

MAJOR SITE PLAN REVIEW APPLICATION

STATION 65 AND 446 CONTROL BUILDINGS

**34 West Street
Medway, Massachusetts**

Prepared for:

EVERSOURCE

**NSTAR Electric Company
d/b/a Eversource Energy
One NSTAR Way, NE 250
Westwood, MA 02090**

Prepared by:



BEALS + THOMAS

BEALS AND THOMAS, INC.
Reservoir Corporate Center
144 Turnpike Road
Southborough, MA 01772-2104

*Submitted in Compliance with the Town of Medway
Massachusetts Zoning Bylaw and the Town of Medway
Planning Board Rules and Regulations*

January 26, 2016



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www.bealsandthomas.com
Regional Office: Plymouth, MA

January 26, 2016

Mr. Andy Rodenhiser, Chair
Town of Medway Planning & Economic Development Board
155 Village Street
Medway, MA 02053

Via: Hand Delivery

Reference: Major Site Plan Review Application
Station 65 and 446 Control Buildings
34 West Street
Medway, Massachusetts
B+T Project No. 1422.11

Dear Chairperson Rodenhiser and Members of the Board:

On behalf of the Applicant, NSTAR Electric Company d/b/a Eversource Energy (Eversource), Beals and Thomas, Inc. respectfully submits this Major Site Plan Review Application for the construction of two control buildings at 34 West Street in Medway, Massachusetts (the Project). This filing is submitted in accordance with Town of Medway Massachusetts Zoning Bylaw (the Bylaw) and the Town of Medway Planning Board Rules and Regulations (the Regulations).

Enclosed is one copy plus the original of the Major Site Plan submission package, ten (10) 11” by 17” copies of the Site Plan set and two (2) copies of the Stormwater Management Report. The following information is included for your review:

- Section 1.0: Site Plan Application Forms
- Section 2.0: Project Narrative
- Section 3.0: Parties of Interest
- Section 4.0: Stormwater Management Report (Under Separate Cover)
- Section 5.0: Proof of Ownership
- Section 6.0: Plans

A copy of all materials has also been provided for the Town Clerk. Pursuant to requirements of the Regulations, a list of abutters, abutters to abutters within 300 feet of the subject property and the Planning Boards of adjacent municipalities has been included. These abutters will be notified via Certified Mail upon receipt of the public hearing notice from the Planning Board (the Board), at least 14 days prior to the hearing. We also understand that the Board will place a public hearing notice in a newspaper of local circulation, for which the Applicant will be billed directly. Enclosed are two checks payable to the Town of Medway in the amount of \$1,710 and \$1,000 for the filing and review fees as required by the Bylaw and Regulations.

Mr. Andy Rodenhiser, Chair
Town of Medway Planning & Economic Development Board
January 26, 2016
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Should you have any questions regarding this matter or require additional information, please contact us at (508) 366-0560. We thank you for your consideration of this Major Site Plan Review Application and look forward to meeting with the Board at the next available public hearing.

Very truly yours,

BEALS AND THOMAS, INC.



John P. Gelcich, AICP
Senior Planner



Mary Kate Schneeweis
Environmental Specialist

Enclosures

cc: Mr. Duane Boyce, Project Manager, Construction, Eversource Energy, 1 copy via U.S.
Mail and email: Duane.Boyce@eversource.com

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Section 1.0
Major Site Plan Application Forms

Application for Review and Approval of a Major Site Plan Project

Requests for Waiver from Rules and Regulations

Site Visit Authorization



Planning & Economic Development Board - Town of Medway, MA
SITE PLAN REVIEW

Application for Major Site Plan Approval

INSTRUCTIONS TO APPLICANT/OWNER

This Application is made pursuant to the *Medway Zoning Bylaw* and
The Board's *Rules and Regulations for the Submission and Review of Site Plans*

The Town's Planning and Engineering Consultants will review the Application and the proposed
Site Plan and provide review letters to the Planning and Economic Development Board.

A copy of those review letters will be provided to you in advance of the meeting.

You and/or your duly authorized Agent/Official Representative are expected to attend the
Board meetings at which your Application will be considered to answer any questions and/or
submit such additional information as the Board may request.

Your absence at hearings may result in a delay in the Board's review of the site plan.

January 26, 2016

APPLICANT INFORMATION

Applicant's Name: NSTAR Electric Company d/b/a Eversource Energy

Mailing Address: One NSTAR Way, NE 250
Westwood, MA 02090

Name of Primary Contact: Duane Boyce, Project Manager, Construction

Telephone:
Office: _____
Cell: _____

Email address: Duane.Boyce@eversource.com

Please check here if the Applicant is the equitable owner (*purchaser on a purchase and sales agreement.*)

MAJOR SITE PLAN INFORMATION

Development Name: Station 65 and 446 Control Buildings

Plan Title: As Noted

Plan Date: As Noted

Prepared by:
Name: As Noted
Firm: _____
Phone #: _____
Email: _____

PROPERTY INFORMATION

Location Address: 34 West Street

The land shown on the plan is shown on Medway Assessor's Map # 66 as Parcel # 012

Total Acreage of Land Area: ±48.8 acres

General Description of Property: The majority of the Property has been cleared, with vegetation maintained along portions of West Street. The property contains two transmission and switchyard facilities

Medway Zoning District Classification: Industrial II and Agricultural Residential II

Current Use of Property: electric substation and support buildings/equipment

Length of Existing Frontage: 1583.34 feet On what street? West Street

Setbacks for Existing Structure (if applicable)

Front: Varies
Back: Varies
Side: Varies
Side: Varies

Scenic Road

Does any portion of this property have frontage on a Medway Scenic Road?

Yes No If yes, please name street: _____

Historic District

Is any portion of this property located within a Medway National Register Historic District?

Yes - Rabbit Hill
 Yes - Medway Village

Wetlands

Is any portion of the property within a Wetland Resource Area? Yes No

Groundwater Protection

Is any portion of the property within a Groundwater Protection District? Yes No

Flood Plain

Is any portion of the property within a Designated Flood Plain? Yes No

Zoning Board of Appeals

Will this project require a variance or special permit?

Yes No

Explanation: The use is allowed by-right, but the scope of the Project requires Major Site Plan Review.

PROPOSED DEVELOPMENT PROJECT INFORMATION

Development Name: Station 65 and 446 Control Buildings

A Major Site Plan is any commercial, industrial, institutional, multi-family, or municipal project which involves:

- a. New construction; or
- b. Alteration, reconstruction, or renovation work that will result in a change in the outside appearance of an existing building or premises, visible from a public or private street or way; or
- c. A change of use of a building or buildings or premises:

AND which includes one or more the following: (Please check all that apply.)

- New Construction - 2,500 or more sq. ft. of "gross floor area"
- New Construction - Construction of a new building or addition requiring 15 or more parking spaces
- Change in Use requiring the construction of 15 or more parking spaces
- Change in Parking Area - The construction, expansion, redesign or alteration of an existing parking area involving the addition of 15 or more new parking spaces
- Other – Any use or structure, or expansion thereof, exempt under MGL, c. 40A, s.3, but only if one or more of the above criteria is met.

PROPERTY OWNER INFORMATION (if not applicant)

Property Owner's Name: Sithe West Medway LLC c/o NSTAR Services Co.

Mailing Address: PO Box 270
Hartford, CT 06141-270

Primary Contact: Duane Boyce, Project Manager, Construction

Telephone:
Office: _____ Cell: _____

Email address: Duane.Boyce@eversource.com

The owner's title to the land that is the subject matter of this application is derived under deed from: Boston Edison Company to Sithe West Medway LLC dated May 21, 1998 and recorded in Norfolk County Registry of Deeds, Book 12521 Page 109 or Land Court Certificate of Title Number _____, Land Court Case Number _____, registered in the Norfolk County Land Registry District Volume _____, Page _____.

CONSULTANT INFORMATION

ENGINEER: Beals and Thomas, Inc.

Mailing Address: 144 Turnpike Road
Southborough, MA 01772

Primary Contact: Eric J. Las, PE

Telephone:
Office: (508) 366 - 0560 Cell: _____

Email address: elas@bealsandthomas.com

Registered P.E. License #: _____

SURVEYOR: Beals and Thomas, Inc.
Mailing Address: See above

Primary Contact: Robert J. Buckley
Telephone:
Office: _____ Cell: _____
Email Address: rbuckley@bealsandthomas.com
Registered P.L.S. License #: 30326

ARCHITECT: _____
Mailing Address: _____

Primary Contact: _____
Telephone:
Office: _____
Cell: _____
Email address: _____
Registered Architect License #: _____

LANDSCAPE ARCHITECT/DESIGNER: _____
Mailing Address: _____

Primary Contact: _____
Telephone:
Office: _____
Cell: _____
Email address: _____
Registered Landscape Architect License #: _____

ATTORNEY: _____
Mailing Address: _____

Primary Contact: _____
Telephone:
Office: _____ Cell: _____
Email address: _____

OFFICIAL REPRESENTATIVE INFORMATION

Name: Eric J. Las, PE
Address: 144 Turnpike Road
Southborough, MA 01772
Telephone: Office: (508) 366 - 0560 Cell: _____
Email address: elas@bealsandthomas.com

SIGNATURES

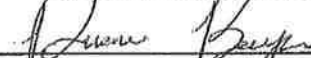
The undersigned, being the Applicant for approval of a Major Site Plan Project, herewith submits this application and Site Plan to the Medway Planning and Economic Development Board for review and approval. I hereby certify, under the pains and penalties of perjury, that the information contained in this application is a true, complete and accurate representation of the facts regarding the property and proposed development under consideration.

(If applicable, I hereby authorize Beals and Thomas, Inc. to serve as my Agent/Official Representative to represent my interests before the Medway Planning & Economic Development Board with respect to this application.)

In submitting this application, I authorize the Board, its consultants and agents, Town staff, and members of the Design Review Committee to access the site during the plan review process.

I understand that pursuant to MGL 53G, the Medway Planning and Economic Development Board may retain outside professional consultants to review this application and that I am responsible for the costs associated with such reviews.

I understand that the Planning and Economic Development Board, its agents, staff, consultants, and other Town staff and committees may request additional information which I am responsible for providing to assist them in reviewing the proposed development.


Signature of Property Owner

1/22/16
Date

Signature of Applicant (if other than Property Owner)

Date


Signature of Agent/Official Representative

1/22/16
Date

MAJOR SITE PLAN FEES

Filing Fee

- For projects up to 4,999 sq. ft./gross floor area = \$ 750 plus \$.25/sq. ft.
- For projects of 5,000 – 9,999 sq. ft./gross floor area = \$1,000 plus \$.25/sq. ft.
- For projects of 10,000 – 14,999 sq. ft./gross floor area = \$1,500 plus \$.25/sq. ft.
- For projects of 15,000 sq. ft. or more/gross floor area = \$1,500 plus \$.25/sq. ft.

Advance on Plan Review Fee

- For projects up to 4,999 sq. ft./gross floor area = \$1,000 deposit.
- For projects of 5,000 – 9,999 sq. ft./gross floor area = \$1,500 deposit
- For projects of 10,000 – 14,999 sq. ft./gross floor area = \$2,000 deposit
- For projects of 15,000 sq. ft. or more/gross floor area = \$2,500 deposit

Submit 2 separate checks each made payable to: **Town of Medway**

MAJOR SITE PLAN APPLICATION CHECKLIST

- Major Site Plan Application (2 signed originals – one for Town Clerk and one for Planning and Economic Development Board)
- Ten (10) full size copies of the Site Plan prepared in accordance with Sections 204-4 and 204-5 of the *Medway Site Plan Rules and Regulations*
- One (1) ledger size (11" x 17") copy of the Site Plan
- Electronic Version of the Site Plan and all associated application documents. Provide disk or flash drive or email.
- Certified Abutters List from the Medway Assessor's office – for 300 feet around the subject property – Form E
- One (1) copy of a *Project Description* as described in Section 204 - 3, 6) of the *Medway Site Plan Rules and Regulations*. This description should also include narrative on how the proposed project meets the requirements of the Medway Zoning Bylaw for parking (V. H) and exterior lighting (V. B. 6)
- One (1) copy of a *Development Impact Statement* as described in Section 204 - 3, 7) of the *Medway Site Plan Rules and Regulations*
- Request for Waivers from the *Medway Site Plan Rules and Regulations* - Form Q.
- Two (2) copies of the *Stormwater Drainage Calculations/Report* prepared in conformance with Section 204 – 3, 3) of the *Site Plan Rules and Regulations*
- N/A Two (2) copies of a traffic study, depending on the size and scope of the proposed development project.
- N/A One (1) copy of all relevant approvals received to date from other Town boards/committees/departments
- Proof of present or pending ownership of all land within the proposed development.
- Major Site Plan Filing Fee – Payable to Town of Medway
- Advance of Plan Review Fee – Payable to Town of Medway

Medway Planning and Economic Development Board
FORM Q - Request for Waiver from Rules and Regulations
Complete 1 form for each waiver request

Project Name:	Station 65 and 446 Control Buildings
Property Location:	34 West Street
Type of Project/Permit:	Construction of Two Support Buildings/Major Site Plan Review
Identify the number and title of the relevant Section of the applicable Rules and Regulations from which a waiver is sought.	Section 204-3.A.7.a Traffic Impact
Summarize the text of the relevant Section of the Rules and Regulations from which a waiver is requested.	The above-referenced section requires an Applicant to prepare and submit a Traffic Impact Assessment if the property for which site plan review and approval is required has frontage on a public way.
What aspect of the Regulation do you propose be waived?	The requirement to prepare and submit a Traffic Impact Assessment
What do you propose instead?	To not prepare and submit a Traffic Impact Assessment
Explanation/justification for the waiver request. Why is the waiver needed? Describe the extenuating circumstances that necessitate the waiver request.	The proposed Project is not anticipated to generate new vehicular trips as the Project is the construction of two support buildings which will serve to replace existing facilities on-site. The Project does not propose new parking spaces.
What is the estimated value/cost savings to the applicant if the waiver is granted?	Approximately \$5,000 to \$10,000
How would approval of this waiver request result in a superior design or provide a clear and significant improvement to the quality of this development?	The Applicant is of the opinion that the Traffic Impact Assessment will not provide additional and useful information relating to the Site. The approval this waiver request will allow for the quick and efficient construction of the proposed buildings, reducing potential impacts on the surrounding neighborhood.
What is the impact on the development if this waiver is denied?	The denial will have a negative impact on the construction schedule which will impact the ability of the substation to provide efficient energy production.
What are the design alternatives to granting this waiver?	None.
Why is granting this waiver in the Town's best interest?	The Traffic Impact Assessment is not anticipated to reveal significant impacts from the proposed Project due to the small scope, and undertaking the Assessment will require review by the Town which will cost time and money.
If this waiver is granted, what is the estimated cost savings and/or cost avoidance to the Town?	The time and salary associated with Town staff managing, coordinating, and potentially conducting the review of the Assessment.
What mitigation measures do you propose to offset not complying with the particular Rule/Regulation?	No mitigation is proposed as no significant impacts are anticipated.
What is the estimated value of the proposed mitigation measures?	Not applicable.
Other Information?	Not applicable.
Waiver Request Prepared By:	Beals and Thomas, Inc.
Date:	January 26, 2016

Questions?? - Please contact the Medway PED office at 508-533-3291.

Medway Planning and Economic Development Board
FORM Q - Request for Waiver from Rules and Regulations
 Complete 1 form for each waiver request

Project Name:	Station 65 and 446 Control Buildings
Property Location:	34 West Street
Type of Project/Permit:	Construction of Two Support Buildings/Major Site Plan Review
Identify the number and title of the relevant Section of the applicable Rules and Regulations from which a waiver is sought.	Section 204-4 Standards for Site Plan Preparation
Summarize the text of the relevant Section of the Rules and Regulations from which a waiver is requested.	The above-referenced section details the size, scale, projection, and general contents applied to the Site Plan set.
What aspect of the Regulation do you propose be waived?	The required size and scale of the Site Plan set sheets.
What do you propose instead?	To provide certain sheets at a reduced scale and a 11"x17" size.
Explanation/justification for the waiver request. Why is the waiver needed? Describe the extenuating circumstances that necessitate the waiver request.	The Site Plan set was prepared as a combination of sheets by different engineering firms, and some sheets were solely provided as 11"x17"-sized sheets.
What is the estimated value/cost savings to the applicant if the waiver is granted?	The estimated cost saved by granting this waiver is the time and cost to prepare these sheets at the size required. This requirement would likely delay the submission and result in lost development time and cost.
How would approval of this waiver request result in a superior design or provide a clear and significant improvement to the quality of this development?	The approval of this waiver would result in the same development as would be proposed with full-size plans, however, the delay in construction would likely result in lost development time and cost, which would negatively impact the Applicant.
What is the impact on the development if this waiver is denied?	The denial of this waiver would likely result in lost development cost and time, which would negatively impact the Applicant.
What are the design alternatives to granting this waiver?	None.
Why is granting this waiver in the Town's best interest?	Granting this waiver will allow for timely construction, with minimal delays, resulting in further minimized impacts to the neighborhood.
If this waiver is granted, what is the estimated cost savings and/or cost avoidance to the Town?	Granting of this waiver will likely not result in cost savings or cost avoidance to the Town.
What mitigation measures do you propose to offset not complying with the particular Rule/Regulation?	No mitigation is proposed.
What is the estimated value of the proposed mitigation measures?	Not applicable.
Other Information?	Not applicable.
Waiver Request Prepared By:	Beals and Thomas, Inc.
Date:	January 26, 2016

Questions?? - Please contact the Medway PED office at 508-533-3291.

Medway Planning and Economic Development Board
FORM Q - Request for Waiver from Rules and Regulations
Complete 1 form for each waiver request

Project Name:	Station 65 and 446 Control Buildings
Property Location:	34 West Street
Type of Project/Permit:	Construction of Two Support Buildings/Major Site Plan Review
Identify the number and title of the relevant Section of the applicable Rules and Regulations from which a waiver is sought.	Section 205-2 Design Standards
Summarize the text of the relevant Section of the Rules and Regulations from which a waiver is requested.	The above-referenced section outlines the design standards for new structures undergoing Site Plan Review. These standards generally apply to the exterior design of the building.
What aspect of the Regulation do you propose be waived?	Design standards believed to not be applicable to the function of the proposed building, specifically: Roof Shape, facade Line, Shape and Profile, Architectural details, ground floor facade requirements, architectural features at pedestrian level, variations in the roof lines, parapets, and traditional entry elements.
What do you propose instead?	To design the buildings for safety and function.
Explanation/justification for the waiver request. Why is the waiver needed? Describe the extenuating circumstances that necessitate the waiver request.	The design and materials proposed for the buildings are such as to reduce electrical conductance, remain consistent with existing on-site buildings, and reduce fire hazard potential.
What is the estimated value/cost savings to the applicant if the waiver is granted?	More than \$100,000. This includes the cost to redesign the buildings and the construction costs associated with the newly redesigned buildings.
How would approval of this waiver request result in a superior design or provide a clear and significant improvement to the quality of this development?	The proposed Project is located within an energized zone, and the design of the buildings is such as to minimize electrical conductance and fire hazards, as well as remain consistent with the design of the existing on-site structures.
What is the impact on the development if this waiver is denied?	The result of denial would likely be increased safety hazards on-site, increased development cost, and a likely prolonged construction period.
What are the design alternatives to granting this waiver?	None.
Why is granting this waiver in the Town's best interest?	Granting this waiver will allow for an upgraded substation facility and construction of the control buildings in a way so as to reduce safety hazards.
If this waiver is granted, what is the estimated cost savings and/or cost avoidance to the Town?	A safer work environment for substation workers would result in reduced emergency response costs for the Town. Using the design standards listed above may result in an unsafe work environment for substation employees.
What mitigation measures do you propose to offset not complying with the particular Rule/Regulation?	No mitigation is proposed as no significant adverse impacts are anticipated.
What is the estimated value of the proposed mitigation measures?	Not applicable.
Other Information?	Not applicable.
Waiver Request Prepared By:	Beals and Thomas, Inc.
Date:	January 26, 2016

Questions?? - Please contact the Medway PED office at 508-533-3291.

Mary Kate Schneeweis

From: Duane.Boyce@eversource.com
Sent: Monday, January 25, 2016 3:00 PM
To: Mary Kate Schneeweis
Cc: Eric Las; John Gelcich; Jeffrey Murphy
Subject: RE: Medway Work

The members of the Medway Planning Board are allowed to access the site at Station 65 & 446. To access the sites the members must be accompanied by an Eversource Energy employee. Please have them contact me at 339-987-7261 prior to the visit so that I may make the necessary arrangements.

Thanks,
Duane Boyce
Project Manager, Construction
Eversource Energy
One NSTAR Way
Westwood, MA 02090

Section 2.0
Project Narrative

2.0 PROJECT NARRATIVE

2.1 Introduction

This application for Major Site Plan Review is for the construction of two control buildings at the existing electrical transmission Stations 65 and 446 on a 94-acre Property owned by Sithe West Medway LLC and operated by Eversource. Eversource has a permanent easement on the Property. The Project entails the construction of two 1,920 square-foot control buildings (the Project) identified as Assessor's Map 66 Lot 012 (the Property). The proposed facility will be located adjacent to the existing substations. The majority of the Property is located within the Industrial II zoning district, with portions located within the Agricultural Residential II zoning district. It is anticipated that no work will take place within the AR II district.

2.2 Existing Conditions

Eversource holds an easement on a portion of the overall 94-acre Property on which it owns and operates two transmission and switchyard facilities. Assessor's Map 66 Lot 012, the parcel on which the proposed construction is located, is bordered to the north by transmission easements, on the east by the existing West Medway Generating Station, and on the south and west by West Street and adjacent properties, primarily residential in nature. Each transmission switchyard includes transformers, switchgear, transmission lines/towers and other associated infrastructure dispersed through the Eversource easement. The majority of Eversource-controlled land has been cleared.

The Property contains wetland resource areas including Bordering and Isolated Vegetated Wetlands.

2.3 Proposed Conditions

The proposed Project includes the construction of two control buildings, accessory to the existing substations. The pre-fabricated structures will house equipment which protects the high voltage equipment in the substation yards. Each new control building represents an upgrade to the existing control buildings on the Property, which must remain active while the upgrades occur.

The construction of the building located at Station 65 requires construction of a new retaining wall, which will be topped by a fence.

2.3.1 Uses

The proposed use is consistent with the existing use on the Property. The entirety of the proposed facility will be located within the Industrial II Zoning District. Under the Bylaw, "*Electric power generation including but not limited to renewable or alternative energy...*" is a use allowed by right in the Industrial II District. The proposed control buildings serve as an accessory use to the principal "electric power generation" use.

2.3.2 Proposed Construction

Each proposed pre-fabricated structure will arrive to the Site as two separate pieces (four pieces total). Each piece is 15 feet by 64 feet. The two pieces per building will be bolted together and placed on the foundation.

2.3.3 Project Intended to Serve

The proposed Project is a necessary improvement to the existing use, which provides electricity to the Southeast Massachusetts/Rhode Island (SEMA/RI) load zone in the ISO-New England electric grid.

2.3.4 Number of Employees

During construction, the proposed facility is anticipated to generate a negligible number of temporary construction jobs, if any. Operation of the Project is not anticipated to generate new permanent jobs.

2.3.5 Hours of Operation

The proposed control buildings will be operational 24 hours a day, seven days a week.

2.3.6 Anticipated Project Timetable

Construction of the proposed Project is scheduled to begin in March 2016 and last for approximately four (4) days. At completion, the proposed facility will be available for commercial operation.

2.3.7 Cost Estimate

The estimated total cost of construction for the two buildings is anticipated to be approximately \$1,400,000, including materials and labor.

2.3.8 Mitigation

The operation of the proposed facility is not anticipated to result in adverse impacts beyond those from the existing facility, if any. The Applicant intends to address construction-period impacts to the extent practicable using standard construction mitigation.

2.4 Site Plan Review Standards

2.4.1 General Design Principals

The proposed facility will be consistent with the current character of the Property and the Town of Medway. The Project is a continuance of the current use located on the Property and does not conflict with the zoning designation on the Site. The Project is consistent with the Medway Master Plan, adopted by the Planning and Economic Development Board in 2009, which encourages “...*development of commercial and industrial properties along the Bellingham line.*” The existing and proposed facilities are located along the Bellingham line.

Impacts to the natural environment of the Property have been avoided and minimized where feasible. Please refer to Section 2.4.10 and 2.5.2 for additional discussion of the natural environment.

There are no historical resources on or adjacent to the Property. The proposed facility is anticipated to have no negative impact any historical resources.

2.4.2 Design Standards

A waiver from these standards has been requested, as part of Section 2.6.

2.4.3 Traffic

The proposed facility will be accessed via the existing facility site driveway. No new curb cuts on public ways are proposed. The proposed Project is not anticipated to generate additional traffic impacts above existing levels.

2.4.4 Drainage and Stormwater Management

Refer to Section 3.0 Post-Development Conditions of the Stormwater Management Report included in Section 4.0 of this Application for information on existing and proposed hydrology, including pre-development and post-development drainage calculations prepared by a Registered Professional Engineer and compliance with applicable regulations.

2.4.5 Utilities

The proposed buildings are not anticipated to require utility connection other than the electricity required for operation. The proposed Project is not anticipated to require water and/or sewer connection.

2.4.6 Parking

The proposed Project does not propose new off- or on-street parking spaces. The proposed Project is not anticipated to generate a need for additional parking spaces and the operation of the two structures is not anticipated to require additional parking resources over what currently exists on-site.

During construction, the parking area for workers will be on the Property.

2.4.7 Snow Removal

Snow storage areas for the Project will be consistent with existing areas, and are not anticipated to affect visibility of entering vehicles, nor generate runoff to public ways. Requirements for snow removal and use of deicing chemicals at the proposed development are detailed in the Site Owner's Manual, contained within the Stormwater Management Report in Section 4.0.

2.4.8 Outdoor Lighting

Each proposed building is anticipated to have two access doors, with a light above each doorway. A total of four outdoor lights will be installed as part of the Project. These lights will be for safety and security purposes.

2.4.9 Trees and Landscaping

The proposed Project is not anticipated to require removal of existing vegetation on-site. Additional landscaping is not anticipated or proposed.

2.4.10 Environmental Considerations

The Medway Open Space and Recreation Plan (2010) did not identify the Property in its five-year action plan; it can therefore be concluded that the proposed facility is not anticipated to have an adverse impact on any existing or potential open space areas identified in the Plan.

All work is located outside of wetland buffer zones and within the existing substation footprint. It is therefore assumed that there will be no environmental impacts from the two control buildings.

2.4.11 Construction Standards

The Project will adhere to the construction standards outlined in Section 100-7 of the Rules and Regulations for the Review and Approval of Land Subdivisions, and will follow general engineering practices:

- Extensive cut and fill has been avoided
- Tree removal has been avoided
- The stormwater management system has been designed to provide treatment for stormwater runoff associated with the proposed impervious surfaces on site
- Construction-period noise impacts have been reduced to the extent feasible as outlined in Section 2.3.8

2.5 Development Impact Statement

2.5.1 Traffic Impact

The proposed Project contains frontage on a public way. Accordingly, a Traffic Impact Assessment is required under Section 204-3.A.7.a of the Regulations. The proposed Project is not anticipated to generate traffic impacts exceeding the existing level. As such, the Applicant has requested a waiver from the preparation of a Traffic Impact Assessment, pursuant to Section 204-3.A.7 of the Medway Planning Board Rules and Regulations. See Section 2.6.

2.5.2 Environmental Impact

The proposed Project does not propose an additional 30 or more parking space, a building footprint of 15,000 square feet or greater, or to disturb 30,000 square feet of land or greater; accordingly, an Environmental Impact Assessment is not required under Section 204-3.A.7.b of the Regulations.

2.5.3 Community Impact

Visual and Historic Character

The proposed Project is not anticipated to require removal of existing vegetation on-site. Additional landscaping is not anticipated or proposed.

There are no historical resources on or adjacent to the Property. The Project is anticipated to have no negative impact any historical resources.

Goals of Existing Community Plans

The proposed facility is consistent with the Medway Master Plan (2009) and the Medway Open Space and Recreation Plan (2010).

Medway Master Plan (2009)

The proposed facility is anticipated to help in achieving *Goal 2 of Land Use: Encourage commercial/industrial development*, of the 2009 Medway Master Plan. This goal references need for increased commercial/industrial zoning to encourage more of this type of development to raise tax revenue and ease the tax burden on residential properties. The proposed facility is not anticipated to result in an increased amount of land zoned as industrial; however, the proposed facility is anticipated to further utilize existing industrially-zoned land.

The proposed facility is also anticipated to help the Town achieve Goal 6 of Economic Development: Attract new (and retain existing) businesses and increase the industrial/manufacturing base. The proposed facility is anticipated to increase the industrial base by expanding an existing industrial facility on existing industrial land.

Medway Open Space and Recreation Plan (2010)

The Property is not an area of focus for any of the goals or action items in the Medway Open Space and Recreation Plan. The proposed facility is not anticipated to have a detrimental or adverse impact to the implementation of the Plan or in achieving any of the goals or action items outlined in the Plan. The proposed facility is therefore consistent with the Medway Open Space and Recreation Plan.

Quality of Life

The proposed Project will be located on a site which currently serves as a power transmission facility. The Project will allow the Applicant to improve electrical grid system reliability. The proposed Project is anticipated to generate negligible, if any, additional traffic and is not anticipated to provide new full-time jobs. Therefore, it can be reasonably concluded that this development is anticipated to have little to no adverse impact on the quality of life for residents of Medway.

2.5.4 Parking Impact

The Project does not propose 30 or more new parking spaces; accordingly, a Parking Impact Assessment is not required under Section 204-3.A.7.d of the Regulations.

2.6 Waivers

The Applicant requests waivers from the following requirements of the Planning Board Rules and Regulations:

- Section 204-3.A.7.a, which requires preparation of a Traffic Impact Assessment. Section 204-3.A.7 states: “At its discretion, the Planning Board, upon written request of the applicant, and based on the Board’s preliminary assessment of the scale and type of development proposed, may waive or modify the requirements for submission of any of the elements of the Development Impact Statement.”
- Section 204-4.A., which requires preparation of plans at a scale of one inch equals 40 feet and a sheet size of 24 by 36 inches.
- Section 205-2, which requires the design of the proposed structures to be designed pursuant to the design standards listed in the regulations.

Section 3.0
Parties of Interest

List of Abutting Town Planning Boards

Town of Medway Certified List of Abutters within 300'

Town of Bellingham Certified List of Abutters within 300'

3.0 PARTIES OF INTEREST

The Planning Boards for municipalities abutting Medway are as follows:

Town of Bellingham Planning Board
2 Mechanic Street
Bellingham, MA 02019

Town of Milford Planning Board
52 Main Street
Milford, MA 01757

Town of Holliston Planning Board
703 Washington Street
Holliston, MA 01746

Town of Millis Planning Board
900 Main Street
Millis, MA 02054

Town of Norfolk Planning Board
One Liberty Lane
Norfolk, MA 02056

Town of Franklin Planning Board
355 East Central Street
Franklin, MA 02038



TOWN OF MEDWAY
BOARD OF ASSESSORS
155 VILLAGE STREET
MEDWAY, MA 02053
PHONE: 508-533-3203 FAX: 508-533-3287
www.townofmedway.org



REQUEST FOR ABUTTERS

Date of Request: JANUARY 19, 2016
Property owner: SITHE WEST MEDWAY LLC
Property location: 34 WEST STREET
Parcel (property) ID: 66-012

Please specify: 100', 300' or 500' from subject parcel: 300'

THIS LIST IS REQUESTED FOR:

- Planning & Economic Development Board
 Zoning Board of Appeals
 Conservation Commission

REQUESTER INFORMATION:

Name: JOHN GELCICH Email address: jgelcich@dealsandthomas.com
Address: 144 TURNPIKE RD
SOUTHBOROUGH, MA 01772
Phone: (508) 366-0560

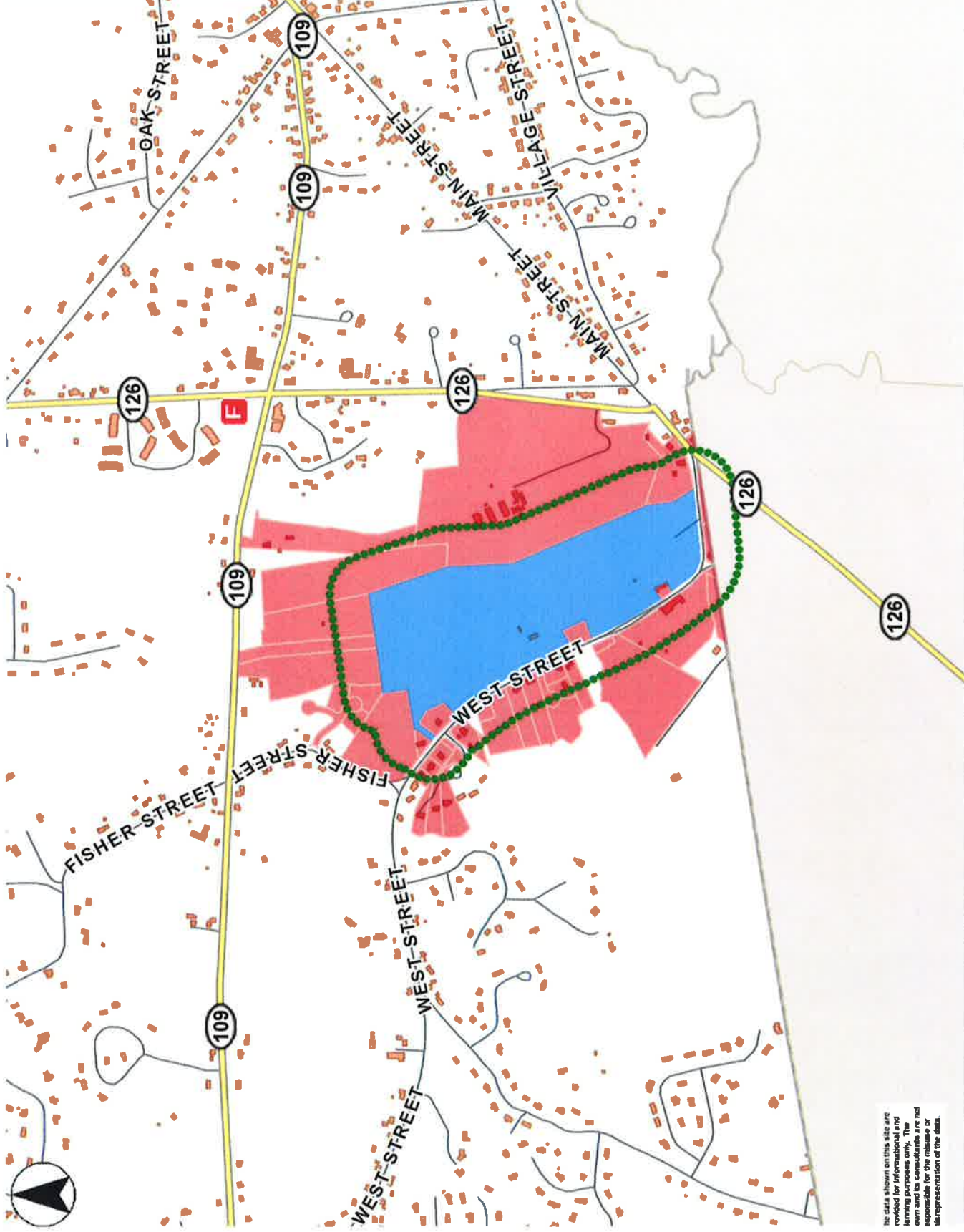
***FEE: \$25.00 per list, payment due at time of request. Check is payable to TOWN OF MEDWAY.**

(* additional fees may apply if non-standard list is requested)

THE LIST IS VALID FOR 90 DAYS FROM CERTIFICATION DATE. BOARD OF ASSESSORS RESERVE 10 WORKING DAYS TO PROVIDE ALL CERTIFIED LISTS OF ABUTTERS. **IF YOU WISH TO HAVE IT MAILED BACK, YOU MUST INCLUDE A SELF ADDRESSED STAMPED ENVELOPE LARGE ENOUGH FOR THREE SETS OF MAILING LABELS.**



- Fire Stations
- Police Stations
- Hospitals
- Town Hall
- Public Libraries
- Schools
- Ice Rinks
- Community Health Centers
- MBTA Commuter Rail
- Parcels
- MA Highways
- Interstate
- US Highway
- Numbered Routes
- Abutting Town names
- Abutting Towns
- Town Boundary
- Buildings MGIS
- Streets



The data shown on this site are reviewed for informational and planning purposes only. The current data for this site are not guaranteed to be accurate or a representation of the data.

1400 2800 ft

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Town of Medway, MA GIS

374 West St 66-01a

Parcel ID: 66-012
SITHE WEST MEDWAY LLC
C/O NSTAR SERVICES CO.
PO BOX 270
HARTFORD, CT 06141-270

Parcel ID: 55-020
LANTERN LANE
17 HIGHGATE STREET
UNIT B
ALLSTON, MA 02134

Parcel ID: 55-021
LAU WAI KUENG
WONG NORBERT
72 KNEELAND STREET
SUITE 205
BOSTON, MA 02111-1926

Parcel ID: 55-022
LAU WAI KEUNG
72 KNEELAND STREET
SUITE 205
BOSTON, MA 02111-1926

Parcel ID: 55-025
PINE MEADOW DEVELOPMENT
17 HIGHGATE STREET
UNIT B
ALLSTON, MA 02134

Parcel ID: 55-026
BOSTON EDISON CO
NSTAR SERVICES CO/PROP
PO BOX 270
HARTFORD, CT 06141-0270

Parcel ID: 55-027
DEL MONTE THOMAS M
50 WEST ST.
MEDWAY, MA 02053

Parcel ID: 55-028
BARLOW WALTER P
46 WEST ST.
MEDWAY, MA 02053

Parcel ID: 55-035
CAHILL RUTH E. (MILLER)
RUGGIERO JANET M
53 WEST ST.
MEDWAY, MA 02053

Parcel ID: 55-036
BULMAN LARRY A
BULMAN MURIEL D
51 WEST ST.
MEDWAY, MA 02053

Parcel ID: 55-037
OLSEN KENNETH G.
OLSEN JACQUELINE
49 WEST ST.
MEDWAY, MA 02053

Parcel ID: 55-038
FICCARDI ANTHONY J
LAZORIK KIRSTIN J
11 MILLBROOK RD.
MEDWAY, MA 02053

Parcel ID: 55-039
FORTUNE JEAN
FORTUNE MARIE
9 MILLBROOK RD.
MEDWAY, MA 02053

Parcel ID: 55-040
SWARTHOUT JAMES A.
SWARTHOUT MARY A.
7 MILLBROOK RD.
MEDWAY, MA 02053

Parcel ID: 55-044
ROCHE'S BUILDING CO.,
270 EXCHANGE ST.
MILLIS, MA 02054

Parcel ID: 55-045
GILMAN GERARD C
47 WEST ST.
MEDWAY, MA 02053

Parcel ID: 55-046
ROCHE'S BUILDING CO.,
270 EXCHANGE ST.
MILLIS, MA 02054

Parcel ID: 55-047
BOSTON EDISON CO
NSTAR SERVICES CO/PROP
PO BOX 270
HARTFORD, CT 06141-0270

Parcel ID: 55-049
BOSTON EDISON CO
NSTAR SERVICES CO/PROP
PO BOX 270
HARTFORD, CT 06141-0270

Parcel ID: 55-050
BOSTON EDISON CO
NSTAR SERVICES CO/PROP
PO BOX 270
HARTFORD, CT 06141-0270

Parcel ID: 55-051
BERNARDO MEGHAN E
HOFFMAN MICHAEL B
39 WEST STREET
MEDWAY, MA 02053

Parcel ID: 56-001
BOSTON EDISON CO
NSTAR SERVICES CO/PROP
PO BOX 270
HARTFORD, CT 06141-0270

Parcel ID: 56-002
BOSTON EDISON CO
NSTAR SERVICES CO/PROP
PO BOX 270
HARTFORD, CT 06141-0270

Parcel ID: 56-003
BOSTON EDISON CO
NSTAR SERVICES CO/PROP
PO BOX 270
HARTFORD, CT 06141-0270

Parcel ID: 56-004
BOSTON EDISON CO
NSTAR SERVICES CO/PROP
PO BOX 270
HARTFORD, CT 06141-0270

Parcel ID: 56-006
CHAFFEE ALLAN H
49 MILFORD ST.
MEDWAY, MA 02053

Parcel ID: 65-024
FREY ERIK W.
FREY MICHELLE
37 WEST ST.
MEDWAY, MA 02053

Parcel ID: 65-025
SUMMIT HOME BUILDERS INC
26 NORTH AVE
MENDON, MA 01756

Parcel ID: 65-026
SUMMIT HOME BUILDERS INC
26 NORTH AVE
MENDON, MA 01756

Parcel ID: 65-028
NEW ENGLAND POWER
PROPERTY TAX DEPT.
40 SYLVAN ROAD
WALTHAM, MA 02451

Parcel ID: 66-001
SUMMIT HOME BUILDERS INC
26 NORTH AVE
MENDON, MA 01756

Parcel ID: 66-002
ASHMAN BARBARA E
C/O ARBOUR KAREN
1842 CR428
LAKE PANASOFFKEE
FL 33538

Parcel ID: 66-003
ESTRELLA MICHAEL
LANDRY DANIELLE L
31 WEST ST
MEDWAY, MA 02053

Parcel ID: 66-004
NEW ENGLAND POWER
PROPERTY TAX DEPT.
40 SYLVAN ROAD
WALTHAM, MA 02451

Parcel ID: 66-005
WEST STREET REALTY TRUST
WILLIAM E D'INNOCENZ/TR
15 WEST ST.
MEDWAY, MA 02053

Parcel ID: 66-006
BARLOW JR JOHN R
BARLOW GISELA E
25 STONE STREET
BELLINGHAM, MA 02019

Parcel ID: 66-010
SITHE WEST MEDWAY LLC
C/O NSTAR SERVICES CO.
PO BOX 270
HARTFORD, CT 06141-270

Parcel ID: 66-011
NEW ENGLAND POWER
PROPERTY TAX DEPT.
40 SYLVAN ROAD
WALTHAM, MA 02451

Parcel ID: 66-013
SITHE WEST MEDWAY LLC
EXELON CORPORATION
3 LINCOLN CENTER 4TH FLOOR
OAK BROOK TERRACE, IL 60181

Parcel ID: 66-016
PAPKEY JUDITH A
268 MAIN ST.
MEDWAY, MA 02053

Parcel ID: 66-017
HOLLINGSWORTH 1031
HOLLINGSWORTH JON B,
59 STANDISH ROAD
WELLESLEY, MA 02481

Parcel ID: 66-044
MCCARTHY JOHN
269 MAIN ST.
MEDWAY, MA 02053

Parcel ID: 66-052
CAHILL ROBERT E
CAHILL RITA A
54 WEST ST
MEDWAY, MA 02053

Parcel ID: 66-053
PETRUCCI MICHAEL
53 W. MILTON STREET
HYDE PARK, MA 02136

Parcel ID: 66-054
PETRUCCI MICHAEL
53 W. MILTON STREET
HYDE PARK, MA 02136



THIS IS A CERTIFIED ABUTTERS LIST FROM THE TOWN OF MEDWAY.
WE CERTIFY THAT AT TIME OF LAST ASSESSMENT, THE NAMES AND
ADDRESSES OF ALL PROPERTY OWNERS ARE ACCURATE.

James Malabar
Office of the Board of Assessors
Date *1/21/16*

Mary Kate Schneeweis

From: Terri Balabanis [mailto:tbalabanis@townofmedway.org]
Sent: Monday, January 25, 2016 11:45 AM
To: Mary Kate Schneeweis
Subject: RE: additional abutter

YOU ARE CORRECT

From: Mary Kate Schneeweis [mailto:mschneeweis@bealsandthomas.com]
Sent: Monday, January 25, 2016 11:44 AM
To: Terri Balabanis
Subject: RE: additional abutter

Terri—

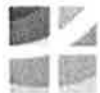
Thank you very much for this information. I just confirmed with Susie Affleck-Childs of the Planning and Economic Development Board that we will need to notify the owners of Parcels 65-027 and 55-048 for a Site Plan Review application.

When I am looking on the Patriot Properties database, Boston Edison/NSTAR Services is listed as the owner of Parcel 55-048, but New England Power Company in Waltham is listed as the owner of Parcel 65-027.

Can you confirm the ownership of Parcel 65-027 as well?

Best,

Mary Kate Schneeweis
Environmental Specialist



BEALS + THOMAS

144 Turnpike Road, Southborough, MA 01772
508.366.0560 ext. 4827 f: 508.366.4391
mschneeweis@bealsandthomas.com | www.bealsandthomas.com

From: Terri Balabanis [mailto:tbalabanis@townofmedway.org]
Sent: Monday, January 25, 2016 11:07 AM
To: Mary Kate Schneeweis
Subject: additional abutter

The owner if the ROW parcels is:
Boston Edison/NSTAR Services
POI Box 270
Hartford, CT 06141-0270



TOWN OF BELLINGHAM

Assessment Administration Office
Municipal Center - 10 Mechanic Street
Bellingham, Massachusetts 02019
508-657-2862 * FAX 508-657-2894
Email: Assessors@bellinghamma.org
www.bellinghamma.org

January 22, 2016


**THE PROPERTY OWNERS LISTED HEREIN ARE THE KNOWN OWNER(S) OF RECORD
FOR PARCEL NUMBERS PROVIDED BY APPLICANT:**

<u>Parcel ID:</u>	<u>Owner(s) of Record:</u>
0004-0024-0000	Pluta, Ashley B. & Bryan
0004-0032-0000	Ward, Jeffrey A.
0004-0033-0000	Compton, Paul R.
0004-0035-0000	Corner Brook LLC
0004-0039-0000	Town of Bellingham
0004-0040-0000	Azargoon & Zangani Trust
0004-0041-0000	Petrucci, Michael
0004-043A-0000	McCarthy, John
0004-0044-0000	Moore, Steven R. & Lynda M.
0004-0045-0000	Romans, Jason M.
0004-0046-0000	Boston Edison Company c/o NStar Electric

Requested by: Beals & Thomas, Inc.
144 Turnpike Rd.
Southborough, MA. 01772

ABUTTERS ATTACHED

Certified: _____


Elizabeth A. Cournoyer, Adm. Assessor

WARD, JEFFREY A
12 BEECH ST
BELLINGHAM, MA 02019

MCCARTHY, JOHN
269 MAIN ST
MEDWAY, MA 02053

PLUTA, ASHLEY B & BRYAN
21 STONE ST
BELLINGHAM, MA 02019

COMPTON, PAUL R
221 POND ST
FRANKLIN, MA 02038

CORNER BROOK LLC
11 COMMERCIAL WY
MILFORD, MA 01757

TOWN OF BELLINGHAM
10 MECHANIC STREET
BELLINGHAM, MA 02019

AZARGOON & ZANGANI TRUST
MOSTAFA AZARGOON-TR
6 JUNIPER RD
MEDWAY, MA 02053

PETRUCCI, MICHAEL
53 W MILTON ST
HYDE PARK, MA 02136

MOORE, STEVEN R + LYNDA
505 HARTFORD AV
BELLINGHAM, MA 02019

ROMANS JASON M
501 HARTFORD AV
BELLINGHAM, MA 02019

BOSTON EDISON COMPANY
C/o NSTAR ELECTRIC
PROPERTY TAX DEPT
P O BOX 270
HARTFORD, CT 06141-0270



- Abutting Town Labels R
- Abutting Town Labels
- Commuter Rail Stations
- Commuter Rail
- Currents
- Buildings
- Sidewalks - Planimetrics
- Driveways
- Easements
- ROWs
- Percels
- Town Boundary
- MA Highways
- US Highways
- US Highways
- Numbered Route
- Abutting Towns
- Abutting Towns RI
- Streets
- Prisubroads
- Ponds & Rivers
- Streams

126

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12-B-B

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The data shown on this site are provided for informational and planning purposes only. The Town and its consultants are not responsible for the misuse or misrepresentation of the data.

0 410 820 ft

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Section 4.0

Stormwater Management Report (Under Separate Cover)



BEALS + THOMAS

BEALS AND THOMAS, INC.
Reservoir Corporate Center
144 Turnpike Road
Southborough, MA 01772-2104

T 508.366.0560
F 508.366.4391
www.bealsandthomas.com
Regional Office: Plymouth, MA

Stormwater Narrative:

The post-development stormwater systems are intended to mitigate the increased runoff volumes for the two proposed control buildings at Station 65 and 446. Accordingly, each BMP has been sized to infiltrate the increase in runoff volume from pre- to post- development conditions for the 100-year storm event (7.00 inches of total rainfall Norfolk County). The runoff will be characterized as clean roof drainage collected by a gutter system that will convey the flow to a subsurface infiltration chamber system for Station 446 and to an Infiltration Basin for Station 65. Each drainage system will be equipped with overflow downspouts and discharge excess runoff away from the buildings to the adjacent crushed stone surface. Details of the proposed stormwater BMPs have been provided in the Site Plans.

The USDA National Resource Conservation Service soil mapping of the site indicates the presence of Udorthents, sandy, Merrimack and Canton fine sandy loam soils. These soils are all classified as hydrologic soil group "A" soils, and assumed as such for the stormwater calculation purposes.

Per the MassDEP Stormwater Handbook (the Handbook), the recharge volume required for each Station is 99.7 cubic feet. The five (5) CULTEC chambers and Infiltration Basin will provide storage volumes in excess of what is required. The drawdown times associated with the both stormwater BMPs have been calculated and are well below the 72 hour maximum.

The typical elements of a Long-Term Pollution Prevention Plan are not applicable to this project as the infiltrative BMPs will only accept clean rooftop runoff from the proposed buildings. Accordingly, water quality volumes were not calculated as the runoff is assumed to be clean.

With regard to Long-Term Operation and Maintenance, the subsurface infiltration system shall be inspected twice per year. The inlets shall be inspected, and all debris that may clog the system shall be removed. The chamber bed should be inspected via the proposed inspection ports as well as at the inlet and outlet areas to remove any restrictive materials. OSHA Guidelines must be followed if entering any structures. The proposed infiltration basin shall be mowed seasonally and inspected for clogging due to excessive sediment deposits. Excessive sedimentation or areas of erosion shall be removed or stabilized, as appropriate.



BEALS + THOMAS

BEALS AND THOMAS, INC.
Reservoir Corporate Center
144 Turnpike Road
Southborough, MA 01772-2104

CALCULATION SUMMARY

T 508.366.0560
F 508.366.4391
www.bealsandthomas.com
Regional Office: Plymouth, MA

JOB NO./LOCATION:

1422.11
Medway, Massachusetts

CLIENT/PROJECT:

Eversource
Stations 65 and 446 – Proposed Control Buildings

SUBJECT/TITLE:

Stormwater Management Calculations

OBJECTIVE OF CALCULATION:

- To design stormwater management systems that will mitigate the increased runoff from two new control buildings that will provide the required groundwater recharge associated with proposed rooftop areas in accordance with the requirements of the 2008 MassDEP Stormwater Handbook.

CALCULATION METHOD(S):

- Size proposed infiltration BMPs using HydroCAD v 10.00 chamber wizard for Subsurface Infiltration System-1, and AutoCAD C3D 2014 for area takeoffs to calculate volume of proposed infiltration basin.
- Calculate required recharge for each building based upon the rooftop area and hydrologic soil group on-site.
- Confirm drawdown of the proposed infiltration facilities will occur within 72 hours per MassDEP requirement.

ASSUMPTIONS:

- Hydrologic soil group of on-site soils was determined based on the United States Department of Agriculture NRCS Soil Survey Information. Udorthents, sandy has been mapped in the vicinity of Infiltration Basin-1, Merrimack and Canton fine sandy loam are mapped in the vicinity of Subsurface Infiltration System-1. All are mapped as and assumed as a hydrologic soil group A soils (see attached NRCS information).

SOURCES OF DATA/EQUATIONS:

- Stormwater Management System: Station 446, prepared by Beals and Thomas, Inc., plan number 142211P039A-002.
- Stormwater Management System: Station 65 prepared by Beals and Thomas, Inc., plan number 142211P039A-003.
- NRCS Soil Survey for Norfolk County downloaded from Web Soil Survey 2.0 on 01/21/2016.
- Massachusetts DEP Stormwater Handbook, February 2008.

REV	CALC. BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
0	<i>J. Murphy</i>	<i>1/25/16</i>	<i>M. Cost</i>	<i>1/26/16</i>	<i>J. Murphy</i>	<i>1/26/16</i>

JRM/142211CS001



BEALS + THOMAS



BEALS + THOMAS

BEALS AND THOMAS, INC.
Reservoir Corporate Center
144 Turnpike Road
Southborough, MA 01772-2104

CALCULATION SUMMARY

T 508.366.0560
F 508.366.4391
www.bealsandthomas.com
Regional Office: Plymouth, MA

CONCLUSIONS:

For proposed control buildings at Station 65 and 446:

- Recharge Volume Required = 99.7 cubic feet
- Recharge Volume Provided = 449 cubic feet (Sub. Inf.-1)
= 467 cubic feet (Inf. Bas.-1)
- Drawdown Time = 2.681 hours (Sub. Inf.-1)
Drawdown Time = 1.516 hours (Inf. Sys. -1)

Design complies with DEP stormwater management regulations and Town of Medway Requirements for stormwater.

REV	CALC. BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
0	<i>J. Murphy</i>	1/25/16	<i>M. CA</i>	1/26/16	<i>J. Murphy</i>	1/26/16

JRM/142211CS001



BEALS + THOMAS



BEALS + THOMAS
Standard 3: Groundwater Recharge

Groundwater Recharge Volume Required:

$R_v = F \times \text{Impervious Area}$, where:

R_v = Required Recharge Volume [cf]

F = Target Depth Factor associated with each Hydrologic Soil Group (HSG) [in]

Impervious Area = Total Rooftop and Impervious Area under Post-development Conditions [cf]

			Impervious Area [sf]	Required Recharge Volume [cf]
HSG "A", use F =	0.6	in	1994	99.7
HSG "B", use F =	0.35	in	0	0.0
HSG "C", use F =	0.25	in	0	0.0
HSG "D", use F =	0.1	in	0	0.0
Total Required Recharge Volume (Rv) =				99.7 cf

Capture Area Adjustment: (Ref: DEP Handbook V.3 Ch.1 P.27-28)

Total Site Impervious Area (Total)=	1994 sf
Impervious Area Draining to Infiltrative BMPs (infil) =	1994 sf
Percent Imp. Area Draining to Infiltrative BMPs =	100.0%
Capture Area Adjustment Factor = (Total)/(Infil) = Ca =	1.00
Adjusted Required Recharge Volume = Ca x Rv	99.7 cf

Groundwater Recharge Volume Provided :

BMP	Provided Recharge Volume [cf]
Infiltration Basin-1 =	467.0
Total Provided Recharge Volume =	467.0 cf

PROVIDED GROUNDWATER RECHARGE VOLUME IS GREATER THAN OR EQUAL TO THE REQUIRED RECHARGE VOLUME, THEREFORE PROPOSED STORMWATER MANAGEMENT DESIGN IS IN COMPLIANCE WITH STANDARD 3.

JOB NO. 1422.11
JOB: Control Bldg. - Sta 65

COMPUTED BY: JRM
DATE: 1/26/16

CHECKED BY: MC
DATE: 1/26/16



BEALS + THOMAS
Standard 3: Groundwater Recharge

Groundwater Recharge Volume Required:

$R_v = F \times \text{Impervious Area}$, where:

R_v = Required Recharge Volume [cf]

F = Target Depth Factor associated with each Hydrologic Soil Group (HSG) [in]

Impervious Area = Total Rooftop and Impervious Area under Post-development Conditions [cf]

	Impervious Area [sf]		Required Recharge Volume [cf]
HSG "A", use F =	0.6	in 1994	99.7
HSG "B", use F =	0.35	in 0	0.0
HSG "C", use F =	0.25	in 0	0.0
HSG "D", use F =	0.1	in 0	0.0
Total Required Recharge Volume (Rv) =			99.7 cf

Capture Area Adjustment: (Ref: DEP Handbook V.3 Ch.1 P.27-28)

Total Site Impervious Area (Total)=	1994 sf
Impervious Area Draining to Infiltrative BMPs (infil) =	1994 sf
Percent Imp. Area Draining to Infiltrative BMPs =	100.0%
Capture Area Adjustment Factor = (Total)/(Infil) = Ca =	1.00
Adjusted Required Recharge Volume = Ca x Rv	99.7 cf

Groundwater Recharge Volume Provided :

BMP	Provided Recharge Volume [cf]
Subsurface Infiltration System-1 =	449.0
Total Provided Recharge Volume =	449.0 cf

PROVIDED GROUNDWATER RECHARGE VOLUME IS GREATER THAN OR EQUAL TO THE REQUIRED RECHARGE VOLUME, THEREFORE PROPOSED STORMWATER MANAGEMENT DESIGN IS IN COMPLIANCE WITH STANDARD 3.

JOB NO. 1422.11
JOB: Control Bldg. - Sta 446

COMPUTED BY: JRM
DATE: 1/26/16

CHECKED BY: MC
DATE: 1/24/16



BEALS + THOMAS

Standard 3: Drawdown

$$\text{Drawdown Time} = \frac{Rv}{(K) (\text{Bottom Area})}$$

where: Rv = Storage Volume Below Outlet [cf]
 K= Infiltration Rate [in/hr]
 Bottom Area= Bottom Area of Recharge System [cf]

Subsurface Infiltration System-1

Rv = 449.000 cf
 K = 8.270 in/hr
 Bottom Area = 243.000 sf
Drawdown Time = 2.681 Hours < 72 Hours, Design is in compliance with the standard.

Infiltration Basin-1

Rv = 467.000 cf
 K = 8.270 in/hr
 Bottom Area = 447.000 sf
Drawdown Time = 1.516 Hours < 72 Hours, Design is in compliance with the standard.

Note:

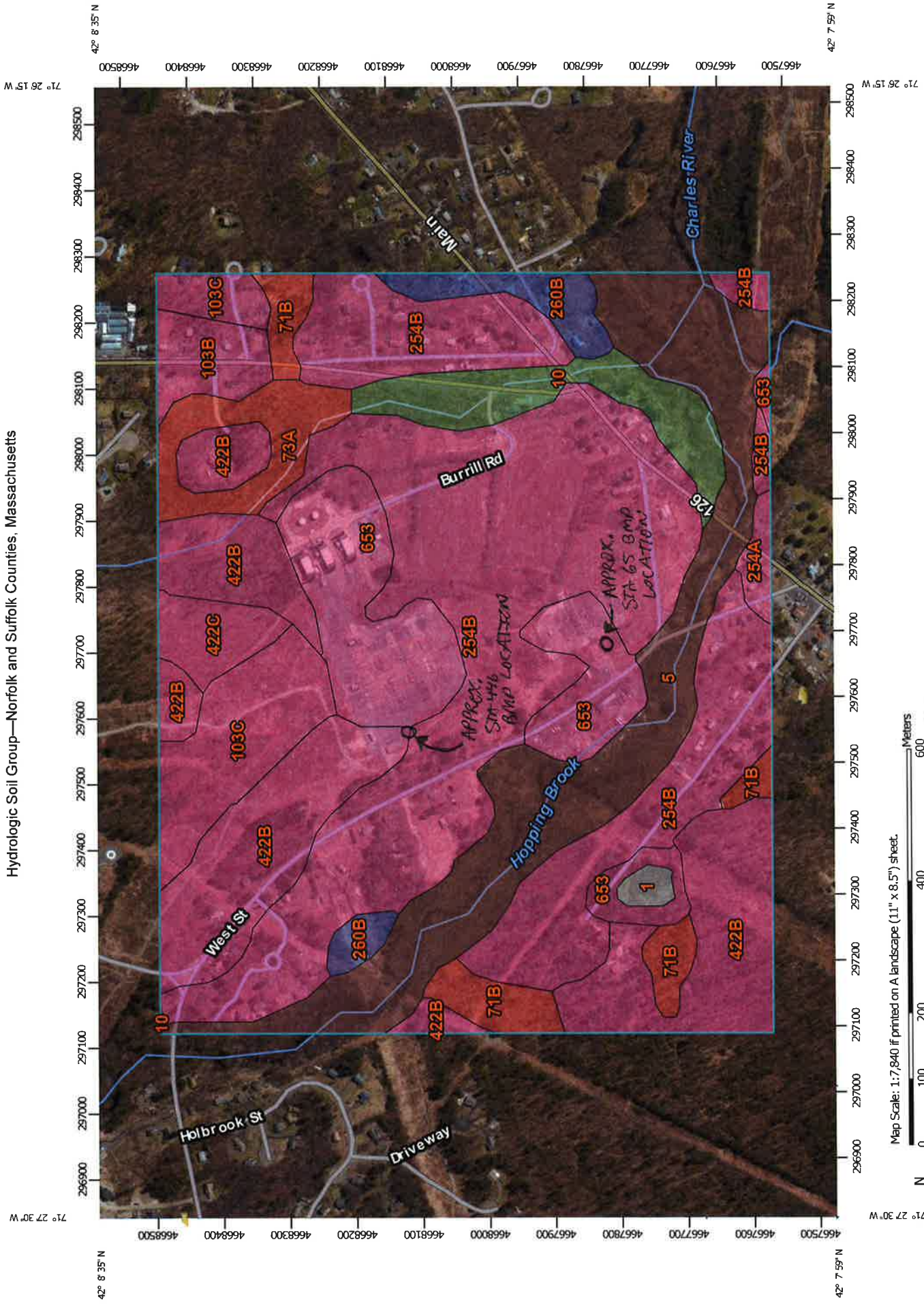
1. The infiltration BMPs have been designed to fully drain within 72 hours, therefore the proposed stormwater management design is in compliance with Standard 3 .
2. Infiltration Rate based on Volume 3, Chapter 1, Table 2.3.3 *Rawls Rates* from the 2008 MA DEP Stormwater Management Handbook.

JOB NO. 1422.11
 JOB: Stations 65 & 446

COMPUTED BY: JRM
 DATE: 1/26/16

CHECKED BY: MC
 DATE: 1/26/16

Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts

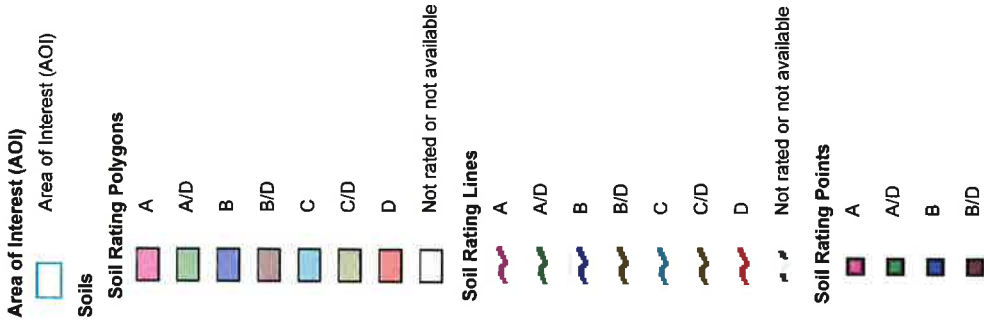


Map Scale: 1:7,840 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts
 Survey Area Data: Version 11, Sep 28, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 8, 2011—Apr 9, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Norfolk and Suffolk Counties, Massachusetts (MA616)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Water		1.1	0.4%
5	Saco silt loam, 0 to 3 percent slopes	B/D	37.6	14.2%
10	Scarboro and Birdsall soils, 0 to 3 percent slopes	A/D	10.6	4.0%
71B	Ridgebury fine sandy loam, 2 to 8 percent slopes, extremely stony	D	8.5	3.2%
73A	Whitman fine sandy loam, 0 to 5 percent slopes, extremely stony	D	7.7	2.9%
103B	Charlton-Hollis-Rock outcrop complex, 3 to 8 percent slopes	A	5.0	1.9%
103C	Charlton-Hollis-Rock outcrop complex, 8 to 15 percent slopes	A	14.8	5.6%
254A	Merrimac fine sandy loam, 0 to 3 percent slopes	A	1.7	0.6%
254B	Merrimac fine sandy loam, 3 to 8 percent slopes	A	97.6	36.8%
260B	Sudbury fine sandy loam, 2 to 8 percent slopes	B	6.1	2.3%
422B	Canton fine sandy loam, 3 to 8 percent slopes, extremely stony	A	44.2	16.7%
422C	Canton fine sandy loam, 8 to 15 percent slopes, extremely stony	A	4.5	1.7%
653	Udorthents, sandy	A	25.4	9.6%
Totals for Area of Interest			264.8	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

1422.11 - Stormwater Management Calculations - Runoff Calculations

Objective: To design a stormwater management system to mitigate the proposed increase in runoff volume from the proposed central buildings for Station 65 and 446 for the 100-year storm event. (7.00" for Norfolk County)

Existing Conditions Runoff Volume - 100-year Storm (Norfolk County)

→ Existing Runoff Curve Number (CN) = 76 for gravel, HSG A (Table 2-2, TR-55)

→ calculate runoff for 100-year storm for CN of 76 → (Table 2-1, TR-55)

$$\begin{aligned} \text{Depth Runoff} &= D_{r75} + \frac{(CN_{76} - CN_{75})(D_{r80} - D_{r75})}{CN_{80} - CN_{75}} \\ &= 4.15 + \frac{(76 - 75)(4.69 - 4.15)}{80 - 75} \end{aligned}$$

$$D_{r76} = 4.26 \text{ in}$$

$$\begin{aligned} \text{Volume in 100-year Storm} &= 1,994 \text{ ft}^2 \times 4.26 \text{ in} \times \left(\frac{1 \text{ ft}}{12 \text{ in}}\right) \\ &= 708 \text{ ft}^3 \end{aligned}$$

Proposed Conditions Runoff Volume - 100-year Storm (Norfolk County)

→ Proposed CN → Building / step areas = 98 (Table 2-2, TR-55)

→ Look up the Runoff Depth for CN of 98, 100-yr. storm (Table 2-1, TR-55)

$$D_{r98} = 6.76 \text{ in}$$

JOB NO. 1422.11 CALC BY: JRM DATE: 1/22/16
TOWN: Medway MA CHECKED BY: mc DATE: 1/24/16
PROJECT: _____ PAGE 1 OF 3



$$\begin{aligned} \rightarrow \text{Volume in 100-year storm} &= 1,994 \text{ ft}^3 \times 6.76 \text{ in} \times \left(\frac{1 \text{ ft}}{12 \text{ in}}\right) \\ &= 1,123 \text{ ft}^3 \end{aligned}$$

Δ Runoff Between Existing & Proposed Conditions

$$\begin{aligned} \Delta \text{ Runoff Volume} &= 1,123 \text{ ft}^3 - 708 \text{ ft}^3 \\ &= \underline{415 \text{ ft}^3} \end{aligned}$$

\rightarrow Infiltrate a minimum of 415 ft³ for each building

JOB NO. 1422.10 CALC BY: JRM DATE: 1/22/16
TOWN: Medway, MA CHECKED BY: MC DATE: 1/24/16
PROJECT: _____ PAGE 2 OF 3



Table 2-1 Runoff depth for selected CN's and rainfall amounts ^{1/}

Rainfall	Runoff depth for curve number of—												
	40	45	50	55	60	65	70	75	80	85	90	95	98
	—inches—												
1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.08	0.17	0.32	0.56	0.79
1.2	.00	.00	.00	.00	.00	.00	.03	.07	.15	.27	.46	.74	.99
1.4	.00	.00	.00	.00	.00	.02	.06	.13	.24	.39	.61	.92	1.18
1.6	.00	.00	.00	.00	.01	.05	.11	.20	.34	.52	.76	1.11	1.38
1.8	.00	.00	.00	.00	.03	.09	.17	.29	.44	.65	.93	1.29	1.58
2.0	.00	.00	.00	.02	.06	.14	.24	.38	.56	.80	1.09	1.48	1.77
2.5	.00	.00	.02	.08	.17	.30	.46	.65	.89	1.18	1.53	1.96	2.27
3.0	.00	.02	.09	.19	.33	.51	.71	.96	1.25	1.59	1.98	2.45	2.77
3.5	.02	.08	.20	.35	.53	.75	1.01	1.30	1.64	2.02	2.45	2.94	3.27
4.0	.06	.18	.33	.53	.76	1.03	1.33	1.67	2.04	2.46	2.92	3.43	3.77
4.5	.14	.30	.50	.74	1.02	1.33	1.67	2.05	2.46	2.91	3.40	3.92	4.26
5.0	.24	.44	.69	.98	1.30	1.65	2.04	2.45	2.89	3.37	3.88	4.42	4.76
6.0	.50	.80	1.14	1.52	1.92	2.35	2.81	3.28	3.78	4.30	4.85	5.41	5.76
7.0	.84	1.24	1.68	2.12	2.60	3.10	3.62	4.15	4.69	5.25	5.82	6.41	6.76
8.0	1.25	1.74	2.25	2.78	3.33	3.89	4.46	5.04	5.63	6.21	6.81	7.40	7.76
9.0	1.71	2.29	2.88	3.49	4.10	4.72	5.33	5.95	6.57	7.18	7.79	8.40	8.76
10.0	2.23	2.89	3.56	4.23	4.90	5.56	6.22	6.88	7.52	8.16	8.78	9.40	9.76
11.0	2.78	3.52	4.26	5.00	5.72	6.43	7.13	7.81	8.48	9.13	9.77	10.39	10.76
12.0	3.38	4.19	5.00	5.79	6.56	7.32	8.05	8.76	9.45	10.11	10.76	11.39	11.76
13.0	4.00	4.89	5.76	6.61	7.42	8.21	8.98	9.71	10.42	11.10	11.76	12.39	12.76
14.0	4.65	5.62	6.55	7.44	8.30	9.12	9.91	10.67	11.39	12.08	12.75	13.39	13.76
15.0	5.33	6.36	7.35	8.29	9.19	10.04	10.85	11.63	12.37	13.07	13.74	14.39	14.76

^{1/} Interpolate the values shown to obtain runoff depths for CN's or rainfall amounts not shown.

Table 2-2a Runoff curve numbers for urban areas ^{1/}

Cover description Cover type and hydrologic condition	Average percent impervious area ^{2/}	Curve numbers for hydrologic soil group			
		A	B	C	D
<i>Fully developed urban areas (vegetation established)</i>					
Open space (lawns, parks, golf courses, cemeteries, etc.) ^{3/} :					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) ^{4/}		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
<i>Developing urban areas</i>					
Newly graded areas (pervious areas only, no vegetation) ^{5/}					
		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

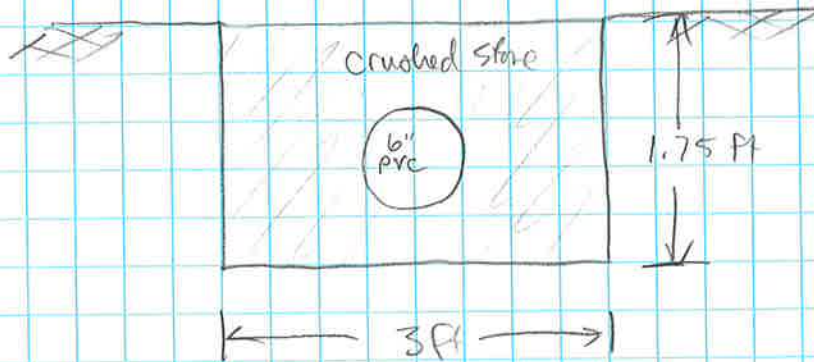
¹ Average runoff condition, and $I_a = 0.2S$.² The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.³ CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.⁴ Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.⁵ Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

1422.11 - Proposed Storage Volume - Infiltration Basin - 1

Proposed Storage Volume

Total Volume =

Volume in crushed stone trench (Assume 30% voids) +
Volume in surface basin.



$$V = [\text{Volume stone} - \text{Volume Pipe}] \times 0.30$$

$$V = [1.75' \times 3' \times 33'] - [\pi (1.276\text{ft})^2 \times 33']$$

$$V = [173.25\text{ft}^3 - 7.9\text{ft}^3] \times 0.3 = \underline{49\text{ft}^3}$$

Volume of surface Basin (Avg. 188' & 186.75' contour)

$$V = \left[\frac{[447\text{ft}^2 + 668\text{ft}^2]}{2} \right] \times 0.75\text{ft} = 418\text{ft}^3$$

$$\text{Total Volume} = \underline{467\text{ft}^3} > \underline{415\text{ft}^3} \quad \checkmark$$

JOB NO. 1422.10

CALC BY: JRM

DATE: 1/25/16

TOWN: Medway, MA

CHECKED BY: MC

DATE: 1/26/16

PROJECT: Sta 65 & 446

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M561618HC001

Prepared by Microsoft

HydroCAD® 10.00-15 s/n 04493 © 2015 HydroCAD Software Solutions LLC

Type III 24-hr Norfolk-100yr Rainfall=7.00"

Printed 1/25/2016

Pond 1P: Subsurface Infiltration System-1&2 - Chamber Wizard Field A

Chamber Model = Cultec R-330XLHD (Cultec Recharger® 330XLHD)

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf

Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

Row Length Adjustment= +1.50' x 7.45 sf x 1 rows

5 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 36.50' Row Length +12.0" End Stone x 2 = 38.50' Base Length

1 Rows x 52.0" Wide + 12.0" Side Stone x 2 = 6.33' Base Width

6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

5 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 1 Rows = 272.0 cf Chamber Storage

863.6 cf Field - 272.0 cf Chambers = 591.6 cf Stone x 30.0% Voids = 177.5 cf Stone Storage

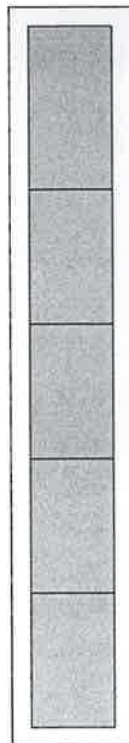
Chamber Storage + Stone Storage = 449.4 cf = 0.010 af

Overall Storage Efficiency = 52.0%

5 Chambers

32.0 cy Field

21.9 cy Stone





Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

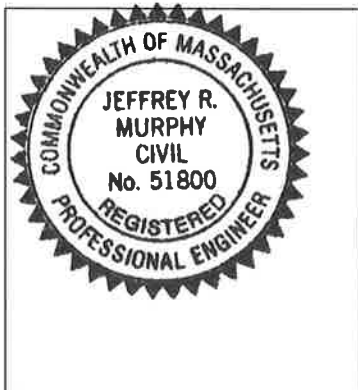
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



Jeffrey R. Murphy 1/26/10
Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- New development
- Redevelopment
- Mix of New Development and Redevelopment



Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- No disturbance to any Wetland Resource Areas
- Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- Reduced Impervious Area (Redevelopment Only)
- Minimizing disturbance to existing trees and shrubs
- LID Site Design Credit Requested:
 - Credit 1
 - Credit 2
 - Credit 3
- Use of "country drainage" versus curb and gutter conveyance and pipe
- Bioretention Cells (includes Rain Gardens)
- Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- Treebox Filter
- Water Quality Swale
- Grass Channel
- Green Roof
- Other (describe): Infiltration Chambers

Standard 1: No New Untreated Discharges

- No new untreated discharges
- Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- Soil Analysis provided.
- Required Recharge Volume calculation provided.
- Required Recharge volume reduced through use of the LID site Design Credits.
- Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - Static
 - Simple Dynamic
 - Dynamic Field¹
- Runoff from all impervious areas at the site discharging to the infiltration BMP.
- Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - Site is comprised solely of C and D soils and/or bedrock at the land surface
 - M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - Solid Waste Landfill pursuant to 310 CMR 19.000
 - Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
 - Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
 - is within the Zone II or Interim Wellhead Protection Area
 - is near or to other critical areas
 - is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - involves runoff from land uses with higher potential pollutant loads.
 - The Required Water Quality Volume is reduced through use of the LID site Design Credits.
 - Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- The BMP is sized (and calculations provided) based on:
 - The ½" or 1" Water Quality Volume or
 - The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- The NPDES Multi-Sector General Permit does **not** cover the land use.
- LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- All exposure has been eliminated.
- All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- Critical areas and BMPs are identified in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - Limited Project
 - Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - Bike Path and/or Foot Path
 - Redevelopment Project
 - Redevelopment portion of mix of new and redevelopment.
- Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- The project is **not** covered by a NPDES Construction General Permit.
- The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - Name of the stormwater management system owners;
 - Party responsible for operation and maintenance;
 - Schedule for implementation of routine and non-routine maintenance tasks;
 - Plan showing the location of all stormwater BMPs maintenance access areas;
 - Description and delineation of public safety features;
 - Estimated operation and maintenance budget; and
 - Operation and Maintenance Log Form.
- The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- An Illicit Discharge Compliance Statement is attached;
- NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

Section 5.0
Proof of Ownership

Deed Book 12521 Page 109

3

29-
PL 25-

70195

RECORDED
NORFOLK COUNTY REGISTRY OF DEEDS
DEERHAM, MA
BOOK PAGE
ATTEST

Barry T. Hannon
BARRY T. HANNON, REGISTER

DEED

BOSTON EDISON COMPANY, a Massachusetts corporation and electric company, whose principal place of business is at 800 Boylston Street, Boston, Suffolk County, Massachusetts 02199 ("*Grantor*"), for consideration paid and in full consideration of One Million Seventy Thousand Dollars (\$1,070,000.00), the receipt of which is hereby acknowledged, does hereby grant to SITHE WEST MEDWAY LLC, a Delaware limited liability company, having an address at c/o Sithe Energies, Inc., 450 Lexington Avenue, New York, New York 10017 ("*Grantee*"), the following premises:

Those certain parcels of land, situated in the Town of Medway, Norfolk County, Massachusetts, and more specifically described in *Exhibit A* attached hereto and incorporated herein by reference (the "*Granted Premises*").

For title reference only, see deeds and instruments identified immediately following each description on *Exhibit A*.

Together with all buildings, structures, fixtures and other improvements, above or below ground, now located on or in the Granted Premises.

Together with all other easements and rights appurtenant to the Granted Premises, but subject to all easements, covenants, conditions, reservations, restrictions and other matters of record, including without limitation all zoning, building and environmental land use laws, ordinances and regulations, and subject further to all outstanding and unpaid real property taxes assessed on the Granted Premises by the Town of Medway for the tax period July 1, 1997 to June 30, 1998, which taxes the Grantee, by acceptance of this Deed hereby assumes and agrees to pay.

Grantor, on behalf of itself and its successors and assigns, hereby reserves and retains in that portion of the Granted Premises described on *Exhibit A* hereto as the Reserved Easement Area (the "*Reserved Easement Area*"), the perpetual, and except as noted below with respect to Grantee's rights in the Reserved Easement Area, the exclusive right

Sumner St, Medway

RECEIVED RECORDED
NORFOLK COUNTY
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REFER TO PLAN NO. 334-07199
PLAN BOOK NO. 476-1
SHEET 10

and easement in gross to occupy and use the Reserved Easement Area, including all structures thereon and the surface, subsurface, and all air rights thereover, for any and all lawful purposes that it shall determine in its sole discretion to be fit and proper, including but not limited to the erection, installation, construction, reconstruction, maintenance, repair, replacement, relocation, restoration, use, operation, expansion, inspection and patrol of high and low voltage electrical transmission and distribution facilities and telecommunication facilities (the "**BEC Facilities**"), on, upon, across, over and under the Reserved Easement Area, whether as presently used or as shall be used in the future. The rights and easements reserved hereby are referred to collectively as the "**Reserved Easement**".

Grantor, by its reservation of the Reserved Easement, and Grantee, by its acceptance of the Deed of the Granted Premises subject to the Reserved Easement, hereby acknowledge and agree for themselves and their successors and assigns that the intent of the Reserved Easement is to provide Grantor, to the fullest extent permitted by law, with the same rights and privileges within the Reserved Easement Area as Grantor would have had if Grantor retained fee ownership of the Reserved Easement Area. The Reserved Easement is intended to be in the nature of an easement in gross for the benefit of Grantor, its successors and assigns, and is to be fully apportionable and fully assignable or transferable, all or in part, and in all respects, including but not limited to by sale, assignment, mortgage, lease, exchange or other disposition, as if Grantor had retained a fee interest in the Reserved Easement Area.

In connection therewith, Grantee hereby agrees that it shall assist Grantor, under Grantor's reasonable direction, in obtaining all permits, licenses, exemptions, waivers and other forms of approvals necessary and appropriate for Grantor's exercise of its rights under the Reserved Easement. In effectuation of Grantee's assistance hereunder, and without limiting the foregoing, Grantee promptly shall execute any and all such accurate applications, petitions, and other documents that, pursuant to law or regulation, or in Grantor's reasonable opinion, require Grantee's signature. If Grantee unreasonably refuses or fails to execute any such document within ten (10) business days of Grantor's written request for same, then Grantee hereby expressly authorizes and appoints Grantor its attorney-in-fact to execute any such document in the name of and upon behalf of Grantee, which Power of Attorney shall be irrevocable and shall be deemed to be coupled with an interest.

No cessation of use or operation of the Reserved Easement or the BEC Facilities by Grantor shall be deemed an abandonment thereof

resulting in the termination of any aspect of the Reserved Easement, unless the holder of the Reserved Easement at the time of such cessation of use or operation releases to Grantee, in a written instrument in recordable form, its right in such Reserved Easement or any one or more of the same.

Other than as set forth in the Cross Easement Agreement described below, Grantee shall have no rights of any nature whatsoever in, use of, access on, over, upon, across, or under the Reserved Easement Area. Likewise, Grantor shall have no rights in, use of, access on, over, upon, across or under portions of the Premises outside the Reserved Easement Area (the "*Non-Easement Area*") except as set forth in the Cross Easement Agreement.

The preceding paragraph notwithstanding, Grantor shall have the right to construct, operate, and maintain gas, water and other underground utility lines in mutually acceptable locations and of mutually acceptable design within the Non-Easement Area, and Grantee shall have the right to construct, operate, and maintain gas, water, and other underground utility lines in mutually acceptable locations and of mutually acceptable design within the Reserved Easement Area, to the extent reasonably necessary for such party's existing or future use of the Reserved Easement Area and the Non-Easement Area, respectively; *provided, however*, that: (i) in no event shall the construction, use and operation of such utility lines interfere with or be inconsistent with the rights and activities of the other party; and (ii) said utility lines shall be subject to relocation at the reasonable request of Grantor (in the case of lines placed within the Reserved Easement Area) or Grantee (in the case of lines placed within the Non-Easement Area), such relocation to be confined to the Reserved Easement Area or the Non-Easement Area, as the case may be.

The Reserved Easement Area and the Non-Easement Area shall both be subject to, and have the respective benefits and burdens set forth in, that certain Cross Easement Agreement by and between Grantor and Grantee herein, of even date and recorded herewith.

The Granted Premises do not constitute all or substantially all of the real property of Grantor in the Commonwealth of Massachusetts.

Executed as a sealed instrument as of the 14 day of May, 1998.

BOSTON EDISON COMPANY

By: James J. Judge
Name: James J. Judge
Title: Senior Vice President and Treasurer

COMMONWEALTH OF MASSACHUSETTS

Suffolk, ss.

May 14, 1998

Then personally appeared before me the above named James J. Judge, Senior Vice President and Treasurer of BOSTON EDISON COMPANY, who acknowledged that he did sign the foregoing instrument and that the same is his free act and deed as such officer, and the free act and deed of said corporation.

Neven Rabadanovic
Notary Public
My commission expires:

NEVEN RABADANOVIC
My Commission Expires
January 22, 1999



~~SANCTIONED~~
DEEDS 17
NORFOLK
MAY 21 1998

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CHCK 4879.20

4191A017 15:35
EXCISE TAX

EXHIBIT A

GRANTED PARCEL INCLUDING
RESERVED EASEMENT AREA

The Granted Parcel is that property consisting of 4,092,881 sq. ft. or 93.960 acres, some of which is registered (described below), as shown on that certain plan entitled "Conveyancing Plan of Land, Summer Street Medway, MA (Norfolk County)" prepared by Beals and Thomas, Inc. dated May 11, 1998 recorded immediately prior hereto.

The Reserved Easement Area is that property identified on the above Conveyancing ^{SKETCH} Plan of Land and on *Exhibit A-1* attached hereto as Easement A and consisting of 2,320,445 sq. ft. or 53.270 acres.

The registered land within the Granted Premises consists of Land shown as Land Court Plan #8120A and Land Court Plan #12715B all as filed with the Norfolk Registry District of the Land Court.

Meaning and intending to convey all of the right, title and interest of Grantor set forth in the following deeds and Certificates of Title:

1. Deeds recorded in the Norfolk Registry of Deeds in Book 4200, Page 301; 4596, Page 711; Book 4594, Page 439; Book 4617, Page 43; Book 8720, Page 620; and Book 1391, Page 423 (but only such portion of the land as is shown on the above Conveyancing Plan of Land adjacent to West Street on the southwest corner of said Conveyancing Plan of Land).
2. Certificate of Title #21473. - See Attached
3. Certificate of Title #134771. - See Attached

EXHIBIT A

Said Land Court parcels are described as follows:

Parcel 1

All that certain parcel of land situate in Medway, in the County of Norfolk, and said Commonwealth, described as follows:

Said parcel is shown on a plan drawn by A. Schuyler Clapp, Civil Engineer, dated Oct. 1920, as modified and approved by the Land Court, filed in the Land Registration Office as No. 8120A, a copy of a portion of which is filed in Norfolk Registry District with Certificate No. 5281, Book 27.

Parcel 2

That certain parcel of land situate in Medway in the County of Norfolk and said Commonwealth, bounded and described as follows:

Southerly	by West Street, five hundred five and 84/100 (505.84) feet;
Southwesterly	by said West Street, three hundred ninety-seven and 49/100 (397.49) feet;
Northerly	by land now or formerly of the Edison Electric Ill. Co. of Boston eighty two and 60/100 (82.60) feet;
Southwesterly	by lands of sundry adjoining owners, ten hundred twenty one and 04/100 (1021.04) feet;
Southerly	by land now or formerly of Frederick W. Joslin et al, one hundred forty-six and 26/100 (146.26) feet;
Southwesterly	by said West Street, thirteen hundred fifty-four and 02/100 (1354.02) feet;
Northerly	five hundred sixty nine and 10/100 (569.10) feet, and
Westerly	two hundred twenty and 35/100 (220.35) feet, by land now or formerly of Maria C. Wessel;

Northerly by lands now or formerly of said Maria C. Wessel and of George W. Nelson, seven hundred fifty four and 09/100 (754.09) feet;

Easterly by lands now or formerly of George W. Nelson and of Eli Slotnick et al, and by Lot B, shown on the plan hereinafter referred to, twenty-five hundred twenty-six and 60/100 (2526.60) feet; and

Northeasterly by said Lot B, one hundred sixty (160) feet.

Said parcel is shown as Lot A on a plan drawn by C. B. Humphrey, Engineer for Court, dated August 2, 1928, No. 12715B, and filed in Norfolk Registry District with Certificate No. 11947, Vol. 60.

Excepted therefrom are Lots 1, 2 and 3 on land Court Plan 12715C, which were conveyed in the following deeds.

- a. Deed to Walter P. Barlow and Nancy Barlow dated January 3, 1967 and filed as Document No. 279561.
- b. Deed to William J. Berry et ux dated May 23, 1967 and filed as Document No. 282321.

Exhibit A-1

PREPARED FOR:
SITHR ENERGIES, INC.
 C/O
LATHAM & WATKINS
 500 17 THIRD AVENUE
 SUITE 1000
 NEW YORK, NY 10022

RECORD OWNER:
BOSTON EDISON COMPANY
 690/701 696/711
 494/438 497/443
 4782/480 4784/483
 CERT. NO. 21473
 CERT. NO. 134771

REGISTRY USE:

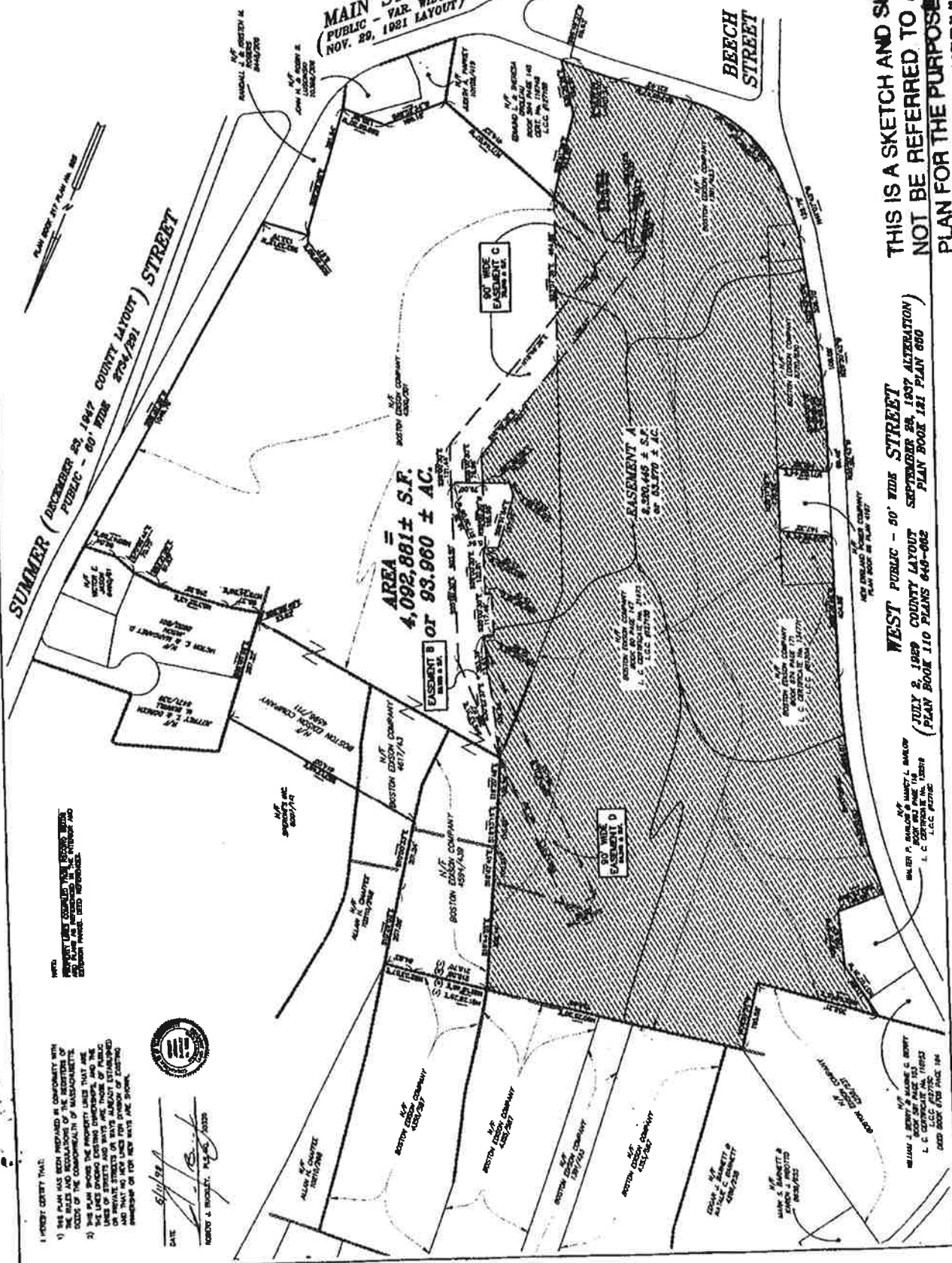
DATE	TIME	BY	REASON

CONVEYING PLAN OF LAND
STUDER STREET
 NEEDHAM, MA
 (NORFOLK COUNTY)

PREPARED BY:
BEALS AND THOMAS, INC.
 The Commonwealth Building Park
 200 Fidelity Parkway
 Boston, Massachusetts 02114
 TEL: 617-552-1900
 FAX: 617-552-1901

REGISTRY NO. 1 OF 1
CV-1

8K12521PG116



THIS IS A SKETCH AND SHALL NOT BE REFERRED TO AS A PLAN FOR THE PURPOSES OF CONVEYING OR SUBDIVIDING LAND

WEST PUBLIC - 50' WIDE STREET
 SEPTEMBER 29, 1977 ALTERATION
 PLAN BOOK 121 PLAN 650

JULY 2, 1989 COUNTY LAYOUT
 PLAN BOOK 110 PLANS 643-662

I HEREBY CERTIFY THAT:
 1) THIS PLAN HAS BEEN PREPARED IN CONFORMANCE WITH THE RULES AND REGULATIONS OF THE REGISTERED PROFESSIONAL ENGINEERS OF MASSACHUSETTS.
 2) THIS PLAN SHOWS THE PROPERTY LINES AND THE EASEMENTS AND RIGHTS AND THINGS OF PUBLIC OR PRIVATE INTEREST OR HAVE ALREADY ESTABLISHED AND THAT NO NEW LINES HAVE BEEN SHOWN THEREON OR FOR NEW RIGHTS ARE SHOWN.



DATE: 8/14/91
 ROBERT A. BROUDY, P.E. 14263

WALTER P. BARKER & COMPANY, INC.
 L.C. CONTRACTOR NO. 15219
 L.C.C. PARTNER

WALTER P. BARKER & COMPANY, INC.
 L.C. CONTRACTOR NO. 15219
 L.C.C. PARTNER

Section 6.0 Plans

Aerial Map

Plot Plan, Station 65

Foundation Location Plan, Station 65

Control Enclosure Foundation “C1”, Station 65

Retaining Wall Sections and Details, Station 65

Frame Cross Section, Station 65 (Excerpt – 2 sheets of 12)

Stormwater Management System, Station 65

Foundation Location Plan, Station 446

Control Enclosure Foundation, Station 446 (Excerpt – 2 sheets of 12)

Stormwater Management System, Station 446



Digital orthophotograph, dated 2013, provided by the Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs.

0 250 500 1,000
FEET

North Arrow

NORTH

COPYRIGHT (C) BY BEALS AND THOMAS, INC.
ALL RIGHTS RESERVED.

Station 65 and 446 Control Buildings

Medway, Massachusetts

Eversource

One NSTAR Way
Westwood, MA 02090

Aerial Map

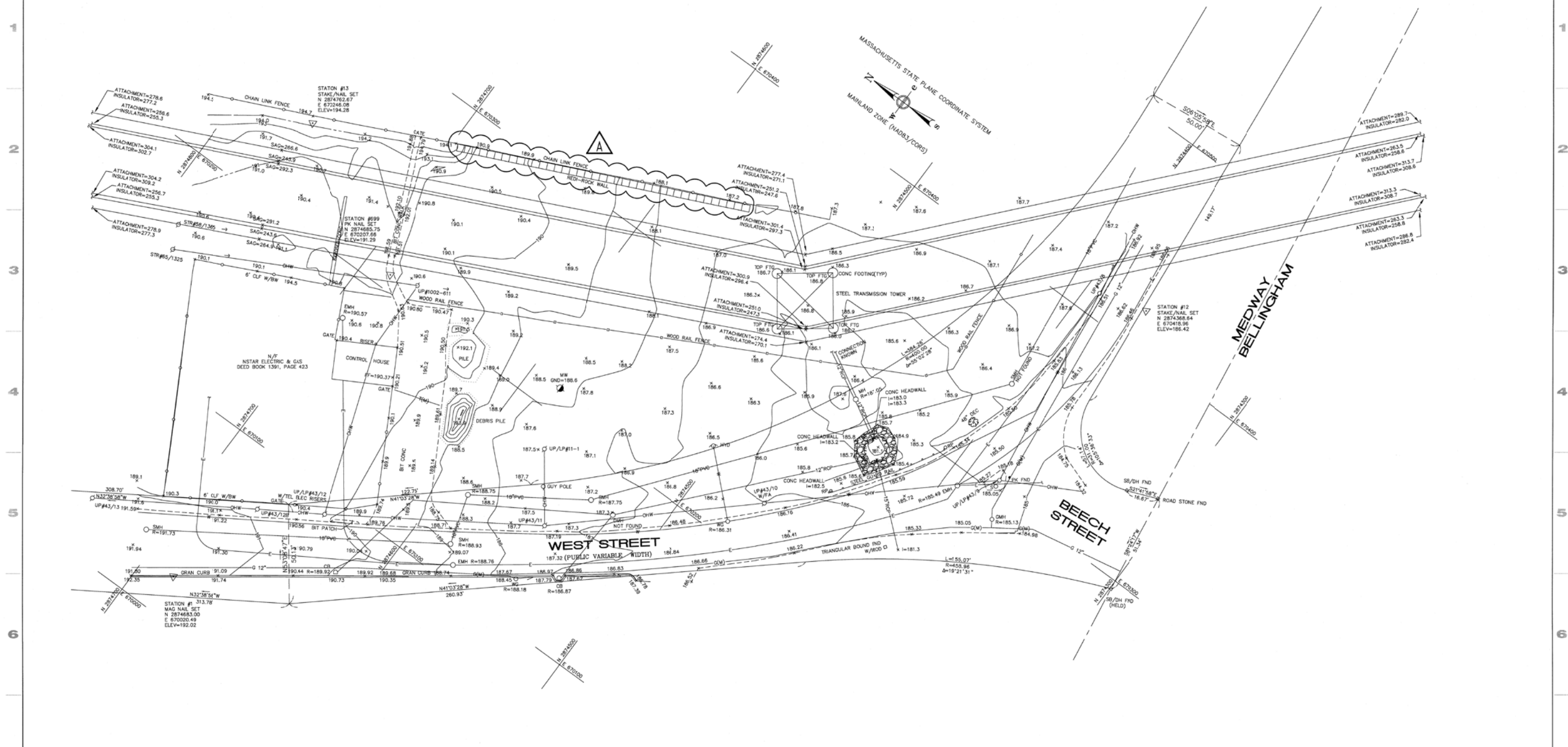
Scale: 1" = 500'

Date: 01/26/2016

Source File 142211P040A.mxd

B+T Project No. 1422.11

0019-99



STATION DESIGN CHANGE No: 15-031

TITLE OF CHANGE: INSTALL NEW CONTROL BUILDING INSIDE STATION

(BASE) DWG. No. 65-6100 (BASE) DWG. Rev. No. NEW

REVISION	DESCRIPTION OF REVISION	DESIGNER	REVIEWED/APPROVED	DATE	ISSUE TO	DATE
A	ECN #1-MODIFICATIONS TO PHASE 1 WORK TO ACCOMMODATE PHASE 2 WORK	RF	LG/CA/CC/DF	11/6/15	FIELD	11/30/15
B						
C						
D						
E						

THIS PROJECT INVOLVES WORK ON EQUIPMENT THAT IS OPERATING AT VOLTAGES BETWEEN 345 KVAC, 208Y/120 VAC AND 125 VDC. REMAIN AWARE OF MINIMUM APPROACH DISTANCES TO THESE VOLTAGES AND ISOLATE ACCORDINGLY.

Nominal voltage in kilovolts	Distance: Phase to ground
0.05 to 1.0	Avoid contact
1.1 to 15.0	2'-1" (0.64m)
15.1 to 36.0	2'-4" (0.72m)
36.1 to 46.0	2'-7" (0.77m)
46.1 to 72.5	3'-0" (0.90m)
72.6 to 121	3'-2" (0.95m)
121 to 145	3'-7" (1.09m)
145 to 169	4'-0" (1.22m)
169 to 242	5'-3" (1.59m)
242 to 362	8'-6" (2.59m)
362 to 500	11'-3" (3.42m)
500 to 800	14'-11" (4.53m)

COMMONWEALTH OF MASSACHUSETTS
 JAMES D. CURTIS
 No. 13667
 ELECTRICAL ENGINEER
 REGISTERED
 1-8-16

NO. DATE		DESCRIPTION OF ALTERATIONS		BY	CHECKED	APPROVED	TITLE OF REFERENCE DRAWINGS		NUMBER
							RETAINING WALL SECTIONS AND DETAILS		65-6300

DATE: NOVEMBER 4, 2015

SCALE: 1/20 IN. = 1 FOOT

THIS DWG PRODUCED FROM: 65-6300

FOR PERMIT ONLY

APPROVED: JAMES D. CURTIS

1-20 IN. = 1 FOOT

65-6100

NSTAR ELECTRIC

PLOT PLAN

EXISTING CONDITIONS

065 STATION WEST MEDWAY

IN SUBSTATION CHANGES STA. 65-6100 DWG. 65-6100 DWG. 12/22/2015 4:44 PM

I.D. YP

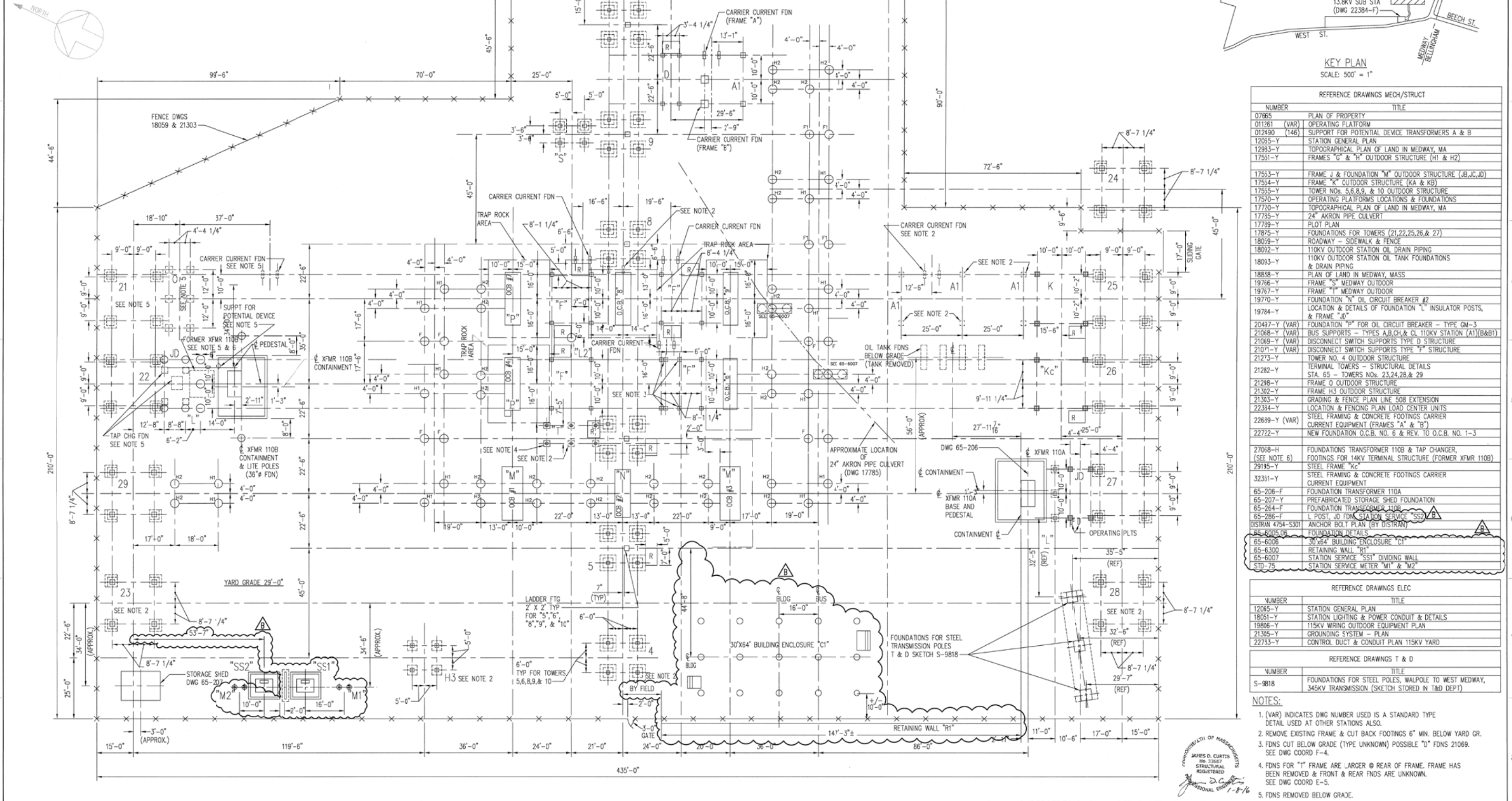
21072

STATION DESIGN CHANGE No: 15-031

TITLE OF CHANGE: INSTALL NEW CONTROL BUILDING INSIDE STATION

(BASE) DWG. No. 21072 (BASE) DWG. Rev. No. 12

NO	DATE	DESCRIPTION OF REVISION	DESIGNER	REVIEWED/APPROVED	DATE	ISSUE TO	DATE
A	INITIAL ISSUE - PHASE 1		RF	LG/AN/JC	8/7/15	FIELD	11/30/15
B	EDN #1 - MODIFICATIONS TO PHASE 1 TO ACCOMMODATE PHASE 2 WORK		DMY	LG/CA/JC/DF	10/20/15	FIELD	11/30/15
C							
D							
E							



REFERENCE DRAWINGS MECH/STRUCT

NUMBER	TITLE
07665	PLAN OF PROPERTY
011261 (VAR)	OPERATING PLATFORM
012490 (T46)	SUPPORT FOR POTENTIAL DEVICE TRANSFORMERS A & B
12055-Y	STATION GENERAL PLAN
12933-Y	TOPOGRAPHICAL PLAN OF LAND IN MEDWAY, MA
17551-Y	FRAMES "G" & "H" OUTDOOR STRUCTURE (H1 & H2)
17553-Y	FRAME "J" & FOUNDATION "M" OUTDOOR STRUCTURE (JB,JC,JD)
17554-Y	FRAME "X" OUTDOOR STRUCTURE (KA & KB)
17555-Y	TOWER Nos. 5,6,8,9, & 10 OUTDOOR STRUCTURE
17570-Y	OPERATING PLATFORMS LOCATIONS & FOUNDATIONS
17720-Y	TOPOGRAPHICAL PLAN OF LAND IN MEDWAY, MA
17785-Y	24" AKRON PIPE CULVERT
17789-Y	PLOT PLAN
17875-Y	FOUNDATIONS FOR TOWERS (21,22,25,26, & 27)
18059-Y	ROADWAY - SIDEWALK & FENCE
18092-Y	110KV OUTDOOR STATION OIL DRAIN PIPING
18093-Y	110KV OUTDOOR STATION OIL TANK FOUNDATIONS & DRAIN PIPING
18898-Y	PLAN OF LAND IN MEDWAY, MASS
19766-Y	FRAME "S" MEDWAY OUTDOOR
19767-Y	FRAME "T" MEDWAY OUTDOOR
19770-Y	FOUNDATION "W" OIL CIRCUIT BREAKER #2
19784-Y	LOCATION & DETAILS OF FOUNDATION "L" INSULATOR POSTS, & FRAME "D"
20497-Y (VAR)	FOUNDATION "P" FOR OIL CIRCUIT BREAKER - TYPE GM-3
21068-Y (VAR)	BUS SUPPORTS - TYPES A,B,C,H & CL 110KV STATION (A1)(B&B1)
21069-Y (VAR)	DISCONNECT SWITCH SUPPORTS TYPE D STRUCTURE
21071-Y (VAR)	DISCONNECT SWITCH SUPPORTS TYPE "F" STRUCTURE
21273-Y	TOWER NO. 4 OUTDOOR STRUCTURE
21282-Y	TERMINAL TOWERS - STRUCTURAL DETAILS STA. 65 - TOWERS Nos. 23,24,28, & 29
21298-Y	FRAME "O" OUTDOOR STRUCTURE
21302-Y	FRAME "H3" OUTDOOR STRUCTURE
21303-Y	GRADING & FENCE PLAN LINE 508 EXTENSION
22384-Y	LOCATION & FENCING PLAN LOAD CENTER UNITS
22699-Y (VAR)	STEEL FRAMING & CONCRETE FOOTINGS CARRIER CURRENT EQUIPMENT (FRAMES "A" & "B")
22722-Y	NEW FOUNDATION O.C.B. NO. 6 & REV. TO O.C.B. NO. 1-3
27068-H	FOUNDATIONS TRANSFORMER 110B & TAP CHANGER, FOOTINGS FOR 14KV TERMINAL STRUCTURE (FORMER XFMR 110B) (SEE NOTE 6)
29195-Y	STEEL FRAME "Kc"
32351-Y	STEEL FRAMING & CONCRETE FOOTINGS CARRIER CURRENT EQUIPMENT
65-206-F	FOUNDATION TRANSFORMER 110A
65-207-Y	PREFABRICATED STORAGE SHED FOUNDATION
65-264-F	FOUNDATION TRANSFORMER 110B
65-286-F	L POST, JO FDN STATION SERVICE "SS2" B
DISTRIB 4754-S301	ANCHOR BOLT PLAN (BY DISTRIB)
65-6005-06	FOUNDATION DETAILS
65-6006	30'x64' BUILDING ENCLOSURE "C1"
65-6300	RETAINING WALL "R1"
65-6007	STATION SERVICE "SS1" DIVIDING WALL
STD-75	STATION SERVICE METER "M1" & "M2"

REFERENCE DRAWINGS ELEC

NUMBER	TITLE
12085-Y	STATION GENERAL PLAN
18051-Y	STATION LIGHTING & POWER CONDUIT & DETAILS
19806-Y	115KV WIRING OUTDOOR EQUIPMENT PLAN
21305-Y	GROUNDING SYSTEM - PLAN
22733-Y	CONTROL DUCT & CONDUIT PLAN 115KV YARD

REFERENCE DRAWINGS T & D

NUMBER	TITLE
5-9818	FOUNDATIONS FOR STEEL POLES, WALPOLE TO WEST MEDWAY, 345KV TRANSMISSION (SKETCH STORED IN T&D DEPT)

- NOTES:**
- (VAR) INDICATES DWG NUMBER USED IS A STANDARD TYPE DETAIL USED AT OTHER STATIONS ALSO.
 - REMOVE EXISTING FRAME & CUT BACK FOOTINGS 6" MIN. BELOW YARD GR.
 - FNDS CUT BELOW GRADE (TYPE UNKNOWN) POSSIBLE "D" FNDS 21069. SEE DWG COORD F-4.
 - FNDS FOR "T" FRAME ARE LARGER @ REAR OF FRAME. FRAME HAS BEEN REMOVED & FRONT & REAR FNDS ARE UNKNOWN. SEE DWG COORD E-5.
 - FNDS REMOVED BELOW GRADE.
 - FORMER XFMR 110B FDN REUSED FOR SUPPORT ON "L" INSULATOR POST.

DATE: 4/7/15 REVISION: REVISED PER SDC 12-069
 DATE: 1/17/96 REVISION: REVISED PER AS BUILT

DESIGNER: RF
 CHECKED: DV/RF
 APPROVED: JTN

SCALE: 1/16" IN. = 1 FOOT

FOR PERMIT ONLY
 ELECTRICAL APL APPROVED MAY 26, 1985
 W.M. IRVING

STATION WEST MEDWAY

21072

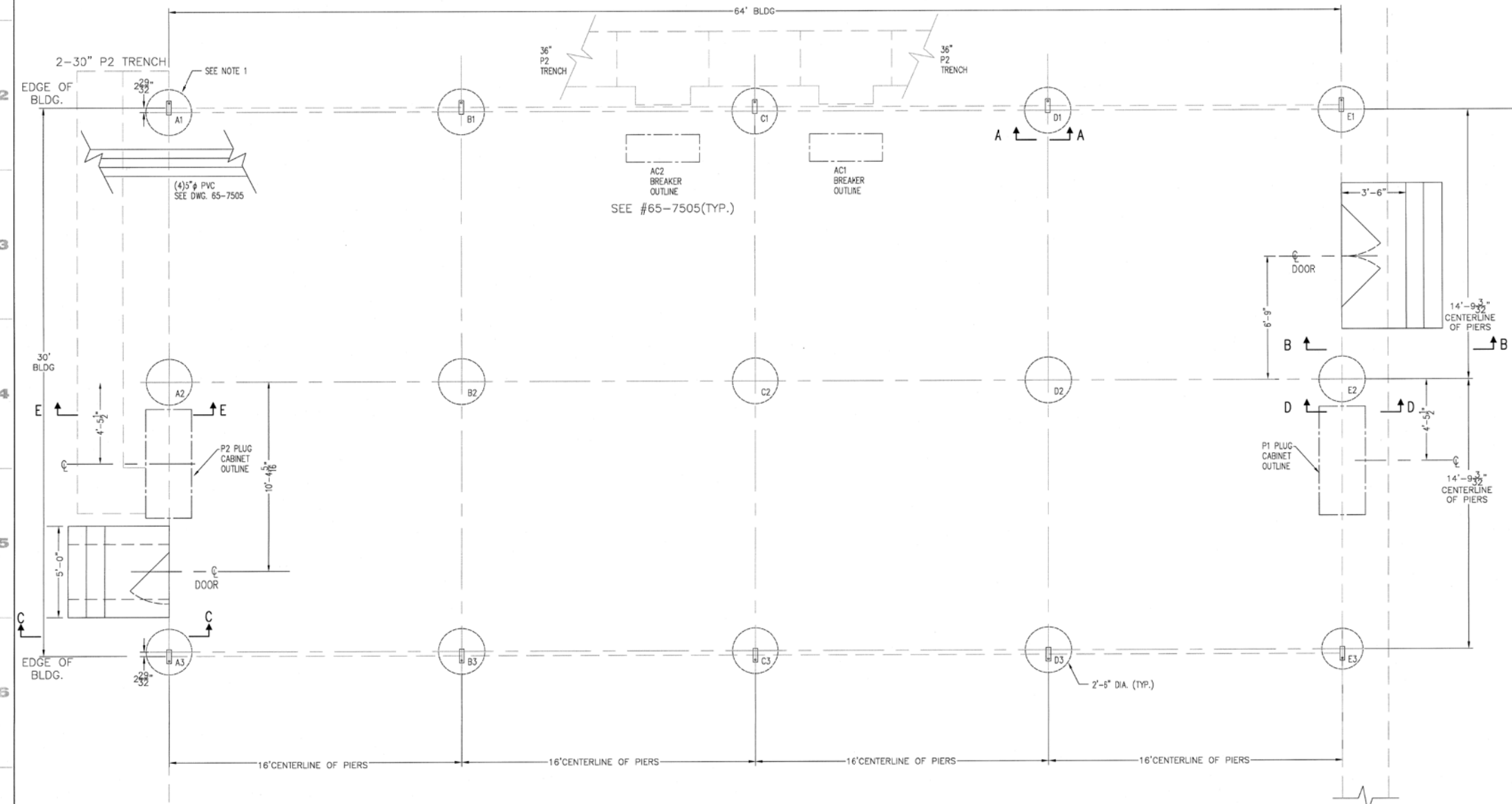
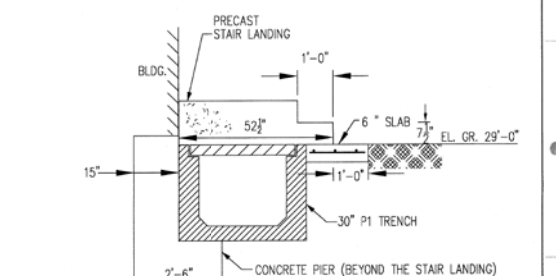
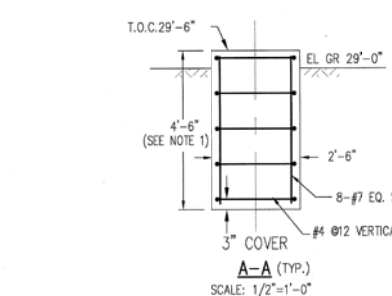
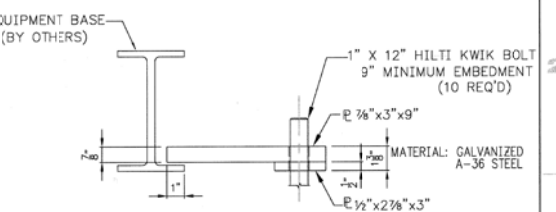
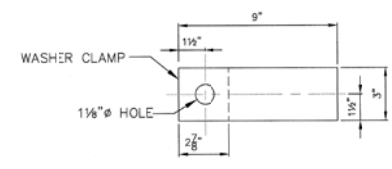
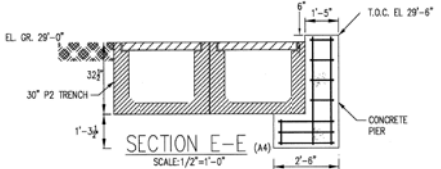
SDCs PENDING 11-026A

9009-99

STATION DESIGN CHANGE No: 15-031

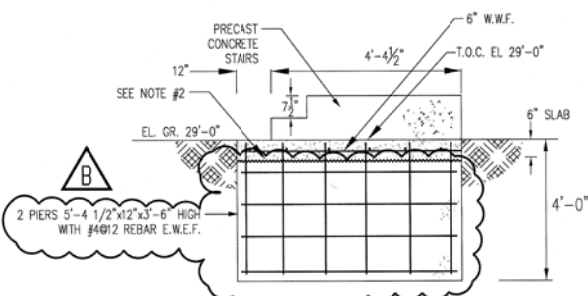
TITLE OF CHANGE: INSTALL NEW CONTROL BUILDING INSIDE STATION

(BASE) DWG. No.	65-6006	(BASE) DWG. Rev.No.	NEW
NO.	DESCRIPTION OF REVISION	DESIGNED BY	REVIEWED/DATE
A	FINAL ISSUE - CORRECT MODIFICATIONS TO PHASE 1 TO ACCOMMODATE PHASE 2 WORK	DMV	10/22/15
B	CORRECTED WEST STAIR FOOTING & ADDED NOTES 1-5	DMV	12-07-15
C			
D			
E			

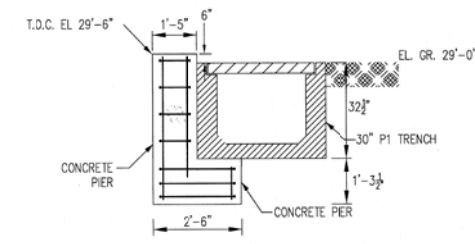


PLAN
SCALE: 3/8"=1'-0"

SECTION C-C (A5)
SCALE: 1/2"=1'-0"



1-30" P1 TRENCH
SEE #22733(TYP.)



SECTION D-D (H4)
SCALE: 1/2"=1'-0"

- NOTES:**
- INCREASE DEPTH OF PIERS AT, B1, & C1 TO 8'-0" (6'-6" OVERALL)
 - ROUGHEN TOP OF PIERS AND APPLY BONDING AGENT BEFORE POURING SLAB. EXTEND VERTICAL BARS INTO SLAB
 - CONCRETE SHALL BE 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS
 - REBAR SHALL BE ASTM A-615, 60 KSI GRADE
 - CHAMFER EXPOSED CONCRETE EDGES 1"

THIS PROJECT INVOLVES WORK ON EQUIPMENT THAT IS OPERATING AT VOLTAGES BETWEEN 345 KVA, 200V/120 VAC AND 125 VDC. REMAIN AWARE OF MINIMUM APPROACH DISTANCES TO THESE VOLTAGES AND ISOLATE ACCORDINGLY.

Nominal voltage in kilovolts	Distance: Phase to ground
0.05 to 1.0	Avoid contact
1.1 to 15.0	2'-1" (0.64m)
15.1 to 36.0	2'-4" (0.73m)
36.1 to 48.0	2'-7" (0.79m)
48.1 to 72.5	3'-0" (0.91m)
72.6 to 121	3'-2" (0.96m)
121 to 145	3'-7" (1.09m)
145 to 189	4'-0" (1.22m)
189 to 242	5'-3" (1.58m)
242 to 362	8'-6" (2.59m)
362 to 550	11'-3" (3.43m)
550 to 800	14'-11" (4.53m)

NO.	DATE	DESCRIPTION OF ALTERATIONS	BY	CHECKED	APPROVED	TITLE OF REFERENCE DRAWINGS	NUMBER

STATION SERVICE AND CONDUIT LOCATION	65-7505	DATE	OCTOBER 14, 2015
CONDUIT/TRENCH PLAN	22733	SCALE	AS SHOWN
FOUNDATION PLAN	21072	NOTED IN - 1 FOOT	
		THIS DWG PRODUCED FROM	342-6026

FOR PERMIT ONLY	
ELECTRICAL	APPROVED
	JAMES D. CURTIS
	65-6006

STATION MEDWAY

SDCs PENDING 12-069

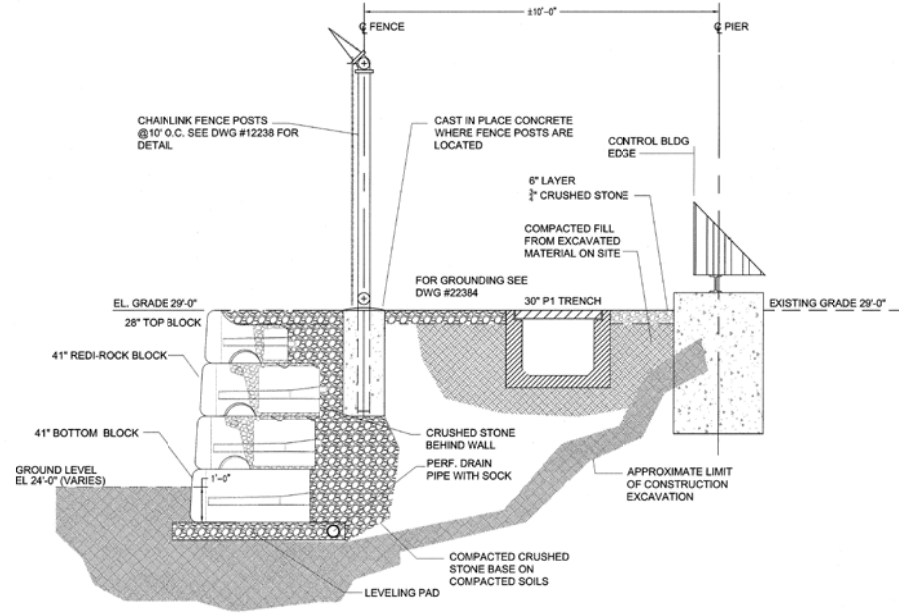
I.D. C04

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0089-99

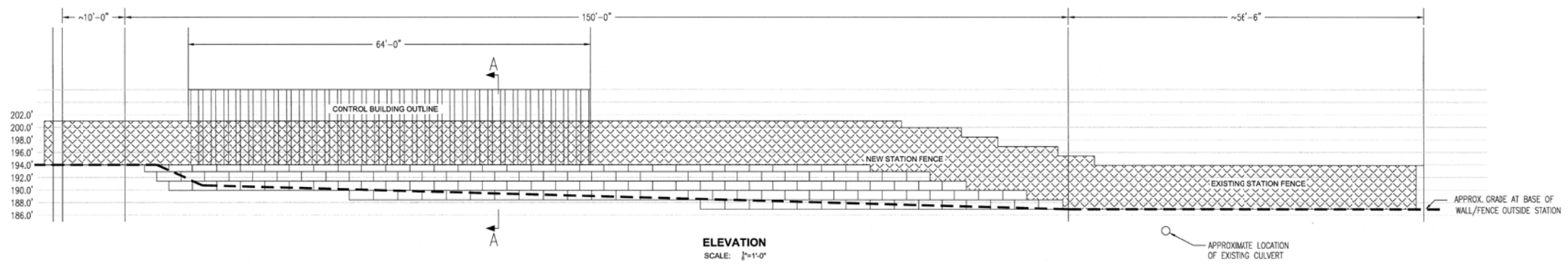
THIS PROJECT INVOLVES WORK ON EQUIPMENT THAT IS OPERATING AT VOLTAGES BETWEEN 345 KVAC, 230KV/120 VAC AND 125 VAC. REMAIN AWARE OF MINIMUM APPROACH DISTANCES TO THESE VOLTAGES AND ISOLATE ACCORDINGLY

Nominal voltage in kilovolts	Distance: Phase to ground
0.05 to 1.0	Avoid contact
1.1 to 15.0	2'-1" (0.64m)
15.1 to 36.0	2'-4" (0.73m)
36.1 to 46.0	2'-7" (0.77m)
46.1 to 72.5	3'-0" (0.91m)
72.6 to 121	3'-2" (0.95m)
126 to 145	3'-7" (1.09m)
161 to 169	4'-0" (1.22m)
230 to 242	5'-3" (1.59m)
345 to 362	8'-4" (2.59m)
500 to 550	11'-3" (3.43m)
764 to 800	14'-11" (4.55m)



SECTION A-A
SCALE: 1/2"=1'-0"

- RETAINING WALL NOTES:**
1. WALL TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
 2. FILL SHALL BE ON-SITE MATERIAL FROM CONSTRUCTION EXCAVATION EXCLUSIVE OF BOULGERS AND OTHER UNSUITABLE MATERIAL.
 3. FOLLOW STANDARD FENCE DETAIL SHOWN ON DRAWING 012338.



ELEVATION
SCALE: 1/2"=1'-0"

STATION DESIGN CHANGE No: 15-031
 TITLE OF CHANGE: INSTALL NEW CONTROL BUILDING INSIDE STATION
 (BASE) DWG. No. 65-6300 (BASE) DWG. Rev.No. NEW

REVISION	DESCRIPTION OF REVISION	DESIGNER	REVIEWED/APPROVED	DATE	ISSUE TO	DATE
A	ECON #1-MODIFICATIONS TO PHASE 1 TO ACCOMMODATE PHASE 2 WORK	RF	LG/CA/JC/DF	11/13/15	FIELD	11/30/15
B						
C						
D						
E						

JAMES D. CURTIS
 No. 73657
 STRUCTURAL
 REGISTERED
 PROFESSIONAL ENGINEER
 1-8-16

DRAWN		FOR PERMIT ONLY		DATE		ELECTRICAL		APPROVED		NOVEMBER 4, 2015		LG		JAMES D. CURTIS		SUBSTATION CIVIL		SCALE		IN=1 FOOT		THIS DWG PRODUCED FROM		65-6100		NUMBER		65-6300		065 STATION WEST MEDWAY	
NO		DATE		DESCRIPTION OF ALTERATIONS		BY		CHECKED		APPROVED		TITLE OF REFERENCE DRAWINGS		PLOT PLAN EXISTING CONDITIONS		SDCs PENDING		NONE		I.D.S05											

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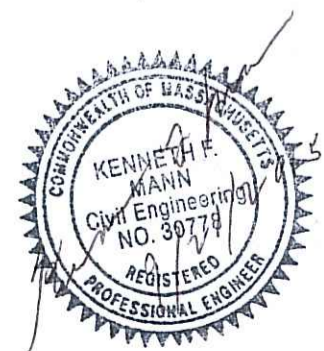
ESSEX STRUCTURAL STEEL CO., INC.
607 ROUTE 13
CORTLAND, NEW YORK 13045

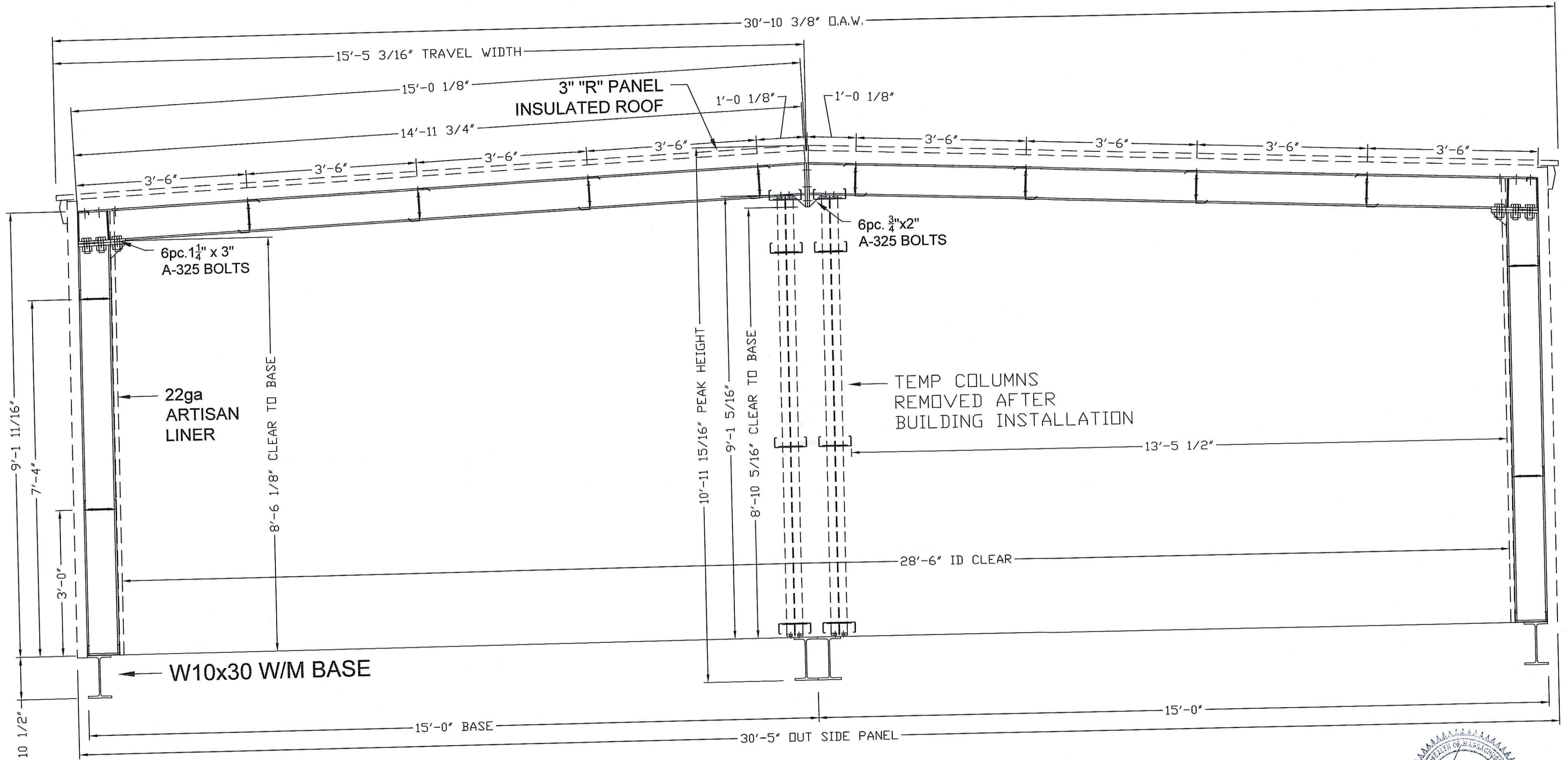
PROJECT: S-15101

NSTAR ELECTRIC & GAS
MEDWAY SUBSTATION 65
WALTHAM, MASSACHUSETTS

MANUFACTURER: WUNDERLICH-MALEC #3515035

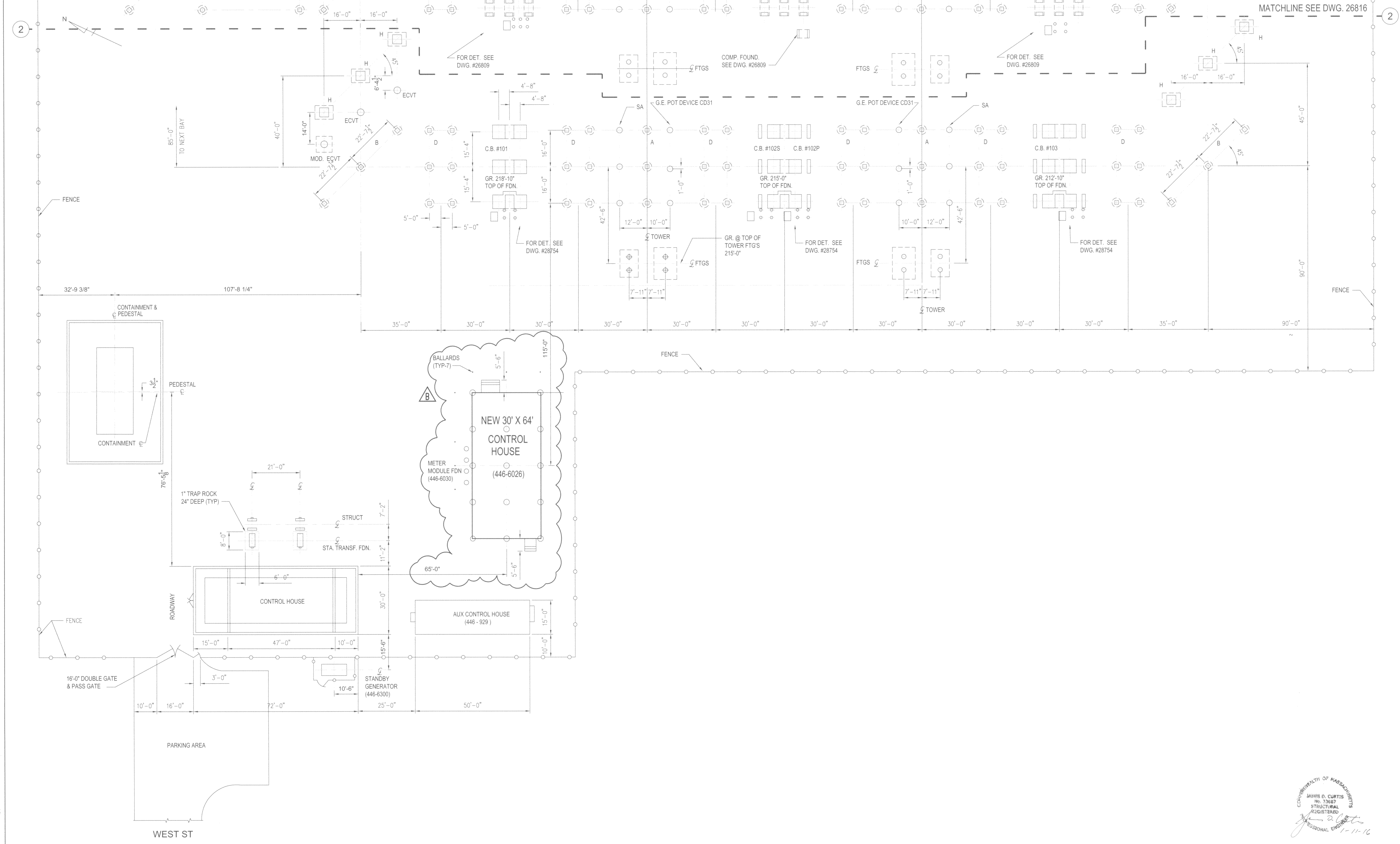
DESCRIPTION: 30' x 64' x 9' 1-11/16" 8" STRAIGHT COLUMN
MODULAR CLEAR SPAN ENCLOSURE
GROUND SNOW: 85 P.S.F.
ROOF SNOW LOAD: 85 P.S.F.
COLLATERAL LOAD: 10 P.S.F.
WIND LOAD : 125 M.P.H.
PITCH : 1/2 TO 12
BUILDING CODE: IBC-2009





ESSEX STRUCTURAL STEEL CO., INC. CORTLAND, NEW YORK 13045			
REVISIONS	PROJECT:	NSTAR ELECTRIC & GAS MEDWAY STATION 65 WALTHAM MASS.	
HORIZ CONN. DESIGN 9/2/15 WPK	CONTRACTOR:	WUNDERLICH-MALEC #3515035	
	PROJECT NO.:	S-15101	
	TITLE:	FRAME CROSS SECTION	
	DRAWN BY:	WPK	DATE: 9/3/15
	SCALE:	DNS	
			SHEET: 5 of 12

26817



COMMONWEALTH OF MASSACHUSETTS
 JAMES D. CURTIS
 No. 33687
 STRUCTURAL
 REGISTERED
 PROFESSIONAL ENGINEER
 1-11-16

NO	DATE	DESCRIPTION OF ALTERATIONS	BY	CHECKED	APPROVED	TITLE OF REFERENCE DRAWINGS	NUMBER
12	8/12/13	AS BUILT FOR SDC 12-005 REPLACE AUTOTRANSFORMER 345B	RL		JDC		
11	2/2/12	AS-BUILT FOR SDC11-0285, INSTALL STANDBY GENERATOR	RL		JDC		
10	1/26/12	REVISED FOR SDC 10-055 REPLACE AUTO TRANSFORMER 345A AND INSTALL BREAKER IN LINE 282-602	RL		JDC		
9	7/15/11	AS BUILT FOR SDC 10-058 AUTOTRANSFORMER STORAGE FOUNDATION	RL		JDC		
8	8/15/01	REVISED BREAKER 101 FOUNDATION	JAS				
7	1/29/01	ADDED SURGE ARRESTERS	R.L.				
6	9/1/99	ADDED SURGE ARRESTERS & CORRECTED EL.	JAS				

DRAWN J.J. GOGGIN	DATE 26864	FOR PERMIT ONLY
SCALE 1/16 IN. = 1 FOOT	DATE 446-928	ELECTRICAL
THIS DWG PRODUCED FROM	DATE 446-923	APPROVED
	DATE 26815	
	DATE 26816	

NSTAR ELECTRIC

FOUNDATION LOCATION PLAN
 SHEET 3 OF 3

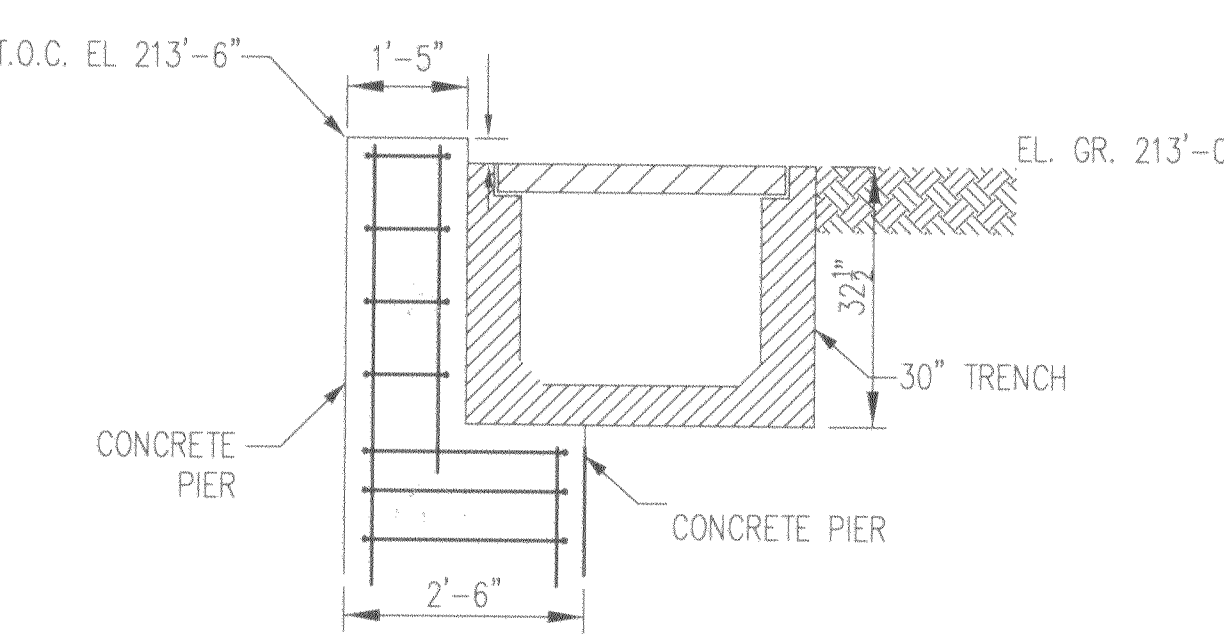
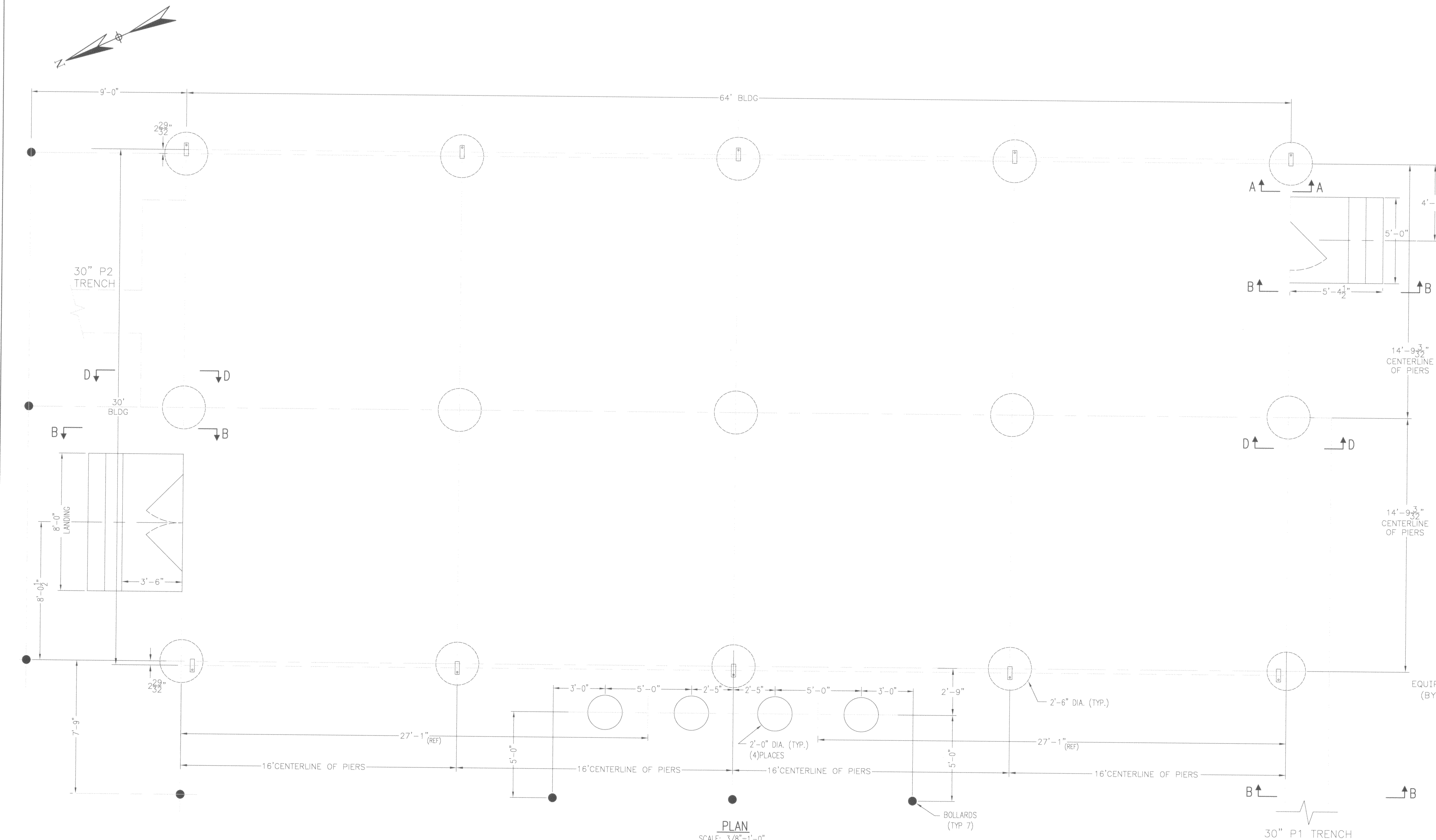
446 STATION WEST MEDWAY

26817

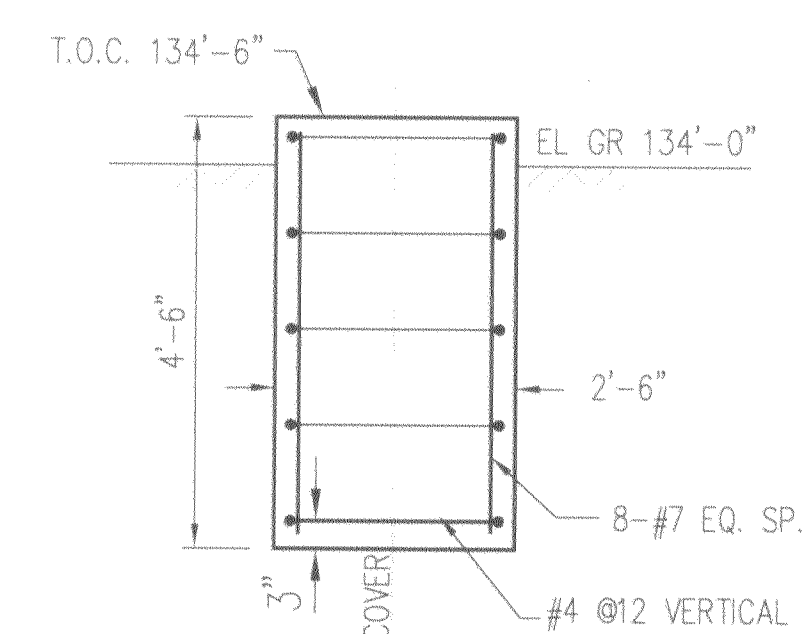
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446-6026



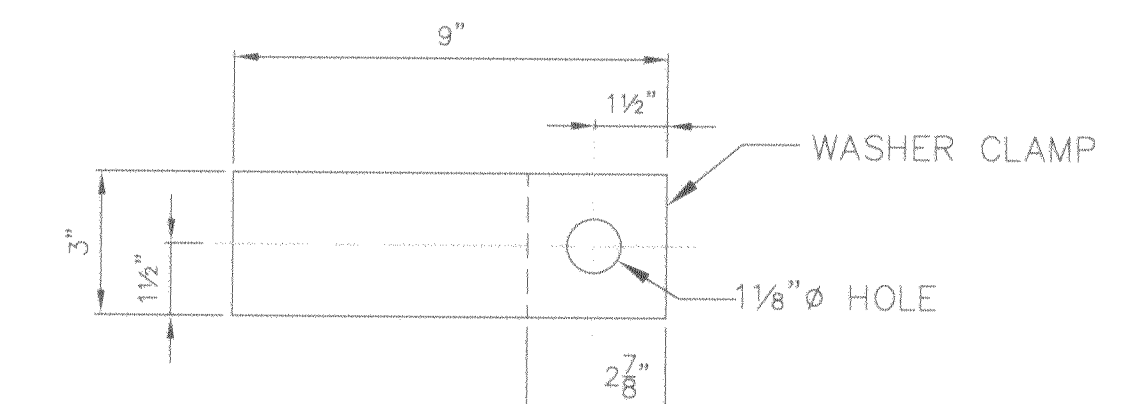
SECTION D-D (TYP.)
SCALE: 1/2"=1'-0"



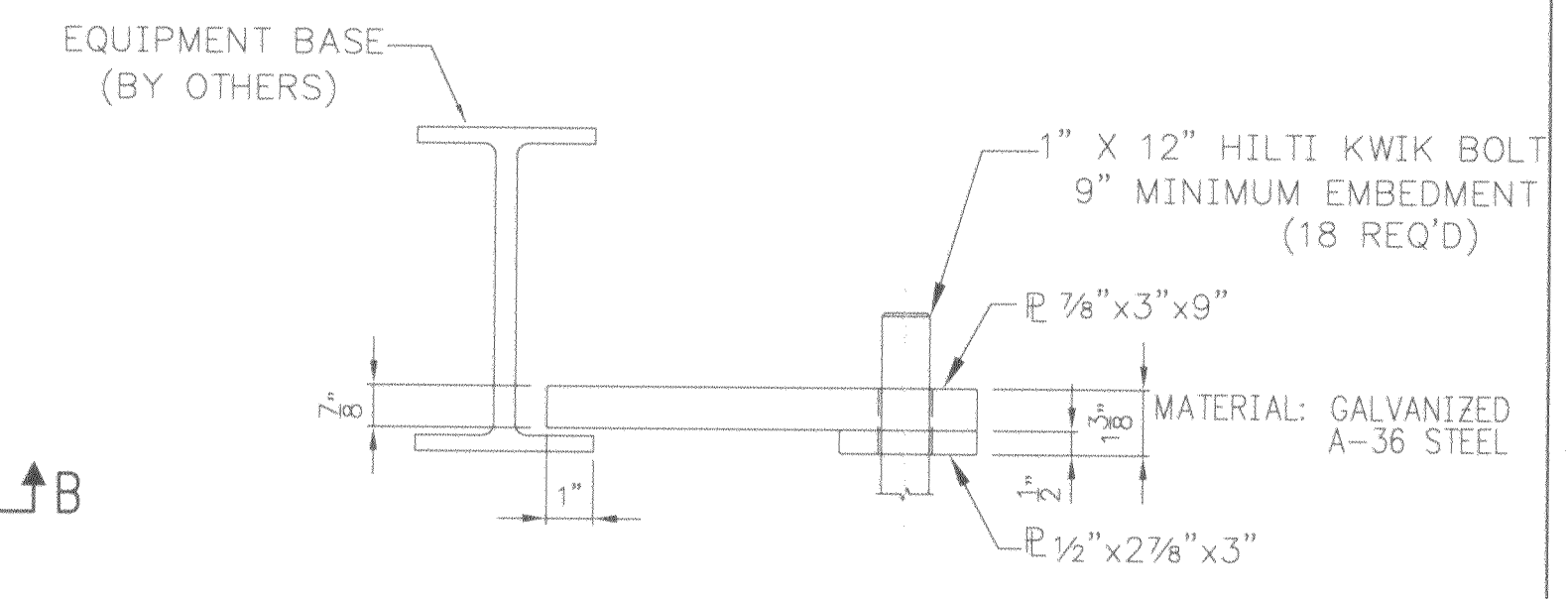
SECTION A-A
SCALE: 1/2"=1'-0"

THIS PROJECT INVOLVES WORK ON EQUIPMENT THAT IS OPERATING AT VOLTAGES BETWEEN 145 KVA, 208Y/120 VAC AND 125 VDC. REMAIN AWARE OF MINIMUM APPROACH DISTANCES TO THESE VOLTAGES AND ISOLATE ACCORDINGLY.

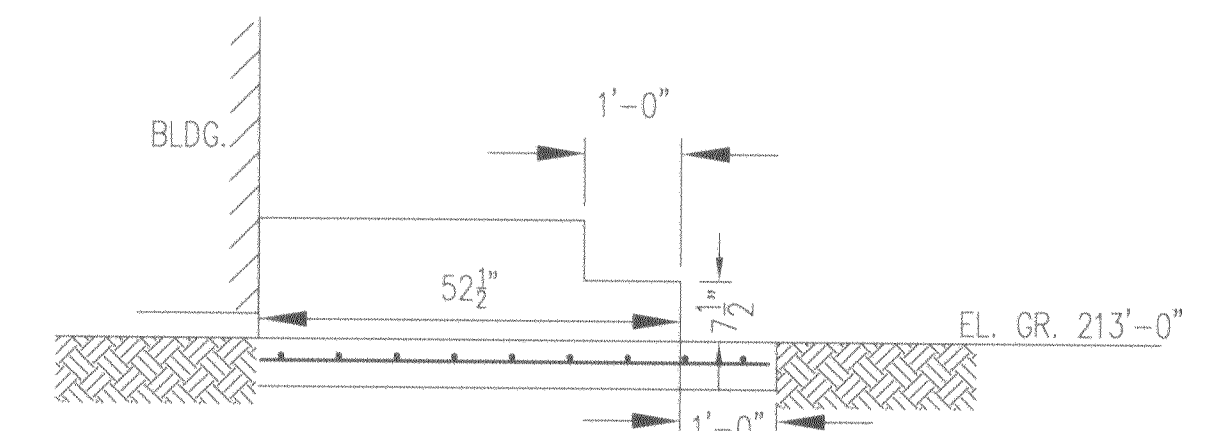
Nominal voltage in kilovolts	Distance: Phase to ground
0.05 to 1.0	Avoid contact
1.1 to 15.0	2'-1" (0.64m)
15.1 to 36.0	2'-4" (0.72m)
36.1 to 46.0	2'-7" (0.77m)
46.1 to 72.5	3'-0" (0.90m)
72.6 to 121	3'-2" (0.95m)
121 to 145	3'-7" (1.09m)
145 to 169	4'-0" (1.22m)
169 to 242	5'-3" (1.59m)
242 to 362	8'-6" (2.59m)
362 to 550	11'-3" (3.42m)
550 to 800	14'-11" (4.53m)



WASHER CLAMP DETAIL - PLAN
SCALE: 3" = 1'-0" (H-5)



WASHER CLAMP DETAIL - ELEVATION
(18 REQ'D)
SCALE: 3" = 1'-0"



SECTION B-B
SCALE: 1/2"=1'-0"

NOTES:

1. CONCRETE TO BE 4000 PSI AT 28 DAY STRENGTH.
2. REINFORCING STEEL TO BE ASTM A615 GRADE 60.
3. ALL REBAR HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH ACI 318.
4. CONCRETE COVER TO BE 2" U.O.N.
5. CONTROL JOINTS TO BE TOOLED INTO CONCRETE AT APPROX. 5' C/C EACH WAY.
6. A SINGLE CONTRACTION JOINT SHALL BE PROVIDED AT CENTERLINE OF SLAB. SUBMITTAL REQUIRED.

COMMONWEALTH OF MASSACHUSETTS
JAMES D. CURTIS
NO. 33687
STRUCTURAL
REGISTERED
PROFESSIONAL ENGINEER
1-11-16

			FOUNDATION LOCATION PLAN SH3 OF 3		26817	DRAWN	FOR PERMIT ONLY	ELECTRICAL	APPROVED	AA	
			DUCT PLAN SH 1 OF 3		26821						
			STATION GENERAL PLAN		12446	DATE					
						MAY 9, 2014					
						SCALE					
						NOTED					
						IN. = 1 FOOT					
						THIS DWG PRODUCED FROM					
						342-6026	446-6026				
						446 STATION MEDWAY					
NO	DATE	DESCRIPTION OF ALTERATIONS			BY	CHECKED	APPROVED	TITLE OF REFERENCE DRAWINGS			

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ESSEX STRUCTURAL STEEL CO., INC.
607 ROUTE 13
CORTLAND, NEW YORK 13045

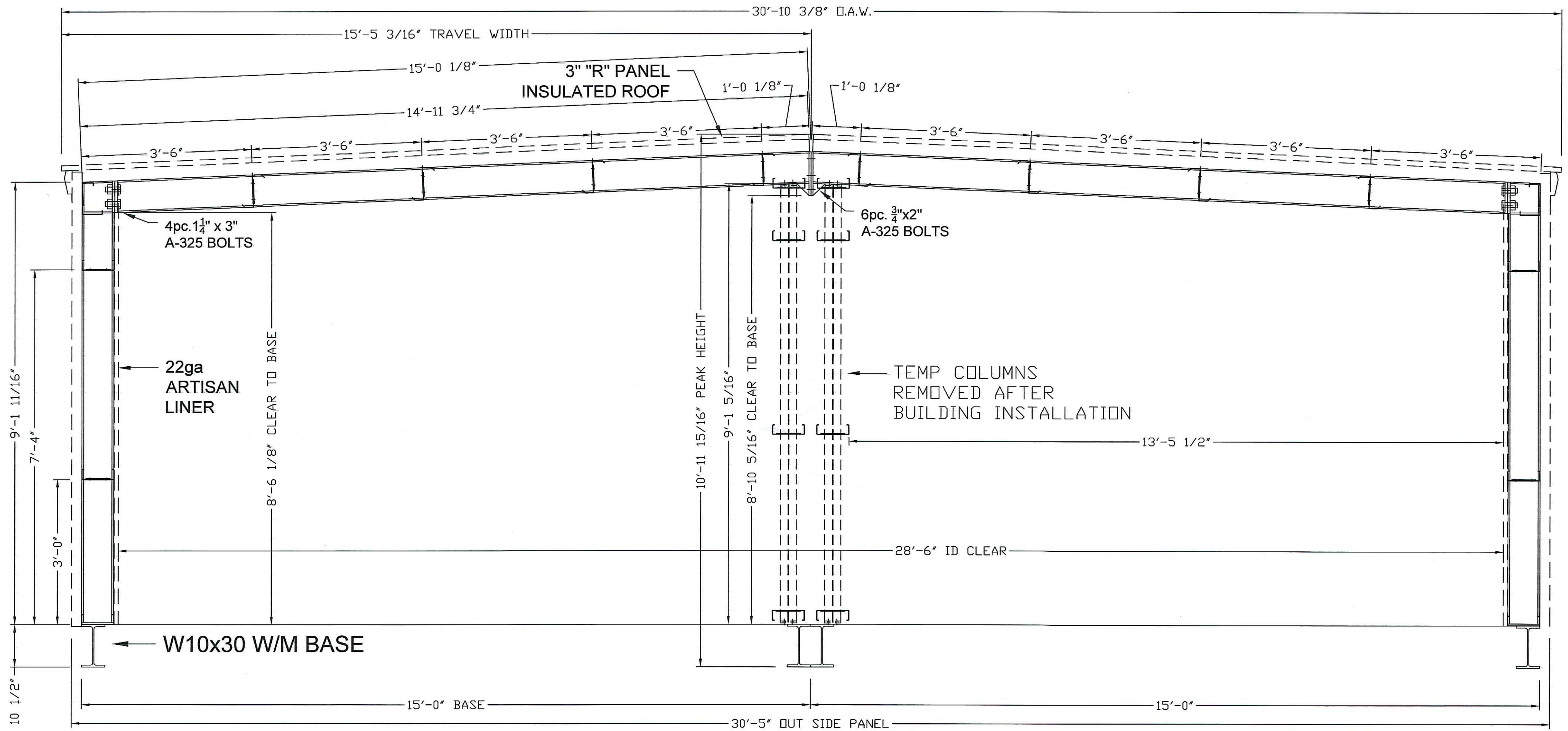
PROJECT: S-1591

NSTAR ELECTRIC & GAS
MEDWAY SUBSTATION 446
WALTHAM, MASSACHUSETTS

MANUFACTURER: WUNDERLICH-MALEC #3515030

DESCRIPTION: 30' x 64' x 9' 1-11/16" 8" STRAIGHT COLUMN
MODULAR CLEAR SPAN ENCLOSURE
GROUND SNOW: 85 P.S.F.
ROOF SNOW LOAD: 85 P.S.F.
COLLATERAL LOAD: 10 P.S.F.
WIND LOAD : 125 M.P.H.
PITCH : 1/2 TO 12
BUILDING CODE: IBC-2009

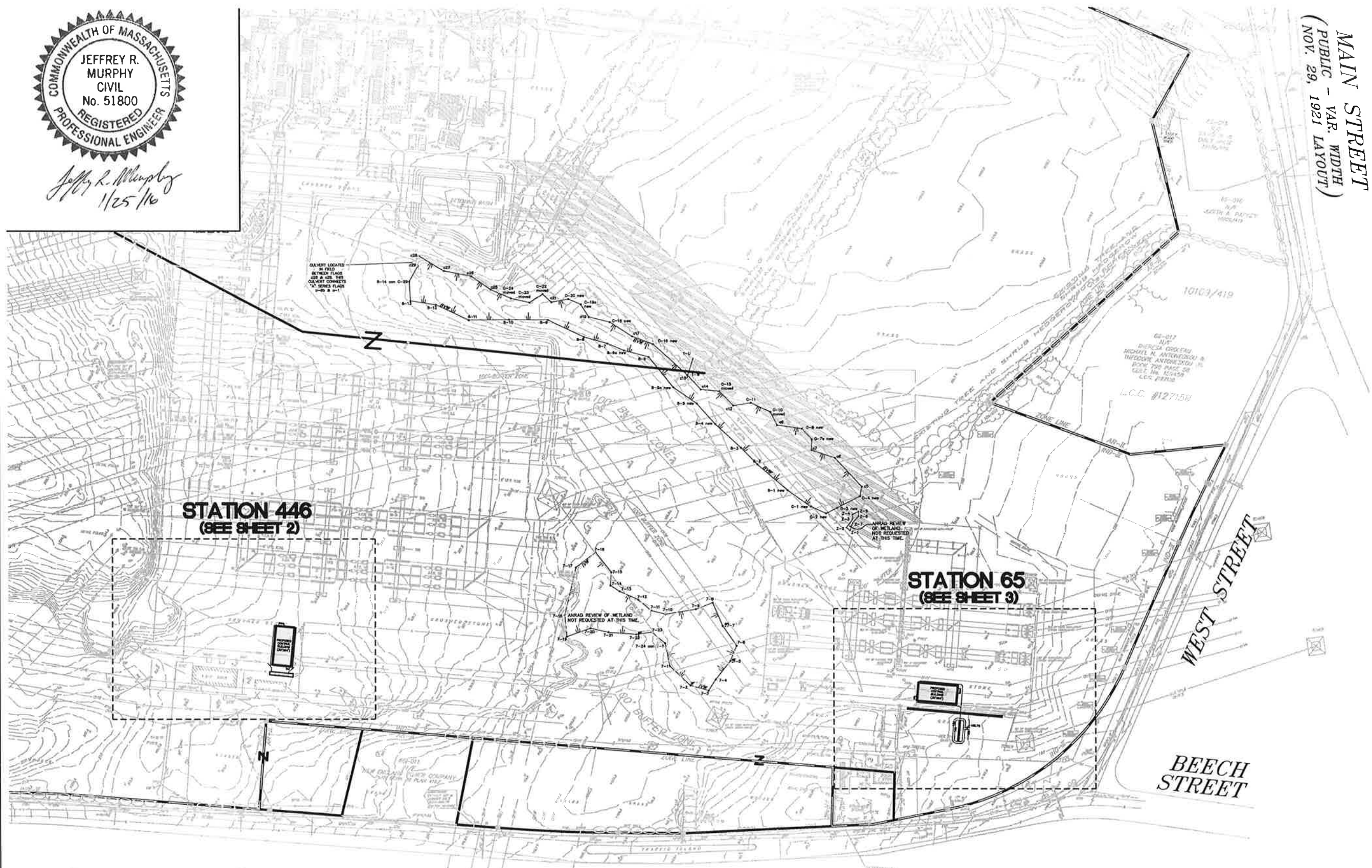




ESSEX STRUCTURAL STEEL CO., INC. CORTLAND, NEW YORK 13045			
REVISIONS	PROJECT:	NSTAR ELECTRIC & GAS MEDWAY STATION 446 WALTHAM MASS.	
	CONTRACTOR:	WUNDERLICH-MALEC #3515030	
	PROJECT NO.:	S-1591	
	TITLE:	FRAME CROSS SECTION	
	DRAWN BY:	WPK	DATE: 7/20/15
	SCALE:	DNS	
	SHEET:	5 of 12	



Jeffrey R. Murphy
1/25/16



MAIN STREET
(PUBLIC - VAR. WIDTH)
(NOV. 29, 1921 LAYOUT)

STATION 446
(SEE SHEET 2)

STATION 65
(SEE SHEET 3)

WEST STREET
BEECH STREET

WEST PUBLIC - 50' WIDE STREET
1929 COUNTY LAYOUT, SEPTEMBER 28, 1937 ALTERATION)
BOOK 110 PLANS 648-652, PLAN BOOK 121 PLAN 650
DOC. No. 67220

**Stormwater Management System:
Station 65 & 446 Locus Map**

Scale: 1" = 160'
Date: 01/25/2016
Plan No. M561618P001A-001
B+T Project No. 1422.11

Control Building - Station 446
Medway, Massachusetts

Eversource
One NSTAR Way
Westwood, Massachusetts

North Arrow

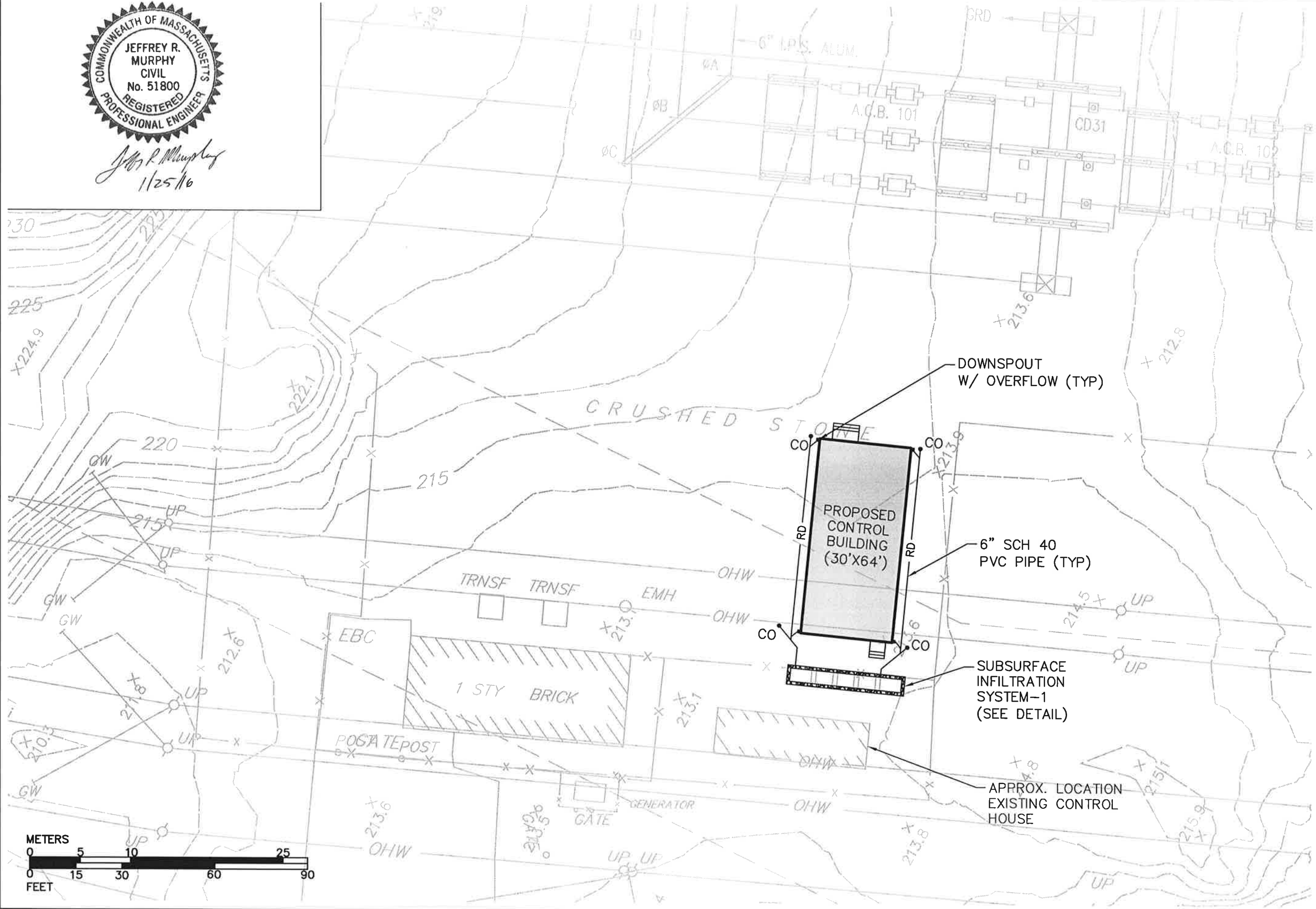


NORTH

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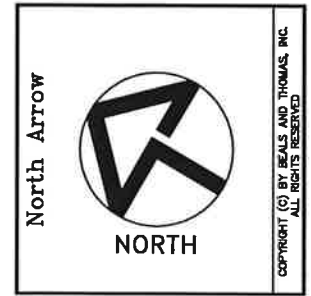


**Stormwater Management System:
Station 446**

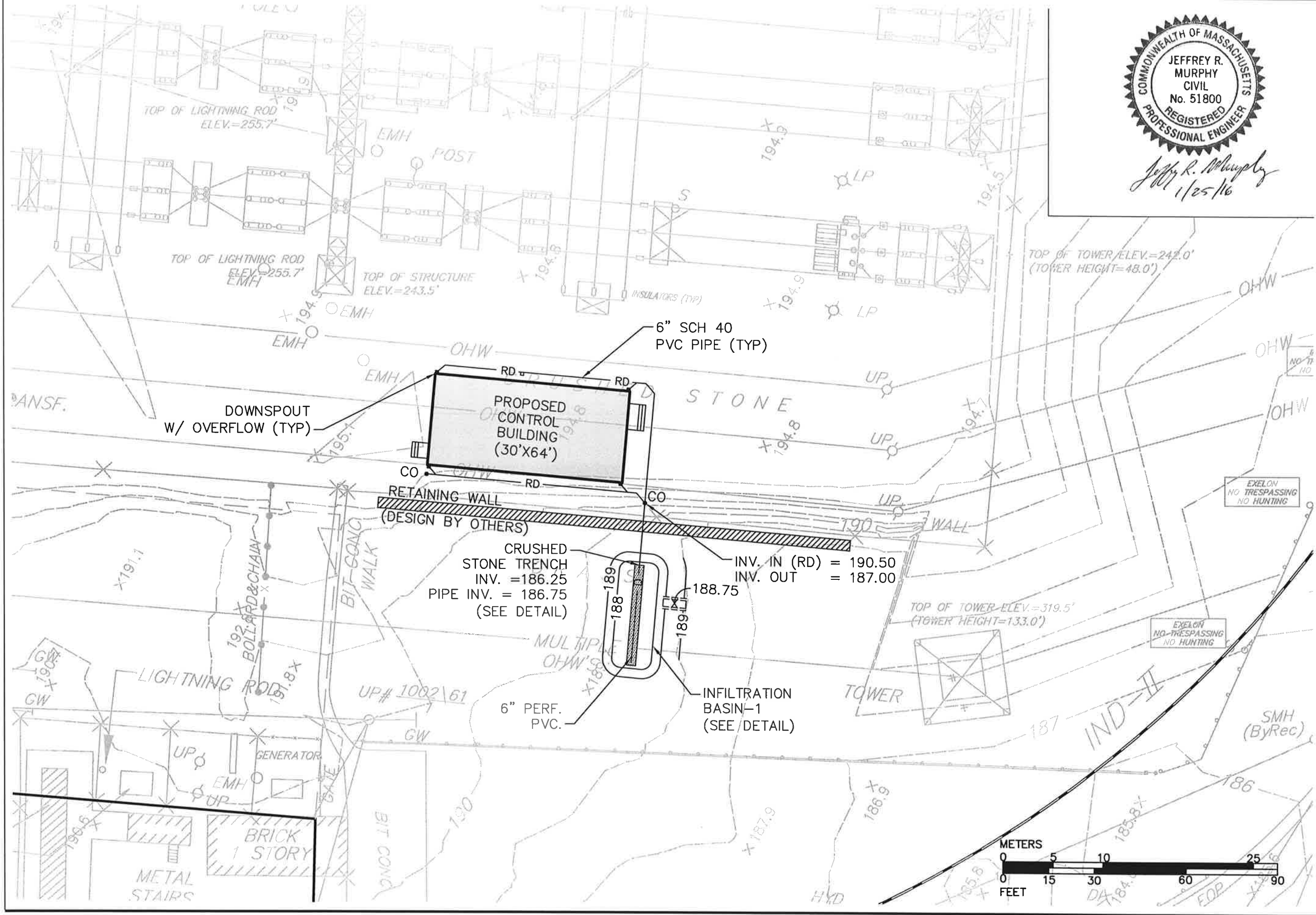
Scale: 1" = 30'
Date: 01/25/2016
Plan No. M561618P001A-002
B+T Project No. 1422.11

Control Building-Station 446
Medway, Massachusetts

Eversource
One NSTAR Way
Westwood, Massachusetts



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 1/25/16

**Stormwater Management System:
 Station 65**

Scale: 1" = 30'
 Date: 01/25/2016
 Plan No. M561618P001A-003
 B+T Project No. 1422.11

Control Building-Station 65
 Medway, Massachusetts

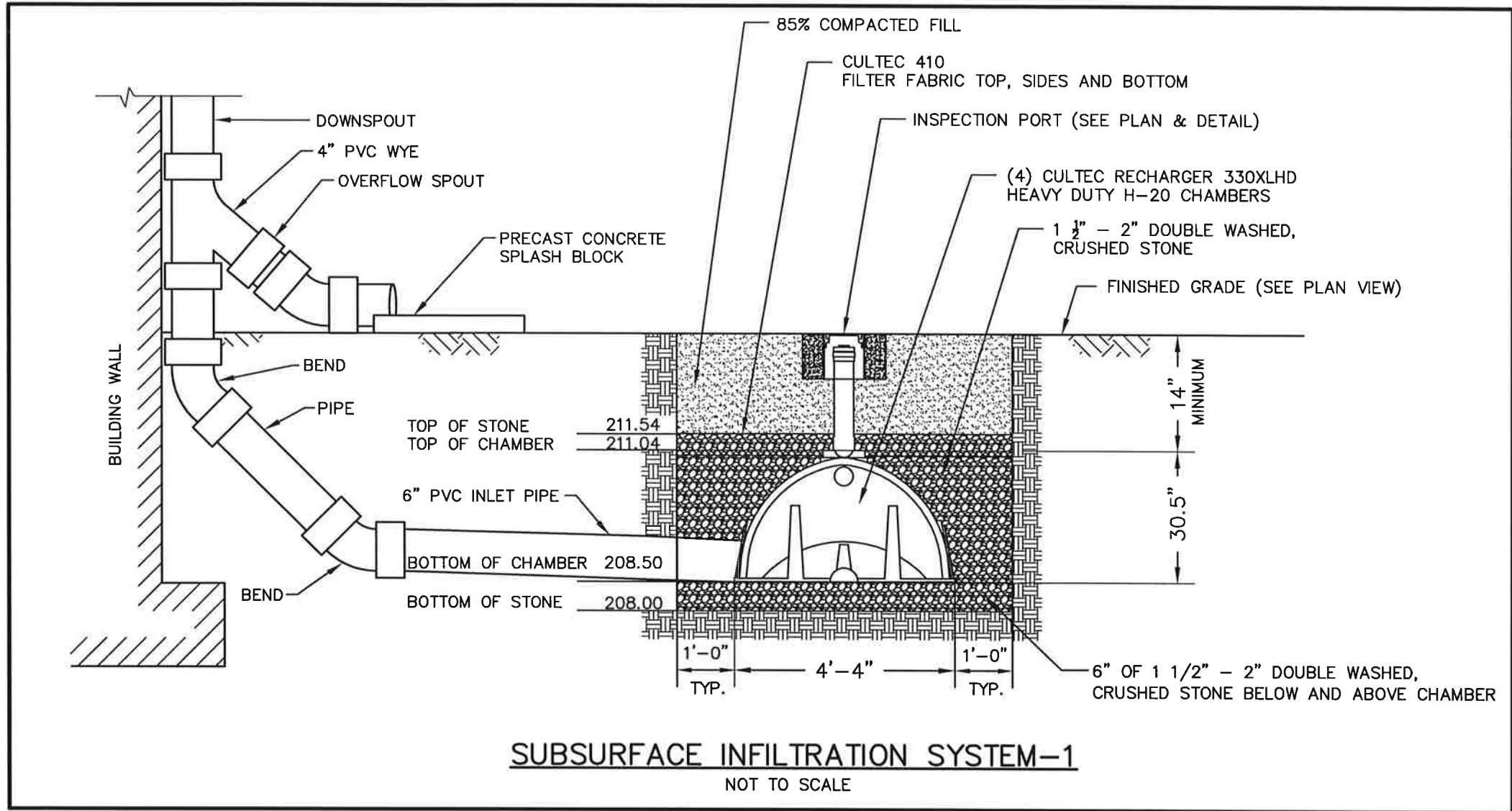
Eversource
 One NSTAR Way
 Westwood, Massachusetts

North Arrow



NORTH





**Stormwater Management System:
Site Details-Sheet 1**

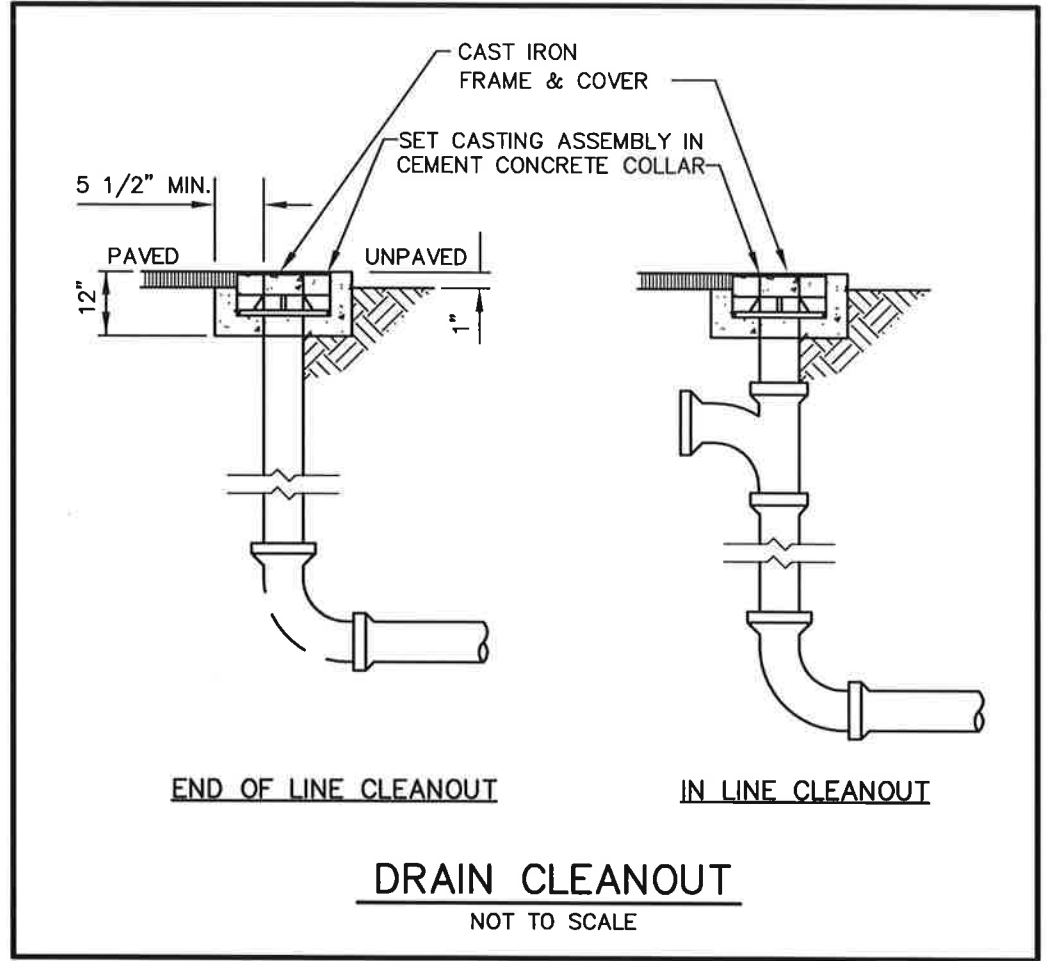
Scale: Not To Scale Date: 01/25/2016
 Plan No. M561618P001A-004
 B+T Project No. 1422.11

**Control Buildings -
Stations 65 & 446**
 Medway, Massachusetts

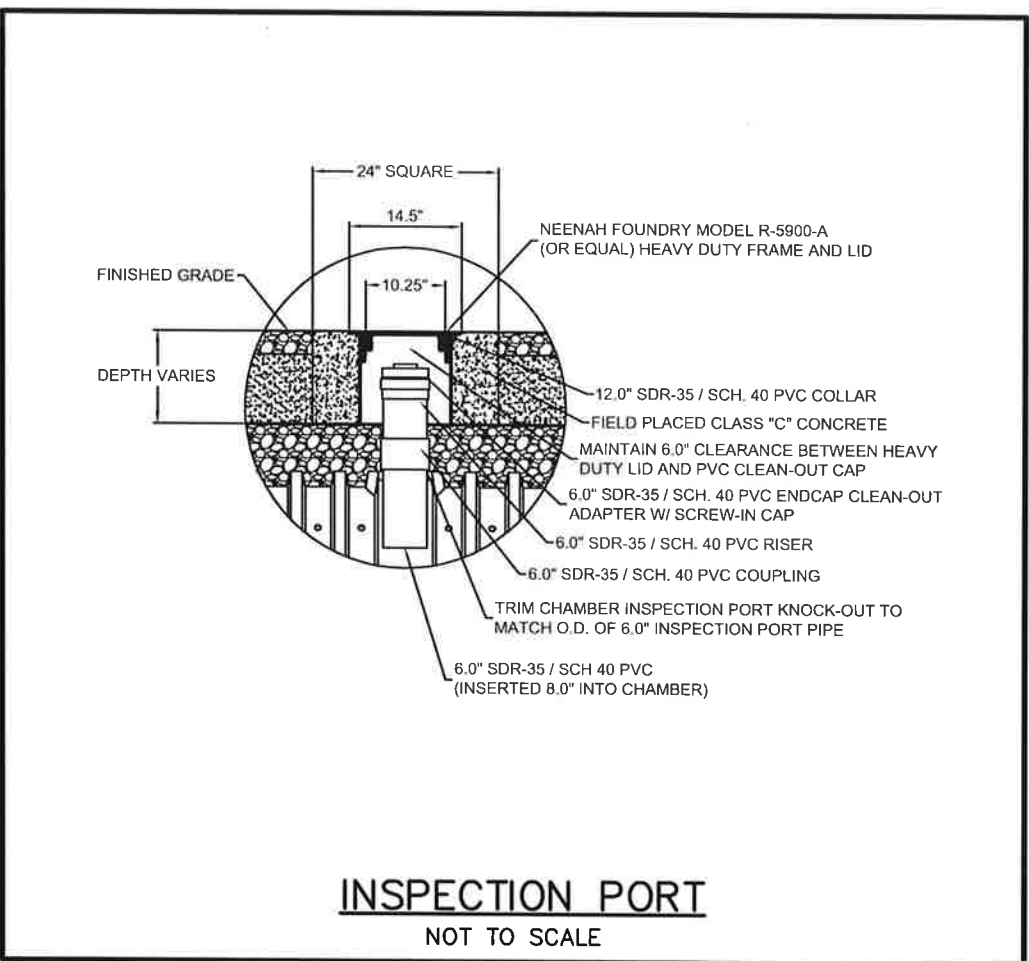
Eversource
 One NSTAR Way
 Westwood, Massachusetts



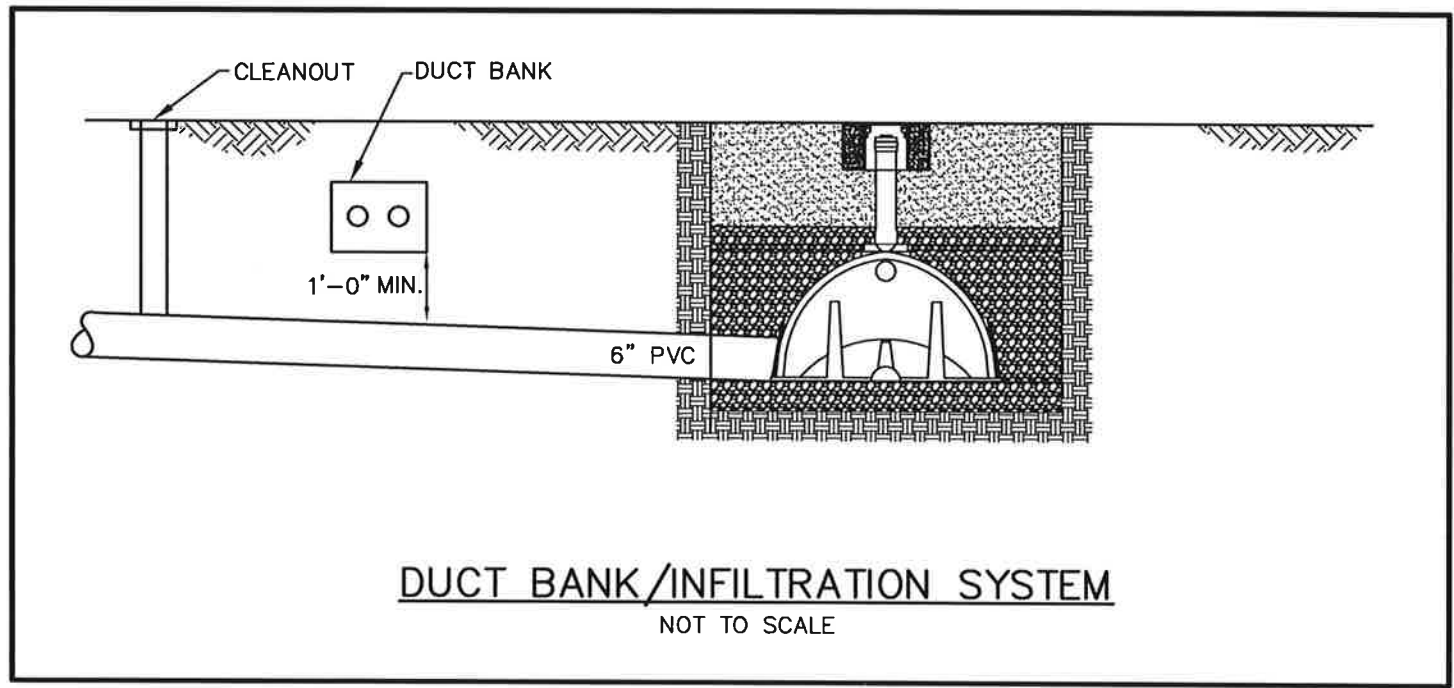
Jeffrey R. Murphy
 1/25/16



DRAIN CLEANOUT
NOT TO SCALE



INSPECTION PORT
NOT TO SCALE



DUCT BANK/INFILTRATION SYSTEM
NOT TO SCALE

**Stormwater Management System:
Site Details-Sheet 2**

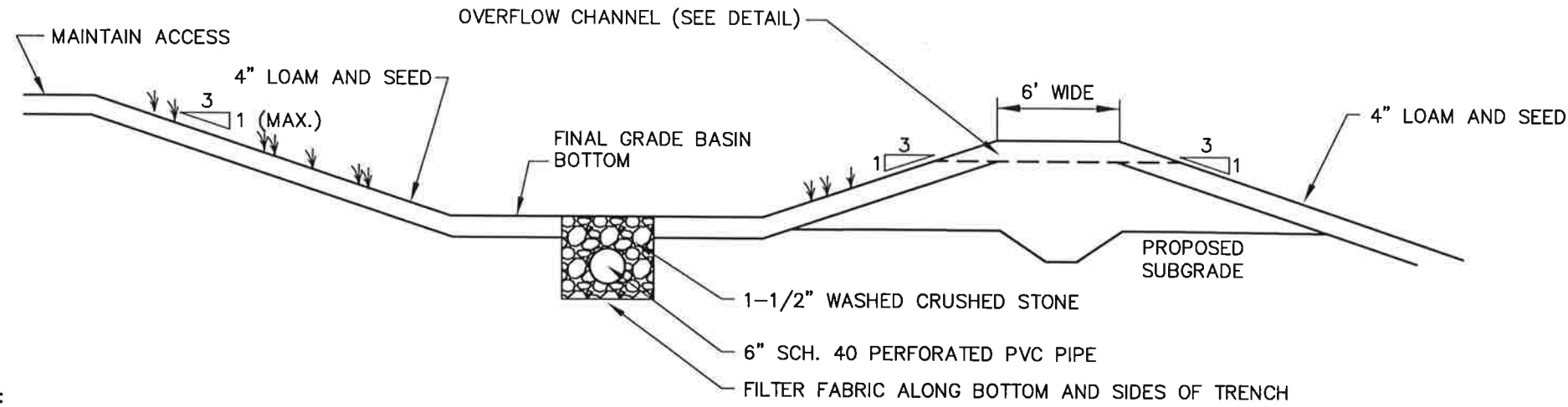
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Plan No. M561618P001A-005
B+T Project No. 1422.11

**Control Buildings-
Stations 65 & 446**
Medway, Massachusetts

Eversource
One NSTAR Way
Westwood, Massachusetts

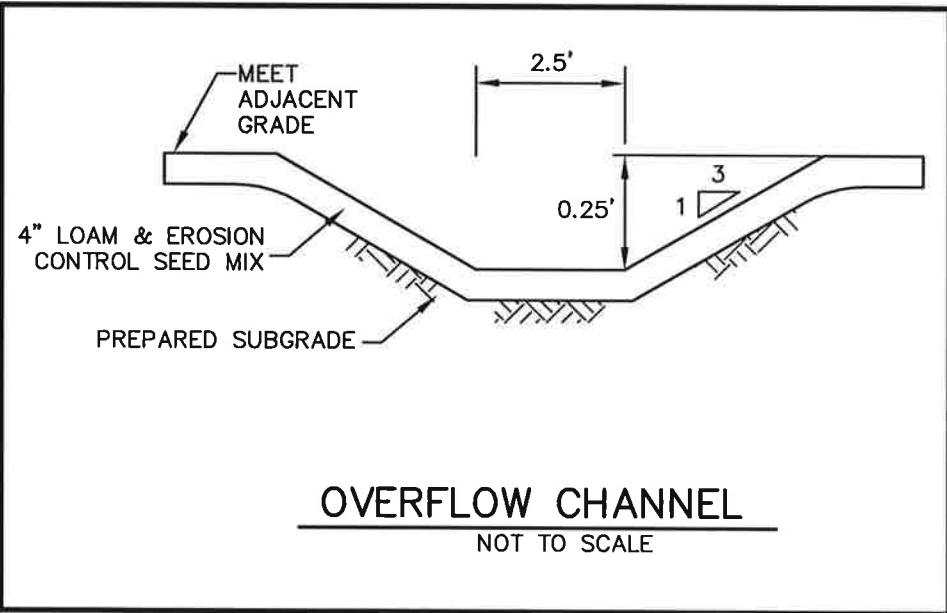


Jeffrey R. Murphy
1/25/16



- NOTES:
1. FINAL GRADES ARE SHOWN ON SHEET 3.
 2. UNSUITABLE AND CLOGGED SOILS SHALL BE REMOVED FROM INFILTRATION BASIN-1 ONCE TRIBUTARY AREA IS STABILIZED.

INFILTRATION BASIN-1 SECTION
NOT TO SCALE



OVERFLOW CHANNEL
NOT TO SCALE



Jeffrey R. Murphy
1/25/16

**Stormwater Management System:
Site Details-Sheet 3**

Scale: Not To Scale Date: 01/25/2016
Plan No. M561618P001A-006
B+T Project No. 1422.11

**Control Buildings-
Stations 65 & 446**
Medway, Massachusetts

Eversource
One NSTAR Way
Westwood, Massachusetts

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