



Ohio Department of Transportation
Inter-Office Communication
Central Office
Office of Production

Date: December 15, 2010
To: * See Below
From: William C. Ujvari, Administrator, Office of Production
Subject: ODOT Survey Monumentation Procedure Update

- * District Highway Management Administrators
- District Planning and Programming Administrators
- District Production Administrators
- Regional Project Managers
- District Real Estate Administrators
- District Survey Operations Managers
- District Construction Engineers
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This document supersedes and replaces William Ujvari's August 20, 2007 IOC regarding Right of Way Monument Changes.

On July 20, 2007, the Ohio Department of Transportation entered into a Memorandum of Understanding (MOU) with the State Board of Registration for Engineers and Surveyors to acknowledge that any Professional Surveyor has the authority to reset survey monuments which have been disturbed by construction activities.

On September 22, 2010, the Ohio Department of Transportation and the State Board of Registration for Engineers and Surveyors amended the July 20, 2007 MOU to clarify the types of survey monuments applicable to the MOU and the process of resetting monuments disturbed by construction activities. Specifically, the MOU requires survey monuments that are reset to be stamped with the word "RESET". See Standard Construction Drawing RM-1.1 dated October 15, 2010.

A copy of the amended MOU is attached. The remainder of this IOC details ODOT's survey monumentation process in keeping with the amended MOU.

Since the amended MOU is merely a clarification of the monumentation process that is already being practiced by ODOT, the monumentation procedure presented below will have minimal plan preparation impact. For all plans submitted to the Office of Estimating for final processing, ensure the current Standard Construction Drawing RM-1.1 and Supplemental Specification 800 are referenced on the title sheet.

DEFINITIONS

The revised procedure uses various terms defined as follows:

Survey Monument - Includes Project Control Monuments, Monument Assemblies, Centerline Monuments, Centerline Reference Monuments, Right of Way Monuments, and any other monuments shown in the Right of Way Plans.

Monument Assembly – A surveyed position typically set inside pavement located on the centerline of right of way that consists of a steel rod housed inside a monument assembly box with a cast frame and cover according to SCD RM-1.1.

Centerline Monument – A surveyed position outside of pavement (e.g., in the median of a divided interstate) that consists of a steel rod and aluminum cap encased in concrete according to SCD RM-1.1 that defines the centerline.

Centerline Reference Monument – A surveyed position outside of pavement that consists of a steel rod and aluminum cap encased in concrete according to SCD RM-1.1 that defines the centerline based on a specific offset from that centerline. Reference monuments are usually constructed in pairs on either side of the centerline.

Right of Way Monument – Monument set at a property corner, property line intersections and/or angle points. For purposes of this discussion, defined as being located along the proposed right of way line (not the centerline). Right of Way Monuments commonly consist of a capped steel rod without concrete encasement.

Project Control Point/Monument – A surveyed position that is established according to the Department’s Mapping and Survey Specifications and is constructed according to Standard Construction Drawing RM-1.1. Used for projects scoped to incorporate Supplemental Specification 823.

For projects developed prior to the implementation of Supplemental Specification 823, a project control point/monument is a monument used to establish horizontal (and sometimes vertical control) for a project. Centerline Monuments and Reference Monuments can be used as Control Points. Control Points that are exclusively for construction survey control are not governed by the procedures described in this IOC.

Right of Way Reviewer – The Professional Surveyor(s) who seals, signs and dates the right of way plans, plats, legal descriptions, reports and affidavits.

MONUMENTATION PROCEDURE

The goal of the following procedure is to properly set, reset and protect all monuments in accordance with state laws on boundary surveys.

1. A right of way design team will prepare the right of way plans and legal descriptions. The construction and right of way plans shall include pay items for all Monument Assemblies, Reference Monuments (Centerline Monument and Reference Monument) and Right of Way Monuments expected to be set and/or reset by the contractor's surveyor.
2. When right of way acquisition is complete, the Right of Way Monuments will be set as called for in the right of way plans. It is typical that Right of Way Monuments are set after the completion of acquisition for all parcels of a project. However, it is also permissible to set Right of Way Monuments for individual parcels of a multi-parcel project as the individual parcels are acquired.

The following scenarios are typical for setting Right of Way Monuments:

- a. An ODOT surveyor will set the Right of Way Monuments when plans are prepared by ODOT.
- b. The design consultant's surveyor will set the Right of Way Monuments when plans are prepared by a consultant.

In either case, it is preferable that all Right of Way Monuments be set by the original Right of Way Reviewer as per the Ohio Administrative Code Chapter 4733-37, "Standards for Boundary Surveys".

3. Prior to the start of earthmoving activities, the construction contractor will make a reasonable effort to verify the location of all survey monuments as shown in the right of way plans or construction plans, if no right of way plans are provided. Verifying the location shall include locating their positions relative to a project control network, traverse line or centerline using standard acceptable surveying measurements and techniques suitable to meet the requirements of OAC Chapter 4733-37-04, "Measurement Specifications". The construction contractor will submit to the Engineer a report and/or drawing with the coordinates, station, offset and a description of each monument found. The description shall include the size, material, condition, any cap stamping or markings, and notes describing any differences from the plan locations of the monuments.

If additional survey monuments not shown in the plans are found (either before or during construction), the contractor will protect, reference and preserve them in the same manner as the survey monuments shown in the plans. Also, when additional survey monuments are reported, by the contractor, the project engineer will contact the district project manager who will coordinate with the District Real Estate Administrator, the District Survey Operations Manager and the Right of Way Reviewer to determine the appropriate actions needed to address these monuments.

If the Contractor determines that the plans correctly reflect the location of survey monuments, the Contractor shall submit a report indicating that the locations of survey monuments have been verified and match the right of way and/or construction plans.

4. If disturbed, obliterated, relocated, and/or damaged survey monuments are found (by the construction contractor) and reported prior to the start of earthmoving activities, the project engineer will contact the district project manager and the District Real Estate Administrator who will contact and coordinate with the District Survey Operation Manager and the Right of Way Reviewer to determine who will reset the monuments. Resetting of monuments that have been disturbed, obliterated, and/or damaged prior to construction activities (e.g., by utility relocation activities) may be reset by any Professional Surveyor licensed in the State of Ohio.

When monuments are reset by the Right of Way Reviewer, payment for resetting monuments destroyed prior to construction will be included under the On-Going Consultant Services during the Construction Phase portion of the right of way design consultant's scope of services. When reset by the contractor's surveyor, payment will be in accordance with the construction contract.

5. If the installed location of any survey monuments differs from the location shown on the right of way plans, the District Real Estate Administrator, in consultation with the District Survey Operation Manager and/or Right of Way Reviewer, will determine if the survey monument can be left in place or must be reset.
6. When temporary right of way easements are purchased to construct the work and it is expected that the permanent Right of Way Monuments within the temporary easements may get destroyed in the performance of the work, a quantity for replacement of Right of Way Monuments expected to be destroyed within a temporary easement shall be included in the construction plans.

Any permanent Right of Way Monuments on or outside the right of way limits that are not enclosed within a temporary easement for the project will be the contractor's responsibility to protect. Upon completion of the final grading, any Right of Way Monuments destroyed by construction activities shall be replaced by the Contractor at no cost to the Department.

7. All survey monuments set and/or reset by the construction contractor's surveyor shall be constructed according to Standard Construction Drawing RM-1.1.

The construction contractor's surveyor is required to submit to ODOT a signed and sealed report and/or drawing identifying any survey monuments that were set and/or reset. The report will identify the station and offset relative to the centerline of right of way shown in the right of way plans, as well as the northing and easting coordinates relative to the project control coordinate datum defined in the plans.

For projects scoped after October 15, 2010, project control monuments shall be reset according to the Mapping and Survey Specification located at:

www.dot.state.oh.us/Divisions/ProdMgt/Aerial/Pages/StandardsSpecifications.aspx

8. In accordance with CMS 107.10 and/or Supplemental Specification 823, the contractor will not be reimbursed for the cost of repairing, replacing, resurveying, or resetting any survey monuments that they have disturbed, obliterated or damaged unless the survey monuments are noted and quantified in the contract documents or noted by the contractor in the construction contractor's preconstruction inventory report and/or drawing.

DOCUMENTS THAT WILL BE REVISED

- CMS 107.10 will be revised via modifications to Supplemental Specification 800 to address the signed and sealed report by the contractor for all monuments set and/or reset.
- Right of Way Plan Manual Appendix K – Monument Setting Procedure to be updated as per this document.

If you need further information, contact Brett Shearer at 614.728.6142.

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c (w/Enclosures): W. Ujvari – M. Wawzkiewicz – J. Donovan – M. Ware – B. Shearer – P. Narsavage – R/W Manual File