

Tuesday February 5, 2019
Medway Planning and Economic Development Board
155 Village Street
Medway, MA 02053

Members	Andy Rodenhiser	Bob Tucker	Tom Gay	Matt Hayes	Rich Di Iulio
Attendance	X	Absent with Notice	X	X	X

The meeting is being broadcast and recorded by Medway Cable Access.

ALSO PRESENT:

Susy Affleck-Childs, Planning and Economic Development Coordinator
Michael Boynton, Town Administrator
Steve Bouley, Tetra Tech (participated remotely)
Gino Carlucci, PGC Associates
Dave D'Amico, DPW Director
Peter Glick, P.E., Symmes, Maini and McKee
Amy Sutherland, Recording Secretary

The Chairman opened the meeting at 7:00 p.m.

There were no Citizen Comments.

DPS Building Site Plan – Public Hearing Continuation

The Chairman opened the continued public hearing for the DPS Building Site Plan.

The Board is in receipt of the following: **(See Attached)**

- Public Hearing Continuation Notice filed with Town Clerk on 1-30-19.
- Response letter dated 1-31-19 from Project Engineer Peter Glick of Symmes, Maini and McKee in response to the previous plan review letters from Tetra Tech & PGC Associates on the initial site plan.
- Updated and additional requests for waivers from the *Site Plan Rules and Regulations*.
- Revised Site Plan dated 1-31-19
- Tetra Tech plan review letter dated 2-1-19
- PGC Associates plan review letter dated 2-4-19
- Letter from DRC dated 2-4- 2019

Town Administrator, Michael Boynton, communicated that the comments from the last public hearing were taken into consideration. The revised plan changes will have little to no impact on the neighbors. The salt shed will be in the exact location as it is currently. Due to the revisions, there will be no need for wetland replication. The DPS Building Committee voted unanimously on the revised changes. It was also recommended to include a condition within the decision that there will be no access from Oakland Street for vehicular traffic.

A presentation was provided to show the revisions to the plan. (**See Attached**) The existing building will be demolished to its slab where a pre-fab structure will be built. The remaining garage will stay as is. The roadway width will be reduced and reconfigured to align and provide a driveway outside of the wetland area. The area where parking had initially been shown has been eliminated so that there is no need for flood plain filling. The 25 ft. wetlands buffer will be maintained. There have been modifications to the stormwater system with the inclusion of a sediment forebay along with a small detention basin. The applicant met with the Fire Chief and the fire alarm system will be located in the front vestibule of the building. The parking on site was explained. The parking spaces will be 10' x 18' to accommodate larger vehicles and pick-up trucks. Medway's minimum parking space size is 9' x 18'. It is the applicant's understanding that the *Zoning Bylaw* supersedes the PEDB regulations. Reduction in the amount of impervious surface will result in lower impact to proposed stormwater design and nearby wetlands. The lighting was discussed next. Engineer Glick explained that there will be no lighting on the exterior of the proposed salt storage and material storage structures. There will be an interior light. There is a minor amount of light spill shown along the property line west of the proposed building, adjacent to the cemetery. Those lights will have shields on them. The Board explained that the *Zoning Bylaw* is clear that there can be no spillage of lighting onto abutting property. The PEDB does not have the ability to waive this requirement. Engineer Glick next explained that a sewer drop manhole was added since this was requested at the last meeting. The roadway width will be 24 ft. There will be saw cutting of existing pavement along with some patching. There will also be "clean" pavement up to building. There is reduction of 13,000 sq. feet of impervious surface in new plan.

Public Questions:

Resident, Erica Pitt- 49 Oakland Street

Ms. Pitt wanted to make sure that the decision will include language about no access on Oakland Street.

Resident, Jeff Anderson, 11 Crook Street

Mr. Anderson wanted to know what utilities will be installed.

The DPW Director responded that there will be water and sewer but no gas.

Waivers:

These are the requested waivers:

- Section 204- 3.A.7.a - Traffic Impact
- Section 204- 3.A.7.b - Environmental Impact
- Section 204- 3.A.7.c - Community Impact
- Section 204- 3.A.7.d - Parking Impact
- Section 205- 9.D. - Landscaping Screening
- Section 205- 3.D. - Pedestrian and Bicycle Assess and Connection
- Section 205- 9.D. - Landscaping Screening
- Section 204- 5.C.(3) - Existing Landscaping Inventory
- Section 205- 5.D.(7) - Landscape Architectural Plan
- Section 205- 9.C. - Interior Landscaping

The Board does not have any issues with the requested waivers.

The Board discussed what conditions should be included in the decision:

- Make sure there is language about the lighting
- Include language about the hours of operation
- Provide language explaining that the fabric structures will be standard gray and not white.
- Have a condition which includes language that the salt needs to be covered per DEP requirements.

The Town Administrator indicated that he would like to go out for bids on February 20, 2019. It is the goal that the bids will be opened March 14, 2019.

The draft decision will be written and forwarded to all parties for review.

MILLSTONE ARCPUD – Stormwater and Bond:

The Board is in receipt of the following: (See Attached)

- Letter dated 1-23-19 from Rob Truax of GLM Engineering
- Supplemental stormwater calculations dated 1-23-19 prepared by GLM Engineering
- Review letter from Steve Bouley dated 1-31-19

The Board was made aware that Rob Truax from GLM Engineering has been informed that the bond will not be considered at this meeting. GLM Engineering is proposing modifications to the Millstone stormwater system. That proposal has been reviewed by Tetra Tech. Mr. Truax has been asked to address the comments from Tetra Tech. The revised documents will be prepared and presented to Tetra Tech for further review. The modification will be done to the existing drainage system to mitigate the loss in recharge capacity from the elevated groundwater found within Leaching Basin 4P. The applicant is also providing recharge units to capture roof run off from proposed dwelling units, along with providing additional roof recharge for Units 26, 27, & 28, and expansion of the leaching area 6P recharge system. This topic will be placed on a future agenda once the revisions are submitted and reviewed by Tetra Tech.

CORRESPONDENCE:

- Collection of emails among Mark Heavner (Medway Green), Dave D'Amico and Town Administrator Michael Boynton regarding the removal of two public parking spaces in front of 176-178 Main Street.
- Conflict of Interest Training paperwork needs to be completed by members.

FUTURE MEETING:

- Tuesday, February 12 & 26, 2019

ADJOURN:

On a motion made by Rich Di Iulio and seconded by Tom Gay, the Board voted unanimously to adjourn the meeting.

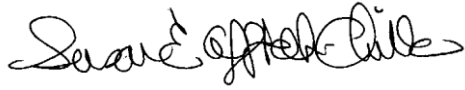
The meeting was adjourned at 8:00 p.m.

Prepared by,



Amy Sutherland
Recording Secretary

Reviewed and edited by,

A handwritten signature in black ink, appearing to read "Susan E. Affleck-Childs". The signature is fluid and cursive, with the first name "Susan" being the most prominent.

Susan E. Affleck-Childs
Planning and Economic Development Coordinator



February 5, 2019
Medway Planning & Economic Development Board
Meeting

DPS Building Site Plan – Public Hearing
Continuation

UPDATED

- Public Hearing Continuation Notice filed with Town Clerk on 1-30-19
- Response letter dated 1-31-19 from project engineer Peter Glick of Symmes, Maini and McKee in response to the previous review letters from Tetra Tech & PGC Associates on the initial site plan
- Updated and additional Requests for Waivers from the *Site Plan Rules and Regulations*
- Revised site plan dated 1-31-19 which reflects relocating the salt and storage buildings away from the eastern side of the site.

The above information was received on January 31st and I forwarded it immediately to Steve Bouley and Gino Carlucci. **Their review letters are attached.**

- **Tetra Tech letter dated February 1, 2019**
- **PGC Associates letter dated February 4, 2019**

On Tuesday night, the PEDB will review the revised plan and discuss the waiver requests. Then I will prepare a draft decision for your review, deliberation and action at the February 12th meeting.



TOWN OF MEDWAY
Planning & Economic Development Board
155 Village Street
Medway, Massachusetts 02053

*Andy Rodenhiser, Chairman
Robert K. Tucker, Vice-Chairman
Thomas A. Gay, Clerk
Matthew Hayes, P.E.
Richard Di Iulio*

MEMORANDUM

January 30, 2019

TO: Maryjane White, Town Clerk
Town of Medway Departments, Boards and Committees

FROM: Susy Affleck-Childs, Planning & Economic Development Coordinator

RE: **Public Hearing Continuation: Medway DPS Building Site Plan (46 Broad Street)**
CONTINUATION DATE: Tuesday, February 5, 2019 at 7:00 p.m.
LOCATION: Medway Town Hall – Sanford Hall, 155 Village Street

At its meeting on January 29, 2019, the Planning and Economic Development Board (PEDB) voted to approve the applicant's request to continue the public hearing on the application of the Town of Medway for major site plan approval to construct a Department of Public Services (DPS) building and make a series of site improvements at 46 Broad Street to a special PEDB meeting to be held on Tuesday, February 5, 2019 at 7:00 p.m. in Sanford Hall at Medway Town Hall, 155 Village Street.

The proposed project includes construction of an approximately 33,000 sq. ft., two story DPS building on the existing DPS site located at 46 Broad Street. There will also be two separate prefabricated storage buildings, one for salt storage (4,500 sq. ft.) and the other for materials storage (2,300 sq. ft.) The new building will be accessed through the existing DPS facility via Broad Street. The project includes paved parking for a total of 29 staff and visitor vehicles and 15 truck parking spaces to be located under overhead canopies where solar panels may be installed. There will be 21 truck spaces within the building garage to service and store DPS vehicles along with office space. Other site improvements include lighting, landscaping, and stormwater management facilities. Utilities including natural gas, water and sewer will be extended to the DPS facility from Winter Street. The planned improvements are shown on *New Medway DPS Building Site Plan* dated December 20, 2018, prepared by Helene Karl Architects of Groton, MA and Symmes, Maini and McKee Associates of Cambridge, MA.

The application and associated documents are on file with the Medway Town Clerk and at the office of the Planning and Economic Development Board at Medway Town Hall, 155 Village Street and may be reviewed during regular business hours. The materials are also posted at the Planning and Economic Development Board's web page at: <https://www.townofmedway.org/planning-economic-development-board/pages/current-development-applications>

If Town staff, boards and committees wish to provide comments on the proposed site plan, please do so by January 31st so that I can share them with the Board and the applicant and enter them into the public record during the hearing on February 5th.

Please contact me if you have any questions. Thanks.

Telephone: 508-533-3291 Fax: 508-321-4987
planningboard@townofmedway.org

January 31, 2019

Andy Rodenhiser
Chairman
Medway Planning and Economic Development Board
Medway Town Hall
155 Village Street
Medway, MA 02053

Re: HKA/Medway New DPS Building

Site Plan Approval - Response to Peer Review Comments

SMMA No. 18043

Dear Mr. Chairman:

Please see the following responses to comments received from PGC Associates, LLC, in a letter dated December 27, 2018 and Tetra Tech in a letter dated January 3, 2019. Attached is package of supplemental information and updated plans dated January 31, 2019, that address the comments restated below.

PGC Associates, LLC, Letter dated January 3, 2019

Zoning

1. Municipal uses are allowed in any district, so the proposed use is allowed by right.

Response: No response necessary.

2. As noted in the application, there is no specified parking minimum for the proposed use. The plan proposes 29 staff and visitor parking spaces, including 2 van-accessible handicapped spaces, as well as 15 exterior truck spaces under a canopy and space for 21 trucks within the building. No bicycling parking is proposed, and no waiver is requested.

Response: A waiver request for relief of the bicycling parking requirement is enclosed with this letter.

3. Section 7.1 states that light trespass onto any abutting street or lot is not permitted. The photometric plan shows compliance with this requirement.

Response: No response necessary.

4. The plans indicate a sign on the proposed building. It is not clear if any freestanding sign is proposed.

Response: No freestanding sign is proposed as part of this application. The Town DPS will pursue a sign separately.

5. The project is within a groundwater protection district, which requires a special permit for certain activities. The special permit is not triggered by the amount of proposed impervious surface. However, storage of deicing chemicals is prohibited "unless such storage, including loading areas, is within a structure designed to prevent the generation and escape of contaminated leachate." It is assumed that the new salt storage shed complies with this requirement, but it should be verified.

Response: The salt storage shed is enclosed preventing generation and escape of contaminated leachate.

Site Plan Rules and Regulations

6. Section 204.3 A. (7) requires a Development Impact Report. This is not provided, and a waiver from this requirement is requested. The waiver is justified since the project is essentially a replacement for an existing facility. The proposal does not trigger a traffic or parking impact study since it is increasing spaces by less than 30. It does trigger an environmental impact study since the buildings are greater than 15,000 square feet, but that is essentially covered by the stormwater management review and Order of Conditions from Conservation Commission. A community impact study is also not warranted due to the project being a replacement for an existing facility.

Response: No response necessary.

7. Section 204-5 C. (3). The Existing Conditions Sheet also does not include an Existing Landscape Inventory prepared by a Landscape Architect. No waiver is requested. The site is already partially disturbed.

Response: A waiver request for relief of the Existing Landscape Inventory requirement is enclosed with this letter.

8. Section 204-5 D (3) requires location of waste disposal facilities be shown. It is not clear if this will be handled within the building or if an exterior dumpster will be required.

Response: The dumpster will be located within the building.

9. Section 204-5 D. (7) requires that a landscape architect prepare the landscape plan. A planting plan was prepared by an architect, not a landscape architect and no waiver was requested.

Response: A waiver request for relief of the preparation of a planting plan by a Landscape Architect requirement is enclosed with this letter.

10. Section 204-5 D. (12) requires a signage plan indicating the design, location, materials, dimensions and lighting. As stated above, the plan shows a sign on the building in a color rendering but no details are provided. Also, there is no indication of a building sign.

Response: No freestanding sign is proposed as part of this application. The Town DPS will pursue a sign separately.

11. Section 204-5 (16) requires information about fire prevention and suppression.

Response: The proposed building will be fully sprinklered in accordance with 780 CMR.

12. Section 205-6 G (4)(d) requires a 12' x 20' maneuvering area at the end of a dead-end row of parking. This was not provided.

Response: A 12' x 28' maneuvering area is provided at the end of the parking area. See revised Drawing C-121.

13. Section 205-9 C requires that there be substantial landscaped islands within parking lots to reduce the "sea of asphalt" effect. More specifically, Section 209-6 C requires at least 1 deciduous tree per 6 spaces and only trees that provide shade to the parking area are to count toward this requirement. No landscaped islands are shown within the parking lot. Also, with 29 spaces, 5 trees are required. Only 2 trees are shown on the plans and these are located in front of the building and do not appear to provide shade to the parking area.

Response: The Waiver Request for relief of Section 205-9-C for interior landscaping is enclosed with this letter.

14. Section 205-9 D requires screening of the facility. No additional screening is proposed and a waiver is requested based on the fact that existing screening is sufficient.

Response: No response necessary.

General Comments

15. The plan appears to meet the criteria specified in Section 203-9 C.

Response: No response necessary.

16. The building is designed as a net zero energy consumer with efficient insulation and solar panels. However, the Project Overview states the roof will have an R-value of 40 while the code is R-30. However, the Stretch Code, which applies to Medway, indicates a required roof R-value of 49. It may be that there is a lower R-value for this type of building. This should be clarified.

Response: The building is designed in accordance with 780 CMR 9th Addition, which references the 2015 IECC and the Stretch Energy Code. The building area is under 100,000 SF. Table C402.1.4, Climate Zone 5 requires R-32.

17. The zoning table on the Layout and Materials Sheet shows the district as "Industrial Highway." This should be corrected.

Response: The Zoning District was corrected on the enclosed Drawing C-121.

Tetra Tech (TT), Letter dated January 3, 2019

1) The applicant has not supplied a written Development Impact Statement. A waiver has been requested from this Regulation. (Ch. 200 §204-3.A.7)

Response: No response necessary.

2) The site plan sheets submitted do not contain the Planning and Economic Development Board signature block. (Ch. 200 §204-4.F)

Response: The Planning and Economic Development Board signature block has been added to the Site Plans.

3) Project assessors map and parcel number and list of requested waivers are not shown on the cover sheet. (Ch. 200 §204-5.A)

Response: The assessors map and parcel number, and list of requested waivers has been added to the enclosed Cover Sheet.

4) Existing underground utilities are not shown on the Existing Conditions Plan I, Sheet C-101. (Ch. 200 §204-5.C.1)

Response: The existing underground utilities to the extent available from record plans and as field surveyed are shown on Sheet C-101.

5) The applicant has not supplied an Existing Landscape Inventory. A waiver has been requested from this Regulation. (Ch. 200 §204-5.C.3)

Response: A waiver request for relief of the Existing Landscape Inventory requirement is enclosed with this letter.

6) Dimensions of proposed buildings and structures have not been provided on the Plans. (Ch. 200 §204-5.D.1)

Response: The proposed building and structure dimensions have been added to Drawing C-121.

7) Setbacks from property lines to proposed parking limits and curb radii have not been included on the Plans. (Ch. 200 §204-5.D.2)

Response: Setbacks from property lines to proposed parking limits and curb radii have been added to Drawing C-121.

8) Proposed contours have not been provided on Grading and Utility Plan. (Ch. 200 §204-5.D.4)

Response: Proposed contours have been added to Drawing C-131 and C-132.

- 9) Existing trees with a diameter of one (1) foot or greater at four (4) feet above grade have not been identified on the Planting Plan (Ch. 200 §204-5.D.7)

Response: A waiver request for relief of the Existing Landscape Inventory requirement is enclosed with this letter.

- 10) The applicant has not supplied parking information on the zoning table. (Ch. 200 §204-5.D.15)

Response: A Parking Table has been added to Drawing C-121.

- 11) The table outlining the proposal's conformance with zoning requirements is titled with "Industrial Highway (IH)," a zoning district not found in Medway. Please change the zoning district to "Agricultural Residential I (AR-I)" and confirm the zoning requirements in the table are correct. (Ch. 200 §204-5.D.15)

Response: The Zoning Table on Drawing C-121 has been revised to show the Agricultural Residential Zone.

- 12) Location of fire alarm boxes and fire truck turning movements are not provided on the Plans. Confirmation of review of plan from Medway Fire Chief recommended. (Ch. 200 §204-5.D.16)

Response: The fire alarm panel will be located in the front vestibule of the building. The applicant attended a technical review meeting with the Fire Department.

- 13) Designated employee parking areas have not been shown on the Plans. (Ch. 200 §205-6.C)

Response: Designated employee parking areas are shown on Drawing C-121.

- 14) The applicant is proposing 10' x 18' standard parking stalls which do not comply with the Regulations. (Ch. 200 §205-6.G.3.a)

Response: The standard parking spaces shown are 10' x 18' feet. The Medway Zoning Bylaw Section 7.1.1. E.- General Requirements, Paragraph 3.a. states that standard parking spaces are to be 9' x 18'.

- 15) Proposed foot-candle readings exceed the minimum allowed by the Regulation at the property lines. Light spill onto neighboring properties should not occur at the site from proposed lighting. Table and abbreviation list located on the Lighting Layouts & Schedules sheet are illegible and require text edits. (Ch. 200 §205-8)

Response: The revised lighting plan is enclosed with this letter, which shows that there is no overflow of light beyond the property.

- 16) The applicant has not provided existing tree inventory of the site and thus cannot determine if tree replacement is necessary or how many trees will be required to be replaced. A waiver has been requested from this Regulation. (Ch. 200 §205-9.F)

Response: A waiver request for relief of the Existing Landscape Inventory requirement is enclosed with this letter.

The following is a list of general items that TT recommends the applicant take into consideration prior to the next submission:

- 17) We recommend the applicant reconsider alignment of proposed driveway to limit impact to wetland resource area.

Response: The revised Site Plans include a reduced width and realigned drive that avoids wetland resource area impacts.

- 18) We recommend the applicant provide detail of proposed sewer drop manhole.

Response: A Sewer Drop Manhole Detail was added to Drawing C-505.

Andy Rodenhiser

January 31, 2019

- 19) It appears the plan is to maintain a gravel surface once existing buildings are demolished at the existing DPS facility. We recommend the applicant confirm cover type at these locations.

Response: The revised plan includes demolition of the existing salt storage and material shed. The proposed salt storage and material storage structures will be situated on the footprint of the existing building. The surface cover will remain the same as existing conditions.

Very truly yours,

SMMA



Peter S. Glick, PE
Senior Associate

cc: Bryan Jarvis, Laureen Westman, Gregg Yanchenko (MF)

enclosures: Drawings

1000 Massachusetts Avenue
Cambridge, MA 02138
617.547.5400

www.smma.com

Medway Planning and Economic Development Board
Request for Waiver from Site Plan Rules and Regulations
Complete 1 form for each waiver request

Project Name:	Medway New DPS Building
Property Location:	46 Broad Street
Type of Project/Permit:	Site Plan Review (Major)
Identify the number and title of the relevant Section of the Site Plan 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.	"A full Traffic Impact Assessment is needed if the project involves one or more of the following characteristics: (a) proposes an additional thirty (30) or more parking spaces"
What aspect of the Regulation do you propose be waived?	Traffic Impact Assessment
What do you propose instead?	See Project Description for Traffic Narrative
Explanation/justification for the waiver request. Why is the waiver needed? Describe the extenuating circumstances that necessitate the waiver request.	The new DPS facility is going to be constructed on the same site as the existing facility. There is no additional traffic or traffic patterns planned for the new facility. Traffic will continue to function as it currently does at the existing facility on the same routes.
What is the estimated value/cost savings to the applicant if the waiver is granted?	\$8,000
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?	Approval of the waiver would save the Town project funds that can be used elsewhere in the project.
What is the impact on the development if this waiver is denied?	Time and money added to the project.
What are the design alternatives to granting this waiver?	N/A
Why is granting this waiver in the Town's best interest?	Time and money added to the project.
If this waiver is granted, what is the estimated cost savings and/or cost avoidance to the Town?	\$8,000
What mitigation measures do you propose to offset not complying with the particular Rule/Regulation?	N/A
What is the estimated value of the proposed mitigation measures?	N/A
Other Information?	N/A
Waiver Request Prepared By:	Peter Glick, PE
Date:	12/19/2018
Questions?? - Please contact the Medway PED office at 508-533-3291.	

Medway Planning and Economic Development Board
Request for Waiver from Site Plan Rules and Regulations
Complete 1 form for each waiver request

Project Name:	<i>Medway New DPS Building</i>
Property Location:	<i>46 Broad Street</i>
Type of Project/Permit:	<i>Site Plan Review (Major)</i>
Identify the number and title of the relevant Section of the Site Plan Rules and Regulations from which a waiver is sought.	Section 204-3.A.7.b - Environmental Impact
Summarize the text of the relevant Section of the Rules and Regulations from which a waiver is requested.	"An Environmental Impact Assessment describes the impacts if the project involves one or more of the following characteristics: a, b & c.
What aspect of the Regulation do you propose be waived?	Environmental Impact Assessment
What do you propose instead?	See Project Description for narrative on resource area protection and stormwater management and treatment.
Explanation/justification for the waiver request. Why is the waiver needed? Describe the extenuating circumstances that necessitate the waiver request.	The new DPS facility is going to be constructed on the same site as the existing facility. Environmental impacts are mainly associated with the wetland protection and stormwater management. Other environmental impacts are the same as those that currently exist on the project site.
What is the estimated value/cost savings to the applicant if the waiver is granted?	\$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?	Approval of the waiver would save the Town project funds that can be used elsewhere in the project.
What is the impact on the development if this waiver is denied?	Time and money added to the project.
What are the design alternatives to granting this waiver?	N/A
Why is granting this waiver in the Town's best interest?	Time and money added to the project.
If this waiver is granted, what is the estimated cost savings and/or cost avoidance to the Town?	\$10,000
What mitigation measures do you propose to offset not complying with the particular Rule/Regulation?	Wetland replication, 25' buffer zone restoration, stormwater management and treatment are proposed for the project site. Existing buildings being removed will be restored to previous coverage.
What is the estimated value of the proposed mitigation measures?	\$20,000
Other Information?	N/A
Waiver Request Prepared By:	Peter Glick, PE
Date:	12/19/2018

Medway Planning and Economic Development Board
Request for Waiver from Site Plan Rules and Regulations
Complete 1 form for each waiver request

Project Name:	Medway New DPS Building
Property Location:	46 Broad Street
Type of Project/Permit:	Site Plan Review (Major)
Identify the number and title of the relevant Section of the Site Plan Rules and Regulations from which a waiver is sought.	Section 204-3.A.7.c - Community Impact
Summarize the text of the relevant Section of the Rules and Regulations from which a waiver is requested.	"A Community Impact Assessment evaluates the impacts of the proposed development to the community".
What aspect of the Regulation do you propose be waived?	Community Impact Assessment
What do you propose instead?	See Project Description for narrative on the existing facility and the proposed facility.
Explanation/justification for the waiver request. Why is the waiver needed? Describe the extenuating circumstances that necessitate the waiver request.	The new DPS facility is going to be constructed on the same site as the existing facility. The community impacts will not be increased from those that occur today. Measures are being taken as described in the project narrative and shown on the project drawings to minimize impacts to the neighborhood and community in general.
What is the estimated value/cost savings to the applicant if the waiver is granted?	\$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?	Approval of the waiver would save the Town project funds that can be used elsewhere in the project.
What is the impact on the development if this waiver is denied?	Time and money added to the project.
What are the design alternatives to granting this waiver?	An alternative site for the DPS facility would pose greater impacts to the community since the current impacts are already realized.
Why is granting this waiver in the Town's best interest?	Time and money added to the project.
If this waiver is granted, what is the estimated cost savings and/or cost avoidance to the Town?	\$10,000
What mitigation measures do you propose to offset not complying with the particular Rule/Regulation?	N/A
What is the estimated value of the proposed mitigation measures?	N/A
Other Information?	N/A
Waiver Request Prepared By:	Peter Glick, PE
Date:	12/19/2018

Medway Planning and Economic Development Board
Request for Waiver from Site Plan Rules and Regulations
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Project Name:	Medway New DPS Building
Property Location:	46 Broad Street
Type of Project/Permit:	Site Plan Review (Major)
Identify the number and title of the relevant Section of the Site Plan Rules and Regulations from which a waiver is sought.	Section 204-3.A.7.d - Parking Impact
Summarize the text of the relevant Section of the Rules and Regulations from which a waiver is requested.	"A Parking Impact Assessment is needed if the project proposes an additional thirty (30) or more parking spaces"
What aspect of the Regulation do you propose be waived?	Parking Impact Assessment
What do you propose instead?	See Project Description for narrative on the proposed parking.
Explanation/justification for the waiver request. Why is the waiver needed? Describe the extenuating circumstances that necessitate the waiver request.	The new DPS facility is going to be constructed on the same site as the existing facility. Parking is proposed as determined by the DPS to adequately support the DPS services and visitors. Parking is described in more detail in the project narrative.
What is the estimated value/cost savings to the applicant if the waiver is granted?	\$5,000
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?	Approval of the waiver would save the Town project funds that can be used elsewhere in the project.
What is the impact on the development if this waiver is denied?	Time and money added to the project.
What are the design alternatives to granting this waiver?	Adequate parking is being provided as determined by the DPS.
Why is granting this waiver in the Town's best interest?	Time and money added to the project.
If this waiver is granted, what is the estimated cost savings and/or cost avoidance to the Town?	\$5,000
What mitigation measures do you propose to offset not complying with the particular Rule/Regulation?	N/A
What is the estimated value of the proposed mitigation measures?	N/A
Other Information?	N/A
Waiver Request Prepared By:	Peter Glick, PE
Date:	12/19/2018
Questions?? - Please contact the Medway PED office at 508-533-3291.	

Medway Planning and Economic Development Board
Request for Waiver from Site Plan Rules and Regulations
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Project Name:	Medway New DPS Building
Property Location:	46 Broad Street
Type of Project/Permit:	Site Plan Review (Major)
Identify the number and title of the relevant Section of the Site Plan Rules and Regulations from which a waiver is sought.	Section 205-9.D Landscaping Screening
Summarize the text of the relevant Section of the Rules and Regulations from which a waiver is requested.	Landscape buffers and perimeter landscaping, parking areas, screening.
What aspect of the Regulation do you propose be waived?	Landscape buffers and perimeter landscaping.
What do you propose instead?	Planting will be included to the extent practicable. Much of the disturbed areas of the site will be seeded with appropriate seed mixture to eventually naturalize similar to adjacent meadows and woodlands.
Explanation/justification for the waiver request. Why is the waiver needed? Describe the extenuating circumstances that necessitate the waiver request.	Adding trees and planting would not provide additional screening to the project since the existing perimeter vegetation and topography will provide the intended level of screening.
What is the estimated value/cost savings to the applicant if the waiver is granted?	\$20,000
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?	Approval of the waiver would save the Town project funds that can be used elsewhere in the project.
What is the impact on the development if this waiver is denied?	Time and money added to the project.
What are the design alternatives to granting this waiver?	Trees and shrubs will be planted in areas where they will not be adequately cared for and will interfere with potential parking canopies.
Why is granting this waiver in the Town's best interest?	Time and money added to the project.
If this waiver is granted, what is the estimated cost savings and/or cost avoidance to the Town?	\$20,000
What mitigation measures do you propose to offset not complying with the particular Rule/Regulation?	N/A
What is the estimated value of the proposed mitigation measures?	N/A
Other Information?	N/A
Waiver Request Prepared By:	Peter Glick, PE
Date:	12/19/2018

Medway Planning and Economic Development Board
Request for Waiver from Site Plan Rules and Regulations
Complete 1 form for each waiver request

Project Name:	Medway New DPS Building
Property Location:	46 Broad Street
Type of Project/Permit:	Site Plan Review (Major)
Identify the number and title of the relevant Section of the Site Plan Rules and Regulations from which a waiver is sought.	Section 205-3.D - Pedestrian and Bicycle Access and Connections
Summarize the text of the relevant Section of the Rules and Regulations from which a waiver is requested.	Bicycle circulation shall be maximized.
What aspect of the Regulation do you propose be waived?	Waive bicycle access and accommodations.
What do you propose instead?	The facility is not intended to have bicycle traffic.
Explanation/justification for the waiver request. Why is the waiver needed? Describe the extenuating circumstances that necessitate the waiver request.	Bicycle traffic to the project site would be problematic due to the safety concerns of bicycles comingling with the truck traffic.
What is the estimated value/cost savings to the applicant if the waiver is granted?	\$30,000
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?	Approval of the waiver would save the Town project funds that can be used elsewhere in the project. In order to accommodate bicycle traffic a separate bicycle lane would need to be constructed that would require filling of the wetland resource areas.
What is the impact on the development if this waiver is denied?	Time and money added to the project and impacts to the wetland resource areas.
What are the design alternatives to granting this waiver?	Desin and construct a separate bicycle path along the proposed driveway.
Why is granting this waiver in the Town's best interest?	Time and money added to the project and minimizing impacts to the wetland resource areas..
If this waiver is granted, what is the estimated cost savings and/or cost avoidance to the Town?	\$30,000
What mitigation measures do you propose to offset not complying with the particular Rule/Regulation?	N/A
What is the estimated value of the proposed mitigation measures?	N/A
Other Information?	N/A
Waiver Request Prepared By:	Peter Glick, PE
Date:	1/31/2019
Questions?? - Please contact the Medway PED office at 508-533-3291.	

Medway Planning and Economic Development Board
Request for Waiver from Site Plan Rules and Regulations
Complete 1 form for each waiver request

Project Name:	Medway New DPS Building
Property Location:	46 Broad Street
Type of Project/Permit:	Site Plan Review (Major)
Identify the number and title of the relevant Section of the Site Plan Rules and Regulations from which a waiver is sought.	Section 204-5.C.(3) - Existing Landscape Inventory
Summarize the text of the relevant Section of the Rules and Regulations from which a waiver is requested.	Professional Landscape Architect prepare an inventory of existing trees with a 1 foot diameter or greater 4 feet above the ground..
What aspect of the Regulation do you propose be waived?	Waive the inventory.
What do you propose instead?	Remove trees only as necessary to construct project.
Explanation/justification for the waiver request. Why is the waiver needed? Describe the extenuating circumstances that necessitate the waiver request.	Much of the areas to be cleared of trees consists of secondary scrub growth. Limit of tree clearing is minimized to the extent possible to construct the project.
What is the estimated value/cost savings to the applicant if the waiver is granted?	\$2,000
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?	Approval of the waiver would save the Town project funds that can be used elsewhere in the project.
What is the impact on the development if this waiver is denied?	Time and money added to the project.
What are the design alternatives to granting this waiver?	The limit of clearing would not change based on the waiver.
Why is granting this waiver in the Town's best interest?	Time and money added to the project.
If this waiver is granted, what is the estimated cost savings and/or cost avoidance to the Town?	\$2,000
What mitigation measures do you propose to offset not complying with the particular Rule/Regulation?	N/A
What is the estimated value of the proposed mitigation measures?	N/A
Other Information?	N/A
Waiver Request Prepared By:	Peter Glick, PE
Date:	1/31/2019
Questions?? - Please contact the Medway PED office at 508-533-3291.	

Medway Planning and Economic Development Board
Request for Waiver from Site Plan Rules and Regulations
Complete 1 form for each waiver request

Project Name:	Medway New DPS Building
Property Location:	46 Broad Street
Type of Project/Permit:	Site Plan Review (Major)
Identify the number and title of the relevant Section of the Site Plan Rules and Regulations from which a waiver is sought.	Section 204-5.D.(7) - Landscape Architectural Plan
Summarize the text of the relevant Section of the Rules and Regulations from which a waiver is requested.	A Landscape Architectural Plan shall be prepared by a Landscape Architect licensed in the Commonwealth of Massachusetts.
What aspect of the Regulation do you propose be waived?	Waive the Landscape Architect's stamp.
What do you propose instead?	Provide an Architects stamp.
Explanation/justification for the waiver request. Why is the waiver needed? Describe the extenuating circumstances that necessitate the waiver request.	The proposed landscape is consists of a few trees and mainly seeding. The Architect who prepared the plan is experianced in landscape design and capable of designing the level of landscaping shown on the planting plan.
What is the estimated value/cost savings to the applicant if the waiver is granted?	\$2,000
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?	Approval of the waiver would save the Town project funds that can be used elsewhere in the project.
What is the impact on the development if this waiver is denied?	Time and money added to the project.
What are the design alternatives to granting this waiver?	A Landscape Architect would review the plan and provide a stamp.
Why is granting this waiver in the Town's best interest?	Time and money added to the project.
If this waiver is granted, what is the estimated cost savings and/or cost avoidance to the Town?	\$2,000
What mitigation measures do you propose to offset not complying with the particular Rule/Regulation?	N/A
What is the estimated value of the proposed mitigation measures?	N/A
Other Information?	N/A
Waiver Request Prepared By:	Peter Glick, PE
Date:	1/31/2019
Questions?? - Please contact the Medway PED office at 508-533-3291.	

Medway Planning and Economic Development Board
Request for Waiver from Site Plan Rules and Regulations
Complete 1 form for each waiver request

Project Name:	Medway New DPS Building
Property Location:	46 Broad Street
Type of Project/Permit:	Site Plan Review (Major)
Identify the number and title of the relevant Section of the Site Plan Rules and Regulations from which a waiver is sought.	Section 205-9.C. - Interior Landscaping
Summarize the text of the relevant Section of the Rules and Regulations from which a waiver is requested.	Internal landscape planted divisions....1 tree for every six parking spaces.
What aspect of the Regulation do you propose be waived?	Waive the requirement for internal landscaping.
What do you propose instead?	Construct solar canopy over truck parking and potentially add solar canopies to the staff and visitor parking.
Explanation/justification for the waiver request. Why is the waiver needed? Describe the extenuating circumstances that necessitate the waiver request.	The parking areas are configured so solar canopies can be constructed over the parking areas. Trees would not survive within the canopy covered parking.
What is the estimated value/cost savings to the applicant if the waiver is granted?	\$3,500
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?	Approval of the waiver would save the Town project funds that can be used elsewhere in the project. The solar canopies will provide clean renewable energy for the facility over the long term.
What is the impact on the development if this waiver is denied?	Time and money added to the project.
What are the design alternatives to granting this waiver?	Provide solar canopy at truck area and potentiallt at staff/visitor parking.
Why is granting this waiver in the Town's best interest?	Time and money added to the project.
If this waiver is granted, what is the estimated cost savings and/or cost avoidance to the Town?	\$3,500
What mitigation measures do you propose to offset not complying with the particular Rule/Regulation?	N/A
What is the estimated value of the proposed mitigation measures?	N/A
Other Information?	N/A
Waiver Request Prepared By:	Peter Glick, PE
Date:	1/31/2019

SITE PLANS - NEW DEPARTMENT OF PUBLIC SERVICES BUILDING

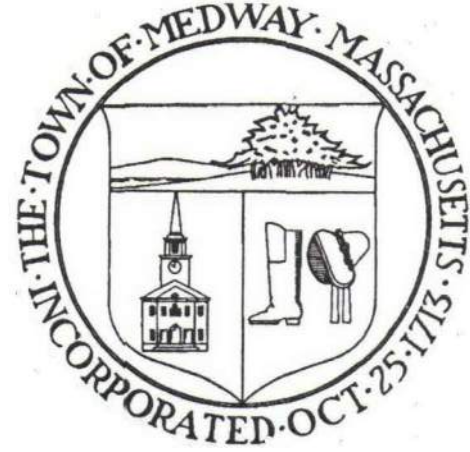


MEDWAY NEW DEPARTMENT OF
PUBLIC SERVICES FACILITY
PERSPECTIVE DRAWING

ASSESSORS MAP PARCEL ID'S: 50-002, 50-003, 50-003-001,
51-007 & 51-008

LIST OF WAIVERS

- SECTION 204-3.A.7.a - TRAFFIC IMPACT
SECTION 204-3.A.7.b - ENVIRONMENTAL IMPACT
SECTION 204-3.A.7.c - COMMUNITY IMPACT
SECTION 204-3.A.7.d - PARKING IMPACT
SECTION 204-5.C.(3) - EXISTING LANDSCAPE INVENTORY
SECTION 204-5.D.(7) - LANDSCAPE ARCHITECT STAMP
SECTION 205-9.C - INTERIOR LANDSCAPING
SECTION 205-9.D - LANDSCAPE SCREENING
SECTION 205-3.D - BICYCLE ACCESS & PARKING



TOWN OF
MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.

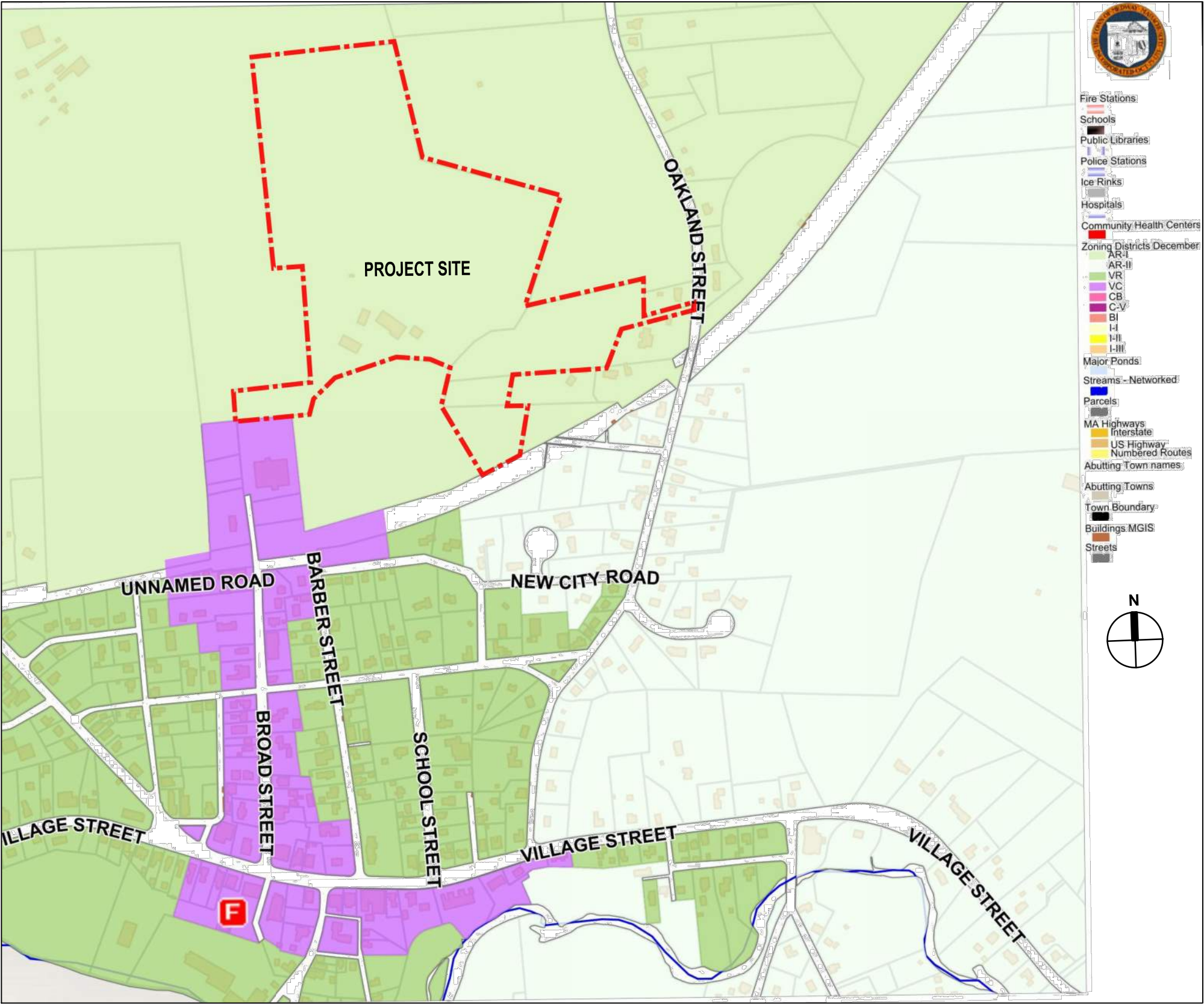
61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370



MEDWAY GIS MAP
SCALE: 1"=500'



USGS MAP
SCALE: 1"=2,000'

LIST OF DRAWINGS:

- C-001 COVER SHEET
C-100 SITE CONTEXT SHEET (BY SMMA)
C-101 EXISTING CONDITIONS PLAN I (BY SMMA)
C-102 EXISTING CONDITIONS PLAN II (BY SMMA)
C-111 SITE PREPARATION PLAN I (BY SMMA)
C-112 SITE PREPARATION PLAN II (BY SMMA)
C-121 LAYOUT & MATERIALS PLAN (BY SMMA)
C-131 GRADING AND UTILITIES PLAN I (BY SMMA)
C-132 GRADING AND UTILITIES PLAN II (BY SMMA)
C-151 PLANTING PLAN (BY HKA)
C-501 DETAILS I (BY SMMA)
C-502 DETAILS II (BY SMMA)
C-503 DETAILS III (BY SMMA)
C-504 DETAILS IV (BY SMMA)
C-505 DETAILS V (BY SMMA)
C-601 SEWER PROFILE I (BY SMMA)
C-602 SEWER PROFILE II (BY SMMA)
A-101 FIRST FLOOR PLAN (BY HKA)
A-102 SECOND FLOOR PLAN AND LOWER ROOF PLAN (BY HKA)
A-301 EXTERIOR ELEVATIONS SHEET 1 (BY HKA)
A-302 EXTERIOR ELEVATIONS SHEET 2 (BY HKA)
A-303 RENDERINGS (BY HKA)
SL-1 LIGHTING, LAYOUTS & SCHEDULE (SK & ASSOCIATES)

APPROVED BY:
TOWN OF MEDWAY PLANNING AND ECONOMIC
DEVELOPMENT BOARD

DATE: _____

STAMP



	01/31/19	REVISED AND REISSUED FOR SITE PLAN REVIEW
	01/07/19	ISSUED FOR DESIGN REVIEW COMMITTEE REVIEW
	12/27/18	ISSUED FOR NOTICE OF INTENT
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	11/08/18	ISSUED FOR PRE-APPLICATION MEETING W/PLANNING BOARD
REV	DATE	DESCRIPTION

DATE	
SCALE	AS NOTED
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

BUILDING:

SHEET TITLE:

COVER
SHEET

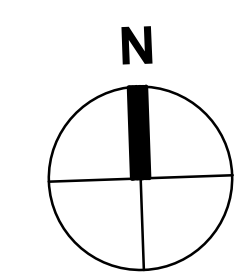
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C-001

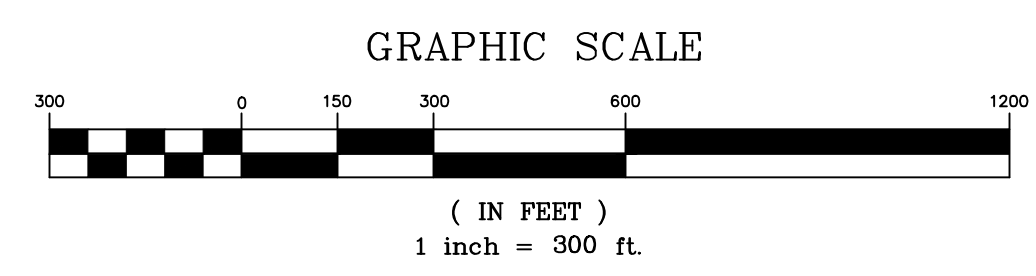


APPROVED BY:
TOWN OF MEDWAY PLANNING AND
ECONOMIC DEVELOPMENT BOARD

DATE:



LEGEND		
AR-I	.....	AGRICULTURAL RESIDENTIAL I
AR-II	.....	AGRICULTURAL RESIDENTIAL II
VC	.....	VILLAGE COMMERCIAL
VR	.....	VILLAGE RESIDENTIAL
2,000' RADIUS	.....	2,000' RADIUS
ZONING BOUNDS	.....	ZONING BOUNDS
SCENIC ROAD	.....	SCENIC ROAD
PROPERTY LINE	.....	PROPERTY LINE



TOWN OF MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

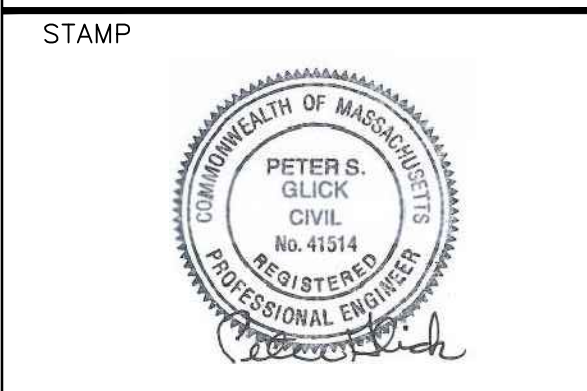
ARCHITECT:
HELENE • KARL
Architects, Inc.
61 Skyfields Drive, Grafton, Massachusetts 01450

CIVIL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
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MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370



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DATE	
SCALE	1" = 300'
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

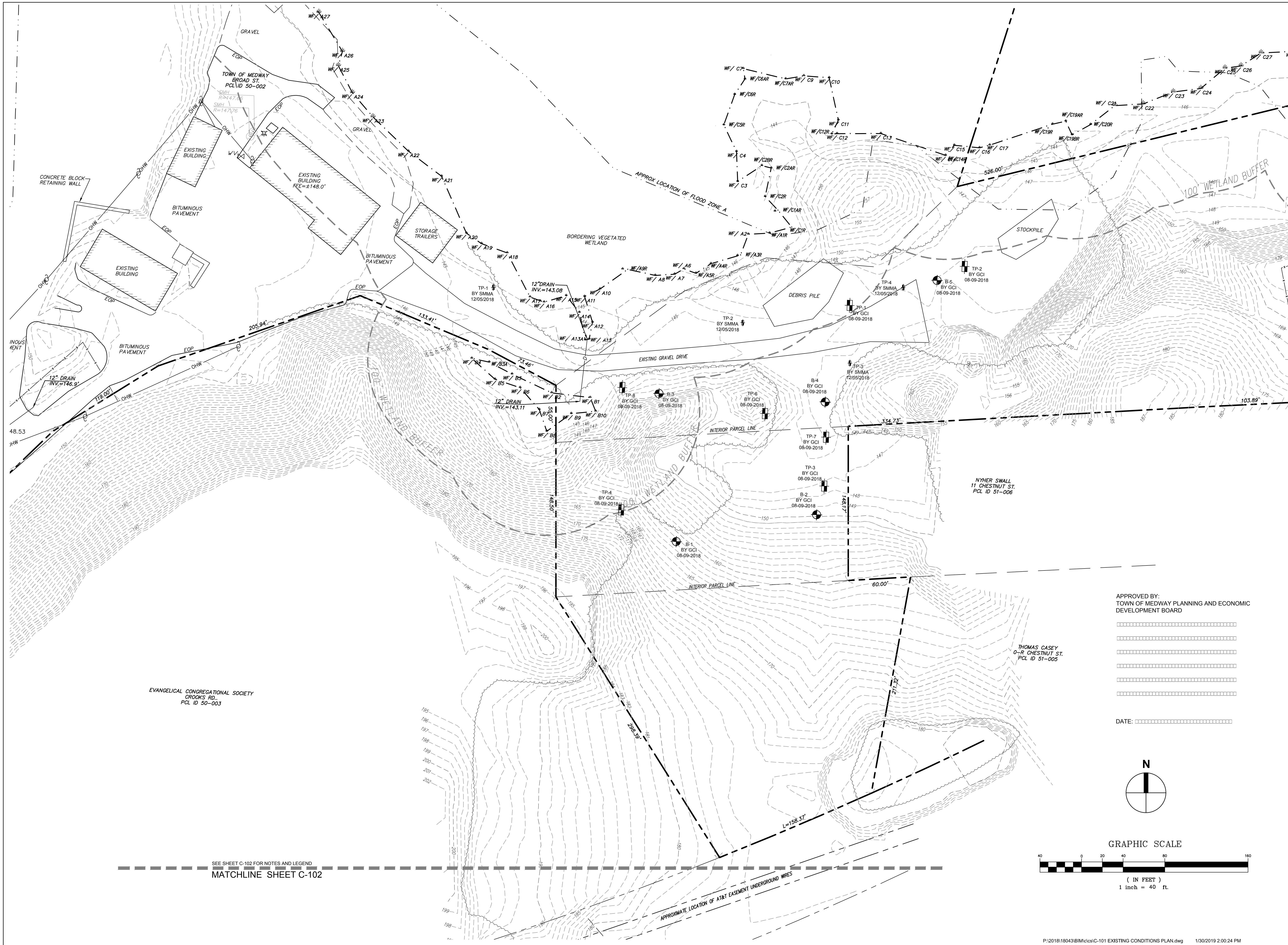
BUILDING:

SHEET TITLE:

SITE CONTEXT SHEET

DRAWING NO.

C-100



TOWN OF
MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:
SYMME, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYMME, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

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22 WEST STREET, UNIT C
MILLBURY, MA 01527

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JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMP



REV	DATE	DESCRIPTION
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	11/08/18	COMMITTEE REVIEW
	11/08/18	ISSUED FOR PRE-APPLICATION MEETING W/PLANNING BOARD

DATE	
SCALE	1" = 40'
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

BUILDING:

SHEET TITLE:

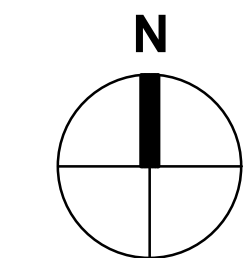
EXISTING
CONDITIONS
PLAN I

DRAWING NO.

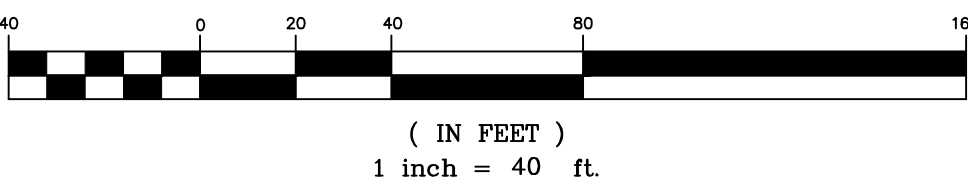
C-101

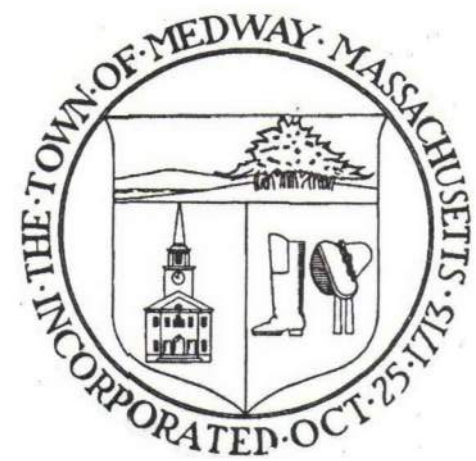
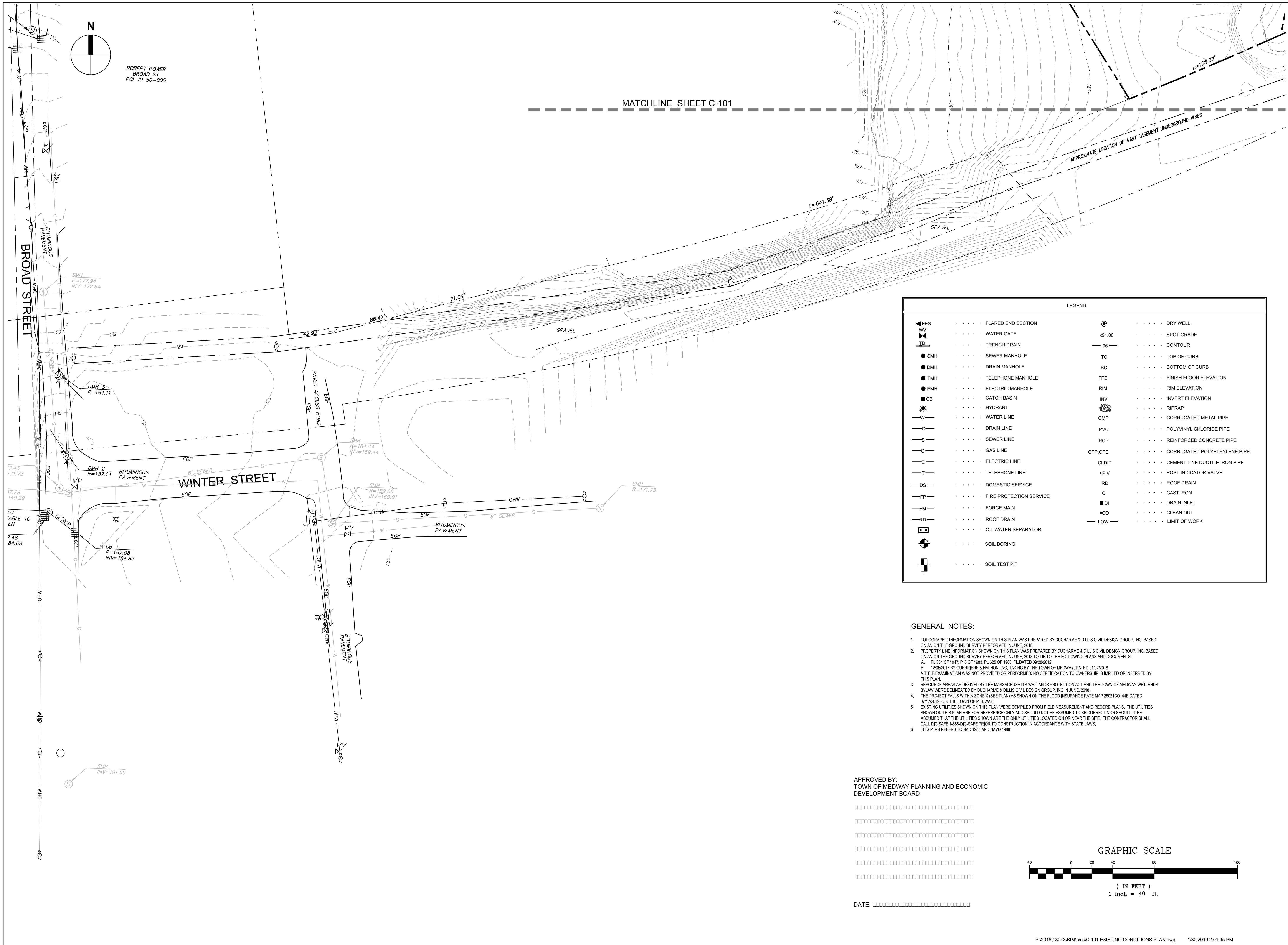
APPROVED BY:
TOWN OF MEDWAY PLANNING AND ECONOMIC
DEVELOPMENT BOARD

DATE: _____



GRAPHIC SCALE





TOWN OF MEDWAY

NEW DPW FACILITY

OWNER:

TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:

HELENE • KARL
Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:

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1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:

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22 WEST STREET, UNIT C
MILLBURY, MA 01527

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CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMP



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	11/08/18	COMMITTEE REVIEW
	11/08/18	ISSUED FOR PRE-APPLICATION MEETING W/PLANNING BOARD

DATE	SCALE	1" = 40'

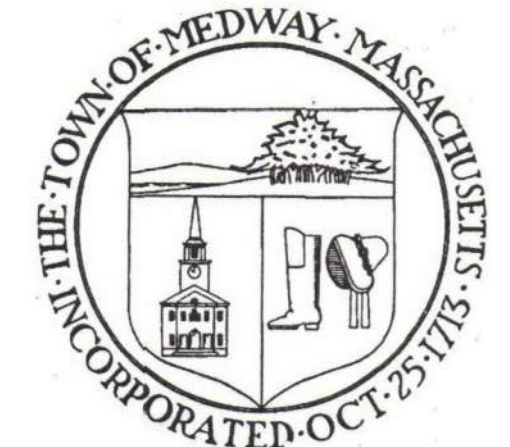
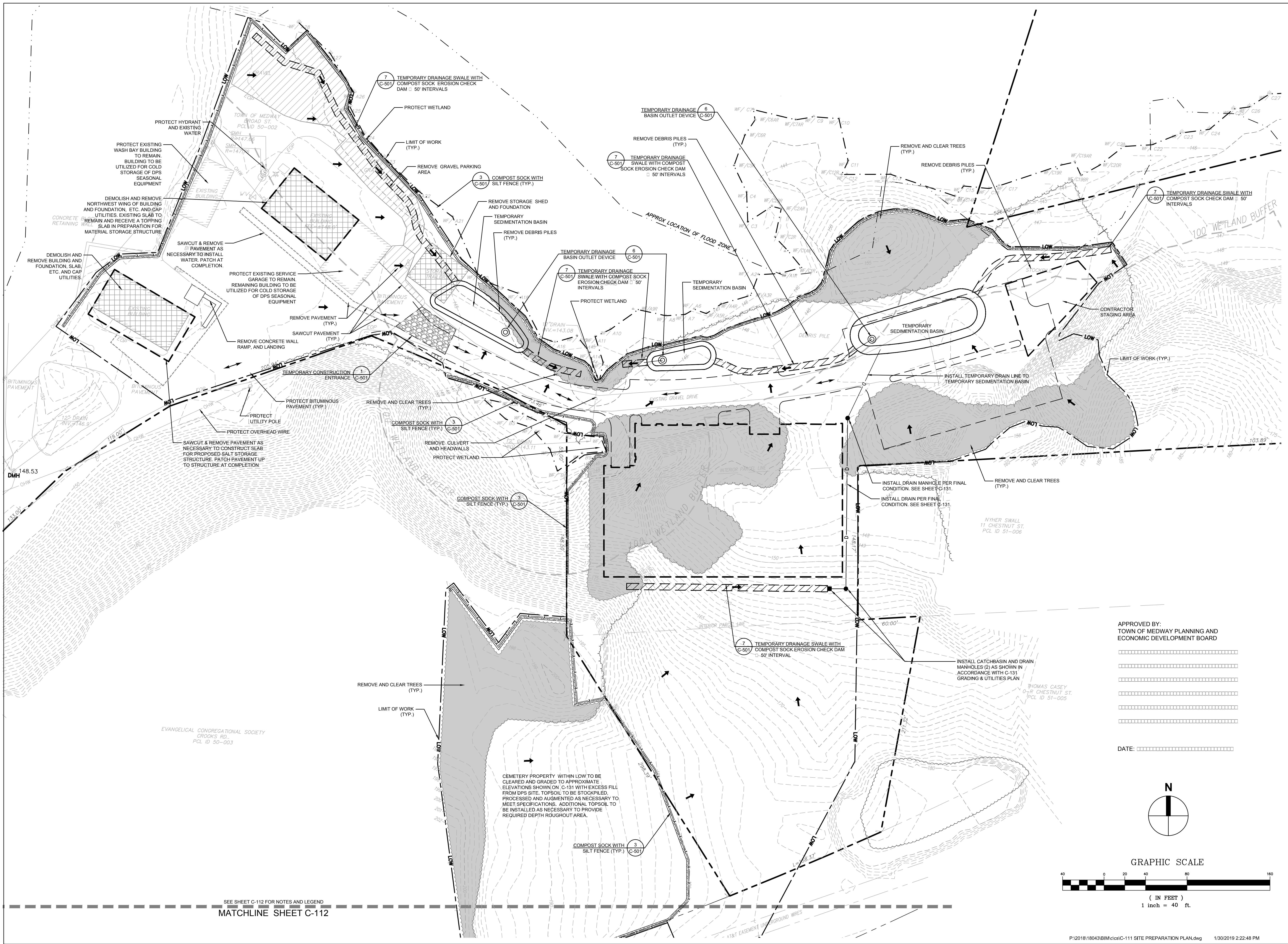
BUILDING:

SHEET TITLE:

EXISTING
CONDITIONS
PLAN II

DRAWING NO.

C-102



TOWN OF MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMP

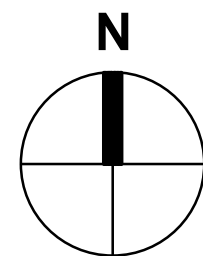


REV	DATE	DESCRIPTION
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	11/08/18	ISSUED FOR PRE-APPLICATION MEETING W/PLANNING BOARD

APPROVED BY:
TOWN OF MEDWAY PLANNING AND
ECONOMIC DEVELOPMENT BOARD

DATE: 01/31/19

DATE: 01/31/19



GRAPHIC SCALE

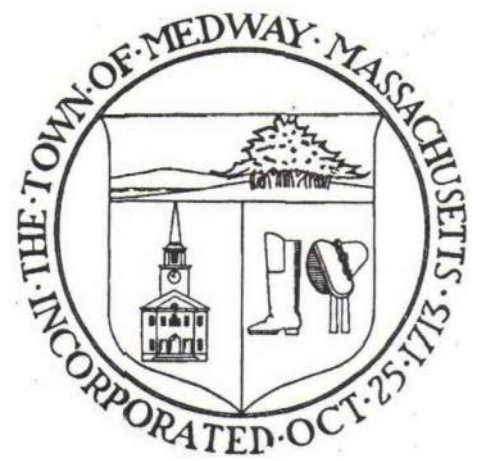
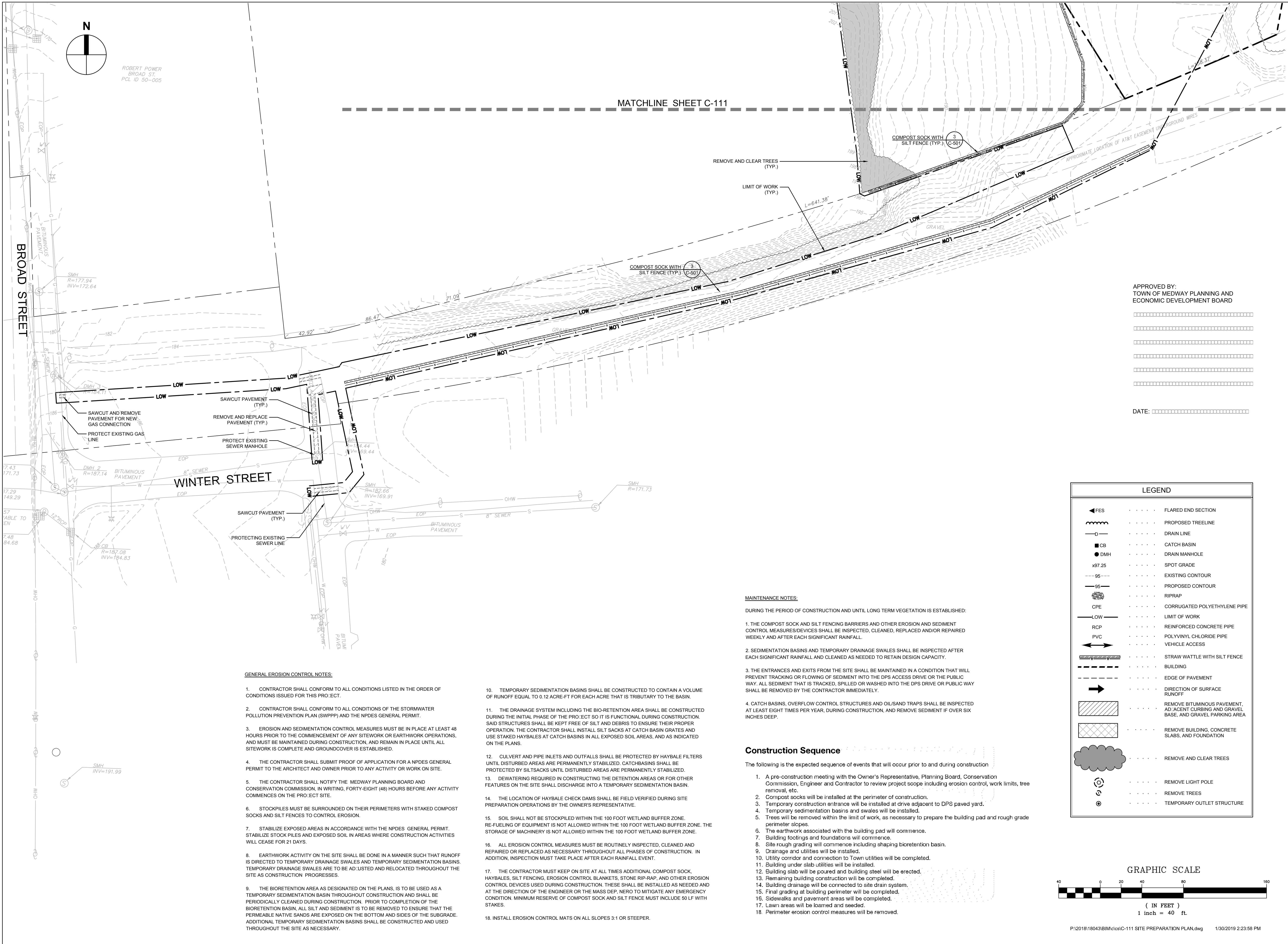


(IN FEET)
1 inch = 40 ft.

SEE SHEET C-112 FOR NOTES AND LEGEND
MATCHLINE SHEET C-112

DRAWING NO.

C-111



TOWN OF MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

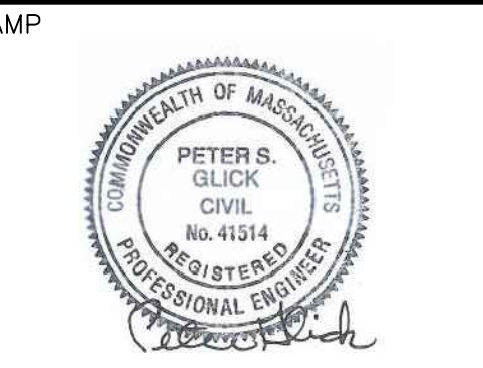
ARCHITECT:
HELENE • KARL
Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
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1000 MASSACHUSETTS AVENUE
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MECHANICAL ENGINEER:
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22 WEST STREET, UNIT C
MILLBURY, MA 01527

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	11/08/18	ISSUED FOR PRE-APPLICATION MEETING W/PLANNING BOARD

DATE	
SCALE	1" = 40'
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00
BUILDING:	
SHEET TITLE:	

SITE PREPARATION PLAN II

DRAWING NO.
C-112



TOWN OF
MEDWAY

NEW DPW FACILITY

OWNER:

TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:

HELENE • KARL

Architects, Inc.

61 Skyfields Drive, Grafton, Massachusetts 01450

CIVIL ENGINEER:

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1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:

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22 WEST STREET, UNIT C
MILLBURY, MA 01527

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JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMP



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	12/27/18	COMMITTEE REVIEW
	12/20/18	ISSUED FOR NOTICE OF INTENT
	12/20/18	ISSUED FOR SITE PLAN REVIEW
	11/28/18	ISSUED FOR DESIGN REVIEW
	11/08/18	COMMITTEE REVIEW
	11/08/18	ISSUED FOR PRE-APPLICATION MEETING W/PLANNING BOARD

REV	DATE	DESCRIPTION
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DATE

SCALE 1" = 40'

DRAWN BY ACO

CHECKED BY PSG

PROJECT NO. 18043.00

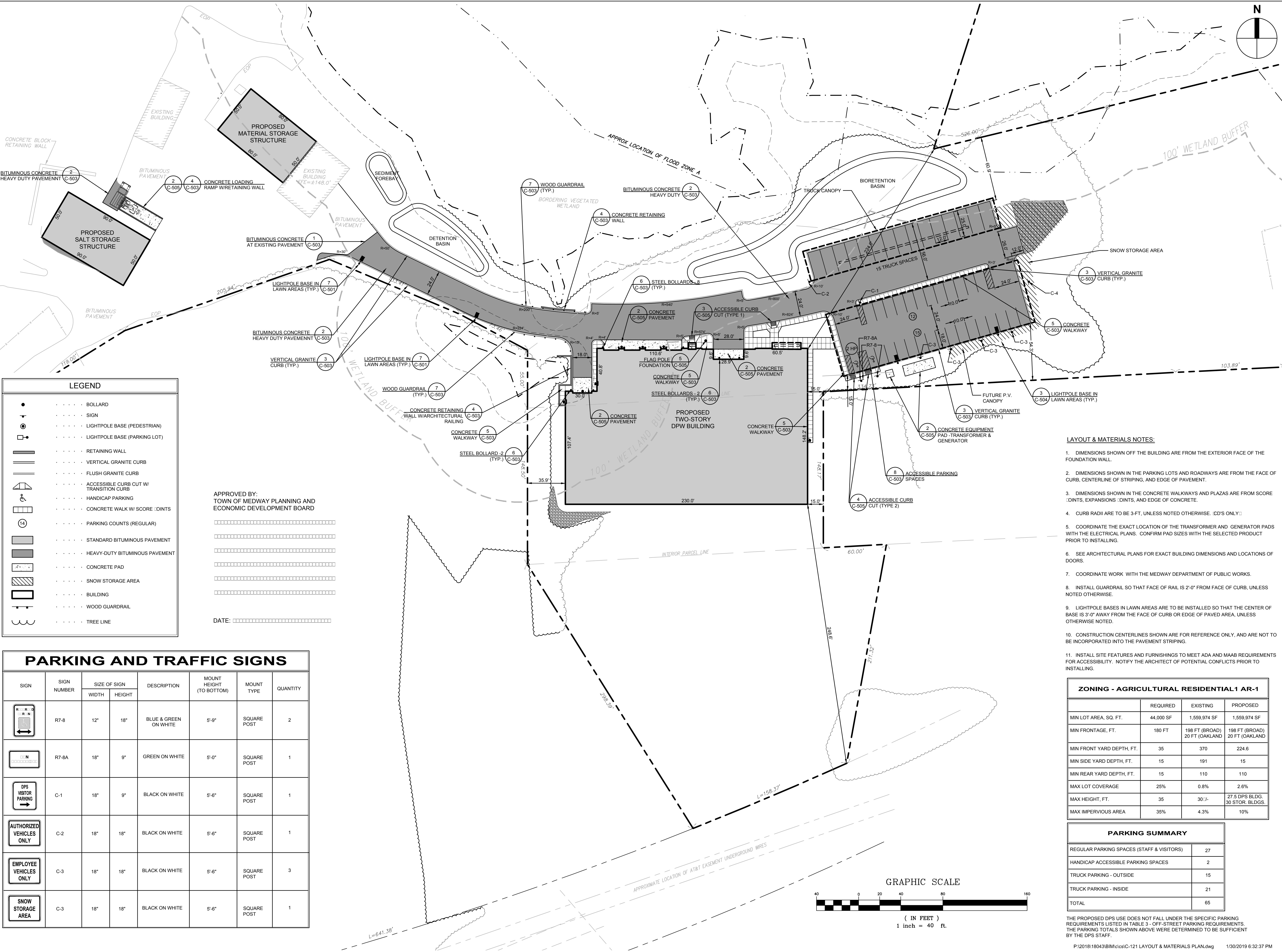
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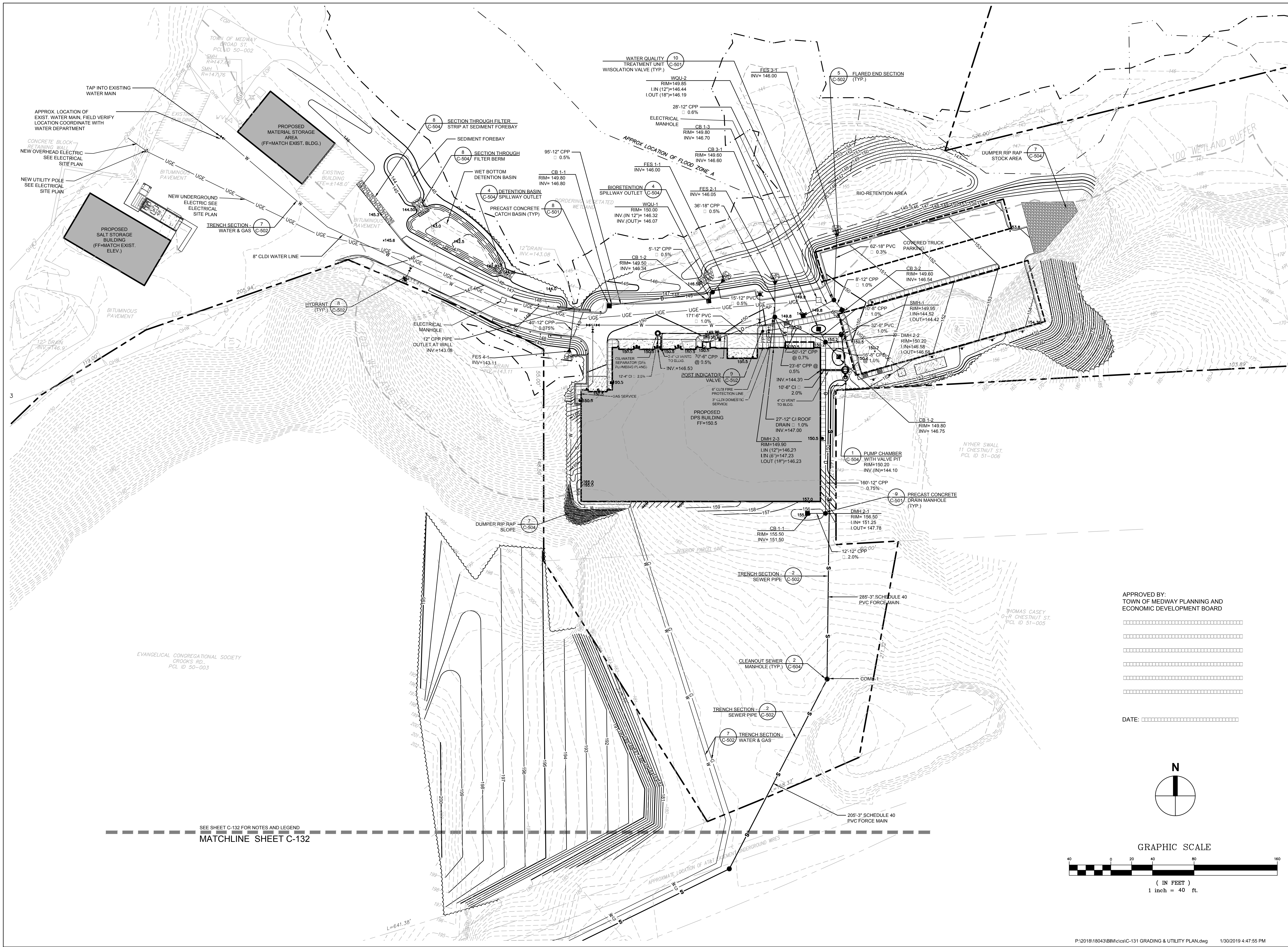
SHEET TITLE:

LAYOUT &
MATERIALS
PLAN

DRAWING NO.

C-121





TOWN OF MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:
SYMME, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYMME, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMP

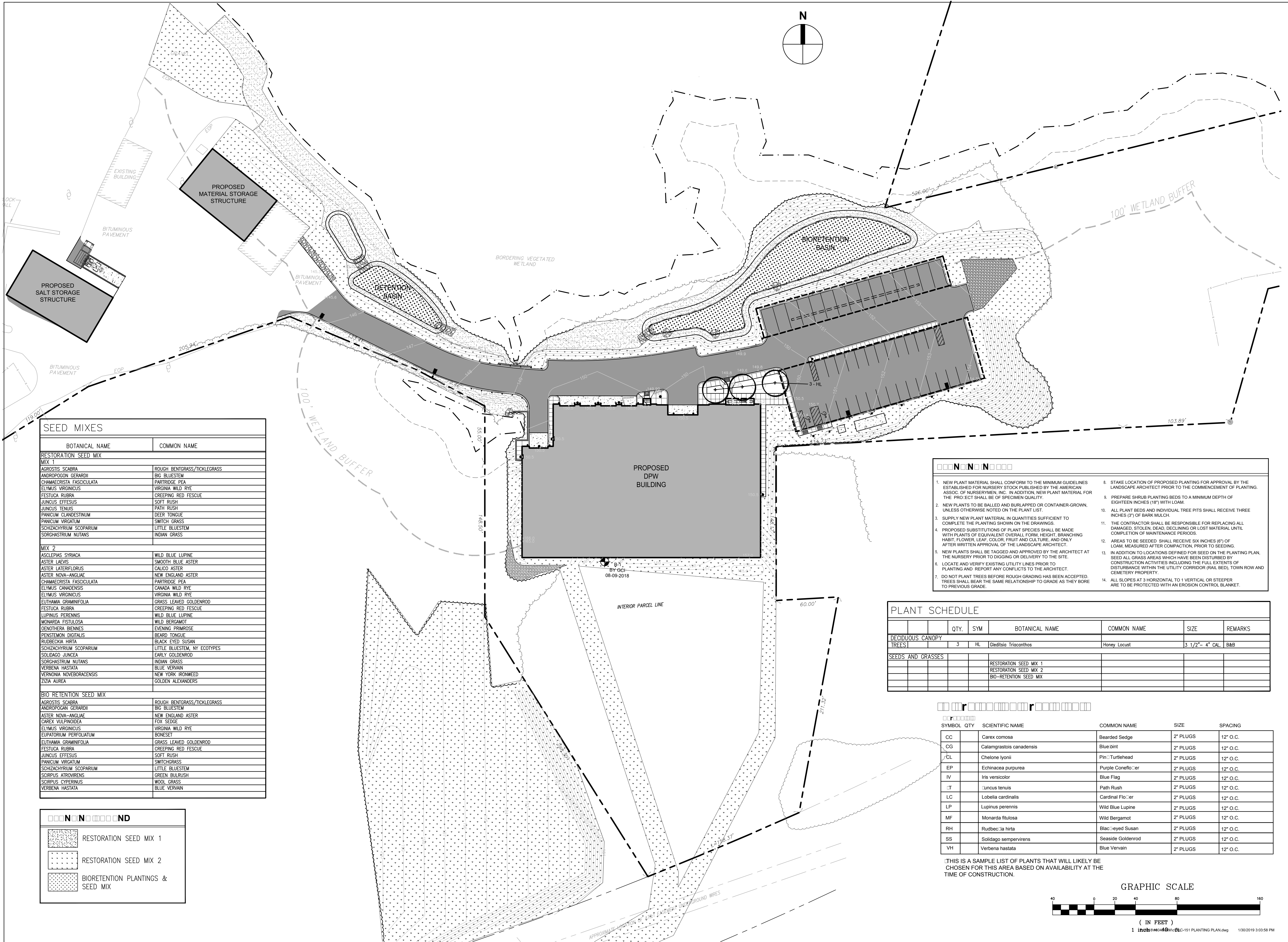


REV	DATE	DESCRIPTION
	01/31/19	REVISED AND REISSUED FOR SITE PLAN REVIEW
	01/07/19	ISSUED FOR DESIGN REVIEW COMMITTEE REVIEW
	12/27/18	ISSUED FOR NOTICE OF INTENT
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	11/08/18	ISSUED FOR PRE-APPLICATION MEETING W/PLANNING BOARD

DATE	
SCALE	1" = 40'
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

BUILDING:	
SHEET TITLE:	GRADING & UTILITY PLAN I

DRAWING NO.
C-131



SEED MIXES

BOTANICAL NAME	COMMON NAME
RESTORATION SEED MIX	
MIX 1	
AGROSTIS SCABRA	ROUGH BENTGRASS/TICKLEGRASS
ANDROPOGON GERARDII	BIG BLUESTEM
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA
ELYMUS VIRGINICUS	VIRGINIA WILD RYE
FESTUCA RUBRA	CREeping RED FESCUE
JUNCUS EFFESUS	SOFT RUSH
JUNCUS TENUIS	PATH RUSH
PANICUM CLANDESTINUM	DEER TONGUE
PANICUM VIRGATUM	SWITCH GRASS
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM
SORGHASTRUM NUTANS	INDIAN GRASS
MIX 2	
ASCLEPIAS SYRIACA	WILD BLUE LUPINE
ASTER LAEVIS	SMOOTH BLUE ASTER
ASTER LATERIFLORUS	CALICO ASTER
ASTER NOVA-ANGIAE	NEW ENGLAND ASTER
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA
ELYMUS CANADENSIS	CANADA WILD RYE
ELYMUS VIRGINICUS	VIRGINIA WILD RYE
EUTHAMIA GRAMINIFOLIA	GRASS LEAVED GOLDENROD
FESTUCA RUBRA	CREeping RED FESCUE
LUPINUS PERENNIS	WILD BLUE LUPINE
MONARDA FISTULOSA	WILD BERGAMOT
OENOTHERA BIENNES	EVENING PRIMROSE
PENTSTEMON DIGITALIS	BEARD TONGUE
RUDBECKIA HIRTA	BLACK EYED SUSAN
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM, NY ECOTYPES
SOLIDAGO JUNCEA	EARLY GOLDENROD
SORGHASTRUM NUTANS	INDIAN GRASS
VERBENA HASTATA	BLUE VERVAIN
VERNONIA NOVEMBROENSIS	NEW YORK IRONWEED
ZIZA AUREA	GOLDEN ALEXANDERS
BIO RETENTION SEED MIX	
AGROSTIS SCABRA	ROUGH BENTGRASS/TICKLEGRASS
ANDROPOGON GERARDII	BIG BLUESTEM
ASTER NOVA-ANGIAE	NEW ENGLAND ASTER
CAREX VULPINODEA	FOX SEDGE
ELYMUS VIRGINICUS	VIRGINIA WILD RYE
EUPATORIUM PERFOLIATUM	BONESET
EUTHAMIA GRAMINIFOLIA	GRASS LEAVED GOLDENROD
FESTUCA RUBRA	CREeping RED FESCUE
JUNCUS EFFESUS	SOFT RUSH
PANICUM VIRGATUM	SWITCHGRASS
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM
SCORPUS ATRORUBENS	GREEN BULRUSH
SCORPUS CYPERINUS	WOOL GRASS
VERBENA HASTATA	BLUE VERVAIN

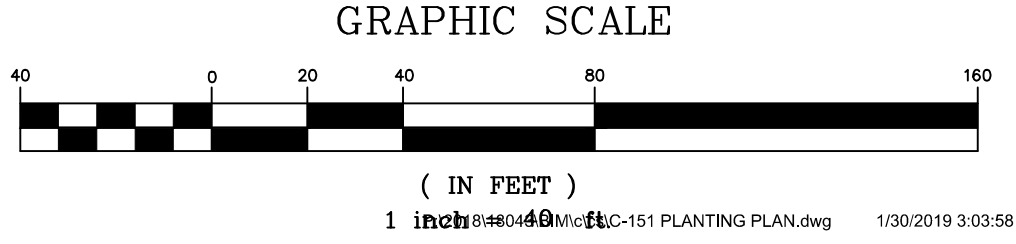
RESTORATION SEED MIX 1	RESTORATION SEED MIX 2	BIORETENTION PLANTINGS & SEED MIX
------------------------	------------------------	-----------------------------------

1. NEW PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOC. OF NURSERYMEN, INC. IN ADDITION, NEW PLANT MATERIAL FOR THE PROJECT SHALL BE OF SPECIMEN QUALITY.
2. NEW PLANTS TO BE BALLED AND BURLAPPED OR CONTAINER-GROWN, UNLESS OTHERWISE NOTED ON THE PLANT LIST.
3. SUPPLY NEW PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON THE DRAWINGS.
4. PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE, AND ONLY AFTER WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT.
5. NEW PLANTS SHALL BE TAGGED AND APPROVED BY THE ARCHITECT AT THE NURSERY PRIOR TO DIGGING OR DELIVERY TO THE SITE.
6. LOCATE AND VERIFY EXISTING UTILITY LINES PRIOR TO PLANTING AND REPORT ANY CONFLICTS TO THE ARCHITECT.
7. DO NOT PLANT TREES BEFORE ROUGH GRADING HAS BEEN ACCEPTED. TREES SHALL BEAR THE SAME RELATIONSHIP TO GRADE AS THEY BORE TO PREVIOUS GRADE.
8. STAKE LOCATION OF PROPOSED PLANTING FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF PLANTING.
9. PREPARE SHRUB PLANTING BEDS TO A MINIMUM DEPTH OF EIGHTEEN INCHES (18") WITH LOAM.
10. ALL PLANT BEDS AND INDIVIDUAL TREE PITS SHALL RECEIVE THREE INCHES (3") OF BARK MULCH.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL DAMAGED, STOLEN, DEAD, DECLINING OR LOST MATERIAL UNTIL COMPLETION OF MAINTENANCE PERIODS.
12. AREAS TO BE SEEDED SHALL RECEIVE SIX INCHES (6") OF LOAM, MEASURED AFTER COMPACTION, PRIOR TO SEEDING.
13. IN ADDITION TO LOCATIONS DEFINED FOR SEED ON THE PLANTING PLAN, SEED ALL GRASS AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION ACTIVITIES INCLUDING THE FULL EXTENTS OF DISTURBANCE WITHIN THE UTILITY CORRIDOR (RAIL BED), TOWN ROW AND CEMETERY PROPERTY.
14. ALL SLOPES AT 3 HORIZONTAL TO 1 VERTICAL OR STEEPER ARE TO BE PROTECTED WITH AN EROSION CONTROL BLANKET.

	QTY.	SYM	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
DECIDUOUS CANOPY						
TREES	3	HL	Gleditsia Triacanthos	Honey Locust	3 1/2"- 4" CAL.	B&B
SEEDS AND GRASSES						
			RESTORATION SEED MIX 1			
			RESTORATION SEED MIX 2			
			BIO-RETENTION SEED MIX			

SYMBOL	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING
CC		Carex comosa	Bearded Sedge	2" PLUGS	12" O.C.
CG		Calamagrostis canadensis	Blue Oint	2" PLUGS	12" O.C.
CL		Chelone lyonii	Pin Turtlehead	2" PLUGS	12" O.C.
EP		Echinacea purpurea	Purple Coneflower	2" PLUGS	12" O.C.
IV		Iris versicolor	Blue Flag	2" PLUGS	12" O.C.
JT		Juncus tenuis	Path Rush	2" PLUGS	12" O.C.
LC		Lobelia cardinalis	Cardinal Flower	2" PLUGS	12" O.C.
LP		Lupinus perennis	Wild Blue Lupine	2" PLUGS	12" O.C.
MF		Monarda fistulosa	Wild Bergamot	2" PLUGS	12" O.C.
RH		Rudbeckia hirta	Black-eyed Susan	2" PLUGS	12" O.C.
SS		Solidago sempervirens	Seaside Goldenrod	2" PLUGS	12" O.C.
VH		Verbena hastata	Blue Vervain	2" PLUGS	12" O.C.

THIS IS A SAMPLE LIST OF PLANTS THAT WILL LIKELY BE CHOSEN FOR THIS AREA BASED ON AVAILABILITY AT THE TIME OF CONSTRUCTION.



TOWN OF MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE KARL
Architects, Inc.
61 Skyfields Drive, Grafton, Massachusetts 01450

CIVIL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
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MECHANICAL ENGINEER:
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22 WEST STREET, UNIT C
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379 LIBERTY STREET
ROCKLAND, MA 02370



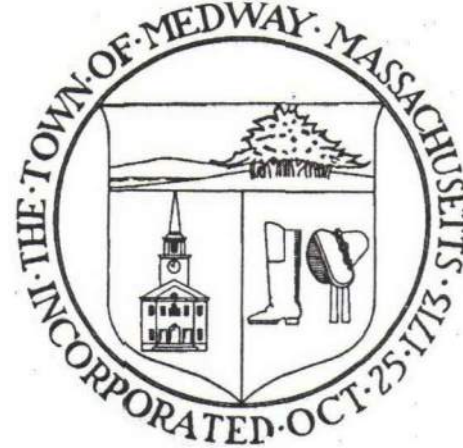
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DATE	
SCALE	1" = 40'
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

BUILDING:
SHEET TITLE:

PLANTING PLAN

DRAWING NO.
C-151



TOWN OF
MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

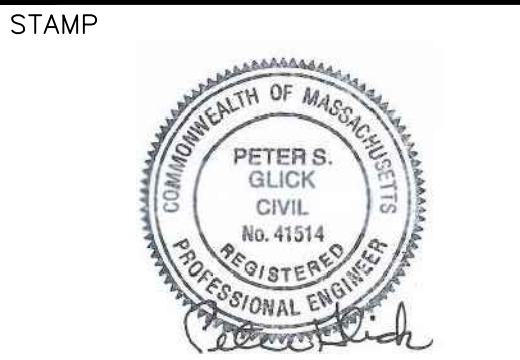
ARCHITECT:
HELENE • KARL
Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
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MILLBURY, MA 01527

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CONSTRUCTION AND ENGINEERING, INC.
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ROCKLAND, MA 02370



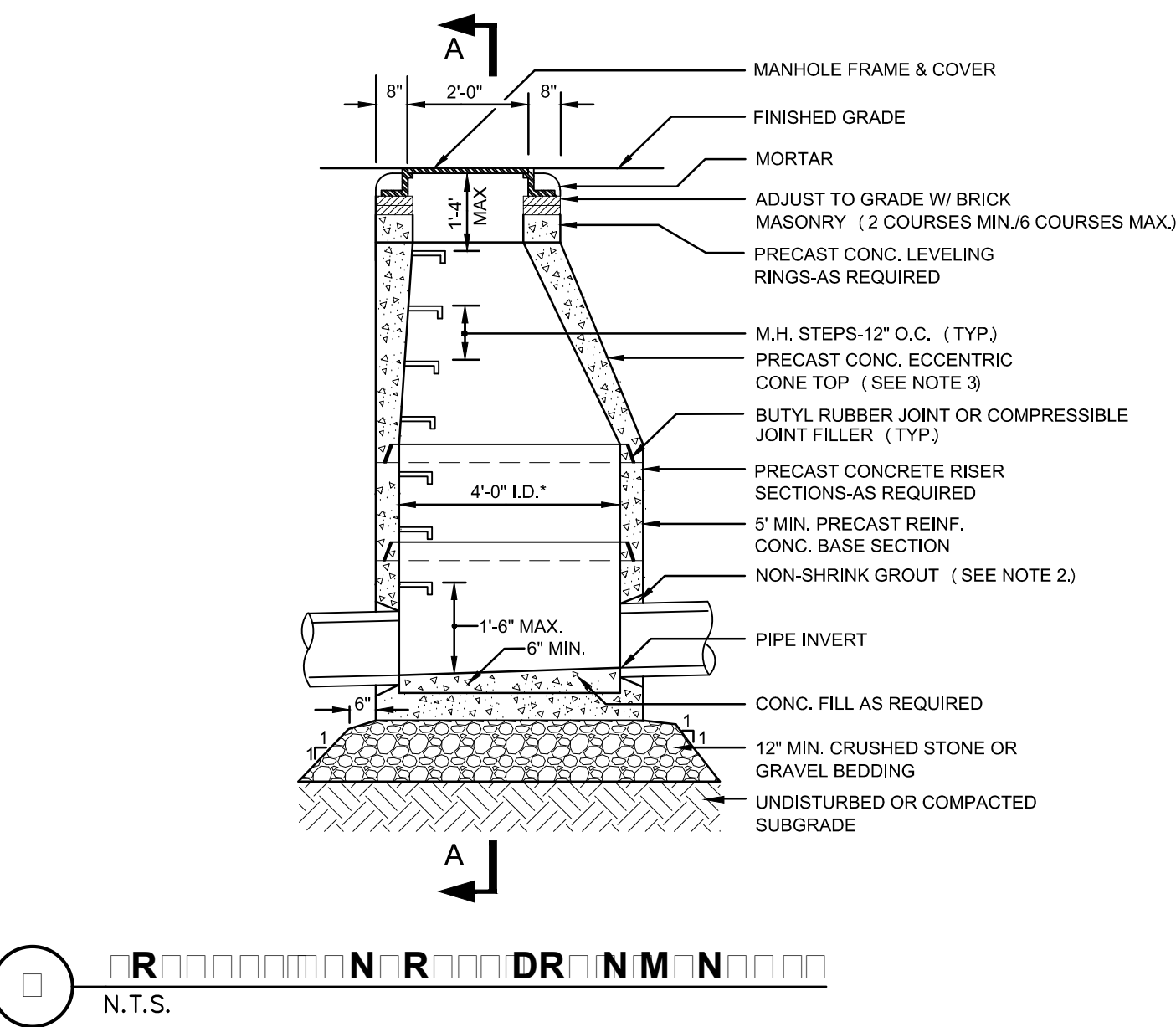
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DATE	
SCALE	NTS
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

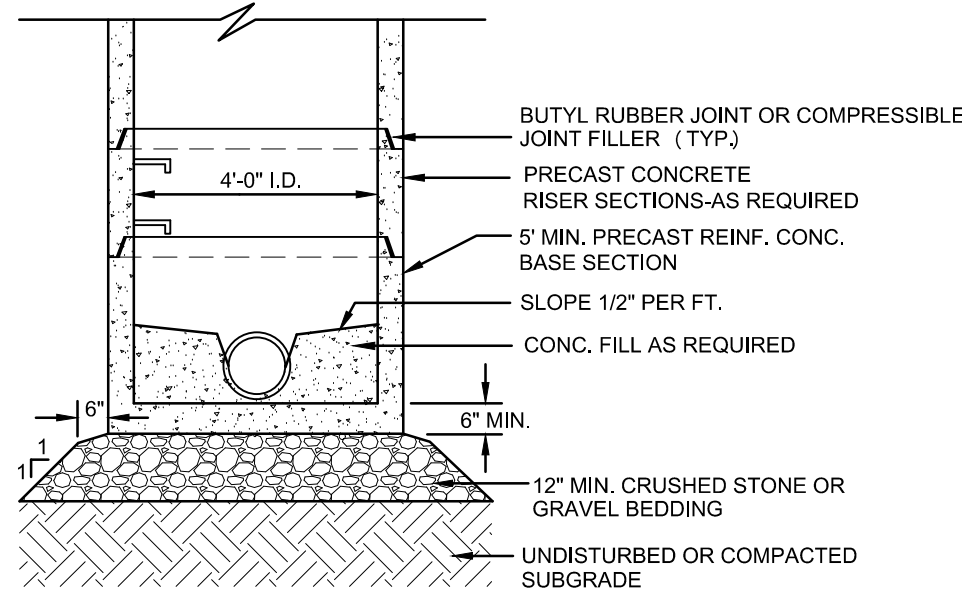
BUILDING:
SHEET TITLE:

DETAILS I

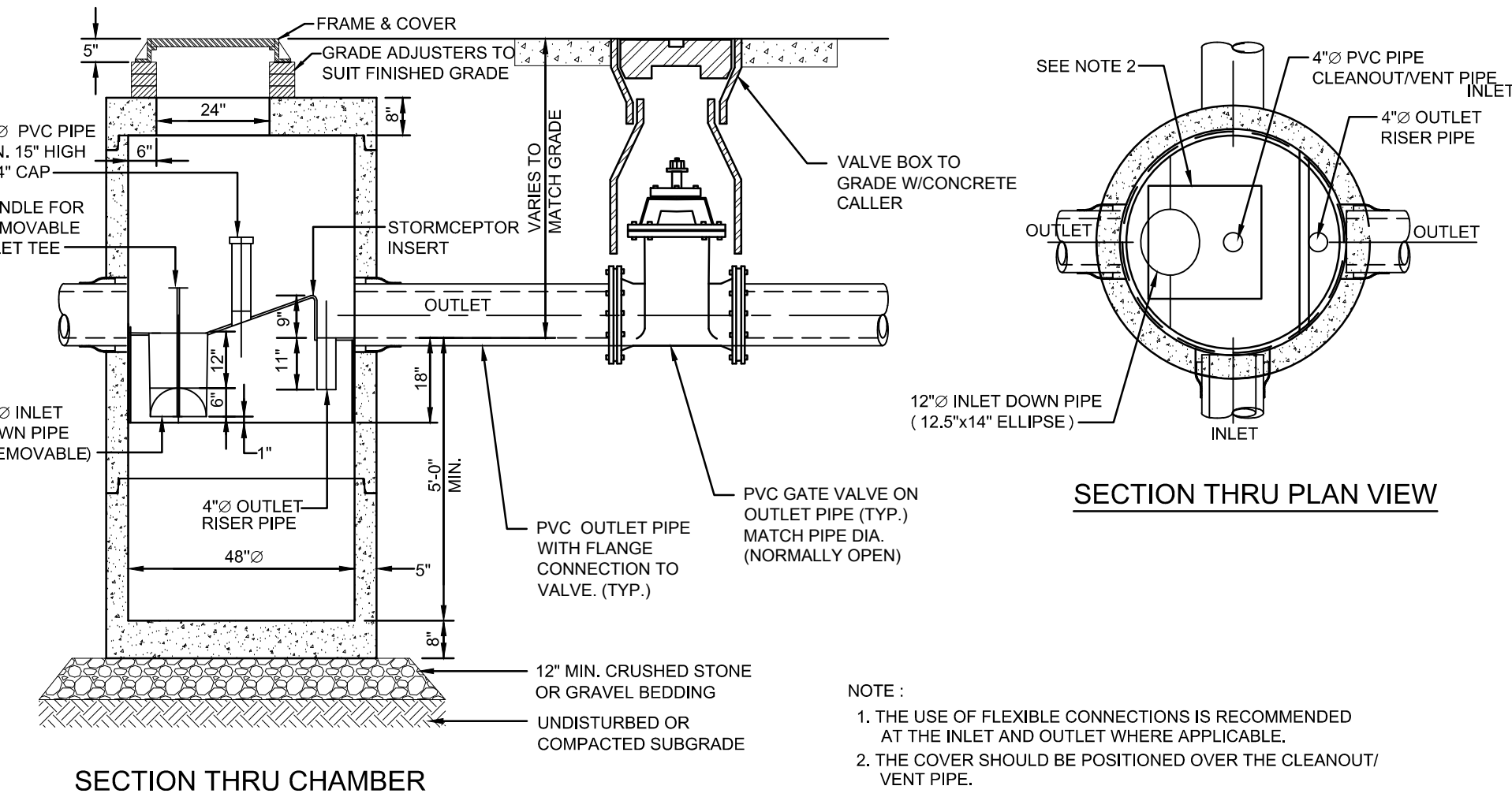
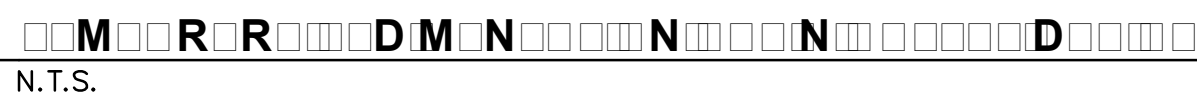
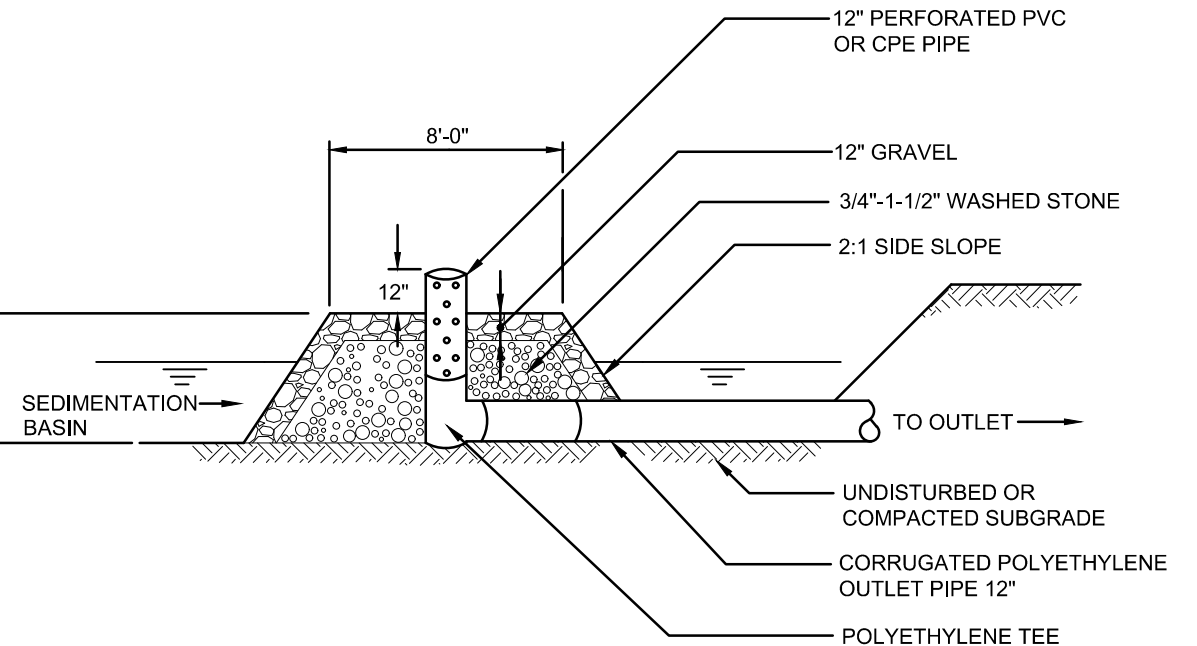
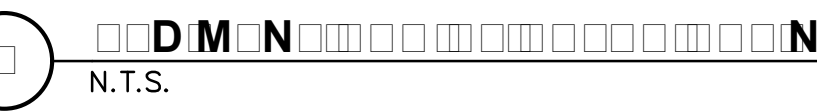
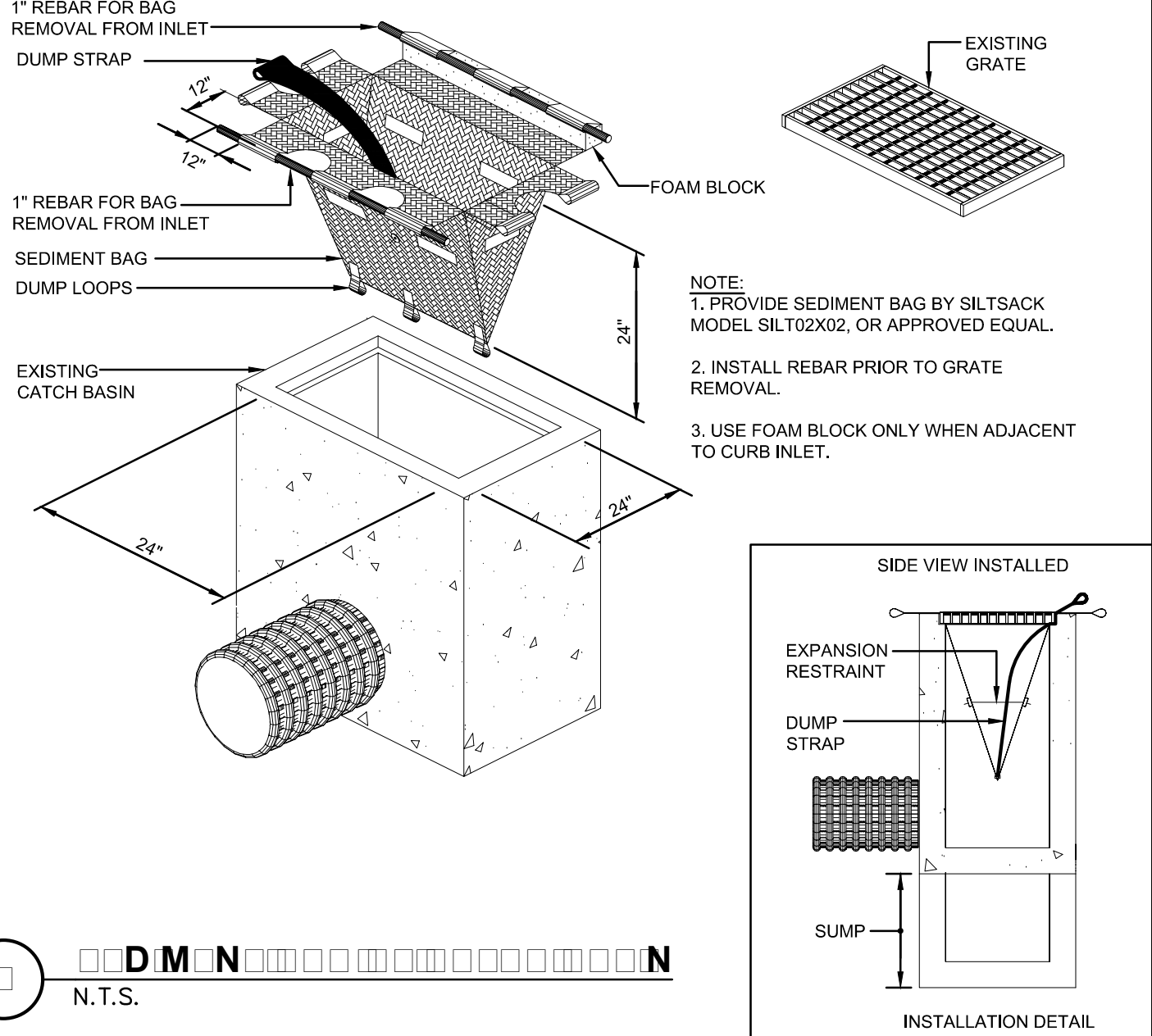
DRAWING NO.
C-501



- NOTE: 1. STRUCTURE ADEQUATE FOR H-20 LOADING.
2. NEOPRENE SEAL TO CONFORM TO ASTM C-443 (SANITARY M.H. ONLY)
3. PROVIDE SLAB TOP WHERE REQUIRED.

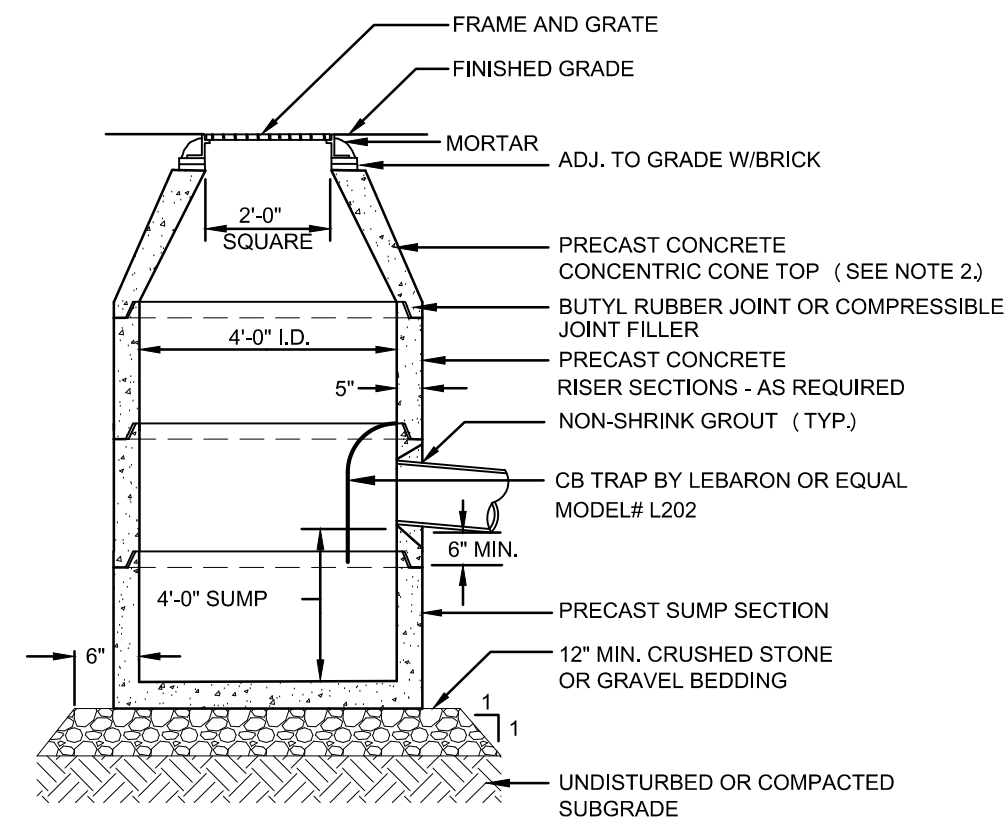
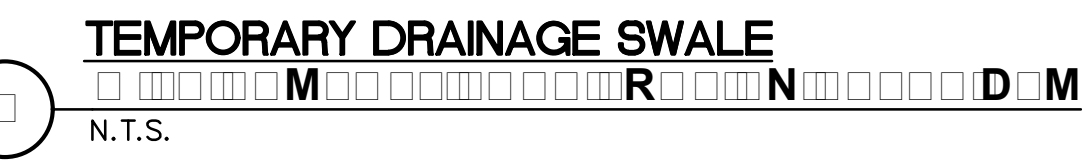
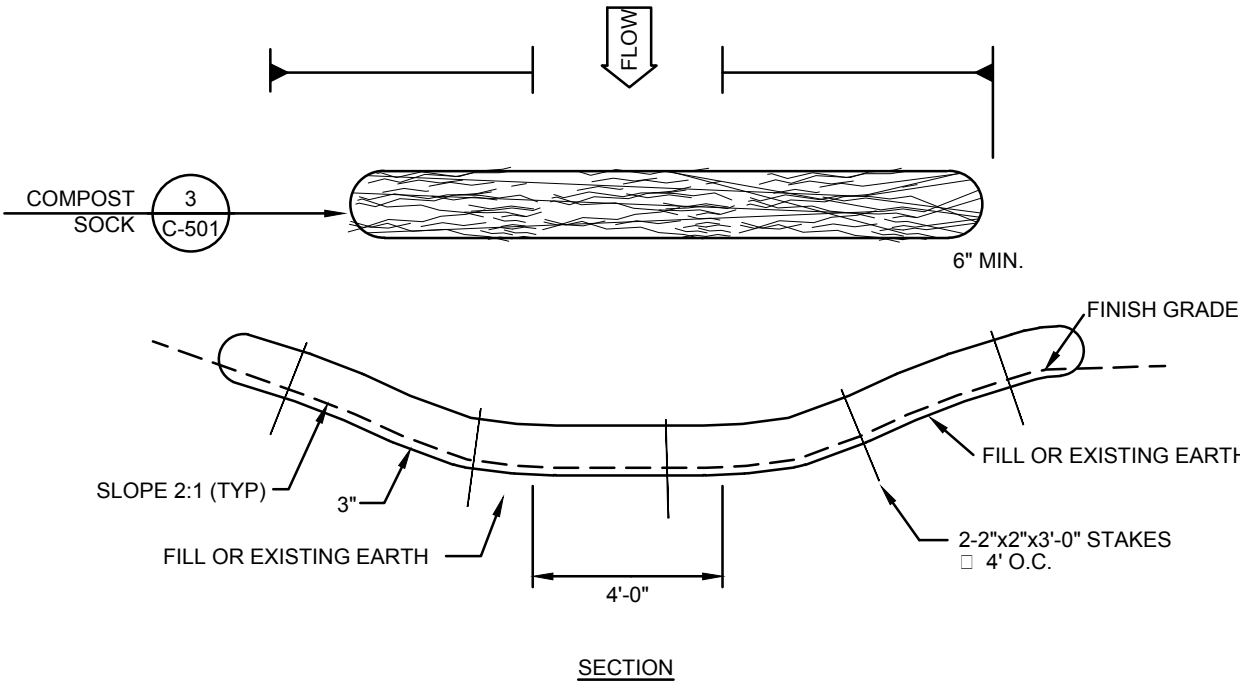
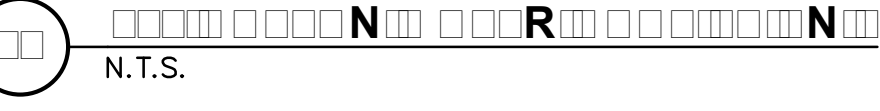


* PROVIDE 5'-0" I.D. SECTIONS AS REQUIRED FOR MULTIPLE/LARGE DIAMETER PIPES.

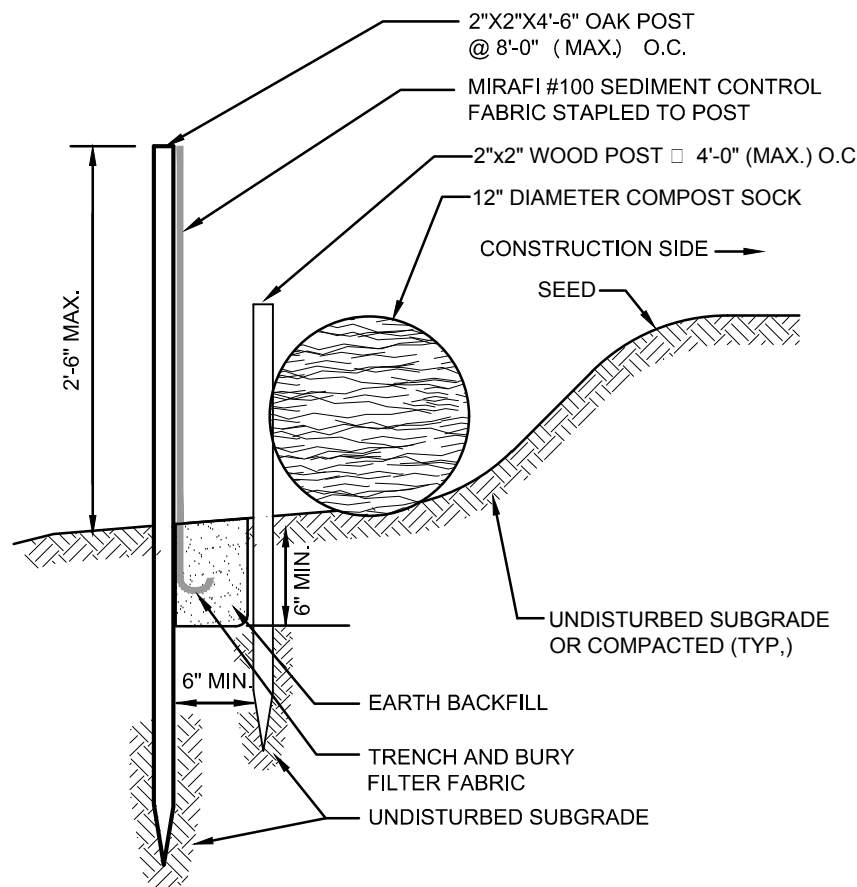
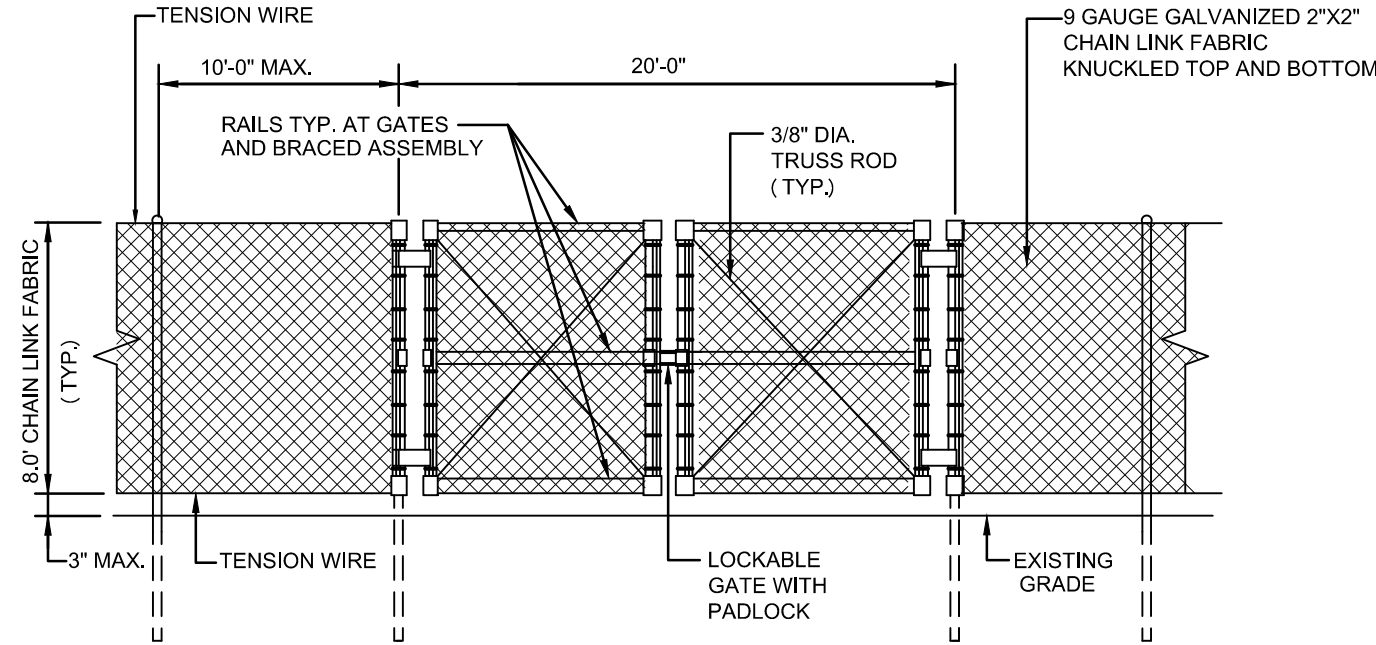
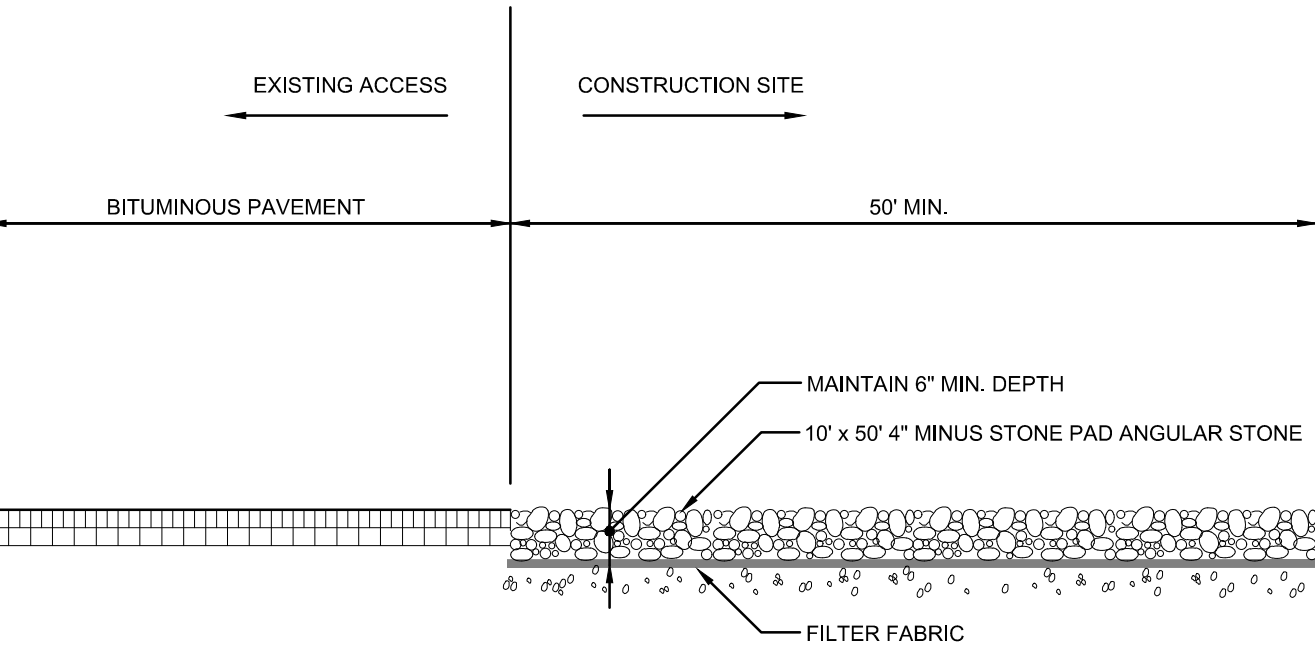


SECTION THRU PLAN VIEW

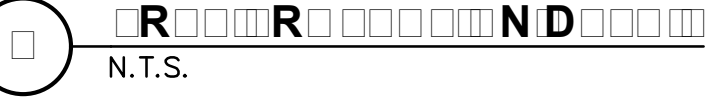
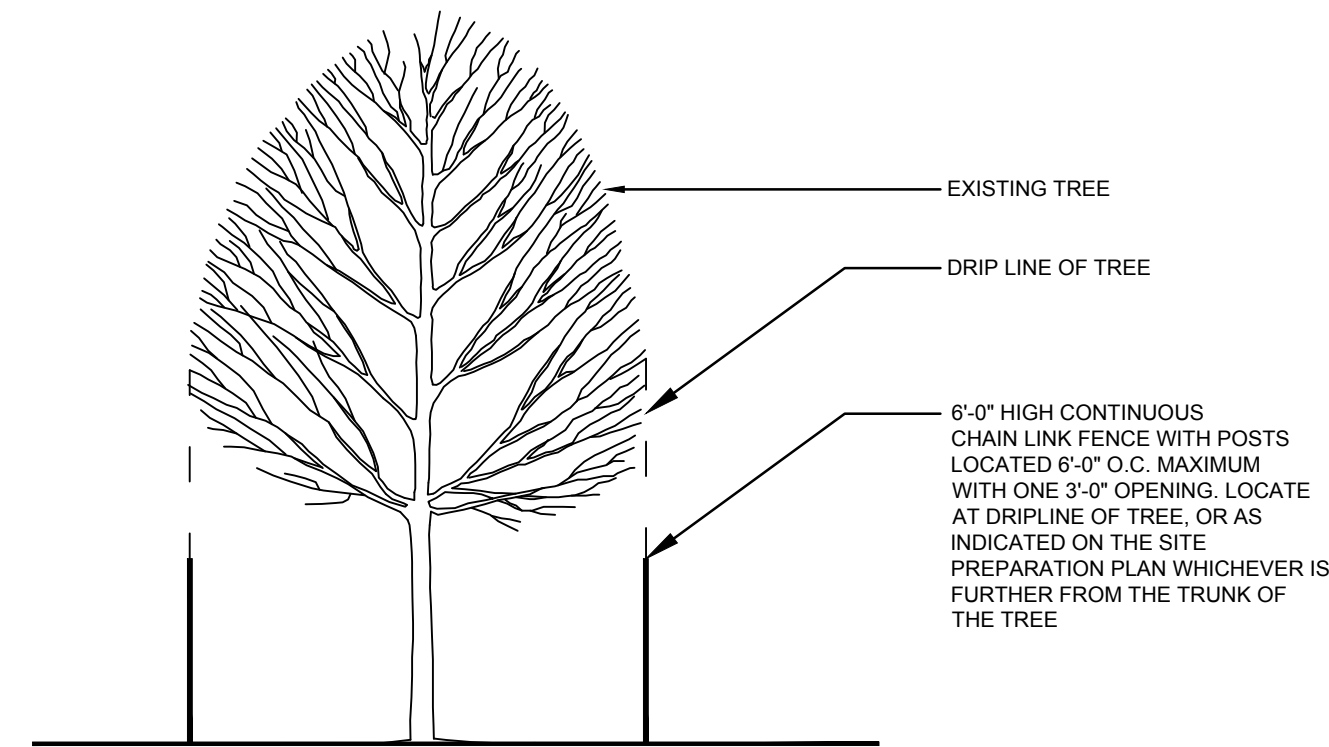
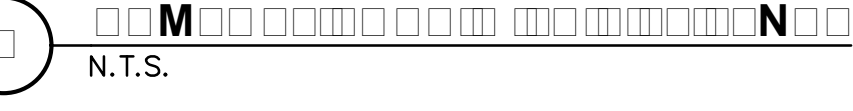
- NOTE: 1. THE USE OF FLEXIBLE CONNECTIONS IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
2. THE COVER SHOULD BE POSITIONED OVER THE CLEANOUT/ VENT PIPE.

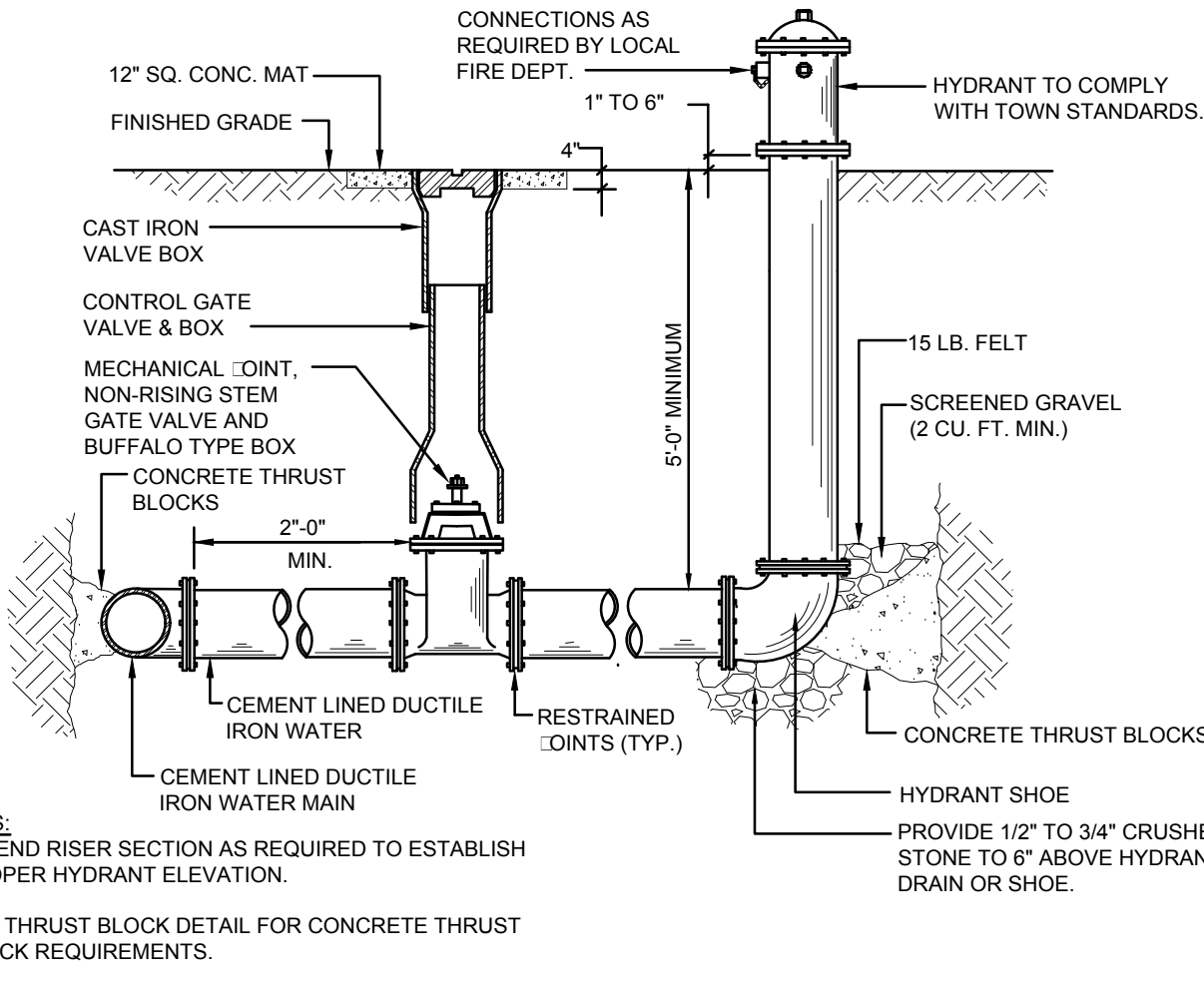


- NOTES: 1. STRUCTURE ADEQUATE FOR H-20 LOADING.
2. PROVIDE SLAB TOP WHERE PIPE COVER < 36"



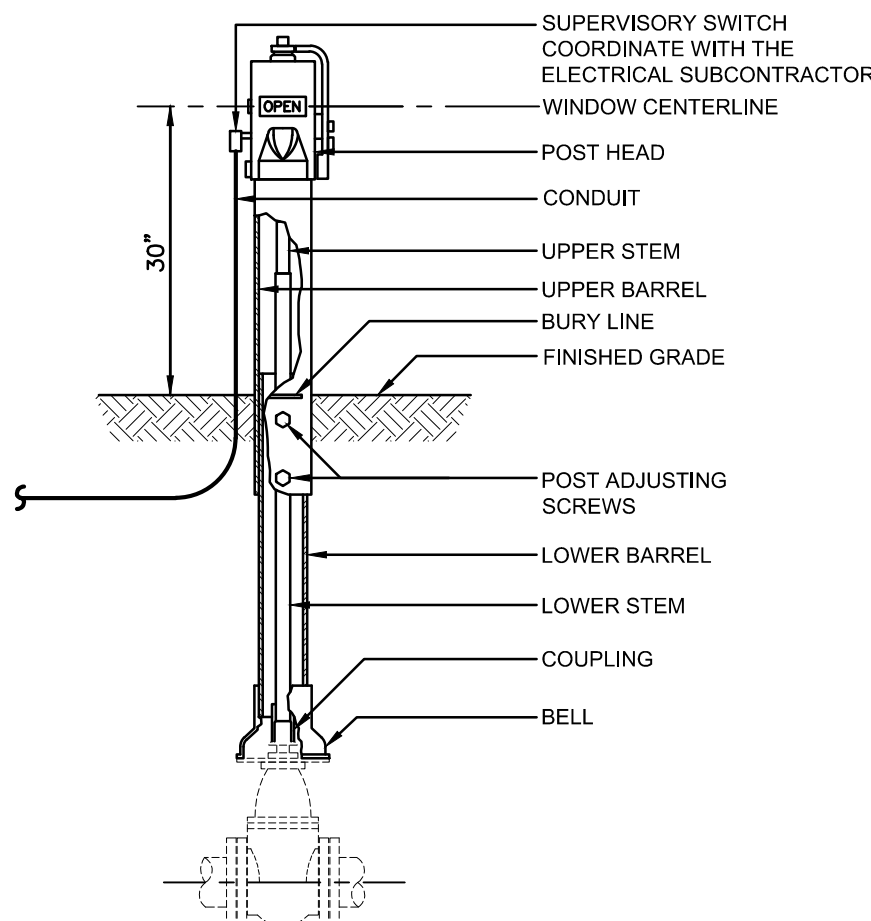
- NOTE: INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS



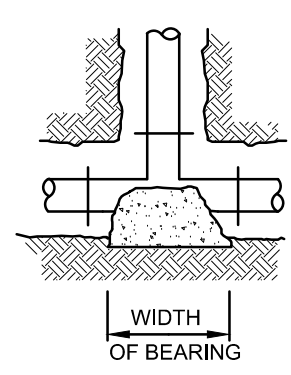


NOTES:
1. EXTEND RISER SECTION AS REQUIRED TO ESTABLISH PROPER HYDRANT ELEVATION.
2. SEE THRUST BLOCK DETAIL FOR CONCRETE THRUST BLOCK REQUIREMENTS.

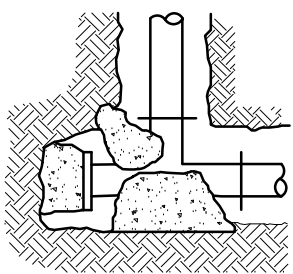
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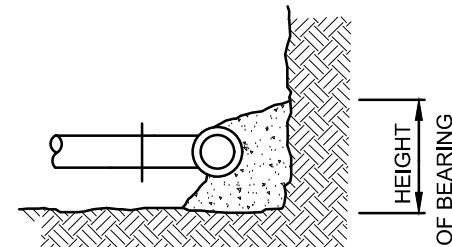
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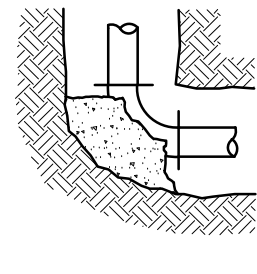


PLAN
CAPPED TEE

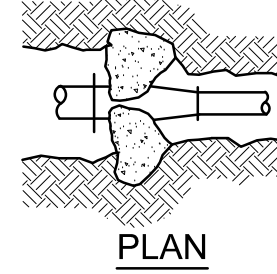


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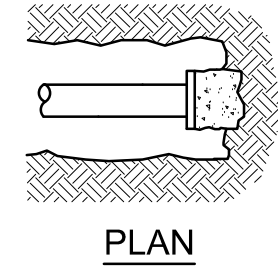
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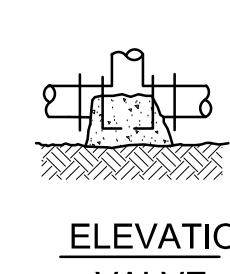
PLAN



PLAN
REDUCER



PLAN
CAP



ELEVATION
VALVE

FITTINGS PIPE SZ.	MINIMUM BEARING AREA (SQUARE FEET)					
	90 °	45 °	22-1/2°	11-1/4°	CAPS & TEES	REDUC.
6"	4	2	2	2	3	3
8"	6	3	3	3	5	5
10"	9	4	4	4	6	6
12"	12	7	4	3	9	9

NOTE:
1. WIDTH & HEIGHT OF BEARING AREAS SHALL BE APPROX. THE SAME.
2. BEARING SHALL BE ON UNDISTURBED SOIL.

APPROVED BY:
TOWN OF MEDWAY PLANNING AND
ECONOMIC DEVELOPMENT BOARD

DATE:



TOWN OF MEDWAY

NEW DPW FACILITY

OWNER:

TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:

HELENE • KARL
Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:

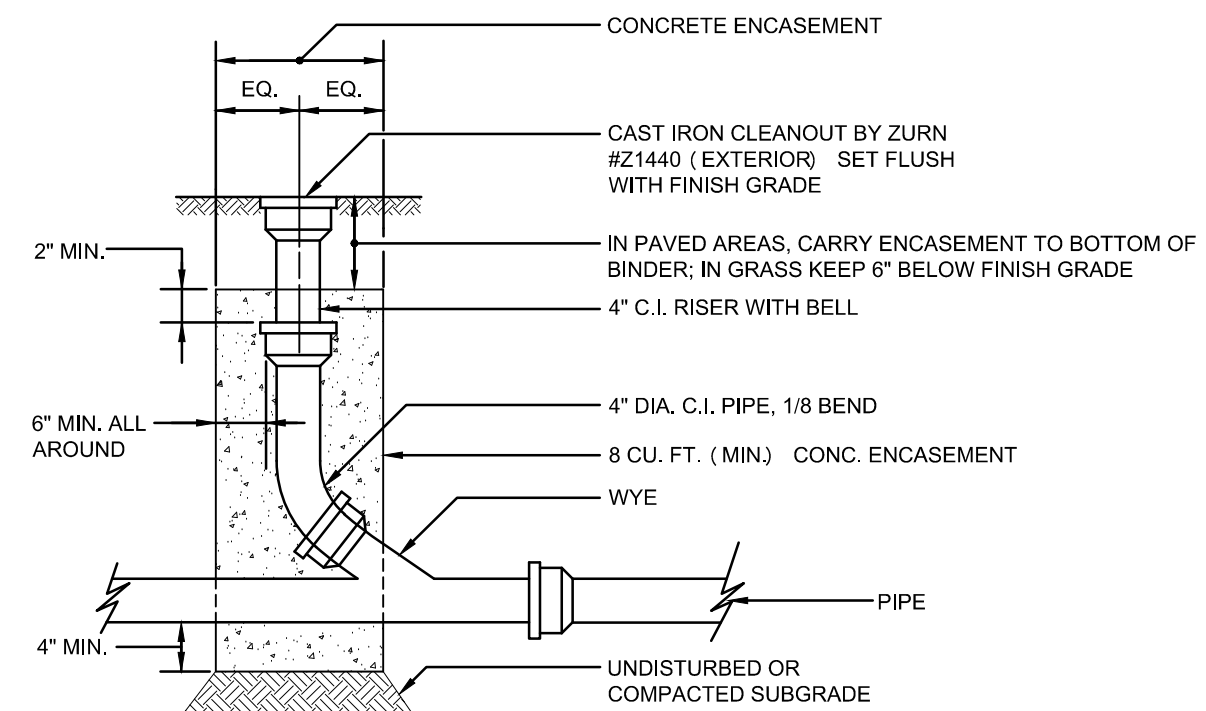
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:

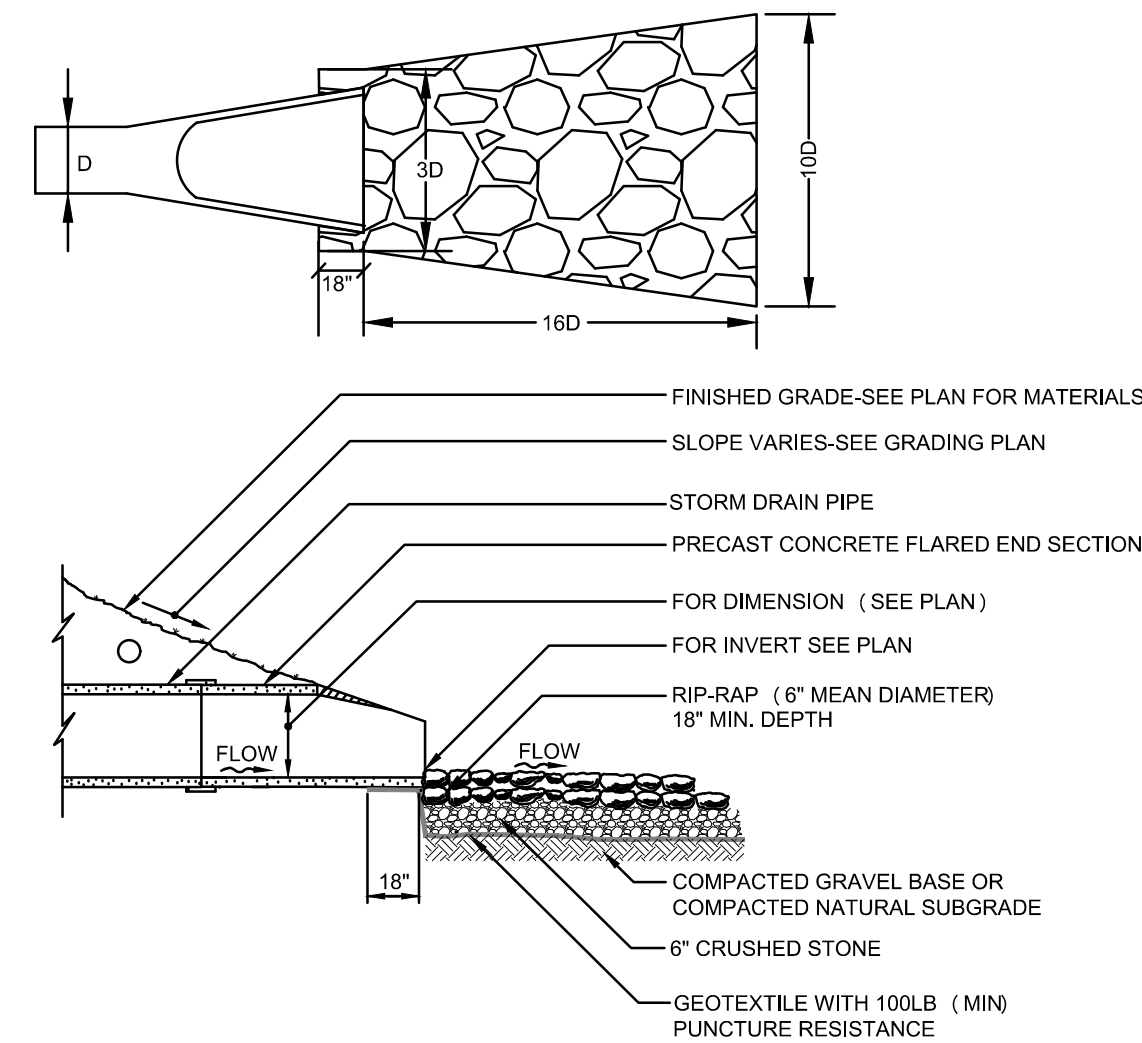
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:

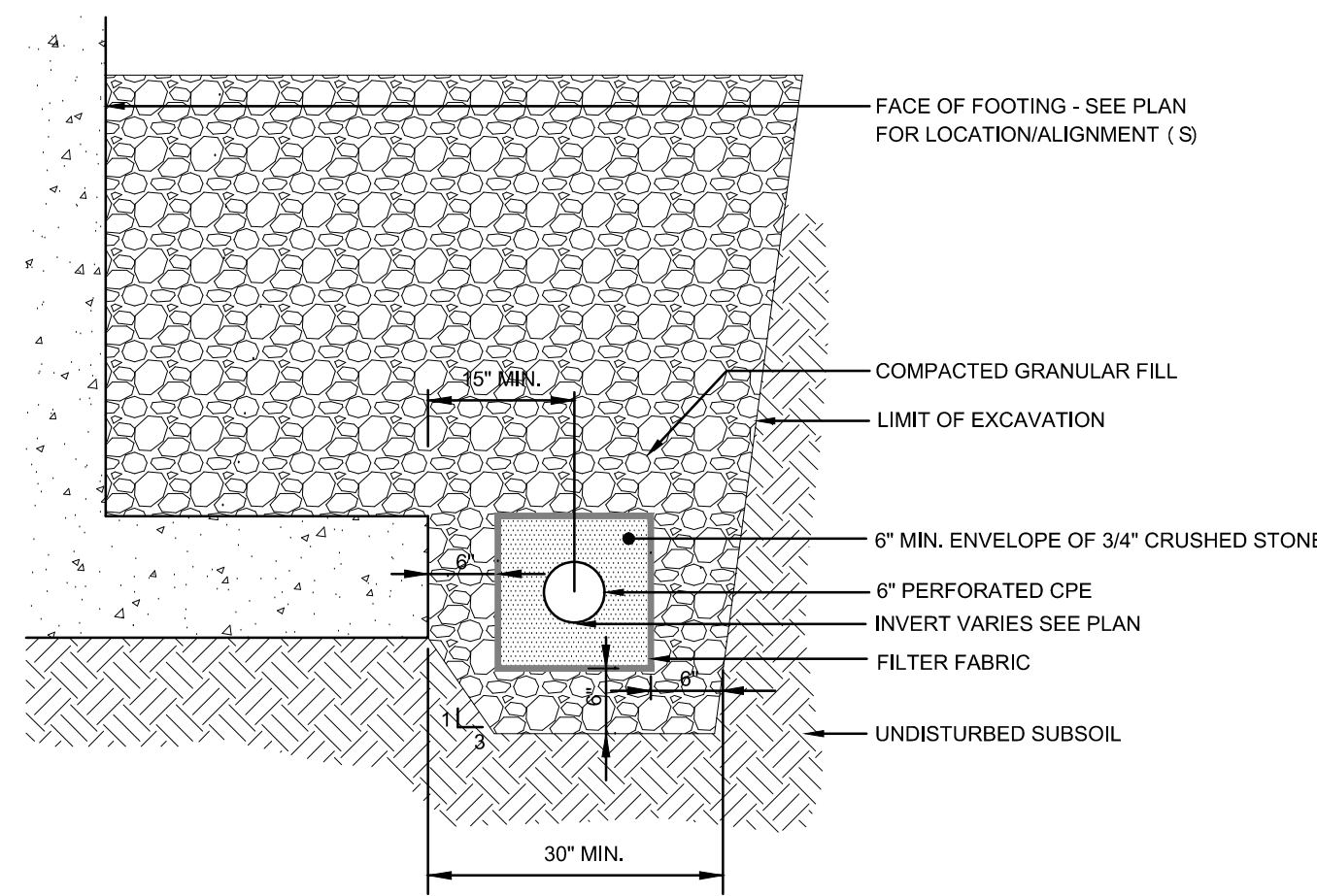
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370



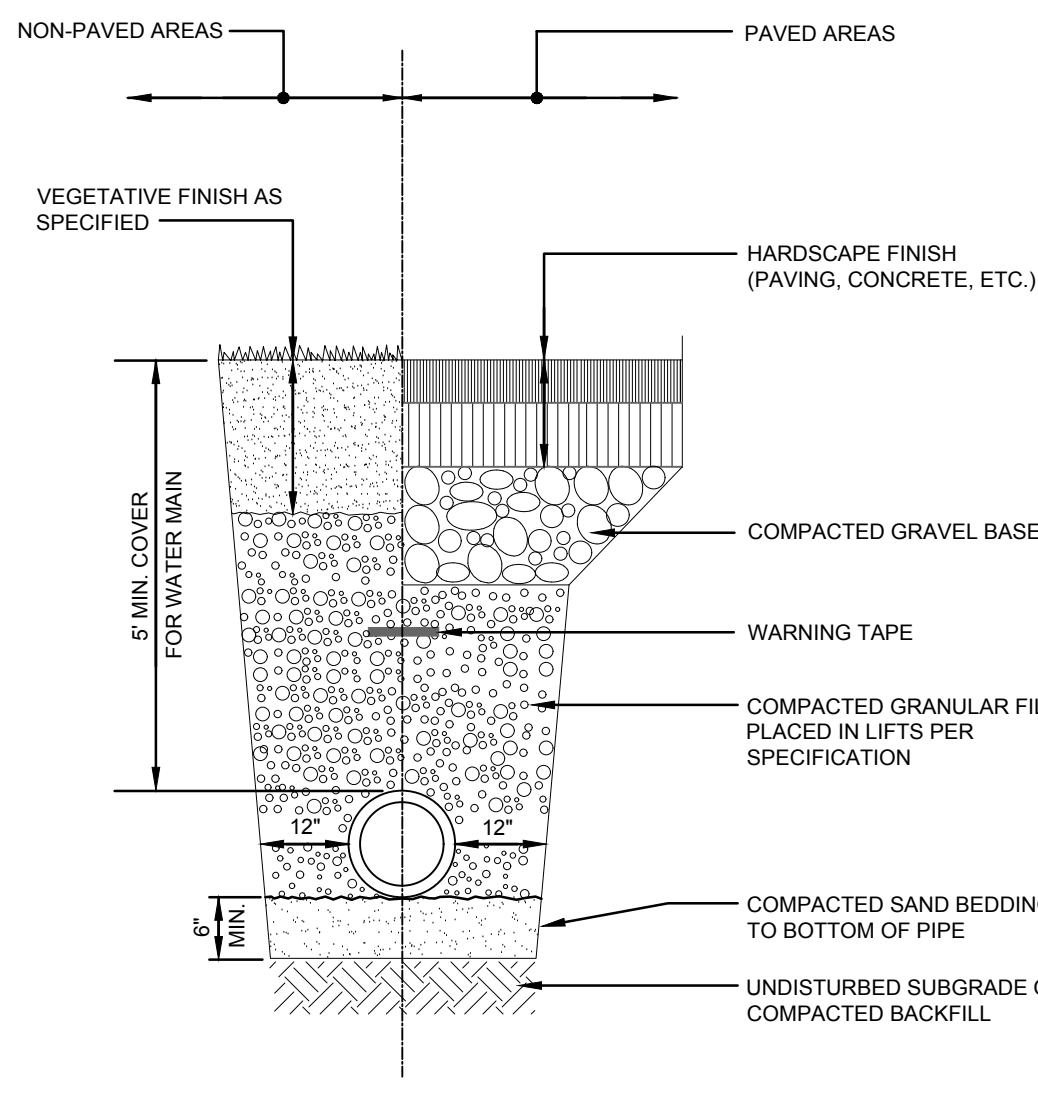
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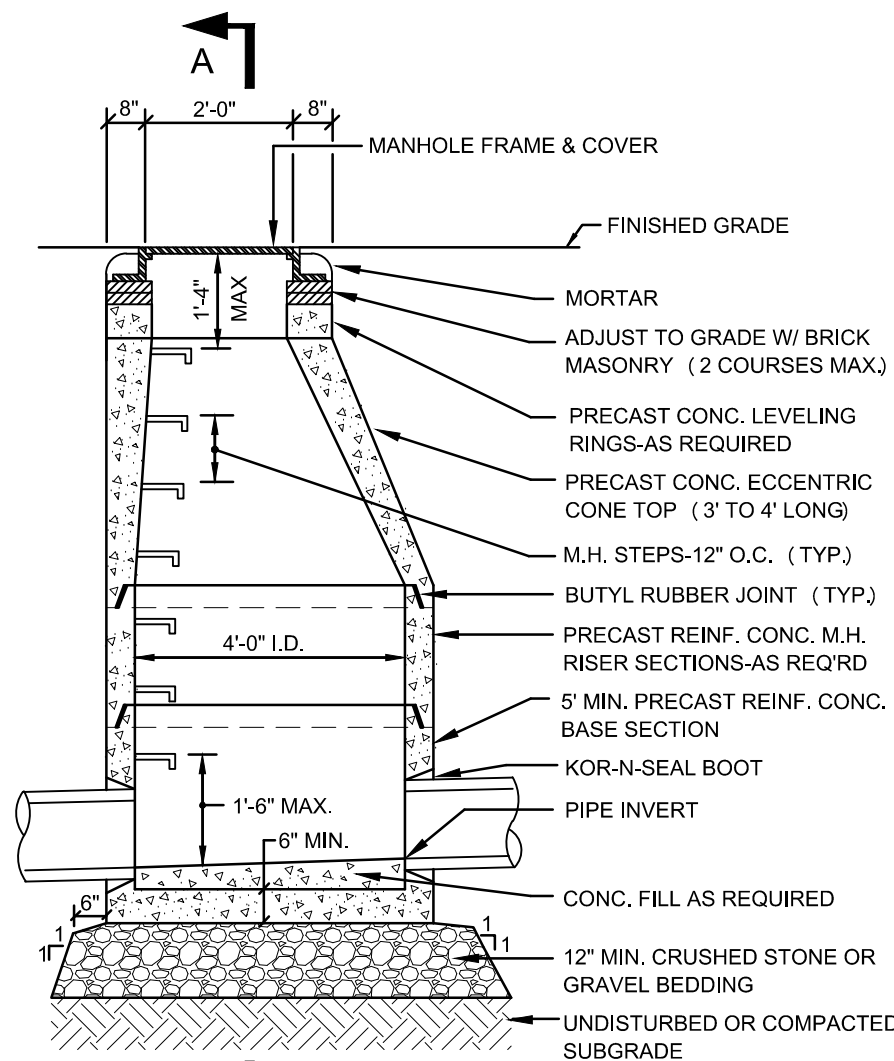
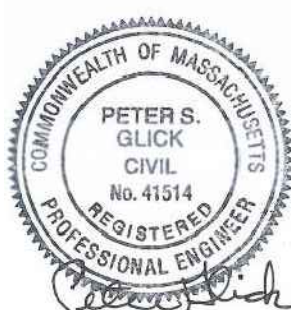


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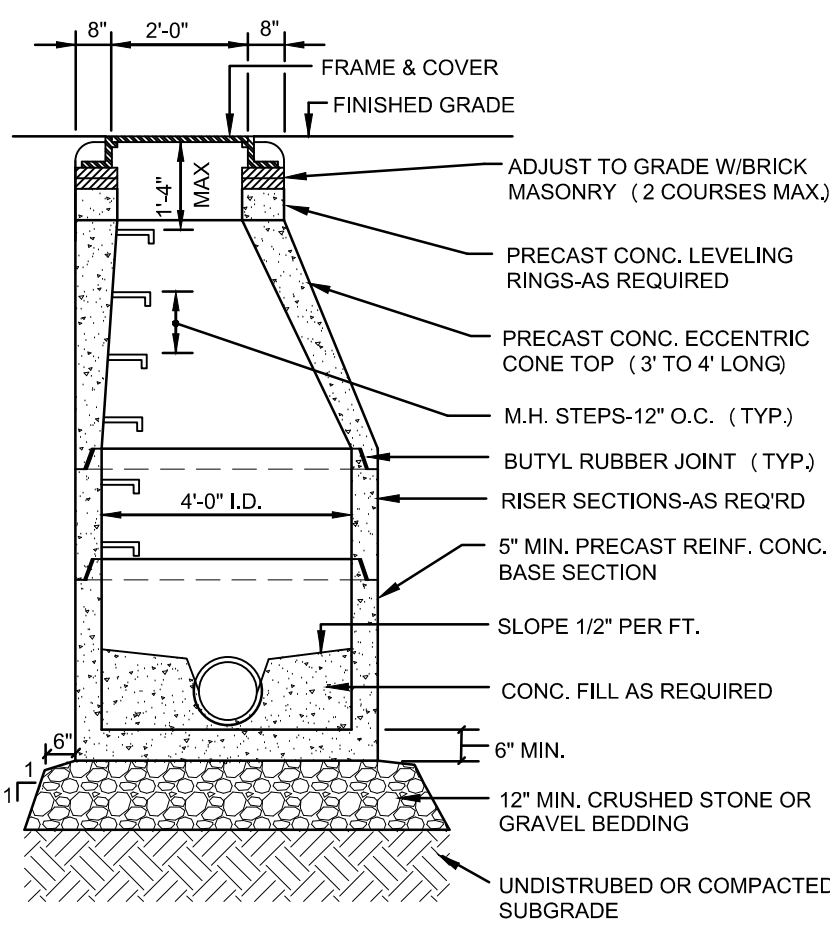


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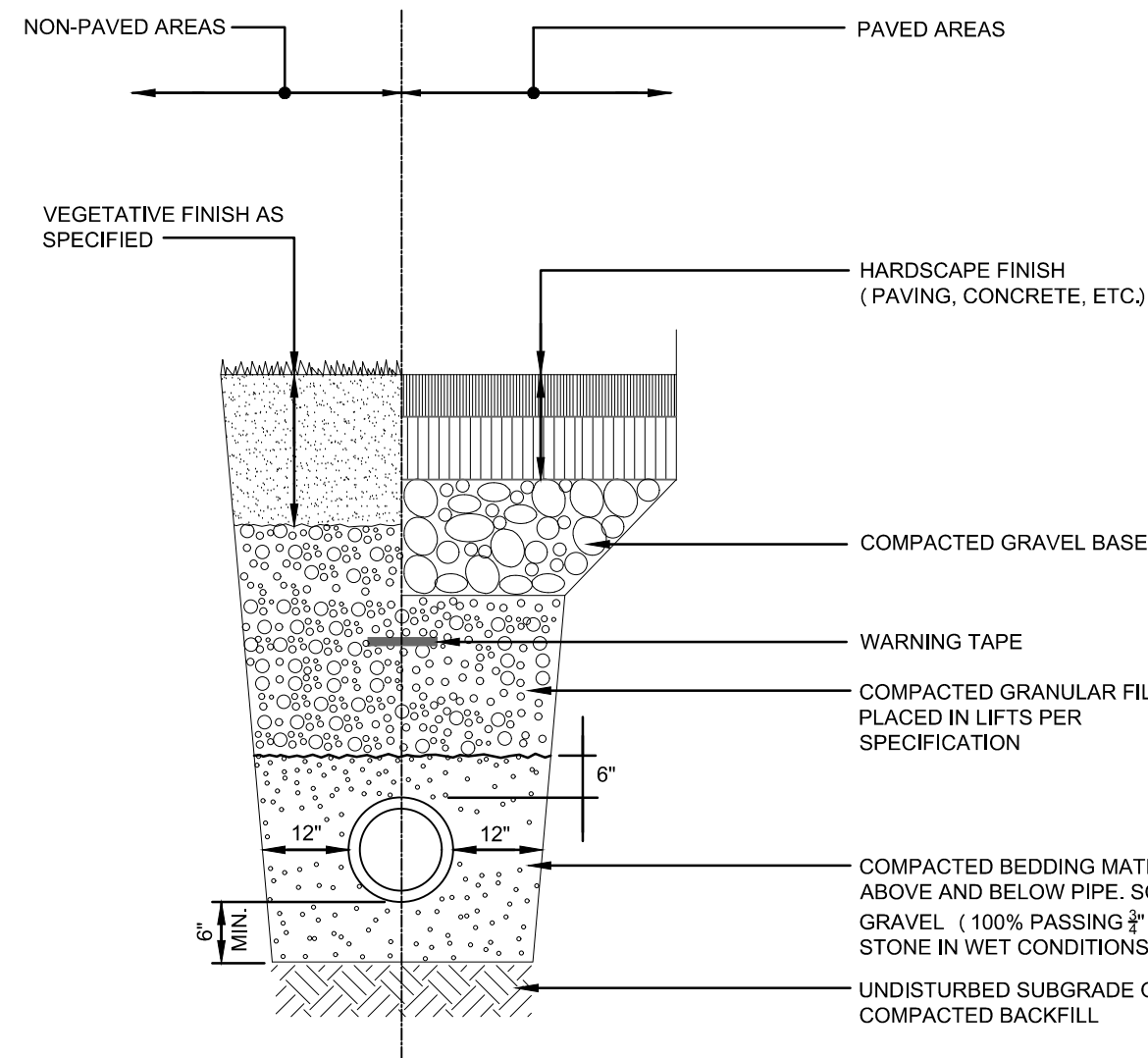
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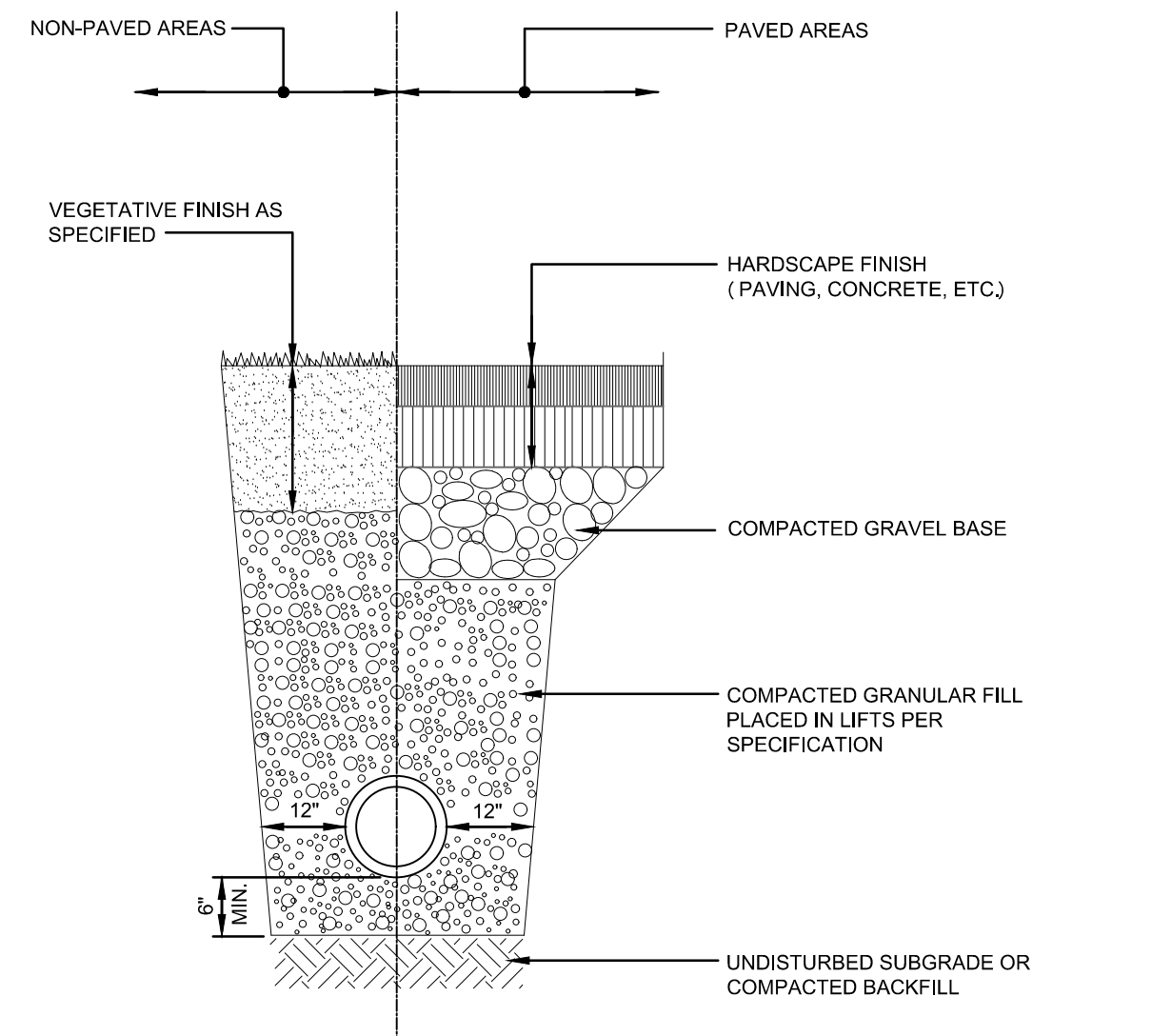
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N.T.S.



SECTION A



INDR
N.T.S.



INDR
N.T.S.

REV	DATE	DESCRIPTION
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	12/20/18	REVIEW
	11/28/18	ISSUED FOR DESIGN REVIEW COMMITTEE REVIEW
	11/08/18	ISSUED FOR PRE-APPLICATION MEETING W/PLANNING BOARD

DATE

SCALE NTS

DRAWN BY ACO

CHECKED BY PSG

PROJECT NO. 18043.00

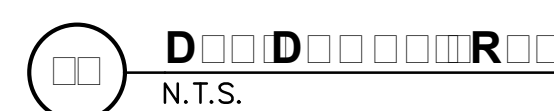
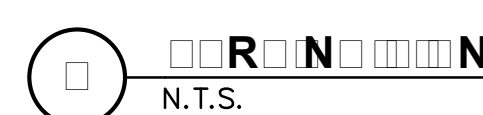
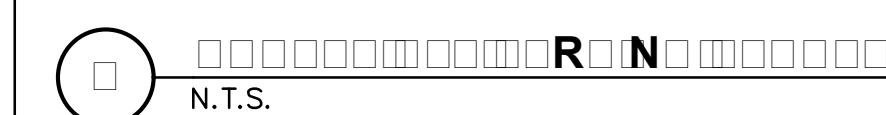
BUILDING:

SHEET TITLE:

DETAILS II

DRAWING NO.

C-502



NEW DPW FACILITY

OWNER:

TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:

 **HELENE • KARL**
Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:

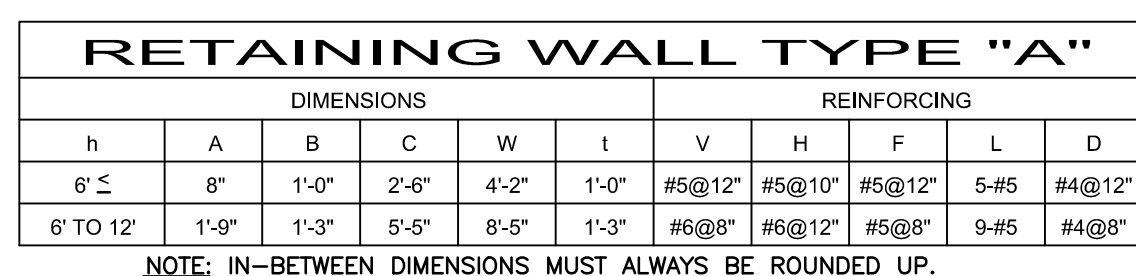
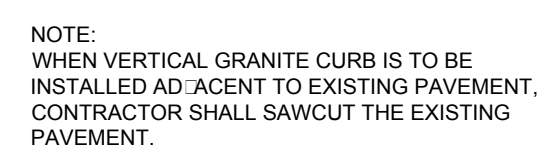
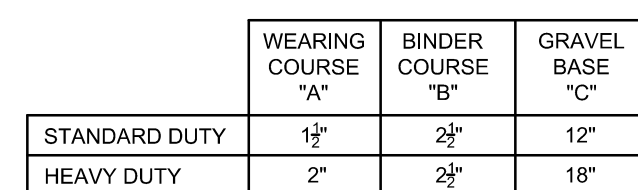
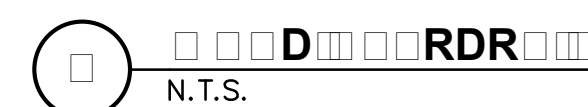
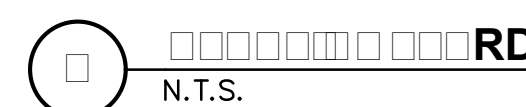
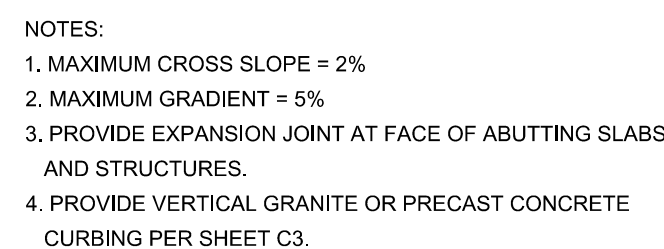
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:

SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370



DATE	
SCALE	NTS
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

BUILDING:

SHEET TITLE:

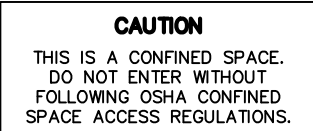
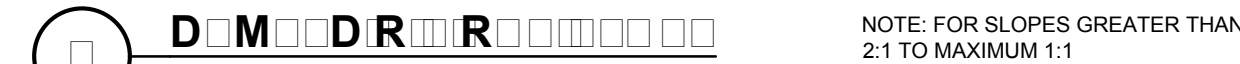
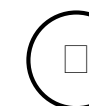
DETAILS III

DRAWING NO.

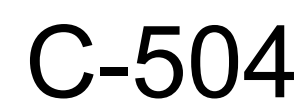
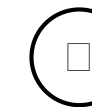
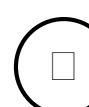
C-503

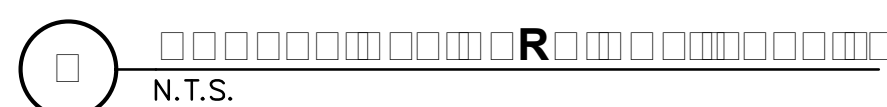
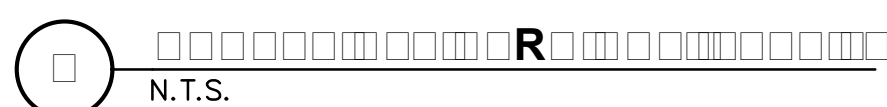
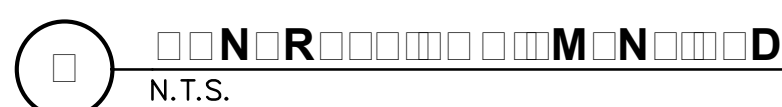
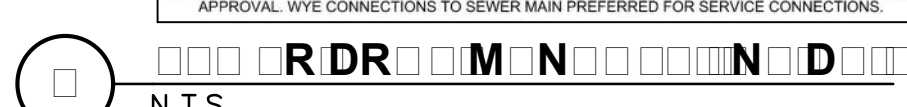
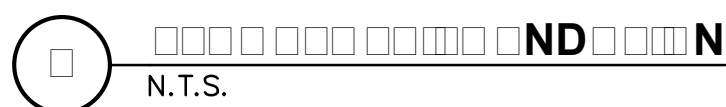
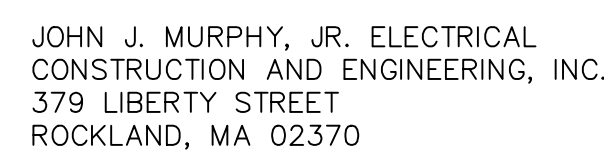


<u>SIEVE SIZE</u>	<u>PERCENT PASSING</u>
2-INCH	100
3/4-INCH	70-100
1/4-INCH	50-80
U.S. NO. 40	15-40
U.S. NO. 200	0-7



— THE CONTRACTOR SHALL VERIFY THE REINFORCING STEEL REQUIRED IN THE CONCRETE ANCHOR SLAB. SHOP DRAWINGS SHALL BE SUBMITTED TO THE OWNER'S ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR VERIFYING THE SIZE OF THE CONCRETE ANCHOR SLAB TO PREVENT FLOTATION. BOUYANCY CALCULATIONS SHALL BE SUBMITTED



DATE: 

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REV	DATE	DESCRIPTION

DATE	
SCALE	NTS
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

C-505

APPROVED BY:
TOWN OF MEDWAY PLANNING AND
ECONOMIC DEVELOPMENT BOARD

DATE: _____



TOWN OF
MEDWAY

NEW DPW FACILITY

OWNER:

TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:

HELENE • KARL
Architects, Inc.

61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:

SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:

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22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMP



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REV	DATE	DESCRIPTION
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DATE	VARIABLES
SCALE	VARIES
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

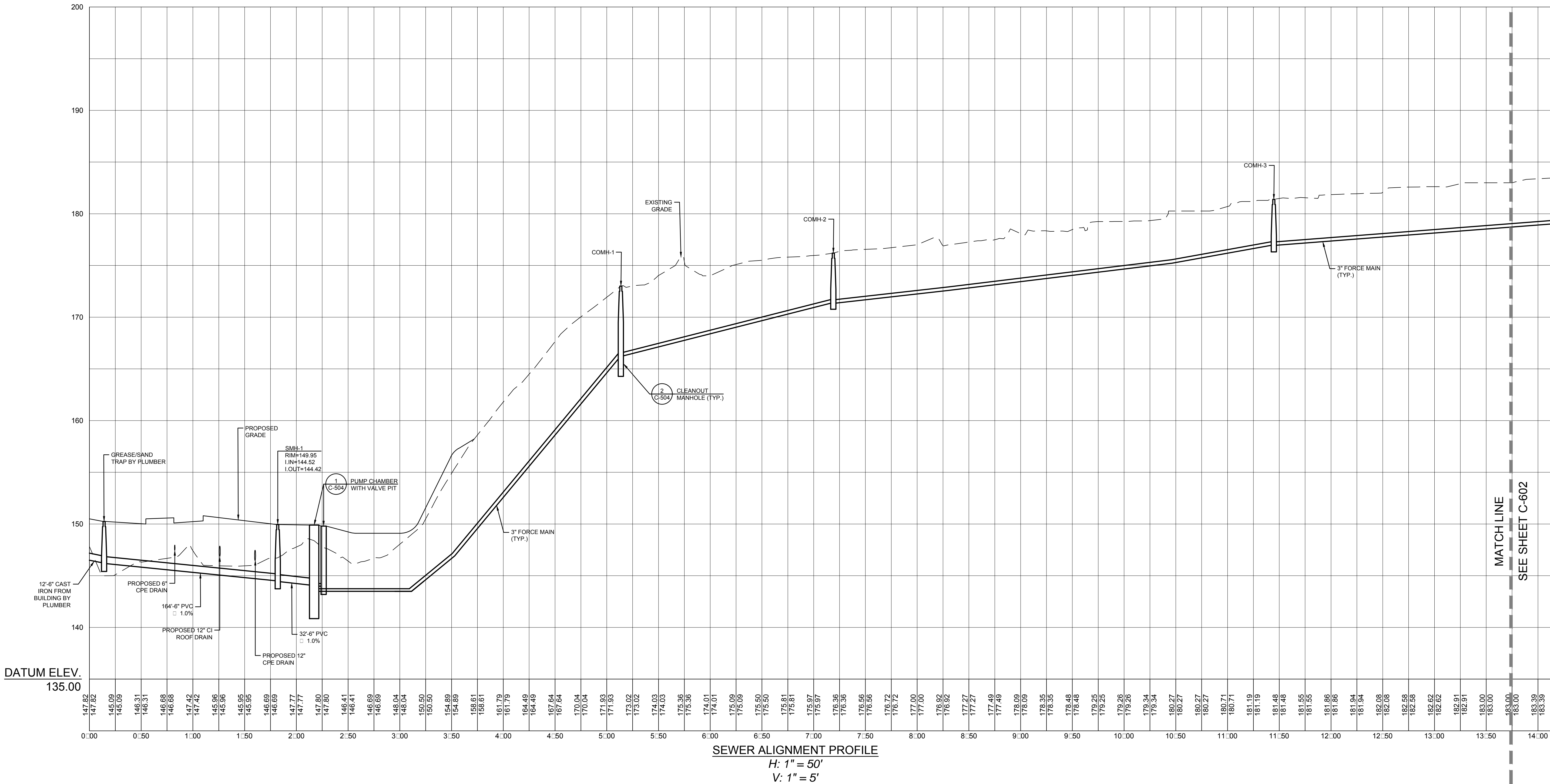
BUILDING:

SHEET TITLE:

SEWER
PROFILE I

DRAWING NO.

C-601



APPROVED BY:
TOWN OF MEDWAY PLANNING AND
ECONOMIC DEVELOPMENT BOARD

DATE:



TOWN OF
MEDWAY

NEW DPW FACILITY

OWNER:

TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:

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Architects, Inc.

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1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:

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MECHANICAL ENGINEER:

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MILLBURY, MA 01527

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CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

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REV	DATE	DESCRIPTION

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SCALE	VARIES
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

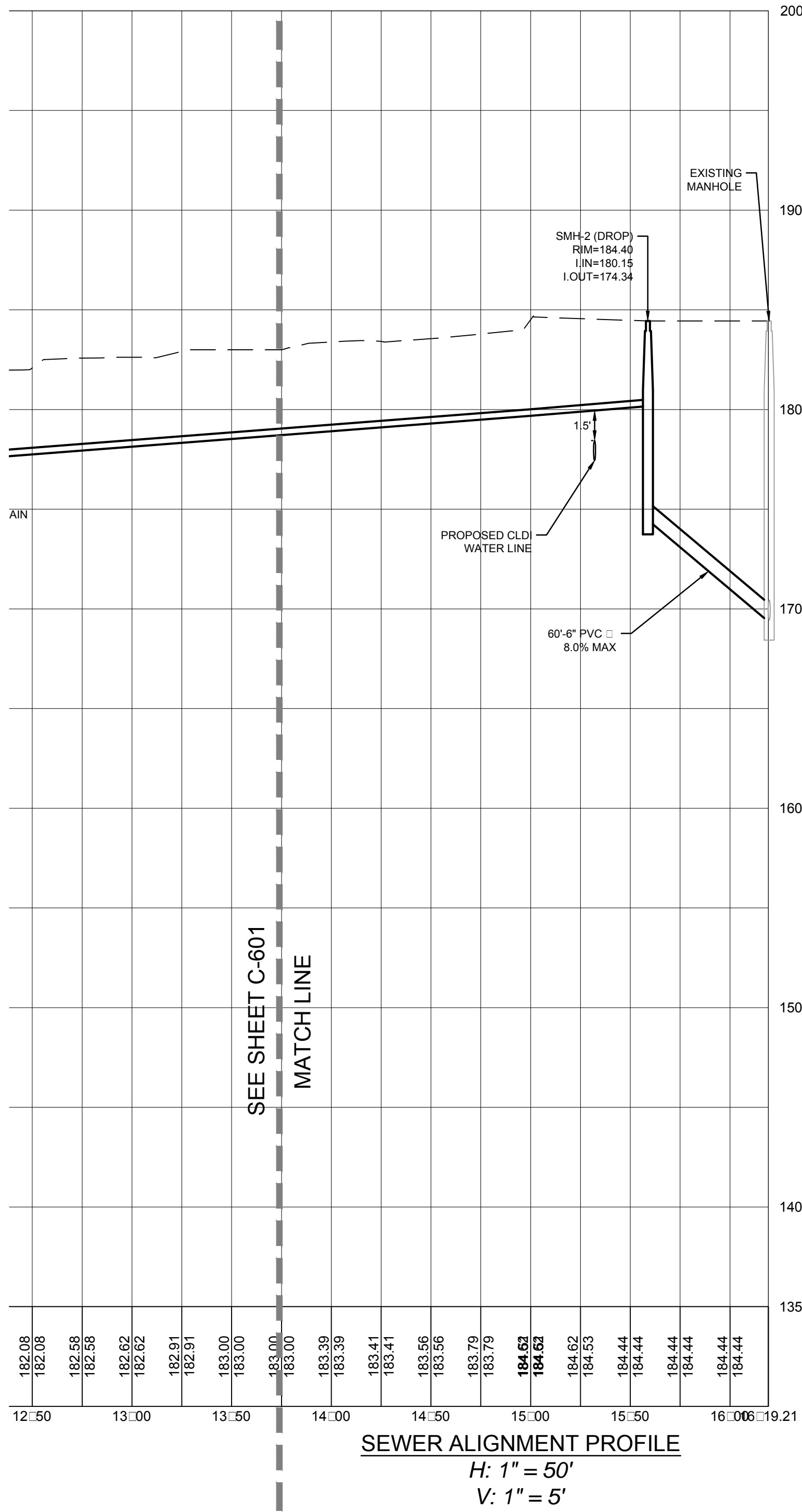
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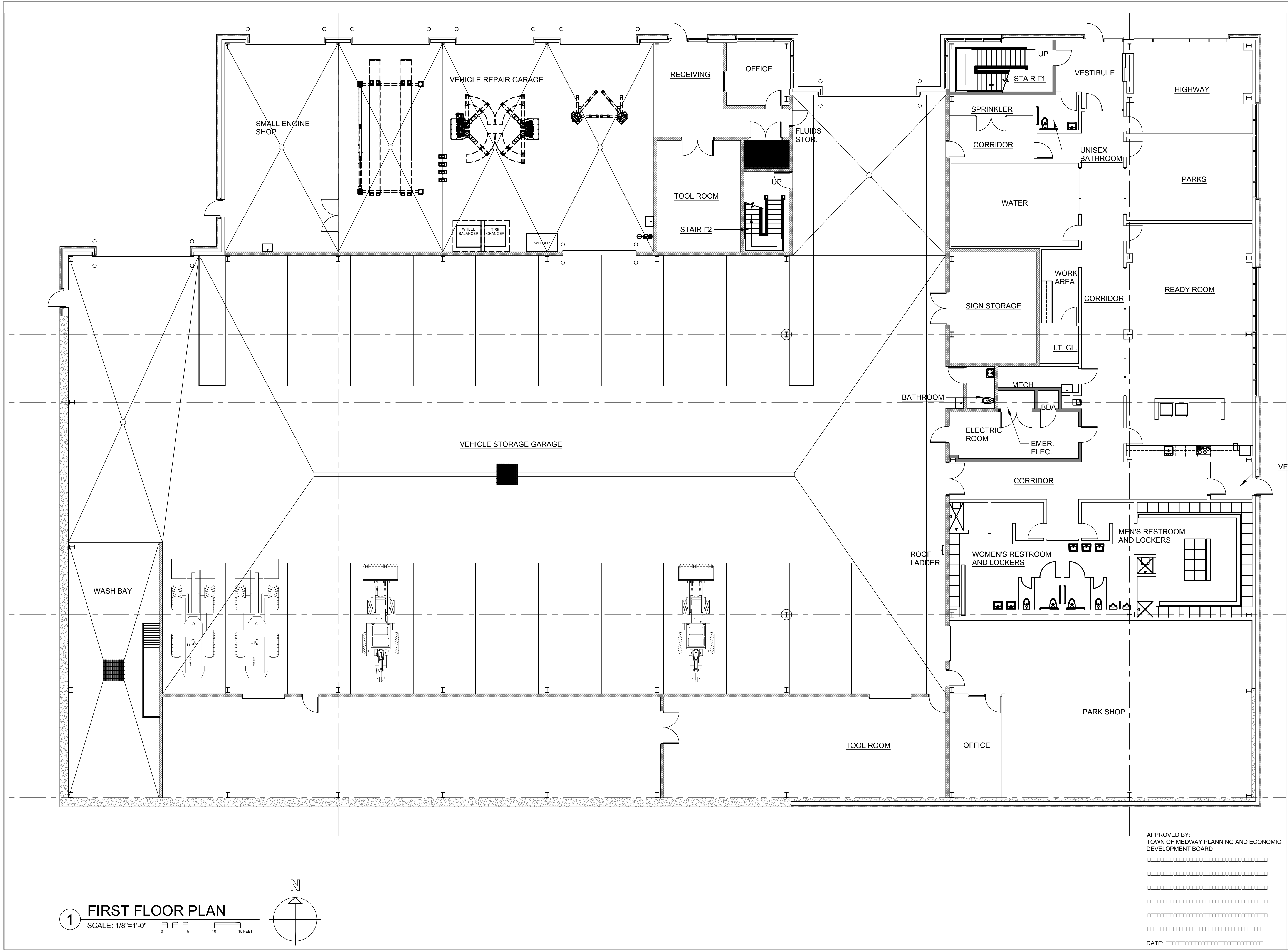
SHEET TITLE:

SEWER
PROFILE II

DRAWING NO.

C-602





TOWN OF
MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370



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DATE	
SCALE	1/8" = 1'-0"
DRAWN BY	MTV
CHECKED BY	GKY
PROJECT NO.	18043.00

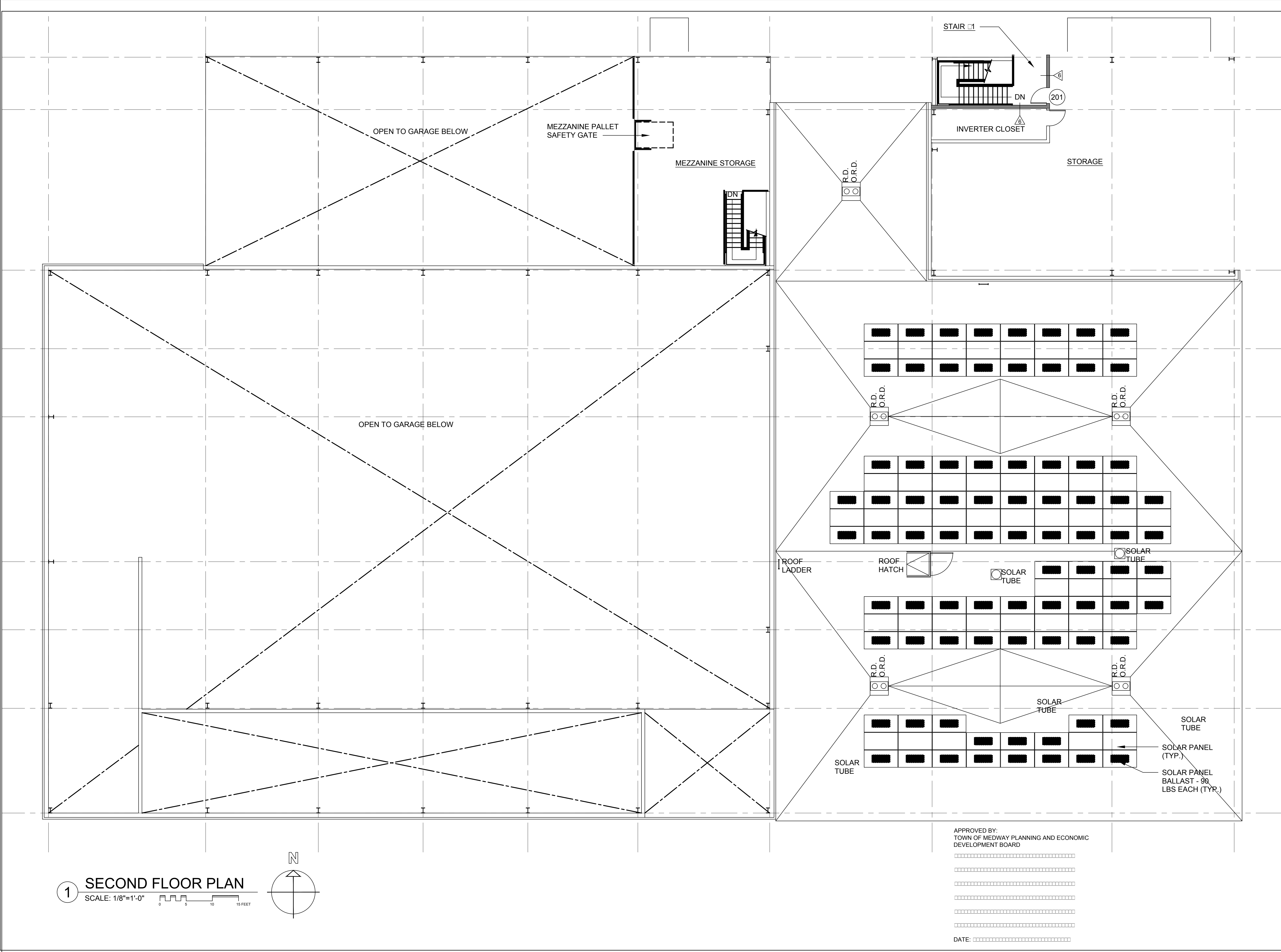
BUILDING:
SHEET TITLE:

FIRST FLOOR PLAN

DRAWING NO.
A-101

APPROVED BY:
TOWN OF MEDWAY PLANNING AND ECONOMIC
DEVELOPMENT BOARD

DATE: _____



TOWN OF
MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370



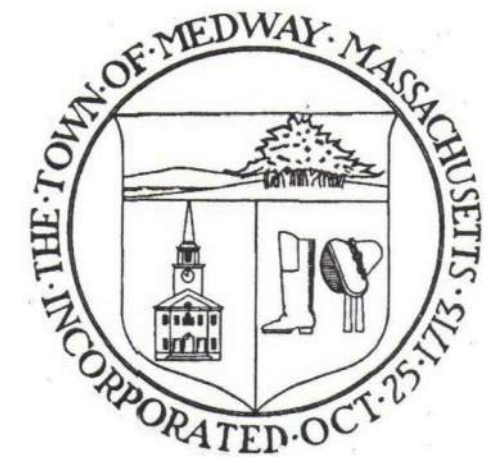
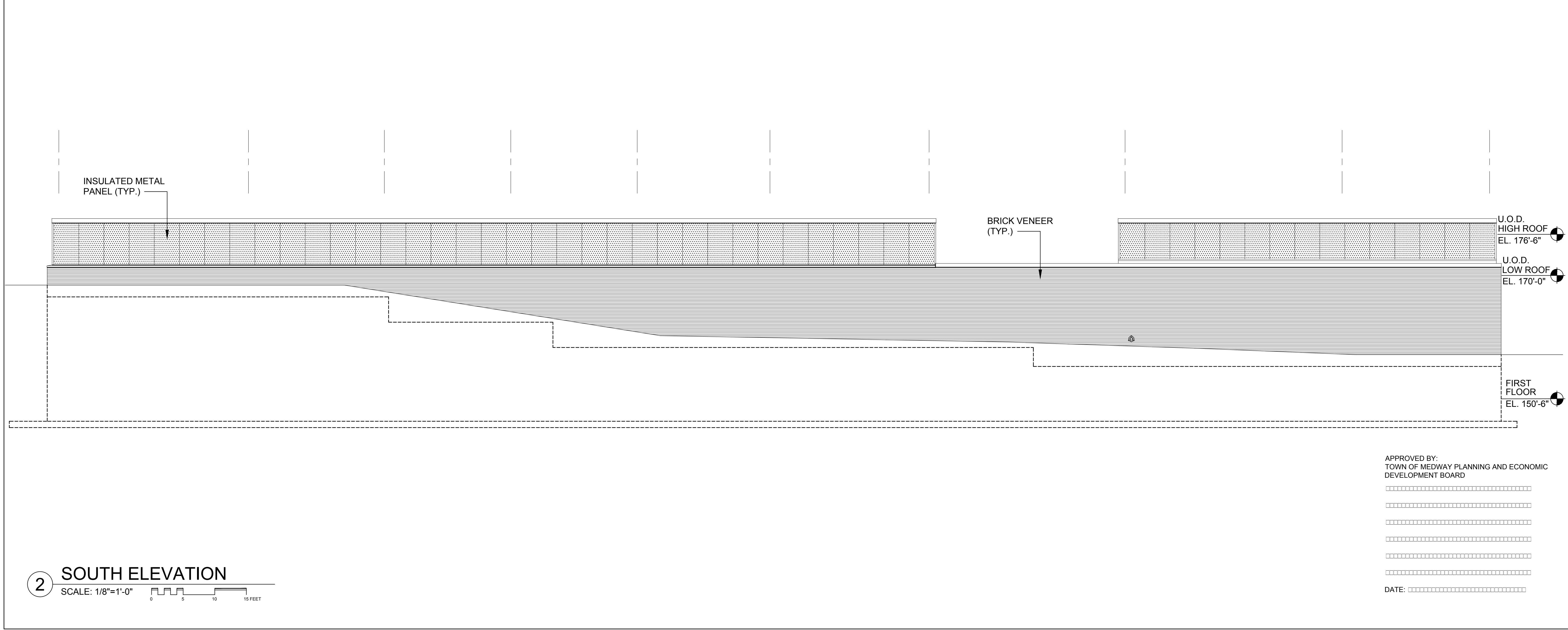
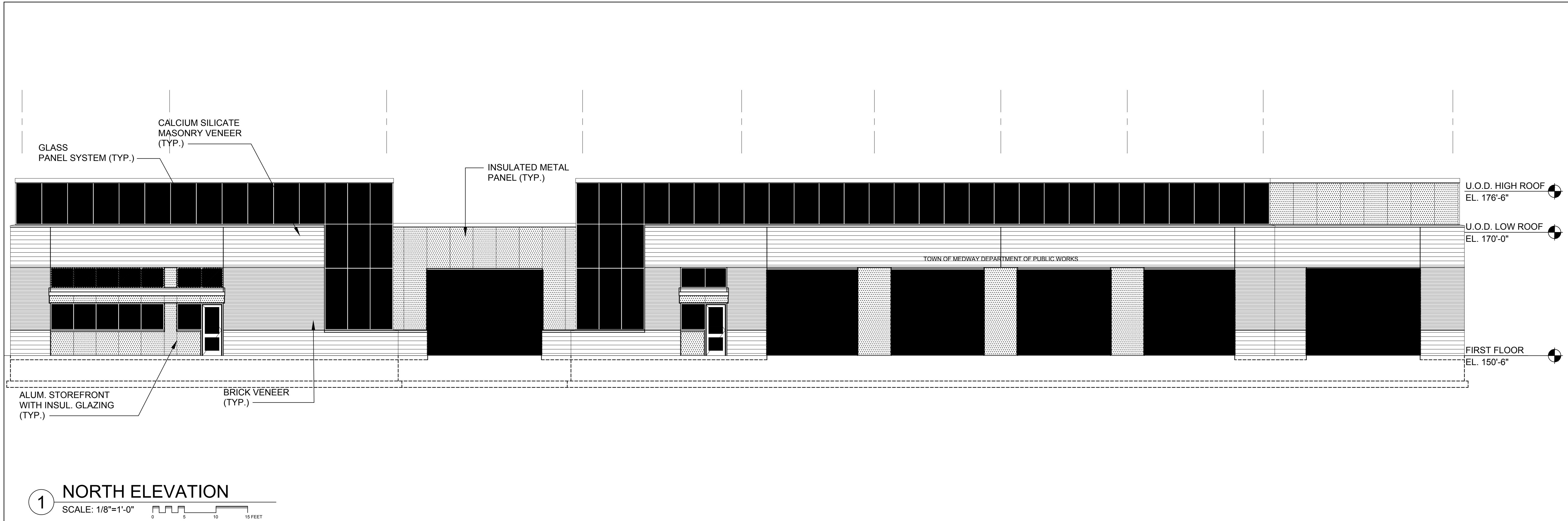
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DRAWN BY	MTV
CHECKED BY	GKY
PROJECT NO.	18043.00

BUILDING:
SHEET TITLE:

A-102

DRAWING NO.
SECOND FLOOR AND
LOWER ROOF PLAN



TOWN OF MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:
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1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYMMES, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370



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DATE	
SCALE	1/8" = 1'-0"
DRAWN BY	MTV
CHECKED BY	GKY
PROJECT NO.	18043.00

BUILDING:
SHEET TITLE:
EXTERIOR ELEVATIONS SHEET 1

DRAWING NO.
A-301



TOWN OF
MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

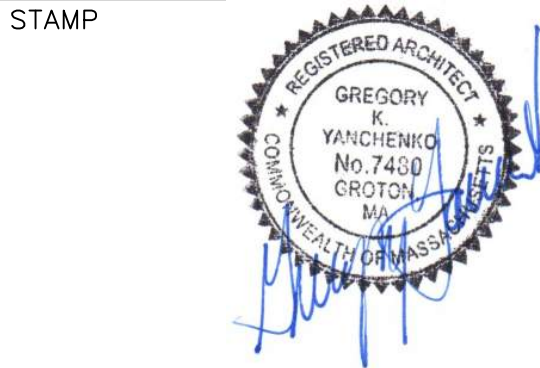
ARCHITECT:
HELENE • KARL
Architects, Inc.
61 Skyfields Drive, Groton, Massachusetts 01450

CIVIL ENGINEER:
SYMME, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYMME, MAINI & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

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CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

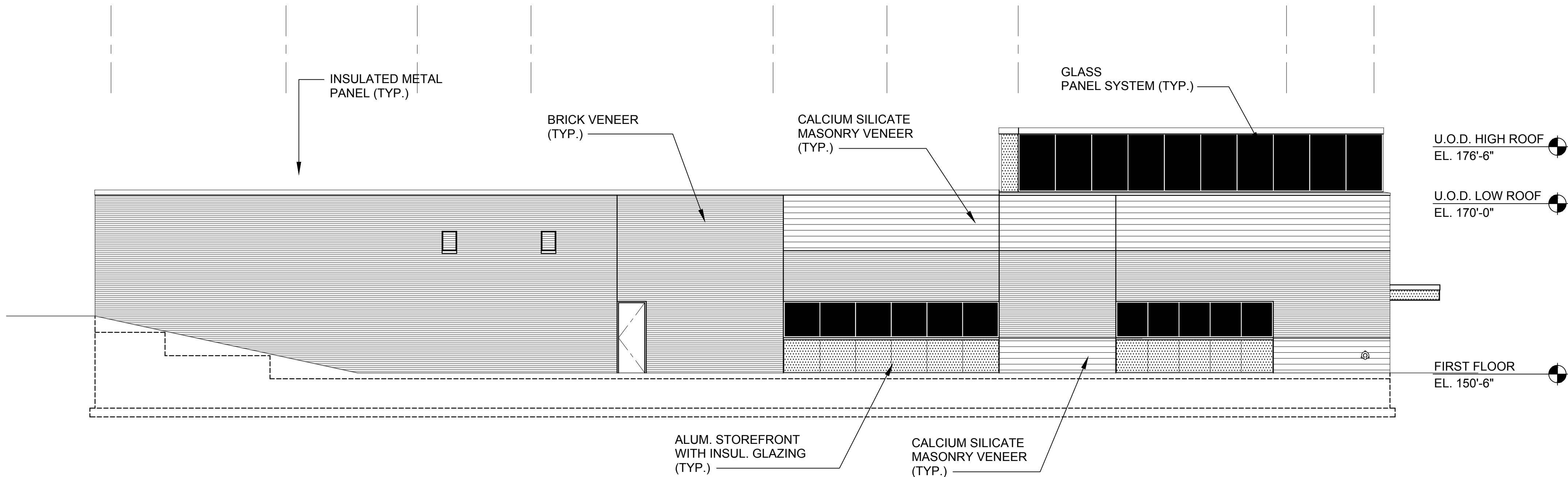


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REV	DATE	DESCRIPTION

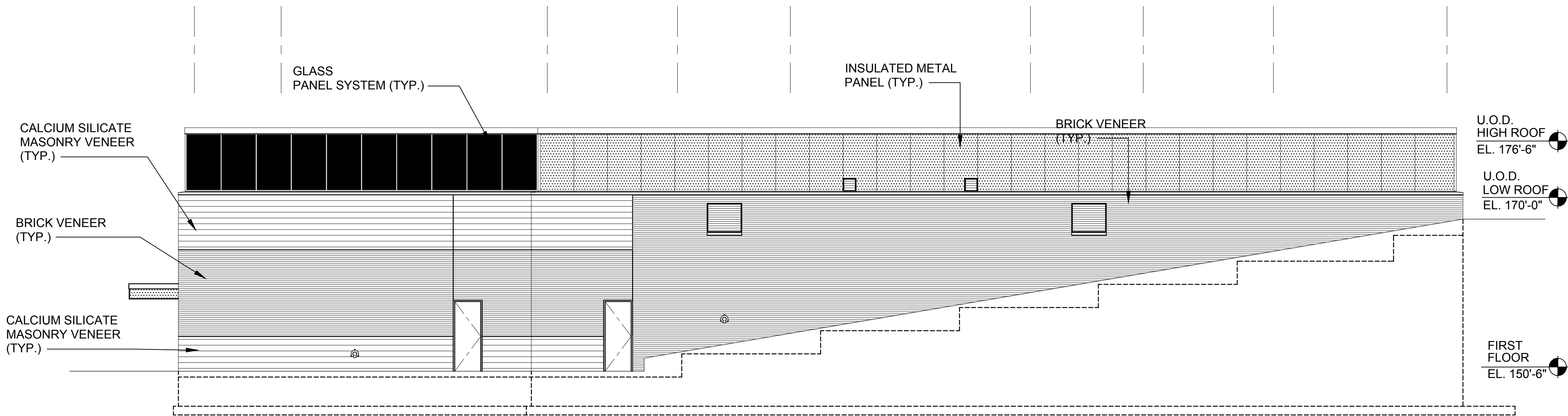
DATE	
SCALE	1/8" = 1'-0"
DRAWN BY	MTV
CHECKED BY	GKY
PROJECT NO.	18043.00

BUILDING:	
SHEET TITLE:	EXTERIOR ELEVATIONS SHEET 2

DRAWING NO.	A-302
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3 EAST ELEVATION
SCALE: 1/8"=1'-0"
0 5 10 15 FEET



4 WEST ELEVATION
SCALE: 1/8"=1'-0"
0 5 10 15 FEET

APPROVED BY:
TOWN OF MEDWAY PLANNING AND ECONOMIC
DEVELOPMENT BOARD

DATE:



MEDWAY DPS BUILDING - RENDERING 1



MEDWAY DPS BUILDING - RENDERING 2



MEDWAY DPS BUILDING - RENDERING 3



MATERIAL STORAGE BUILDING



SALT STORAGE BUILDING
FRONT VIEW



SALT STORAGE BUILDING
REAR VIEW



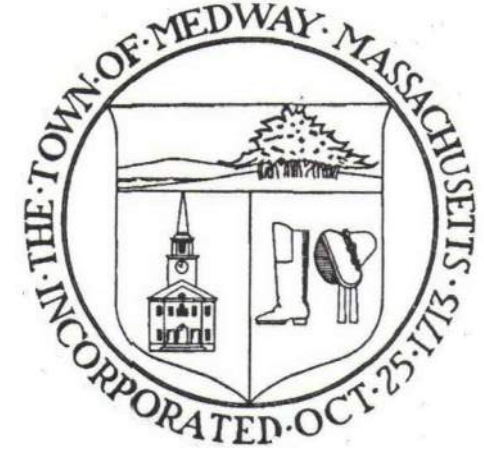
SALT STORAGE BUILDING
INTERNAL VIEW



SOLAR CANOPY AT
TRUCK PARKING

APPROVED BY:
TOWN OF MEDWAY PLANNING AND ECONOMIC
DEVELOPMENT BOARD

DATE: _____



TOWN OF
MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:
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Architects, Inc.
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1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
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CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:
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CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370



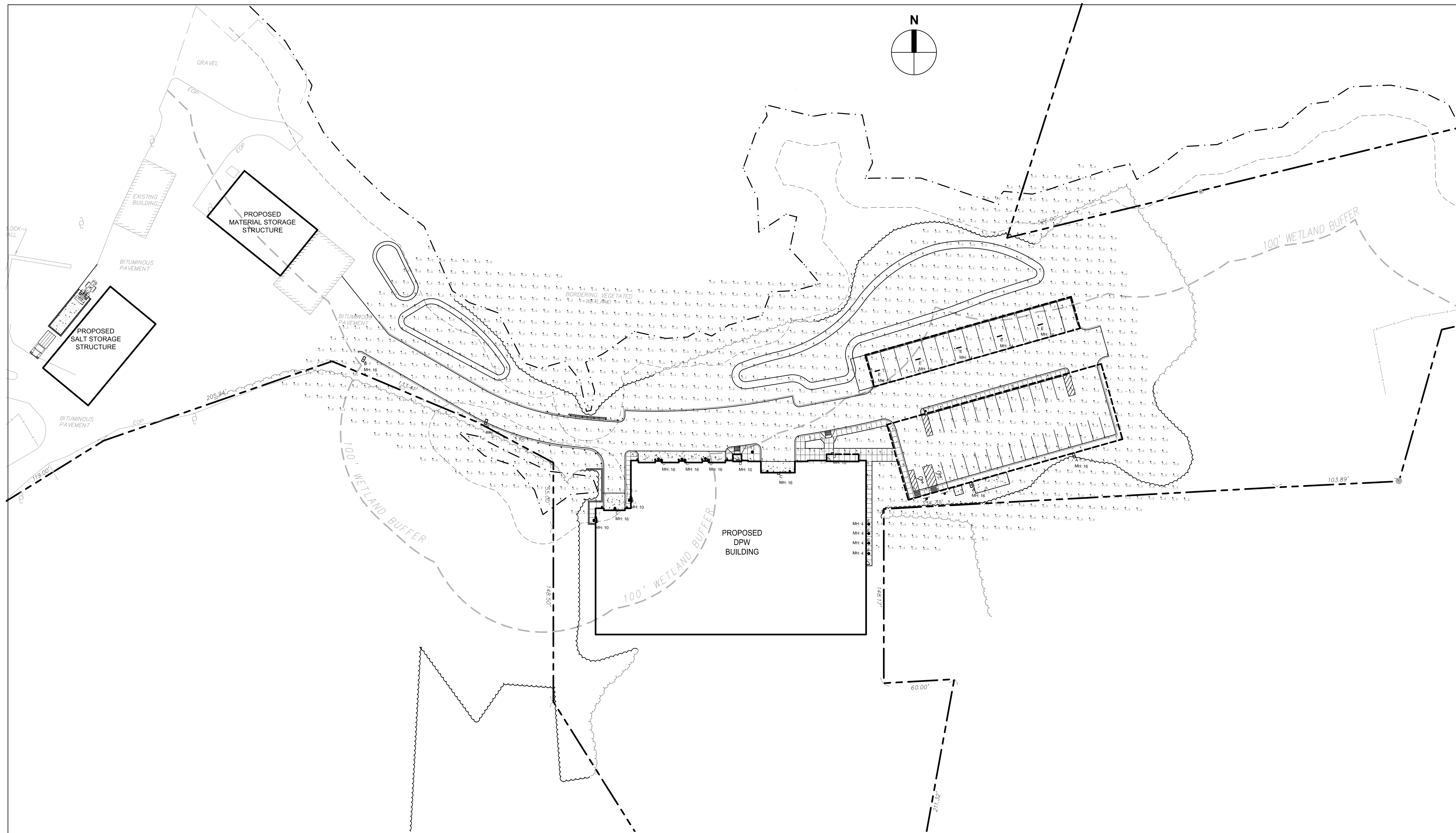
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DATE	
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DRAWN BY	MTV
CHECKED BY	GKY
PROJECT NO.	18043.00

BUILDING:
SHEET TITLE:

RENDERINGS

DRAWING NO.
A-303



1 Photometric Layout
SCALE: 1"=30'-0"

Luminaire Schedule						
Symbol	Qty	Label	Description	LLF	Lum. Lumens	Lum. Watts
	2	A	XTRALIGHT VNTLEDM022004SNDIM510XXBZHOHS	0.850	15013	218.3
	2	B	XTRALIGHT VNTLEDM021003MNDIM510XXBZHOHS	0.850	9174	104.6
	5	C	XTRALIGHT VNTW-8000L-40K-DIM-4S-BZ	0.850	8498	79.6
	5	D	XTRALIGHT VNTW-3500L-50K-DIM-3M-BZ	0.850	3452	27.9
	5	E	XTRALIGHT VTE4-5000L-40K-DIM-SFA	0.850	5268	44.4
	4	F	LUMASCAPE LS201LED-6H6-NARROW BEAM-23-CB- DIM TO 10%	0.850	403	6.0

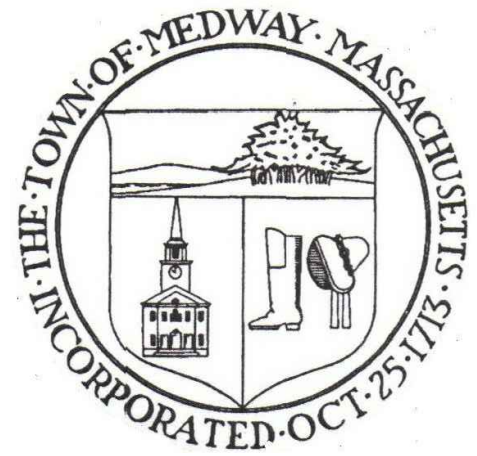
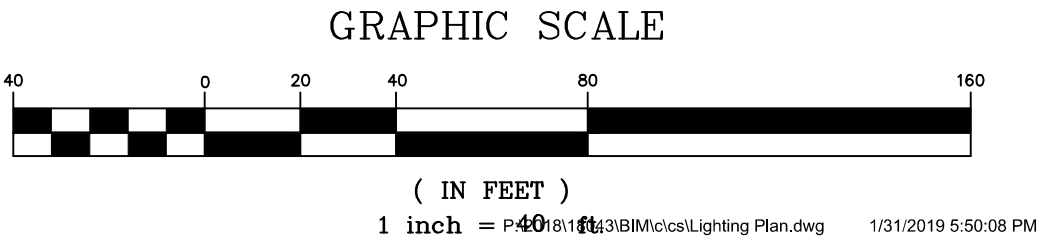
Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Site Points	Illuminance	Fc	0.67	8.8	0.0	N.A.	N.A.

ABBREVIATIONS:

Avg= Average
AFG= Above Finished Grade
CF = Compact Fluorescent
CV= Coefficient of variation
fc = Footcandles
HPS = High Pressure Sodium
LLF = Light Loss Factor
MH = Mounting Height
NTS = Not to Scale
PSMH = Pulse Start Metal Halide
SF = Square foot
W = Watts

NOTES:

- A. CALCULATION POINTS INDICATED ARE BASED ON MAINTAINED FOOTCANDLE (FC) LEVELS AFTER A LIGHT LOSS FACTOR (LLF) IS APPLIED TO FIXTURE. REFER TO SCHEDULES FOR LLF AND LUMEN INFORMATION.
B. REFER TO PLAN FOR FIXTURE MOUNTING HEIGHTS.
C. CALCULATION POINTS TAKEN AT GRADE.



TOWN OF
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CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:

SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:

JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

STAMP



REV	DATE	DESCRIPTION
	01/31/19	REVISED AND REISSUED FOR SITE PLAN REVIEW
	01/07/19	ISSUED FOR DESIGN REVIEW COMMITTEE REVIEW
	12/27/18	ISSUED FOR NOTICE OF INTENT
	12/20/18	ISSUED FOR SITE PLAN REVIEW
	11/28/18	ISSUED FOR DESIGN REVIEW COMMITTEE REVIEW
	11/08/18	ISSUED FOR PRE-APPLICATION MEETING W/PLANNING BOARD

DATE	
SCALE	
DRAWN BY	
CHECKED BY	
PROJECT NO.	

BUILDING:
SHEET TITLE:

LIGHTING, LAYOUT &
SCHEDULES

DRAWING NO.

SL-1



January 3, 2019
(revised February 1, 2019)

Ms. Susan E. Affleck-Childs
Medway Planning and Economic Development Coordinator
Medway Town Hall
155 Village Street
Medway, MA 02053

**Re: Medway New Department of Public Services Facility
Site Plan Review
46 Broad Street
Medway, Massachusetts**

Dear Ms. Affleck-Childs:

Tetra Tech (TT) has performed a review of the proposed Site Plan for the above-mentioned Project at the request of the Town of Medway Planning and Economic Development Board (PEDB). The proposed Project is located at 46 Broad Street in Medway, MA. Proposed Project includes construction of an approximately 33,000 square foot, two story building with associated parking, utilities and drain infrastructure; two separate prefabricated storage buildings for salt storage (approximately 4,500 square feet) and materials storage (approximately 2,300 square feet).

TT is in receipt of the following materials:

- A plan (Plans) set titled "Site Plans – New Department of Public Services Building", revised December 20, 2018, prepared by Symmes, Maini, & McKee Associates (SMMA).
- Waiver requests from Site Plan Rules and Regulations, dated December 19, 2018, prepared by SMMA.
- A Project Overview, dated December 20, 2018, prepared by SMMA
- An Application for Major Site Plan Approval, dated December 18, 2018, prepared by SMMA.
- An Application Package for Major Site Plan Review, dated December 20, 2018, prepared by SMMA.

The Plans and accompanying materials were reviewed for conformance with Chapter 200 of the Town of Medway PEDB Rules and Regulations (Regulations), additional applicable town standards and good engineering practice. Review of the project for zoning, stormwater and wetland related issues was not completed as these reviews are conducted by separate consultants/town agencies.

TT 2/1/19 Update

SMMA has supplied TT with a revised submission addressing comments provided in our previous letter including the following site-related documents submitted by the applicant:

- A Response to Comments letter dated January 31, 2019, prepared by SMMA.
- A plan (Plans) set titled "Site Plans – New Department of Public Services Building", revised January 31, 2019, prepared by SMMA.
- Waiver requests from Site Plan Rules and Regulations, dated December 19, 2018, revised January 31, 2019, prepared by SMMA.

The revised Plans were reviewed against our previous comment letter (January 3, 2019) and revised documents, comments have been tracked accordingly. Text shown in gray represents information contained in previous correspondence while new information is shown in black text.

The following items were found to be inconsistent with current Town of Medway PEDB Site Plan Review Regulations (Chapter 200). Reference to applicable regulation requirement is given in parentheses following each comment.

- 1) The applicant has not supplied a written Development Impact Statement. A waiver has been requested from this Regulation. (Ch. 200 §204-3.A.7)
 - *SMMA 1/31/19 Response: No response necessary.*
 - TT 2/1/19 Update: No action necessary until PEDB decision on item.
- 2) The site plan sheets submitted do not contain the Planning and Economic Development Board signature block. (Ch. 200 §204-4.F)
 - *SMMA 1/31/19 Response: The Planning and Economic Development Board Signature Block has been added to the Site Plans.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.
- 3) Project assessors map and parcel number and list of requested waivers are not shown on the cover sheet. (Ch. 200 §204-5.A)
 - *SMMA 1/31/19 Response: The assessors map and parcel number, and list of requested waivers has been added to the enclosed cover sheet.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.
- 4) Existing underground utilities are not shown on the Existing Conditions Plan I, Sheet C-101. (Ch. 200 §204-5.C.1)
 - *SMMA 1/31/19 Response: The existing underground utilities to the extent available from record plans and as field surveyed are shown on Sheet C-101.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.
- 5) The applicant has not supplied an Existing Landscape Inventory. A waiver has been requested from this Regulation. (Ch. 200 §204-5.C.3)
 - *SMMA 1/31/19 Response: A waiver request for relief of the Existing Landscape Inventory requirement is enclosed with this letter.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.
- 6) Dimensions of proposed buildings and structures have not been provided on the Plans. (Ch. 200 §204-5.D.1)
 - *SMMA 1/31/19 Response: The proposed building and structure dimensions have been added to Drawing C-121.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.

- 7) Setbacks from property lines to proposed parking limits and curb radii have not been included on the Plans. (Ch. 200 §204-5.D.2)
- *SMMA 1/31/19 Response: Setbacks from property lines to proposed parking limits and curb radii have been added to Drawing C-121.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.
- 8) Proposed contours have not been provided on Grading and Utility Plan. (Ch. 200 §204-5.D.4)
- *SMMA 1/31/19 Response: Proposed contours have been added to Drawing C-131 and C-132.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.
- 9) Existing trees with a diameter of one (1) foot or greater at four (4) feet above grade have not been identified on the Planting Plan (Ch. 200 §204-5.D.7)
- *SMMA 1/31/19 Response: A waiver request for relief of the Existing Landscape Inventory requirement is enclosed with this letter.*
 - TT 2/1/19 Update: No action necessary until PEDB decision on item.
- 10) The applicant has not supplied parking information on the zoning table. (Ch. 200 §204-5.D.15)
- *SMMA 1/31/19 Response: A Parking Table has been added to Drawing C-121.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.
- 11) The table outlining the proposal's conformance with zoning requirements is titled with "Industrial Highway (IH)," a zoning district not found in Medway. Please change the zoning district to "Agricultural Residential I (AR-I)" and confirm the zoning requirements in the table are correct. (Ch. 200 §204-5.D.15)
- *SMMA 1/31/19 Response: The Zoning Table on Drawing C-121 has been revised to show the Agricultural Residential Zone.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.
- 12) Location of fire alarm boxes and fire truck turning movements are not provided on the Plans. Confirmation of review of plan from Medway Fire Chief recommended. (Ch. 200 §204-5.D.16)
- *SMMA 1/31/19 Response: The fire alarm panel will be located in the front vestibule of the building. The applicant attended a technical review meeting with the Fire Department.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.
- 13) Designated employee parking areas have not been shown on the Plans. (Ch. 200 §205-6.C)
- *SMMA 1/31/19 Response: Designated employee parking areas are shown on Drawing C-121.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.
- 14) The applicant is proposing 10' x 18' standard parking stalls which do not comply with the Regulations. (Ch. 200 §205-6.G.3.a)
- *SMMA 1/31/19 Response: The standard parking spaces shown are 10' x 18'. The Medway Zoning Bylaw Section 7.1.1.E-General Requirements, Paragraph 3.a states that standard parking spaces are to be 9' x 18'.*

- TT 2/1/19 Update: It is our understanding the zoning bylaw supersedes the PEDB regulations. Reduction in parking space size will further reduce impervious cover in terms of reducing impact to proposed stormwater design and nearby wetlands. We will defer comment to the PEDB regarding this item for discussion in the hearing.
- 15) Proposed foot-candle readings exceed the minimum allowed by the Regulation at the property lines. Light spill onto neighboring properties should not occur at the site from proposed lighting. Table and abbreviation list located on the Lighting Layouts & Schedules sheet are illegible and require text edits. (Ch. 200 §205-8)
- *SMMA 1/31/19 Response: The revised lighting plan is enclosed with this letter, which shows that there is no overflow of light beyond the property.*
 - TT 2/1/19 Update: No light levels shown for proposed salt storage and material storage structures. We recommend the applicant provide commentary on proposed lighting for those structures. Furthermore, minor amount of light spill is shown along the property line west of the proposed building.
- 16) The applicant has not provided existing tree inventory of the site and thus cannot determine if tree replacement is necessary or how many trees will be required to be replaced. A waiver has been requested from this Regulation. (Ch. 200 §205-9.F)
- *SMMA 1/31/19 Response: A waiver request for relief of the Existing Landscape Inventory requirement is enclosed with this letter.*
 - TT 2/1/19 Update: No action necessary until PEDB decision on item.

The following is a list of general items that TT recommends the applicant take into consideration prior to the next submission:

- 17) We recommend the applicant reconsider alignment of proposed driveway to limit impact to wetland resource area.
- *SMMA 1/31/19 Response: The revised Site Plans includes a reduced width and realigned drive that avoids wetland resource area impacts.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.
- 18) We recommend the applicant provide detail of proposed sewer drop manhole.
- *SMMA 1/31/19 Response: A Sewer Drop Manhole Detail was added to Drawing C-505.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.
- 19) It appears the plan is to maintain a gravel surface once existing buildings are demolished at the existing DPS facility. We recommend the applicant confirm cover type at these locations.
- *SMMA 1/31/19 Response: The revised plan includes demolition of the existing salt storage and material shed. The proposed salt storage and material storage structures will be situated on the footprint of the existing building. The surface cover will remain the same as existing conditions.*
 - TT 2/1/19 Update: In our opinion, this item has been addressed.

These comments are offered as guides for use during the Town's review and additional comments are likely to be generated during the course of review. If you have any questions or comments, please feel free to contact us at (508) 786-2200.

Very truly yours,



Steven M. Bouley, P.E.
Senior Project Engineer



Bradley M. Picard, E.I.T.
Civil Engineer

P:\21583\143-21583-19002\DOCS\DPB-PEDBREV(2019-01-03).DOCX

PGC ASSOCIATES, LLC

1 Toni Lane
Franklin, MA 02038-2648
508.533.8106
gino@pgcassociates.com

February 4, 2019

Mr. Andy Rodenhiser, Chairman
Medway Planning Board
155 Village Street
Medway, MA 02053

RE: Revised DPS Garage Site Plan

Dear Mr. Rodenhiser:

I have reviewed the proposed revised site plan submitted by the Town of Medway for a new DPS facility. The proposal is to construct a 2-story, 33,000 square-foot building including associated parking, drainage, landscaping, etc., as well as a salt storage building of 4,500 square feet and a materials storage building of 4,000 square feet (previously 2,300). The plan was prepared by Helene-Karl Architects of Groton and the civil engineer is Symmes, Mann and McKee of Cambridge. The plan set issued for site plan review is dated December 20, 2018, with a revision date of January 31, 2019. The primary change is that the new salt storage and materials storage buildings have been moved farther away from abutters.

The comments from my December 27, 2018 letter are repeated below with new comments in **bold**.

Zoning

1. Municipal uses are allowed in any district so the proposed use is allowed by right. **OK**
2. As noted in the application, there is no specified parking minimum for the proposed use. The plan proposes 29 staff and visitor parking spaces, including 2 van-accessible handicapped spaces, as well as 15 exterior truck spaces under a canopy and space for 21 trucks within the building. No bicycling parking is proposed and no waiver is requested. **A waiver from the bicycle requirement is now required.**
3. Section 7.1 states that light trespass onto any abutting street or lot is not permitted. The photometric plan shows compliance with this requirement. **OK. A new photometric plan shows compliance.**
4. The plans indicate a sign on the proposed building. It is not clear if any freestanding sign is proposed. **The applicant states that no freestanding sign is part of this application but that DPS will pursue one separately.**
5. The project is within a groundwater protection district, which requires a special permit for certain activities. The special permit is not triggered by the amount of proposed impervious surface. However, storage of deicing chemicals is prohibited “unless such storage, including

loading areas, is within a structure designed to prevent the generation and escape of contaminated leachate.” It is assumed that the new salt storage shed complies with this requirement, but it should be verified. **The applicant states that the enclosed salt storage shed prevents generation and escape of contaminated leachate.**

Site Plan Rules and Regulations

6. Section 204.3 A. (7) requires a Development Impact Report. This is not provided, and a waiver from this requirement is requested. The waiver is justified since the project is essentially a replacement for an existing facility. The proposal does not trigger a traffic or parking impact study since it is increasing spaces by less than 30. It does trigger an environmental impact study since the buildings are greater than 15,000 square feet, but that is essentially covered by the stormwater management review and Order of Conditions from Conservation Commission. A community impact study is also not warranted due to the project being a replacement for an existing facility. **OK**
7. Section 204-5 C. (3). The Existing Conditions Sheet also does not include an Existing Landscape Inventory prepared by a Landscape Architect. No waiver is requested. The site is already partially disturbed. **A waiver is now requested.**
8. Section 204-5 D (3) requires location of waste disposal facilities be shown. It is not clear if this will be handled within the building or if an exterior dumpster will be required. **The applicant has clarified that a dumpster will be located within the building.**
9. Section 204-5 D. (7) requires that a landscape architect prepare the landscape plan. A planting plan was prepared by an architect, not a landscape architect and no waiver was requested. **A waiver is now requested.**
10. Section 204-5 D. (12) requires a signage plan indicating the design, location, materials, dimensions and lighting. As stated above, the plan shows a sign on the building in a color rendering but no details are provided. Also, there is no indication of a building sign. **The applicant states that no freestanding sign is part of this application but details such as dimensions, materials and lighting for the building sign are not provided.**
11. Section 204-5 (16) requires information about fire prevention and suppression. **The applicant states that the building will have a sprinkler system.**
12. Section 205-6 G (4)(d) requires a 12’ x 20’ maneuvering area at the end of a dead-end row of parking. This was not provided. **A maneuvering area is now provided.**
13. Section 205-9 C requires that there be substantial landscaped islands within parking lots to reduce the “sea of asphalt” effect. More specifically, Section 209-6 C requires at least 1 deciduous tree per 6 spaces and only trees that provide shade to the parking area are to count toward this requirement. No landscaped islands are shown within the parking lot. Also, with 29 spaces, 5 trees are required. Only 2 trees are shown on the plans and these are located in front of the building and do not appear to provide shade to the parking area.

14. Section 205-9 D requires screening of the facility. No additional screening is proposed and a waiver is requested based on the fact that existing screening is sufficient. **OK**

General Comments

15. The plan appears to meet the criteria specified in Section 203-9 C.

16. The building is designed as a net zero energy consumer with efficient insulation and solar panels. However, the Project Overview states the roof will have an R-value of 40 while the code is R-30. However, the Stretch Code, which applies to Medway, indicates a required roof R-value of 49. It may be that there is a lower R-value for this type of building. This should be clarified. **The applicant cites the lower standard for commercial buildings under 100,000 square feet. Table C402.1.3 indicates a required R-value of 30.**

17. The zoning table on the Layout and Materials Sheet shows the district as “Industrial Highway.” This should be corrected. **This has been corrected.**

If there are any questions about these comments, please call or e-mail me.

Sincerely,

A handwritten signature in black ink, appearing to read "Gino D. Carlucci, Jr.", with a stylized flourish at the end.

Gino D. Carlucci, Jr.

New Medway Department of Public Services Building

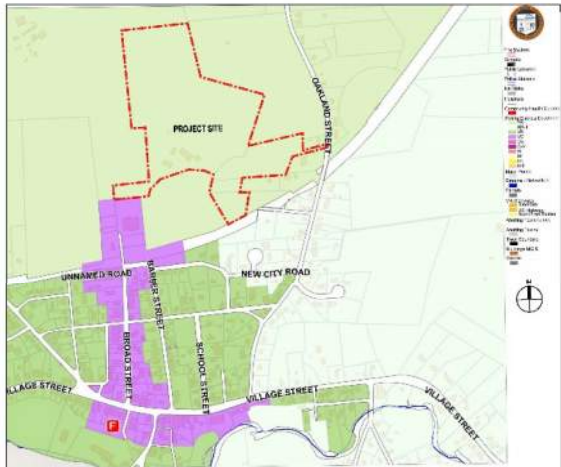
**Medway Planning and
Economic Development Board
Major Site Plan Approval**

January 8, 2019

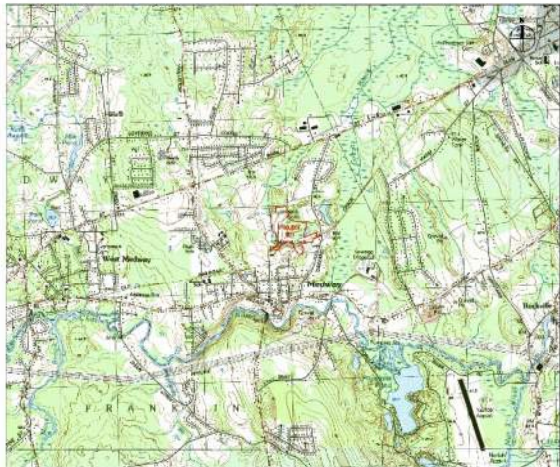
SITE PLANS - NEW DEPARTMENT OF PUBLIC SERVICES BUILDING



MEDWAY NEW DEPARTMENT OF
PUBLIC SERVICES FACILITY
PERSPECTIVE DRAWING



MEDWAY GIS MAP
SCALE: 1"=500'



USGS MAP
SCALE: 1"=2,000'

LIST OF DRAWINGS:

- C-001 COVER SHEET
- C-100 SITE CONTEXT SHEET (BY SMMA)
- C-101 EXISTING CONDITIONS PLAN I (BY SMMA)
- C-102 EXISTING CONDITIONS PLAN II (BY SMMA)
- C-111 SITE PREPARATION PLAN I (BY SMMA)
- C-112 SITE PREPARATION PLAN II (BY SMMA)
- C-121 LAYOUT & MATERIALS PLAN (BY SMMA)
- C-131 GRADING AND UTILITIES PLAN I (BY SMMA)
- C-132 GRADING AND UTILITIES PLAN II (BY SMMA)
- C-151 PLANTING PLAN (BY HKA)
- C-501 DETAILS I (BY SMMA)
- C-502 DETAILS II (BY SMMA)
- C-503 DETAILS III (BY SMMA)
- C-504 DETAILS IV (BY SMMA)
- C-505 DETAILS V (BY SMMA)
- C-601 SEWER PROFILE I (BY SMMA)
- C-602 SEWER PROFILE II (BY SMMA)
- A-101 FIRST FLOOR PLAN (BY HKA)
- A-102 SECOND FLOOR PLAN AND LOWER ROOF PLAN (BY HKA)
- A-301 EXTERIOR ELEVATIONS SHEET 1 (BY HKA)
- A-302 EXTERIOR ELEVATIONS SHEET 2 (BY HKA)
- A-303 RENDERINGS (BY HKA)
- SL-1 LIGHTING, LAYOUTS & SCHEDULE (SK & ASSOCIATES)



TOWN OF MEDWAY

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
100 HILLTOP DRIVE
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, LLC
1700 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

CIVIL ENGINEER:
STEVES, MANN & MANN ASSOCIATES
1700 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
STEVES, MANN & MANN ASSOCIATES
1700 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
STEVES, MANN & MANN ASSOCIATES
22 WEST STREET, SUITE C
WILMINGTON, MA 01897

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
375 LIBERTY STREET
ROCKLAND, MA 02370

STAMP

12/20/18	ISSUED FOR SITE PLAN
11/20/18	REVIEW
11/20/18	DESIGN REVIEW
11/20/18	COMMITTEE REVIEW
11/20/18	MEETING SUPPLEMENT

REV	DATE	DESCRIPTION
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DATE	AS NOTED

BUILDING

COVER SHEET

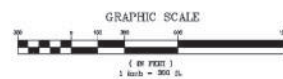
DRAWING NO.

C-001





LEGEND	
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AR-II	AR-II - 100' WIDE - 100' DEEP - 100' HIGH
VC	VC - 100' WIDE - 100' DEEP - 100' HIGH
VR	VR - 100' WIDE - 100' DEEP - 100' HIGH
VR	VR - 100' WIDE - 100' DEEP - 100' HIGH
VR	VR - 100' WIDE - 100' DEEP - 100' HIGH
VR	VR - 100' WIDE - 100' DEEP - 100' HIGH
VR	VR - 100' WIDE - 100' DEEP - 100' HIGH
VR	VR - 100' WIDE - 100' DEEP - 100' HIGH
VR	VR - 100' WIDE - 100' DEEP - 100' HIGH



TOWN OF MEDWAY NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
100 MASSACHUSETTS AVENUE
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.
100 MASSACHUSETTS AVENUE, SUITE 100
CAMBRIDGE, MA 02138

CIVIL ENGINEER:
STIMES, MANN & MANN ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
STIMES, MANN & MANN ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370



REV	DATE	DESCRIPTION
1	12/20/18	ISSUED FOR SITE PLAN
2	11/28/18	ISSUED FOR DESIGN REVIEW
3	11/09/18	COMMITTEE REVIEW
4	11/09/18	ISSUED FOR FINAL APPLICATION
5	11/09/18	MEETING WITH PLANNING BOARD

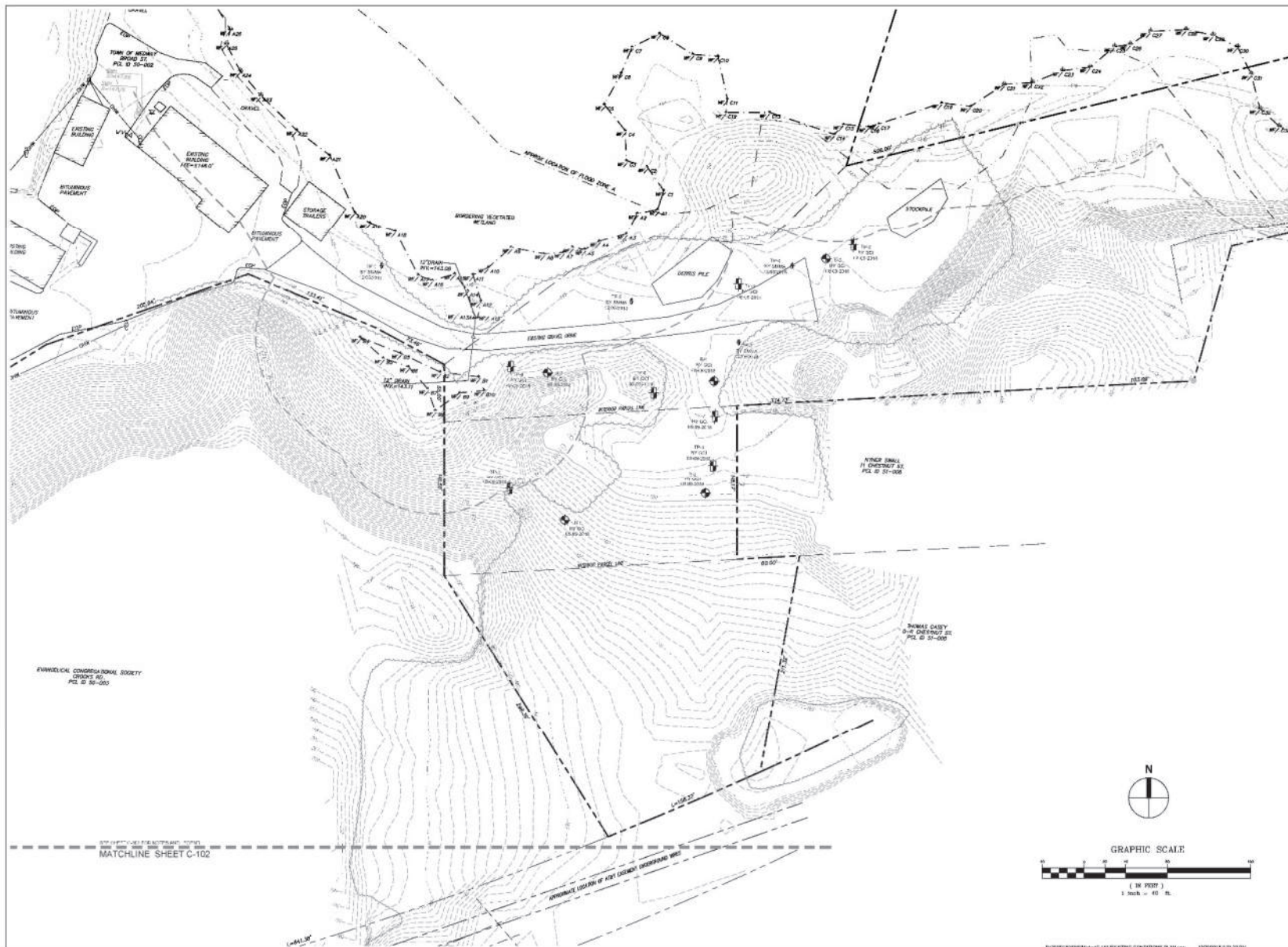
DATE	SCALE	DRAWN BY	CHECKED BY	PROJECT NO.
		ACC	PSG	18043.00

SHEET TITLE:

SITE CONTEXT
SHEET

DRAWING NO.

C-100



TOWN OF MEDWAY NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
150 VALUERS STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE KARL
Architects, Inc.
1 South Street, Suite 200 Medford, MA 02155

CIVIL ENGINEER:
STIMEL, HAN & WAKE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
STIMEL, HAN & WAKE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
STANAN ENGINEERING CORP.
22 WEST STREET, 3RD FLOOR
MILBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
318 JEREMY STREET
ROSLAND, MA 02370

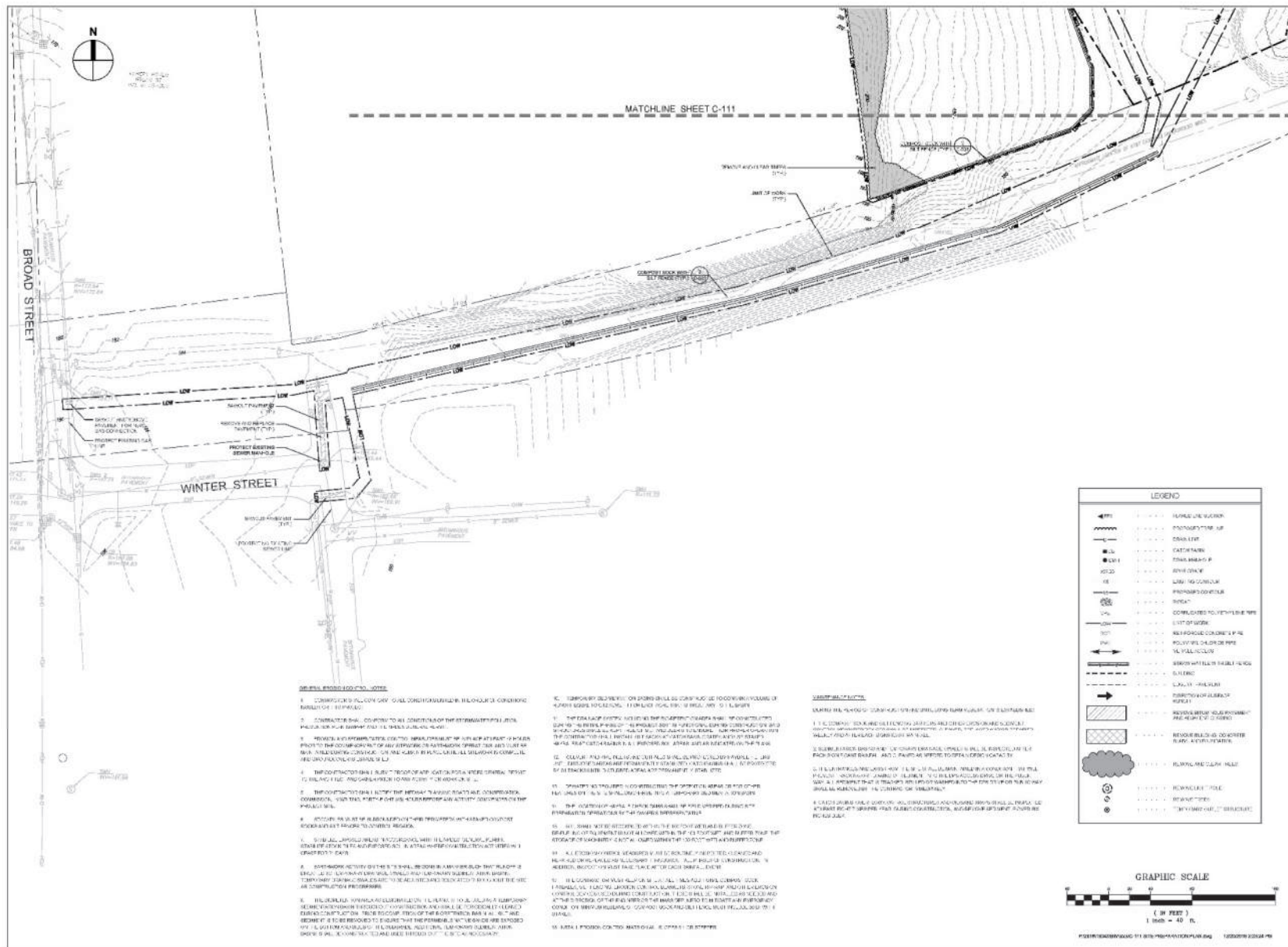


REV	DATE	DESCRIPTION
1	12/20/18	REVISION FOR SITE PLAN
2	11/28/18	REVISION FOR DESIGN REVIEW
3	11/28/18	COMMITTEE REVIEW
4	11/28/18	REVISION FOR APPLICATION
5	11/28/18	MEETING WITH PLANNING BOARD

DATE	
SCALE	1" = 40'
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

BUILDING:
SHEET TITLE:
**EXISTING
CONDITIONS
PLAN I**

DRAWING NO.
C-101



TOWN OF
MEDWAY
NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
156 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.
1000 S. Third Street, Suite 100, San Jose, CA 95128
408/281-1111

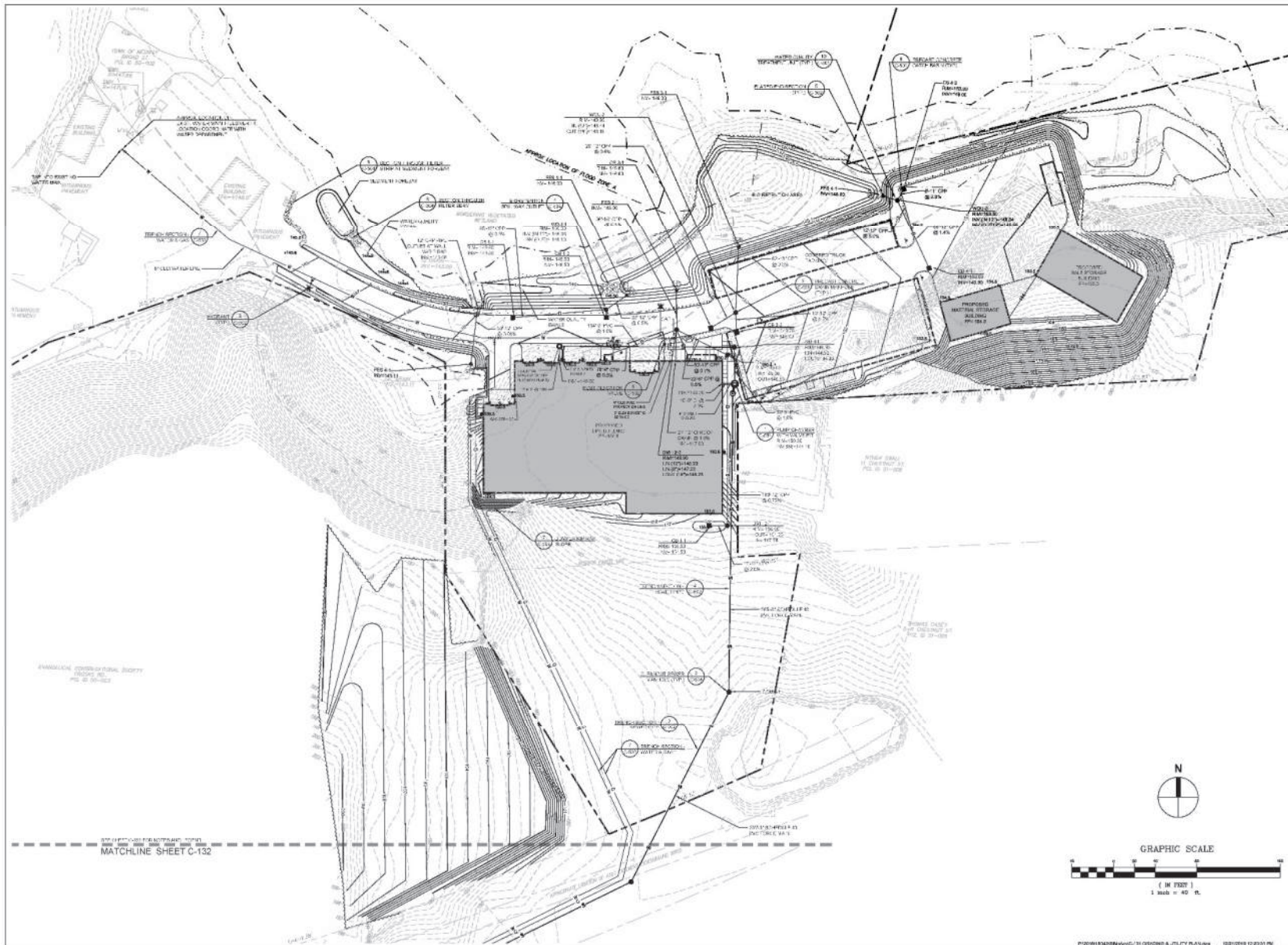
CIVIL ENGINEER:
SYMMES, MAIN & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYMMES, MAIN & VORKE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, JNPT
MILBURY, MA 01507

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR., ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

[illegible]DRAWING NO.
C-112



TOWN OF MEDWAY NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
100 MASSACHUSETTS AVENUE
MEDWAY, MA 02053

ARCHITECT:
HELENE KARL
ARCHITECTS, INC.
400 COMMONWEALTH AVENUE
CAMBRIDGE, MA 02142

CIVIL ENGINEER:
STOWES, HARRIS & HARRIS ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
STOWES, HARRIS & HARRIS ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, SUITE C
MELROSE, MA 02127

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSULTING AND ENGINEERING, INC.
379 LIBERTY STREET
ROCK HILL, MA 02070

STAMP

12/20/18 ISSUED FOR SITE PLAN
11/20/18 REVIEW FOR DESIGN REVIEW
11/20/18 COMMITTEE REVIEW
11/20/18 MEETING WITH BOARD

REV DATE DESIGN

DATE

SCALE 1" = 40'

DRAWN BY ACO

CHECKED BY PSG

PROJECT NO. 18043.00

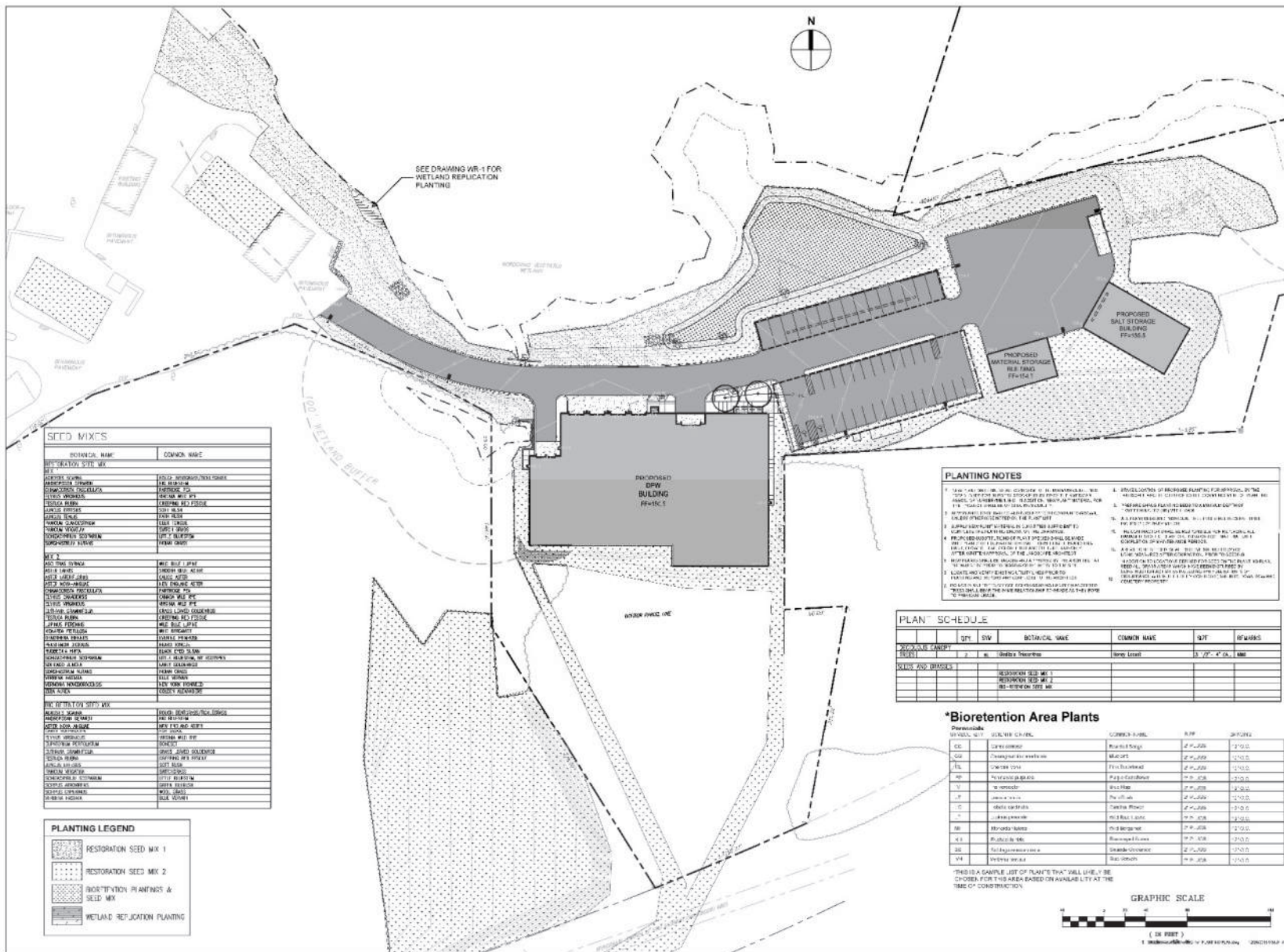
BUILDING


SHEET TITLE

GRADING & UTILITY PLAN I

DRAWING NO.

C-131





**TOWN OF
MEDWAY**

NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
1000 MASSACHUSETTS AVENUE
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

CIVIL ENGINEER:
TIMOTHY, HALL & VOICE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
TIMOTHY, HALL & VOICE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
275 WILSON STREET, UNIT C
MILBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. HENRY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
370 SHERBURY STREET
ROSLINDALE, MA 02130

STAMP



REV	DATE	DESCRIPTION
12/27/18	ISSUED FOR CITY OF MEDWAY	
12/20/18	ISSUED FOR CITY OF MEDWAY	
11/28/18	ISSUED FOR DECISION REVIEW COMMITTEE REVIEW	
11/08/18	ISSUED FOR DECISION REVIEW COMMITTEE REVIEW	

DATE	SCALE	BY	CHKD BY	PROJECT NO.
	1" = 40'	ACO	PSG	18043.00

BUILDING:
SHEET NO. 1

PLANTING PLAN

DRAWING NO. **C-151**

RESTORATION NAME	COMMON NAME
RESTORATION SEED MIX 1	RESTORATION SEED MIX 1
RESTORATION SEED MIX 2	RESTORATION SEED MIX 2
RESTORATION PLANTING & SEED MIX	RESTORATION PLANTING & SEED MIX
WETLAND REPLICATION PLANTING	WETLAND REPLICATION PLANTING

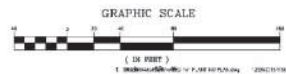
PLANTING LEGEND
RESTORATION SEED MIX 1
RESTORATION SEED MIX 2
RESTORATION PLANTING & SEED MIX
WETLAND REPLICATION PLANTING

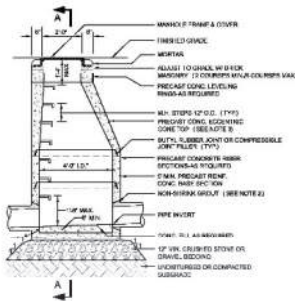
- PLANTING NOTES**
1. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS.
 2. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS.
 3. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS.
 4. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS.
 5. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS.
 6. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS.
 7. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS.
 8. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS.
 9. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS.
 10. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS AND THE TOWN OF MEDWAY PLANTING SPECIFICATIONS.

PLAN SC-E001E					
QTY	SW	BOTANICAL NAME	COMMON NAME	HT	REMARKS
2	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9
10	10	10	10	10	10

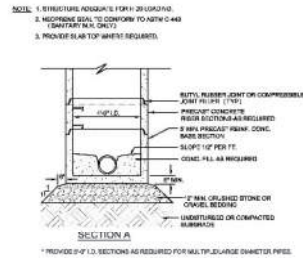
Bioretention Area Plants				
Perennials		COMMON NAME	HT	REMARKS
PLANT	SYMBOL			
55	55	Red hot catnip	Red hot catnip	2' x 2' x 2'
56	56	Red hot catnip	Red hot catnip	2' x 2' x 2'
57	57	Red hot catnip	Red hot catnip	2' x 2' x 2'
58	58	Red hot catnip	Red hot catnip	2' x 2' x 2'
59	59	Red hot catnip	Red hot catnip	2' x 2' x 2'
60	60	Red hot catnip	Red hot catnip	2' x 2' x 2'
61	61	Red hot catnip	Red hot catnip	2' x 2' x 2'
62	62	Red hot catnip	Red hot catnip	2' x 2' x 2'
63	63	Red hot catnip	Red hot catnip	2' x 2' x 2'
64	64	Red hot catnip	Red hot catnip	2' x 2' x 2'
65	65	Red hot catnip	Red hot catnip	2' x 2' x 2'
66	66	Red hot catnip	Red hot catnip	2' x 2' x 2'
67	67	Red hot catnip	Red hot catnip	2' x 2' x 2'
68	68	Red hot catnip	Red hot catnip	2' x 2' x 2'
69	69	Red hot catnip	Red hot catnip	2' x 2' x 2'
70	70	Red hot catnip	Red hot catnip	2' x 2' x 2'
71	71	Red hot catnip	Red hot catnip	2' x 2' x 2'
72	72	Red hot catnip	Red hot catnip	2' x 2' x 2'
73	73	Red hot catnip	Red hot catnip	2' x 2' x 2'
74	74	Red hot catnip	Red hot catnip	2' x 2' x 2'
75	75	Red hot catnip	Red hot catnip	2' x 2' x 2'
76	76	Red hot catnip	Red hot catnip	2' x 2' x 2'
77	77	Red hot catnip	Red hot catnip	2' x 2' x 2'
78	78	Red hot catnip	Red hot catnip	2' x 2' x 2'
79	79	Red hot catnip	Red hot catnip	2' x 2' x 2'
80	80	Red hot catnip	Red hot catnip	2' x 2' x 2'
81	81	Red hot catnip	Red hot catnip	2' x 2' x 2'
82	82	Red hot catnip	Red hot catnip	2' x 2' x 2'
83	83	Red hot catnip	Red hot catnip	2' x 2' x 2'
84	84	Red hot catnip	Red hot catnip	2' x 2' x 2'
85	85	Red hot catnip	Red hot catnip	2' x 2' x 2'
86	86	Red hot catnip	Red hot catnip	2' x 2' x 2'
87	87	Red hot catnip	Red hot catnip	2' x 2' x 2'
88	88	Red hot catnip	Red hot catnip	2' x 2' x 2'
89	89	Red hot catnip	Red hot catnip	2' x 2' x 2'
90	90	Red hot catnip	Red hot catnip	2' x 2' x 2'
91	91	Red hot catnip	Red hot catnip	2' x 2' x 2'
92	92	Red hot catnip	Red hot catnip	2' x 2' x 2'
93	93	Red hot catnip	Red hot catnip	2' x 2' x 2'
94	94	Red hot catnip	Red hot catnip	2' x 2' x 2'
95	95	Red hot catnip	Red hot catnip	2' x 2' x 2'
96	96	Red hot catnip	Red hot catnip	2' x 2' x 2'
97	97	Red hot catnip	Red hot catnip	2' x 2' x 2'
98	98	Red hot catnip	Red hot catnip	2' x 2' x 2'
99	99	Red hot catnip	Red hot catnip	2' x 2' x 2'
100	100	Red hot catnip	Red hot catnip	2' x 2' x 2'

THIS IS A SAMPLE LIST OF PLANTS THAT WILL BE USED FOR THIS AREA BASED ON AVAILABILITY AT THE

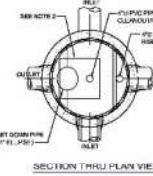
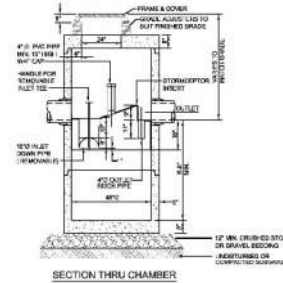




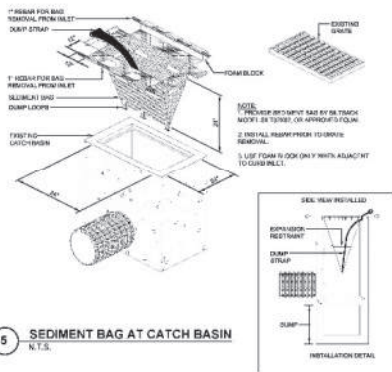
9 PRECAST CONCRETE DRAIN MANHOLE
N.T.S.



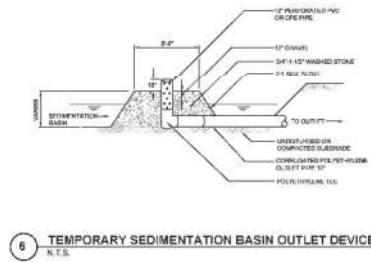
10 450 GALLON WATER QUALITY UNIT
N.T.S.



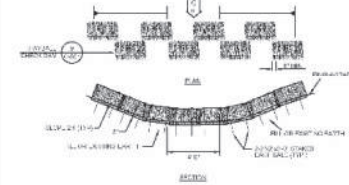
NOTE:
1. THE USE OF POLYMER CONCRETE IS RECOMMENDED
AT THE INLET AND OUTLET WATER ARE QUALITY
2. THE COVER SHOULD BE POSITIONED OVER THE CLEANOUT
VENT PIPE.



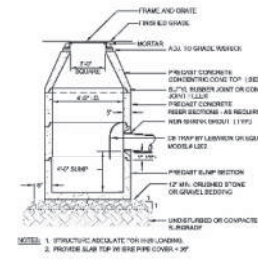
5 SEDIMENT BAG AT CATCH BASIN
N.T.S.



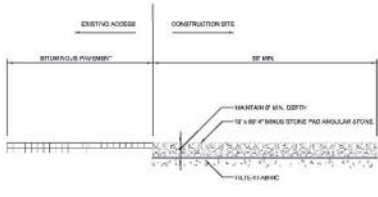
6 TEMPORARY SEDIMENTATION BASIN OUTLET DEVICE
N.T.S.



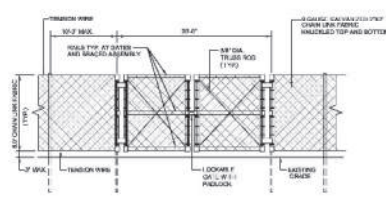
7 TEMPORARY DRAINAGE SWALE
WITH HAYBALE EROSION CHECK DAM
N.T.S.



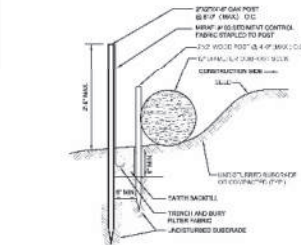
8 PRECAST CONCRETE CATCH-BASIN
N.T.S.



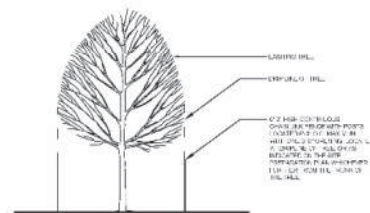
1 TEMPORARY CONSTRUCTION ENTRANCE
N.T.S.



2 TEMPORARY CONSTRUCTION FENCE/WGATE
N.T.S.



3 COMPOST SOCK WITH SILT FENCE
N.T.S.



4 TREE PROTECTION DETAIL
N.T.S.



TOWN OF
MEDWAY
NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
100 MASSACHUSETTS AVENUE
MEDWAY, MA 02053

ARCHITECT:
HELENE KARL
ARCHITECTS, INC.
100 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

CIVIL ENGINEER:
STIMES, MARR & MARR ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

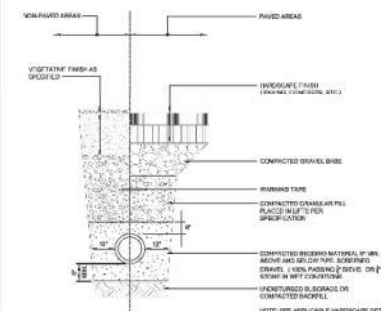
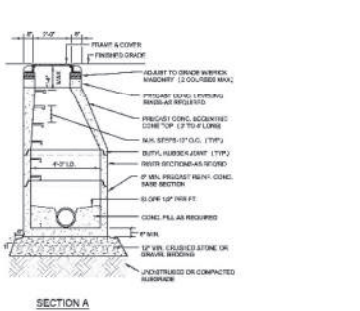
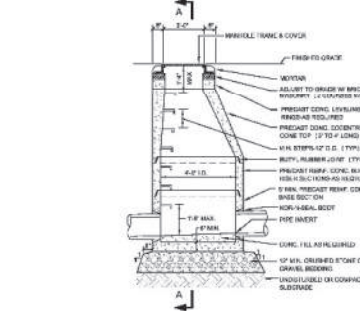
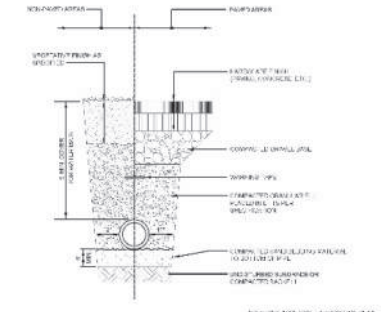
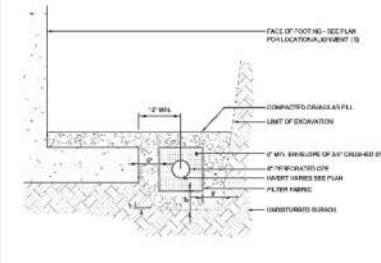
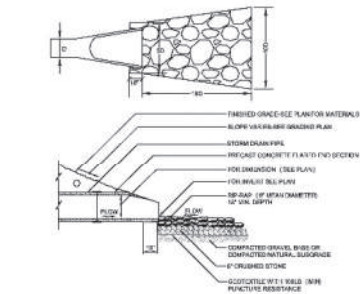
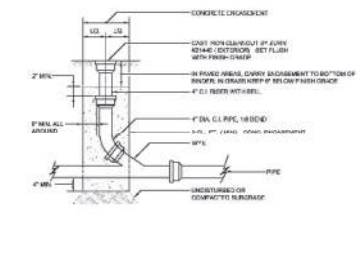
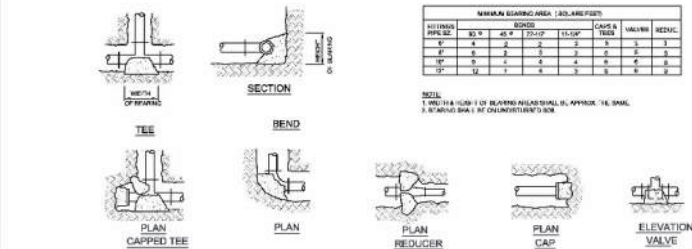
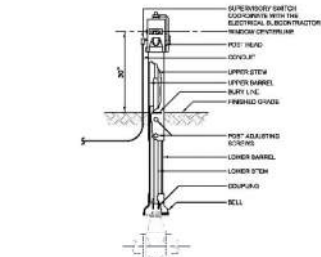
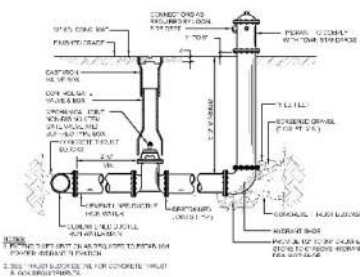
STRUCTURAL ENGINEER:
STIMES, MARR & MARR ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAN ENGINEERING CORP.
22 WEST STREET, UNIT C
WILSBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
375 LIBERTY STREET
ROCKLAND, MA 02070



REV	DATE	DESCRIPTION
12/20/18	ISSUED FOR SITE PLAN	
11/28/18	ISSUED FOR DESIGN REVIEW	
11/09/18	ISSUED FOR PRELIMINARY	
	MEETING AND PLANNING BOARD	
DATE	SCALE	NTS
	SCALE	ACO
	CHECKED BY	PGG
	PROJECT NO.	18043.00
	SHEET NO.	
	SHEET TITLE:	
	DETAILS I	
	DRAWING NO.	C-501



TOWN OF MEDWAY
NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
100 MASSACHUSETTS AVENUE
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
ARCHITECTS, INC.
100 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

CIVIL ENGINEER:
STANLEY, MANN & MANN ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
STANLEY, MANN & MANN ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
WILBUR, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
375 LIBERTY STREET
ROCKLAND, MA 02370



REV	DATE	DESCRIPTION
12/20/18		ISSUED FOR SITE PLAN REVIEW
11/28/18		ISSUED FOR DESIGN REVIEW COMMITTEE REVIEW
11/09/18		ISSUED FOR APPLICATION MEETING W/ PLANNING BOARD
DATE		
SCALE	NTS	
DRAWN BY	ACO	
CHECKED BY	PSG	
PROJECT NO.	18043.00	
REV. ENG.		
SHEET TITLE:		
DETAILS II		

DRAWING NO.
C-502





**TOWN OF
MEDWAY**
NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
100 HILLDALE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, LLC
1700 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

CIVIL ENGINEER:
STEVES, MANN & MANN ASSOCIATES
1700 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
STEVES, MANN & MANN ASSOCIATES
1700 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
STEVES, MANN & MANN ASSOCIATES
22 WEST STREET, SUITE C
MILFORD, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
375 LIBERTY STREET
ROCKLAND, MA 02370



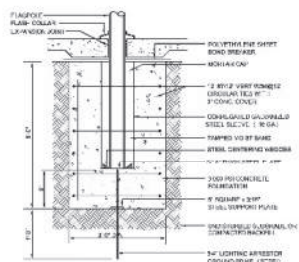
12/20/18	ISSUED FOR SET PLAN
11/29/18	REVIEW
11/29/18	FOR CONSTRUCTION REVIEW
11/29/18	COMMITTEE REVIEW
11/29/18	FOR CITY OF MEDWAY APPLICATION
11/29/18	MEETING OF PLANNING BOARD

REV	DATE	DESCRIPTION
DATE		
SCALE	NTS	
DRAWN BY	ACO	
CHECKED BY	PSG	
PROJECT NO.	18043.00	

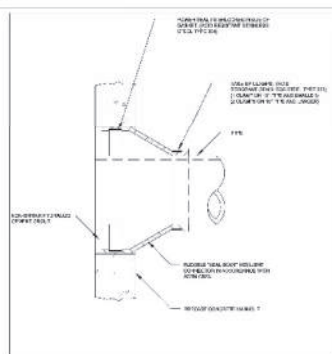
BUILDING:
SHEET TITLE:

DETAILS V

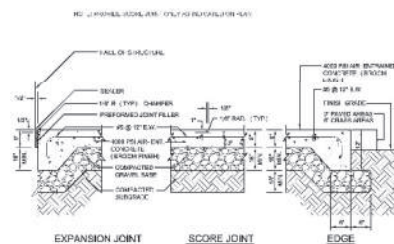
DRAWING NO.
C-505



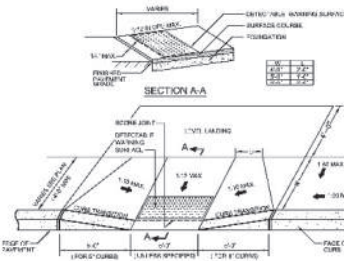
5 FLAGPOLE FOUNDATION
N.T.S.



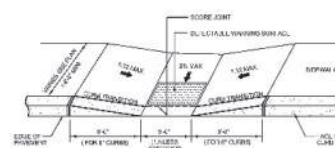
1 MANHOLE SEAL
N.T.S.



2 CONCRETE EQUIPMENT PAD
N.T.S.



3 ACCESSIBLE CURB CUT (TYPE 1)
N.T.S.



4 ACCESSIBLE CURB CUT (TYPE 2)
N.T.S.



OWNER:
TOWN OF MEDWAY
156 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.
2000 West 10th Avenue • Minneapolis, MN 55408

CIVIL ENGINEER:
SYMMES, MAIN & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYMMES, MAIN & VORKE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAWAN ENGINEERING CORP.
22 WEST STREET, JMT C
WILBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR., ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
378 LIBERTY STREET
ROCKLAND, MA 02370

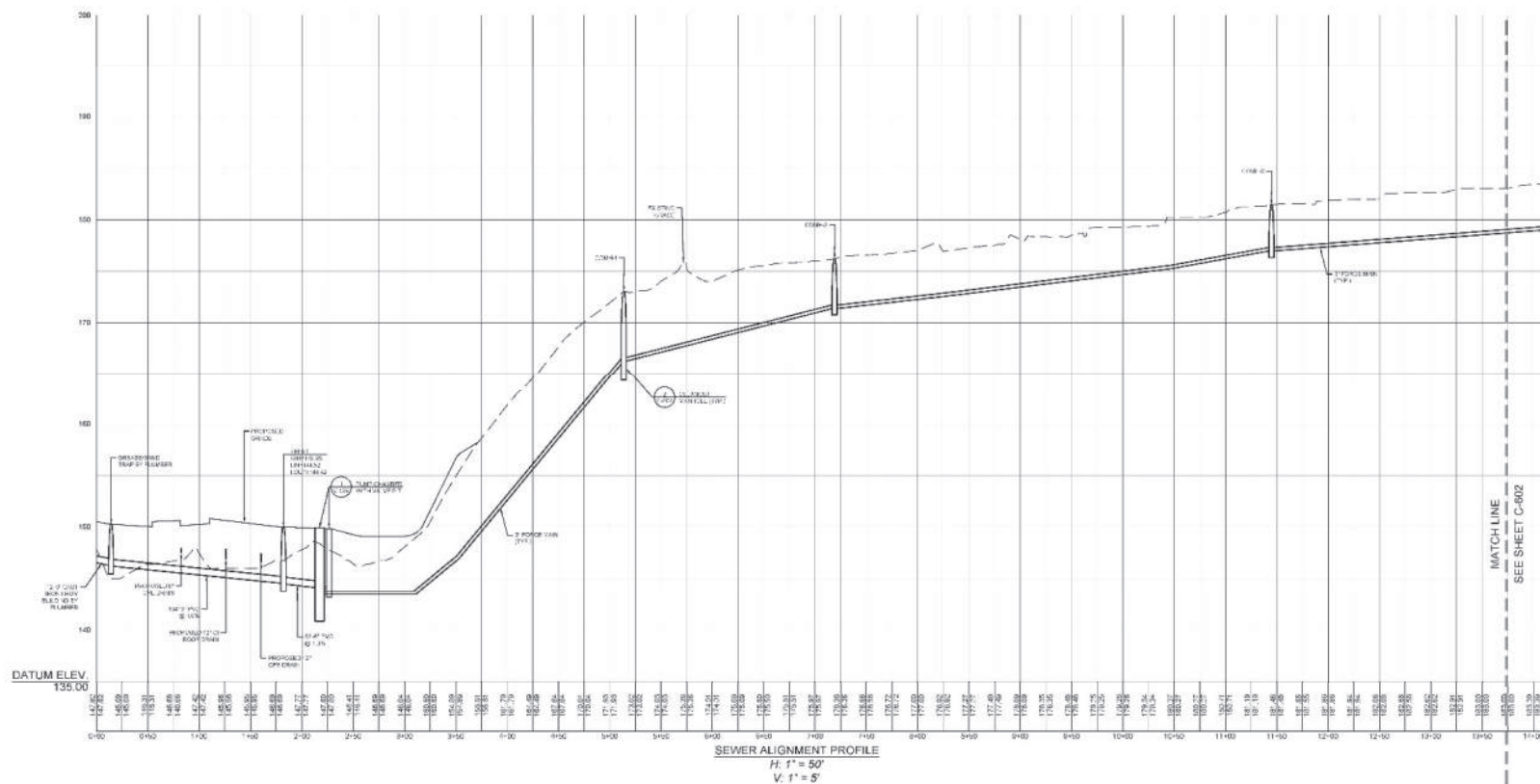


	12/20/18	ISSUED FOR SITE PLAN REVIEW
	11/28/18	ISSUED FOR DESIGN REVIEW COMMITTEE REVIEW
	11/08/18	ISSUED FOR PRE-APPLICATION MEETING WITH PLANNING BOARD
REV	DATE	DESCRIPTION

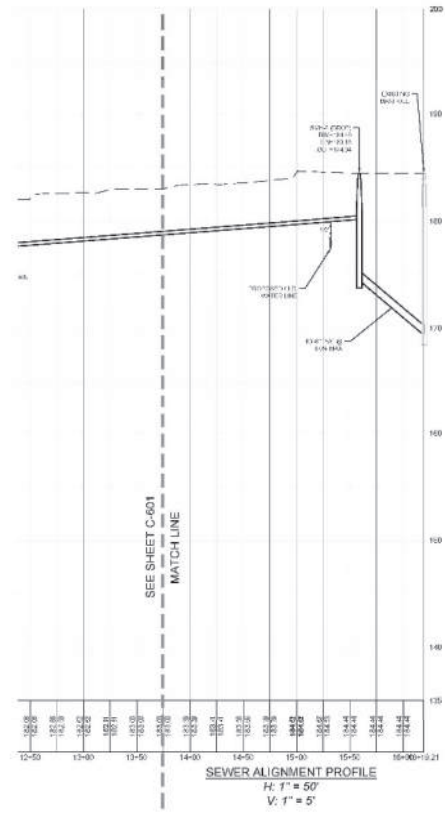
DATE:	
SCALE	VARIES
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

SHEET TITLE:
SEWER
PROFILE I

DRAWING NO. C-601



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**TOWN OF
MEDWAY**
NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
156 VALUAGE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.
10 South Street, Suite 200, Medford, MA 02155

CIVIL ENGINEER:
TIMMEL, HAN & WAKE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
TIMMEL, HAN & WAKE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEANAN ENGINEERING CORP.
22 WEST STREET, SUITE C
MILBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR., ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
318 JEREMY STREET
ROCKLAND, MA 02370

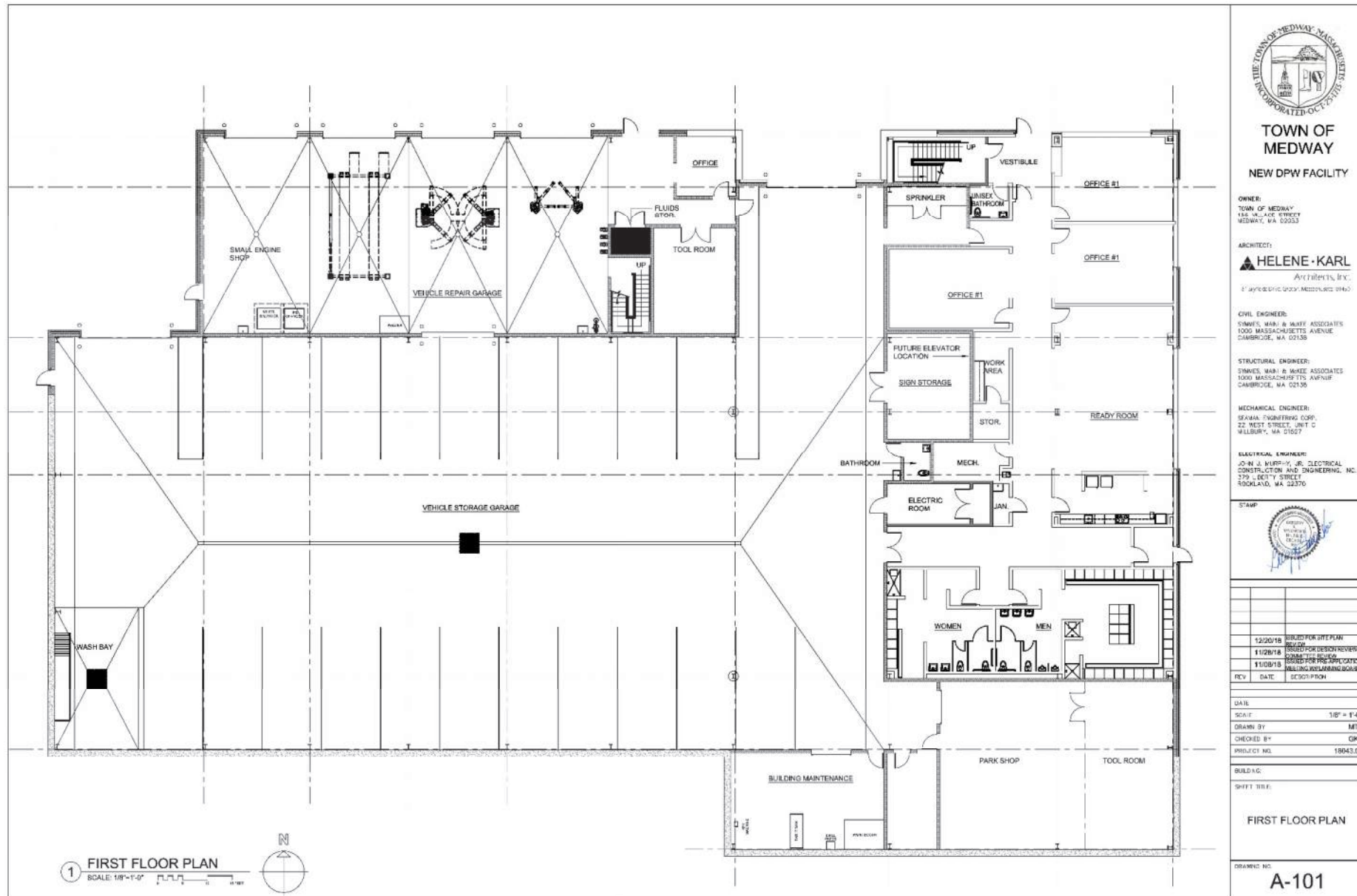


REV	DATE	DESCRIPTION
	12/20/18	REVISION FOR SITE PLAN
	11/28/18	REVISION FOR DESIGN REVIEW
	11/28/18	COMMITTEE REVIEW
	11/28/18	DESIGN FOR THE APPLICATION
	11/28/18	MEETING WITH PLANNING BOARD

DATE	VARIES
SCALE	VARIES
DRAWN BY	ACO
CHECKED BY	PSG
PROJECT NO.	18043.00

BUILDING:
SHEET TITLE:
**SEWER
PROFILE II**

DRAWING NO.
C-602



**TOWN OF
MEDWAY**
NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
138 W. LAKE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE · KARL
Architects, Inc.
17 JAY STREET, SUITE 200, MEDFORD, MA 02155

CIVIL ENGINEER:
TIMOTHY W. WATKINS ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
TIMOTHY W. WATKINS ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAN M. FORTIN, INC.
22 WEST STREET, UNIT C
WILBURTON, MA 01957

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
379 LECHE STREET
ROCKLAND, MA 02370



12/20/18	DESIGNED FOR SITE PLAN
11/28/18	DESIGNED FOR DESIGN REVIEW
11/08/18	DESIGNED FOR PERMIT APPLICATION

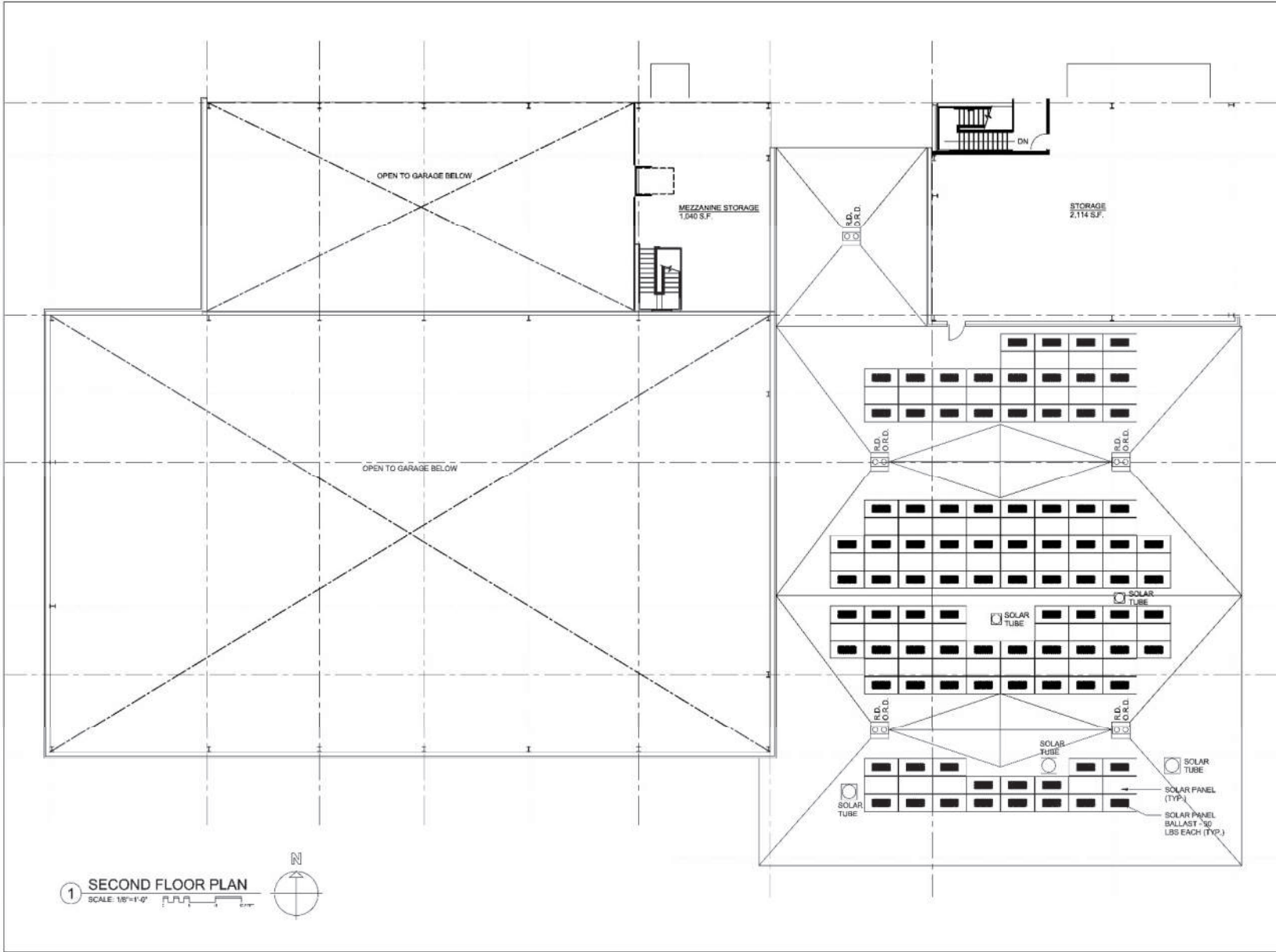
REVISIONS

REV	DATE	DESCRIPTION
1	12/20/18	DESIGNED FOR SITE PLAN
2	11/28/18	DESIGNED FOR DESIGN REVIEW
3	11/08/18	DESIGNED FOR PERMIT APPLICATION

BUILDING NO.
SHIFT NO.

FIRST FLOOR PLAN

DRAWING NO.
A-101



1 SECOND FLOOR PLAN
SCALE: 1/8"=1'-0"



**TOWN OF
MEDWAY**
NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
438 WILKINS STREET
MEDWAY, MA 01948

ARCHITECT:
HELENE KARL
Architects, Inc.
630 Main Street, Suite 200, Medway, MA 01948

CIVIL ENGINEER:
STIMES, WAIN & WHEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
STIMES, WAIN & WHEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILLBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. WILSON, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
275 LIBERTY STREET
FOULDA, MA 02320



REV	DATE	DESCRIPTION
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12/20/18 ISSUED FOR SITE PLAN
11/28/18 ISSUED FOR DESIGN REVIEW
11/08/18 ISSUED FOR THE APPLICATION
MEETING ATTENDING BOARD

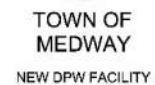
REV	DATE	DESCRIPTION
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DATE: 11/28/18
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DRAWN BY: MTV
CHECKED BY: GRK
PROJECT NO.: 18043.00

BUILDING:
SHEET TITLE:

A-102

DRAWING NO.:
**SECOND FLOOR AND
LOWER ROOF PLAN**



OWNER:
TOWN OF MEDWAY
155 VILLAGE STREET
MEDWAY, MA 02053

ARCHITECT:
HELENE • KARL
Architects, Inc.
27 Bedford Blvd., Boston, Massachusetts 02115

CIVIL ENGINEER:
SYNVE'S, NAIN & McKEL ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SYNYES, NAIM & McKEE ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
MILBURY, MA 01527

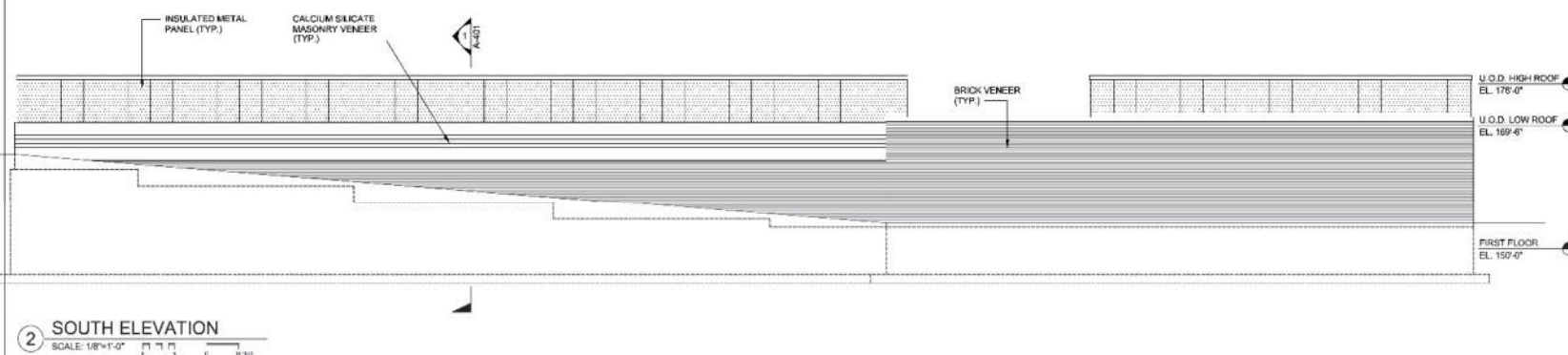
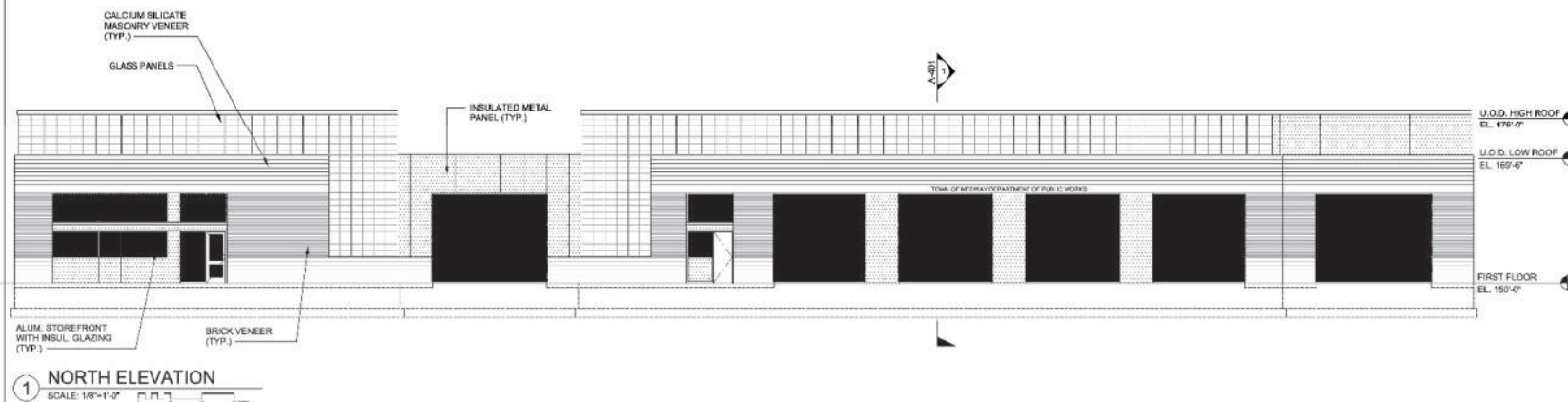
ELECTRICAL ENGINEER:
~~5000~~ J. MURPHY, JR. ELECTRICAL
CONSTRUCTORS AND ENGINEERING, INC.
379 LIBERTY STREET
ROCKLAND, MA 02370

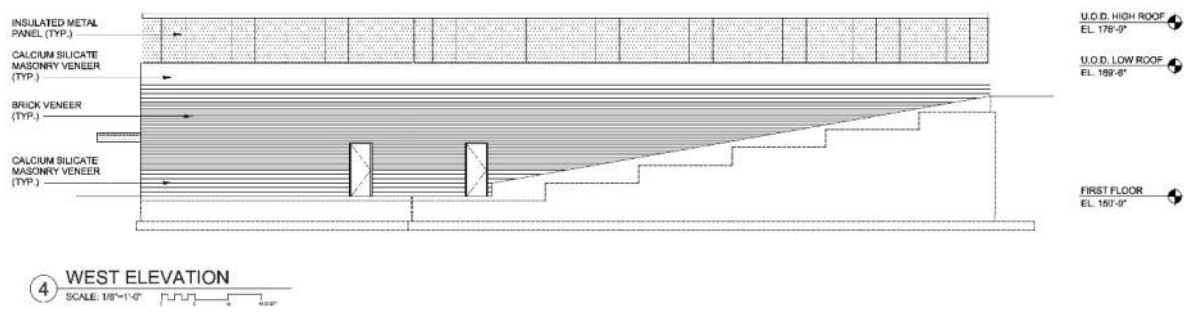
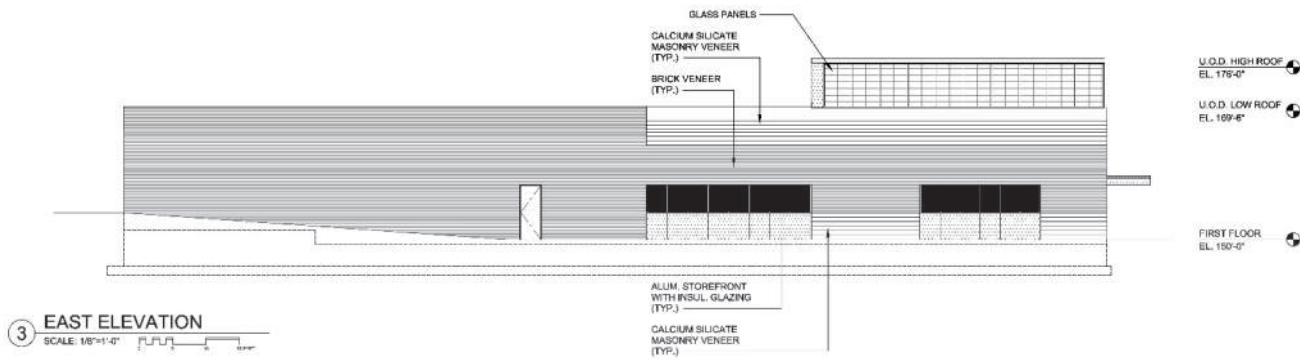


	12/29/18	ISSUED FOR BFC PLAN REVIEW
	11/28/18	SUBMIT FOR DESIGN REVIEW (2-AMM 11/28/18)
	11/08/18	CHECKED FOR PRE-APPLICATION MEETING (2-AMM 11/08/18)
REV	DATE	DESCRIPTION
	DATE	
	SCALE	1/8" = 1'-0"
	DRAWN BY	ADD
	CHECKED BY	PSG
	PROJECT NO	18043.00

**EXTERIOR
ELEVATIONS
SHEET 1**

DRAWING NO.
A-301





**TOWN OF
MEDWAY**
NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
150 VILLAGE STREET
MEDWAY, MA 01953

ARCHITECT:
HELENE K. KARL
Architects, Inc.
150 VILLAGE STREET, SUITE 200
MEDWAY, MA 01953

CIVIL ENGINEER:
STIMEL, MARK & ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
STIMEL, MARK & ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
TEAM ENGINEERING CORP.
22 WEST STREET, UNIT C
WILMISTON, MA 01957

ELECTRICAL ENGINEER:
SCOTT J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
275 LIBERTY STREET
ROCK AND, MA 01970



REV	DATE	DESCRIPTION
1	10/20/18	ISSUED FOR SITE PLAN
2	11/08/18	ISSUED FOR DESIGN REVIEW
3	11/08/18	ISSUED FOR PERMIT APPLICATION
4	11/08/18	ISSUED FOR PERMIT APPLICATION

DATE	11/08/18
SCALE	1/8" = 1'-0"
DRAWN BY	ACD
CHECKED BY	PSG
PROJECT NO.	18043.00

REV. 11/08/18
SHEET 1 OF 1
**EXTERIOR
ELEVATIONS
SHEET 2**

DRAWING NO.
A-302



MEDWAY DPS BUILDING - RENDERING 1



MEDWAY DPS BUILDING - RENDERING 2



MEDWAY DPS BUILDING - RENDERING 3



MATERIAL STORAGE BUILDING



SALT STORAGE BUILDING
FRONT VIEW



SALT STORAGE BUILDING
REAR VIEW



SALT STORAGE BUILDING
INTERNAL VIEW



SOLAR CANOPY AT
TRUCK PARKING



**TOWN OF
MEDWAY**
NEW DPW FACILITY

OWNER:
TOWN OF MEDWAY
145 HILLADE STREET
MEDWAY, MA 02553

ARCHITECT:
HELENE • KARL
ARCHITECTS, INC.
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

CIVIL ENGINEER:
SINKE, MARR & MARR ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER:
SINKE, MARR & MARR ASSOCIATES
1000 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

MECHANICAL ENGINEER:
SEAMAN ENGINEERING CORP.
22 WEST STREET, UNIT C
VILLBURY, MA 01527

ELECTRICAL ENGINEER:
JOHN J. MURPHY, JR. ELECTRICAL
CONSTRUCTION AND ENGINEERING, INC.
378 LEBLITY STREET
ROSLAND, MA 02070



REV	DATE	DESCRIPTION
1	12/20/18	DESIGNED FOR SITE PLAN
2	11/28/18	REVISED FOR DESIGNS ON REVIEW
3	11/08/18	COMMITTEE REVIEW
4	11/08/18	DESIGN FOR PRELIMINARY MEETING WITH PLANNING BOARD

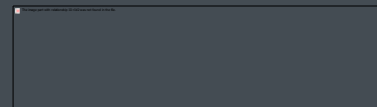
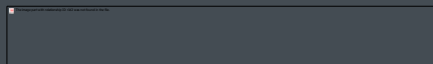
DATE	
SCALE	NTS
DRAWN BY	MTV
CHECKED BY	GKY
PROJECT NO.	16043.00

BUILDING
SHEET TITLE:

RENDERINGS

DRAWING NO.
A-303

Thank you



SMMA



February 5, 2019

**Medway Planning & Economic Development Board
Meeting**

**Millstone ARCPUD – Stormwater and
Bond**

- Letter dated 1-23-19 from Rob Truax of GLM Engineering proposing modifications to the Millstone stormwater system.
- Supplemental stormwater calcs dated 1-23-19 prepared by GLM Engineering
- Review letter from Steve Bouley dated 1-31-19

I have informed Rob Truax that the Board will not consider this matter at the 2-5 meeting. I have asked him to address Steve's comments and submit revised documents for further Tetra Tech review. Once the engineers are solid, I will then place it on the agenda for you.



January 23, 2019

Medway Planning Board
155 Village Street
Medway, MA 02053

**Re: Millstone Village
Drainage Revision
Medway, MA**

Dear Board Members,

We have been working with the applicant, Elite Homes to resolve the issue in the email memo from Steven Bouley, Tetra Tech, dated October 4, 2018. In particular drainage basin 4P, during Steve's inspection it was noted that leaching basin 4P was holding water 72 hours after a storm event.

On November 1, 2018 we conducted a soil test adjacent to the leaching chambers to determine if the water within the chambers was a result of a change in groundwater elevation. The results concluded that the water elevation in the chambers reflects groundwater (See attached soil logs).

Based on our findings we are proposing a minor modification to the existing drainage system to mitigate the loss in recharge capacity from the elevated groundwater found within Leaching Basin 4P. Enclosed herewith is a supplemental drainage report with specific details to provide mitigation. The following is a summary of the changes to the existing drainage system to mitigate the loss in recharge capacity.

Summary of Mitigation:

1. Provide recharge units to capture roof runoff from proposed dwelling units. During the conservation review of the individual dwellings within the 100 foot buffer zone the Commission required installation of recharge chambers to capture roof from the front portion of the dwellings. The recharge chambers were sized to mitigate the 100 year storm event for approximately one half of the roof area of those units.
2. Provide additional roof recharge for Units 26, 27 & 28 to provide additional stormwater mitigation. These units were not required to have recharge systems.
3. Expansion of Leaching Area 6P recharge system. The proposal is to expand the existing recharge system with additional culvert units.

The proposed changes to the existing drainage system will provide additional stormwater mitigation to ensure no increase in storm water runoff will result from the loss in recharge capacity of Leaching Basin 4P.

Attached herewith is a Supplemental Stormwater report with supporting calculations and details of the proposed mitigation measures.

We would also request that the Board's consultant review the changes and provide a cost estimate to install the proposed drainage structures described in the mitigation summary.

The applicant is seeking a bond reduction for the project and these additional items should be considered as part of the drainage construction.

Thank you for your cooperation in this matter.

Yours truly,
GLM Engineering Consultants Inc.

Robert S. Truax
Project Manager/Design Eng.

**Supplemental Stormwater Calculations
for
Millstone Village
off Winthrop Street
in
Medway, Massachusetts**

January 23, 2019

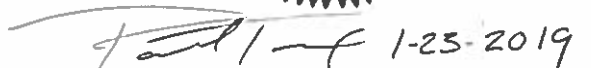
Prepared for:

**Elite Home Builders LLC
P.O. Box 1205
Westborough, Massachusetts 01581**

Prepared by:

**GLM Engineering Consultants, Inc.
19 Exchange Street
Holliston, Massachusetts 01746
(508) 429 - 1100**





**Paul E. Truax, P.E.
Professional Civil Engineer**

**Robert Truax
Project Engineer**

Introduction

These calculations were performed to review the storm water runoff from area that discharges to the north of the project site. The existing storm water has been divided into three (3) subcatchments and combined in Link 10L . The proposed storm water runoff has been divided into six (6) subcatchments, routed through the various storm water recharge systems and combined in Link 12L.

The front portion of the roof areas of units 30-44 have been removed from the subcatchment areas and shown as Subcatchment 3S and routed through Pond 5P-R. (Roof Recharge). Each of these units has been constructed with an underground recharge system that captures the roof runoff from approximately half of the overall roof area.

The soil testing conducted and the water level monitored in the Leaching Area of 4P was used to determine the storage capacity within the system. The groundwater elevation, test pit 18-1, is 217.6 feet. The groundwater monitored in the Leaching Area inspection port was 217.9 feet. Based on this information the Pond 4P was modified in the calculations as a stone bed with 1.5 feet in depth with a bottom of stone elevation of 218.20 feet.

Leaching Basin 6P has been modified to include five (5) additional culvec chambers (1-Additional row of chambers).

The calculations conclude that the modifications will provide sufficient mitigation to ensure there will be no increase in storm water runoff from the project site.

In addition, Units 26, 27 & 28 will have roof recharge to provide additional stormwater mitigation. These units are not within the watershed but will provide additional overall mitigation for the project site.

The following is a summary of pre-development & post-development peak runoff rates for the various storms:

Storm Water Runoff Rate & Volume

Storm	Pre-developed #10L (cfs)/(af)	Post-developed #12L (cfs)/(af)
3.2"-2 year	5.78/0.68	4.98/0.59
4.8"-10 year	19.97/1.81	18.54/1.56
5.1"-25 year	23.07/2.06	21.23/1.78
7.0"-100 year	44.70/3.78	42.29/3.34

Appendix A

Hydro-Pre & Post Dev. Calculations

Appendix B

Soil Test Results

Appendix C – Drainage Maps

Predevelopment Runoff Areas

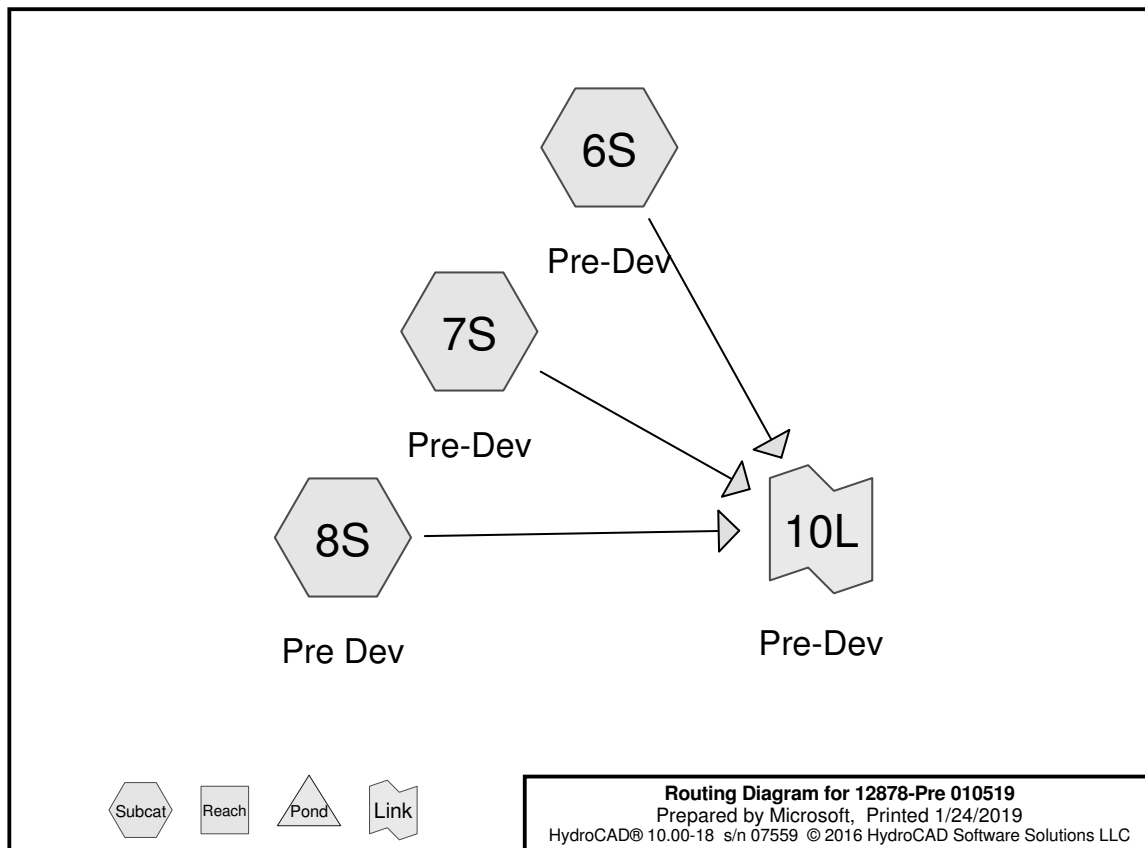
Postdevelopment Runoff Areas

Plan

Proposed Drainage Modification Plan

Appendix A

Hydro-Pre & Post Developed



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Type III 24-hr 2 Yr Rainfall=3.20"

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Page 2

Summary for Subcatchment 6S: Pre-Dev

Runoff = 2.18 cfs @ 12.13 hrs, Volume= 0.212 af, Depth> 0.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2 Yr Rainfall=3.20"

Area (sf)	CN	Description
* 184,765	65	Composite
184,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	50	0.0300	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.4	50	0.0200	2.28		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	60	0.3000	2.74		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	160	Total			

Summary for Subcatchment 7S: Pre-Dev

Runoff = 1.79 cfs @ 12.17 hrs, Volume= 0.216 af, Depth> 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2 Yr Rainfall=3.20"

Area (sf)	CN	Description
* 235,641	62	Composite
235,641		100.00% Pervious Area

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Type III 24-hr 2 Yr Rainfall=3.20"

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Page 3

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	50	0.0300	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.6	125	0.0400	3.22		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.3	100	0.1400	6.02		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	75	0.0400	3.22		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
1.2	50	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
9.5	400	Total			

Summary for Subcatchment 8S: Pre Dev

Runoff = 2.07 cfs @ 12.21 hrs, Volume= 0.256 af, Depth> 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Yr Rainfall=3.20"

Area (sf)	CN	Description
* 258,347	63	Composite
258,347		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.4	230	0.0300	2.79		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.2	280	Total			

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Type III 24-hr 2 Yr Rainfall=3.20"

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Page 4

Summary for Link 10L: Pre-Dev

Inflow Area = 15.582 ac, 0.00% Impervious, Inflow Depth > 0.53" for 2 Yr event
 Inflow = 5.78 cfs @ 12.17 hrs, Volume= 0.683 af
 Primary = 5.78 cfs @ 12.17 hrs, Volume= 0.683 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

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Type III 24-hr 10 Yr Rainfall=4.80"

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Page 5

Summary for Subcatchment 6S: Pre-Dev

Runoff = 6.69 cfs @ 12.12 hrs, Volume= 0.537 af, Depth> 1.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Yr Rainfall=4.80"

Area (sf)	CN	Description
* 184,765	65	Composite
184,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	50	0.0300	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.4	50	0.0200	2.28		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	60	0.3000	2.74		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	160	Total			

Summary for Subcatchment 7S: Pre-Dev

Runoff = 6.71 cfs @ 12.15 hrs, Volume= 0.592 af, Depth> 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Yr Rainfall=4.80"

Area (sf)	CN	Description
* 235,641	62	Composite
235,641		100.00% Pervious Area

12878-Pre 010519

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Type III 24-hr 10 Yr Rainfall=4.80"

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Page 6

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	50	0.0300	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.6	125	0.0400	3.22		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.3	100	0.1400	6.02		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	75	0.0400	3.22		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
1.2	50	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
9.5	400	Total			

Summary for Subcatchment 8S: Pre Dev

Runoff = 7.19 cfs @ 12.18 hrs, Volume= 0.682 af, Depth> 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Yr Rainfall=4.80"

Area (sf)	CN	Description
* 258,347	63	Composite
258,347		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.4	230	0.0300	2.79		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.2	280	Total			

Summary for Link 10L: Pre-Dev

Inflow Area = 15.582 ac, 0.00% Impervious, Inflow Depth > 1.39" for 10 Yr event
 Inflow = 19.97 cfs @ 12.15 hrs, Volume= 1.810 af
 Primary = 19.97 cfs @ 12.15 hrs, Volume= 1.810 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 6S: Pre-Dev

Runoff = 7.66 cfs @ 12.12 hrs, Volume= 0.607 af, Depth> 1.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25 Yr Rainfall=5.10"

Area (sf)	CN	Description
* 184,765	65	Composite
184,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	50	0.0300	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.4	50	0.0200	2.28		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	60	0.3000	2.74		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	160	Total			

Summary for Subcatchment 7S: Pre-Dev

Runoff = 7.79 cfs @ 12.15 hrs, Volume= 0.675 af, Depth> 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25 Yr Rainfall=5.10"

Area (sf)	CN	Description
* 235,641	62	Composite
235,641		100.00% Pervious Area

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Type III 24-hr 25 Yr Rainfall=5.10"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	50	0.0300	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.6	125	0.0400	3.22		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.3	100	0.1400	6.02		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	75	0.0400	3.22		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
1.2	50	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
9.5	400	Total			

Summary for Subcatchment 8S: Pre Dev

Runoff = 8.31 cfs @ 12.18 hrs, Volume= 0.775 af, Depth> 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Yr Rainfall=5.10"

Area (sf)	CN	Description
* 258,347	63	Composite
258,347		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.4	230	0.0300	2.79		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.2	280	Total			

12878-Pre 010519

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Type III 24-hr 25 Yr Rainfall=5.10"

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Page 10

Summary for Link 10L: Pre-DevInflow Area = 15.582 ac, 0.00% Impervious, Inflow Depth > 1.58" for 25 Yr event
Inflow = 23.07 cfs @ 12.15 hrs, Volume= 2.056 af
Primary = 23.07 cfs @ 12.15 hrs, Volume= 2.056 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

12878-Pre 010519

Prepared by Microsoft

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Type III 24-hr 100 Yr Rainfall=7.00"

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Page 11

Summary for Subcatchment 6S: Pre-Dev

Runoff = 14.35 cfs @ 12.11 hrs, Volume= 1.095 af, Depth> 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Yr Rainfall=7.00"

Area (sf)	CN	Description
* 184,765	65	Composite
184,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	50	0.0300	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.4	50	0.0200	2.28		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	60	0.3000	2.74		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	160	Total			

Summary for Subcatchment 7S: Pre-Dev

Runoff = 15.41 cfs @ 12.14 hrs, Volume= 1.260 af, Depth> 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Yr Rainfall=7.00"

Area (sf)	CN	Description
* 235,641	62	Composite
235,641		100.00% Pervious Area

12878-Pre 010519

Prepared by Microsoft

HydroCAD® 10.00-18 s/n 07559 © 2016 HydroCAD Software Solutions LLC

Type III 24-hr 100 Yr Rainfall=7.00"

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Page 12

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	50	0.0300	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.6	125	0.0400	3.22		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.3	100	0.1400	6.02		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	75	0.0400	3.22		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
1.2	50	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
9.5	400	Total			

Summary for Subcatchment 8S: Pre Dev

Runoff = 16.14 cfs @ 12.17 hrs, Volume= 1.430 af, Depth> 2.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Yr Rainfall=7.00"

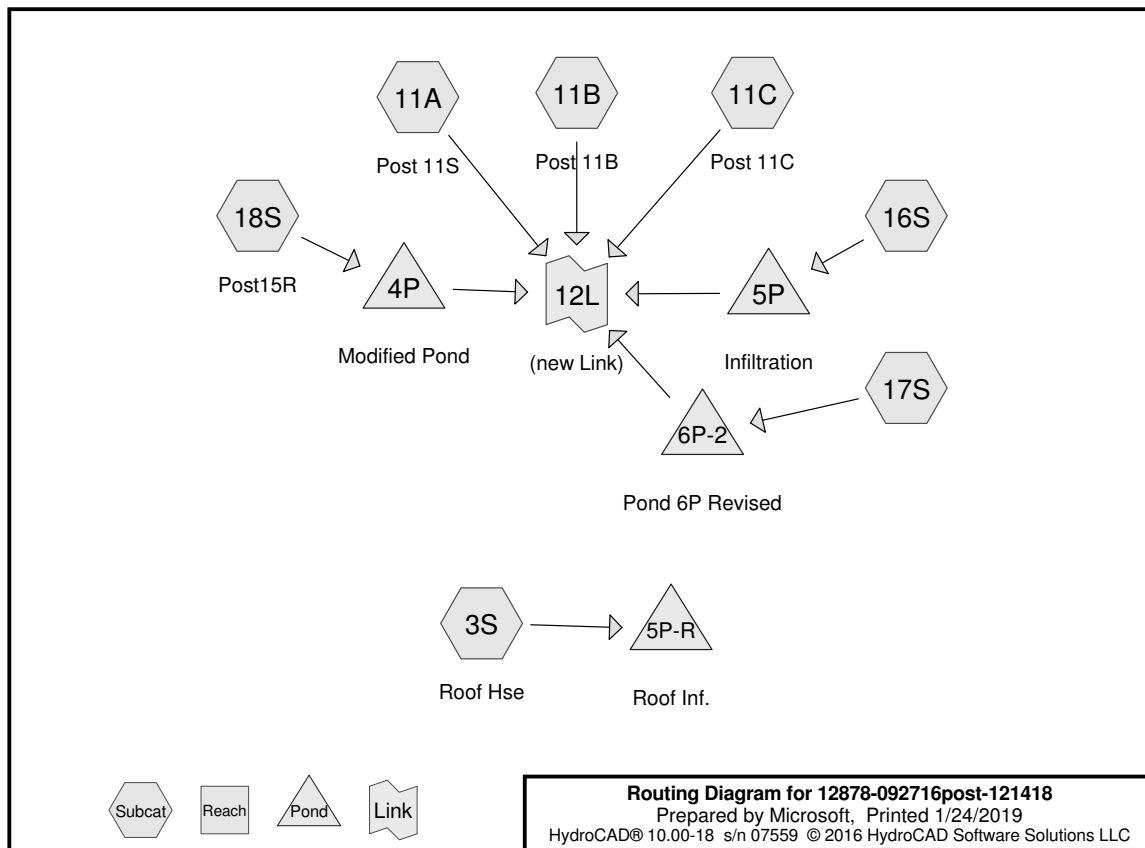
Area (sf)	CN	Description
* 258,347	63	Composite
258,347		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.4	230	0.0300	2.79		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.2	280	Total			

Summary for Link 10L: Pre-Dev

Inflow Area = 15.582 ac, 0.00% Impervious, Inflow Depth > 2.91" for 100 Yr event
Inflow = 44.70 cfs @ 12.14 hrs, Volume= 3.784 af
Primary = 44.70 cfs @ 12.14 hrs, Volume= 3.784 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs



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Type III 24-hr 2 Yr Rainfall=3.20"

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Summary for Subcatchment 3S: Roof Hse

Runoff = 0.09 cfs @ 12.07 hrs, Volume= 0.007 af, Depth> 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2 Yr Rainfall=3.20"

Area (sf)	CN	Description
1,240	98	Roofs, HSG A
1,240		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment 11A: Post 11S

Runoff = 1.45 cfs @ 12.20 hrs, Volume= 0.176 af, Depth> 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2 Yr Rainfall=3.20"

Area (sf)	CN	Description
116,273	78	Wetlands
37,026	30	Woods, Good, HSG A
24,500	39	>75% Grass cover, Good, HSG A
177,799	63	Weighted Average
177,799		100.00% Pervious Area

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Type III 24-hr 2 Yr Rainfall=3.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 3.20"
0.4	50	0.0200	2.28		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	60	0.3000	2.74		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
11.6	160	Total			

Summary for Subcatchment 11B: Post 11B

Runoff = 3.18 cfs @ 12.13 hrs, Volume= 0.261 af, Depth> 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Yr Rainfall=3.20"

Area (sf)	CN	Description
* 49,053	78	Wetland
* 10,924	98	Roofs
21,964	70	Woods, Good, HSG C
35,140	74	>75% Grass cover, Good, HSG C
7,680	39	>75% Grass cover, Good, HSG A
124,761	75	Weighted Average
113,837		91.24% Pervious Area
10,924		8.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	30	0.0100	0.07		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.4	90	0.0800	4.24		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.2	50	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.8	170	Total			

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Type III 24-hr 2 Yr Rainfall=3.20"

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Summary for Subcatchment 11C: Post 11C

Runoff = 0.87 cfs @ 12.35 hrs, Volume= 0.150 af, Depth> 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Yr Rainfall=3.20"

Area (sf)	CN	Description
* 112,692	78	Wetlands
* 5,904	98	Roof
26,385	30	Woods, Good, HSG A
86,455	39	>75% Grass cover, Good, HSG A
231,436	58	Weighted Average
225,532		97.45% Pervious Area
5,904		2.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.4	230	0.0300	2.79		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.2	280	Total			

Summary for Subcatchment 16S:

Runoff = 0.38 cfs @ 12.21 hrs, Volume= 0.039 af, Depth> 0.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Yr Rainfall=3.20"

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Type III 24-hr 2 Yr Rainfall=3.20"

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Area (sf)	CN	Description
* 5,907	98	Paved
* 7,280	98	Roof
12,963	39	>75% Grass cover, Good, HSG A
26,150	69	Weighted Average
12,963		49.57% Pervious Area
13,187		50.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.7	99	0.0200	0.99		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.8	150	0.0400	3.00		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
13.3	299	Total			

Summary for Subcatchment 17S:

Runoff = 1.12 cfs @ 12.16 hrs, Volume= 0.096 af, Depth> 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Yr Rainfall=3.20"

Area (sf)	CN	Description
* 19,246	98	Paved
7,132	39	>75% Grass cover, Good, HSG A
9,342	74	>75% Grass cover, Good, HSG C
35,720	80	Weighted Average
16,474		46.12% Pervious Area
19,246		53.88% Impervious Area

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Type III 24-hr 2 Yr Rainfall=3.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	44	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.6	98	0.0180	2.72		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.9	300	0.0100	5.36	4.21	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011
11.3	442	Total			

Summary for Subcatchment 18S: Post15R

Runoff = 1.34 cfs @ 12.19 hrs, Volume= 0.128 af, Depth> 0.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Yr Rainfall=3.20"

Area (sf)	CN	Description
* 10,620	98	roof
* 29,769	98	Pavement
31,996	39	>75% Grass cover, Good, HSG A
72,385	72	Weighted Average
31,996		44.20% Pervious Area
40,389		55.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.9	110	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.8	220	0.0100	4.54	3.56	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
12.5	380	Total			

Summary for Pond 4P: Modified Pond

[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=10)

Inflow Area = 1.662 ac, 55.80% Impervious, Inflow Depth > 0.93" for 2 Yr event
 Inflow = 1.34 cfs @ 12.19 hrs, Volume= 0.128 af
 Outflow = 1.01 cfs @ 12.38 hrs, Volume= 0.128 af, Atten= 25%, Lag= 11.7 min
 Discarded = 0.49 cfs @ 12.38 hrs, Volume= 0.123 af
 Primary = 0.51 cfs @ 12.38 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 220.46' @ 12.38 hrs Surf.Area= 1,509 sf Storage= 954 cf

Plug-Flow detention time= 16.6 min calculated for 0.128 af (99% of inflow)
 Center-of-Mass det. time= 13.8 min (886.6 - 872.8)

Volume	Invert	Avail.Storage	Storage Description
#1	218.20'	898 cf	23.50'W x 63.67'L x 1.50'H Prismatoid 2,244 cf Overall x 40.0% Voids
#2	216.00'	113 cf	4.00'D x 9.00'H Manhole
		1,011 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	216.00'	8.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 215.00'
#2	Primary	220.10'	12.0" Round Culvert L= 120.0' Ke= 0.500 Inlet / Outlet Invert= 220.10' / 217.60' S= 0.0208 ' / Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.49 cfs @ 12.38 hrs HW=220.46' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.49 cfs)

Primary OutFlow Max=0.49 cfs @ 12.38 hrs HW=220.45' (Free Discharge)
 ↳ **2=Culvert** (Inlet Controls 0.49 cfs @ 2.01 fps)

Summary for Pond 5P: Infiltration

Inflow Area = 0.600 ac, 50.43% Impervious, Inflow Depth > 0.78" for 2 Yr event
 Inflow = 0.38 cfs @ 12.21 hrs, Volume= 0.039 af
 Outflow = 0.18 cfs @ 12.57 hrs, Volume= 0.039 af, Atten= 52%, Lag= 21.7 min
 Discarded = 0.18 cfs @ 12.57 hrs, Volume= 0.039 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 220.57' @ 12.57 hrs Surf.Area= 853 sf Storage= 223 cf

Plug-Flow detention time= 7.1 min calculated for 0.039 af (100% of inflow)
 Center-of-Mass det. time= 6.7 min (890.6 - 883.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	220.00'	906 cf	16.00'W x 52.50'L x 4.04'H Field A 3,395 cf Overall - 1,129 cf Embedded = 2,266 cf x 40.0% Voids
#2	220.00'	75 cf	4.00'D x 6.00'H Manhole
#3A	220.50'	1,129 cf	Cultec R-330XL x 21 Inside #1 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 3 rows
		2,111 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	8.270 in/hr Exfiltration over Wetted area
#2	Primary	223.00'	12.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 223.00' / 222.00' S= 0.0200 ' / Cc= 0.900 n= 0.011, Flow Area= 0.79 sf

Discarded OutFlow Max=0.18 cfs @ 12.57 hrs HW=220.57' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=220.00' (Free Discharge)
 ↳ **2=Culvert** (Controls 0.00 cfs)

Summary for Pond 5P-R: Roof Inf.

Inflow Area = 0.028 ac, 100.00% Impervious, Inflow Depth > 2.97" for 2 Yr event
 Inflow = 0.09 cfs @ 12.07 hrs, Volume= 0.007 af
 Outflow = 0.04 cfs @ 12.26 hrs, Volume= 0.007 af, Atten= 60%, Lag= 11.5 min
 Discarded = 0.04 cfs @ 12.26 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 220.87' @ 12.26 hrs Surf.Area= 104 sf Storage= 43 cf

Plug-Flow detention time= 6.4 min calculated for 0.007 af (100% of inflow)

Center-of-Mass det. time= 6.3 min (761.3 - 755.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	220.00'	122 cf	8.33'W x 12.50'L x 3.54'H Field A 369 cf Overall - 63 cf Embedded = 306 cf x 40.0% Voids
#2A	220.50'	63 cf	Cultec R-330XLHD Inside #1 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
		186 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	8.270 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 218.00'

Discarded OutFlow Max=0.04 cfs @ 12.26 hrs HW=220.87' (Free Discharge)

↳ **1=Exfiltration** (Controls 0.04 cfs)

Summary for Pond 6P-2: Pond 6P Revised

Inflow Area = 0.820 ac, 53.88% Impervious, Inflow Depth > 1.40" for 2 Yr event
 Inflow = 1.12 cfs @ 12.16 hrs, Volume= 0.096 af
 Outflow = 0.37 cfs @ 12.56 hrs, Volume= 0.096 af, Atten= 67%, Lag= 24.1 min
 Discarded = 0.37 cfs @ 12.56 hrs, Volume= 0.096 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 219.43' @ 12.56 hrs Surf.Area= 988 sf Storage= 952 cf

Plug-Flow detention time= 17.7 min calculated for 0.096 af (100% of inflow)

Center-of-Mass det. time= 17.5 min (863.7 - 846.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	218.00'	1,054 cf	25.67'W x 38.50'L x 4.04'H Field A 3,994 cf Overall - 1,360 cf Embedded = 2,634 cf x 40.0% Voids
#2A	218.50'	1,360 cf	Cultec R-330XLHD x 25 Inside #1 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 5 rows
		2,413 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.00'	8.270 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 216.00'
#2	Primary	220.90'	12.0" Round Culvert L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 220.90' / 219.00' S= 0.0475 ' /' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.37 cfs @ 12.56 hrs HW=219.43' (Free Discharge)

↳ **1=Exfiltration** (Controls 0.37 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=218.00' (Free Discharge)

↳ **2=Culvert** (Controls 0.00 cfs)

Summary for Link 12L: (new Link)

Inflow Area = 15.341 ac, 13.42% Impervious, Inflow Depth > 0.46" for 2 Yr event
 Inflow = 4.98 cfs @ 12.17 hrs, Volume= 0.591 af
 Primary = 4.98 cfs @ 12.17 hrs, Volume= 0.591 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 3S: Roof Hse

Runoff = 0.14 cfs @ 12.07 hrs, Volume= 0.011 af, Depth> 4.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Yr Rainfall=4.80"

Area (sf)	CN	Description
1,240	98	Roofs, HSG A
1,240		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment 11A: Post 11S

Runoff = 5.04 cfs @ 12.18 hrs, Volume= 0.469 af, Depth> 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Yr Rainfall=4.80"

Area (sf)	CN	Description
* 116,273	78	Wetlands
37,026	30	Woods, Good, HSG A
24,500	39	>75% Grass cover, Good, HSG A
177,799	63	Weighted Average
177,799		100.00% Pervious Area

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Type III 24-hr 10 Yr Rainfall=4.80"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 3.20"
0.4	50	0.0200	2.28		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	60	0.3000	2.74		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
11.6	160	Total			

Summary for Subcatchment 11B: Post 11B

Runoff = 6.94 cfs @ 12.13 hrs, Volume= 0.545 af, Depth> 2.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Type III 24-hr 10 Yr Rainfall=4.80"

Area (sf)	CN	Description
* 49,053	78	Wetland
* 10,924	98	Roofs
21,964	70	Woods, Good, HSG C
35,140	74	>75% Grass cover, Good, HSG C
7,680	39	>75% Grass cover, Good, HSG A
124,761	75	Weighted Average
113,837		91.24% Pervious Area
10,924		8.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	30	0.0100	0.07		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.4	90	0.0800	4.24		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.2	50	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.8	170	Total			

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Type III 24-hr 10 Yr Rainfall=4.80"

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Summary for Subcatchment 11C: Post 11C

Runoff = 4.50 cfs @ 12.19 hrs, Volume= 0.468 af, Depth> 1.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Type III 24-hr 10 Yr Rainfall=4.80"

Area (sf)	CN	Description
* 112,692	78	Wetlands
* 5,904	98	Roof
26,385	30	Woods, Good, HSG A
86,455	39	>75% Grass cover, Good, HSG A
231,436	58	Weighted Average
225,532		97.45% Pervious Area
5,904		2.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.4	230	0.0300	2.79		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.2	280	Total			

Summary for Subcatchment 16S:

Runoff = 0.98 cfs @ 12.19 hrs, Volume= 0.090 af, Depth> 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Type III 24-hr 10 Yr Rainfall=4.80"

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Type III 24-hr 10 Yr Rainfall=4.80"

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Area (sf)	CN	Description
* 5,907	98	Paved
* 7,280	98	Roof
12,963	39	>75% Grass cover, Good, HSG A
26,150	69	Weighted Average
12,963		49.57% Pervious Area
13,187		50.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.7	99	0.0200	0.99		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.8	150	0.0400	3.00		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
13.3	299	Total			

Summary for Subcatchment 17S:

Runoff = 2.19 cfs @ 12.16 hrs, Volume= 0.185 af, Depth> 2.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Yr Rainfall=4.80"

Area (sf)	CN	Description
* 19,246	98	Paved
7,132	39	>75% Grass cover, Good, HSG A
9,342	74	>75% Grass cover, Good, HSG C
35,720	80	Weighted Average
16,474		46.12% Pervious Area
19,246		53.88% Impervious Area

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Type III 24-hr 10 Yr Rainfall=4.80"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	44	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.6	98	0.0180	2.72		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.9	300	0.0100	5.36	4.21	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011
11.3	442	Total			

Summary for Subcatchment 18S: Post15R

Runoff = 3.18 cfs @ 12.18 hrs, Volume= 0.282 af, Depth> 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Yr Rainfall=4.80"

Area (sf)	CN	Description
* 10,620	98	roof
* 29,769	98	Pavement
31,996	39	>75% Grass cover, Good, HSG A
72,385	72	Weighted Average
31,996		44.20% Pervious Area
40,389		55.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.9	110	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.8	220	0.0100	4.54	3.56	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
12.5	380	Total			

Summary for Pond 4P: Modified Pond

[88] Warning: Qout>Qin may require smaller dt or Finer Routing

[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=9)

Inflow Area = 1.662 ac, 55.80% Impervious, Inflow Depth > 2.04" for 10 Yr event
 Inflow = 3.18 cfs @ 12.18 hrs, Volume= 0.282 af
 Outflow = 3.23 cfs @ 12.11 hrs, Volume= 0.282 af, Atten= 0%, Lag= 0.0 min
 Discarded = 0.55 cfs @ 12.11 hrs, Volume= 0.208 af
 Primary = 2.68 cfs @ 12.11 hrs, Volume= 0.074 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 221.10' @ 12.11 hrs Surf.Area= 1,509 sf Storage= 962 cf

Plug-Flow detention time= 13.8 min calculated for 0.282 af (100% of inflow)
 Center-of-Mass det. time= 12.5 min (861.4 - 849.0)

Volume	Invert	Avail.Storage	Storage Description
#1	218.20'	898 cf	23.50'W x 63.67'L x 1.50'H Prismatoid 2,244 cf Overall x 40.0% Voids
#2	216.00'	113 cf	4.00'D x 9.00'H Manhole
		1,011 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	216.00'	8.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 215.00'
#2	Primary	220.10'	12.0" Round Culvert L= 120.0' Ke= 0.500 Inlet / Outlet Invert= 220.10' / 217.60' S= 0.0208 ' /' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.55 cfs @ 12.11 hrs HW=221.10' (Free Discharge)

1=Exfiltration (Controls 0.55 cfs)

Primary OutFlow Max=2.68 cfs @ 12.11 hrs HW=221.10' (Free Discharge)

2=Culvert (Inlet Controls 2.68 cfs @ 3.41 fps)

Summary for Pond 5P: Infiltration

Inflow Area = 0.600 ac, 50.43% Impervious, Inflow Depth > 1.81" for 10 Yr event
 Inflow = 0.98 cfs @ 12.19 hrs, Volume= 0.090 af
 Outflow = 0.22 cfs @ 12.77 hrs, Volume= 0.090 af, Atten= 78%, Lag= 34.5 min
 Discarded = 0.22 cfs @ 12.77 hrs, Volume= 0.090 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 221.89' @ 12.77 hrs Surf.Area= 853 sf Storage= 1,124 cf

Plug-Flow detention time= 39.7 min calculated for 0.090 af (100% of inflow)
 Center-of-Mass det. time= 39.3 min (896.7 - 857.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	220.00'	906 cf	16.00'W x 52.50'L x 4.04'H Field A 3,395 cf Overall - 1,129 cf Embedded = 2,266 cf x 40.0% Voids
#2	220.00'	75 cf	4.00'D x 6.00'H Manhole
#3A	220.50'	1,129 cf	Cultec R-330XL x 21 Inside #1 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 3 rows
		2,111 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	8.270 in/hr Exfiltration over Wetted area
#2	Primary	223.00'	12.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 223.00' / 222.00' S= 0.0200 ' /' Cc= 0.900 n= 0.011, Flow Area= 0.79 sf

Discarded OutFlow Max=0.22 cfs @ 12.77 hrs HW=221.89' (Free Discharge)

1=Exfiltration (Exfiltration Controls 0.22 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=220.00' (Free Discharge)

2=Culvert (Controls 0.00 cfs)

Summary for Pond 5P-R: Roof Inf.

Inflow Area = 0.028 ac, 100.00% Impervious, Inflow Depth > 4.56" for 10 Yr event
 Inflow = 0.14 cfs @ 12.07 hrs, Volume= 0.011 af
 Outflow = 0.05 cfs @ 12.30 hrs, Volume= 0.011 af, Atten= 64%, Lag= 13.7 min
 Discarded = 0.05 cfs @ 12.30 hrs, Volume= 0.011 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 221.50' @ 12.30 hrs Surf.Area= 104 sf Storage= 82 cf

Plug-Flow detention time= 9.7 min calculated for 0.011 af (100% of inflow)

Center-of-Mass det. time= 9.6 min (756.9 - 747.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	220.00'	122 cf	8.33'W x 12.50'L x 3.54'H Field A 369 cf Overall - 63 cf Embedded = 306 cf x 40.0% Voids
#2A	220.50'	63 cf	Cultec R-330XLHD Inside #1 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
		186 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	8.270 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 218.00'

Discarded OutFlow Max=0.05 cfs @ 12.30 hrs HW=221.50' (Free Discharge)

↳ **1=Exfiltration** (Controls 0.05 cfs)

Summary for Pond 6P-2: Pond 6P Revised

Inflow Area = 0.820 ac, 53.88% Impervious, Inflow Depth > 2.71" for 10 Yr event
 Inflow = 2.19 cfs @ 12.16 hrs, Volume= 0.185 af
 Outflow = 1.04 cfs @ 12.43 hrs, Volume= 0.185 af, Atten= 52%, Lag= 16.2 min
 Discarded = 0.62 cfs @ 12.43 hrs, Volume= 0.178 af
 Primary = 0.43 cfs @ 12.43 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 221.22' @ 12.43 hrs Surf.Area= 988 sf Storage= 2,090 cf

Plug-Flow detention time= 29.0 min calculated for 0.185 af (100% of inflow)

Center-of-Mass det. time= 28.8 min (855.9 - 827.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	218.00'	1,054 cf	25.67'W x 38.50'L x 4.04'H Field A 3,994 cf Overall - 1,360 cf Embedded = 2,634 cf x 40.0% Voids
#2A	218.50'	1,360 cf	Cultec R-330XLHD x 25 Inside #1 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 5 rows
		2,413 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.00'	8.270 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 216.00'
#2	Primary	220.90'	12.0" Round Culvert L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 220.90' / 219.00' S= 0.0475 ' /' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.62 cfs @ 12.43 hrs HW=221.22' (Free Discharge)

↳ **1=Exfiltration** (Controls 0.62 cfs)

Primary OutFlow Max=0.43 cfs @ 12.43 hrs HW=221.22' (Free Discharge)

↳ **2=Culvert** (Inlet Controls 0.43 cfs @ 1.94 fps)

Summary for Link 12L: (new Link)

Inflow Area = 15.341 ac, 13.42% Impervious, Inflow Depth > 1.22" for 10 Yr event
 Inflow = 18.54 cfs @ 12.15 hrs, Volume= 1.563 af
 Primary = 18.54 cfs @ 12.15 hrs, Volume= 1.563 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 3S: Roof Hse

Runoff = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af, Depth> 4.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25 Yr Rainfall=5.10"

Area (sf)	CN	Description
1,240	98	Roofs, HSG A
1,240		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment 11A: Post 11S

Runoff = 5.82 cfs @ 12.17 hrs, Volume= 0.533 af, Depth> 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25 Yr Rainfall=5.10"

Area (sf)	CN	Description
* 116,273	78	Wetlands
37,026	30	Woods, Good, HSG A
24,500	39	>75% Grass cover, Good, HSG A
177,799	63	Weighted Average
177,799		100.00% Pervious Area

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Type III 24-hr 25 Yr Rainfall=5.10"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 3.20"
0.4	50	0.0200	2.28		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	60	0.3000	2.74		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
11.6	160	Total			

Summary for Subcatchment 11B: Post 11B

Runoff = 7.70 cfs @ 12.13 hrs, Volume= 0.603 af, Depth> 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Type III 24-hr 25 Yr Rainfall=5.10"

Area (sf)	CN	Description
* 49,053	78	Wetland
* 10,924	98	Roofs
21,964	70	Woods, Good, HSG C
35,140	74	>75% Grass cover, Good, HSG C
7,680	39	>75% Grass cover, Good, HSG A
124,761	75	Weighted Average
113,837		91.24% Pervious Area
10,924		8.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	30	0.0100	0.07		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.4	90	0.0800	4.24		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.2	50	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.8	170	Total			

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Type III 24-hr 25 Yr Rainfall=5.10"

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Summary for Subcatchment 11C: Post 11C

Runoff = 5.37 cfs @ 12.19 hrs, Volume= 0.540 af, Depth> 1.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Type III 24-hr 25 Yr Rainfall=5.10"

Area (sf)	CN	Description
* 112,692	78	Wetlands
* 5,904	98	Roof
26,385	30	Woods, Good, HSG A
86,455	39	>75% Grass cover, Good, HSG A
231,436	58	Weighted Average
225,532		97.45% Pervious Area
5,904		2.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.4	230	0.0300	2.79		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.2	280	Total			

Summary for Subcatchment 16S:

Runoff = 1.10 cfs @ 12.19 hrs, Volume= 0.101 af, Depth> 2.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Type III 24-hr 25 Yr Rainfall=5.10"

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Type III 24-hr 25 Yr Rainfall=5.10"

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Area (sf)	CN	Description
* 5,907	98	Paved
* 7,280	98	Roof
12,963	39	>75% Grass cover, Good, HSG A
26,150	69	Weighted Average
12,963		49.57% Pervious Area
13,187		50.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.7	99	0.0200	0.99		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.8	150	0.0400	3.00		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
13.3	299	Total			

Summary for Subcatchment 17S:

Runoff = 2.40 cfs @ 12.16 hrs, Volume= 0.203 af, Depth> 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Type III 24-hr 25 Yr Rainfall=5.10"

Area (sf)	CN	Description
* 19,246	98	Paved
7,132	39	>75% Grass cover, Good, HSG A
9,342	74	>75% Grass cover, Good, HSG C
35,720	80	Weighted Average
16,474		46.12% Pervious Area
19,246		53.88% Impervious Area

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Type III 24-hr 25 Yr Rainfall=5.10"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	44	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.6	98	0.0180	2.72		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.9	300	0.0100	5.36	4.21	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011
11.3	442	Total			

Summary for Subcatchment 18S: Post15R

Runoff = 3.55 cfs @ 12.18 hrs, Volume= 0.314 af, Depth> 2.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Type III 24-hr 25 Yr Rainfall=5.10"

Area (sf)	CN	Description
* 10,620	98	roof
* 29,769	98	Pavement
31,996	39	>75% Grass cover, Good, HSG A
72,385	72	Weighted Average
31,996		44.20% Pervious Area
40,389		55.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.9	110	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.8	220	0.0100	4.54	3.56	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
12.5	380	Total			

Summary for Pond 4P: Modified Pond

[88] Warning: Qout>Qin may require smaller dt or Finer Routing

[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=8)

Inflow Area = 1.662 ac, 55.80% Impervious, Inflow Depth > 2.27" for 25 Yr event
 Inflow = 3.55 cfs @ 12.18 hrs, Volume= 0.314 af
 Outflow = 3.55 cfs @ 12.18 hrs, Volume= 0.314 af, Atten= 0%, Lag= 0.1 min
 Discarded = 0.56 cfs @ 12.18 hrs, Volume= 0.223 af
 Primary = 2.99 cfs @ 12.18 hrs, Volume= 0.090 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 221.23' @ 12.18 hrs Surf.Area= 1,509 sf Storage= 963 cf

Plug-Flow detention time= 13.6 min calculated for 0.313 af (100% of inflow)

Center-of-Mass det. time= 12.4 min (858.3 - 845.8)

Volume	Invert	Avail.Storage	Storage Description
#1	218.20'	898 cf	23.50'W x 63.67'L x 1.50'H Prismaoid 2,244 cf Overall x 40.0% Voids
#2	216.00'	113 cf	4.00'D x 9.00'H Manhole
		1,011 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	216.00'	8.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 215.00'
#2	Primary	220.10'	12.0" Round Culvert L= 120.0' Ke= 0.500 Inlet / Outlet Invert= 220.10' / 217.60' S= 0.0208 ' /' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.56 cfs @ 12.18 hrs HW=221.23' (Free Discharge)

1=Exfiltration (Controls 0.56 cfs)

Primary OutFlow Max=2.99 cfs @ 12.18 hrs HW=221.23' (Free Discharge)

2=Culvert (Inlet Controls 2.99 cfs @ 3.81 fps)

Summary for Pond 5P: Infiltration

Inflow Area = 0.600 ac, 50.43% Impervious, Inflow Depth > 2.02" for 25 Yr event
 Inflow = 1.10 cfs @ 12.19 hrs, Volume= 0.101 af
 Outflow = 0.23 cfs @ 12.80 hrs, Volume= 0.101 af, Atten= 79%, Lag= 36.6 min
 Discarded = 0.23 cfs @ 12.80 hrs, Volume= 0.101 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 222.22' @ 12.80 hrs Surf.Area= 853 sf Storage= 1,333 cf

Plug-Flow detention time= 47.3 min calculated for 0.101 af (100% of inflow)

Center-of-Mass det. time= 47.0 min (901.0 - 854.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	220.00'	906 cf	16.00'W x 52.50'L x 4.04'H Field A 3,395 cf Overall - 1,129 cf Embedded = 2,266 cf x 40.0% Voids
#2	220.00'	75 cf	4.00'D x 6.00'H Manhole
#3A	220.50'	1,129 cf	Cultec R-330XL x 21 Inside #1 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 3 rows
		2,111 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	8.270 in/hr Exfiltration over Wetted area
#2	Primary	223.00'	12.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 223.00' / 222.00' S= 0.0200 ' /' Cc= 0.900 n= 0.011, Flow Area= 0.79 sf

Discarded OutFlow Max=0.23 cfs @ 12.80 hrs HW=222.22' (Free Discharge)

1=Exfiltration (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=220.00' (Free Discharge)

2=Culvert (Controls 0.00 cfs)

Summary for Pond 5P-R: Roof Inf.

Inflow Area = 0.028 ac, 100.00% Impervious, Inflow Depth > 4.86" for 25 Yr event
 Inflow = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af
 Outflow = 0.05 cfs @ 12.30 hrs, Volume= 0.012 af, Atten= 64%, Lag= 13.9 min
 Discarded = 0.05 cfs @ 12.30 hrs, Volume= 0.012 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 221.62' @ 12.30 hrs Surf.Area= 104 sf Storage= 89 cf

Plug-Flow detention time= 10.2 min calculated for 0.012 af (100% of inflow)

Center-of-Mass det. time= 10.1 min (756.4 - 746.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	220.00'	122 cf	8.33'W x 12.50'L x 3.54'H Field A 369 cf Overall - 63 cf Embedded = 306 cf x 40.0% Voids
#2A	220.50'	63 cf	Cultec R-330XLHD Inside #1 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
		186 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	8.270 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 218.00'

Discarded OutFlow Max=0.05 cfs @ 12.30 hrs HW=221.62' (Free Discharge)

↳ **1=Exfiltration** (Controls 0.05 cfs)

Summary for Pond 6P-2: Pond 6P Revised

Inflow Area = 0.820 ac, 53.88% Impervious, Inflow Depth > 2.97" for 25 Yr event
 Inflow = 2.40 cfs @ 12.16 hrs, Volume= 0.203 af
 Outflow = 1.37 cfs @ 12.36 hrs, Volume= 0.203 af, Atten= 43%, Lag= 12.0 min
 Discarded = 0.63 cfs @ 12.36 hrs, Volume= 0.189 af
 Primary = 0.74 cfs @ 12.36 hrs, Volume= 0.014 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 221.34' @ 12.36 hrs Surf.Area= 988 sf Storage= 2,135 cf

Plug-Flow detention time= 28.3 min calculated for 0.203 af (100% of inflow)

Center-of-Mass det. time= 28.1 min (852.5 - 824.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	218.00'	1,054 cf	25.67'W x 38.50'L x 4.04'H Field A 3,994 cf Overall - 1,360 cf Embedded = 2,634 cf x 40.0% Voids
#2A	218.50'	1,360 cf	Cultec R-330XLHD x 25 Inside #1 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 5 rows
		2,413 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.00'	8.270 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 216.00'
#2	Primary	220.90'	12.0" Round Culvert L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 220.90' / 219.00' S= 0.0475 ' /' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.63 cfs @ 12.36 hrs HW=221.34' (Free Discharge)

↳ **1=Exfiltration** (Controls 0.63 cfs)

Primary OutFlow Max=0.74 cfs @ 12.36 hrs HW=221.34' (Free Discharge)

↳ **2=Culvert** (Inlet Controls 0.74 cfs @ 2.25 fps)

Summary for Link 12L: (new Link)

Inflow Area = 15.341 ac, 13.42% Impervious, Inflow Depth > 1.39" for 25 Yr event
 Inflow = 21.23 cfs @ 12.16 hrs, Volume= 1.780 af
 Primary = 21.23 cfs @ 12.16 hrs, Volume= 1.780 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 3S: Roof Hse

Runoff = 0.20 cfs @ 12.07 hrs, Volume= 0.016 af, Depth> 6.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100 Yr Rainfall=7.00"

Area (sf)	CN	Description
1,240	98	Roofs, HSG A
1,240		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment 11A: Post 11S

Runoff = 11.31 cfs @ 12.17 hrs, Volume= 0.984 af, Depth> 2.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100 Yr Rainfall=7.00"

Area (sf)	CN	Description
* 116,273	78	Wetlands
37,026	30	Woods, Good, HSG A
24,500	39	>75% Grass cover, Good, HSG A
177,799	63	Weighted Average
177,799		100.00% Pervious Area

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Type III 24-hr 100 Yr Rainfall=7.00"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 3.20"
0.4	50	0.0200	2.28		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	60	0.3000	2.74		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
11.6	160	Total			

Summary for Subcatchment 11B: Post 11B

Runoff = 12.65 cfs @ 12.12 hrs, Volume= 0.989 af, Depth> 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Yr Rainfall=7.00"

Area (sf)	CN	Description
* 49,053	78	Wetland
* 10,924	98	Roofs
21,964	70	Woods, Good, HSG C
35,140	74	>75% Grass cover, Good, HSG C
7,680	39	>75% Grass cover, Good, HSG A
124,761	75	Weighted Average
113,837		91.24% Pervious Area
10,924		8.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	30	0.0100	0.07		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.4	90	0.0800	4.24		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.2	50	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.8	170	Total			

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Type III 24-hr 100 Yr Rainfall=7.00"

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Summary for Subcatchment 11C: Post 11C

Runoff = 11.67 cfs @ 12.18 hrs, Volume= 1.063 af, Depth> 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Yr Rainfall=7.00"

Area (sf)	CN	Description
* 112,692	78	Wetlands
* 5,904	98	Roof
26,385	30	Woods, Good, HSG A
86,455	39	>75% Grass cover, Good, HSG A
231,436	58	Weighted Average
225,532		97.45% Pervious Area
5,904		2.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.4	230	0.0300	2.79		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.2	280	Total			

Summary for Subcatchment 16S:

Runoff = 1.95 cfs @ 12.19 hrs, Volume= 0.175 af, Depth> 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Yr Rainfall=7.00"

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Type III 24-hr 100 Yr Rainfall=7.00"

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Area (sf)	CN	Description
* 5,907	98	Paved
* 7,280	98	Roof
12,963	39	>75% Grass cover, Good, HSG A
26,150	69	Weighted Average
12,963		49.57% Pervious Area
13,187		50.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.7	99	0.0200	0.99		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.8	150	0.0400	3.00		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
13.3	299	Total			

Summary for Subcatchment 17S:

Runoff = 3.76 cfs @ 12.15 hrs, Volume= 0.320 af, Depth> 4.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Yr Rainfall=7.00"

Area (sf)	CN	Description
* 19,246	98	Paved
7,132	39	>75% Grass cover, Good, HSG A
9,342	74	>75% Grass cover, Good, HSG C
35,720	80	Weighted Average
16,474		46.12% Pervious Area
19,246		53.88% Impervious Area

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Type III 24-hr 100 Yr Rainfall=7.00"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	44	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.6	98	0.0180	2.72		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.9	300	0.0100	5.36	4.21	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011
11.3	442	Total			

Summary for Subcatchment 18S: Post15R

Runoff = 6.04 cfs @ 12.18 hrs, Volume= 0.529 af, Depth> 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Yr Rainfall=7.00"

Area (sf)	CN	Description
* 10,620	98	roof
* 29,769	98	Pavement
31,996	39	>75% Grass cover, Good, HSG A
72,385	72	Weighted Average
31,996		44.20% Pervious Area
40,389		55.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	50	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
0.9	110	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.8	220	0.0100	4.54	3.56	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
12.5	380	Total			

Summary for Pond 4P: Modified Pond

[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=3)

Inflow Area = 1.662 ac, 55.80% Impervious, Inflow Depth > 3.82" for 100 Yr event
 Inflow = 6.04 cfs @ 12.18 hrs, Volume= 0.529 af
 Outflow = 6.04 cfs @ 12.18 hrs, Volume= 0.528 af, Atten= 0%, Lag= 0.1 min
 Discarded = 0.69 cfs @ 12.18 hrs, Volume= 0.314 af
 Primary = 5.35 cfs @ 12.18 hrs, Volume= 0.214 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 222.60' @ 12.18 hrs Surf.Area= 1,509 sf Storage= 981 cf

Plug-Flow detention time= 12.2 min calculated for 0.528 af (100% of inflow)
 Center-of-Mass det. time= 11.5 min (842.4 - 830.9)

Volume	Invert	Avail.Storage	Storage Description
#1	218.20'	898 cf	23.50'W x 63.67'L x 1.50'H Prismatoid 2,244 cf Overall x 40.0% Voids
#2	216.00'	113 cf	4.00'D x 9.00'H Manhole
		1,011 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	216.00'	8.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 215.00'
#2	Primary	220.10'	12.0" Round Culvert L= 120.0' Ke= 0.500 Inlet / Outlet Invert= 220.10' / 217.60' S= 0.0208 ' / Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.69 cfs @ 12.18 hrs HW=222.60' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.69 cfs)

Primary OutFlow Max=5.35 cfs @ 12.18 hrs HW=222.60' (Free Discharge)
 ↳ **2=Culvert** (Inlet Controls 5.35 cfs @ 6.81 fps)

Summary for Pond 5P: Infiltration

Inflow Area = 0.600 ac, 50.43% Impervious, Inflow Depth > 3.50" for 100 Yr event
 Inflow = 1.95 cfs @ 12.19 hrs, Volume= 0.175 af
 Outflow = 1.26 cfs @ 12.37 hrs, Volume= 0.175 af, Atten= 35%, Lag= 11.2 min
 Discarded = 0.26 cfs @ 12.37 hrs, Volume= 0.149 af
 Primary = 1.00 cfs @ 12.37 hrs, Volume= 0.026 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 223.52' @ 12.37 hrs Surf.Area= 853 sf Storage= 1,903 cf

Plug-Flow detention time= 55.2 min calculated for 0.175 af (100% of inflow)
 Center-of-Mass det. time= 54.9 min (893.0 - 838.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	220.00'	906 cf	16.00'W x 52.50'L x 4.04'H Field A 3,395 cf Overall - 1,129 cf Embedded = 2,266 cf x 40.0% Voids
#2	220.00'	75 cf	4.00'D x 6.00'H Manhole
#3A	220.50'	1,129 cf	Cultec R-330XL x 21 Inside #1 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 3 rows
		2,111 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	8.270 in/hr Exfiltration over Wetted area
#2	Primary	223.00'	12.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 223.00' / 222.00' S= 0.0200 ' / Cc= 0.900 n= 0.011, Flow Area= 0.79 sf

Discarded OutFlow Max=0.26 cfs @ 12.37 hrs HW=223.51' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=1.00 cfs @ 12.37 hrs HW=223.51' (Free Discharge)
 ↳ **2=Culvert** (Inlet Controls 1.00 cfs @ 2.44 fps)

Summary for Pond 5P-R: Roof Inf.

Inflow Area = 0.028 ac, 100.00% Impervious, Inflow Depth > 6.76" for 100 Yr event
 Inflow = 0.20 cfs @ 12.07 hrs, Volume= 0.016 af
 Outflow = 0.07 cfs @ 12.31 hrs, Volume= 0.016 af, Atten= 65%, Lag= 14.2 min
 Discarded = 0.07 cfs @ 12.31 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 222.42' @ 12.31 hrs Surf.Area= 104 sf Storage= 135 cf

Plug-Flow detention time= 12.7 min calculated for 0.016 af (100% of inflow)
 Center-of-Mass det. time= 12.6 min (754.2 - 741.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	220.00'	122 cf	8.33'W x 12.50'L x 3.54'H Field A 369 cf Overall - 63 cf Embedded = 306 cf x 40.0% Voids
#2A	220.50'	63 cf	Cultec R-330XLHD Inside #1 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
		186 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	220.00'	8.270 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 218.00'

Discarded OutFlow Max=0.07 cfs @ 12.31 hrs HW=222.42' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.07 cfs)

Summary for Pond 6P-2: Pond 6P Revised

Inflow Area = 0.820 ac, 53.88% Impervious, Inflow Depth > 4.69" for 100 Yr event
 Inflow = 3.76 cfs @ 12.15 hrs, Volume= 0.320 af
 Outflow = 3.41 cfs @ 12.21 hrs, Volume= 0.320 af, Atten= 9%, Lag= 3.3 min
 Discarded = 0.71 cfs @ 12.21 hrs, Volume= 0.254 af
 Primary = 2.69 cfs @ 12.21 hrs, Volume= 0.066 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 221.91' @ 12.21 hrs Surf.Area= 988 sf Storage= 2,360 cf

Plug-Flow detention time= 25.1 min calculated for 0.320 af (100% of inflow)
 Center-of-Mass det. time= 24.9 min (836.5 - 811.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	218.00'	1,054 cf	25.67'W x 38.50'L x 4.04'H Field A 3,994 cf Overall - 1,360 cf Embedded = 2,634 cf x 40.0% Voids
#2A	218.50'	1,360 cf	Cultec R-330XLHD x 25 Inside #1 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 5 rows
		2,413 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.00'	8.270 in/hr Exfiltration over Wetted area Conductivity to Groundwater Elevation = 216.00'
#2	Primary	220.90'	12.0" Round Culvert L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 220.90' / 219.00' S= 0.0475 ' / Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.71 cfs @ 12.21 hrs HW=221.90' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.71 cfs)

Primary OutFlow Max=2.69 cfs @ 12.21 hrs HW=221.90' (Free Discharge)
 ↳ **2=Culvert** (Inlet Controls 2.69 cfs @ 3.42 fps)

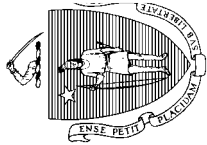
Summary for Link 12L: (new Link)

Inflow Area = 15.341 ac, 13.42% Impervious, Inflow Depth > 2.61" for 100 Yr event
Inflow = 42.29 cfs @ 12.16 hrs, Volume= 3.343 af
Primary = 42.29 cfs @ 12.16 hrs, Volume= 3.343 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Appendix B

Soil Test Result



Commonwealth of Massachusetts
City/Town of

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (Cont.)

Deep Observation Hole Number: _____

Date _____ Time _____ Weather _____

1. Location

Ground Elevation at Surface of Hole _____

Location (Identify on Plan) _____

2. Land Use:

(e.g. woodland, agricultural field, vacant lot, etc.) _____

Surface Stones _____ Slope (%) _____

Vegetation _____

Landform _____

Position on landscape (attach sheet)

3. Distances from: Open Water Body _____ feet Drainage Way _____ feet Possible Wet Area _____ feet

Property Line _____ feet Drinking Water Well _____ feet Other _____ feet

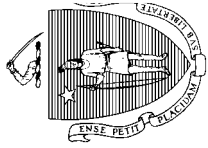
4. Parent Material: _____ Unsuitable Materials Present: Yes ☐ No ☐

If Yes: Disturbed Soil ☐ Fill Material ☐ Impervious Layer(s) ☐ Weathered/Fractured Rock ☐ Bedrock ☐

5. Groundwater Observed: Yes ☐ No ☐

If Yes: Depth Weeping from Pit _____ Depth Standing Water in Hole _____

Estimated Depth to High Groundwater: _____ inches _____ elevation



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

Deep Observation Hole Number: _____

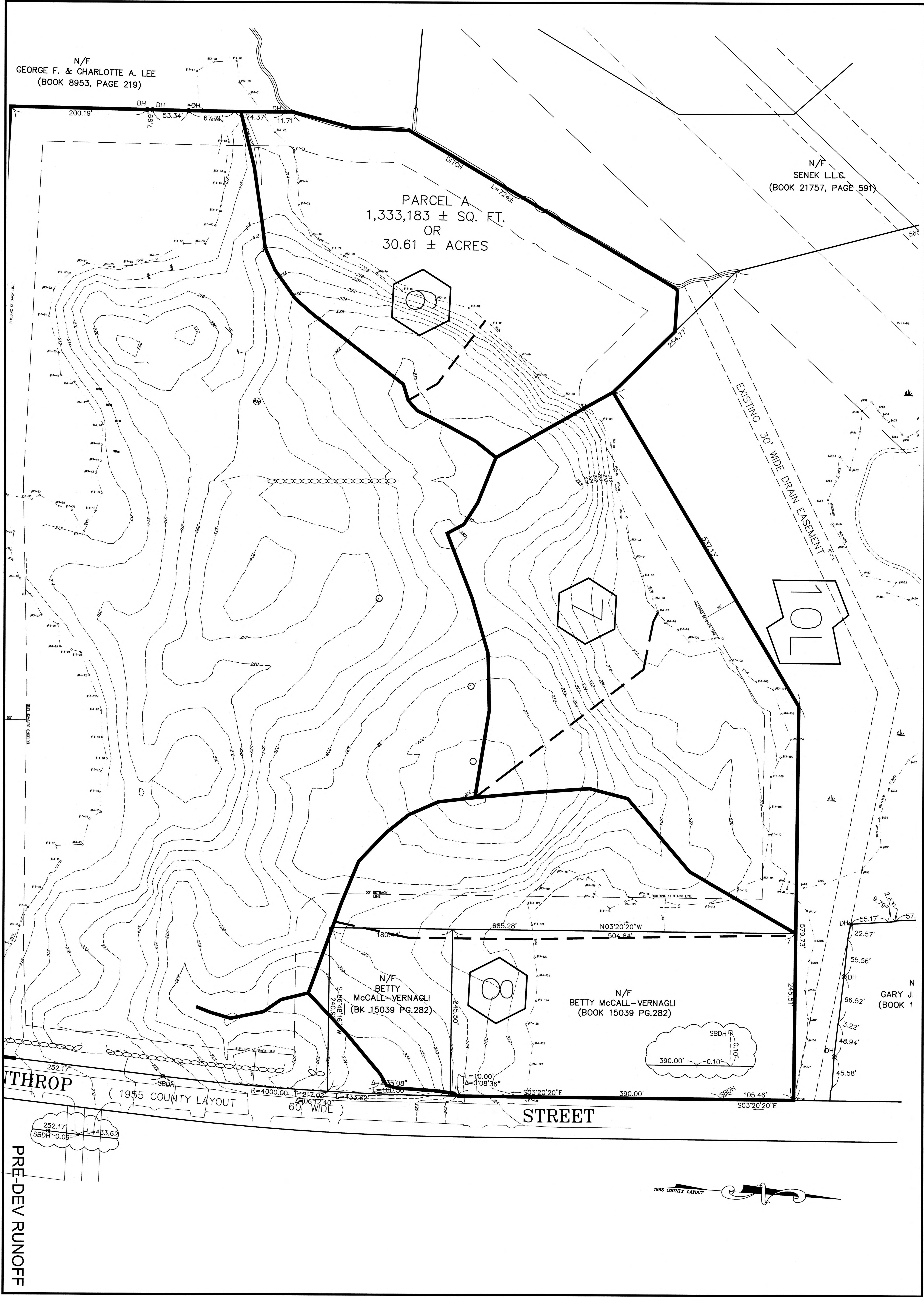
Depth (In.)	Soil Horizon/ Layer	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features (mottles)			Soil Texture (USDA)	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			

Additional Notes _____

Appendix C – Drainage Maps

Pre-Developed Runoff Areas

Post-Developed Runoff Areas



REVISIONS			
No.	DATE	DESCRIPTION	

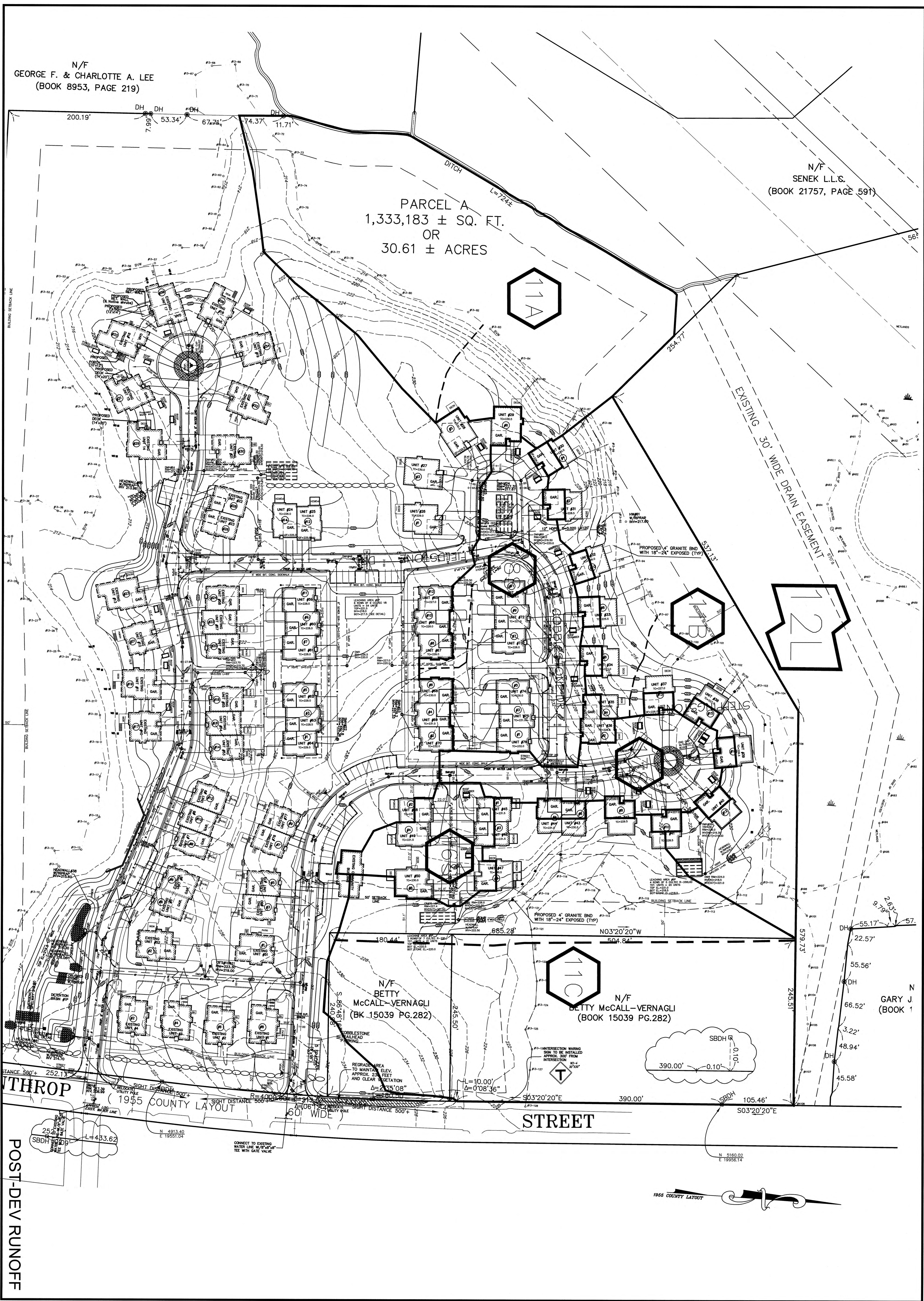
PLAN #:	GLM Engineering 19 EXCHANGE STREET HOLLISTON, MA 01746 P: 508-429-1100 F: 508-429-7160 www.GLMengineering.com	PROPOSED DRAINAGE MODIFICATION MILLSTONE VILLAGE MEDWAY, MASSACHUSETTS	PREPARED FOR: ELITE HOME BUILDERS LLC P.O. Box 1205 Westboro, MA 01581		Paul Truax 1-25-2019
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DATE:	01/23/19
JOB No.:	12,878
DRW.:	RST
SCALE:	1"=40'
SHEET:	1 of 2

N/F
GEORGE F. & CHARLOTTE A. LEE
(BOOK 8953, PAGE 219)

N/F
SENEK L.L.C.
(BOOK 21757, PAGE 591)

PARCEL A
1,333,183 ± SQ. FT.
OR
30.61 ± ACRES



POST-DEV RUNOFF

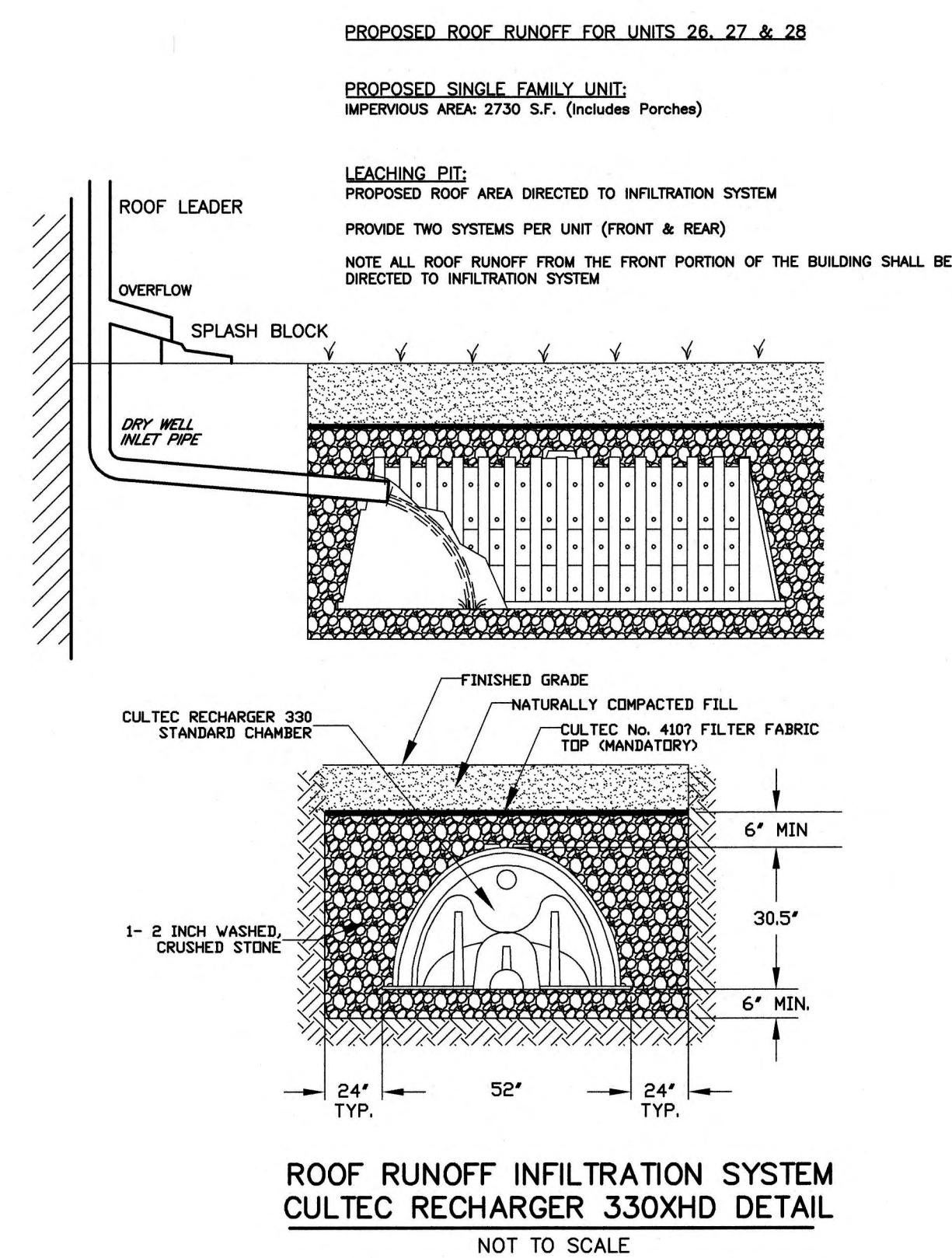
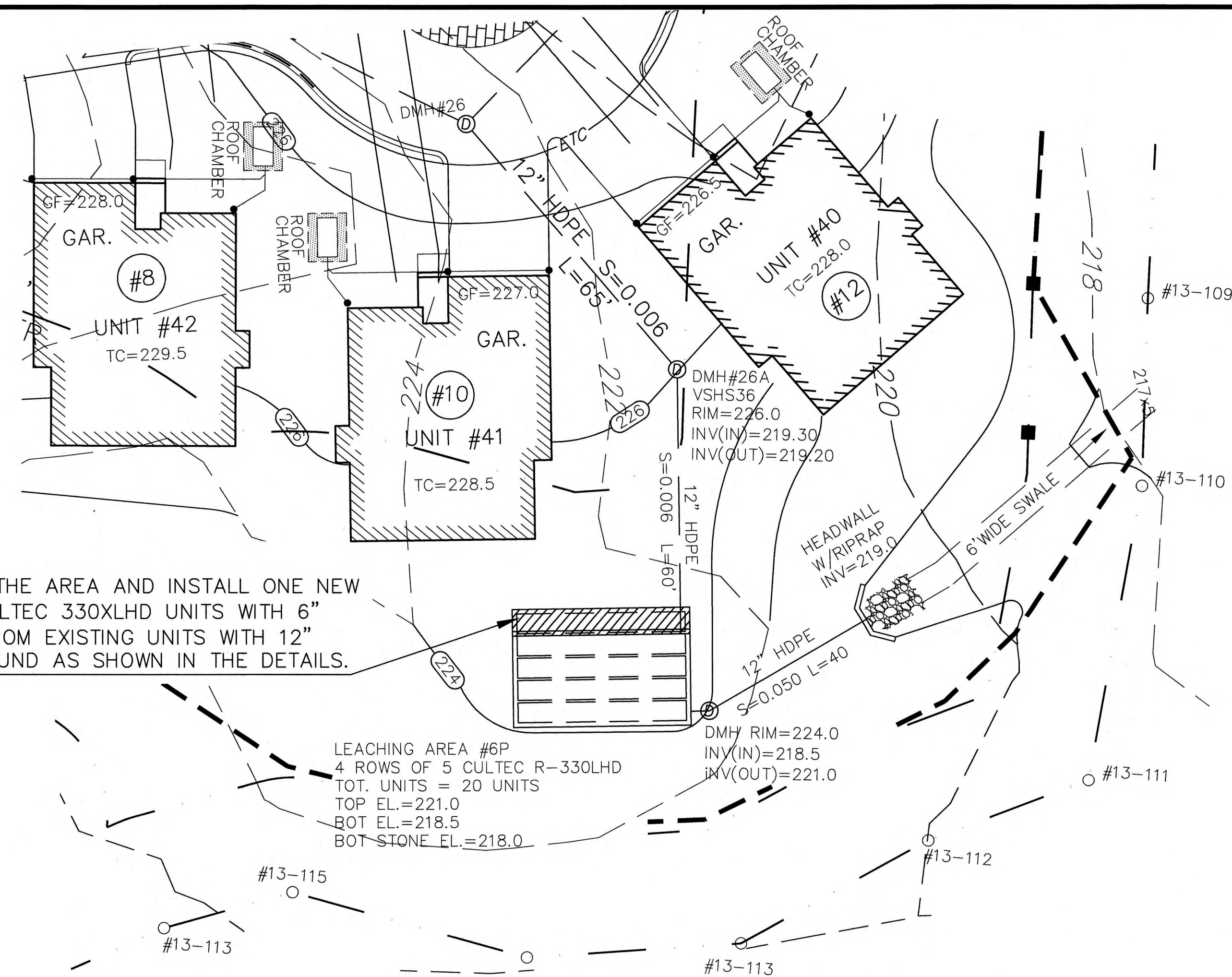
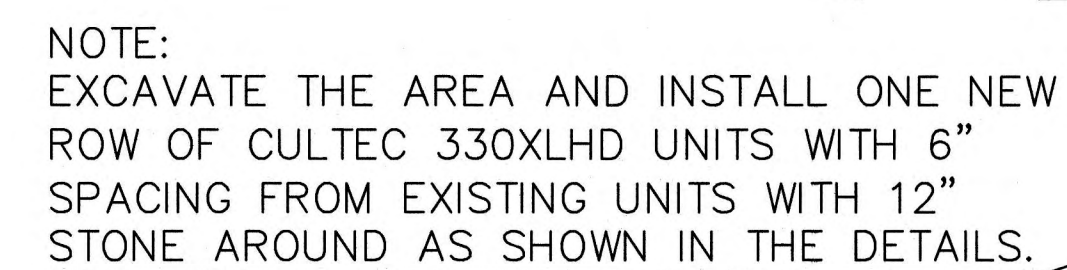
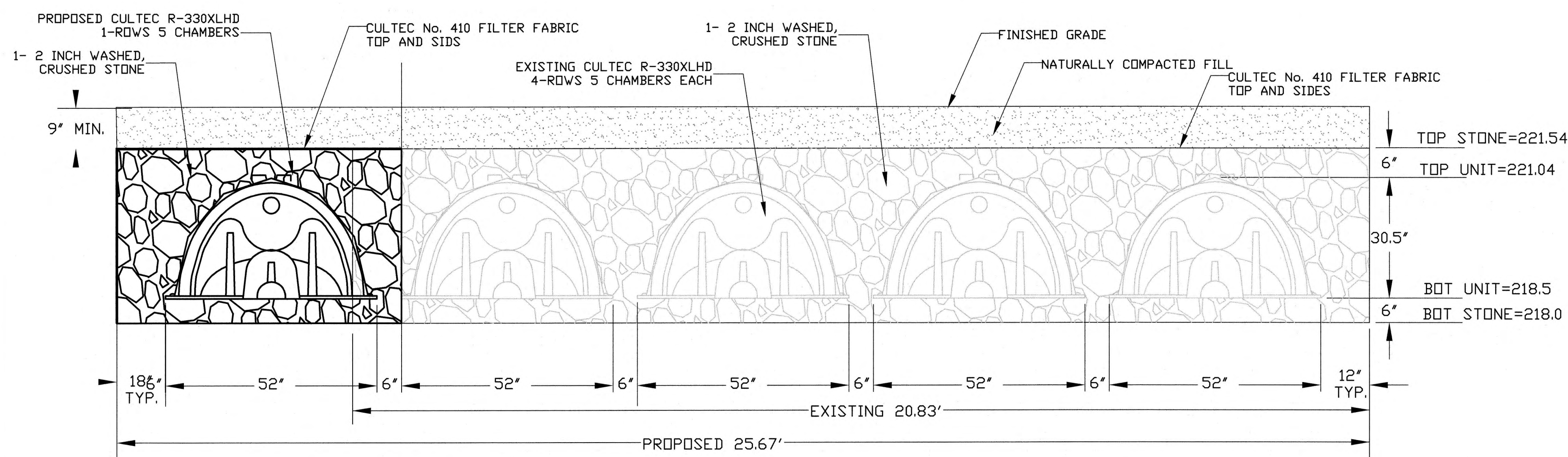
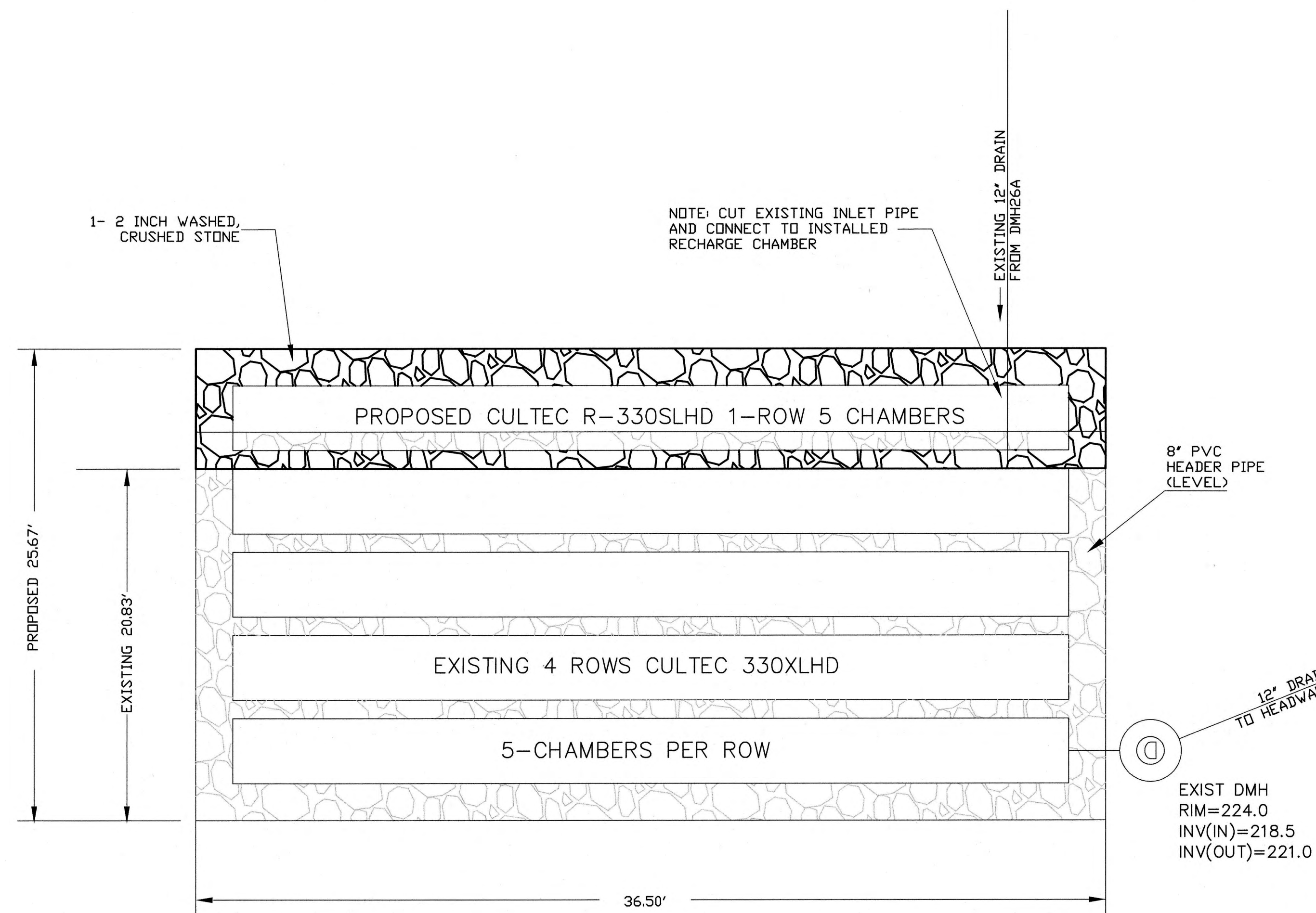
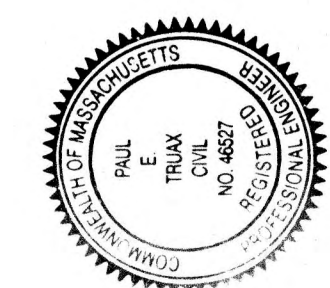
PROPOSED DRAINAGE MODIFICATION PLAN
MILLSTONE VILLAGE
MEDWAY, MASSACHUSETTS

PREPARED FOR:
ELITE HOME BUILDERS LLC
P.O. Box 1205
Westboro, MA 01581



REVISIONS			
No.	DATE	DESCRIPTION	

GLM Engineering 19 Exchange Street Holliston, MA 01746 P: 508-429-1100 F: 508-429-7160 www.glmengineering.com	DRW: RST	JOB No. 12.878	DATE: 01/23/19	SCALE: 1"=40'	SHEET: 2 of 2	PLAN #:
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[illegible]

**PROPOSED DRAINAGE MODIFICATION PLAN
MILLSTONE VILLAGE
MEDWAY, MASSACHUSETTS**

PREPARED FOR:
ELITE HOME BUILDERS LLC
P.O. Box 1205
Westboro, MA 01581

 **GLM** Engineering
Consultants, Inc.
19 EXCHANGE STREET
HOLLISTON, MA 01746
P: 508-429-1100
F: 508-429-7160
www.GLMengineering.com

DRW.: RST

JOB No.	12,878
---------	--------

DATE: 1/23/19

SCALE: AS SHOWN

SHEET: 1 of 1

PLAN #:



January 31, 2019

Ms. Susan E. Affleck-Childs
Medway Planning and Economic Development Coordinator
Medway Town Hall
155 Village Street
Medway, MA 02053

**Re: Millstone Village
Drainage Revision Review
Medway, Massachusetts**

Dear Ms. Affleck-Childs:

Tetra Tech (TT) has performed a review of the proposed changes to the originally approved drainage system at the site. The Applicant is proposing altering existing installed drainage infrastructure to mitigate infiltration and groundwater issues observed in Pond 4P. The applicant is proposing to expand Pond 6P and add roof infiltration on additional homes to meet applicable standards. Available capacity above the groundwater elevation in Pond 4P will be utilized to mitigate peak flows, however recharge will not be considered at this basin.

TT is in receipt of the following materials:

- A supplemental stormwater management report (Stormwater Report) titled "Supplemental Stormwater Calculations for Millstone Village" dated January 23, 2019, prepared by GLM Engineering Consultants, Inc. (GLM)
- A cover letter regarding "Millstone Village Drainage Revision" dated January 23, 2019, prepared by GLM.

The Stormwater Report and accompanying materials were reviewed for conformance with MA DEP Stormwater Management Standards (Stormwater Standards) and associated MA DEP Stormwater Handbook (Stormwater Handbook), applicable Town stormwater regulations (Regulations) and good engineering practice.

The following items were found to not be in conformance with MA DEP Stormwater Management Standards and/or Town stormwater standards.

MA DEP Stormwater Management Standards

- 1) The applicant has not provided information quantifying change in recharge at the site. The entirety of Pond 4P can no longer be considered for recharge as it is in the groundwater table. We recommend the applicant provide comparison of originally permitted vs. revised recharge information in tabular format to show compliance with Standard 3. Drawdown calculations should also be provided to meet this Standard. (Standard 3)

PEDB Stormwater Regulations (Ch. 200 §205-4)

- 2) The proposed revision relates mainly to the Stormwater Standards. However, the applicant has provided information related to the 25-year storm event as required by the Regulations.

General Stormwater Comments

- 3) Oscillation warnings are present in the model which require finer routing potentially due to small size of storage volume in Pond 4P and appurtenant manhole. Please modify the model to rectify all warnings.

- 4) Inconsistencies exist between test pit information and exfiltration rate provided in the Stormwater Report. Test pit information for test pit (18-1) at Basin 4P shows a sandy loam soil type. Sandy loam has a Hydrologic Soil Group B designation and associated Rawls (infiltration) rate of 1.02 in/hr, the model shows an 8.27 in/hr exfiltration rate which is associated with a sand HSG A soil. TT does not have final originally permitted version of Stormwater Report for this Project with test pit information. Please confirm HSG soil types and associated rates are correctly modeled for each basin based on available test pit information.
- 5) Storage volume above the groundwater elevation in Pond 4P is modeled as a stone bed with 40% voids. This figure will produce conservative values of available storage in the Pond as compared to actual conditions. We recommend maintaining as-built storage volume in the model (stone bed and chambers) and introducing a "starting elevation" (located in the Advanced tab in the pond) to reflect the groundwater elevation in the pond (and "dead" storage below groundwater elevation) which will mimic actual conditions at the site.
- 6) Exfiltration should be modeled at the bottom surface area of the basins. Wetted perimeter considers exfiltration at all wetted surfaces in the basin including the sidewalls. Exfiltration should be considered vertical for analysis purposes and should be routed as "constant velocity" to maintain "Static" methodology. Groundwater mounding should be completed as well if bottom of basin is within 4 feet of estimated seasonal high groundwater (ESHGW).
- 7) One-foot of freeboard should be provided from the 100-year flood elevation in the ponds to account for design inconsistencies.
- 8) Proposed roof recharge not shown on drainage plans for Units 26 and 27. Furthermore, "Roof Runoff Infiltration System" detail shows impervious area for proposed single family unit is 2,730 sf, model shows impervious area of 1,220 sf. Please adjust as necessary to reflect actual conditions at the site.

The following is a list of general items that TT recommends the applicant take into consideration prior to the next submission:

- 9) We recommend the applicant provide commentary and/or plan for construction including protecting finished paving during construction (using rubber tire heavy equipment, stockpiling materials in existing grass areas, protecting catch basins/wetland resource area, etc.) of proposed modifications.

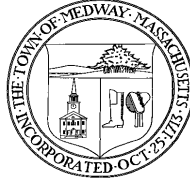
These comments are offered as guides for use during the Town's review and additional comments are likely to be generated during the course of review. The applicant shall be advised that any absence of comment shall not relieve him/her of the responsibility to comply with all applicable local, state and federal regulations for the Project. If you have any questions or comments, please feel free to contact us at (508) 786-2200.

Very truly yours,



Steven M. Bouley, P.E.
Senior Project Engineer

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February 5, 2019
Medway Planning & Economic Development Board
Meeting

Conflict of Interest Training

It is that time of year again where Town staff and board and committee members are required to update their Conflict of Interest training. You must comply with the requirements of the Massachusetts Conflict of Interest Law, which, at this time, involves review and acknowledgment of the **attached summary of the law** and completion of the online training program. You need to sign the form acknowledging receipt of the information. It is the last page of the information provided. Please do so and provide it to me at the February 5th meeting. For your convenience, I will also have acknowledgement forms available for you to fill out that night.

You must also complete the online training program and provide a copy of the training completion certificate to me. The online training program can be found at <http://www.muniprogram.state.ma.us/>.

NOTE: Do not use the Google Chrome web browser and disable pop-up blockers in your web browser before completing the online program or you may have difficulty printing a completion certificate.

If you have questions, please review the [Education and Training Guidelines](#) available on the State Ethics Commission's website, www.mass.gov/ethics.

Summary of the Conflict of Interest Law for Municipal Employees

This summary of the conflict of interest law, General Laws chapter 268A, is intended to help municipal employees understand how that law applies to them. This summary is not a substitute for legal advice, nor does it mention every aspect of the law that may apply in a particular situation. Municipal employees can obtain free confidential advice about the conflict of interest law from the Commission's Legal Division at our website, phone number, and address above. Municipal counsel may also provide advice.

The conflict of interest law seeks to prevent conflicts between private interests and public duties, foster integrity in public service, and promote the public's trust and confidence in that service by placing restrictions on what municipal employees may do on the job, after hours, and after leaving public service, as described below. The sections referenced below are sections of G.L. c. 268A.

When the Commission determines that the conflict of interest law has been violated, it can impose a civil penalty of up to \$10,000 (\$25,000 for bribery cases) for each violation. In addition, the Commission can order the violator to repay any economic advantage he gained by the violation, and to make restitution to injured third parties. Violations of the conflict of interest law can also be prosecuted criminally.

I. Are you a municipal employee for conflict of interest law purposes?

You do not have to be a full-time, paid municipal employee to be considered a municipal employee for conflict of interest purposes. Anyone performing services for a city or town or holding a municipal position, whether paid or unpaid, including full- and part-time municipal employees, elected officials, volunteers, and consultants, is a municipal employee under the conflict of interest law. An employee of a private firm can also be a municipal employee, if the private firm has a contract with the city or town and the employee is a "key employee" under the contract, meaning the town has specifically contracted for her services. The law also covers private parties who engage in impermissible dealings with municipal employees, such as offering bribes or illegal gifts. Town meeting members and charter commission members are not municipal employees under the conflict of interest law.

II. On-the-job restrictions.

(a) Bribes. Asking for and taking bribes is prohibited. (See Section 2)

A bribe is anything of value corruptly received by a municipal employee in exchange for the employee being influenced in his official actions. Giving, offering, receiving, or asking for a bribe is illegal.

Bribes are more serious than illegal gifts because they involve corrupt intent. In other words, the municipal employee intends to sell his office by agreeing to do or not do some official act, and the giver intends to influence him to do so. Bribes of any value are illegal.

(b) Gifts and gratuities. Asking for or accepting a gift because of your official position, or because of something you can do or have done in your official position, is prohibited. (See Sections 3, 23(b)(2), and 26)

Municipal employees may not accept gifts and gratuities valued at \$50 or more given to influence their official actions or because of their official position. Accepting a gift intended to reward past official action or to bring about future official action is illegal, as is giving such gifts. Accepting a gift given to you because of the municipal position you hold is also illegal. Meals, entertainment event tickets, golf, gift baskets, and payment of travel expenses can all be illegal gifts if given in connection with official action or position, as can anything worth \$50 or more. A number of smaller gifts together worth \$50 or more may also violate these sections.

Example of violation: A town administrator accepts reduced rental payments from developers.

Example of violation: A developer offers a ski trip to a school district employee who oversees the developer's work for the school district.

Regulatory exemptions. There are situations in which a municipal employee's receipt of a gift does not present a genuine risk of a conflict of interest, and may in fact advance the public interest. The Commission has created exemptions permitting giving and receiving gifts in these situations. One commonly used exemption permits municipal employees to accept payment of travel-related expenses when doing so advances a public purpose. Another commonly used exemption permits municipal employees to accept payment of costs involved in attendance at educational and training programs. Other exemptions are listed on the Commission's website.

Example where there is no violation: A fire truck manufacturer offers to pay the travel expenses of a fire chief to a trade show where the chief can examine various kinds of fire-fighting equipment that the town may purchase. The chief fills out a disclosure form and obtains prior approval from his appointing authority.

Example where there is no violation: A town treasurer attends a two-day annual school featuring multiple substantive seminars on issues relevant to treasurers. The annual school is paid for in part by banks that do business with town treasurers. The treasurer is only required to make a disclosure if one of the sponsoring banks has official business before her in the six months before or after the annual school.

(c) Misuse of position. Using your official position to get something you are not entitled to, or to get someone else something they are not entitled to, is prohibited. Causing someone else to do these things is also prohibited. (See Sections 23(b)(2) and 26)

A municipal employee may not use her official position to get something worth \$50 or more that would not be properly available to other similarly situated individuals. Similarly, a municipal employee may not use her official position to get something worth \$50 or more for someone else that would not be properly available to other similarly situated individuals. Causing someone else to do these things is also prohibited.

Example of violation: A full-time town employee writes a novel on work time, using her office computer, and directing her secretary to proofread the draft.

Example of violation: A city councilor directs subordinates to drive the councilor's wife to and from the grocery store.

Example of violation: A mayor avoids a speeding ticket by asking the police officer who stops him, "Do you know who I am?" and showing his municipal I.D.

(d) Self-dealing and nepotism. Participating as a municipal employee in a matter in which you, your immediate family, your business organization, or your future employer has a financial interest is prohibited. (See Section 19)

A municipal employee may not participate in any particular matter in which he or a member of his immediate family (parents, children, siblings, spouse, and spouse's parents, children, and siblings) has a financial interest. He also may not participate in any particular matter in which a prospective employer, or a business organization of which he is a director, officer, trustee, or employee has a financial interest. Participation includes discussing as well as voting on a matter, and delegating a matter to someone else.

A financial interest may create a conflict of interest whether it is large or small, and positive or negative. In other words, it does not matter if a lot of money is involved or only a little. It also does not matter if you are putting money into your pocket or taking it out. If you, your immediate family, your business, or your employer have or has a

financial interest in a matter, you may not participate. The financial interest must be direct and immediate or reasonably foreseeable to create a conflict. Financial interests which are remote, speculative or not sufficiently identifiable do not create conflicts.

Example of violation: A school committee member's wife is a teacher in the town's public schools. The school committee member votes on the budget line item for teachers' salaries.

Example of violation: A member of a town affordable housing committee is also the director of a non-profit housing development corporation. The non-profit makes an application to the committee, and the member/director participates in the discussion.

Example: A planning board member lives next door to property where a developer plans to construct a new building. Because the planning board member owns abutting property, he is presumed to have a financial interest in the matter. He cannot participate unless he provides the State Ethics Commission with an opinion from a qualified independent appraiser that the new construction will not affect his financial interest.

In many cases, where not otherwise required to participate, a municipal employee may comply with the law by simply not participating in the particular matter in which she has a financial interest. She need not give a reason for not participating.

There are several exemptions to this section of the law. An appointed municipal employee may file a written disclosure about the financial interest with his appointing authority, and seek permission to participate notwithstanding the conflict. The appointing authority may grant written permission if she determines that the financial interest in question is not so substantial that it is likely to affect the integrity of his services to the municipality. Participating without disclosing the financial interest is a violation. Elected employees cannot use the disclosure procedure because they have no appointing authority.

Example where there is no violation: An appointed member of the town zoning advisory committee, which will review and recommend changes to the town's by-laws with regard to a commercial district, is a partner at a company that owns commercial property in the district. Prior to participating in any committee discussions, the member files a disclosure with the zoning board of appeals that appointed him to his position, and that board gives him a written determination authorizing his participation, despite his company's financial interest. There is no violation.

There is also an exemption for both appointed and elected employees where the employee's task is to address a matter of general policy and the employee's financial interest is shared with a substantial portion (generally 10% or more) of the town's population, such as, for instance, a financial interest in real estate tax rates or municipal utility rates.

Regulatory exemptions. In addition to the statutory exemptions just mentioned, the Commission has created several regulatory exemptions permitting municipal employees to participate in particular matters notwithstanding the presence of a financial interest in certain very specific situations when permitting them to do so advances a public purpose. There is an exemption permitting school committee members to participate in setting school fees that will affect their own children if they make a prior written disclosure. There is an exemption permitting town clerks to perform election-related functions even when they, or their immediate family members, are on the ballot, because clerks' election-related functions are extensively regulated by other laws. There is also an exemption permitting a person serving as a member of a municipal board pursuant to a legal requirement that the board have members with a specified affiliation to participate fully in determinations of general policy by the board, even if the entity with which he is affiliated has a financial interest in the matter. Other exemptions are listed in the Commission's regulations, available on the Commission's website.

Example where there is no violation: A municipal Shellfish Advisory Board has been created to provide advice to the Board of Selectmen on policy issues related to shellfishing. The Advisory Board is required to have members who are currently commercial fishermen. A board member who is a commercial fisherman may participate in determinations of general policy in which he has a financial interest common to all commercial fishermen, but may not participate in determinations in which he alone has a financial interest, such as the extension of his own individual permits or leases.

(e) False claims. Presenting a false claim to your employer for a payment or benefit is prohibited, and causing someone else to do so is also prohibited. (See Sections 23(b)(4) and 26)

A municipal employee may not present a false or fraudulent claim to his employer for any payment or benefit worth \$50 or more, or cause another person to do so.

Example of violation: A public works director directs his secretary to fill out time sheets to show him as present at work on days when he was skiing.

(f) Appearance of conflict. Acting in a manner that would make a reasonable person think you can be improperly influenced is prohibited. (See Section 23(b)(3))

A municipal employee may not act in a manner that would cause a reasonable person to think that she would show favor toward someone or that she can be improperly influenced. Section 23(b)(3) requires a municipal employee to consider whether her relationships and affiliations could prevent her from acting fairly and objectively when she performs her duties for a city or town. If she cannot be fair and objective because of a relationship or affiliation, she should not perform her duties. However, a municipal

employee, whether elected or appointed, can avoid violating this provision by making a public disclosure of the facts. An appointed employee must make the disclosure in writing to his appointing official.

Example where there is no violation: A developer who is the cousin of the chair of the conservation commission has filed an application with the commission. A reasonable person could conclude that the chair might favor her cousin. The chair files a written disclosure with her appointing authority explaining her relationship with her cousin prior to the meeting at which the application will be considered. There is no violation of Sec. 23(b)(3).

(g) Confidential information. Improperly disclosing or personally using confidential information obtained through your job is prohibited. (See Section 23(c))

Municipal employees may not improperly disclose confidential information, or make personal use of non-public information they acquired in the course of their official duties to further their personal interests.

III. After-hours restrictions.

(a) Taking a second paid job that conflicts with the duties of your municipal job is prohibited. (See Section 23(b)(1))

A municipal employee may not accept other paid employment if the responsibilities of the second job are incompatible with his or her municipal job.

Example: A police officer may not work as a paid private security guard in the town where he serves because the demands of his private employment would conflict with his duties as a police officer.

(b) Divided loyalties. Receiving pay from anyone other than the city or town to work on a matter involving the city or town is prohibited. Acting as agent or attorney for anyone other than the city or town in a matter involving the city or town is also prohibited whether or not you are paid. (See Sec. 17)

Because cities and towns are entitled to the undivided loyalty of their employees, a municipal employee may not be paid by other people and organizations in relation to a matter if the city or town has an interest in the matter. In addition, a municipal employee may not act on behalf of other people and organizations or act as an attorney for other people and organizations in which the town has an interest. Acting as agent includes

contacting the municipality in person, by phone, or in writing; acting as a liaison; providing documents to the city or town; and serving as spokesman.

A municipal employee may always represent his own personal interests, even before his own municipal agency or board, on the same terms and conditions that other similarly situated members of the public would be allowed to do so. A municipal employee may also apply for building and related permits on behalf of someone else and be paid for doing so, unless he works for the permitting agency, or an agency which regulates the permitting agency.

Example of violation: A full-time health agent submits a septic system plan that she has prepared for a private client to the town's board of health.

Example of violation: A planning board member represents a private client before the board of selectmen on a request that town meeting consider rezoning the client's property.

While many municipal employees earn their livelihood in municipal jobs, some municipal employees volunteer their time to provide services to the town or receive small stipends. Others, such as a private attorney who provides legal services to a town as needed, may serve in a position in which they may have other personal or private employment during normal working hours. In recognition of the need not to unduly restrict the ability of town volunteers and part-time employees to earn a living, the law is less restrictive for "special" municipal employees than for other municipal employees.

The status of "special" municipal employee has to be assigned to a municipal position by vote of the board of selectmen, city council, or similar body. A position is eligible to be designated as "special" if it is unpaid, or if it is part-time and the employee is allowed to have another job during normal working hours, or if the employee was not paid for working more than 800 hours during the preceding 365 days. It is the position that is designated as "special" and not the person or persons holding the position. Selectmen in towns of 10,000 or fewer are automatically "special"; selectman in larger towns cannot be "specials."

If a municipal position has been designated as "special," an employee holding that position may be paid by others, act on behalf of others, and act as attorney for others with respect to matters before municipal boards other than his own, provided that he has not officially participated in the matter, and the matter is not now, and has not within the past year been, under his official responsibility.

Example: A school committee member who has been designated as a special municipal employee appears before the board of health on behalf of a client of his private law practice, on a matter that he has not participated in or had responsibility for as a school committee member. There is no conflict. However, he may not appear before the school

committee, or the school department, on behalf of a client because he has official responsibility for any matter that comes before the school committee. This is still the case even if he has recused himself from participating in the matter in his official capacity.

Example: A member who sits as an alternate on the conservation commission is a special municipal employee. Under town by-laws, he only has official responsibility for matters assigned to him. He may represent a resident who wants to file an application with the conservation commission as long as the matter is not assigned to him and he will not participate in it.

(c) Inside track. Being paid by your city or town, directly or indirectly, under some second arrangement in addition to your job is prohibited, unless an exemption applies. (See Section 20)

A municipal employee generally may not have a financial interest in a municipal contract, including a second municipal job. A municipal employee is also generally prohibited from having an indirect financial interest in a contract that the city or town has with someone else. This provision is intended to prevent municipal employees from having an “inside track” to further financial opportunities.

Example of violation: Legal counsel to the town housing authority becomes the acting executive director of the authority, and is paid in both positions.

Example of violation: A selectman buys a surplus truck from the town DPW.

Example of violation: A full-time secretary for the board of health wants to have a second paid job working part-time for the town library. She will violate Section 20 unless she can meet the requirements of an exemption.

Example of violation: A city councilor wants to work for a non-profit that receives funding under a contract with her city. Unless she can satisfy the requirements of an exemption under Section 20, she cannot take the job.

There are numerous exemptions. A municipal employee may hold multiple unpaid or elected positions. Some exemptions apply only to special municipal employees. Specific exemptions may cover serving as an unpaid volunteer in a second town position, housing-related benefits, public safety positions, certain elected positions, small towns, and other specific situations. Please call the Ethics Commission’s Legal Division for advice about a specific situation.

IV. After you leave municipal employment. (See Section 18)

(a) Forever ban. After you leave your municipal job, you may never work for anyone other than the municipality on a matter that you worked on as a municipal employee.

If you participated in a matter as a municipal employee, you cannot ever be paid to work on that same matter for anyone other than the municipality, nor may you act for someone else, whether paid or not. The purpose of this restriction is to bar former employees from selling to private interests their familiarity with the facts of particular matters that are of continuing concern to their former municipal employer. The restriction does not prohibit former municipal employees from using the expertise acquired in government service in their subsequent private activities.

Example of violation: A former school department employee works for a contractor under a contract that she helped to draft and oversee for the school department.

(b) One year cooling-off period. For one year after you leave your municipal job you may not participate in any matter over which you had official responsibility during your last two years of public service.

Former municipal employees are barred for one year after they leave municipal employment from personally appearing before any agency of the municipality in connection with matters that were under their authority in their prior municipal positions during the two years before they left.

Example: An assistant town manager negotiates a three-year contract with a company. The town manager who supervised the assistant, and had official responsibility for the contract but did not participate in negotiating it, leaves her job to work for the company to which the contract was awarded. The former manager may not call or write the town in connection with the company's work on the contract for one year after leaving the town.

A former municipal employee who participated as such in general legislation on expanded gaming and related matters may not become an officer or employee of, or acquire a financial interest in, an applicant for a gaming license, or a gaming licensee, for one year after his public employment ceases.

(c) Partners. Your partners will be subject to restrictions while you serve as a municipal employee and after your municipal service ends.

Partners of municipal employees and former municipal employees are also subject to restrictions under the conflict of interest law. If a municipal employee participated in a matter, or if he has official responsibility for a matter, then his partner may not act on behalf of anyone other than the municipality or provide services as an attorney to anyone but the city or town in relation to the matter.

Example: While serving on a city's historic district commission, an architect reviewed an application to get landmark status for a building. His partners at his architecture firm may not prepare and sign plans for the owner of the building or otherwise act on the owner's behalf in relation to the application for landmark status. In addition, because the architect has official responsibility as a commissioner for every matter that comes before the commission, his partners may not communicate with the commission or otherwise act on behalf of any client on any matter that comes before the commission during the time that the architect serves on the commission.

Example: A former town counsel joins a law firm as a partner. Because she litigated a lawsuit for the town, her new partners cannot represent any private clients in the lawsuit for one year after her job with the town ended.

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This summary is not intended to be legal advice and, because it is a summary, it does not mention every provision of the conflict law that may apply in a particular situation. Our website, <http://www.mass.gov/ethics>, contains further information about how the law applies in many situations. You can also contact the Commission's Legal Division via our website, by telephone, or by letter. Our contact information is at the top of this document.

Version 7: Revised November 14, 2016.

* * * * *

ACKNOWLEDGMENT OF RECEIPT

I, _____, an employee at _____,
(first and last name) *(name of municipal dept.)*

hereby acknowledge that I received a copy of the summary of the conflict of interest law
for municipal employees, revised November 14, 2016, on _____.
(date)

Municipal employees should complete the acknowledgment of receipt and return it to the individual who provided them with a copy of the summary. Alternatively, municipal employees may send an email acknowledging receipt of the summary to the individual who provided them with a copy of it.