

## Town of Plymouth Data Sheet

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|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------|------------------|-----------------|--------------|--|
| <b>Station:</b>         | Point 167                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Lunn's &amp; Raymond</b> |                     | <b>NGS PID#</b>  |                 | <b>ID#</b>   |  |
| <b>Town:</b>            | Plymouth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             | <b>Quad:</b> Sag    |                  |                 |              |  |
| <b>NAD83</b>            | <b>Northerly</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Easterly</b>             | <b>NAD 27</b>       | <b>Northerly</b> | <b>Easterly</b> |              |  |
| <b>(Survey Ft)</b>      | 2758152.565                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 903374.089                  | <b>(Survey Ft)</b>  | 297483.396       | 847071.721      |              |  |
| <b>(meters)</b>         | 840686.583                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 275348.973                  | <b>(meters)</b>     | 90673.120        | 258187.977      |              |  |
|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |                     |                  |                 | <b>Order</b> |  |
|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |                     |                  |                 |              |  |
| <b>Elevation</b>        | <b>Vert. Datum f/m</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Order</b>                | <b>Stamping:</b>    |                  |                 |              |  |
| <b>NAVD88</b>           | 102.034/31.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                             | <b>Sketch</b>       |                  |                 |              |  |
| <b>NAVD29</b>           | 102.874/31.356                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                             | <b>Recov. Date:</b> | August 30, 2010  |                 |              |  |
| <b>Marked by:</b>       | Concrete Bound/ Drill Hole                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                             |                     |                  |                 |              |  |
| <b>Description:</b>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |                     |                  |                 |              |  |
| <b>Reference Marks:</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |                     |                  |                 |              |  |
| <b>Azimuth Data:</b>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |                     |                  |                 |              |  |
| <b>Geodetic:</b>        | <p>FILE: 50372420.100 000070803<br/> 2005 NOTE: The IGS precise and IGS rapid orbits were not available<br/> 2005 at processing time. The IGS ultra-rapid orbit was/will be used to<br/> 2005 process the data.<br/> 2005</p> <p style="text-align: center;">NGS OPUS SOLUTION REPORT<br/> =====</p> <p>All computed coordinate accuracies are listed as peak-to-peak values.<br/> For additional information: <a href="http://www.ngs.noaa.gov/OPUS/about.html#accuracy">http://www.ngs.noaa.gov/OPUS/about.html#accuracy</a><br/> USER: rfirth@townhall.plymouth.ma.us DATE: August 31, 2010<br/> RINEX FILE: 50372420.100 TIME: 15:19:23 UTC<br/> SOFTWARE: page5 0909.08 master2.pl 0810233 START: 2010/08/30 14:02:00<br/> EPHEMERIS: igu15991.eph [ultra-rapid] STOP: 2010/08/30 19:26:00<br/> NAV FILE: brdc2420.10n OBS USED: 12620 / 12808 : 99%<br/> ANT NAME: TRM33429.00+GP NONE # FIXED AMB: 42 / 50 : 84%<br/> ARP HEIGHT: 1.545336 OVERALL RMS: 0.014(m)<br/> REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2010.6622)<br/> X: 1581915.581(m) 0.043(m) 1581914.812(m) 0.043(m)<br/> Y: -4490383.934(m) 0.039(m) -4490382.493(m) 0.039(m)<br/> Z: 4230137.684(m) 0.022(m) 4230137.617(m) 0.022(m)<br/> LAT: 41 48 46.36785 0.004(m) 41 48 46.40112 0.004(m)<br/> E LON: 289 24 24.59160 0.053(m) 289 24 24.58092 0.053(m)<br/> W LON: 70 35 35.40840 0.053(m) 70 35 35.41908 0.053(m)<br/> EL HGT: 2.740(m) 0.032(m) 1.492(m) 0.032(m)<br/> <b>ORTHO HGT: 31.100(m) 0.032(m) [NAVD88 (Computed using GEOID09)]</b><br/> STATE PLANE COORDINATES<br/> UTM (Zone 19) SPC (2001 MA M)<br/> Northing (Y) [meters] 4630227.597 840686.583<br/> Easting (X) [meters] 367669.764 275348.973</p> |                             |                     |                  |                 |              |  |

To convert meters to US survey feet  
Multiply by 3.2808333333

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |              |             |           |             |        |                      |             |              |          |        |                            |             |              |         |        |                            |             |              |         |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|-------------|-----------|-------------|--------|----------------------|-------------|--------------|----------|--------|----------------------------|-------------|--------------|---------|--------|----------------------------|-------------|--------------|---------|
|               | Convergence [degrees] -1.06231962 0.60914439<br>Point Scale 0.99981549 0.99998732<br>Combined Factor 0.99981506 0.99998689<br>US NATIONAL GRID DESIGNATOR: 19TCG6766930227(NAD 83)<br>BASE STATIONS USED<br><table><tr><td>PID</td><td>DESIGNATION</td><td>LATITUDE</td><td>LONGITUDE</td><td>DISTANCE(m)</td></tr><tr><td>DH5837</td><td>CTPU PUTNAM CORS ARP</td><td>N415358.888</td><td>W0715320.889</td><td>108042.4</td></tr><tr><td>DE6262</td><td>URIL U OF RI COOP CORS ARP</td><td>N412920.158</td><td>W0713139.778</td><td>85761.0</td></tr><tr><td>DI0966</td><td>XMTS MTS FOX COOP CORS ARP</td><td>N420350.018</td><td>W0711501.669</td><td>61226.2</td></tr></table><br>NEAREST NGS PUBLISHED CONTROL POINT<br>LW4497 PLYMOUTH WAREHAM 2 PLYMO COR 3 N414819.497 W0703659.888 2117.0<br>This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used. | PID         | DESIGNATION  | LATITUDE    | LONGITUDE | DISTANCE(m) | DH5837 | CTPU PUTNAM CORS ARP | N415358.888 | W0715320.889 | 108042.4 | DE6262 | URIL U OF RI COOP CORS ARP | N412920.158 | W0713139.778 | 85761.0 | DI0966 | XMTS MTS FOX COOP CORS ARP | N420350.018 | W0711501.669 | 61226.2 |
| PID           | DESIGNATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | LATITUDE    | LONGITUDE    | DISTANCE(m) |           |             |        |                      |             |              |          |        |                            |             |              |         |        |                            |             |              |         |
| DH5837        | CTPU PUTNAM CORS ARP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | N415358.888 | W0715320.889 | 108042.4    |           |             |        |                      |             |              |          |        |                            |             |              |         |        |                            |             |              |         |
| DE6262        | URIL U OF RI COOP CORS ARP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | N412920.158 | W0713139.778 | 85761.0     |           |             |        |                      |             |              |          |        |                            |             |              |         |        |                            |             |              |         |
| DI0966        | XMTS MTS FOX COOP CORS ARP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | N420350.018 | W0711501.669 | 61226.2     |           |             |        |                      |             |              |          |        |                            |             |              |         |        |                            |             |              |         |
| Grid Azimuth: |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |              |             |           |             |        |                      |             |              |          |        |                            |             |              |         |        |                            |             |              |         |
|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |              |             |           |             |        |                      |             |              |          |        |                            |             |              |         |        |                            |             |              |         |

To convert meters to US survey feet  
Multiply by 3.280833333