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### 410.01 General

Proper monumentation is important in referencing a highway's alignment, which is used to define its right of way. The Washington State Department of Transportation (WSDOT) can contribute to the body of public records and minimize duplication of survey work by establishing and recording monuments that are tied to a state plane coordinate system and to a standard vertical datum. WSDOT is required by law to perpetuate existing recorded monuments ([Chapter 58.09 RCW](#)). The department provides monuments for realignments and new highway alignments and perpetuates existing monuments impacted by a project.

The Department of Natural Resources (DNR) is designated as the official agency for surveys and maps. New monuments set to establish property corners, highway alignment, and so on, shall be recorded on a Record of Survey or Monumentation Map and filed with the DNR Public Land Survey Office and the appropriate county auditor or county engineer. Records of Survey and Monumentation Maps are retained at DNR. Geodetic monuments are established and the Headquarters (HQ) GeoMetrix Office retains their placement records. Geodetic monuments are recorded on a Report of Survey Mark. These records are made available to the public on the following website: [www.wsdot.wa.gov/monument/](http://www.wsdot.wa.gov/monument/)

Existing monuments are not to be disturbed without first obtaining the DNR permits required by state law. DNR allows the temporary covering of a string of monuments under a single permit. State law requires replacement of land boundary monuments after temporary removal according to permit procedures. WSDOT control and alignment monuments may not be removed without replacement unless the location of the original position is perpetuated by reference and the appropriate document(s) prepared and filed with the county and the HQ Right of Way Plans Section. Other requirements pertaining to specific monuments are discussed below.

[Exhibit 410-1](#) summarizes the documentation requirements for new and existing monuments.

The region is responsible for identifying and locating existing monuments, obtaining required permits before any existing monument is disturbed, and conducting the research to locate existing monuments as required by [WAC 332-120-030](#), as follows:

*Any person, corporation, association, department, or subdivision of the state, county or municipality responsible for an activity that may cause a survey monument to be removed or destroyed shall be responsible for ensuring that the original survey point is perpetuated. It shall be the responsibility of the governmental agency or others performing construction work or other activity (including road or street resurfacing projects) to adequately search the records and the physical area of the proposed construction work or other activity for the purpose of locating and referencing any known or existing survey monuments.*

## 410.02 References

### 410.02(1) Federal/State Laws and Codes

[Chapter 18.43 Revised Code of Washington \(RCW\)](#), Engineers and land surveyors

[Chapter 58.09 RCW](#), Surveys – Recording

[Chapter 58.24 RCW](#), State agency for surveys and maps – Fees

[Chapter 332-120 Washington Administrative Code \(WAC\)](#), Survey monuments – Removal or destruction

[Chapter 332-130 WAC](#), Minimum standards for land boundary surveys and geodetic control surveys and guidelines for the preparation of land descriptions

### 410.02(2) Design Guidance

*Electronic Engineering Data Standards*

[www.wsdot.wa.gov/publications/manuals/m3028.htm](http://www.wsdot.wa.gov/publications/manuals/m3028.htm)

*Highway Surveying Manual*

[www.wsdot.wa.gov/publications/manuals/m22-97.htm](http://www.wsdot.wa.gov/publications/manuals/m22-97.htm)

*Manual of Instructions for the Survey of the Public Lands of the United States*, BLM, U.S. Department of the Interior, 1973

*Plans Preparation Manual*

[www.wsdot.wa.gov/publications/manuals/m22-31.htm](http://www.wsdot.wa.gov/publications/manuals/m22-31.htm)

## 410.03 Control Monuments

Horizontal and vertical control monuments are permanent references required for the establishment of project coordinates tied to the Washington State plane system and elevations tied to a standard vertical datum. By establishing and recording permanent control monuments, WSDOT eliminates duplication of survey work and contributes to the body of public records.

Provide the horizontal and vertical control monuments for highway projects that require the location of existing or proposed alignment or right of way limits. Monuments set by other agencies may be used if within 1 mile of the project and where the required datum and accuracy were used.

When control monuments are required for a given project, show the existing and proposed control monuments on the contract plans.

For horizontal control:

- Use North American Datum 1983, revised 1991 (NAD83/91).
- Use a minimum of second order, Class II procedures as defined in the *Highway Surveying Manual*.
- Provide two monuments near the beginning of the project. Where possible, when setting horizontal control, set points to act as azimuth points. Place points so that line of sight is preserved between them and in an area that will not be disturbed by construction.
- Provide two monuments near the end of the project.
- Provide a pair of monuments at about 3-mile intervals throughout the length of the project.

For vertical control:

- Use North American Vertical Datum 1988 (NAVD88). (See the *Highway Surveying Manual* for orders of accuracy required.)
- Use at least second order procedures for primary vertical control within project limits as defined in the *Highway Surveying Manual*. Use third order for secondary control throughout the project.
- Provide vertical control throughout the length of the project. Desirable spacing is at or near each milepost. Maximum spacing is 3 miles apart.

All control monuments that are established, reestablished, or reset must be filed with the county engineer and the Department of Natural Resources (DNR). Submit a Record of Survey or a Monumentation Map that has been signed by the supervising, licensed, professional engineer or licensed, professional land surveyor. If the monument is not used to reference right of way or land corners, submit a Report of Survey Mark. (See the *Highway Surveying Manual* for more detailed guidance on Control Monuments.)

#### 410.04 Alignment Monuments

Alignment monuments are permanent references required for the establishment or reestablishment of the highway and its right of way. Placing monuments at random points, in safe locations and tied to the Washington State plane coordinate system is recommended (see the *Highway Surveying Manual*).

Establishment, reestablishment, or resetting of alignment monuments is required on the following highway projects:

- New highway alignment projects.
- Highway realignment projects involving new right of way (monuments are only required for the realigned highway section).
- Highway projects where alignment monuments already exist.

Before an existing alignment monument is reestablished or reset, a DNR permit is required.

All alignment monuments that are established, reestablished, or reset must be filed with the appropriate county auditor or county engineer. The Record of Survey is filed with the county auditor in the county in which the monument is located, and a recorded copy is sent to the HQ Right of Way Plans Section. The original Monumentation Map is filed with the county engineer of the county in which the monument is located, and a recorded copy, with the filing signatures, is sent to the HQ Right of Way Plans Section. The HQ Right of Way Plans Section will forward a copy to DNR for its records.

#### 410.05 Property Corners

A new property corner monument will be provided where an existing recorded monument, or an unrecorded monument set by a professional land surveyor (PLS) prior to the Recording Act of 1973 (*RCW 58.09*), has been invalidated as a direct result of a right of way purchase by the department. The property corner monument will be set on the new right of way line or at a point in reference thereto. Property corner monuments may also be set at the location of new acquisitions such as wetlands or stormwater mitigation sites or properties shown on Sundry Site Plans. The new property corner monument shall be set by or under the direct supervision of a licensed PLS.

When any property corner monument is set, the licensed land surveyor shall file a Record of Survey with the county auditor. A copy of the recorded Record of Survey is sent to the HQ Right of Way Plans Section and HQ Real Estate Services.

#### **410.06 Other Monuments**

A DNR permit is required before any monument may be removed or destroyed.

Existing section corners and BLM or GLO monuments impacted by a project shall be reset to perpetuate their existence. After completing the work, a DNR Land Corner Record is required.

Other permanent monuments established by any other governmental agency must not be disturbed until the agency has been contacted to determine specific requirements for the monument. If assistance is needed to identify a monument, contact the HQ GeoMetrix Office.

Resetting monuments must be done by or under the direct supervision of a licensed professional engineer or a licensed professional land surveyor. If a Record of Survey is prepared, it will be filed with the county auditor in the county in which the monument is located. If a Monumentation Map is prepared, it is filed with the county engineer in the county in which the monument is located, and a recorded copy is sent to the HQ Right of Way Plans Section. The HQ Right of Way Plans Section will forward a copy to DNR for its records.

#### **410.07 Filing Requirements**

##### **410.07(1) DNR Permit**

When a DNR permit is required, use the application form shown in [Exhibit 410-2](#). The completed application must be signed by a licensed professional engineer or a licensed professional land surveyor and submitted to DNR. The DNR permit applications can be downloaded in TIFF, PDF, or Word format at the following website:

[www.dnr.wa.gov/businesspermits/howto/landownersindustrycontractors/pages/eng\\_plso\\_forms.aspx](http://www.dnr.wa.gov/businesspermits/howto/landownersindustrycontractors/pages/eng_plso_forms.aspx)

Monumentation work cannot be done until DNR has approved the permit. In extraordinary circumstances, verbal authorization may be granted by DNR pending the issuance of a written permit.

After resetting the monument, the survey method used must be filed with DNR using the completion report form shown in [Exhibit 410-3](#). The form is to be signed by a licensed professional engineer or a licensed professional land surveyor.

##### **410.07(2) Monumentation Map**

When a Monumentation Map is required, a plan sheet is prepared. Generally, the plan sheet is based on a right of way plan obtained from the HQ Right of Way Plans Section. A Monumentation Map contains a description of all new and existing monuments indicating their kind, size, and location. In addition, it must contain the seal and signature of a licensed professional engineer or a licensed professional land surveyor (see the [Plans Preparation Manual](#)).

A copy of a Monumentation Map is filed with the county engineer in the county in which the monument is located, and a recorded copy is sent to the HQ Right of Way Plans Section. The HQ Right of Way Plans Section will forward a copy to DNR for its records.

**410.07(3) Land Corner Record**

When a Land Corner Record is required, use the forms shown in [Exhibit 410-4](#). The completed forms are to be signed and stamped by a licensed professional engineer or a licensed professional land surveyor and submitted to the county auditor for the county in which the monument is located.

**410.08 Documentation**

Refer to [Chapter 300](#) for design documentation requirements.

<b>SET NEW</b>
<p><b>WSDOT Control Monument</b></p> <p><b>Before:</b> No permit required.</p> <p><b>After:</b> File a copy of the Monumentation Map with the county engineer. Send the original to the HQ Right of Way Plans Section.</p> <p><b>Alignment Monument</b></p> <p><b>Before:</b> No permit required.</p> <p><b>After:</b> File a Record of Survey with the county auditor or a Monumentation Map with the county engineer. Send a copy to the HQ Right of Way Plans Section.</p> <p><b>Property Corner Monument*</b></p> <p><b>Before:</b> Engage a licensed professional land surveyor.</p> <p><b>After:</b> Licensed professional land surveyor files Record of Survey with county auditor, or a licensed professional engineer files a Monumentation Map with the county engineer and sends a copy to the HQ Right of Way Plans Section.</p>
<b>DISTURB EXISTING*</b>
<p><b>Control Monument</b></p> <p><b>Before:</b> Obtain DNR permit.</p> <p><b>After:</b> File a copy of the Monumentation Map with the county engineer. Send the original to the HQ Right of Way Plans Section.</p> <p><b>Alignment Monument</b></p> <p><b>Before:</b> Obtain DNR permit.</p> <p><b>After:</b> File a copy of the Monumentation Map with the county engineer. Send the original to the HQ Right of Way Plans Section.</p> <p><b>Section Corner, BLM, or GLO Monument</b></p> <p><b>Before:</b> Obtain DNR permit.</p> <p><b>After:</b> File Land Corner Record with the county engineer. Send a copy to the HQ Right of Way Plans Section.</p> <p><b>All Other Monuments</b></p> <p><b>Before:</b> Obtain DNR permit. Contact governmental agency.</p> <p><b>After:</b> File a copy of the Monumentation Map with the county engineer. Send the original to the HQ Right of Way Plans Section.</p>
<p>* Property corner monuments must be filed within 90 days of establishment, re-establishment, or restoration.</p>

**Monument Documentation Summary**  
*Exhibit 410-1*

# APPLICATION FOR PERMIT TO REMOVE OR DESTROY A SURVEY MONUMENT

## PERMIT NO.

You are hereby authorized to remove or destroy  
the described survey monument(s):

AUTHORIZING SIGNATURE/DATE  
(DNR or Other Authorizing Agency)

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### APPLICANT INFORMATION:

NAME:

TELEPHONE NO:

DATE:

COMPANY OR AGENCY NAME AND ADDRESS:

I estimate that this work will be finished by (date)\_\_\_\_\_.

\_\_\_\_\_ I request a variance from the requirement to reference to the Washington Coordinate System. (Please provide your justification in the space below.)

The variance request is approved; not approved. (FOR DNR USE ONLY) Reason for not approving:

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### MULTIPLE MONUMENTS:

\_\_\_\_\_ Check here if this form is being used for more than one monument. You must attach separate sheets showing the information required below for each monument affected. You must seal, sign and date each sheet.

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### INDEXING INFORMATION FOR AN INDIVIDUAL MONUMENT:

- 1) THE MONUMENT IS LOCATED IN: SEC TWP RGE 1/4-1/4
- 2) ADDITIONAL IDENTIFIER: (e.g., BLM designation for the corner, street intersection, plat name, block, lot, etc.)

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**MONUMENT INFORMATION:** Describe: 3) the monument/accessories found marking the position, 4) the temporary references set to remonument the position (include coordinates when applicable), and 5) the permanent monument(s) to be placed on completion (if a permanent witness monument(s) is set include the references to the original position).

SEAL/SIGNATURE/DATE SIGNED

(Form prescribed 2/94 by the Public Land Survey Office, Dept. of Natural Resources, pursuant to [RCW 58.24.040 \(8\)](#).)

**DNR Permit Application**  
*Exhibit 410-2*

## COMPLETION REPORT FOR MONUMENT REMOVAL OR DESTRUCTION

(TO BE COMPLETED AND SENT TO THE DNR AFTER THE WORK IS DONE.)

\_\_\_\_\_ I have perpetuated the position(s) as per the detail shown on the application form.

\_\_\_\_\_  
SEAL/SIGNATURE/DATE SIGNED

**OR**

\_\_\_\_\_ I was unable to fulfill the plan as shown on the application form. Below is the detail of what I did do to perpetuate the original position(s). (If the application covered multiple monuments attach sheets providing the required information. Seal, sign and date each sheet.)

\_\_\_\_\_  
SEAL/SIGNATURE/DATE SIGNED

**DNR Completion Report Form**  
*Exhibit 410-3*



## LAND CORNER RECORD

**GRANTOR/SURVEYOR/PUBLIC OFFICER:** This corner record correctly represents work performed by me or under my direction in conformance with the Survey Recording Act.

COMPANY OR AGENCY:

ADDRESS:

**GRANTEE:** PUBLIC

SEAL/SIGNATURE/DATE

**LEGAL:** TWP: RGE: CORNER CODE:  
 ADDITIONAL IDENTIFIER: (BLM designation, street or plat names, block, lot, etc.)

COUNTY:

**WASHINGTON PLANE COORDINATES:** N: E:

ORDER: ZONE: DATUM (Date of adjustment):

**CORNER INFORMATION:** Discuss the history, evidence found, and perpetuation of the corner. Diagram the references; provide the date of work; and, if applicable, a reference to a map of record and/or the field book/page no. Use the back, if needed.

This form is in compliance with the intent of [RCW 65.04.045](#) and prescribed by the Public Land Survey Office, Department of Natural Resources - 1/97.

### Land Corner Record Exhibit 410-4

**MARK THE CORNER LOCATION BELOW AND FILL IN THE CORNER CODE BLANK ON THE OTHER SIDE:**

For corners at the intersection of two lines, the corner code is the alphanumeric coordinate that corresponds to the appropriate intersection of lines.

For corners that are only on one line, the corner code is the line designation and the related line segment; i.e., a corner on line 5 between "B" and "C" is designated BC-5.

For corners that are between lines, the corner code is both line segments; i.e., a corner in the SE1/4 of the SE1/4 of section 18 is designated MN 4-5.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
A																										A
B																										B
C		6			5				4					3					2						1	C
D																										D
E																										E
F																										F
G		7			8				9					10					11						12	G
H																										H
J																										J
K																										K
L		18			17				16					15					14						13	L
M																										M
N																										N
O																										O
P		19			20				21					22					23						24	P
Q																										Q
R																										R
S																										S
T		30			29				28					27					26						25	T
U																										U
V																										V
W																										W
X		31			32				33					34					35						36	X
Y																										Y
Z																										Z
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	

RCW 58.09.060 (2) requires the following information on this form: an accurate description and location, in reference to the corner position, of all monuments and accessories (a) found at the corner and (b) placed or replaced at the corner; (c) basis of bearings used to describe or locate such monuments or accessories; and (d) corollary information that may be helpful to relocate or identify the corner position.

SPACE FOR ADDITIONAL COMMENT:

**Land Corner Record**  
*Exhibit 410-4 (continued)*