POLICIES AND PROCEDURES FOR PROPERTY MAPS

BUREAU OF ENGINEERING AND HIGHWAY OPERATIONS
OFFICE OF CENTRAL SURVEYS
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SECTION I ACQUISITION MAPPING

1.1 Introduction

The Property Maps Unit was organized in the 1930s as a part of Highway Design with sufficient personnel to prepare maps for the acquisition of all property necessary for the construction or reconstruction of Town, State, and Federal highways.

Through the years, the Property Maps Unit had expanded into a precision map producing unit. In 1986 it became known as the Drafting Unit and in 1996 the Mapping Unit.

This manual replaces the current the Departmental's Manual Policies and Procedures for the Preparation of Property Maps. It is to be used as a guide by personnel concerned with the preparation and use of Property Maps. It was originally prepared in July of 1975 and was revised in 1977, 1981, 1985 and 1986.

This revision is nearly a complete rewrite of the manuals published to date. Its goal is to reflect not only that information required to use, understand and prepare acquisition and release mapping, but to put this information in a readable and useable format.

1.1A. All property maps prepared either by or on behalf of the Department of Transportation shall conform to Sections 20-300b1- thru 20-300b-20 of the Regulations of Connecticut State Agencies also known as the “Standards for Surveys and Maps in the State of Connecticut.”

The most prevalent “Survey Types” utilized by ConnDOT for land (and/or easement) acquisitions and releases are the “Right of Way Survey” and the “Compilation Plan.”

Where the taking or easement lines are controlled from the project base line/center line, a “Right of Way Survey” shall be used. Where data (such as slope limits) is merely compiled from the design plans, a “Compilation Plan” is acceptable.

Typically, partial takes, defined easements, temporary work area easements and Drainage Right of Ways are acquired with a “Right of Way Survey.” Total takes and slope easements are generally prepared using the “Compilation Plan” survey type.

When both compiled and base line controlled information appears in a map, the “Right of Way Survey” shall be used.

Further, since all base lines/center lines are not laid out in the field during the Location Survey phase of a project, a minimum of two (2) control-point tie boxes shall be depicted on each map. Preferably, these control points should be points that are unlikely to be disturbed by construction activities.
In the event that no land or permanent encumbrances are intended for a property, no taking map is required. Rights, which are considered temporary noncompensable “betterments” to a property, are not mapped for acquisition, said rights are shown on the construction plans and written permission is obtained by the Office of Rights of Way prior to construction start.

I.1B. Metrication

Since most designs consist of metric (S.I.) units, all Property Maps prepared shall be consistent to the design plans.

However, since most end users (property owners, attorneys, and other real estate professionals, etc.) are not familiar with this system of measurement, dual units shall be expressed on all metric-taking maps.

Dual units shall only be expressed on the portions of the map that affect the property being acquired. Typically, this consists of the base line or center line offset, taking distances and the acquisition outline boundaries, along with areas.

Dual unit notation (for plus/minus dimensions) shall be expressed to the nearest decimeter (0.1 meter) with the English equivalents expressed to the nearest foot in parenthesis. (Example: 21.1m +/- (69' +/-) (See exhibit 6).

This same convention applies to areas. (Example: 815.6+/-m2 (8779+/-sq.ft.) Please also refer to the attached table of “threshold” areas (Exhibit 1).

Where the intent is for exact measurements, (such as a base line offset) the English equivalent shall be depicted to the nearest hundredth of a foot (0.01’). Example: 15m (49.21’) (See exhibit 6).

Further, it is, and shall continue to be, the Department’s standard convention to indicate exact dimensions to the last figure expressed. In other words, a base line offset expressed as 15.3m shall be understood to equal 15.300 meters.

I.1C. Digital Files

All property maps submitted to the Department of Transportation shall be prepared and submitted in Microstation Design File Format, or current departmental file format/platform.

Final digital files must incorporate current ConnDOT cell libraries and be properly georeferenced to the coordinate system used to prepare the map. It is current ConnDOT practice to utilize the Connecticut Coordinate Grid System (NAD 83) where
possible and NAD 27 when NAD 83 is not available. NAD 27 or NAD 83 shall be shown on the map’s north arrow (See Exhibit 6). A minimum of two (2) grid ticks or suitable grid identifiers at the map borders must be provided on each map (in their correct geographic location to the project). Please refer to the Department’s Location Survey Manual for further discussion on coordinate grid datums.

Digital Files must also be named in accordance with the Department’s standard naming conventions.

Please refer to the Department’s CADD Graphics Manual for further direction on these matters, but examples of proper file naming conventions, typical line styles, weights and levels are also provided as a guide on Exhibits 3-5 and 25.

1.1D. Map Layout

All property maps must be designed so the plan layout is in accordance with Exhibit 6 to maintain standards for ease of review.

1.2 Use of Property Maps

It should be noted that the purpose of these maps is to accurately define what impact our projects will have on an individual owner for appraisal purposes in addition to supplementing a deed for land record filing.

Each map must be capable of “standing on its own” in that the only data that is to be depicted pertains to that individual owner’s property, and our impacts to it. Each map shall depict only information pertaining to the subject property. In other words, the only existing topographic features to depict are the roadway frontage (edge of road) from property side lines of the subject acquisition in as far as the location survey width provides. Only abutting owners names are to appear on the map along with the roadway name and route outside of the subject property.

It is understood that present map preparers must delete large amounts of data from the Location Survey to prepare a property map correctly on CADD where in the not so distant past ink drafters traced only the information required. However, ConnDOT taking maps shall only depict existing topography and acquisition data relative to the owner(s) of the land in question to be considered as correctly drafted.

Only existing (not proposed) conditions should be depicted within the actual land taking areas. The only proposed work to be depicted on these plans is that which falls outside of the taking lines or existing highway lines as applicable. Limits of slopes, driveway rights, grading, relocated walls and fences, etc. are examples of proposed improvements, which are to be depicted on our acquisition maps. In addition, all proposed highway appurtenances which fall into our Drainage Right of Ways, Temporary Work Areas, Traffic Easements or other easements further discussed in this section must also be shown.
Simply put, if we were to crowd the taking areas with proposed highway appurtenances, an accurate appraisal may not be possible. Construction plans can be made available to review proposed conditions.

I.3 Preparation and Review of Property Maps

Because the work of the Office of Rights of Way depends heavily upon the property map, it is essential that this document be accurate and complete. Therefore, the procedures listed below will be followed on each project under design where applicable.

A Design/Right of Way meeting should be requested by the Project Engineer as soon as the design has progressed far enough so that private property impacts including slopes and drainage have been identified or are at least probable. The Rights of Way Project Coordinator and representative(s) from the Office of Central Surveys Property Map Section (as applicable) will discuss the project with the designer and identify properties, which require title searching. The designer must have a mylar plot of the location survey, preliminary design plans, a copy of the preliminary schedule of owners (see Exhibit 7a), and be familiar with the field conditions at the project site for this meeting. It is recommended that the Design/Right of Way meeting be held a minimum of 20-24 months prior to the FDP date for most projects.

After this meeting the project designer shall submit the preliminary schedule of owners, the marked up Location Survey (which identifies properties requiring title search), and the preliminary design plans to the Office of Rights of Way requesting a right of way cost estimate and title searches.

One week prior to the actual commencement of title search activities, the Office of Rights of Way will request written confirmation that the “Preliminary Schedule of Property Owners” is accurate. Upon verification that the schedule of owners is correct, the document will be renamed “Schedule of Property Owners”, and then signed and dated by the Project Engineer and the Consulting Engineer / State Design Project Manager and forwarded to the Office of Rights of Way. The title search will not start until this document is received. (See Exhibit 7b)

The title search data typically provided is a paper copy of the marked up Location Survey (from Design/Right of Way meeting) along with copies of pertinent survey maps of record. On the copy of the Location Survey, corrected owner’s names, deed and/or survey distances along with any recorded rights appurtenant to or easements subservient to a parcel will be noted for each owner searched.

The survey files shall be corrected to reflect this data (excepting property line dimensional text which gets added to taking maps as required), to ensure that the designer is aware of correct owners’ names and of any existing rights or easements which could affect his or her project goals.
All pertinent title references should be duly noted on each property acquisition map. Typically, the data used to compile property lines and owners names was gathered during the research phase of the Location Survey. That research data along with any other instruments and/or maps provided by the Office of Rights of Way, Titles Division should be referenced on each acquisition map. Additionally, all maps shall properly indicate the required notations set forth in "The Standards for Surveys and Maps in the State of Connecticut" (See Section 20-300b-1 through 20-300B-20, Regulations of Connecticut State Agencies) (See Exhibits 6 & 26 for Samples).

As the design progresses beyond the "Approved Schedule of Owners" and it is determined that additional private property impacts are anticipated, the Project Engineer must contact the Office of Rights of Way and revise the schedule of owners accordingly. This procedure also applies if there is a lesser number of impacted owners.

All taking maps must be forwarded to the Office of Rights of Way at least twelve (12) months for vacant land takes and easements, fifteen (15) months for taking residential structures, and eighteen (18) months for taking commercial structures, and other priority takes (takes involving personal relocations, commercial or industrial properties) ahead of the scheduled project DCD date. It is extremely important to note that this submission to Rights of Way must not be preliminary in nature. The surveyor who is to sign and seal these maps and the project design engineer/consulting engineer must have performed a comprehensive review of the acquisition maps prior to this map submission to the Office of Rights of Way.

1.4 Taking Line Controls

1.4A. Coordinate Control

With the exception of total takes, all taking lines shall be referenced from a coordinated base line or centerline, and prepared as a "Right of Way Survey."

It is important to understand that these taking lines must be readily reproducible in the field. Since it is unlikely that any base line/center line points will be left undisturbed after construction, project control points with ties and coordinates must be available for future work. It is required that at least (2) control point tie boxes (with coordinates) be depicted on all "Land Acquired" or "Defined Easement" maps as a minimum. Care should be exercised as to make every attempt to depict project control points, which are unlikely to be disturbed by construction activities.

1.4B. Taking Line Geometry

Taking lines and defined highway easements must be related to the base line/center line. Relating these lines to roadway appurtenances, such as curb lines in a transition section, is not an acceptable practice.

While it is the Department’s goal to take as little property as necessary for our projects, taking lines shall not be designed at some offset from proposed curbing.
Therefore, taking lines are to be designed such that they may be computed from the base line/center line plus stations and offsets. These base line/center line plus and offsets can easily be designed as concentric curves or angle points to follow the required Minimum Right of Way limits with only minimal excesses (if any) of land or easements acquired. (please see Exhibits 8 & 9).

Where taking lines intersect street lines for side roads, it is the standard procedure to acquire a beveled intersection transition rather than a curved street line that is tangent to the two. While tangent curve street line returns are the preferred geometry in the global sense, most Departmental Location Surveys were not surveyed to Property/Boundary Survey standards. Thus, the street lines are approximate in nature. It is generally an incorrect practice to design tangent curve returns based upon CADD generated line work since the reality is that these radii may not even intersect the actual adjacent street lines.

Therefore, it is recommended that the returns be beveled and controlled from the base line/center line (please see Exhibits 8 & 9). This geometry also allows room for traffic signalization devices as well as handicapped sidewalk ramps etc. as the design progresses without the need for property acquisition map revisions.

1.4C. Taking Lines and Property Lines

Taking lines should not change direction (jog) nor terminate at property lines. While this practice would seem logical, it requires that a property/boundary survey be provided to ascertain the location of these taking line course changes and for future monumenting/mapping efforts. Simply put, the practice of controlling taking lines at property lines is not cost efficient and is generally unnecessary. Therefore, taking line direction changes must be controlled by base line/center line stations and offsets and not property lines.

1.4D. Minimum Right of Way Lines on Taking Maps

To minimize the possibility of acquiring more land than is actually required for highway improvements, the following procedures shall be used as a guide in the preparation of “Total Take” property acquisition maps, especially as they relate to the establishment of minimum right of way lines.

In instances where the Division of Design or Office of Rights of Way determines that it would be feasible to purchase a particular property in total, due to the remaining land obviously becoming substandard, landlocked, etc., a minimum right of way line and the excess area of the property in question shall be shown on a taking map called an “Internal Use Map.” An internal use map is retained by the office of Rights of Way, but is not filed on Town Land Records. The line shall be shown and labeled, “Min. ROW Line” or “Min. ROW Line Non-Access” and the excess area indicated, “Excess Area = XXX (Sq.m/ Sq.Ft) as applicable (Sq. meters) Acreage.”(See Exhibit 34)

When required by the Surveys or Rights of Way Offices minimum rights of way lines or approximate minimum rights of way lines shall be established by the designer.
Minimum rights of way lines shall be tied to the base line or centerline, whenever possible.

In the event that sloping requires the total taking of property, the internal use map shall be provided depicting only the slope. Appropriate minimum ROW limits will be shown, as well as excess area, wherever possible. The excess area will be that land which falls beyond the slope in this instance.

The Office of Rights of Way, upon receipt of the taking map or during acquisition of the property, may determine that a partial take is agreeable or recommended. In such cases, the formal total take property map will be returned to the appropriate unit for revision to a partial take in the usual manner. The “Internal Use Map” will be destroyed.

1.5 Easements and Rights

1.5A. Slopes, Easements and Grading

While it is understood that all proposed cut or fill slopes depicted on construction plans are called out as slope limits, there is a need to differentiate private property impacts with respect to the severity of slopes during the Rights of Way process.

By ConnDOT conventions, an easement is a permanent encumbrance on a parcel of land, while a right is associated with a temporary inconvenience to one’s ability to fully enjoy his or her property, and sometimes may result on the betterment of the property.

The Connecticut Department of Transportation further applies these principles by differentiating Easements to Slope and Rights to Grade for the purpose of appraising damages. An easement is compensable, while a right is not generally compensable. In general, if a slope encroaches onto private property, and it is absolutely necessary to do so, it should be acquired as an easement. If our proposed highway facility can be constructed without sloping onto private property, that slope should be considered suitable to acquire a right to grade. The application of these general rules requires considerable experience and judgement, as sloping issues have always been problematic, especially during the construction phase of a project. The following sub-sections will attempt to simplify the Design/Right of Way applications of sloping vs. grading issues.

Highway slopes required for the support, safety or drainage of the highway that encroach upon private property shall be labeled “Approx. Slope Limits” and the note “Easement to Slope for the * of the Highway Required or Acquired,” whichever the case may be, shall be shown on the construction plans and property maps. The area of that portion of slope encroaching upon private property shall be computed and shown on the property acquisition maps. *(The words “support, safety or drainage” or a combination thereof, shall be inserted here.)

Highway slopes, not required for the support, safety or drainage of the highway, that blend the owner’s remaining land into the highway shall be labeled “Approx. Grade
Limits” on the property acquisition map(s) and a note, “Right to Grade Required or Acquired,” whichever the case may be, shall be shown on the construction plans and property maps. (See Exhibits 10-12.) When grading is the only encroachment on private property, a property acquisition map is not required (See I.1A last Paragraph).

When private property appurtenances (sidewalks, steps, driveways etc) are to be constructed or reconstructed and they fall within the limits of easements, no formal “Right to construct...” is required. The property acquisition map must, however, depict the proposed new appurtenance and be properly labeled. No “Right Box” or area is needed since the contractor will already have a right of entry onto that property for the compensated easement area as long as that facility can be constructed within the easement area.

Note in the Context of this Manual Slope Ratio’s indicate Horizontal: Vertical (Run over Rise)

1.5A.1 Cut Slopes

Cut slopes are considered as required for the safety of the highway. Any cut slope which encroaches onto private property having a grade steeper than 6:1, requires an easement. Any slope, which is proposed at a 6:1 or flatter grade, should be acquired as right to grade, and labeled “Right to Grade Acquired.”

Easement cut slopes shall be labeled “Easement to Slope for the Safety of the Highway & Remove, Use, or Retain Excavated Material Acquired.”

1.5A.2 Fill Slopes

Fill slopes are required to support a highway. There are several considerations to be made with respect to the type of highway grading template used in a fill section. Often, the side slopes required on a project are driven by socioeconomic, safety or environmental issues.

Procedures for Determining Slope Easements or Rights (See exhibits 10 – 12)

1. When the slopes 6:1 or flatter extend onto private property, a 2:1 guideline is drawn from the hinge point to existing ground to determine if easement or rights are required.
2. When the 2:1 guideline passes over the proposed or existing street or highway line and onto private property, an “Easement to Slope for the Support of the Highway” is required (see Exhibit 10).
3. When the 2:1 guideline stays within the proposed or existing street or highway line, a “Right to Grade” is required (see Exhibit 10).
4. When a slope of 6:1 or flatter is designed specifically for a safety condition and it protrudes onto private property, an “Easement to Slope for the Safety of the Highway” is required (See Exhibit 11).
5. All slopes that are steeper than 6:1 and encroach onto private property require an “Easement to Slope”.

In the event that a design goal is to utilize 4:1 slopes without curbing to avoid the use of guide railing, a minimum clear zone buffer of 3m (10’) extending from the design toe of slope is required to be reserved as part of this slope easement. The designer, should study whether a 6:1 slope is a more suitable final grade to avoid a buffered slope easement.

I.5A.3 Drainage Slopes

Wherever slopes encroach upon private property due to the excavation or need to create drainage facilities, such as ditches or channels, an “Easement to Slope for the Drainage of the Highway” is required. Further, due consideration to the disposition of excavated materials and proper annotation is required to be indicated on both the Rights of Way and Construction documents.

I.5B. Temporary Work Areas

A “Temporary Work Area” is a defined easement required to construct a highway appurtenance on private property. This easement is considered permanent in that it exists throughout the entire construction phase of a project unless sooner released by the State. Since this easement must accurately outline the area the Department of Transportation’s construction contractor is allowed to work in, it must be adequately defined to allow computations and field staking. Therefore, this easement must be accurately controlled from the base line/center line or existing highway line.

It is important that the exact use of the land, placement of all appurtenances and restoration of the work area be identified and depicted as accurately as possible (see Exhibits 13, 13a, & 17 for further clarification.)

I.5C. Drainage Right of Ways and Easements to Drain

I.5C.1 Drainage Right of Ways

Drainage right of ways are defined easements tied to the base line/center line of a project, or the existing highway line as applicable. (See Exhibit 19 for a sample layout)

These easements need to be acquired whenever drainage structures (inclusive of all system appurtenances) encroach beyond either the existing highway line, or the proposed taking line.

The width of the easement is dependent upon the size of pipe to be installed. Please refer to Exhibit 14 to ascertain correct widths and configurations.
The length of the easement shall extend at least two (2) meters or six (6) feet beyond the entire drainage system or to a point which is anticipated that it may be necessary to enter to and maintain.

1.5C.2 Easements to Drain

Easements to drain are undefined easements that need to be acquired whenever highway surface waters are intended to outlet onto and/or flow over and through private property.

Easements to drain are also required to be taken appurtenant to any drainage right of way where the design intent is as noted above.

These drainage easements are typically not required when the drainage system outlets into an existing watercourse, wetland or body of water. For further requirements on this subject, please refer to the Department's "Drainage Manual."

To facilitate the interpretation of rights acquired for the flow of surface water onto or across lands adjacent to the highway right of way, the following information shall be indicated on the property maps and construction plans.

The property acquisition map shall depict this easement as flow arrow or flow arrows from the outlet to existing wetlands, watercourse or the point of dissipation. (See Exhibit 35)

Drainage Right of Way Check List

1. Width of drainage right of way.
2. Length of drainage right of way from the highway taking line to the end of drainage right of way.
3. The angle from the drainage right of way to a radial/perpendicular line from the base line, taking line or existing highway line.
4. A plus station on the base line, or cold dimension from highway monuments.
5. The draftsman shall show, by a series of arrows or other suitable means, the course of water flow from the proposed outlet to a brook, pond, watercourse, etc., for 60 meters (200 feet) or to the point of dissipation noted.

1.5D. Defined Easements for Highway Purposes/Transportation Purposes

This easement defines the needs of a project for highway purposes. It is very similar to a land acquisition and must be controlled exactly the same. It becomes the highway line and is monumented just as if it was owned in fee.

This type of defined easement should only be utilized when it is definitely not in the State's best interest to acquire land, and should be avoided wherever possible.
This easement is extremely dominant and is generally appraised at nearly 100% of actual land ownership. Generally, it is not beneficial to the private property owner or the State except, when specifically identified as necessary by the Office of Rights of Way.

Unlike most easements, no proposed highway appurtenances are depicted within the easement area, since it is treated as if it was a taking of land (See Exhibit 21).

A Defined Easement for Transportation Purposes follows the same rules of construction as one for Highway Purposes. A Transportation Purposes easement is used only to preclude any ambiguity in the type of facility. Its typical uses are on railroad, ferry or other Mass Transit Projects.

I.5E. Traffic Easements

Traffic Easements are defined easements acquired to cover the needs to install and maintain traffic signalization devices and appurtenances.

These easements must be controlled from the project base line/center line or the existing Highway Line as applicable.

Like Drainage Right of Ways, all proposed or existing appurtenances are to be called out (see Exhibit 15 for further clarification).

I.5F. Sight Line Easements

Sight Line Easements are defined easements on private property, which specifically restrict the owners use of his or her property for the sight line of a highway.

These easements merely restrict the placement of plantings, signs, fences, or other structures along the highway frontage.

It is defined since the area that ConnDOT needs to be able to maintain must be suitable to accurately layout in the field. Therefore, this easement needs to be referenced from the base line, center line, or existing highway line. In general, no proposed appurtenances are depicted with this easement area (see Exhibit 22).

I.5G. Guide Railing

In the event that the design of a highway or a highway improvement requires guide railing (inclusive of end anchoring system) on private property, an easement is required. The proposed railing and/or end anchor is to be depicted on the property acquisition map.
This easement is reported as a lineal distance (see Exhibits 16 & 39). It is not required for this easement to be referenced from project control and therefore is suitable to be mapped as a “Compilation Plan.”

Note: Even if the entire railing system does not encroach upon private property, an easement for highway purposes may still need to be considered to cover the designed deflection clear zone area.

1.5H. Channels

In the event that a new channel to relocate a stream or river is required, an easement for this work area must be purchased. Often a temporary work area may also be required to accomplish this task (please refer to Exhibit 17 for further directions). There is no intent in this easement regarding future maintenance.

All proposed sloping and channel appurtenances are to be depicted on the property acquisition map.

1.5I. Retaining Walls

In the event that the highway infrastructure requires the use of a retaining wall for support or safety, and this wall or any part of it, including footings, falls on private property, an easement is required.

This easement must be controlled from the base line/center line or existing highway line for accurate definition of the area needed to maintain the wall and footings.

It should be noted that this type of easement should be avoided by either purchasing the needed land or acquiring a Defined Easement for Highway Purposes.

The proposed retaining wall and retention direction is to be depicted on the property acquisition map if this type of easement is acquired.

1.5J. Wetland Mitigation Easements

In the event that it is determined that a wetland mitigation site can not be built on existing state property, it is recommended that land be purchased for a proposed mitigation site.

If all attempts to procure land for the mitigation site fail, a Defined Easement for Highway Purposes may be acquired as a last resort. This easement must be accurately controlled from the project base line/center line or the existing highway line for computations and field layout (just as a temporary work area is designed).
Typically, the proposed limits of wetlands/slope limits and any drainage appurtenances are depicted within this easement area.

I.5K. Sidewalk Easements

The area covered by proposed sidewalks should fall within the state or town’s right of way limits. Therefore, the sidewalk footprint area should be purchased or acquired with a Defined Easement for Highway Purposes.

In the event that this is not possible, an easement controlled from the project baseline/center line or existing highway lines must be purchased.

The proposed sidewalk shall be depicted within the easement area.

I.5L. Rights of Access

When it is determined for safety reasons that a particular parcel of land should not have access rights to or along a particular parcel or stretch of highway, Rights of Access must be purchased.

Rights of Access are purchased as an easement. The location(s) where access can no longer be permitted must be accurately defined from the project baseline/center line or existing highway line.

Rights of Access can be purchased together with land (as in the case of a Limited Access Highway) or as a separate easement on other highway systems.

It is important to note that access control can only be exercised along public highway systems and not along private roadways or driveways. Therefore, if access is to be denied to a parcel of land, the frontage area of denial must be taken into the public highway system (please see Exhibit 18 for further direction and proper nomenclature regarding this subject). For further direction in this topic please refer to Exhibit 37.

I.5M. Ponding Easements

There have been instances where ConnDOT drainage needs require additional areas for design storms, or environmental permitting.

In general, the easement area is defined by a contour elevation and thus is prepared as a Compilation Plan. It is normally labeled as “Easement to Pond Surface Waters to Elevation ###” with the Vertical Map Datum noted. In the event that an assumed datum is used, a benchmark shall also be depicted on the map. Further, a surveyor’s statement relating to topographic accuracy class shall be an additional note on the map.
If it is required that the actual detention, retention or water quality renovation area remain constant, as dictated in an environmental permit document for example, the ponding area may have to be defined by base line/center line controls. In this case, since the affected owner can not alter the grading of his or her property in this area, it is recommended that this easement be acquired as a Defined Easement for Highway Purposes.

In any case, once the easement is controlled from the base line/center line or existing highway line, the plan shall be prepared as a "Right of Way Survey."

1.6 Property Map Revisions

The need for property map revisions is often required as the acquisition and design processes progress. Revisions to property acquisition maps must be carefully tracked to ensure that the most recently prepared plans are in the hands of not only the Office of Rights of Way and the project engineer, but also the affected owner.

Once any submitted property map has been through the initial Rights of Way, Division of Titles' review, any changes to a map must be documented by adding a note to the revision block.

After a map has been revised, a new set of property acquisition maps and associated design plans reflecting the revision shall be forwarded to the Office of Rights of Way.

It is important to note that if the revision is due to a design change, that the Office of Rights of Way project coordinator be advised in advance of the map submittal so he or she can halt any pending progress on that file while awaiting the revised property acquisition map.

1.7 Submission of Property Maps

When submitting property acquisition maps to the Office of Rights of Way, one paper plot shall be submitted for the Division of Titles review.

Once the initial review by the Division of Titles has been completed, (2) quality paper plots (not draft quality) shall be provided to the Office of Rights of Way along with a Microstation digital file on disk for each sheet or owner.

The Rights of Way project coordinator shall notify the map preparer or project engineer when the Division of Titles' review is completed in the event that no revisions are required.

Every time any map is revised, two (2) new sets of property acquisition maps and a digital file shall be forwarded to the Office of Rights of Way for continued processing.
I.8 Conformity of Design and Property Maps

It is extremely important to note that the land or easements the Department buys is based upon the property map and deed.

Therefore, it is imperative for the final construction contract documents (construction plans) to exactly reflect the Right of Way data depicted on each property map. (Construction plans do not denote dual metric-english units.)

Since the property acquisition maps are not part of the construction contract documents, all final plans must accurately reflect all controls used for land or easement acquisitions to avoid Rights of Way problems during the construction phase of a project.

This point can not be over stressed. Remember, all land, easements and rights purchased and/or negotiated with each adjacent property owner by the Office of Rights of Way are the only areas and uses that the Department's construction contractor may utilize to build the project without obtaining additional compensation.

As additional rights, easements or land are extremely costly and time consuming to be procured during the construction of a project, all final construction plans must agree with the Rights of Way documents.

I.9 “A” Maps

This type of map is prepared when it is determined that additional taking(s) of land and/or easement(s) is/are required after closing on a parcel of land from the same owner. It indicates an additional taking from the same owner on the same project.

The property acquisition map will have the identical Rights of Way Bureau Record Center serial number with an alpha extension to the number. For example, if ConnDOT acquired an easement to slope from an owner and later during construction it was determined that a Drainage Right of Way was needed, a separate “A” Map would be prepared, new damages assessed, new deed prepared and closing done.

When preparing an “A” Map, only the new property impact is drafted in heavy weight lines, symbology and text notations. The previous acquisition is treated as an existing condition and is plotted with light weight drafting techniques in that this property is subject to the easements that preceded it. It should be noted that “A” Maps are not prepared for new rights. In other words, if ConnDOT has already closed on an acquisition and it is determined that an additional driveway right (for example) is required, no map is prepared. The new Right of Entry will be handled and secured by the Office of Rights of Way in the usual manner.
I.10 Superseding Maps

Superseding Maps are "A" type maps, but are not identified alpha numerically as an "A" map is.

Superseding Maps are maps that are prepared on a certain parcel of land after a Certificate of Condemnation is filed. When additional land or easement takings are required on the same parcel of land on the same project between the time the Condemnation is filed in the courts and the time the case is settled, a Superseding Map is prepared.

Unlike "A" Maps, all proposed private property impacts are still depicted as proposed, features (not considered as an existing condition), and thus, identified with heavy weight drafting techniques.

Superseding Maps must be clearly identified as such and the area of revision clearly identified (please see Exhibit 19).

It should be noted that the only other instance (outside of condemnation cases) that a Superseding Map may be used is when a drafting error on a map is discovered, or a geometric change to the base line/center line data is required after closing. This map is generally prepared to clarify future highway line computations and land records.

Note: If the design change or discovered error changes any compensable impact to a property, an "A" Map (not superseding) is required.

I.11 Utility Acquisition Mapping

In the event that land is taken which is occupied by a utility easement and that utility must be relocated as a part of a highway improvement project, the utility easement recorded in the land records must also be acquired to the extent that if it falls within the altered highway right-of-way. The State will extinguish all land rights and interests of the operating utility within the proposed and/or existing highway lines. In all instances, the taking will be effected through the filing of a condemnation.

If the utility does not require relocation, then the land is merely acquired subject to the utility easement. The portion of the utility easement now within the altered highway right-of-way may be extinguished.

This property acquisition map is generally based on compiled data and is therefore usually prepared as a Compilation Plan.

If the relocation of a utility easement is associated with a highway improvement project, and the utility relocation falls within the State's highway right-of-way, a permit to that utility company to relocate within the highway right-of-way will be issued. If the relocation of a utility easement is associated with a highway improvement project, and
that utility location falls within the State's highway right of way, an easement must also be granted to that utility company.

A "Grant Map" is a type of Release Map. Please refer to the Grant Mapping Section II 2C.3.

I.12 Miscellaneous Acquisition Issues

I.12A. Before and After Mapping

The Bureau of Engineering and Highway Operations has been assigned the responsibility of preparing Before and After maps for partial taking of property and easements in addition to the regular taking maps. They are required only upon request from the Office of Rights of Way Division of Appraisals.

A Before and After map is a drawing, of a suitable scale, showing the entire property of a particular owner. In addition to property lines, existing improvements, such as houses, garages and utilities, etc., will be shown. The taking line, easements and rights are superimposed on this drawing in order to show the owner's remaining property in addition to the taking area. The total area, taking area and remaining area will be computed and noted on this map. This map is usually prepared at a reduced scale and is a compilation of all available mapping and related data.

It is generally only required when we are truncating or bisecting a large tract of land, which is not depicted on the location survey. It's only use is for appraising our take with respect to the remaining use of the property. This map is not required to meet land record filing standards, and shall be stamped "FOR INTERNAL USE ONLY."

I.12B. Excavation of Materials – Rights & Easements

To preclude the possibility of future misunderstanding with property owners, an appropriate notation, to the effect that the easement includes the State's right to retain and use excavated material, shall be used on the construction plans and property acquisition maps whenever it is necessary to acquire an easement in which excavation is required.

If, as a result of negotiations by the Office of Rights of Way, it is determined that the property owner wishes to retain excavated material, the Office of Rights of Way will coordinate this request with the Prime Designer. The proper applicable notation(s) shall be reported on the construction plans and property acquisition maps.

I.12C. Dominance

I.12C.1 Map Title

When property acquisition maps are prepared, often land and easements are acquired simultaneously.
The title of the map shall reflect the dominant facet of that taking.

Therefore, if land and easements are being acquired the title of the map shall state “Land Acquired” not both (See I.1a.).

I.12C.2 Type of Survey

Often, land or easements are acquired which are controlled from the project base line/center line as well as from the compiled data. Since a “Right of Way Survey” provides for more accurate taking data, it dominates a “Compilation Plan” and should thus be used when both types of acquisitions are taken.

I.12C.3 Owners Names/Interested Parties

In an effort to simplify ConnDOT acquisition database and Map titles, the term “et al” is used when more than one person, company, or other entity has interest in the title to a parcel of land.

In these cases, the first person in a deed is named on the title of the map and all other interested parties are identified with “et al” which means “and others.”

I.12C.4 Towns and Cities

To maintain the integrity of the ConnDOT acquisition database all towns in Connecticut are numbered 1-169 (which also coincides with construction project numbers).

Since all cities and boroughs fall within the limits of a town, all Property Maps will reflect the town name in the title block. The only time the “City of...” is used in the title block is when the taking is from land held by an incorporated city within a town. Simply put, the city is the owner just as if the taking was from a private corporation (See Exhibit 20a).

I.12D. Business Signs

In order to ensure consistent treatment of business signs with respect to Right of Way appraisal and acquisition issues, the following guidelines should be adhered to.

In the event that the business sign falls within the taking area of a partial take and no plans for relocation are being considered as part of the construction contract, the sign will merely be depicted on the map as an existing feature. If it is to be relocated, the proposed location of the new sign and structure shall be depicted on the plan with proper call out “Proposed Relocated Signs etc.” staffed to this location. In the event that the sign falls outside of the taking line, but requires relocating, i.e.: within a slope easement, follow the same procedure as above.
It is current Departmental practice to treat signs as relocation expenses and not have our contractors relocate the signs as part of their contract. It’s better to compensate the owner during the appraisal and negotiations rather than involve the contractor. Therefore, unless a map revision is requested by the Office of Rights of Way to add a relocation note, etc., the initial property map submittal should only depict the sign without consideration for relocation. (For further discussion see Exhibit 38.)

1.12E. Lawn Drains, Parking Lot Drainage and Swales

In the event that a highway improvement project creates a low spot on private property and a drainage system is purposely designed to drain that property, a right to install any of the above noted facilities is required. *Only if this facility is designed to carry highway drainage is an easement required.*

Since the proposed private system is constructed to benefit the private owner and not the highway, the construction of the proposed drainage system is considered a betterment and thus acquired as a right.

In the event the owner refuses this Right of Entry request, the Office of Rights of Way shall make the owner aware of the consequences of this refusal and carefully document the proceedings to avoid future claims regarding this property and potential drainage problems.

1.12F. Combining Rights Areas

In an effort to provide the Office of Rights of Way with an accurate mapping product suitable to discuss property impacts with affected owners, the following guidelines with respect to rights areas shall be used when preparing property acquisition maps.

1. When more than one type of property right (temporary encumbrance) is anticipated, separate map call outs and description boxes shall be used which indicate either the area or length as applicable (see Exhibit 23).

2. If, for example, grading is appurtenant to the construction of a driveway (the driveway can not be constructed without some grading) the call out should be “Right to Construct Driveway” only with an area reported. No mention of the appurtenant grading is required. However, the total area is computed and reported (see Exhibit 23).

3. If we anticipate grading which then transitions into driveway construction without crossing back to the highway side of the taking line, then the rights shall be combined. A “Right to Grade and Construct Driveway” with a reported area shall be expressed as one right and one description box (see Exhibit 24a).

4. In the event that the grading limits cross back onto the highway side of the taking line and then cross back onto private property, only one “Right to Grade” is required and the reported area is the sum of those grading areas (see Exhibit 24b).
5. In the above example, if the grading, after crossing back onto the highway side of the taking line then transitions into a driveway or walk, separate rights call outs with separate areas and description boxes shall be reported (see Exhibit 24b).

The intent of this section is to indicate that when rights limits allow for the separation of specific land uses, the property map must make that distinction.

Every bit of information preparers of taking maps can give to Rights of Way property agents, helps those field personnel convey the Department’s intent for impacts in a convincing and accurate manner. The easier it is for these ideas to be conveyed, the higher the likelihood of an amicable settlement with affected property owners.

1.13 Signing and Sealing Maps

Maps should not be signed and sealed until the particular file has been completely processed and the plans are ready for filing on the appropriate town land records.

All maps shall indicate the licensed Connecticut Land Surveyor’s name, license number, title and company that he or she works for in the appropriate location (see Exhibit 20) even though the maps are not signed and sealed as the project progresses.

All final mylar plans, whether fixed line, wash off or original shall be signed and sealed (embossed seal) by a licensed Connecticut Land Surveyor. For each file two (2) sets of signed and sealed plans shall be submitted. One of the plans shall conform to correct State of Connecticut filing requirements (Section 11-8, Regulations of State Agencies as Revised along with Connecticut General Statutes Sec. 7-31). The second plan may be of any other mylar process for filing in the Office of Rights of Way, Bureau Record Center.

1.14 Property Map Checklist

A. Be assured that the latest survey, design and especially title search data is used.
B. Plan size conforms to legal filing size (must conform to Section 11-8 of the Regulations of State Agencies, as revised, pursuant to the Connecticut General Statutes Sections 7-31 and 7-32).
   1) Either 12”x18”, 18”x 24”, or 24”x 36” for English mapping
   2) Soft converted metric equivalent sizes are used (to the nearest millimeter)
C. North Arrow and References/ Basis
D. **Right of Way** Federal Aid Number (not P.E nor Constr.)
E. Existing Topography Within all Limits of Final Grading Including:
   1) All ornamental trees
   2) All parking and spaces
   3) Buildings depicting house numbers, and types (1sty. fr. etc.)
   4) Street names, street lines and highway lines, easement lines, etc.
   5) Label all highways and roads (name and route numbers) [Present Jerr Street- (CT Route 13)]
6) Additionally, this includes all items of topography, which may be considered compensable. (Such as signs, large trees, any shrubs or bushes, fences, walls, or large ornamental boulders etc.)

F. Base lines/Center lines
   1) Correct labeling
   2) Curve data (labeled on the inside of curves)
   3) Bearings
   4) Control stations (PTs, PCs, POTs, equality etc.) with coordinate values.

G. Title Block
   1) Town name
   2) Project sub-title per construction project name
   3) Owner’s name (spelled correctly and in agreement with body of map)
   4) Town, project, and serial number
   5) Access denotation (if applicable)
   6) Right of Way survey or Compilation Plan

H. Owner’s Name, Areas, and Parcel Numbers
   1) Shown on, or staffed into property
   2) Owner’s name shall be the same size, weight and font as in title block
   3) Areas shall be carefully measured on CADD or accurately scaled

I. Adjacent Owners
   1) Spelling
   2) Labeled N/F (now or formerly)

J. Taking Lines
   1) Ties to base line/center line
   2) Dimensions
   3) Labeling
   4) Shading
   5) Access control (if applicable)

K. Dimensions
   1) Available deed or survey dimension (as applicable) along taken property
      (from title search maps)
   2) All other dimensions measured by CADD or scaled accurately

L. Proposed Construction
   1) Depicted beyond taking or existing highway lines only
   2) All proposed drainage appurtenances in DROWs

M. Slopes – Types and Areas

N. Right and Easements
   1) Must conform exactly with construction plans
   2) Correct language
   3) Depicted on or staffed into property (for proposed acquisitions)
   4) Depicted on or leaded into property (for existing conditions)

O. Project Control Tie Boxes and Coordinates

P. Company Name Near Surveyor’s Title (CE Projects)

Q. Graphic Scale In Addition To Numerical Scale (Word Scale)

R. 1 Meter = 3.2808333 U.S. Survey Feet To Also Be Denoted Under Graphic Scale If Map Is Metric
SECTION II EXCESS PROPERTY MAPPING

II.1 Introduction

This section describes the preparation of excess property Release, Lease, Utility Grant and Transfer Mapping. It also addresses the preparation of lease sketches.

II.2 Release Mapping

In the event that the Department of Transportation receives a request from an outside party to purchase a parcel of land, and that land is declared excess of ConnDOT’s needs for Highway Purposes, a Release Map is requested to be prepared by the Office of Rights of Way. For the purposes of discussion, the term “Release Map” will be used to describe any Release, Lease, Transfer or Grant Map, in the general sense, unless otherwise differentiated further in other articles of this section.

The Release Map is utilized to perform an appraisal of the property in question and also to supplement a deed for filing in a town’s land records in the event the parcel is sold or transferred.

It should be noted that at the time the Release Map is prepared, the plan merely represents a proposal. In fact, until formal revisions to ConnDOT Highway Right of Way mapping have been made, (monumenting and mapping of the release) final parcel dimensions to property/boundary accuracy standards may not be possible.

As such, most internally prepared Release Maps can only conform to “Compilation Map” standards unless prior approval from the Office of Central Surveys has been requested and granted.

Release Maps which are prepared by private practice land surveyors on behalf of their client shall present a property/boundary opinion and conform to “Class A-2” horizontal accuracy standards, unless waived by the Office of Central Surveys.
It should be noted that the only reason a proposed grantee should desire to have the Release Map privately prepared is if he or she chooses not to wait for ConnDOT’s survey forces to provide the map. Maps prepared by ConnDOT are done so free of charge and generally take 60-120 days to be provided.

II.2A. Format

The format of this map follows the same guidelines as indicated in Exhibits 6 & 26 with respect to map borders, and plan layout.

II.2B. Release Line Controls

Even though Release, Lease, Transfer or Grant Maps are prepared to “Compilation Plan” standards, and in general may not be a product of a field survey, the Release Lines must be controlled sufficiently to allow for future computations and staking to “Property/Boundary” accuracy (“class A-2” horizontal accuracy standards or better).

Therefore, all release line termini and deflections throughout a parcel shall be established so as to allow the accurate setting of future monumentation and resultant mapping.

This principle also applies to Lease Sketches as there is always the possibility that a lease line will become a release line.

Examples of adequate controls are:

- Exact dimensions at existing highway lines for “touch downs.” (Note: all release lines must start and end at existing highway lines or previous taking lines.)
- Plus and offsets from coordinated baselines or existing highway lines for interior/proceeding course lines or release line termini.
- Ties or directional lines between highway monuments for interior/proceeding course lines.
- Other means to control interior/proceeding course lines as approved by the Office of Central Surveys. (See Exhibit 26 for typical release line controls.)
- Release line design shall follow the conventional rules of construction associated with highway abandonments in that the release lines intersect property corners either perpendicular or radial to the highway centerline or monumented highway line. (See Exhibit 36)
- Only lease lines can be controlled from existing curb or edge of road lines and only if a “T-2” topographical accuracy or better site plan is provided. Said site plan shall not be older than one (1) year for lease sketch preparation purposes unless otherwise verified as to existing conditions by ConnDOT.
II.2C. Description of Excess Property Mapping Types

II.2C.1 Release Maps

This is a type of map used to convey excess land or easements no longer needed for highway purposes to a private entity. Release Maps are also prepared to convey lands back to towns for highway purposes.

II.2C.2 Transfer Maps

This is a type of map used to transfer Custody or Custody and Control to another State Agency.

The terms Custody and Control indicates a release of fee interests in a parcel of land.

The term Control merely indicates that a lease type of agreement will be prepared for a specific use to another State Agency. ConnDOT would retain fee interests in a parcel of land and another agency would use the land.

II.2C.3 Grant Maps

Grant Maps are prepared specifically to convey easements. Typically they are prepared for Public Utilities or Municipalities.

These maps are for new easements for an existing utility location or pursuant to a required utility relocation due to an acquisition.

The above three (3) map types shall conform to all survey covenants and map filing standards applicable to “Compilation Plan” or “Right of Way Survey”, standards as defined in Section 20-300b of the Regulations of State Agencies and the “Standards for Surveys and Maps in the State of Connecticut” as adopted by the Connecticut Association of Land Surveyors, Inc.

II.2C.4 Lease Sketches

A Lease Sketch is a map prepared to allow a private entity to use a portion of ConnDOT property.

Typically, the use is within our highway right of way and it is requested by a private commercial interest.

The Lease Sketch is generally not prepared to conform to normal survey standards. It merely depicts a parcel of land and area to be used as a schedule in a Lease Agreement.
The Lease Lines must be referenced to a monumented highway line, coordinated base line/center line or taking line.

It is important to note the topographic features required to prepare the lease map. A recent survey of the property is the best source of this information. (refer to Section II.2B)

The Lease Sketch shall conform to the map layout depicted in Exhibit 27. Data utilized to prepare these sketches shall be accurately referenced thereon.

II.2C.5 Superseding Maps (See Exhibit 19)

Superseding Maps are maps used to correct errors on maps, which have already been filed on the land records. The maps are identified by the same owner/serial number as the original plan but are boldly identified as a “Superseding Map” and the correction clearly identified (See Section 1.10).

II.3 Miscellaneous Data

II.3A. Source of Title

When ConnDOT releases its interests in a parcel of land no surety to, nor certificate of title is provided. Title to land is conveyed via a Quit Claim deed and appurtenant map. However, all Release Maps that convey title or easements to land shall indicate the source of title on each plan. Source of title shall be presented on each individually acquired parcel or portion thereof as a whole for each land release property. (See Exhibit 26.)

Source of title shall be depicted for each sub parcel within the release area. The type of acquisition deed, former owner, ConnDOT Bureau Record Serial Number and Land Record Volume and Page is required to be provided for each sub parcel or portion thereof. Light weight dashed parcel lines shall be used to differentiate sub parcel limits (See Exhibits 3-5 & 25 for line style, weight, color and CADD level.)

The Office of Rights of Way, Property Management Division, is responsible to provide all sources of title data to the Release Map preparer.

II.3B. Microstation File Format

All Release Maps shall be prepared, provided and named using ConnDOT CADD graphic standards in Microstation “.dgn” digital format. Once a Release Map is requested to be signed and sealed, and is ready for closing, a digital CADD file shall be provided to the Office of Rights of Way.

All digital files shall be properly geo-referenced to the appropriate map datum prepared (See Section 1.1C for further detail on this subject).
II.3C Release Map Submission

Maps shall be submitted to the Office of Rights of Way in accordance with Section I.7.

II.4 Release Map Checklist

- All Departmental unit review (Concurrence) comments adhered to
- Proper map format used
- Ties/References to existing highway lines, release lines and/or coordinated base line/center lines
- All applicable map references used
- Proper map notations used
- All sources of title lettered into or placed within release subparcels
- Subparcel lines properly depicted

II.5 Non-Access Highway Lines

Non- access highways should be considered generally inviolable. They are costly to and time consuming establish. In many cases, they do or were intended to reflect the “Minimum Right of Way” of our limited access highways.

Relocations and breaks to and in these Non-Access limits are generally not in the best interests of the Department and should be avoided vehemently. (Please See Exhibit 31)

In the event, these lines are altered, they must be accurately controlled from the existing highway lines or project baseline/centerline. (Please refer to Exhibits 32 & 33 for sample drafting of non-access breaches or relocations.)

II.6 Lease Sketches for Signs

When an existing or proposed sign has received the proper Departmental approvals for placement within the States Right of Way, a lease sketch is usually prepared.

In general only the signs location is required to be depicted. However, if the lease is intended to encompass an area of landscaping, a foot print area with dimensions may be required.

In all cases, the lease location shall be accurately referenced to the highway lines. Whenever possible, a recently prepared site plan should be provided to enable the accurate depiction of the sign to the existing edge of pavement also.

Please refer to Exhibits 28 & 29 for further clarification.
II.7 Encroachment Easements

An encroachment easement is an easement for an existing building which is located (usually in part) within the highway right of way.

In most instances the building was in existence prior to the formal establishment of the highway lines. During the 1920’s and 1930’s the states highway lines were established by surveys which followed original highway/turnpike layouts and lines of occupation. A best fit was determined, monumented, mapped and property owners were formally notified of the state’s right of way location. In some instances, buildings encroached over these layouts.

Due to the advent of current zoning regulations and title insurance requirements these encroachments have become problematic.

Once it is determined that the Department of Transportation can grant an encroachment easement, a map is prepared. The map shall depict the portion of the building encroaching over the highway line and the easement limits are controlled by a line drawn, which is two (2) feet off the building facia. (See Exhibit 30).

It should be noted that this easement does not cover any proposed expansion of the building and is extinguished in the event the building is destroyed or demolished.
EXHIBIT 1

TABLE OF AREAS

In an effort to apply realistic guidelines for “cut-off” areas with respect to typical property map area accuracy’s, the following table applies to reasonable standards to areas depicted on property maps.

The hectare (ha) and the square meter are the only two acceptable units of metric area measurement. Keeping this in mind, hectares shall not be used until areas exceed 10,000 square meters (one hectare).

<table>
<thead>
<tr>
<th>TAKING/RELEASE AREA</th>
<th>ENGLISH EQUIV.</th>
<th>EXPRESSED AS IN METRIC UNITS</th>
<th>EXPRESSED AS IN ENGLISH UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1000 Square meters</td>
<td>Under .25 Acres</td>
<td>0.1 +/- Square Meters</td>
<td>1 +/- Acres</td>
</tr>
<tr>
<td>1001-5000 Square Meters</td>
<td>.25-1.25 Acres</td>
<td>1 +/- Square Meters</td>
<td>10 +/- Sq. Ft.</td>
</tr>
<tr>
<td>5001-10000 Square Meters</td>
<td>1.25-2.5 Acres</td>
<td>10 +/- Square Meters</td>
<td>0.001 +/- Acres</td>
</tr>
<tr>
<td>Over 10000 Square Meters (1 Hectare)</td>
<td>Over 2.5 Acres</td>
<td>(Still 10 +/- Square Meters)</td>
<td>0.01 +/- Acres</td>
</tr>
<tr>
<td>Over 2 Hectares</td>
<td>Over 5.0 Acres</td>
<td>0.01 +/- ha</td>
<td>0.1 +/- Acres</td>
</tr>
</tbody>
</table>

Additionally, these are the basic guidelines. Other considerations are as follows.

1. For total takes on properties where “Class A-2” or better surveys are being relied on for map preparation and which agree with, or are appurtenant to the recorded instruments, areas should conform to the record title areas.

2. Areas of well defined easements (bound by ALL COLD dimensions and angles etc.) should bear positive (not plus/minus) areas.

3. It is important to understand that CADD generated areas are GRAPHICALLY exact ONLY. The lines of title depicted generally only conform to “Class D” accuracy. Most areas, therefore, must remain plus/minus in nature.
EXHIBIT 2

SCHEDULE OF RIGHTS AND EASEMENTS
(Use "Required" on Construction Plans and "Acquired on Property Maps.")

A. EASEMENT TO SLOPE FOR THE SUPPORT OF THE HIGHWAY REQUIRED/ACQUIRED.
B. EASEMENT TO SLOPE FOR THE SAFETY OF THE HIGHWAY AND REMOVE, USE OR RETAIN EXCAVATED MATERIAL REQUIRED/ACQUIRED.
C. EASEMENT TO SLOPE FOR THE DRAINAGE OF THE HIGHWAY AND REMOVE USE OR RETAIN EXCAVATED MATERIAL REQUIRED/ACQUIRED.
D. EASEMENT TO EXCAVATE (RELOCATE) CHANNEL, (DITCH) PLACE RIPRAP AND REMOVE, USE OR RETAIN EXCAVATED MATERIAL REQUIRED/ACQUIRED.
E. DRAINAGE RIGHT OF WAY REQUIRED/ACQUIRED.
F. EASEMENT TO DRAIN REQUIRED/ACQUIRED.
G. RIGHT TO GRADE REQUIRED/ACQUIRED.
H. RIGHT TO CONSTRUCT DRIVEWAY (S) REQUIRED/ACQUIRED.
I. EASEMENT TO INSTALL M.B.R. AND MAINTAIN GUIDE RAILING AND END ANCHORAGE REQUIRED/ACQUIRED.
J. RIGHT TO INSTALL SEDIMENTATION CONTROL SYSTEM REQUIRED/ACQUIRED.
K. RIGHT TO GRADE AND REMOVE, USE OR RETAIN EXCAVATED MATERIAL REQUIRED/ACQUIRED.
L. TEMPORARY WORK AREA (SEE EXHIBIT FOR TERMINOLOGY).
M. TEMPORARY DETOUR (SEE PROPERTY MAP MANUAL FOR TERMINOLOGY).
N. RIGHT TO CONSTRUCT CONCRETE WALK REQUIRED/ACQUIRED.
O. RIGHT TO INSTALL (RESET OR RELOCATE) STONE WALL OR FENCE REQUIRED/ACQUIRED.
P. EASEMENT OR RIGHT TO INSTALL LAWN DRAIN & (SIZE) PIPE REQUIRED/ACQUIRED.
Q. DEFINED TRAFFIC EASEMENT REQUIRED/ACQUIRED.
R. DEFINED EASEMENT FOR HIGHWAY PURPOSES REQUIRED/ACQUIRED.
S. DEFINED SIGHT LINE EASEMENT REQUIRED/ACQUIRED.
T. DEFINED EASEMENT FOR WETLAND MITIGATION PURPOSES REQUIRED/ACQUIRED.
U. EASEMENT TO CONSTRUCT & MAINTAIN RETAINING WALL REQUIRED/ACQUIRED.
V. EASEMENT TO CONSTRUCT SIDEWALK REQUIRED/ACQUIRED.
W. RIGHTS OF ACCESS ACQUIRED.
X. RIGHTS OF ACCESS DENIED.
Y. EASEMENT TO POND.
Property Map Types and Exceptions

- Typical Property Map naming is 1234567890.Ext

123 - 3 Digit Project Town Number  
4567 - 4 Digit Project Number  
890 - 3 Digit Serial Number  
.Ext - Map Type and possible Sheet Number and/or Alpha Character

- Types of files and extensions are as follows:

LM* - Lease Map (Sketch)  
PM* - Property (Acquisition) Map and Easements Acquired  
RM* - Release Map and Easements Granted  
ROW - Rights of Way info for Ground Files.  
SCH - Federal Schedule of Property Owners  
TM* - Transfer Map  
TR* - Town Road Release  
13A - 13A-57 State Highway Layout Plan

The trailing space (*) is reserved for Sheet Number ((1,2,3, etc.) if there is more than one sheet) and an Alpha Character. Alpha Characters represent "A" Maps and similar Parcel Releases (A, B, C, etc.); i.e., "pm1" and "rmb". An "A" Map is defined as a drawing depicting additional rights of way needs subsequent to original requirements. In cases where both Sheet Number and Alpha Character are needed, the second letter of the extension is dropped and the last two (2) characters are used; i.e., "r2a".

- In special cases where the Serial Number can exceed 3 digits, the 4 digit Project Number will be replaced by a 2 character code and underbar (for future exceptions) which allows a 4 digit Serial Number. Codes are as follows:

cp_ 3001 - Commuter Parking Lot  
pr_ 4001 - Planning and Research  
ae_ 5001 - Aeronautics  
pt_ 6001 - Public Transportation  
r_ 7001 - Railroad  
w_ 8001 - Water Ways  
mr_ 9001 - Dep't of Mental Retardation

This allows "7001misc1062A" in the town of Stamford and "5001misc242" in the town of Windsor Locks to be named "135rr_1062.rma" and "165ae_0242.lm" respectively.
Line Styles

The following types of lines are followed by their respective Microstation weights and levels. Refer to Exhibit 5 to relate weights to actual line widths.

100FT Baseline

20M Baseline

Baseline control staff

Control point tie line

Release line

Taking line

Easement line

Shading line

Match mark

Line break symbol
Line Widths

This table shows the relationship between MicroStation line widths, plotted line widths, and American Standard pen sizes (if applicable). It should be used to set up pen tables for plotting.

<table>
<thead>
<tr>
<th>MicroStation Width</th>
<th>Plotted Width (mm)</th>
<th>Equivalent Pen Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.13</td>
<td>5x0</td>
</tr>
<tr>
<td>1</td>
<td>0.25</td>
<td>3x0</td>
</tr>
<tr>
<td>2</td>
<td>0.30</td>
<td>00</td>
</tr>
<tr>
<td>3</td>
<td>0.38</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>0.45</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>0.50</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0.70</td>
<td>2.5</td>
</tr>
<tr>
<td>8</td>
<td>0.80</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>0.90</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1.0</td>
<td>3.5</td>
</tr>
<tr>
<td>11</td>
<td>1.2</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>1.4</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>2.0</td>
<td>6</td>
</tr>
<tr>
<td>Property Type</td>
<td>Use</td>
<td>SEQ</td>
</tr>
<tr>
<td>---------------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Full</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Schedule of Property Owners:**

<table>
<thead>
<tr>
<th>Owner</th>
<th>Location</th>
<th>Search</th>
<th>Part</th>
<th>Building Type</th>
<th>Excess Building Area</th>
</tr>
</thead>
</table>

**Exhibit 7(a):** Preliminary Survey Schedule of Owner
**Schedule of Property Owners**

Exhibit 7(b): Power Plant

<table>
<thead>
<tr>
<th>No.</th>
<th>Owner</th>
<th>Type of Property</th>
<th>Area (Acres)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>John Doe</td>
<td>Building</td>
<td>2.50</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Jane Smith</td>
<td>Land</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Michael</td>
<td>Residence</td>
<td>1.80</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Sarah</td>
<td>Business</td>
<td>0.20</td>
<td></td>
</tr>
</tbody>
</table>

Note: The above table is a sample and the actual schedule may vary.

Approved By: [Signature]

Date: [Date]

Prepared By: [Signature]

Date: [Date]
Exhibit 10 - Slope Easements And Rights

Proposed Slope
6:1 Or Less
(Fill Section)

RIGHT TO GRADE
(Fill Section)
2:1 SLOPE GUIDELINE FALLS WITHIN HIGHWAY LINE

EASEMENT TO SLOPE
(Fill Section)
2:1 SLOPE GUIDELINE FALLS OUTSIDE HIGHWAY LINE
Exhibit 11 - Slope Easements And Rights

Proposed Slope
6:1 Or Less
(Cut Section)

RIGHT TO GRADE
(Cut Section)
2:1 SLOPE GUIDELINE FALLS WITHIN HIGHWAY LINE

EASEMENT TO SLOPE
(Cut Section)
2:1 SLOPE GUIDELINE FALLS OUTSIDE HIGHWAY LINE
Exhibit 12 - Slope Easements

Proposed Slope
Steeper Than 6:1
(Cut And Fill Sections)

EASEMENT TO SLOPE
(Cut Section)

EASEMENT TO SLOPE
(Fill Section)
RINALDI'S PEST CONTROL

Easement For Temporary Work Area For The Purpose Of Constructing A Retaining Wall, Constructing Concrete Pavement And Sodding During The Resurfacing And Safety Improvements On U.S. Route 6-84. Said Easement To Automatically Terminate Upon Completion Of Retaining Wall Construction, Unless Sooner Released By The State. The Temporary Easement Terminating Upon Completion Of Retaining Wall Construction Shall Be Within The Right Of Way. The Right Of Way Shaw clap By Returning The Area To Its Original Condition. Work Area = 540.9 m² (5,833.5 sq ft).

N/F
GRACE E. COOPER

Limit Of Proposed Work Area

Right To Use 9.44 m (30 ft) Strip Of Land Of Arthur D. Porter EAL For Access To Pine Ridge Road Subject To An Easement To Drain In Favor Of The State Of Conn. (30.1-18-27)

Proposed Concrete Pavement Curbing
Proposed Retaining Wall

Timber Ret. Wall

Highway Line

103.980 104.000 104.020 104.040 Base Line 57° 23' 20"E
EXHIBIT 14

Drainage Rights of Way Widths

To provide working space for maintenance equipment within rights of way acquired for drainage installations, the following minimum widths shall apply.

METRIC DRAINAGE RIGHT OF WAY LAYOUTS

<table>
<thead>
<tr>
<th>PIPE SIZE</th>
<th>MINIMUM WIDTH</th>
<th>CENTER LINE LOCATION OF PIPE OR DITCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 600 mm</td>
<td>6 meters</td>
<td>2 meters from either edge of ROW</td>
</tr>
<tr>
<td>600-1200 mm</td>
<td>8 meters</td>
<td>3 meters from either edge of ROW</td>
</tr>
<tr>
<td>Over 1200 mm</td>
<td>12 meters</td>
<td>4 meters from either edge of ROW</td>
</tr>
</tbody>
</table>

The above noted widths are intended as a guide for Metric projects. The table below is for English unit projects.

Additionally, these are only guidelines. Designers must rely on their professional expertise when defining Drainage Right of Ways for very large structures. Keep in mind that the width of these DROWS must be based on the Department’s future entry and maintenance needs accordingly.

ENGLISH DRAINAGE RIGHT OF WAY LAYOUTS

<table>
<thead>
<tr>
<th>PIPE SIZE</th>
<th>MINIMUM WIDTH LOCATION</th>
<th>CENTER LINE LOCATION OF PIPE OR DITCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 24”</td>
<td>20 feet</td>
<td>5’ from either edge of drainage ROW</td>
</tr>
<tr>
<td>24”– 48” (incl.)</td>
<td>25 feet</td>
<td>10’ from either edge of drainage ROW</td>
</tr>
<tr>
<td>54”, 60”, 72”</td>
<td>35 feet</td>
<td>15’ from either edge of drainage ROW</td>
</tr>
</tbody>
</table>
PRESENT MAIN AVENUE (S.R. 719)

Highway Line

300mm RCP "C-L" CB

15m (49.2 ft)

BIT.

Easement Line

Proposed Loop Detectors

CONC. WALK

BRICK BLDG.
*456

S.M.C., LLC
DEFINED TRAFFIC EASEMENT AREA = 113.2 m² (1219 sq. ft.)

Easement To Install And Maintain Traffic Devices And Appurtenances Thereto Acquired.
NOTE: EASEMENT AREA EXPRESSED COVERS ENTIRE CHANNEL

TOWN OF EAST JABREW

Easement To Excavate Stream Channel And
Remove, Use Or Retain Excavated Material
Acquired.
Easement Area - 922.2 m² (9920 Sq.Ft.)

Easement For Temporary Work Area
For The Purpose Of Access To
Construct Channel. Said Easement To
Automatically Terminate Upon Completion
Of Channel Unless Sooner Released By
The State. Easement Taken Under This
Paragraph Will Be Restored By Locam
And Sealing The Work Area.
Work Area - 292.2 m² (2286 Sq.Ft.)
**RIGHT OF WAY SURVEY**

**TOWN OF HARTFORD**

**MAP SHOWING EASEMENT ACQUIRED FROM**

**CITY OF HARTFORD**

**BY**

**THE STATE OF CONNECTICUT**

**DEPARTMENT OF TRANSPORTATION**

**INTERSECTION IMPROVEMENT OF ROUTES U.S. 7 & CT. 57 AND MOUNTAIN ROAD**

<table>
<thead>
<tr>
<th>DATE</th>
<th>REVISION</th>
<th>REV. BY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PLS:** 59399

**TOWN NO.:** 80

**PROJECT NO.:** 09-437

**SERIAL NO.:** 2

**TITLE:** Professional Land Surveyor

**DATE:**

**SHEET 1 OF 1**

*Note: The diagram is not clearly visible due to the image quality.*
BOOSH D. BOOLEE
DEFINED EASEMENT FOR HIGHWAY PURPOSES
AREA = 24.4±m² (263± Sq. Ft.)

Easement For Highway Purposes And
Appurtenances Thereto Acquired.

PRESENT CONN. ROUTE 275

PRESENT CONN. ROUTE 32
BUSTER CORP.
DEFINDED SIGHT LINE EASEMENT
AREA = 396.8±m² (4271±Sq.Ft)

Base Line Curve Data
\[ \Delta = 78°40'37.0" \]
\[ T = 63.329 \]
\[ L = 106101 \]
\[ R = 772670 \]
BOB'S BOATING GOODS
TAKING AREA = 195.4 m² (2103 Sq.Ft.)

- Right To Construct Driveway Acquired. Right Area = 227.0 m² (2443 Sq.Ft.)
- Right To Grade Acquired. Right Area = 39.3 m² (423 Sq.Ft.)
- Right To Install Sedimentation Control System Acquired. Right = 9.2 m (30 ft)
- Right To Construct Concrete Walk Acquired. Right = 7.8 m (26 ft)

H.J. SIMPSON ET AL
TAKING AREA = 81.9 m² (882 Sq.Ft.)

- Right To Construct Driveway Acquired. Right Area = 133.5 m² (1433 Sq.Ft.)
Exhibit 24a - Right Areas

Approximate Grade Limits

BONGI'S BAR AND GRILL
TAKING AREA = 81.9 m² (882 Sq.Ft.)

Right To Grade And
Construct Driveway Acquired.
Right Area = 128.2 m² (1380 Sq.Ft.)

Approximate Slope Limits

LYNNE'S CHRISTIAN BOOKSTORE
TAKING AREA = 81.9 m² (882 Sq.Ft.)

Easement To Slope For The
Support Of The Highway Acquired.
Easement Area = 35.3 m² (380 Sq.Ft.)

Right To Construct Driveway Acquired.
Right Area = 35.9 m² (386 Sq.Ft.)
Exhibit 25 – Text Sizes

Text Sizes

These tables show the English and Metric relationship between plotted letter heights, drafting template sizes (e.g. “LEROY”), and MicroStation text heights.

### English

<table>
<thead>
<tr>
<th>Plotted Letter Height/Template Size (1000'ths of an inch)</th>
<th>MicroStation Text Size (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20 Scale</td>
</tr>
<tr>
<td></td>
<td>Scale</td>
</tr>
<tr>
<td>A</td>
<td>80</td>
</tr>
<tr>
<td>B</td>
<td>100</td>
</tr>
<tr>
<td>C</td>
<td>120</td>
</tr>
<tr>
<td>D</td>
<td>140</td>
</tr>
<tr>
<td>E</td>
<td>175</td>
</tr>
<tr>
<td>F</td>
<td>200</td>
</tr>
<tr>
<td>G</td>
<td>240</td>
</tr>
<tr>
<td>H</td>
<td>290</td>
</tr>
<tr>
<td>I</td>
<td>350</td>
</tr>
<tr>
<td>J</td>
<td>425</td>
</tr>
<tr>
<td>K</td>
<td>500</td>
</tr>
</tbody>
</table>

### Metric

<table>
<thead>
<tr>
<th>Plotted Letter Height (mm)</th>
<th>MicroStation Text Size (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>200 Scale</td>
</tr>
<tr>
<td>A</td>
<td>2.0</td>
</tr>
<tr>
<td>B</td>
<td>2.5</td>
</tr>
<tr>
<td>C</td>
<td>3.0</td>
</tr>
<tr>
<td>D</td>
<td>3.5</td>
</tr>
<tr>
<td>E</td>
<td>4.5</td>
</tr>
<tr>
<td>F</td>
<td>5.0</td>
</tr>
<tr>
<td>G</td>
<td>6.0</td>
</tr>
<tr>
<td>H</td>
<td>7.5</td>
</tr>
<tr>
<td>I</td>
<td>9.0</td>
</tr>
<tr>
<td>J</td>
<td>11.0</td>
</tr>
<tr>
<td>K</td>
<td>12.5</td>
</tr>
</tbody>
</table>
memorandum

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

subject Non-Access Highway Lines

date October 26, 1993

from James E. Sullivan
Deputy Commissioner
Bureau of Engineering and
Highway Operations

extent 566-3010

to Mr. James F. Byrnes, Jr.
Chief Engineer
Bureau of Engineering and
Highway Operations

There have been recent instances where Departmental procedures involving the S.T.C. review process have led to State commitments to break non-access highway lines without proper concurrence from management in the Bureau of Engineering and Highway Operations. Further, it is apparent that the Department considers requests for release of access rights far more frequently than in the past.

In order to provide for a consistent policy and standard in considering requests to break non-access lines, I am hereby directing that no commitment to release rights of access should be made by any unit in the Bureau of Engineering and Highway Operations without the review and concurrence of the Chief Engineer. This does not preclude the normal staff review process relative to S.T.C. matters, encroachment permits, or excess property sales or lease requests. Prior to any external commitment, however, the written approval of the Chief Engineer should be obtained relative to any release of access rights.

By copy of this memorandum, I am also advising office heads that the breaking of non-access lines is an issue requiring serious analysis, and I anticipate that the majority of such requests would not be approved. The establishment of non-access lines is a costly process based on sound engineering and planning principles. Any request to alter access restrictions must clearly benefit the Department and the operation of the adjacent transportation facility.

Please see that Bureau personnel are advised accordingly.

James E. Lewis/lep

Dep. Comr. James F. Sullivan
Earle R. Monroe
Arthur Grubn
Ernest Herrick
James E. Lewis
Walter Coughlin
David L. Labossiere
Richard C. Allen
THE METROPOLITAN DISTRICT

Easement To Drain Acquired

Proposed Modified Rip Rap Splash Pad

Proposed 15°R.C. Culvert End

Proposed 15°R.C. Pipe

Highway Line

Base Line 109.00

PRESENT CONN. ROUTE 219 (RESERVOIR ROAD)

PC 104+58.41
N 388827.00
E 5453266.12

B Curve Data

Δ = 41°08'-28.9"
D = 05°47'-14.8"
R = 990.00'
L = 710.87'
T = 371.54'

CL&P 4740
As a result of our May 24, 2000 meeting to discuss the acquisition of access rights, the following procedures should be followed:

1. If it is the designer's intent to relocate a driveway, combine driveways, or otherwise restrict access by the placement of curbing, islands, or other engineering controls within the State's right of way, rights of access need not specifically be acquired. A right to relocate the driveway(s) should be shown on the map. The State's appraisal of damages will consider any damage to the property value due to the driveway relocation. Any future changes to the property's driveways will be controlled by the State's permit process.

2. If it is the designer's intent to permanently control access from a portion of a private property and to ensure that no future access points are allowed, then the State should specifically acquire those rights of access. The rights of access being acquired should begin and end at logical points, such as property lines or other physical points that can be tied down on the property map.

3. Property maps, which include the acquisition of access rights, will include the notation "Rights of Access Acquired" and these rights will be valued as part of the appraisal process. The map may also contain the notation "Rights of Access Denied" to emphasize that future access is not allowed for a particular portion of a property.

James E. Lewis/lep

cc: Walter Coughlin
Bradley J. Smith
Stephen M. Barton
Robert Baron
James E. Lewis
David L. Labossiere
Lawrence W. Orvis
John P. Randazzo
Karen L. Guzowski
Richard C. Allen
Robert W. Ike
Douglas M. Hummel
Michael L. Marzi
Terry J. Obey
Steven L. Degen
Additional guidance and monitoring is required to ensure consistent treatment of business signs within the taking areas on various projects.

Our current policy requires that the post and sign be considered personally. The concrete base, or foundation, together with any underground wiring, should be valued using the Department's cost manual.

The sign structure itself will be handled as a relocation item. When it is questionable as to whether the sign can be relocated, I strongly suggest that these issues be addressed collectively by the Appraisal, Administration, and Acquisition/Relocation Divisions.

This policy also applies to 'similar' site improvements, such as privately-owned directional signs and lights. The primary exception would be a total take scenario wherein the depreciated value of all site improvements has been included in our valuation.

John P. Randazzo/lep

cc: James E. Lewis
John P. Randazzo
Richard C. Allen
Thomas J. O'Hala
Ann Marie Maynard
Brian J. Hanlon
Michele B. London
Daniel C. Walsh
Robert W. Ike
Douglas M. Hummel
Michael L. Marzi
Terry J. Obey

EXHIBIT 38
This is in regard to our conversation on August 28, 1997 concerning the depiction of easements for metal beam rails/end anchorages on property maps.

As discussed the easement for these structures should be referenced linearly. There should be no defined area to which the easement is associated.

If you should have any questions, please contact Robert W. Ike at 2444.

rwi

cc: Richard C. Allen-Robert W. Ike
    Robert W. Ike
    Douglas M. Hummel
    Michael L. Marzi
    Terry Obey