	424,106.4779m	N28° 13' 02"W
5+440.00	9,138,518.2727m	424,097.0215m	N28° 13' 02"W
5+460.00	9,138,535.8959m	424,087.5651m	N28° 13' 02"W
5+480.00	9,138,553.5191m	424,078.1088m	N28° 13' 02"W
5+500.00	9,138,571.1423m	424,068.6524m	N28° 13' 02"W
5+520.00	9,138,588.7655m	424,059.1961m	N28° 13' 02"W
5+540.00	9,138,606.3887m	424,049.7397m	N28° 13' 02"W
5+560.00	9,138,624.0119m	424,040.2834m	N28° 13' 02"W
5+580.00	9,138,641.6351m	424,030.8270m	N28° 13' 02"W
5+600.00	9,138,659.2583m	424,021.3707m	N28° 13' 02"W
5+620.00	9,138,676.8815m	424,011.9143m	N28° 13' 02"W
5+640.00	9,138,694.5047m	424,002.4580m	N28° 13' 02"W
5+660.00	9,138,712.1279m	423,993.0016m	N28° 13' 02"W
5+680.00	9,138,729.7511m	423,983.5452m	N28° 13' 02"W
5+700.00	9,138,747.3743m	423,974.0889m	N28° 13' 02"W
5+720.00	9,138,764.9975m	423,964.6325m	N28° 13' 02"W
5+740.00	9,138,782.6207m	423,955.1762m	N28° 13' 02"W
5+760.00	9,138,800.2439m	423,945.7198m	N28° 13' 02"W
5+780.00	9,138,817.8671m	423,936.2635m	N28° 13' 02"W
5+800.00	9,138,835.4904m	423,926.8071m	N28° 13' 02"W

5+820.00	9,138,853.1136m	423,917.3508m	N28° 13' 02"W
5+840.00	9,138,870.7368m	423,907.8944m	N28° 13' 02"W
5+860.00	9,138,888.3600m	423,898.4381m	N28° 13' 02"W
5+880.00	9,138,905.9832m	423,888.9817m	N28° 13' 02"W
5+900.00	9,138,923.6064m	423,879.5254m	N28° 13' 02"W
5+920.00	9,138,941.2296m	423,870.0690m	N28° 13' 02"W
5+940.00	9,138,958.8528m	423,860.6126m	N28° 13' 02"W
5+960.00	9,138,976.4760m	423,851.1563m	N28° 13' 02"W
5+980.00	9,138,994.0992m	423,841.6999m	N28° 13' 02"W
6+000.00	9,139,011.7224m	423,832.2436m	N28° 13' 02"W
6+020.00	9,139,029.3456m	423,822.7872m	N28° 13' 02"W
6+040.00	9,139,046.9688m	423,813.3309m	N28° 13' 02"W
6+060.00	9,139,064.5920m	423,803.8745m	N28° 13' 02"W
6+080.00	9,139,082.2152m	423,794.4182m	N28° 13' 02"W
6+100.00	9,139,099.8384m	423,784.9618m	N28° 13' 02"W
6+120.00	9,139,117.4616m	423,775.5055m	N28° 13' 02"W
6+140.00	9,139,135.0848m	423,766.0491m	N28° 13' 02"W
6+160.00	9,139,152.7081m	423,756.5928m	N28° 13' 02"W
6+180.00	9,139,170.3313m	423,747.1364m	N28° 13' 02"W
6+200.00	9,139,187.9545m	423,737.6800m	N28° 13' 02"W
6+220.00	9,139,205.5777m	423,728.2237m	N28° 13' 02"W
6+240.00	9,139,223.2009m	423,718.7673m	N28° 13' 02"W
6+260.00	9,139,240.8241m	423,709.3110m	N28° 13' 02"W
6+280.00	9,139,258.4473m	423,699.8546m	N28° 13' 02"W
6+300.00	9,139,276.0705m	423,690.3983m	N28° 13' 02"W
6+320.00	9,139,293.6937m	423,680.9419m	N28° 13' 02"W
6+340.00	9,139,311.3169m	423,671.4856m	N28° 13' 02"W
6+360.00	9,139,328.9401m	423,662.0292m	N28° 13' 02"W
6+380.00	9,139,346.5633m	423,652.5729m	N28° 13' 02"W
6+400.00	9,139,364.1865m	423,643.1165m	N28° 13' 02"W
6+420.00	9,139,381.8097m	423,633.6601m	N28° 13' 02"W
6+440.00	9,139,399.4329m	423,624.2038m	N28° 13' 02"W
6+460.00	9,139,417.0561m	423,614.7474m	N28° 13' 02"W
6+480.00	9,139,434.6793m	423,605.2911m	N28° 13' 02"W
6+500.00	9,139,452.3025m	423,595.8347m	N28° 13' 02"W
6+520.00	9,139,469.9257m	423,586.3784m	N28° 13' 02"W
6+540.00	9,139,487.5490m	423,576.9220m	N28° 13' 02"W

6+560.00	9,139,505.1722m	423,567.4657m	N28° 13' 02"W
6+580.00	9,139,522.7954m	423,558.0093m	N28° 13' 02"W
6+600.00	9,139,540.4186m	423,548.5530m	N28° 13' 02"W
6+620.00	9,139,558.0418m	423,539.0966m	N28° 13' 02"W
6+640.00	9,139,575.6650m	423,529.6403m	N28° 13' 02"W
6+660.00	9,139,593.2882m	423,520.1839m	N28° 13' 02"W
6+680.00	9,139,610.9114m	423,510.7275m	N28° 13' 02"W
6+700.00	9,139,628.5346m	423,501.2712m	N28° 13' 02"W
6+720.00	9,139,646.1578m	423,491.8148m	N28° 13' 02"W
6+740.00	9,139,663.7810m	423,482.3585m	N28° 13' 02"W
6+760.00	9,139,681.4042m	423,472.9021m	N28° 13' 02"W
6+780.00	9,139,699.0274m	423,463.4458m	N28° 13' 02"W
6+800.00	9,139,716.6506m	423,453.9894m	N28° 13' 02"W
6+820.00	9,139,734.2738m	423,444.5331m	N28° 13' 02"W
6+840.00	9,139,751.8970m	423,435.0767m	N28° 13' 02"W
6+860.00	9,139,769.5202m	423,425.6204m	N28° 13' 02"W
6+880.00	9,139,787.1434m	423,416.1640m	N28° 13' 02"W
6+900.00	9,139,804.7666m	423,406.7076m	N28° 13' 02"W
6+920.00	9,139,822.3899m	423,397.2513m	N28° 13' 02"W
6+940.00	9,139,840.0131m	423,387.7949m	N28° 13' 02"W
6+960.00	9,139,857.6363m	423,378.3386m	N28° 13' 02"W
6+980.00	9,139,875.2595m	423,368.8822m	N28° 13' 02"W
7+000.00	9,139,892.8827m	423,359.4259m	N28° 13' 02"W
7+020.00	9,139,910.5059m	423,349.9695m	N28° 13' 02"W
7+040.00	9,139,928.1291m	423,340.5132m	N28° 13' 02"W
7+060.00	9,139,945.7523m	423,331.0568m	N28° 13' 02"W
7+080.00	9,139,963.3755m	423,321.6005m	N28° 13' 02"W
7+100.00	9,139,980.9987m	423,312.1441m	N28° 13' 02"W
7+120.00	9,139,998.6219m	423,302.6878m	N28° 13' 02"W
7+140.00	9,140,016.2451m	423,293.2314m	N28° 13' 02"W
7+160.00	9,140,033.8683m	423,283.7750m	N28° 13' 02"W
7+180.00	9,140,051.4915m	423,274.3187m	N28° 13' 02"W
7+200.00	9,140,069.1147m	423,264.8623m	N28° 13' 02"W
7+220.00	9,140,086.7379m	423,255.4060m	N28° 13' 02"W
7+240.00	9,140,104.3611m	423,245.9496m	N28° 13' 02"W
7+260.00	9,140,121.9843m	423,236.4933m	N28° 13' 02"W
7+280.00	9,140,139.6076m	423,227.0369m	N28° 13' 02"W

7+300.00	9,140,157.2308m	423,217.5806m	N28° 13' 02"W
7+320.00	9,140,174.8540m	423,208.1242m	N28° 13' 02"W
7+340.00	9,140,192.4772m	423,198.6679m	N28° 13' 02"W
7+360.00	9,140,210.1004m	423,189.2115m	N28° 13' 02"W
7+380.00	9,140,227.7236m	423,179.7552m	N28° 13' 02"W
7+400.00	9,140,245.3468m	423,170.2988m	N28° 13' 02"W
7+420.00	9,140,262.9700m	423,160.8424m	N28° 13' 02"W
7+440.00	9,140,280.5932m	423,151.3861m	N28° 13' 02"W
7+460.00	9,140,298.2164m	423,141.9297m	N28° 13' 02"W
7+480.00	9,140,315.8396m	423,132.4734m	N28° 13' 02"W
7+500.00	9,140,333.4628m	423,123.0170m	N28° 13' 02"W
7+520.00	9,140,351.0860m	423,113.5607m	N28° 13' 02"W
7+540.00	9,140,368.7092m	423,104.1043m	N28° 13' 02"W
7+560.00	9,140,386.3324m	423,094.6480m	N28° 13' 02"W
7+580.00	9,140,403.9556m	423,085.1916m	N28° 13' 02"W
7+600.00	9,140,421.5788m	423,075.7353m	N28° 13' 02"W
7+620.00	9,140,439.2020m	423,066.2789m	N28° 13' 02"W
7+640.00	9,140,456.8252m	423,056.8225m	N28° 13' 02"W
7+660.00	9,140,474.4485m	423,047.3662m	N28° 13' 02"W
7+680.00	9,140,492.0717m	423,037.9098m	N28° 13' 02"W
7+700.00	9,140,509.6949m	423,028.4535m	N28° 13' 02"W
7+720.00	9,140,527.3181m	423,018.9971m	N28° 13' 02"W
7+740.00	9,140,544.9413m	423,009.5408m	N28° 13' 02"W
7+760.00	9,140,562.5645m	423,000.0844m	N28° 13' 02"W
7+780.00	9,140,580.1877m	422,990.6281m	N28° 13' 02"W
7+800.00	9,140,597.8109m	422,981.1717m	N28° 13' 02"W
7+820.00	9,140,615.4341m	422,971.7154m	N28° 13' 02"W
7+840.00	9,140,633.0573m	422,962.2590m	N28° 13' 02"W
7+860.00	9,140,650.6805m	422,952.8027m	N28° 13' 02"W
7+880.00	9,140,668.3037m	422,943.3463m	N28° 13' 02"W
7+900.00	9,140,685.9269m	422,933.8899m	N28° 13' 02"W
7+920.00	9,140,703.5501m	422,924.4336m	N28° 13' 02"W
7+940.00	9,140,721.1733m	422,914.9772m	N28° 13' 02"W
7+960.00	9,140,738.7965m	422,905.5209m	N28° 13' 02"W
7+980.00	9,140,756.4197m	422,896.0645m	N28° 13' 02"W
8+000.00	9,140,774.0429m	422,886.6082m	N28° 13' 02"W
8+020.00	9,140,791.6661m	422,877.1518m	N28° 13' 02"W

8+040.00	9,140,809.2894m	422,867.6955m	N28° 13' 02"W
8+060.00	9,140,826.9126m	422,858.2391m	N28° 13' 02"W
8+080.00	9,140,844.5358m	422,848.7828m	N28° 13' 02"W
8+100.00	9,140,862.1590m	422,839.3264m	N28° 13' 02"W
8+120.00	9,140,879.7822m	422,829.8700m	N28° 13' 02"W
8+140.00	9,140,897.4054m	422,820.4137m	N28° 13' 02"W
8+160.00	9,140,915.0286m	422,810.9573m	N28° 13' 02"W
8+180.00	9,140,932.6518m	422,801.5010m	N28° 13' 02"W
8+200.00	9,140,950.2750m	422,792.0446m	N28° 13' 02"W
8+220.00	9,140,967.8982m	422,782.5883m	N28° 13' 02"W
8+240.00	9,140,985.5214m	422,773.1319m	N28° 13' 02"W
8+260.00	9,141,003.1446m	422,763.6756m	N28° 13' 02"W
8+280.00	9,141,020.7678m	422,754.2192m	N28° 13' 02"W
8+300.00	9,141,038.3910m	422,744.7629m	N28° 13' 02"W
8+320.00	9,141,056.0142m	422,735.3065m	N28° 13' 02"W
8+340.00	9,141,073.6374m	422,725.8502m	N28° 13' 02"W
8+360.00	9,141,091.2606m	422,716.3938m	N28° 13' 02"W
8+380.00	9,141,108.8838m	422,706.9374m	N28° 13' 02"W
8+400.00	9,141,126.5071m	422,697.4811m	N28° 13' 02"W
8+420.00	9,141,144.1303m	422,688.0247m	N28° 13' 02"W
8+440.00	9,141,161.7535m	422,678.5684m	N28° 13' 02"W
8+460.00	9,141,179.3767m	422,669.1120m	N28° 13' 02"W
8+480.00	9,141,196.9999m	422,659.6557m	N28° 13' 02"W
8+500.00	9,141,214.6231m	422,650.1993m	N28° 13' 02"W
8+520.00	9,141,232.2463m	422,640.7430m	N28° 13' 02"W
8+540.00	9,141,249.8695m	422,631.2866m	N28° 13' 02"W
8+560.00	9,141,267.4927m	422,621.8303m	N28° 13' 02"W
8+580.00	9,141,285.1159m	422,612.3739m	N28° 13' 02"W
8+600.00	9,141,302.7391m	422,602.9176m	N28° 13' 02"W
8+620.00	9,141,320.3623m	422,593.4612m	N28° 13' 02"W
8+640.00	9,141,337.9855m	422,584.0048m	N28° 13' 02"W
8+660.00	9,141,355.6087m	422,574.5485m	N28° 13' 02"W
8+680.00	9,141,373.2319m	422,565.0921m	N28° 13' 02"W
8+700.00	9,141,390.8551m	422,555.6358m	N28° 13' 02"W
8+720.00	9,141,408.4783m	422,546.1794m	N28° 13' 02"W
8+740.00	9,141,426.1015m	422,536.7231m	N28° 13' 02"W
8+760.00	9,141,443.7247m	422,527.2667m	N28° 13' 02"W

8+780.00	9,141,461.3480m	422,517.8104m	N28° 13' 02"W
8+800.00	9,141,478.9712m	422,508.3540m	N28° 13' 02"W
8+820.00	9,141,496.5944m	422,498.8977m	N28° 13' 02"W
8+840.00	9,141,514.2176m	422,489.4413m	N28° 13' 02"W
8+860.00	9,141,531.8408m	422,479.9849m	N28° 13' 02"W
8+880.00	9,141,549.4640m	422,470.5286m	N28° 13' 02"W
8+900.00	9,141,567.0872m	422,461.0722m	N28° 13' 02"W
8+920.00	9,141,584.7104m	422,451.6159m	N28° 13' 02"W
8+940.00	9,141,602.3336m	422,442.1595m	N28° 13' 02"W
8+960.00	9,141,619.9568m	422,432.7032m	N28° 13' 02"W
8+980.00	9,141,637.5800m	422,423.2468m	N28° 13' 02"W
9+000.00	9,141,655.2032m	422,413.7905m	N28° 13' 02"W
9+020.00	9,141,672.8264m	422,404.3341m	N28° 13' 02"W
9+040.00	9,141,690.4496m	422,394.8778m	N28° 13' 02"W
9+060.00	9,141,708.0728m	422,385.4214m	N28° 13' 02"W
9+080.00	9,141,725.6960m	422,375.9651m	N28° 13' 02"W
9+100.00	9,141,743.3192m	422,366.5087m	N28° 13' 02"W
9+120.00	9,141,760.9424m	422,357.0523m	N28° 13' 02"W
9+140.00	9,141,778.5656m	422,347.5960m	N28° 13' 02"W
9+160.00	9,141,796.1889m	422,338.1396m	N28° 13' 02"W
9+180.00	9,141,813.8121m	422,328.6833m	N28° 13' 02"W
9+200.00	9,141,831.4353m	422,319.2269m	N28° 13' 02"W
9+220.00	9,141,849.0585m	422,309.7706m	N28° 13' 02"W
9+240.00	9,141,866.6817m	422,300.3142m	N28° 13' 02"W
9+260.00	9,141,884.3049m	422,290.8579m	N28° 13' 02"W
9+280.00	9,141,901.9281m	422,281.4015m	N28° 13' 02"W
9+300.00	9,141,919.5513m	422,271.9452m	N28° 13' 02"W
9+320.00	9,141,937.1745m	422,262.4888m	N28° 13' 02"W
9+340.00	9,141,954.7977m	422,253.0324m	N28° 13' 02"W
9+360.00	9,141,972.4209m	422,243.5761m	N28° 13' 02"W
9+380.00	9,141,990.0441m	422,234.1197m	N28° 13' 02"W
9+400.00	9,142,007.6673m	422,224.6634m	N28° 13' 02"W
9+420.00	9,142,025.2905m	422,215.2070m	N28° 13' 02"W
9+440.00	9,142,042.9137m	422,205.7507m	N28° 13' 02"W
9+460.00	9,142,060.5369m	422,196.2943m	N28° 13' 02"W
9+480.00	9,142,078.1601m	422,186.8380m	N28° 13' 02"W
9+500.00	9,142,095.7833m	422,177.3816m	N28° 13' 02"W

9+520.00	9,142,113.4066m	422,167.9253m	N28° 13' 02"W
9+540.00	9,142,131.0298m	422,158.4689m	N28° 13' 02"W
9+560.00	9,142,148.6530m	422,149.0126m	N28° 13' 02"W
9+580.00	9,142,166.2762m	422,139.5562m	N28° 13' 02"W
9+600.00	9,142,183.8994m	422,130.0998m	N28° 13' 02"W
9+620.00	9,142,201.5226m	422,120.6435m	N28° 13' 02"W
9+640.00	9,142,219.1458m	422,111.1871m	N28° 13' 02"W
9+660.00	9,142,236.7690m	422,101.7308m	N28° 13' 02"W
9+680.00	9,142,254.3922m	422,092.2744m	N28° 13' 02"W
9+700.00	9,142,272.0154m	422,082.8181m	N28° 13' 02"W
9+720.00	9,142,289.6386m	422,073.3617m	N28° 13' 02"W
9+740.00	9,142,307.2618m	422,063.9054m	N28° 13' 02"W
9+760.00	9,142,324.8850m	422,054.4490m	N28° 13' 02"W
9+780.00	9,142,342.5082m	422,044.9927m	N28° 13' 02"W
9+800.00	9,142,360.1314m	422,035.5363m	N28° 13' 02"W
9+820.00	9,142,377.7546m	422,026.0800m	N28° 13' 02"W
9+840.00	9,142,395.3778m	422,016.6236m	N28° 13' 02"W
9+860.00	9,142,413.0010m	422,007.1672m	N28° 13' 02"W
9+880.00	9,142,430.6242m	421,997.7109m	N28° 13' 02"W
9+900.00	9,142,448.2475m	421,988.2545m	N28° 13' 02"W
9+920.00	9,142,465.8707m	421,978.7982m	N28° 13' 02"W
9+940.00	9,142,483.4939m	421,969.3418m	N28° 13' 02"W
9+960.00	9,142,501.1171m	421,959.8855m	N28° 13' 02"W
9+980.00	9,142,518.7403m	421,950.4291m	N28° 13' 02"W
10+000.00	9,142,536.3635m	421,940.9728m	N28° 13' 02"W
10+020.00	9,142,553.9867m	421,931.5164m	N28° 13' 02"W
10+040.00	9,142,571.6099m	421,922.0601m	N28° 13' 02"W
10+060.00	9,142,589.2331m	421,912.6037m	N28° 13' 02"W
10+080.00	9,142,606.8563m	421,903.1473m	N28° 13' 02"W
10+100.00	9,142,624.4795m	421,893.6910m	N28° 13' 02"W
10+120.00	9,142,642.1027m	421,884.2346m	N28° 13' 02"W
10+140.00	9,142,659.7259m	421,874.7783m	N28° 13' 02"W
10+160.00	9,142,677.3491m	421,865.3219m	N28° 13' 02"W
10+180.00	9,142,694.9723m	421,855.8656m	N28° 13' 02"W
10+200.00	9,142,712.5955m	421,846.4092m	N28° 13' 02"W
10+220.00	9,142,730.2187m	421,836.9529m	N28° 13' 02"W
10+240.00	9,142,747.8419m	421,827.4965m	N28° 13' 02"W

10+260.00	9,142,765.4651m	421,818.0402m	N28° 13' 02"W
10+280.00	9,142,783.0884m	421,808.5838m	N28° 13' 02"W
10+300.00	9,142,800.7116m	421,799.1275m	N28° 13' 02"W
10+320.00	9,142,818.3348m	421,789.6711m	N28° 13' 02"W
10+340.00	9,142,835.9580m	421,780.2147m	N28° 13' 02"W
10+360.00	9,142,853.5812m	421,770.7584m	N28° 13' 02"W
10+380.00	9,142,871.2044m	421,761.3020m	N28° 13' 02"W
10+400.00	9,142,888.8276m	421,751.8457m	N28° 13' 02"W
10+420.00	9,142,906.4508m	421,742.3893m	N28° 13' 02"W
10+440.00	9,142,924.0740m	421,732.9330m	N28° 13' 02"W
10+460.00	9,142,941.6972m	421,723.4766m	N28° 13' 02"W
10+480.00	9,142,959.3204m	421,714.0203m	N28° 13' 02"W
10+500.00	9,142,976.9436m	421,704.5639m	N28° 13' 02"W
10+520.00	9,142,994.5668m	421,695.1076m	N28° 13' 02"W
10+540.00	9,143,012.1900m	421,685.6512m	N28° 13' 02"W
10+560.00	9,143,029.8132m	421,676.1948m	N28° 13' 02"W
10+580.00	9,143,047.4364m	421,666.7385m	N28° 13' 02"W
10+600.00	9,143,065.0596m	421,657.2821m	N28° 13' 02"W
10+620.00	9,143,082.6828m	421,647.8258m	N28° 13' 02"W
10+640.00	9,143,100.3061m	421,638.3694m	N28° 13' 02"W
10+660.00	9,143,117.9293m	421,628.9131m	N28° 13' 02"W
10+680.00	9,143,135.5525m	421,619.4567m	N28° 13' 02"W
10+700.00	9,143,153.1757m	421,610.0004m	N28° 13' 02"W
10+720.00	9,143,170.7989m	421,600.5440m	N28° 13' 02"W
10+740.00	9,143,188.4221m	421,591.0877m	N28° 13' 02"W
10+760.00	9,143,206.0453m	421,581.6313m	N28° 13' 02"W
10+780.00	9,143,223.6685m	421,572.1750m	N28° 13' 02"W
10+800.00	9,143,241.2917m	421,562.7186m	N28° 13' 02"W
10+820.00	9,143,258.9149m	421,553.2622m	N28° 13' 02"W
10+840.00	9,143,276.5381m	421,543.8059m	N28° 13' 02"W
10+860.00	9,143,294.1613m	421,534.3495m	N28° 13' 02"W
10+880.00	9,143,311.7845m	421,524.8932m	N28° 13' 02"W
10+900.00	9,143,329.4077m	421,515.4368m	N28° 13' 02"W
10+920.00	9,143,347.0309m	421,505.9805m	N28° 13' 02"W
10+940.00	9,143,364.6541m	421,496.5241m	N28° 13' 02"W
10+960.00	9,143,382.2773m	421,487.0678m	N28° 13' 02"W
10+980.00	9,143,399.9005m	421,477.6114m	N28° 13' 02"W

11+000.00	9,143,417.5237m	421,468.1551m	N28° 13' 02"W
11+020.00	9,143,435.1470m	421,458.6987m	N28° 13' 02"W
11+040.00	9,143,452.7702m	421,449.2424m	N28° 13' 02"W
11+060.00	9,143,470.3934m	421,439.7860m	N28° 13' 02"W
11+080.00	9,143,488.0166m	421,430.3296m	N28° 13' 02"W
11+100.00	9,143,505.6439m	421,420.8810m	N28° 08' 20"W
11+120.00	9,143,523.2981m	421,411.4826m	N27° 53' 27"W
11+140.00	9,143,541.0065m	421,402.1870m	N27° 28' 23"W
11+160.00	9,143,558.7958m	421,393.0470m	N26° 53' 09"W
11+180.00	9,143,576.6910m	421,384.1163m	N26° 07' 47"W
11+200.00	9,143,594.7151m	421,375.4491m	N25° 12' 20"W
11+220.00	9,143,612.8887m	421,367.1000m	N24° 06' 56"W
11+240.00	9,143,631.2291m	421,359.1240m	N22° 52' 24"W
11+260.00	9,143,649.7413m	421,351.5556m	N21° 36' 00"W
11+280.00	9,143,668.4171m	421,344.4003m	N20° 19' 36"W
11+300.00	9,143,687.2473m	421,337.6618m	N19° 03' 13"W
11+320.00	9,143,706.2226m	421,331.3434m	N17° 46' 49"W
11+340.00	9,143,725.3335m	421,325.4481m	N16° 30' 25"W
11+360.00	9,143,744.5708m	421,319.9790m	N15° 14' 02"W
11+380.00	9,143,763.9248m	421,314.9387m	N13° 57' 38"W
11+400.00	9,143,783.3861m	421,310.3297m	N12° 41' 14"W
11+420.00	9,143,802.9450m	421,306.1542m	N11° 24' 51"W
11+440.00	9,143,822.5900m	421,302.4047m	N10° 13' 29"W
11+460.00	9,143,842.3039m	421,299.0354m	N9° 12' 01"W
11+480.00	9,143,862.0705m	421,295.9904m	N8° 20' 33"W
11+500.00	9,143,881.8765m	421,293.2126m	N7° 39' 12"W
11+520.00	9,143,901.7108m	421,290.6439m	N7° 08' 00"W
11+540.00	9,143,921.5641m	421,288.2259m	N6° 46' 58"W
11+560.00	9,143,941.4284m	421,285.9000m	N6° 36' 08"W
11+580.00	9,143,961.2966m	421,283.6081m	N6° 34' 31"W
11+600.00	9,143,981.1651m	421,281.3180m	N6° 34' 31"W
11+620.00	9,144,001.0335m	421,279.0279m	N6° 34' 31"W
11+640.00	9,144,020.9020m	421,276.7377m	N6° 34' 31"W
11+660.00	9,144,040.7704m	421,274.4476m	N6° 34' 31"W
11+680.00	9,144,060.6389m	421,272.1575m	N6° 34' 31"W
11+700.00	9,144,080.5073m	421,269.8673m	N6° 34' 31"W
11+720.00	9,144,100.3758m	421,267.5772m	N6° 34' 31"W

11+740.00	9,144,120.2442m	421,265.2871m	N6° 34' 31"W
11+760.00	9,144,140.1127m	421,262.9969m	N6° 34' 31"W
11+780.00	9,144,159.9811m	421,260.7068m	N6° 34' 31"W
11+800.00	9,144,179.8496m	421,258.4167m	N6° 34' 31"W
11+820.00	9,144,199.7180m	421,256.1265m	N6° 34' 31"W
11+840.00	9,144,219.5865m	421,253.8364m	N6° 34' 31"W
11+860.00	9,144,239.4549m	421,251.5463m	N6° 34' 31"W
11+880.00	9,144,259.3234m	421,249.2561m	N6° 34' 31"W
11+900.00	9,144,279.1918m	421,246.9660m	N6° 34' 31"W
11+920.00	9,144,299.0603m	421,244.6759m	N6° 34' 31"W
11+940.00	9,144,318.9287m	421,242.3857m	N6° 34' 31"W
11+960.00	9,144,338.7972m	421,240.0956m	N6° 34' 31"W
11+980.00	9,144,358.6656m	421,237.8055m	N6° 34' 31"W
12+000.00	9,144,378.5341m	421,235.5153m	N6° 34' 31"W
12+020.00	9,144,398.4025m	421,233.2252m	N6° 34' 31"W
12+040.00	9,144,418.2710m	421,230.9351m	N6° 34' 31"W
12+060.00	9,144,438.1394m	421,228.6449m	N6° 34' 31"W
12+080.00	9,144,458.0079m	421,226.3548m	N6° 34' 31"W
12+100.00	9,144,477.8763m	421,224.0647m	N6° 34' 31"W
12+120.00	9,144,497.7448m	421,221.7745m	N6° 34' 31"W
12+140.00	9,144,517.6132m	421,219.4844m	N6° 34' 31"W
12+160.00	9,144,537.4817m	421,217.1943m	N6° 34' 31"W
12+180.00	9,144,557.3501m	421,214.9041m	N6° 34' 31"W
12+200.00	9,144,577.2186m	421,212.6140m	N6° 34' 31"W
12+220.00	9,144,597.0870m	421,210.3239m	N6° 34' 31"W
12+240.00	9,144,616.9555m	421,208.0337m	N6° 34' 31"W
12+260.00	9,144,636.8239m	421,205.7436m	N6° 34' 31"W
12+280.00	9,144,656.6924m	421,203.4535m	N6° 34' 31"W
12+300.00	9,144,676.5608m	421,201.1633m	N6° 34' 31"W
12+320.00	9,144,696.4293m	421,198.8732m	N6° 34' 31"W
12+340.00	9,144,716.2977m	421,196.5831m	N6° 34' 31"W
12+360.00	9,144,736.1662m	421,194.2929m	N6° 34' 31"W
12+380.00	9,144,756.0346m	421,192.0028m	N6° 34' 31"W
12+400.00	9,144,775.9031m	421,189.7127m	N6° 34' 31"W
12+420.00	9,144,795.7715m	421,187.4225m	N6° 34' 31"W
12+440.00	9,144,815.6400m	421,185.1324m	N6° 34' 31"W
12+460.00	9,144,835.5084m	421,182.8423m	N6° 34' 31"W

12+480.00	9,144,855.3769m	421,180.5521m	N6° 34' 31"W
12+500.00	9,144,875.2453m	421,178.2620m	N6° 34' 31"W
12+520.00	9,144,895.1138m	421,175.9719m	N6° 34' 31"W
12+540.00	9,144,914.9822m	421,173.6817m	N6° 34' 31"W
12+560.00	9,144,934.8507m	421,171.3916m	N6° 34' 31"W
12+580.00	9,144,954.7191m	421,169.1015m	N6° 34' 31"W
12+600.00	9,144,974.5876m	421,166.8113m	N6° 34' 31"W
12+620.00	9,144,994.4560m	421,164.5212m	N6° 34' 31"W
12+640.00	9,145,014.3245m	421,162.2311m	N6° 34' 31"W
12+660.00	9,145,034.1929m	421,159.9410m	N6° 34' 31"W
12+680.00	9,145,054.0614m	421,157.6508m	N6° 34' 31"W
12+700.00	9,145,073.9298m	421,155.3607m	N6° 34' 31"W
12+720.00	9,145,093.7983m	421,153.0706m	N6° 34' 31"W
12+740.00	9,145,113.6667m	421,150.7804m	N6° 34' 31"W
12+760.00	9,145,133.5352m	421,148.4903m	N6° 34' 31"W
12+780.00	9,145,153.4036m	421,146.2002m	N6° 34' 31"W
12+800.00	9,145,173.2721m	421,143.9100m	N6° 34' 31"W
12+820.00	9,145,193.1405m	421,141.6199m	N6° 34' 31"W
12+840.00	9,145,213.0090m	421,139.3298m	N6° 34' 31"W
12+860.00	9,145,232.8774m	421,137.0396m	N6° 34' 31"W
12+880.00	9,145,252.7459m	421,134.7495m	N6° 34' 31"W
12+900.00	9,145,272.6143m	421,132.4594m	N6° 34' 31"W
12+920.00	9,145,292.4828m	421,130.1692m	N6° 34' 31"W
12+940.00	9,145,312.3512m	421,127.8791m	N6° 34' 31"W
12+960.00	9,145,332.2197m	421,125.5890m	N6° 34' 31"W
12+980.00	9,145,352.0881m	421,123.2988m	N6° 34' 31"W
13+000.00	9,145,371.9566m	421,121.0087m	N6° 34' 31"W
13+020.00	9,145,391.8250m	421,118.7186m	N6° 34' 31"W
13+040.00	9,145,411.6935m	421,116.4284m	N6° 34' 31"W
13+060.00	9,145,431.5619m	421,114.1383m	N6° 34' 31"W
13+080.00	9,145,451.4304m	421,111.8482m	N6° 34' 31"W
13+100.00	9,145,471.2988m	421,109.5580m	N6° 34' 31"W
13+120.00	9,145,491.1673m	421,107.2679m	N6° 34' 31"W
13+140.00	9,145,511.0357m	421,104.9778m	N6° 34' 31"W
13+160.00	9,145,530.9042m	421,102.6876m	N6° 34' 31"W
13+180.00	9,145,550.7726m	421,100.3975m	N6° 34' 31"W
13+200.00	9,145,570.6411m	421,098.1074m	N6° 34' 31"W

13+220.00	9,145,590.5095m	421,095.8172m	N6° 34' 31"W
13+240.00	9,145,610.3780m	421,093.5271m	N6° 34' 31"W
13+260.00	9,145,630.2464m	421,091.2370m	N6° 34' 31"W
13+280.00	9,145,650.1149m	421,088.9468m	N6° 34' 31"W
13+300.00	9,145,669.9833m	421,086.6567m	N6° 34' 31"W
13+320.00	9,145,689.8518m	421,084.3666m	N6° 34' 31"W
13+340.00	9,145,709.7202m	421,082.0764m	N6° 34' 31"W
13+360.00	9,145,729.5887m	421,079.7863m	N6° 34' 31"W
13+380.00	9,145,749.4571m	421,077.4962m	N6° 34' 31"W
13+400.00	9,145,769.3256m	421,075.2060m	N6° 34' 31"W
13+420.00	9,145,789.1940m	421,072.9159m	N6° 34' 31"W
13+440.00	9,145,809.0625m	421,070.6258m	N6° 34' 31"W
13+460.00	9,145,828.9309m	421,068.3356m	N6° 34' 31"W
13+480.00	9,145,848.7994m	421,066.0455m	N6° 34' 31"W
13+500.00	9,145,868.6678m	421,063.7554m	N6° 34' 31"W
13+520.00	9,145,888.5363m	421,061.4652m	N6° 34' 31"W
13+540.00	9,145,908.4047m	421,059.1751m	N6° 34' 31"W
13+560.00	9,145,928.2732m	421,056.8850m	N6° 34' 31"W
13+580.00	9,145,948.1416m	421,054.5948m	N6° 34' 31"W
13+600.00	9,145,968.0100m	421,052.3047m	N6° 34' 31"W
13+620.00	9,145,987.8785m	421,050.0146m	N6° 34' 31"W
13+640.00	9,146,007.7469m	421,047.7244m	N6° 34' 31"W
13+660.00	9,146,027.6154m	421,045.4343m	N6° 34' 31"W
13+680.00	9,146,047.4838m	421,043.1442m	N6° 34' 31"W
13+700.00	9,146,067.3523m	421,040.8540m	N6° 34' 31"W
13+720.00	9,146,087.2207m	421,038.5639m	N6° 34' 31"W
13+740.00	9,146,107.0892m	421,036.2738m	N6° 34' 31"W
13+760.00	9,146,126.9576m	421,033.9836m	N6° 34' 31"W
13+780.00	9,146,146.8261m	421,031.6935m	N6° 34' 31"W
13+800.00	9,146,166.6945m	421,029.4034m	N6° 34' 31"W
13+820.00	9,146,186.5630m	421,027.1132m	N6° 34' 31"W
13+840.00	9,146,206.4314m	421,024.8231m	N6° 34' 31"W
13+860.00	9,146,226.2999m	421,022.5330m	N6° 34' 31"W
13+880.00	9,146,246.1683m	421,020.2428m	N6° 34' 31"W
13+900.00	9,146,266.0368m	421,017.9527m	N6° 34' 31"W
13+920.00	9,146,285.9052m	421,015.6626m	N6° 34' 31"W
13+940.00	9,146,305.7737m	421,013.3725m	N6° 34' 31"W

13+960.00	9,146,325.6421m	421,011.0823m	N6° 34' 31"W
13+980.00	9,146,345.5106m	421,008.7922m	N6° 34' 31"W
14+000.00	9,146,365.3790m	421,006.5021m	N6° 34' 31"W
14+020.00	9,146,385.2475m	421,004.2119m	N6° 34' 31"W
14+040.00	9,146,405.1159m	421,001.9218m	N6° 34' 31"W
14+060.00	9,146,424.9844m	420,999.6317m	N6° 34' 31"W
14+080.00	9,146,444.8528m	420,997.3415m	N6° 34' 31"W
14+100.00	9,146,464.7213m	420,995.0514m	N6° 34' 31"W
14+120.00	9,146,484.5897m	420,992.7613m	N6° 34' 31"W
14+140.00	9,146,504.4582m	420,990.4711m	N6° 34' 31"W
14+160.00	9,146,524.3266m	420,988.1810m	N6° 34' 31"W
14+180.00	9,146,544.1951m	420,985.8909m	N6° 34' 31"W
14+200.00	9,146,564.0635m	420,983.6007m	N6° 34' 31"W
14+220.00	9,146,583.9320m	420,981.3106m	N6° 34' 31"W
14+240.00	9,146,603.8004m	420,979.0205m	N6° 34' 31"W
14+260.00	9,146,623.6689m	420,976.7303m	N6° 34' 31"W
14+280.00	9,146,643.5373m	420,974.4402m	N6° 34' 31"W
14+300.00	9,146,663.4058m	420,972.1501m	N6° 34' 31"W
14+320.00	9,146,683.2742m	420,969.8599m	N6° 34' 31"W
14+340.00	9,146,703.1427m	420,967.5698m	N6° 34' 31"W
14+360.00	9,146,723.0111m	420,965.2797m	N6° 34' 31"W
14+380.00	9,146,742.8796m	420,962.9895m	N6° 34' 31"W
14+400.00	9,146,762.7480m	420,960.6994m	N6° 34' 31"W
14+420.00	9,146,782.6165m	420,958.4093m	N6° 34' 31"W
14+440.00	9,146,802.4849m	420,956.1191m	N6° 34' 31"W
14+460.00	9,146,822.3534m	420,953.8290m	N6° 34' 31"W
14+480.00	9,146,842.2218m	420,951.5389m	N6° 34' 31"W
14+500.00	9,146,862.0903m	420,949.2487m	N6° 34' 31"W
14+520.00	9,146,881.9587m	420,946.9586m	N6° 34' 31"W
14+540.00	9,146,901.8272m	420,944.6685m	N6° 34' 31"W
14+560.00	9,146,921.6956m	420,942.3783m	N6° 34' 31"W
14+580.00	9,146,941.5641m	420,940.0882m	N6° 34' 31"W
14+600.00	9,146,961.4325m	420,937.7981m	N6° 34' 31"W
14+620.00	9,146,981.3010m	420,935.5079m	N6° 34' 31"W
14+640.00	9,147,001.1694m	420,933.2178m	N6° 34' 31"W
14+660.00	9,147,021.0379m	420,930.9277m	N6° 34' 31"W
14+680.00	9,147,040.9063m	420,928.6375m	N6° 34' 31"W

14+700.00	9,147,060.7748m	420,926.3474m	N6° 34' 31"W
14+720.00	9,147,080.6432m	420,924.0573m	N6° 34' 31"W
14+740.00	9,147,100.5117m	420,921.7671m	N6° 34' 31"W
14+760.00	9,147,120.3801m	420,919.4770m	N6° 34' 31"W
14+780.00	9,147,140.2486m	420,917.1869m	N6° 34' 31"W
14+800.00	9,147,160.1170m	420,914.8967m	N6° 34' 31"W
14+820.00	9,147,179.9855m	420,912.6066m	N6° 34' 31"W
14+840.00	9,147,199.8539m	420,910.3165m	N6° 34' 31"W
14+860.00	9,147,219.7224m	420,908.0263m	N6° 34' 31"W
14+880.00	9,147,239.5908m	420,905.7362m	N6° 34' 31"W
14+900.00	9,147,259.4593m	420,903.4461m	N6° 34' 31"W
14+920.00	9,147,279.3277m	420,901.1559m	N6° 34' 31"W
14+940.00	9,147,299.1962m	420,898.8658m	N6° 34' 31"W
14+960.00	9,147,319.0646m	420,896.5757m	N6° 34' 31"W
14+980.00	9,147,338.9331m	420,894.2855m	N6° 34' 31"W
15+000.00	9,147,358.8015m	420,891.9954m	N6° 34' 31"W
15+020.00	9,147,378.6700m	420,889.7053m	N6° 34' 31"W
15+040.00	9,147,398.5384m	420,887.4151m	N6° 34' 31"W
15+060.00	9,147,418.4069m	420,885.1250m	N6° 34' 31"W
15+080.00	9,147,438.2753m	420,882.8349m	N6° 34' 31"W
15+100.00	9,147,458.1438m	420,880.5447m	N6° 34' 31"W
15+120.00	9,147,478.0122m	420,878.2546m	N6° 34' 31"W
15+140.00	9,147,497.8807m	420,875.9645m	N6° 34' 31"W
15+160.00	9,147,517.7491m	420,873.6743m	N6° 34' 31"W
15+180.00	9,147,537.6176m	420,871.3842m	N6° 34' 31"W
15+200.00	9,147,557.4860m	420,869.0941m	N6° 34' 31"W
15+220.00	9,147,577.3545m	420,866.8039m	N6° 34' 31"W
15+240.00	9,147,597.2229m	420,864.5138m	N6° 34' 31"W
15+260.00	9,147,617.0914m	420,862.2237m	N6° 34' 31"W
15+280.00	9,147,636.9598m	420,859.9336m	N6° 34' 31"W
15+300.00	9,147,656.8283m	420,857.6434m	N6° 34' 31"W
15+320.00	9,147,676.6967m	420,855.3533m	N6° 34' 31"W
15+340.00	9,147,696.5652m	420,853.0632m	N6° 34' 31"W
15+360.00	9,147,716.4336m	420,850.7730m	N6° 34' 31"W
15+380.00	9,147,736.3021m	420,848.4829m	N6° 34' 31"W
15+400.00	9,147,756.1705m	420,846.1928m	N6° 34' 31"W
15+420.00	9,147,776.0390m	420,843.9026m	N6° 34' 31"W

15+440.00	9,147,795.9074m	420,841.6125m	N6° 34' 31"W
15+460.00	9,147,815.7759m	420,839.3224m	N6° 34' 31"W
15+480.00	9,147,835.6443m	420,837.0322m	N6° 34' 31"W
15+500.00	9,147,855.5128m	420,834.7421m	N6° 34' 31"W
15+520.00	9,147,875.3812m	420,832.4520m	N6° 34' 31"W
15+540.00	9,147,895.2497m	420,830.1618m	N6° 34' 31"W
15+560.00	9,147,915.1181m	420,827.8717m	N6° 34' 31"W
15+580.00	9,147,934.9866m	420,825.5816m	N6° 34' 31"W
15+600.00	9,147,954.8550m	420,823.2914m	N6° 34' 31"W
15+620.00	9,147,974.7235m	420,821.0013m	N6° 34' 31"W
15+640.00	9,147,994.5919m	420,818.7112m	N6° 34' 31"W
15+660.00	9,148,014.4604m	420,816.4210m	N6° 34' 31"W
15+680.00	9,148,034.3288m	420,814.1309m	N6° 34' 31"W
15+700.00	9,148,054.1973m	420,811.8408m	N6° 34' 31"W
15+720.00	9,148,074.0657m	420,809.5506m	N6° 34' 31"W
15+740.00	9,148,093.9342m	420,807.2605m	N6° 34' 31"W
15+760.00	9,148,113.8026m	420,804.9704m	N6° 34' 31"W
15+780.00	9,148,133.6711m	420,802.6802m	N6° 34' 31"W
15+800.00	9,148,153.5395m	420,800.3901m	N6° 34' 31"W
15+820.00	9,148,173.4080m	420,798.1000m	N6° 34' 31"W
15+840.00	9,148,193.2764m	420,795.8098m	N6° 34' 31"W
15+860.00	9,148,213.1449m	420,793.5197m	N6° 34' 31"W
15+880.00	9,148,233.0133m	420,791.2296m	N6° 34' 31"W
15+900.00	9,148,252.8818m	420,788.9394m	N6° 34' 31"W
15+920.00	9,148,272.7502m	420,786.6493m	N6° 34' 31"W
15+940.00	9,148,292.6187m	420,784.3592m	N6° 34' 31"W
15+960.00	9,148,312.4871m	420,782.0690m	N6° 34' 31"W
15+980.00	9,148,332.3556m	420,779.7789m	N6° 34' 31"W
16+000.00	9,148,352.2240m	420,777.4888m	N6° 34' 31"W
16+020.00	9,148,372.0925m	420,775.1986m	N6° 34' 31"W
16+040.00	9,148,391.9609m	420,772.9085m	N6° 34' 31"W
16+060.00	9,148,411.8294m	420,770.6184m	N6° 34' 31"W
16+080.00	9,148,431.6978m	420,768.3282m	N6° 34' 31"W
16+100.00	9,148,451.5663m	420,766.0381m	N6° 34' 31"W
16+120.00	9,148,471.4347m	420,763.7480m	N6° 34' 31"W
16+140.00	9,148,491.3032m	420,761.4578m	N6° 34' 31"W
16+160.00	9,148,511.1716m	420,759.1677m	N6° 34' 31"W

16+180.00	9,148,531.0401m	420,756.8776m	N6° 34' 31"W
16+200.00	9,148,550.9085m	420,754.5874m	N6° 34' 31"W
16+220.00	9,148,570.7770m	420,752.2973m	N6° 34' 31"W
16+240.00	9,148,590.6454m	420,750.0072m	N6° 34' 31"W
16+260.00	9,148,610.5139m	420,747.7170m	N6° 34' 31"W
16+280.00	9,148,630.3823m	420,745.4269m	N6° 34' 31"W
16+300.00	9,148,650.2508m	420,743.1369m	N6° 34' 18"W
16+320.00	9,148,670.1212m	420,740.8639m	N6° 27' 06"W
16+340.00	9,148,689.9996m	420,738.6620m	N6° 09' 43"W
16+360.00	9,148,709.8919m	420,736.5901m	N5° 42' 09"W
16+380.00	9,148,729.8030m	420,734.7072m	N5° 04' 25"W
16+400.00	9,148,749.7359m	420,733.0723m	N4° 16' 33"W
16+420.00	9,148,769.6915m	420,731.7443m	N3° 18' 39"W
16+440.00	9,148,789.6680m	420,730.7815m	N2° 10' 50"W
16+460.00	9,148,809.6602m	420,730.2393m	N0° 55' 06"W
16+480.00	9,148,829.6596m	420,730.1298m	N0° 15' 48"E
16+500.00	9,148,849.6574m	420,730.4039m	N1° 16' 49"E
16+520.00	9,148,869.6483m	420,731.0039m	N2° 07' 48"E
16+540.00	9,148,889.6293m	420,731.8711m	N2° 48' 42"E
16+560.00	9,148,909.6003m	420,732.9463m	N3° 19' 26"E
16+580.00	9,148,929.5628m	420,734.1706m	N3° 39' 59"E
16+600.00	9,148,949.5196m	420,735.4846m	N3° 50' 22"E
16+620.00	9,148,969.4743m	420,736.8304m	N3° 51' 44"E
16+640.00	9,148,989.4288m	420,738.1775m	N3° 51' 44"E
16+660.00	9,149,009.3834m	420,739.5247m	N3° 51' 44"E
16+680.00	9,149,029.3380m	420,740.8718m	N3° 51' 44"E
16+700.00	9,149,049.2926m	420,742.2189m	N3° 51' 44"E
16+720.00	9,149,069.2472m	420,743.5661m	N3° 51' 44"E
16+740.00	9,149,089.2017m	420,744.9132m	N3° 51' 44"E
16+760.00	9,149,109.1563m	420,746.2604m	N3° 51' 44"E
16+780.00	9,149,129.1109m	420,747.6075m	N3° 51' 44"E
16+800.00	9,149,149.0655m	420,748.9547m	N3° 51' 44"E
16+820.00	9,149,169.0200m	420,750.3018m	N3° 51' 44"E
16+840.00	9,149,188.9746m	420,751.6490m	N3° 51' 44"E
16+860.00	9,149,208.9292m	420,752.9961m	N3° 51' 44"E
16+880.00	9,149,228.8838m	420,754.3432m	N3° 51' 44"E
16+900.00	9,149,248.8384m	420,755.6904m	N3° 51' 44"E

16+920.00	9,149,268.7929m	420,757.0375m	N3° 51' 44"E
16+940.00	9,149,288.7475m	420,758.3847m	N3° 51' 44"E
16+960.00	9,149,308.7021m	420,759.7318m	N3° 51' 44"E
16+980.00	9,149,328.6567m	420,761.0790m	N3° 51' 44"E
17+000.00	9,149,348.6113m	420,762.4261m	N3° 51' 44"E
17+020.00	9,149,368.5658m	420,763.7733m	N3° 51' 44"E
17+040.00	9,149,388.5204m	420,765.1204m	N3° 51' 44"E
17+060.00	9,149,408.4750m	420,766.4675m	N3° 51' 44"E
17+080.00	9,149,428.4296m	420,767.8147m	N3° 51' 44"E
17+100.00	9,149,448.3841m	420,769.1618m	N3° 51' 44"E
17+120.00	9,149,468.3387m	420,770.5090m	N3° 51' 44"E
17+140.00	9,149,488.2933m	420,771.8561m	N3° 51' 44"E
17+160.00	9,149,508.2479m	420,773.2033m	N3° 51' 44"E
17+180.00	9,149,528.2025m	420,774.5504m	N3° 51' 44"E
17+200.00	9,149,548.1570m	420,775.8976m	N3° 51' 44"E
17+220.00	9,149,568.1116m	420,777.2447m	N3° 51' 44"E
17+240.00	9,149,588.0662m	420,778.5918m	N3° 51' 44"E
17+260.00	9,149,608.0208m	420,779.9390m	N3° 51' 44"E
17+280.00	9,149,627.9753m	420,781.2861m	N3° 51' 44"E
17+300.00	9,149,647.9299m	420,782.6333m	N3° 51' 44"E
17+320.00	9,149,667.8845m	420,783.9804m	N3° 51' 44"E
17+340.00	9,149,687.8391m	420,785.3276m	N3° 51' 44"E
17+360.00	9,149,707.7937m	420,786.6747m	N3° 51' 44"E
17+380.00	9,149,727.7482m	420,788.0219m	N3° 51' 44"E
17+400.00	9,149,747.7028m	420,789.3690m	N3° 51' 44"E
17+420.00	9,149,767.6574m	420,790.7161m	N3° 51' 44"E
17+440.00	9,149,787.6120m	420,792.0633m	N3° 51' 44"E
17+460.00	9,149,807.5666m	420,793.4104m	N3° 51' 44"E
17+480.00	9,149,827.5211m	420,794.7576m	N3° 51' 44"E
17+500.00	9,149,847.4757m	420,796.1047m	N3° 51' 44"E
17+520.00	9,149,867.4303m	420,797.4519m	N3° 51' 44"E
17+540.00	9,149,887.3849m	420,798.7990m	N3° 51' 44"E
17+560.00	9,149,907.3394m	420,800.1462m	N3° 51' 44"E
17+580.00	9,149,927.2940m	420,801.4933m	N3° 51' 44"E
17+600.00	9,149,947.2486m	420,802.8404m	N3° 51' 44"E
17+620.00	9,149,967.2032m	420,804.1876m	N3° 51' 44"E
17+640.00	9,149,987.1578m	420,805.5347m	N3° 51' 44"E

17+660.00	9,150,007.1123m	420,806.8819m	N3° 51' 44"E
17+680.00	9,150,027.0669m	420,808.2290m	N3° 51' 44"E
17+700.00	9,150,047.0215m	420,809.5762m	N3° 51' 44"E
17+720.00	9,150,066.9761m	420,810.9233m	N3° 51' 44"E
17+740.00	9,150,086.9307m	420,812.2705m	N3° 51' 44"E
17+760.00	9,150,106.8852m	420,813.6176m	N3° 51' 44"E
17+780.00	9,150,126.8398m	420,814.9647m	N3° 51' 44"E
17+800.00	9,150,146.7944m	420,816.3119m	N3° 51' 44"E
17+820.00	9,150,166.7490m	420,817.6590m	N3° 51' 44"E
17+840.00	9,150,186.7035m	420,819.0062m	N3° 51' 44"E
17+860.00	9,150,206.6581m	420,820.3533m	N3° 51' 44"E
17+880.00	9,150,226.6127m	420,821.7005m	N3° 51' 44"E
17+900.00	9,150,246.5673m	420,823.0476m	N3° 51' 44"E
17+920.00	9,150,266.5219m	420,824.3948m	N3° 51' 44"E
17+940.00	9,150,286.4764m	420,825.7419m	N3° 51' 44"E
17+960.00	9,150,306.4310m	420,827.0890m	N3° 51' 44"E
17+980.00	9,150,326.3856m	420,828.4362m	N3° 51' 44"E
18+000.00	9,150,346.3402m	420,829.7833m	N3° 51' 44"E
18+020.00	9,150,366.2948m	420,831.1305m	N3° 51' 44"E
18+040.00	9,150,386.2493m	420,832.4776m	N3° 51' 44"E
18+060.00	9,150,406.2039m	420,833.8248m	N3° 51' 44"E
18+080.00	9,150,426.1585m	420,835.1719m	N3° 51' 44"E
18+100.00	9,150,446.1131m	420,836.5191m	N3° 51' 44"E
18+120.00	9,150,466.0676m	420,837.8662m	N3° 51' 44"E
18+140.00	9,150,486.0222m	420,839.2134m	N3° 51' 44"E
18+160.00	9,150,505.9768m	420,840.5605m	N3° 51' 44"E
18+180.00	9,150,525.9314m	420,841.9076m	N3° 51' 44"E
18+200.00	9,150,545.8860m	420,843.2548m	N3° 51' 44"E
18+220.00	9,150,565.8405m	420,844.6019m	N3° 51' 44"E
18+240.00	9,150,585.7951m	420,845.9491m	N3° 51' 44"E
18+260.00	9,150,605.7497m	420,847.2962m	N3° 51' 44"E
18+280.00	9,150,625.7043m	420,848.6434m	N3° 51' 44"E
18+300.00	9,150,645.6589m	420,849.9905m	N3° 51' 44"E
18+320.00	9,150,665.6134m	420,851.3377m	N3° 51' 44"E
18+340.00	9,150,685.5680m	420,852.6848m	N3° 51' 44"E
18+360.00	9,150,705.5226m	420,854.0319m	N3° 51' 44"E
18+380.00	9,150,725.4772m	420,855.3791m	N3° 51' 44"E

18+400.00	9,150,745.4317m	420,856.7262m	N3° 51' 44"E
18+420.00	9,150,765.3863m	420,858.0734m	N3° 51' 44"E
18+440.00	9,150,785.3409m	420,859.4205m	N3° 51' 44"E
18+460.00	9,150,805.2955m	420,860.7677m	N3° 51' 44"E
18+480.00	9,150,825.2501m	420,862.1148m	N3° 51' 44"E
18+500.00	9,150,845.2046m	420,863.4620m	N3° 51' 44"E
18+520.00	9,150,865.1592m	420,864.8091m	N3° 51' 44"E
18+540.00	9,150,885.1138m	420,866.1562m	N3° 51' 44"E
18+560.00	9,150,905.0684m	420,867.5034m	N3° 51' 44"E
18+580.00	9,150,925.0229m	420,868.8505m	N3° 51' 44"E
18+600.00	9,150,944.9775m	420,870.1977m	N3° 51' 44"E
18+620.00	9,150,964.9321m	420,871.5448m	N3° 51' 44"E
18+640.00	9,150,984.8867m	420,872.8920m	N3° 51' 44"E
18+660.00	9,151,004.8413m	420,874.2391m	N3° 51' 44"E
18+680.00	9,151,024.7958m	420,875.5863m	N3° 51' 44"E
18+700.00	9,151,044.7504m	420,876.9334m	N3° 51' 44"E
18+720.00	9,151,064.7050m	420,878.2805m	N3° 51' 44"E
18+740.00	9,151,084.6596m	420,879.6277m	N3° 51' 44"E
18+760.00	9,151,104.6142m	420,880.9748m	N3° 51' 44"E
18+780.00	9,151,124.5687m	420,882.3220m	N3° 51' 44"E
18+800.00	9,151,144.5233m	420,883.6691m	N3° 51' 44"E
18+820.00	9,151,164.4779m	420,885.0163m	N3° 51' 44"E
18+840.00	9,151,184.4325m	420,886.3634m	N3° 51' 44"E
18+860.00	9,151,204.3870m	420,887.7106m	N3° 51' 44"E
18+880.00	9,151,224.3416m	420,889.0577m	N3° 51' 44"E
18+900.00	9,151,244.2962m	420,890.4048m	N3° 51' 44"E
18+920.00	9,151,264.2508m	420,891.7520m	N3° 51' 44"E
18+940.00	9,151,284.2054m	420,893.0991m	N3° 51' 44"E
18+960.00	9,151,304.1599m	420,894.4463m	N3° 51' 44"E
18+980.00	9,151,324.1145m	420,895.7934m	N3° 51' 44"E
19+000.00	9,151,344.0691m	420,897.1406m	N3° 51' 44"E
19+020.00	9,151,364.0237m	420,898.4877m	N3° 51' 44"E
19+040.00	9,151,383.9783m	420,899.8349m	N3° 51' 44"E
19+060.00	9,151,403.9328m	420,901.1820m	N3° 51' 44"E
19+080.00	9,151,423.8874m	420,902.5291m	N3° 51' 44"E
19+100.00	9,151,443.8420m	420,903.8763m	N3° 51' 44"E
19+120.00	9,151,463.7966m	420,905.2234m	N3° 51' 44"E

19+140.00	9,151,483.7511m	420,906.5706m	N3° 51' 44"E
19+160.00	9,151,503.7057m	420,907.9177m	N3° 51' 44"E
19+180.00	9,151,523.6603m	420,909.2649m	N3° 51' 44"E
19+200.00	9,151,543.6149m	420,910.6120m	N3° 51' 44"E
19+220.00	9,151,563.5695m	420,911.9592m	N3° 51' 44"E
19+240.00	9,151,583.5240m	420,913.3063m	N3° 51' 44"E
19+260.00	9,151,603.4786m	420,914.6534m	N3° 51' 44"E
19+280.00	9,151,623.4332m	420,916.0006m	N3° 51' 44"E
19+300.00	9,151,643.3878m	420,917.3477m	N3° 51' 44"E
19+320.00	9,151,663.3424m	420,918.6949m	N3° 51' 44"E
19+340.00	9,151,683.2969m	420,920.0420m	N3° 51' 44"E
19+360.00	9,151,703.2515m	420,921.3892m	N3° 51' 44"E
19+380.00	9,151,723.2061m	420,922.7363m	N3° 51' 44"E
19+400.00	9,151,743.1607m	420,924.0835m	N3° 51' 44"E
19+420.00	9,151,763.1152m	420,925.4306m	N3° 51' 44"E
19+440.00	9,151,783.0698m	420,926.7777m	N3° 51' 44"E
19+460.00	9,151,803.0244m	420,928.1249m	N3° 51' 44"E
19+480.00	9,151,822.9790m	420,929.4720m	N3° 51' 44"E
19+500.00	9,151,842.9336m	420,930.8192m	N3° 51' 44"E
19+520.00	9,151,862.8881m	420,932.1663m	N3° 51' 44"E
19+540.00	9,151,882.8427m	420,933.5135m	N3° 51' 44"E
19+560.00	9,151,902.7973m	420,934.8606m	N3° 51' 44"E
19+580.00	9,151,922.7519m	420,936.2078m	N3° 51' 44"E
19+600.00	9,151,942.7065m	420,937.5549m	N3° 51' 44"E
19+620.00	9,151,962.6610m	420,938.9020m	N3° 51' 44"E
19+640.00	9,151,982.6156m	420,940.2492m	N3° 51' 44"E
19+660.00	9,152,002.5702m	420,941.5963m	N3° 51' 44"E
19+680.00	9,152,022.5248m	420,942.9435m	N3° 51' 44"E
19+700.00	9,152,042.4793m	420,944.2906m	N3° 51' 44"E
19+720.00	9,152,062.4339m	420,945.6378m	N3° 51' 44"E
19+740.00	9,152,082.3885m	420,946.9849m	N3° 51' 44"E
19+760.00	9,152,102.3431m	420,948.3321m	N3° 51' 44"E
19+780.00	9,152,122.2977m	420,949.6792m	N3° 51' 44"E
19+800.00	9,152,142.2522m	420,951.0263m	N3° 51' 44"E
19+820.00	9,152,162.2068m	420,952.3735m	N3° 51' 44"E
19+840.00	9,152,182.1614m	420,953.7206m	N3° 51' 44"E
19+860.00	9,152,202.1160m	420,955.0678m	N3° 51' 44"E

19+880.00	9,152,222.0705m	420,956.4149m	N3° 51' 44"E
19+900.00	9,152,242.0251m	420,957.7621m	N3° 51' 44"E
19+920.00	9,152,261.9797m	420,959.1092m	N3° 51' 44"E
19+940.00	9,152,281.9345m	420,960.4535m	N3° 49' 31"E
19+960.00	9,152,301.8918m	420,961.7585m	N3° 37' 42"E
19+980.00	9,152,321.8554m	420,962.9652m	N3° 15' 43"E
20+000.00	9,152,341.8277m	420,964.0147m	N2° 43' 32"E
20+020.00	9,152,361.8103m	420,964.8477m	N2° 01' 13"E
20+040.00	9,152,381.8023m	420,965.4052m	N1° 08' 48"E
20+060.00	9,152,401.8008m	420,965.6287m	N0° 06' 23"E
20+080.00	9,152,421.7997m	420,965.4603m	N1° 05' 53"W
20+100.00	9,152,441.7901m	420,964.8549m	N2° 22' 17"W
20+120.00	9,152,461.7622m	420,963.8055m	N3° 38' 40"W
20+140.00	9,152,481.7059m	420,962.3125m	N4° 55' 04"W
20+160.00	9,152,501.6116m	420,960.3767m	N6° 11' 28"W
20+180.00	9,152,521.4694m	420,957.9991m	N7° 27' 51"W
20+200.00	9,152,541.2694m	420,955.1809m	N8° 44' 15"W
20+220.00	9,152,561.0019m	420,951.9233m	N10° 00' 39"W
20+240.00	9,152,580.6572m	420,948.2281m	N11° 17' 02"W
20+260.00	9,152,600.2255m	420,944.0971m	N12° 33' 26"W
20+280.00	9,152,619.6971m	420,939.5323m	N13° 49' 50"W
20+300.00	9,152,639.0626m	420,934.5359m	N15° 06' 13"W
20+320.00	9,152,658.3122m	420,929.1105m	N16° 22' 37"W
20+340.00	9,152,677.4365m	420,923.2587m	N17° 39' 01"W
20+360.00	9,152,696.4261m	420,916.9833m	N18° 55' 24"W
20+380.00	9,152,715.2747m	420,910.2964m	N20° 06' 55"W
20+400.00	9,152,733.9904m	420,903.2458m	N21° 08' 32"W
20+420.00	9,152,752.5875m	420,895.8877m	N22° 00' 09"W
20+440.00	9,152,771.0833m	420,888.2784m	N22° 41' 40"W
20+460.00	9,152,789.4974m	420,880.4735m	N23° 13' 02"W
20+480.00	9,152,807.8514m	420,872.5281m	N23° 34' 13"W
20+500.00	9,152,826.1680m	420,864.4968m	N23° 45' 13"W
20+520.00	9,152,844.4705m	420,856.4334m	N23° 46' 55"W
20+540.00	9,152,862.7722m	420,848.3682m	N23° 46' 55"W
20+560.00	9,152,881.0740m	420,840.3030m	N23° 46' 55"W
20+580.00	9,152,899.3757m	420,832.2379m	N23° 46' 55"W
20+600.00	9,152,917.6774m	420,824.1727m	N23° 46' 55"W

20+620.00	9,152,935.9791m	420,816.1075m	N23° 46' 55"W
20+640.00	9,152,954.2809m	420,808.0424m	N23° 46' 55"W
20+660.00	9,152,972.5826m	420,799.9772m	N23° 46' 55"W
20+680.00	9,152,990.8843m	420,791.9120m	N23° 46' 55"W
20+700.00	9,153,009.1860m	420,783.8469m	N23° 46' 55"W
20+720.00	9,153,027.4877m	420,775.7817m	N23° 46' 55"W
20+740.00	9,153,045.7895m	420,767.7165m	N23° 46' 55"W
20+760.00	9,153,064.0912m	420,759.6514m	N23° 46' 55"W
20+780.00	9,153,082.3929m	420,751.5862m	N23° 46' 55"W
20+800.00	9,153,100.6946m	420,743.5210m	N23° 46' 55"W
20+820.00	9,153,118.9964m	420,735.4559m	N23° 46' 55"W
20+840.00	9,153,137.2981m	420,727.3907m	N23° 46' 55"W
20+860.00	9,153,155.5998m	420,719.3255m	N23° 46' 55"W
20+880.00	9,153,173.9015m	420,711.2604m	N23° 46' 55"W
20+900.00	9,153,192.2033m	420,703.1952m	N23° 46' 55"W
20+920.00	9,153,210.5050m	420,695.1300m	N23° 46' 55"W
20+940.00	9,153,228.8067m	420,687.0649m	N23° 46' 55"W
20+960.00	9,153,247.1084m	420,678.9997m	N23° 46' 55"W
20+980.00	9,153,265.4102m	420,670.9345m	N23° 46' 55"W
21+000.00	9,153,283.7119m	420,662.8694m	N23° 46' 55"W
21+020.00	9,153,302.0136m	420,654.8042m	N23° 46' 55"W
21+040.00	9,153,320.3153m	420,646.7390m	N23° 46' 55"W
21+060.00	9,153,338.6171m	420,638.6739m	N23° 46' 55"W
21+080.00	9,153,356.9188m	420,630.6087m	N23° 46' 55"W
21+100.00	9,153,375.2205m	420,622.5435m	N23° 46' 55"W
21+120.00	9,153,393.5222m	420,614.4784m	N23° 46' 55"W
21+140.00	9,153,411.8239m	420,606.4132m	N23° 46' 55"W
21+160.00	9,153,430.1257m	420,598.3481m	N23° 46' 55"W
21+180.00	9,153,448.4274m	420,590.2829m	N23° 46' 55"W
21+200.00	9,153,466.7291m	420,582.2177m	N23° 46' 55"W
21+220.00	9,153,485.0308m	420,574.1526m	N23° 46' 55"W
21+240.00	9,153,503.3326m	420,566.0874m	N23° 46' 55"W
21+260.00	9,153,521.6343m	420,558.0222m	N23° 46' 55"W
21+280.00	9,153,539.9360m	420,549.9571m	N23° 46' 55"W
21+300.00	9,153,558.2377m	420,541.8919m	N23° 46' 55"W
21+320.00	9,153,576.5395m	420,533.8267m	N23° 46' 55"W
21+340.00	9,153,594.8412m	420,525.7616m	N23° 46' 55"W

21+360.00	9,153,613.1429m	420,517.6964m	N23° 46' 55"W
21+380.00	9,153,631.4446m	420,509.6312m	N23° 46' 55"W
21+400.00	9,153,649.7464m	420,501.5661m	N23° 46' 55"W
21+420.00	9,153,668.0481m	420,493.5009m	N23° 46' 55"W
21+440.00	9,153,686.3498m	420,485.4357m	N23° 46' 55"W
21+460.00	9,153,704.6515m	420,477.3706m	N23° 46' 55"W
21+480.00	9,153,722.9533m	420,469.3054m	N23° 46' 55"W
21+500.00	9,153,741.2550m	420,461.2402m	N23° 46' 55"W
21+520.00	9,153,759.5567m	420,453.1751m	N23° 46' 55"W
21+540.00	9,153,777.8584m	420,445.1099m	N23° 46' 55"W
21+560.00	9,153,796.1601m	420,437.0447m	N23° 46' 55"W
21+580.00	9,153,814.4619m	420,428.9796m	N23° 46' 55"W
21+600.00	9,153,832.7636m	420,420.9144m	N23° 46' 55"W
21+620.00	9,153,851.0653m	420,412.8492m	N23° 46' 55"W
21+640.00	9,153,869.3670m	420,404.7841m	N23° 46' 55"W
21+660.00	9,153,887.6688m	420,396.7189m	N23° 46' 55"W
21+680.00	9,153,905.9705m	420,388.6537m	N23° 46' 55"W
21+700.00	9,153,924.2722m	420,380.5886m	N23° 46' 55"W
21+720.00	9,153,942.5739m	420,372.5234m	N23° 46' 55"W
21+740.00	9,153,960.8757m	420,364.4582m	N23° 46' 55"W
21+760.00	9,153,979.1774m	420,356.3931m	N23° 46' 55"W
21+780.00	9,153,997.4791m	420,348.3279m	N23° 46' 55"W
21+800.00	9,154,015.7808m	420,340.2627m	N23° 46' 55"W
21+820.00	9,154,034.0826m	420,332.1976m	N23° 46' 55"W
21+840.00	9,154,052.3843m	420,324.1324m	N23° 46' 55"W
21+860.00	9,154,070.6860m	420,316.0672m	N23° 46' 55"W
21+880.00	9,154,088.9877m	420,308.0021m	N23° 46' 55"W
21+900.00	9,154,107.2894m	420,299.9369m	N23° 46' 55"W
21+920.00	9,154,125.5912m	420,291.8717m	N23° 46' 55"W
21+940.00	9,154,143.8929m	420,283.8066m	N23° 46' 55"W
21+960.00	9,154,162.1946m	420,275.7414m	N23° 46' 55"W
21+980.00	9,154,180.4963m	420,267.6762m	N23° 46' 55"W
22+000.00	9,154,198.7981m	420,259.6111m	N23° 46' 55"W
22+020.00	9,154,217.0998m	420,251.5459m	N23° 46' 55"W
22+040.00	9,154,235.4015m	420,243.4807m	N23° 46' 55"W
22+060.00	9,154,253.7032m	420,235.4156m	N23° 46' 55"W
22+080.00	9,154,272.0050m	420,227.3504m	N23° 46' 55"W

22+100.00	9,154,290.3067m	420,219.2852m	N23° 46' 55"W
22+120.00	9,154,308.6084m	420,211.2201m	N23° 46' 55"W
22+140.00	9,154,326.9101m	420,203.1549m	N23° 46' 55"W
22+160.00	9,154,345.2119m	420,195.0897m	N23° 46' 55"W
22+180.00	9,154,363.5136m	420,187.0246m	N23° 46' 55"W
22+200.00	9,154,381.8153m	420,178.9594m	N23° 46' 55"W
22+220.00	9,154,400.1170m	420,170.8942m	N23° 46' 55"W
22+240.00	9,154,418.4188m	420,162.8291m	N23° 46' 55"W
22+260.00	9,154,436.7205m	420,154.7639m	N23° 46' 55"W
22+280.00	9,154,455.0222m	420,146.6987m	N23° 46' 55"W
22+300.00	9,154,473.3239m	420,138.6336m	N23° 46' 55"W
22+320.00	9,154,491.6256m	420,130.5684m	N23° 46' 55"W
22+340.00	9,154,509.9274m	420,122.5032m	N23° 46' 55"W
22+360.00	9,154,528.2291m	420,114.4381m	N23° 46' 55"W
22+380.00	9,154,546.5308m	420,106.3729m	N23° 46' 55"W
22+400.00	9,154,564.8325m	420,098.3077m	N23° 46' 55"W
22+420.00	9,154,583.1343m	420,090.2426m	N23° 46' 55"W
22+440.00	9,154,601.4360m	420,082.1774m	N23° 46' 55"W
22+460.00	9,154,619.7377m	420,074.1122m	N23° 46' 55"W
22+480.00	9,154,638.0394m	420,066.0471m	N23° 46' 55"W
22+500.00	9,154,656.3412m	420,057.9819m	N23° 46' 55"W
22+520.00	9,154,674.6429m	420,049.9167m	N23° 46' 55"W
22+540.00	9,154,692.9446m	420,041.8516m	N23° 46' 55"W
22+560.00	9,154,711.2463m	420,033.7864m	N23° 46' 55"W
22+580.00	9,154,729.5481m	420,025.7212m	N23° 46' 55"W
22+600.00	9,154,747.8498m	420,017.6561m	N23° 46' 55"W
22+620.00	9,154,766.1515m	420,009.5909m	N23° 46' 55"W
22+640.00	9,154,784.4532m	420,001.5257m	N23° 46' 55"W
22+660.00	9,154,802.7550m	419,993.4606m	N23° 46' 55"W
22+680.00	9,154,821.0567m	419,985.3954m	N23° 46' 55"W
22+700.00	9,154,839.3584m	419,977.3302m	N23° 46' 55"W
22+720.00	9,154,857.6601m	419,969.2651m	N23° 46' 55"W
22+740.00	9,154,875.9618m	419,961.1999m	N23° 46' 55"W
22+760.00	9,154,894.2636m	419,953.1347m	N23° 46' 55"W
22+780.00	9,154,912.5653m	419,945.0696m	N23° 46' 55"W
22+800.00	9,154,930.8670m	419,937.0044m	N23° 46' 55"W
22+820.00	9,154,949.1687m	419,928.9392m	N23° 46' 55"W

22+840.00	9,154,967.4705m	419,920.8741m	N23° 46' 55"W
22+860.00	9,154,985.7722m	419,912.8089m	N23° 46' 55"W
22+880.00	9,155,004.0739m	419,904.7437m	N23° 46' 55"W
22+900.00	9,155,022.3756m	419,896.6786m	N23° 46' 55"W
22+920.00	9,155,040.6774m	419,888.6134m	N23° 46' 55"W
22+940.00	9,155,058.9791m	419,880.5482m	N23° 46' 55"W
22+960.00	9,155,077.2808m	419,872.4831m	N23° 46' 55"W
22+980.00	9,155,095.5821m	419,864.4169m	N23° 48' 08"W
23+000.00	9,155,113.8711m	419,856.3231m	N23° 58' 10"W
23+020.00	9,155,132.1244m	419,848.1488m	N24° 18' 24"W
23+040.00	9,155,150.3169m	419,839.8404m	N24° 48' 49"W
23+060.00	9,155,168.4226m	419,831.3446m	N25° 29' 23"W
23+080.00	9,155,186.4139m	419,822.6092m	N26° 20' 04"W
23+100.00	9,155,204.2612m	419,813.5836m	N27° 20' 45"W
23+120.00	9,155,221.9329m	419,804.2189m	N28° 31' 19"W
23+140.00	9,155,239.3981m	419,794.4746m	N29° 47' 42"W
23+160.00	9,155,256.6424m	419,784.3446m	N31° 04' 06"W
23+180.00	9,155,273.6574m	419,773.8339m	N32° 20' 29"W
23+200.00	9,155,290.4346m	419,762.9478m	N33° 36' 53"W
23+220.00	9,155,306.9658m	419,751.6915m	N34° 53' 17"W
23+240.00	9,155,323.2428m	419,740.0707m	N36° 09' 40"W
23+260.00	9,155,339.2575m	419,728.0911m	N37° 26' 04"W
23+280.00	9,155,355.0022m	419,715.7586m	N38° 42' 28"W
23+300.00	9,155,370.4688m	419,703.0793m	N39° 58' 51"W
23+320.00	9,155,385.6500m	419,690.0594m	N41° 15' 15"W
23+340.00	9,155,400.5381m	419,676.7055m	N42° 31' 39"W
23+360.00	9,155,415.1257m	419,663.0240m	N43° 48' 02"W
23+380.00	9,155,429.4058m	419,649.0217m	N45° 04' 26"W
23+400.00	9,155,443.3712m	419,634.7056m	N46° 20' 50"W
23+420.00	9,155,457.0150m	419,620.0827m	N47° 37' 13"W
23+440.00	9,155,470.3306m	419,605.1602m	N48° 53' 33"W
23+460.00	9,155,483.3218m	419,589.9545m	N50° 03' 42"W
23+480.00	9,155,496.0222m	419,574.5049m	N51° 03' 59"W
23+500.00	9,155,508.4726m	419,558.8530m	N51° 54' 14"W
23+520.00	9,155,520.7161m	419,543.0388m	N52° 34' 23"W
23+540.00	9,155,532.7978m	419,527.1004m	N53° 04' 22"W
23+560.00	9,155,544.7637m	419,511.0750m	N53° 24' 10"W

23+580.00	9,155,556.6610m	419,494.9984m	N53° 33' 47"W
23+600.00	9,155,568.5357m	419,478.9052m	N53° 34' 48"W
23+620.00	9,155,580.4097m	419,462.8115m	N53° 34' 48"W
23+640.00	9,155,592.2837m	419,446.7178m	N53° 34' 48"W
23+660.00	9,155,604.1577m	419,430.6241m	N53° 34' 48"W
23+680.00	9,155,616.0318m	419,414.5304m	N53° 34' 48"W
23+700.00	9,155,627.9058m	419,398.4367m	N53° 34' 48"W
23+720.00	9,155,639.7798m	419,382.3429m	N53° 34' 48"W
23+740.00	9,155,651.6538m	419,366.2492m	N53° 34' 48"W
23+760.00	9,155,663.5278m	419,350.1555m	N53° 34' 48"W
23+780.00	9,155,675.4019m	419,334.0618m	N53° 34' 48"W
23+800.00	9,155,687.2759m	419,317.9681m	N53° 34' 48"W
23+820.00	9,155,699.1499m	419,301.8744m	N53° 34' 48"W
23+840.00	9,155,711.0239m	419,285.7807m	N53° 34' 48"W
23+860.00	9,155,722.8979m	419,269.6870m	N53° 34' 48"W
23+880.00	9,155,734.7720m	419,253.5932m	N53° 34' 48"W
23+900.00	9,155,746.6460m	419,237.4995m	N53° 34' 48"W
23+920.00	9,155,758.5200m	419,221.4058m	N53° 34' 48"W
23+940.00	9,155,770.3940m	419,205.3121m	N53° 34' 48"W
23+960.00	9,155,782.2681m	419,189.2184m	N53° 34' 48"W
23+980.00	9,155,794.1421m	419,173.1247m	N53° 34' 48"W
24+000.00	9,155,806.0161m	419,157.0310m	N53° 34' 48"W
24+020.00	9,155,817.8901m	419,140.9372m	N53° 34' 48"W
24+040.00	9,155,829.7641m	419,124.8435m	N53° 34' 48"W
24+060.00	9,155,841.6382m	419,108.7498m	N53° 34' 48"W
24+080.00	9,155,853.5122m	419,092.6561m	N53° 34' 48"W
24+100.00	9,155,865.3862m	419,076.5624m	N53° 34' 48"W
24+120.00	9,155,877.2602m	419,060.4687m	N53° 34' 48"W
24+140.00	9,155,889.1342m	419,044.3750m	N53° 34' 48"W
24+160.00	9,155,901.0083m	419,028.2812m	N53° 34' 48"W
24+180.00	9,155,912.8823m	419,012.1875m	N53° 34' 48"W
24+200.00	9,155,924.7563m	418,996.0938m	N53° 34' 48"W
24+220.00	9,155,936.6303m	418,980.0001m	N53° 34' 48"W
24+240.00	9,155,948.5043m	418,963.9064m	N53° 34' 48"W
24+260.00	9,155,960.3784m	418,947.8127m	N53° 34' 48"W
24+280.00	9,155,972.2524m	418,931.7190m	N53° 34' 48"W
24+300.00	9,155,984.1264m	418,915.6252m	N53° 34' 48"W

24+320.00	9,155,996.0004m	418,899.5315m	N53° 34' 48"W
24+340.00	9,156,007.8744m	418,883.4378m	N53° 34' 48"W
24+360.00	9,156,019.7485m	418,867.3441m	N53° 34' 48"W
24+380.00	9,156,031.6225m	418,851.2504m	N53° 34' 48"W
24+400.00	9,156,043.4965m	418,835.1567m	N53° 34' 48"W
24+420.00	9,156,055.3705m	418,819.0630m	N53° 34' 48"W
24+440.00	9,156,067.2445m	418,802.9692m	N53° 34' 48"W
24+460.00	9,156,079.1186m	418,786.8755m	N53° 34' 48"W
24+480.00	9,156,090.9926m	418,770.7818m	N53° 34' 48"W
24+500.00	9,156,102.8666m	418,754.6881m	N53° 34' 48"W
24+520.00	9,156,114.7406m	418,738.5944m	N53° 34' 48"W
24+540.00	9,156,126.6147m	418,722.5007m	N53° 34' 48"W
24+560.00	9,156,138.4887m	418,706.4070m	N53° 34' 48"W
24+580.00	9,156,150.3627m	418,690.3132m	N53° 34' 48"W
24+600.00	9,156,162.2367m	418,674.2195m	N53° 34' 48"W
24+620.00	9,156,174.1107m	418,658.1258m	N53° 34' 48"W
24+640.00	9,156,185.9848m	418,642.0321m	N53° 34' 48"W
24+660.00	9,156,197.8588m	418,625.9384m	N53° 34' 48"W
24+680.00	9,156,209.7328m	418,609.8447m	N53° 34' 48"W
24+700.00	9,156,221.6068m	418,593.7510m	N53° 34' 48"W
24+720.00	9,156,233.4808m	418,577.6572m	N53° 34' 48"W
24+740.00	9,156,245.3549m	418,561.5635m	N53° 34' 48"W
24+760.00	9,156,257.2289m	418,545.4698m	N53° 34' 48"W
24+780.00	9,156,269.1029m	418,529.3761m	N53° 34' 48"W
24+800.00	9,156,280.9769m	418,513.2824m	N53° 34' 48"W
24+820.00	9,156,292.8509m	418,497.1887m	N53° 34' 48"W
24+840.00	9,156,304.7250m	418,481.0950m	N53° 34' 48"W
24+860.00	9,156,316.5990m	418,465.0012m	N53° 34' 48"W
24+880.00	9,156,328.4730m	418,448.9075m	N53° 34' 48"W
24+900.00	9,156,340.3470m	418,432.8138m	N53° 34' 48"W
24+920.00	9,156,352.2210m	418,416.7201m	N53° 34' 48"W
24+940.00	9,156,364.0951m	418,400.6264m	N53° 34' 48"W
24+960.00	9,156,375.9691m	418,384.5327m	N53° 34' 48"W
24+980.00	9,156,387.8431m	418,368.4390m	N53° 34' 48"W
25+000.00	9,156,399.7171m	418,352.3453m	N53° 34' 48"W
25+020.00	9,156,411.5911m	418,336.2515m	N53° 34' 48"W
25+040.00	9,156,423.4652m	418,320.1578m	N53° 34' 48"W

25+060.00	9,156,435.3392m	418,304.0641m	N53° 34' 48"W
25+080.00	9,156,447.2132m	418,287.9704m	N53° 34' 48"W
25+100.00	9,156,459.0872m	418,271.8767m	N53° 34' 48"W
25+120.00	9,156,470.9613m	418,255.7830m	N53° 34' 48"W
25+140.00	9,156,482.8353m	418,239.6893m	N53° 34' 48"W
25+160.00	9,156,494.7093m	418,223.5955m	N53° 34' 48"W
25+180.00	9,156,506.5833m	418,207.5018m	N53° 34' 48"W
25+200.00	9,156,518.4573m	418,191.4081m	N53° 34' 48"W
25+220.00	9,156,530.3314m	418,175.3144m	N53° 34' 48"W
25+240.00	9,156,542.2054m	418,159.2207m	N53° 34' 48"W
25+260.00	9,156,554.0794m	418,143.1270m	N53° 34' 48"W
25+280.00	9,156,565.9534m	418,127.0333m	N53° 34' 48"W
25+300.00	9,156,577.8274m	418,110.9395m	N53° 34' 48"W
25+320.00	9,156,589.7015m	418,094.8458m	N53° 34' 48"W
25+340.00	9,156,601.5755m	418,078.7521m	N53° 34' 48"W
25+360.00	9,156,613.4495m	418,062.6584m	N53° 34' 48"W
25+380.00	9,156,625.3235m	418,046.5647m	N53° 34' 48"W
25+400.00	9,156,637.1975m	418,030.4710m	N53° 34' 48"W
25+420.00	9,156,649.0716m	418,014.3773m	N53° 34' 48"W
25+440.00	9,156,660.9456m	417,998.2835m	N53° 34' 48"W
25+460.00	9,156,672.8196m	417,982.1898m	N53° 34' 48"W
25+480.00	9,156,684.6936m	417,966.0961m	N53° 34' 48"W
25+500.00	9,156,696.5676m	417,950.0024m	N53° 34' 48"W
25+520.00	9,156,708.4417m	417,933.9087m	N53° 34' 48"W
25+540.00	9,156,720.3157m	417,917.8150m	N53° 34' 48"W
25+560.00	9,156,732.1897m	417,901.7213m	N53° 34' 48"W
25+580.00	9,156,744.0637m	417,885.6275m	N53° 34' 48"W
25+600.00	9,156,755.9378m	417,869.5338m	N53° 34' 48"W
25+620.00	9,156,767.8118m	417,853.4401m	N53° 34' 48"W
25+640.00	9,156,779.6858m	417,837.3464m	N53° 34' 48"W
25+660.00	9,156,791.5598m	417,821.2527m	N53° 34' 48"W
25+680.00	9,156,803.4338m	417,805.1590m	N53° 34' 48"W
25+700.00	9,156,815.3079m	417,789.0653m	N53° 34' 48"W
25+720.00	9,156,827.1819m	417,772.9715m	N53° 34' 48"W
25+740.00	9,156,839.0559m	417,756.8778m	N53° 34' 48"W
25+760.00	9,156,850.9299m	417,740.7841m	N53° 34' 48"W
25+780.00	9,156,862.8039m	417,724.6904m	N53° 34' 48"W

25+800.00	9,156,874.6780m	417,708.5967m	N53° 34' 48"W
25+820.00	9,156,886.5520m	417,692.5030m	N53° 34' 48"W
25+840.00	9,156,898.4260m	417,676.4093m	N53° 34' 48"W
25+860.00	9,156,910.3000m	417,660.3155m	N53° 34' 48"W
25+880.00	9,156,922.1740m	417,644.2218m	N53° 34' 48"W
25+900.00	9,156,934.0481m	417,628.1281m	N53° 34' 48"W
25+920.00	9,156,945.9221m	417,612.0344m	N53° 34' 48"W
25+940.00	9,156,957.7961m	417,595.9407m	N53° 34' 48"W
25+960.00	9,156,969.6701m	417,579.8470m	N53° 34' 48"W
25+980.00	9,156,981.5441m	417,563.7533m	N53° 34' 48"W
26+000.00	9,156,993.4182m	417,547.6595m	N53° 34' 48"W
26+020.00	9,157,005.2922m	417,531.5658m	N53° 34' 48"W
26+040.00	9,157,017.1662m	417,515.4721m	N53° 34' 48"W
26+060.00	9,157,029.0402m	417,499.3784m	N53° 34' 48"W
26+080.00	9,157,040.9142m	417,483.2847m	N53° 34' 48"W
26+100.00	9,157,052.7883m	417,467.1910m	N53° 34' 48"W
26+120.00	9,157,064.6623m	417,451.0973m	N53° 34' 48"W
26+140.00	9,157,076.5363m	417,435.0035m	N53° 34' 48"W
26+160.00	9,157,088.4103m	417,418.9098m	N53° 34' 48"W
26+180.00	9,157,100.2844m	417,402.8161m	N53° 34' 48"W
26+200.00	9,157,112.1584m	417,386.7224m	N53° 34' 48"W
26+220.00	9,157,124.0324m	417,370.6287m	N53° 34' 48"W
26+240.00	9,157,135.9064m	417,354.5350m	N53° 34' 48"W
26+260.00	9,157,147.7804m	417,338.4413m	N53° 34' 48"W
26+280.00	9,157,159.6545m	417,322.3476m	N53° 34' 48"W
26+300.00	9,157,171.5285m	417,306.2538m	N53° 34' 48"W
26+320.00	9,157,183.4063m	417,290.1629m	N53° 31' 42"W
26+340.00	9,157,195.3213m	417,274.0995m	N53° 18' 40"W
26+360.00	9,157,207.3208m	417,258.0992m	N52° 55' 27"W
26+380.00	9,157,219.4516m	417,242.1982m	N52° 22' 04"W
26+400.00	9,157,231.7595m	417,226.4341m	N51° 38' 31"W
26+420.00	9,157,244.2890m	417,210.8455m	N50° 44' 54"W
26+440.00	9,157,257.0824m	417,195.4729m	N49° 41' 17"W
26+460.00	9,157,270.1797m	417,180.3584m	N48° 28' 01"W
26+480.00	9,157,283.6060m	417,165.5355m	N47° 11' 37"W
26+500.00	9,157,297.3583m	417,151.0146m	N45° 55' 14"W
26+520.00	9,157,311.4299m	417,136.8029m	N44° 38' 50"W

26+540.00	9,157,325.8139m	417,122.9074m	N43° 22' 26"W
26+560.00	9,157,340.5030m	417,109.3349m	N42° 06' 03"W
26+580.00	9,157,355.4845m	417,096.0857m	N40° 54' 14"W
26+600.00	9,157,370.7209m	417,083.1304m	N39° 52' 18"W
26+620.00	9,157,386.1699m	417,070.4291m	N39° 00' 23"W
26+640.00	9,157,401.7907m	417,057.9397m	N38° 18' 33"W
26+660.00	9,157,417.5441m	417,045.6179m	N37° 46' 53"W
26+680.00	9,157,433.3924m	417,033.4183m	N37° 25' 23"W
26+700.00	9,157,449.2987m	417,021.2944m	N37° 14' 05"W
26+720.00	9,157,465.2273m	417,009.1998m	N37° 12' 11"W
26+740.00	9,157,481.1573m	416,997.1070m	N37° 12' 11"W
26+760.00	9,157,497.0873m	416,985.0142m	N37° 12' 11"W
26+780.00	9,157,513.0172m	416,972.9214m	N37° 12' 11"W
26+800.00	9,157,528.9472m	416,960.8285m	N37° 12' 11"W
26+820.00	9,157,544.8772m	416,948.7357m	N37° 12' 11"W
26+840.00	9,157,560.8071m	416,936.6429m	N37° 12' 11"W
26+860.00	9,157,576.7371m	416,924.5501m	N37° 12' 11"W
26+880.00	9,157,592.6670m	416,912.4573m	N37° 12' 11"W
26+900.00	9,157,608.5970m	416,900.3645m	N37° 12' 11"W
26+920.00	9,157,624.5270m	416,888.2716m	N37° 12' 11"W
26+940.00	9,157,640.4569m	416,876.1788m	N37° 12' 11"W
26+960.00	9,157,656.3869m	416,864.0860m	N37° 12' 11"W
26+980.00	9,157,672.3169m	416,851.9932m	N37° 12' 11"W
27+000.00	9,157,688.2468m	416,839.9004m	N37° 12' 11"W
27+020.00	9,157,704.1768m	416,827.8075m	N37° 12' 11"W
27+040.00	9,157,720.1068m	416,815.7147m	N37° 12' 11"W
27+060.00	9,157,736.0367m	416,803.6219m	N37° 12' 11"W
27+080.00	9,157,751.9667m	416,791.5291m	N37° 12' 11"W
27+100.00	9,157,767.8966m	416,779.4363m	N37° 12' 11"W
27+120.00	9,157,783.8266m	416,767.3434m	N37° 12' 11"W
27+140.00	9,157,799.7566m	416,755.2506m	N37° 12' 11"W
27+160.00	9,157,815.6865m	416,743.1578m	N37° 12' 11"W
27+180.00	9,157,831.6165m	416,731.0650m	N37° 12' 11"W
27+200.00	9,157,847.5465m	416,718.9722m	N37° 12' 11"W
27+220.00	9,157,863.4764m	416,706.8794m	N37° 12' 11"W
27+240.00	9,157,879.4064m	416,694.7865m	N37° 12' 11"W
27+260.00	9,157,895.3363m	416,682.6937m	N37° 12' 11"W

27+280.00	9,157,911.2663m	416,670.6009m	N37° 12' 11"W
27+300.00	9,157,927.1963m	416,658.5081m	N37° 12' 11"W
27+320.00	9,157,943.1262m	416,646.4153m	N37° 12' 11"W
27+340.00	9,157,959.0562m	416,634.3224m	N37° 12' 11"W
27+360.00	9,157,974.9862m	416,622.2296m	N37° 12' 11"W
27+380.00	9,157,990.9161m	416,610.1368m	N37° 12' 11"W
27+400.00	9,158,006.8461m	416,598.0440m	N37° 12' 11"W
27+420.00	9,158,022.7761m	416,585.9512m	N37° 12' 11"W
27+440.00	9,158,038.7060m	416,573.8583m	N37° 12' 11"W
27+460.00	9,158,054.6360m	416,561.7655m	N37° 12' 11"W
27+480.00	9,158,070.5659m	416,549.6727m	N37° 12' 11"W
27+500.00	9,158,086.4959m	416,537.5799m	N37° 12' 11"W
27+520.00	9,158,102.4259m	416,525.4871m	N37° 12' 11"W
27+540.00	9,158,118.3558m	416,513.3942m	N37° 12' 11"W
27+560.00	9,158,134.2858m	416,501.3014m	N37° 12' 11"W
27+580.00	9,158,150.2158m	416,489.2086m	N37° 12' 11"W
27+600.00	9,158,166.1457m	416,477.1158m	N37° 12' 11"W
27+620.00	9,158,182.0757m	416,465.0230m	N37° 12' 11"W
27+640.00	9,158,198.0057m	416,452.9302m	N37° 12' 11"W
27+660.00	9,158,213.9356m	416,440.8373m	N37° 12' 11"W
27+680.00	9,158,229.8656m	416,428.7445m	N37° 12' 11"W
27+700.00	9,158,245.7955m	416,416.6517m	N37° 12' 11"W
27+720.00	9,158,261.7255m	416,404.5589m	N37° 12' 11"W
27+740.00	9,158,277.6555m	416,392.4661m	N37° 12' 11"W
27+760.00	9,158,293.5854m	416,380.3732m	N37° 12' 11"W
27+780.00	9,158,309.5154m	416,368.2804m	N37° 12' 11"W
27+800.00	9,158,325.4454m	416,356.1876m	N37° 12' 11"W
27+820.00	9,158,341.3753m	416,344.0948m	N37° 12' 11"W
27+840.00	9,158,357.3053m	416,332.0020m	N37° 12' 11"W
27+860.00	9,158,373.2352m	416,319.9091m	N37° 12' 11"W
27+880.00	9,158,389.1652m	416,307.8163m	N37° 12' 11"W
27+900.00	9,158,405.0952m	416,295.7235m	N37° 12' 11"W
27+920.00	9,158,421.0251m	416,283.6307m	N37° 12' 11"W
27+940.00	9,158,436.9551m	416,271.5379m	N37° 12' 11"W
27+960.00	9,158,452.8851m	416,259.4451m	N37° 12' 11"W
27+980.00	9,158,468.8150m	416,247.3522m	N37° 12' 11"W
28+000.00	9,158,484.7450m	416,235.2594m	N37° 12' 11"W

28+020.00	9,158,500.6750m	416,223.1666m	N37° 12' 11"W
28+040.00	9,158,516.6049m	416,211.0738m	N37° 12' 11"W
28+060.00	9,158,532.5349m	416,198.9810m	N37° 12' 11"W
28+080.00	9,158,548.4648m	416,186.8881m	N37° 12' 11"W
28+100.00	9,158,564.3948m	416,174.7953m	N37° 12' 11"W
28+120.00	9,158,580.3248m	416,162.7025m	N37° 12' 11"W
28+140.00	9,158,596.2547m	416,150.6097m	N37° 12' 11"W
28+160.00	9,158,612.1847m	416,138.5169m	N37° 12' 11"W
28+180.00	9,158,628.1147m	416,126.4240m	N37° 12' 11"W
28+200.00	9,158,644.0446m	416,114.3312m	N37° 12' 11"W
28+220.00	9,158,659.9746m	416,102.2384m	N37° 12' 11"W
28+240.00	9,158,675.9046m	416,090.1456m	N37° 12' 11"W
28+260.00	9,158,691.8345m	416,078.0528m	N37° 12' 11"W
28+280.00	9,158,707.7645m	416,065.9600m	N37° 12' 11"W
28+300.00	9,158,723.6944m	416,053.8671m	N37° 12' 11"W
28+320.00	9,158,739.6244m	416,041.7743m	N37° 12' 11"W
28+340.00	9,158,755.5544m	416,029.6815m	N37° 12' 11"W
28+360.00	9,158,771.4843m	416,017.5887m	N37° 12' 11"W
28+380.00	9,158,787.4143m	416,005.4959m	N37° 12' 11"W
28+400.00	9,158,803.3443m	415,993.4030m	N37° 12' 11"W
28+420.00	9,158,819.2742m	415,981.3102m	N37° 12' 11"W
28+440.00	9,158,835.2042m	415,969.2174m	N37° 12' 11"W
28+460.00	9,158,851.1341m	415,957.1246m	N37° 12' 11"W
28+480.00	9,158,867.0641m	415,945.0318m	N37° 12' 11"W
28+500.00	9,158,882.9941m	415,932.9389m	N37° 12' 11"W
28+520.00	9,158,898.9240m	415,920.8461m	N37° 12' 11"W
28+540.00	9,158,914.8540m	415,908.7533m	N37° 12' 11"W
28+560.00	9,158,930.7840m	415,896.6605m	N37° 12' 11"W
28+580.00	9,158,946.7139m	415,884.5677m	N37° 12' 11"W
28+600.00	9,158,962.6439m	415,872.4748m	N37° 12' 11"W
28+620.00	9,158,978.5739m	415,860.3820m	N37° 12' 11"W
28+640.00	9,158,994.5038m	415,848.2892m	N37° 12' 11"W
28+660.00	9,159,010.4338m	415,836.1964m	N37° 12' 11"W
28+680.00	9,159,026.3637m	415,824.1036m	N37° 12' 11"W
28+700.00	9,159,042.2937m	415,812.0108m	N37° 12' 11"W
28+720.00	9,159,058.2237m	415,799.9179m	N37° 12' 11"W
28+740.00	9,159,074.1536m	415,787.8251m	N37° 12' 11"W

28+760.00	9,159,090.0836m	415,775.7323m	N37° 12' 11"W
28+780.00	9,159,106.0136m	415,763.6395m	N37° 12' 11"W
28+800.00	9,159,121.9435m	415,751.5467m	N37° 12' 11"W
28+820.00	9,159,137.8735m	415,739.4538m	N37° 12' 11"W
28+840.00	9,159,153.8035m	415,727.3610m	N37° 12' 11"W
28+860.00	9,159,169.7334m	415,715.2682m	N37° 12' 11"W
28+880.00	9,159,185.6634m	415,703.1754m	N37° 12' 11"W
28+900.00	9,159,201.5933m	415,691.0826m	N37° 12' 11"W
28+920.00	9,159,217.5233m	415,678.9897m	N37° 12' 11"W
28+940.00	9,159,233.4533m	415,666.8969m	N37° 12' 11"W
28+960.00	9,159,249.3832m	415,654.8041m	N37° 12' 11"W
28+980.00	9,159,265.3132m	415,642.7113m	N37° 12' 11"W
29+000.00	9,159,281.2432m	415,630.6185m	N37° 12' 11"W
29+020.00	9,159,297.1731m	415,618.5257m	N37° 12' 11"W
29+040.00	9,159,313.1031m	415,606.4328m	N37° 12' 11"W
29+060.00	9,159,329.0330m	415,594.3400m	N37° 12' 11"W
29+080.00	9,159,344.9630m	415,582.2472m	N37° 12' 11"W
29+100.00	9,159,360.8930m	415,570.1544m	N37° 12' 11"W
29+120.00	9,159,376.8229m	415,558.0616m	N37° 12' 11"W
29+140.00	9,159,392.7529m	415,545.9687m	N37° 12' 11"W
29+160.00	9,159,408.6829m	415,533.8759m	N37° 12' 11"W
29+180.00	9,159,424.6128m	415,521.7831m	N37° 12' 11"W
29+200.00	9,159,440.5428m	415,509.6903m	N37° 12' 11"W
29+220.00	9,159,456.4728m	415,497.5975m	N37° 12' 11"W
29+237.00	9,159,470.0132m	415,487.3186m	N37° 12' 11"W

### Lampiran 3 Hasil Report AutoCAD CIVIL 3D

**Program Studi Teknik Sipil**  
**Fakultas Teknik Sipil dan Perencanaan**  
**Universitas Islam Indonesia**  
**Yogyakarta**

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#### Alignment Curve Report

**Client:** Prodi Teknik Sipil  
FTSP UII

**Project Name:** Perencanaan Geometri Jalan Rel Kereta  
Api Rute Yogyakarta – Borobudur

**Project Description:**

**Report Date:** 23/03/2018 06:44:17

**Prepared by:** Taufiq Adin

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Alignment: Rail\_alinyemen  
Description:

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#### Tangent Data

Length:	5661.778	Course:	N 28° 13' 02.4811" W
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#### Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

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#### Circular Curve Data

Delta:	12° 07' 40.8423"	Type:	RIGHT
Radius:	900.000		
Length:	190.506	Tangent:	95.610
Mid-Ord:	5.036	External:	5.064
Chord:	190.151	Course:	N 17° 23' 46.5460" W

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#### Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

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#### Tangent Data

Length:	4724.581	Course:	N 06° 34' 30.6109" W
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Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Circular Curve Data

Delta:	00° 55' 23.5356"	Type:	RIGHT
Radius:	900.000		
Length:	14.502	Tangent:	7.251
Mid-Ord:	0.029	External:	0.029
Chord:	14.502	Course:	N 01° 21' 23.3292" W

Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Tangent Data

Length:	3316.442	Course:	N 03° 51' 43.9526" E
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Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Circular Curve Data

Delta:	18° 07' 48.2342"	Type:	LEFT
Radius:	900.000		
Length:	284.786	Tangent:	143.593
Mid-Ord:	11.241	External:	11.383
Chord:	283.600	Course:	N 09° 57' 35.6785" W

Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Tangent Data

Length:	2458.678	Course:	N 23° 46' 55.3095" W
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Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Circular Curve Data

Delta:	20° 17' 01.3486"	Type:	LEFT
Radius:	900.000		
Length:	318.616	Tangent:	160.993

Mid-Ord:	14.063	External:	14.286
Chord:	316.955	Course:	N 38° 40' 51.4978" W

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Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

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Tangent Data

Length:	2715.521	Course:	N 53° 34' 47.6860" W
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Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

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Circular Curve Data

Delta:	06° 51' 45.8261"	Type:	RIGHT
Radius:	900.000		
Length:	107.800	Tangent:	53.964
Mid-Ord:	1.614	External:	1.616
Chord:	107.735	Course:	N 45° 23' 29.2590" W

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Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

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Tangent Data

Length:	2525.635	Course:	N 37° 12' 10.8320" W
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**Lampiran 3 Hasil Report AutoCAD CIVIL 3D**

# Alignment Design Criteria Verification Report

**Client:**

Program Studi Teknik Sipil  
FTSP UII  
Jalan Kaliurang Km 14,5 Sleman DIY  
Date: 23/03/2018 06:01:14

**Prepared by:**

Taufiq Adin  
Mahasiswa Teknik Sipil FTSP UII

Alignment Name: Rail\_alinyemen

Description:

Station Range: Start: 5+420.00, End: 29+237.00

**Tangent**

Start Station: 5+419.00  
End Station: 11+080.78  
Length: 5,661.778m  
Design Speed: 90

Design Checks:

Subdivision Street Cleared

**Spiral Curve: Clothoid**

Start Station: 11+080.78  
End Station: 11+230.78  
Length: 150.000m  
A: 367.423m  
Design Speed: 90

Design Criteria:

Minimum Transition Length: 99.00 Cleared

Design Checks:

$R/3 < A < R$  Cleared

**Circular Curve**

Start Station: 11+230.78

End Station:	11+421.28	
Radius:	900.000m	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum Radius:	550.00	Cleared
<u>Design Checks:</u>		
Subdivision Curve		Cleared

---

**Spiral Curve: Clothoid**

Start Station:	11+421.28	
End Station:	11+571.28	
Length:	150.000m	
A:	367.423m	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum Transition Length:	99.00	Cleared
<u>Design Checks:</u>		
$R/3 < A < R$		Cleared

---

**Tangent**

Start Station:	11+571.28	
End Station:	16+295.87	
Length:	4,724.581m	
Design Speed:	90	
<u>Design Checks:</u>		
Subdivision Street		Cleared

---

**Spiral Curve: Clothoid**

Start Station:	16+295.87	
End Station:	16+445.87	
Length:	150.000m	
A:	367.423m	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum Transition Length:	0.00	Cleared
<u>Design Checks:</u>		

$R/3 < A < R$		Cleared
<hr/>		
<b>Circular Curve</b>		
Start Station:	16+445.87	
End Station:	16+460.37	
Radius:	900.000m	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum Radius:	550.00	Cleared
<u>Design Checks:</u>		
Subdivision Curve		Cleared
<hr/>		
<b>Spiral Curve: Clothoid</b>		
Start Station:	16+460.37	
End Station:	16+610.37	
Length:	150.000m	
A:	367.423m	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum Transition Length:	99.00	Cleared
<u>Design Checks:</u>		
$R/3 < A < R$		Cleared
<hr/>		
<b>Tangent</b>		
Start Station:	16+610.37	
End Station:	19+926.81	
Length:	3,316.442m	
Design Speed:	90	
<u>Design Checks:</u>		
Subdivision Street		Cleared
<hr/>		
<b>Spiral Curve: Clothoid</b>		
Start Station:	19+926.81	
End Station:	20+076.81	
Length:	150.000m	
A:	367.423m	
Design Speed:	90	

Design Criteria:

Minimum Transition Length:	99.00	Cleared
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Design Checks:

$R/3 < A < R$		Cleared
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**Circular Curve**

Start Station:	20+076.81
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End Station:	20+361.60
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Radius:	900.000m
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Design Speed:	90
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Design Criteria:

Minimum Radius:	550.00	Cleared
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Design Checks:

Subdivision Curve		Cleared
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**Spiral Curve: Clothoid**

Start Station:	20+361.60
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End Station:	20+511.60
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Length:	150.000m
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A:	367.423m
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Design Speed:	90
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Design Criteria:

Minimum Transition Length:	99.00	Cleared
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Design Checks:

$R/3 < A < R$		Cleared
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**Tangent**

Start Station:	20+511.60
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End Station:	22+970.27
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Length:	2,458.678m
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Design Speed:	90
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Design Checks:

Subdivision Street		Cleared
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**Spiral Curve: Clothoid**

Start Station:	22+970.27
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End Station:	23+120.27
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Length:	150.000m	
A:	367.423m	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum Transition Length:	99.00	Cleared
<u>Design Checks:</u>		
R/3<A<R		Cleared

---

**Circular Curve**

Start Station:	23+120.27	
End Station:	23+438.89	
Radius:	900.000m	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum Radius:	550.00	Cleared
<u>Design Checks:</u>		
Subdivision Curve		Cleared

---

**Spiral Curve: Clothoid**

Start Station:	23+438.89	
End Station:	23+588.89	
Length:	150.000m	
A:	367.423m	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum Transition Length:	99.00	Cleared
<u>Design Checks:</u>		
R/3<A<R		Cleared

---

**Tangent**

Start Station:	23+588.89	
End Station:	26+304.41	
Length:	2,715.521m	
Design Speed:	90	
<u>Design Checks:</u>		
Subdivision Street		Cleared

---

**Spiral Curve:Clothoid**

Start Station: 26+304.41

End Station: 26+454.41

Length: 150.000m

A: 367.423m

Design Speed: 90

Design Criteria:

Minimum Transition Length: 99.00 Cleared

Design Checks:

R/3&lt;A&lt;R Cleared

**Circular Curve**

Start Station: 26+454.41

End Station: 26+562.21

Radius: 900.000m

Design Speed: 90

Design Criteria:

Minimum Radius: 550.00 Cleared

Design Checks:

Subdivision Curve Cleared

**Spiral Curve:Clothoid**

Start Station: 26+562.21

End Station: 26+712.21

Length: 150.000m

A: 367.423m

Design Speed: 90

Design Criteria:

Minimum Transition Length: 99.00 Cleared

Design Checks:

R/3&lt;A&lt;R Cleared

**Tangent**

Start Station: 26+712.21

End Station: 29+237.84

Length: 2,525.635m

Design Speed: 90

Design Checks:

Subdivision Street

Cleared

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**Lampiran 3 Hasil Report AutoCAD CIVIL 3D**

# Horizontal Alignment Report

**Client:**

Program Studi Teknik Sipil  
FTSP UII  
Jalan Kaliurang Km 14,5 Sleman DIY  
Date: 23/03/2018 01:19:23

**Prepared by:**

Taufiq Adin  
Mahasiswa Teknik Sipil FTSP UII

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Report Date: 23/03/2018 01:19:23  
Alignment Name: Rail\_alinyemen  
Station Range: Start: 5+419,00, End: 29+237,84  
Description:

\*\*\*\*\*

\*\*\*\*\*

Begin Rail\_alinyemen  
N 9.138.499,7683 E 424.106,9507 5+419.00

Line (1)  
N28° 13' 02"W 5.661,778m  
N 9.143.488,7023 E 421.429,9617 11+080.78  
Line (1)

Curve Group (2)  
\*\*\*\*\*Spiral-In \*\*\*\*\*  
SI N 9.143.488,7023 E 421.429,9617  
Long Tangent 99,931m  
Short Tangent 50,138m  
Long Chord 149,954m  
Spiral Length 150,000m  
Spiral Angle 4,7571 (d)  
Xs 149,896m  
Ys 4,158m  
p 1,058m  
k 75,258m  
k' 1,058m  
\*\*\*\*\* Curve \*\*\*\*\*

CC N 9.143.981,0527 E 422.188,3547  
 PI N 9.143.710,458m E 421.324,688m  
 TAN 95,610m  
 Distance 190,151m Bearing S72° 36' 13"E  
 External Distance 5,064m  
 Middle Ordinate 5,036m  
 Radius 900,000m  
 DEG 158,3578 (d)  
 DELTA 12,1280 (d)  
 LENGTH 190,506m'  
 \*\*\*\*\*Spiral-Out \*\*\*\*\*  
 SI N 9.143.804,2044 E 421.305,9009  
 Long Tangent 99,931m  
 Short Tangent 50,138m  
 Long Chord 149,954m  
 Spiral Length 150,000m  
 Spiral Angle 4,7571 (d)  
 Xs 149,896m  
 Ys 4,158m  
 p 1,058m  
 k 75,258m  
 k' 1,058m  
 Curve Group (2)

Line (3)  
 N6° 34' 31"W 4.724,581m  
 N 9.148.646,1432 E 420.743,6102 16+295.87  
 Line (3)

Curve Group (4)  
 \*\*\*\*\*Spiral-In \*\*\*\*\*  
 SI N 9.148.646,1432 E 420.743,6102  
 Long Tangent 99,931m  
 Short Tangent 50,138m  
 Long Chord 149,954m  
 Spiral Length 150,000m  
 Spiral Angle 4,7571 (d)  
 Xs 149,896m  
 Ys 4,158m  
 p 1,058m  
 k 75,258m  
 k' 1,058m  
 \*\*\*\*\* Curve \*\*\*\*\*

CC N 9.148.824,0833 E 421.630,1237  
 PI N 9.148.802,777m E 420.730,347m  
 TAN 7,251m  
 Distance 14,502m Bearing S88° 38' 37"E  
 External Distance 0,029m  
 Middle Ordinate 0,029m  
 Radius 900,000m  
 DEG 169,5626 (d)  
 DELTA 0,9232 (d)  
 LENGTH 14,502m'

\*\*\*\*\*Spiral-Out \*\*\*\*\*

SI N 9.148.810,0271 E 420.730,2335  
 Long Tangent 99,931m  
 Short Tangent 50,138m  
 Long Chord 149,954m  
 Spiral Length 150,000m  
 Spiral Angle 4,7571 (d)  
 Xs 149,896m  
 Ys 4,158m  
 p 1,058m  
 k 75,258m  
 k' 1,058m  
 Curve Group (4)

Line (5)  
 N3° 51' 44"E 3.316,442m  
 N 9.152.268,7730 E 420.959,5678 19+926.81  
 Line (5)

Curve Group (6)  
 \*\*\*\*\*Spiral-In \*\*\*\*\*

SI N 9.152.268,7730 E 420.959,5678  
 Long Tangent 99,931m  
 Short Tangent 50,138m  
 Long Chord 149,954m  
 Spiral Length 150,000m  
 Spiral Angle 4,7571 (d)  
 Xs 149,896m  
 Ys 4,158m  
 p 1,058m  
 k 75,258m  
 k' 1,058m

\*\*\*\*\* Curve \*\*\*\*\*

CC N 9.152.404,5527 E 420.065,6256  
 PI N 9.152.562,185m E 420.963,273m  
 TAN 143,593m  
 Distance 283,600m Bearing S80° 02' 24"E  
 External Distance 11,383m  
 Middle Ordinate 11,241m  
 Radius 900,000m  
 DEG 152,3558 (d)  
 DELTA 18,1301 (d)  
 LENGTH 284,786m'  
 \*\*\*\*\*Spiral-Out \*\*\*\*\*  
 SI N 9.152.697,9345 E 420.916,4647  
 Long Tangent 99,931m  
 Short Tangent 50,138m  
 Long Chord 149,954m  
 Spiral Length 150,000m  
 Spiral Angle 4,7571 (d)  
 Xs 149,896m  
 Ys 4,158m  
 p 1,058m  
 k 75,258m  
 k' 1,058m  
 Curve Group (6)

Line (7)  
 N23° 46' 55"W 2.458,678m  
 N 9.155.086,6812 E 419.868,3405 22+970.27  
 Line (7)

Curve Group (8)  
 \*\*\*\*\*Spiral-In \*\*\*\*\*  
 SI N 9.155.086,6812 E 419.868,3405  
 Long Tangent 99,931m  
 Short Tangent 50,138m  
 Long Chord 149,954m  
 Spiral Length 150,000m  
 Spiral Angle 4,7571 (d)  
 Xs 149,896m  
 Ys 4,158m  
 p 1,058m  
 k 75,258m  
 k' 1,058m  
 \*\*\*\*\* Curve \*\*\*\*\*

CC N 9.154.792,1897 E 419.013,4466  
 PI N 9.155.363,603m E 419.727,173m  
 TAN 160,993m  
 Distance 316,955m Bearing S51° 19' 09"E  
 External Distance 14,286m  
 Middle Ordinate 14,063m  
 Radius 900,000m  
 DEG 150,2021 (d)  
 DELTA 20,2837 (d)  
 LENGTH 318,616m'  
 \*\*\*\*\*Spiral-Out \*\*\*\*\*  
 SI N 9.155.469,5993 E 419.605,9973  
 Long Tangent 99,931m  
 Short Tangent 50,138m  
 Long Chord 149,954m  
 Spiral Length 150,000m  
 Spiral Angle 4,7571 (d)  
 Xs 149,896m  
 Ys 4,158m  
 p 1,058m  
 k 75,258m  
 k' 1,058m  
 Curve Group (8)

Line (9)  
 N53° 34' 48"W 2.715,521m  
 N 9.157.174,1465 E 417.302,7055 26+304.41  
 Line (9)

Curve Group (10)  
 \*\*\*\*\*Spiral-In \*\*\*\*\*  
 SI N 9.157.174,1465 E 417.302,7055  
 Long Tangent 99,931m  
 Short Tangent 50,138m  
 Long Chord 149,954m  
 Spiral Length 150,000m  
 Spiral Angle 4,7571 (d)  
 Xs 149,896m  
 Ys 4,158m  
 p 1,058m  
 k 75,258m  
 k' 1,058m  
 \*\*\*\*\* Curve \*\*\*\*\*

CC N 9.157.943,8955 E 417.777,1054  
 PI N 9.157.302,015m E 417.143,937m  
 TAN 53,964m  
 Distance 107,735m Bearing S44° 36' 31"E  
 External Distance 1,616m  
 Middle Ordinate 1,614m  
 Radius 900,000m  
 DEG 163,6231 (d)  
 DELTA 6,8627 (d)  
 LENGTH 107,800m'  
 \*\*\*\*\*Spiral-Out \*\*\*\*\*  
 SI N 9.157.342,1439 E 417.107,8558  
 Long Tangent 99,931m  
 Short Tangent 50,138m  
 Long Chord 149,954m  
 Spiral Length 150,000m  
 Spiral Angle 4,7571 (d)  
 Xs 149,896m  
 Ys 4,158m  
 p 1,058m  
 k 75,258m  
 k' 1,058m  
 Curve Group (10)

Line (11)  
 N37° 12' 11"W 2.525,635m  
 N 9.159.470,6852 E 415.486,8084 29+237.84  
 Line (11)

N 9.159.470,6852 E 415.486,8084 29+237.84  
 End Rail\_alinyemen

\*\*\*\*\*  
 \*\*\*\*\*  
 Alignment Length: 23.818,844m  
 \*\*\*\*\*  
 \*\*\*\*\*

**Lampiran 3 Hasil Report AutoCAD CIVIL 3D**

## PVI Station Increment Report

**Client:**

Program Studi Teknik Sipil

FTSP UII

Jalan Kaliurang Km 14,5 Sleman DIY

Date: 23/03/2018 05:21:12

**Prepared by:**

Taufiq Adin

Mahasiswa Teknik Sipil FTSP UII

Vertical Alignment: Vertikal\_alinyemen

Description:

Station Range: Start: 5+420.00, End: 29+237.00

Station Increment: 20.00

Station	Elevation	Grade Percent (%)	Location
5+420.00	99.603m		
5+440.00	99.661m	0.29%	
5+460.00	99.720m	0.29%	
5+480.00	99.778m	0.29%	
5+500.00	99.836m	0.29%	
5+520.00	99.895m	0.29%	
5+540.00	99.953m	0.29%	
5+560.00	100.011m	0.29%	
5+580.00	100.070m	0.29%	
5+600.00	100.128m	0.29%	
5+620.00	100.186m	0.29%	
5+640.00	100.245m	0.29%	
5+660.00	100.303m	0.29%	
5+680.00	100.361m	0.29%	
5+700.00	100.419m	0.29%	
5+720.00	100.478m	0.29%	
5+740.00	100.536m	0.29%	
5+760.00	100.594m	0.29%	

5+780.00	100.653m	0.29%	
5+800.00	100.711m	0.29%	
5+820.00	100.769m	0.29%	
5+840.00	100.828m	0.29%	
5+860.00	100.886m	0.29%	
5+880.00	100.944m	0.29%	
5+900.00	101.003m	0.29%	
5+920.00	101.061m	0.29%	
5+940.00	101.119m	0.29%	
5+960.00	101.177m	0.29%	
5+980.00	101.236m	0.29%	
6+000.00	101.294m	0.29%	
6+020.00	101.352m	0.29%	
6+040.00	101.411m	0.29%	
6+060.00	101.469m	0.29%	
6+080.00	101.527m	0.29%	
6+100.00	101.586m	0.29%	
6+120.00	101.644m	0.29%	
6+140.00	101.702m	0.29%	
6+160.00	101.761m	0.29%	
6+180.00	101.819m	0.29%	
6+200.00	101.877m	0.29%	
6+220.00	101.935m	0.29%	
6+240.00	101.994m	0.29%	
6+260.00	102.052m	0.29%	
6+280.00	102.110m	0.29%	
6+300.00	102.169m	0.29%	
6+320.00	102.227m	0.29%	
6+340.00	102.285m	0.29%	
6+360.00	102.344m	0.29%	
6+380.00	102.402m	0.29%	
6+400.00	102.460m	0.29%	

6+420.00	102.519m	0.29%	
6+440.00	102.577m	0.29%	
6+460.00	102.635m	0.29%	
6+480.00	102.693m	0.29%	
6+500.00	102.752m	0.29%	
6+520.00	102.810m	0.29%	
6+540.00	102.868m	0.29%	
6+556.54	102.917m	0.29%	PVC
6+560.00	102.927m	0.30%	
6+580.00	103.003m	0.38%	
6+597.27	103.091m	0.51%	Sag
6+600.00	103.106m	0.57%	
6+620.00	103.236m	0.65%	
6+638.00	103.375m	0.77%	PVT
6+640.00	103.392m	0.83%	
6+660.00	103.558m	0.83%	
6+680.00	103.725m	0.83%	
6+700.00	103.892m	0.83%	
6+720.00	104.059m	0.83%	
6+740.00	104.225m	0.83%	
6+760.00	104.392m	0.83%	
6+780.00	104.559m	0.83%	
6+800.00	104.726m	0.83%	
6+820.00	104.892m	0.83%	
6+840.00	105.059m	0.83%	
6+860.00	105.226m	0.83%	
6+880.00	105.393m	0.83%	
6+900.00	105.559m	0.83%	
6+920.00	105.726m	0.83%	
6+940.00	105.893m	0.83%	
6+960.00	106.060m	0.83%	
6+980.00	106.226m	0.83%	

7+000.00	106.393m	0.83%	
7+020.00	106.560m	0.83%	
7+040.00	106.727m	0.83%	
7+060.00	106.893m	0.83%	
7+080.00	107.060m	0.83%	
7+100.00	107.227m	0.83%	
7+120.00	107.394m	0.83%	
7+140.00	107.560m	0.83%	
7+160.00	107.727m	0.83%	
7+180.00	107.894m	0.83%	
7+200.00	108.061m	0.83%	
7+220.00	108.227m	0.83%	
7+240.00	108.394m	0.83%	
7+260.00	108.561m	0.83%	
7+280.00	108.728m	0.83%	
7+300.00	108.894m	0.83%	
7+310.51	108.982m	0.83%	PVC
7+320.00	109.057m	0.79%	
7+333.79	109.153m	0.70%	Crest
7+340.00	109.192m	0.61%	
7+357.07	109.280m	0.52%	PVT
7+360.00	109.293m	0.45%	
7+380.00	109.382m	0.45%	
7+400.00	109.471m	0.45%	
7+420.00	109.560m	0.45%	
7+440.00	109.649m	0.45%	
7+460.00	109.738m	0.45%	
7+480.00	109.827m	0.45%	
7+500.00	109.916m	0.45%	
7+520.00	110.005m	0.45%	
7+540.00	110.095m	0.45%	
7+560.00	110.184m	0.45%	

7+580.00	110.273m	0.45%	
7+600.00	110.362m	0.45%	
7+620.00	110.451m	0.45%	
7+640.00	110.540m	0.45%	
7+660.00	110.629m	0.45%	
7+680.00	110.718m	0.45%	
7+700.00	110.807m	0.45%	
7+720.00	110.896m	0.45%	
7+740.00	110.985m	0.45%	
7+760.00	111.074m	0.45%	
7+780.00	111.164m	0.45%	
7+800.00	111.253m	0.45%	
7+820.00	111.342m	0.45%	
7+840.00	111.431m	0.45%	
7+860.00	111.520m	0.45%	
7+880.00	111.609m	0.45%	
7+900.00	111.698m	0.45%	
7+920.00	111.787m	0.45%	
7+940.00	111.876m	0.45%	
7+960.00	111.965m	0.45%	
7+980.00	112.054m	0.45%	
8+000.00	112.143m	0.45%	
8+020.00	112.232m	0.45%	
8+040.00	112.322m	0.45%	
8+060.00	112.411m	0.45%	
8+080.00	112.500m	0.45%	
8+100.00	112.589m	0.45%	
8+120.00	112.678m	0.45%	
8+140.00	112.767m	0.45%	
8+160.00	112.856m	0.45%	
8+180.00	112.945m	0.45%	
8+200.00	113.034m	0.45%	

8+220.00	113.123m	0.45%	
8+240.00	113.212m	0.45%	
8+260.00	113.301m	0.45%	
8+280.00	113.391m	0.45%	
8+300.00	113.480m	0.45%	
8+320.00	113.569m	0.45%	
8+340.00	113.658m	0.45%	
8+360.00	113.747m	0.45%	
8+380.00	113.836m	0.45%	
8+400.00	113.925m	0.45%	
8+420.00	114.014m	0.45%	
8+440.00	114.103m	0.45%	
8+460.00	114.192m	0.45%	
8+480.00	114.281m	0.45%	
8+500.00	114.370m	0.45%	
8+520.00	114.460m	0.45%	
8+540.00	114.549m	0.45%	
8+560.00	114.638m	0.45%	
8+580.00	114.727m	0.45%	
8+600.00	114.816m	0.45%	
8+620.00	114.905m	0.45%	
8+640.00	114.994m	0.45%	
8+660.00	115.083m	0.45%	
8+680.00	115.172m	0.45%	
8+700.00	115.261m	0.45%	
8+720.00	115.350m	0.45%	
8+740.00	115.439m	0.45%	
8+760.00	115.528m	0.45%	
8+780.00	115.618m	0.45%	
8+800.00	115.707m	0.45%	
8+820.00	115.796m	0.45%	
8+840.00	115.885m	0.45%	

8+860.00	115.974m	0.45%	
8+880.00	116.063m	0.45%	
8+900.00	116.152m	0.45%	
8+920.00	116.241m	0.45%	
8+940.00	116.330m	0.45%	
8+960.00	116.419m	0.45%	
8+980.00	116.508m	0.45%	
9+000.00	116.597m	0.45%	
9+020.00	116.687m	0.45%	
9+040.00	116.776m	0.45%	
9+060.00	116.865m	0.45%	
9+080.00	116.954m	0.45%	
9+100.00	117.043m	0.45%	
9+120.00	117.132m	0.45%	
9+140.00	117.221m	0.45%	
9+160.00	117.310m	0.45%	
9+180.00	117.399m	0.45%	
9+200.00	117.488m	0.45%	
9+220.00	117.577m	0.45%	
9+240.00	117.666m	0.45%	
9+260.00	117.755m	0.45%	
9+280.00	117.845m	0.45%	
9+300.00	117.934m	0.45%	
9+320.00	118.023m	0.45%	
9+340.00	118.112m	0.45%	
9+360.00	118.201m	0.45%	
9+363.47	118.216m	0.45%	PVC
9+372.02	118.256m	0.46%	Sag
9+380.00	118.295m	0.49%	
9+380.57	118.298m	0.50%	PVT
9+400.00	118.396m	0.51%	
9+420.00	118.497m	0.51%	

9+440.00	118.598m	0.51%	
9+460.00	118.699m	0.51%	
9+480.00	118.800m	0.51%	
9+500.00	118.901m	0.51%	
9+520.00	119.002m	0.51%	
9+540.00	119.103m	0.51%	
9+560.00	119.204m	0.51%	
9+580.00	119.305m	0.51%	
9+600.00	119.406m	0.51%	
9+620.00	119.507m	0.51%	
9+640.00	119.608m	0.51%	
9+660.00	119.709m	0.51%	
9+680.00	119.810m	0.51%	
9+700.00	119.911m	0.51%	
9+720.00	120.012m	0.51%	
9+740.00	120.113m	0.51%	
9+760.00	120.214m	0.51%	
9+780.00	120.315m	0.51%	
9+800.00	120.416m	0.51%	
9+820.00	120.517m	0.51%	
9+840.00	120.618m	0.51%	
9+860.00	120.719m	0.51%	
9+880.00	120.820m	0.51%	
9+900.00	120.921m	0.51%	
9+920.00	121.022m	0.51%	
9+940.00	121.123m	0.51%	
9+960.00	121.224m	0.51%	
9+980.00	121.325m	0.51%	
10+000.00	121.426m	0.51%	
10+020.00	121.527m	0.51%	
10+040.00	121.628m	0.51%	
10+060.00	121.729m	0.51%	

10+080.00	121.830m	0.51%	
10+100.00	121.931m	0.51%	
10+120.00	122.032m	0.51%	
10+140.00	122.133m	0.51%	
10+160.00	122.234m	0.51%	
10+180.00	122.336m	0.51%	
10+200.00	122.437m	0.51%	
10+220.00	122.538m	0.51%	
10+240.00	122.639m	0.51%	
10+260.00	122.740m	0.51%	
10+280.00	122.841m	0.51%	
10+300.00	122.942m	0.51%	
10+320.00	123.043m	0.51%	
10+340.00	123.144m	0.51%	
10+360.00	123.245m	0.51%	
10+380.00	123.346m	0.51%	
10+400.00	123.447m	0.51%	
10+420.00	123.548m	0.51%	
10+440.00	123.649m	0.51%	
10+460.00	123.750m	0.51%	
10+480.00	123.851m	0.51%	
10+500.00	123.952m	0.51%	
10+520.00	124.053m	0.51%	
10+540.00	124.154m	0.51%	
10+560.00	124.255m	0.51%	
10+580.00	124.356m	0.51%	
10+600.00	124.457m	0.51%	
10+620.00	124.558m	0.51%	
10+640.00	124.659m	0.51%	
10+660.00	124.760m	0.51%	
10+680.00	124.861m	0.51%	
10+700.00	124.962m	0.51%	

10+720.00	125.063m	0.51%	
10+740.00	125.164m	0.51%	
10+760.00	125.265m	0.51%	
10+780.00	125.366m	0.51%	
10+800.00	125.467m	0.51%	
10+820.00	125.568m	0.51%	
10+837.00	125.654m	0.51%	PVC
10+840.00	125.669m	0.51%	
10+860.00	125.778m	0.54%	
10+866.13	125.814m	0.58%	Sag
10+880.00	125.899m	0.61%	
10+895.26	125.999m	0.66%	PVT
10+900.00	126.031m	0.68%	
10+920.00	126.167m	0.68%	
10+940.00	126.302m	0.68%	
10+960.00	126.438m	0.68%	
10+980.00	126.573m	0.68%	
11+000.00	126.709m	0.68%	
11+020.00	126.845m	0.68%	
11+040.00	126.980m	0.68%	
11+060.00	127.116m	0.68%	
11+080.00	127.252m	0.68%	
11+100.00	127.387m	0.68%	
11+120.00	127.523m	0.68%	
11+140.00	127.659m	0.68%	
11+160.00	127.794m	0.68%	
11+180.00	127.930m	0.68%	
11+200.00	128.066m	0.68%	
11+220.00	128.201m	0.68%	
11+240.00	128.337m	0.68%	
11+260.00	128.472m	0.68%	
11+280.00	128.608m	0.68%	

11+300.00	128.744m	0.68%	
11+320.00	128.879m	0.68%	
11+340.00	129.015m	0.68%	
11+360.00	129.151m	0.68%	
11+380.00	129.286m	0.68%	
11+400.00	129.422m	0.68%	
11+420.00	129.558m	0.68%	
11+440.00	129.693m	0.68%	
11+460.00	129.829m	0.68%	
11+480.00	129.965m	0.68%	
11+500.00	130.100m	0.68%	
11+520.00	130.236m	0.68%	
11+540.00	130.372m	0.68%	
11+560.00	130.507m	0.68%	
11+580.00	130.643m	0.68%	
11+600.00	130.778m	0.68%	
11+620.00	130.914m	0.68%	
11+640.00	131.050m	0.68%	
11+660.00	131.185m	0.68%	
11+680.00	131.321m	0.68%	
11+700.00	131.457m	0.68%	
11+720.00	131.592m	0.68%	
11+740.00	131.728m	0.68%	
11+760.00	131.864m	0.68%	
11+780.00	131.999m	0.68%	
11+800.00	132.135m	0.68%	
11+820.00	132.271m	0.68%	
11+840.00	132.406m	0.68%	
11+860.00	132.542m	0.68%	
11+880.00	132.677m	0.68%	
11+900.00	132.813m	0.68%	
11+920.00	132.949m	0.68%	

11+940.00	133.084m	0.68%	
11+960.00	133.220m	0.68%	
11+980.00	133.356m	0.68%	
12+000.00	133.491m	0.68%	
12+020.00	133.627m	0.68%	
12+040.00	133.763m	0.68%	
12+060.00	133.898m	0.68%	
12+080.00	134.034m	0.68%	
12+100.00	134.170m	0.68%	
12+120.00	134.305m	0.68%	
12+140.00	134.441m	0.68%	
12+160.00	134.576m	0.68%	
12+180.00	134.712m	0.68%	
12+200.00	134.848m	0.68%	
12+220.00	134.983m	0.68%	
12+240.00	135.119m	0.68%	
12+260.00	135.255m	0.68%	
12+280.00	135.390m	0.68%	
12+300.00	135.526m	0.68%	
12+320.00	135.662m	0.68%	
12+340.00	135.797m	0.68%	
12+360.00	135.933m	0.68%	
12+380.00	136.069m	0.68%	
12+400.00	136.204m	0.68%	
12+420.00	136.340m	0.68%	
12+440.00	136.476m	0.68%	
12+460.00	136.611m	0.68%	
12+480.00	136.747m	0.68%	
12+500.00	136.882m	0.68%	
12+520.00	137.018m	0.68%	
12+540.00	137.154m	0.68%	
12+560.00	137.289m	0.68%	

12+580.00	137.425m	0.68%	
12+600.00	137.561m	0.68%	
12+620.00	137.696m	0.68%	
12+640.00	137.832m	0.68%	
12+660.00	137.968m	0.68%	
12+680.00	138.103m	0.68%	
12+700.00	138.239m	0.68%	
12+710.96	138.313m	0.68%	PVC
12+720.00	138.369m	0.61%	
12+728.22	138.409m	0.49%	Crest
12+740.00	138.450m	0.35%	
12+745.47	138.462m	0.22%	PVT
12+760.00	138.489m	0.19%	
12+780.00	138.526m	0.19%	
12+800.00	138.563m	0.19%	
12+820.00	138.600m	0.19%	
12+840.00	138.637m	0.19%	
12+860.00	138.674m	0.19%	
12+880.00	138.711m	0.19%	
12+900.00	138.748m	0.19%	
12+920.00	138.785m	0.19%	
12+940.00	138.822m	0.19%	
12+960.00	138.860m	0.19%	
12+980.00	138.897m	0.19%	
13+000.00	138.934m	0.19%	
13+020.00	138.971m	0.19%	
13+040.00	139.008m	0.19%	
13+060.00	139.045m	0.19%	
13+080.00	139.082m	0.19%	
13+100.00	139.119m	0.19%	
13+120.00	139.156m	0.19%	
13+140.00	139.193m	0.19%	

13+160.00	139.230m	0.19%	
13+180.00	139.267m	0.19%	
13+200.00	139.304m	0.19%	
13+220.00	139.341m	0.19%	
13+240.00	139.378m	0.19%	
13+260.00	139.415m	0.19%	
13+280.00	139.452m	0.19%	
13+300.00	139.489m	0.19%	
13+320.00	139.526m	0.19%	
13+340.00	139.563m	0.19%	
13+360.00	139.600m	0.19%	
13+380.00	139.637m	0.19%	
13+400.00	139.674m	0.19%	
13+420.00	139.712m	0.19%	
13+440.00	139.749m	0.19%	
13+460.00	139.786m	0.19%	
13+480.00	139.823m	0.19%	
13+500.00	139.860m	0.19%	
13+520.00	139.897m	0.19%	
13+540.00	139.934m	0.19%	
13+560.00	139.971m	0.19%	
13+580.00	140.008m	0.19%	
13+600.00	140.045m	0.19%	
13+620.00	140.082m	0.19%	
13+640.00	140.119m	0.19%	
13+660.00	140.156m	0.19%	
13+680.00	140.193m	0.19%	
13+700.00	140.230m	0.19%	
13+720.00	140.267m	0.19%	
13+740.00	140.304m	0.19%	
13+760.00	140.341m	0.19%	
13+780.00	140.378m	0.19%	

13+800.00	140.415m	0.19%	
13+820.00	140.452m	0.19%	
13+840.00	140.489m	0.19%	
13+860.00	140.526m	0.19%	
13+880.00	140.563m	0.19%	
13+900.00	140.601m	0.19%	
13+920.00	140.638m	0.19%	
13+940.00	140.675m	0.19%	
13+960.00	140.712m	0.19%	
13+980.00	140.749m	0.19%	
14+000.00	140.786m	0.19%	
14+020.00	140.823m	0.19%	
14+040.00	140.860m	0.19%	
14+060.00	140.897m	0.19%	
14+080.00	140.934m	0.19%	
14+100.00	140.971m	0.19%	
14+120.00	141.008m	0.19%	
14+140.00	141.045m	0.19%	
14+160.00	141.082m	0.19%	
14+180.00	141.119m	0.19%	
14+200.00	141.156m	0.19%	
14+220.00	141.193m	0.19%	
14+240.00	141.230m	0.19%	
14+260.00	141.267m	0.19%	
14+280.00	141.304m	0.19%	
14+300.00	141.341m	0.19%	
14+320.00	141.378m	0.19%	
14+340.00	141.415m	0.19%	
14+360.00	141.452m	0.19%	
14+380.00	141.490m	0.19%	
14+400.00	141.527m	0.19%	
14+420.00	141.564m	0.19%	

14+440.00	141.601m	0.19%	
14+460.00	141.638m	0.19%	
14+480.00	141.675m	0.19%	
14+500.00	141.712m	0.19%	
14+520.00	141.749m	0.19%	
14+540.00	141.786m	0.19%	
14+560.00	141.823m	0.19%	
14+580.00	141.860m	0.19%	
14+600.00	141.897m	0.19%	
14+620.00	141.934m	0.19%	
14+640.00	141.971m	0.19%	
14+660.00	142.008m	0.19%	
14+680.00	142.045m	0.19%	
14+700.00	142.082m	0.19%	
14+720.00	142.119m	0.19%	
14+740.00	142.156m	0.19%	
14+760.00	142.193m	0.19%	
14+780.00	142.230m	0.19%	
14+800.00	142.267m	0.19%	
14+820.00	142.304m	0.19%	
14+840.00	142.341m	0.19%	
14+860.00	142.379m	0.19%	
14+880.00	142.416m	0.19%	
14+900.00	142.453m	0.19%	
14+920.00	142.490m	0.19%	
14+940.00	142.527m	0.19%	
14+960.00	142.564m	0.19%	
14+980.00	142.601m	0.19%	
15+000.00	142.638m	0.19%	
15+020.00	142.675m	0.19%	
15+040.00	142.712m	0.19%	
15+060.00	142.749m	0.19%	

15+080.00	142.786m	0.19%	
15+100.00	142.823m	0.19%	
15+120.00	142.860m	0.19%	
15+140.00	142.897m	0.19%	
15+160.00	142.934m	0.19%	
15+180.00	142.971m	0.19%	
15+200.00	143.008m	0.19%	
15+220.00	143.045m	0.19%	
15+240.00	143.082m	0.19%	
15+260.00	143.119m	0.19%	
15+280.00	143.156m	0.19%	
15+300.00	143.193m	0.19%	
15+320.00	143.230m	0.19%	
15+340.00	143.268m	0.19%	
15+360.00	143.305m	0.19%	
15+380.00	143.342m	0.19%	
15+400.00	143.379m	0.19%	
15+420.00	143.416m	0.19%	
15+440.00	143.453m	0.19%	
15+460.00	143.490m	0.19%	
15+480.00	143.527m	0.19%	
15+500.00	143.564m	0.19%	
15+520.00	143.601m	0.19%	
15+540.00	143.638m	0.19%	
15+560.00	143.675m	0.19%	
15+580.00	143.712m	0.19%	
15+600.00	143.749m	0.19%	
15+620.00	143.786m	0.19%	
15+640.00	143.823m	0.19%	
15+660.00	143.860m	0.19%	
15+680.00	143.897m	0.19%	
15+700.00	143.934m	0.19%	

15+720.00	143.971m	0.19%	
15+740.00	144.008m	0.19%	
15+760.00	144.045m	0.19%	
15+780.00	144.082m	0.19%	
15+791.33	144.103m	0.19%	PVC
15+800.00	144.121m	0.21%	
15+820.00	144.176m	0.27%	
15+840.00	144.248m	0.36%	
15+860.00	144.340m	0.46%	
15+875.50	144.423m	0.54%	Sag
15+880.00	144.450m	0.59%	
15+900.00	144.578m	0.64%	
15+920.00	144.725m	0.73%	
15+940.00	144.891m	0.83%	
15+959.66	145.071m	0.92%	PVT
15+960.00	145.075m	0.96%	
15+980.00	145.268m	0.96%	
16+000.00	145.461m	0.96%	
16+020.00	145.654m	0.96%	
16+040.00	145.846m	0.96%	
16+060.00	146.039m	0.96%	
16+080.00	146.232m	0.96%	
16+100.00	146.425m	0.96%	
16+120.00	146.618m	0.96%	
16+140.00	146.811m	0.96%	
16+160.00	147.004m	0.96%	
16+180.00	147.197m	0.96%	
16+200.00	147.390m	0.96%	
16+220.00	147.583m	0.96%	
16+240.00	147.776m	0.96%	
16+260.00	147.969m	0.96%	
16+280.00	148.162m	0.96%	

16+300.00	148.355m	0.96%	
16+320.00	148.548m	0.96%	
16+340.00	148.741m	0.96%	
16+360.00	148.934m	0.96%	
16+380.00	149.127m	0.96%	
16+400.00	149.320m	0.96%	
16+420.00	149.513m	0.96%	
16+440.00	149.706m	0.96%	
16+460.00	149.899m	0.96%	
16+480.00	150.092m	0.96%	
16+500.00	150.285m	0.96%	
16+520.00	150.478m	0.96%	
16+540.00	150.671m	0.96%	
16+560.00	150.864m	0.96%	
16+580.00	151.057m	0.96%	
16+600.00	151.250m	0.96%	
16+620.00	151.443m	0.96%	
16+640.00	151.635m	0.96%	
16+660.00	151.828m	0.96%	
16+680.00	152.021m	0.96%	
16+700.00	152.214m	0.96%	
16+720.00	152.407m	0.96%	
16+740.00	152.600m	0.96%	
16+760.00	152.793m	0.96%	
16+780.00	152.986m	0.96%	
16+800.00	153.179m	0.96%	
16+820.00	153.372m	0.96%	
16+840.00	153.565m	0.96%	
16+860.00	153.758m	0.96%	
16+880.00	153.951m	0.96%	
16+900.00	154.144m	0.96%	
16+920.00	154.337m	0.96%	

16+940.00	154.530m	0.96%	
16+960.00	154.723m	0.96%	
16+980.00	154.916m	0.96%	
17+000.00	155.109m	0.96%	
17+010.35	155.209m	0.96%	PVC
17+020.00	155.308m	1.03%	
17+034.32	155.481m	1.21%	Sag
17+040.00	155.558m	1.35%	
17+058.30	155.836m	1.52%	PVT
17+060.00	155.864m	1.65%	
17+080.00	156.194m	1.65%	
17+100.00	156.524m	1.65%	
17+120.00	156.854m	1.65%	
17+140.00	157.183m	1.65%	
17+160.00	157.513m	1.65%	
17+180.00	157.843m	1.65%	
17+200.00	158.173m	1.65%	
17+220.00	158.503m	1.65%	
17+240.00	158.833m	1.65%	
17+260.00	159.163m	1.65%	
17+280.00	159.493m	1.65%	
17+300.00	159.823m	1.65%	
17+320.00	160.153m	1.65%	
17+340.00	160.483m	1.65%	
17+360.00	160.813m	1.65%	
17+380.00	161.143m	1.65%	
17+400.00	161.473m	1.65%	
17+420.00	161.803m	1.65%	
17+440.00	162.133m	1.65%	
17+460.00	162.463m	1.65%	
17+480.00	162.793m	1.65%	
17+500.00	163.123m	1.65%	

17+520.00	163.453m	1.65%	
17+540.00	163.783m	1.65%	
17+560.00	164.113m	1.65%	
17+580.00	164.443m	1.65%	
17+600.00	164.773m	1.65%	
17+620.00	165.103m	1.65%	
17+640.00	165.433m	1.65%	
17+660.00	165.763m	1.65%	
17+680.00	166.092m	1.65%	
17+700.00	166.422m	1.65%	
17+720.00	166.752m	1.65%	
17+740.00	167.082m	1.65%	
17+760.00	167.412m	1.65%	
17+780.00	167.742m	1.65%	
17+800.00	168.072m	1.65%	
17+820.00	168.402m	1.65%	
17+840.00	168.732m	1.65%	
17+860.00	169.062m	1.65%	
17+880.00	169.392m	1.65%	
17+900.00	169.722m	1.65%	
17+920.00	170.052m	1.65%	
17+940.00	170.382m	1.65%	
17+960.00	170.712m	1.65%	
17+980.00	171.042m	1.65%	
18+000.00	171.372m	1.65%	
18+020.00	171.702m	1.65%	
18+040.00	172.032m	1.65%	
18+060.00	172.362m	1.65%	
18+080.00	172.692m	1.65%	
18+100.00	173.022m	1.65%	
18+120.00	173.352m	1.65%	
18+140.00	173.682m	1.65%	

18+160.00	174.012m	1.65%	
18+180.00	174.342m	1.65%	
18+200.00	174.672m	1.65%	
18+220.00	175.001m	1.65%	
18+240.00	175.331m	1.65%	
18+260.00	175.661m	1.65%	
18+280.00	175.991m	1.65%	
18+300.00	176.321m	1.65%	
18+320.00	176.651m	1.65%	
18+340.00	176.981m	1.65%	
18+360.00	177.311m	1.65%	
18+380.00	177.641m	1.65%	
18+400.00	177.971m	1.65%	
18+420.00	178.301m	1.65%	
18+440.00	178.631m	1.65%	
18+460.00	178.961m	1.65%	
18+480.00	179.291m	1.65%	
18+500.00	179.621m	1.65%	
18+520.00	179.951m	1.65%	
18+540.00	180.281m	1.65%	
18+560.00	180.611m	1.65%	
18+580.00	180.941m	1.65%	
18+600.00	181.271m	1.65%	
18+620.00	181.601m	1.65%	
18+640.00	181.931m	1.65%	
18+660.00	182.261m	1.65%	
18+680.00	182.591m	1.65%	
18+700.00	182.921m	1.65%	
18+720.00	183.251m	1.65%	
18+740.00	183.581m	1.65%	
18+760.00	183.910m	1.65%	
18+780.00	184.240m	1.65%	

18+800.00	184.570m	1.65%	
18+820.00	184.900m	1.65%	
18+840.00	185.230m	1.65%	
18+860.00	185.560m	1.65%	
18+880.00	185.890m	1.65%	
18+885.88	185.987m	1.65%	PVC
18+900.00	186.215m	1.62%	
18+920.00	186.522m	1.53%	
18+924.30	186.585m	1.47%	Crest
18+940.00	186.809m	1.42%	
18+960.00	187.076m	1.34%	
18+962.73	187.111m	1.28%	PVT
18+980.00	187.332m	1.28%	
19+000.00	187.587m	1.28%	
19+020.00	187.842m	1.28%	
19+040.00	188.097m	1.28%	
19+060.00	188.352m	1.28%	
19+080.00	188.607m	1.28%	
19+100.00	188.862m	1.28%	
19+120.00	189.117m	1.28%	
19+140.00	189.372m	1.28%	
19+160.00	189.627m	1.28%	
19+180.00	189.882m	1.28%	
19+200.00	190.137m	1.28%	
19+220.00	190.392m	1.28%	
19+240.00	190.647m	1.28%	
19+260.00	190.902m	1.28%	
19+280.00	191.158m	1.28%	
19+300.00	191.413m	1.28%	
19+320.00	191.668m	1.28%	
19+340.00	191.923m	1.28%	
19+360.00	192.178m	1.28%	

19+380.00	192.433m	1.28%	
19+400.00	192.688m	1.28%	
19+401.26	192.704m	1.28%	PVC
19+420.00	192.943m	1.28%	
19+440.00	193.200m	1.28%	
19+442.54	193.232m	1.28%	Sag
19+460.00	193.457m	1.29%	
19+480.00	193.714m	1.29%	
19+483.82	193.764m	1.29%	PVT
19+500.00	193.973m	1.29%	
19+520.00	194.231m	1.29%	
19+540.00	194.489m	1.29%	
19+560.00	194.747m	1.29%	
19+580.00	195.006m	1.29%	
19+600.00	195.264m	1.29%	
19+620.00	195.522m	1.29%	
19+640.00	195.780m	1.29%	
19+660.00	196.039m	1.29%	
19+680.00	196.297m	1.29%	
19+700.00	196.555m	1.29%	
19+720.00	196.814m	1.29%	
19+740.00	197.072m	1.29%	
19+760.00	197.330m	1.29%	
19+780.00	197.588m	1.29%	
19+800.00	197.847m	1.29%	
19+820.00	198.105m	1.29%	
19+840.00	198.363m	1.29%	
19+860.00	198.621m	1.29%	
19+880.00	198.880m	1.29%	
19+900.00	199.138m	1.29%	
19+920.00	199.396m	1.29%	
19+940.00	199.655m	1.29%	

19+960.00	199.913m	1.29%	
19+980.00	200.171m	1.29%	
19+991.11	200.315m	1.29%	PVC
20+000.00	200.426m	1.25%	
20+020.00	200.650m	1.12%	
20+026.82	200.718m	1.00%	Crest
20+040.00	200.837m	0.91%	
20+060.00	200.989m	0.76%	
20+062.54	201.006m	0.65%	PVT
20+080.00	201.118m	0.64%	
20+100.00	201.246m	0.64%	
20+120.00	201.375m	0.64%	
20+140.00	201.504m	0.64%	
20+160.00	201.632m	0.64%	
20+180.00	201.761m	0.64%	
20+200.00	201.890m	0.64%	
20+220.00	202.018m	0.64%	
20+240.00	202.147m	0.64%	
20+260.00	202.275m	0.64%	
20+280.00	202.404m	0.64%	
20+300.00	202.533m	0.64%	
20+320.00	202.661m	0.64%	
20+340.00	202.790m	0.64%	
20+360.00	202.918m	0.64%	
20+380.00	203.047m	0.64%	
20+400.00	203.176m	0.64%	
20+420.00	203.304m	0.64%	
20+440.00	203.433m	0.64%	
20+460.00	203.562m	0.64%	
20+480.00	203.690m	0.64%	
20+500.00	203.819m	0.64%	
20+520.00	203.947m	0.64%	

20+540.00	204.076m	0.64%	
20+560.00	204.205m	0.64%	
20+580.00	204.333m	0.64%	
20+593.81	204.422m	0.64%	PVC
20+600.00	204.460m	0.61%	
20+606.92	204.496m	0.53%	Crest
20+620.00	204.551m	0.42%	
20+620.03	204.551m	0.34%	PVT
20+640.00	204.619m	0.34%	
20+660.00	204.687m	0.34%	
20+680.00	204.754m	0.34%	
20+700.00	204.822m	0.34%	
20+720.00	204.890m	0.34%	
20+740.00	204.958m	0.34%	
20+760.00	205.026m	0.34%	
20+780.00	205.094m	0.34%	
20+800.00	205.162m	0.34%	
20+820.00	205.229m	0.34%	
20+840.00	205.297m	0.34%	
20+860.00	205.365m	0.34%	
20+880.00	205.433m	0.34%	
20+900.00	205.501m	0.34%	
20+920.00	205.569m	0.34%	
20+940.00	205.636m	0.34%	
20+960.00	205.704m	0.34%	
20+980.00	205.772m	0.34%	
21+000.00	205.840m	0.34%	
21+020.00	205.908m	0.34%	
21+040.00	205.976m	0.34%	
21+060.00	206.044m	0.34%	
21+080.00	206.111m	0.34%	
21+100.00	206.179m	0.34%	

21+120.00	206.247m	0.34%	
21+140.00	206.315m	0.34%	
21+160.00	206.383m	0.34%	
21+180.00	206.451m	0.34%	
21+200.00	206.519m	0.34%	
21+220.00	206.586m	0.34%	
21+240.00	206.654m	0.34%	
21+260.00	206.722m	0.34%	
21+280.00	206.790m	0.34%	
21+300.00	206.858m	0.34%	
21+320.00	206.926m	0.34%	
21+340.00	206.994m	0.34%	
21+360.00	207.061m	0.34%	
21+380.00	207.129m	0.34%	
21+400.00	207.197m	0.34%	
21+420.00	207.265m	0.34%	
21+440.00	207.333m	0.34%	
21+460.00	207.401m	0.34%	
21+480.00	207.469m	0.34%	
21+500.00	207.536m	0.34%	
21+520.00	207.604m	0.34%	
21+540.00	207.672m	0.34%	
21+560.00	207.740m	0.34%	
21+580.00	207.808m	0.34%	
21+600.00	207.876m	0.34%	
21+620.00	207.944m	0.34%	
21+640.00	208.011m	0.34%	
21+660.00	208.079m	0.34%	
21+680.00	208.147m	0.34%	
21+700.00	208.215m	0.34%	
21+720.00	208.283m	0.34%	
21+740.00	208.351m	0.34%	

21+760.00	208.418m	0.34%	
21+780.00	208.486m	0.34%	
21+800.00	208.554m	0.34%	
21+820.00	208.622m	0.34%	
21+840.00	208.690m	0.34%	
21+860.00	208.758m	0.34%	
21+880.00	208.826m	0.34%	
21+900.00	208.893m	0.34%	
21+920.00	208.961m	0.34%	
21+940.00	209.029m	0.34%	
21+960.00	209.097m	0.34%	
21+980.00	209.165m	0.34%	
22+000.00	209.233m	0.34%	
22+020.00	209.301m	0.34%	
22+040.00	209.368m	0.34%	
22+060.00	209.436m	0.34%	
22+080.00	209.504m	0.34%	
22+100.00	209.572m	0.34%	
22+120.00	209.640m	0.34%	
22+140.00	209.708m	0.34%	
22+160.00	209.776m	0.34%	
22+180.00	209.843m	0.34%	
22+200.00	209.911m	0.34%	
22+220.00	209.979m	0.34%	
22+240.00	210.047m	0.34%	
22+260.00	210.115m	0.34%	
22+280.00	210.183m	0.34%	
22+300.00	210.251m	0.34%	
22+320.00	210.318m	0.34%	
22+340.00	210.386m	0.34%	
22+360.00	210.454m	0.34%	
22+380.00	210.522m	0.34%	

22+400.00	210.590m	0.34%	
22+420.00	210.658m	0.34%	
22+440.00	210.726m	0.34%	
22+460.00	210.793m	0.34%	
22+480.00	210.861m	0.34%	
22+500.00	210.929m	0.34%	
22+520.00	210.997m	0.34%	
22+540.00	211.065m	0.34%	
22+560.00	211.133m	0.34%	
22+580.00	211.200m	0.34%	
22+600.00	211.268m	0.34%	
22+620.00	211.336m	0.34%	
22+640.00	211.404m	0.34%	
22+660.00	211.472m	0.34%	
22+680.00	211.540m	0.34%	
22+700.00	211.608m	0.34%	
22+720.00	211.675m	0.34%	
22+740.00	211.743m	0.34%	
22+760.00	211.811m	0.34%	
22+780.00	211.879m	0.34%	
22+800.00	211.947m	0.34%	
22+820.00	212.015m	0.34%	
22+840.00	212.083m	0.34%	
22+860.00	212.150m	0.34%	
22+880.00	212.218m	0.34%	
22+900.00	212.286m	0.34%	
22+920.00	212.354m	0.34%	
22+940.00	212.422m	0.34%	
22+960.00	212.490m	0.34%	
22+980.00	212.558m	0.34%	
23+000.00	212.625m	0.34%	
23+020.00	212.693m	0.34%	

23+040.00	212.761m	0.34%	
23+060.00	212.829m	0.34%	
23+080.00	212.897m	0.34%	
23+100.00	212.965m	0.34%	
23+120.00	213.033m	0.34%	
23+140.00	213.100m	0.34%	
23+160.00	213.168m	0.34%	
23+180.00	213.236m	0.34%	
23+200.00	213.304m	0.34%	
23+220.00	213.372m	0.34%	
23+240.00	213.440m	0.34%	
23+260.00	213.508m	0.34%	
23+280.00	213.575m	0.34%	
23+300.00	213.643m	0.34%	
23+320.00	213.711m	0.34%	
23+340.00	213.779m	0.34%	
23+360.00	213.847m	0.34%	
23+380.00	213.915m	0.34%	
23+400.00	213.983m	0.34%	
23+420.00	214.050m	0.34%	
23+440.00	214.118m	0.34%	
23+460.00	214.186m	0.34%	
23+480.00	214.254m	0.34%	
23+500.00	214.322m	0.34%	
23+503.24	214.333m	0.34%	PVC
23+512.73	214.372m	0.41%	Sag
23+520.00	214.410m	0.53%	
23+522.23	214.424m	0.60%	PVT
23+540.00	214.534m	0.62%	
23+560.00	214.658m	0.62%	
23+580.00	214.782m	0.62%	
23+600.00	214.906m	0.62%	

23+620.00	215.030m	0.62%	
23+640.00	215.154m	0.62%	
23+660.00	215.278m	0.62%	
23+680.00	215.402m	0.62%	
23+700.00	215.526m	0.62%	
23+720.00	215.650m	0.62%	
23+740.00	215.774m	0.62%	
23+760.00	215.899m	0.62%	
23+780.00	216.023m	0.62%	
23+800.00	216.147m	0.62%	
23+820.00	216.271m	0.62%	
23+840.00	216.395m	0.62%	
23+860.00	216.519m	0.62%	
23+880.00	216.643m	0.62%	
23+900.00	216.767m	0.62%	
23+920.00	216.891m	0.62%	
23+940.00	217.015m	0.62%	
23+960.00	217.139m	0.62%	
23+980.00	217.263m	0.62%	
24+000.00	217.387m	0.62%	
24+020.00	217.511m	0.62%	
24+040.00	217.635m	0.62%	
24+060.00	217.759m	0.62%	
24+080.00	217.883m	0.62%	
24+100.00	218.007m	0.62%	
24+120.00	218.131m	0.62%	
24+140.00	218.255m	0.62%	
24+160.00	218.379m	0.62%	
24+180.00	218.503m	0.62%	
24+200.00	218.627m	0.62%	
24+220.00	218.751m	0.62%	
24+240.00	218.876m	0.62%	

24+260.00	219.000m	0.62%	
24+280.00	219.124m	0.62%	
24+300.00	219.248m	0.62%	
24+320.00	219.372m	0.62%	
24+340.00	219.496m	0.62%	
24+360.00	219.620m	0.62%	
24+380.00	219.744m	0.62%	
24+400.00	219.868m	0.62%	
24+420.00	219.992m	0.62%	
24+440.00	220.116m	0.62%	
24+460.00	220.240m	0.62%	
24+480.00	220.364m	0.62%	
24+500.00	220.488m	0.62%	
24+520.00	220.612m	0.62%	
24+540.00	220.736m	0.62%	
24+560.00	220.860m	0.62%	
24+580.00	220.984m	0.62%	
24+600.00	221.108m	0.62%	
24+620.00	221.232m	0.62%	
24+640.00	221.356m	0.62%	
24+660.00	221.480m	0.62%	
24+680.00	221.604m	0.62%	
24+700.00	221.728m	0.62%	
24+720.00	221.852m	0.62%	
24+740.00	221.977m	0.62%	
24+760.00	222.101m	0.62%	
24+780.00	222.225m	0.62%	
24+800.00	222.349m	0.62%	
24+820.00	222.473m	0.62%	
24+840.00	222.597m	0.62%	
24+860.00	222.721m	0.62%	
24+880.00	222.845m	0.62%	

24+900.00	222.969m	0.62%	
24+920.00	223.093m	0.62%	
24+940.00	223.217m	0.62%	
24+960.00	223.341m	0.62%	
24+980.00	223.465m	0.62%	
25+000.00	223.589m	0.62%	
25+020.00	223.713m	0.62%	
25+040.00	223.837m	0.62%	
25+060.00	223.961m	0.62%	
25+080.00	224.085m	0.62%	
25+100.00	224.209m	0.62%	
25+120.00	224.333m	0.62%	
25+140.00	224.457m	0.62%	
25+160.00	224.581m	0.62%	
25+180.00	224.705m	0.62%	
25+200.00	224.829m	0.62%	
25+220.00	224.954m	0.62%	
25+240.00	225.078m	0.62%	
25+260.00	225.202m	0.62%	
25+280.00	225.326m	0.62%	
25+300.00	225.450m	0.62%	
25+320.00	225.574m	0.62%	
25+340.00	225.698m	0.62%	
25+360.00	225.822m	0.62%	
25+380.00	225.946m	0.62%	
25+400.00	226.070m	0.62%	
25+420.00	226.194m	0.62%	
25+440.00	226.318m	0.62%	
25+460.00	226.442m	0.62%	
25+480.00	226.566m	0.62%	
25+500.00	226.690m	0.62%	
25+520.00	226.814m	0.62%	

25+540.00	226.938m	0.62%	
25+560.00	227.062m	0.62%	
25+580.00	227.186m	0.62%	
25+600.00	227.310m	0.62%	
25+620.00	227.434m	0.62%	
25+640.00	227.558m	0.62%	
25+660.00	227.682m	0.62%	
25+680.00	227.806m	0.62%	
25+700.00	227.931m	0.62%	
25+720.00	228.055m	0.62%	
25+740.00	228.179m	0.62%	
25+760.00	228.303m	0.62%	
25+780.00	228.427m	0.62%	
25+800.00	228.551m	0.62%	
25+820.00	228.675m	0.62%	
25+840.00	228.799m	0.62%	
25+860.00	228.923m	0.62%	
25+880.00	229.047m	0.62%	
25+900.00	229.171m	0.62%	
25+920.00	229.295m	0.62%	
25+940.00	229.419m	0.62%	
25+960.00	229.543m	0.62%	
25+980.00	229.667m	0.62%	
26+000.00	229.791m	0.62%	
26+020.00	229.915m	0.62%	
26+040.00	230.039m	0.62%	
26+060.00	230.163m	0.62%	
26+080.00	230.287m	0.62%	
26+100.00	230.411m	0.62%	
26+120.00	230.535m	0.62%	
26+140.00	230.659m	0.62%	
26+160.00	230.783m	0.62%	

26+180.00	230.907m	0.62%	
26+198.89	231.025m	0.62%	PVC
26+200.00	231.031m	0.61%	
26+218.20	231.114m	0.46%	Crest
26+220.00	231.120m	0.30%	
26+237.52	231.144m	0.14%	PVT
26+240.00	231.144m	0.00%	
26+260.00	231.144m	0.00%	
26+280.00	231.144m	0.00%	
26+300.00	231.144m	0.00%	
26+320.00	231.144m	0.00%	
26+340.00	231.144m	0.00%	
26+360.00	231.144m	0.00%	
26+380.00	231.144m	0.00%	
26+400.00	231.144m	0.00%	
26+420.00	231.144m	0.00%	
26+440.00	231.144m	0.00%	
26+460.00	231.144m	0.00%	
26+480.00	231.144m	0.00%	
26+500.00	231.144m	0.00%	
26+520.00	231.144m	0.00%	
26+540.00	231.144m	0.00%	
26+560.00	231.144m	0.00%	
26+580.00	231.144m	0.00%	
26+600.00	231.144m	0.00%	
26+620.00	231.144m	0.00%	
26+640.00	231.144m	0.00%	
26+660.00	231.144m	0.00%	
26+680.00	231.144m	0.00%	
26+700.00	231.144m	0.00%	
26+720.00	231.144m	0.00%	
26+740.00	231.144m	0.00%	

26+760.00	231.144m	0.00%	
26+780.00	231.144m	0.00%	
26+800.00	231.144m	0.00%	
26+820.00	231.144m	0.00%	
26+840.00	231.144m	0.00%	
26+860.00	231.144m	0.00%	
26+880.00	231.144m	0.00%	
26+900.00	231.144m	0.00%	
26+920.00	231.144m	0.00%	
26+940.00	231.144m	0.00%	
26+960.00	231.144m	0.00%	
26+980.00	231.144m	0.00%	
27+000.00	231.144m	0.00%	
27+020.00	231.144m	0.00%	
27+040.00	231.144m	0.00%	
27+060.00	231.144m	0.00%	
27+080.00	231.144m	0.00%	
27+100.00	231.144m	0.00%	
27+120.00	231.144m	0.00%	
27+140.00	231.144m	0.00%	
27+160.00	231.144m	0.00%	
27+180.00	231.144m	0.00%	
27+200.00	231.144m	0.00%	
27+220.00	231.144m	0.00%	
27+240.00	231.144m	0.00%	
27+260.00	231.144m	0.00%	
27+280.00	231.144m	0.00%	
27+300.00	231.144m	0.00%	
27+320.00	231.144m	0.00%	
27+340.00	231.144m	0.00%	
27+360.00	231.144m	0.00%	
27+380.00	231.144m	0.00%	

27+400.00	231.144m	0.00%	
27+420.00	231.144m	0.00%	
27+440.00	231.144m	0.00%	
27+460.00	231.144m	0.00%	
27+480.00	231.144m	0.00%	
27+500.00	231.144m	0.00%	
27+520.00	231.144m	0.00%	
27+540.00	231.144m	0.00%	
27+560.00	231.144m	0.00%	
27+580.00	231.144m	0.00%	
27+600.00	231.144m	0.00%	
27+620.00	231.144m	0.00%	
27+640.00	231.144m	0.00%	
27+660.00	231.144m	0.00%	
27+680.00	231.144m	0.00%	
27+700.00	231.144m	0.00%	
27+720.00	231.144m	0.00%	
27+740.00	231.144m	0.00%	
27+760.00	231.144m	0.00%	
27+780.00	231.144m	0.00%	
27+800.00	231.144m	0.00%	
27+820.00	231.144m	0.00%	
27+840.00	231.144m	0.00%	
27+860.00	231.144m	0.00%	
27+880.00	231.144m	0.00%	
27+900.00	231.144m	0.00%	
27+920.00	231.144m	0.00%	
27+940.00	231.144m	0.00%	
27+960.00	231.144m	0.00%	
27+980.00	231.144m	0.00%	
28+000.00	231.144m	0.00%	
28+020.00	231.144m	0.00%	

28+040.00	231.144m	0.00%	
28+060.00	231.144m	0.00%	
28+080.00	231.144m	0.00%	
28+100.00	231.144m	0.00%	
28+120.00	231.144m	0.00%	
28+140.00	231.144m	0.00%	
28+160.00	231.144m	0.00%	
28+180.00	231.144m	0.00%	
28+200.00	231.144m	0.00%	
28+220.00	231.144m	0.00%	
28+240.00	231.144m	0.00%	
28+260.00	231.144m	0.00%	
28+280.00	231.144m	0.00%	
28+300.00	231.144m	0.00%	
28+320.00	231.144m	0.00%	
28+340.00	231.144m	0.00%	
28+360.00	231.144m	0.00%	
28+380.00	231.144m	0.00%	
28+400.00	231.144m	0.00%	
28+420.00	231.144m	0.00%	
28+440.00	231.144m	0.00%	
28+460.00	231.144m	0.00%	
28+480.00	231.144m	0.00%	
28+500.00	231.144m	0.00%	
28+520.00	231.144m	0.00%	
28+540.00	231.144m	0.00%	
28+560.00	231.144m	0.00%	
28+580.00	231.144m	0.00%	
28+600.00	231.144m	0.00%	
28+620.00	231.144m	0.00%	
28+640.00	231.144m	0.00%	
28+660.00	231.144m	0.00%	

28+680.00	231.144m	0.00%	
28+700.00	231.144m	0.00%	
28+720.00	231.144m	0.00%	
28+740.00	231.144m	0.00%	
28+760.00	231.144m	0.00%	
28+780.00	231.144m	0.00%	
28+800.00	231.144m	0.00%	
28+820.00	231.144m	0.00%	
28+840.00	231.144m	0.00%	
28+860.00	231.144m	0.00%	
28+880.00	231.144m	0.00%	
28+900.00	231.144m	0.00%	
28+920.00	231.144m	0.00%	
28+940.00	231.144m	0.00%	
28+960.00	231.144m	0.00%	
28+980.00	231.144m	0.00%	
29+000.00	231.144m	0.00%	
29+020.00	231.144m	0.00%	
29+040.00	231.144m	0.00%	
29+060.00	231.144m	0.00%	
29+080.00	231.144m	0.00%	
29+100.00	231.144m	0.00%	
29+120.00	231.144m	0.00%	
29+140.00	231.144m	0.00%	
29+160.00	231.144m	0.00%	
29+180.00	231.144m	0.00%	
29+200.00	231.144m	0.00%	
29+220.00	231.144m	0.00%	
29+237.00	231.144m	0.00%	

**Lampiran 3 Hasil Report AutoCAD CIVIL 3D**

# Profile Design Criteria Verification Report

**Client:**

Program Studi Teknik Sipil

FTSP UII

Jalan Kaliurang Km 14,5 Sleman DIY

Date: 23/03/2018 05:22:44

**Prepared by:**

Taufiq Adin

Mahasiswa Teknik Sipil FTSP UII

Vertical Alignment: Vertikal\_alinyemen

Description:

Station Range: Start: 5+419.00, End: 29+237.00

**(1) Sag Curve:Parabolic**

PVC Station:	6+556.54
PVI Station:	6+597.27
PVT Station:	6+638.00
Grade in(%):	0.29%
Grade out(%):	0.83%
Curve Length:	81.469m
K:	150.25
Design Speed:	90

Design Criteria:

Minimum K for Headlight	-1.000m	Cleared
Sight Distance:		

Design Checks:

**(2) Crest Curve:Parabolic**

PVC Station:	7+310.51
PVI Station:	7+333.79
PVT Station:	7+357.07
Grade in(%):	0.83%
Grade out(%):	0.45%
Curve Length:	46.569m

K:	119.92	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum K for Stopping Sight Distance:	-1.000m	Cleared
Minimum K for Passing Sight Distance:	-1.000m	Cleared
<u>Design Checks:</u>		

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**(3) Sag Curve:Parabolic**

PVC Station:	9+363.47	
PVI Station:	9+372.02	
PVT Station:	9+380.57	
Grade in(%):	0.45%	
Grade out(%):	0.51%	
Curve Length:	17.094m	
K:	286.35	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum K for Headlight Sight Distance:	-1.000m	Cleared
<u>Design Checks:</u>		

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**(4) Sag Curve:Parabolic**

PVC Station:	10+837.00	
PVI Station:	10+866.13	
PVT Station:	10+895.26	
Grade in(%):	0.51%	
Grade out(%):	0.68%	
Curve Length:	58.262m	
K:	336.54	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum K for Headlight Sight Distance:	-1.000m	Cleared
<u>Design Checks:</u>		

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**(5) Crest Curve:Parabolic**

PVC Station:	12+710.96
PVI Station:	12+728.22
PVT Station:	12+745.47
Grade in(%):	0.68%
Grade out(%):	0.19%
Curve Length:	34.511m
K:	70.00
Design Speed:	90

Design Criteria:

Minimum K for Stopping Sight Distance:	-1.000m	Cleared
Minimum K for Passing Sight Distance:	-1.000m	Cleared

Design Checks:**(6) Sag Curve:Parabolic**

PVC Station:	15+791.33
PVI Station:	15+875.50
PVT Station:	15+959.66
Grade in(%):	0.19%
Grade out(%):	0.96%
Curve Length:	168.326m
K:	215.91
Design Speed:	90

Design Criteria:

Minimum K for Headlight Sight Distance:	-1.000m	Cleared
--------------------------------------------	---------	---------

Design Checks:**(7) Sag Curve:Parabolic**

PVC Station:	17+010.35
PVI Station:	17+034.32
PVT Station:	17+058.30
Grade in(%):	0.96%
Grade out(%):	1.65%

Curve Length:	47.949m	
K:	70.00	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum K for Headlight Sight Distance:	-1.000m	Cleared
<u>Design Checks:</u>		

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**(8) Crest Curve:Parabolic**

PVC Station:	18+885.88	
PVI Station:	18+924.30	
PVT Station:	18+962.73	
Grade in(%):	1.65%	
Grade out(%):	1.28%	
Curve Length:	76.845m	
K:	205.21	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum K for Stopping Sight Distance:	-1.000m	Cleared
Minimum K for Passing Sight Distance:	-1.000m	Cleared
<u>Design Checks:</u>		

---

**(9) Sag Curve:Parabolic**

PVC Station:	19+401.26	
PVI Station:	19+442.54	
PVT Station:	19+483.82	
Grade in(%):	1.28%	
Grade out(%):	1.29%	
Curve Length:	82.568m	
K:	5,151.39	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum K for Headlight Sight Distance:	-1.000m	Cleared

Design Checks:**(10) Crest Curve:Parabolic**

PVC Station:	19+991.11
PVI Station:	20+026.82
PVT Station:	20+062.54
Grade in(%):	1.29%
Grade out(%):	0.64%
Curve Length:	71.436m
K:	110.20
Design Speed:	90

Design Criteria:

Minimum K for Stopping Sight Distance:	-1.000m	Cleared
Minimum K for Passing Sight Distance:	-1.000m	Cleared

Design Checks:**(11) Crest Curve:Parabolic**

PVC Station:	20+593.81
PVI Station:	20+606.92
PVT Station:	20+620.03
Grade in(%):	0.64%
Grade out(%):	0.34%
Curve Length:	26.221m
K:	86.30
Design Speed:	90

Design Criteria:

Minimum K for Stopping Sight Distance:	-1.000m	Cleared
Minimum K for Passing Sight Distance:	-1.000m	Cleared

Design Checks:**(12) Sag Curve:Parabolic**

PVC Station:	23+503.24
PVI Station:	23+512.73

PVT Station:	23+522.23	
Grade in(%):	0.34%	
Grade out(%):	0.62%	
Curve Length:	18.990m	
K:	67.59	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum K for Headlight Sight Distance:	-1.000m	Cleared
<u>Design Checks:</u>		

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**(13) Crest Curve:Parabolic**

PVC Station:	26+198.89	
PVI Station:	26+218.20	
PVT Station:	26+237.52	
Grade in(%):	0.62%	
Grade out(%):	0.00%	
Curve Length:	38.626m	
K:	62.28	
Design Speed:	90	
<u>Design Criteria:</u>		
Minimum K for Stopping Sight Distance:	-1.000m	Cleared
Minimum K for Passing Sight Distance:	-1.000m	Cleared
<u>Design Checks:</u>		

---

# Profile Design Criteria Verification Report

**Client:**

Program Studi Teknik Sipil

FTSP UII

Jalan Kaliurang Km 14,5 Sleman DIY

**Prepared by:**

Taufiq Adin

Mahasiswa Teknik Sipil FTSP UII

Date: 23/03/2018 01:24:13

Vertical Alignment: Vertikal\_alinyemen

Point	Station	Elevation	Grade Out (%)	Curve Length	Required Curve Length	Calculated SSD	Required SSD	Calculated PSD	Required PSD
PVI - 1	5+419,00	99,60	0,29%						
PVI - 2 (Sag)	6+597,27	103,04	0,83%	81,469m	200				
PVI - 3 (Crest)	7+333,79	109,18	0,45%	46,569m	200	1734,58		4005,20	
PVI - 4 (Sag)	9+372,02	118,25	0,51%	17,094m	200				
PVI - 5 (Sag)	10+866,13	125,80	0,68%	58,262m	200				
PVI - 6 (Crest)	12+728,22	138,43	0,19%	34,511m	200	1365,24		3153,81	
PVI - 7 (Sag)	15+875,50	144,26	0,96%	168,326m	200				
PVI - 8 (Sag)	17+034,32	155,44	1,65%	47,949m	200				
PVI - 9 (Crest)	18+924,30	186,62	1,28%	76,845m	200	1813,15		4167,93	
PVI - 10 (Sag)	19+442,54	193,23	1,29%	82,568m	200				

PVI - 11 (Crest)	20+026,82	200,78	0,64%	71,436m	200	1060,88		2421,11	
PVI - 12 (Crest)	20+606,92	204,51	0,34%	26,221m	200	2200,35		5102,46	
PVI - 13 (Sag)	23+512,73	214,36	0,62%	18,990m	200				
PVI - 14 (Crest)	26+218,20	231,14	0,00%	38,626m	200	1090,85		2512,62	
PVI - 15	29+237,84	231,14							

**Lampiran 3 Hasil Report AutoCAD CIVIL 3D**

# Profile Vertical Curve Report

**Client:**

Program Studi Teknik Sipil  
FTSP UII  
Jalan Kaliurang Km 14,5 Sleman DIY

**Prepared by:**

Taufiq Adin  
Mahasiswa Teknik Sipil FTSP UII

Date: 23/03/2018 01:25:27

Vertical Alignment: Vertikal\_alinyemen

Description:

Station Range: Start: 5+419,00, End: 29+237,84

Vertical Curve Information:(sag curve)

PVC Station:	6+556,54	Elevation:	102,917m
PVI Station:	6+597,27	Elevation:	103,035m
PVT Station:	6+638,00	Elevation:	103,375m
Low Point:	6+556,54	Elevation:	102,917m
Grade in(%):	0,29%	Grade out(%):	0,83%
Change(%):	0,54%	K:	150,254m
Curve Length:	81,469m	Curve Radius	15.025,422m
Headlight Distance:			

Vertical Curve Information:(crest curve)

PVC Station:	7+310,51	Elevation:	108,982m
PVI Station:	7+333,79	Elevation:	109,176m
PVT Station:	7+357,07	Elevation:	109,280m
High Point:	7+357,07	Elevation:	109,280m
Grade in(%):	0,83%	Grade out(%):	0,45%
Change(%):	0,39%	K:	119,917m
Curve Length:	46,569m	Curve Radius	11.991,711m
Passing Distance:	4.005,204m	Stopping Distance:	1.734,581m

Vertical Curve Information:(sag curve)

PVC Station:	9+363,47	Elevation:	118,216m
PVI Station:	9+372,02	Elevation:	118,254m
PVT Station:	9+380,57	Elevation:	118,298m
Low Point:	9+363,47	Elevation:	118,216m
Grade in(%):	0,45%	Grade out(%):	0,51%
Change(%):	0,06%	K:	286,348m
Curve Length:	17,094m	Curve Radius	28.634,757m
Headlight Distance:			
Vertical Curve Information:(sag curve)			
PVC Station:	10+837,00	Elevation:	125,654m
PVI Station:	10+866,13	Elevation:	125,801m
PVT Station:	10+895,26	Elevation:	125,999m
Low Point:	10+837,00	Elevation:	125,654m
Grade in(%):	0,51%	Grade out(%):	0,68%
Change(%):	0,17%	K:	336,536m
Curve Length:	58,262m	Curve Radius	33.653,558m
Headlight Distance:			
Vertical Curve Information:(crest curve)			
PVC Station:	12+710,96	Elevation:	138,313m
PVI Station:	12+728,22	Elevation:	138,430m
PVT Station:	12+745,47	Elevation:	138,462m
High Point:	12+745,47	Elevation:	138,462m
Grade in(%):	0,68%	Grade out(%):	0,19%
Change(%):	0,49%	K:	70,000m
Curve Length:	34,511m	Curve Radius	7.000,000m
Passing Distance:	3.153,811m	Stopping Distance:	1.365,242m
Vertical Curve Information:(sag curve)			
PVC Station:	15+791,33	Elevation:	144,103m
PVI Station:	15+875,50	Elevation:	144,259m
PVT Station:	15+959,66	Elevation:	145,071m

Low Point:	15+791,33	Elevation:	144,103m
Grade in(%):	0,19%	Grade out(%):	0,96%
Change(%):	0,78%	K:	215,908m
Curve Length:	168,326m	Curve Radius	21.590,757m
Headlight Distance:			
Vertical Curve Information:(sag curve)			
PVC Station:	17+010,35	Elevation:	155,209m
PVI Station:	17+034,32	Elevation:	155,440m
PVT Station:	17+058,30	Elevation:	155,836m
Low Point:	17+010,35	Elevation:	155,209m
Grade in(%):	0,96%	Grade out(%):	1,65%
Change(%):	0,68%	K:	70,000m
Curve Length:	47,949m	Curve Radius	7.000,000m
Headlight Distance:			
Vertical Curve Information:(crest curve)			
PVC Station:	18+885,88	Elevation:	185,987m
PVI Station:	18+924,30	Elevation:	186,621m
PVT Station:	18+962,73	Elevation:	187,111m
High Point:	18+962,73	Elevation:	187,111m
Grade in(%):	1,65%	Grade out(%):	1,28%
Change(%):	0,37%	K:	205,212m
Curve Length:	76,845m	Curve Radius	20.521,238m
Passing Distance:	4.167,926m	Stopping Distance:	1.813,146m
Vertical Curve Information:(sag curve)			
PVC Station:	19+401,26	Elevation:	192,704m
PVI Station:	19+442,54	Elevation:	193,230m
PVT Station:	19+483,82	Elevation:	193,764m
Low Point:	19+401,26	Elevation:	192,704m
Grade in(%):	1,28%	Grade out(%):	1,29%
Change(%):	0,02%	K:	5.151,390m

Curve Length:	82,568m	Curve Radius	515.138,956m
Headlight Distance:			
Vertical Curve Information:(crest curve)			
PVC Station:	19+991,11	Elevation:	200,315m
PVI Station:	20+026,82	Elevation:	200,776m
PVT Station:	20+062,54	Elevation:	201,006m
High Point:	20+062,54	Elevation:	201,006m
Grade in(%):	1,29%	Grade out(%):	0,64%
Change(%):	0,65%	K:	110,196m
Curve Length:	71,436m	Curve Radius	11.019,640m
Passing Distance:	2.421,105m	Stopping Distance:	1.060,878m
Vertical Curve Information:(crest curve)			
PVC Station:	20+593,81	Elevation:	204,422m
PVI Station:	20+606,92	Elevation:	204,506m
PVT Station:	20+620,03	Elevation:	204,551m
High Point:	20+620,03	Elevation:	204,551m
Grade in(%):	0,64%	Grade out(%):	0,34%
Change(%):	0,30%	K:	86,299m
Curve Length:	26,221m	Curve Radius	8.629,913m
Passing Distance:	5.102,463m	Stopping Distance:	2.200,345m
Vertical Curve Information:(sag curve)			
PVC Station:	23+503,24	Elevation:	214,333m
PVI Station:	23+512,73	Elevation:	214,365m
PVT Station:	23+522,23	Elevation:	214,424m
Low Point:	23+503,24	Elevation:	214,333m
Grade in(%):	0,34%	Grade out(%):	0,62%
Change(%):	0,28%	K:	67,594m
Curve Length:	18,990m	Curve Radius	6.759,379m
Headlight Distance:			
Vertical Curve Information:(crest curve)			

PVC Station:	26+198,89	Elevation:	231,025m
PVI Station:	26+218,20	Elevation:	231,144m
PVT Station:	26+237,52	Elevation:	231,144m
High Point:	26+237,52	Elevation:	231,144m
Grade in(%):	0,62%	Grade out(%):	0,00%
Change(%):	0,62%	K:	62,279m
Curve Length:	38,626m	Curve Radius	6.227,883m
Passing Distance:	2.512,622m	Stopping Distance:	1.090,854m

Lampiran 3 Hasil *Report* AutoCAD CIVIL 3D

**Universitas Islam Indonesia**  
**Fakultas Teknik Sipil dan Perencanaan**  
**Program Studi Teknik Sipil**  
**Yogyakarta**

**Alignment Station and Curve Report**

**Client:** Prodi Teknik Sipil  
FTSP UII

**Project Name:** Perencanaan Geometri Jalan Rel Kereta  
Api Rute Yogyakarta - Borobudur

**Project Description:**

**Report Date:** 23/03/2018 01:06:33

**Prepared by:** Taufiq  
Adin

**Alignment:** Rail\_alinyemen

**Description:**

Tangent Data

Description	PT Station	Northing	Easting
Start:	54+19.000	9138499.768	424106.951
End:	110+80.778	9143488.702	421429.962

Tangent Data

Parameter	Value	Parameter	Value
Length:	5661.778	Course:	N 28° 13' 02.4811" W

Spiral Point Data

Description	Station	Northing	Easting
TS:	110+80.778	9143488.702	421429.962

SPI: 9143576.757 421382.713  
 SC: 112+30.778 9143622.751 421362.752

Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Curve Point Data

Description	Station	Northing	Easting
SC:	112+30.778	9143622.751	421362.752
RP:		9143981.053	422188.355
CS:	114+21.285	9143804.204	421305.901

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	12° 07' 40.8423"	Type:	RIGHT
Radius:	900.000		
Length:	190.506	Tangent:	95.610
Mid-Ord:	5.036	External:	5.064
Chord:	190.151	Course:	N 17° 23' 46.5460" W

Spiral Point Data

Description	Station	Northing	Easting
CS:	114+21.285	9143804.204	421305.901
SPI:		9143853.365	421296.049
ST:	115+71.285	9143952.639	421284.606

Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Tangent Data

Description	PT Station	Northing	Easting
Start:	115+71.285	9143952.639	421284.606
End:	162+95.865	9148646.143	420743.610

Tangent Data

Parameter	Value	Parameter	Value
Length:	4724.581	Course:	N 06° 34' 30.6109" W

Spiral Point Data

Description	Station	Northing	Easting
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TS: 162+95.865 9148646.143 420743.610  
 SPI: 9148745.417 420732.167  
 SC: 164+45.865 9148795.530 420730.577

Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Curve Point Data

Description	Station	Northing	Easting
SC:	164+45.865	9148795.530	420730.577
RP:		9148824.083	421630.124
CS:	164+60.367	9148810.027	420730.233

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	00° 55' 23.5356"	Type:	RIGHT
Radius:	900.000		
Length:	14.502	Tangent:	7.251
Mid-Ord:	0.029	External:	0.029
Chord:	14.502	Course:	N 01° 21' 23.3292" W

Spiral Point Data

Description	Station	Northing	Easting
CS:	164+60.367	9148810.027	420730.233
SPI:		9148860.159	420729.450
ST:	166+10.367	9148959.863	420736.182

Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Tangent Data

Description	PT Station	Northing	Easting
Start:	166+10.367	9148959.863	420736.182
End:	199+26.809	9152268.773	420959.568

Tangent Data

Parameter	Value	Parameter	Value
Length:	3316.442	Course:	N 03° 51' 43.9526" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	199+26.809	9152268.773	420959.568
SPI:		9152368.477	420966.299
SC:	200+76.809	9152418.609	420965.516

Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Curve Point Data

Description	Station	Northing	Easting
SC:	200+76.809	9152418.609	420965.516
RP:		9152404.553	420065.626
CS:	203+61.595	9152697.935	420916.465

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	18° 07' 48.2342"	Type:	LEFT
Radius:	900.000		
Length:	284.786	Tangent:	143.593
Mid-Ord:	11.241	External:	11.383
Chord:	283.600	Course:	N 09° 57' 35.6785" W

Spiral Point Data

Description	Station	Northing	Easting
CS:	203+61.595	9152697.935	420916.465
SPI:		9152745.334	420900.121
ST:	205+11.595	9152836.779	420859.823

Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Tangent Data

Description	PT Station	Northing	Easting
Start:	205+11.595	9152836.779	420859.823
End:	229+70.273	9155086.681	419868.341

Tangent Data

Parameter	Value	Parameter	Value
Length:	2458.678	Course:	N 23° 46' 55.3095" W

Spiral Point Data

Description	Station	Northing	Easting
TS:	229+70.273	9155086.681	419868.341
SPI:		9155178.127	419828.043
SC:	231+20.273	9155222.173	419804.089

Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Curve Point Data

Description	Station	Northing	Easting
SC:	231+20.273	9155222.173	419804.089
RP:		9154792.190	419013.447
CS:	234+38.888	9155469.599	419605.997

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	20° 17' 01.3486"	Type:	LEFT
Radius:	900.000		
Length:	318.616	Tangent:	160.993
Mid-Ord:	14.063	External:	14.286
Chord:	316.955	Course:	N 38° 40' 51.4978" W

Spiral Point Data

Description	Station	Northing	Easting
CS:	234+38.888	9155469.599	419605.997
SPI:		9155502.610	419568.259
ST:	235+88.888	9155561.939	419487.847

Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Tangent Data

Description	PT Station	Northing	Easting
Start:	235+88.888	9155561.939	419487.847
End:	263+04.410	9157174.146	417302.706

Tangent Data

Parameter	Value	Parameter	Value
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Length: 2715.521 Course: N 53° 34' 47.6860" W

Spiral Point Data

Description	Station	Northing	Easting
TS:	263+04.410	9157174.146	417302.706
SPI:		9157233.476	417222.293
SC:	264+54.410	9157266.486	417184.555

Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Curve Point Data

Description	Station	Northing	Easting
SC:	264+54.410	9157266.486	417184.555
RP:		9157943.895	417777.105
CS:	265+62.209	9157342.144	417107.856

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	06° 51' 45.8261"	Type:	RIGHT
Radius:	900.000		
Length:	107.800	Tangent:	53.964
Mid-Ord:	1.614	External:	1.616
Chord:	107.735	Course:	N 45° 23' 29.2590" W

Spiral Point Data

Description	Station	Northing	Easting
CS:	265+62.209	9157342.144	417107.856
SPI:		9157379.427	417074.333
ST:	267+12.209	9157459.022	417013.911

Spiral Curve: cubicParabola

Values not reported for non-clothoid spirals

Tangent Data

Description	PT Station	Northing	Easting
Start:	267+12.209	9157459.022	417013.911
End:	292+37.844	9159470.685	415486.808

Tangent Data

<b>Parameter</b>	<b>Value</b>	<b>Parameter</b>	<b>Value</b>
Length:	2525.635	Course:	N 37° 12' 10.8320" W

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**Lampiran 3 Hasil Report AutoCAD CIVIL 3D**

**Universitas Islam Indonesia**

**Fakultas Teknik Sipil dan Perencanaan**

**Program Studi Teknik Sipil**

**Yogyakarta**

**Surface Report**

**Client:** Prodi Teknik Sipil  
FTSP UII

**Project Name:** Perencanaan Geometri Jalan Rel Kereta  
Api Rute Yogyakarta - Borobudur

**Project Description:**

**Report Date:** 23/03/2018 00:39:28

**Prepared by:** Taufiq  
Adin

<b>Linear Units:</b> meter	<b>Area Units:</b> squareMeter	<b>Volume Units:</b> cubicMeter
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**Surface: Corridor\_datum**

Description:

Area 2D: 497187.782	Area 3D: 521838.798
Elevation Max: 243.328	Elevation Min: -0.702
Number of Points: 5329	Number of Triangles: 8158

**Surface: Corridor\_top**

Description:

Area 2D: 497187.782	Area 3D: 528023.680
Elevation Max: 243.328	Elevation Min: -0.702
Number of Points: 15289	Number of Triangles: 28062

**Surface: EG**

Description:

Area 2D: 615047917.162	Area 3D: 625723372.885
Elevation Max: 987.500	Elevation Min: 25.000
Number of Points: 438072	Number of Triangles: 875366