# TABLE OF CONTENTS

Introduction .................................................................................................................................................. 4  
State ROW Process........................................................................................................................................ 6  
  Parcel Designation and Abbreviations (State ROW) ................................................................................. 9  
  Dispositions............................................................................................................................................... 9  
Municipal ROW Process................................................................................................................................ 9  
  Parcel Designation and Abbreviations (Municipal ROW) ....................................................................... 12  
ROW Plan Content (State & Municipal) ...................................................................................................... 12  
  Title Sheet and Index .............................................................................................................................. 13  
  Legend, Abbreviations and Project Description...................................................................................... 13  
  Typical Sections....................................................................................................................................... 14  
  Critical Profile.......................................................................................................................................... 14  
  Parcel Summary Sheet ............................................................................................................................ 14  
  Location Plan ........................................................................................................................................... 16  
  Property Plan .......................................................................................................................................... 17  
  Survey Baseplan.................................................................................................................................. 17  
    Existing Conditions/Site Visit ............................................................................................................. 17  
    Existing Easements.............................................................................................................................. 18  
    Existing Layout Lines ........................................................................................................................... 18  
  Land Restrictions (Parkland Article 97, Federally Owned land, State Owned land) ....................... 20  
  Property Lines and Frontage .............................................................................................................. 22  
  Property Owner Information ................................................................................................................. 23  
  Title Package (State ROW) ............................................................................................................... 27  
  Title Package (Municipal ROW) ........................................................................................................... 27  
Highway Design ................................................................................................................................... 27  
ROW Information ..................................................................................................................................... 28  
  Access Provisions ............................................................................................................................... 28  
  Advanced Takings ................................................................................................................................. 29  
  Lands Subject to Article 97 ................................................................................................................. 30  
  Chapter 634 and Chapter 690 Bridges ................................................................................................. 30
Row Easements

- Slope Easement ........................................................................................................................................ 42
- Shared Use Path Easement (State ROW) .................................................................................................. 43
- Wall Easement ........................................................................................................................................ 43
- Watermain Easement ............................................................................................................................... 43
- Temporary Easement Taking .................................................................................................................... 44
  - Temporary Easement ............................................................................................................................ 44
  - Temporary Wetland Replication Easement .......................................................................................... 46
  - Temporary Footbridge Utility Easement ............................................................................................... 46
  - Temporary Footbridge Easement .......................................................................................................... 46
  - Temporary Pedestrian Walkway Easement ........................................................................................... 47
  - Temporary Road Easement .................................................................................................................... 47
  - Temporary Removal Taking Easement .................................................................................................... 47
  - Temporary Impacts to DCR Properties .................................................................................................. 47

Accepting/Approving the ROW Plans ......................................................................................................... 48

Re-accepting/Re-approving the ROW Plans .................................................................................................. 48

CAD Standards ........................................................................................................................................... 48
  - CAD Drawing Setup ............................................................................................................................... 49
  - Sheet Templates .................................................................................................................................... 49
  - Submitting CAD Files ............................................................................................................................ 50

ROW CAD Layers, Text Styles and Labels Styles ........................................................................................... 50
  - Parcel Callouts ....................................................................................................................................... 50
  - Parcel Dimensions ................................................................................................................................. 52
  - Frontage Dimensions ............................................................................................................................... 53
  - Other Drawing Elements ......................................................................................................................... 53
  - Note on Readability ............................................................................................................................... 54
**Introduction**

When a road, bridge, or corridor owned by the Commonwealth of Massachusetts is affected by a project that is funded through the Statewide Transportation Improvement Projects (STIP), MassDOT is responsible for acquiring all needed rights in private and public lands along State owned roadways. The municipalities and Local Public Agencies are responsible for acquiring all needed rights in private and public lands along roads owned by the municipality/Local Public Agency. MassDOT has many professionals dedicated to the acquisition process.

The acquisition of right-of-way is vital to the development of many projects and can often be the critical path to getting a project advertised on time.

Right-of-Way (ROW) Plans are a specialized plan set. They are an essential part of the Construction Plans, that is developed as a separate entity and requires a significant amount of knowledge in both the right of way field and the profession of surveying. The ROW plans provide information to define the extent of the proposed permanent or temporary takings required in order to construct and maintain a highway, roadway, or corridor. They consist of 3 layers of information including the existing basemap, proposed design and the right-of-way information. The ROW Plans must be accurate and precise. They must also be presented in a way that those who do not have developed plan reading skills can understand what is proposed adjacent to the existing public ROW.

**MassDOTs prequalified surveyors should be conducting the baseplan survey and developing the ROW Plans, so the geometry and parcel configurations can be seamlessly utilized in the preparation of the Layout/Easement plans.**

ROW Plans are a tool used by MassDOT, the municipalities, and Local Public Agencies for:

- ROW agents, municipalities, appraisers, legal counsel, etc. to explain project impacts to the abutting property owners.
- Appraisers to determine the award of damages due to the abutting property owners.
- Ensuring that all proposed permanent and temporary acquisitions comply with State and Federal law.

The information provided to the property owners by the ROW agents, municipalities, appraisers, legal counsel, etc. early in the acquisition process, needs to match the construction plans, as well as the subsequent recorded Layout/Easement plans.

The purpose of this guide is to provide guidance to both experienced and inexperienced Right of Way Plan Designers, and to promote uniformity among MassDOT’s consulting firms. If the
procedures outlined in this guide are carried out, the entire process should be easier for the many individuals involved in each project, resulting in greater accuracy and efficiency.

These guidelines shall be used in conjunction with and as a supplement to the following (or their successor publication):

- Project Development & Design Guide 2006
- 2013 MassDOT LRFD Bridge Manual Design Guidelines
- MassDOT Highway Division CAD Standard
- MassDOT Highway Division Field Survey Guidelines and Base Plan Requirements

If any contradictions exist, please defer to this guide when preparing Right of Way plans.

In general, State and Municipal ROW plans shall follow the same guidelines, except as noted in the sections below.
**State ROW Process**

Acting on behalf of MassDOT, the ROW Bureau is authorized to acquire land interests for State transportation purposes in accordance with State and Federal laws. The ROW Bureau is responsible for the acquisition of all real property required for the highway program. Real property is land, and anything growing on, affixed to, or built upon said land. Real property is characterized as property that doesn’t move or is attached to the land.

In order to allow MassDOT adequate time to acquire the right of way, when submitting the 25% plans the designer should notify the ROW Bureau of the items that will most adversely affect the individual properties, including, but not limited to, highway design that:

1. Goes through existing buildings, structures, septic systems or leach fields.
2. Requires the taking of a large amount or all of a subject’s property.
3. Impacts properties with Article 97 or other legal restrictions.
4. Eliminates access to and from property.
5. Eliminates a significant amount of parking.
Before plans are accepted, the ROW Engineering section will create sketches for each property owner affected by a permanent taking or temporary easement. Typically, the sketch is the only element presented to the property owner (not the entire plan set). Below is an example of a sketch created by the ROW Engineering Section:

The acquisition process begins after the ROW plans are accepted. In order to ensure the earliest possible commencement of the acquisition process, the ROW plans should be accepted at the 75% design stage. This will allow time to complete the acquisition process, in coordination with the advertisement date.

Our agents in the ROW Bureau meet with property owners to explain impacts to their property based on information from the accepted ROW Plans. Our appraisers use the square footage and dispositions shown on the ROW plans to determine just compensation.
MassDOT ROW cannot send offers or negotiate with property owners until National Environmental Policy Act (NEPA) is cleared by the Environmental Section. Once appraisals are complete, our process is on hold if NEPA has not been cleared.
Parcel Designation and Abbreviations (State ROW)

The geometry of the proposed takings and easements is determined by the proposed work shown on the ROW plans. The linework of the fee taking or easement should only encompass the required area for construction activities.

The proposed fee taking, and easement size must be justified by the proposed work and cannot be excessive in size or nature including overburdening or oversizing a proposed easement.

When State ROW is completing the acquisition of a parcel, the parcel identification must have a prefix number. A different prefix number will be assigned by MassDOT for each project and for each City and or Town when multiple municipalities are involved.

See Appendix A.1 – Parcel Abbreviation and Designation (State ROW).

Dispositions
Correctly showing and communicating the disposition for all personal property is one of the most important components of the ROW Plans.

All privately owned items, within a proposed easement requires a disposition.

The disposition of the features must be represented consistently on both the construction and ROW plans, to ensure all parties (property owner, agents, appraisers, legal counsel, project managers, district personnel and the contractor) understand which features are to be retained and which are to be removed.

The appraisers use the dispositions shown on the accepted ROW plans to determine the items that need to be accounted for in the appraisal report.

See Appendix A.2 - Dispositions.

Municipal ROW Process
When a road, bridge, or corridor is, or will be, owned or controlled by a municipality/Local Public Agency, and is impacted by a proposed Transportation Improvement Program (TIP) funded transportation project, the municipality/Local Public Agency is responsible for acquiring all needed rights in private and public lands for the design, construction, and implementation of the project. To fulfill those responsibilities, the municipality/Local Public Agency performs title
exams, and hires qualified appraisers and review appraisers to determine the value and just compensation due to impacted property owners abutting the project area. Their legal counsel will advise them in the acquisition process with regards to warrant articles for a Town meeting vote if needed, titles, appraisals, and the written offers that will be sent to each affected property owner to disclose the just compensation they are due.

In order to allow the municipality adequate time to acquire the needed rights when submitting the 25% plans the designer should notify the municipality, ROW Community Compliance Administrator, the ROW Community Compliance Officer, and the MassDOT District Project Development Engineer of the items that will most adversely affect the individual properties, including, but not limited to, highway design that:

1. Goes through existing buildings, structures, septic systems or leach fields.
2. Requires the taking of a large amount or all of a subject’s property.
3. Impacts properties with Article 97 or other legal restrictions.
4. Eliminates access to and from property.
5. Eliminates a significant amount of parking.

The Title Examiner will use the 25% ROW plans to perform the initial title exams. Once the title exams are complete, the ROW plans must reflect the title information. Once approved, the ROW plans are the starting point for the appraiser, review appraiser, City Solicitor or Town Counsel, and the municipality/Local Public Agency to communicate changes and impacts to the abutting property owners. For this reason, the plans need to:

1. Be developed enough to enable the appraiser and review appraiser to accurately assess the damages (i.e. fair compensation) due to the impacted landowners.
2. Communicate the same information as is communicated to the contractor on the construction plan set and all other specialty plan sets.
3. Be easy to understand for those without developed plan reading skills.

Most of the acquisition tasks described above take place when the ROW plans have been sufficiently developed to show the affected property owners, and the impacts to their property. The ROW plans are usually approved for acquisition at the 75% submission stage. It’s critical that the ROW plans have all the necessary information included, and clearly identified, at the time that the plans are approved to show the property owner, appraisers, legal counsel, and others how each property is impacted.

If the design changes after ROW plans have been approved, then updated ROW plans are required. This may result in additional easements, involving new property owners, and updated areas of the previously proposed easements. Design changes can be problematic.
resulting in restarting the acquisition process including title work, appraisals, review appraisals, etc., which could cause a change in the Advertising Date for the project.

The appraisers use the approved ROW plans to determine just compensation for what is being acquired by the municipality/Local Public Agency.

The location of the layout lines must be accurate before the intended users of the ROW plans begin their work. Recordable plans will need to be recorded prior to advertising the project for construction bids. If the initial design was not based on accurate survey baseplans, then delays or inaccuracies will likely occur. Without regard to the source of the baseplan (whether the survey was from MassDOT, a subconsultant to the Designer, or hired separately by the municipality/Local Public Agency), the design consultant is responsible for checking and assuring that the baseplan shows accurate layout lines, property lines, and easement lines. It is the designer’s responsibility to identify the need for additional/higher quality survey if needed. The designer must make this determination in consultation with the Professional Land Surveyor who will be responsible for developing the recordable documents.

On each ROW submission, after reviewing the baseplan provided to the design engineer and the subsequent submission, the Professional Land Surveyor (PLS) registered in Massachusetts must sign, date, and affix his/her stamp to the following statement: “The layout lines, as represented on the Preliminary Right of Way plans, are based upon an instrument survey that meets 250 CMR 6.01 and are suitable to be used for a recordable plan.” The name, signature, registration number, and date must be clear. The PLS must review each submission prior to certifying the statement above and provide a new date.
Here is an outline of the process that the ROW plan supports:

**Parcel Designation and Abbreviations (Municipal ROW)**
Parcels acquired by the municipalities do not have a prefix number.

See Appendix A.3 – Parcel Abbreviation and Designation (Municipal ROW).

**ROW Plan Content (State & Municipal)**
The ROW Plan set consists of a Title Sheet and Index, Legend, Abbreviation and Project Description, Typical Cross-Sections, Critical Profiles, Parcel Summary Sheet, Location Plan, and Property Plan.
Title Sheet and Index
The title sheet shall be labeled “PRELIMINARY RIGHT OF WAY PLANS” and shall include a project file number, an index, locus map with project limits identified, a revision block with the date, design phase, and parcels that have been “ADDED”, “ALTERED” or “DELETED” since the previous submission.

The following notes are a REQUIREMENT and must be on the title sheet of every plan set:

- “The survey baseplan was prepared by XYZ Company in [Month, Year] and supplemented by XYZ Company in [Month, Year].”
- “The most recent site visit was completed in [Month, Year] to verify that the existing conditions shown on the plan are the current conditions in the field.”
- “The layout and property lines shown on the plan were compiled from [____________________________] and certified by [____________________], a PLS in direct charge and supervision of the survey basemap.”
- “The owners have been checked and updated as of [Month, Year].”

See Appendix B.1 – Title Sheet and Index.

Legend, Abbreviations and Project Description

The legend, abbreviations and project description sheet is a REQUIREMENT and must be included on every plan set.

All plan sets shall have a legend. All symbols and abbreviations shown in the plan set shall be listed here.

The latest MassDOT approved CAD Standards shall be followed to standardize drawing information, symbols, abbreviations between MassDOT and consultants. By utilizing the CAD standard, all projects will be uniform and consistent, and the plans can be easily understood with little or no learning curve for the next person utilizing the plans.

Each legend page shall include a note stating the primary purpose and improvements of the proposed project.

See Appendix B.2 – Legend, Abbreviations and Project Description.
**Typical Sections**
The ROW Bureau and the municipalities/Local Public Agencies use the typical cross-sectional view of the roadway to help understand the impact to properties affected by construction. The Typical Sections shall be a copy of those in the construction plans. All existing and proposed layout lines and proposed easement lines shall be shown and labeled on the typical sections.

Detail sections shall be provided as needed by the designer or as requested by the ROW Bureau.

If there are no significant changes in grade (such as a resurfacing project without widening) or if the project includes work at isolated intersections (such as a traffic signal or ADA ramps only project), then TYPICAL SECTIONS are NOT required. A note should be added below the Title Sheet index such as: "THIS PROJECT CONSISTS OF TRAFFIC SIGNAL AND ADA IMPROVEMENTS WITH NO CHANGES TO ROADWAY GEOMETRY OR GRADES. AS SUCH, NO TYPICAL SECTIONS ARE NEEDED OR PROVIDED.

See Appendix B.3 – Typical Sections.

**Critical Profile**
The critical profile shows the existing roadway elevation & proposed roadway elevation. If there are no significant changes in grade (such as a resurfacing project without widening) or if the project includes work at isolated intersections (such as a traffic signal or ADA ramps only project), then a CRITICAL PROFILE is NOT required. A note should be added below the Title Sheet index such as: "THIS PROJECT CONSISTS OF TRAFFIC SIGNAL AND ADA IMPROVEMENTS WITH NO CHANGES TO ROADWAY GEOMETRY OR GRADES. AS SUCH, NO CRITICAL PROFILES ARE NEEDED OR PROVIDED.

Not all profile sheets from the construction plans are required in the ROW plans. Only those that show critical areas, such as bridges, culvert crossings, or where there are significant changes in grades. Most projects will only have 1 or 2 critical profile sheets.

See Appendix B.4 – Critical Profiles.

**Parcel Summary Sheet**
The parcel summary sheet shall show each parcel grouped together by titleholder, deed reference, proposed easement type (fee, permanent easement or temporary easement), square footage of easement, total square footage taken, square footage remaining, total property area, frontage shown on the ROW plans, property address, remarks, and land
restrictions. The parcel summary sheet should separate a titleholder’s parcels if title was obtained by different source deeds.

**Frontage, property address, remarks and land restrictions (if any) shown on the Parcel Summary Sheet is a REQUIREMENT for every property affected by ROW impacts**

The frontage calculated on the ROW plans should match, or be within an acceptable tolerance of the frontage reported in the deed description. The designer shall be sure that the entire frontage is dimensioned on the property plans, so the reviewer can verify the information.

Every proposed parcel, whether it is a fee taking, permanent or temporary easement should have the remarks column filled out. Generally, the remarks column should be a few words, but it must include a list of all proposed work and improvements taking place within the parcel limits. Temporary easements should list improvements to the parcel. Be sure the remarks
column matches what is shown on the ROW plans, and that the remarks column is updated as the design progresses.

Remarks for every fee taking, permanent and temporary easement is a REQUIREMENT and must be filled out at the 25% submission. If the project design creates a slope within a proposed easement, be sure to add the slope ratio to the remark’s column.

See Appendix B.5 – Parcel Summary and Appendix B.6 – Parcel Summary (2 Cities) for directions.

When a project extends into two or more municipalities provide separate Parcel Summary tables for each municipality.

See Appendix B.6 – Parcel Summary (2 Cities).

When a project has both State and municipal takings, provide separate Parcel Summary tables for parcels to be acquired by the State and for parcels to be acquired by the municipality/Local Public Agency

**Location Plan**

The location plan is an important tool for the appraisers and review appraisers to understand the impacts to the property and how they affect the value of the property.

The location plan shows all the permanent easements and fee takings in the context of the entire property at a scale that the entire property, and sometimes the whole project, is shown clearly on one sheet. Only fee takings and permanent easements are shown on the location plan. All temporary easements should be removed from the location plan.

The location plan should have the current title holders name and total property area (from deed or plan of record). The existing State Highway Layout and Town Layout lines should be shown and identified by year and layout number, following CAD Standards.

The roadway baseline(s), both construction and record, should be shown and identified, following CAD Standards.

All properties impacted by a fee taking or permanent easement shall have their entire perimeter shown and dimensioned on the location plan, based on the deed or plan of record description. For large properties, separate details may be provided at a reduced scale to show and dimension the entire property without diminishing the readability of the location plan itself.

For longer corridor projects, multiple location plans may be used.
For very small projects where entire properties can be shown on the property plan at 20-scale, or projects where only temporary easements are proposed, location plans are not required. 

See Appendix B.7 – Location Plan.

**Property Plan**

The property plan consists of three layers of information: the survey baseplan, the proposed design, and the ROW information.

See Appendix B.8 – Property Plan (Survey), Appendix B.9 – Property Plan (Highway Design), Appendix B.10 – Property Plan (ROW Information).

**Survey Baseplan**

The survey baseplan shown on the ROW Plans shall be submitted to the ROW Engineering Section accurately for State Highway acquisitions. The base map is the foundation of the entire set of roadway plans. Correctly showing the existing conditions, layout lines, property lines, frontages, property owner information, and existing easements is imperative to successfully complete the acquisition of the entire project. The deeds, orders of taking, plans, and other research documents used to prepare the survey baseplan shall be downloaded or scanned into research folder in a filing structure adhering to MassDOT Survey Baseplan Standards.

It is the surveyor and designer’s responsibility to identify the existing ROW lines, recorded property rights, and property lines that will be affected by the proposed project. Protection of the property owners’ rights and proper compensation is mandated by State and Federal Law.

Before the consultants begin the proposed design, they must confirm the survey baseplan is complete and accurate.

**Existing Conditions/Site Visit**

Prior to submitting ROW plans, the consultant shall perform a site visit to confirm that the survey baseplan accurately depicts actual in-the-field conditions. The survey baseplan shall be updated to reflect any changes observed in the field. This is a critical task that will result in more accurate appraisals and eliminate changes later in the ROW acquisition process.

The consultant shall note the date of the site visit on the title sheet as previously noted. Depending on the project duration, size, and location, multiple site visits may be necessary during the ROW plan development process. A site visit shall be performed within 3 months of the initial ROW plan submission. Another site visit shall be performed before the 75% ROW submission.
The consultant shall take into account these additional site visits when developing their scope and fee.

Consultants must identify privately owned underground features (e.g. septic systems and irrigation systems) on plans when components are plainly visible.

*Existing Easements*
While many deeds make reference to easements, not all easements of record are captured or referenced on the deeds. The consultant shall contact the State Layout Engineer to obtain copies of all State Easements of record within the project limits and shall plot easements on the survey baseplan. The Consultant shall then use information presented on the easement sketch, plan or deed to search the Registry of Deeds. The consultant shall make a diligent effort to determine the deed book and page reference.

In cases where existing easements are not clearly defined in the taking documents or plans, such as older drainage easements, it is recommended to show the easement centered on the pipe and parallel at a scaled width from record plans or at an assumed width (i.e. 10-feet wide). The easement shall be called out “Existing State Drain Easement (width unknown)” with the deed book/page and/or plan reference.

In cases where existing temporary easements have been taken on a property, the Consultant shall review the associated order of taking to determine if the easement duration has expired. If the easement duration has not expired, the date of expiration shall be noted in the existing easement callout. If the easement duration has expired, the easement should not be shown on the baseplan.

This is important so the department doesn’t acquire additional rights, unnecessarily.

*Existing Layout Lines*

It is the responsibility of the surveyor to accurately place the existing location (layout) lines based on survey bounds and record information.

Bounds must be found and located during the field survey for each project and specific bounds shall be used to establish the existing location lines.

Reference the instrument, including the jurisdiction and year, for each layout line shown for every road where work is proposed, including intersecting roads. If this information is unknown, then the municipality/Local Public Agency, or entity with jurisdiction will need to remedy. Frequently, the remedy involves recreating the existing layout. This can take several months. Because of the time to remedy, it is important that the layout references be shown, or
clearly state that it is unknown so that the municipality/Local Public Agency can begin the remedy. Finding out late in the design process can delay the project from meeting the advertising schedule. For this reason, it is important to label each layout line with the needed information during the 25% level of design. Most towns require town meeting approval to establish a layout.

Please note: The Surveyor (PLS) who developed the baseplan should be able to provide the documents that were used to place the existing layout lines. The consultant should provide that reference along the layout line. In locations where the jurisdiction of the layout line changes (e.g. from State Highway Layout to Town Line Layout), the consultant should clearly flag on the plan where the jurisdiction changes.

Provide all road names, widths, and whether it is public or private. All work proposed on private roads require easements.

For private ways, the Surveyor shall determine if the private way was taken by easement or fee and whether the abutting properties own to the centerline of the private way.

Layout flags should be used to show changes in State Highway Layouts.

Flags should also be used to denote change in access provisions along existing State Highway Layout lines.
What happens when an existing layout line is placed incorrectly on the ROW?

When the layout line of the existing State Highway layout or municipal layout is shown incorrectly on the ROW plans, the project is at an overall standstill in terms of the ROW process. The project is on hold until the plans can be adjusted and correctly show the layout lines.

The discovery of the improper placement of the layout lines is usually found during the creation of the layout plans, or in the review of layout plans. This comes at a critical stage in the project and puts the AD (advertising) date in jeopardy.

If the layout lines are placed incorrectly throughout the entire corridor, the proposed parcels shown on the entire plan set are incorrect and will need to be updated.

When easement sizes change after the plans are accepted (or approved for municipal projects), it causes severe delays in the acquisition process. The ROW plans will need to be re-accepted (or re-approved for municipal projects).

**When plans are re-accepted (or re-approved) the following occurs:**

- The engineering section will need to review the plans again.
- The projects section will need to meet with property owners again.
- The appraisals sections will need to recalculate the compensation.
- Towns may need to go back and obtain new Town Meeting approval authority for acquisitions.

Whereas the State *accepts* plans, the Community Compliance Section *approves* the plans. The reason Community Compliance Section does not *accept* them is because MassDOT does not own the roadway and is only responsible to ensure the plans have been reviewed to meet the applicable requirements. The municipality/Local Public Agency should also review each submission, including but not limited to the ROW plans.

*Land Restrictions (Parkland Article 97, Federally Owned land, State Owned land)*

The consultant shall make a diligent effort to determine if a property has restrictions or covenants that may affect the ROW process. For example, many properties owned by, or under the control of, the Department of Conservation and Recreation (DCR) are protected by Article 97. While MassGIS OLIVER is a useful tool, it is not 100% accurate.

The Consultant shall search the Registry of Deeds and/or contact the property owner to determine if there are any known restrictions on a parcel of land.
The consultant shall coordinate with the respective entity who has jurisdiction or ownership over the property to determine if it is subject to Article 97 restrictions or other covenants.

Other examples of protected land include Agricultural Preservation Restrictions (APR) and Conservation Restrictions (CRs).

If a property has restrictions, the type of restriction along with the legal reference (if applicable), shall be noted underneath the owner information on the survey baseplan, and on the parcel summary under the “land restrictions” column.

For all government owned land, provide not only the owner, book, and page, but also the entity that controls the property. When taxpayer funds are used to purchase property, there is a purpose for that purchase. As a result, there is a process of acquiring the needed rights.

**Government-owned property cannot be acquired by eminent domain. The process to be able to use government-owned property can vary in time and complexity.**

For this reason, it is important to identify the entity that controls each piece of government-owned property at the 25% level of design. When work is proposed on government owned land, easements or occupancy areas are required to be shown on the plan in the same way as they are required on private property. The purpose of the easement or occupancy area is to define the affected area.

All land acquisitions on government-owned land must be negotiated with the entity in possession.

When a railroad property falls within the work limits of a proposed project, all acquisitions are by agreement and can be in the form of a lease or land damage agreement. MassDOT (and the municipalities/Local Public Agencies) do not “take” from MassDOT’s Rail & Transit Division, Massachusetts Bay Transportation Authority (MBTA), CSX Transportation, Genesee & Wyoming, or Pan Am. In many instances there is a railroad fee owner, with others having freight/operations rights. It is important to understand and address all interests of all parties.

Some examples of State government-owned land include but are not limited to: DCR, Department of Fish and Wildlife, State Police, Department of Correction, Commonwealth of Massachusetts Property – Maintained by Division of Capital Asset Management & Maintenance (DCAMM), Department of Children and Families, and State Universities.
Some examples of Federal government-owned land include but are not limited to: Veteran Affair (VA) Hospitals, Military Bases – Department of Defense, National Park Land, Federal Government Office Properties, and the U.S Post Office.

The designer should make every effort possible to avoid any work on protected land. When that option is not possible, minimize acquisitions on properties with land restrictions and government-owned land.

Property Lines and Frontage
For properties with proposed parcel takings, the property lines must be shown with connections to the sideline of the layout.

Property lines of abutters to State Highway and other roadways are required to be established on the plans by compiling information from the best available source. The best available sources include the deed for the property, record plans of the property, subdivisions plans, land court plans, etc. By utilizing this process there is an expected degree of accuracy on the placement of the property lines. Even though they are approximate, the accuracy of the property lines should be within an acceptable tolerance.

Frontage should be dimensioned along the entire State Highway Layout or Municipal Layout on the property plan for each property with a proposed easement. Total frontage should be filled out in the appropriate column on the parcel summary sheet.

Frontage distances must coincide with record deed and/or plan information for that property.

Label each property line with a “PL” line symbol where a different owner owns each side of the property line. Label each property line with a “Z” line symbol where the same owner owns each side of the property line with ownership derived from the same deed. A “Z” symbol is used to divide land that is owned by one owner, but the property was previously acquired by separate deeds.

Although property line Geographic Information System (GIS) data and information from assessors’ maps may serve as a starting point for the land surveyor, they are not an acceptable source to place property lines on plans. GIS data and assessors’ maps can be inconsistent and are far less precise than an accurate ground survey. GIS data and assessor’s map information are not drawn with the accuracy required for acquiring the needed rights for transportation projects.
The **ONLY** time GIS lines are acceptable is for lines that are along shorelines, riverbanks, wetlands, etc. if they were not surveyed. In this case, GIS would be the best available source, if all other sources have been exhausted.

**What happens when a property line is placed incorrectly on the ROW Plans?**

When the property lines of abutters to public ways are shown incorrectly on the ROW plans, the project is on hold until the plans can be adjusted and correctly show the property lines and proposed easement areas.

The discovery of the improper placement of the property lines is usually found during the title examination, the creation of the layout plans, or in the review of layout plans. This comes at a critical stage in the project and puts the AD date in jeopardy.

When easement sizes change after the plans are accepted, it causes severe delays in the acquisition process, as the ROW plans will need to be re-accepted (or re-approved).

As previously mentioned, when plans are re-accepted (or re-approved) the following occurs:

- The engineering section or municipal official will need to review the plans again.
- The projects section will need to meet with property owners again.
- The appraisals sections will need to recalculate the compensation.

**Property Owner Information**

It is critical to show property owner information **EXACTLY** as written on the deed, as this information is used in ROW case files, paying award of damages, tax forms, and on the Layout/Easement plan and order of taking.

If the information is not shown correctly from the very beginning of plan development, there will be multiple locations on the ROW plans that will need to be revised, including Parcel Summary, Location Plans, and Property Plans. The Title Examiner will note in their report all the changes that are required on the plans, including owner spelling, punctuation, deed reference and other critical owner information.

If the owner information is shown correctly from the outset, Title Exams will take less time to complete and there will be less changes to the ROW plans which will shorten the review process and avoid potential delays to the ROW acquisition process.

Include owner information for all properties within the project limits and for at least one property beyond each limit of the project in each direction.

Be sure that the property address is included in the property owner information.
The correct format for showing property owner information is as follows:

<table>
<thead>
<tr>
<th>Recorded Land</th>
<th>Registered Land</th>
</tr>
</thead>
</table>
| OWNER 1 AND OWNER 2  
BK/PG XXXX/XXX  
PB/PL XXX/XXX ¹  
# STREET  
MAP/LOT XX/XX | OWNER 1 AND OWNER 2  
L.C.C. No. XXXX-A (LOT X)²  
L.C.C. No. XXXX-C (LOT Y)³  
CERT. NO. XXXXX  
DOC. NO. XXXXXX  
# STREET  
MAP/LOT XX/XX |

¹ Other acceptable plan reference formats include PLAN XX OF 19XX, Plan RBXX/XX, etc. depending on the Registry of Deeds plan naming convention.

² Lot No. shown on the Land Court Plan. This is important for the Title Examiner to confirm the correct parcel is identified. Lot No. will also be referenced in the schedule at the end of the Order of Taking.

³ Some deeds may include multiple lots from different Land Court Plans. In this case, all land court plans and lots shall be listed.

Below are examples of acceptable and unacceptable formats for showing owner information:

<table>
<thead>
<tr>
<th>Unacceptable</th>
<th>Acceptable</th>
</tr>
</thead>
</table>
| Smith John A et ux  
BK/PG 8291-414  
PB/PL 214/87  
123 Main St  
Map/Lot 004/078 | JOHN A. SMITH AND SUSAN G. SMITH  
BK/PG 8291/414  
PB/PL 214/87  
123 MAIN STREET  
Map/Lot 4/78 |

Other important items to look for on deeds include: commas, periods, life estates, and % interest.
Below are examples of how property owners shall be listed for various scenarios

<table>
<thead>
<tr>
<th>SCENARIO</th>
<th>CORRECT FORMAT FOR OWNER INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties that are owned by a trust on RECORDED LAND</td>
<td>SMITH FAMILY TRUST</td>
</tr>
<tr>
<td></td>
<td>BK/PG 8291/414</td>
</tr>
<tr>
<td></td>
<td>PB/PL 214/87</td>
</tr>
<tr>
<td></td>
<td>123 MAIN STREET</td>
</tr>
<tr>
<td></td>
<td>MAP/LOT 4/78</td>
</tr>
<tr>
<td>Properties that are owned by a trust on REGISTERED LAND</td>
<td>JOHN A. SMITH AND SUSAN G. SMITH, TRUSTEES OF THE SMITH FAMILY TRUST</td>
</tr>
<tr>
<td></td>
<td>L.C.C. No. 2148-A (LOT 3)</td>
</tr>
<tr>
<td></td>
<td>L.C.C. No. 2148-C (LOT 21)</td>
</tr>
<tr>
<td></td>
<td>CERT. NO. 84537</td>
</tr>
<tr>
<td></td>
<td>DOC. NO. 147854</td>
</tr>
<tr>
<td></td>
<td>123 MAIN STREET</td>
</tr>
<tr>
<td></td>
<td>MAP/LOT 4/78</td>
</tr>
<tr>
<td>Properties that are granted and a life estate is retained by the grantor(s)</td>
<td>JOHN A. SMITH AND SUSAN G. SMITH, WITH A LIFE ESTATE IN MARGARET D. SMITH</td>
</tr>
<tr>
<td></td>
<td>BK/PG 8291/414</td>
</tr>
<tr>
<td></td>
<td>PB/PL 214/87</td>
</tr>
<tr>
<td></td>
<td>123 MAIN STREET</td>
</tr>
<tr>
<td></td>
<td>MAP/LOT 4/78</td>
</tr>
<tr>
<td>Properties that are owned by multiple entities with undivided interest (list % or fraction of interest after each entity)</td>
<td>JOHN A. SMITH, AS TO AN UNDIVIDED ½ INTEREST, AND THOMAS E. BRADY, JR., AS TO AN UNDIVIDED ½ INTEREST</td>
</tr>
<tr>
<td></td>
<td>BK/PG 2019/190</td>
</tr>
<tr>
<td></td>
<td>PB/PL 12/87</td>
</tr>
<tr>
<td></td>
<td>1 PATRIOT PLACE</td>
</tr>
<tr>
<td></td>
<td>MAP/LOT 6/12</td>
</tr>
<tr>
<td>SCENARIO</td>
<td>CORRECT FORMAT FOR OWNER INFORMATION</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Properties that have legal restrictions (Article 97, Conservation, Open space, etc.) | TOWN OF ANYTOWN (CONSERVATION COMMISSION)  
BK/PG 811/42  
PLAN 187 OF 1960  
1 NORTH STREET  
MAP/LOT 2/144  
(PARCEL IS SUBJECT TO ARTICLE 97 RESTRICTIONS) |
| (note: local restrictions such as the types, quality or uses of buildings do not need to be listed) |                                                                                                     |
| If a property is owned by the Commonwealth of Massachusetts, then the state agency who has jurisdiction of the property shall also be listed | COMMONWEALTH OF MASSACHUSETTS, ACTING THROUGH ITS DEPARTMENT OF CONSERVATION AND RECREATION  
BK/PG 811/42  
PLAN 187 OF 1960  
1 NORTH STREET  
MAP/LOT 2/144  
(PARCEL IS SUBJECT TO ARTICLE 97 RESTRICTIONS) |
| If a property is owned by a municipality/Local Public Agency, then the local department, board, or commission who has jurisdiction of the property shall also be listed | TOWN OF ANYTOWN (BOARD OF SELECTMEN)  
BK/PG 811/42  
PLAN 187 OF 1960  
1 NORTH STREET  
MAP/LOT 2/144 |

Note: N/F should only be used on property that is not affected by a proposed taking or easement. If the research is completed properly as outlined above, the property owner information has been verified.
Title Package (State ROW)
The MassDOT Engineering Section will send the designer the title examination package upon its completion.

The title package must be reviewed to ensure the correct owner information is shown on the parcel summary sheet and the location and property plans. The title package must be reviewed to ensure that all abutter property frontages and all parcels shown on location plans have the proper geometry per deed and record plan. Specific attention should be paid to notations on the Title Cover Sheet indicated by the Conveyancing Attorney as significant.

The title package must be reviewed to ensure that all existing easements are properly shown. The deed research, easements, abutter information, and frontages based on deed description should be performed by the project surveyor with this being a double check. **Required changes** from the title package shall be included in the next submission.

If the survey baseplan was prepared by a subconsultant, please work closely with the subconsultant to review the title package and make any necessary updates.

See Appendix B.8 – Property Plan (Survey).

Title Package (Municipal ROW)
For municipal projects, the title exams should start once the 25% ROW Plan set is submitted. The title exams are typically performed by the municipalities’ legal counsel or city solicitor. Designers need to seek the title package from the municipality when it is a municipal project.

Once the title exams have been performed, they should be used to update the ROW plans. Occasionally, property along a transportation project is subdivided or a property line is adjusted. It is important to keep the plans updated with the current owners and any adjusted property lines so that the current owners’ property rights are protected.

Highway Design
The highway design should be evaluated for impacts to property owners at every step of the design development process. Impacts to private property should be minimized to the greatest extent feasible. Significant impacts to minimize include, but are not limited to:

- Parking Spaces – Can they be avoided? How many spaces would be impacted (temporarily and permanently)?
- Large Commercial signs – Can they be avoided? These are often very expensive to relocate and result in temporary impacts to the business.
- Gas Stations and other potentially contaminated sites – minimize or avoid impacts altogether.
• Utility Poles – In addition to the cost associated with relocating the poles, Permanent Utility Easements (PUE’s) also need to be acquired for relocated poles, guys and wires that encroach on private property.

All symbols and highway design elements shall follow the CAD Standard. Below are examples of driveways and wheelchair ramps according to the CAD Standard.

See Appendix B.9 – Property Plan (Highway Design).

ROW Information

Access Provisions
A layout alteration is required to change access provisions. If the project is located within Limited Access State Highway Layout, the limits of access restrictions shall be shown and identified on the ROW plans. If access is currently allowed for railroad purposes where a railroad corridor crosses a Limited Access State Highway, and a Shared Use Path is proposed along the railroad corridor, then a proposed Layout Alteration shall be shown on the ROW plans stating “Access for Recreational Purposes Hereby Allowed.”

Other access provisions include utility maintenance, ingress/egress restrictions, and at/under ground level.
If a proposed access provision change is along a proposed alteration, the limits of the access change must be clearly identified on the ROW Plans as shown below.

**Advanced Takings**

Advances Takings are required where a significant portion of a property needs to be acquired in fee or permanent highway (or other transportation facility) easement in order to construct the project. For example, if a house or commercial building needs to be demolished due to roadway widening, an Advance Taking would occur.

Federal Highway approval is required for Advanced Takings made prior to NEPA approval.

The Advance Taking process typically involves acquiring rights to an entire property or demolishing a building. The process usually begins well in advance of all other acquisitions due to the time needed to relocate the residents or business.

Advance Taking parcels are identified as X-A, X-B, etc. (for fee taking of the entire property), or X-TRT-1, X-TRT-2, etc. (for temporary removal taking easement) which allows for demolition of a building, but not taking the entire parcel in fee.

For X-A, X-B parcels, all property lines shall be calculated based on deeds and record plans, instead of just the property frontage. The total property area shall match the area listed in the recorded deed and/or shown on a recorded plan, unless it can be shown that a different area is more accurate (i.e. a subsequent taking on the property).
For State Highway ROW acquisitions, an Advance Taking plan specification package will be ordered by the ROW Bureau and issued by the State Layout Engineer, at the appropriate time. After the Advance Taking plan and Instrument are recorded, the ROW plans shall be updated with the legal reference of the new owner (Commonwealth of Massachusetts, acting through its Department of Transportation).

For municipal ROW acquisitions the municipality/LPA will coordinate with the ROW Bureau Community Compliance Administrator to seek FHWA approval for early acquisition approval for advanced takings in accordance with the provisions of 23CFR710.50(c)(1) though (5).

**Lands Subject to Article 97**

Any taking on lands subject to Article 97, including by the power of eminent domain, is subject to approval by State legislation. Permanent impacts to Article 97 properties shall be avoided to the maximum extent feasible. **If permanent impacts are unavoidable, notify the ROW Bureau immediately of potential impacts to Article 97 land.**

**Chapter 634 and Chapter 690 Bridges**

Under Chapter 634 and Chapter 690, bridges became State Highway by legislation and only a fraction of the bridges has formal layout plans and instruments.

Generally, anytime there is a State Project that includes Chapter 634/690 Bridges, State Highway Layout plans and instruments should be prepared if no record Department documents exists. This is the case whether or not there are any ROW impacts.

The geometry should box out all parts of the proposed permanent bridge including approach slabs. The layout should be offset a minimum of 10-feet past the approach slabs and wingwalls/abutments. For railroad bridges, the box out should include the entire width of the railroad corridor.

Under State statutes, it is not necessary to take parcels from an existing public way or a railroad company (within 110’ in either direction from the center-line of the bridge) on a Chapter 634 bridge.

If the geometry of the proposed State Highway Layout is situated on private property, a proposed parcel will be required. See example below:
Dispositions

As previously mentioned, correctly showing and communicating the disposition for all personal property is one of the most important components of the ROW Plans.

All existing infrastructure, landscaping and ground features within all proposed easements must be accurately located and have the disposition for each (i.e. will it still be there or not after the proposed construction is complete) labeled on the Right of Way plans. All dispositions must be shown on both the construction and right of way plans, to ensure all parties (property owner, agents, appraisers, project managers, districts personnel, and the contractor) understand which items are to be retained, removed and removed and reset by others.

Note that certain items will have different dispositions on the ROW plans than they do on highway plans depending on whether the item is trespassing or not.

Refer to Appendix A.2 for correct dispositions of privately-owned items.
Below are some examples of personal property that require special attention.

**Encroachments (State ROW)**
Encroachments consist of objects located within the public right of way and are not permitted to be there. Encroachments within State Highway shall be handled on a case-by-case basis. Examples of typical encroachments include private signs, landscaping, buildings and private utilities, etc.

A disposition is required for all encroachments.

If personal property is encroaching within the State Highway and it is within the project limits, but not being impacted by the project, the Consultant shall identify the encroachment(s) and coordinate with the respective District Office to determine if the encroachment has been previously permitted or if it will be allowed to remain as an encroachment. This correspondence should be archived by the designer, and sent to the ROW Bureau.

**Encroachments (Municipal ROW)**
Existing privately-owned encroachments within the existing municipal layout will need a license from the municipality/Local Public Agency or will need to be removed. All existing encroachments within the public right of way must be accurately located and the disposition of each noted on the plan.

See Appendix A.2

**Fences**
MassDOT does not reset privately owned fences, except under special circumstances such as fences required for public safety or site security. If the disposition changes along the length of the fence, the limits shall be identified on the plans with lengths and/or stations.

For example, if only a portion of a fence is to be removed and stacked (R&S), the plan should read:

- **R&S** STA 130+25 to 130+35
- **REM** STA 130+35 to 130+50

**Irrigation Systems**
MassDOT does not reset or replace privately owned irrigation heads or any other part of an irrigation system. Irrigation heads shall be called out as R&S if trespassing or REM if on private property. Each impacted irrigation head shall be shown and labeled to allow for an accurate appraisal.
Mailboxes
Due to United States Postal Service (USPS) requirements, mailboxes that are impacted by the project shall be Removed and Reset (R&R), regardless of trespass. In no case shall mailboxes be Removed and Stacked (R&S).

Relocation Benefits - Privately Owned Signs, Light Poles and Flag Poles (State ROW)
Any property owner (individual, family, partnership, association or corporation) whose non-encroaching personal property (ex.: business sign, flag pole, light pole) is moved as a direct result of the acquisition of real property is entitled to relocation benefits as mandated by 49 CFR Part 24 and M.G.L. 79A. The relocation benefits include the cost to relocate personal property from a proposed Right of Way.

If certain non-encroaching personal property, such as a business sign, flagpole, or light pole cannot be retained, the disposition shall be R&R(BO).

This disposition indicates that ROW’s Relocation Section will work with the property owners of the personal property.

Privately Owned Signs, Light Poles and Flag Poles (Municipal/Local Public Agency ROW)
Private signs, light poles, and flag poles that must be removed due to the proposed construction should be labeled remove and stack (R&S) or remove and reset by others (R&R (B.O.)). If the private signs, light poles, and flag poles are located within the existing layout, then the abutting landowner may not be eligible for damages. If the private signs, light poles, and flag poles are located on private property, then the abutting landowner generally is entitled to just compensation and relocation benefits from the municipality/Local Public Agency.

It is critical to show all private signs, light poles, and flag poles within the project limits accurately and to-scale, including any spotlights or other ancillary items associated with the sign.

Publicly Owned Items
Generally, dispositions for publicly owned items within the existing ROW are not required on the ROW plans.

If items are to be removed and reset, R&R disposition is required along with the proposed location.

Septic Systems
Impacts to a septic system should try to be avoided and designed out of a project. If the impact cannot be avoided, the designer may be asked to provide an engineer’s estimate to the
MassDOT appraiser for the cost of designing and relocating or replacing the system. MassDOT will compensate the owner for the cost to relocate/replace the septic system.

**Walls**
If the disposition changes along the length of the wall, the limits shall be identified on the plans with lengths and/or stations.

For example, if only a portion of a wall is to be removed and stacked (R&S), the plan should read:

```
R&S STA 130+25 to 130+35
REM STA 130+35 to 130+50
```

**Easement Grants**
MassDOT has regularly granted an easement within the State Highway layout for various reasons (municipal utilities, etc.). More recently the Department has begun to establish easement grants within the State Highway layout for recreation paths that (usually) pass under State Highways.

The correct label of the easement grant is:

X-EG-1
(Name of the Recipient)
Area About XXX S.F.

Most of the time the State Highway is a limited access State Highway layout (i.e. old rail line under an interstate highway where the rail line is transformed to a recreational path). Access provisions are changed from “Access for Railroad Purposes” to “Bicycle and Pedestrian Access Hereby Allowed” along with an establishment of an easement grant parcel.

Easement grants should not be shown on the parcel summary sheet.
The establishment of an easement grant can be done whether the layout is limited access or not. However, as in the case of this bridge in Concord/Acton, a State Highway alteration is required to change the access provisions.
Proposed Takings

Title 23 of the Code of Federal Regulations requires “the State shall acquire rights-of-way of such nature and extent as are adequate for the construction, operation, and maintenance of a project.”

Title 49, Part 24 of the Code of Federal Regulations is the Uniform Act, which ensures that property owners are treated fairly and consistently.

The geometry of the proposed taking and easement is mandated by the proposed work shown on the ROW plans. The linework of the taking or easement must encompass the required area for construction activities.

It is desirable, whenever possible, that the ROW linework is parallel to the existing location line unless the guidance below overrides.

There are 3 types of takings that can be acquired:

- Fee taking
- Permanent easement
- Temporary easement

General

Separate easements or fee takings shall be provided where land is bisected by a municipal boundary (Town/City line) because there will be different acquiring agencies depending on which Town/City the easement or taking is located.

Where the jurisdiction limit of a roadway occurs in the middle of a property (i.e. State Highway ends/begins), fee takings shall be split along an extension of the jurisdiction line. A portion of the taking will then become part of the State Highway alteration and the other portion will become part of the municipal alteration.

Fee Taking (State ROW)

When a fee taking is acquired, MassDOT is acquiring the land in fee simple and has unrestricted ownership and control of the land.

In all locations, not currently in the existing public layout, where the public is intended to pass and repass, an alteration is required. The design engineer needs to show the beginning and end of the alterations.
Fee Taking on behalf of the Commonwealth/Town/City (State ROW)
A fee taking on behalf of the Commonwealth/Town/City usually translates into a State Highway/Town/City alteration. An alteration is required in all locations, not currently in the existing public layout, where the public is intended to pass and re-pass. The alteration may not begin/end on an approximate property line and must be at minimum, 5 feet from the approximate property line.

The beginning and end of the alteration must be clearly identified on the ROW Plans.

For Example:

“Begin [End] Prop. SHLO [XXXX], Section 1”

“Begin [End] Prop. City LO [XXXX], Section 1”

Fee taking parcels are one of the most common types of permanent taking and must include features such as:

- Roadway and Curbing
- Sidewalk and Wheelchair Ramps
- Traffic Signal Equipment (Mast Arms, Posts, Pullboxes, Conduit, etc.)

Access Taking (State ROW)
Access taking shall be acquired to remove an abutting property’s direct legal access to a highway by imposing limited access provisions along a State Highway layout line. Alternative means of access to a State Highway shall be provided to the abutting property whose legal access was taken. Access Takings typically impose a burden to the abutting property by forcing a longer access route to a public way and the owner can be compensated. Access takings are not shown on the same parcel of land taken in fee for an alteration, since the owner will be compensated additionally in the Fee Taking. Access takings are linear takings along the sidelines of limited access State Highway layouts.

Drainage in Fee
A drainage in fee parcel shall be acquired by the department for the purpose of draining and maintaining the State highway. MassDOT acquires the land in fee simple, but this area is not included in the State highway layout.

Elements within a drainage in fee taking include, but not limited to:

- Proposed drainage basin
**Uneconomic Remainder**
An uneconomic remainder parcel is typically shown on a property adjacent to a fee taking, where the remaining land on a property after the fee taking is too small or unsuitable to build upon.

MassDOT acquires the land in fee simple, but this area is not included in the State Highway layout.

The municipality/LPA acquires the land in fee, but this area is not included in the municipal layout.

**Fee Taking (Municipal ROW)**
When a fee taking is acquired, the municipality/Local Public Agency is acquiring the land in fee simple and has unrestricted ownership and control of the land.

An alteration is required in all locations, not currently in the existing public layout, where the public is intended to pass and re-pass. The design engineer needs to show the beginning and end of the alterations. In most cases, the alteration will involve a fee taking except for certain cases where permanent easements are required as noted below.

**Permanent Easement Taking**
When a permanent easement is acquired, MassDOT or the municipality/Local Public Agency has the right to use the land, for transportation purposes, for an unlimited amount of time. The land is still owned by the property owner.

When parcels are to be acquired by State ROW and are located adjacent to the Town or City Layout, the parcel will be taken on behalf of the Town/City.

For example: X-D-T

**Channel Easement**
A channel easement shall be acquired for the purpose of improving the existing or proposed channels of rivers, streams or brooks: and consists of the right to enter upon said land at any time with the necessary equipment to clear sand, gravel and debris that is obstructing the waterway, to excavate and to install rip-rap, and to maintain and use the aforesaid channel.

Channel easements should be sized to provide sufficient area for future access and maintenance.

**Drainage Easement**
A drainage easement shall be acquired for the purpose of draining and maintaining the State or municipal transportation facility and consists of the right to enter upon said land at any time to
construct thereon and to use and maintain drainage structures and/or drainage ditches, together with the right to discharge surface water upon said land.

Drainage easements should be sized to provide enough area for future maintenance.

In general, drainage easements should be centered upon and parallel to the pipe and a minimum of 10’ feet in width.

For cross-country drainage pipes, the size and depth of the pipe shall be taken into account when sizing the easement. For example, a 12” pipe buried 4’ deep will require a narrower easement than a 60” pipe buried 12’ deep.

For headwalls, flared end sections, and stone at pipe ends, a minimum of 5’ from the face of headwall or outer edge of stone shall be provided.

Features within a proposed drainage easement include, but are not limited to:

- Headwall
- Pipe
- Flared end section
- Basin
- Trench
- Swale
- Catch basin

Typically, MassDOT does not allow private drainage to be brought into the State transportation system. However, this is not a ROW Bureau call, confirmation is required from the District Office that each tie-in is acceptable, whether the tie-in is existing (there might be a permit) or proposed (permit will be required). The District should contact the private property owner to have the existing/proposed work be permitted though the Access Permit Process.

Similarly, for proposed transportation infrastructure owned by the municipality/Local Public Agency, the Community Compliance section will need written confirmation from the municipal officials that they each tie-in is acceptable. Again, a permit or license will likely be required.

The consultant and project manager will obtain a copy of the permit from the District Office (or municipality/Local Public Agency if the proposed transportation facility is owned by the municipality/Local Public Agency) and send the ROW bureau a copy when it becomes available.
**Floodplain Easement**
A floodplain easement shall be acquired for the purpose of altering the terrain for compensatory flood storage and/or changes in grading which result in FEMA map changes.

**Guardrail Easement**
A guardrail easement shall be acquired for the purpose of constructing and maintaining guardrail, and consists of the right to enter upon said land at any time, and to construct thereon, and to use and maintain guardrail and to perform any other necessary incidental work on said lands.

In general, Guardrail Easements should be parallel to and 5’ beyond the face of guardrail. The easement shall extend 5’ beyond the end treatment.

**Highway Easement**
A highway easement (identified as an “E” parcel) shall be acquired for highway purposes that conveys the right to construct and maintain a highway facility on the land of the fee holder. A highway easement is used when the parcel cannot be acquired in fee. Highway Easements (E-Parcels) encompass the same physical features as Fee Takings, except the property owner retains the fee interest in the underlying land. E-parcels should only be used under special circumstances, such as:

- Gas Stations or other potentially contaminated sites
- Land Court Parcels (registered land)
- If requested by property owner to maintain zoning requirements (setbacks, etc.)
- Across railroad corridors
- Across land owned or under control of other State Agencies
- Contaminated land sites upon environmental determination
- Land owned by the United States of America
- Land owned by the MBTA
- When directed by the municipality (most municipalities do not acquire the fee interest).

An alteration is required for a highway easement. The alteration may not begin/end on an approximate property line and must be, at minimum, 5 feet from the approximate property line.
The beginning and end of the alteration must be clearly identified on the ROW Plans.

For Example:

“Begin [End] Prop. SHLO [XXXX], Section 1”

“Begin [End] Prop. City LO [XXXX], Section 1”

**Highway Sign Easement**
A highway sign easement shall be acquired for the purpose of constructing and maintaining highway signage and consists of the right to enter upon said land at any time to construct thereon and to maintain and use said signage and any other necessary appurtenances.

In general, highway sign easements shall be centered on the highway sign and provide a minimum of 2’ around all sides of the sign. HS easements are generally square or rectangular in shape and of even distances.

**Highway Light Easement**
A highway light easement shall be acquired for the purpose of constructing and maintaining highway lighting, and consists of the right to enter upon said land at any time to construct thereon, and to maintain and use said lighting and any other necessary appurtenances.

In general, highway light easements shall be centered on the highway light foundation and provide a minimum of 2’ around all sides of the foundation. HL easements are generally square or rectangular in shape and of even distances.

**Public Utility Easement**
A Public Utility Easement shall be acquired for public utility purposes: to lay, construct, and install and/or remove poles, anchors, and lines for the transmission for power, intelligence, and communications upon, or any other utility, over, under and across the parcels of land abutting the project. The rights being more particularly described within said parcels of land to lay, construct, reconstruct, replace and remove underground cables, pipes, conduits, manholes, and other appurtenances within pipes, wires and/or cables therein. A separate agreement or permit between any public utility and the entity who has roadway jurisdiction may be is required for the use of any of these easements by a utility company.

In general, public utility easements are 5’ offset and parallel to the pole-to-pole center line for cross arm construction and 3’ offset and parallel to the pole-to-pole center line for offset construction (ie. the overhead wires are on one side of the pole only).
For guy wires, the PUE shall be centered upon and parallel to the guy wire and 6’ feet in width. The PUE shall extend approximately 3’ beyond the guy wire anchor. If the guy wire is perpendicular, or nearly perpendicular to the layout/alteration, the PUE should be offset parallel from the layout/alteration.

If there are utility relocations proposed within the project, early coordination between the District Utility Constructability Engineer (DUCE) and designer is imperative to the ROW process. Since utility conflicts and relocations are usually not clear until the DUCE walk, these conflicts may have a major impact on the type of right of way acquired as well as the amount of land acquired, significantly changing the ROW plans.

Elements within a proposed public utility easement include, but are not limited to:

- Proposed/relocated utility poles
- Proposed overhead wires
- Proposed guy wires/guy poles

**Service Connections**
Permanent and/or temporary easements are not required to provide service connections to homes or businesses.

If the connection benefits only the property owner on their property, it is considered a service connection.

During the DUCE walk the consultant shall confirm all existing and proposed service connections update the linework accordingly on the construction and ROW plans.

The consultant shall label the service connections as such on the ROW plans.

**Public Utility Easement (Additional Municipal ROW Requirements)**
Permanent overhead wire (OHW) relocation is handled differently for municipalities that will acquire permanent easement and then provide a license to the utility company, then it is handled for municipalities that will not acquire on behalf of the utility company. In both cases the existing and proposed OHW must be shown on the ROW plans. Municipalities have the option of acquiring permanent Utility easements. Municipalities must acquire temporary easements for temporary OHW relocations. If the municipality/Local Public Agency is acquiring permanent utility easements, then they should follow the requirements noted above.

**Slope Easement**
A slope easement shall be acquired for the purpose of constructing or maintaining a slope or slopes of excavation and/or embankment, where roadside slopes are necessary to maintain the
integrity of the roadway. A slope easement consists of the right to enter upon said lands at any
time to construct thereon and to maintain slopes of excavation and/or embankment.

In general, Slope Easements shall be a minimum of 5’ beyond the limit of slope to allow for
future maintenance, unless within wetlands.

Elements within a proposed slope easement include, but are not limited to:

- A slope steeper than 2:1
- Rip-rap, modified rockfill or other slope stabilization elements

**Shared Use Path Easement (State ROW)**
A shared use path easement shall be acquired for the purpose of constructing and maintaining
the shared use path for transportation and recreational purposes and consists of the right to
enter upon said land at any time, construct thereon and to use and maintain said shared use
path, and to perform any other necessary incidental work on said lands.

**Wall Easement**
A wall easement shall be acquired for the purpose of constructing and maintaining wall or walls
and consists of the right to enter upon said land at any time, construct thereon and to use and
maintain said wall or walls, and to perform any other necessary incidental work on said lands.

Wall easements are only taken for walls that support the transportation facility and are not
taken for walls that support private property (except in extenuating circumstances).

In general, wall easements shall be a minimum of 5’ beyond the proposed footing of the wall to
allow for future maintenance. Wider wall easements may be needed for taller walls.

**Watermain Easement**
A watermain easement shall be acquired to construct the water main and related
appurtenances, and to use, maintain, repair and replace said watermain and related
appurtenances. A watermain easement consists of the right to enter upon said land at any time
to construct thereon and to use, maintain, repair, and replace said water main and related
appurtenances from time to time as may be necessary.

Watermain easements are only taken for water appurtenances that provide service to the
general public and are not taken for individual water service connections.

In areas where a hydrant or other water appurtenance is located within or near a proposed
PUE, the PUE can be expanded to include the water appurtenance instead of proposing a
separate WM easement.
In general, Watermain Easements shall be centered on the hydrant and provide a minimum of 3’ around all sides of the hydrant. WM easements are generally rectangular in shape and of even distances.

**Temporary Easement Taking**
When a temporary easement is acquired, MassDOT or the Municipality/Local Public Agency has the right to enter upon said land at any time during the effective period of said easement. All rights revert to the property owner after the designated period has expired. Said easement is temporary in nature and is to be in effect for a designated period from the date of recording.

**Temporary Easement**
A temporary easement shall be acquired for the purpose of providing temporary rights to perform construction activities, such as grading, loam & seed, saw cutting driveways, installing erosion control measures, and other activities that are ancillary to the construction. The temporary easements shall be large enough for not only the proposed work, but also the workers and equipment used to construct the proposed work.

Temporary easements **are not allowed to be** taken for storing material, laydown area or staging construction areas.

When existing utility poles, overhead wires and guy wires are being removed or temporarily relocated as part of the project, a TE shall be acquired for the rights to remove or temporarily relocate the structures.

For State projects, TE’s are taken for a period of 5 years. The 5-year timeline begins upon recording of the Order of Taking.

For State projects, TE’s shall provide a minimum of 3-feet beyond limit of grading, 5-feet beyond sawcut limits at driveways, 5-feet beyond clearing and grubbing lines, and 2-feet beyond erosion control barriers.

The offsets described above does not apply if all the proposed work is shown inside the public layouts, as shown below:
A TEMPORARY EASEMENT shall be acquired for the purpose of providing temporary rights to perform construction activities, such as grading, loam & seed, saw cutting driveways, and other activities that are ancillary to the construction. In general, TEMPORARY easements shall provide a minimum of 3-feet beyond limit of grading, 5-feet beyond sawcut limits at driveways, 5-feet beyond clearing and grubbing lines, and 2-feet beyond erosion control barriers. The OFFSET described above does not apply if all the proposed work is shown inside the PUBLIC Layouts.
For municipal projects, TE’s need to be taken for a period of 3-years unless a longer duration is anticipated due to the scope of the project. If the project is combined State/Municipal, the Municipal TE’s shall be taken for the same duration as the State TE’s (5 years).

For municipal projects, Temporary Easements shall provide a minimum of 5-feet beyond limit of grading, 5-feet beyond sawcut limits at driveways, 5’ beyond clearing and grubbing lines, and 2-feet beyond erosion control barriers.

In areas where walls, fences or other physical obstructions are present, the TE line shall follow the obstruction if no construction activities are occurring beyond the obstruction. The offsets described above do not apply in this scenario.

A temporary easement is not to be used for contractor parking, or for contractor storage of materials or equipment.

**Temporary Wetland Replication Easement**

A temporary wetland replication easement (TWLR) shall be acquired to provide environmental mitigation when the project impacts an existing wetland area. The TWLR is used for the purpose of providing temporary rights to perform wetland replication activities, such as excavation, grading, seeding, planting, erosion control, as well as providing temporary rights to perform inspection and monitoring.

TWLR’s are taken for a period of 10 years. The 10-year timeline begins upon recording of the Order of Taking.

In general, TWLR’s shall provide a minimum of 2-feet beyond limit of wetland replication and shall connect to a permanent easement or public layout in order to provide legal access for inspection and monitoring during the 10-year easement duration.

**Temporary Footbridge Utility Easement**

A temporary footbridge utility easement (TFBU) shall be acquired for the purpose of constructing a temporary footbridge and utility. The TFBU is used to maintain use of said foot bridge, and to construct slopes of excavation/or embankment. The temporary footbridge should be plotted on the plans.

**Temporary Footbridge Easement**

A temporary footbridge easement (TFB) is to be acquired for the purpose of constructing and maintaining a temporary foot bridge and use said foot bridge, and to construct slopes of excavation and or/embankment. The temporary footbridge should be plotted on the plans.
Temporary Pedestrian Walkway Easement
A temporary pedestrian walkway easement (TPWW) should be acquired for the purpose of providing temporary pedestrian circulation and continuous access. The temporary pedestrian walkway should be plotted on the plans.

Temporary Road Easement
A temporary road easement (TR) is to be acquired for the purpose of constructing and maintaining a temporary road, and to construct slopes of excavation and/or embankment. The temporary road should be plotted on the plans.

Temporary Removal Taking Easement
A temporary removal taking easement (TRT) is to be acquired for the purpose of removing or demolishing existing structures.

Temporary Impacts to DCR Properties
For temporary impacts on DCR land, the ROW plans shall show a TEMPORARY OCCUPANCY AREA “A”, “B”, etc. with the approximate area and a note that a Construction Access Permit is being requested. The TEMPORARY OCCUPANCY line shall have same characteristics as a Temporary Easement line and shall be dimensioned similarly.

For State projects, the Consultant shall coordinate with the MassDOT Project Manager to file a Construction Access Permit with DCR.

For municipal projects, municipalities or their consultants will need to file for their Construction Access Permit with DCR through DCR’s on-line portal service.

The Layout Alteration/Easement plans will also show and label the TEMPORARY OCCUPANCY AREA and a paragraph will be included in the Order of Taking.

See Appendix B.10 – Property Plan (ROW Information).
Accepting/Approving the ROW Plans
The design must be at 75%, at minimum, in order to accept the ROW Plans, or in the case of the municipality, approve.

The acquisition process takes, at minimum, 9 months from the date that the ROW Plans are accepted or approved.

Re-accepting/Re-approving the ROW Plans
As mentioned earlier re-accepting/re-approving the ROW plans creates havoc within the ROW Bureau/Municipality/Local Public Agency. In the event the ROW Plans do need to be re-accepted/re-approved, the ROW Engineering Administrator and Supervisor should be contacted immediately. If the proposed transportation facility is within an existing or proposed way owned (or to be owned) by the municipality/Local Public Agency, then the Community Compliance Administrator should also be contacted immediately.

You will be asked to fill out an Easement Area and Design Change form noting everything that is changing with the new submission.

The easement area and design change form is always required when re-accepting/re-approving the ROW plans.

See Appendix C.1 – Easement Area and Design Changes Form.
See Appendix C.2 – Blank (Excel File) Easement Area and Design Changes Form.

CAD Standards
The MassDOT CAD Standards Download Package is available online at https://www.mass.gov/how-to/get-the-latest-cad-standards-download-package. Please check for updates prior to beginning each project.

Please review the MassDOT CAD Standards Manual included in the download package. The Manual provides all information for drawing file naming convention, folder tree for digital submissions, policy on external references and data shortcuts, etc. CAD Standards must be adhered to for the ROW Plan Set to be properly formatted.

The creation of additional layers for ROW drawings is encouraged. Newly created layers must follow the standard layer naming convention. The plot style of the new layer is to be selected from existing plot styles based on the information contained on the new layer. A description must be entered in the Layer Properties Manager for all new layers.
CAD Drawing Setup

The proper CAD drawing setup will allow reviewers to open CAD files and see exactly what is presented on the respective ROW plan sheet. Follow the file naming conventions laid out in the CAD Standards Manual (see “File Naming”, page 9). For example, a ROW plan set might contain the following files:

- 60XXXX_RW(Title_Sheet).dwg
- 60XXXX_RW(Legend_&_Notes).dwg
- 60XXXX_RW(Typical_Sections).dwg
- 60XXXX_RW(Critical_Profile).dwg
- 60XXXX_RW(Parcel_Summary).dwg
- 60XXXX_RW(Location_Plan).dwg
- 60XXXX_RW(Property_Plan).dwg

Each file should contain all sheets relevant to that section stored as individual drawing layouts. Different sections may optionally be combined as long as the names clearly indicate what can be found in each file, for instance, 60XXXX_RW(Title-Legend-Notes).dwg. On the other hand, a section can be broken up to prevent cumbersome files if more than ten sheets are required, for instance, 60XXXX_RW(Property-Plans-1-10).dwg and 60XXXX_RW(Property-Plans-10-20).dwg.

Sheet Templates

To create a new ROW sheet, always start from a blank template. Don’t just copy a layout from an old project as some of the templates may have changed. A new sheet based on a template can be inserted into a drawing through use of the AutoCAD design center (command ADCENTER).

All sheet templates can be found inside the CAD standards package in the file Sheets\ROW_SHEETS.dwg. The only exception is the Legends, Abbreviations and Project Description sheet, which should be taken from HWYDESIGN_SHEETS.dwg. All symbols and linetypes should be identical to those used in the highway design plans.

The project description will have to be manually entered on the Legends, Abbreviations and Project Description sheet.

Each new sheet should come in already set to plot in ARCH Expand D (36.00 x 24.00 Inches) using MADOT-R.stb. (This plot style will cause the proposed text and linework to plot as grey in order to improve readability.) The new sheet template may also include some notes intended for the drafter, which should be removed prior to plotting.
Submitting CAD Files
It is critical for ROW plan reviewers to be able to review ROW CAD files to spot check parcel areas and dimensions, property frontages, and ensure all private property items have a disposition.

Submitting ROW CAD files is a REQUIREMENT. Failure to do so will result in the ROW plans being rejected.

When submitting CAD files, it is important that the files load on another computer exactly as displayed on the submitted PDFs. To ensure this, closely follow the guidelines given in the CAD standards manual under “General Drawing Data Requirements” (page 7), “Digital Submission Requirements” (page 9), and “Policy on External References and Data Shortcuts” (page 24).

Specifically:

- Organize all files according to the folder hierarchy given in the CAD standards package in the folder Project Templates\_MassDOT Proj Template - Standard
- Make sure all external references are set to relative path. Referenced drawings should be stored in the subfolder Project Drawing Data\DWG\References\XREF
- Unused external references should be detached from the drawing and not merely unloaded. Otherwise it is difficult to differentiate between missing or unused attachments.
- Make sure any layer states are restored to the same state used for plotting the submitted plans.

ROW CAD Layers, Text Styles and Labels Styles
ROW linework, text, and labels shall be on the appropriate CAD layers in order to plot correctly. The appendix provides a summary of all recommended layer and style settings for the property plan sheets.

Appendix D.1 – CAD Standard (Layers, Text Styles and Label Styles).
Appendix D.2 – CAD Standard (Layer and Plot Style Guidelines).

Parcel Callouts
Parcel Callout Text shall be multileaders with a solid dot leader head. Layer is PR-RW-TEXT. The end of the leader should connect to a point inside the parcel boundary. The callout text itself should be placed somewhere within the limits of the property, if possible.
Parcel Callouts shall list the Parcel prefix (X- for first submittal, then prefix number assigned by ROW Bureau for all other submittals) and then the type of taking parcel. For combination parcels, they shall be listed alphabetically (i.e. X-D-GR-PUE-1 instead of X-PUE-D-GR-1). The Owner names shall be listed on the middle line and parcel areas listed on bottom line “AREA ABOUT XXX S.F” or “AREA XXX +/- S.F.”

Parcel Areas shall be linked to a closed polyline that traces the entire parcel. These polylines can be created in the ROW sheet files on the no-plot layers PR-RW-AREACALC-PERM and PR-RW-AREACALC-TEMP.

An AutoCAD field linked to these polylines shall then be inserted in the Multi-leader text box.

1. To insert the AutoCAD field, double click inside the multileader and select the location of insertion.
2. Select the Field button in the ribbon above.
3. In the Field dialog box, select Objects from the Field category.
4. Choose Object
5. In the Object type column, click the Select Object button and select the closed polyline associated with the parcel callout
6. In the Property section, choose Area
7. In the Format section, choose Decimal and change precision to 0
8. Click **Ok**. A greyed out field with the area of the polyline is now inserted in the Multileader.

9. When the vertices of the closed polyline are moved, added, or deleted, the area text will update after typing **RE (REGEN)**.

It is recommended to copy the multileader and closed polyline to all other parcels. The polyline can be edited to add or delete vertices by selecting the polyline and hovering over a vertex.

**Parcel Dimensions**

Parcel Dimensions shall be automatic line or curve labels linked to a line or curve. Plain text is not allowed for parcel dimensions and will result in ROW plans being rejected.

Line and curve labels can be attached directly to the polylines used for area calculation. Labels shall be provided for the entire outer perimeter of each parcel. Each label should indicate the length of the line or curve, rounded to the nearest foot. Only one label is needed per segment.
in cases where two parcels share the same bounding edge. Labels can be added using the style `MassDOT_LO_PR_D_PLUS-MINUS` for lines and `MassDOT_LO_PR_L_PLUS-MINUS` for curves.

Crow’s feet shall also be added at the ends of each line and curve and on the same side of the line or curve as the dimension text. Half-size crow’s feet are recommended for clarity as areas of dense ROW activity often cause the full-size crow’s feet to overlap with one another. Half-size crow’s feet can be added using the label style `MassDOT_LO_Crows_Feet_Small` for both lines and curves. If this is not an issue, regular crow’s feet can be added using the style `MassDOT_LO_Crows_Feet` for lines and `MassDOT_LO_EX_Crows_Feet` for curves. The labels can optionally be exploded after they are applied in order to rotate the crow’s feet for clarity.

**Frontage Dimensions**
ROW staff need to check property frontage against the deed before accepting plans. Usually the dimensions supplied for fee and easement parcels are sufficient to perform this check. In cases where ROW parcels do not extend along the full frontage of a property, the remaining distance should be labelled using thin black text to distinguish it from parcel dimensions. These labels can be added using the style `MassDOT_LO_EX_D_PLUS-MINUS` for lines and `MassDOT_LO_EX_L_PLUS-MINUS` for curves.

**Other Drawing Elements**
In addition to ROW parcel callouts and dimensions, the property plans show and label the existing conditions and the proposed work, including transportation facility linework, utilities, traffic signals and signs, and landscaping.

It is particularly important to show all the proposed work that is within ROW parcels.

```
In order to emphasize this information, all dispositions within a proposed ROW parcel, including items in trespass, shall be moved to the layer PR-RW-TEXT-DISP.
```

This will cause them to plot in darker text, enabling agents and homeowners to more clearly visualize the impacts on the property. Refer to the appendices for an example of how this should look.
Below is a summary of items that shall be shown on the Property Plans:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Existing</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curbing, Sidewalk, edges of pavement, gravel, brick, etc.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Walls, Guardrail, Fences, Bridge components, buildings</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Landscaping, trees</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Mailboxes, posts, private signs, planters, flagpoles, benches, bike racks, trash receptacles, lighting, existing structures (buildings, pools, sheds), etc.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Utility Poles, guy wires, transformers, handholes, meters and Overhead wires</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Utilities – Underground (except Drainage or proposed public utilities on private property)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Drainage – Structures and Pipes</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hydrants, Gates, Meters, Manholes</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Utility Text (Inverts, pipe sizes, pipe materials)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sawcut Lines</td>
<td>n/a</td>
<td>✓</td>
</tr>
<tr>
<td>Contour Lines</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Limits of Grading/Paving/Work</td>
<td>n/a</td>
<td>✓</td>
</tr>
<tr>
<td>Traffic Signal Posts, Poles, Mast arms, Foundations, Cabinets, Conduit, loop detectors</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Traffic Signal heads, video detection zones</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Traffic Signs</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Parking Stripes</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Pavement Markings (lane lines, arrows)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Pavement Markings (Stop lines, crosswalks, parking stalls)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Wetland Lines and flags, streams, edges of water</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Wetland Buffers</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Wetland impacts</td>
<td>n/a</td>
<td>X</td>
</tr>
</tbody>
</table>

Engineering judgement should be used for other items not shown in the above table. The Designer should determine whether showing (or not showing) the item will have any benefit to all users of the ROW plans.

Note on Readability
All ROW text must be easily legible for reviewers, engineers, legal counsel and appraisers. Plans that contain too much text that overlaps with other text or linework will be rejected.

Wherever possible, annotations should be moved to empty spaces in the plans to avoid overlap. Parcel labels can be moved near the edge of the sheet if their leader is clearly attached.
to the associated parcel. In some cases, applying a background mask to text objects might be necessary in order to avoid conflicts with survey linework. For more info on using background masks, refer to https://knowledge.autodesk.com/support/autocad-lt/learn-explore/caas/CloudHelp/cloudbhelp/2019/ENU/AutoCAD-LT/files/GUID-3448A24E-E18B-4C8C-B8AB-84F4CD4EBC81-htm.html.

In areas of very dense linework and annotations, it might be necessary to provide enlarged insets to avoid overlap. Insets should use an engineering scale such as 1”=10’ and be titled “DETAIL 1”, “DETAIL 2”, etc. as needed per sheet. The limits and name of the inset should be clearly called out on the main drawing.

See example below. The second screenshot was included on the property plans, and the first screen shot is a detail of the area.
Appendix A.1
Commonly Used Abbreviations for State Right-of-Way and Layout Plans

**FEE TAKING:** Owner sells land to State and the State has all control.

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-1</td>
<td>Taken in fee on behalf of the Commonwealth</td>
</tr>
<tr>
<td>X-1-C</td>
<td>Taken in fee on behalf of the City</td>
</tr>
<tr>
<td>X-1-T</td>
<td>Taken in fee on behalf of the Town</td>
</tr>
<tr>
<td>X-D-1-F</td>
<td>Drainage taken in fee</td>
</tr>
<tr>
<td>X-1*-UR</td>
<td>Uneconomic remainder</td>
</tr>
</tbody>
</table>

*This should be the same number as the fee taking associated with the property*

**PERMANENT EASEMENT TAKING:** State owns easement right for highway purposes.

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-C-1</td>
<td>Channel Easement</td>
</tr>
<tr>
<td>X-D-1</td>
<td>Drainage Easement</td>
</tr>
<tr>
<td>X-E-1</td>
<td>Highway Easement</td>
</tr>
<tr>
<td>X-GR-1</td>
<td>Guardrail Easement</td>
</tr>
<tr>
<td>X-HS-1</td>
<td>Highway Sign Easement</td>
</tr>
<tr>
<td>X-HL-1</td>
<td>Highway Light Easement</td>
</tr>
<tr>
<td>X-FP-1</td>
<td>Flood Plain Easement</td>
</tr>
<tr>
<td>X-PUE-1</td>
<td>Public Utility Easement</td>
</tr>
<tr>
<td>X-S-1</td>
<td>Slope Easement</td>
</tr>
<tr>
<td>X-SUP-1</td>
<td>Shared Use Path Easement</td>
</tr>
<tr>
<td>X-W-1</td>
<td>Wall Easement</td>
</tr>
<tr>
<td>X-WM-1</td>
<td>Watermain Easement</td>
</tr>
</tbody>
</table>

Easements can be combined on an as-needed basis, and should be listed alphabetically (i.e. X-HS-PUE-1, if the easement is for a highway sign and public utility easement).

**TEMPORARY EASEMENT TAKING:** State owns easement for a designated period of time and then the rights revert back to property owner.

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-TE-1</td>
<td>Temp. Easement</td>
</tr>
<tr>
<td>X-TWLR-1</td>
<td>Temp. Wetland Replication Easement</td>
</tr>
<tr>
<td>X-TFBU-1</td>
<td>Temp. Footbridge Utility Easement</td>
</tr>
<tr>
<td>X-TFB-1</td>
<td>Temp. Footbridge Easement</td>
</tr>
<tr>
<td>X-TPWW-1</td>
<td>Temp. Pedestrian Walkway Easement</td>
</tr>
<tr>
<td>X-TR-1</td>
<td>Temp. Road Easement</td>
</tr>
<tr>
<td>X-TRT-1</td>
<td>Temp. Removal Taking Easement</td>
</tr>
</tbody>
</table>

This list is an example of most commonly used takings and easements. If required, additional easements can be created on a case by case basis.
Appendix A.2 - Dispositions (State and Muni)

MassDOT ROW Disposition Guidelines for Privately Owned Items

Every item within a fee taking, permanent and temporary easement requires a disposition.

**RET:** Retain - The item can remain in place and will not be impacted by construction (property owner is not compensated for item through the acquisition process).

**REM:** Remove - The item will be impacted by construction and will be removed (property owner will be compensated for the item through the acquisition process).

**R&S:** Remove & Stack - Trespassing items ONLY. The item is located inside the State Highway layout or Town/City layout (property owner is not compensated for the item through the acquisition process).

**R&D:** Remove & Dispose - Trespassing landscaping ONLY. The landscaping item is located inside the State Highway layout (property owner is not compensated for the item through the acquisition process).

**R&R:** Remove & Reset - The item will be disrupted during construction. Contractor to remove and reset item. (property owner is not compensated for the item through the acquisition process).

**R&R (BO):** Remove & Reset By Others - The item qualifies for relocation benefits if privately owned and on private property.

<table>
<thead>
<tr>
<th>Is item Trespassing?</th>
<th>Yes</th>
<th>No</th>
<th>Is item Impacted?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ROW PLANS</strong></td>
<td></td>
<td></td>
<td><strong>HIGHWAY PLANS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bench</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>REM</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Bollard</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>REM</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Boulder (Decorative)</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>REM</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Bush</strong></td>
<td>RET</td>
<td>R&amp;D</td>
<td>RET</td>
<td>REM</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Fence or Guardrail</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>REM or R&amp;R</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Flag Pole</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>R&amp;R (BO)</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Irrigation System</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>REM</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Light Pole</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>R&amp;R (BO)</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Landscape Area</strong></td>
<td>RET</td>
<td>R&amp;D</td>
<td>RET</td>
<td>REM</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Mailbox</strong></td>
<td>RET</td>
<td>R&amp;D</td>
<td>RET</td>
<td>REM</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Planter</strong></td>
<td>RET</td>
<td>R&amp;D</td>
<td>RET</td>
<td>REM</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Septic System</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>REM</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Sign (Private)</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>R&amp;R (BO)</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Sign (Highway)</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>REM or R&amp;R</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Steps</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>REM</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Tree (Decorative)</strong></td>
<td>RET</td>
<td>R&amp;D</td>
<td>RET</td>
<td>REM</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Walkway</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>REM or R&amp;R</td>
<td>RET</td>
</tr>
<tr>
<td><strong>Wall</strong></td>
<td>RET</td>
<td>R&amp;S</td>
<td>RET</td>
<td>REM</td>
<td>RET</td>
</tr>
</tbody>
</table>

1. Any exception will be handled on a case-by-case basis. If you think a specific item merits an exception, please request a determination from the ROW Engineering Administrator and ROW Engineering Supervisor.

**Notes:**
2. Dispositions not required for items within layout and are publicly owned (i.e. guardrail, hydrants, manholes, etc.)
3. Dispositions not required for naturally occuring vegetation (trees/wooded areas, brush/overgrowth, etc.)

---

RET: Permit is required from District to allow continued trespass (State) and license is required from municipality (Muni)

R&R2: Mailboxes shall always be R&R due to USPS requirements

R&R3: R&R if fence or guardrail is required for public safety or site security

R&R4: R&R only if sign is in good condition and still applicable

R&R5: R&R if there is MassDOT Standard Item (brick, flagstone, etc.)
Appendix A.3
Commonly Used Abbreviations for Municipal Right-of-Way Plans

**FEE TAKING:** Municipality acquires land and takes possession of the land.

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-C</td>
<td>Taken in fee by the City</td>
</tr>
<tr>
<td>1-T</td>
<td>Taken in Fee by the Municipality</td>
</tr>
<tr>
<td>D-1-F</td>
<td>Drainage taken in fee</td>
</tr>
<tr>
<td>UR-1*C</td>
<td>Uneconomic remainder</td>
</tr>
</tbody>
</table>

*This should be the same number as the fee taking associated with the property*

**PERMANENT EASEMENT TAKING:** Municipality acquires easement for transportation project.

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-1</td>
<td>Channel Easement</td>
</tr>
<tr>
<td>D-1</td>
<td>Drainage Easement</td>
</tr>
<tr>
<td>E-1</td>
<td>Highway Easement</td>
</tr>
<tr>
<td>GR-1</td>
<td>Guardrail Easement</td>
</tr>
<tr>
<td>PUE-1</td>
<td>Public Utility Easement</td>
</tr>
<tr>
<td>S-1</td>
<td>Slope Easement</td>
</tr>
<tr>
<td>W-1</td>
<td>Wall Easement</td>
</tr>
<tr>
<td>WM-1</td>
<td>Watermain Easement</td>
</tr>
<tr>
<td>BP-1</td>
<td>Bike Path/Multi-Use Path Easement</td>
</tr>
<tr>
<td>CFS-1</td>
<td>Compensatory Flood Storage Easement</td>
</tr>
</tbody>
</table>

Easements can be combined on an as-needed basis, and should be listed alphabetically (i.e. X-HS-PUE-1, if the easement for a highway sign and public utility easement).

**TEMPORARY EASEMENT TAKING:** Municipality acquires easement for a designated period of time, and then the rights revert back to property owner.

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE-1</td>
<td>Temp. Easement</td>
</tr>
<tr>
<td>TWLR-1</td>
<td>Temp. Wetland Replication Easement</td>
</tr>
<tr>
<td>TFBU-1</td>
<td>Temp. Footbridge Utility Easement</td>
</tr>
<tr>
<td>TFB-1</td>
<td>Temp. Footbridge Easement</td>
</tr>
<tr>
<td>TPWW-1</td>
<td>Temp. Pedestrian Walkway Easement</td>
</tr>
<tr>
<td>TR-1</td>
<td>Temp. Road Easement</td>
</tr>
<tr>
<td>TRT-1</td>
<td>Temp. Removal Taking Easement</td>
</tr>
</tbody>
</table>

This list is an example of most commonly used takings and easements. If required, additional easements can be created on a case by case basis.
### Project Description

The proposed project consists of the reconstruction, largely in place, of Winthrop Ave from Route 16 to just beyond the Bennington Ave intersection. The proposed reconstruction will include milling and overlay of the existing roadway and reconstruction of the sidewalks along Winthrop Ave, ADA compliant ramps, new crosswalks, and bicycle accommodations consisting of an on-road buffered bicycle lane along the majority of the corridor. At the intersection of Bennington Ave, as well as at the entrance of Revere High School, the bike lane will be constructed without the buffer to allow for construction of left lane turns.

### Abbreviations

A project description shall be included, stating the primary purpose and improvements of the proposed project.
TYPICAL SECTIONS shall be provided to facilitate the understanding of the impacts to properties affected by the proposed work. Detail sections shall be provided as determined by the designer or as requested by the ROW Bureau. In general, TYPICAL SECTIONS are copied or xero’d from HIGHWAY PLANS.

If there are no significant changes in grade (such as a resurfacing project, without widening) or if the project includes work at isolated intersections (such as a traffic signal or ADA ramps only project), then a CRITICAL PROFILE or TYPICAL SECTIONS are NOT required. A note should be added on the title sheet such as: "THIS PROJECT CONSISTS OF TRAFFIC SIGNAL AND ADA IMPROVEMENTS WITH NO CHANGES TO ROADWAY GEOMETRY OR GRADES. AS SUCH, NO TYPICAL SECTIONS OR CRITICAL PROFILES ARE NEEDED NOR PROVIDED."

Each CROSS-SECTION must be labeled with the STREET NAME and approximate STA where it applies.

At the EXISTING and PROPOSED conditions must be shown, identified and clearly differentiated.

At the CRITICAL DIMENSIONS must be shown in English units.

PROVIDE A SCALE (in English units), or a note “Not to Scale” or “NTS” for all the CROSS-SECTIONS.
<table>
<thead>
<tr>
<th>PARCEL NO.</th>
<th>PLAN SHEET NO.</th>
<th>TITLEHOLDER</th>
<th>TITLE REFERENCE</th>
<th>AREA (F.S.)</th>
<th>TOTAL TAKEN</th>
<th>REMAINDER</th>
<th>PROPERTY ADDRESS</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>1</td>
<td>John Doe</td>
<td>1234</td>
<td>123</td>
<td>1000</td>
<td>500</td>
<td>123 Main St</td>
<td>Note</td>
</tr>
<tr>
<td>102</td>
<td>2</td>
<td>Jane Smith</td>
<td>4567</td>
<td>456</td>
<td>2000</td>
<td>1000</td>
<td>2456 Main St</td>
<td>Note</td>
</tr>
</tbody>
</table>

**NOTES AND CALLOUTS FOR DESIGNER’S REFERENCE ONLY - DO NOT INCLUDE IN PLAN**

1. Provide a blank (BLANK ROW) to separate all individual properties.
2. Group together properties with the same TITLEHOLDER and TITLE REFERENCE. If same TITLEHOLDER, but different TITLE REFERENCE then provide a space (BLANK ROW) to separate all individual properties.
3. Northwest: The FEE TAKINGS file (STATE), then CITY, PERMANENT EASEMENTS alphabetically second for the STATE, then on behalf of the City, TEMPORARY EASEMENTS third.
4. Use MASS DOT Standard Parcel Designations only. See MASS DOT Manual for Creating Right of Way Plans. PREFIX "**" will be provided for parcels to be acquired by the STATE. For Parcels that are to be acquired by a single MUNICIPALITY, no prefix is required. If multiple MUNICIPALITIES are acquiring parcels for one project, use the first letter of the MUNICIPALITY as a PREFIX, unless otherwise directed by the ROW Bureau. For example: a project in Quincy and Boston will have a "Q" and a "B"-prefix.
5. For COMBINE State/Municipal (Community Compliance) project, provide separate Parcel Summaries for State Takings and Municipal Takings.

**FILL OUT INFORMATION AS APPROPRIATE**

- **TITLE REFERENCE**: information provided must match with the DEED Records. Name of the Trustor required only if the property is REGISTERED LAND.
- **AREA**: fill out once for each property affected by FEE TAKINGS.
- **REMARKS**: fill out once for each property affected by FEE TAKINGS.
- **CITY/TOWN**: fill out as appropriate for the State/Town in Fee Remaining. Entire Property Area Remaining after TOTAL TAKEN is subtracted from TOTAL PROPERTY AREA.
## CITY OF BOSTON

<table>
<thead>
<tr>
<th>PARCEL NO.</th>
<th>PLAN SHEET NO.</th>
<th>TITLEHOLDER</th>
<th>TITLE REFERENCE</th>
<th>AREA (SF. &amp; FT.)</th>
<th>TOTAL PROPERTY AREA (SF. &amp; FT.)</th>
<th>PROPERTY ADDRESS</th>
<th>REMARKS</th>
<th>LAND RESTRICTIONS FROM THE DEED</th>
</tr>
</thead>
<tbody>
<tr>
<td>5775-1</td>
<td>18-11</td>
<td>FranklinPark Zon</td>
<td>1234</td>
<td>087</td>
<td>750, 963</td>
<td>243</td>
<td>103 Main Street</td>
<td>Grading (MAX 2%), 3%</td>
</tr>
<tr>
<td>56-1</td>
<td>11-12</td>
<td>John Doe</td>
<td>4521</td>
<td>123</td>
<td>1,000</td>
<td>1,000</td>
<td>53,930</td>
<td>90,083</td>
</tr>
<tr>
<td>56-2</td>
<td>11-12</td>
<td>John Doe</td>
<td>4521</td>
<td>123</td>
<td>830</td>
<td>830</td>
<td>308</td>
<td></td>
</tr>
</tbody>
</table>

## CITY OF QUINCY

<table>
<thead>
<tr>
<th>PARCEL NO.</th>
<th>PLAN SHEET NO.</th>
<th>TITLEHOLDER</th>
<th>TITLE REFERENCE</th>
<th>AREA (SF. &amp; FT.)</th>
<th>TOTAL PROPERTY AREA (SF. &amp; FT.)</th>
<th>PROPERTY ADDRESS</th>
<th>REMARKS</th>
<th>LAND RESTRICTIONS FROM THE DEED</th>
</tr>
</thead>
<tbody>
<tr>
<td>5775-1</td>
<td>11-12</td>
<td>James Smith Park</td>
<td>1434</td>
<td>213</td>
<td>750, 963</td>
<td>143</td>
<td>123 Main Street</td>
<td>Grading (MAX 2%), 3%</td>
</tr>
<tr>
<td>56-1</td>
<td>12</td>
<td>John Thompson</td>
<td>1789</td>
<td>120</td>
<td>1,000</td>
<td>1,000</td>
<td>53,930</td>
<td>90,083</td>
</tr>
<tr>
<td>56-2</td>
<td>12</td>
<td>John Thompson</td>
<td>1789</td>
<td>120</td>
<td>830</td>
<td>830</td>
<td>308</td>
<td></td>
</tr>
<tr>
<td>5775-1</td>
<td>12</td>
<td>ABC Inc.</td>
<td>1945</td>
<td>1234</td>
<td>750, 963</td>
<td>44,083</td>
<td>129</td>
<td>143 Main Street</td>
</tr>
<tr>
<td>5775-2</td>
<td>12</td>
<td>ABC Inc.</td>
<td>1945</td>
<td>1234</td>
<td>750, 963</td>
<td>44,083</td>
<td>129</td>
<td>143 Main Street</td>
</tr>
</tbody>
</table>

### Notes and Callouts for Designer's Reference Only
1. Provides a space (BLANK ROW) to separate all Individual properties. 
2. Use MASSDOT Standard Parcel Designations only. See MassDOT Manual for Creating Right of Way Plans. PREFIX "X" and "Y" will be provided for parcels to be acquired by the STATE. For parcels that are to be acquired by a single MUNICIPALITY, no prefix is required. If multiple MUNICIPALITIES are acquiring parcels for one project, use the first letter of the MUNICIPALITY as a PREFIX, unless otherwise directed by the ROW Bureau. For example: a project in QUINCY and BOSTON will have a Q-prefix and a B-prefix. 
3. For COMBINE State/Municipal (Community Compliance) project, provide separate Parcel Summaries for State Takings and Municipal Takings. 

### Specific Purposes
- Provided at each design submission for both STATE and MUNICIP (Community Compliance) projects.
Appendix B.8 - Property Plan (Survey)

Prior to submitting the ROW Plans, the consultant shall perform a SITE VISIT to confirm the survey base plan is ACCURATE based on the ACTUAL IN-THE-FIELD CONDITIONS. Multiple site visits may be necessary depending on project duration, size and location.

NOT ALL existing underground utilities are required on ROW Plans.
- Plot only the existing Drainage, and the underground utilities impacted by the proposed work.

At EXISTING CONDITIONS shown on the plans must match with the actual CONDITIONS in the field, including the Parking Stripes on private properties.

All STREETS shown should be identified by name and Route number, and as public or private.

Property Information (Owner name - TITLEHOLDER and TITLE Reference) must match with the RECORDED DEED.
- PROPERTY ADDRESS provided on Property Plan must match with the PROPERTY ADDRESS provided on Parcel Summary Sheet.

PRELIMINARY RIGHT OF WAY PROPERTY PLANS SHEET 09 OF 12
SOUTH HADLEY NEWTON STREET (ROUTE 116) PROJECT FILE NO. 608473
PROPERTY PLANS SHEET 09 OF 12

PROPERTY LINES of abutters to state highway and other roadways are required to be established on the plans by compiling information from the BEST AVAILABLE SOURCE. The best available sources include the deed for the property, record plans of the property, subdivisions plans, land court plans, etc. GIS DATA and information from the ACCESSORS’ MAPS are NEVER an acceptable source.
### Appendix C.1 - Easement Area and Design Change Form

Titleholder information provided must match with information provided on Parcel Summary Sheet

All prop. Easements affected by the design change must be listed on the Right of Way Design Change Form

Fill out the Remarks and Change in S.F. columns for each easement listed on ROW Design Change Form

Fill in the column for all easements listed on ROW Design Change Form - Provide a detailed explanation to orient the Plan Reviewer

<table>
<thead>
<tr>
<th>Property Owner</th>
<th>Easement</th>
<th>Original Area (S.F.)</th>
<th>New Area (S.F.)</th>
<th>Change in S.F.</th>
<th>Remarks</th>
<th>Reason for Change in parcel area</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Doe</td>
<td>17-TE-1</td>
<td>365</td>
<td>365</td>
<td>0</td>
<td>REVISED DISPOSITIONS</td>
<td>Clarified disposition of &quot;No Entrance&quot; sign to be R&amp;R</td>
</tr>
<tr>
<td>Tom Thompson</td>
<td>17-TE-11</td>
<td>740</td>
<td>958</td>
<td>218</td>
<td>REVISED PARCEL &amp; DISPOSITIONS</td>
<td>Limit of driveway reconstruction was increased. Changed disposition of landscaping to R&amp;D.</td>
</tr>
<tr>
<td>249 Main Street Realty Trust</td>
<td>17-6</td>
<td>505</td>
<td>711</td>
<td>206</td>
<td>REVISED PARCEL</td>
<td>Revised Prop SHO for widened roadway</td>
</tr>
<tr>
<td></td>
<td>17-TE-7</td>
<td>1413</td>
<td>2072</td>
<td>659</td>
<td>REVISED PARCEL</td>
<td>Revised grading limits based on widened roadway</td>
</tr>
<tr>
<td>ABC Realty, LLC</td>
<td>17-2-T</td>
<td>21</td>
<td>0</td>
<td>-21</td>
<td>REMOVED PARCEL</td>
<td>Parcel changed from taking to easement</td>
</tr>
<tr>
<td></td>
<td>17-E-1-T</td>
<td>0</td>
<td>21</td>
<td>21</td>
<td>ADDED PARCEL &amp; REVISED DISPOSITIONS</td>
<td>Parcel changed from taking to easement. Revised disposition of landscaping to &quot;remove&quot; and trees to &quot;protect&quot;</td>
</tr>
<tr>
<td>James Smith</td>
<td>17-TE-9</td>
<td>2095</td>
<td>2095</td>
<td>0</td>
<td>REVISED DISPOSITIONS</td>
<td>Revised dispositions of stop signs from R&amp;R(BO) to RET</td>
</tr>
<tr>
<td></td>
<td>17-TE-15</td>
<td>549</td>
<td>549</td>
<td>0</td>
<td>REVISED DISPOSITIONS</td>
<td>Revised disposition of stop sign from R&amp;R(BO) to R&amp;D.</td>
</tr>
<tr>
<td></td>
<td>17-PUE-1-C</td>
<td>76</td>
<td>76</td>
<td>0</td>
<td>REVISED DISPOSITIONS</td>
<td>Revised disposition of business sign from R&amp;R(BO) to RET.</td>
</tr>
<tr>
<td>Robert Smith</td>
<td>17-TE-17</td>
<td>234</td>
<td>359</td>
<td>125</td>
<td>REVISED PARCEL &amp; DISPOSITIONS</td>
<td>Revised dispositions of planter and sign from RET to R&amp;R(BO)</td>
</tr>
<tr>
<td>ABC INC.</td>
<td>17-TE-12</td>
<td>2093</td>
<td>1062</td>
<td>-1031</td>
<td>REVISED PARCEL &amp; DISPOSITIONS</td>
<td>Removed proposed curbing; revised disposition of trees from REM to R&amp;D, individually noted trees to be R&amp;D, denoted &quot;Customer Parking Only&quot; sign to be R&amp;R (BO)</td>
</tr>
</tbody>
</table>

Original Area (S.F.) - From "Prelim. ROW Plans - Rev. 6 (Dated 7-11-2019) - Accepted (7-17-2019)"

New Area (S.F.) - From "Prelim. ROW Plans - Rev. 7 (Dated 10-16-2019)"

Original Area - All information provided must match with the information provided on Accepted Right of Way Plans

New Area - All information provided must reflect the design changes, and match with the revised Right of Way Plans

- Original Area (S.F.) - From "Prelim. ROW Plans - Rev. 6 (Dated 7-11-2019) - Accepted (7-17-2019)"

- New Area (S.F.) - From "Prelim. ROW Plans - Rev. 7 (Dated 10-16-2019)"

- ACCEPTED RIGHT OF WAY PLANS - All new design changes (parcel locations/size, dispositions of existing items, minor changes to proposed work, etc) that have resulted in changes to the Accepted Right of Way Plans must be reported to Right of Way Engineering Section.

- Fill out the ROW DESIGN CHANGE FORM, and submit it together with the revised Right of Way Plans.

- If the square footage remains the same, but the disposition of a privately owned item, within an easement area changes, it must be listed on the ROW Design Change Form.

- The old disposition and new disposition should be clearly identified in the remarks column.
### Appendix C.2 - Blank (Excel File) Easement Area and Design Changes Form

<table>
<thead>
<tr>
<th>Property Owner</th>
<th>PG (on Property Plan)</th>
<th>Easement</th>
<th>Original Area (S.F.)</th>
<th>New Area (S.F.)</th>
<th>Change in S.F.</th>
<th>Remarks</th>
<th>Reason for Change in parcel area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Original Area (S.F.) - From "Prelim. ROW Plans - Rev. X (Dated XX-XX-XXXX) - Accepted (XX-XX-XXXX)"
New Area (S.F.) - From "Prelim. ROW Plans - Rev.X (Dated XX-XX-XXXX)"

[Download the fillable version of this form (Excel file)](#)
# EXISTING & PROPOSED LINEWORK/TEXT LAYER AND PLOT STYLE GUIDELINES

### Existing Sideline Linework and Text
- **Text Layer**: EX-LO-TEXT
- **Text Style**: DOT-LO

### Proposed Sideline Linework and Text
- **Text Layer**: PR-LO-TEXT
- **Text Style**: DOT-P

### Survey Linework and Text
- **Text Layer**: EX-SV-LN-TEXT
- **Text Style**: DOT-L0

### Existing Conditions Linework and Text
- **Text Layer**: EX-SV-TEXT
- **Text Style**: DOT-E

### Proposed Linework and Text
- **Text Style**: DOT-P

## Linework/Text Layer and Plot Style Guidelines

- **COUNTY LAYOUT SIDELINE**: EX-LO-CT
- **RAILROAD LAYOUT SIDELINE**: EX-LO-RR
- **STATE HIGHWAY LAYOUT SIDELINE**: EX-LO-SHL-1945-LO-3345
- **TOWN/CITY LAYOUT SIDELINE**: EX-LO-TN
- **COUNTY L-YOUT SIDELINE**: PR-LO-CT
- **R-ILRO-D L-YOUT SIDELINE**: PR-LO-SH-LT
- **ST-TE HIGHW-Y LO SIDELINE**: PR-LO-SH-LT
- **TOWN/CITY L-YOUT SIDELINE**: PR-LO-TN
- **PERM E-SEMENT LINE**: PR-RW-PERME-SE-ST
- **TEMP. E-SEMENT LINE**: PR-RW-TEMP-SE
- **EXISTING EASEMENT LINE**: EX-SV-LN-EASE
- **ABUTTER PROPERTY LINE**: EX-SV-LN-PROP
- **ABUTTER COMMON PROPERTY LINE**: EX-SV-LN-PROP-COMMON
- **STATE LINE (MA-NH BORDER)**: EX-SV-LN-STATE
- **TOWN/CITY LINE (REVERE/SAUGUS BORDER)**: EX-SV-LN-TN
- **VGC**: EX-SV-CURB-BOT/EX-SV-CURB-TOP
- **CONC. WALK**: EX-SV-EC0
- **COP**: EX-SV-EC0
- **CHAIN LINK FENCE**: EX-SV-FNCL-GR0
- **GUARDRAIL**: EX-SV-GRD0-STBL
- **PROP. CURB**: PR-HD-CURB-BOT/PR-HD-CURB-TOP
- **PROP. CEM CONC. WALK**: PR-HD-WALK
- **PROP. HMA**: PR-HD-EPAV
- **SAWCUT**: PR-HD-SAWCUT
- **BOS / TOS**: PR-HD-LIMIT-GRAD

---

This is to be as an example of the hierarchy of linework that the ROW Staff is trained to recognize.