

THE CITY OF WALTHAM
MASSACHUSETTS

PURCHASING DEPARTMENT

Fernald Center Wetlands Restoration and Stream Daylighting

ADDENDUM NO. 4

November 3, 2021

CHANGES, CORRECTIONS AND CLARIFICATIONS

The attention of bidders submitting proposals for the above subject project is called to the following addendum to the specifications. The items set forth herein, whether of omission, addition, substitution or clarification are all to be included in and form a part of the proposal submitted.

THE NUMBER OF THIS ADDENDUM (NO. 4) MUST BE ACKNOWLEDGED ON BID FORM 00301-2.

ITEM 1: Answers to Posed Questions

Q1. Will the City provide a designated area within the Fernald campus for a staging / laydown area?

A1. Once the project has been awarded, the City will offer a staging area location within the Fernald Campus to be used by the Contractor.

Q2. Will the Prefabricated Pedestrian Footbridges (Item 14) remain included within the Contract?

A2. Bid Item 14 – Prefabricated Pedestrian Bridges and all work associated with this item will be removed from the Contract. Please refer to updated Bid Form attached to this addendum.

Q3. What level of effort required for tree removal / grubbing and clearing?

A3. The layout of the stream was designed to preserve the majority of the mature trees within the project area. It is anticipated that the majority of removal will be clearing and grubbing brush and small caliper trees but may include a number of mature trees. The

Contractor's attention is called to Sheet EX-1 for the limits of work and trees identified for protection. All costs for work associated with tree removal and grubbing and clearing shall be compensated under Item 23 Lump Sum payment. Contractor's attention is called to the requirements of the Order of Conditions issued for the project and included as Attachment C of the Bid Documents.

Q4. What level of coordination with contractors working within the area is required?

A4. There are currently other Contractor's working within the Fernald Campus. City personnel can facilitate coordination with other on-going work and limit conflicts which may otherwise limit Contractor's ability from prosecuting work. Contractor shall provide accurate weekly schedule updates to facilitate this.

Q5. What survey control / benchmarks will be provided? Will the City accept the use of GPS to establish elevations?

A5. Existing survey control is outlined on the "Topographic Plan of Land, Trapelo Road" by A.S. Elliott Associates, Dated 7/2/2019, Scale 1"= 80'. For determining elevations, the Contractor shall assume TBM #1 as the control monument. Determining elevations in the field falls under the Contractor's means and methods of construction. The City reserves the right to verify constructed elevations. The Contractor shall re-work areas found deviating from proposed elevations at no additional cost to the contract.

Q6. What permits / SWPPP will be required for work?

A6. It is anticipated that the Contractor shall be responsible for a Trench Permit from the Building Department and shall also develop and submit a SWPPP Plan required under USEPA's Construction General Permit prior to commencement of work. Relevant Permits and record keeping including testing, handling and disposal of soils encountered on-site may be required in accordance with the Technical Specifications Sections 02080 Soil and Waste Management and 02095 Transportation and Disposal of Soil and Waste and others in the Bid Documents.

Q7. What insurance requirements are needed regarding footbridge?

A7. Please refer to answer #2 of this addendum.

Q8. What are the allowable hours of work?

A8. Noise generated by Construction is limited by City Ordinance to between the hours of 7:00am and 5:00pm on weekdays and 8:00am to 5:00pm on Saturdays. The Contractor and their subcontractors shall be limited to an 8-hour workday falling within these timeframes. The Contractor shall obtain written permission from the City before exceeding an 8-hour workday, scheduling work on a Saturday, or working on a holiday.

Q9. City will provide all available existing utility information.

A9. Available utility records are attached to this addendum.

Q10. What are the known quantities of fill to be retained on-site vs. disposed of?

A10. The Contractor's attention is called to Sheets SP-1 & SP-2 for cross sections of the stream channel. Excess fill shall be placed and graded within the hillside as shown on sheet EX-1 or removed and disposed of at the direction of the Engineer. The overall intent of filling in the hillside area is to create winter recreational area for small children. Contractor's attention is also called to the Technical Specifications Sections 02080 Soil and Waste Management and 02095 Transportation and Disposal of Soil and Waste.

Q11. What is the timeframe of Award & NTP?

A11. Action on the award is typically taken within sixty (60) days, with Saturdays, Sundays and Legal Holidays being excluded after the opening of the bids. The award of the contract may be contingent upon the appropriation of funds from City Council Meeting. A Notice to Proceed is issued, funding is approved and the contract is signed by Mayor McCarthy. No work may begin until the Contract has been signed by Mayor McCarthy.

Q12. Will the City allow work during winter months?

A12. The City will evaluate and make a reasonable attempt to allow work during winter months provided conditions allow for effective prosecution of work. The Contractor must submit a letter in writing to the City requesting permission to work during the winter months.

Q13. How will the Contractor access the site?

A13. All construction traffic associated with this project shall enter and exit the Fernald Campus off the Waverly Oaks Rd gate.

Q14. Were foundations of cottages removed under prior contract?

A14. Yes, the foundations of the cottages have been previously removed and disposed of under a separate project.

Q15. Point of Clarification

A15.

- a. All Compliance documents must bear a "Wet" Original signature.
- b. 5% Bid Bond is required with your Bid
- c. Awarded Contractor must submit 100% Performance and Payment Bonds within 5 days of Award.

Q16. Drawing D-2, Detail 6 shows a Geosynthetic Clay Liner (GCL) across the proposed stream bed and being cut at weir rocks per Detail 3 and spillway rocks per Drawing D-3, Detail 2. There is no specification provided for this GCL material. Is GCL actually required, because this material would not be placed as shown. The GCL could not be cut or placed around rocks that are placed in the stream. In addition, the GCL would probably need a significant depth of cover material (i.e. stream bed material on top of the GCL) and anchor trenches along each stream bank. Can you please provide more detail about the possible use of GCL.

A16. Geosynthetic Clay Liner (GCL) and all work associated with this item will be removed from the Contract.

Q17. Per Drawing D-2, Detail 6 can you please provide a material specification and design depth for the “Stream Channel Base Material”.

A17. Upon removal of soil within the constructed stream channel the top soil will be placed back on the constructed banks and stream bed. If supplemental soil may be required it should consist of unscreened invasive free loam or organic compost that consist primary of leaf compost. The minimum depth of supplemental soil shall be 4 inches or as directed by the Engineer.

Q18. Within the Standard General Conditions section of the RFP, page 19 of 62 under “5.06 – Property Insurance” there is a reference for Builder’s Risk Insurance. Is Builder’s Risk insurance required?

A18. The Contractor must provide an Insurance Certificate upon Award with the following coverage:

A. WORKMAN’S COMPENSATION: The Contractor shall provide by insurance for the payment of compensation and furnishing of other benefits under Chapter 152 of the General Laws of the Commonwealth of Massachusetts to all persons to be employed under this contract, the premiums for which shall be paid by the Contractor.

B. COMPREHENSIVE GENERAL LIABILITY

Bodily Injury: \$1,000,000 Each Occurrence

\$2,000,000 Aggregate

Property Damage: \$1,000,000 Each Occurrence

\$2,000,000 Aggregate

C. AUTOMOBILE (VEHICLE) LIABILITY

Bodily Injury \$2,000,000 Each Occurrence

Property Damage \$1,000,000 Aggregate

D. UMBRELLA POLICY

General liability \$1,000,000

ITEM 2: Answers to Questions Posed to Addendum 3 Responses

Q1. Answer 4 – There are no details provided on Sheet G3. Can you please provide a detail sheet showing the proposed rim, base, inlet and outlet sizes and invert elevations.

A1. Available information related to existing drain manhole that is called out to be replaced such as existing rim elevation and inverts for the 36” inlet and outlet pipes (to remain) is called out on Sheet G-3. Contractor must confirm elevations and connections to this drain manhole prior to fabrication.

Q2. Answer 5 – Your answer will result in Bidders assuming different amounts for security. Some Bidders may risk that vandalism might not occur and not have any security. Some Bidders may assume that security is prudent, thereby increasing their Bid Amount. For the bidding process to be fair, the City would need to add a Bid Item and assign a reasonable allowance amount (for example \$50,000). That way all Bids would include the same \$50,000 cost for security.

A2. There has been a history of vandalism, property destruction, and theft in the Fernald Campus. The security of the site and all equipment and materials lies solely with the Contractor. The City will offer to provide added lighting for security of staging area. At a minimum, the Contractor shall maintain 6-foot-tall security fencing with a locking gate around the perimeter of the designated staging area for the duration of construction activity. The Contractor shall include all costs they deem necessary to safeguard equipment and materials within the lump sum cost of Item 26 Miscellaneous Work & Cleanup. The City will not be held responsible for any theft or damages incurred by the Contractor.

Q3. Answer 6 – Drawings L1, L2 & L3 and their legends indicate that the “Live Fascine” and “10” Coir Fascine” only occur in certain limited lengths along the stream channel. Our understanding of these drawings is that the “10” Coir Fascine” is not required along the full length of the new stream channel. Could you please provide a Table that specifies where the “Live Fascines” and “10” Coir Fascines” are required i.e. between what survey stations along the new stream channel and whether on both banks, so that the Bidders can calculate the total length of fascines that need to be constructed.

A3. 10” Coir Fascines and 4’ wide Coir Mat is required along the entire length of the new daylighted stream as shown on the details 6 D-2 and 5 D-1 on Sheets D-1 and D-2. Live Fascines for the project is as shown on Sheet L1 along the slopes of the proposed pond.

Q4. Answer 7 - The Concrete Headwall shown on Drawing L-3 appears to have dimensions very different than those shown on Drawing D-3, Detail 1. Should the Concrete Headwall be constructed as shown on Drawing D-3, Detail 1 with W1 & W2 dimensions per the 18" RCP that is required?

A4. Drawing D-3 Detail 1 is deleted. Concrete headwall shall be constructed per dimensions as shown on Drawing L-3 and reinforcing details shown on Drawing D-3. Contractor shall include shop drawings of the proposed headwall stamped by a PE for approval by the Engineer during submittal review.

ITEM 3: Delete and Replace

Please **DELETE** current Bid Form under "Section 00301 – Bid Form" and **REPLACE** with attached revised Bid Form – Addendum 4.

Please **DELETE** Attachment A: Drawings dated OCTOBER 2021 and **REPLACE** with attached Revised Attachment A: Drawings dated NOVEMBER 2021.

ITEM 4: Add Attachment

Attachment F: Fernald Center Existing Utility Plans

End of Addendum 4

SECTION 00301

BID FORM

To the City of Waltham, Massachusetts, acting through its Mayor:

The Undersigned, as Bidder, declares as follows:

- The only parties interested in this BID as Principals are named herein;
- this BID is made without collusion with any other person, firm, or corporation;
- no officer, agent, or employee of the Owner is directly or indirectly interested in this BID;
- the Bidder has carefully examined the site of the proposed Work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed Work, the difficulties attendant upon its execution and the accuracy of all estimated quantities stated in this BID, and has carefully read and examined the Drawings, the annexed proposed AGREEMENT and the Specifications and other Contract Documents therein referred to and knows and understands the terms and provisions thereof;
- understands that information relative to subsurface and other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) has been furnished only for his information and convenience without any warranty or guarantee, expressed or implied, that the subsurface and/or other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) actually encountered will be the same as those shown on the Drawings or in any of the other Contract Documents and agrees that the Bidder shall not use or be entitled to use any such information made available to him through the Contract Documents or otherwise or obtained by him in his own examination of the site, as a basis of or ground for any claim against the Owner or the Engineer arising from or by reason of any variance which may exist between the aforesaid information made available to or acquired by him and the subsurface and/or other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) actually encountered during the construction work, and has made due allowance therefore in this BID;
- and the Bidder understands that the quantities of work tabulated in this BID or indicated on the Drawings or in the Specifications or other Contract Documents are only approximate and are subject to increase or decrease as deemed necessary by the Engineer;
- and agrees that, if this is accepted will contract with the Owner, as provided the copy of the Contract Documents deposited in the office of the Engineer, this BID form being part of said Documents, that the will perform all work and all the materials and equipment, and provide all labor, services, plant, machinery, apparatus, appliances, tools, supplies all other required by Contract Documents the manner within the therein prescribed according to the requirements the

Engineer as therein set forth, and that the Bidder will take in full payment therefore the lump sum or unit price applicable to each item of the Work as stated in the following schedule:

Bidders must bid on each item of the Base Bid. All entries in the entire BID must be made clearly and in ink; prices bid must be written in both words and figures. In case of discrepancy, the amount shown in words will govern.

Bidders shall insert extended item prices obtained from quantities and unit prices. In case of discrepancy between the product obtained by multiplying the estimated quantity by the unit price, the actual product shall apply. In case of discrepancy between the sum of the total figure of the items and the total amount listed, the actual sum shall apply.

Receipt of Addenda numbered _____ to _____ , inclusive, is acknowledged.

(Bidder) _____

(by) _____

(Title) _____

BASE BID

Fernald Center Wetlands Restoration and Stream Daylighting

Refer to Section 01150 - Measurement and Payment for Item Descriptions. The work of the General Bidder, being all work covered by items 1 through 26, inclusive.

Item No.	Item Description Unit Price in Words	Units	Estimated Quantity	Unit Price (In Figures)	Extended Amount (In Figures)
1	Mobilization and Demobilization _____ Dollars and Cents	LS	1		
2	Traffic Management _____ Dollars and Cents	LS	1		
3	Test Pits _____ Dollars and Cents	CY	100		
4	Abandon and Controlled Density Fill Existing Utility Pipes _____ Dollars and Cents	LF	500		
5	Abandon and Controlled Density Fill Existing Drainage Structures _____ Dollars and Cents	EA	15		
6	Erosion and Sedimentation Control _____ Dollars and Cents	LS	1		
7	Tree and Shrub Plantings _____ Dollars and Cents	LS	1		
8	Rock Excavation and Disposal _____ Dollars and Cents	CY	500		
9	Storm Drain Piping (18" RCP), & Appurtenances _____ Dollars and Cents	LF	50		
10	5-foot Diameter Precast Concrete Manhole _____ Dollars and Cents	EA.	1		
11	Precast Concrete Headwall _____ Dollars and Cents	LF	100		
12	Stone Spillways _____ Dollars and Cents	EA.	4		
13	Stone Weir Walls _____ Dollars and Cents	LF	400		

14	Prefabricated Pedestrian Footbridges Dollars and Cents	EA	2		
15	Stream J-hooks Dollars and Cents	EA	15		
16	Stream Cross Veins Dollars and Cents	EA	4		
17	Stream Channel Dollars and Cents	LF	1800		
18	Stormwater Wetland Ponds Dollars and Cents	LS	1		
19	Rebuild Existing Pond Berm and Grading Dollars and Cents	LS	1		
20	Management of Contaminated Soils/Fill Dollars and Cents	LS	1		
21	Removal and Disposal of Soil (Class A-1) Dollars and Cents	CY	1,000		
22	Removal and Disposal of Soils and Waste Materials Dollars and Cents	CY	400		
23	Tree Cutting and Stump Grinding Dollars and Cents	LS	1		
24	Stabilization, Loam and Seed Dollars and Cents	LS	1		
25	Police Detail Allowance Dollars and Cents	HR	400	\$50/hr	\$20,000
26	Miscellaneous Work and Cleanup Dollars and Cents	LS	1		

TOTAL FOR BASE BID

Total Amount of Base Bid (**Basis of Award**) (Items 1 through 26 inclusive).

\$ _____
(Amount in figures)

(Amount in words)

The bidder understands that the Owner reserves the right to reject any and all bids and to waive any informality in the bidding.

The undersigned agrees that for extra work, if any, will be performed in accordance with Article 10 of the General Conditions of the Contract and will be paid for in accordance with Article 11 of the General Conditions of the Contract.

The bid security accompanying this BID shall be in the amount of 5 percent of the BID payable to the City of Waltham.

The time for completion of this contract is 150 calendar days. Liquidated damages specified in this contract are \$1,000 per day for each calendar day beyond the contract completion date that work remains uncompleted.

Bids shall be valid for ninety (90) days and cannot be withdrawn until after the 90-day period has expired.

The undersigned agrees that if the Owner accepts this BID, the bidder will duly execute and acknowledge the AGREEMENT and furnish, duly executed and acknowledged, the required CONTRACT BONDS within ten (10) days, Saturdays, Sundays, and legal holidays excluded, after notification that the AGREEMENT and other Contract Documents are ready for signature.

A performance bond in an amount equal to 100 percent of the total amount of the bid with a surety company qualified to do business in the Commonwealth of Massachusetts will be required for the faithful performance of the contract, as well as a labor and materials bond in an amount equal to 100 percent of the total bid amount.

Should the bidder fail to fulfill any of his agreements as hereinabove set forth, the Owner shall have the right to retain as liquidated damages the amount of the bid check or cash which shall become the Owner's property. If a bid bond was given, it is agreed that the amount thereof shall be paid as liquidated damages to the Owner by the Surety.

The bidder, by submittal of this BID, agrees with the Owner that the amount of the bid security deposited with this BID fairly and reasonably represents the amount of damages the Owner will suffer due to the failure of the bidder to fulfill his agreements as above provided.

The undersigned bidder hereby certifies he/she will comply with the minority workforce percentage ratio and specific affirmative action steps contained in the EEO/AA provisions of this Contract, including compliance with the Minority/Woman Business Enterprise as required under these contract provisions. The Contractor receiving the award of the contract shall be required to obtain from each of its subcontractors a copy of the certification by said subcontractor, regardless of tier, that it will comply with the minority workforce ratio and specific affirmative action steps contained in these contract provisions and submit it to the contracting agency prior to the award of such subcontract.

The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of Section Twenty-Nine F of Chapter Twenty-Nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Pursuant to M.G.L. Ch. 62C, sec. 49A, I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state tax returns and paid all state taxes required under law.

The attached Minority Business Participation and Women Business Participation Form (Form EEO-BMF-190) and the attached Minority Business Participation and the Women Business Participation Letters of Intent (Form EEO-BMF-191) must be completed and submitted as part of the Bid Proposal.

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work and that he will comply fully with all laws and regulations applicable to awards made subject to MOL Ch. 30, Section 39M. The bidding and award of the contract will be in full compliance with Section 39M inclusive of Chapter 30 of the General Laws of the Commonwealth of Massachusetts as last revised.

The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The attached CERTIFICATE OF NON-COLLUSION must be signed and submitted as part of the Bid Proposal.

(Name of General Bidder)

By _____
(Signature and title of authorized representative)

Date _____

SEAL

(Telephone)

(Business address)

(Fax Number)

(City, State, Zip)

The following documents are attached to and made a condition of the bid, and shall be filed with the bid:

- Bid Security (5%)
- Completed and signed Bid Proposal (Section 00301)
- Contractor's Certification (Attached to Section 00301)
- MBE/WBE Participation and Vendor Information Forms (Attached to Section 00301)
 1. Schedule of Participation for SRF Construction (EEO-DEP-190C)

- 2. Letter of intent for SRF Construction (EEO-DEP-191C)
- 3. Vendor Information Form- SRF Construction (EEO-DEP-VIF-C)
- Completed Certificate of Non-Collusion (Section 00480)
- Completed Certificate of Corporate Vote (Corporation Only) (Section 00481)
- Completed Certificate as to Payment of State Taxes (Section 00482)
- Completed State "Debarment Disclosure Form for Public Contracts" (Section 00484)

The Bidder is requested to list four or more of your firm's recent projects of a similar character as required for acceptable bid. References will enable the Owner to judge his experience, skill, and business standing.

Project Name: _____
Project Location: _____
Contract Amount: \$ _____ Completion Date _____
Owner: _____
Contact Name: _____ Telephone: _____
Architect/Engineer: _____
Contact Name: _____ Telephone: _____

Project Name: _____
Project Location: _____
Contract Amount: \$ _____ Completion Date _____
Owner: _____
Contact Name: _____ Telephone: _____
Architect/Engineer: _____
Contact Name: _____ Telephone: _____

Project Name: _____
Project Location: _____
Contract Amount: \$ _____ Completion Date _____
Owner: _____
Contact Name: _____ Telephone: _____
Architect/Engineer: _____
Contact Name: _____ Telephone: _____

Project Name: _____
Project Location: _____
Contract Amount: \$ _____ Completion Date _____
Owner: _____
Contact Name: _____ Telephone: _____
Architect/Engineer: _____
Contact Name: _____ Telephone: _____

Add supplementary page if necessary.

END OF SECTION 00301

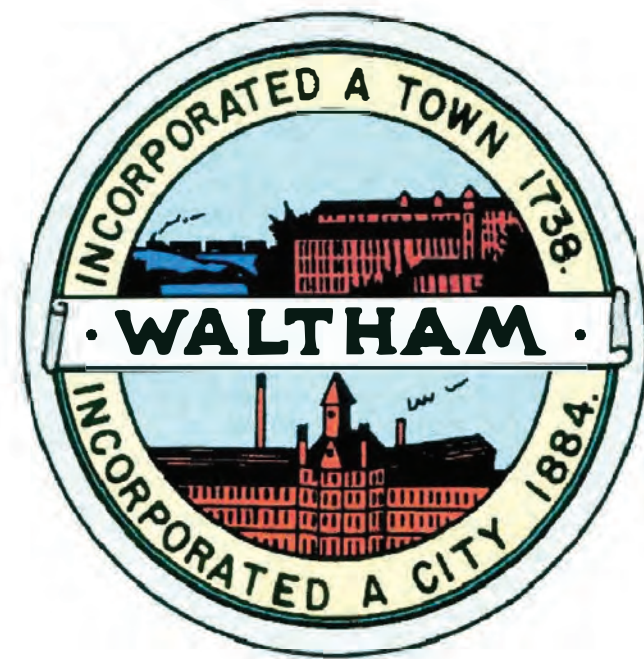
BID FORM
00301-8
ADDENDUM 4

REVISED ATTACHMENT A

WALTER E. FERNALD DEVELOPMENTAL CENTER WETLANDS RESTORATION & STREAM DAYLIGHTING



WALTHAM, MA



MAYOR
JEANNETTE A. MCCARTHY

CITY ENGINEER
ROBERT WINN, P.E.



LIST OF DRAWINGS

GN-1	GENERAL NOTES
EX-1	EXISTING CONDITIONS AND DEMOLITION PLAN
L-1	LAYOUT AND MATERIALS PLAN I
L-2	LAYOUT AND MATERIALS PLAN II
L-3	LAYOUT AND MATERIALS PLAN III
G-1	GRADING PLAN I
G-2	GRADING PLAN II
G-3	GRADING PLAN III
LA-1	LANDSCAPE PLAN I
LA-2	LANDSCAPE PLAN II
LA-3	LANDSCAPE PLAN III
LA-4	PLANTING SCHEDULE
P-1	STREAM PROFILE
S-1	CROSS SECTIONS I
S-2	CROSS SECTIONS II
D-1	DETAILS I
D-2	DETAILS II
D-3	DETAILS III

NOVEMBER 2021 4



GENERAL NOTES:

- EXISTING CONDITIONS SURVEY WAS COMPLETED BY A.S. ELLIOTT & ASSOCIATES, P.O. BOX 85, HOPEDALE MA.
- THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATEST AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ALL INCLUSIVE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND "DIG-SAFE" MUST BE NOTIFIED PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR TOWN WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.

3. WETLAND RESOURCES WERE FLAGGED BY EPSILON ASSOCIATES, INC. 3 MILL & MAIN PLACE, MAYNARD MA. 01754

SITE NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) OF ALL MATERIALS INDICATED ON THE PLANS.
- STOCKPILES OF EARTH MATERIALS SHALL NOT BE LOCATED ADJACENT TO DRAINAGE STRUCTURES INCLUDING SWALES OR WITHIN THE 100-WETLAND BUFFER.
- ALL DISTURBED AREAS OUTSIDE OF THE STREAM CHANNEL AND WITHIN THE LIMIT OF DISTURBANCE WILL RECEIVE A MINIMUM OF 6" OF LOAM AND SEED UNLESS OTHERWISE SHOWN ON THE PLANS.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SURVEY LAYOUT SERVICES FOR THE WORK AND SHALL SUBMIT "AS-BUILT" DRAWINGS OF ALL WORK, WHICH SHALL BE STAMPED AND CERTIFIED BY A MASSACHUSETTS REGISTERED PROFESSIONAL LAND SURVEYOR.
- ANY ITEM OF WORK NOT SPECIFICALLY INDICATED ON THE PLANS BUT IS REQUIRED FOR THE COMPLETE CONSTRUCTION OF THE PROJECT WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND INCLUDED IN THE CONTRACT BID PRICE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING SITE CONDITIONS.
- ANY EXISTING PIPE OR UTILITY DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE OWNER, STATE OR TOWN.
- THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION OR REPLACE TREES, SHRUBS, FENCES, SIGNS, GUARDRAILS, DRIVEWAYS, SIDEWALKS AND ANY OTHER OBJECT AFFECTED BY THIS OPERATION.
- THE TOPS OF ALL VALVE BOXES, MANHOLES, CATCHBASINS, AND OTHER RIMS SHALL BE FLUSH WITH GROUND OR PAVEMENT SURFACE LEVEL AND PLUMB, UNLESS OTHERWISE DIRECTED.
- ALL LEDGE TO BE REMOVED BY MECHANICAL MEANS.
- ALL CONSTRUCTION WORK SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WET POINTS, SCREENS, OR OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE OF ALL SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE PERFORMANCE OF THE WORK.
- ALL DEMOLITION AND DISPOSAL ACTIVITIES SHALL BE DONE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
- EXISTING UTILITIES SHOWN ON THE PLAN WERE COMPILED FROM AVAILABLE RECORD PLANS. OTHER EXISTING UTILITIES MAY BE PRESENT. ANY EXISTING UTILITY ENCOUNTERED DURING CONSTRUCTION ACTIVITIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND SITE ENGINEER IMMEDIATELY.

LAYOUT NOTE:

- THE LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN, AND PRIOR TO THE CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE STATE OF MASSACHUSETTS TO SET AND VERIFY ALL LINES AND GRADES. ANY ITEM FOUND WHICH DOES NOT MATCH THE PLANS MUST BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO CONSTRUCTION FOR REVIEW. ANY WORK PREFORMED BY CONTRACTOR THAT IS NOT NOTED TO ENGINEER IS AT CONTRACTORS OWN RISK.

DRAINAGE SYSTEM MAINTENANCE SCHEDULE:

- ALL MAINTENANCE (INCLUDING CLEANING) REQUIRED DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL INCLUDE:
 - MEASURES NEEDED TO ENSURE THE PROPER OPERATION OF THE STORMWATER RUNOFF (DRAINAGE) AND WATER QUALITY CONTROL SYSTEMS TO INCLUDE INSPECTION, CLEANING AND REPAIRS TO ALL PIPES, INTAKE AND DISCHARGE STRUCTURES (INCLUDING RIP-RAP SPLASH PADS), DETENTION PONDS, SWALES, CATCH BASIN SUMPS, AND MANHOLES.
 - INSPECTION OF ALL SLOPES, BERMS, AND OTHER CONTROL STRUCTURES FOR STRUCTURAL ITEGRITY/STABILITY AND EVIDENCE OF SOIL EROSION PROCESSES. MAINTAIN THESE STRUCTURES AS NECESSARY OR AS DIRECTED BY THE ENGINEER. INSPECTIONS SHALL BE PERFORMED FOLLOWING ALL RAIN EVENTS OF ½ INCH RAINFALL OR MORE IN A 24-HOUR PERIOD, OR BIMONTHLY IF NO RAINFALL EVENT OCCURS.
 - FOLLOWING THE CONSTRUCTION OF ANY SWALES, A PERMANENT COVER OF GRASS OR PLANTING SHALL BE INSTALLED AS SHOWN ON THE PLANS. ALL OTHER DISTURBED AREAS SHALL BE SEEDED AND STABILIZED IMMEDIATELY UPON COMPLETION OF THE THEIR CONSTRUCTION TO PREVENT EROSION.
 - UPON COMPLETION OF PROJECT CONSTRUCTION, AND PRIOR TO VACATING THE SITE, THE CONTRACTOR SHALL CONDUCT A FINAL INSPECTION, REPAIR ANY VEGETATIVE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES (SEEDING, PLANTING, ETC.) WHERE REQUIRED, AND REPAIR (OR REMOVE WHERE APPROPRIATE) ANY TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL DEVICES. AFTER PERMANENT SOIL STABILIZATION ON THE ENTIRE SITE HAS OCCURRED, ALL TEMPORARY CONTROL MEASURES MUST BE REMOVED.

- WHEN ALL CONSTRUCTION IS COMPLETED, THE SITE HAS BEEN STABILIZED TO PREVENT EROSION AND SEDIMENTATION BY A WELL ESTABLISHED VEGETATIVE COVER, AND THE DRAINAGE IMPROVEMENTS HAVE BEEN INSPECTED AND ACCEPTED BY THE TOWN, THE PARTY RESPONSIBLE FOR LONG TERM MAINTENANCE, INSPECTION AND REPAIRS TO ALL DRAINAGE FACILITIES SHOWN ON THESE PLANS, SHALL BE THE OWNER. THE OWNER'S RESPONSIBILITY SHALL INCLUDE THE FOLLOWING:
 - REPLANTING, REGRADING, OR OTHER REPAIRS NEEDED AS A RESULT OF SOIL EROSION AND SEDIMENTATION PROCESSES. THESE SHALL BE DONE PROMPTLY TO ENSURE PROPER FUNCTIONING OF THE ENTIRE SYSTEM.
 - ANY TRASH, DEBRIS, ETC. SHOULD BE REMOVED FROM THE PONDS, STREAM CHANNEL, INLETS, AND PIPE OUTLETS.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- THE LIMIT OF WORK LINE ILLUSTRATED ON THESE PLANS SHALL SERVE AS THE STRICT LIMIT OF DISTURBANCE FOR THE PROJECT WITHIN OR ADJACENT TO REGULATED WETLAND AREAS.
- THE LIMITS OF CLEARING, GRADING, AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THESE LIMITS, AS DEPICTED ON THE PLAN SHALL BE TOTALLY UNDISTURBED, TO REMAIN IN NATURAL CONDITION.
- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL REGULARLY CHECK ALL SEEDED AREAS TO ENSURE THAT A GOOD STAND OF VEGETATION IS MAINTAINED.
- ALL SEDIMENT FENCE, TEMPORARY TREATMENT AND TEMPORARY EROSION PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
- STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED WITHIN THE 100-FT WETLAND BUFFER SHOWN ON THE PLANS. THEY SHALL HAVE SIDE SLOPES OF NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED.
- THE SEDIMENT FENCE SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY SEDIMENT FENCE AS NEEDED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE FENCE BECOMES FILLED WITH SEDIMENTS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL FOLLOW THE DIRECTION OF THE RESIDENT ENGINEER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SOIL EROSION AND SEDIMENTATION CONTROLS ON THE PROJECT SITE. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND/OR RESEEDING ALL AREAS THAT DO NOT DEVELOP WITHIN ONE YEAR FROM THE COMPLETION OF CONSTRUCTION.
- ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "MASSACHUSETTS EROSION AND SEDIMENTATION HANDBOOK" LATEST EDITION.

GRADING GENERAL NOTES:

- BENCHMARKS: SEE SHEET EX-1, EXISTING CONDITIONS FOR SITE BENCHMARKS
- CONTRACTOR SHALL NOTIFY ENGINEER OF OBSTRUCTIONS ENCOUNTERED DURING EXCAVATION PRIOR TO CONTINUING WITH CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF GRADE STAKES THROUGHOUT THE DURATION OF THE SITE GRADING.
- IF EXISTING TREES, UTILITIES, OR STRUCTURES IMPEDE EXCAVATION ACTIVITIES IN ANY MANNER, CONTRACTOR SHALL INFORM THE ENGINEER PRIOR TO CONTINUING WITH CONSTRUCTION ACTIVITIES.
- ALL GRADES SHALL BE UNIFORM. MATCH EXISTING GRADES FLUSH AT THE LIMITS OF WORK. DEPRESSIONS AND AREAS OF POOLING WITHIN DISTURBED AREAS SHALL BE FILLED AND MADE TO DRAIN. ELEVATIONS SHOWN ARE FINISHED GRADES.
- EROSION CONTROL BLANKET SHALL BE USED ON ALL SLOPES OF 3:1 OR GREATER
- STREAM THALWEG SHALL BE A CHANNEL 1-FT. WIDE AND SET 6-INCHES BELOW ADJACENT GRADES.
- J-HOOK AND CROSS VANES SHALL BE CONSTRUCTED FROM THE CENTER OF THE STREAM OUT TOWARD THE BANKS. THE CENTER STONES SHALL BE SET 4" ABOVE THE STREAM BED.

LANDSCAPE NOTES

- CONTRACTOR TO STAKE LOCATIONS OF ALL TREES, SHRUBS, AND SEED MIX AREAS FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO PLANTING ACTIVITIES.
- ALL TREES SHALL BE UNIFORM AND WELL BRANCHED SPECIMENS. CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF TEN DAYS PRIOR TO THE DELIVERY OF PLANT MATERIALS. LANDSCAPE ARCHITECT MAY REJECT ANY PLANT MATERIAL THAT IS DAMAGED OR DEEMED UNSATISFACTORY.
- ALL PLANTS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE AMERICAN STANDARDS FOR NURSERY STOCK, LATEST EDITION.
- ALL PLANTING BEDS AND SAUCERS SHALL HAVE 3-IN DEPTH OF SHREDDED BARK MULCH AS SPECIFIED.
- CONTRACTOR IS RESPONSIBLE FOR WATERING AND MAINTAINING PLANT HEALTH UNTIL FINAL ACCEPTANCE BY THE OWNER. PLANT MATERIAL THAT IS DEEMED DEAD OR DYING BY THE LANDSCAPE ARCHITECT PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR MAY REUSE EXISTING EXCAVATED MATERIAL AS TOPSOIL PROVIDED IT MEETS THE SPECIFICATION FOR TOPSOIL. CONTRACTOR SHALL PROVIDE EVIDENCE THAT THE SOILS MEET SPECIFICATION.
- ANY ROCK OR BOULDER DISCOVERED DURING EXCAVATION MAY BE USED IN THE STREAM CHANNEL WHERE ROCK IS CALLED FOR ON THE PLANS PROVIDED IT IS NOT BROKEN, CRACKED, OR HAVE MAJOR SCRATCHES FROM EXCAVATION ACTIVITIES. ROCKS AND BOULDERS TO BE USED MUST FIRST BE INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT.



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS	DESCRIPTION



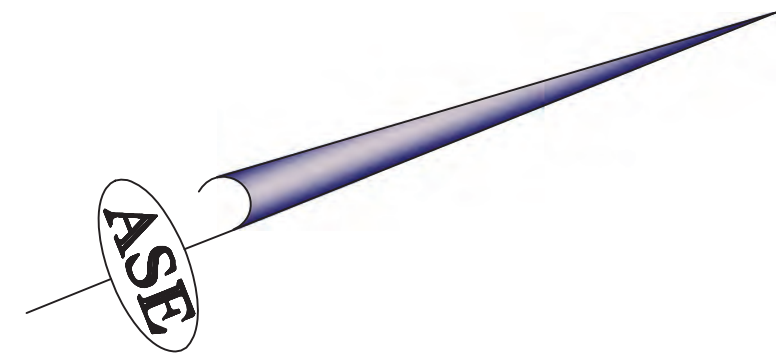
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 Designed: JC
 Drawn: JC
 Checked: AS
 Scale: AS NOTED
 Date: NOV 2019

GENERAL NOTES
 FERNALD SCHOOL
 WALTHAM MA

Proj. No.

Dwg. No.

GN-1



N/F
BENTLEY COLLEGE
R35-7-15A

N/F
CITY OF WALTHAM
PARK & RECREATION DEPT.
R35-7-15C

N/F
UNITED STATES OF AMERICA
R35-7-15

BENCHMARK #1
SBDH FOUND & HELD
EASTERLY LINE OF FOREST STREET
HORIZONTAL DATUM: STATE PLANE, NAD83
VERTICAL DATUM: NAVD88
EASTING: 732659.77105
NORTHING: 2969880.13620
ELEVATION=217.60

TrapeLo Rd.-WALTHAM\GREYSCA

N21°40'53"E
506.64'

N21°48'00"E
688.57'

N21°40'45"E
117.05'

N21°28'05"E
829.12'

S41°06'58"E
196.1'

LOCUS MAP
SCALE: 1" = 2,000'

REFERENCES

DEED REFERENCES: MIDDLESEX COUNTY REGISTRY OF DEEDS (SOUTHERN DISTRICT)
BOOK 64707, PAGE 427

PLAN REFERENCES: PLAN ENTITLED "PARCEL PLAN IN THE CITY OF WALTHAM, MASSACHUSETTS, MIDDLESEX COUNTY, FORMERLY OWNED BY THE COMMONWEALTH OF MASSACHUSETTS, PREPARED FOR THE CITY OF WALTHAM ON BEHALF OF THE MAYOR OF WALTHAM", PREPARED BY NITSCH ENGINEERING, INC, DATED DECEMBER 15, 2014, PLAN NUMBER 1054 OF 2014

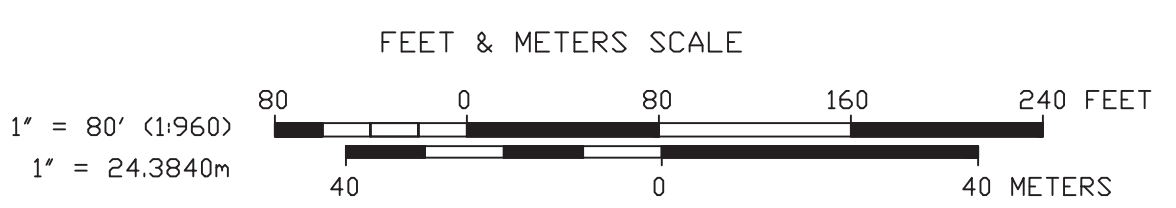
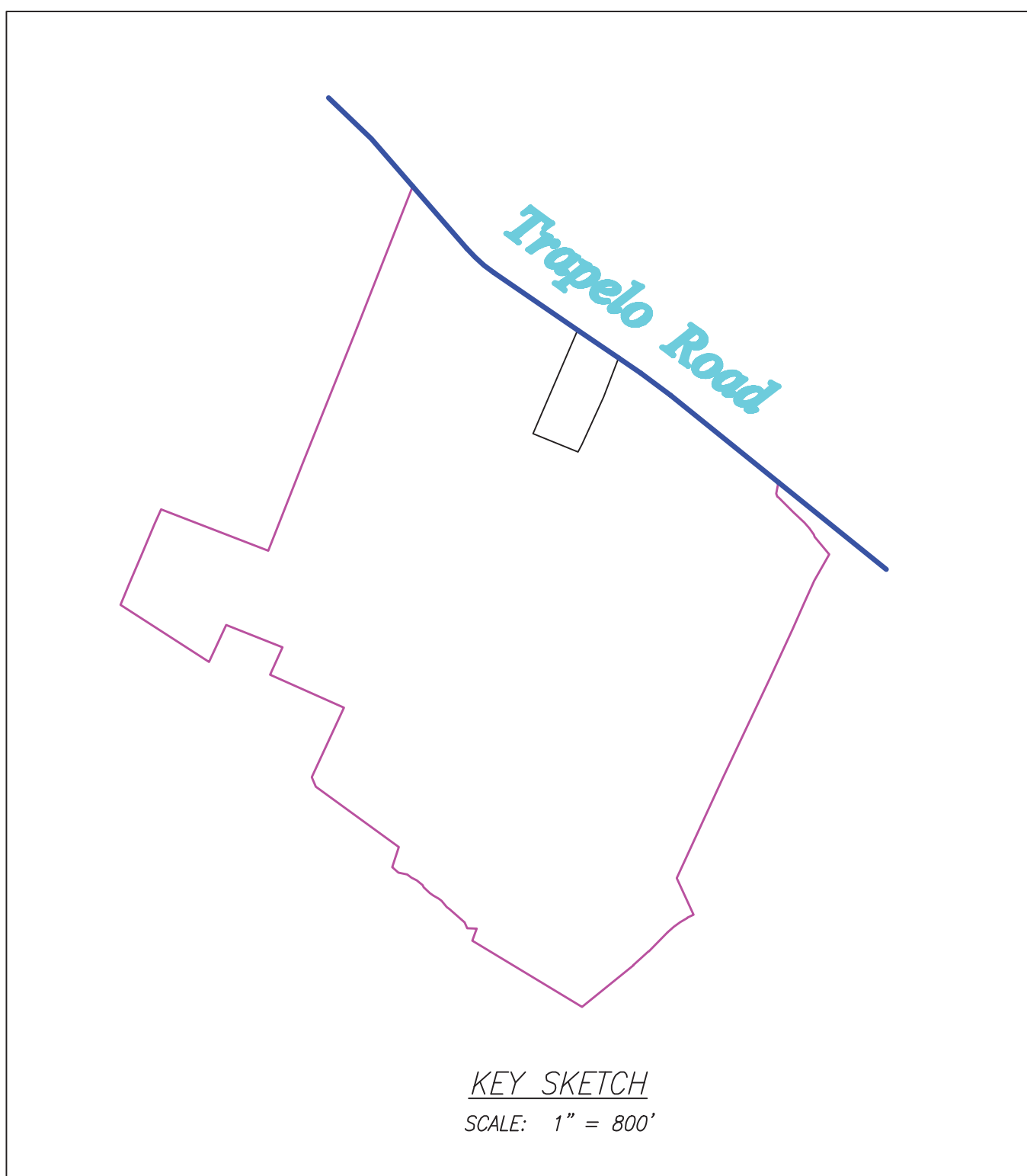
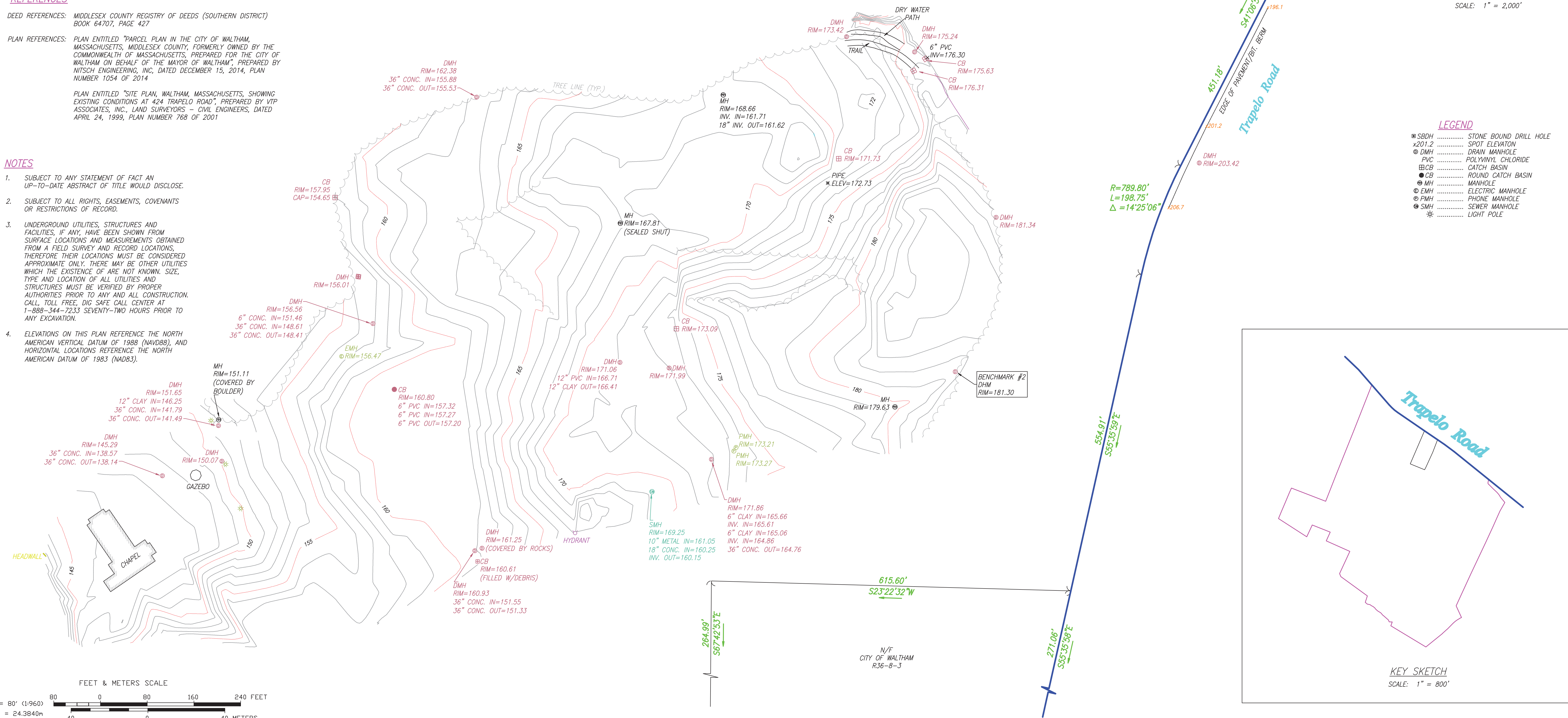
PLAN ENTITLED "SITE PLAN, WALTHAM, MASSACHUSETTS, SHOWING EXISTING CONDITIONS AT 424 TRAPELO ROAD", PREPARED BY VTP ASSOCIATES, INC., LAND SURVEYORS - CIVIL ENGINEERS, DATED APRIL 24, 1999, PLAN NUMBER 768 OF 2001

NOTES

- SUBJECT TO ANY STATEMENT OF FACT AN UP-TO-DATE ABSTRACT OF TITLE WOULD DISCLOSE.
- SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS OR RESTRICTIONS OF RECORD.
- UNDERGROUND UTILITIES, STRUCTURES AND FACILITIES, IF ANY, HAVE BEEN SHOWN FROM SURFACE LOCATIONS AND MEASUREMENTS OBTAINED FROM A FIELD SURVEY AND RECORD LOCATIONS. THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER UTILITIES WHICH THE EXISTENCE OF ARE NOT KNOWN. SIZE, TYPE AND LOCATION OF ALL UTILITIES AND STRUCTURES MUST BE VERIFIED BY PROPER AUTHORITIES PRIOR TO ANY AND ALL CONSTRUCTION. CALL TOLL FREE, DIG SAFE CALL CENTER AT 1-888-344-7233 SEVENTY-TWO HOURS PRIOR TO ANY EXCAVATION.
- ELEVATIONS ON THIS PLAN REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), AND HORIZONTAL LOCATIONS REFERENCE THE NORTH AMERICAN DATUM OF 1983 (NAD83).

LEGEND

- ⊗ SBDH STONE BOUND DRILL HOLE
- x201.2 SPOT ELEVATION
- ⊙ DMH DRAIN MANHOLE
- ⊙ PVC POLYVINYL CHLORIDE
- ⊙ CB CATCH BASIN
- ⊙ MH MANHOLE
- ⊙ EMH ELECTRIC MANHOLE
- ⊙ PMH PHONE MANHOLE
- ⊙ SMH SEWER MANHOLE
- * LIGHT POLE



ZONING DESIGNATION:
CITY OF WALTHAM ZONING DISTRICT
BUSINESS A (BA)

ASSESSOR'S REFERENCE:
MAP R36, BLOCK 8, LOT 1

I CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY PERFORMED ON THE GROUND ON JULY 2, 2019, AND THE LATEST PLANS AND DEEDS OF RECORD.

I CERTIFY THAT THE SUBJECT DWELLING SHOWN LIES IN ZONE "X", SHOWN ON MAP NUMBER 25017C0414E, HAVING AN EFFECTIVE DATE OF JUNE 4, 2010.

REVISIONS

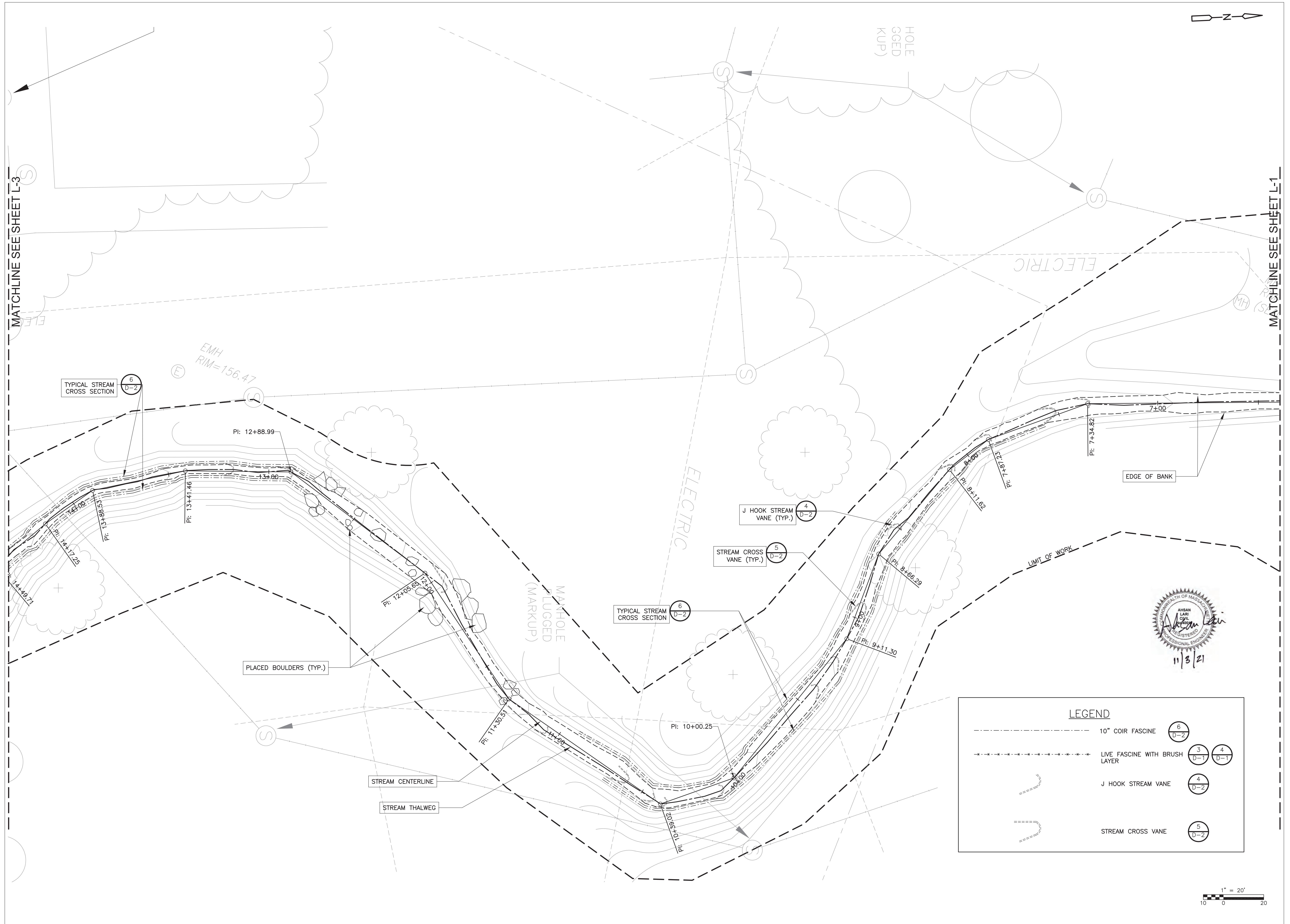
DATE	DESCRIPTION
07/29/19	UTILITY INFO
08/09/19	ADD'L TOPO

FIELD: MRI/BMD
CALCS: EJP/SMI
DRAWN BY: SMI
FIELD EDIT: N/A
CHECKED: EJP
APPROVED:
JOB #: 191730

PROFESSIONAL LAND SURVEYOR DATE

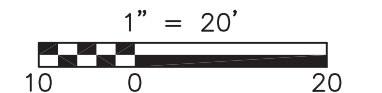
A.S. Elliott & Associates
Professional Land Surveyors
P.O. BOX 85 ~ HOPEDALE, MA 01747
(508) 634-0256
www.aselliott.com

Topographic Plan Of Land
TRAPELO ROAD
WALTHAM, MASSACHUSETTS
PREPARED FOR: THE CITY OF WALTHAM
SCALE: 1" = 80' DATE: JULY 2, 2019

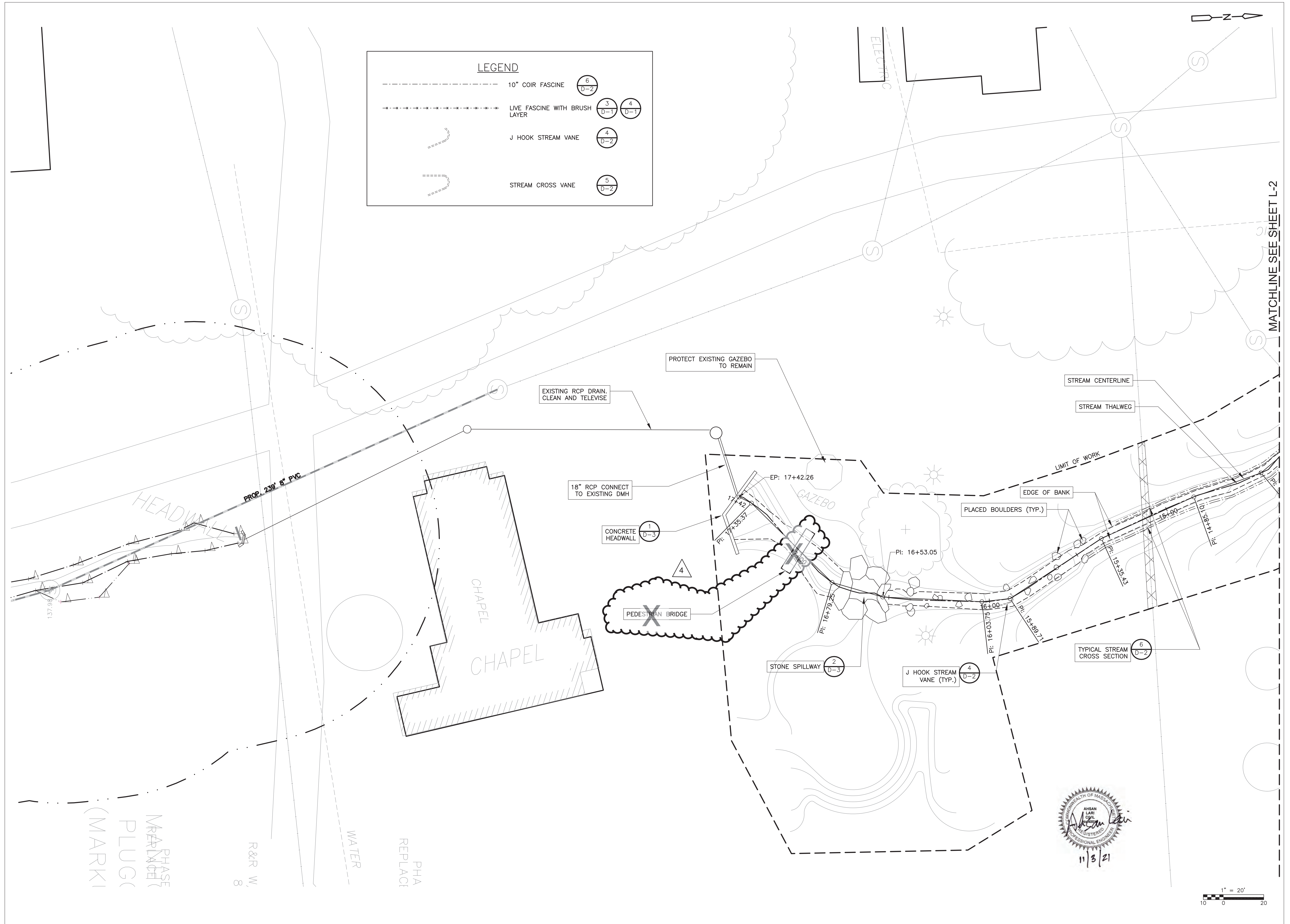


LEGEND

--- (dashed line)	10" COIR FASCINE	(6) D-2
-.-.-.-.- (dash-dot line)	LIVE FASCINE WITH BRUSH LAYER	(3) D-1 (4) D-1
~ (dashed line with hook)	J HOOK STREAM VANE	(4) D-2
-.-.-.-.- (dashed line with cross)	STREAM CROSS VANE	(5) D-2



REVISIONS <table border="1"> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>																	
Proj. Mgr.: SB Designed: JC Drawn: JC Checked: AS Scale: AS NOTED Date: NOV 2019	LAYOUT AND MATERIALS PLAN II FERNALD SCHOOL WALTHAM MA																
Proj. No. Dwg. No.	L-2																



Proj. Mgr.: SB
 Designed: JC
 Drawn: JC
 Checked: AS NOTED
 Scale: AS NOTED
 Date: NOV 2019

LAYOUT AND MATERIALS PLAN III


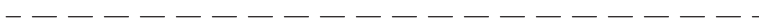




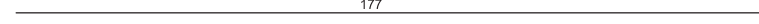
FERNALD SCHOOL
 WALTHAM MA

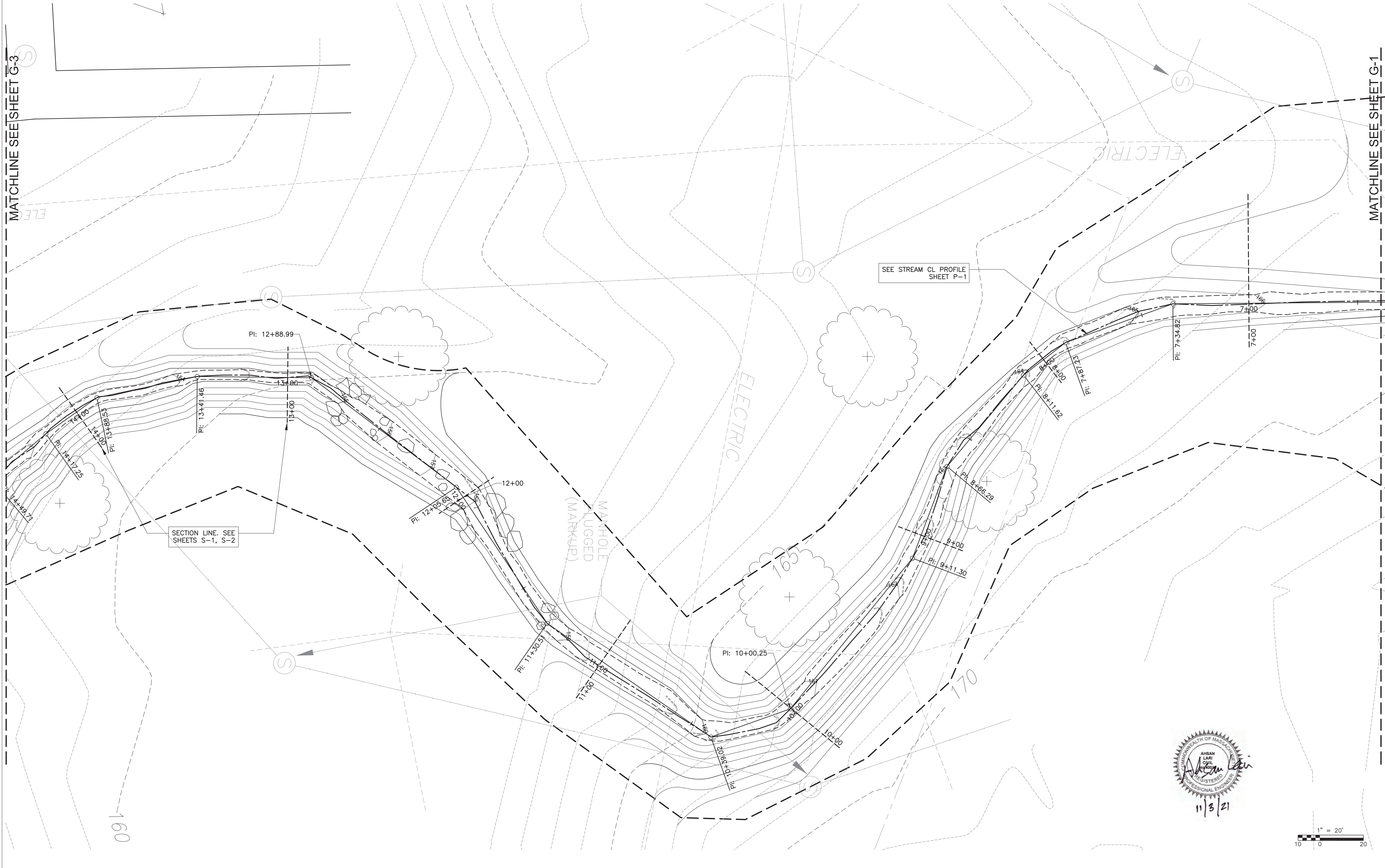
Proj. No.
 Dwg. No.

L-3

REVISIONS

LEGEND

	LIMIT OF WORK		EXISTING MAJOR CONTOUR
	PROPOSED SECTION (SEE SHEETS S-1, S-2)		EXISTING MINOR CONTOUR
	EDGE OF WETLAND		PROPOSED MAJOR CONTOUR
			PROPOSED MINOR CONTOUR



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 Designed: JC
 Drawn: JC
 Checked: AS NOTED
 Scale: AS NOTED
 Date: NOV 2019

GRADING PLAN II
 FERNALD SCHOOL
 WALTHAM MA

Proj. No.
 Dwg. No.

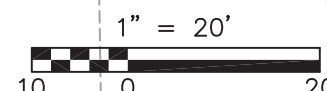
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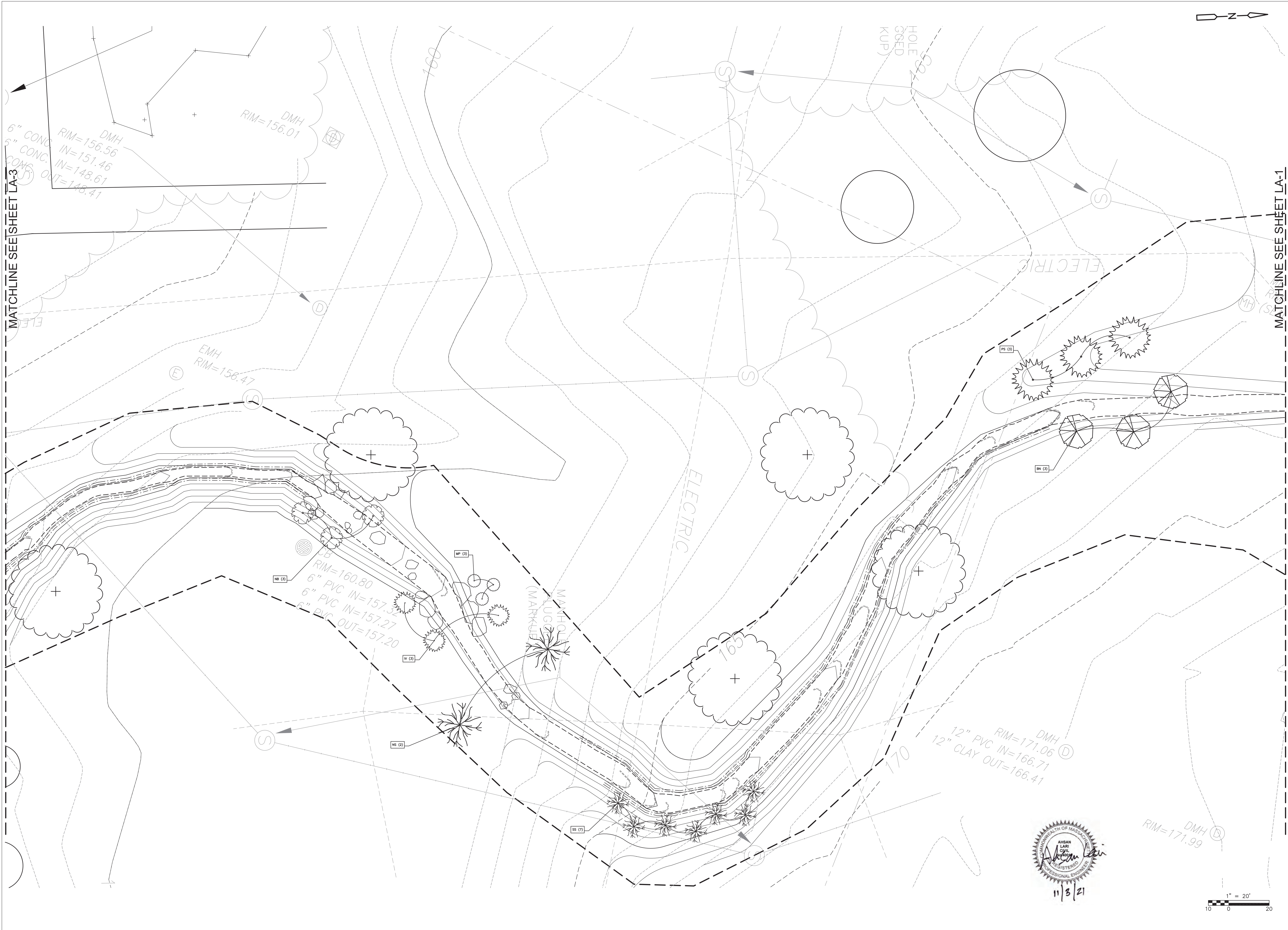
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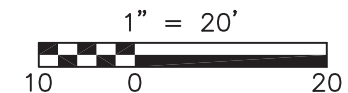
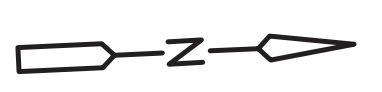
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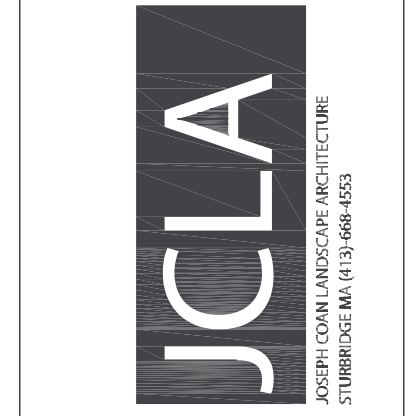


MATCHLINE SEE SHEET LA-3

MATCHLINE SEE SHEET LA-1



NO.	DESCRIPTION	DATE



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 Scale: AS NOTED
 Date: NOV 2019

PLANTING PLAN II
 FERNALD SCHOOL
 WALTHAM MA

Proj. No.
 Dwg. No.

LA-2

REVISIONS






LANDSCAPE NOTES

- UNLESS OTHERWISE NOTED, ALL EXISTING TREES AND OTHER PLANT MATERIAL TO BE PROTECTED FOR THE DURATION OF THE PROJECT.
- PRIOR TO THE PRE-CONSTRUCTION MEETING, CONTRACTOR SHALL CALL "DIG-SAFE" TO HAVE EXISTING UTILITIES MARKED. CONTRACTOR SHALL MAINTAIN MARKINGS FOR THE DURATION OF THE PROJECT.
- REFER TO ENGINEERING PLANS FOR ALL GRADING, DRAINAGE, AND ADDITIONAL MATERIALS AND LAYOUT INFORMATION.
- THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING PLAN AS SHOWN ON THE PLANS.
- ALL PLANT MATERIAL TO CONFORM TO THE GUIDELINES ESTABLISHED BY "THE AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. ANSI Z60.1 -LATEST EDITION.
- ALL PLANT MATERIAL TO BE APPROVED BY THE LANDSCAPE ARCHITECT. SUBSTITUTIONS ARE NOT ALLOWED WITHOUT WRITTEN APPROVAL FROM LANDSCAPE ARCHITECT.
- SEED MIXES SHALL BE "NEW ENGLAND WETMIX", "NEW ENGLAND EROSION CONTROL/RESTORATION MIX", AND "NEW ENGLAND SHOWY WILDFLOWER MIX" AS SOLD BY NEW ENGLAND WETLAND PLANTS, INC. 802 WEST STREET, AMHERST MA 01002. OR APPROVED EQUAL. SEED MIXES SHALL BE SOWN AT THE RATE INDICATED BY THE MANUFACTURER.
- STAKE LOCATIONS OF PLANT MATERIAL FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO COMMENCEMENT OF WORK. LANDSCAPE ARCHITECT MAY ADJUST PLANT LOCATIONS IN THE FIELD PRIOR TO PLANTING.
- ALL MULCH BEDS SHALL CONSIST OF A 6" LAYER SCREENED LOAM, AND A 3" LAYER SHREDDED PINE BARK MULCH.
- EDGE OF MULCH BEDS TO BE MECHANICALLY EDGED.
- ALL DISTURBED AREAS NOT SHOWN AS A SPECIFIED MATERIAL SHALL RECEIVE A MINIMUM 4" LAYER OF LOAM AND NEW ENGLAND RESTORATION SEED MIX.
- LANDSCAPE CONTRACTOR TO GUARANTEE ALL PLANT MATERIAL FOR ONE FULL YEAR FROM DATE OF ACCEPTANCE.
- CONTRACTOR SHALL REPAIR OR REPLACE ANY MATERIALS DAMAGED DURING CONSTRUCTION PRIOR TO FINAL ACCEPTANCE.
- CONTRACTOR TO SUBMIT A WATERING SCHEDULE FOR THE SIXTY DAY MAINTENANCE PERIOD FOR REVIEW BY THE LANDSCAPE ARCHITECT AND OWNER FOR ALL PROPOSED PLANT MATERIAL.
- SEE LANDSCAPE DETAILS FOR PLANTING INFORMATION.
- IN THE EVENT OF A DISCREPANCY BETWEEN THE PLANT QUANTITIES SHOWN ON THE PLAN AND IN THE PLANT SCHEDULE, THE QUANTITY SHOWN ON THE PLAN SHALL TAKE PRECEDENCE. CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT IF ANY DISCREPANCY OCCURS.



- TREE PLANTING  1
D-2
- SHRUB PLANTING  2
D-2

SYM	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	NOTES
-----	------	----------------	-------------	------	------	-------


TREES

	TC	3	TSUGA CANADENSIS	CANADIAN HEMLOCK	7-8 FT.	BB	
	PS	3	PINUS STROBUS 'FASTIGIATA'	UPRIGHT WHITE PINE	7-8 FT.	BB	
	JV	3	JUNIPERUS VIRGINIANA 'EMERALD SENTINEL'	EASTERN RED CEDAR	7-8 FT.	BB	
	LT	2	LIRIODENDRON TULIPIFERA	TULIPTREE	3" CAL	BB	
	AR	2	ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	3" CAL	BB	
	NS	2	NYSSA SYLVATICA	BLACK GUM	3" CAL	BB	50% MALE
	FS	3	FAGUS SYLVATICA 'RED OBELISK'	EUROPEAN BEECH	3" CAL	BB	
	AC	2	AMELANCHIER CANADENSIS	SERVICEBERRY	8-10 FT.	BB	MULTI-STEM
	QR	1	QUERCUS RUBRA	RED OAK	3" CAL	BB	
	CC	3	CERCIS CANADENSIS	EASTERN REDBUD	3" CAL	BB	
	SA	1	SALIX ALBA 'TRISTIS'	GOLDEN WEEPING WILLOW	2" CAL	BB	
	CP	1	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	2" CAL	BB	
	BN	3	BETULA NIGRA	RIVER BIRCH	1.5" CAL	BB	
	CO	1	CARYA OVATA	SHAGBARK HICKORY	2" CAL	BB	
	GT	3	GLEDTISIA TRICANTHOS INERMIS 'SHADEMASTER'	SHADEMASTER HONEY LOCUST	2" CAL	BB	

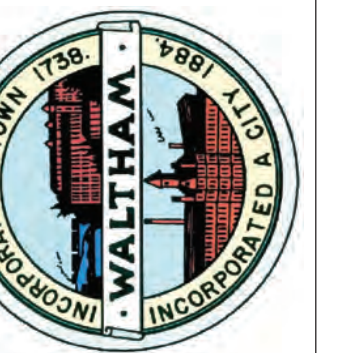
SHRUBS

	IV	6	ILEX VERTICILLATA	COMMON WINTERBERRY	2-2.5 FT.	BB	
	JH	6	JUNIPERUS HORIZONTALIS 'MONBER'	MONBER CREEPING JUNIPER	#5 POT	BB	
	BB	6	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	2-2.5 FT.	BB	
	VC	21	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY	2-2.5 FT.	BB	
	KL	10	KALMIA LATIFOLIA	MOUNTAIN LAUREL	2-2.5 FT.	BB	
	NB	8	VIBURNUM LENTAGO	NANNYBERRY	2-2.5 FT.	BB	
	VA	8	VACCINIUM ANGUSTIFOLIUM	LOWBUSH BLUEBERRY	#4 POT		
	MP	6	MORELLA PENSYLVANICA	NORTHERN BAYBERRY	#4 POT		25% MALE
	CA	6	CLETHRA ALNIFOLIA	SUMMERSWEET	2-2.5 FT.	BB	
	SS	9	SWIDA SERICEA	REDSIER DOGWOOD	2-2.5 FT.	BB	

PERENNIALS AND GROUND COVERS

	WSM	5240 SF	WETLAND SEED MIX			
	FSM	14050 SF	WILDFLOWER SEED MIX			

REVISIONS



Proj. Mgr.: SB
Designed: JC
Drawn: JC
Checked: AS
Scale: AS NOTED
Date: NOV 2019

PLANTING SCHEDULE

FERNALD SCHOOL
WALTHAM MA



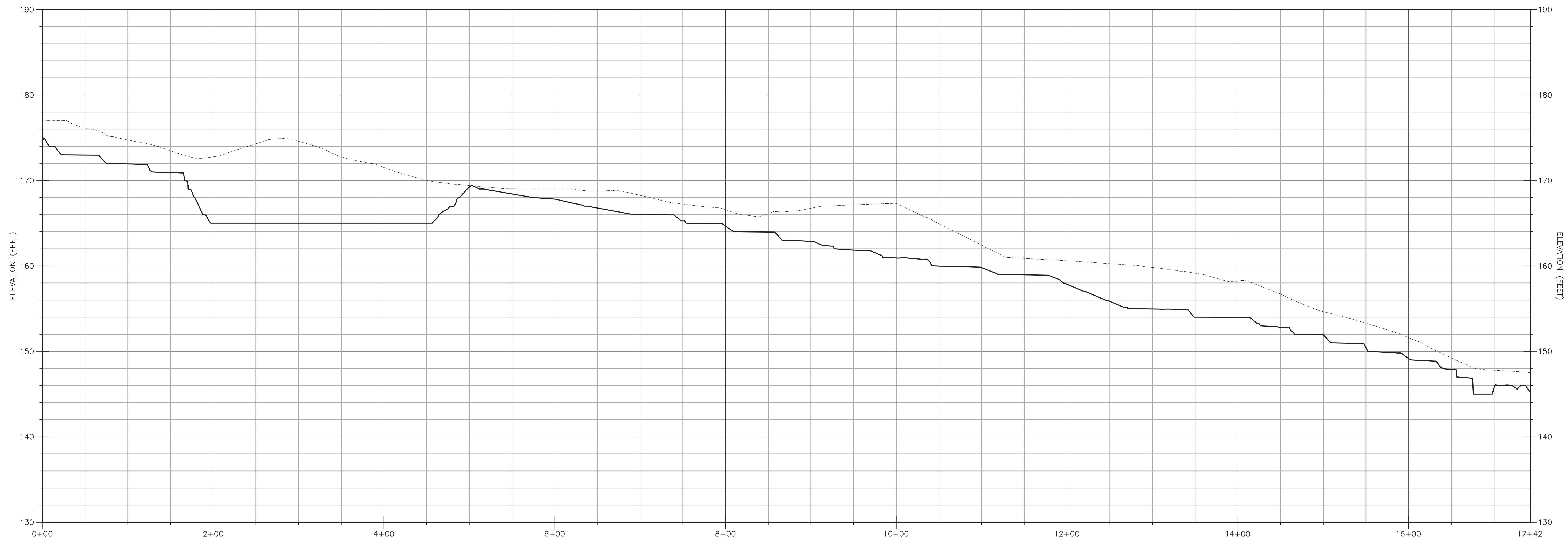
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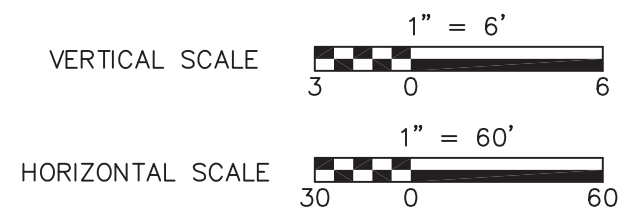
LA-4

LEGEND

- EXISTING GROUND SURFACE
- PROPOSED STREAM CHANNEL




 ANSAN LARI
 CIVIL ENGINEER
 REGISTERED PROFESSIONAL ENGINEER
 11/3/21



REVISIONS

NO.	DESCRIPTION	DATE



Proj. Mgr.: SB
 Designed: JC
 Drawn: JC
 Checked: AS NOTED
 Scale: AS NOTED
 Date: NOV 2019

STREAM PROFILE
 FERNALD SCHOOL
 WALTHAM MA

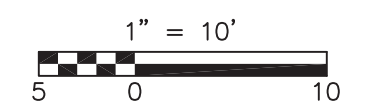
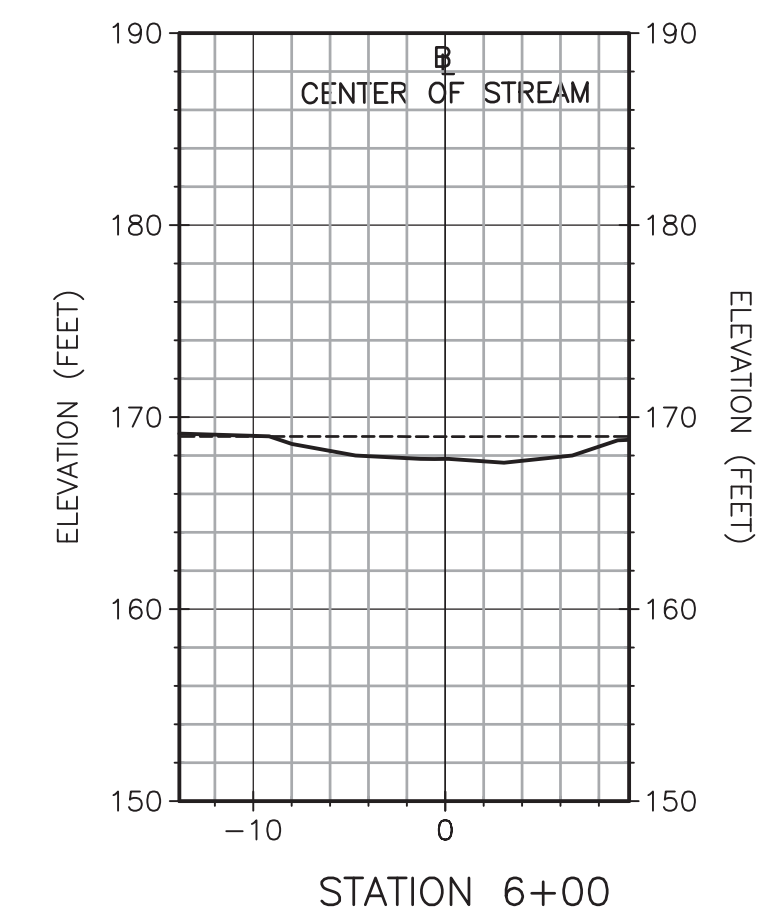
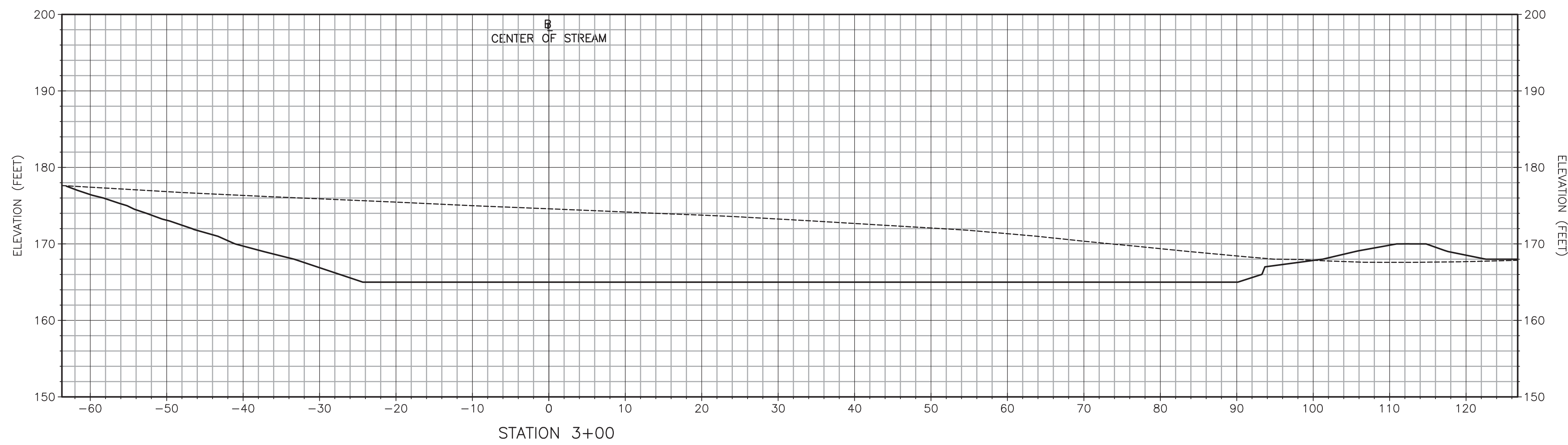
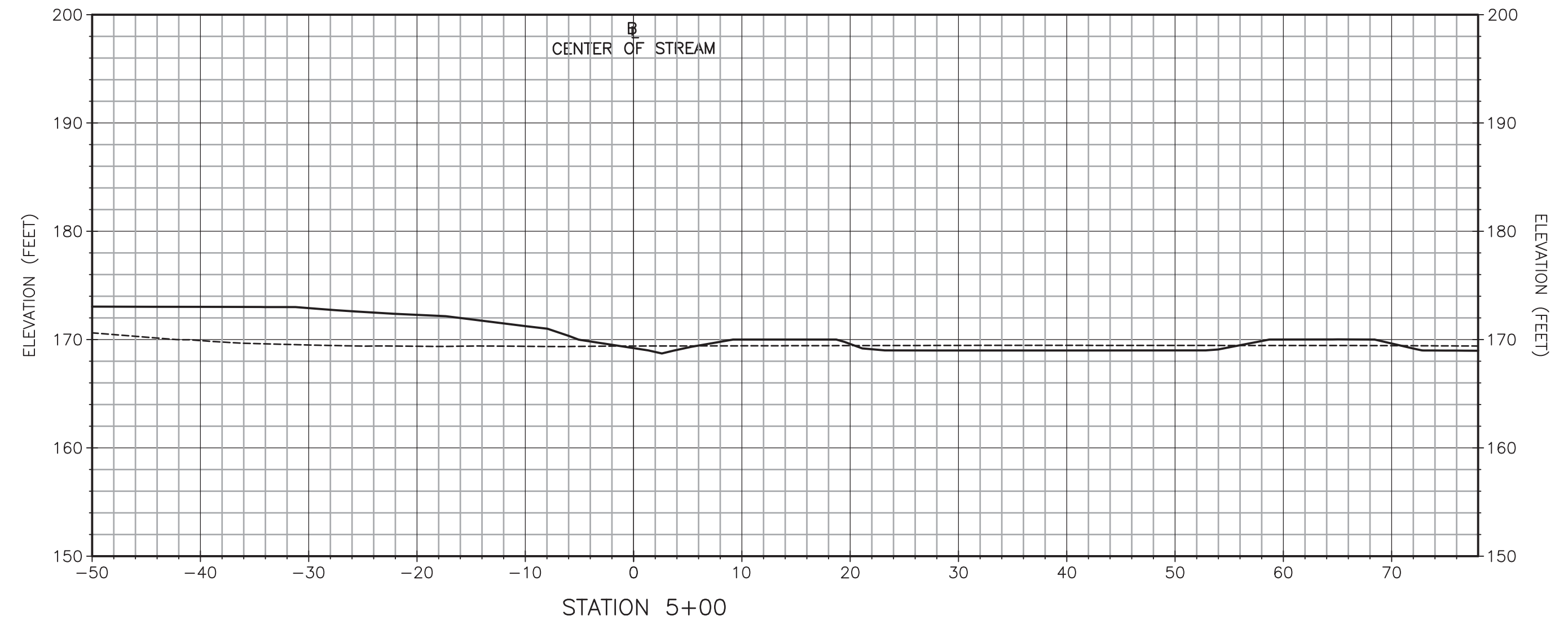
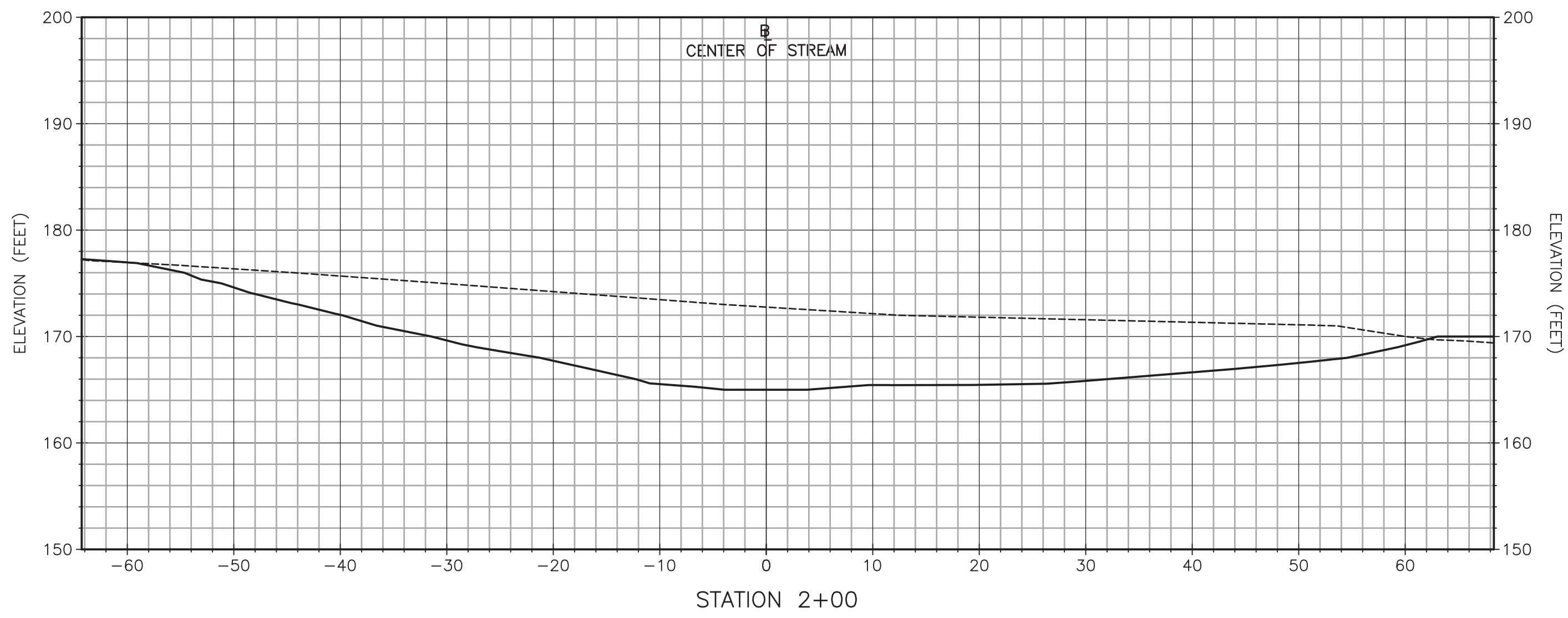
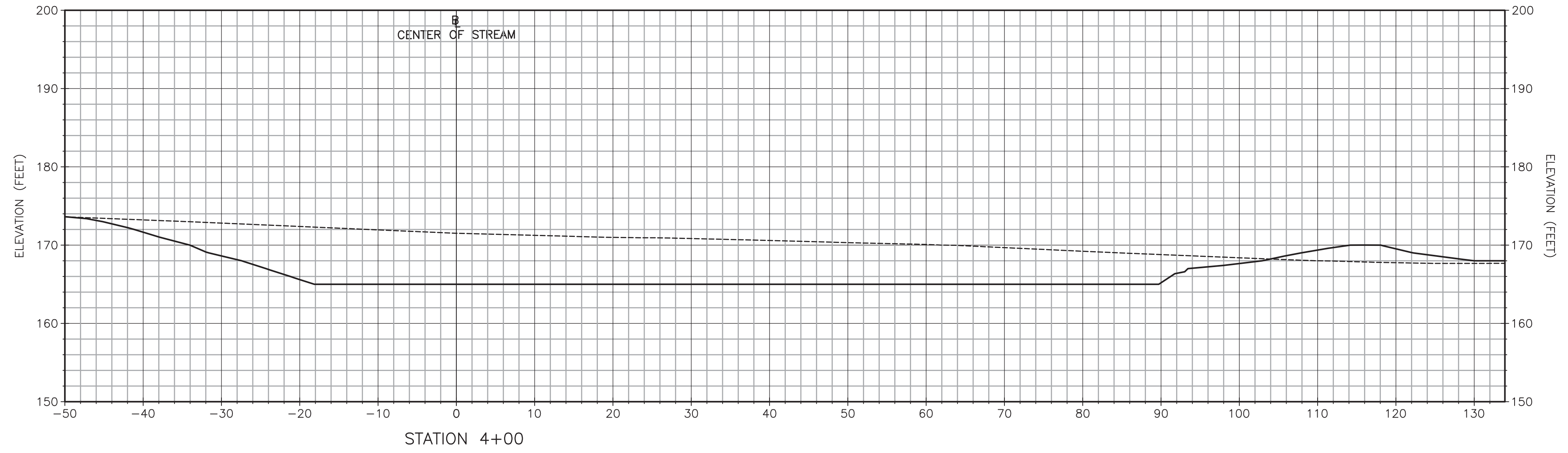
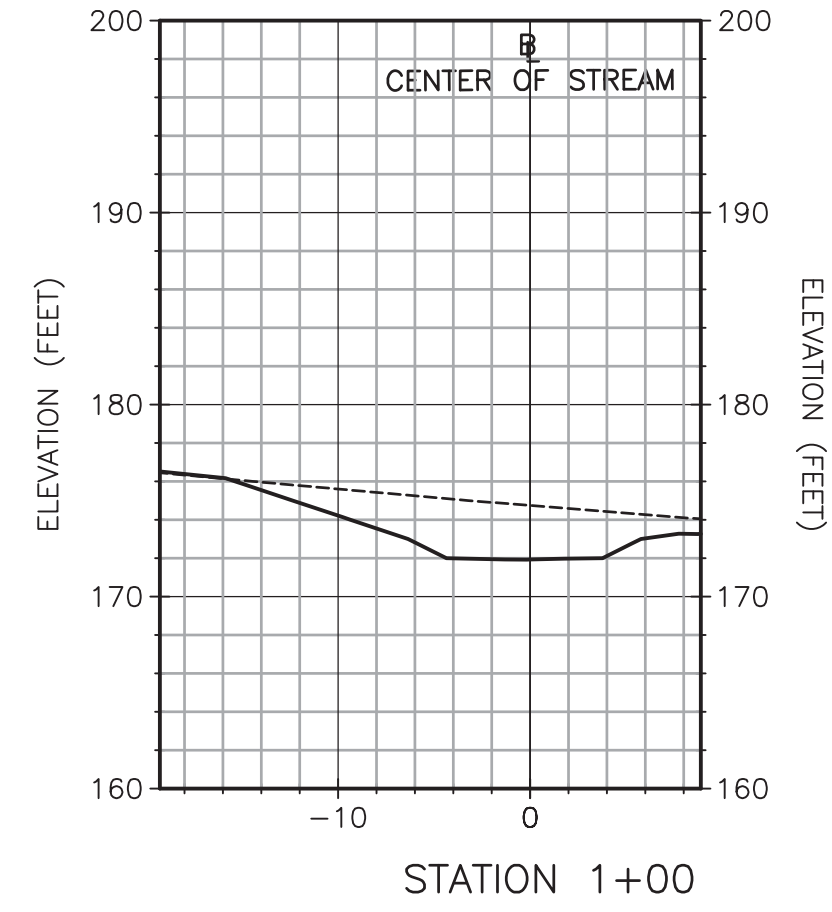
Proj. No.

Dwg. No.

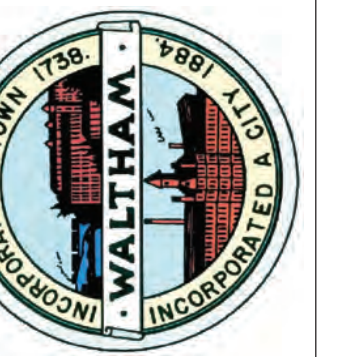
P-1

LEGEND

- - - - - EXISTING GROUND SURFACE
- PROPOSED STREAM CHANNEL



NO.	DESCRIPTION



Proj. Mgr.: SB
 Designed: JC
 Drawn: JC
 Checked: AS
 Scale: AS NOTED
 Date: NOV 2019

CROSS SECTIONS I
 FERNALD SCHOOL
 WALTHAM MA

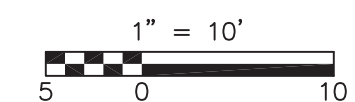
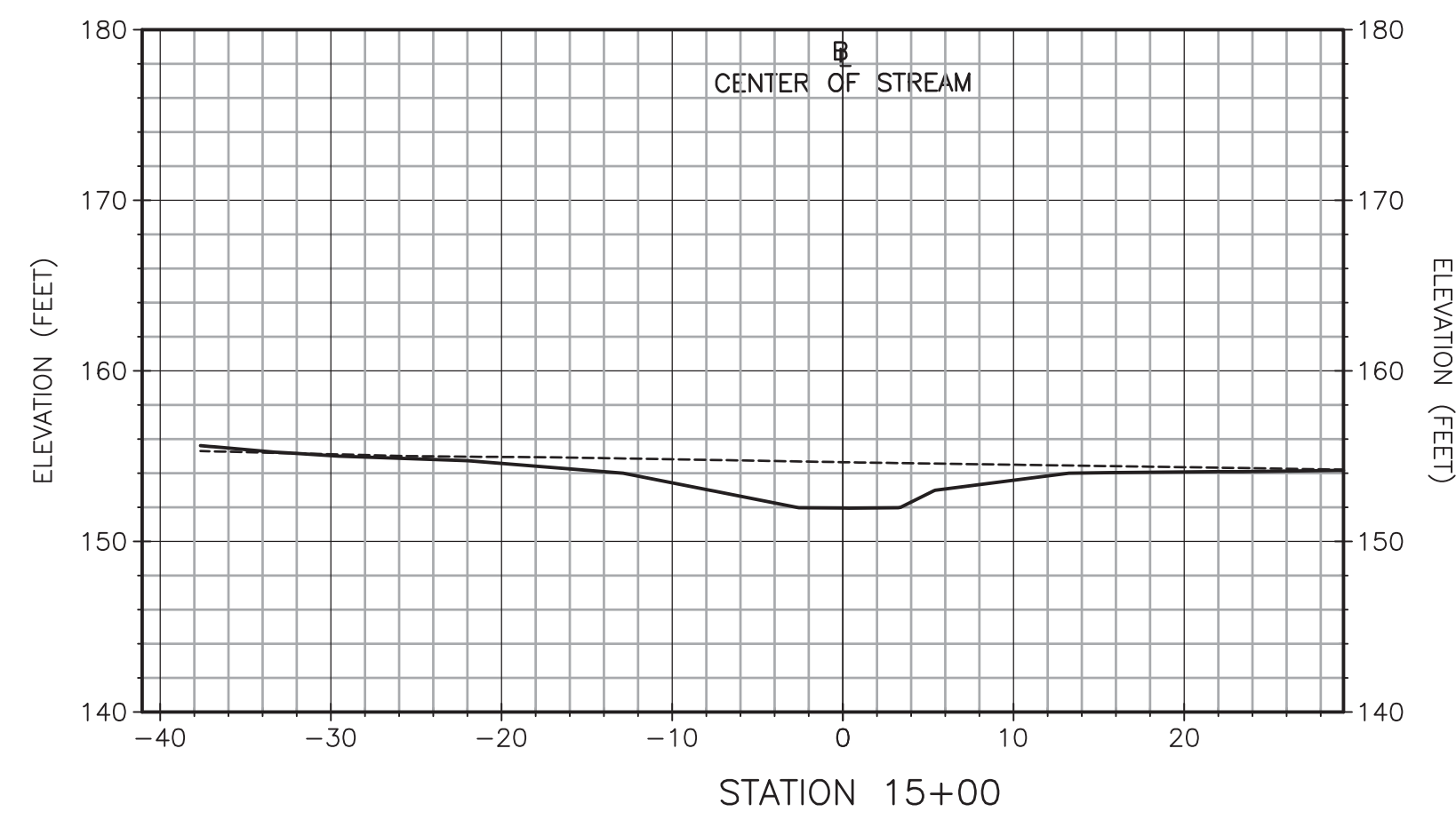
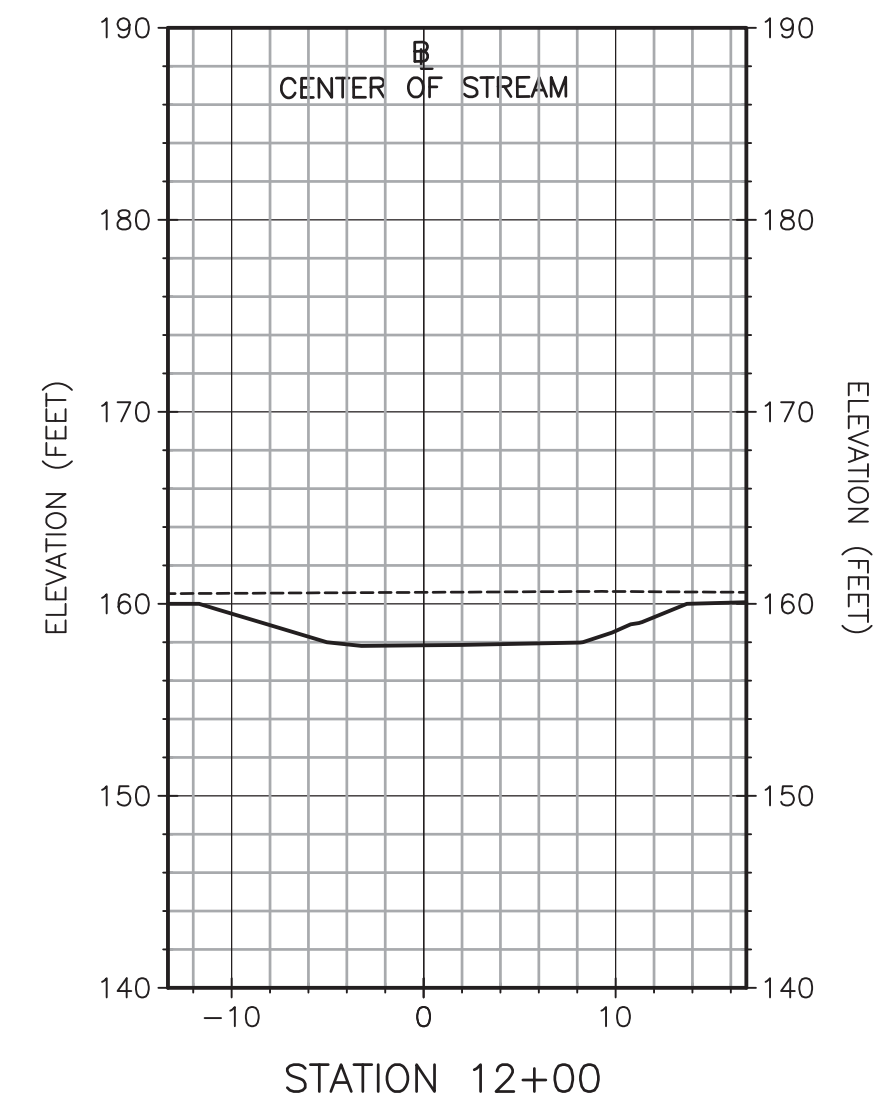
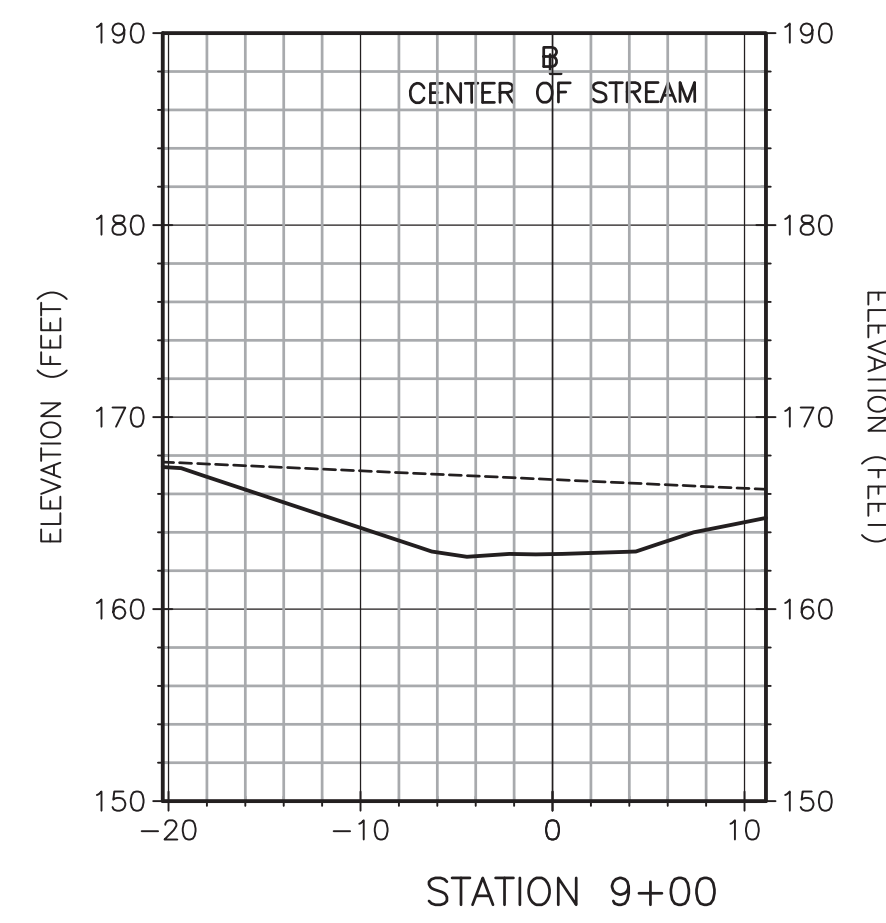
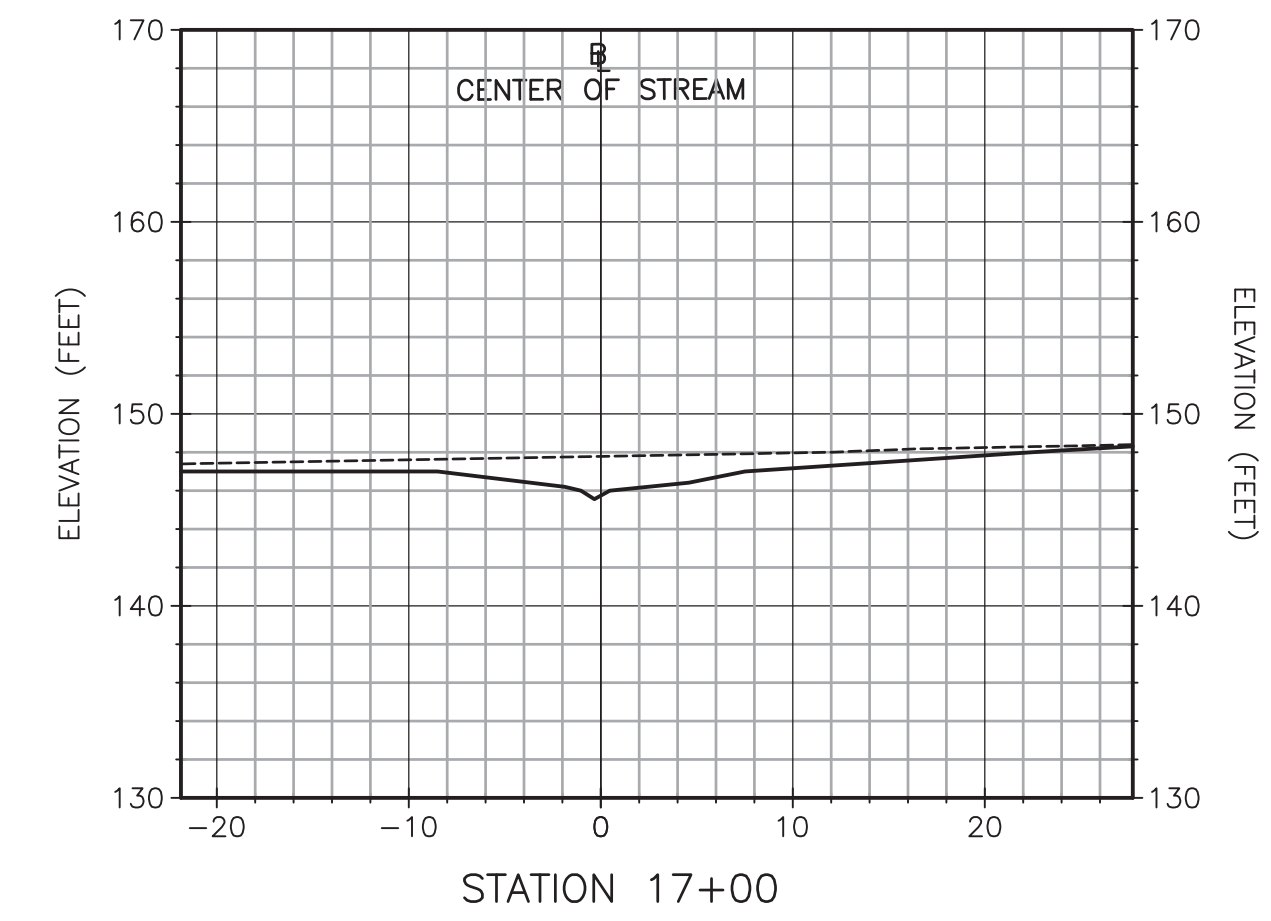
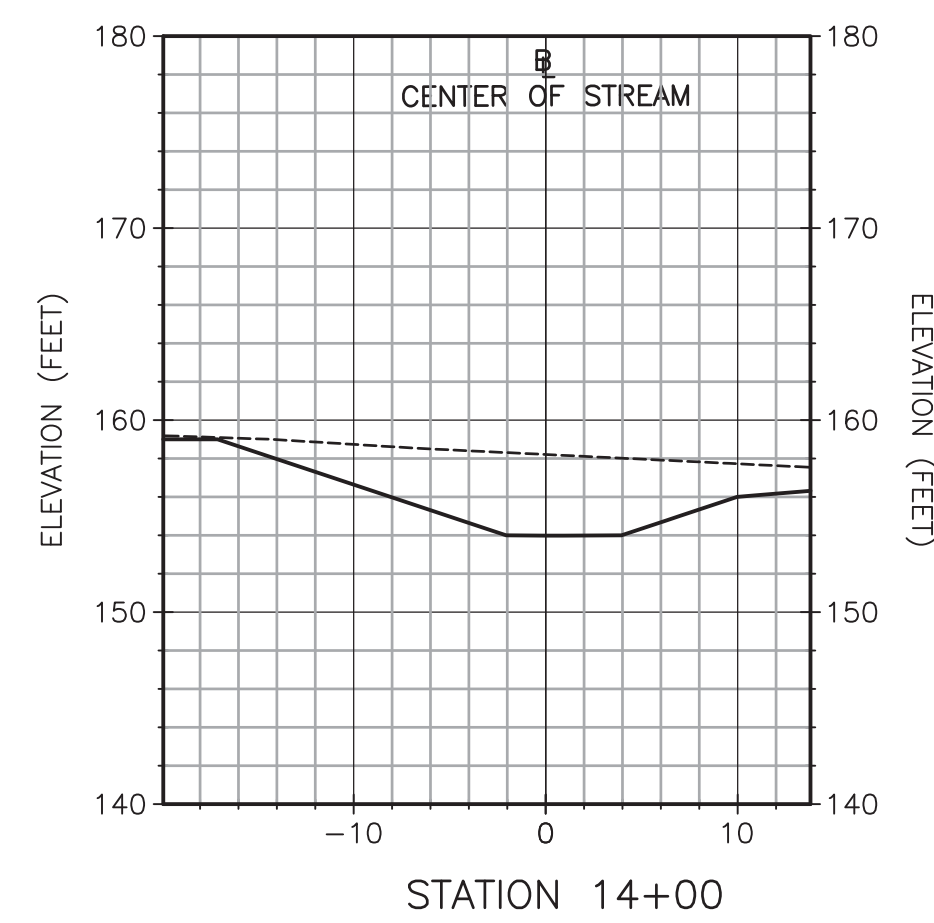
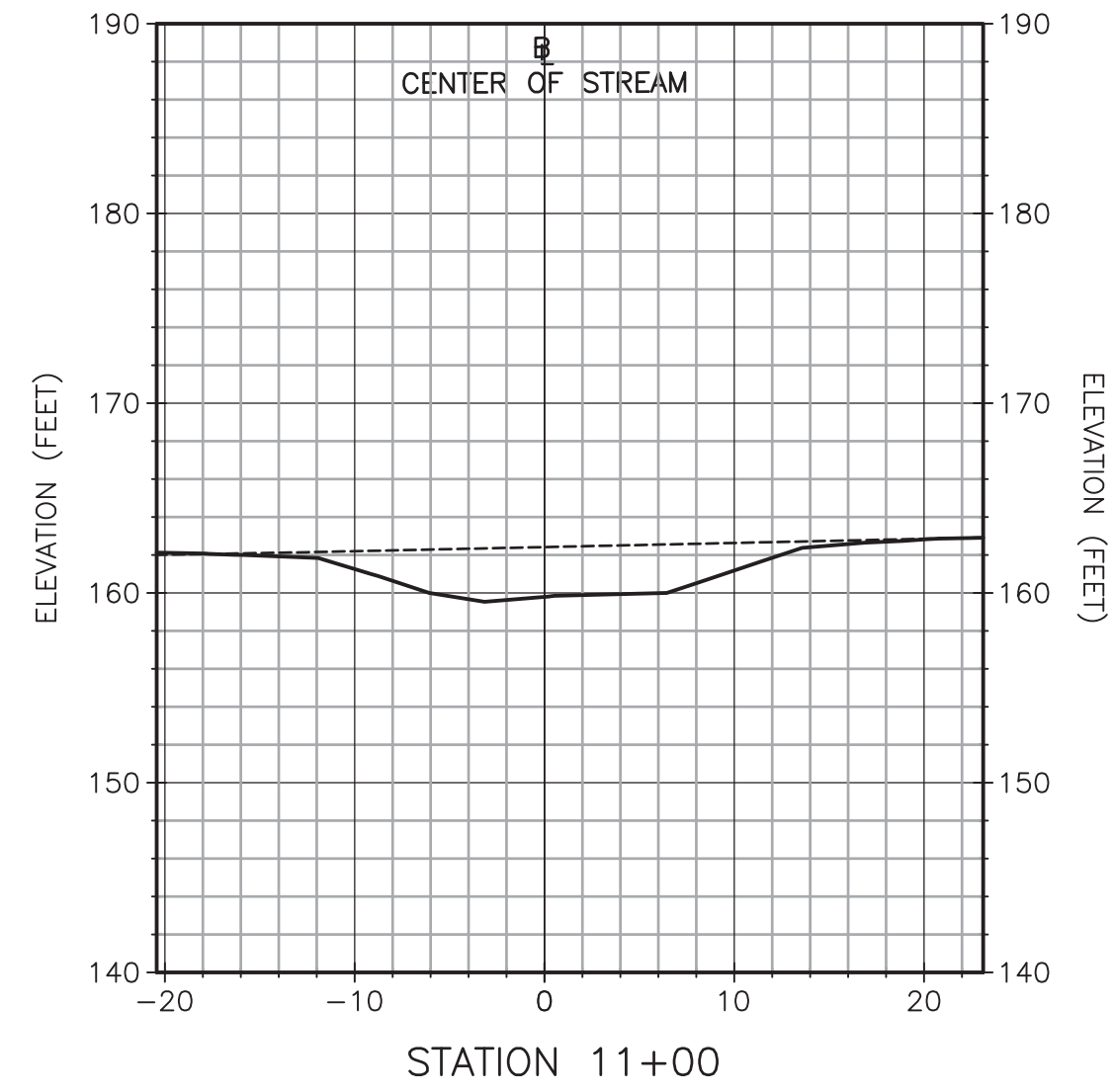
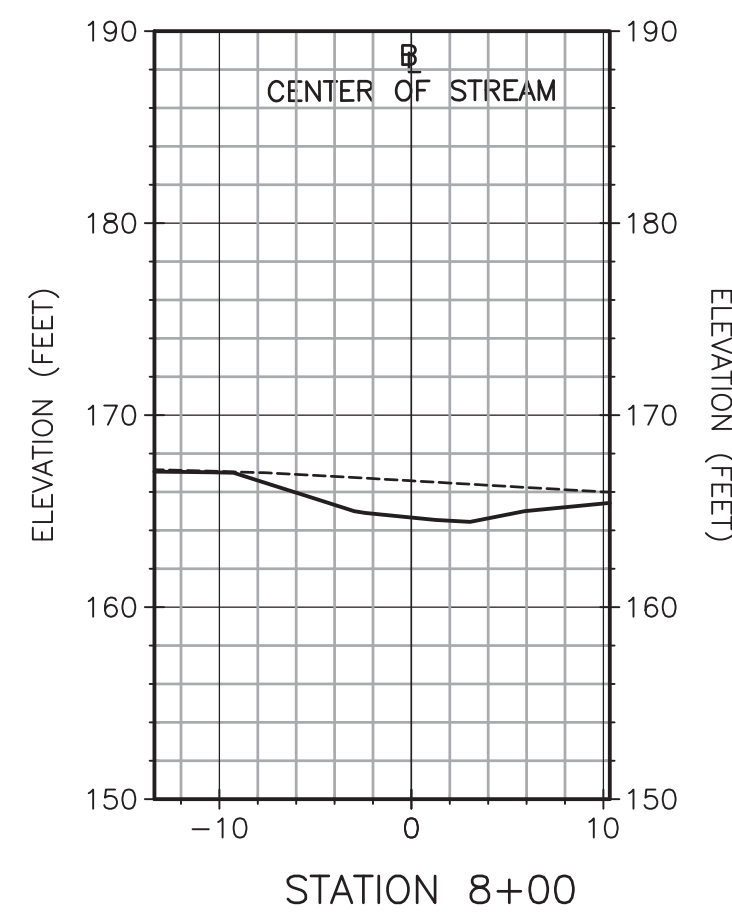
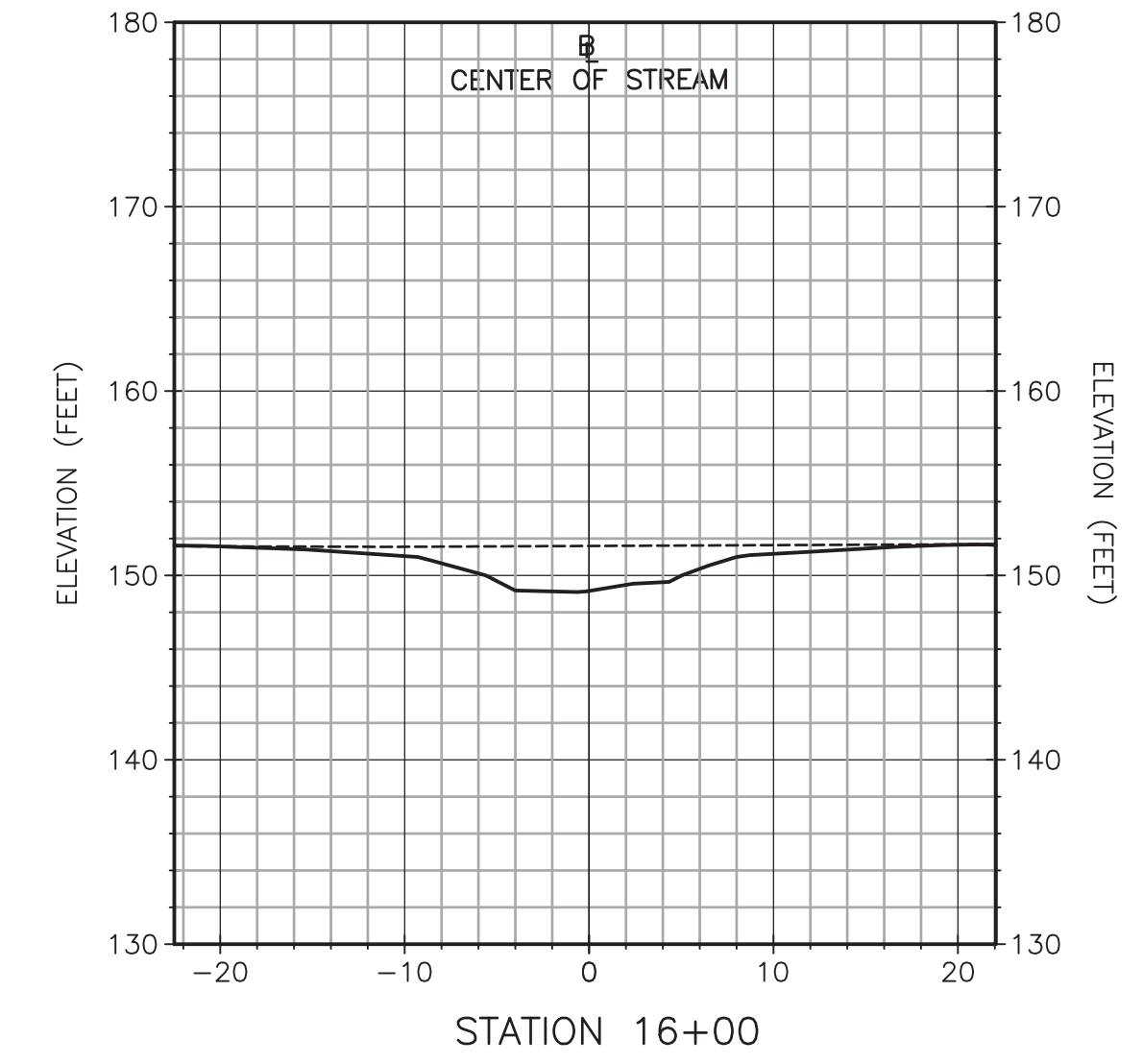
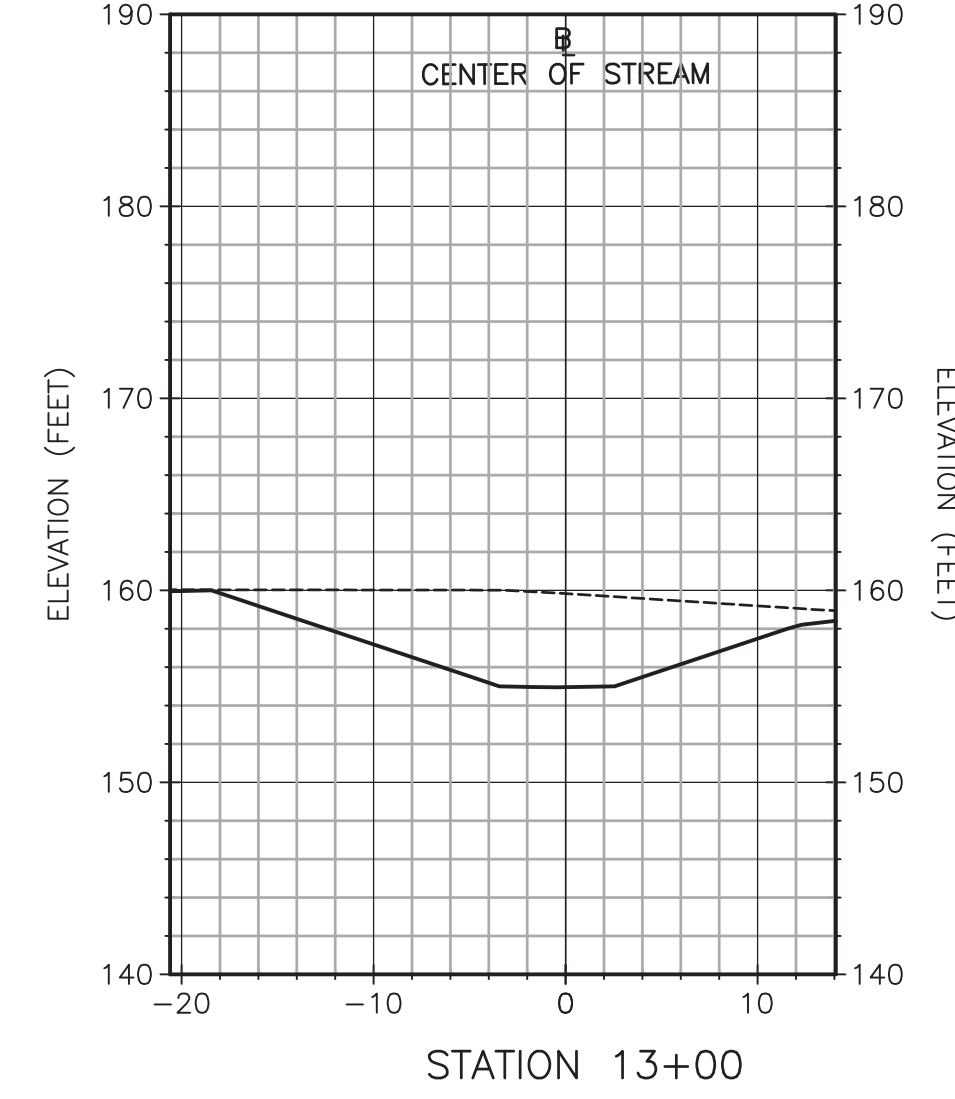
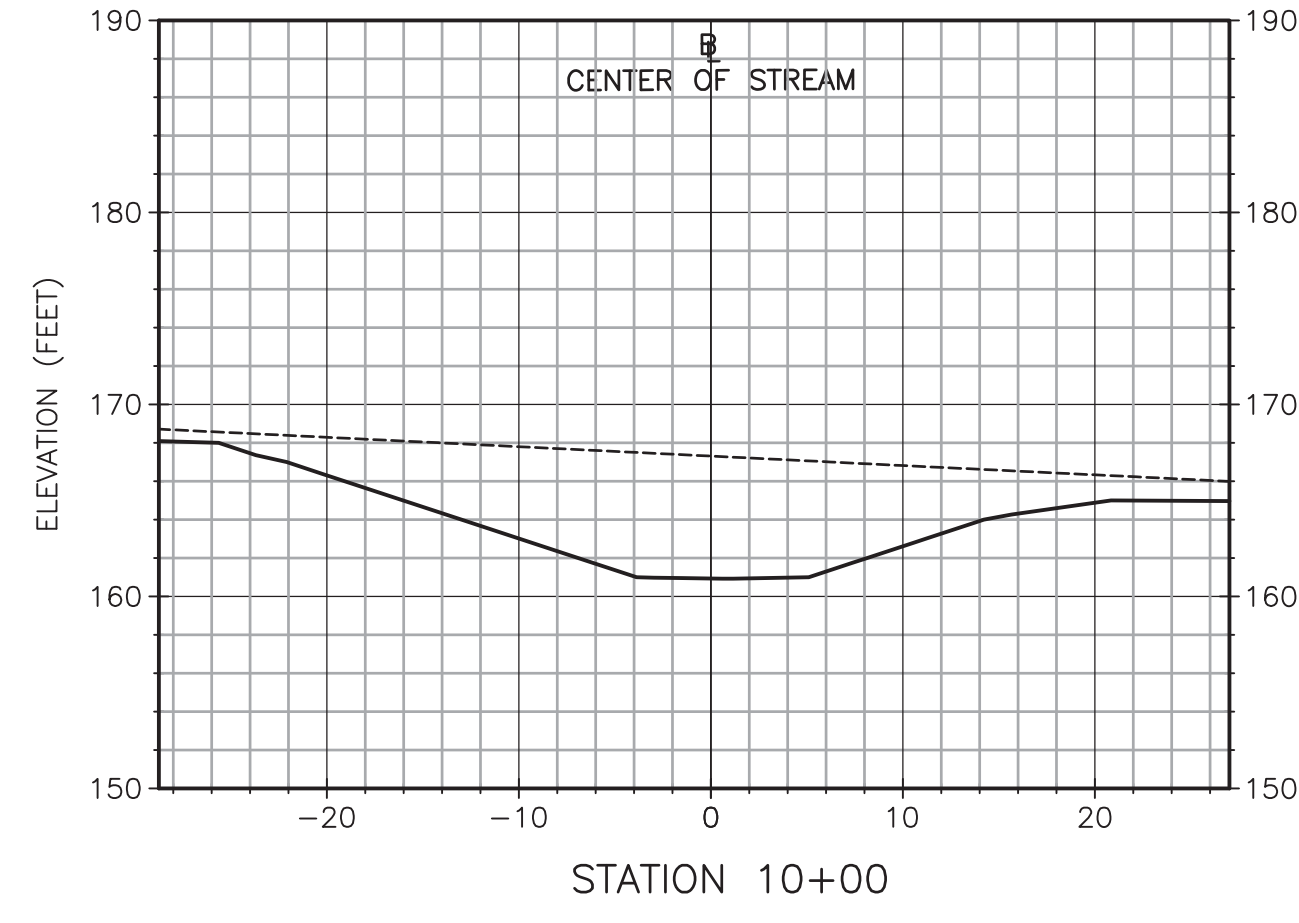
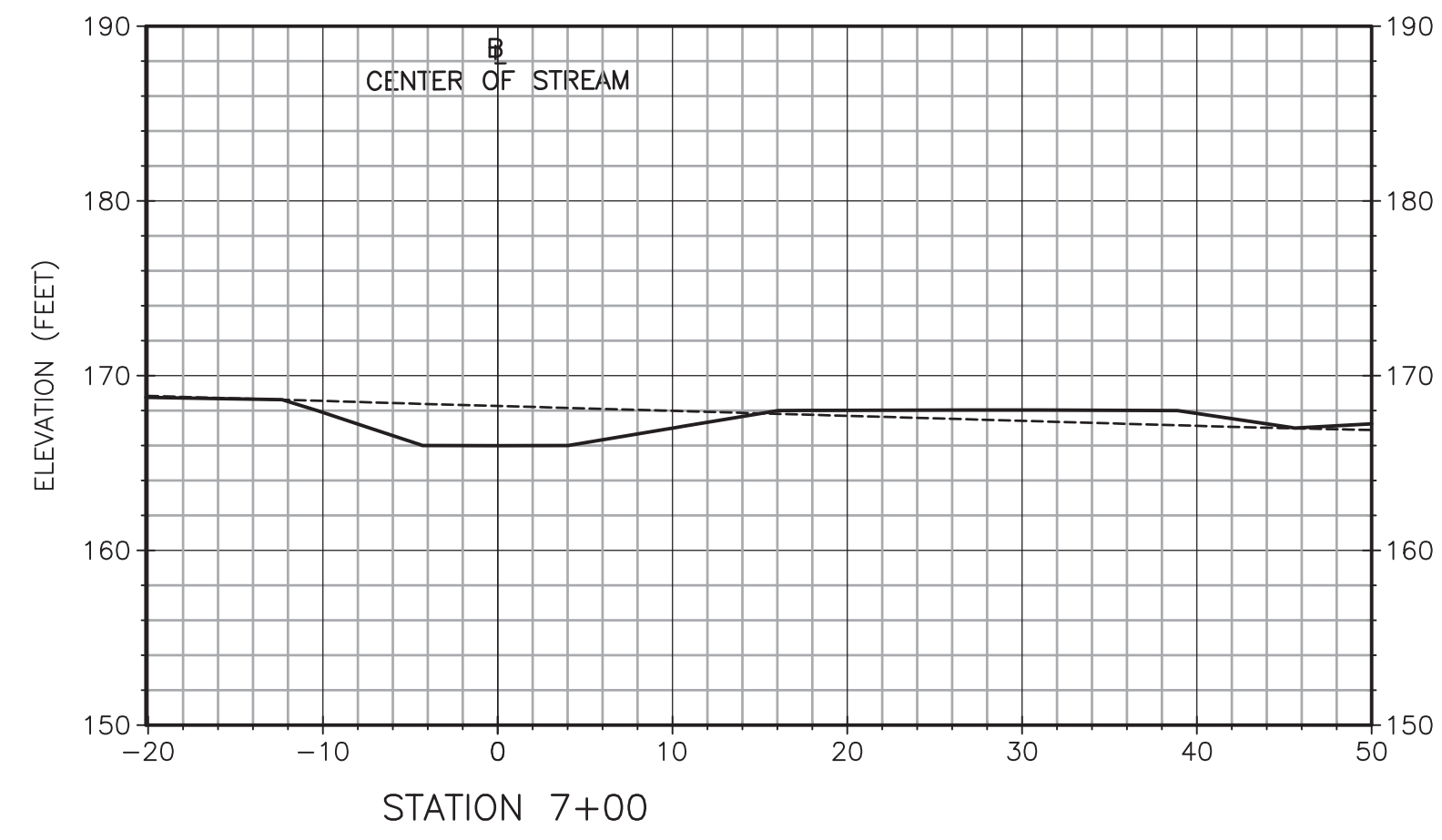
Proj. No.
 Dwg. No.

S-1

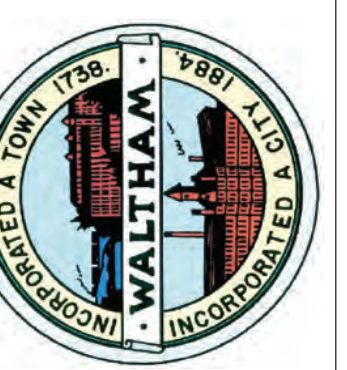
REVISIONS

LEGEND

- EXISTING GROUND SURFACE
- PROPOSED STREAM CHANNEL



NO.	DESCRIPTION

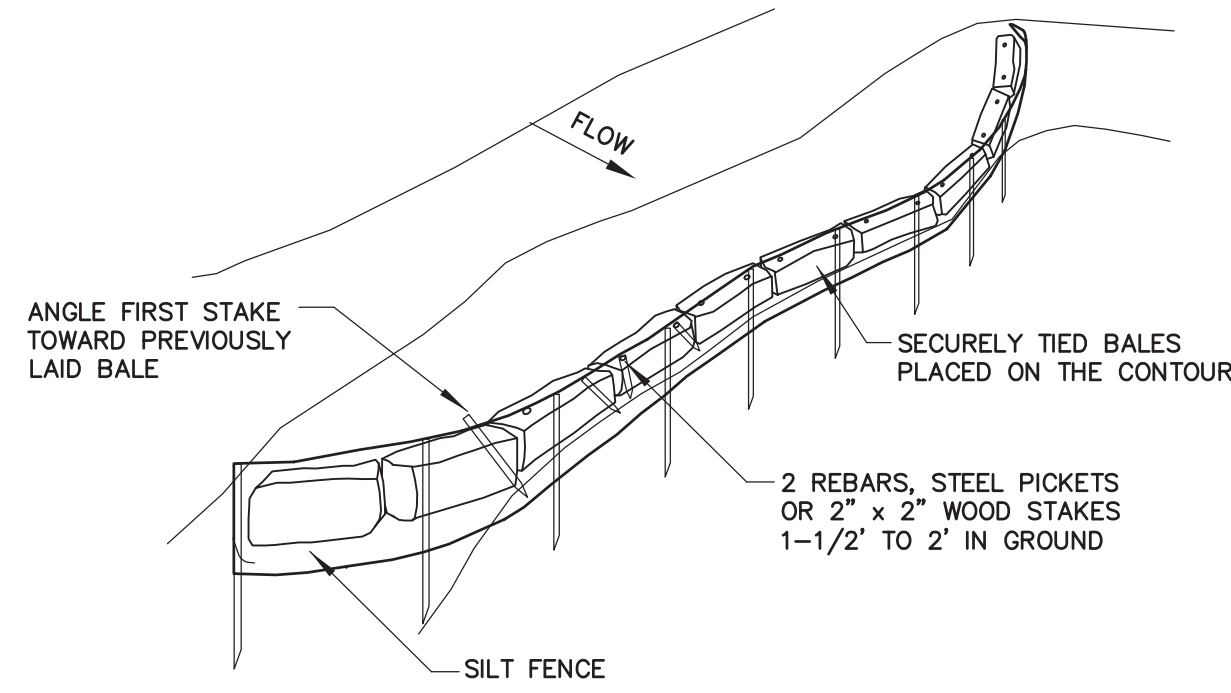
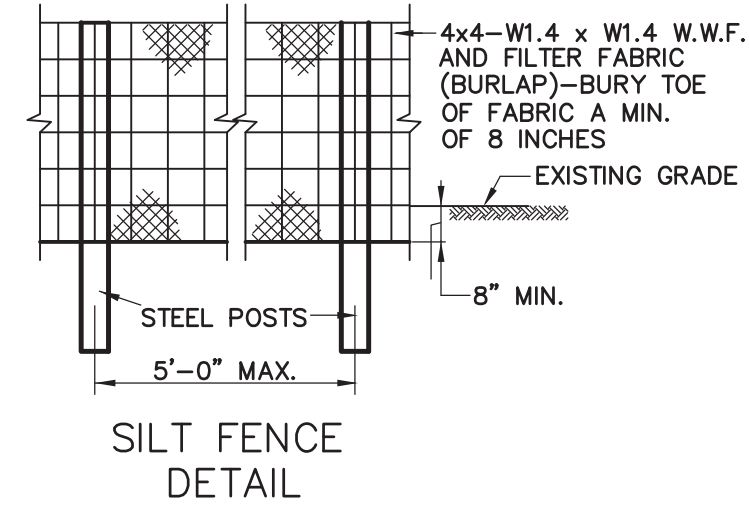
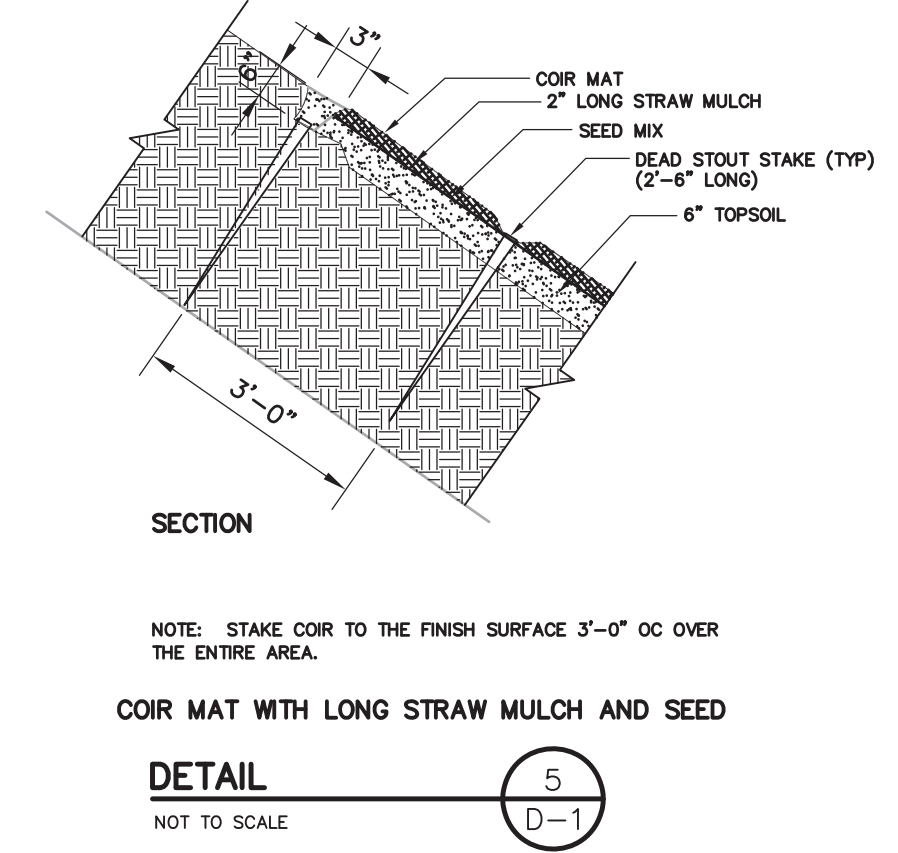
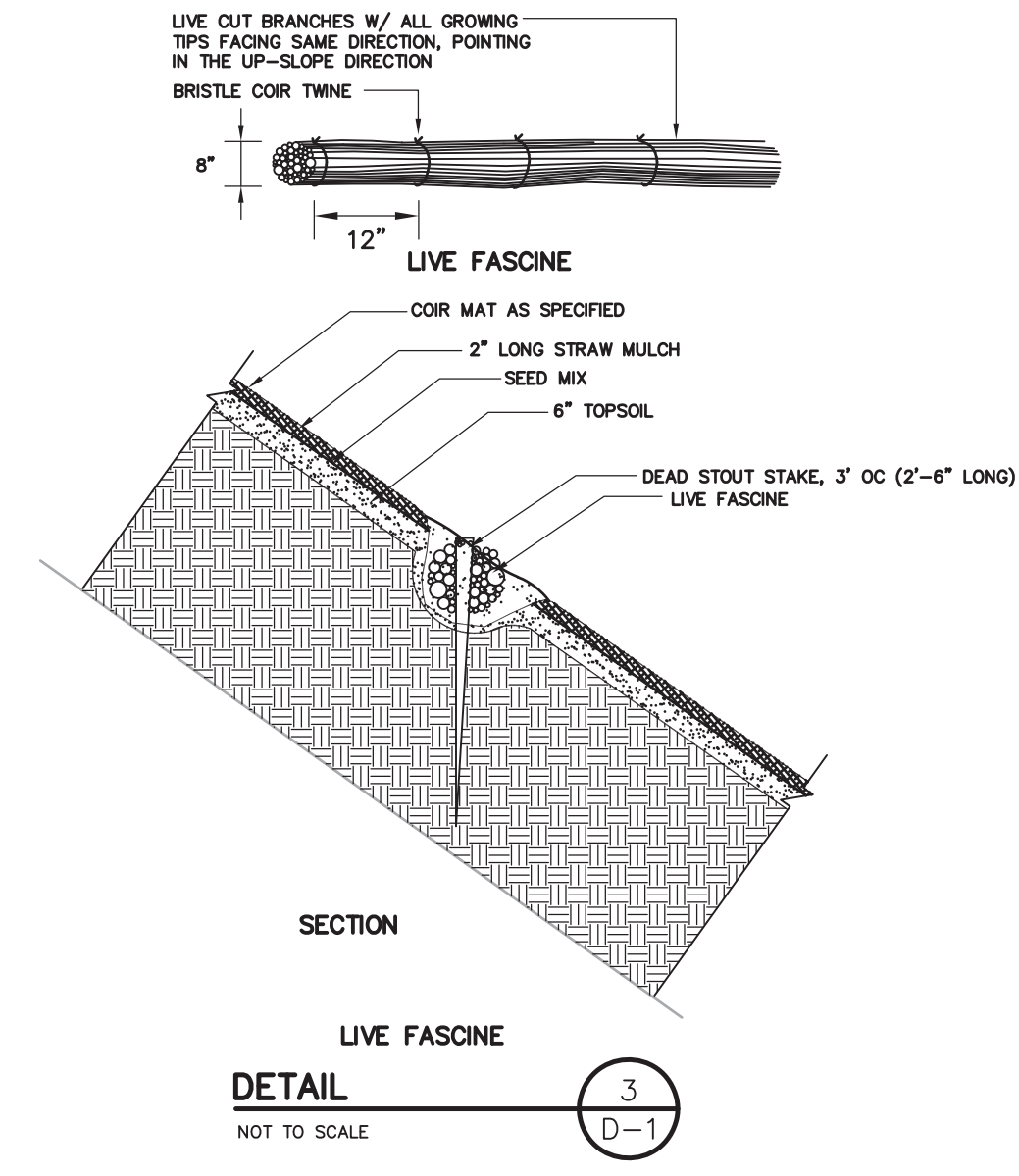
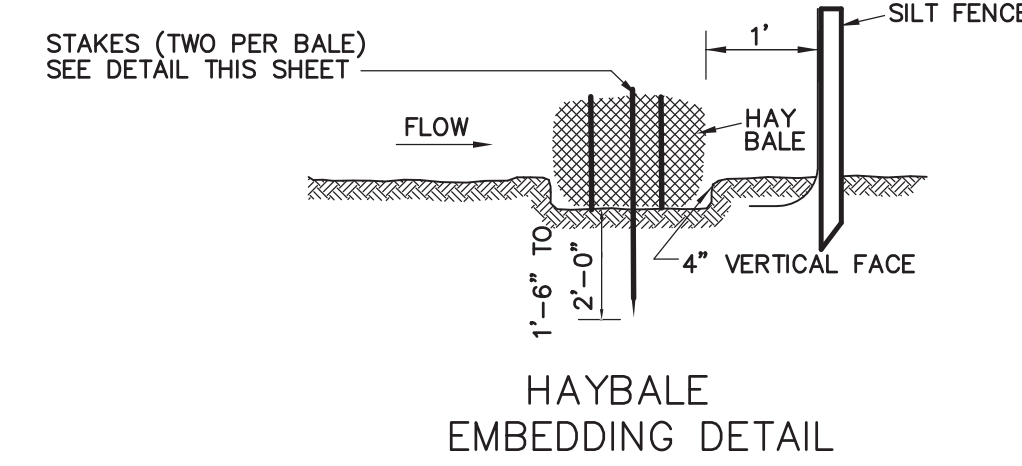
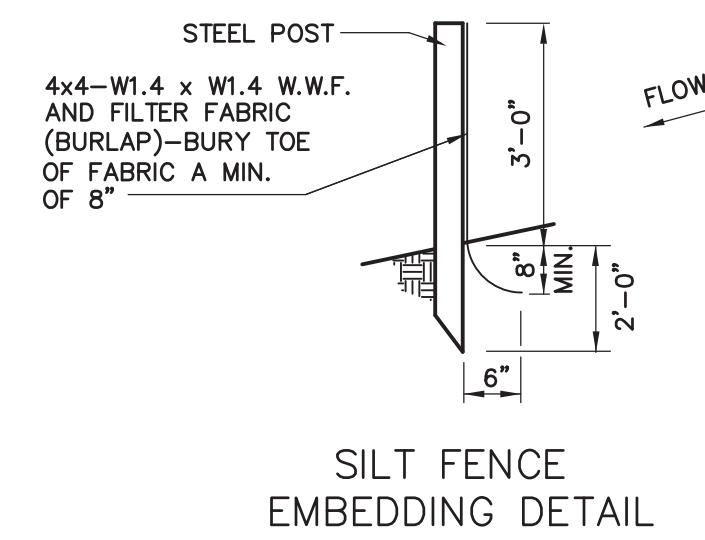


Proj. Mgr.: SB
 Designed: JC
 Drawn: JC
 Checked: AS NOTED
 Scale: AS NOTED
 Date: NOV 2019

CROSS SECTIONS II
 FERNALD SCHOOL
 WALTHAM MA

Proj. No.
 Dwg. No.

S-2

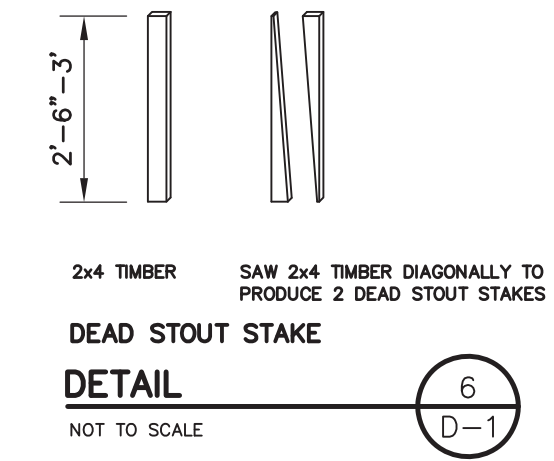
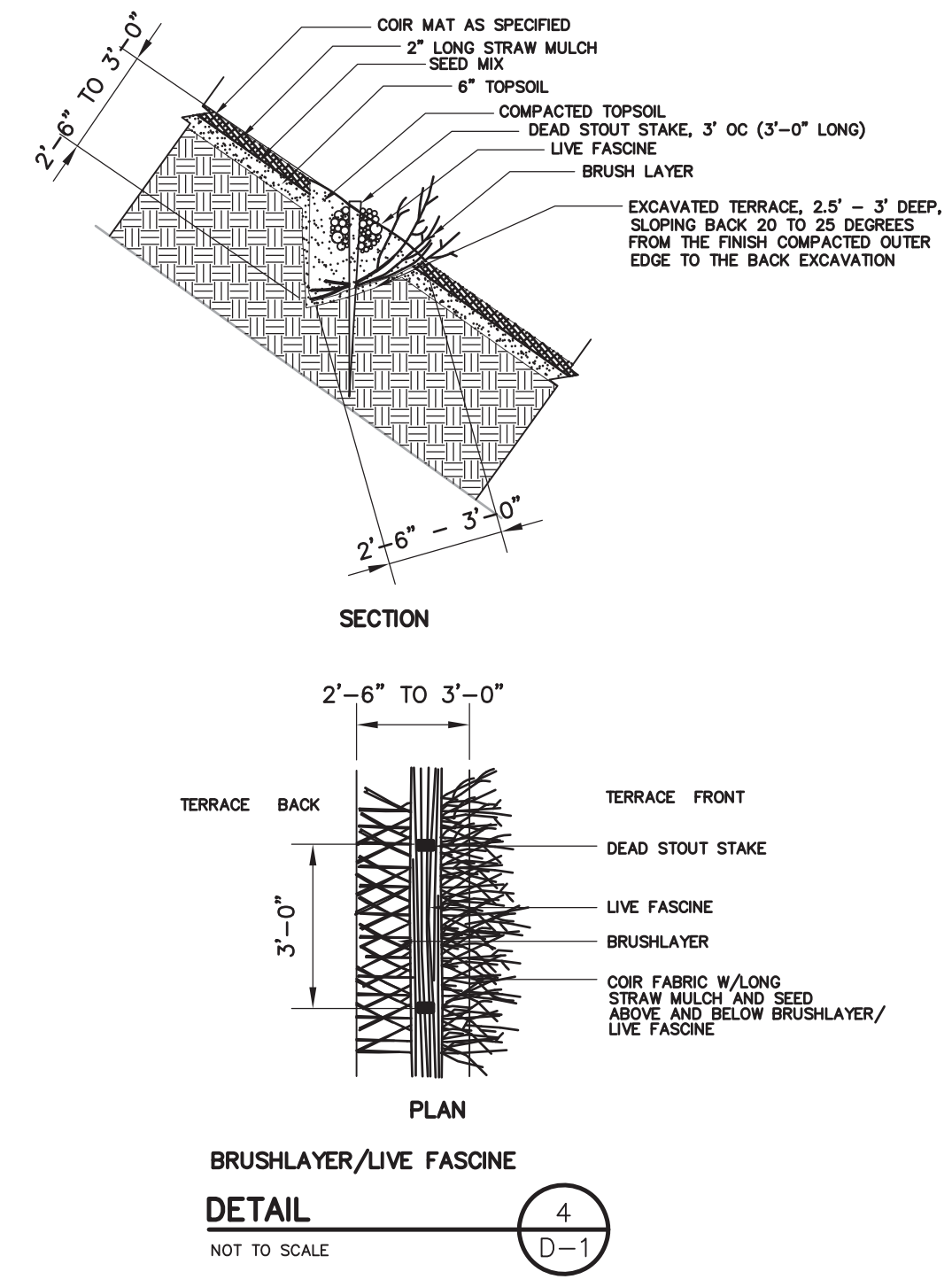


DETAIL 3
D-1
NOT TO SCALE

DETAIL 5
D-1
NOT TO SCALE

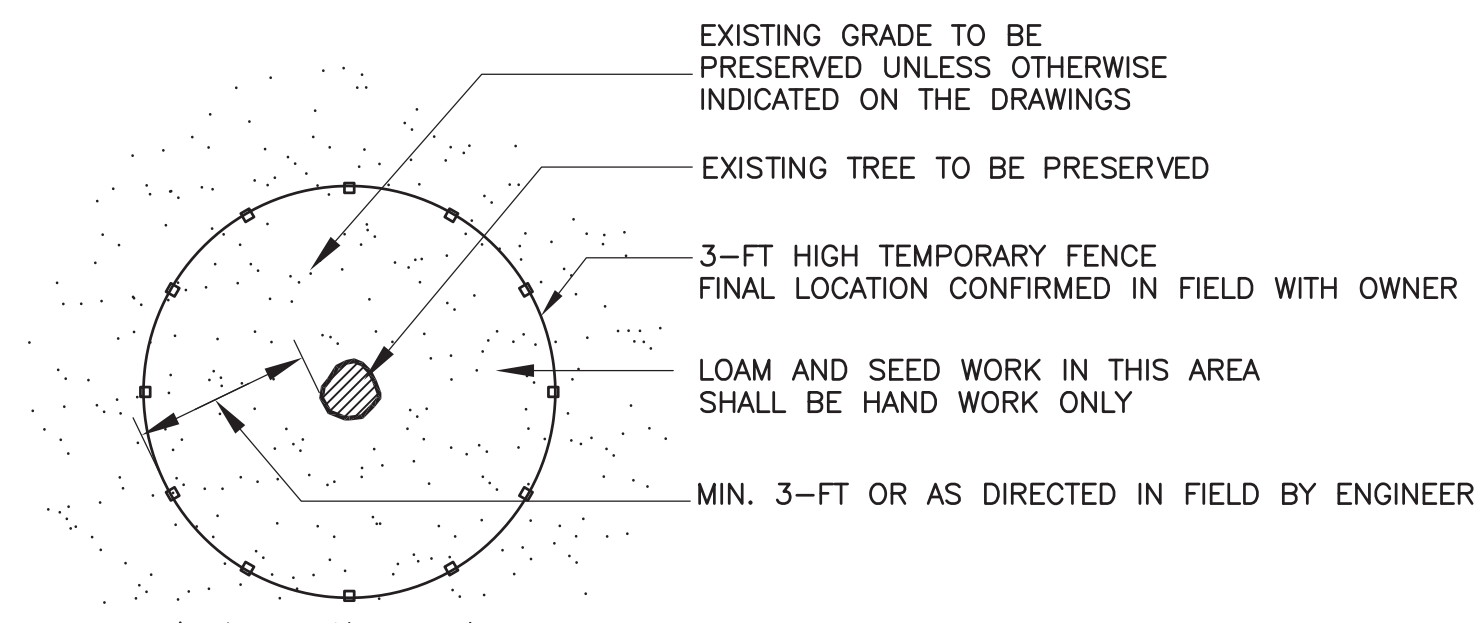
ANCHORING FOR HAYBALES AND SILT FENCE

DETAIL 1
D-1
N.T.S.



DETAIL 4
D-1
NOT TO SCALE

DETAIL 6
D-1
NOT TO SCALE

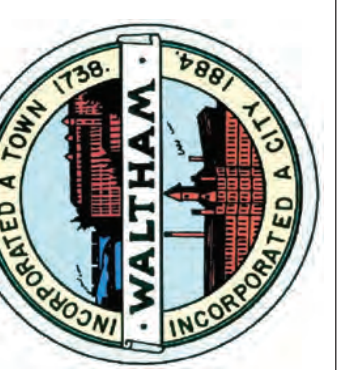


- NOTES:**
- FENCING SHALL BE INSTALLED AROUND PERIMETER OF EXISTING TREE TO BE PROTECTED AS APPROVED BY OWNER.
 - FENCING MAY BE REMOVED TEMPORARILY, ONLY AS REQUIRED TO PERFORM THE WORK SHOWN ON THE DRAWINGS.
 - FENCING SHALL REMAIN IN PLACE & BE MAINTAINED THROUGHOUT CONSTRUCTION AND THEN REMOVED COMPLETELY AS DIRECTED BY OWNER TO COMPLETE LOAMING AND SEEDING ACTIVITIES.

TREE PROTECTION
DETAIL 2
D-1
NOT TO SCALE

11/3/21

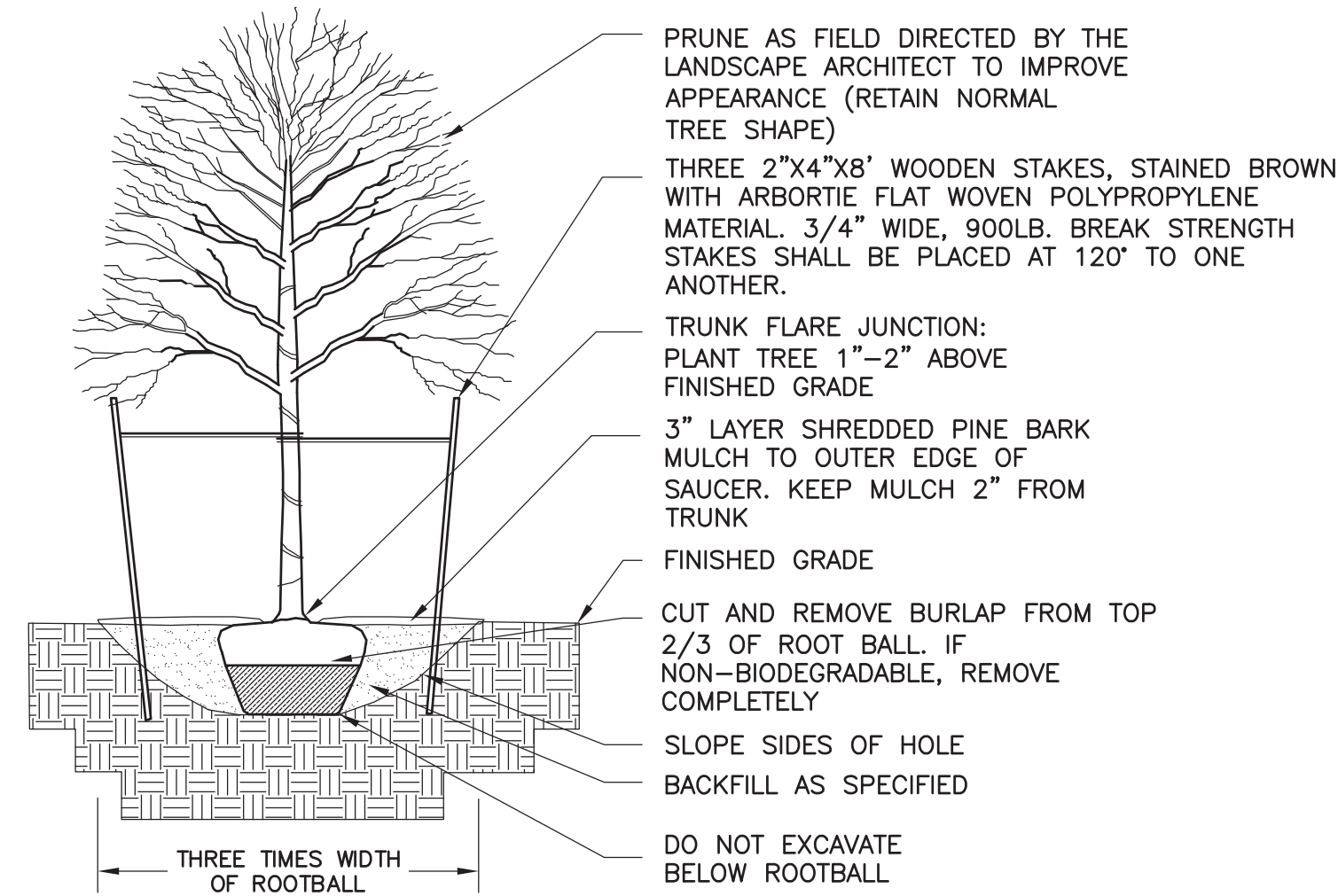
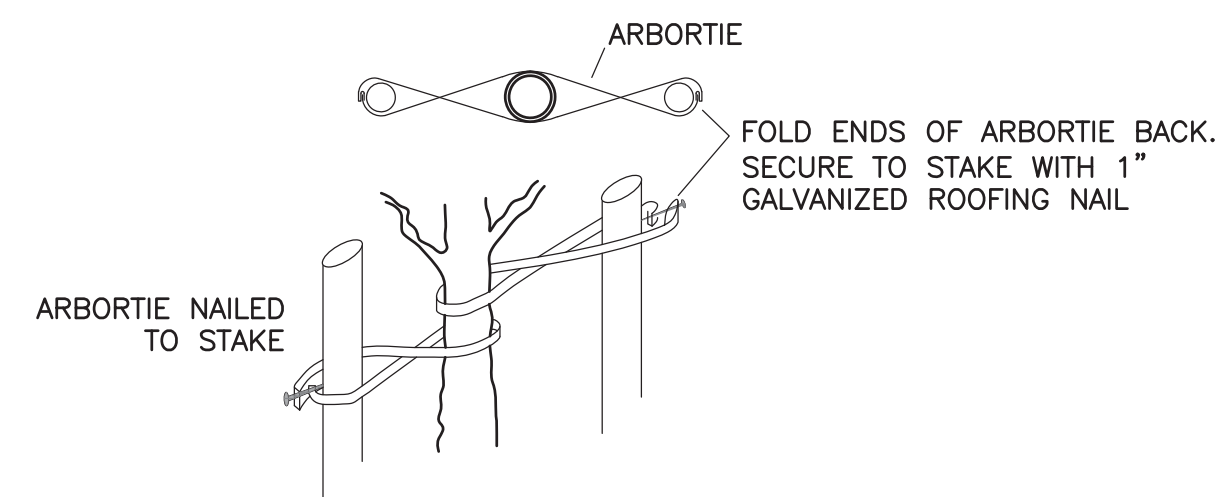
REVISIONS



Proj. Mgr.: SB
Designed: JC
Drawn: JC
Checked: AS NOTED
Scale: AS NOTED
Date: NOV 2019

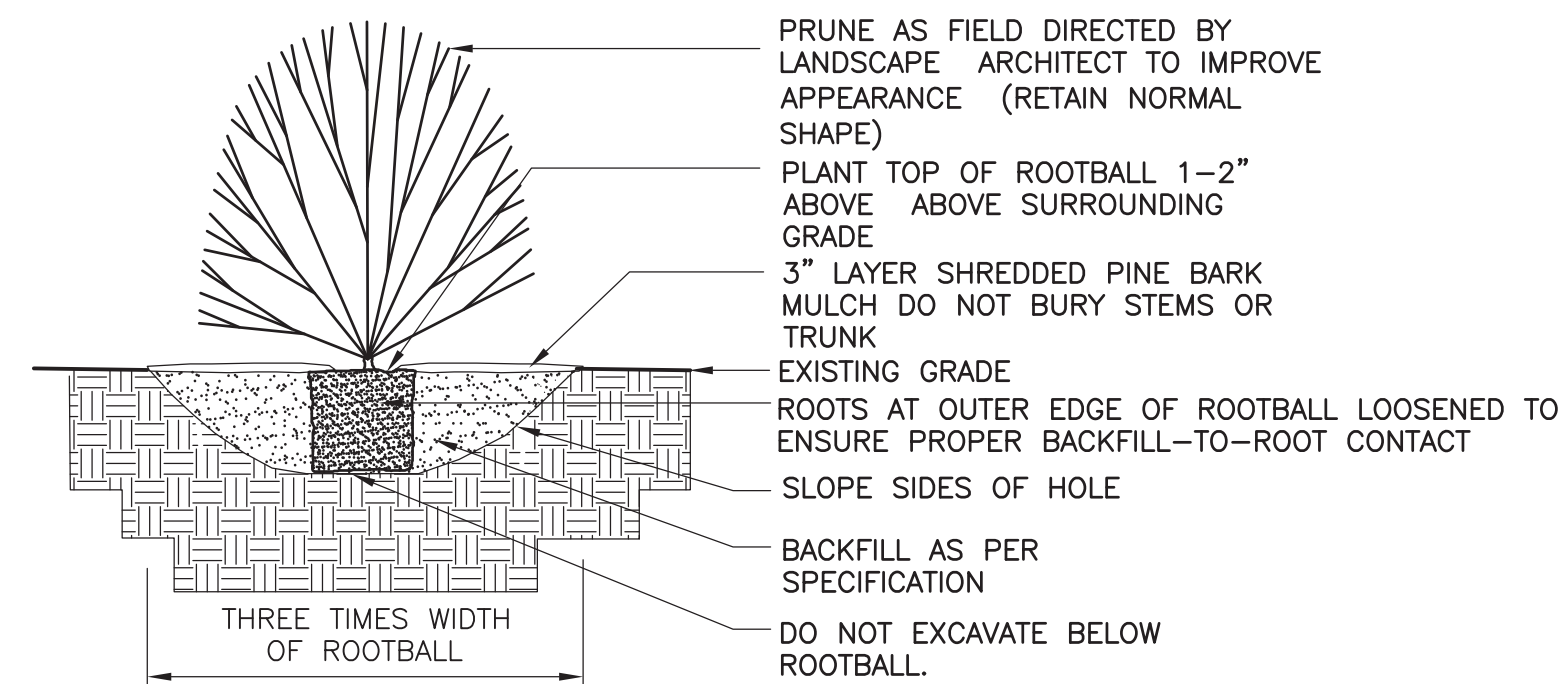
DETAILS I
FERNALD SCHOOL
WALTHAM MA

Proj. No.
Dwg. No.
D-1



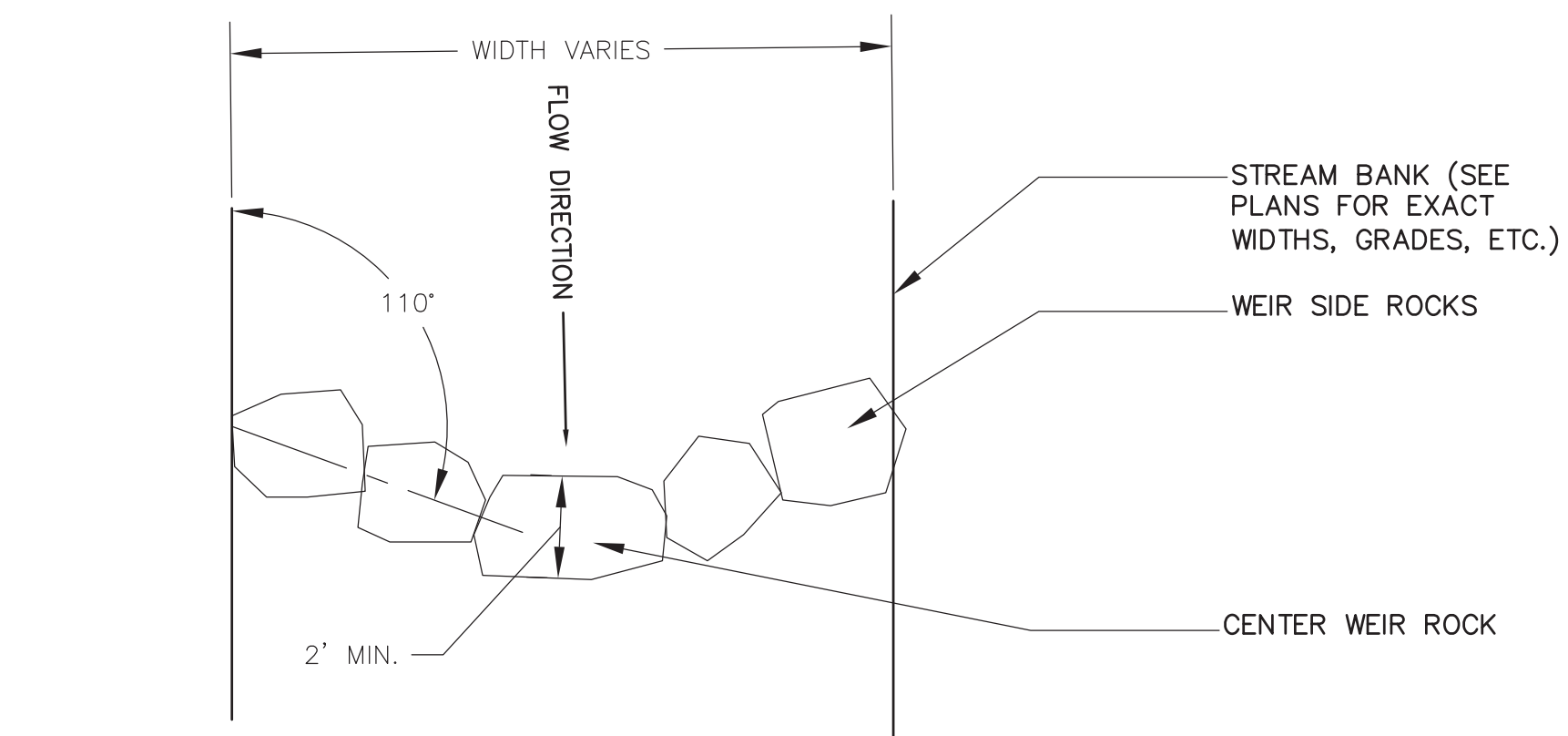
DECIDUOUS TREE PLANTING

DETAIL 1
NOT TO SCALE D-2

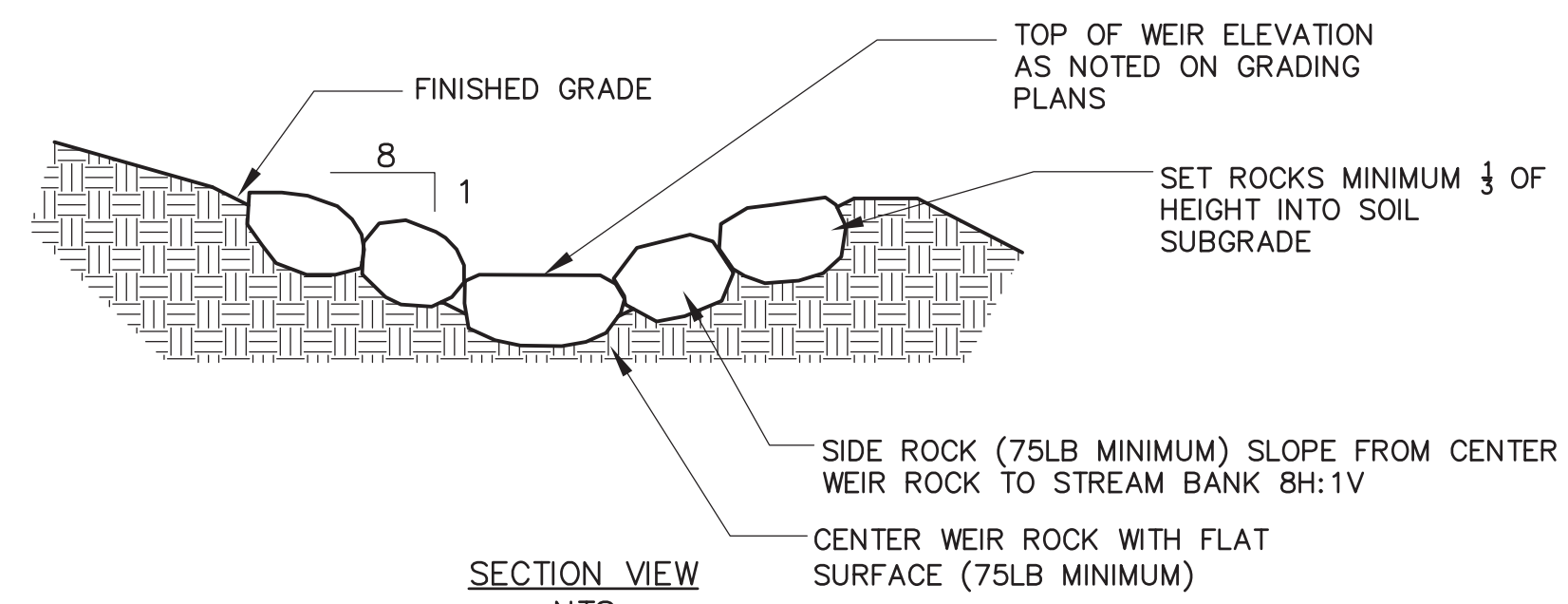


SHRUB PLANTING

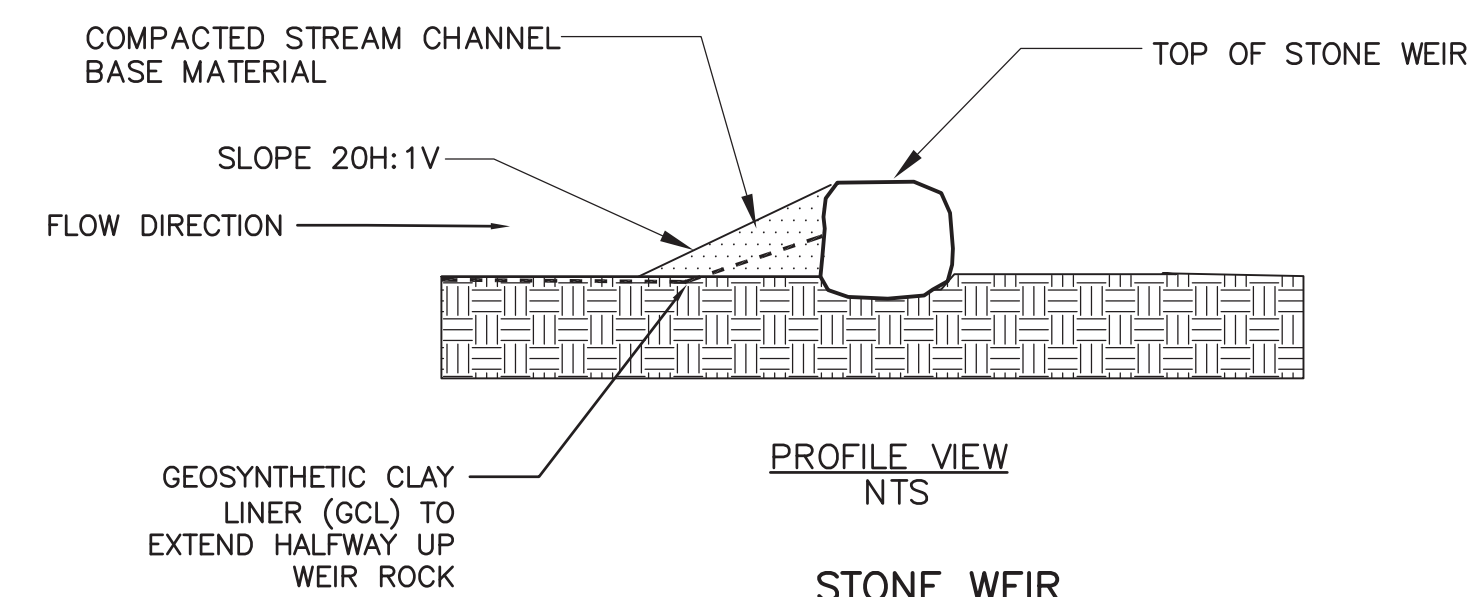
DETAIL 2
NOT TO SCALE D-2



PLAN VIEW
NTS

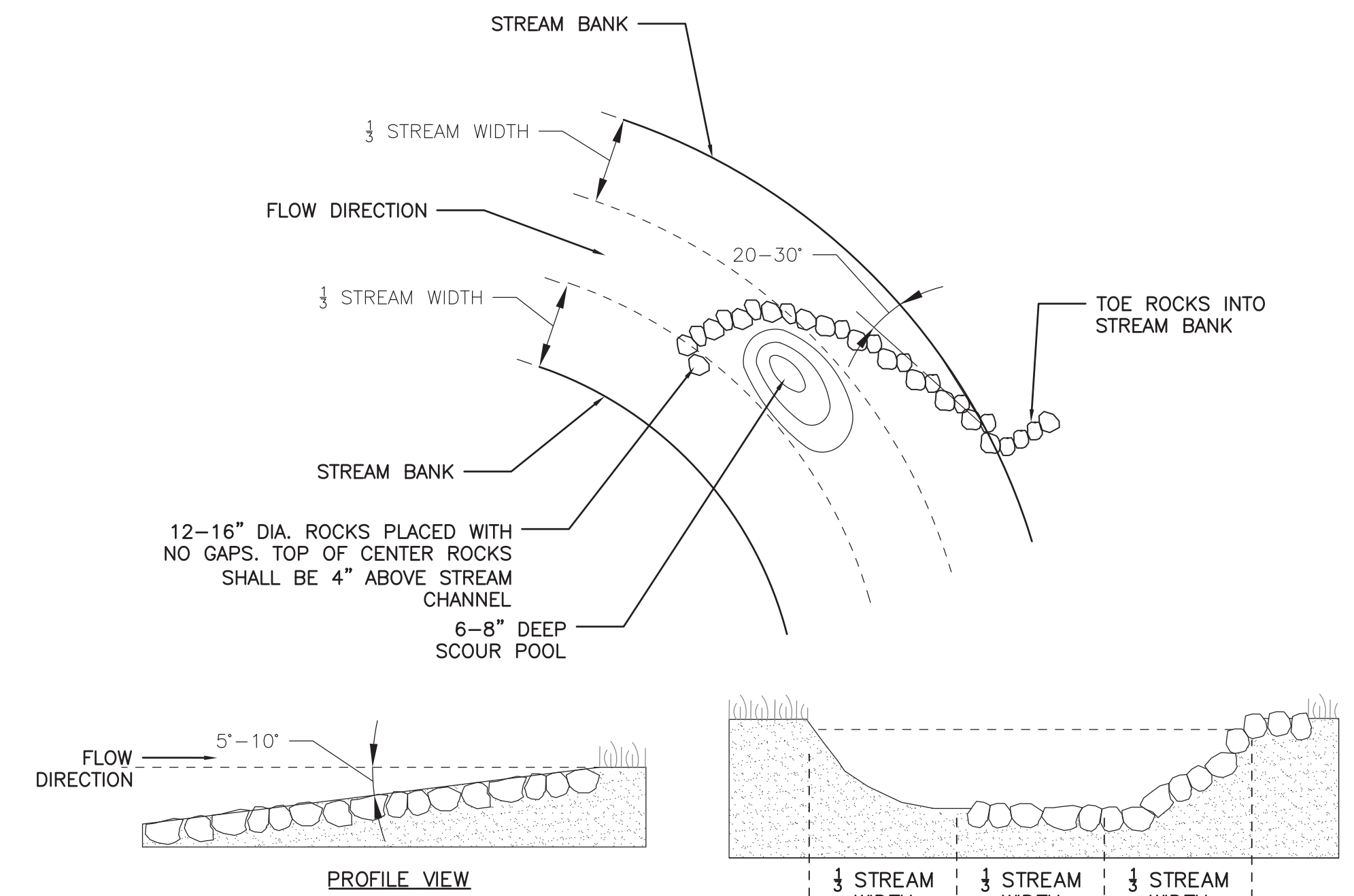


SECTION VIEW
NTS



PROFILE VIEW
NTS

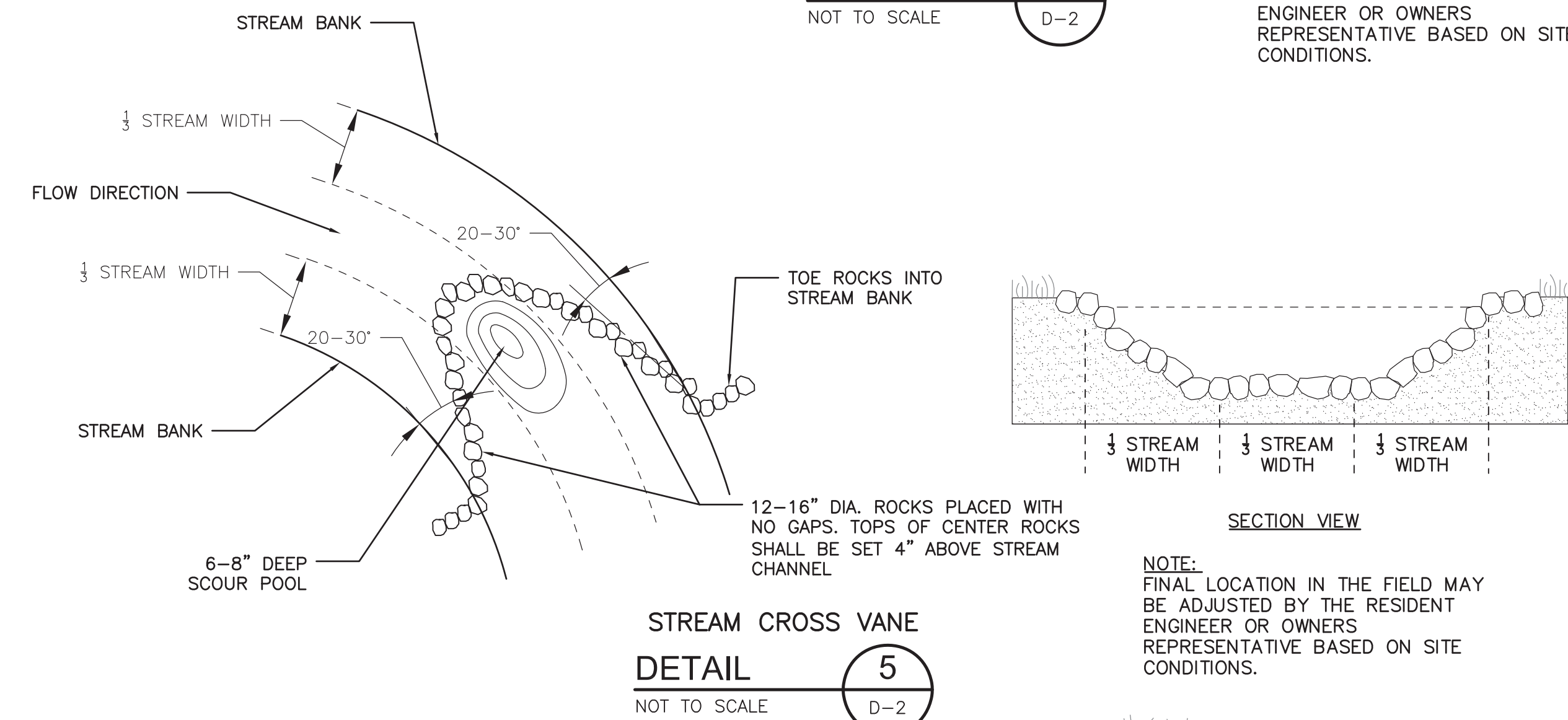
STONE WEIR
DETAIL 3
NOT TO SCALE D-2



J HOOK STREAM VANE

DETAIL 4
NOT TO SCALE D-2

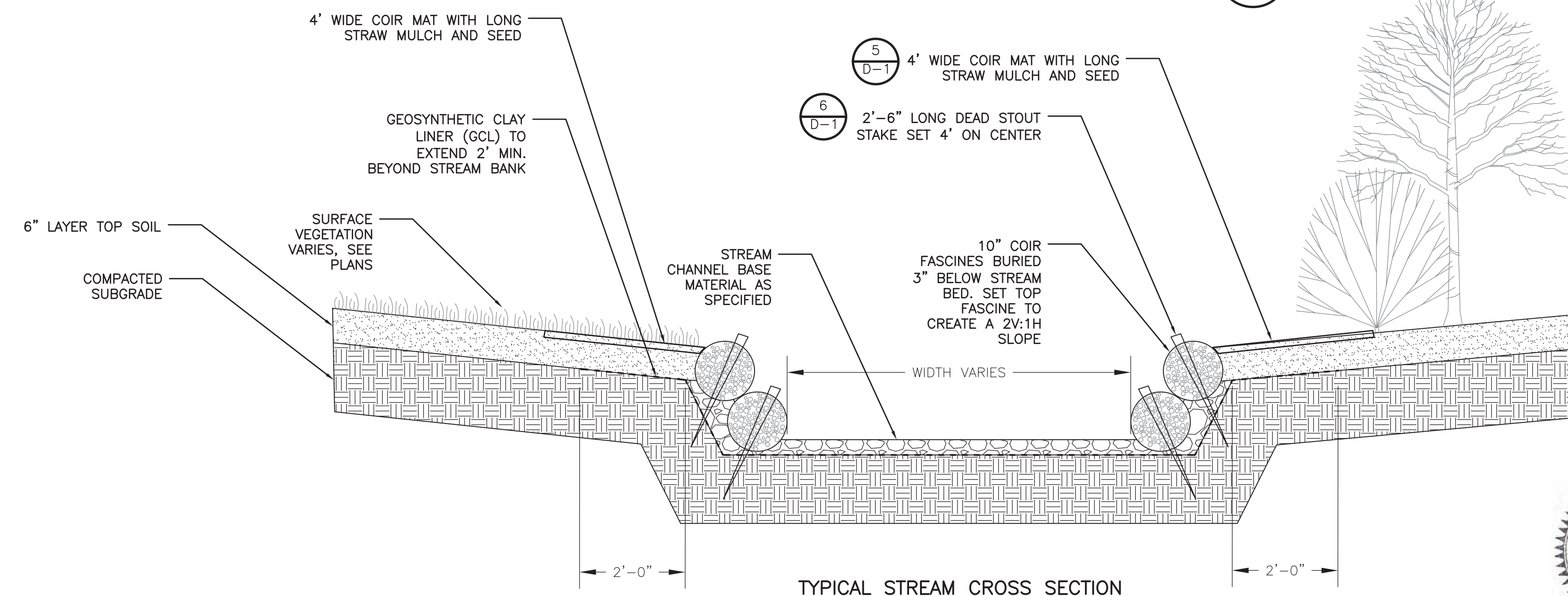
NOTE:
FINAL LOCATION IN THE FIELD MAY BE ADJUSTED BY THE RESIDENT ENGINEER OR OWNERS REPRESENTATIVE BASED ON SITE CONDITIONS.



STREAM CROSS VANE

DETAIL 5
NOT TO SCALE D-2

NOTE:
FINAL LOCATION IN THE FIELD MAY BE ADJUSTED BY THE RESIDENT ENGINEER OR OWNERS REPRESENTATIVE BASED ON SITE CONDITIONS.



TYPICAL STREAM CROSS SECTION

DETAIL 6
NOT TO SCALE D-2



Proj. Mgr.: SB
Designed: JC
Drawn: JC
Checked: AS
Scale: AS NOTED
Date: NOV 2019

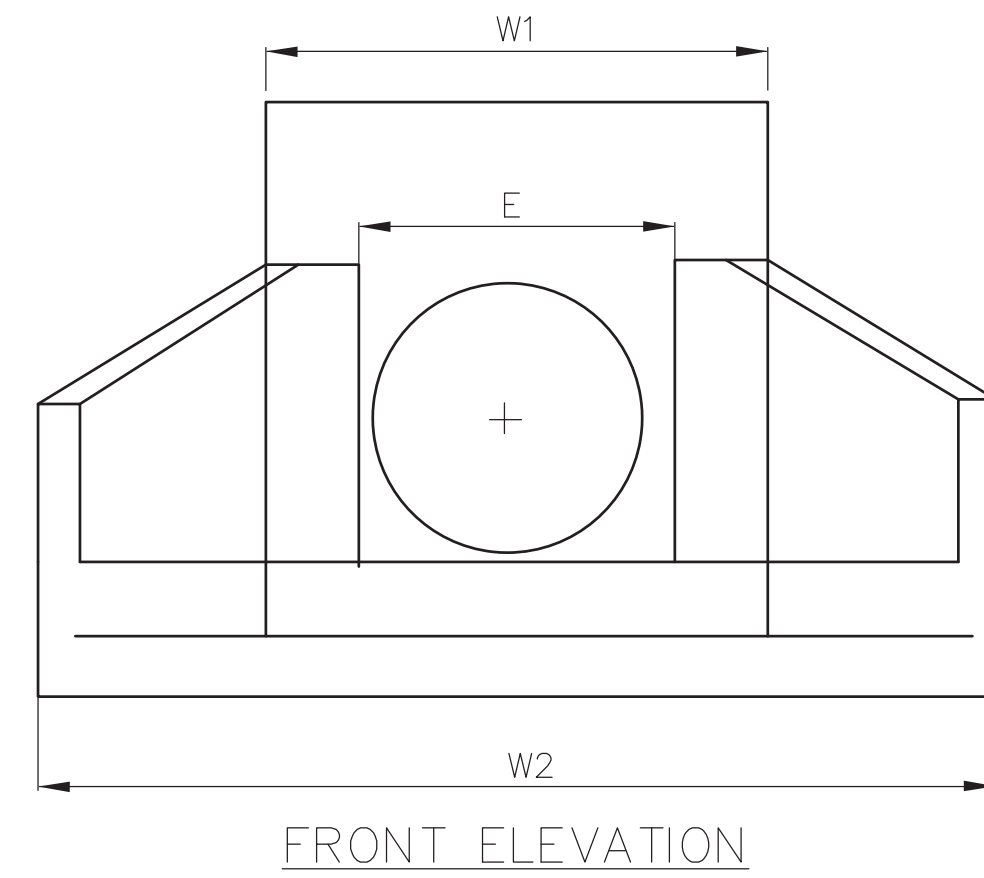
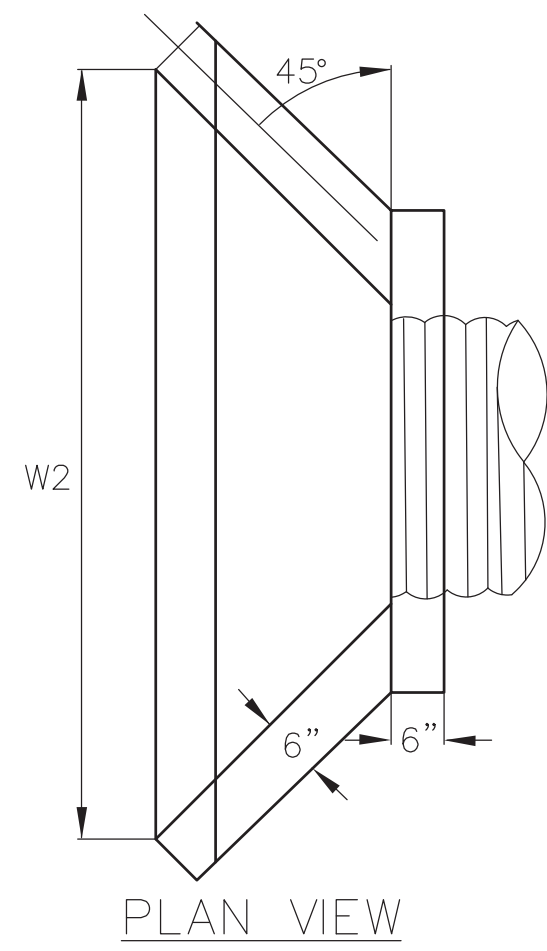
DETAILS II
FERNALD SCHOOL
WALTHAM MA

Proj. No.

Dwg. No.

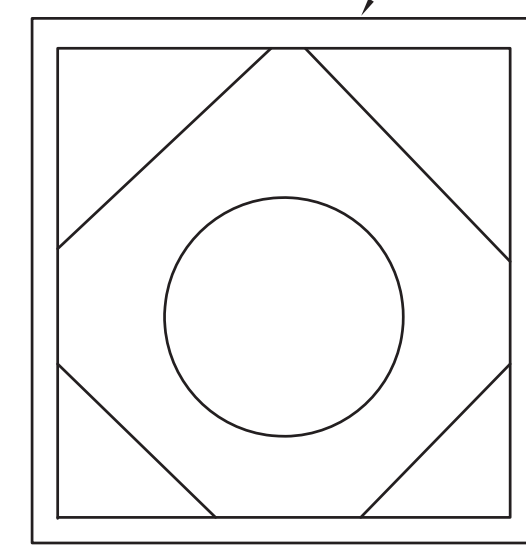
D-2

REVISIONS

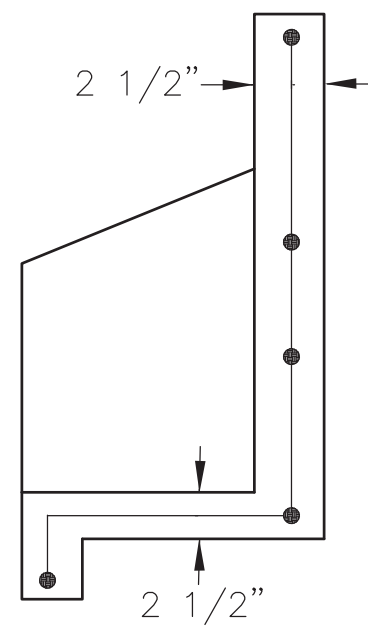


INLET HEADWALL

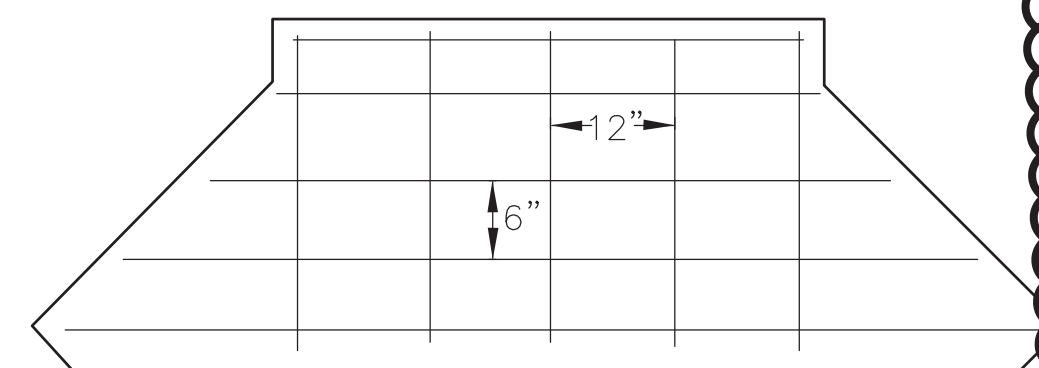
NOTE: HEADWALLS OVER 30" TO HAVE STEEL ON 6" CENTERS EACHWAY (2" CLEARANCE TYP.)



WALL SECTION



BASE & WALL SECTION

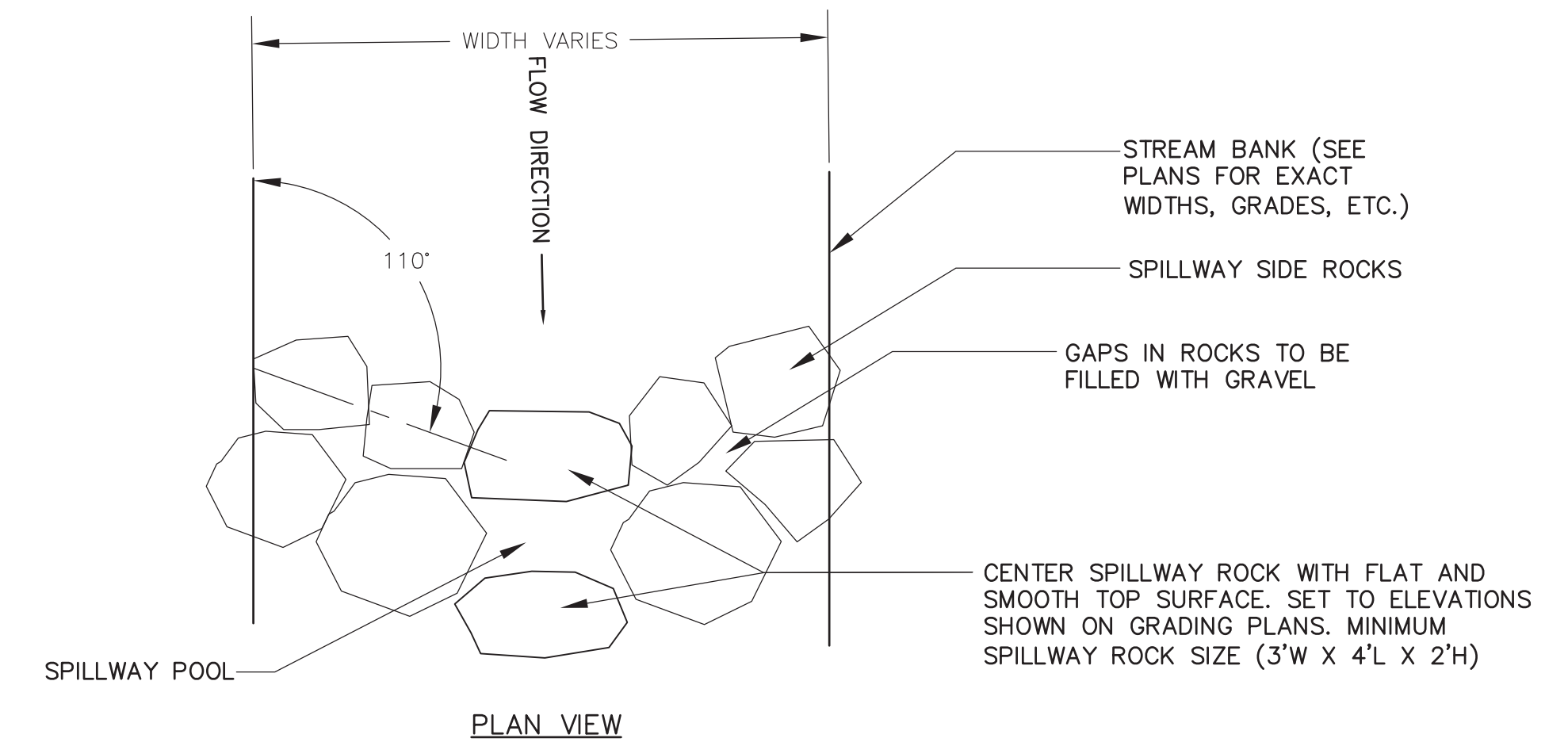


BASE SECTION
N.T.S.

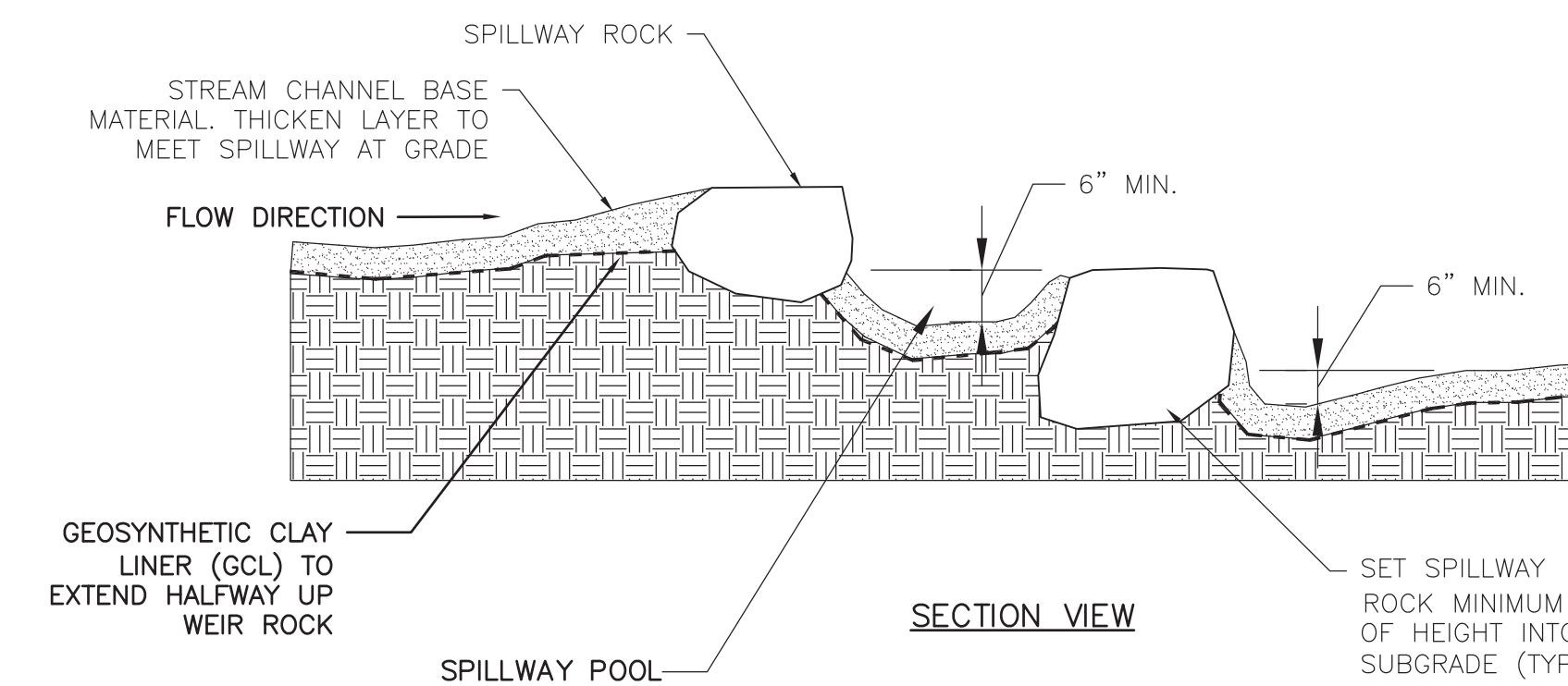
TABLE I
HEADWALL DIMENSION FOR METAL PIPE*

INSIDE DIA. OF PIPE	W1	W2	H1	H2	D	E	WT.	SQ. FT. IN BASE AREA
18"	3' - 2"	4' - 3"	1' - 3"	3' - 2"	1' - 3"	1' - 9"	1,550	7.34
21", 24"	3" - 8"	5' - 3"	1' - 9"	3' - 8"	1' - 6"	2' - 7"	2,100	9.9
30"	4' - 2"	6' - 5"	2' - 0"	4' - 2"	1' - 10"	2' - 9"	2,850	13.5
36"	4' - 8"	7' - 7"	2' - 4"	4' - 8"	2' - 2"	3' - 3"	3,700	17.65
42", 48"	5' - 8"	10' - 1"	3' - 3"	5' - 8"	2' - 11"	4' - 3"	5,600	28.6
54"	6' - 8"	11' - 11"	3' - 3"	6' - 8"	3' - 4"	5' - 3"	7,500	35.6

CONCRETE HEADWALL
DETAIL 1
NOT TO SCALE D-3



PLAN VIEW

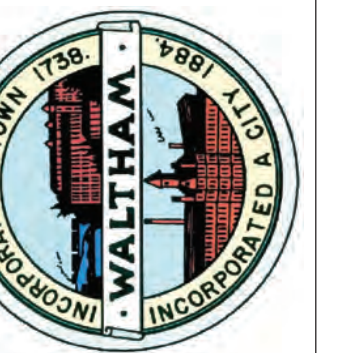


SECTION VIEW

STONE SPILLWAY
DETAIL 2
NOT TO SCALE D-3



REVISIONS



Proj. Mgr.: SB
Designed: JC
Drawn: JC
Checked: AS NOTED
Scale: AS NOTED
Date: NOV 2019

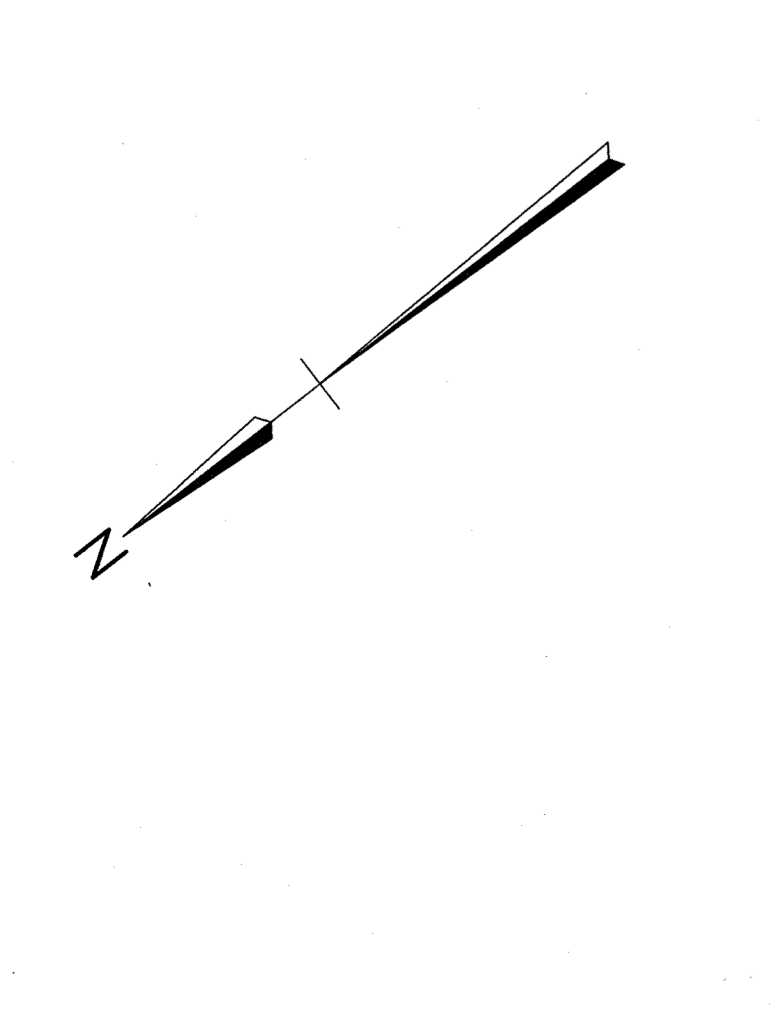
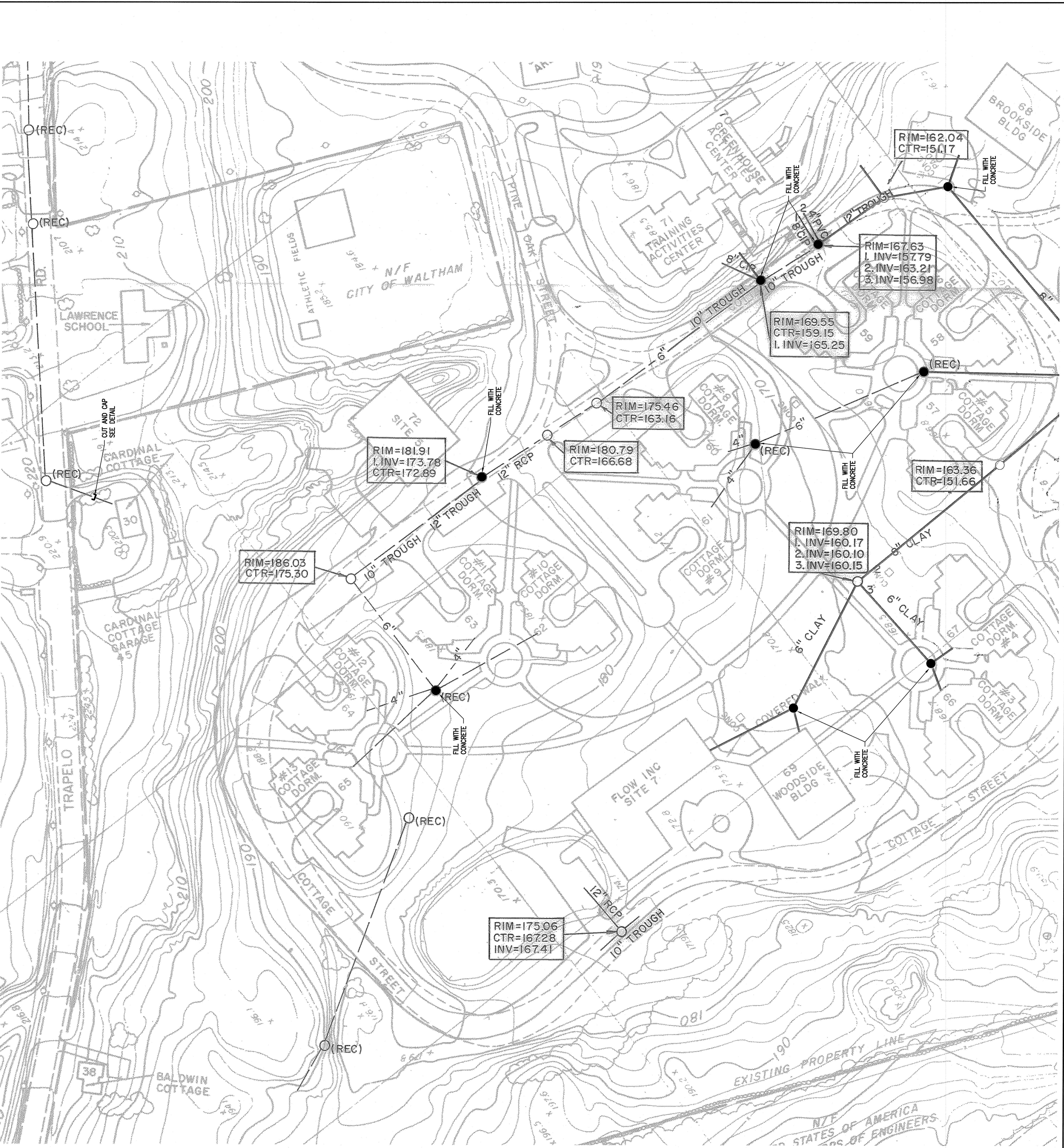
DETAILS III
FERNALD SCHOOL
WALTHAM MA

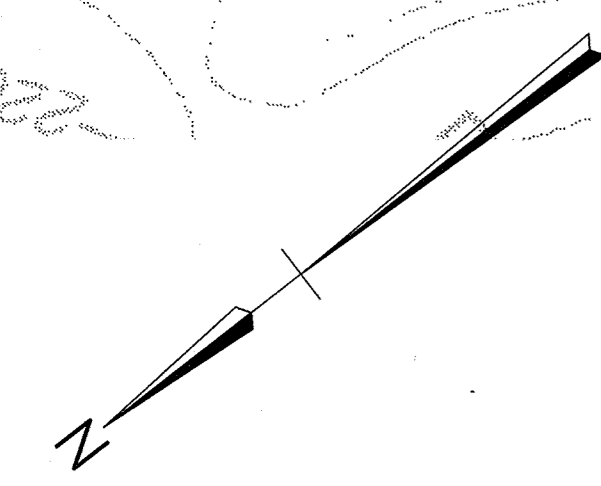
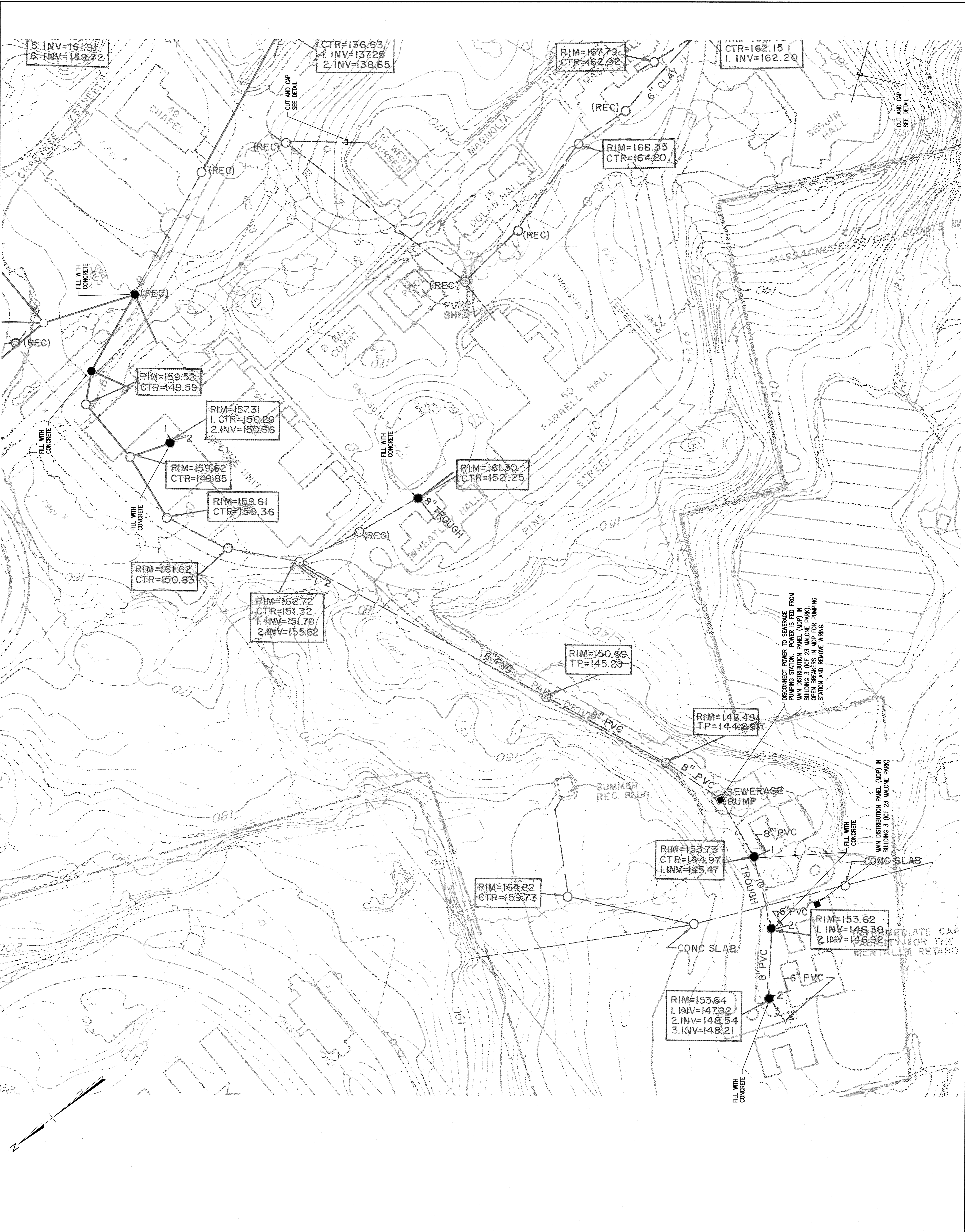
Proj. No.

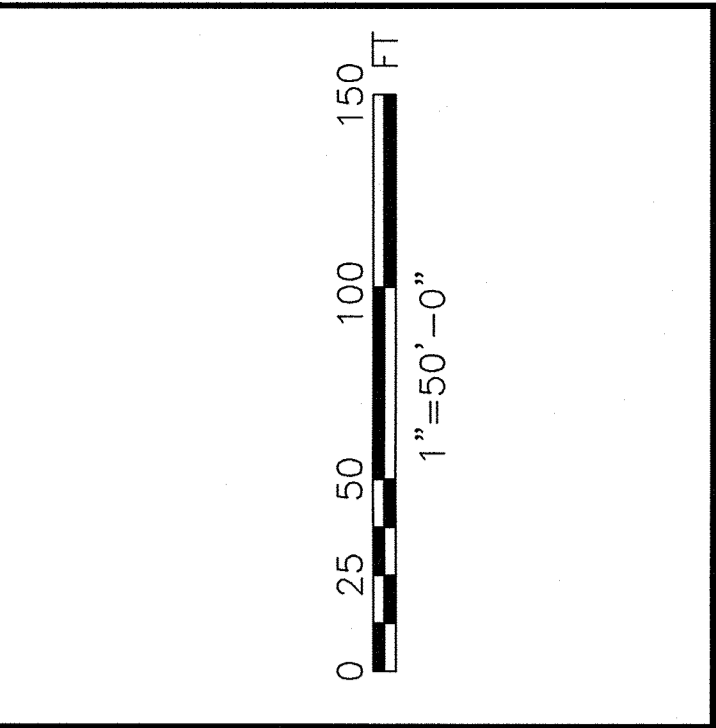
Dwg. No.

D-3

**ATTACHMENT F -
Fernald Center Existing Utility Plans**







Project Name:
**UTILITY CUT
 AND CAP**

DCAM Project Number
 DDS1405HC2

Project Location
**DDS FERNALD
 DEVELOPMENT
 CENTER
 WALTHAM, MA**

Project Consultant
FST
 FAY, SPOFFORD & THORNDIKE
 ENGINEERS, ARCHITECTS
 & SCIENTISTS
 BOSTON, MA
 BQ-213J

Project Architect

Site Number: N/A
 CAMIS Number: DMR 27
 Building Number: N/A
 Secretariat:

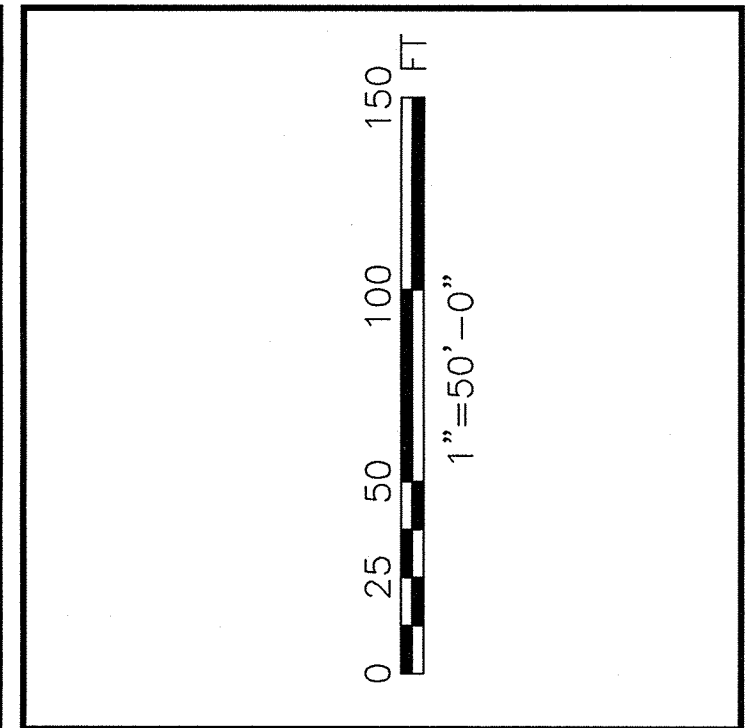
Original Issue Date
FEBRUARY 12, 2015

Revisions
 No. Description Date
100% SUBMISSION

Plan Name:
WATER PLAN 1

Drawing Number:
C-105
 Drawing 7 of 11





Project Name:
 UTILITY CUT
 AND CAP

DCAM Project Number:
 DDS1405HC2

Project Location:
 DDS FERNALD
 DEVELOPMENT
 CENTER
 WALTHAM, MA

Project Consultant:
FST
 FAY SPOFFORD & THORNDIKE
 ENGINEERS PLANNERS SCIENTISTS
 BURLINGTON, MA
 BQ-213J

Project Architect:

Site Number: N/A
CAMS Number: DMR 27
Building Number: N/A
Secretary:

Original Issue Date:
 FEBRUARY 12, 2015

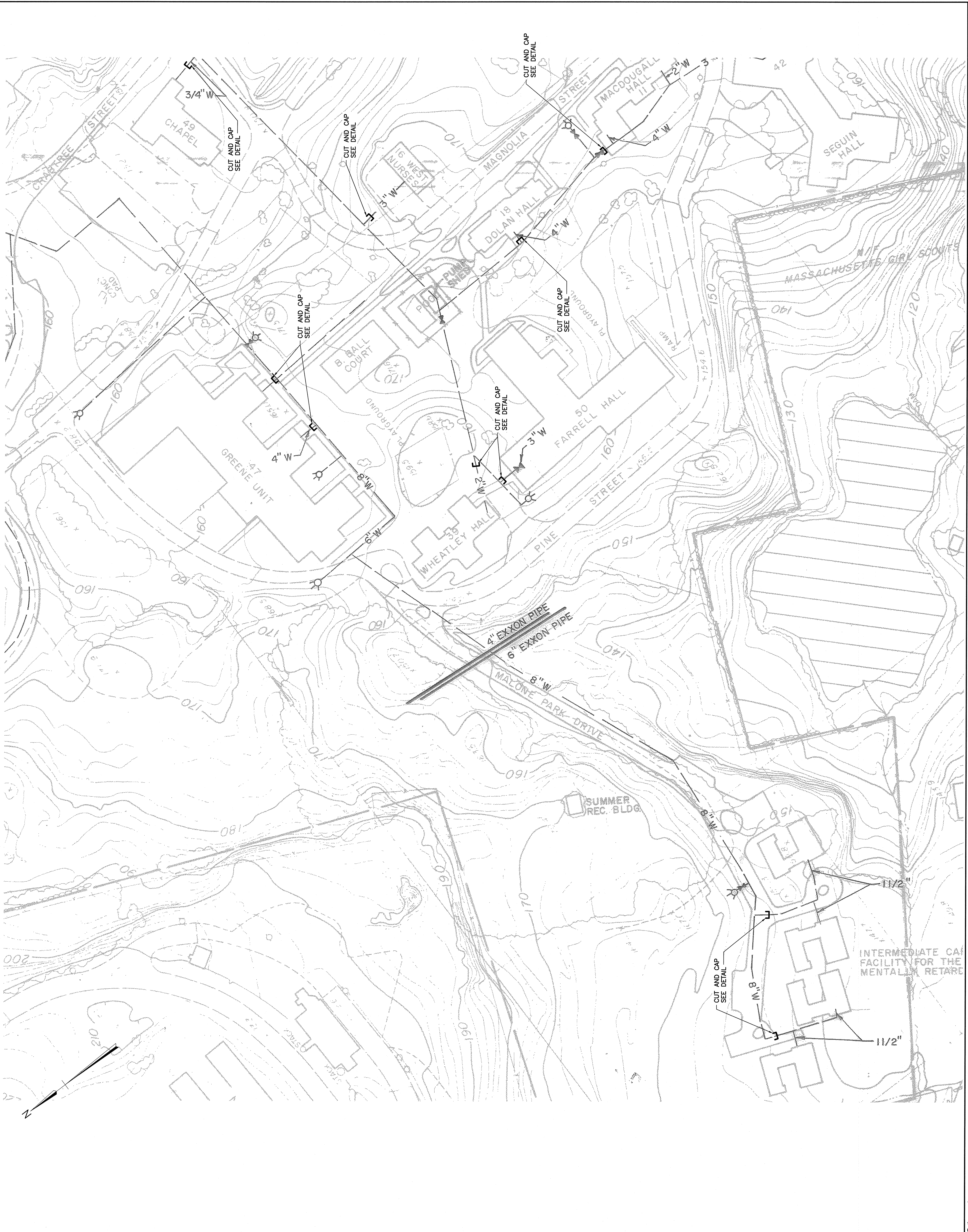
Revisions:

No.	Description	Date
1	100% SUBMISSION	

Plan Name:
 WATER PLAN 1

Drawing Number:
C-108

Drawing: 10 of 11





**FERNALD STATE SCHOOL
WALTHAM, MASSACHUSETTS
NO. MR88-5 STU
UTILITIES MASTER PLAN**

**GANTEAUME AND McMULLEN
ARCHITECTS - ENGINEERS
BOSTON, MASSACHUSETTS**

EXISTING CONDITIONS BY BRYANT ASSOCIATES, INC.

**EXISTING
WATER AND GAS
DISTRIBUTION SYSTEMS**

FIGURE III-1

