

DATE: January 22, 2003

TO: AREA SURVEYORS

FROM: Floyd R. Smith, R.L.S., Technical Services Administrator
Department of Engineering, City of Knoxville

SUBJECT: SURVEY CONTROL DATA – NOW ON THE WORLD WIDE WEB

The Department of Engineering maintains a growing survey control network inside the City of Knoxville. It consists of hundreds of permanent survey monuments whose horizontal and vertical positions have been precisely determined. The Tennessee Coordinate System of 1983 is the basis for the City's survey control system.

In the past the Engineering Department published location data for the control system in manual form and disseminated it by providing free manuals and reference maps to area surveyors. However, that practice has been discontinued. **Data will now be published and disseminated on the Engineering Department's website at www.ci.knoxville.tn.us/engineering/civil/surveypoints.asp** . This website uses an interactive map to locate, identify, display, and print information for any control point in the City network. It allows points to be located by station number, street address, street intersection, or tax parcel number. It also allows the grid bearing and distance to be computed between any two point numbers.

DATA CHANGES

There have been some significant changes in control point information as now published on the website (see attached example sheets for Stations 0919 and 1105).

- **Dates:** "Date Established" is the date the information for a particular point was first published for public use; "Last Revision" reflects the date when some part of that information was last updated.
- **Elevations:** Two elevations are now given. "NGVD29" means the National Geodetic Vertical Datum of 1929. "NAVD88" means the North American Vertical Datum of 1988. "Elev. Type" gives the method used to determine the elevations.
- **Decimal Digits:** The number of significant digits following the decimal point in coordinate values has been increased from two (0.00) to three (0.000).
- **Azimuth Point Numbers:** Only the point numbers are shown, but bearings and distances between point numbers can be computed on the website.
- **Destroyed Points:** Station numbers for destroyed points are displayed on the computer screen in a red background and "Monument Destroyed" is noted. The description, location, and witness information will also reflect the destroyed condition.

SURVEY PLATS

The *Minimum Subdivision Regulations for Knoxville and Knox County (MSR)* requires surveys to be tied and rotated to the City's survey control system. The Department of Engineering has attempted to clarify these plat requirements in *Policy 17* (revised copy attached) of its Land Development Manual (LDM). (The LDM is on the website in its entirety at www.ci.knoxville.tn.us/engineering/ldmanual. *Policy 17* can be accessed directly at www.ci.knoxville.tn.us/engineering/ldmanual/LD-EP17.pdf .)

Location data for the City's first fifty control points was published in August of 1990. Since then the Tennessee Department of Transportation (TDOT) has readjusted the Tennessee Geodetic Reference Network (TGRN) twice. They are now in the process of readjusting it again. So far, each readjustment of the TGRN has precipitated a corresponding readjustment of the City's network. We do not know when this process will end. Surveyors need to monitor the website carefully for possible future revisions to the entire network and for new control points that may be published at any time without any advance notice.

Policy 17 requires station point numbers and coordinates to be labeled on survey plats verbatim as published. In the future, if it becomes necessary to revise the coordinates of an existing control point, the revised values may be used immediately, but will be given a **ninety-day grace period** before their use is mandatory. Any plat submitted to MPC more than ninety days after the date shown in the "Last Revision" field must be based on the latest revised data.

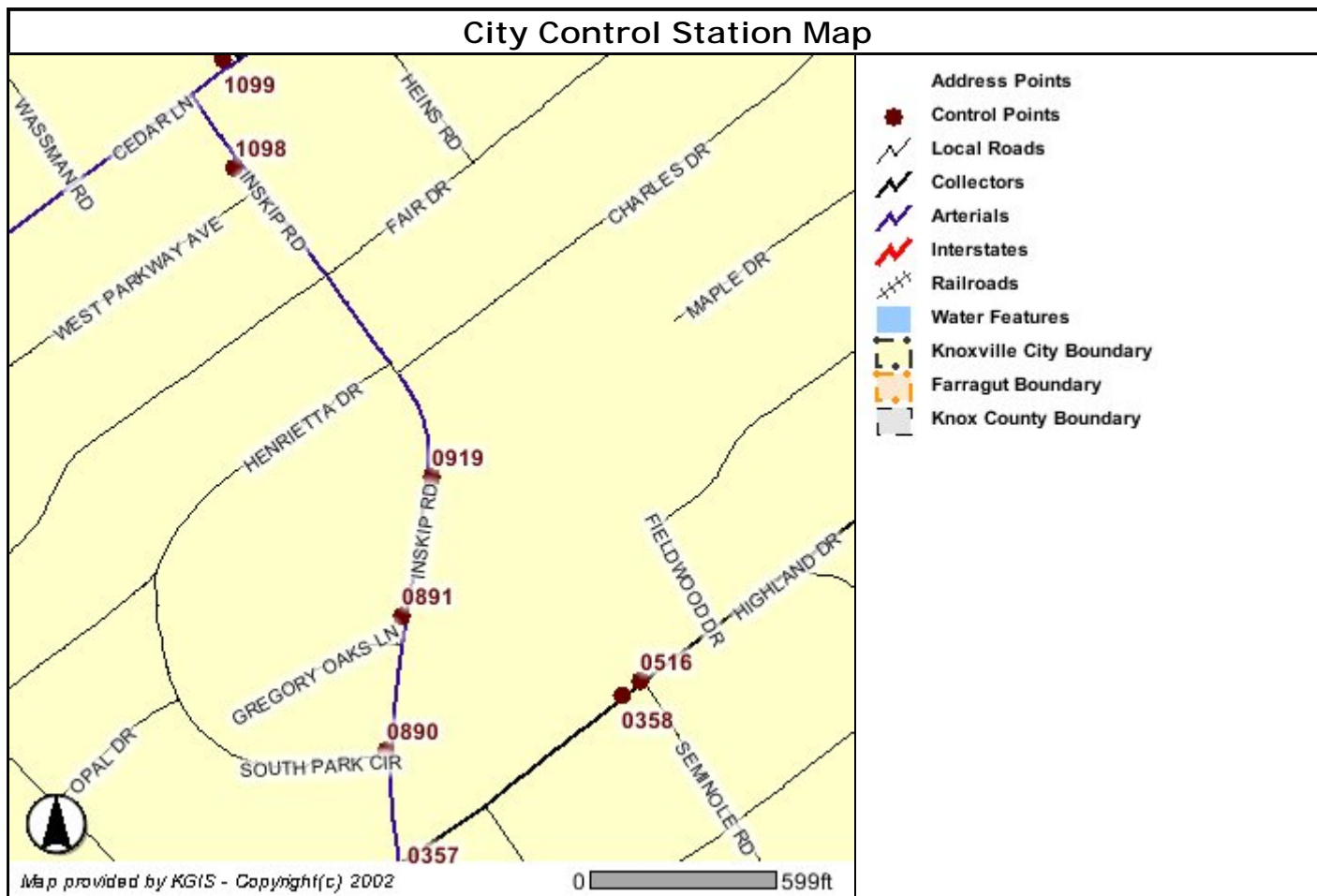
A **ninety-day grace period** will also apply when a new control point is published. Once published, it may be used immediately for platting purposes. However, in determining if a survey must be tied to the control system to satisfy the *MSR*, new points will not go into effect for ninety (90) days. When the *MSR* require a tie, plats submitted to MPC more than ninety days after the date shown in the "Date Established" field must be tied and rotated to the control system.

On August 1, 2002, data for all previously published points (Stations 0001-0919), and data for 125 new points (Stations 0920-1029 and 1091-1105), was placed on our website. For *MSR* purposes, the new points will not go into effect until April 1, 2003. Points published on the website after January 1, 2003, will be effective ninety days after the date in the "Date Established" field.

NOTE: For anyone who does not have access to the Web, we will maintain a master paper copy of all survey control data. Individual manuals and colored reference maps will continue to be available at cost. (Current prices are \$35.00 for a manual and \$15.00 for a map.) Also, individual data sheets may be picked up at the Engineering Department or faxed for \$1.00 each side. All charges are subject to change without notice, and a prepaid account must be established before we can provide either type of requested information. If interested in any of these options, call Technical Services at (865) 215-2103.

Attachments

cc: Brently J. Johnson, P.E., R.L.S., Engineering Planning Chief, Stormwater Engineering Division
David Harrell, P.E., Chief, Civil Engineering Division
Donald L. Jenkins, R.L.S., City Surveyor, Civil Engineering Division



Control Station 0919

Date Established: 3/7/2001	Last Revision: 8/1/2002		
CLT Map #: 69A	City Block #: 37170	KGIS Map #: 652700	
Northing: 620,743.552	Latitude: 36°01'16.4767"	Convergence: 1°11'55.4"	
Easting: 2,573,952.067	Longitude: -83°57'08.8587"	Scale Factor: 0.99995372	
Elev Type: GPS	NGVD29: 1,042.90'	NAVD88: 1,042.50'	
Azimuth Point Numbers: 0891			

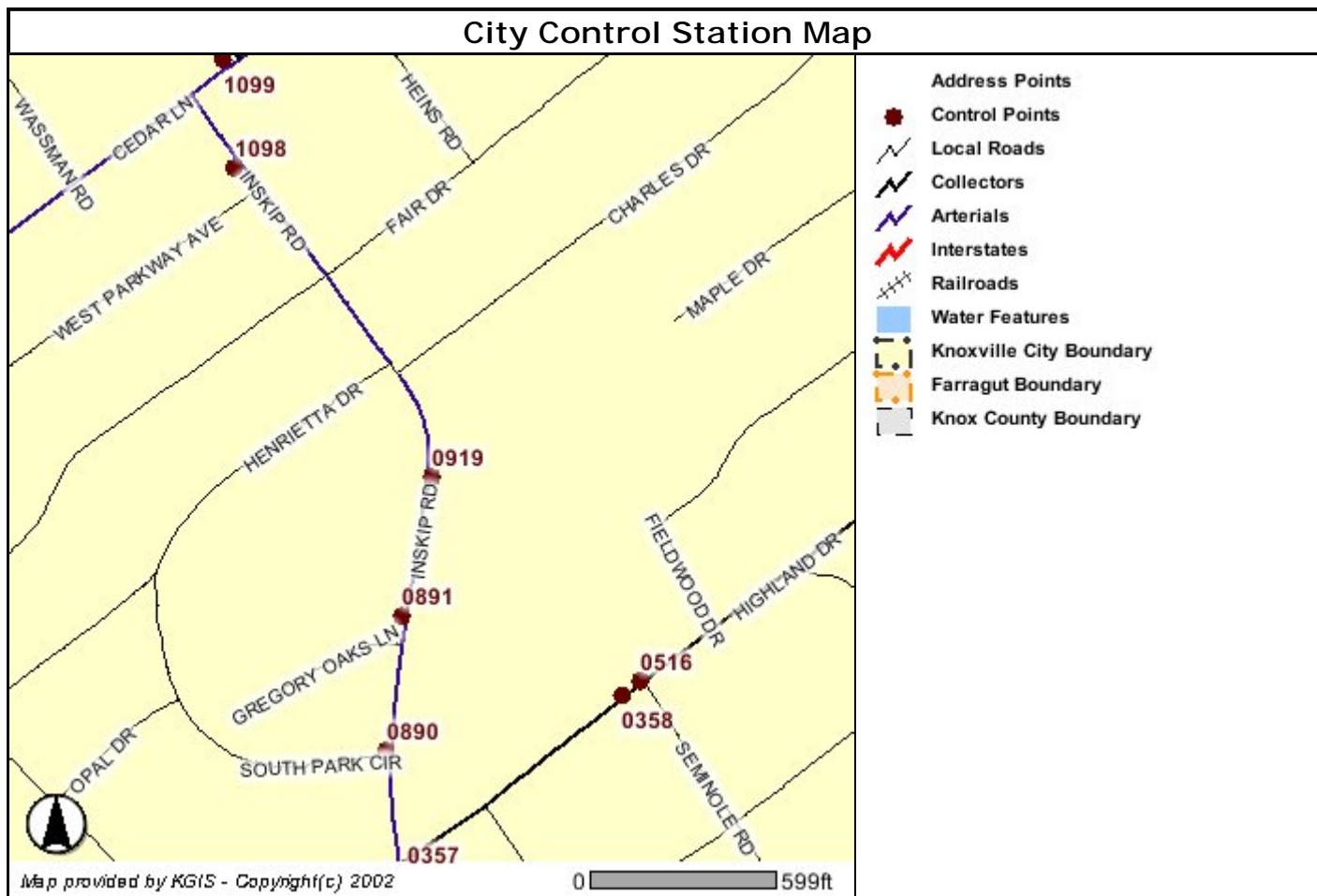
Description: 3.25" aluminum disk set in a 6" concrete monument, stamped "CITY OF KNOXVILLE SURVEY CONTROL MONUMENT, 0919, 2001"

Location: The station is set on the E side of Inskip Rd, across the street and S of the duplex at 5021.

Witness:
 +/- 25' S of the projected S building line of the duplex
 13.4' S of a sanitary manhole
 5.7' S of utility pole w/light #5888
 2.8' E of the edge of pavement

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Control Station 1105

Date Established:	8/1/2002	Last Revision:			
CLT Map #:	108C	City Block #:	10303	KGIS Map #:	559755
Northing:	596,227.505	Latitude:	35°57'13.2178"	Convergence:	1°12'21.2"
Easting:	2,578,091.714	Longitude:	-83°56'24.7559"	Scale Factor:	0.99995057
Elev Type:	GPS	NGVD29:	845.32'	NAVD88:	844.86'
Azimuth Point Numbers:	none				
Description:	3.25" aluminum disk set in a 12" round concrete monument, stamped "CITY OF KNOXVILLE CONTROL, GPS 1105, 2002, 1988"				
Location:	The station is set in the sidewalk on the N side of Cumberland Ave, in front of the Teacher's Credit Union at 2223 Cumberland Ave, just E of the Norfolk Southern Rwy (Southern Rwy).				
Witness:	31.0' N of the centerline of Cumberland Ave 3.0' N of the face of a curb 38.2' E of a power pole				

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