CITY OF DOVER

DOVER PLANNING BOARD – AGENDA

Meeting Type:	Regular Meeting
Meeting Location:	Council Chambers, City Hall, 288 Central Ave, Dover NH 03820
Meeting Date:	**Tuesday, May 25, 2021**
Meeting Time:	**7:00 pm**

Certain members of the Planning Board may be participating in this meeting remotely. In addition, the Chair of the Planning Board may, per NH RSA 91-A:2, III (b), declare an "emergency" within the meaning of that statute and waive the requirement that a quorum be physically present at the meeting. In either event, remote members will identify their location and any person present with them at that location. All votes will be by roll call.

The City of Dover has taken extra steps to ensure the physical location of this meeting conforms with all safety provisions during the pandemic, including social distancing, face coverings, and frequently sanitized facilities. Although qualified members of the public can participate in the meeting by speaking at the physical location, the public is encouraged to leave comments in advance by calling 516-MEET (6338), emailing Dover-Planning@dover.nh.gov, or mailing written comments to Planning Board, Dover City Hall, 288 Central Ave., Dover, NH 03820. Messages must be received no later than 4 p.m. the day of the meeting and should identify the name and Dover address of the person leaving the message or providing the comment

1. CITIZENS' FORUM

2. APPROVAL OF THE PRIOR MINUTES

- May 11, 2021 Regular Meeting Minutes

3. OLD BUSINESS

A. Review and Possible Reposting of Zoning Amendments posted on February 9th, 2021

B. Presentation, discussion, and possible posting of Amendments to Chapter 170 entitled "Zoning" regarding the Wetlands Ordinance. *

4. NEW BUSINESS

A. Presentation, discussion and possible posting of Amendments to Chapter 153 entitled "Site Review Regulations" regarding Electric Vehicle Charging Stations. *

B. Presentation, discussion, and possible posting of Amendments to Chapter 170 entitled "Zoning" regarding the Floodplain Regulations. *

C. Consideration and acceptance of a Site Review for City of Dover. Assessor's Map H, Lot 58, zoned IT, located at 271-275 Mast Road. (Proposal is to construct a 9,936 sq. ft. water treatment facility building). *(P21-31)

5. STAFF COMMENT

6. MEMBER COMMENTS

7. ADJOURNMENT

*Indicates that if the application is accepted for discussion, the public hearing will be held the same evening. Note that some hearings will be continued from one meeting to another and some may be postponed. Since this is only a partial description of the proposal and may change, persons with questions or wishing to see the plans are invited to visit the Planning Office, Monday through Thursday from 8:30 am to 5:30 pm and Friday 8:30 am to 4:00 pm or email Dover-Planning@dover.nh.gov. You may also view materials at www.dover.nh.gov. Follow us on Twitter @DoverNHPlanning and find us on Facebook at https://www.facebook.com/DoverNHPlanning.

DOVER PLANNING BOARD – MINUTES

CITY OF DOVER

Meeting Type:	Regular Meeting, continued
Meeting Location:	City Council Chamber's 288 Central Avenue
Meeting Date:	**Tuesday, May 11, 2021**
Meeting Time:	**7:00 pm**

Members Present: Gina Cruikshank (Chair), Dennis Ciotti (Councilor), Steph George (Alternate), Dave White
The following Board members called into the meeting: Dave Landry, Frank Torr, Tom Clark, Jackson Kaspari, Kyle Pimental, Erin Allgood (Alternate), Hayley Harmon (Vice Chair)
Members Not Present (excused): Mark Speidel (Alternate)
Members Not Present (un-excused): None
Staff Present: Christopher Parker, Assistant City Manager

Chair G. Cruikshank called the meeting to order at 7:00 p.m. She noted that certain members of the Planning Board are participating in this meeting remotely, and as the Chair of the Planning Board she has, per NH RSA 91-A:2, III (b), declared an "emergency" within the meaning of that statute and waive the requirement that a quorum be physically present at the meeting. Remote members will identify their location and any person present with them at that location. All votes will be by roll call.

The City of Dover has taken extra steps to ensure the physical location of this meeting conforms with all safety provisions during the pandemic, including social distancing, face coverings, and frequently sanitized facilities. Although qualified members of the public can participate in the meeting by speaking at the physical location, the public is encouraged to leave comments in advance by calling 516-MEET (6338), emailing Dover-Planning@dover.nh.gov, or mailing written comments to Planning Board, Dover City Hall, 288 Central Ave., Dover, NH 03820. Messages must be received no later than 4 p.m. the day of the meeting and should identify the name and Dover address of the person leaving the message or providing the comment.

The Chair announced that Hayley Harmon is absent tonight, so Erin Allgood will sit for her.

1. CITIZENS' FORUM

Citizens Forum Open. No one spoke *Citizens Forum Closed.*

2. APPROVAL OF THE PRIOR MINUTES

April 27, 2021 Regular Meeting Minutes

Motion: D. White moved to approve the minutes as submitted. Seconded by D. Ciotti.
Roll Call Vote: K. Pimental-yes, D. Ciotti-yes, G. Cruikshank-yes, E. Allgood-yes, D. Landry- yes, J. Kaspari - yes, D. White -yes, T. Clark-yes, F. Torr-yes

3. OLD BUSINESS

4. NEW BUSINESS

A. Public Hearing and consideration of a request for an excavation permit by Brox Industries, Inc., Assessor's Map C, Lots 12-A, 13 & 14, zoned R-40, located on Rochester Neck Road/Tolend Road. * (P21-20)

C. Parker explained the applicant is requesting to continue to excavate materials from their long standing gravel pit on Rochester Neck and Tolend Roads. The Applicant has submitted excavation and reclamation plans for each of its three lots in Dover, along with an application for an excavation permit. This constitutes a renewal of the permit approved May 28, 2019 (a biennial process)

David Cluff, Plant Manager for Brox reviewed the application and project.

Motion: D. Ciotti moved to accept the application and noted that there is no regional impact by the request. Seconded by D. White.
Roll Call Vote: K. Pimental-yes, D. Ciotti-yes, G. Cruikshank-yes, E. Allgood -yes, D. Landry- yes, J. Kaspari -yes, D. White -yes, T. Clark-yes, F. Torr-yes

Public Hearing Opened
No calls or emails were received.
Public Hearing Closed

STAFF RECOMMENDATION:
C. Parker noted that Section 170-29 of the Zoning Ordinance of the City Code governs the excavation of earth in the City of Dover pursuant to the authority granted by NH RSA 155-E, and requires that earth excavations obtain a permit, which is valid for two years.

This application is consistent with those regulations, and staff recommends that the Planning Board approve the application with the following conditions:
Conditions to Be Met Prior to Issuing Permit:

1. Confirmation from the City's Environmental Projects Manager that existing conditions are consistent with excavation plan.
2. Add a note that the applicant and City are reviewing the SPCC and pit operation plans to ensure that they are consistent with most current ordinances and approved Source Water Protection Plans and the facility owner will revise if necessary.

Motion: D. White moved to approve the Excavation Permit, with Conditions, as it is consistent with the regulations. Seconded by D. Ciotti.
Roll Call Vote: K. Pimental-yes, D. Ciotti-yes, G. Cruikshank-yes, E. Allgood -yes, D. Landry- yes, J. Kaspari -yes, D. White -yes, T. Clark-yes, F. Torr-yes

B. Public hearing and consideration of a request for an excavation permit by Branch Brook Holdings, LLC, Assessor's Map H, Lots 59, 60, 60A, 61 & 62, zoned I-4, located on Mast Road. *(P21-21)

C. Parker explained the applicant is requesting to continue to excavate materials from their long standing gravel pit on Mast Road. The subject property is located on Mast Road between Community Services/City-owned land, the Town of Madbury, and the Bellamy River. The Applicant has submitted excavation and reclamation plans for its lots along with an application for an excavation permit. This constitutes a renewal of the permit approved last approved May 28, 2019 (a biennial process).

Please note that the concrete batch plant currently operated by Redimix on Map H, Lot 59 has existed in that location since 1950, does not obtain its materials from this excavation site, and cannot be considered under the Planning Board's review of an excavation permit renewal.

Furthermore, the Board should note, that in years past staff has recommended that the applicant add a notes about storage of foreign materials on the site, the hours of operations and the need to schedule regular access roadway water wash downs. These notes are all on the plan, so no conditions of approval to add them are needed.

Steve Haight, Civilworks NE reviewed the application and project.

Motion: D. Ciotti moved to accept the application and noted that there is no regional impact by the request. Seconded by D. White.
Roll Call Vote: K. Pimental-yes, D. Ciotti-yes, G. Cruikshank-yes, E. Allgood -yes, D. Landry- yes, J. Kaspari -yes, D. White -yes, T. Clark-yes, F. Torr-yes

Public Hearing Opened
Richard Dolbec, 47 Ciello Dr has concerns with notes 10 and 11 on the plan. The operating times are not adhered to especially in the summer- sometimes starting at 3-4 am. He asked if a water treatment facility is going on the site.

Debra Noyce, 15 Ciello Dr brought pictures to show to the board. Her car was in her driveway less than 12 hours and was covered in sand that could not be wiped off without damaging the vehicle. There is sand all over the porch and outdoor furniture and packages that are delivered. There is white dust inside the house. Her ducts are full of dust that blows through the house. The fence that was put up is inadequate.

Mark Faye, 22 Ciello Dr noted the operation has gone on for many years but over the past 3 to 4 years the intensity has gone way up. He doesn't want them to go out of business, but some changes should be made. The hours of operation are not adhered to. They start working with the concrete very early in the morning. And now they have a rock-crushing machine on site that is noisy and creates dust.
A water spray could be utilized, the hours could be adjusted to help the neighborhood.

No emails or calls were received.

C. Parker addressed public comment. The hours of operation can be monitored by the City staff.
The City is looking at adding a water treatment plant which will come before TRC and the Planning Board. The City can discuss with the owner watering the area down.

As the gravel pits run out, the City hopes this area will become a conservation and passive recreation area.

Public Hearing Closed

STAFF RECOMMENDATION:
C. Parker noted that Section 170-29 of the Zoning Ordinance of the City Code governs the excavation of earth in the City of Dover pursuant to the authority granted by NH RSA 155-E, and requires that earth excavations obtain a permit, which is valid for two years.

This application is consistent with those regulations, and staff recommends that the Planning Board approve the application with the following conditions:
Conditions to Be Met Prior to Issuing Permit:

1. Confirmation from the City's Environmental Projects Manager that existing conditions are consistent with excavation plan.
2. Add a note that the applicant and City are reviewing the SPCC and pit operation plans to ensure that they are consistent with most current ordinances and approved Source Water Protection Plans and the facility owner will revise if necessary.
3. Applicant shall meet with the Assistant City Manager and Community Services Director to address the hours of operation and other concerns raised.

D. Ciotti requested written notes of the staff meeting with the applicant be sent to the Planning Board as well as the abutters who spoke tonight.

Tom Severino addressed concerns raised by public comment. He pledged to work with the City on the issues raised.

Motion: D. Ciotti moved to approve the Excavation Permit, with Conditions, as it is consistent with the regulations. Seconded by D. White.
Roll Call Vote: K. Pimental-yes, D. Ciotti-yes, G. Cruikshank-yes, E. Allgood -yes, D. Landry- yes, J. Kaspari -yes, D. White -yes, T. Clark-yes, F. Torr-yes

H. Harmon joined the meeting at this time.

C. Public hearing on a proposed Substantial Amendment to the Dover FY16-20 Consolidated Plan and the FY20 CDBG Action Plan to allocate CDBG-CARES funds for the purpose of Planning, Preparing and Responding to Coronavirus. All persons wishing to speak on the allocations are urged to attend.*

C. Parker noted that the City received additional funding, above its typical CDBG allocation, from the Federal government, as part of the CARES Act. In order to spend the funds, the City must update its Consolidated Plan and Action Plan.

Dave Carpenter, Community Development Planner, explained the proposed allocations for the second round of CDBG-CARES funds from HUD. All the funds must be used to plan, prepare and respond to the Coronavirus. This round includes $172,000 and the reallocation of a little over $59,000 from the original funds allocated last spring.

The recommendation is to add these proposed uses as new uses/ new activities in the action plan.

He highlighted where the memo describes the list of proposed allocations.

D. Ciotti asked if the second round of funds go to public facilities vs services. D. Carpenter said these funds are in addition to what was approved previously. Three activities that were approved from the first fund won't be using the money so that's where the $59,000 comes from. $112,000 between the two sets of funds has been allocated to public services.

D. Carpenter explained the application process and the way these allocations have been determined.

After Planning Board approval, this proposal goes before City Council. Then public notice is issued, and it's sent to HUD. The anticipated timeline would make the funds available in June.

K. Pimental asked if there is a cap or maximum amount businesses could apply for and do the expenses already have to have been incurred? D. Carpenter noted for the first round, the City had capped the maximum at a $5000 0% interest loan per applicant. They are still discussing if this next phase will be loans or grants. There is a condition to receiving the funds which is the business has to retain employment/ jobs. There are two pathways to use the funds. 1) Prove the business has spent funds to prepare, plan and respond to COVID; 2) Prove business disruption that was caused by the pandemic.

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The $59,000 reallocation was a combination of not issuing and reallocating funds from Age Response, Strafford Nutrition Meals on Wheels and Dover Welfare.

D. Landry asked about the process of whether the funds are given as loans or grants. D. Carpenter noted they have the authority to decide either way or a combination of both.

Public Hearing Opened
No calls or emails were received.
Public Hearing Closed

Motion: D. White moved to recommend the City Council approve the Substantial Amendments. Seconded by D. Ciotti.
Roll Call Vote: K. Pimental-yes, D. Ciotti-yes, G. Cruikshank-yes, H. Harmon -yes, D. Landry- yes, J. Kaspari -yes, D. White -yes, T. Clark-yes, F. Torr-yes

D. Consideration and acceptance of a Minor Subdivision for TSB Properties, LLC, Assessor's Map D, Lot 12, zoned IT – Innovative Technology, and located at 447 Sixth Street. (2 new lots) *(P21-32

C. Parker explained the applicant is requesting to subdivide lot D/12 into three lots. A 2.08 acre lot will be created around the existing multi-family building and then two vacant lots will be created. The first is 7.75 acres and the second is 4.24 acres. The lots would have access to public water and sewer and they would be accessed off Production Drive.

As a Minor Subdivision, this application did not appear before the TRC. No uses/development is proposed for the two vacant lots. If uses are proposed, they would need site plan review, with separate approvals from this subdivision.

Steve Haight, Civilworks New England reviewed the application and project.

F. Torr asked why the easement won't be determined until later. He is concerned about the wetlands on the lots. C. Parker noted there may not be any activity back there. Staff didn't want to set the easement and then have to move it for a later use when a plan was submitted.

K. Pimental asked if the existing shed is coming down or is it small enough to stay? C. Parker noted one of the conditions is that it be removed.

D. Ciotti asked about the access. S. Haight clarified right now there is frontage on Production Dr and if there is a proposal for these lots in the future, there are other options for access. There is no proposal thus far.

Motion: D. White moved to accept the application and noted that there is no regional impact by the request. Seconded by J. Kaspari.
Roll Call Vote: K. Pimental-yes, D. Ciotti-yes, G. Cruikshank-yes, H. Harmon -yes, D. Landry- yes, J. Kaspari -yes, D.White -yes, T. Clark-yes, F. Torr-yes

Public Hearing Opened
Barbara Civiello, 3 Quail Dr has concerns about the wetlands survey that was done. She would like the wetland to be researched further. Where Production meets Sixth St there is a hill and if some successful, busy industry goes in there, the road structure won't be able to handle it.

Jodi Langellotti, 453 Sixth St is concerned about the access, the wetlands and asked why this would be approved before they know what the intent of development might be. She asked the board to consider what would be the best use for the City.

Jake Banaian, 11 Quail Dr said there is constant noise and lighting coming from Production Dr. He is concerned about privacy, quality of life and diminution of value. Mixing residential and commercial areas is not a good idea. He had several questions relating to specific details about what will be on the site.

Mark Phillips, owner/applicant explained the purpose of the application is to separate the land into three parcels to carve off the income-producing portion and free up the rest for future development while paying attention to the limitations on the site (wetlands). Tonight, there are no plans for specific buildings.

No calls or emails were received.
Public Hearing Closed

S. Haight confirmed the whole land survey was redone: wetlands, topography, boundary.

C. Parker noted for the public that at this stage in the process, the Planning Board is not allowed to ask what the future use will be. Once plans are presented, all of the questions will be asked, and details discussed.

STAFF RECOMMENDATION:
C. Parker noted the plan is consistent with Chapter 157-15 of the City's Land Subdivision Regulations, which provides for subdivision of existing lots. Staff recommends approval with the following conditions:
Conditions to Be Met Prior to Signing of Plans:

1. The applicant shall provide the Planning Department a
    a. Digital version of the plan.
    b. CAD file to the satisfaction of the Asset Management Administrator.
2. The applicant shall revise the plat to:
    a. Add signature and stamp of LLS
    b. Add owner's signatures for recording at Strafford County Registry of Deeds.
    c. Add Planning File # P21-32
    d. Add note regarding total contiguous upland area
    e. Revise title block to 447 Sixth St.
    f. Revise note 9 to read: An Access easement, from Production Drive, across D-12 or D-12-2, to benefit parcel D-12-1 will be created at the time the parcel D-12-1 is presented for site plan approval. There will be no access through the frontage on D-12-1.
    g. Indicate soil types
    h. Indicate shed to be removed on plan.
3. Assessor approves lot numbers.
4. Shed shall be relocated or removed.

Conditions to Be Met Prior to Building Permit:

5. Site Plan review has occurred
6. Easements for right-of-way and well radius shall be recorded at the Strafford County Registry of Deeds with the recording information provided to the Planning Department.
7. Water and sewer investment fees shall be paid at time of request for service.

D. Ciotti asked about the access easement note.

D. Landry mentioned the rezoning of this area done by the Planning Board. He asked if this proposal goes through, and in the future they decide the impact of a proposal is too great and they deny it, where does that leave things?

C. Parker noted some options for access to the lots. Its unlikely access would be granted from Production Dr through that wetland area.

The board and staff discussed access easement conditions at length and updated their conditions as listed above.

Motion: D. White moved to approve the minor subdivision, with Conditions, as it is consistent with the regulations. Seconded by D. Ciotti.
Roll Call Vote: K. Pimental-yes, D. Ciotti-yes, G. Cruikshank-yes, H. Harmon -yes, D. Landry- yes, J. Kaspari -yes, D. White -yes, T. Clark-yes, F. Torr-yes

E. Consideration and acceptance of a Conditional Use Permit for T. Benjamin Airey, (Owner: Joann Cheney), Assessor's Map 10, Lot 127, zoned HR – Heritage Residential, and located at 258 Washington Street. (Proposal is to convert a carriage house to third unit on property within the Heritage Residential Zone). *(P21-23)

C. Parker explained the applicant is requesting a Conditional Use Permit to convert a two family dwelling at the corner of Washington Street and Richmond Street to a three unit building. The third unit would be added in the existing barn/carriage house structure. The driveway area would be improved to allow for 6 cars to park off street in accordance with the criteria. No external alterations are proposed to the structure, so it meets the architectural requirements.

Ben Airey, applicant, reviewed the application and project. He closes on the property next week. His intent is to restore the barn and make it a beautiful third unit. The lot is plenty large enough to expand the parking a bit to allow for six spaces: two per unit. The exterior won't change much.

D. White asked if there is an existing parking lot. There are two lanes- one going to each side of the carriage house for access. The applicant's plan is not to create a 'parking lot', but to widen the lane by six feet on each side to allow for a butterfly parking pattern.

Joann Cheny, owner stated the property has been in her family for 50 years and there are two paved driveways and the center portion was never turned into a parking lot. If she was going to keep the property, this is the use she would have sought as well.

D. Ciotti requested the applicant remove the stump in the parking area and create head-in parking to eliminate backing out onto the road.

K. Pimental asked for clarification about driveway changes. There's a note on the plan stating there will be no changes, but the discussion has been about making adjustments.
C. Parker noted as the applicant has worked with City staff, the project has morphed a bit since the initial application was submitted. There are requirements that will need to be met and plans will be updated. Staff is

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comfortable with these plans on file tonight knowing a driveway permit will be required and more detailed plans are being drafted to support that.
Motion: D. White moved to accept the application and noted that there is no regional impact by the request. Seconded by D. Ciotti
Roll Call Vote: K. Pimental-yes, D. Ciotti-yes, G. Cruikshank-yes, H. Harmon -yes, D. Landry- yes, J. Kaspari -yes, D. White -yes, T. Clark-yes, F. Torr-yes

Public Hearing Opened
Jim Munro, 252 Washington wants to find out more: will it be condos or apartments? He would prefer home-owners rather than renters. There is also a large tree he is concerned may weaken and fall during construction.

Lisa Meconi, 14 Richmond noted her neighbor sent in a letter and exhibits. Ms. Meconi respectfully requests the board deny this request due to traffic congestion and pedestrian safety. Parking is very congested on Richmond which is very narrow. All parking for 258 Washington is on Richmond and street parking is already short.
Screening will be required in front of the parking at the building- how would that look and how would it not cause visibility issues for entering the road? She is concerned about the extra traffic and safety of children in the neighborhood. This street is already full and cannot handle another three-bedroom unit.

Tom Dolbec, 12 Richmond agreed the area is a well saturated parking area with quite a few rooms and residents already at that property. He thinks the parking needs to be modified so there is enough room not to back out to the road, but that may not leave enough open space.

No phone calls were received. Letters from Sarah and Michael Lavoie, 3 Richmond Street, Lisa Meconi and Jeremiah Murray, 14 Richmond Street, Holly Goodell, 11 Lexington Street and Stacy Salinas, 27 Richmond Street were received.
Public Hearing Closed

STAFF RECOMMENDATION:
C. Parker noted the application is consistent with the Heritage Residential table which allows for 3 dwelling units through a CUP which is granted by the Planning Board rather than the Zoning Board of Adjustment, if the criteria are met. Staff recommends approval with the following conditions:

Conditions to Be Met Prior to the Issuing Conditional Use Permit:

1. The applicant shall be subject to a formal agreement between the Planning Board and the applicant. Said agreement shall be recorded at the Strafford County Registry of Deeds per Chapter 170-20-B(3)
2. The owner's signature shall be added to the final plan.
3. Add the Planning File Number P21-23
4. The applicant shall provide a digital version of the final materials to the Planning Department.

Conditions To Be Met Prior to Occupancy:

5. All criteria of the CUP are in place to the satisfaction of the Assistant City Manager.
6. Issuance of a Certificate of Occupancy.
7. Water and sewer investment fees shall be paid at time of request of service.
8. Impact fees shall be paid per the invoice.
9. Driveway permit is reviewed and approved by the City Engineer.

D. Ciotti commented that Richmond St is now supposed to be parking on one side only (recent change) but it's not always adhered to. C. Parker will have the Police check into that issue.
C. Parker confirmed for D. Landry that if the applicant can't meet the parking requirements for a three-bedroom unit, then a three-bedroom unit will not be allowed to go in there.

Motion: D. Ciotti moved to approve the Conditional Use Permit as it is consistent with the regulations, with the condition. Seconded by D. White.
Roll Call Vote: K. Pimental-yes, D. Ciotti-yes, G. Cruikshank-yes, H. Harmon -yes, D. Landry- yes, J. Kaspari -yes, D. White -yes, T. Clark-yes, F. Torr-yes

5. STAFF COMMENTS

- C. Parker updated the Board on the latest TRC: 1 First Street, Water treatment facility on Stonewall Drive
- He thanked Donna Benton for her work on the Wayfinding project as well as Public Works and Facilities and Grounds

6. MEMBER COMMENTS

- G. Cruickshank noted she had signed the following plans:
  - 51 Bellamy Road (TDR)
  - 26 ½ Bellamy Road LLA
  - 278 ½ Dover Point Road LLA
  - 33 New Rochester Road LLA
  - 11 Fairview LLA
- K. Pimental thanked Erin Allgood. The Planning Commission as well as Dover City staff attended a training she and her coworker put on and it was fantastic.
- T. Clark noted the Wayfinding signs look great
- T. Clark noted when applicants submit photos in-person at the meetings, those are not available to the board members attending remotely – how can that be corrected?
  - If items are submitted prior to the meeting they are forwarded to the board members.
  - It is written on the abutter notice to submit items ahead of time
  - A/V will look into adding a document camera to add to the stream

7. ADJOURNMENT

Motion: D. White made a motion to adjourn at 9:17 p.m. Seconded by D. Ciotti.
Roll Call Vote: K. Pimental-yes, D. Ciotti-yes, G. Cruikshank-yes, H. Harmon -yes, D. Landry- yes, J. Kaspari -yes, D. White -yes, T. Clark-yes, F. Torr-yes

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CITY OF DOVER

CITY OF DOVER – ORDINANCE

Posted February, 09 2021

Ordinance Number: **O – yyyy.mm.dd -**
Ordinance Title: Updating the Dover Zoning Ordinance
Chapter: 170

The City of Dover Ordains:

1. **PURPOSE**

   The purpose of this ordinance is to amend Chapter 170 of the Code of the City of Dover, entitled Zoning, by updating the Code to reflect changes in the community and in land use regulations.

2. **AMENDMENT**
   Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-6 "Word Usage and Definitions" by revising the definiotion of Accessory Structure as follows:

   "**ACCESSORY STRUCTURE** means a STRUCTURE with a minimum FLOOR AREA of ~~100~~ 200 square feet which exists on the same LOT and within the same zoning district as the PRINCIPAL BUILDING and which shall be customarily incident and subordinate to the PRINCIPAL BUILDING subject to the provisions of Chapter 170-10 E."

3. **AMENDMENT**
   Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising the official Zoning Map of the City of Dover, referred to in Section 170-6 of said Chapter as follows:

   "The official Zoning Map of the City of Dover, New Hampshire, dated September 11, 2019, is amended by changing from "Rural Residential District" (R-40) to "Low Density Residential" (R-20) District an area of approximately 42 acres located along Bellamy Road and Cold Springs Road, consisting of Map H lots 4-A, 4-C, 4-D, 4-E, 4-F, 4-U, 6-L, 45-A, 45-B, 45-C, 46, 47-A, 48, 49, 50, 50-A, 55 and the portion of Map H lot 53 that is zoned R-40"

4. **AMENDMENT**
   Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-12 "Applicability of Tables of Use and Dimensional Regulations By District" by revising the Dimensional Regulations Table in the Medium Density Residential District (R-12) footnote [6] as follows:

   "Any dwelling unit ~~existing on or before May 27, 1964,~~ may be converted, not replaced, provided that the lot shall contain at least four thousand (4,000) square feet per dwelling unit and a minimum floor area of five hundred (500) square feet per dwelling unit.

2 family dwellings shall be designed to look like single family dwellings (i.e. the 2 family dwelling should not look like it was designed to occupy more than one family). At a minimum, this shall mean that only one entrance shall be visible from a public street, and only one driveway shall exist with no on street parking required for residents."

AND

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-12 "Applicability of Tables of Use and Dimensional Regulations By District" by revising the Dimensional Regulations Table in the Medium Density Residential District (R-12) footnote [7] as follows:

"Two family dwellings are permitted ~~in the R-12 Districts when incorporated in an open space subdivision and comply with all regulations specified in Chapter 157, Subdivision of Land, Article IV, Open Space Subdivisions, of the Code of the City of Dover, 1983~~ on lots with a density of nine thousand (9,000) square feet per dwelling unit. The structures shall be designed to look like single family dwellings (i.e. the 2 family dwelling should not look like it was designed to occupy more than one family). At a minimum, this shall mean that only one entrance shall be visible from a public street, and only one driveway shall exist with no on street parking required for residents. Single family density shall be used for TDR. If two family density is used, a two family unit shall be built."

AND

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-12 "Applicability of Tables of Use and Dimensional Regulations By District" by revising the Dimensional Regulations Table in the Medium Density Residential District (R-20) footnote [6] as follows:

"Any dwelling unit ~~existing on or before May 27, 1964,~~ may be converted, not replaced, provided that the lot shall contain at least four thousand (4,000) square feet per dwelling unit and a minimum floor area of five hundred (500) square feet per dwelling unit.

2 family dwellings shall be designed to look like single family dwellings (i.e. the 2 family dwelling should not look like it was designed to occupy more than one family). At a minimum, this shall mean that only one entrance shall be visible from a public street, and only one driveway shall exist with no on street parking required for residents."

AND

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-12 "Applicability of Tables of Use and Dimensional Regulations By District" by revising the Dimensional Regulations Table in the Medium Density Residential District (R-20) footnote [7] as follows:

"~~Use is allowed when included within an Open Space Subdivision with commercial components. (See 157.21 section 7)~~. Two family dwellings are permitted on lots with a density of ~~twelve~~ fifteen thousand (15,000) square feet per dwelling unit. The structures shall be designed to look like single family dwellings (i.e. the 2 family dwelling should not look like it was designed to occupy more than one family). At a minimum, this shall mean that only one entrance shall be visible from a public street, and only one driveway shall exist with no on street parking required for residents. Single family density shall be used for TDR. If two family density is used, a two family unit shall be built."

AND

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-12 "Applicability of Tables of Use and Dimensional Regulations By District" by revising the Dimensional Regulations Table in the Medium Density Residential District (R-40) footnote [6] as follows:

"Any dwelling unit ~~existing on or before May 27, 1964,~~ may be converted, not replaced, provided that the lot shall contain at least four thousand (4,000) square feet per dwelling unit and a minimum floor area of five hundred (500) square feet per dwelling unit.

2 family dwellings shall be designed to look like single family dwellings (i.e. the 2 family dwelling should not look like it was designed to occupy more than one family). At a minimum, this shall mean that only one entrance shall be visible from a public street, and only one driveway shall exist with no on street parking required for residents."

AND

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-12 "Applicability of Tables of Use and Dimensional Regulations By District" by revising the Dimensional Regulations Table in the Medium Density Residential District (R-40) footnote [8] as follows:

"3-4 family dwellings ~~Use is~~ are allowed when included within an Open Space Subdivision with commercial components. (See 157.21 section 7). 2 family dwellings are permitted by right. In either case, the density on lots shall be ~~twenty five~~ thirty thousand (30,000) square feet per dwelling unit. The structures shall be designed to look like single

family dwellings (i.e. the 2, 3 or 4 family dwelling should not look like it was designed to occupy more than one family). At a minimum, this shall mean that only one entrance shall be visible from a public street, and only one driveway shall exist with no on street parking required for residents. Single family density shall be used for TDR. If more than a single family density is used, that style of unit shall be built."

AND

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-12 "Applicability of Tables of Use and Dimensional Regulations By District" by revising the Dimensional Regulations Table in the Urban Density Multi-family Residential District (RM-U) Conditional Use Criteria for Conversion to, or creation of Dwelling, 3-4 Family as follows:

"Conversion to, or creation of Dwelling, 3-4 Family.[Added 3-25-87 by Ord. No. 6-87]: Three- or four-family dwellings and conversions of existing dwellings to three (3) or four (4) units shall be subject to the following regulations:

A. The specific site must have an amount of open space, either landscaped or left natural, at least equal to the average amount of open space on all developed lots in the RM-U District that are wholly or partly within two hundred (200) feet of the subject parcel. Existing parking areas, either gravel, paved or unpaved, shall not be considered to be open space.
B. Off-street parking, in accordance with Chapter 153, Site Review, shall be provided as to avoid vehicles backing into the street. Two (2) parking spaces per unit shall be required.
C. Parking lots shall be at least five (5) feet from a side property line and ten (10) feet from a front property line.
D. Parking areas shall be screened from the street and from abutting lots.
E. Structures shall be at least twenty (20) feet from a front property line, fifteen (15) feet from a rear property line and fifteen (15) from a side property line unless abutting a street, in which case, the distance from the side property line shall be twenty (20) feet.
F. If the units generated are restricted to the HUD Fair Market Rent rates, for Dover, criteria A and E do not apply.

5. AMENDMENT

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-12 "Applicability of Tables of Use and Dimensional Regulations By District" by revising footnote [2] in the Dimensional Regulations Table in the Medium Density Residential District (R-12), Low Density Residential District (R-20)], and Rural Residential District (R-40) as follows:

"[2] Refer to 170-13, ~~and~~ 170-14 and 170-27D for exceptions to lot size, frontage and setback requirements."

AND

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-12 "Applicability of Tables of Use and Dimensional Regulations By District" by revising the Dimensional Regulations Table in the Urban Density Multi-Residential District (RM-U) footnote [1] on the Suburban Density Multi- Residential District (RM-SU), Heritage Residential, (HR), Commercial (C), Commercial Manufacturing (CM), Innovative Technology (IT), Little Bay Waterfront (LB), Office (O), and Hospital (H) districts as follows:

"[1] Refer to 170-13, ~~and~~ 170-14 and 170-27D for exceptions to lot size, frontage and setback requirements."

6. AMENDMENT

Chapter 151 of the Code of the City of Dover, entitled Zoning, is hereby amended by consolidating Chapter 170-14 "Nonconforming Lots" and Chapter 170-39 "Nonconforming Lots" to read as follows:

170-14. Nonconforming LOTs. [Amended on 6-10-87 by Ord. No. 13-87; Amended on 08-01-90 by Ord. No. 8-90**; Amended on 08-22-2018 by Ord. No. 2018.08.08-009**.]
"In any district, structures which are allowed by right, but not structures that are allowed by special exception, may be erected on any nonconforming lot of record even though such lot fails to meet the requirements for area width or frontage provided that:

a. The lot has been duly recorded at the Strafford County Registry of Deeds on or before the effective date of adoption of this Chapter.
b. Should the lot be less than five thousand (5,000) square feet and not have a minimum width of fifty (50) feet, it may be developed as long as the home constructed is no larger than one thousand (1,000) square feet in total living space.
c. If the lot has a land area of at least five thousand (5,000) square feet and a minimum width of fifty (50) feet, a home constructed may be larger than one thousand (1,001) square feet in in total living space.
d. In either case, the following side yard restrictions shall apply:
    i. A lot with a width of one hundred ten (110) feet or less and greater than seventy-five (75) feet, shall have a minimum side yard of ten (10) feet.
    ii. A lot with a width of less than seventy-five (75) feet shall have a minimum side yard of six (6) feet."

~~The erection of a BUILDING or STRUCTURE shall be permitted on any LOT which has been duly recorded at the Strafford County Registry of Deeds on or before the effective date of adoption of this Chapter, provided that:~~

~~A. The LOT shall support a land area of at least five thousand (5,000) square feet and a minimum width of fifty (50) feet. In such cases, the following SIDE YARD restrictions shall apply:~~

~~(1) A LOT with a width of one hundred ten (110) feet or less and greater than seventy-five (75) feet, shall have a minimum SIDE YARD of ten (10) feet.~~

~~(2) A LOT with a width of seventy-five (75) feet or less and fifty (50) feet or more shall have a minimum SIDE YARD of six (6) feet.~~

~~B. Refer to Article XI of this Chapter for provisions regulating nonconforming LOTs that are adjacent or of continuous FRONTAGE and NONCONFORMING USEs and STRUCTUREs.~~

170-39~~. Nonconforming LOTs.~~ Reserved

~~In any district, structures which are allowed by right, but not structures that are allowed by special exception, may be erected on any nonconforming lot of record even though such lot fails to meet the requirements for area width or frontage. See 170-14 for exceptions to the dimensional regulations. Further, yard dimensions and requirements other than those applying to area, width and FRONTAGE shall conform to the regulations for the district in which the LOT is located.~~

7. AMENDMENT

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-16 "Swimming Pools" by revising to exclude small temporary wading pools to read as follows:

"Chapter 170-16. Swimming Pools. [Amended 12-09-2009 by Ord. No. 2009.09.09-15, Amended on 07-22-2020by Ord. No. 2020.07.08.006.]
In Districts allowing one (1) Family Dwellings, two (2) Family Dwellings, and three to four (3 –4) Family Dwellings, pools for swimming or bathing shall be in conformity with the following regulations:

A. Every outdoor swimming pool shall be completely surrounded by a FENCE or wall not less than four (4) feet in HEIGHT, which shall be so constructed as not to have openings, holes or gaps larger than four (4) inches in any dimension, except for doors and gates, and if a FENCE is erected or maintained, the horizontal dimension shall

not exceed four (4) inches. A primary dwelling or accessory BUILDING or STRUCTURE may be used as part of the enclosure.

B. Gates. All gates or door openings through such enclosure shall be equipped with a self-closing and self-latching device for keeping the gates or door securely closed at all times when not in actual use, except that the door of any dwelling which forms a part of the enclosure need not be so equipped.

C. Applicability. The requirements of this Chapter shall be applicable to all new swimming pools hereafter constructed, other than indoor pools and temporary wading pools less than twenty-two inches (22") deep or eight feet (8') in diameter (whichever is more restrictive), and shall apply to all existing pools which have a minimum depth of ~~eighteen (18)~~ twenty-two (22) inches of water. No person in possession of land within the City, either as owner, purchaser, lessee, tenant or a licensee, upon which is situated a swimming pool having a minimum depth of ~~(18)~~ twenty-two (22) inches shall fail to provide and maintain such FENCE or wall as herein provided.

8. AMENDMENT

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-18 "Customary Home Occupations" subsection D (1) to allow residential uses in any part of a building, so long as non-residential uses meet the read as follows:

"170-18. CUSTOMARY HOME OCCUPATIONs.

A CUSTOMARY HOME OCCUPATION is a permitted use in all Residential Districts. The following conditions apply:

A. "Home occupation" shall include not more than one (1) of the following uses, provided that such uses are clearly incidental and secondary residential purposes; dressmaker, artist, arts and crafts, writer, teacher, provided that not more than eight (8) pupils simultaneously occupy the BUILDING, musician, antique dealer, hairdresser, HOME BASED AGRICULTRUAL ACTIVITIES, lawyer, doctor, photographer, dentist, architect, engineer or practitioner of any other profession or similar occupation which may be unobtrusively pursued in a residential area.

B. No more than one (1) nonresident shall be employed therein.

C. The use is carried on strictly by the occupant of the PRINCIPAL BUILDING.

D. No more than twenty-five percent (25%) of the existing net FLOOR AREA of the principal and any ACCESSORY STRUCTURE not to exceed six hundred (600) square feet is devoted to such use.

E. There shall be no display of goods or wares visible from the STREET.

F. No advertising on the premises other than a small no-illuminated SIGN not to exceed two (2) square feet in area and carrying only the occupant's name and his occupation.

G. The BUILDINGs or premises occupied shall not be rendered objectionable or detrimental to the residential character of the NEIGHBORHOOD because of the exterior appearance, traffic emission of odor, gas, smoke, dust, noise, electrical disturbance, light emissions, or in any other way. In a MULTIFAMILY DWELLING, the use shall in no way become objectionable or detrimental to any residential use within the multifamily STRUCTURE.

   a. No rallying of employees for offsite work shall be conducted.

   b. If the home is occupied by a tradesman, craftsman or contractor, there may be incidental storage. Said storage shall be screened from abutters and the right of way, with either a solid fence or vegetation, and must be fully enclosed. Onsite storage of construction equipment or vehicles is not permitted.

H. Any such BUILDING shall include no feature of design not customary in BUILDINGs for residential use. The following uses, by nature of the investment or operation, have a potential to rapidly increase beyond the limits specified above for home occupations and impair the use, value and quiet enjoyment of adjacent residential properties. Therefore, uses such as Retail, Clinic, Landscaping, Freight, Trucking or Shipping, Painting of Vehicles, Trailers and Boats, Restaurants, Caterers or Bakeries, Taxi Service, Tool or Equipment Rental, Veterinary hospital or KENNEL and others of a similar nature shall not be considered as home occupations.

I. A minimum of two (2) OFF-STREET PARKING SPACEs shall be provided. All driveways to be used in connection with such occupations shall conform to Chapter 153 Site Plan Review or Chapter 157 Land Subdivision Regulations, as appropriate.

J. Not more than one (1) commercial vehicle in connection with such home occupation shall be stored on the premises.

K. A certificate of use for the proposed home occupation is issued by the Zoning Administrator verifying conformance with the preceding standards. Said certificate shall be renewed annually. Applications to renew the certificate of use shall be due by

January 1st following the date of approval of the certificate of use and then by every January 1st thereafter for so long as the CUSTOMARY HOME OCCUPATION continues. Fees shall be levied as set forth in the City of Dover Adopted Schedule of Fees, as amended annually, for CUSTOMARY HOME OCCUPATION certificates of use and renewals.

L. The use of a ROOM in a dwelling or accessory BUILDING as a home office by a resident/occupant is a permitted use and does not require a certificate of use, provided that the use does not generate any traffic such as (i) deliveries or pickup of supplies or materials in excess of normal residential use, or (ii) clients coming to the property.

9. AMENDMENT

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-20 "Central Business District" subsection D (1) to allow residential uses in any part of a building, so long as non-residential uses meet the read as follows:

(1) General Guiding Principles for BUILDING Placement

(a) The goal of the BUILDING HEIGHT and BUILD TO LINE standards is the creation of a healthy and vital public realm through good STREET space.

(b) BUILDINGs are aligned and close to the STREET.

(c) The STREET is a coherent space, with consistent BUILDING forms on both sides of the STREET, creating a clear PUBLIC SPACE and community identity.

(d) BUILDINGs oversee the STREET (and SQUARE) with active fronts contributing to a vital and safe PUBLIC SPACE.

(e) Property lines are physically defined by BUILDINGs or STREET WALLs.

(f) BUILDINGs are designed for an urban feel and situation. Views are directed to the STREET and the garden/courtyard, not toward the neighbors. However within the STREET wall alcoves or small courtyards are permitted to allow for seating and public access

(g) Vehicle storage, garbage and mechanical equipment are kept away from the STREET.

(h) Within the General, and Mixed Use, ~~and TOD~~ sub-districts, new non-residential ~~retail and commercial~~ activities must make up at least 20 percent of the structure ~~are located on the GROUND FLOOR~~. ~~Residential activity is not permitted, except as follow~~s:

1. ~~Where a BUILDING does not front directly onto a STREET or municipal parking lot, residential activity may be located on the GROUND FLOOR.~~

2. If retail and commercial activities are located on the GROUND FLOOR of BUILDINGs not fronting directly onto a STREET or municipal parking lot, the HEIGHT of the BUILDING may be increased by one (1) story.

    i. Any additional stories shall be setback to create a terrace, and approved via a Conditional Use Permit.

(i) In the ~~Gateway~~ TOD residential may be located on the GROUND FLOOR, however new retail and commercial activities are encouraged to be developed.

(j) Parking (not including on-street parking) should be away from the STREETs and shared by multiple owners/users.

(k) Historic character should be preserved and enhanced by context sensitive construction.

10. AMENDMENT

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-24 "Accessory Dwelling Units" by revising the requirements to allow two ADUs per single family home, if the second unit meets the HUD Fair Market Rental Rates to read as follows:

"170-24. ACCESSORY DWELLING UNITS. [Amended on 11-28-2012 by Ord. No. 2012.11.14-24; Amended on 06-22-2016 by Ord. No. 2016.06.08-010.]
Where permitted, an ACCESSORY DWELLING UNIT shall comply with the following:

A. A maximum of one (1) ACCESSORY DWELLING UNIT (ADU) per property is permitted, unless the second unit meets HUD Fair Market Rent rates, for Dover,

published annually by the New Hampshire Housing Finance Authority. An ADU shall not be permitted on property where more than one DWELLING UNIT currently exists.

B. Exterior ALTERATIONS, enlargements, or extensions of the SINGLE FAMILY DWELLING or detached ACCESSORY STRUCTURE are permitted in order to accommodate the ACCESSORY DWELLING UNIT. However, no such change is permitted which would ALTER the appearance of the SINGLE FAMILY DWELLING to look like a duplex or any other multi-family STRUCTURE (i.e., the house should not look like it was designed to occupy more than one family). The construction of any access ways into the house and/or detached garage which are required for access to the ACCESSORY DWELLING UNIT shall be located to the side or REAR of the BUILDING whenever possible.

C. An ADU shall have an area of no less than three hundred (300) square feet and no greater than eight hundred (800) square feet. If located in a detached ACCESSORY STRUCTURE, the ACCESSORY DWELLING UNIT ~~shall~~ may shall be located ~~entirely~~ on ~~the second~~ either floor of the STRUCTURE.

D. A minimum of one dedicated OFF-STREET PARKING space shall be provided for the ADU.

E. The SINGLE-FAMILY DWELLING (and detached ACCESSORY STRUCURE, when applicable) and LOT shall not be converted to a condominium or any other form of legal ownership distinct from the ownership of the SINGLE-FAMILY DWELLING. In order to ensure compliance with this requirement, the property owners at the time the ADU is established shall be required to execute a restrictive covenant running in favor of the City, which shall be recorded in the Strafford County Registry of Deeds and a copy of which shall be provided to the Planning and Community Development Department and the City Assessor prior to the issuance of a CERTIFICATE OF OCCUPANCY.

F. The property owner must occupy one of the two DWELLING UNITs. Electric, water and sewer utilities shall be metered on a single bill.

G. Where municipal sewer service is not provided, the septic system shall meet NH Department of Environmental Services, Water Division requirements for the combined system demand for total occupancy of the premises.

H. A certificate of use issued by the Zoning Administrator is required to verify conformance with the preceding standards. Said certificate shall be renewed annually. Applications to renew the certificate of use shall be due by January 1st following the date of approval of the certificate of use and then by every January 1st thereafter for so long as the ACCESSORY DWELLING UNIT continues. Fees shall be levied as set forth in the City of Dover Fee Schedule, as amended annually, for ACCESSORY DWELLING UNIT certificates of use and renewals.

11. AMENDMENT

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-28.2 "Residential-Commercial Mixed Use (RCM) Overlay District" by revising the location to read as follows:

"C. Location

The Residential-Commercial Mixed Use Overlay District shall include any parcel located within the CM, IT or R-40 zone, which is greater than ~~50~~ 25 acres, and ~~within five hundred (500) feet of a road maintained by the State of New Hampshire~~ served by public water and sanitary sewer.**"**

AND

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-28.2 "Residential-Commercial Mixed Use (RCM) Overlay District" by revising the Procedural Concepts section to read as follows:

"E. Procedural Concepts

(1) The developer shall prepare a Development Plan, which locates the proposed types of non-residential and residential development, utilities, access roads, and public ways. The parcels comprising the development may be under separate ownership, but shall be treated as one development and shall be bound by the approval granted for the entire Development Plan. If approval is granted, individual LOTs must be developed as part of the larger Development Plan and phasing outlined below, and not separately. The Development Plan must identify the percentage of the non-residential uses, residential uses and OPEN SPACE. Non-residential and/or mixed use uses must comprise at least fifty-five percent (55%) of the total proposed FLOOR AREA for the development ~~(outdoor display areas may be counted towards the minimum required FLOOR AREA)~~; residential uses must not exceed forty-five percent (45%) of the

total proposed FLOOR AREA for the development. Nonresidential uses within projects located in the CM district must be 90% manufacturing and assembly in nature. A BUILDING shall be considered "mixed use" provided that at least 50% of the FLOOR AREA of the first floor is reserved as commercial space and provided that such commercial space is located roughly in the front half of the BUILDING and extends the length of the BUILDING façade. Residential ACCESSORY USES (e.g. mechanical, storage, laundry, etc.) are permitted to be located within the back half of the first floor of any mixed use BUILDING.

(2) A minimum of twenty percent (20%) of the area of the original tract shall be reserved as OPEN SPACE and identified as such on the Development Plan. Fifty percent (50%) of the required OPEN SPACE (as defined in Chapter 155-60) must be usable uplands and reasonably accessible to all property owners in the project. Any OPEN SPACE provided above twenty percent (20%) may be mixed ~~wetlands~~ unsuitable areas and upland.

(3) Residential uses require that the calculation of permitted density shall be completed through the submission of a yield plan (as defined in Chapter 155-60, Subdivision of Land) applied to the Development LOT and not individually to the Internal Dwelling LOTs.

(4) For residential development that includes single family homes over1,001 square feet of total living area, or three (3) to four (4) family ~~or MULTI-FAMILY DWELLINGs,~~ density shall be based upon calculating one (1) unit per forty thousand (40,000) square feet of CONTIGUOUS upland, and using one hundred fifty (150) feet of FRONTAGE on a public roadway.

(5) For single family residential homes 1,000 or less square feet of total living area, development, ~~or~~ two family dwellings, or MULTI-FAMILY DWELLINGs-density shall be based upon calculating one unit per ten thousand (10,000) square feet of CONTIGUOUS upland, and using one hundred (100) feet of FRONTAGE on public a roadway.

a. If units are restricted so that the rent of said units conforms to the HUD Fair Market Rent rates, for Dover, published annually by the New Hampshire Housing Finance Authority, there shall be no density for said unit(s).

(6) The Development Plan may be phased for a term of five (5) years. The phasing plan shall contain provisions which promote the mixed use of the site consistent with Section 170-28.2.A. For the purposes of this section, development shall include:
(a) construction of STRUCTUREs;
(b) environmental remediation;

(c) site preparation or demolition;
(d) roadway utility or recreation and common area design and construction; and
(e) bonding or other security for site development.

(7) The phasing plan shall provide that no more than fifty percent (50%) of the residential development may be occupied prior to completion of between twenty-five percent (25%) and fifty percent (50%) of the non-residential STRUCTUREs as negotiated between the PLANNING BOARD and the Developer, and included in the Conditional Use Approval.

(8) Provided that the developer is making reasonable efforts to develop the site, the PLANNING BOARD may extend the initial five (5) year phasing period provided a request for extension is submitted before the expiration of the initial five (5) year phasing term.

(9) Residential Development Plan Guidelines
(a) The developer shall be permitted to allocate permitted density among Internal Dwelling LOTs in a flexible and creative manner. The sum total of the permitted density shall not exceed the permitted density of the Development LOT or Legal LOT, unless the additional density is derived from the Transfer of Development Rights Ordinance. Layouts may include individual LOTs or a cluster of units without LOT LINEs.
(b) Dwelling layouts shall be so designed that parking is screened from external roadways by garages, BUILDING locations, grading or screening. Major topographical changes or removal of existing trees shall be avoided wherever possible, and water, wetlands, and other scenic views from the external STREETs shall be preserved as much as possible.
(c) Where possible, it is desirable and encouraged to mix residential and non-residential uses. This may be achieved through situating the BUILDINGs close to each other, or though allowing STRUCTUREs to house residential – preferably on the second or above floor, with non-residential on the first floor. Creativity and flexibility is encouraged and the development plan may offer another option for mixing uses.
(d) All residential development must adhere to architectural design guidelines. Said standards will reflect a New England village motif and include STRUCTUREs with peaked roofs, and architectural shingles. The guidelines for this development are included in Chapter 149, Section 14.2, Site Review Regulations.
(e) All MANUFACTURED HOMEs shall adhere to the standards outlined in Chapter 126, MANUFACTURED HOME PARKS, with the exception of Sections 126-3,

126-4, 126-5, 126-6, and 126-7.H which shall be controlled by the provisions hereof and unless noted below. Where there is a difference in the requirements between this Overlay District and the provisions of Chapter 126, "MANUFACTURED HOME PARKS", the provisions of the Overlay District shall apply.

(10) Nonresidential Development Plan Guidelines

(a) The general character of the nonresidential STRUCTUREs within the development LOT is intended to be a pedestrian friendly setting, with emphasis on the natural characteristics of the site. The site design should create a sense of character and cohesiveness through landscaping, façade treatment, and SIGNAGE.

(b) The guidelines for this development are included in Chapter 149, section 14.2, Site Review Regulations"

12. AMENDMENT

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-41 "Nonconforming Structures" adding new subsection F to clarify setbacks allowed for accessory structures to read as follows:

Where a lawful STRUCTURE exists at the effective date of adoption or amendment of this Chapter that could not be built under the terms of this Chapter by reason of restrictions on area, LOT COVERAGE, HEIGHT or yards, its location on the LOT or other requirements concerning the STRUCTURE may be continued so long as it remains otherwise lawful, subject to the following:

A. Except as provided for in 170-40.A and 170-41.D, no such nonconforming STRUCTURE may be enlarged or ALTERed in a way which increases its nonconformity, but any STRUCTURE or portion thereof may be ALTERed to decrease its nonconformity.

B. A BUILDING or STRUCTURE nonconforming either in terms of use or BULK may be restored to its former BULK if destroyed by fire, other hazard or if it is determined by the BUILDING OFFICIAL to be a hazard to persons or BUILDINGS abutting it, provided that restoration of the STRUCTURE is begun within twelve (12) months after the act of destruction. All such STRUCTUREs in use at the time of destruction for agricultural purposes shall be exempt from the provisions of this subsection, provided that such reconstruction, ALTERATIONs or repairs are in compliance with the provisions of subsection A.

C. Should such STRUCTURE be intentionally moved for any reason for any distance whatever, it shall thereafter conform to the regulations for the district in which it is located after it is moved.

D. Additions to nonconforming single-family STRUCTUREs, that were made nonconforming by a zoning amendment that changed the front, side or REAR SETBACK requirements, shall be permitted within the front, side or REAR SETBACK areas provided that the addition is no closer to the LOT LINE than the existing nonconforming STRUCTURE, and no closer than ten (10) feet from the LOT LINE.

E. For nonconforming single-family STRUCTUREs, that were made nonconforming by a zoning amendment that changed the front, side or REAR SETBACK requirements, Accessory Structures that are less than one story in height, shall be permitted within the front, side or REAR SETBACK areas provided that the accessory structure is no closer to the LOT LINE than the existing nonconforming Principal STRUCTURE, and no closer than five (5) feet from the LOT LINE, and has no windows on the side of the building facing that encroached area.

13. AMENDMENT

CHAPTER 170 OF THE CODE OF THE CITY OF DOVER, ENTITLED ZONING, IS HEREBY AMENDED BY REVISING CHAPTER 170-6, "WORD USAGE AND DEFINTITIONS", TO REVISE A DEFINITION AND ADD A NEW DEFINITION AS FOLLOWS:

CONSERVATION LOT means a LOT created solely for the purpose of land conservation. The CONSERVATION LOT must contain no less than fifty percent (50%) developable uplands, but will have no DEVELOPMENT RIGHTS. The CONSERVATION LOT may be owned by a private, nonprofit organization, which has as its purpose the preservation of OPEN SPACE, or dedicated to a public entity. CONSERVATION LOTs must meet the required minimum LOT size and SETBACKs. CONSERVATION LOTs do not need to meet the minimum FRONTAGE requirements. CONSERVATION LOTs must be created following the regulations outlined in Chapter 1575, Subdivision of Land.

Unsuitable area means the area of a site that includes wetlands, water bodies, slopes exceeding a grade of 20% and totaling more than 2,000 square feet of contiguous area, land used for septic systems, floodways, and floodway fringe within the 100-year FLOODPLAIN as shown on the latest FEMA maps accepted by the City, and public utility easements.

14. AMENDMENT

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-27.2, "Transfer of Development Rights", subsection B, to read as follows:

B. Purpose and Intent. Within the City of Dover there are certain lands that possess significant conservation features, including but not limited to unsuitable areas ~~wetlands~~, groundwater recharge zones, forested areas, wildlife habitat, farmland, scenic viewsheds, historic landmarks, and linkages to other such areas. Because of their unique assemblages of flora and fauna and their significant contribution to the ecological system and/or the DOVER CODE P 170-107 cultural identity of our community, these lands are worthy of special protection. The City of Dover furthermore, has a limited supply of land suitable for development. The purpose of this overriding district is to promote intensive development on the developable land possessing the least conservation value and to permanently protect lands possessing significant conservation features that provide unique values in their undisturbed condition.

AND

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-27.2, "Transfer of Development Rights", subsection G, subsection 3, subsection a, subsection i, to read as follows:

(3) A residential TRANSFER OF DEVELOPMENT RIGHTS APPLICANT may pursue one of the following methods for TRANSFERING DEVELOPMENT RIGHTS.

(a) Single Family Detached method

i. An applicant shall develop a baseline yield for the lot to be developed, through the following formula

1. The square footage of the parent lot minus ~~environmental constraints~~unsuitable areas ~~(wetlands, conservation areas etc)~~ is the base lot size.
2. The base lot size is then reduced by fifteen (15) percent to account for roadway, this creates the net area.
3. The net area is then multiplied by a factor determined by the amount of ~~wetlands~~ unsuitable area over the parent lot. This is the developable area.

Percentage of Parcel that is unsuitable area~~wetland~~	Factor
0<10%	0.85
10<20%	0.8
20<30%	0.75

30%<	0.7

AND

Chapter 170 of the Code of the City of Dover, entitled Zoning, is hereby amended by revising Chapter 170-27.2, "Transfer of Development Rights", subsection G, subsection 3, subsection b, subsection iii, to read as follows:

(iii) Any development approved by the Planning Board after July 1, 2020, which will create a manufacturing or assembly facility over 40,000 square feet, may create and transfer one (1) unit per 2,000 square feet of building approved, above the 40,000 square foot base. The transfer shall not be completed prior to the issuance of the Certificate of Occupancy for the additional space.

a. If the units are to be placed upon the same lot, the layout must be shown on the site plan for the development.

15. TAKES EFFECT

This ordinance shall take effect upon passage and publication of notice as required by RSA 47:18.

AUTHORIZATION

Approved as to Funding:	Daniel R. Lynch Finance Director	Sponsored by:	Councilor Dennis Ciotti City Council Planning Board Representative
Approved as to Legal Form and Compliance:	Joshua M. Wyatt City Attorney		
Recorded by:	Susan Mistretta City Clerk		

DOCUMENT HISTORY:

CITY OF DOVER	CITY OF DOVER – ORDINANCE
	Posted February, 09 2021
	Ordinance Number: **O – yyyy.mm.dd -**
	Ordinance Title: Updating the Dover Zoning Ordinance
	Chapter: 170

First Reading Date:	Public Hearing Date:
Approved Date:	Effective Date:

DOCUMENT ACTIONS:

VOTING RECORD Date of Vote:	YES	NO
Mayor, Robert Carrier		
Deputy Mayor, Dennis Ciotti, Ward 2		
Councilor Michelle Moffet Lipinski, Ward 1		
Councilor Deborah Thibodeaux, Ward 3		
Councilor Joshua Manley, Ward 4		
Councilor Dennis Shanahan, Ward 5		
Councilor Fergus Cullen, Ward 6		
Councilor Lindsey Williams, At Large		
Councilor John O'Connor, At Large		
Total Votes:		
Resolution does | does not pass.		

ORDINANCE BACKGROUND MATERIAL:

170-27.1. Wetland Protection District. [Amended on 9-14-88 by Ord. No. 15-88; Amended on 01-22-2003 by Ord. No. 35-02; Amended on 12-09-2009 by Ord. No. 2009.09.09-15, Amended on 07-22-2020 by Ord. No. 2020.07.08.006.]

A. Authority. By the authority granted under RSA 674:16 and 17, this section is designed to protect the wetland areas and surface waters within the City of Dover from certain activities, the impact of which results in the ALTERATIONS or destruction of wetland areas.

B. Purpose and intent. It is intended that this section shall:

(1) Prevent the development of STRUCTUREs and land uses on wetlands, which will contribute to pollution of surface and ground water by sewerage, toxic substances or sedimentation.

(2) Prevent the destruction of, or ~~Significant~~ significant changes to, wetlands which provide flood protection, recharge the groundwater supply and augment stream flow during dry periods and filtration of water flowing into ponds and streams.

~~(2)~~(3) Avoid and minimize impacts to wetlands and wetland buffers to the maximum extent practicable and when impacts are unavoidable, minimize impacts to the greatest extent practicable.

~~(3)~~(4) Protect unique and unusual natural areas and rare, threatened, and endangered species.

~~(4)~~(5) Protect wildlife habitats, maintain ecological balances and enhance ecological values such as those cited in RSA 482-A:1.

~~(5)~~(6) Protect potential water supplies and existing aquifers (water-bearing stratum) and aquifer recharge areas.

~~(6)~~(7) Prevent unnecessary or excessive expense to the city for the purpose of providing and/or maintaining essential services and utilities, which might be required as a result of misuse or abuse of wetlands.

~~(7)~~(8) Encourage those low-intensity uses that can be harmoniously, appropriately and safely located in wetlands.

~~(8)~~(9) Preserve and enhance the aesthetic values associated with wetlands in the City of Dover.

~~(9)~~(10) Avoid the high costs of constructing heavy STRUCTUREs and prevent damage to STRUCTUREs and abutting properties caused by inappropriate

development in wetland areas.

C. District boundaries

(1) The Wetlands Protection District is hereby determined to be all areas of wetlands. ~~as defined by RSA 482-A:2, X and New Hampshire Administrative Rule Env-Wt 101.113~~, which states a "'Wetland' means an area that is inundated or saturated by surface water or ground-water at a frequency and duration sufficient to support and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. ~~Wetlands include, but are not limited to, swamps, marshes, bogs and similar areas.~~

~~For the purpose of this section, the delineation of wetland protection district boundaries shall be consistent with NHDES Wetlands Bureau Rules Env-Wt. 301.01 or successor regulations~~

~~(2)~~ "Hydrophytic (water-loving) vegetation" is defined as those plants identified in the "~~1986~~ 2018 Wetland Plant List Northeast Region" of the United States Fish and Wildlife Service. The more common names associated with these vegetative

Commented [BSL1]: Reference to rule not necessary since rule refers back to RSA

Commented [BSL2]: This sentence is not in the RSA definition.

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communities are "bogs," "swamps," "marshes," (saltwater and freshwater) and "tidal wetlands."

D. Procedural requirements.

(1) Presence of Wetland Protection District on site.

(a) Where field investigation indicate that a Wetland Protection District is present on a proposed development site, those wetlands shall be delineated on the basis of hydrophytic vegetation, hydric soils, and wetlands hydrology in accordance with the techniques outlined in the Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, (January, 1987) or successor document. The hydric soils component of wetlands delineations shall be determined in accordance with the manual Field Indicators for Identifying Hydric Soils in New England (Version ~~24~~24, ~~July 1998~~May 2017, published by the New England Interstate Water Pollution Control Commission) or successor document. Pursuant to RSA 310-A:75 through 310-A: 87, a Certified Wetland Scientist shall conduct this delineation.

Commented [BSL3]: Update to current version of manual

A Certified Wetland Scientist is defined as: "a person who, by reason of his or her special knowledge of hydric soils, hydrophytic vegetation, and wetland hydrology acquired by course work and experience, as specified by RSA 310-A:84, II-a and II-b, is qualified to delineate wetland boundaries and prepare wetland maps; to classify wetlands; to prepare wetland function and value assessments; to design wetland mitigation; to implement wetland mitigation; to monitor wetlands functions and values; and to prepare associated reports, all in accordance with standards for identification of wetlands adopted by the New Hampshire Department of Environmental Services or the United States Army Corps of Engineers or its successor, and who has been duly certified by the board." (RSA 310-A:76) If necessary, a botanist shall be used in conjunction with the wetlands scientist to identify wetland vegetation where required. The botanist shall have equivalent and practical experience to that of the wetlands scientist.

(b) Applications for a BUILDING permit, subdivision and site plan approval shall locate and depict on the survey/subdivision PLAT/site plan all Wetland Protection Districts on the subject parcel. Any APPLICANT seeking said approval(s) will be responsible for providing this information before the appropriate approval or permit can be granted.

(c) The entire length of the upland limit of the wetland shall be marked at regular intervals with pink and black striped construction tape prior to, and maintained for the full duration of, any construction-related activities. The

APPLICANT may also be required to place and maintain wooden stakes and/or construction tape at appropriate intervals along the wetlands buffer boundary to provide sufficient visual evidence of the buffer boundary during construction, if development is proposed within twenty feet of the wetlands buffer. The APPLICANT may be required to affix some form of marker or tag acceptable to the City to permanently delineate the wetlands buffer boundary at appropriate intervals, as determined by the Conservation Commission and PLANNING BOARD, for the purpose of notifying future landowners of the presence of the wetlands buffer. The presence of wetlands on residential properties created as part of a major subdivision shall be documented in the parcel's deed.

(2) The Planning and Community Development Department shall notify the Conservation Commission of all projects and construction proposed in wetland districts for the purpose of allowing the Commission to make recommendations prior to approval. Consistent with ~~RSA 482-A: 3I(d) and~~ RSA 482-A:11 III, the Conservation Commission shall have up to 40 days to make recommendations relative to ~~the~~ a standard wetlands impact application and up to 21 days to make recommendations relative to an expedited permit per RSA 482-A:11, III(b)(1). The Conservation Commission, in acting on an application for a conditional use permit in the Wetlands Protection District, may attach conditions to its recommendations including but not limited to recommendations for more extensive buffers, additional plantings in areas to be re-vegetated, performance guarantees, impact mitigation measures, and a reduction in proposed impervious surfaces.

Commented [BSL4]: Expedited permit has a shorter review length.

(3) In the event that the accuracy of the boundaries submitted by the APPLICANT is suspect, the PLANNING BOARD may call upon the services of a certified wetland scientist and/or botanist to reexamine said area and report the findings to the PLANNING BOARD for a boundary determination. The APPLICANT shall pay the cost of said services.

(4) The Building Inspector shall not issue a BUILDING permit for construction and the PLANNING BOARD shall not approve a site plan or subdivision PLAT unless such construction activity or proposal conforms to the provisions of this Chapter.

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(5) Standards established herein shall constitute the rules of overlay zones and shall be superimposed over other zoning districts or portions thereof. The provisions herein shall apply in addition to all other applicable ordinances and regulations. In the event of a conflict between any provision herein and any other regulation, the more-restrictive requirement shall control.

(6) The city shall have the power to enforce this section, and violations may be punishable by fines as provided by RSA 676:17.

E. Permitted uses.

Any use otherwise permitted by this Chapter, except on-site sewage disposal systems, may be permitted in a Wetland Protection District. Any use permitted under Section E (1) must first receive conditional use approval as provided for in Section F before any BUILDING permit or subdivision/site plan can be approved.

(1) Crossing of a Wetland Protection District as provided for in Section F(1).

(2) The construction or reconstruction of FENCES, footbridges, catwalks, boat docks and wharves does not require a conditional use permit, provided that:

a. Said STRUCTUREs are constructed on posts or pilings so as to permit unobstructed flow of water and are designed in compliance with the New Hampshire Wetlands ~~Board~~ Code of Administrative Rules (~~WT 400~~Env-Wt 300, 500 and 600).

b. The natural contour of the wetland is preserved.

c. All other applicable provisions of the city's Zoning Ordinance have been met.

F. Conditional use approval.

(1) Conditional use approval may be granted by the PLANNING BOARD (RSA 674:21II) after proper public notice and public hearing, for construction within the Wetland Protection District or buffer. Said construction may include, but is not limited to a road or other accessway, utility right-of-way, communication lines, power lines and pipelines, STRUCTUREs, and parking LOTs provided that the proposed construction complies with the following standards:

(a) ~~*Demonstration of Need*~~*Practicable Alternative*: ~~The proposed construction is essential to the productive use of land or water outside the Wetlands Protection District.~~There is no practicable alternative that would have a less adverse impact on the area.

(b) *Avoidance:* The potential impacts have been avoided to the maximum extent practicable. The APPLICANT will demonstrate by plan and example that the proposed construction represents the least impacting alternative.

(c) *Minimization:* Any unavoidable impacts have been minimized. No reasonable

Alternative to the proposed construction exists which does not impact a

wetland or which has less detrimental impact on a wetland. Design, construction and maintenance methods will be prepared by a registered engineer to minimize detrimental impacts to the wetlands and will include restoration of the site as nearly as possible to its original grade.

(d) *Mitigation:* If the APPLICANT is required by State rules to prepare a compensatory mitigation plan, the APPLICANT shall provide the Conservation Commission and PLANNING BOARD with one copy each of said plan for their review.

(e) Approval for the wetlands impact has been received from the NHDES Wetlands Bureau pursuant to Section G (3), below.

(2) The burden of proof that the conditions specified in Subsection F (1) and/or (2) above have been met shall be the responsibility of the person(s) requesting the conditional use approval, except as herein provided.

(3) The conditional use approval shall apply only to the project specified at the time of approval and shall not be transferable to a different project.

(4) If deemed necessary by the PLANNING BOARD, prior to the granting of a conditional use approval, the APPLICANT shall agree to submit a performance security to ensure that all operations are carried out in accordance with an approved design. This security shall be submitted in an amount sufficient to complete all specified work and repair damage to any wetland area in which no work has been authorized. The security shall be submitted in an amount, with surety and conditions satisfactory to the PLANNING BOARD. The security shall be submitted and approved prior to issuance of any permit authorizing construction.

(5) The PLANNING BOARD may assess the APPLICANT reasonable fees to cover the costs of special investigative studies and for the review of documents required by applications.

G. Specific provisions.

(1) Wetland Buffers.

(a) *Buffers Established.* Buffers are hereby established around and encircling all wetlands other than those that were created as legally permitted sedimentation/detention basins or roadside drainage ditches. The minimum width of the wetland buffers shall be fifty (50) feet horizontal distance as measured outward from the perimeter edge of the wetland. Wherever a permit to fill a wetland has been issued by either the New Hampshire Department of

Environmental Services (NHDES) or the U.S. Army Corps of Engineers (USACOE), the perimeter of the wetland shall be deemed to be the new edge between the fill as placed in accordance with the permit and the remaining wetland. If there is no remaining wetland, there is no buffer. All other wetland edges shall be determined in accordance with Section D (1) above

(b) *Natural Conditions to be Maintained within Buffers.* Where wetland buffer disturbance is allowed pursuant to a state or federal permit, or a conditional use permit, restoration of the disturbed area is required. Restoration is defined as filling of ruts or excavated area with similar soils while maintaining original grade. Applications for a City of Dover BUILDING permit that includes a temporary disturbance of wetlands buffers, pursuant to Section G (1) (e) (iv) below, shall include a "Wetlands Buffer Encroachment and Restoration Plan." Said plan shall be submitted, reviewed and approved by Building Inspector, in consultation with City staff, prior to the disturbance. Replanting to restore buffers shall be with native non-invasive species specified in the "Wetlands Buffer Encroachment and Restoration Plan". Implementation of the plan shall include the clear delineation of the boundaries of wetland buffers in the field using construction tape or other clear marking devise. Mowing to maintain an existing lawn or field within a wetland buffer area is allowed without a permit, as specified in Section G (1)(e), below, provided the roots of the vegetation are not disturbed and the ground is frozen or sufficiently dry to avoid making ruts.

(c) *Certain Uses Prohibited in Buffers.* The following uses and activities are prohibited within a wetland buffer:

(i) The establishment or expansion of salt storage, JUNKYARDs, resource recovery facilities, transfer stations, landfills, or solid or hazardous waste facilities;

(ii) The BULK storage of chemicals, petroleum products, or toxic and hazardous materials;

(iii) The dumping or disposal of snow and ice collected from roadways and parking LOTs;

(d) *Uses Allowed Only With a Conditional Use Permit.* The following uses and activities are allowed within a wetland buffer only if a conditional use permit is obtained in accordance with Section F above:

(i) All uses not specifically prohibited in Section G (1) (c) above, or specifically exempted in Section G (1) (e) below.

(ii) The erection or construction of a BUILDING or STRUCTURE, excluding FENCEs that meet the requirements of 170-33, or the construction of parking LOTs or loading areas.

(iii) Timber harvesting, except as conducted in accordance with the terms and provisions of RSA 227-J, Timber Harvesting.

(iv) The removal of stumps and roots (grubbing), the recontouring or grading of the land, or the placement of impervious surfaces or creation of storm water detention ponds.

(v) The installation of water, sewer, or buried electrical or telecommunications cables.

(vi) The installation of water-supply wells.

(e) *Uses Allowed Without a Conditional Use Permit.* The following uses and activities are allowed within a wetland buffer with the noted conditions:

(i) Activities within wetlands jurisdictional areas that are allowed without a State of New Hampshire Dredge and Fill Permit, in accordance with NHDES Rules Env-Wt ~~303.05(a)~~308.01(a) and 308.02 – repair of an existing legal STRUCTURE; or successor rules.

(ii) The removal of vegetation in accordance with NHDES Rules Env-Wt ~~303.05(b)~~309.02(a), or successor rules, provided the roots of the vegetation are not disturbed and the ground is frozen or sufficiently dry to avoid making ruts.

(iii) The installation of monitoring or test wells or geotechnical borings completed in accordance with NHDES Rules Env-Wt ~~303.05(p)~~309.02(i) or successor rules.

Commented [BSL5]: This allows for test borings to be done in buffers

(iv) Temporary disturbance of the wetland buffer to facilitate construction activities completed under a valid City of Dover BUILDING permit, provided the temporary disturbance is restored in accordance with Section G (1) (b) above.

(2) No septic tank or leach field may be constructed or enlarged closer than seventy-five (75) feet to any Wetland Protection District. In new subdivisions approved subsequent to adoption of this section, there must be sufficient LOT size to place a house, a state-approved septic system, where applicable, and a state-approved well, where applicable, without locating them in a wetland. This provision can be waived if a conditional use approval is obtained from the PLANNING BOARD.

(3) A state dredge and fill application shall be submitted for any proposed change to a wetland (RSA 482-A).

H. Filled lands and preexisting uses.

(1) Lands which may have been wetlands but were filled under properly issued federal, state and local permits granted prior to the adoption of this section will be judged according to the soils and flora existing at the time the application for BUILDING permit or subdivision is made.

(2) STRUCTUREs and uses existing at the time of the adoption of this section that do not comply with the rules stated herein shall be regulated in accordance with 170-40 and 170-41 of this Chapter.

I. Exemption for one- and two-family residential STRUCTUREs, existing LOTs, impoundments and maintenance dredging.

(1) Notwithstanding other provisions of this Chapter, the construction of additions and/or extensions to one- and two-family dwellings shall be permitted within the Wetlands Protection District or buffer, provided that:

(a) The dwelling(s) lawfully existed prior to the effective date of this section;

(b) The proposed construction conforms to all other applicable ordinances and regulations of the City of Dover; and any required State of New Hampshire Dredge and Fill Permit is obtained.

(c) The design and construction of the proposed use will be done in a manner which minimizes the impacts on the affected wetland, including storage of EXCAVATION and construction material outside the wetland and installation of siltation FENCE and/or hay bales to contain erosion of the construction site.

(2) Notwithstanding other provisions of the ordinance, a new one- or two-family dwelling shall be permitted in the Wetlands Protection District or buffer, on an existing LOT, provided that all of the following conditions are found to exist:

(a) The LOT for which an approval/permit is sought was an official LOT of record, as recorded in the Strafford County Registry of Deeds, prior to the date on which this amendment was posted and published in the city.

(b) The STRUCTURE for which the approval/permit is sought cannot be feasibly built on a portion or portions of the LOT, which are outside the Wetlands Protection District.

(c) Due to the provisions of the Wetlands Protection District, no reasonable and economically viable use of the LOT can be made without the exemption.

(d) The design and construction of the proposed STRUCTURE will, to the extent practical, be consistent with the purpose and intent of this ordinance.

(e) The proposed STRUCTURE will not create a hazard to individual or public health, safety and welfare due to the loss of wetland, the contamination of groundwater or other reason.

(f) The design and construction of the proposed STRUCTURE will be done in a manner which minimizes the impacts on the affected wetland, including storage of EXCAVATION and construction material outside the wetland and installation of siltation FENCE and/or hay bales to contain erosion of the construction site.

(3) Maintenance dredging for navigational purposes (where a dredge spoil site has been approved by the PLANNING BOARD) are exempt from the regulations stated herein. Notwithstanding, copies of permits where required by the New Hampshire Department of Environmental Services and the United States Army Corp. of Engineers shall be submitted to the PLANNING BOARD prior to construction.

(4) The burden of proof that the conditions specified in Subsection I (1) and/or (2) above have been met shall be the responsibility of the person(s) requesting the approval/permit.

J. Separability. Should any provision of this section be declared invalid by a final court decision, the same shall not affect the validity of this section as a whole or part thereof, other than the part declared to be invalid.

From: Private General <qatoday@yahoo.com>
Sent: Tuesday, May 18, 2021 9:10 AM
To: Parker, Christopher G. <C.Parker@dover.nh.gov>
Subject: zoning changes to 170,27.1

Security Notice: External sender. Use caution with hyperlinks or attachments.

Dear Chris Parker,

First please remember I am NOT an engineer much less a hydrological or NHDES expert as you read this. I may be a day late and a dollar shot for consideration of any changes. I appreciate you taking the time to look at these suggestions.

I think the changes provided are in a positive direction. I like that Dover uses actual hydrology to determine wetlands are present under 170. 27.1 "**C. District Boundaries:"**
However under C.1. it is not clear at what height the ground water or surface water is found at **(**IE: 5' or less to the surface) **to determine, it to be a wetland. It seems to refer to vegetation being the final deciding factor, "AND** that under normal conditions does support"
My concern is there are likely LOTS all over Dover which have ground water at 5' or less to the surface, which are really wetlands or wetland buffers but are covered in grass which is mowed regularly preventing the growth of other plants or may be paved or even have existing structures which also prevents the growth of *"a prevalence of vegetation typically adapted for life in saturated soil conditions".* The language "AND" seems to imply both conditions have to be met hydrology and vegetation to be considered a wetland. To provide more protection for wetlands perhaps it could say **OR** or and/or (not sure if that's an option in Planning Regs).

Under 170. 27.1. "B. Purpose and intent", the addition of B. 3. is great and seems to include a requirement for the best alternatives impacts to the wetland.

B. 5 on the other hand with reference to 482 A:1 provides some parameters which may not be desired for the protection of habitat. 482A:1 references habitat as: "will damage or destroy habitats and reproduction areas for plants, fish and **wildlife of importance".** "AND" being the issue again. "Wildlife of importance" seems very specific in NHDES regs. I'm pretty sure it has to do with the heritage report...??? **However, changing the terminology to use "wetland functions" as defined in 482 A:2 MAY give more wiggle room for the Conservation Commission to protect "common habitats",** as neighbors shared regarding the Varney Brook such as salamanders and frogs, which once their habitat is gone they are too. I am not an environmental expert of any kind and would want someone in that field to review this idea to provide the best management practices for the protection of common habitat. The destruction of common ecosystems is of great concern throughout NH, hopefully it can be slowed before its too late.

482 A:2 Definitions
XI. "Wetland functions" means the practical measurable values of wetlands. The 12 primary wetland functions are ecological integrity, wetland-dependent wildlife habitat, fish and aquatic life habitat, scenic quality, educational potential, wetland-based recreation, flood storage, groundwater recharge, sediment trapping, nutrient trapping/retention/transformation, shoreline anchoring, and noteworthiness.

It could read:
#5: Protect wildlife habitats, maintain ecological balances and enhance ecological values to maintain "wetland functions" as defined under 482 A: 2.

Thank you for your consideration. Liz

Please consider conserving our natural resources before printing this e-mail and/or any attachments.

This electronic message and any attachments may contain information that is confidential and/or legally privileged in accordance with NH RSA 91-A and other applicable laws or regulations. It is intended only for the use of the person and/or entity identified as recipient(s) in the message. If you are not an intended recipient of this message, please notify the sender immediately and delete the material. Do not print, deliver, distribute or copy this message, and do not disclose its contents

CITY OF DOVER - ORDINANCE

Posted: May XX, 2021

CITY OF DOVER

Ordinance Title: Site Review Regulations Amendments
Chapter: 153

1. Chapter 153 of the Code of the City of Dover, entitled Site Plan Review, is hereby amended by revising Section 14, Subsection D, subsection 3 "Electric Vehicle Charging Station" to read as follows:

(3) Electric vehicle ~~charging station~~supply equipment (EVSE) and dedicated charging spaces.

(a) Projects must provide Electric Vehicle Charging Readiness based upon the following standards:
[1] Multi-family residential projects: 5% of the total number of new parking spaces.
[2] Non-residential projects: 2% of the total number of new parking spaces.
[3] The number would be rounded up in all cases with a minimum of one space of electric vehicle charging readiness per project requiring Site Plan Review.

~~(a)~~(b) If the percentage of ~~2% or more of the number of~~ parking spaces provid~~inged~~ ~~contain~~EVSE ~~an electric vehicle charging station~~is greater than that of section (a), the applicant shall be eligible for a fifty-percent reduction in the paved area application fee.

~~(b)~~(c) For parking spaces containing ~~an electric vehicle charging station~~EVSE, the following minimum criteria shall apply:

[1] ~~Electric vehicle charging station equipment~~EVSE shall be maintained by the property owner. A phone number or other contact information shall be provided on the charging station equipment for reporting when the equipment is not functioning or other problems are encountered.
[2] The placement of ~~electric vehicle charging station equipment~~EVSE shall not interfere with adjacent pedestrian circulation areas, such as sidewalks or accessible routes to the building entrance.
[3] Directional signs shall be installed at the parking lot entrance and at other appropriate points to effectively guide motorists to the electric vehicle charging stations.
[4] Each electric vehicle charging station is required to include the following:
[a] ~~An EV charging unit~~Electric vehicle supply equipment that meets ~~recognized~~ the most current infrastructure codes and standards, referenced by the U.S. Department of Energy, used for electric vehicle and infrastructure projects.
[b] Signage ~~indicating the~~ that includes, but is not limited to, the following information:
- Indicating the space is only for electric vehicle charging purposes.
- Days and hours of operations ~~shall be included~~ if time limits or tow-away provisions are to be enforced.
- Voltage and amperage levels and any time of use, fees, and important safety instructions.

[c] Adequate site lighting, unless charging is for daytime purposes only.

~~[5] Information identifying voltage and amperage levels and any time of use, fees, or safety information.~~

~~[6]~~[5] Shelters for outdoor charging stations are encouraged to provide added convenience for users.

2. Chapter 153 of the Code of the City of Dover, entitled Site Plan Review, is hereby amended by revising Section 14, Subsection D, subsection 5 "Conditional use permit for increase in number of parking spaces." to read as follows:

(6) Conditional use permit for increase in number of parking spaces.

(a) A conditional use permit may be granted by the Planning Board (RSA 674:21, II) after proper public notice and public hearing for the purpose of altering any provisions of § 153-14D, Parking Regulation Table, provided that the proposed project complies with the following standards:

[1] The applicant shall submit an analysis justifying a request for increased parking requirements.

[2] The conditional use permit application shall describe why increased parking is essential to each use.

[3] The applicant must show that the use(s) cannot be adequately served by a combination of on- and off-street parking.

[4] The applicant shall design and construct the additional vehicle storage areas, for additional parking requested, using pervious materials. The design of the area shall meet or exceed standards developed and outlined in the New Hampshire Stormwater Manual. The applicant shall also be required to retain the design engineer as an inspector for the duration of construction of the parking area.

[5] The applicant shall contribute to improving electric vehicle infrastructure by using one of the following methods:

[a] For uses that typically result in at least two (2) hours or longer of parking which may include but is not limited to gathering places (restaurants and bars), retail/service, lodging, office, educational, medical, and outdoor recreation, ~~T~~the applicant shall provide one Level II commercial electric vehicle charging station for every 10 parking spaces requested over the ~~required cap~~ parking maximum. Electric vehicle charging station spaces shall comply with § 153-14D(3) unless determined otherwise by the Planning Board.

[b] For uses that do not typically result in at least two (2) hours or longer of activity, the applicant shall provide two (2) additional parking spaces that meet electric vehicle readiness requirements for every 10 parking spaces requested over the parking maximum.

[6] Additional Level I commercial electric vehicle charging stations designated for employees, and not for public use, are encouraged.

3. Chapter 153 of the Code of the City of Dover, entitled Site Plan Review, is hereby amended by revising Section 23 entitled "Definitions" to read as follows:

Direct Current Fast Charging (DCFC)
DCFC enables rapid charging and utilize 208V or 480V input to deliver a maximum output 350kW. DCFC are equipped with either a CHAdeMO or SAE plug connector, or both, and are designed to fill an EV battery to 80 percent in 20 to 40 minutes.

Electric Vehicle Charging Space
A parking space served by ~~battery charging station equipment that has as its primary purpose the transfer of electric energy (by conductive or inductive means) to a battery or other energy storage device in an electric vehicle~~electric vehicle supply equipment and reserved for actively charging electric vehicles. An electric vehicle charging station is permitted outright as an accessory use to any principal use.

Electric Vehicle Charging Station
A parking space served by ~~battery charging station equipment that has as its primary purpose the transfer of electric energy (by conductive or inductive means) to a battery or other energy storage device in an electric vehicle~~electric vehicle supply equipment and reserved for actively charging electric vehicles. An electric vehicle charging station is permitted outright as an accessory use to any principal use.

Electric Vehicle Readiness
A parking space meets electric vehicle readiness requirements if the following requirements are met:

1. The project has provided one or more dedicated circuits on the electrical panel(s) such that the panel(s) has the service capacity to accommodate the required number of Level 2 EVSE; and
2. Conduit has been installed to allow the addition of all necessary wiring to electrify installed EVSE at the parking space(s) without having to excavate to do so.

Electric Vehicle Supply Equipment (EVSE)
An electric component assembly or cluster of component assemblies designed specifically to charge batteries within electric vehicles by permitting the transfer of electric energy to a battery or other storage device in an electric vehicle.

Level I Commercial
Level 1 EVSE provide charging through a 120-volt alternating current (AC) circuit. Level 1 EVSE are equipped with a SAE J1772 standard connector that plugs into the vehicle and require a dedicated branch circuit. Level 1 chargers can deliver 1.4kW to 1.9kW of power and provide 4-6 miles of range per hour.

Level II Commercial
Alternating current Level 2 EVSE provide charging through a 240V (typical for residential) or 208V (typical for commercial) electrical service. Level 2 chargers are equipped with a SAE J1772 standard connector that plugs into the vehicle providing between 10 and 20 miles of range per hour of charging.

ARTICLE V

FLOODPLAIN DEVELOPMENT

170-25. General Provisions. [Added on 08-12-2015 by Ord. No. 2015.07.22-017, Amended on 07-22-2020 by Ord. No. 2020.07.08.006.].

A. Authority. These rules and regulations are adopted by the City of Dover pursuant of the authority granted by RSA 674:16.

B. Conflict and Severability. If any provision of this Section differs or appears to conflict with any other provision of the Zoning Ordinance or other ordinance or regulation, the provision imposing the greater restriction or more stringent standard shall be controlling. Should any provision of this Section be declared unconstitutional or invalid by a court of competent jurisdiction, such decision shall not affect the validity of this Section as a whole or any part thereof other than the part so declared to be unconstitutional or invalid.

C. Purpose. **[Amended on 04-20-05 by Ord. No. 13-2005]** Certain areas of the City of Dover are subject to periodic FLOODING, causing serious damage to properties within these areas. Relief is available in the form of FLOOD insurance as authorized by the National Flood Insurance Act of 1968. Therefore, the City of Dover has chosen to become a participating community in the National Flood Insurance Program and agrees to comply with the requirements of the National Flood Insurance Act of 1968 (P.L. 90-488, as amended) as detailed in this Section. The City of Dover recognizes the need to minimize the potential loss of life and property during periods of FLOODING regulating the alteration and/or the DEVELOPMENT of those AREAS OF SPECIAL FLOOD HAZARD identified by FEMA. The following regulations shall apply to all lands designated as AREAS OF SPECIAL FLOOD HAZARD by FEMA in its "Flood Insurance Study for the County of Strafford, N.H." dated September 30, 2015, together with the following associated FLOOD INSURANCE RATE MAP panel numbers for the City of Dover: 33017CO218E, 33017CO302E, 33017CO305E, 33017CO310E, 33017CO320E, 33017CO330E, 33017CO340E, and 33017CO0405E, dated September 30, 2015, which are declared to be a part of Chapter 170 and are hereby incorporated by reference. The FLOOD INSURANCE STUDY is on file at the Department of Planning and Community Development.

D. Definitions. **[Amended on 4-18-90 by Ord. No. 3-90]**

As used in this Section the following terms mean:

AREA OF SHALLOW FLOODING means a designated AO zone on the FIRM with a one percent (1%) or greater annual possibility of FLOODING to an average depth of one (1) to three (3) feet where a clearly defined channel does not exist, where the path of FLOODING is unpredictable and where velocity flow may be evident. Such FLOODING is characterized by ponding or sheet-flow.

AREA OF SPECIAL FLOOD HAZARD means the land in the FLOODPLAIN within the City of Dover subject to a one percent (1%) or greater annual possibility of FLOODING in any given year. The area is designated on the FIRM as Zones A, AO, and AE. [**Amended on 04-20-2005 by Ord. No. 13-2005]**

BASE FLOOD means the FLOOD having a one percent (1%) chance of being equaled or exceeded in any given year.

BASE FLOOD ELEVATION means the WATER SURFACE ELEVATION having a one percent (1%) chance of being equaled or exceeded in any given year as defined on flood insurance rate map (FIRM) currently in effect and the Flood Insurance Study (FIS) report.

BASEMENT means any area of a BUILDING having its floor subgrade on all sides.

BUILDING means "STRUCTURE" as defined in this subsection.

Critical facilities means facilities that are vital to public health and safety, including police stations, fire and rescue facilities, hospitals, shelters, schools, nursing homes, and water supply and waste treatment facilities.

DEVELOPMENT means any man-made change to improved or unimproved real estate, including but not limited to BUILDINGs or other STRUCTUREs, mining, dredging, filling, grading, paving, EXCAVATION or drilling operations or storage of equipment or materials.

FEMA means Federal Emergency Management Agency.

FLOOD or FLOODING means a general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters, or the unusual and rapid accumulation or runoff of surface waters from any source.

FLOOD INSURANCE RATE MAP (FIRM) means an official map incorporated within Chapter 170 on which FEMA has delineated both the AREAs OF SPECIAL FLOOD HAZARD and the risk premium zones that are applicable to the City of Dover.

FLOOD INSURANCE STUDY (FIS) means an examination, evaluation and determination of FLOOD hazards and, if appropriate, corresponding WATER SURFACE ELEVATIONs, or an examination, evaluation and determination of mudslide (i.e. mudflow) and/or FLOOD-related erosion hazards.

FLOODPLAIN means any land area which is susceptible to being inundated by water from any source. (See definition of FLOODING.)

FLOOD PROOFING or **FLOOD PROOFED** means any combination of structural and non-structural additions, changes, or adjustments to STRUCTUREs which reduce or eliminate FLOOD damage to real estate or improved real property, water and sanitation facilities, STRUCTUREs and their contents.

Freeboard means an additional amount of height above the base flood elevation used as a factor of safety in determining the level at which a structure's lowest floor must be elevated or floodproofed.

HIGHEST ADJACENT GRADE means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a STRUCTURE.

HISTORIC STRUCTURE means any STRUCTURE that is listed individually in the National Register of Historic Places (maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; certified or preliminarily determined by the Secretary as contributing to the historic significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; individually listed on a local inventory of historic places, provided the local historic preservation program has been certified by either the appropriate state or federal program.

LOWEST FLOOR means the LOWEST FLOOR of the lowest enclosed area (including BASEMENT). An unfinished or FLOOD resistant enclosure, usable solely for parking of vehicles, BUILDING access or storage in an area other than a BASEMENT area is not considered a BUILDING's LOWEST FLOOR, provided, that such an enclosure is not built so as to render the STRUCTURE in VIOLATION of the applicable non-elevation design requirements set forth herein. [**Amended on 4-18-90 by Ord. No. 3-90]**

MANUFACTURED HOME means a STRUCTURE, transportable in one (1) or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. MANUFACTURED HOME also includes park trailers, travel trailers and other similar vehicles placed on a site greater than one hundred eighty (180) days. This includes MANUFACTURED HOMEs located in a MANUFACTURED HOME PARK or MANUFACTURED HOME SUBDIVISION.

MANUFACTURED HOME PARK or MANUFACTURED PARK SUBDIVISION means a parcel or CONTIGUOUS parcels of land divided into two (2) or more MANUFACTURED HOME LOTs for rent or sale.

MEAN SEA LEVEL means the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, or other datum, to which BASE FLOOD ELEVATIONs shown on a community's FLOOD INSURANCE RATE MAP (FIRM) are referenced.

NEW CONSTRUCTION means STRUCTUREs for which the START OF CONSTRUCTION commenced on or after April 9, 1980 and includes any subsequent improvements to such STRUCTUREs.

RECREATIONAL VEHICLE means a vehicle which is built on a single chassis; four hundred (400) square feet or less when measured at the largest horizontal projection; designed to be self-propelled or permanently towable by a light duty truck; and designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

REGULATORY FLOODWAY means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the BASE FLOOD without increasing the WATER SURFACE ELEVATION more than a designated height.

RIVERINE means relating to, formed by or resembling a river, including tributaries, stream, brook, etc.

START OF CONSTRUCTION means the date the BUILDING permit was issued, provided the actual START OF CONSTRUCTION, repair, reconstruction, placement, or other improvement was within one hundred eighty (180) days of the permit date. START OF CONSTRUCTION includes SUBSTANTIAL IMPROVEMENTs. The actual start means either the first placement of permanent construction of a STRUCTURE on site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of EXCAVATION; or the placement of MANUFACTURED HOME on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of STREETs and/or walkways; nor does it include EXCAVATION for a BASEMENT, footing, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory BUILDINGs, such as garages or sheds not occupied as DWELLING UNITs or part of the main STRUCTURE. **[Added 4-18-90 by Ord. No. 3-90]**

STRUCTURE means a walled and roofed BUILDING, including a gas or liquid storage tank that is principally above ground, as well as a MANUFACTURED HOME.

SUBSTANTIAL DAMAGE means damage of any origin sustained by a STRUCTURE whereby the cost of restoring the STRUCTURE to it's before damaged condition would equal or exceed fifty percent (50%) of the market value of the STRUCTURE before the damage occurred.

SUBSTANTIAL IMPROVEMENT or **SUBSTANTIALLY IMPROVED** means any ~~combination of repairs,~~ reconstruction, rehabilitation, or other ~~ALTERATIONS or~~ improvement to a STRUCTURE, taking place during a five year period, in which the cumulative cost equals or exceeds ~~fifty~~ 50 percent ~~(50%)~~ of market value of the STRUCTURE before the "start of construction" of the improvement. . The period of accumulation begins when the first improvement of the structure is permitted subsequent to September 1, 2021. ~~The market value of the STRUCTURE should equal: (a) the appraised value prior to the start of the initial repair or improvement, or (b) in the case of damage, the value of the STRUCTURE prior to the damage occurring. For the purposes of this definition, "SUBSTANTIAL IMPROVEMENT" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the BUILDING commences, whether or not that alteration affects the external dimensions of the STRUCTURE.~~ This term includes STRUCTUREs that have incurred SUBSTANTIAL DAMAGE, regardless of actual repair work performed. The term does not, however, include either:

A. Any project for improvement of a STRUCTURE to correct existing violations of ~~required to comply with existing~~ state or local health, sanitary or safety code specifications which have been identified by the Building Official, and which are the minimum ~~are solely~~ necessary to assure safe living conditions; ~~or~~

B. Any alteration of a STRUCTURE listed on the National Register of Historic Places or a State Inventory of Historic Places, provided that the alteration will not preclude the STRUCTURE's continued designation as a HISTORIC STRUCTURE.

Unsuitable area means the area of a site that includes wetlands, water bodies, slopes exceeding a grade of 20% and totaling more than 2,000 square feet of contiguous area, land used for septic systems, floodways, and floodway fringe within the 100-year floodplain as shown on the latest FEMA maps accepted by the City, and public utility easements.

VIOLATION means the failure of a STRUCTURE or other DEVELOPMENT to be fully compliant with this Section. A STRUCTURE or other DEVELOPMENT without an elevation certificate, other certifications, or other evidence of compliance required herein is presumed to be in VIOLATION until such time as that documentation is provided.

WATER SURFACE ELEVATION means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, (or other datum, where specified) of FLOODs of various magnitudes and frequencies in the FLOODPLAINs.

E. DEVELOPMENT Review. **[Amended on 10-14-2009 by Ord. No. 2009.09.23-21]**

(1) All proposed DEVELOPMENT in any AREA OF SPECIAL FLOOD HAZARD shall require a permit. Prior to the issuance of a BUILDING permit by the Building Official, whether for NEW CONSTRUCTION (MANUFACTURED HOMES included) or the SUBSTANTIAL IMPROVEMENT thereon, the Department of Planning and Community Development shall determine whether said project site is located in an AREA OF SPECIAL FLOOD HAZARD. If said project site is so located, wholly or in part, in an AREA OF SPECIAL FLOOD HAZARD, then compliance with the rules and regulations contained herein shall be required.

(2) Prior to the granting of subdivision approval, the Zoning Administrator shall determine whether the property is located within an AREA OF SPECIAL FLOOD HAZARD, and, if so situated, compliance with the rules and regulations contained herein shall be required.

(3) Prior to the granting of site review approval, the Zoning Administrator shall determine whether said site is located within an AREA OF SPECIAL FLOOD HAZARD, and, if so situated, compliance with the rules and regulations contained herein shall be required.

(4) Duties and responsibilities of the Zoning Administrator concerning development review shall include, but are not limited to:

(a) Ensure compliance with the rules and regulations contained herein.

(b) Ensure prior to any alteration or relocation of a watercourse that the required submittal and notification requirements in this Ordinance are met.

(c) Ensure the administrative and enforcement procedures detailed in RSA 676 are followed for any violations of this Ordinance.

(5) For all development in an areas of special flood area that proposes to improve an existing structure, including alterations, movement, enlargement, replacement, repair, additions, rehabilitations, renovations, repairs of damage from any origin (such as, but not limited to flood, fire, wind or snow) and any other improvement of or work on such structure including within its existing footprint, the Zoning Administrator shall consult with the Building Official who shall determine if the proposed work constitutes substantial improvement or repair of substantial damage as defined herein. This determination requires evaluation of previous permits issued for improvements and repairs as specified in the definition of "substantial improvement.

(a) If the applicant disagrees with the Building Official's substantial improvement or repair of substantial damage determination, it may appeal said determination to the Zoning Board of Adjustment per 170-52 D.

~~(a)~~

F. Required Data.

Applications for DEVELOPMENT shall include the following:

(1) Plans in duplicate, drawn to scale, showing the nature, location, dimensions and elevations of the area in question; existing or proposed STRUCTUREs; fill storage of materials and drainage facilities; and the location of the foregoing. Specifically, the following information is required where appropriate:

(a) A certified FEMA Elevation Certificate with as-built elevation data in relation to MEAN SEA LEVEL, of the LOWEST FLOOR, including BASEMENT, and including whether or not such STRUCTUREs contain a BASEMENT.

(b) Elevation, in relation to MEAN SEA LEVEL, to which any STRUCTURE has been FLOOD PROOFED.

(c) Certification by a registered engineer or architect that the FLOOD PROOFING methods for any nonresidential STRUCTURE meet the FLOOD PROOFING criteria in subsection L(2).

(2) Permit review. The Department of Planning and Community Development shall:

(a) Review all DEVELOPMENT permits to determine that the requirements of this Section have been satisfied.

(b) Review all DEVELOPMENT permits to determine that all necessary permits have been received from those governmental agencies from which approval is required by federal or state law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. It shall be the responsibility of the APPLICANT to certify these assurances to the Department of Planning and Community Development.

(c) The Department of Planning and Community Development shall review all DEVELOPMENT permits to determine if the proposed DEVELOPMENT adversely affects the FLOOD-carrying capacity of the AREAs OF SPECIAL FLOOD HAZARD. For purposes of this Section, "adversely affects" means that the cumulative effect of the proposed DEVELOPMENT, when combined with all other existing and anticipated DEVELOPMENT, will not increase the BASE FLOOD ELEVATION more than one (1) foot at any point within the City of Dover.

G. Information to be Obtained and Maintained. **[Amended on 04-20-2005 by Ord. No. 13-2005]**

(1) The Department of Planning and Community Development shall maintain and record for public inspection the certification of FLOOD PROOFING required in Subsection K(2) and a certified FEMA Elevation Certificate with the as-built elevation, in relation to MEAN SEA LEVEL, of the LOWEST FLOOR, including the BASEMENT, of all new or SUBSTANTIALLY IMPROVED STRUCTUREs and shall include whether or not such STRUCTUREs contain a BASEMENT and, if the STRUCTURE has been FLOOD PROOFED, the as-built elevation, in relation to MEAN SEA LEVEL, to which the STRUCTURE was FLOOD PROOFED. This information must be furnished by the APPLICANT.

(2) In AREAs of SPECIAL FLOOD HAZARD, the Department of Planning and Community Development shall determine the BASE FLOOD ELEVATION in the following order of precedence according to the data available:

(a) In Zone AE, refer to the elevation data provided in the community's FLOOD INSURANCE STUDY and accompanying FIRM. [**Amended 04-20-2005 by Ord. No. 13-2005]**

(b) In Zone A the Building Official shall obtain, review and reasonably utilize any BASE FLOOD ELEVATION data available from any federal, state or other source including data submitted for DEVELOPMENT proposals (i.e. subdivisions, site review plans, etc.) to the community.

(c) In Zone A where the BASE FLOOD ELEVATION is not available, the BASE FLOOD ELEVATION shall be at least two (2) feet above the HIGHEST ADJACENT GRADE.

(d) In Zone AO, the BASE FLOOD ELEVATION is determined by adding the elevation of the HIGHEST ADJACENT GRADE to the depth number specified on the FIRM or, if no depth number is specified on the FIRM, at least two (2) feet.

(3) The Department of Planning and Community Development shall maintain for public inspection all records pertaining to the provisions of this Section.

H. Alteration of Watercourses.

(1) In RIVERINE situations, prior to the alteration or relocation of a watercourse, the APPLICANT for such authorization shall notify the Wetlands Bureau of the New

Hampshire Department of Environmental Services and submit copies of such notification to the PLANNING BOARD in the form of a Conditional Use Permit application, in addition to the copies required by RSA 482-A:3. Further, the APPLICANT shall be required to submit copies of said notification to those adjacent communities as determined by the Department of Planning and Community Development, including notice of all scheduled hearings before the Wetlands Bureau, and notice of scheduled hearings before the Planning Board for Conditional Use Permits as required by Section 170-27, Conservation District & Section 170-27.1, Wetland Protection District.

(2) The APPLICANT shall submit to the PLANNING BOARD, in the form of a Conditional Use Permit application, certification provided by a professional engineer assuring that the FLOOD-carrying capacity of an ALTERed or relocated watercourse can and will be maintained.

I. Interpretation of Boundaries.

(1) The Department of Planning and Community Development shall make interpretations, where needed, as to the exact location of the boundaries of the AREA OF SPECIAL FLOOD HAZARD in a construction proposal; for example, where there appears to be a conflict between a mapped boundary and actual field conditions. To assist in this determination, the APPLICANT may be required to submit an accurate site plan showing FLOODING relationships, including elevations.

(2) To determine accurately if a STRUCTURE is located in an AREA OF SPECIAL FLOOD HAZARD, the owner or APPLICANT may hire a licensed land surveyor or certified engineer to measure the distance from a physical feature on the FIRM to the STRUCTURE's location.

(3) The STRUCTURE is considered borderline if it is located within one hundred (100) feet of a boundary. A certified engineer shall compare the BASE FLOOD ELEVATION and the lowest ground elevation at the borderline STRUCTURE's location to determine if the STRUCTURE is in or out of the AREA OF SPECIAL FLOOD HAZARD. If the engineer certifies the STRUCTURE as out of the AREA OF SPECIAL FLOOD HAZARD, but the Planning or Community Services Departments have historic or other data that confirms the property is prone to FLOODING, the Department of Planning and Community Development may request a Letter of Map Amendment (LOMA) from FEMA.

J. General Standards.

In all AREAs OF SPECIAL FLOOD HAZARD, the following standards are required:

(1) Anchoring

(a) All NEW CONSTRUCTION and SUBSTANTIAL IMPROVEMENTs shall be designed or modified and adequately anchored to prevent flotation, collapse or lateral movement of the STRUCTURE resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

(b) All MANUFACTURED HOMEs to be placed or SUBSTANTIALLY IMPROVED within AREAs OF SPECIAL FLOOD HAZARD shall be elevated on a permanent foundation, such that the LOWEST FLOOR of the MANUFACTURED HOME is at least two (2) feet above the BASE FLOOD ELEVATION and shall be securely anchored to resist flotation, collapse or lateral movement by providing over-the-top or frame ties to ground anchors. Specific requirements shall be that:

(1) Over-the-top ties shall be provided at each of the four (4) corners of the MANUFACTURED HOME, with two (2) additional ties per side at intermediate locations, with MANUFACTURED HOMEs less than fifty (50) feet long requiring one (1) additional tie per side, or;

Frame ties shall be provided at each corner of the home, with five (5) additional ties per side at intermediate points, with MANUFACTURED HOMEs less than fifty (50) feet long requiring four (4) additional ties per side.

(2) All components of the anchoring system shall be capable of carrying a force of four thousand eight hundred (4,800) pounds.

(3) Any additions to the MANUFACTURED HOME shall be similarly anchored.

(2) Construction materials and methods

(a) All NEW CONSTRUCTION and SUBSTANTIAL IMPROVEMENTs shall be constructed with materials resistant to FLOOD damage.

(b) All NEW CONSTRUCTION and SUBSTANTIAL IMPROVEMENTs shall be constructed using methods and practices that minimize FLOOD damage.

(c) All NEW CONSTRUCTION and SUBSTANTIAL IMPROVEMENTs shall be constructed with electrical, heating, ventilation, plumbing and air-conditioning equipment and other service facilities that are ~~designed and/or located~~elevated at least 2 feet above the base flood elevation so as to prevent water from entering or accumulating within the components during conditions of FLOODING.

(3) Utilities and Storage

(a) The APPLICANT shall provide the Department of Planning and Community Development with assurance that all new and replacement water supply systems, including on-site systems, shall be designed to minimize or eliminate infiltration of FLOOD waters into the system.

(b) The APPLICANT shall provide the Department of Planning and Community Development with assurance that new and replacement sanitary sewerage systems, including on-site systems, shall be designed to minimize or eliminate infiltration of FLOOD waters into the systems and discharge from the systems into the FLOOD waters.

(c) The APPLICANT shall provide the Department of Planning and Community Development with assurance that on-site waste disposal systems shall be located to avoid impairment to them or contamination from them during FLOODING.

~~(c)~~(d) The storage of hazardous materials is prohibited.

(4) Subdivision proposals

(a) All subdivision proposals shall be consistent with the need to minimize FLOOD damage.

(b) All subdivision proposals shall have public utilities and facilities, such as sewer, gas, electrical and water systems, located and constructed to minimize FLOOD damage.

(c) All subdivision proposals shall include adequate drainage paths to guide FLOOD waters around and away from the proposed STRUCTUREs and to reduce exposure to FLOOD damage.

(d) BASE FLOOD ELEVATION data shall be provided for subdivision proposals and other proposed DEVELOPMENT which contains at least fifty (50) LOTs or five (5) acres, whichever is less.

(5) Specific provisions on unsuitable areas which includes floodplains are referenced in and consistent with Dover Code Land Subdivision Regulations (157-21, 157-22, and 157-60) and the Dover Zoning Chapter 170-6, 170-27.2, and 170-28.2).

K. Specific Standards.

In all AREAs OF SPECIAL FLOOD HAZARD where BASE FLOOD ELEVATION data has been established per Subsection G.(2), the following provisions are required:

(1) Residential construction, NEW CONSTRUCTION and SUBSTANTIAL IMPROVEMENT of any residential STRUCTURE shall have the LOWEST FLOOR, including the BASEMENT, elevated to at least two (2) feet above BASE FLOOD ELEVATION.

(2) All NEW CONSTRUCTION or SUBSTANTIAL IMPROVEMENTs of nonresidential STRUCTUREs have the LOWEST FLOOR, including BASEMENT, elevated to at least two (2) feet above the BASE FLOOD ELEVATION; or together with attendant utility and sanitary facilities, shall:

(a) Be FLOOD PROOFED so that below the BASE FLOOD ELEVATION the STRUCTURE is watertight at least two (2) feet above the BASE FLOOD ELEVATION with walls substantially impermeable to the passage of water;

(b) Have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy; and

(c) Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this Section.

(3) MANUFACTURED HOMEs

(a) MANUFACTURED HOMEs shall be anchored in accordance with Subsection ~~K~~J.(1)(b).

(b) For new MANUFACTURED HOME PARK and MANUFACTURED HOME SUBDIVISIONs; for expansions to existing MANUFACTURED HOME PARKs and MANUFACTURED HOME SUBDIVISIONs; for existing MANUFACTURED HOME PARKs and MANUFACTURED HOME SUBDIVISIONs where the repair, reconstruction or improvement of the STREETs, utilities and pads equals or exceeds fifty percent (50%) of the value of the STREETs, utilities and pads before the repair, reconstruction or improvement has commenced; and for MANUFACTURED HOMEs not placed in a MANUFACTURED PARK or MANUFACTURED HOME SUBDIVISION:

(i) Stands or LOTs are elevated on compacted fill or on pilings so that the LOWEST FLOOR of the MANUFACTURED HOME will be at least two (2) feet above the BASE FLOOD level.

(ii) Adequate surface drainage and access for a hauler are provided.

(iii) In the instance of elevation on pilings, LOTs are large enough to permit steps; piling foundations are placed in stable soil no more than ten (10) feet apart and reinforcement is provided for pilings more than six (6) feet above the ground level.

(c) RECREATIONAL VEHICLEs placed on sites within areas of special flood hazard ~~Zones A and AE~~ shall either: **[Amended on 04-20-2005 by Ord. No. 13-2005]**

(i) Be on the site for fewer than one hundred eighty (180) days;

(ii) Be fully licensed and ready for highway use; or

(iii) Meet all standards of Subsection E.(1, 2 and 3) and the elevation and anchoring requirements for MANUFACTURED HOMEs in Subsections ~~I~~K.(3)(a) and K.(3) (b).

(4) For all NEW CONSTRUCTION and SUBSTANTIAL IMPROVEMENTs, fully enclosed areas below the LOWEST FLOOR that are subject to FLOODING are permitted, provided that the enclosed areas meet the following requirements:

(a) The enclosed area is unfinished or FLOOD resistant, usable solely for parking of vehicles, BUILDING access or storage.

(b) The area is not a BASEMENT.

(c) The area shall be designed to automatically equalize hydrostatic FLOOD forces on exterior walls by allowing for the entry and exit of FLOOD waters. Designs for meeting this requirement must either be certified by a professional engineer or architect or must meet or exceed the following minimum criteria:

(i) A minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to FLOODING shall be provided.

(ii) The bottom of all openings shall be no higher than one (1) foot above grade.

(iii) Openings may be equipped with screens, louvers or other coverings or devices, provided that they permit the automatic entry and exit of FLOOD waters.

(5) Proposed STRUCTUREs to be located on SLOPEs within Zone AO shall include adequate drainage paths to guide FLOOD waters around and away from the proposed STRUCTUREs.

(6) Accessory structures

(a) New construction and substantial improvement of any accessory structures with finished or habitable space shall follow the same requirements as the principal structure as specified in Sections J and K.

(b) Any new construction and substantial improvement of any accessory structures without finished or habitable space shall not be used for the storage of hazardous materials.

(c) It is recommended that any new construction and substantial improvement of any accessory structures without finished or habitable space meet the following standards:

(i) The structure is not located in the floodway;

(ii) The structure is wet flood proofed and designed to allow for the automatic entry and exit of flood water as detailed in Section K (4)(c);

(iii) When possible, the structure shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters and be placed further from the source of flooding than the primary structure; and

(iv) Service facilities such as electrical, mechanical and heating equipment shall be elevated or dry flood proofed to or above the base flood elevation.

(7) All new residential structures or residential developments and all new non-residential structures and non-residential developments shall have all driveways and/or all road access or streets constructed with the driving surface at or above base flood elevation to ensure safe ingress and egress during a 100-year flood.

(8) Critical facilities

(a) All new critical facilities are prohibited within areas of special flood hazard.

(b) Critical facilities that are to be replaced, substantially improved or meet the definition of substantial damage shall be constructed so that the lowest floor, including basement, shall be elevated or dry-flood proofed at least two (2) feet above the areas of special flood hazard. A critical facility shall have at least one access road connected to land outside the areas of special flood hazard and is capable of accommodating emergency services

vehicles. The top of the access road shall be no lower than six inches below the base flood elevation of the area of special flood hazard.

L. REGULATORY FLOODWAYS.

Located within AREAs OF SPECIAL FLOOD HAZARD established in Subsections C and I are areas designated as REGULATORY FLOODWAYs. Since the REGULATORY FLOODWAY is an extremely hazardous area due to the velocity of FLOOD waters which carry debris, potential projectiles and erosion potential, the following provisions apply:

(1) Along watercourses that have a designated REGULATORY FLOODWAY, no encroachments, including fill, NEW CONSTRUCTION, SUBSTANTIAL IMPROVEMENTs or other DEVELOPMENT, are allowed within the designated REGULATORY FLOODWAY unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the proposed encroachment would not result in any increase in FLOOD levels within the community during the BASE FLOOD discharge. In Zone A, the Department of Planning and Community Development shall obtain, review and reasonably utilize any REGULATORY FLOODWAY data available from a federal, state or other source as criteria for requiring that DEVELOPMENT meet the REGULATORY FLOODWAY requirements of this Subsection.

(2) Along watercourses that have not had a REGULATORY FLOODWAY designated, on NEW CONSTRUCTION, SUBSTANTIAL IMPROVEMENTs or other DEVELOPMENT (including fill), shall be permitted within Zone AE, unless it is demonstrated that the cumulative effect of the proposed DEVELOPMENT, when combined with all other existing and anticipated DEVELOPMENT, will not increase the WATER SURFACE ELEVATION of the BASE FLOOD more than one (1) foot at any point within the community. **[Amended on 04-20-2005 by Ord. No. 13-2005]**

(3) If Subsection 1 is satisfied, all NEW CONSTRUCTION and SUBSTANTIAL IMPROVEMENTs shall comply with all applicable FLOOD hazard reduction provisions set forth herein.

M. Variances and Appeals.

(1) Any order, requirement, decision or determination of any official of the Department of Planning and Community Development made under this Section may be appealed to the ZONING BOARD of ADJUSTMENT as set forth in RSA 676:5.

(2) If the APPLICANT, upon appeal, requests a variance as authorized by RSA 674:33, I(b), the APPLICANT shall have the burden of showing, in addition to the usual variance standards under NH statute:

(a) That the variance will not result in increased FLOOD heights, additional threats to public safety, or extraordinary public expense.

(b) That if the requested variance is for activity within a designated REGULATORY FLOODWAY, no increase in FLOOD levels during the BASE FLOOD discharge will result.

(c) That the variance is the minimum necessary, considering the FLOOD hazard, to afford relief.

(3) The ZONING BOARD of ADJUSTMENT shall notify the APPLICANT in writing that: (i) the issuance of a variance to construct below the BASE FLOOD level will result in increased premium rates for FLOOD insurance up to amounts as high as twenty-five ($25.00) dollars for one hundred ($100.00) dollars of insurance coverage, and (ii) such construction below the base level increases risks to life and property. Such notification shall be maintained with a record of all variance actions.

(4) The Department of Planning and Community Development shall:

(a) Maintain a record of all variance actions, including their justification for their issuance, and;

(b) Report such variances issued in its annual or biennial report submitted to FEMA's Federal Insurance Administrator.

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P21-31

Application Type: Site Plan Review Permit
Applicant(s): City of Dover
Owner(s): City of Dover
Location: Stonewall Drive (Assessor's Map H, Lot 58)
Meeting Date: May 25, 2021

INTENT: Proposal is to construct a 9,936 sq. ft. water treatment facility building

LOTS/UNITS PROPOSED:
Water Treatment Plant

AGENDA ITEM: # 4-C

ACREAGE: 57.28 acres

ZONING DISTRICT: IT

EXISTING LAND USE:
Community Services

PROPOSED LAND USE:
Community Services

SURROUNDING LAND USE:
Residential, Bellamy River and Industrial

ZBA ACTION: N/A

ATTACHMENTS:
- Application materials including plan and TRC minutes

APPLICATION IS COMPLETE:
Yes

REGIONAL IMPACT: No

SERVICED BY: Municipal water and sewer

NOTICES SENT: Abutter notices were sent by certified or first class mail to all abutters for this meeting

PERMITS REQUIRED:
Industrial User Permit, Shorelands Permit, Groundwater Discharge Registration, Artificial Recharge, NHDES Design Approval

WAIVERS/CUP REQUESTED:
N/A

Summary of Request and Background
The applicant is requesting to construct a water treatment facility within a Groundwater Protection District. The application appeared before the Technical Review Committee on May 6, 2021.

In 2019, the Planning Board approved a CUP for the collocated recharge station. The Recreation Master Plan proposes that long term this area evolves into a passive recreation and conservation area.

Consistency with Land Use Regulations
RSA 674:54 provides for Planning Board review of governmental land uses with nonbinding written comments relative to conformity or nonconformity of the proposal with normally applicable land use regulations.

Chapter 153-4 of the Site Review Regulations of the City Code provides for site review by the Planning Board of new construction of various types. This plan is consistent with those regulations and is covered under RSA 674:54.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board approve the Site Plan with the following non-binding conditions:

Conditions to Be Met Prior to the Signing of Plans:
1. The applicant shall provide:
    a. a digital version of plan set
    b. a copy of the Industrial User Permit, Shorelands Permit, Groundwater Discharge Registration, Artificial Recharge, NHDES Design Approval
    c. a CAD to the satisfaction of the Asset Management Administrator
2. The applicant must revise final plan set to:
    a. Add the owner's signatures to the final plat.
    b. Add LLS, PE and Architect signatures/stamps to final plan.
    c. Sheet numbers
    d. Drawing No C1 to be updated to show full building on H-53
    e. Add file number P21-31 to title blocks on all sheets
    f. Indicate security lighting on all four sides of the building
    g. Add no parking/fire lanes signage
    h. Add common notes: 10, 13, 16, 19, 22, 31, 35

Conditions to Be Met Prior to any Construction Activity:
3. A site construction sign with the contact information for the general contractor must be located and approved by the City Engineer.

Conditions to Be Met Prior to Issuance of a Building Permit:
4. Applicant shall pay sewer investment fee at time of request for service.

Conditions to Be Met Prior to Occupancy:
5. Issuance of a certificate of occupancy.

271 - 275 Mast Road



Property Information

Property ID	H0058-000000
Location	271 275 MAST RD
Owner	CITY OF DOVER
Land Use	903

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 5/3/2021
Data updated Daily

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

City of Dover, New Hampshire
SITE REVIEW APPLICATION

[Revision Date: June 4, 2019]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: City of Dover Telephone # 603 516-6450

Address of Applicant: 288 Central Avenue, Dover NH 03820

E-Mail Address: j.storer@dover.nh.gov

Name of Property Owner (*if different from applicant*): (Same) Telephone #

Address of Property Owner:

PROPERTY INFORMATION

Address of Property: Stonewall Drive

Assessor's Map # H58 Lot(s) # 0

Zoning District(s) Innovative Technology (IT) Overlay District(s) Conservation, Groundwater protection

Size of Parcel: 2,525,176 sq. ft. 57.28 ac. Property Deed: Book 4719 Page: 59

Existing Use of Property: Community services, Municipal water supply aquifer

SITE PLAN INFORMATION

Describe Proposed Use: Industrial, Water treatment facility

Area of Parcel to be Developed: < 33% sq. ft.

If Multi-family Residential, Specify Number of Units & Buildings Proposed: N/A

Number of Parking Spaces: Existing Proposed

Highway Access (check where applicable): X City Street ____ State Highway

Number of Employees Total: In Maximum Shift:

Disposition of Parcel:

Building Footprint 9936 sq. ft.

Total Building Area 11396 sq. ft.

Paved Area 22875 sq. ft.

Building Setbacks:

Front Yard 1740 ft.

Rear Yard 140 ft.

Side Yard: Right 560 ft. Left 400 ft.

City Water? _x_ Yes ___ No How far is city water from the property? On property

City Sewer? _x_ Yes ___ No How far is city sewer from the property? Abutting

BUILDING INFORMATION

Type of Building to be Built: Industrial, concrete masonry and steel frame panel, flat roof

Height of Building: 28 ft Finished Floor Elevation: 102.0 ft MSL

Number of Seats (where applicable) N/A

Estimated value of construction: $16 M Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: 170 - 28.3 Groundwater protection

Justification for waiver request(s) (*attach additional sheets as needed*):

Proposed water treatment facility will treat existing contamination in aquifer and restore the ability for the city to use as a drinking water supply.

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) McEneaney Survey Associates

Address 24 Chesnut St. Dover, NH 03820 Telephone #: 603 743-3019

Professional License #: 661 E-mail address: kevin@surveynh.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Thomas Page, Project Manager / Underwood Engineers

Address 25 Vaughan Mall, Portsmouth NH 03801 Telephone #: 603 436-6192

Professional License #: 10959 E-mail address: tpage@underwoodengineers.com

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) Gregory Goucher / Tennant Goucher Architects

Address 110 Riverway Place, Bedford NH 03110 Telephone #: 603 669-5855

Professional License #: 1982 E-mail address: tennantgoucher@gmail.com

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) _____

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

SOIL SCIENTIST INFORMATION (Geotechnical Engineer)

Name of Soil Scientist and Company (Licensed in N.H.) Marc Grenier / R.W. Gillespie & Associates, Inc.

Address 20 Pomerleau Street, Suite 100 Biddeford ME 04005 Telephone #: 207 286-8008

Professional License #: 10615 E-mail address: mgrenier@rwg-a.com

CONSERVATION EASEMENT HOLDER

Name of Easement Holder: _____ Telephone #_____

Address Easement Holder: _____

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. Furthermore, I/we submit that the existing conditions sheet of the plan represents the lot in question, and that no alteration of the site shall take place during Planning Board review up to and including the pre-construction meeting. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: _____

Signature of Applicant (*if different from owner*): _____ Date: _____

Signature of Agent: John P. Chagnon Underwood Engineers Date: 4/14/2021

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: _____

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby the City of Dover or its assigns to enter my property for the purpose of completing the site work as required by the approved plan should the letter or credit or other surety be called. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: _____

Signature of Applicant (*if different from owner*): _____ Date: _____

CERTIFICATION OF FEES

I, and my successors, hereby certify that I understand that the City of Dover collects impact fees, utility investment fees and inspection fees for projects developed in Dover. Said fees must be paid before a Certificate of Occupancy can be obtained for a structure, unless a different payment schedule is agreed to by the applicant and the City prior to approvals being issued by the Dover Planning Board. Additionally, should the property be in "Current Use" it will be subject to the Land Use Change Tax.

Signature of Property Owner: _____ Date: _____

Signature of Applicant (*if different from owner*): _____ Date: _____

CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE

(Revised September 17, 2020)

Below are the fees associated with plan review and are subject to a nonrefundable application fee to cover administrative expenses. Please complete the information below and provide payment with your application submittal. **Plan review fees shall be paid prior to technical review committee (TRC) being scheduled.** For plans not requiring TRC review, **fees are due 21 days prior** to the Planning Board meeting. Staff will coordinate abutter/notice fees, which will be invoiced and must be paid 28 hours before the Planning Board meeting for an application to be heard. Fees shall be paid by cash or check made payable to "City of Dover".

A. Plan Review Fees

1. Application fee for the following (SELECT ALL THAT APPLY):

- ☐ SUBDIVISION Application fee $200.00 + $150.00 x # _____ new lots created = $_____
- ☐ LOT LINE ADJUSTMENT Application fee $200.00 + $100.00 X # ___ of lots involved = $_____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee $200.00 = $_____
- ☐ SITE REVIEW – RESIDENTIAL Application fee $200.00+ $100.00 x # __ per dwelling unit =$_____
- ☐ SITE REVIEW – NON-RESIDENTIAL Application fee $200.00 + (not to exceed $10,000)
  - New construction $.15 sq. ft. x # _____ sq. ft.= $_____
  - Additions (new floor space) $.10 per sq. ft. x # _____sq. ft.= $_____
- ☐ MOTEL/HOTEL $35.00 x # ___ per lodging unit= $_____
- ☐ CHANGE OF USE Application fee $200.00 + (not to exceed $5,000)
  - Existing floor spaces $.10 per sq. ft. x # _____ sq. ft. = $_____
- ☐ CONDITIONAL USE PERMIT Application fee $200.00 x # _____ per Application = $_____
- ☐ GRAVEL PIT/ EXCAVATIONS
  - Application fee $50.00= $_____
  - Permit fee $75.00= $_____
- ☐ EXTENSIONS/AMENDMENTS/WAIVERS FOR AN APPROVED PLAN Application fee $200.00 = $_____
- ☐ REQUEST FOR REZONING Application fee $200.00 = $_____
- ☐ DRIVEWAY WAIVER Application fee $200.00 = $_____

SUB TOTAL= $_____

AND

2. TOTAL IMPERVIOUS PAVED AREA (for new development, roadways or additions to existing parking lots, (not to exceed $10,000)) Application fee $200.00 + $.07 sq. ft. x # _____ = **$_____**

TOTAL PLAN REVIEW FEE= $_____

B. Abutter Notification/Mailing Labels - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will need to review the list and provide to this office the engineer, architect, licensed land surveyor (LLS), licensed landscape architect (LLA) and/or soil scientist whose professional seal appears on the plan with names and addresses for notices.

- ☐ Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
  - Certified letters fee # _____ of x $8.00= $_____
- ☐ Certified letters fee: # of abutters _____ X $8.00= $_____
- ☐ First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X $1.00= $_____
- ☐ Creating/Printing Abutter Labels in triplicate per sheet _____ x $10.00= $_____

SUB TOTAL= $_____

C. Foster's newspaper public notice fee $100.00 x # _____ applications = $_____

TOTAL NOTICE FEE= $_____

The above amount must be paid 28 hours prior to the Planning Board meeting, to be heard.

City of Dover, New Hampshire
SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

This site plan review checklist, as required by Chapter 153-6-B(2), should be completed by the applicant. It is intended to assist the applicant in the planning process of preparing a Site Plan Review application for Planning Board action. The size of the project will determine the types of information required for review, therefore, a **pre-application conference** with the Planning Department to determine the list of items that must be completed is strongly encouraged.

The first step would be to appear before the Technical Review Committee, to apply, eight (8) folded copies of the site plan with scale of not less than 1"=50' or 1" =100' for larger site plans, need to be provided, along with payment of plan review fees.

Two weeks prior to Planning Board, three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, including response to TRC comments, will be due. Abutter/Notice Fees will be invoiced and need to be paid 28 hours prior to the Planning Board meeting.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan Review Regulations for full details.

APPLICANT: _____ File Number: _____

PROJECT TITLE: _____

PROPERTY LOCATION: _____ Tax Map: ____ Lot: ____

	Where/How Provided	Reviewed
1. Completed and signed Application form		
2. Plan Review Fees are provided		
3. Electronic copy of the engineered/surveyed plan layout		
4. Electronic copy of supplementary materials and application		
5. Traffic Impact Assessment and Analysis (Standard or Advanced)		
6. Waiver requests to the Site Plan Review Regulations, with written justification		
7. Conditional Use Permit applications		
8. A colored rendering of the streetscape that will be created along the existing public right-of-way		
9. A colored architectural plan showing all sides of buildings		
10. Folded copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:		
Location map at appropriate scale		
Proposed Project name and title and Planning File #		
Date, north arrow and scale		
Names of all abutting property owners		
Name and address of owners and/or applicants		
Signature & stamp of NH licensed land surveyor and/or engineer		
Zoning District boundaries, including any special or overlay districts		
Location of Conservation District areas		
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks		
Location and widths of existing & proposed easements & right of ways		
Location and width of existing and proposed access/egress ways		

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access		
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system		
Existing and proposed topographic information at two foot intervals		
Existing and proposed buildings and structure locations		
Minimum building setbacks or build to lines on all lots		
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities		
Existing and proposed water lines and fire hydrants, including materials and capacity needed		
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load		
Existing and proposed stormwater lines and facilities		
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots		
Location of Flood Hazard Zone		
Location of all bodies of water and watercourses		
Location of wetlands and buffers		
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set		
Existing natural features and/or significant vegetation on property		
Depict existing contours up to 100 ft. beyond project limits		
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect		
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces		
Location, material and size of existing and proposed pavement area		
Location of proposed fire lanes		
Specify finished floor elevations of buildings		
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening		
Depict all service, storage, loading bays and utility areas		
All applicable Dover Common Site Plan notes		
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis		
Stormwater Management System Operation and Maintenance Plan		
Letter to Serve from Public and Private Utilities		
Erosion and Sedimentation Control Plan		
Landscape Operation and Maintenance Plan		
Proposed restrictive covenants or homeowners association documents		
Dates and permit numbers of all required state and federal permits		
If wetland buffer, indicate placards locations, as applicable		
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs		
Location of proposed drive-in facilities		
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required		

REVIEWED BY: _____ DATE_____ TRC DATE_____

CITY OF DOVER PLANNING DEPARTMENT
Revised August 10, 2020

APPLICANT: _____ FILE NUMBER: _____

List of Common Site Plan Notes

The following list of commonly required notes is intended to be used as a guide to applicants and should not be construed as a comprehensive note requirement list for all projects. A preapplication conference with the Planning Department is suggested to help determine the actual notes that may be required.

1. The intent of this plan is to *(describe the purpose of the plan).*

2. Owners of Record are: Name
   Street address
   Municipality, State, Zip Code
   _____
   Authorized Signature

3. The parcel(*s*) is (*are*) shown as Lot No. _____, Map ____ of the City of Dover Tax Assessor's Maps.

4. The subject parcel(s) contains ____ acres or _____ sq. ft. area of land.

5. Title reference for the project parcel(*s*) is the Strafford County Registry of Deeds, Book No. ___, Page No. ___.

6. Reference Plans: (*List all reference plans and their SCRD #)*

7. All applicable right-of-way, conservation, slope, construction, power line, cross travel, or other easements shall be referenced in a note.

8. Zoning dimensional and density requirements are as follows:

   Required: Provided:

   a. Zoning district _____ sub-district _____
   b. Minimum lot size: _____ acres (sq. ft.)
   c. Minimum lot frontage: _____ ft.
   d. Minimum yard setbacks/build-to-lines:
      Front _____ft.
      Side _____ft.
      Rear _____ft.
      Abut-a-street _____ ft.
   e. Maximum/minimum lot coverage _____ %
   f. Minimum/maximum bldg. height _____ ft./stories

   This property falls within the following zoning overlay districts: *(List districts)*

9. List any variances or special exceptions granted by the Zoning Board of Adjustment or Conditional Use Permits granted by the Planning Board for the proposed use or structure, including the case number and date of decision and any conditions.

10. Property line information has been obtained from a survey performed by *(surveyor)* on (*date*) with an error not greater than 1 in 10,000 (*or has been obtained from* _____ *Plan, prepared by (surveyor)*).

11. Subject parcel is (*is not*) located within a Federally designated flood hazard area (Community panel number 33017C0xxxD, Effective Date: September 30, 2015).

12. Wetlands were delineated by _____, Certified Wetlands Scientist, Certification Number ____, in accordance with Chapter 170-27.1 of the Zoning Ordinance, on _____, 20___.

13. As-built plans of the subdivision shall be submitted on paper and in digital format AutoCAD DWG, AutoCAD DXF or ESRI format to the City of Dover Engineer's Office upon completion of project if a street is proposed for City acceptance. As-built plans shall be prepared and certified correct by a L.L.S. or P.E. Digital files shall be geo-referenced to New Hampshire State Plane Coordinates NAD83 and shall be expressed in feet.

14. The installation of electric power, cable television and telephone lines shall be underground throughout the site for which development is proposed.

15. The subject parcel(s) is (are) served by municipal water and sewer (*or is served by on-site well and septic system*).

16. All construction shall conform with the State of New Hampshire Department of Transportation (NHDOT) "Standard Specifications for Road and Bridge Construction" and with the City of Dover Community Services Regulations and standard specification for construction. The more stringent specification shall apply.

17. All erosion control notes shall include provisions for construction sequencing, temporary erosion control measures, and permanent standards such as loam spread rate for disturbed areas, rates of lime, type and rates for fertilizer, and seed and mulch mixture with rates of application.

18. The limits of construction disturbance that are located in or within the 50 ft. of Conservation and Wetland Districts shall be staked, flagged and clearly identified prior any earth disturbing activity occurs.

19. All treatment swales to be constructed shall have sod bottoms.

20. A letter of credit for the cost of revegetating all disturbed areas on the site shall be submitted, and the approved construction sign installed prior to any earth disturbing activity occurs.

21. A pre-construction conference with the developer, the design engineer, the earthwork contractor and the City Engineer shall occur prior to any earth disturbing activity.

22. Site Construction hours shall be limited to Monday-Friday 7 AM-6 PM, Saturday and Sunday 9 AM-4 PM. Hours of construction must be documented on a site construction sign along with the contact information for the general contractor. Said signage must be located and approved by the City Engineer or Assistant City Manager.

23. Building addresses (including apt/unit numbers if applicable) shall be assigned by the Building Official at the time of issuance of a building permit.

24. The proposed use for the site (structure) is _____. (More specific uses are encouraged, such as single family, duplex, multi-family, restaurant, hotel, doctor's office, etc. Should more than one use be proposed, an indication of the percentage of each use is suggested.)

25. The following federal and state permits have been issued for the subject property: (*List permit type, number and date of issuance.)*

26. Commercial vehicle route during construction shall conform to Dover City Code or be coordinated with the Community Services Director.

27. Any retaining wall taller than four feet (4') requires issuance of a building permit from Inspection Services.

28. Any fence taller than seven feet (7') requires the issuance of a building permit from Inspection Services.

29. Applicant shall complete Land Use Development Tracking Form, most recently revised version, utilizing the online Pollution Tracking and Accounting Pilot Project (PTAPP) portal. https://www.unh.edu/unhsc/ptapp

30. The owner of record shall record at the Registry of Deeds documentation sufficient to provide notice to all persons/entities that may acquire any property subject to the requirements and responsibilities described in the approved STORMWATER Management Plan. The notice shall comply with the applicable requirements for recording contained in RSA 477 and 478. The notice need not set forth the requirements at length, so long as it is sufficient to provide notice to prospective purchasers to the requirements for maintenance and reporting.

31. Fire department access road(s) shall be installed and maintained to support the imposed loads of fire apparatus in all weather conditions at all times.

32. The maximum parking space calculation is _____ (broken down) and ____ spaces are provided.

33. Exterior lighting shall be cut-off type fixtures per Chapter 153-14-E and shall provide lighting directed on-site only.

34. Topographic survey performed by _____ on *(dates)*.

35. Elevations are based on U.S.G.S. NVD 1988 datum. (**or** Elevations depicted are based on information obtained from the City Engineer's Office and was derived from coordinates for control stations _____ and _____. These coordinates have not been adjusted to 1983 datum).

36. A security system shall be installed as required by Chapter 45, Article I, section 45-2 of the Code of the City of Dover. (*If a business establishment or multi-family dwelling contained in a new, altered or repaired structure*)

37. Approved backflow preventers shall be provided for both fire and domestic water lines.

38. The (*existing or proposed*) structure shall be served by a sprinkler system as required by Chapter 81- 30 of the Code of the City of Dover and the adopted State of NH Building and Fire Codes.

39. Sprinkler connections must be flushed in accordance with NFPA 24 and a Contractor's Material and Test Certificate for Underground Piping form must be completed and approved by Inspection Services prior to connection of the backflow device.

40. Fire department connection(s) shall be located on the street side of the building per NFPA 13. Access to the FDC shall maintain a clear and unobstructed path at all times.

41. The site layout is designed in compliance with applicable accessibility regulations. The proposed structure will be also be designed in accordance with applicable accessibility regulations. (i.e. IBC, ANSI-117.1) and NH RSA 155-A:5.

REMARKS:

N

Recharge Station

Ireland Well

AR 1 Basin

DPH 1 Well

AR 2 Basin

Griffin Well

Area of Disturbance
80,000 SF

Proposed
Treatment Facility

Community
Services

New England
Metals Recycling

H0035-D00000
Lilac Garden LLC
21 Continental BLVD Suite 101
Merrimack, NH 03054
4250/467

H0041-T00000
MSM Brothers Inc.
510 Martha's Way
Dover, NH 03820
1602/365

H0041-S00000
MSM Brothers Inc.
510 Martha's Way
Dover, NH 03820
1602/365

H0056-000000
City of Dover
288 Central Avenue
Dover, NH 03820
2768/421

H0055-000000
Maclean Sandy F &
Garrison Karen M
180 Piscataqua Road
Durham, NH 03824
3743/448

H0053-000000
H53 Mast Road, LLC
340 Central Ave, Suite 202
Dover, NH 03820
4216/0317

H0059-000000
Candia South Branch
Brook Holdings, LLC
PO BOX 410
Candia, NH 03034
3023/904

H0060-000000
Candia South Branch
Brook Holdings, LLC
PO BOX 410
Candia, NH 03034
4211/934

H0058-000LS2
City of Dover
288 Central Avenue
Dover, NH 03820
2768/421

H0053-001000
Mast Road, LLC
2352 Main Street Suite 201
Concord, MA 01742
4333/441

H0061-000000
Candia South Branch
Brook Holdings, LLC
PO BOX 410
Candia, NH 03034
3923/904

H0004-000000
Heron Bay Partners
242 Central Avenue
Dover, NH 03820
3561/656

H0004-003000
Dover Fields Condominium
C/O VC
48 Constitution Drive
Bedford, NH 03110
3496/733

Lilac Ln

Alumni Dr

Bellamy Rd

Adelle Dr

Mast Rd

Cielo Dr

Grapevine Dr

Freshet Rd

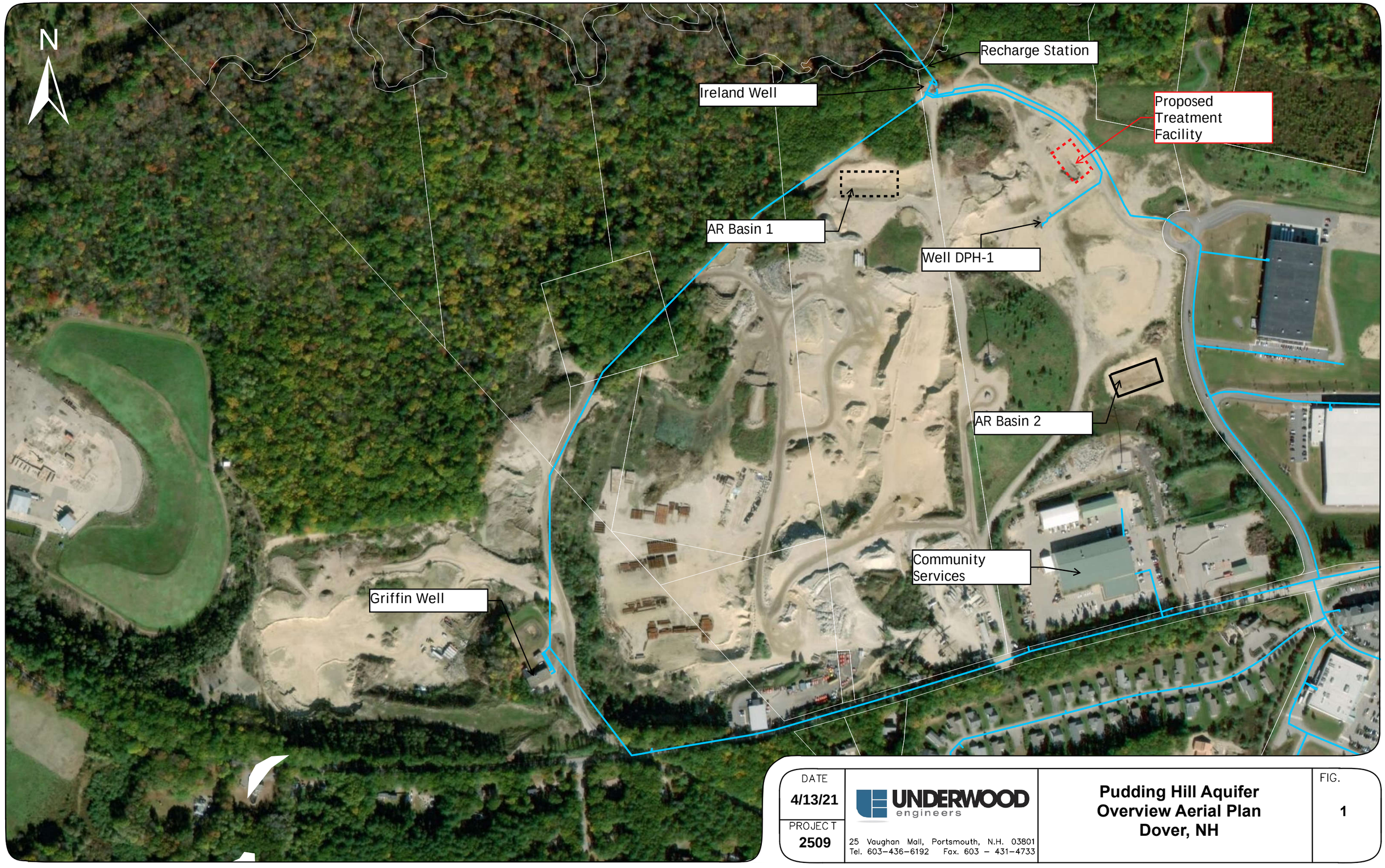
DATE 5/13/21 PROJECT 2509	UNDERWOOD engineers 25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603–436–6192 Fax. 603–431–4733	Pudding Hill Aquifer Overview Aerial Plan Dover, NH	FIG. 1



Dover Water Pudding Hill

January 26, 2021

Tennant Goucher Architects PA



DATE			FIG.
4/13/21	UNDERWOOD engineers	**Pudding Hill Aquifer Overview Aerial Plan Dover, NH**	1
PROJECT 2509	25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603–436–6192 Fax. 603 – 431–4733		

Pudding Hill Water Treatment Facility
Dover, NH
Response to TRC Comments
May 12, 2021

In response to comments received from the Technical Review Committee on May 6, 2021 Underwood Engineers notes the following:

Planning:

1. Security lighting: Exterior lighting will be provided on all sides of the building.
2. Landscape Operation and Maintenance Plan: The proposed landscaping will be maintained in accordance with City Standards for typical facilities.
3. Neighborhood Plan with Aerial Underlay: Please see Attached.
4. Traffic Analysis: The proposed traffic is limited to City Staff and a traffic analysis is not applicable.
5. Revisions to Plans:
    a. Owner's signature has been added to cover page.
    b. Professional engineering stamp has been added to cover page.
    c. Planning File #P21-31 has been added to cover page.
    d. Building Elevation sheets have been updated to include proposed materials.
    e. Applicable Common Site Plan notes have been added to Dwgs. G2 and G3.
6. Renewable utilities: The design roof load includes an allowance for future solar panels.
7. Fire Lane/Width of Accessway: The width of the access road for fire access is 25 ft.

Fire/Inspections:

1. A fire hydrant will be located outside the fence if required.
2. The fire department connection location has been added to the site plan. Further detail is provided on the Mechanical drawings.
3. The gravel parking area is provided on the eastern side of the building for the convenience of City staff to provide a place to park without driving through the large gates provided in the paved driveway on the northern side of the facility.
4. The gravel roadway is maintained by the City and is accessible year-round.
5. No parking signs will be installed, as necessary.

Police:

1. Noise: The only items that would generate noise are the pumps and emergency generator which are all located inside of the building. Exterior noise will not be significant.
2. The building will be surrounded by a chain link fence with adequate gates for entry.
3. Security will be consistent with other City facilities including a fence around the perimeter, exterior lighting on all four sides of the building and security cameras.

Pudding Hill Water Treatment Facility
Dover, NH
Narrative for Local Review

April 15, 2021

Project Background

The Pudding Hill Aquifer contains three drinking water supply wells owned by the City of Dover: the Griffin Well, the Ireland Well, and DPH-1 Well. The Pudding Hill aquifer has a permitted production volume of 780 gallons per minute (gpm) (1.12 MGD), representing an important and necessary portion of the City's total water supply.

The Griffin Well was taken offline in December 2015 due to the presence of elevated concentrations of organic compounds including methyl-t-butyl ether (MtBE), 1,4-dioxane, and polyfluoralkyl substances (PFAS). Other contaminants detected in the aquifer include iron and manganese. As a result of this contamination, the City installed a new production well: DPH-1. The Pudding Hill Aquifer Interim Improvements Project was completed in the summer of 2017 to bring the new DPH-1 Well and the replacement Ireland Well online. The Ireland Well was taken offline in June 2018 after monitoring indicated rising levels of PFAS. Well DPH-1 remains active, but it is generally operated by the City only when needed to meet summer seasonal maximum demands to minimize the potential for drawing contaminants into the well.

The contamination is being monitored in the production wells and monitoring wells by the City's hydrogeologist Emery & Garrett Groundwater Investigations (EGGI), a division of GZA GeoEnvironmental (GZA). Based on studies by EGGI/GZA, the source of contamination is understood to be the New England Metals Recycling (NEMR) facility in Madbury, NH. The site is currently owned by Schnitzer Steel Industries, Inc.

Per the request of the City to evaluate treatment of the contaminants, Underwood Engineers (UE) prepared a report titled Pudding Hill Aquifer Master Plan Update 2018 (Draft July 2018). A pilot study of proposed treatment processes was completed in December 2018 for the Griffin and Ireland wells by UE as part of preliminary design efforts.

NEMR's consultant Sanborn, Head & Associates (SHA) submitted a Remedial Action Plan (RAP) to NHDES dated April 8, 2019 to address the groundwater contamination. The RAP recommended monitored natural attenuation (MNA) and wellhead treatment for the City's production wells. On behalf of the City, EGGI/GZA noted support for the proposed remedial approach based on coordinated use of the production wells and Artificial Recharge (letter dated September 10, 2019). The City desires the capability to treat water from each of the three production wells. The NHDES issued conditional approval of the RAP in a letter dated October 30, 2019.

The final design of the treatment facility is being completed by UE and is described below.

Existing Conditions

The proposed site is located in a formal gravel pit north of the Community Services facility on Mast Road (see attached aerial figure). The existing soils are characterized as Hydrologic Soil Group (HSG) A which are excessively drained soils with ground water and restrictive layers greater than 80-inches deep (USDA NRCS Web Soil Survey). The WTP site is between two of the production wells (Ireland and DPH-1), to the west of Stonewall Drive. Nearby commercial sites include Stonewall Kitchen and Rand Whitney facilities on the east side of Stonewall Drive. Stormwater management systems were constructed on both adjacent sites to protect the aquifer.

Summary of Improvements

The proposed treatment facility has a main level area of 9,936 square feet (SF), plus a lower level pipe gallery of 1,460 SF. A clearwell (67,000 gal) and recycle tanks (63,000 gal each) will also be located below grade. Construction will be concrete masonry unit walls with split face veneer on lower walls and metal framing/panels on upper walls. Split level roofs will be flat, steel joist. The design roof load includes an allowance for future solar panels. The existing gravel drive from Stonewall Drive will be re-aligned to the new facility. A conceptual architect's rendering is attached. Final landscaping and plantings will be reviewed with the City.

The project includes pipe line and utility connections as follows:

- Water main connections to existing wells.
- Electrical service from existing Eversource primary loop
- Gas service from Stonewall Drive
- Telephone/cable service from Stonewall Drive
- Communications with City's existing SCADA system
- Sanitary sewer connection (gravity) to Stonewall Drive pump station
- Force main connection to Mast Road sewer for process residuals.

Proposed Stormwater Management Plan

Runoff will be collected by roof drains and directed to a drainage manhole on the south side of the new building. Stormwater will then be conveyed around the west side of the building through a closed drainage network to a proposed rain garden located near the existing access road and proposed WTP. A rip rap level spreader will be installed at the inlet to the rain garden to dissipate energy and prevent erosion. The rain garden will include a storage basin to manage runoff volumes and control peak flows. The rain garden will also include a media filter designed to treat stormwater prior to infiltration. The media filter will consist of an 18-inch filter layer, a 4-inch peastone layer (3/8-inch or equal), and a 12-inch reservoir stone layer (3/4-inch or equal). The basin will be sized to store and fully infiltrate the 50-year storm volume (7.18-inch over 24-hour period, Northeast Regional Climate Center, Mean Precipitation Estimates). Excess flows will be dissipated into the surrounding well-drained soils. See the rain garden detail on the drawings for specifications.

The new access road will be graded to direct all runoff to the adjacent roadside soils. No new discharge off site is planned.

Related Permits

The following permits and approvals are related to this project and are being provided under separate cover:

- Industrial User Permit: An application for industrial discharge has been submitted to the City's wastewater department for review and submittal to NHDES. The anticipated discharges are described in the permit application and below. The Lowell Avenue WTP in Dover currently has a similar industrial user permit.
- Shorelands Permit: An application is being prepared by UE for minor work within the Shoreland buffer zone. This work includes a new water main and conduit to the Ireland well and removal of the existing Ireland Well house. No new clearing is anticipated, and the pervious area will be increased with the removal of the well house.
- Alteration of Terrain Waiver: Based on discussions with NHDES, a waiver will be requested to exclude the linear utility disturbances from the total measurement of contiguous area disturbed so that the project is under the threshold requiring an AoT permit.
- Groundwater Discharge Registration: A registration for emergency discharge of the clearwell overflow is being prepared by UE. Floor drains and sump pumps in the facility will discharge to the sewer.
- Artificial Recharge: The Bellamy River Artificial Recharge Station is currently under construction to augment natural recharge of the aquifer. Permits previously obtained for this project include a NHDES wetlands permit, Shorelands permit, local Conditional Use Permit, 401 Water Quality Certificate for river withdrawals, and a groundwater discharge permit for the infiltration basins.
- NHDES Design Approval: The design drawings and specifications will be submitted to NHDES for approval prior to bidding.

Description of Process

Groundwater from the three production wells will be pumped to the treatment plant and treated with caustic soda (sodium hydroxide) and chlorine (calcium hypochlorite). The pretreated water will be filtered through three Greensand Plus filters to remove iron and manganese. The iron and manganese removal process is similar to that used in other water treatment facilities in Dover. Next hydrogen peroxide will be added to the filtered water entering the two ultra-violet light (UV) reactors for the advanced oxidation process (AOP) to remove 1,4-dioxane and MTBE. After AOP, the water will be filtered through three pairs of lead-lag granular activated carbon (GAC) filters to remove PFAS before storage in the clearwell. Finished water from the clearwell will be pumped to the distribution system. Final chemical addition will include hypochlorite (disinfection), caustic (pH adjustment), fluoride (dental), and zinc orthophosphate (corrosion control). These chemicals are similarly used in Dover's other water treatment facilities.

Normal Operation and Discharges

One of the three Greensand Plus filters will be backwashed daily. The source for backwash will be treated water from the clearwell. Backwash water will be discharged to one of two recycling basins on the lower level of the building, where the solids (iron and manganese sludge) will settle to the bottom of the basins and the supernatant will be recycled back into the raw water line. The sludge and residual water that will not be recycled will be pumped via a force main to the Mast Road sewer.

The remainder of the wastewater produced by the treatment plant is low in volume and will be discharged via a sewer connection to the existing pump station located on Stonewall Drive. This will include sanitary flows from the bathroom, lab sink, online analyzer waste, floor drains at the safety showers, and water softener discharge.

GAC Media Replacement/Start-up

GAC is typically 100% effective for removal of PFAS for a period of time, depending on the type of media, the bed volume of the GAC, the flow rate of the water, and the PFAS compounds that need to be removed. As the filters operate and adsorption capacity is used, the GAC media must be replaced when treatment objectives can no longer be met as indicated by detectable and rising concentrations in the filter effluent. The GAC filters will be operated in lead-lag mode, and the lead filter effluent will be monitored. The media will be replaced in the lead filter before contaminants break through the lag filter.

At treatment plant startup and approximately every 6 to 12 months, new GAC media will be installed. The new media will be backwashed/rinsed prior to startup per the GAC vendor's requirements to meet NSF-61 compliance. The backwash will use only treated water from the clearwell or distribution and the waste will be directed to the recycle basins and in turn pumped to the sewer on Mast Road.

P21-31 **271-275 Mast Road**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
H0004-000000	CIELO DR	HERON BAY PARTNERS LLC		242 CENTRAL AV	DOVER	NH	03820
H0004-000001	1 CIELO DR	HERON BAY PARTNERS LLC		242 CENTRAL AV	DOVER	NH	03820
H0004-000009	9 CIELO DR	PLANTE KEVIN R & DIANE S TRUSTEES	PLANTE FAMILY 2013 REVOCABLE TRUST	9 CIELO DR	DOVER	NH	03820
H0004-000011	11 CIELO DR	RIVOIRE DAVID J & JOYCE C TRUSTEES	RIVOIRE DAVID J AND JOYCE C 2018 TRUST	11 CIELO DR	DOVER	NH	03820
H0004-000015	15 CIELO DR	NOYES DEBRA TRUSTEE	NOYES FAMILY TRUST OF 2019	15 CIELO DR	DOVER	NH	03820
H0004-000017	17 CIELO DR	CROTEAU LINDA M		17 CIELO DR	DOVER	NH	03820
H0004-000021	21 CIELO DR	MORRIS LUCILLE		10 MONARCH WAY	KINGSTON	NH	03848-3271
H0004-000023	23 CIELO DR	DAIGLE DAVID C &	DAIGLE CATHERINE A	23 CIELO DR	DOVER	NH	03820
H0004-000025	25 CIELO DR	KLINE JOSEPH K & SUSAN TRUSTEES	KLINE JOSEPH AND SUSAN E REVOCABLE FAMIL	25 CIELO DR	DOVER	NH	03820
H0004-003000	GRAPEVINE DR/250 MAST RD	DOVER FIELDS CONDOMINIUM	C/O VC DOVER INVESTMENTS LLC	48 CONSTITUTION DR	BEDFORD	NH	03110
H0035-D00000	LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H0041-S00000	WHITE CLIFFS	MSM BROTHERS INC		510 MARTHA'S WAY	DOVER	NH	03820
H0041-T00000	WHITE CLIFFS	MSM BROTHERS INC		510 MARTHA'S WAY	DOVER	NH	03820
H0053-000000	17 STONEWALL DR	H53 MAST RD LLC		340 CENTRAL AVE #202	DOVER	NH	03820
H0053-001000	15 STONEWALL DR	MAST ROAD DOVER LLC	C/O RAND-WHITNEY CONTAINER LLC	207 GREENWOOD ST	WORCESTER	MA	01607
H0055-000000	BELLAMY RD	MACLEAN SANDY F &	GARRISON KAREN M	180 PISCATAQUA RD	DURHAM	NH	03824
H0056-000000	BELLAMY RD	CITY OF DOVER		288 CENTRAL AVENUE	DOVER	NH	03820
H0058-000LS2	273 MAST RD	OMNIPOINT HOLDINGS INC	ATTN PROPERTY MANAGEMENT	4 SYLVAN WAY	PARSIPPANY	NJ	07054
H0059-000000	325 MAST RD	BRANCH BROOK HOLDINGS LLC		PO BOX 410	CANDIA	NH	03034
H0060-000000	MAST RD	BRANCH BROOK HOLDINGS LLC		PO BOX 410	CANDIA	NH	03034
H0058-000000	271 275 MAST RD	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
		MCENEANEY SURVEY ASSOCIATES	KEVIN MCENEANEY	24 CHESTNUT STREET	DOVER	NH	03820
		UNDERWOOD ENGINEERS	THOMAS PAGE	25 VAUGHAN MALL	PORTSMOUTH	NH	03801
		TENNANT GOUCHER ARCHITECTS	GREGORY GOUCHER	110 RIVERWAY PLACE	BEDFORD	NH	03110
		R.W. GILLESPIIE & ASSOCIATES, INC	MARC GRENIER	20 POMERLEAU STREET, SUITE 100	BIDDEFORD	ME	04005

First Class

Parcel ID	Owners Name 1	Owners Name 2	Mailing Address 1	City	State	Zip
H0004-000000	HERON BAY PARTNERS LLC		242 CENTRAL AV	DOVER	NH	03820
H0004-000001	HERON BAY PARTNERS LLC		242 CENTRAL AV	DOVER	NH	03820
H0004-000002	KOTLUS ANNE		2 CIELO DR	DOVER	NH	03820
H0004-000004	COMEAU ESTHER M TRUSTEE	COMEAU ESTHER M TRUST	4 CIELO DR	DOVER	NH	03820
H0004-000005	LANGA MICHELLE A		5 CIELO DR	DOVER	NH	03820
H0004-000006	EDWARDS JUDITH A TRUSTEE	EDWARDS JUDITH A REVOCABLE TRUST	6 CIELO DR	DOVER	NH	03820
H0004-000007	CADDLE WILLIAM JEFFREY &	CADDLE JANET	7 CIELO DR	DOVER	NH	03820
H0004-000008	LANGDON JOANNE E		8 CIELO DR	DOVER	NH	03820
H0004-000009	PLANTE KEVIN R & DIANE S TRUSTEES	PLANTE FAMILY 2013 REVOCABLE TRUST	9 CIELO DR	DOVER	NH	03820
H0004-000010	GAUVIN ALBERT J &	GAUVIN HELEN M	10 CIELO DR	DOVER	NH	03820
H0004-000011	RIVOIRE DAVID J & JOYCE C TRUSTEES	RIVOIRE DAVID J AND JOYCE C 2018 TRUST	11 CIELO DR	DOVER	NH	03820
H0004-000012	DIXON PETER J & SALLY J TRUSTEES	DIXON ETER AND SALLY J REVOCABLE TRUSTS	12 CIELO DR	DOVER	NH	03820
H0004-000013	BARR DEBORAH A		13 CIELO DR	DOVER	NH	03820
H0004-000014	NARDELLA LINDA TRUSTEE	NARDELLA LINDA REVOCABLE LIVING TRUST	14 CIELO DR	DOVER	NH	03820
H0004-000015	NOYES DEBRA TRUSTEE	NOYES FAMILY TRUST OF 2019	15 CIELO DR	DOVER	NH	03820
H0004-000016	MAHONEY SHAUN K TRUSTEE	JJM REVOCABLE LIVING TRUST	207 FAIRWAYS EDGE DR	MARSHFIELD	MA	02050-4945
H0004-000017	CROTEAU LINDA M		17 CIELO DR	DOVER	NH	03820
H0004-000018	GEORGE JENNIFER B		18 CIELO DR	DOVER	NH	03820-5607
H0004-000019	SILVIA MARGARET K		19 CIELO DR	DOVER	NH	03820
H0004-000020	BROTHWELL JOHN &	BROTHWELL BARBARA	20 CIELO DR	DOVER	NH	03820
H0004-000021	MORRIS LUCILLE		10 MONARCH WAY	KINGSTON	NH	03848-3271
H0004-000022	POYANT MARK F & SANDRA J TRUSTEES	POYANT SANDRA J REVOCABLE TRUST	22 CIELO DR	DOVER	NH	03820
H0004-000023	DAIGLE DAVID C &	DAIGLE CATHERINE A	23 CIELO DR	DOVER	NH	03820
H0004-000024	ATHANS-HOOGEVEEN BARBARA TRUSTEE &	BONSTEEL DEBORAH E	89 BOXWOOD LN	DOVER	NH	03820
H0004-000025	KLINE JOSEPH K & SUSAN TRUSTEES	KLINE JOSEPH AND SUSAN E REVOCABLE FAMIL	25 CIELO DR	DOVER	NH	03820
H0004-000026	ROUFF PRISCILLA TRUSTEE	A AND P JOHNSTON FAMILY REVOCABLE TRUST	26 CIELO DR	DOVER	NH	03820
H0004-000027	HERON BAY PARTNERS LLC		242 CENTRAL AV	DOVER	NH	03820
H0004-000028	BAUR ULRICH &	BAUR SYBILLE	28 CIELO DR	DOVER	NH	03820
H0004-000029	STEARNS CHARLENE		29 CIELO DR	DOVER	NH	03820-4146
H0004-000030	HERPICH SUSAN L TRUSTEE	HERPICH SUSAN L INVESTMENT TRUST	30 CIELO DR	DOVER	NH	03820
H0004-000031	SANDBERG BARRY &	SANDBERG MONA R	31 CIELO DR	DOVER	NH	03820
H0004-000032	NETZEL JEANETTE TRUSTEE	NETZEL JEANETTE REVOCABLE TRUST	32 CIELO DR	DOVER	NH	03820
H0004-000033	SCHULTEN CAROLYN H & STEPHEN B CO-TRUSTE	SCHULTEN STEPHEN BREWER REVOCABLE TRUST	18 COTE DR	DOVER	NH	03820
H0004-000034	BEANE PAMELA S SUCCESSOR TRUSTEE	NEWELL RONALD B IRREVOCABLE TRUST	34 CIELO DR	DOVER	NH	03820
H0004-000035	THEORET ROGER A & PAULINE C TRUSTEES	THEORET FAMILY REVOCABLE TRUST	35 CIELO DR	DOVER	NH	03820-5608
H0004-000036	DUFFY J PATRICK &	DUFFY KAREN B	536 MIDDLE RD	DOVER	NH	03820-4933
H0004-000037	ECHOLS NANCY J		37 CIELO DR	DOVER	NH	03820
H0004-000038	VALHOS LISA R &	BYRNES ANGELA	38 CIELO DR	DOVER	NH	03820
H0004-000039	GOSCINSKI LOUIS J & DONNA CO-TRUSTEES	GOSCINSKI L JAMES JR IRREVOCABLE TRUST	39 CIELO DR	DOVER	NH	03820
H0004-000040	KELLEY KEVIN D		36 THREE RIVERS FARM RD	DOVER	NH	03820
H0004-000041	BLEW DAVID S III		41 CIELO DR	DOVER	NH	03820
H0004-000042	RICHARDS BEATRICE E TRUSTEE	BEATRICE E REVOCABLE LIVING TRUST	42 CIELO DR	DOVER	NH	03820
H0004-000043	NICHOLS AARON R & ANNE M TRUSTEES	NICHOLS AARON R AND ANNE M REVOCABLE LIV	80 COTTONWOOD DR	DOVER	NH	03820
H0004-000044	MORPHEW JAMES A JR &	MORPHEW RITA	44 CIELO DR	DOVER	NH	03820
H0004-000045	TURMELLE THOMAS C & QUIN KEVIN JD TRUSTE	TURMELLE CONRAD LIVING	45 CIELO DR	DOVER	NH	03820
H0004-000046	NORDEN VALLE G & DAILY B TRUSTEES	NORDEN REVOCABLE TRUST	46 CIELO DR	DOVER	NH	03820

H0004-000047	DOLBEC RICHARD E & ELAINE M TRUSTEE	DOLBEC RICHARD & ELAINE REVOCABLE TRUSTS	47 CIELO DR	DOVER	NH	03820
H0004-000048	MORJARIA NICOLE M TRUSTEE	ARSENAULT FAMILY IRREVOCABLE TRUST	48 CIELO DR	DOVER	NH	03820
H0004-000049	MARTIN BRADBURY SUSAN L TRUSTEE	MARTIN BRADBURY SUSAN L REVOCABLE TRUST	49 CIELO DR	DOVER	NH	03820
H0004-000050	HASKELL SUSAN L 2/3 &	LANDRY MARY KAY 1/3	50 CIELO DR	DOVER	NH	03820
H0004-000051	BLACKBURN JOHN R		55 HEMLOCK CT	NEWFIELDS	NH	03856
H0004-000052	MCPHEE ROBERT L & LYNDA R TRUSTEES	MCPHEE ROBERT L AND LYNDA REVOCABLE LIVI	52 CIELO DR	DOVER	NH	03820
H0004-000053	MONTEIRO ALEXANDRINO J TRUSTEE	MONTEIRO ALEXANDRINO J REVOCABLE TRUST	53 CIELO DR	DOVER	NH	03820
H0004-000054	BURNS LEE ANN TRUSTEE	BURNS LEE ANN REV TRUST OF 1994	54 CIELO DR	DOVER	NH	03820
H0004-000055	CANINO MICHAEL A &	CANINO BRENDA K	55 CIELO DR	DOVER	NH	03820
H0004-000056	BRAYTON JACQUELINE L TRUSTEE	BRAYTON JACQUELINE L REVOCABLE TRUST	56 CIELO DR	DOVER	NH	03820
H0004-000057	HERON BAY PARTNERS LLC		242 CENTRAL AV	DOVER	NH	03820
H0004-000058	SCHULTE NANCY L		58 CIELO DR	DOVER	NH	03820
H0004-000060	RICKER DONNA M TRUSTEE	RICKER DONNA M LIVING REVOCABLE TRUST	60 CIELO DR	DOVER	NH	03820
H0004-000062	GRECO MICHAEL B		62 CIELO DR	DOVER	NH	03820
H0004-000064	JONES HEATHER TRUSTEE	JONES DOUGLAS GREIR AND HEATHER REVOCABL	64 CIELO DR	DOVER	NH	03820-5607
H0004-000066	ATHERTON WAYNE M & JANICE M TRUSTEES	ATHERTON WAYNE AND JANICE REVOCABLE TRUS	66 CIELO DR	DOVER	NH	03820-5607
H0004-000068	VASSALLO DIANE		70 CIELO DR	DOVER	NH	03820
H0004-000070	BOOTHBY GERALD &	BOOTHBY LOUISE	72 CIELO DRIVE	DOVER	NH	03820
H0004-000072	LINDSAY TIMOTHY & CHERYL TRUSTEES	LINDSAY TIMOTHY AND CHERYL REVOCABLE TRU	4 BAYVIEW RD	DOVER	NH	03820
H0004-000074	HERON BAY PARTNERS LLC		242 CENTRAL AV	DOVER	NH	03820
H0004-000076	LARSON RONALD E		76 CIELO DR	DOVER	NH	03820-5607
H0004-000078	MENEZ JOAN E TRUSTEE	JOAN E MENEZ IRREVOCABLE TRUST	78 CIELO DR	DOVER	NH	03820
H0004-000080	HERON BAY PARTNERS LLC		242 CENTRAL AV	DOVER	NH	03820
H0004-000082	HERON BAY PARTNERS LLC		242 CENTRAL AV	DOVER	NH	03820

First Class

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
H0035-D00000	LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000311	311 LILAC LN	MCGIRL MITZI R		25 MILL RD	HAMPTON	NH	03842-2239
H035D-000312	312 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820-4315
H035D-000313	313 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000314	314 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000315	315 LILAC LN	ONKARAM VENKATESWARLU &	BADABAGNI SUJATHA	12 LEE RD	MADBURY	NH	03823
H035D-000316	316 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000317	317 LILAC LN	MAYBERRY MATTHEW P		PO BOX 2242	DOVER	NH	03821
H035D-000318	318 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000321	321 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000322	322 LILAC LN	KKPOPE NORTH LLC		3 ELIZABETH LN	RYE	NH	03870
H035D-000323	323 LILAC LN	KKPOPE NORTH LLC		3 ELIZABETH LN	RYE	NH	03870
H035D-000324	324 LILAC LN	PATEL ASHOK B &	PATEL PRAVINA A	13 ISAAC LUCAS CIRCLE	DOVER	NH	03820
H035D-000325	325 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000326	326 LILAC LN	GOLDEN BRIDGES LLC		129 BRICKMILL RD	BEDFORD	NH	03110
H035D-000327	327 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820-5413
H035D-000328	328 LILAC LN	ONKARAM VENKATESWARLU &	BADABAGNI SUJATHA	12 LEE RD	MADBURY	NH	03823
H035D-000331	331 LILAC LN	LILAC GARDEN LLC		1 LILAC LN	DOVER	NH	03820
H035D-000332	332 LILAC LN	LILAC GARDEN LLC		1 LILAC LN	DOVER	NH	03820
H035D-000333	333 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820-5413
H035D-000334	334 LILAC LN	GOLDEN BRIDGES LLC		129 BRICK MILL RD	BEDFORD	NH	03110
H035D-000335	335 LILAC LN	CHEN HENG-CHUN &	SHIEH SHUCHING	5 COVEY RD	NASHUA	NH	03062
H035D-000336	336 LILAC LN	SAMUELSON THOMAS F TRUSTEE	SAMUELSON THOMAS F REVOCABLE TRUST	6 MOHAWK ST	HAMPTON	NH	03842
H035D-000337	337 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820-5413
H035D-000338	338 LILAC LN	DESAUTELS LEE &	DESAUTELS ELLEN	2 DOVER-ELIOT RD	SOUTH BERWICK	ME	03908
H035D-012011	1211 LILAC LN	CADDICK RONALD P		1211 LILAC LN	DOVER	NH	03820
H035D-012012	1212 LILAC LN	MONUMENT GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820-5413
H035D-012013	1213 LILAC LN	MONUMENT GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820-5413
H035D-012014	1214 LILAC LN	MONUMENT GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820-5413
H035D-012015	1215 LILAC LN	PLANTE JAMES		1215 LILAC LN	DOVER	NH	03820
H035D-012016	1216 LILAC LN	GOLDEN BRIDGES II LLC		1216 LILAC LN	DOVER	NH	03820
H035D-012017	1217 LILAC LN	HASKINS ROBERT C		1217 LILAC LN	DOVER	NH	03820
H035D-012018	1218 LILAC LN	ATTALLAH TARRY		4 LONGHILL CIRCLE	MADBURY	NH	03823
H035D-012021	1221 LILAC LN	ETTIEN JAMES K		1221 LILAC LN	DOVER	NH	03820
H035D-012022	1222 LILAC LN	MONUMENT GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820-5413
H035D-012023	1223 LILAC LN	KGW LLC		8 GIFFORD FARM RD	STRATHAM	NH	03885-2260
H035D-012024	1224 LILAC LN	SHARMA MEGHA		1611 WHITE CEDAR BOULEVARD	PORTSMOUTH	NH	03801
H035D-012025	1225 LILAC LN	AARONIAN ANDREW &	MCCANN COLLEEN M	5 WASON LN	ATKINSON	NH	03811
H035D-012026	1226 LILAC LN	MONUMENT GARDEN LLC		1 LILAC LN	DOVER	NH	03820-5413
H035D-012027	1227 LILAC LN	GOLDEN BRIDGES II LLC		1227 LILAC LN	DOVER	NH	03820
H035D-012028	1228 LILAC LN	ONKARAM VENKATESWARLU &	BADABAGNI SUJATHA	12 LEE RD	MADBURY	NH	03823
H035D-012031	1231 LILAC LN	ELMORAGHY EDWARD H		4 LONGHILL CIRCLE	MADBURY	NH	03823
H035D-012032	1232 LILAC LN	GODBOUT KEITH MICHAEL &	GODBOUT SUSAN	8 BLEVENS DR	CONCORD	NH	03301
H035D-012033	1233 LILAC LN	BURNS MICHELE		1233 LILAC LN	DOVER	NH	03820-8400
H035D-012034	1234 LILAC LN	MONUMENT GARDEN LLC		1234 LILAC LN	DOVER	NH	03820
H035D-012035	1235 LILAC LN	ONKARAM VENKATESWARLU		12 LEE RD	MADBURY	NH	03823
H035D-012036	1236 LILAC LN	FOWLER BENJAMIN &	HASKELL SARAH D	PO BOX 452	YORK	ME	03909
H035D-012037	1237 LILAC LN	DAO-DALZELL JAMES E TRUSTEE	DAO-DALZELL JAMES E REV LIV TRUST	185 THREE RIVERS FARM RD	DOVER	NH	03820
H035D-012038	1238 LILAC LN	PATEL SUHITKUMAR & PANNABAHEN TRUSTEES	PATEL SUHITKUMARAND PANNABAHEN FAMILY R	1238 LILAC LN	DOVER	NH	03820

Erickson motioned to approve the requested expenditure of $150,000 from the Conservation Fund, Lyon seconded. Vote: 7 in favor.

B. City of Dover Conditional Use Permit for 46 Venture Drive Properties, LLC (Owner: Hussey Manufacturing Technology, LLC), Assessor's Map D, Lot 11-2, zoned I-4, located at 46 Venture Drive.

Steve Haight was present to explain the proposal for construction of a 15,000 sq. ft. commercial building with driveways, paved parking and associated grading and drainage impacting 2,669 sq. ft. of steep slopes of 20% or greater. The drainage plans were reviewed. The plan has been to TRC and the plans were revised to reflect their comments. DBIDA approved the use of the parcel. The 20% slopes along the road were created when Venture Drive was built.

Fellows moved to endorse the Conditional Use Permit as presented, Schmidt seconded. Vote: 7 in favor

C. City of Dover Conditional Use Permit and NHDES Wetlands Permit for the City of Dover, Assessor's Map H, Lot 58, zoned I-4, located at 271 Mast Road.

Tom Page of Underwood Engineers was present to explain the proposal to construct a replacement artificial recharge facility on Bellamy River, including a new passive river intake structure, a new suction lifting pumping station, and a new pumping building, with 500 sq. ft. of permanent wetlands impact and a temporary wetlands impact of 1,450 square feet. Artificial recharge adds water from the river to recharge basins to help recharge aquifers and to prevent contamination from Madbury Metals impacting the wells. We met with NH Fish & Game to select the correct size screen for the intake. The wetlands permit has been submitted. Plan is to construct in 2020. This requires a 401 water quality permit from the state.

Hunt: Is there much of a change in the project footprint?

Page: The building is slightly larger.

Bird: Where are the recharge basins located?

Page showed them on a map.

Hunt: The water in the Bellamy River comes from the Bellamy Reservoir, which is controlled by Portsmouth.

Page: We are using State Drinking Water Funding to pay for this project.

Fellows moved to endorse the Conditional Use Permit and NHDES Wetlands Permit as presented, Erickson seconded. Vote: 7 in favor

D. City of Dover Conditional Use Permit for Eversource Energy, Assessor's Map I, Lot 22, owned by Jensen's Inc. at 13 Brookmoor Road, zoned R-40, and Assessor's Map M, Lot 91-A, owned by Townsquare Media Portsmouth, LLC at 292 Middle Road, zoned R-40.

Sarah Barnum of Normandeau Associated was present to explain the proposal to replace five existing utility pole structures in a utility easement, with temporary wetland impacts of 18,879 square feet and temporary 50-foot wetland buffer impacts of 44,543 square feet. We did a site walk with the contractor last week to refine the impacts to wetlands and they will be reduced.

Fellows: What activity takes place in each site?

CITY OF DOVER, New Hampshire

City Project No. _____

FOR APPROVAL
(Planning File # P21-31)

PUDDING HILL WATER TREATMENT FACILITY

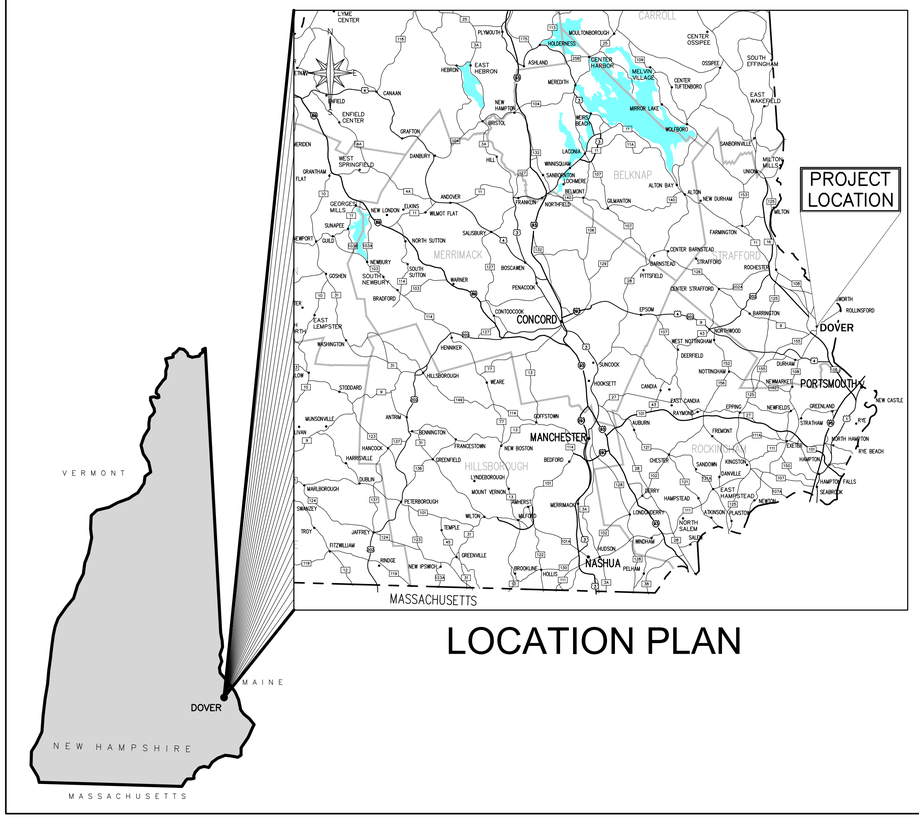
OWNER/APPLICANT:
City of Dover, NH
288 Central Ave.
Dover, NH 03820

Authorized Signature

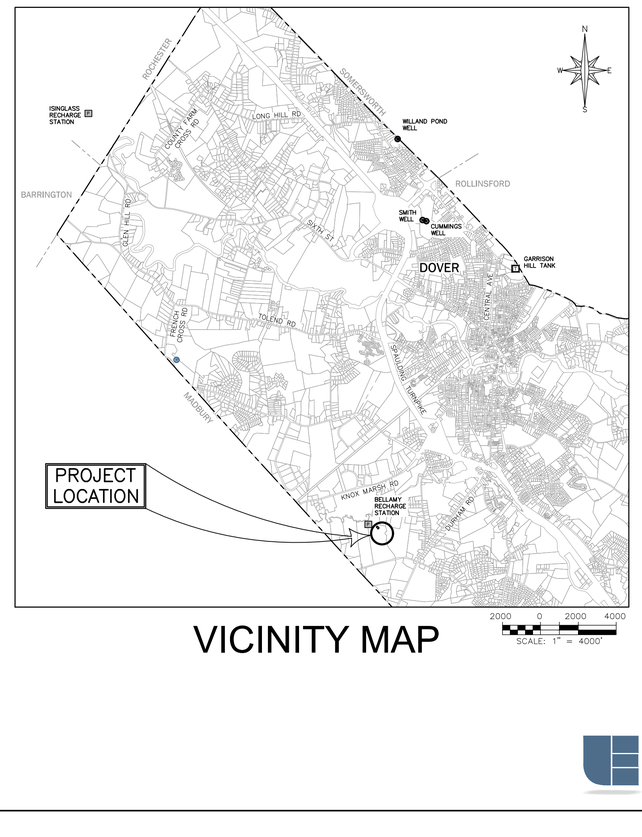
PREPARED BY
UNDERWOOD ENGINEERS
PORTSMOUTH, NEW HAMPSHIRE

This is a partial drawing set for Planning Board Submission. This drawing set has not been released for construction.

MAY, 2021



LOCATION PLAN



VICINITY MAP

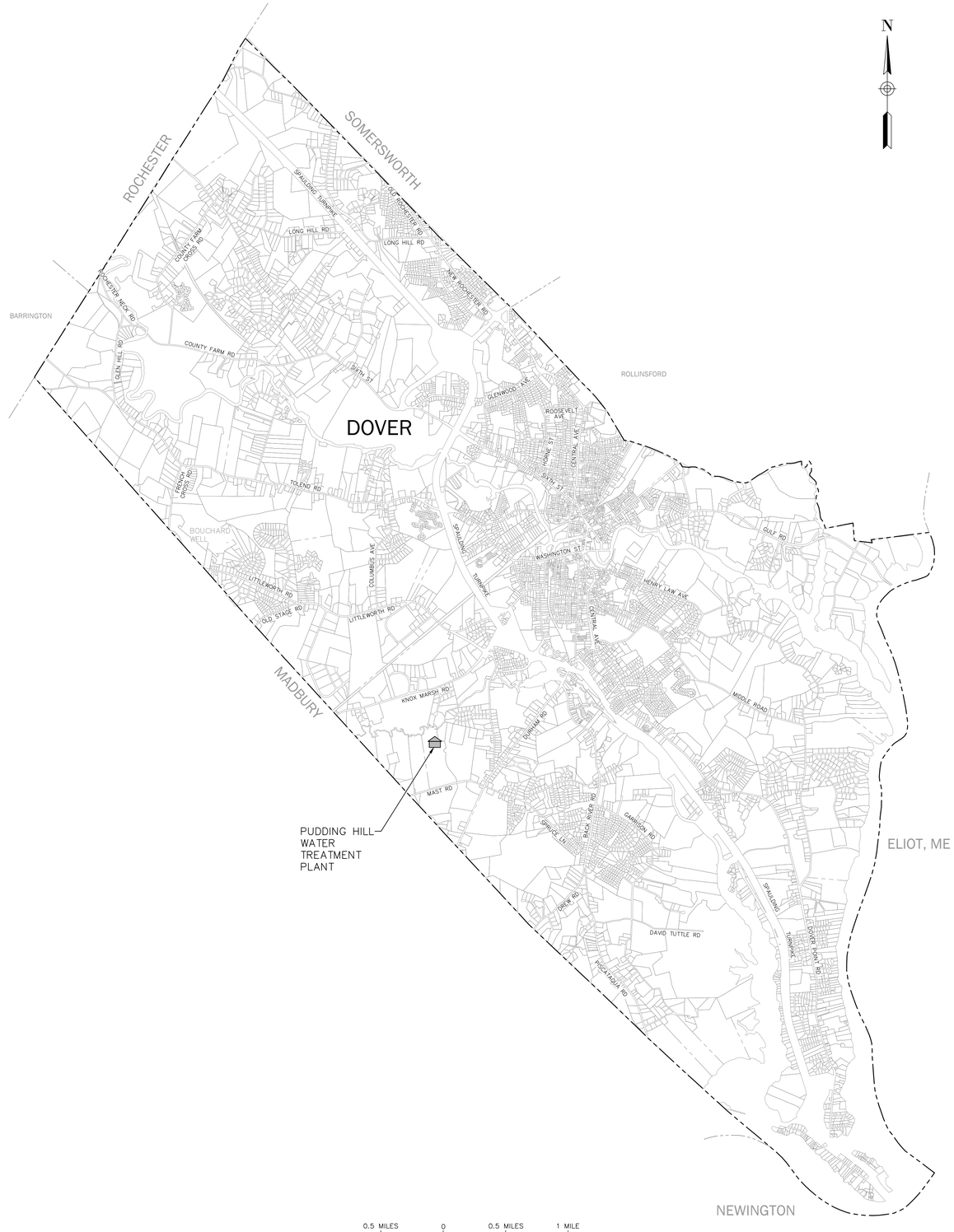
UE #2509

UNDERWOOD engineers

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DWG#	SHEET TITLE	SHEET
GENERAL		
–	COVER SHEET	–
G1	INDEX & LOCATION PLAN	1
G2	GENERAL NOTES I	2
G3	GENERAL NOTES II	3
G4	LEGEND & ABBREVIATIONS	4
DEMOLITION		
D1	IRELAND WELL SITE DEMOLITION PLAN	5
CIVIL		
C1	OVERALL SITE PLAN	6
C2	UTILITY PLAN I	7
C3	UTILITY PLAN II	8
C4	WTP SITE PLAN	9
C5	WTP ROAD PLAN AND PROFILE I	10
C6	WTP ROAD PLAN AND PROFILE II	11
C7	IRELAND WELL SITE PLAN	12
C8	GRIFFIN WTP SITE PLAN – VALVE CLUSTER	13
C9	WATER DETAILS	14
C10	EROSION CONTROL DETAILS	15
C11	SEWER AND DRAINAGE DETAILS	16
C12	ROADWAY AND SITE DETAILS I	17
C13	ROADWAY AND SITE DETAILS II	18
ARCHITECTURAL		
~~A01~~	~~PROJECT DESIGN DATA~~	~~19~~
~~A02~~	~~EXIT ACCESS PLAN – LOWER LEVEL~~	~~20~~
~~A03~~	~~EXIT ACCESS MAIN LEVEL PLAN~~	~~21~~
~~A10~~	~~FND/LOWER LEVEL PLAN~~	~~22~~
~~A11~~	~~MAIN LEVEL PLAN~~	~~23~~
~~A12~~	~~UPPER LEVEL PLAN~~	~~24~~
~~A13~~	~~UPPER LEVEL PLAN~~	~~25~~
~~A14~~	~~ROOF LEVELS PLAN~~	~~26~~
~~A15~~	~~REFLECTED PLANS~~	~~27~~
A20	BUILDING ELEVATIONS	28
A21	BUILDING ELEVATIONS	29
~~A30~~	~~BUILDING SECTIONS~~	~~30~~
~~A31~~	~~BUILDING SECTIONS~~	~~31~~
~~A32~~	~~BLDG SECTION: LOWER/MAIN LEVELS~~	~~32~~
~~A33~~	~~BLDG SECTION: MAIN LEVEL~~	~~33~~
~~A34~~	~~BLDG SECTIONS: LOWER/MAIN LEVELS~~	~~34~~
~~A35~~	~~BLDG SECTION: LOWER/MAIN LEVELS~~	~~35~~
~~A36~~	~~SECTION: LOWER & MAIN LEVELS~~	~~36~~
~~A40~~	~~SECTION DETAILS~~	~~37~~
~~A41~~	~~SECTION DETAILS~~	~~38~~
~~A42~~	~~SECTION DETAILS~~	~~39~~
~~A43~~	~~SECTION DETAILS~~	~~40~~
~~A50~~	~~INT'R EL., WALL TYPES, DETAILS~~	~~41~~
~~A60~~	~~SCHEDULES~~	~~42~~
STRUCTURAL		
~~S1~~	~~GENERAL NOTES~~	~~43~~
~~S2~~	~~FOUNDATION AND BASE SLAB PLAN~~	~~44~~
~~S3~~	~~MAIN LEVEL FRAMING PLAN~~	~~45~~
~~S4~~	~~ROOF FRAMING PLAN~~	~~46~~
~~S5~~	~~TYPICAL DETAILS~~	~~47~~
~~S6~~	~~FOUNDATION AND WALL DETAILS~~	~~48~~
~~S7~~	~~FOUNDATION AND WALL DETAILS CONT.~~	~~49~~
~~S8~~	~~WALL AND ROOF FRAMING DETAILS~~	~~50~~

DWG#	SHEET TITLE	SHEET
PROCESS		
~~P1~~	~~PROCESS PIPING LEGEND AND NOTES~~	~~51~~
~~P2~~	~~DESIGN DATA SUMMARY~~	~~52~~
~~P3~~	~~PROCESS FLOW DIAGRAM~~	~~53~~
~~P4~~	~~UPPER LEVEL PROCESS PLAN~~	~~54~~
~~P5~~	~~LOWER LEVEL PROCESS PLAN~~	~~55~~
~~P6~~	~~PROCESS SECTIONS I~~	~~56~~
~~P7~~	~~PROCESS SECTIONS II~~	~~57~~
~~P8~~	~~PROCESS SECTIONS III~~	~~58~~
~~P9~~	~~PFAS TREATMENT DETAILS~~	~~59~~
~~P10~~	~~PROCESS DETAILS I~~	~~60~~
~~P11~~	~~PROCESS DETAILS II~~	~~61~~
~~P12~~	~~PROCESS DETAILS III~~	~~62~~
MECHANICAL		
~~M1~~	~~HVAC BASIS OF DESIGN~~	~~63~~
~~M2~~	~~HVAC LOWER LEVEL PLAN~~	~~64~~
~~M3~~	~~HVAC MAIN LEVEL PLAN~~	~~65~~
~~M4~~	~~HVAC ROOF PLAN~~	~~66~~
~~M5~~	~~HVAC SCHEDULES~~	~~67~~
~~M6~~	~~HVAC SCHEDULES~~	~~68~~
~~M7~~	~~HVAC FLOW SCHEMATICS~~	~~69~~
~~M8~~	~~HVAC DETAILS~~	~~70~~
~~M9~~	~~PLUMBING BASIS OF DESIGN & DETAILS~~	~~71~~
~~M10~~	~~PLUMBING LOWER LEVEL PALN~~	~~72~~
~~M11~~	~~PLUMBING MAIN LEVEL PLAN~~	~~73~~
~~M12~~	~~PLUMBING ROOF PLAN~~	~~74~~
~~M13~~	~~PLUMBING SCHEDULES~~	~~75~~
~~M14~~	~~FIRE PROTECTION BASIS OF DESIGN~~	~~76~~
~~M15~~	~~FIRE PROTECTION LOWER LEVEL PLAN~~	~~77~~
~~M16~~	~~FIRE PROTECTION MAIN LEVEL PLAN~~	~~78~~
~~M17~~	~~FIRE PROTECTION DETAILS~~	~~79~~
ELECTRICAL		
~~E1~~	~~GENERAL ELECTRICAL NOTES & LEGEND~~	~~80~~
~~E2~~	~~OVERALL ELECTRICAL SITE PLAN~~	~~81~~
~~E3~~	~~WTP ENLARGED SITE PLAN~~	~~82~~
~~E4~~	~~IRELAND ENLARGED SITE PLAN~~	~~83~~
~~E5~~	~~IRELAND COMMUNICATIONS SITE PLAN~~	~~84~~
~~E6~~	~~CELL TOWER 'A' SITE PLAN~~	~~85~~
~~E7~~	~~CELL TOWER 'A' SITE PLAN CONTINUATION~~	~~86~~
~~E8~~	~~DUCK BANK SCH. W/ DUCK SECTIONS & DETAILS~~	~~87~~
~~E9~~	~~SITE PLAN DETAILS~~	~~88~~
~~E_~~	~~WTF ELECTRICAL ONE-LINE DIAGRAM~~	~~89~~
~~E10~~	~~WTF ONE LINE DIAGRAM CONTINUATION~~	~~90~~
~~E11~~	~~WTF ELECTRICAL EQUIPMENT ELEVATION~~	~~91~~
~~E13~~	~~UPPER LEVEL POWER PLAN~~	~~92~~
~~E14~~	~~LOWER LEVEL POWER PLAN~~	~~93~~
~~E15~~	~~UPPER LEVEL LIGHTING PLAN~~	~~94~~
~~E16~~	~~LOWER LEVEL LIGHTING PLAN~~	~~95~~
~~E17~~	~~UPPER LEVEL FIRE AND SECURITY ALARM PLAN~~	~~96~~
~~E18~~	~~LOWER LEVEL FIRE AND SECURITY ALARM PLAN~~	~~97~~
INSTRUMENTATION		
~~I1~~	~~GENERAL ELECTRICAL NOTES & LEGEND~~	~~98~~
~~I9~~	~~LOOP, WIRE, & CONDUIT SCHEDULE~~	~~99~~
~~I10~~	~~LOOP, WIRE, & CONDUIT SCHEDULE~~	~~100~~



ISSUE FOR
APPROVAL By – Date –
CONSTRUCTION By – Date –
RECORD DRAWING By – Date –

NO.	REVISIONS	APP'D

Drawn/Chk RMG
Designed JMC
Checked TGP
Approved –
Date 5/12/2021
Book No. –
Project No. 2509
Dwg. ID 1889-Index
Scale AS SHOWN

STATE OF NEW HAMPSHIRE – THOMAS G. PAGE No. 10857 – PROFESSIONAL ENGINEER

UNDERWOOD engineers
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

INDEX & LOCATION PLAN

PUDDING HILL TREATMENT FACILITY

CITY OF DOVER, NEW HAMPSHIRE

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DWG NO G1 | SHEET 1 OF x

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GENERAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION, PROTECTION AND REPAIR (IF DAMAGED) OF ALL EXISTING UTILITIES AND SERVICES. THE APPROXIMATE LOCATIONS OF UTILITIES AND SERVICES ARE SHOWN ON THE DRAWINGS. NOT ALL UTILITIES ARE SHOWN ON THE PLANS. NOTIFY DIG-SAFE PRIOR TO COMMENCING CONSTRUCTION (811) AT THE REQUIRED FREQUENCY DICTATED BY LAW. CONTRACTOR SHALL GIVE ADEQUATE NOTICE TO THE ENGINEER OF CONFLICTS OF PROPOSED WORK WITH MARKED UTILITIES PRIOR TO CONSTRUCTING THE PROPOSED WORK.
2. THE SURFACE EVIDENCE OF THE UTILITIES SHOWN HAVE BEEN LOCATED BY FIELD SURVEY. THE LINE WORK REPRESENTING THE UNDERGROUND STRUCTURES AND PIPES SHOWN ARE BASED ON SURVEY AND PLANS AVAILABLE. THE ENGINEER/SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE ENGINEER/SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.
3. CONTRACTOR IS RESPONSIBLE FOR OBTAINING CONSTRUCTION DEWATERING PERMIT, IF NECESSARY.
4. CONTRACTOR IS RESPONSIBLE FOR OBTAINING CITY OF DOVER EXCAVATION PERMITS.
5. THIS SET OF PLANS HAS BEEN CREATED TO BE USED IN CONJUNCTION WITH A TECHNICAL SPECIFICATION ENTITLED "PUDDING HILL WATER TREATMENT FACILITY".
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL SURPLUS EARTH, TREES, LEDGE, PIPE AND SEWER OR DRAIN STRUCTURES EXCAVATED DURING CONSTRUCTION, UNLESS OTHERWISE INDICATED IN THE PROJECT MANUAL OR THE DRAWINGS OR UNLESS MATERIALS ARE CLAIMED BY THE OWNER.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROPERTY RESTORATION BOTH PUBLIC AND PRIVATE. UTILITIES DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
8. NOT ALL OVERHEAD WIRE DROPS TO BUILDINGS ARE SHOWN. THE CONTRACTOR SHALL ANTICIPATE THEIR EXISTENCE IN ALL OPERATIONS.
9. CONTRACTOR IS RESPONSIBLE FOR SITE SECURITY AND SAFETY.
10. CONSTRUCTION SEQUENCE (GENERAL): PERFORM WORK IN GENERAL IN THIS SEQUENCE:
    A. PRIOR TO START OF CONSTRUCTION, PROVIDE A WRITTEN NARRATIVE OF CONSTRUCTION METHODS TO BE USED AND A PRELIMINARY SCHEDULE OF KEY MILESTONES.
    B. PREPARE SITE WHERE CONSTRUCTION IS PROPOSED.
    C. CONSTRUCT TEMPORARY AND PERMANENT EROSION CONTROL FACILITIES. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION.
    D. INSTALL PIPE IN DRY CONDITIONS TO ELEVATIONS SHOWN ON THE DRAWINGS. STABILIZE DISTURBED AREAS IMMEDIATELY AFTER PIPE INSTALLATION.
    E. BEGIN SEEDING AND MULCHING IMMEDIATELY AFTER FINAL GRADING.
    F. FINISH GRADING, SEEDING, AND MULCHING OF SHOULDERS, DITCHES, AND DISTURBED AREAS.
    G. AFTER ALL DISTURBED AREAS HAVE ESTABLISHED VEGETATIVE COVER, (APPROVED BY THE ENGINEER) REMOVE TEMPORARY EROSION CONTROL MEASURES.
11. REFER TO GEOTECHNICAL REPORT FOR SUBSURFACE AND SOIL CONDITIONS. (TECHNICAL SPECIFICATIONS, APPENDIX A).
12. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATION FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.

WATER DISTRIBUTION SYSTEM NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF ALL NEW WATER LINES. THE INTENT IS TO INSTALL THE NEW WATER LINE IN THE APPROXIMATE LOCATION AS SHOWN ON THE PLANS. EXISTING WATER LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF EXISTING MAINS THAT ARE REMOVED.
2. MAINTAIN A MINIMUM 10 FEET HORIZONTAL DISTANCE BETWEEN WATER MAIN AND SEWER PIPING. MAINTAIN A MINIMUM 6 FEET HORIZONTAL DISTANCE (OUTSIDE OF PIPE TO OUTSIDE OF PIPE) BETWEEN WATER MAIN AND STORM DRAIN. NOTIFY ENGINEER OF ANY DISCREPANCIES.
3. MINIMUM DEPTH OF COVER SHALL BE 5' UNLESS SHOWN OTHERWISE ON THE DRAWINGS. THE NEW MAINS SHALL GENERALLY FOLLOW THE GROUND CONTOUR AND INSTALLED AT A CONTINUOUS RISING SLOPE TO AVOID HIGH POINTS. ABRUPT CHANGES IN GRADE SHALL BE AVOIDED.
4. ALL NEW MAINS SHALL BE POLY WRAPPED CLASS 52 DOUBLE CEMENT LINE DUCTILE IRON OR SDR HDPE, WHICH SHALL BE HDPE DR-11, AS SHOWN ON THE DRAWINGS. ALL JOINTS FOR DUCTILE IRON PIPE SHALL BE PUSH-ON JOINTS UNLESS SHOWN OTHERWISE ON THE DRAWINGS. ALL FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT CLASS 350, UNLESS OTHERWISE SHOWN ON THE DRAWINGS. ALL HDPE PIPE TO BE FUSED.
5. ALL FITTINGS, HYDRANTS AND VALVES SHALL BE RESTRAINED BY USING PRECAST CONCRETE THRUST BLOCKS AND RETAINER GLANDS. MECHANICAL JOINT ADAPTERS SHALL BE USED TO JOIN GATE VALVES TO FITTINGS AND SHALL BE MECHANICAL JOINT FOSTER ADAPTERS, OR APPROVED EQUAL. 6" BRANCHES SHALL USE ANCHOR TEES. 8" AND 12" BRANCHES SHALL USE MECHANICAL JOINTS WITH FOSTER ADAPTERS WHERE APPLICABLE.
6. TEST PRESSURE FOR THE COMBINED PRESSURE AND LEAKAGE TEST SHALL BE 150 PSI OR 150% OF NORMAL OPERATING PRESSURE WHICHEVER IS GREATER. TEST SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C-600.
7. TRENCHES SHALL NOT BE LEFT OPEN DURING NON-WORKING HOURS. ALL OPEN PIPES SHALL BE SECURED WITH A WATERTIGHT PLUG WHEN THE PIPE IS TEMPORARILY BACKFILLED AND WHEN PIPE LAYING IS NOT IN PROCESS.
8. A NEW WATER MAIN MUST CROSS ABOVE A SANITARY SEWER BUT MAY CROSS ABOVE OR BELOW A STORM SEWER. A FULL LENGTH OF WATER MAIN SHALL BE CENTERED AT THE CROSSING. MAINTAIN A MINIMUM CLEAR SEPARATION DISTANCE OF 18 INCHES.
9. NO VALVES, VALVE BOXES, FITTINGS, PIPE, ETC. SHALL BE RE-USED IN THE WORK. ALL ITEMS MEASURED FOR PAYMENT SHALL BE NEW, UNLESS SPECIFICALLY NOTED.
10. NOT ALL REQUIRED FITTINGS SUCH AS BENDS AND COUPLINGS ARE INDICATED. SOME FITTINGS MAY NOT BE REQUIRED DEPENDING ON THE FINAL LAYOUT. REQUIRED NUMBER, LOCATION, AND SIZE OF FITTINGS SHALL BE DETERMINED IN THE FIELD.
11. ALL EXISTING SYSTEM VALVES SHALL BE OPERATED ONLY BY CITY PERSONNEL. THE CONTRACTOR SHALL NOTIFY THE OWNER IF VALVE OPERATION IS REQUIRED.
12. ALL EXISTING WATER PIPE IDENTIFIED AS ABANDONED SHALL BE DEMOLISHED AS FOLLOWS: PIPE: CAP AT EACH END AND ABANDON IN PLACE UNLESS IT NEEDS TO BE REMOVED BECAUSE OF OTHER INTERFERENCES (INCIDENTAL), UNLESS NOTED OTHERWISE.
13. ALL GATE VALVES SHALL HAVE RESTRAINED MECHANICAL JOINTS AND BE JOINED DIRECTLY TO FITTINGS WITH FOSTER-ADAPTORS AND OPEN LEFT.
14. ASBESTOS CEMENT (AC) PIPE INDICATED TO BE DEMOLISHED SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS PAID AS ITEM 6. UNDAMAGED ABANDONED AC PIPE SHALL BE LEFT IN PLACE.

SEWER AND DRAIN NOTES

1. ALL EXISTING STORM DRAINAGE SHALL BE PROTECTED BY CONTRACTOR. ANY EXISTING DRAINAGE DAMAGED WHILE COMPLETING THE WORK SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

REFERENCE PLANS:

1. "CITY OF DOVER, NEW HAMPSHIRE, NHDES SITE #1984-01044 198, PROJECT #B17009 PUDDING HILL AQUIFER INTERIM IMPROVEMENTS, RECORD DRAWINGS" BY UNDERWOOD ENGINEERS, INC. PORTSMOUTH, NH, DATED JANUARY 30, 2018.
2. "CITY OF DOVER, NEW HAMPSHIRE, CITY PROJECT #B20039, NHDES SWSRF #0651010-04, WATER FACILITY IMPROVEMENTS – PHASE 2, CONTRACT 4, BELLAMY RECHARGE, FOR CONSTRUCTION" BY UNDERWOOD ENGINEERS, INC. PORTSMOUTH, NH, DATED APRIL 3, 2020.
3. "STONEWALL DRIVE SEWER PUMP STATION, SITE REVIEW PLANS" BY ALTUS ENGINEERING, INC. PORTSMOUTH, NH, DATED APRIL 1, 2015.
4. "AS-BUILT ROADWAY PLAN OF STONEWALL DRIVE INFRASTRUCTURE" BY McENEANEY SURVEY ASSOCIATES, INC. DATED MAY 25, 2016.

STORMWATER MANAGEMENT, EROSION & SEDIMENTATION CONTROL NOTES

1. A NPDES GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES IS REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS REQUIRED TO PREPARE AND SUBMIT BOTH A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND A NOTICE OF INTENT (NOI) TO FULFILL PROJECT REQUIREMENTS. THE SWPPP MUST BE PREPARED IN ACCORDANCE WITH THE EPA'S REQUIREMENTS. NO WORK IS TO PROCEED UNTIL THE SWPPP AND THE NOI ARE SUBMITTED AND ACCEPTED BY THE OWNER AND THE ENGINEER.
2. THE CONTRACTOR SHALL SUBMIT, FOR REVIEW AND APPROVAL, A SCHEDULE TO INCLUDE ALL EARTHWORK ACTIVITIES IN ACCORDANCE WITH SECTION 01310 OF THE PROJECT MANUAL.
3. EXCAVATION AND EARTHWORK SHALL BE CONDUCTED IN A MANNER THAT WILL MINIMIZE EFFECTS OF EROSION THROUGHOUT CONSTRUCTION.
4. THE CONTRACTOR SHALL, TO THE EXTENT POSSIBLE, PHASE EARTH WORK ACTIVITIES SO THAT THE SMALLEST PRACTICAL LAND AREA IS EXPOSED AT ANY GIVEN TIME.
5. THE CONTRACTOR SHALL LOAM, SEED AND MULCH ALL CUT SLOPES IMMEDIATELY FOLLOWING FINAL GRADING. TEMPORARY SEEDING AND MULCH SHALL BE APPLIED AT ALL UNVEGETATED AREAS THAT WILL BE EXPOSED FOR A PERIOD EXCEEDING TWENTY (20) DAYS.
6. HAYBALES, SILT FENCING AND EROSION STONE SHALL BE INSTALLED WHERE NECESSARY TO MINIMIZE THE EFFECTS OF EROSION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ANY ADDITIONAL MEASURES THAT MAY BE REQUIRED WHERE NECESSARY TO OBTAIN THE OBJECTIVES DESCRIBED HEREIN. ALL WORK SHALL BE COMPLETED IN CONFORMANCE WITH THE LATEST EDITION OF "STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE." PREVENT THE DEGRADATION OF DOWNSTREAM PROPERTIES AND DRAINAGE.
7. DRAINAGE SWALES SHALL BE MONITORED AND MAINTAINED THROUGHOUT CONSTRUCTION. SILT SHALL BE PERIODICALLY REMOVED FROM SWALES AS NECESSARY TO PREVENT MIGRATION.
8. HAY BALE BARRIERS SHALL BE INSTALLED ALONG SWALES AT 100 FOOT INTERVALS, AROUND CATCH BASINS AND AT ALL AREAS WHERE STORMWATER OR TRENCHWATER ARE CONCENTRATED.
9. HAY BALE BARRIERS AND SEDIMENT TRAPS ARE TO BE MAINTAINED AND KEPT CLEAN UNTIL ALL EXPOSED AREAS HAVE A HEALTHY STAND OF GROUND COVER, AT WHICH TIME TEMPORARY MEASURES ARE TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR PROPER DISPOSAL OF SILT AND TEMPORARY MATERIALS REMOVED.
10. DISTURBED AREAS SHALL BE LOAMED AND SEEDED. MINIMUM DEPTH OF LOAM SHALL BE 4 INCHES.
11. PROVIDE SEED (PARK MIXTURE), LIME, FERTILIZER AND MULCH PER SECTION 02935 OF THE PROJECT MANUAL.

SURVEY NOTES

1. SURVEY PERFORMED BY MCENEANEY SURVEY
2. HORIZONTAL DATUM NAD83
   VERTICAL DATUM NGVD29
3. REFERENCE: TAX MAP H, LOT 58

   OWNER OF RECORD:

   CITY OF DOVER, NH
   288 CENTRAL AVENUE
   DOVER, NEW HAMPSHIRE 03820
   S.C.R.D. VOLUME 648, PAGE 271
   S.C.R.D. VOLUME 648, PAGE 272
   S.C.R.D. VOLUME 4312, PAGE 615
   S.C.R.D. VOLUME 4719, PAGE 59
4. H / 58 – DENOTES TAX MAP AND PARCEL NUMBER.
5. THE ELEVATIONS AND EXISTING CONDITIONS DEPICTED ON THIS PLAN ARE THE RESULT OF ON THE GROUND FIELD SURVEY METHODS DURING APRIL 2018, WITH ADDITIONAL FIELD SURVEY DURING JANUARY 2020 & SEPTEMBER 2020.
6. REFERENCE IS MADE TO LOT LINE ADJUSTMENT LOCATED ON THE SUBJECT PARCELS, ENTITLED "PLAN OF LOT LINE ADJUSTMENTS PREPARED FOR THE CITY OF DOVER, NH AND CANDIA SOUTH BRANCH BROOK HOLDINGS, LLC, TAX MAP H, LOT NOS. 58 & 59, MAST ROAD, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE". SCALE: 1" = 100'; DATED: JUNE 25, 2019, REVISED THROUGH 8/8/19; BY: MCENEANEY SURVEY ASSOCIATES, INC. DOVER PLANNING FILE 19-53. RECORDED S.C.R.D. PLANS 119-58 & 119-59. REFERENCE IS ALSO MADE TO AN EASEMENT PLAN RECORDED AT S.C.R.D. AS PLAN 120-19.
7. ZONING REQUIREMENTS:

REQUIRED	PROVIDED
a. DISTRICT: IT	
b. MIN. LOT SIZE: 2 ACRES	57.28 ACRES
c. MIN. LOT FRONTAGE: 200 FT.	1,140 FT
d. MIN. YARD SETBACKS: FRONT: 50 FT. SIDE: 50 FT. REAR: 50 FT. ABUT-A-STREET: 50 FT.	 1,740 FT. 560 FT. 140 FT. 400 FT.
e. MAX. LOT COVERAGE: 33%	< 33% TBD
f. MAX. BUILDING HEIGHT: 55 FT.	29 FT.

THE PROPERTY FALLS WITHIN THE CONSERVATION DISTRICT AND GROUNDWATER PROTECTION ZONE.

ISSUE FOR							
APPROVAL By –							
Date –							
CONSTRUCTION By –							
Date –							
RECORD DRAWING By –							
Date –							
NO.	REVISIONS						APP'D

Drawn/Chk. RMG
Designed JMC
Checked TGP
Approved –
Date 5/12/2021
Book No. –
Project No. 2509
Dwg. ID 2509_G_Notes
Scale AS SHOWN

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – THOMAS G. PAGE No. 10668

UNDERWOOD engineers
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

GENERAL NOTES I

PUDDING HILL TREATMENT FACILITY

CITY OF DOVER, NEW HAMPSHIRE

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DWG NO G2

SHEET 2 OF x

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SITE PLAN NOTES

1. THE INTENT OF THIS PLAN SET IS TO OBTAIN LOCAL APPROVAL FOR THE PROPOSED WATER TREATMENT FACILITY.

2. THERE ARE NO ANTICIPATED SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT OR CONDITIONAL USE PERMITS GRANTED BY THE PLANNING BOARD FOR THE PROPOSED USE OR STRUCTURE.

3. PROPERTY LINE INFORMATION SHOWN IS DEVELOPED FROM REFERENCE PLANS AND IS NOT THE RESULT OF A BOUNDARY SURVEY.

4. THE 100-YEAR FLOOD ELEVATION OF 87.04 FEET AMSL (NAVD 88) WAS INTERPOLATED FROM DATA ON FEMA FLOOD MAPS BY ASSUMING CONSTANT SLOPE BETWEEN AVAILABLE CROSS SECTIONS. THE ELEVATION WAS CONVERTED TO NGVD 29 TO MATCH THE PLANS FOR A FLOOD ELEVATION OF 87.8 FEET.

5. THE SHORELAND REFERENCE LINE IS DEFINED BY NHDES AS THE ORDINARY HIGH-WATER MARK. THE TOP OF THE RIVER BANK IS USED ON THESE DRAWINGS AS A CONSERVATIVE SHORELAND REFERENCE LINE. SETBACK DISTANCES ARE BASED OFF THE TOP OF THE RIVER BANK.

6. CONTRACTOR SHALL INSTRUCT ALL WORKERS ONSITE TO BE AWARE OF THE POSSIBLE PRESENCE OF THE NORTHERN BLACK RACER SNAKES AND SPOTTED TURTLES. ALL OBSERVATIONS OF NORTHERN BLACK RACER SNAKES ENCOUNTERED FROM THE END OF SEPTEMBER THROUGH THE MONTH OF APRIL MUST BE IMMEDIATELY REPORTED TO THE NHFG DEPARTMENT MELISSA DOPERALSKI (603-479-1129) OR BRENDAN CLIFFORD (603-944-0885) AS THIS INDICATES A POTENTIAL HIBERNACULUM IN THE AREA. PLEASE ATTEMPT TO PHOTOGRAPH THIS SPECIES IF POSSIBLE.

7. IF SPOTTED, WOOD OR BLANDING'S TURTLES ARE FOUND LAYING EGGS IN A WORK AREA, PLEASE CONTACT MELISSA DOPERALSKI (603-479-1129 CELL) OR JOSH MEGYESY (978-578-0802 CELL) FOR FURTHER INSTRUCTION.

8. WETLANDS AND I.D. FLAGS SHOWN WERE AS DELINEATED BY DAMON BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES.

   a. FLAGS A1 THROUGH A22 DELINEATED MAY 7, 2017, AND FIELD LOCATED BY MCENEANY SURVEY ON MAY 9, 2017.

   b. FLAGS A30 THROUGH A38 DELINEATED APRIL 27, 2018, AND FIELD LOCATED BY MCENEANY SURVEY ON APRIL 30, 2018.

   c. FLAGS NO. A1 AND A30 ARE THE COMMON CONNECTION POINT.

   d. FLAGS A40 THROUGH A54 DELINEATED JANUARY 10, 2020, AND FIELD LOCATED BY MCENEANY SURVEY ON JANUARY 10, 2020.

   e. FLAGS NO. A39 AND A40 ARE THE COMMON CONNECTION POINT.

9. RECORD DRAWINGS SHALL BE SUBMITTED ON PAPER AND IN DIGITAL AUTOCAD DWG FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT AND WILL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES.

10. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.

11. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.

12. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR ANY EARTH DISTURBING ACTIVITY OCCURS.

13. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.

14. RETAINAGE WITHHELD FROM THE CONTRACTOR SHALL INCLUDE THE COSTS FOR REVEGETATING ALL DISTURBED AREAS, IF REQUIRED, AND REQUIRED CONSTRUCTION SIGNS SHALL BE INSTALLED PRIOR TO EARTH DISTURBING ACTIVITIES.

15. A PRE-CONSTRUCTION CONFERENCE WILL BE HELD WITH THE CONTRACTOR, ENGINEER AND THE CITY ENGINEER PRIOR TO ANY EARTH DISTURBING ACTIVITY.

16. SITE CONSTRUCTION WORK HOURS SHALL BE AS DEFINED IN THE PROJECT MANUAL.

17. BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.

18. THE PROPOSED USE FOR THE SITE (STRUCTURE) IS A MUNICIPAL WATER TREATMENT FACILITY.

19. THE FOLLOWING FEDERAL AND STATE PERMITS ARE ANTICIPATED FOR THE PROJECT:

   a. INDUSTRIAL USER PERMIT.

   b. SHORELANDS PERMIT.

   c. ALTERATION OF TERRAIN WAIVER: RECEIVED FROM NHDES ON MAY 6, 2016.

   d. GROUNDWATER DISCHARGE REGISTRATION.

   e. ARTIFICIAL RECHARGE.

   f. NHDES DESIGN REVIEW.

20. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.

21. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL.
    HTTPS://WWW.UNH.EDU/UNHSC/PTAPP

22. FIRE DEPARTMENT ACCESS ROADS SHALL BE MAINTAINED YEAR-ROUND.

23. ADEQUATE PARKING IS PROVIDED FOR CITY STAFF, NO PUBLIC PARKING IS PROPOSED.

SITE PLAN NOTES (CONT.)

24. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
25. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE I, SECTION 45-2 OF THE CODE OF THE CITY OF DOVER.

26. APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.

27. THE PROPOSED STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED BY CHAPTER 81- 30 OF THE CODE OF THE CITY OF DOVER AND THE ADOPTED STATE OF NH BUILDING AND FIRE CODES.

28. SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED AND APPROVED BY INSPECTION SERVICES PRIOR TO CONNECTION OF THE BACKFLOW DEVICE.

29. FIRE DEPARTMENT CONNECTION(S) SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13. ACCESS TO THE FDC SHALL MAINTAIN A CLEAR AND UNOBSTRUCTED PATH AT ALL TIMES.

30. THE SITE LAYOUT SHALL COMPLY WITH APPLICABLE ACCESSIBILITY REGULATIONS. SEE ARCHITECTURAL DRAWINGS FOR ACCESSIBILITY REGULATIONS FOR THE STRUCTURE.

NO.	REVISIONS	APP'D

ISSUE FOR
APPROVAL By _ Date _
CONSTRUCTION By _ Date _
RECORD DRAWING By _ Date _

Drawn/Chk. RMG
Designed JMC
Checked TGP
Approved _
Date 5/12/2021
Book No. _
Project No. 2509
Dwg. ID 2509_G_Notes
Scale AS SHOWN

STATE OF NEW HAMPSHIRE - THOMAS G. PAGE No. 9869 - PROFESSIONAL ENGINEER

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GENERAL NOTES II

PUDDING HILL TREATMENT FACILITY

CITY OF DOVER, NEW HAMPSHIRE

DWG NO G3

SHEET 3 OF x

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LEGEND:

EXISTING	PROPOSED		EXISTING	PROPOSED	
		STRUCTURES/BUILDINGS			UTILITY POLE
		CITY GIS LOT LINE			UTILITY POLE W/ LIGHTS
		RIGHT OF WAY (SEE SURVEY NOTE#13)			FLARED END SECTION
		FLOOD LINE			GAS METER
		SHORELAND BUFFER/SETBACK			ELECTRIC BOX
		PAVED ROAD/DRIVE	SWL		SINGLE WHITE LINE
		VERTICAL GRANITE CURB	DYL		DOUBLE YELLOW LINE
		GRAVEL ROAD/DRIVE/TRAIL			SIGN
S		GRAVITY SEWER			BOLLARD
XS		GRAVITY SEWER (PER PAINT MARKINGS)			MANHOLE MISC.
FM		FORCE MAIN SEWER			ROAD REFLECTOR POST
W	W	WATER LINE			PIPE
	RW	RAW WATER LINE			POST
D	D	DRAIN LINE			WELL
		FITTING BENDS 90°/45°/22.5°/11.25°			HYDRANT
		FITTING TEE	WV		WATER SHUT-OFF
		THRUST BLOCK			WATER VALVE
		REDUCER			IRRIGATION CONTROL VALVE
		COUPLING			SEWER MANHOLE
G	G	GAS LINE			CATCH BASIN SQUARE
OHW		OVERHEAD WIRE			CATCH BASIN ROUND
UGU	UGU	UNDERGROUND UTILITY			DROP INLET
126	126	2' CONTOUR ELEVATION			DRAIN MANHOLE
130	130	10' CONTOUR ELEVATION			GAS VALVE
	126	SPOT ELEVATION			AIR CONDITION UNIT
		STOCKADE FENCE			MAILBOX
		CHAINLINK FENCE	MW		MONITORING WELL
		GUARDRAIL	typ.		TYPICAL
		RETAINING WALL	i.r.s.		IRON ROD SET
		EDGE OF VEGETATION	swl		EDGE OF PAVEMENT
		EDGE OF WETLAND	syl		SINGLE WHITE LINE
		WETLAND FLAG	dyl		SINGLE YELLOW LINE
		WETLANDS	dswl		DOUBLE YELLOW LINE
		CONIFER TREE			DASHED SINGLE WHITE LINE
		DECIDUOUS TREE	vgc		VERTICAL GRANITE CURB
		BUSH	sgc		SLOPED GRANITE CURB
		BUSH LINE			DEMOLITION
		DRAINAGE DITCH			TEST PIT
		CONCRETE	B-401		BORING
		RIP RAP			
		GRAVEL / CRUSHED STONE			
40043-A00000		CITY OF DOVER PARCEL ID			
X ff=25.54		THRESHOLD ELEVATION			
		CONCRETE/GRANITE BOUND			
I.P.F. I.R.F.		IRON PIPE - IRON ROD			
D.H.S.		DRILL HOLE SET (CONTROL POINT)			
		LIGHT POLE			
		LIGHT POLE (ONE ARM)			
		LIGHT POLE (TWO ARM)			
		GUY POLE			
		GUY WIRE			
HH		HANDHOLE			
TB		TELEPHONE BOX			
T		TELEPHONE MANOLE			
		TRAFFIC SIGNAL			
		TRAFFIC SIGNAL MAST ARM POLE			

ABBREVIATIONS:

AB	ABANDONED	NA	NOT APPLICABLE	TBM	TEMPORARY BENCH MARK
AER	AEROBIC (AERATION)	NGVD	NATIONAL GEODETIC VERTICAL DATUM	TD	TANK DRAIN
AVE	ABOVE FINISHED FLOOR	N/F	NOW OR FORMERLY	TEMP	TEMPORARY
ALUM	ALUMINUM	NO.	NUMBER	THK	THICKNESS
AN	ANAEROBIC	N.O.	NORMALLY OPEN	TOC	TOP OF CONCRETE
APPROX	APPROXIMATE	N.S.	NORMALLY SHUT	TOW	TOP OF WALL
ARCH	ARCHITECTURAL	OC	ODOR CONTROL	TRANS	TRANSFORMER
AVG	AVERAGE	OD	OUTSIDE DIAMETER	TWAS	THICKENED WASTE ACTIVATED SLUDGE
AX	ANOXIC	OS	OUTLET STRUCTURE	TYP	TYPICAL
BFP	BACKFLOW PREVENTOR	PB	PRIMARY BYPASS	UE	UNDERGROUND ELECTRICAL
BIT	BITUMINOUS	PCF	POUNDS PER CUBIC FOOT	UGU	UNDERGROUND UTILITIES
BL	BASELINE	PL	PROPERTY LINE	UNO	UNLESS NOTED OTHERWISE
BLDG	BUILDING	PLE	PLANT EFFLUENT	V	VOLTS
CB	CATCH BASIN	PO	POLYMER SOLUTION	VIF	VERIFY IN FIELD
CCT	CHLORINE CONTACT TANK	PP	POTASSIUM PERMANGANATE	VC	VERTICAL CURVE
CF	CUBIC FEET	PS	PRIMARY SLUDGE	VCD	VC DRAIN
CFS	CUBIC FEET PER SECOND	PSF	POUNDS PER SQUARE FOOT	VCP	VITRIFIED CLAY PIPE
CI	CAST IRON PIPE	PSI	POUNDS PER SQUARE INCH	VERT	VERTICAL
CL	CENTERLINE	PSNH	PUBLIC SERVICE OF NEW HAMPSHIRE	W	WATER
CL2	CHLORINE LINE	PT	PRESSURE TREATED	WAS	WASTE ACTIVATED SLUDGE
CMH	CHEMICAL MANHOLE	PVC	POLYVINYL CHLORIDE	WD	WOOD
CMP	CORRUGATED METAL PIPE	PVCL	PVC CHLORINE LINE (VACUUM TUBE CASING)	WI	WROUGHT IRON
CONC	CONCRETE	PVCU	PVC UNDERDRAIN	W/	WITH
CONST	CONSTRUCT	PVDR	PVC DRAIN RETURN	(E)	EAST
CONT	CONTINUOUS, CONTINUATION	PVMT	PAVEMENT	(N)	NORTH
CP	POST CHLORINE PIPE	PVSA	PVC SAMPLE LINE	(S)	SOUTH
CRA	CHLORINE RESIDUAL ANALYZER	PVSL	PVC SUCTION LINE	(W)	WEST
CS	CAUSTIC SODA	PW	PLANT WATER	@	AT (SPACING)
D	DRAIN	PYCL	POLYETHYLENE CHLORINE LINE (VACUUM TUBING CASING)	ø	DIAMETER
DI	DUCTILE IRON	R (RAD)	RADIUS	#	NUMBER
DIA	DIAMETER	RAS	RETURN ACTIVATED SLUDGE	℄	CENTER LINE
DIP	DUCTILE IRON PIPE	RCP	REINFORCED CONCRETE PIPE	&	AND
DMH	DRAIN MANHOLE	RD	ROOF DRAIN		
DN	DOWN	RD	ROAD		
DO	DISSOLVED OXYGEN	REM	REMOVE		
EL	ELEVATION	R&D	REMOVE AND DISPOSE		
ELEC	ELECTRIC	R&R	REMOVE AND REPLACE		
EMER	EMERGENCY	R&S	REMOVE AND SALVAGE		
ENGR	ENGINEER	REF	REFER OR REFERENCE		
ENT	ENTRANCE	REQD	REQUIRED		
EOP	EDGE OF PAVEMENT	RS	RAW SEWAGE		
EXIST	EXISTING	ROW	RIGHT OF WAY		
FDN	FOUNDATION	RW	RAW WATER		
FF	FINISHED FLOOR	S	MUNICIPAL SEWER		
FG	FINISHED GRADE	S	SLOPE		
FLG	FLANGE	SA	SAMPLE LINE		
FM	FORCE MAIN	SB	SODIUM BISULFITE		
FT	FOOT OR FEET	SC	SCUM		
FW	FINISHED WATER	SCH	SCHEDULE		
GALV	GALVANIZED	SD	SUMP DISCHARGE		
GAS	PROPANE GAS	SE	SECONDARY EFFLUENT		
G.C.	GENERAL CONTRACTOR	SED	SEDIMENTATION		
GEN	GENERATOR	SEP	SEPTAGE		
GHWC	GAS & HOT WATER CONDUIT	SEW	SEWAGE		
GND	GROUND	SF	SQUARE FEET		
GPM	GALLONS PER MINUTE	SHC	SODIUM HYPOCHLORITE		
GRD	GRIT DISCHARGE	SHD	SODIUM HYDROXIDE		
GRO	GRIT OVERFLOW	SHT	SHEET		
HDPE	HIGH DENSITY POLYETHYLENE	SI	SECONDARY INFLUENT		
HPS	HIGH PRESSURE SODIUM	SMH	SEWER MANHOLE		
HW	HEADWATER	S.S.	STAINLESS STEEL		
HWR	HOT WATER RETURN	SQ	SQUARE		
HWS	HOT WATER SUPPLY	ST	STEEL		
IN	INCH	STA	STATION		
INV	INVERT ELEVATION	STD	STANDARD		
LB	POUND	STRS	STAIRS		
LF	LINEAR FEET	STRUCT	STRUCTURAL		
LGT	LIGHT	SUP	SUPERNATANT		
LPA	LOW PRESSURE AIR	SW	SEAL WATER		
MANUF	MANUFACTURER	SYMM	SYMMETRICAL		
MGD	MILLION GALLONS PER DAY				
MH	MANHOLE				
MJ	MECHANICAL JOINT				
MON	MONUMENT				
MW	MUNICIPAL WATER				

NOTE:

1. THIS IS A STANDARD LEGEND SHEET, THEREFORE SOME ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE DRAWINGS.

ISSUE FOR	By	Date
APPROVAL		
CONSTRUCTION		
RECORD DRAWING		

NO.	REVISIONS	APP'D

Drawn/Chk. RMG
Designed JMC
Checked TGP
Approved –
Date 5/12/2021
Book No. –
Project No. 2509
Dwg. ID 2509_G_Notes
Scale AS SHOWN

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LEGEND AND ABBREVIATIONS

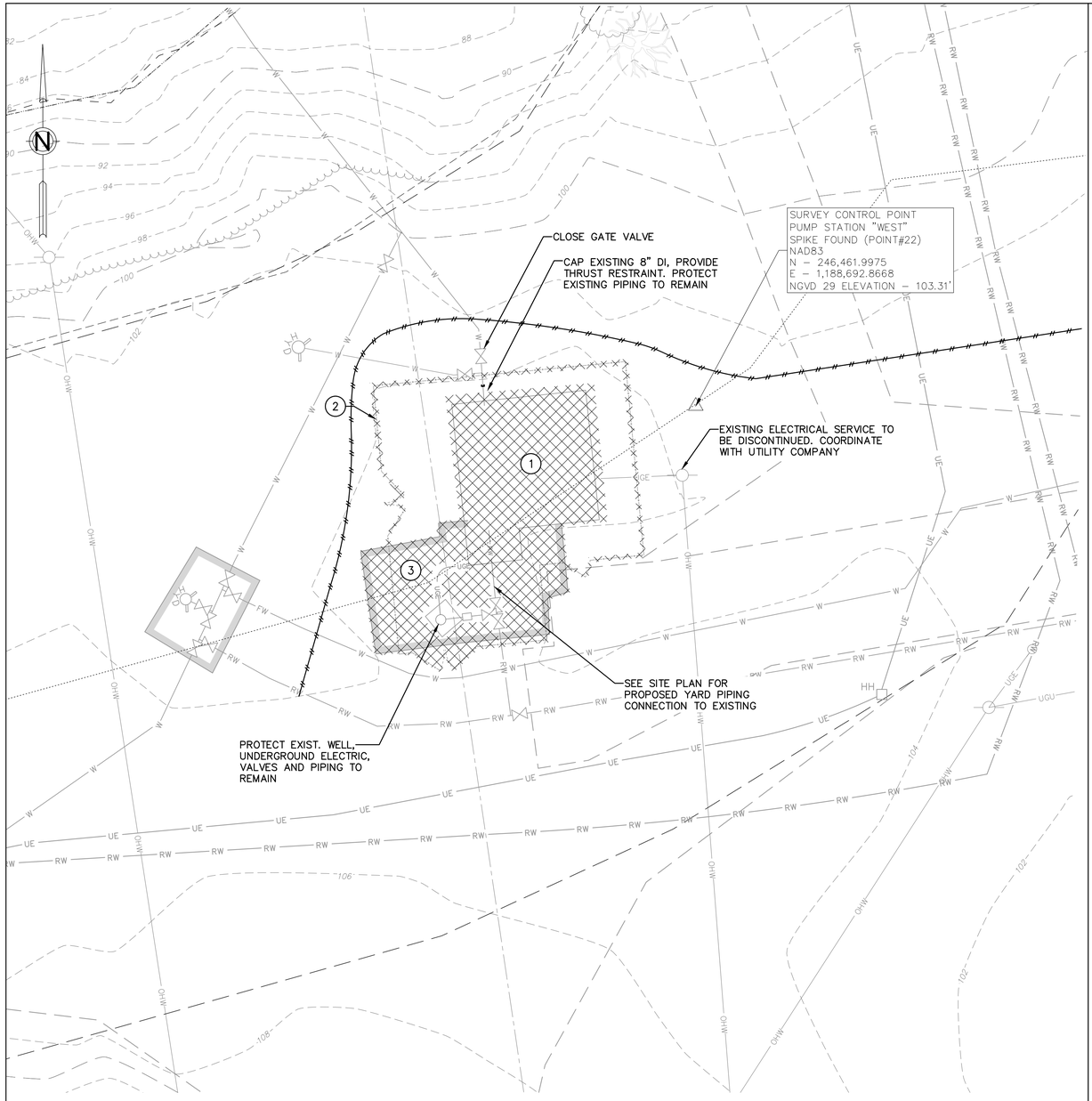
PUDDING HILL TREATMENT FACILITY

CITY OF DOVER, NEW HAMPSHIRE

DWG NO G4

SHEET 4 OF x

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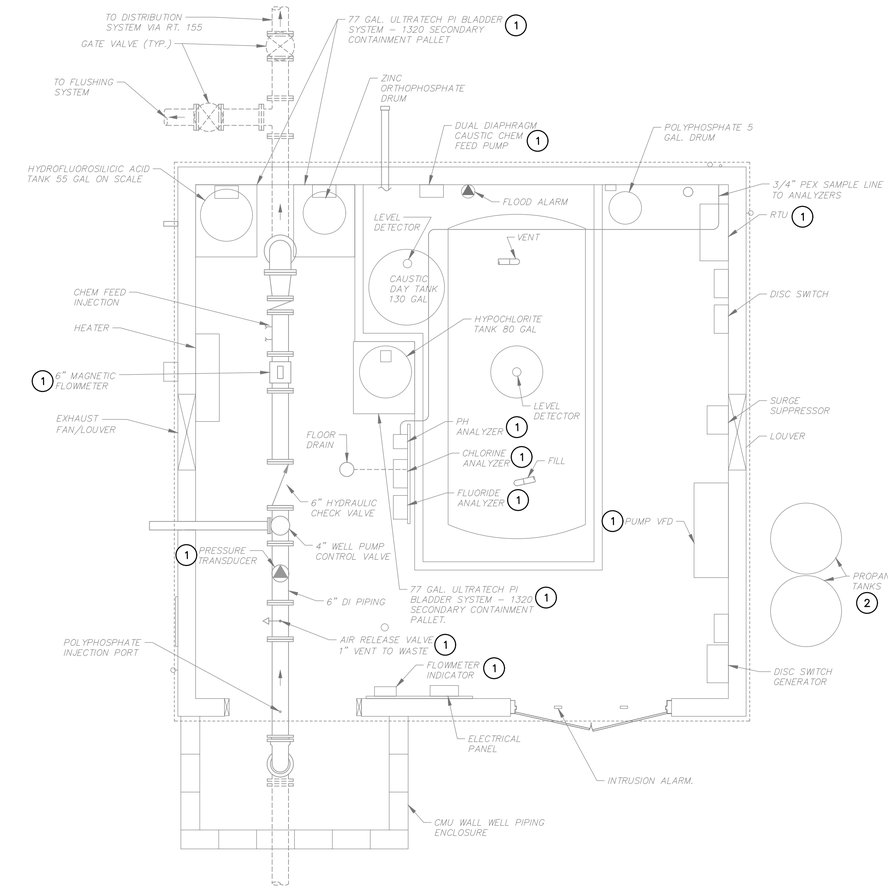
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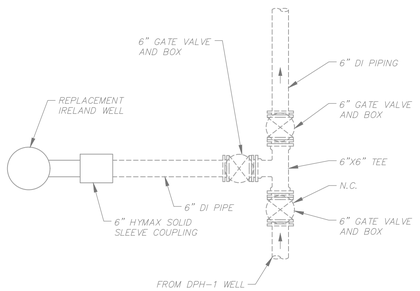
(1)	EXISTING WELL HOUSE	DEMO STRUCTURE TO A DEPTH 2 FEET BELOW GRADE MIN. AND BACKFILL WITH SUITABLE MATERIAL.
(2)	CHAIN LINK FENCE	REMOVE AND DISPOSE
(3)	ASPHALT PAVEMENT	REMOVE AND DISPOSE
(4)	ELECTRICAL SERVICE	DISCONTINUE. COORDINATE WITH UTILITY COMPANY.

IRELAND WELL SITE DEMO PLAN

10 0 10 20

SCALE: 1 INCH = 10 FT.





KEY NOTES:

(1) SALVAGE EQUIPMENT TO OWNER.

(2) COORDINATE WITH UTILITY FOR REMOVAL OF PROPANE TANKS.

GENERAL NOTES:

1. COORDINATE WITH CITY PRIOR TO DEMOLITION TO CONFIRM EXISTING EQUIPMENT TO BE SALVAGED.
2. REMOVE AND DISPOSE ALL OTHER EQUIPMENT NOT INDICATED TO BE SALVAGED.
3. PROTECT EXISTING WELL DURING CONSTRUCTION FROM CONTAMINATION OR DAMAGE.

IRELAND WELL PROCESS DEMO PLAN

0 1'-4" 2'-8" 5'-4"

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

NO.	REVISIONS	APP'D

ISSUE FOR
APPROVAL Date – By –
CONSTRUCTION Date – By –
RECORD DRAWING Date – By –

Drawn/Chk. RMG
Designed JMC
Checked TGP
Approved –
Date 5/12/2021
Book No. –
Project No. 2509
Dwg. ID 2509 pbase.dgn29
Scale AS SHOWN

NEW HAMPSHIRE – STATE OF – PROFESSIONAL ENGINEER – THOMAS G. PAGE – No. 10858

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IRELAND WELL SITE DEMOLITION PLAN

PUDDING HILL TREATMENT FACILITY

CITY OF DOVER, NEW HAMPSHIRE

DWG NO D1

SHEET X OF x

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N

BELLAMY RIVER

50 FT SHORELAND BUFFER

150 FT SHORELAND BUFFER

250 FT SHORELAND BUFFER

LIMITS OF JURISDICTIONAL WETLANDS

100 FT. CONSERVATION DISTRICT

EXISTING BELLAMY RIVER ARTIFICIAL RECHARGE PUMPING STATION (CONTRACT#4)

C2

C7

C5

C6

C4

C3

C8

IRELAND WELL

ARTIFICIAL RECHARGE BASIN 1

CITY OF DOVER LAND

DPH-1 WELL

ARTIFICIAL RECHARGE BASIN 2

CELL TOWER "A"

CELL TOWER "B"

100 FT EVERSOURCE EASEMENT

CANDIA S. BRANCH BROOK HOLDINGS LLC LAND

DEPARTMENT OF COMMUNITY SERVICES

STONEWALL DRIVE

MAST ROAD

CITY OF DOVER
TOWN OF MADBURY

GRIFFIN WELL & WTF

H0035-D00000
LILAC GARDEN LLC,
21 CONTINENTAL BLVD. STE 101
MERRIMACK, NH 03054
4250/467

H0056-000000
CITY OF DOVER,
288 CENTRAL AVENUE
DOVER, NH 03820
2768/421

H0055-000000
MACLEAN SANDY F &,
GARRISON KAREN M
180 PISCATAQUA RD
DURHAM, NH 03824
3743/448

H0062-000000
CANDIA SOUTH BRANCH
BROOK HOLDINGS, LLC
P.O. BOX 410
CANDIA, NH 03034
4211/934

H0060-000000
CANDIA SOUTH BRANCH
BROOK HOLDINGS, LLC
P.O. BOX 410
CANDIA, NH 03034
4211/934

H0063-000000
CITY OF DOVER
288 CENTRAL AVE.
DOVER, NH 03820

H0060-A00000
CANDIA SOUTH BRANCH
BROOK HOLDINGS, LLC
P.O. BOX 410
CANDIA, NH 03034

H0059-000000
CANDIA SOUTH BRANCH
BROOK HOLDINGS, LLC
P.O. BOX 410
CANDIA, NH 03034
3023/904

H0058-000LS2
CITY OF DOVER
288 CENTRAL AVE.
DOVER, NH 03820
2768/421

H0053-000000
H53 MAST ROAD, LLC
340 CENTRAL AVENUE, SUITE 202
DOVER, NH 03820
4216/0317

009-0062
FRESH POND REALTY TRUST
P.O. BOX 540
WAKEFIELD,, MA, 01880
1045/0092

H0061-000000
CANDIA SOUTH BRANCH
BROOK HOLDINGS, LLC
P.O. BOX 410
CANDIA, NH 03034
3923/904

009-0064
CANDIA SOUTH BRANCH
BROOK HOLDINGS, LLC
P.O. BOX 410
CANDIA, NH 03034
4211/0934

009-0063
DOW PROPERTIES
1 WOODLAND AVE.
NO. HAMPTON, NH 03862
4376/0761

009-0065
CITY OF DOVER
288 CENTRAL AVE.
DOVER, NH 03820

009-0063
CANDIA SOUTH BRANCH
BROOK HOLDINGS, LLC
P.O. BOX 410
CANDIA, NH 03034
3923/0904

H0061-000000
CANDIA SOUTH BRANCH
BROOK HOLDINGS, LLC
P.O. BOX 410
CANDIA, NH 03034
3923/904

H0004-000000
HERON BAY PARTNERS
242 CENTRAL AVE.
DOVER, NH 03820
3561/656

H0053-001000
MAST ROAD DOVER, LLC
2352 MAIN ST STE 201
CONCORD, MA 01742
4333/441

H0004-003000
DOVER FIELDS CONDOMINIUM,
C/O VC
48 CONSTITUTION DR.
BEDFORD, NH 03110
3496/733

DPH-MW1-17 DPH-MW2-17 DPH-MW3-17 DPH-MW4-17 DPH-MW5-17 DPH-MW6-17 DPH-MW7-17 DPH-MW8-17 DPH-MW9-17 DPH-MW10-17 DPH-MW11 DPH-MW12D DPH-MW13 DPH-MW14 DPH-MW15SL2 DPH-MW16 DPH-MW17 DPH-MW18 DPH-MW19 DPH-MW20SL2 DPH-MW22 DPH-B5 DPH-B7 DPH-1 DPH-2 DPH-5 DPH-7 DPH#1 DPH-DP-105 DSK-2 B-205A B-205 B-205C MW-203ER MW-203DR

SCALE: 1 INCH = 150 FT.

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Date 5/12/2021
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Project No. 2509
Dwg. ID 2509_pbase_pg29
Scale AS SHOWN

STATE OF NEW HAMPSHIRE – THOMAS G. PAGE No. 10582 – PROFESSIONAL ENGINEER

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OVERALL SITE PLAN

PUDDING HILL TREATMENT FACILITY

CITY OF DOVER, NEW HAMPSHIRE

DWG NO C1

SHEET X OF x

H:\Real Numbered\Dover\2509 - Pudding Hill Aquifer Recharge\Design\2509_C_Pbase_NGVD 29.dwg, C1, 5/12/2021 9:36:18 PM, rmg

100 FT. CONSERVATION DISTRICT

150 FT. SHORELAND SETBACK

250 FT. SHORELAND SETBACK – (SEE SHORELAND PERMIT REQUIREMENTS)

50' SETBACK

EXISTING WASTE WATER PUMP STATION

EXISTING WETWELL, 8' DIA. 8" INV. IN=93.50

NOTE 1

CAP & ABANDON EXIST. 8" DI

8" S.S. COUPLING

8" DI RAW WATER FROM IRELAND WELL

PAD TRANSFORMER

SILT FENCE

TO WTP

CAP & ABANDON EXIST. 8" HDPE

RELOCATE EXIST. 8" HDPE RECHARGE RAW WATER MAIN

RAIN GARDEN, FILTER SURFACE AREA (BOTTOM OF BASIN)=1,275 S.F. SEE DETAIL

8" HDPE

6" DI FROM GRIFFIN WELL

12" F.E.S. INV. EL. 97.50

12" CPE x 43 LF @ S=0.00698 FT/FT

DMH#2, 4' DIA. RIM=100.0 12" INV. IN=97.8 (E) 12" INV. OUT=97.8 (W)

12" CPE x 126 LF @ S=0.00556 FT/FT

UE TO WELLS SEE ELECTRICAL

12" DI

12" DI TOP OF PIPE = 94.5' AT DRAIN CROSSING

DMH#1, 4' DIA. RIM=101.4 6" INV. IN=99.0 (N) 12" INV. OUT=98.5 (W)

PUDDING HILL WATER TREATMENT FACILITY

6" PVC

8" PVC SDR35

SMH#1

SMH#2

SMH#3

NOTE 1

GAS SERVICE

LOCATION UNKNOWN

CAP AND ABANDON EXISTING "8" HDPE

CABLE, TELEPHONE TO STONEWALL DRIVE

8"DI FROM DPH-1 WELL

POWER, SIGNAL TO DPH-1 WELL

CAP & ABANDON EXIST. 12" DI

8" S.S. COUPLING

LEVEL SIGNAL FROM AR#2 TO REMAIN

8" HDPE RECHARGE

6" HDPE FORCE MAIN PROCESS FLOWS RESIDUALS

LEVEL SIGNAL FROM AR BASIN#2

MATCH EXIST. GRAVEL DRIVE

EXISTING TRANSFORMER AND SERVICE TO BE DISCONTINUED

DPH-1 WELL

SCADA COMMUNICATIONS CONDUIT SEE ELECTRICAL DRAWINGS

MATCH LINE SEE DWG C3

8" INV. IN=93.5 (FIELD CORE)

SEWER PROFILE

HORIZ: 1 INCH = 40 FT.
VERT: 1 INCH = 4 FT.

PROCESS AREA

F.F. ELEV. 102.0 (UPPER LEVEL)

PIPE GALLERY

F.F. ELEV. 90.0 (LOWER LEVEL)

DATUM ELEV 90.00

SMH#1 STA 10+20 RIM=101.8 6" INV IN=95.89 (NW) 8" INV OUT=95.79 (SE)

SMH#2 STA 11+76 RIM=100.0 8" INV IN=95.19 (NW) 8" INV OUT=95.09 (SE)

SMH#3 STA 13+81 RIM=101.5 8" INV IN=94.28 (NW) 8" INV OUT=94.18 (NE)

COMPLETE TEST PIT TO CONFIRM DEPTH OF EXIST. ELECTRICAL CONDUITS PRIOR TO SEWER CONSTRUCTION

NOTE 8

2" RIGID INSULATION NOTE 7

6" HDPE FORCE MAIN

6" INV. OUT = 96.0 AT BLDG

6" SDR35 x 20' @ S=0.005 FT/FT

8" PVC SDR35 x 155' @ S=0.004 FT/FT

8" PVC SDR35 x 206' @ S=0.004 FT/FT

8" PVC SDR35 x 175' @ S=0.004 FT/FT

18" MIN. CLEARANCE

existing 4" pvc ⓔ elec. conduits

exist. elec. conduits size unknown

existing 12" DI FW

existing 15" HDPE

exist. 4" water service

existing Pump Station Wetwell bottom elev. rim=105.45 8" inv. in=93.45

exist. 8" DI RW TO BE ABANDONED

98.8	98.2	99.4	99.6	99.5	99.9	100.4	100.8	102.3	102.1	101.3	105.1
102.00	101.43	100.61	100.03	99.84				102.28	103.79	101.95	

10+00 11+00 12+00 13+00 14+00 15+00 15+70

NOTES:

1. CONTRACTOR SHALL PERFORM A TEST PIT TO CONFIRM DEPTH AND LOCATION OF EXISTING UTILITY PRIOR TO CONSTRUCTION.
2. ALL BURIED CONNECTIONS TO ALL STRUCTURES SHALL HAVE A MECHANICAL JOINT OR SLEEVE TYPE FLEXIBLE COUPLING WITH JOINT RESTRAINT WITHIN APPROXIMATELY 4 FEET OF STRUCTURES.
3. REFER TO DEMOLITION, STRUCTURAL AND ELECTRICAL PLANS.
4. PROVIDE RODENT SCREENS ON DRAIN LINES.
5. ALL UTILITY LOCATIONS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. NO WORK SHALL BE PERFORMED ON-SITE PRIOR TO CONTACTING DIG-SAFE AT 1-888-DIG-SAFE.
6. EXISTING & PROPOSED CONTOURS ARE SHOWN ON THIS PLAN FOR REFERENCE ONLY, REFER TO ROAD PLAN AND PROFILE SHEETS FOR MORE PROPOSED GRADING DETAIL.
7. INSULATE SEWER MAIN WHERE COVER IS LESS THAN 5 FT BETWEEN STATIONS 10+50 AND 13+00
8. MINIMUM COVER OVER CROSS-COUNTRY SEWER IS 4 FT.
9. THRUST BLOCKS ARE REQUIRED AT ALL BENDS PER DETAIL.

SCALE: 1 INCH = 40 FT.

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Scale AS SHOWN

STATE OF NEW HAMPSHIRE – THOMAS G. PAGE No. 10856 – REGISTERED PROFESSIONAL ENGINEER

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UTILITY PLAN I

PUDDING HILL TREATMENT FACILITY

CITY OF DOVER, NEW HAMPSHIRE

DWG NO C2

SHEET X OF x

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(LOCATION APPROX.)
B-2 (LOCATION APPROX.)
PILE
CATTAILS
RIPRAP DRAINAGE POND
SMH#3
B-4 (OW) EL. 99.6
P-2 EL. 99.4
P-1 EL. 99.6
B-3 EL. 99.5
ARTIFICIAL RECHARGE BASIN 2
DPH-MW12D
DPH-MW12
DPH-MW12S
DPH-5
DPH-MW13
RIPRAP DRAINAGE SWALE
CONNECT FM TO EXISTING SMH
SMH
Rim=141.85
8" inv. in=135.48
8" Inv. out=135.43
6" INV. IN=135.45
PERMANENT TRENCH PAVEMENT REPAIRS AS REQUIRED
RIPRAP DRAINAGE
EROSIONAL SWALE
CHAINLINK FENCE
EXISTING UGU (E/T) TESTPIT TO CONFIRM EXISTING LOCATION
CELL TOWER "B"
TRANSFORMER
6" HDPE FORCE MAIN PROCESS FLOWS RESIDUALS
MATCH LINE SEE DWG C2
SCADA COMMUNICATIONS CONDUIT SEE ELECTRICAL DRAWINGS
FENCE
CELL TOWER "A"
EXISTING CITY SCADA COMMUNICATIONS
PROPERTY LINE
(S)DPH-MW-17

NOTES:

1. REVIEW FINAL LOCATION OF FORCE MAIN & SCADA CONDUIT IN FIELD WITH ENGINEER.
2. CONTRACTOR SHALL PERFORM A TEST PIT TO CONFIRM DEPTH AND LOCATION OF EXISTING UTILITY PRIOR TO CONSTRUCTION.
3. THRUST BLOCKS ARE REQUIRED AT ALL BENDS PER DETAIL.

40 0 40 80
SCALE: 1 INCH = 40 FT.

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STATE OF NEW HAMPSHIRE – THOMAS G. PAGE No. 10959 – LICENSED PROFESSIONAL ENGINEER

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UTILITY PLAN II

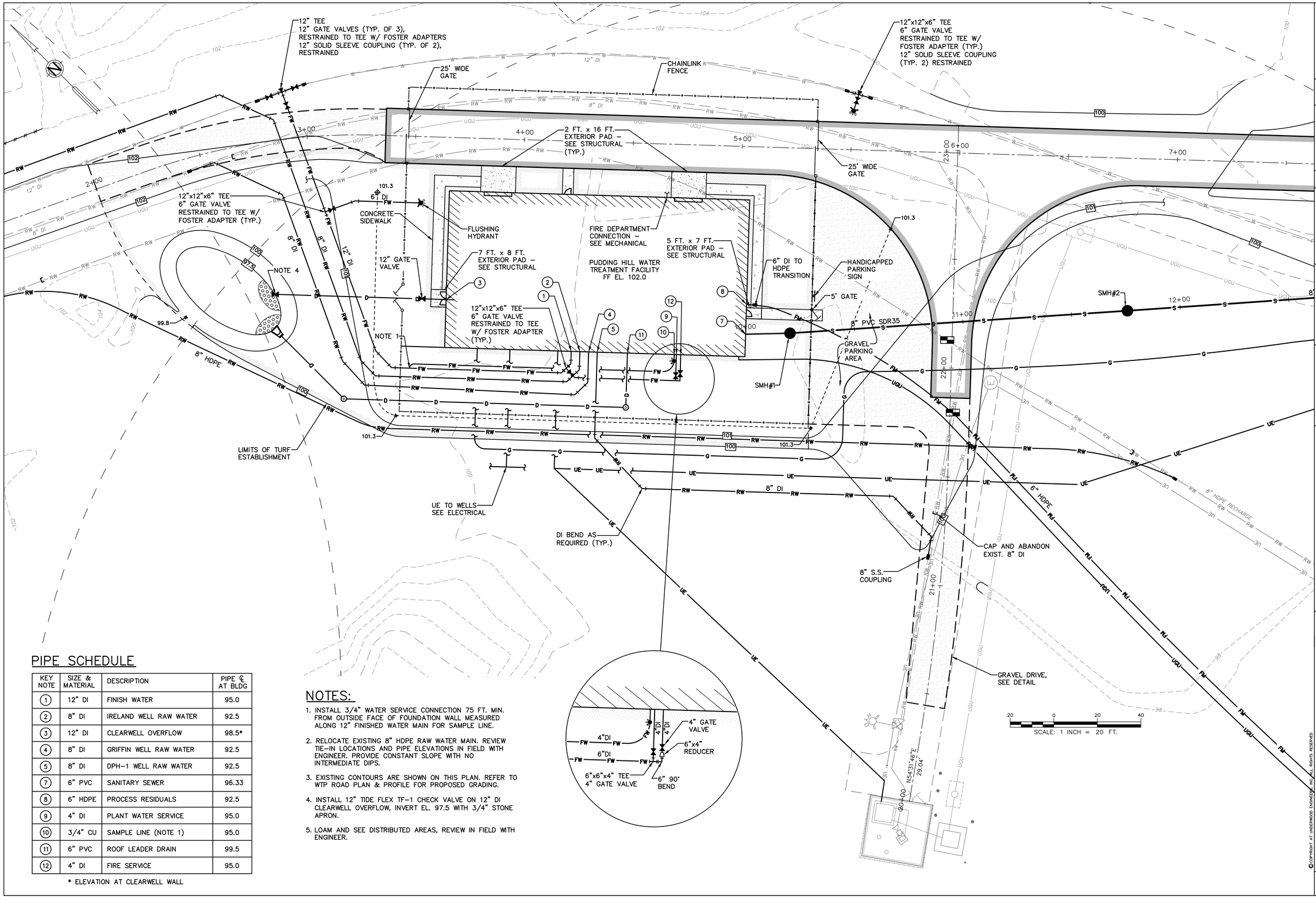
PUDDING HILL TREATMENT FACILITY

CITY OF DOVER, NEW HAMPSHIRE

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DWG NO C3
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PIPE SCHEDULE

KEY NOTE	SIZE & MATERIAL	DESCRIPTION	PIPE ℄ AT BLDG
(1)	12" DI	FINISH WATER	95.0
(2)	8" DI	IRELAND WELL RAW WATER	92.5
(3)	12" DI	CLEARWELL OVERFLOW	98.5*
(4)	8" DI	GRIFFIN WELL RAW WATER	92.5
(5)	8" DI	DPH–1 WELL RAW WATER	92.5
(7)	6" PVC	SANITARY SEWER	96.33
(8)	6" HDPE	PROCESS RESIDUALS	92.5
(9)	4" DI	PLANT WATER SERVICE	95.0
(10)	3/4" CU	SAMPLE LINE (NOTE 1)	95.0
(11)	6" PVC	ROOF LEADER DRAIN	99.5
(12)	4" DI	FIRE SERVICE	95.0

* ELEVATION AT CLEARWELL WALL

NOTES:

1. INSTALL 3/4" WATER SERVICE CONNECTION 75 FT. MIN. FROM OUTSIDE FACE OF FOUNDATION WALL MEASURED ALONG 12" FINISHED WATER MAIN FOR SAMPLE LINE.
2. RELOCATE EXISTING 8" HDPE RAW WATER MAIN. REVIEW TIE–IN LOCATIONS AND PIPE ELEVATIONS IN FIELD WITH ENGINEER. PROVIDE CONSTANT SLOPE WITH NO INTERMEDIATE DIPS.
3. EXISTING CONTOURS ARE SHOWN ON THIS PLAN. REFER TO WTP ROAD PLAN & PROFILE FOR PROPOSED GRADING.
4. INSTALL 12" TIDE FLEX TF–1 CHECK VALVE ON 12" DI CLEARWELL OVERFLOW, INVERT EL. 97.5 WITH 3/4" STONE APRON.
5. LOAM AND SEE DISTRIBUTED AREAS, REVIEW IN FIELD WITH ENGINEER.

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WTP SITE PLAN

PUDDING HILL TREATMENT FACILITY

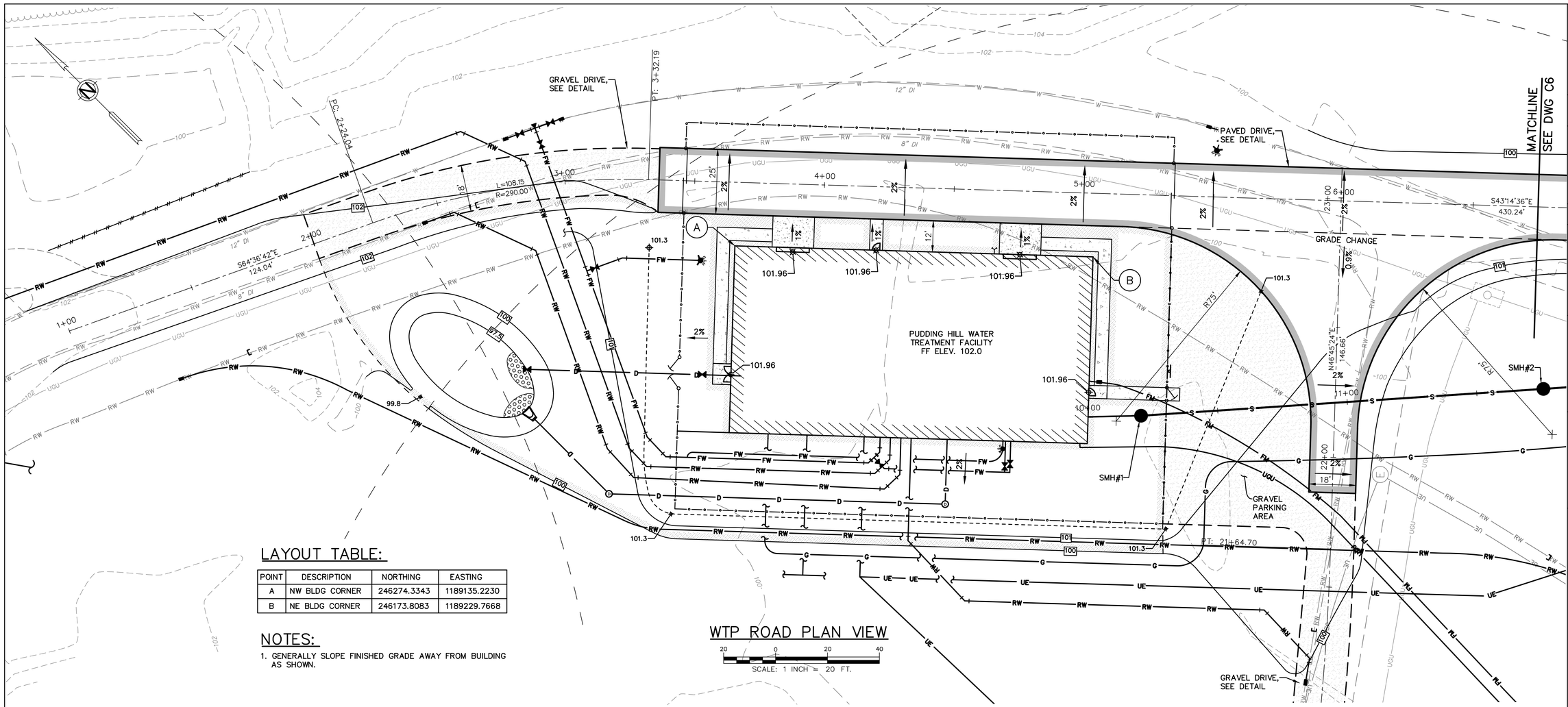
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DWG NO C4

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LAYOUT TABLE:

POINT	DESCRIPTION	NORTHING	EASTING
A	NW BLDG CORNER	246274.3343	1189135.2230
B	NE BLDG CORNER	246173.8083	1189229.7668

NOTES:

1. GENERALLY SLOPE FINISHED GRADE AWAY FROM BUILDING AS SHOWN.

WTP ROAD PLAN VIEW

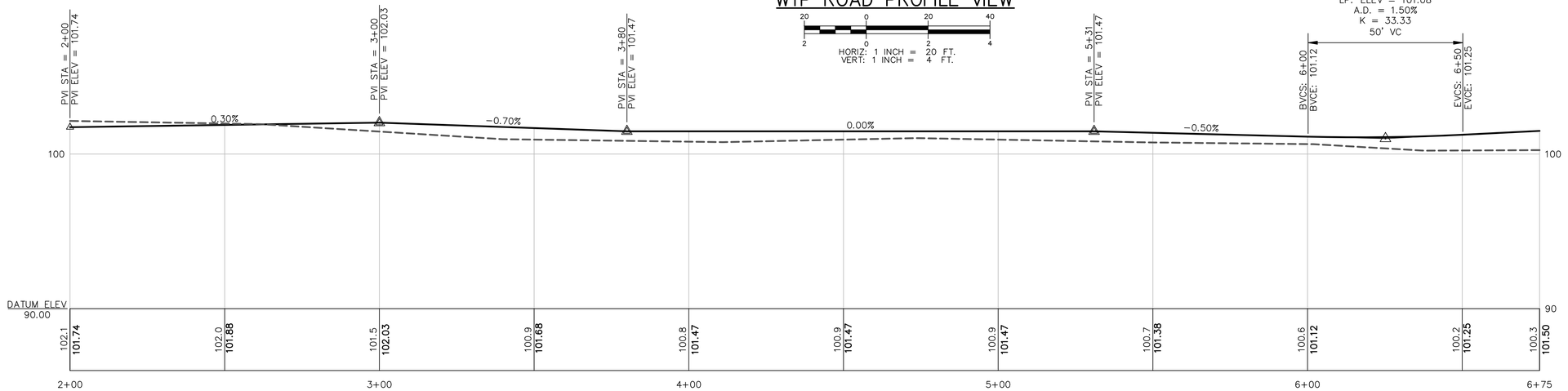
20 0 20 40

SCALE: 1 INCH = 20 FT.

WTP ROAD PROFILE VIEW

20 0 20 40

HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.



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WTP ROAD PLAN & PROFILE I

PUDDING HILL TREATMENT FACILITY

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MATCH LINE
SEE DWG C5

EXISTING STONEWALL DRIVE SEWER PUMP STATION

EXISTING 8' DIA. WETWELL

TRANSFORMER

REPAIR EXISTING CONCRETE PAD

3/4" COPPER W TO PUMP STATION

RAIN GARDEN

15"HDPE

REMOVE & DISPOSE OF EXIST. SECTION OF GUARDRAIL, 40 LF

EXISTING 8" SEWER

PERMANENT TRENCH REPAIR, SEE DETAIL

CONSTRUCT PAVED APRON 6" NOMINAL PAVEMENT THICKNESS 24" CRUSHED GRAVEL (NHDOT 304.3)

CATV

ELECTRIC VAULT

TELECOMM

12"DI

10"DI

DMH 8

EXISTING UG E/T/TV

SMH 5

CB 11

SLEEVE FOR UNDERGROUND ELECTRIC LINES

EXISTING 4" FM (SDR21)

CB 9

DMH 7

6"PVC

STONEWALL DR.

REMOVE EXISTING GATE AND SALVAGE TO CITY

SMH#2

SMH#3

DPH 6

S43°14'36"E 430.24'

PC: 7+62.43

PT: 8+64.25

L=101.82
R=600.00

S52°58'00"E 92.00 206.13'

7+00

8+00

9+00

10+00

10+70

11+00

12+00

13+00

14+00

15+00

15+56

R=30'

R=25'

25' (TYP.)

1%

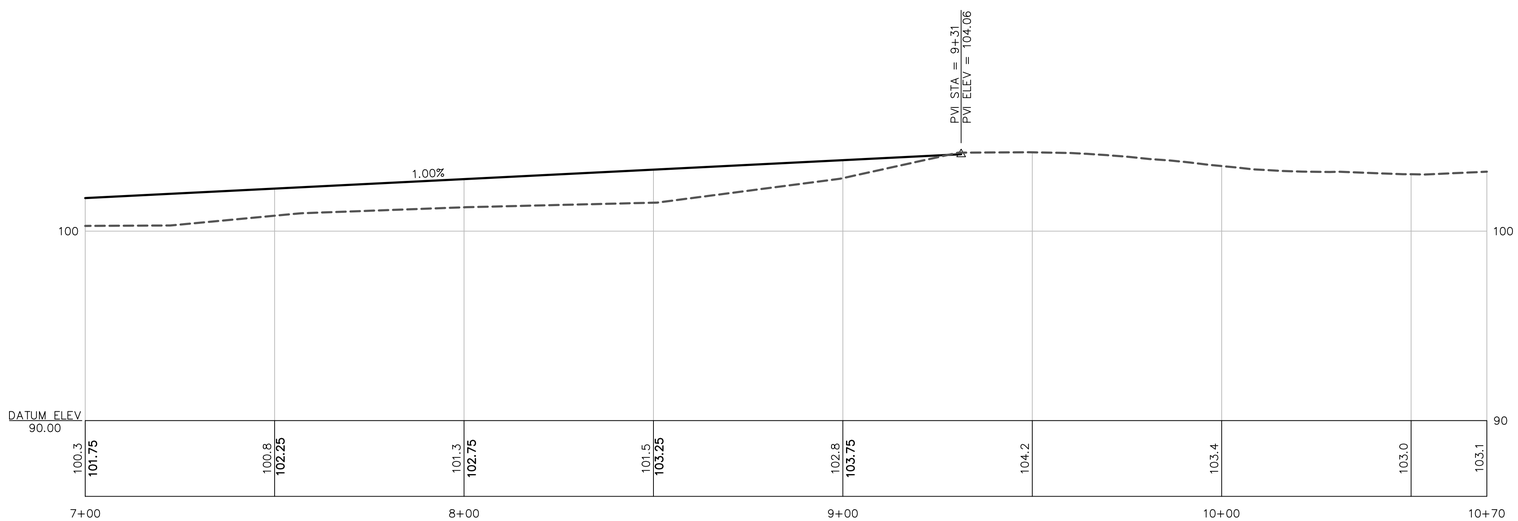
NOTES:

1. EXISTING UTILITIES AT STONEWALL DRIVE BASED ON STONEWALL DRIVE AS-BUILT ROADWAY PLAN (REFERENCE PLANS, NOTE 4, DRAWING G-3)

WTP ROAD PLAN VIEW

20 0 20 40

SCALE: 1 INCH = 20 FT.



WTP ROAD PROFILE VIEW

20 0 20 40

2 0 2 4

HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.

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WTP ROAD PLAN & PROFILE II

PUDDING HILL TREATMENT FACILITY

CITY OF DOVER, NEW HAMPSHIRE

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DWG NO C6

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BELLAMY RIVER

WETLANDS DELINEATION

100 YEAR FLOOD EL 87.8 FT.

ARTIFICIAL RECHARGE PUMP STATION

100 FT. CONSERVATION DISTRICT

SURVEY CONTROL POINT
PUMP STATION "WEST"
SPIKE FOUND (POINT#22)
NAD83
N – 246,461.9975
E – 1,188,692.8668
NGVD 29 ELEVATION – 103.31'

150 FT. SHORELAND SETBACK

50 FT. SHORELAND SETBACK

CAP EXIST. 8" DI, PROVIDE THRUST RESTRAINT

NEMA 4X ELECTRICAL CABINET (SEE ELECTRICAL DWGS)

8" DI BENDS AS REQUIRED (TYP.)

8" DI TO TREATMENT PLANT

NEW CHAIN LINK FENCE AND GATE AROUND WELL AFTER DEMO AND GRADING

6"x8" REDUCER AND 8" SOLID SLEEVE COUPLING, RESTRAINED

EXISTING 6" GV CLUSTER (TYP. OF 3)

6" GATE VALVE NORMALLY CLOSED

12" GATE VALVE NORMALLY CLOSED

12' GATE

8" GATE VALVE NORMALLY OPEN

PAVE INSIDE FENCE, 1' OFFSET FROM FENCE

FROM GRIFFIN WELL

12" GV

8" GV

12" DI

HH

SCALE: 1 INCH = 10 FT.

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STATE OF NEW HAMPSHIRE
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IRELAND WELL SITE PLAN

PUDDING HILL TREATMENT FACILITY

CITY OF DOVER, NEW HAMPSHIRE

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NOTES:

1. FINAL VALVE POSITIONS SHOWN FOR GRIFFIN WELL TO PROVIDE RAW WATER TO NEW TREATMENT FACILITY. COORDINATE WITH CITY OF DOVER OPERATORS.

12" CI TO PUDDING HILL WTP

EXISTING GRIFFIN WELL HOUSE

EXISTING GRIFFIN WTP

N.C.

N.O.

SCALE: 1 INCH = 10 FT.

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GRIFFIN WTP SITE PLAN – VALVE CLUSTER

PUDDING HILL TREATMENT FACILITY

CITY OF DOVER, NEW HAMPSHIRE

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DWG NO C8

SHEET X OF x

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NOTES:

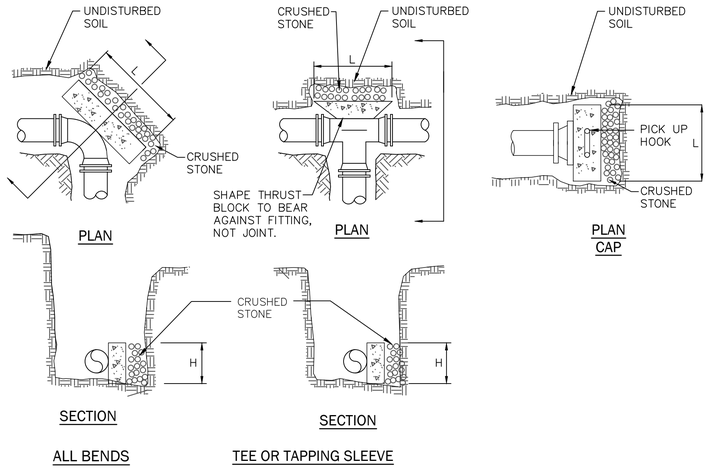
1. ALL THRUST BLOCKS SHALL BE PRE-CAST CONCRETE.
2. THE MINIMUM BEARING AREAS SHOWN IN THE THRUST BLOCK SCHEDULE ARE BASED ON A SYSTEM PRESSURE OF 100 PSI. IF THE SYSTEM PRESSURE IS ABOVE 100 PSI, INCREASE THE NOTED AREAS PROPORTIONAL TO THE ACTUAL SYSTEM PRESSURE. FOR EXAMPLE, IF THE ACTUAL SYSTEM PRESSURE IS 160 PSI, MULTIPLY THE ABOVE VALUES BY 160%.
3. SELECT THRUST BLOCKS SUCH THAT THE LENGTH (L) OF THE BLOCK IS APPROX. TWICE AS LONG AS THE DEPTH (H).
4. PLACE CRUSHED STONE BEHIND THRUST BLOCKS AGAINST UNDISTURBED SOIL.
5. PLACE THRUST BLOCKS ALONG THE FULL LENGTH OF THE FITTING TO MAXIMIZE BEARING AREA.
6. PLACE 2 LAYERS OF POLYETHYLENE OR ROOFING PAPER AROUND FITTINGS AS PROTECTION AGAINST DAMAGE FROM CONCRETE BLOCK.
7. PLACE A 12" LONG STEEL HORSESHOE-SHAPED PICKUP HOOK IN ALL PLUG AND CAP THRUST BLOCKS. DIAMETER OF HOOK SHALL BE A MINIMUM OF 5/8".
8. COAT ALL THREADED RODS, NUTS, AND BOLTS WITH BITUMINOUS PAINT.
9. PLACE ANTI-SEIZE LUBRICANT ON ALL BOLTS.
10. CONCRETE COMPRESSIVE STRENGTH: 2,000 PSI MINIMUM.
11. USE OF THRUST BLOCKS DOES NOT ELIMINATE THE REQUIREMENT OF OTHER RESTRAINTS. ALL VALVES AND FITTINGS SHALL BE RESTRAINED MJ.

THRUST BLOCK SCHEDULE

MINIMUM BEARING AREA (SQUARE FEET)

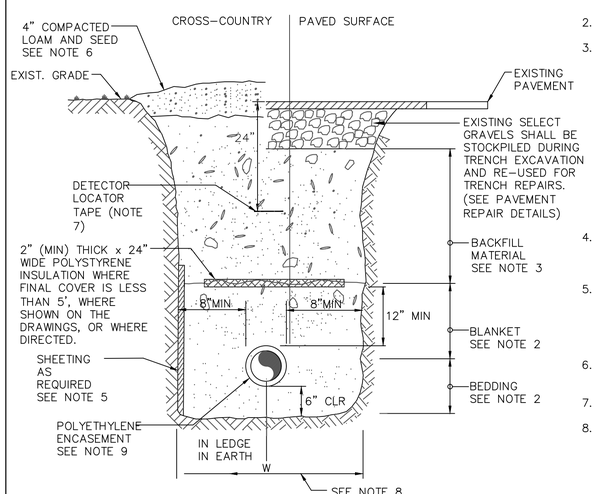
	PIPE SIZE					
Nominal Dia. (in)	4	6	8	10	12	16
Tees, Caps, Plugs, & Tapping Sleeves	1.05	2.32	4.15	6.37	9.15	16.23
90 Degree Bends	1.48	3.29	5.86	9.01	12.93	22.96
45 Degree Bends	0.80	1.78	3.17	4.88	7.00	12.42
22-1/2 Degree Bends	0.41	0.91	1.62	2.49	3.57	6.33
11-1/4 Degree Bends	0.21	0.46	0.81	1.25	1.79	3.18

System Pressure: 100 psi
Safety Factor: 1.5
Soil Bearing Capacity: 2,000 psf



1/C11 PRECAST CONCRETE THRUST BLOCKS AND ANCHORS

NOT TO SCALE



2/C11 TRENCH - WATER

NOT TO SCALE

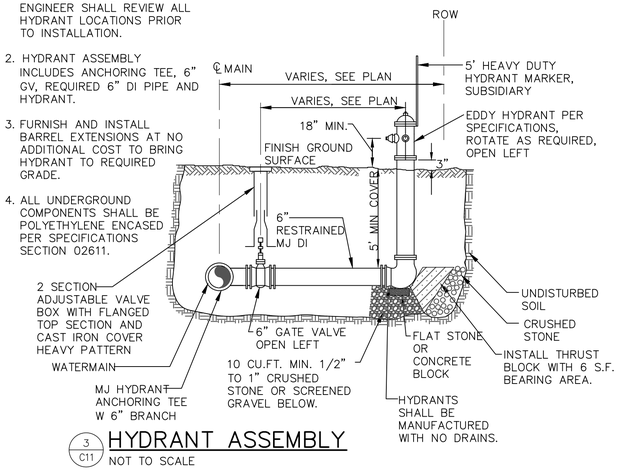
WATER TRENCH NOTES:

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWINGS.
2. BEDDING AND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER (SECTION 02200).
3. BACKFILL MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION; AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.

   IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT, IF ENGINEER IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE PIPE LINE, FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WILL BE PRESERVED.
4. MINIMUM COVER NOT LESS THAN 5 FEET, AND TO AVOID EXISTING AND PROPOSED STRUCTURES. PIPE TO BE DEEPER THAN 5' IF NECESSARY TO AVOID CONFLICTS WITH EXISTING AND PROPOSED DRAINAGE OR OTHER UTILITIES.
5. SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
6. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. LOCATOR TAPE TO BE TERRA TAPE SENTRY LINE 1350 OR EQUAL.
8. W = MAXIMUM ALLOWABLE TRENCH PAYMENT WIDTH: FOR ROCK EXCAVATION, FOR ORDERED EXCAVATION BELOW GRADE AND HANDLING OF EXCAVATED CONTAMINATED SOILS. FOR PIPES 16 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 16 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.)
9. ALL DUCTILE IRON WATER MAIN, FITTINGS AND GATE VALVES SHALL BE ENCASED IN POLYETHYLENE IN ACCORDANCE WITH SPECIFICATIONS SECTION 02611. SHEETS OR TUBES SHALL BE TIGHTLY WRAPPED AROUND THE PIPE & SECURED AT 2' INTERVALS.

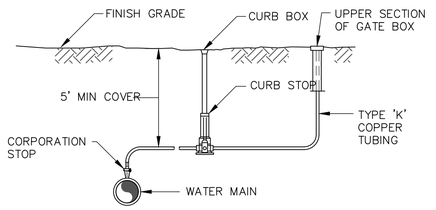
NOTES:

1. CONTRACTOR WITH OWNER'S REPRESENTATIVE AND ENGINEER SHALL REVIEW ALL HYDRANT LOCATIONS PRIOR TO INSTALLATION.
2. HYDRANT ASSEMBLY INCLUDES ANCHORING TEE, 6" GV, REQUIRED 6" DI PIPE AND HYDRANT.
3. FURNISH AND INSTALL BARREL EXTENSIONS AT NO ADDITIONAL COST TO BRING HYDRANT TO REQUIRED GRADE.
4. ALL UNDERGROUND COMPONENTS SHALL BE POLYETHYLENE ENCASED PER SPECIFICATIONS SECTION 02611.



3/C11 HYDRANT ASSEMBLY

NOT TO SCALE

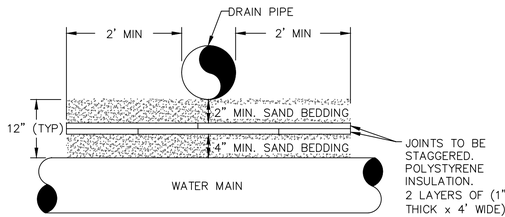


NOTES:

1. DIRECT PIPING AWAY FROM ROADWAY.
2. CHLORINE INJECTION AND MANUAL AIR RELEASE ASSEMBLIES ARE TO BE REMOVED IMMEDIATELY FOLLOWING A SUCCESSFUL BACTERIA TEST. LEAVE THE CORPORATION STOP AND 12" LENGTH OF TUBING (WITH A CRIMPED END) IN PLACE.
3. SIZE AS NOTED ON PLAN OR 1" MINIMUM.
4. INCIDENTAL TO WATER MAIN PAY ITEM.

6/C11 TYPICAL CHLORINE INJECTION TAP AND/OR MANUAL AIR RELEASE ASSEMBLY

NOT TO SCALE



NOTES:

1. INSULATION TO BE USED WHERE PIPE SEPARATION IS LESS THAN 12", SUBSIDIARY.

7/C11 DRAIN PIPE CROSSING DETAIL

NOT TO SCALE

NO.	REVISIONS	APP'D
	ISSUE FOR APPROVAL Date - By -	
	CONSTRUCTION Date - By -	
	RECORD DRAWING Date - By -	

Drawn/Chk RMG
Designed JMC
Checked TGP
Approved -
Date 5/12/2021
Book No. -
Project No. 2509
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Scale AS SHOWN

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WATER DETAILS

PUDDING HILL TREATMENT FACILITY

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DWG NO C9

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EROSION & SEDIMENTATION CONTROL NOTES:

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED:

1. EXTENT OF CLEARING IS SHOWN ON THE GRADING PLANS.
2. INITIAL EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO START OF CONSTRUCTION
   - PROVIDE A STABILIZED CONSTRUCTION ENTRANCE
   - DEFINE CLEARING LIMITS IN FIELD AS SHOWN ON THE DRAWINGS.
   - INSTALL SILT FENCE IN LOCATIONS SHOWN ON THE DRAWINGS (AFTER CLEARING) OR AS DIRECTED BY THE ENGINEER.
3. THE SMALLEST PRACTICABLE AREA OF LAND SHALL BE EXPOSED FOR THE SHORTEST PRACTICAL PERIOD AT ANY GIVEN TIME DURING CONSTRUCTION. EXPOSED AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 48 HOURS OF FINISH GRADING.
4. CLEAR, GRUB AND STRIP TOPSOIL. REMOVE TREES, STUMPS, VEGETATION, ROOTS, OR OTHER OBJECTIONABLE MATERIAL. TOPSOIL WILL BE STOCKPILED. USING PERIMETER SILT FENCE AND SHALL BE SEEDED AND MULCH WEEKLY AS SOIL IS ADDED TO IT. ESTABLISH A STAGING, EQUIPMENT AND STORAGE AREA WITHIN THE LIMITS OF WORK.
5. EXCAVATION AND EARTHWORK SHALL BE CONDUCTED IN A MANNER THAT WILL MINIMIZE EFFECTS OF EROSION THROUGHOUT CONSTRUCTION.
6. CONSTRUCT SITE IMPROVEMENTS AND DRAINAGE STRUCTURES AS SHOWN ON THE DRAWINGS. REFER TO DRAINAGE AND EROSION DETAILS FOR ADDITIONAL INFORMATION.
7. AS DRAINAGE ELEMENTS ARE CONSTRUCTED, INSTALL STONE CHECK DAMS IN DRAINAGE SWALES. SEED AND MULCH AREAS AS REQUIRED BELOW.
8. SEEDING AND MULCHING:
   A. TEMPORARY SEEDING AND MULCHING:
      - TEMPORARILY SEED WITCH ANNUAL RYEGRASS AND MULCH DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR MORE THAN 21 DAYS.
      - TEMPORARILY MULCH DISTURBED AREAS, INCLUDING STOCKPILES, WHICH WILL NOT BE WORKED FOR 7 TO 21 DAYS WITH CHOPPED HAY AND NETTING
      - SLOPES STEEPER THAN 3:1 PROVIDE EROSION CONTROL BLANKET.
   B. PERMANENT SEEDING AND MULCHING:
      - ALL DISTURBED AREAS TO BE VEGETATED SHALL BE COVERED WITH A MINIMUM OF 4 INCHES OF SCREENED TOPSOIL, SEEDED, FERTILIZED AND MULCHED AS REQUIRED TO PROVIDE A PERMANENT, DENSE, HEALTHY GROWTH OF GRASS.
      - FERTILIZER IS NOT PERMITTED WITHIN 400' WELL PROTECTIVE RADIUS.
      - ALL AREAS TO BE TOP SOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 4 INCHES PRIOR TO PLACEMENT OF TOPSOIL.
      - SLOPES FLATTER THAN 3:1 PROVIDE CHOPPED HAY MULCH WITH NETTING.
      - SLOPES EXCEEDING 3:1 PROVIDE EROSION CONTROL BLANKET.
9. HAY OR STRAW MULCH SHALL BE APPLIED AT A RATE OF TWO BALES PER 1,000 SQUARE FEET (OR APPROXIMATELY TWO TONS PER ACRE).
10. TEMPORARY EROSION CONTROL MEASURES ARE TO BE MAINTAINED AND KEPT CLEAN UNTIL ALL EXPOSED AREAS HAVE ESTABLISHED VEGETATION, AT WHICH TIME TEMPORARY MEASURES ARE TO BE REMOVED.
11. THE EROSION CONTROL SPECIFIED AND DETAILED ON THE PLANS SHALL BE CONSIDERED THE MINIMUM REQUIRED AND IS TO BE USED AS A GUIDELINE ONLY. ADDITIONAL MEASURES MAY BE DICTATED BY FIELD CONDITIONS. PROVIDE ADDITIONAL EROSION CONTROL AS REQUIRED BY THE TOWN, STATE OR THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EROSION CONTROL DURING CONSTRUCTION AND UNTIL PERMANENT VEGETATION IS ESTABLISHED.
12. HAY BALES, SILT FENCING AND EROSION STONE SHALL BE INSTALLED WHERE NECESSARY TO MINIMIZE THE EFFECTS OF EROSION. ALL WORK SHALL BE COMPLETED IN CONFORMANCE WITH THE LATEST EDITION OF "STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE" TO PREVENT THE DEGRADATION OF DOWNSTREAM PROPERTIES AND DRAINAGE.
13. DRAINAGE SWALES SHALL BE MONITORED AND MAINTAINED THROUGHOUT OPERATION. SILT SHALL BE PERIODICALLY REMOVED FROM SWALES AS NECESSARY TO PREVENT SOIL MIGRATION.
14. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED: FINISHED COURSE GRAVELS HAVE BEEN INSTALLED; A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED; A MINIMUM OF 3" OF NON-EROSIVE MATERIALS SUCH AS STONE OR RIP RAP HAS BEEN PROPERLY INSTALLED; OR EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
15. WINTER CONSTRUCTION NOTES:
   A. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
   B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
   C. AFTER NOVEMBER 15TH, INCOMPLETE ROAD SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL (NHDOT ITEM 304.3).
16. THE CONTRACTOR IS RESPONSIBLE FOR STORMWATER MANAGEMENT DURING ALL PHASES OF CONSTRUCTION. NO WORK SHALL BE PERMITTED IN FLOWING WATER. DIVERSION SHALL BE ACCOMPLISHED BY THE USE OF SAND BAGS, BERMS, TEMPORARY CULVERTS, OR PUMPING. ALL DIVERTED WATER SHALL BE DISCHARGED TO DIRT BAGS, STONE FILL OR OTHER SUITABLE EROSION CONTROL STRUCTURE.
17. THE CONTRACTOR MAY NOT REMOVE EROSION CONTROL MEASURES UNTIL TURF IS VIGOROUSLY ESTABLISHED. ANY DISTURBED AREAS REMAINING AFTER OR AS A RESULT OF THE REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE LOAMED, SEEDED AND MULCHED.
18. STABILIZE ALL DITCHES AND SWALES PRIOR TO DIRECTING FLOW TO THEM.
19. PERMITS: THE PROPOSED PROJECT IS SUBJECT TO A NPDES CONSTRUCTION GENERAL PERMIT ISSUED BY EPA. NHDES PERSONNEL AND THE ENGINEER MAY MODIFY THE EROSION CONTROL PRACTICES AND THE APPROVED PLAN AT ANY TIME BASED ON SITE CONDITIONS.
20. WETLANDS: WETLANDS AREAS ARE IDENTIFIED ON THE PLANS. THE CONTRACTOR SHALL NOT IMPACT ANY WETLANDS.
21. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

EROSION CONTROL MATERIALS:

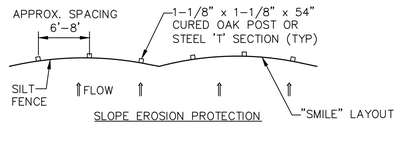
1. SILT FENCE: SILT FENCE SHALL INCLUDE PREFABRICATED 48-INCH WOOD POSTS OR APPROVED EQUIVALENT INSTALLED IN ACCORDANCE WITH THE DRAWINGS (OR AS DIRECTED BY THE ENGINEER).
2. RIP RAP: SEE DETAILS
3. MULCH: MULCH SHALL BE DRY MOWINGS OR ACCEPTABLE HERBACEOUS GROWTH, FREE OF NOXIOUS WEED OR WOODY STEMS. NO SALT HAY SHALL BE USED.
4. MULCH NETTING: NETTING USED TO HOLD MULCH IN PLACE SHALL BE AN APPROVED PAPER, TWINE, PLASTIC OR PLASTIC AND WOOD FIBER NETTING.
5. EROSION CONTROL MATTING (BLANKET): MATTING SHALL BE INSTALLED ON ANY SLOPES STEEPER THAN 3(H) TO 1(V). MATTING SHALL BE NORTH AMERICAN GREEN S75 OR APPROVED EQUIVALENT.
6. TEMPORARY SEED MIXTURE (OR EROSION CONTROL SEED MIXTURE): SEE SPECIFICATION SECTION 02935. 7. PERMANENT SEED MIXTURE: SEE SPECIFICATION SECTION 02935.

MAINTENANCE OF EROSION CONTROL STRUCTURES:

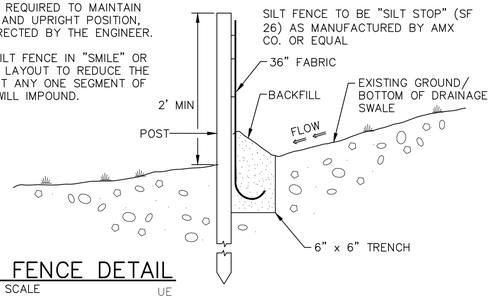
1. SILT FENCES ARE TO BE MAINTAINED AND CLEANED UNTIL SLOPES HAVE HEALTHY STAND OF GRASS. WHEN SEDIMENT ACCUMULATION REACHES A DEPTH OF 12" BEHIND THE SILT FENCE, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF PROPERLY.
2. REPAIR ALL DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION EQUIPMENT AT OR BECOME THE END OF EACH WORKING DAY.
3. KEEP ALL DRAINAGE ENTRANCES FREE OF DEBRIS DURING CONSTRUCTION.
4. CLEAN STONE CHECK DAMS AND TEMPORARY DIVERSION DITCHES WHEN THEY BECOME FULL TO 50% OF THEIR ORIGINAL VOLUME OR AS DIRECTED BY THE ENGINEER.
5. VISUAL OBSERVATION OF ALL EROSION CONTROL MEASURES, AND ALL CLEARED AND GRADED AREAS ON THE CONSTRUCTION SITE SHOULD BE PERFORMED ONCE EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM WITH RAINFALL AMOUNTS GRATER THAN 0.5 INCHES. CONTRACTOR TO USE FORMS CONTAINED IN THE STORMWATER POLLUTION PREVENTION PLAN PERMIT AS APPROPRIATE.

SILT FENCE CONSTRUCTION NOTES:

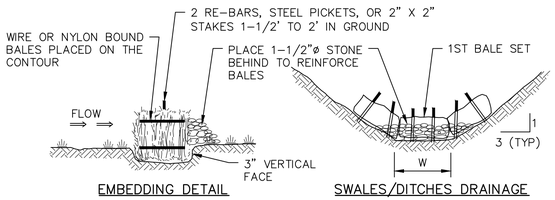
1. SILT FENCE TO BE CONSTRUCTED AT LOCATIONS SHOWN ON THE PLANS BEFORE CONSTRUCTION PROCEEDS. FENCE SHALL BE MAINTAINED THROUGHOUT ENTIRE DURATION OF CONSTRUCTION UNTIL GROUND COVER IS ESTABLISHED.
2. PLACE HAY BALES BEHIND SILT FENCE AS REQUIRED TO MAINTAIN FENCE IN AND UPRIGHT POSITION, OR AS DIRECTED BY THE ENGINEER.
3. INSTALL SILT FENCE IN "SMILE" OR "J-HOOK" LAYOUT TO REDUCE THE AREA THAT ANY ONE SEGMENT OF FENCING WILL IMPOUND.



SLOPE EROSION PROTECTION



SILT FENCE DETAIL
NOT TO SCALE UE

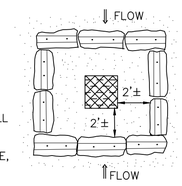


EMBEDDING DETAIL SWALES/DITCHES DRAINAGE

HAY BALE BARRIER CONSTRUCTION SPECIFICATIONS:

1. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY BUTTED.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 3".
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKE OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED, WHEN THEY HAVE SERVED THEIR PURPOSE, SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
6. BARRIERS SHALL BE SPACED AT 100' ALONG DRAINAGE SWALES/ DITCHES.

HAY BALE DETAIL
NOT TO SCALE UE



CATCH BASIN EROSION PROTECTION

ISSUE FOR		
APPROVAL	Date -	By -
CONSTRUCTION	Date -	By -
RECORD DRAWING	Date -	By -

NO.	REVISIONS	APP'D

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Designed JMC
Checked TGP
Approved -
Date 5/12/2021
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NEW HAMPSHIRE - STATE OF - PROFESSIONAL ENGINEER - THOMAS PAGE No. 10858

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EROSION COTNROL DETAILS

PUDDING HILL TREATMENT FACILITY

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STANDARD SEWER MANHOLE NOTES:

1. IT IS THE INTENTION: THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH, AND LEAKPROOF QUALITIES CONSIDERED NECESSARY BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES (NHDES) FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE, AND TO PROVIDE A WATER TIGHT SEAL CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE.
2. BARRELS AND CONE SECTIONS: SHALL BE PRECAST REINFORCED CONCRETE.
3. PRECAST CONCRETE: BARREL SECTIONS, CONES, GRADE ADJUSTMENT RING AND BASES SHALL CONFORM TO ASTM C478.
4. VACUUM TEST: SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS. INVERT AND SHELF TO BE PLACED AFTER LEAKAGE TEST. REPAIRS SHALL BE MADE TO THE OUTSIDE OF THE STRUCTURE.
5. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO AN ELEVATION OF 1" ABOVE THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
6. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN, MANUFACTURED IN USA, AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH LETTER "S" FOR SEWERS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
7. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33. STONE SIZE NO. 67.

PERCENT PASSING	SCREEN SIZE
100%	1 INCH
90 -100%	3/4 INCH
20 - 55%	3/8 INCH
0 - 10%	#4 SIEVE
0 - 5%	#8 SIEVE

WHERE ORDERED BY THE ENGINEER, FOR STRUCTURES UNDER 6' OR TO STABILIZE THE BASE, SCREENED GRAVEL OR 1-1/2 INCH CRUSHED STONE MAY BE USED.

8. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER HAVING AN ECCENTRIC ENTRANCE AND CAPABLE OF SUPPORTING H-20 LOADS MAY BE USED.
9. FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:

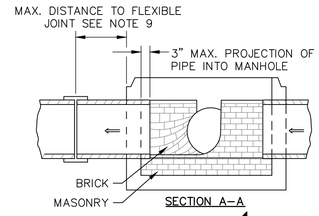
   DI PIPE - NONE REQUIRED
   PVC (ASTM 3034) - UP THROUGH 15" DIA. - NONE REQUIRED
   PVC (ASTM F679) - LARGER THAN 15" DIA. - 48" TO 60"
   RCP PIPE - 48"

10. SPECIFICATIONS: ADDITIONAL CONSTRUCTION SPECIFICATIONS ARE INCLUDED IN THE CONTRACT DOCUMENTS. THESE STANDARD MANHOLE DRAWINGS ARE NOT COMPLETE WITHOUT THESE SPECIFICATIONS.
11. MANHOLE FILL:

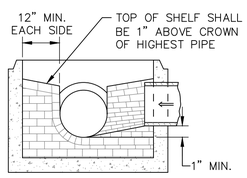
    A. GRANULAR FILL OPTION: INSTALL APPROPRIATE BULKHEAD. INSTALL APPROVED FILL IN 12" LIFTS COMPACTED TO 95% STANDARD PROCTOR.
    B. FLOW FILL OPTION: INSTALL APPROPRIATE BULKHEAD TO SUPPORT FLOW FILL INSTALL MACHINE EXCAVATABLE (2000#) FLOW FILL. DO NOT REMOVE CONE AND SLAB TOP UNTIL FLOW FILL IS SET.
    C. MANHOLE FILL IS INCIDENTAL TO THE WORK, OR INCIDENTAL TO THE ABANDON STRUCTURE PAY ITEM IF INCLUDED IN BID SCHEDULE.

STANDARD SEWER MANHOLE DETAILS

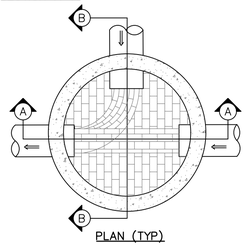
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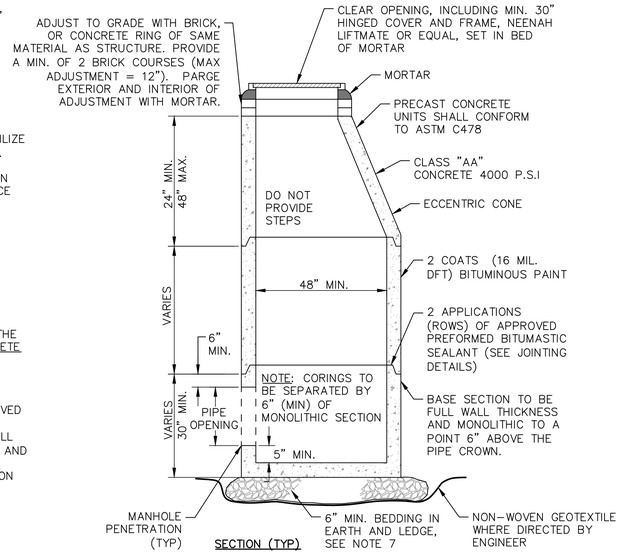
SECTION A-A



SECTION B-B



PLAN (TYP)



SECTION (TYP)

SEWER TRENCH NOTES:

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWINGS.

   A. BEDDING: SEE SPECIFICATION SECTION 02229 FOR MATERIAL AND COMPACTION REQUIREMENTS.

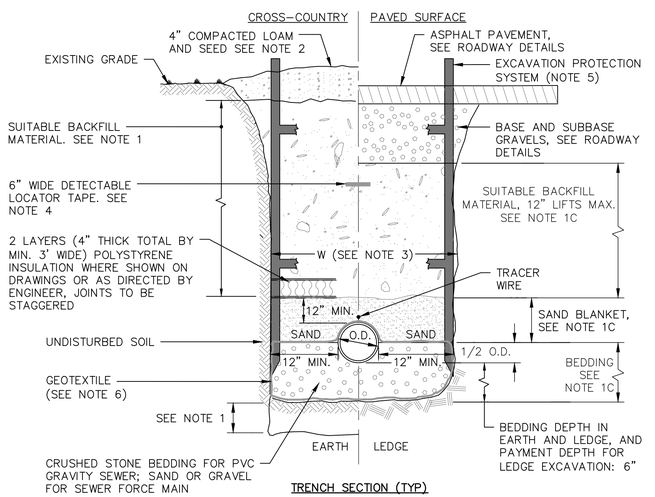
   B. SAND BLANKET: SEE SPECIFICATION SECTION 02229 FOR MATERIAL AND COMPACTION REQUIREMENTS.

   C. SUITABLE BACKFILL MATERIAL: SEE SPECIFICATION SECTION 02229 FOR MATERIAL AND COMPACTION REQUIREMENTS.

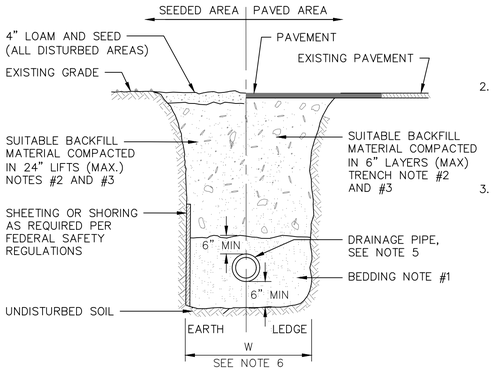
2. FOR CROSS COUNTRY CONSTRUCTION: BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE
3. W = MAXIMUM ALLOWABLE TRENCH PAYMENT WIDTH: FOR ROCK EXCAVATION, FOR ORDERED EXCAVATION BELOW GRADE, AND HANDLING OF EXCAVATED CONTAMINATED SOILS. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.)
4. LOCATOR TAPE: SEE SPECIFICATION SECTION 02610. TAPE TO BE INSTALLED 18" BELOW FINISH GRADE, OR IMMEDIATELY BELOW GRAVEL LAYER.
5. THRUST BLOCKS: SHALL BE INSTALLED ALONG ALL FORCE MAIN PIPING. THRUST BLOCKS SHALL BE OF THE SAME SIZE AND SHALL BE USED IN THE SAME LOCATIONS IDENTIFIED FOR WATER MAINS. SEE WATER DETAILS.

TRENCH DETAIL

NOT TO SCALE UE

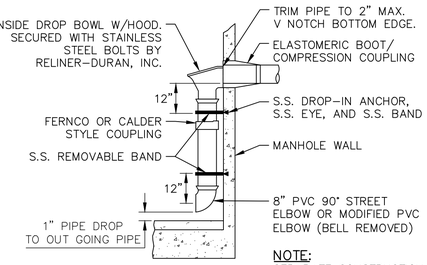


TRENCH SECTION (TYP)



TRENCH DETAIL - STORM DRAIN

NOT TO SCALE UE



NOTE:
SEPARATE CONSTRUCTION SPECIFICATIONS ARE ATTACHED OR INCLUDED IN THE CONTRACT DOCUMENTS. THESE STANDARD MANHOLE DRAWINGS ARE NOT COMPLETE WITHOUT THESE SPECIFICATIONS.

SIZE GUIDE

No. OF DROPS	PIPE DIA.	REQUIRED MANHOLE
1	≤10"	4'-0" DIA. MH
2	≤10"	4'-0" DIA. MH
1	≥12"	5'-0" DIA. MH

DROP MANHOLE

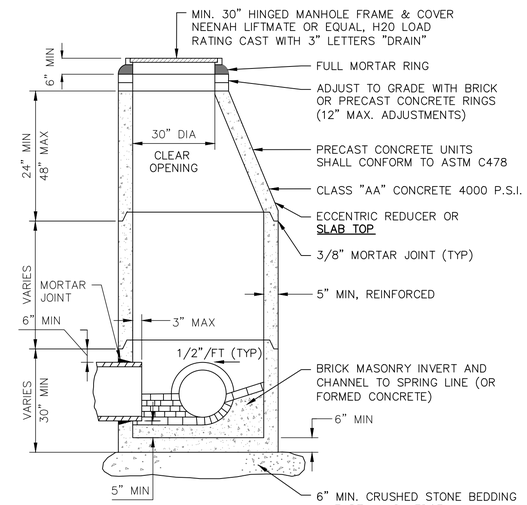
NOT TO SCALE UE

TRENCH NOTES - STORM DRAIN:

1. BEDDING: BEDDING FOR PIPES SHALL CONSIST OF PREPARING THE BOTTOM OF THE TRENCH TO SUPPORT THE ENTIRE LENGTH OF THE PIPE AT A UNIFORM SLOPE AND ALIGNMENT. CRUSHED GRAVEL (NHDOT ITEM 304.3) OR CRUSHED STONE SHALL BE USED TO BED THE PIPE TO THE ELEVATION SHOWN ON THE DRAWINGS.
2. COMPACTION: ALL BACKFILL SHALL BE COMPACTED AT OR NEAR OPTIMUM MOISTURE CONTENT BY PNEUMATIC TAMPERS, VIBRATORY COMPACTORS OR OTHER APPROVED MEANS. BACKFILL BENEATH PAVED SURFACES SHALL BE COMPACTED TO NOT LESS THAN 95 PERCENT OF AASHTO T99, METHOD C (STANDARD PROCTOR).
3. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ROCKS OVER 6 INCHES IN LARGEST DIMENSION; FROZEN EARTH AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN SEEDED AREAS, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, ROCKS UNDER 12", FROZEN EARTH OR CLAY, IF HE/SHE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE PIPE WILL BE PRESERVED.
4. BASE COURSE AND PAVEMENT: SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISIONS 300 AND 400 RESPECTIVELY.
5. DRAINAGE PIPE: PIPE MATERIALS SHALL BE EITHER POLYVINYL CHLORIDE (PVC) REINFORCED CONCRETE (RC) OR CORRUGATED POLYETHYLENE (CPE). THE OWNER RESERVES THE RIGHT TO DETERMINE WHICH PIPE MATERIALS ARE USED FOR THE PROJECT.
6. W=MAXIMUM ALLOWABLE TRENCH WIDTH: FOR ROCK EXCAVATION, FOR ORDERED EXCAVATION BELOW GRADE AND HANDLING OF EXCAVATED CONTAMINATED SOILS. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.)

STANDARD DRAIN MANHOLE NOTES:

1. IT IS THE INTENTION: THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE AND STRENGTH CONSIDERED NECESSARY BY THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS WITH STEEL REINFORCEMENT, AS SPECIFIED IN SPECIFICATION SECTION 02431. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE.
2. PRECAST CONCRETE: BARREL SECTIONS, CONES, AND BASES SHALL CONFORM TO SPECIFICATION SECTION 02431.
3. FRAMES AND COVERS: DRAIN MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. 3-INCH (MINIMUM HEIGHT) LETTERS STATING "DRAIN" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
4. BEDDING: SEE DETAIL AND SPECIFICATION SECTION 02229. WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.
5. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER HAVING AN ECCENTRIC ENTRANCE AND CAPABLE OF SUPPORTING H-20 LOADS MAY BE USED, AS APPROVED BY THE ENGINEER.
6. SPECIFICATIONS: ADDITIONAL CONSTRUCTION SPECIFICATIONS ARE INCLUDED IN THE PROJECT MANUAL. THESE STANDARD MANHOLE DRAWINGS ARE NOT COMPLETE WITHOUT THESE SPECIFICATIONS.



NOTES:

1. ENTIRE STRUCTURE TO BE REINFORCED FOR H-20 LOADING.

TYPICAL DRAINAGE MANHOLE

NOT TO SCALE UE

ISSUE FOR	Date	By
APPROVAL	-	-
CONSTRUCTION	-	-
RECORD DRAWING	-	-

NO.	REVISIONS	APP'D

Drawn/Chk RMG
Designed JMC
Checked TGP
Approved -
Date 5/12/2021
Book No. -
Project No. 2509
Dwg. ID 2509_C_details
Scale AS SHOWN

THOMAS G. PAGE No. 10958 STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER

UNDERWOOD engineers
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

SEWER & DRAINAGE DETAILS

PUDDING HILL TREATMENT FACILITY

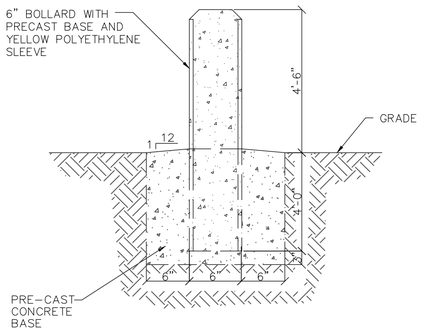
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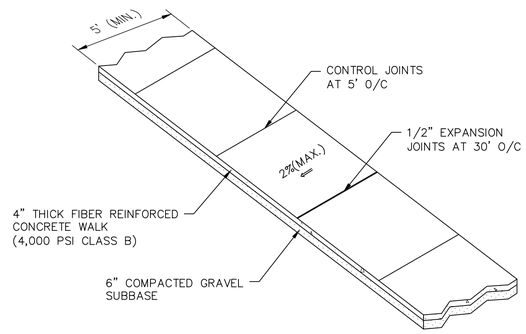
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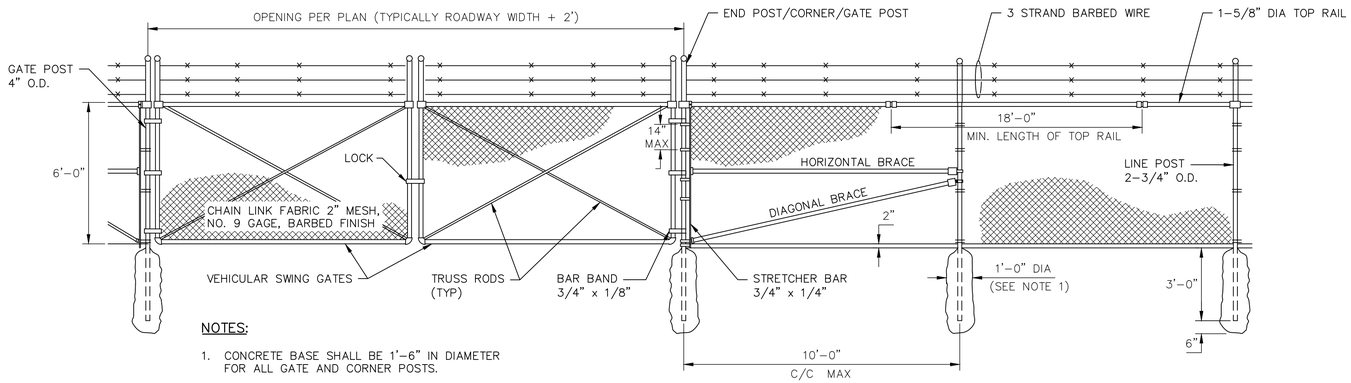
STEEL BOLLARD DETAIL
NOT TO SCALE

CURB RAMP NOTES:

1. CURB RAMP AND FLARES SHALL BE CONSTRUCTED USING 6" THICK REINFORCED CONCRETE (4000 PSI, CLASS A), SUBBASE SHALL CONSIST OF 6" THICK OF CRUSHED GRAVEL.
2. RAMP WIDTH EQUALS WIDTH OF SIDEWALK, (5' WIDTH).
3. MAX. SLOPE OF CURB RAMP SHALL BE 1:12.
4. LANDING SHALL HAVE A MAX. SLOPE OF 2% IN ANY DIRECTION. LANDINGS SHALL BE 5' LONG (MIN.) BY WIDTH OF SIDEWALK (4' MIN.).
5. MAX. CROSS SLOPE ON SIDEWALK, SHALL BE 2%.
6. TRANSITIONS FROM RAMPS TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
7. INTERCEPT DRAINAGE ALONG THE CURB BEFORE CURB RAMP. CATCH BASINS, MANHOLES, ETC. SHALL NOT BE LOCATED AT BASE OF CURB RAMP OR IN LANDING.
8. PROVIDE ANY ADDITIONAL STATE AND LOCAL CURB RAMP REQUIREMENTS.



SIDEWALK DETAIL
NOT TO SCALE



NOTES:

1. CONCRETE BASE SHALL BE 1'-6" IN DIAMETER FOR ALL GATE AND CORNER POSTS.
2. PROVIDE HORIZONTAL AND DIAGONAL BRACES AT ALL CORNER, PULL, TERMINAL, AND GATE POST.
3. POSTS SHALL BE SPACED AT A MAXIMUM OF 10'-0".

CHAIN LINK FENCE & GATE DETAIL
NOT TO SCALE

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CONSTRUCTION Date – By –
RECORD DRAWING Date – By –

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Drawn/Chk RMG
Designed JMC
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Approved –
Date 5/12/2021
Book No. –
Project No. 2509
Dwg. ID 2509_C_details
Scale AS SHOWN

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – THOMAS PAGE No. 10580

UNDERWOOD engineers
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

ROADWAY AND SITE DETAILS I

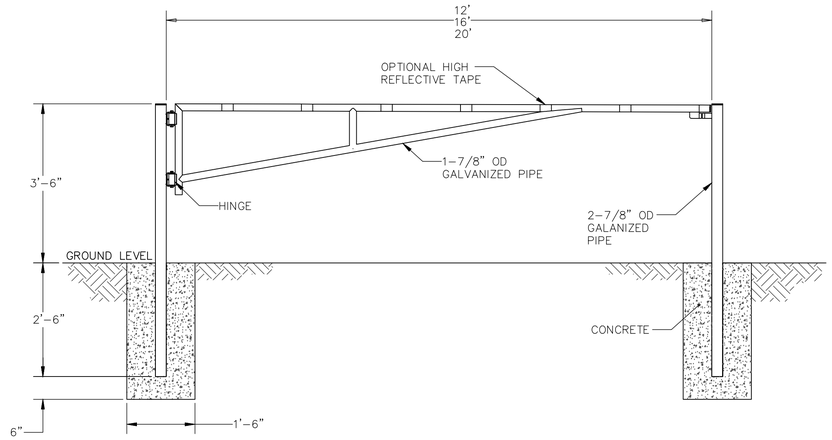
PUDDING HILL TREATMENT FACILITY

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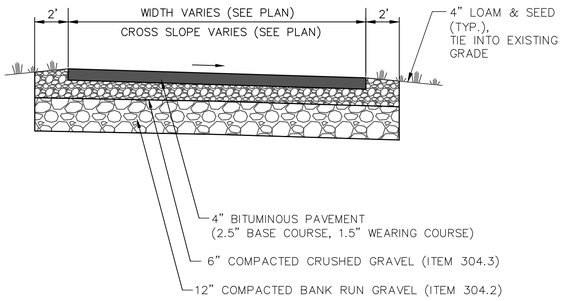
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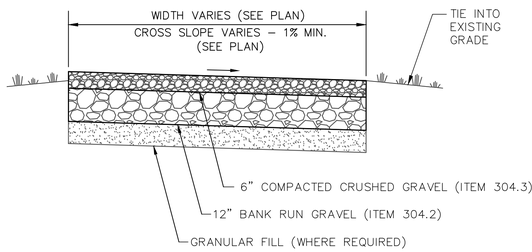
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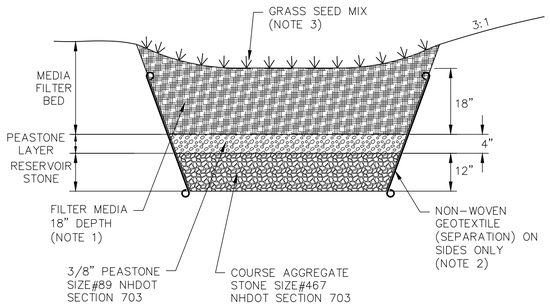
BAR GATE DETAIL
NOT TO SCALE



TYPICAL PAVED DRIVE SECTION
NOT TO SCALE



TYPICAL GRAVEL DRIVE AND ACCESS AREA SECTION
NOT TO SCALE



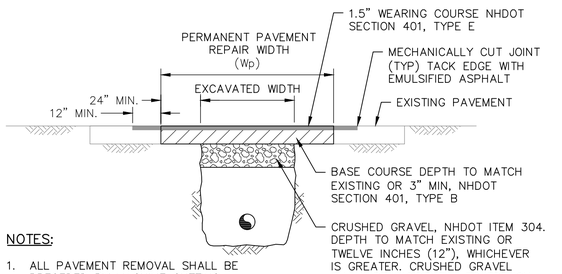
NOTES:

1. MEDIA FILTER MIX SHALL CONSIST OF THOROUGHLY MIXING THE FOLLOWING MATERIALS MEASURED BY VOLUME:
   - 50%–60% COARSE SAND (ASTM C33 OR EQUAL)
   - 15%–25% SHREDDED WOOD CHIPS (TUB GRINDINGS OR EQUAL)
   - 15%–25% SANDY LOAMY SOIL (<5% CLAY CONTENT)
2. NON–WOVEN GEOTEXTILE SHALL BE CLASS 3, 6 OZ/SY, 0.70 MINIMUM PERMITTIVITY SUCH AS MIRAFI 140N OR EQUIVALENT.
3. MEDIA FILTER TO BE SEEDED W/ NATIVE PERENNIAL GRASS SEED MIX WITH HIGH FESCUE CONTENT.

   ACCEPTABLE SEED MIXES:
   a. JONATHAN BLACK BEAUTY ORIGINAL GRASS SEED
   b. SCOTT'S CLASSIC GRASS SEED
   c. SCOTT'S EZ SEED
   d. OR APPROVED EQUAL
4. DO NOT COMPACT NATIVE SUB SOILS DURING CONSTRUCTION.
5. RAIN GARDEN DESIGN SPECIFICATIONS FOR PROPOSED PUDDING HILL WATER TREATMENT PLANT.

DESIGN CHARACTERISTIC	SPECIFICATION	ELEVATION
TOP AREA	2,640 FT²	100
BOTTOM AREA	1,275 FT²	97.5
SIDE SLOPES	3:1	–
POND DEPTH	2.5 FT	–
BASIN VOLUME (25 –YEAR DESIGN STORM)	4,700 FT3	–
FILTER MEDIA STORAGE VOLUME	1,100 FT3	–
TOTAL STORAGE VOLUME (50 –YEAR DESIGN STORM)	5,800 FT3	–
18" MEDIA FILTER (COMPONENTS MIXED BY VOLUME)		
COARSE SAND (ASTM –C33 OR EQUAL)	50%–60%	
SHREDDED WOOD CHIPS (TUB GRINDINGS OR SIMILAR)	15%–25%	
SANDY LOAMY SOIL	15%–25%	
4" FILTER BLANKET	PEASTONE LAYER (⅜" STONE)	
12" RESERVOIR STONE	RESERVOIR LAYER (¾" STONE)	

RAIN GARDEN DETAIL
NOT TO SCALE



NOTES:

1. ALL PAVEMENT REMOVAL SHALL BE PRECEDED BY MACHINE CUTTING.
2. ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
3. DIAMOND PATCHES (SEE DETAIL) SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

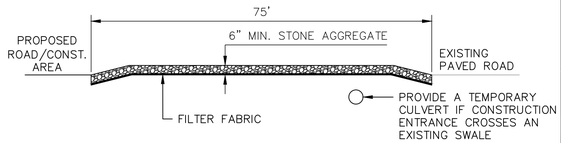
PIPE I.D.	Wt (INCHES)	Wp (INCHES)
1–21 INCHES	72	108
24–30 INCHES	84	120
> 30 INCHES	96	132

MINIMUM TRENCH PAVEMENT WIDTHS

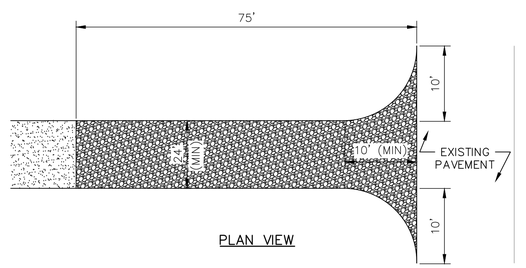
PERMANENT TRENCH PAVEMENT REPAIRS (INCIDENTAL)
NOTE TO SCALE

STABILIZED CONSTRUCTION ENTRANCE SPECIFICATIONS:

1. THE TEMPORARY STABILIZED CONSTRUCTION ENTRANCE SHALL CONSIST OF PLACING 1"–2" STONE, RECLAIMED STONE OR RECYCLED CONCRETE EQUIVALENT, AT THE LOCATION WHERE CONSTRUCTION VEHICLES EXIT THE SITE IN ORDER TO MINIMIZE MIGRATION OF DIRT ONTO THE ADJOINING PAVED ROADS.
2. STONE SHALL BE 1" TO 2" FRACTURED ROCK.
3. STONE SHALL BE PLACED OVER GEOTEXTILE FABRIC.
4. THE MINIMUM STONE DEPTH SHALL BE 6 INCHES.
5. THE MIN. DIMENSIONS OF THE STABILIZED ENTRANCE SHALL BE 24 FEET WIDE BY 75 FEET LONG.
6. SURFACE WATER RUNOFF FROM THE PAVED ROAD SHALL NOT BE PERMITTED TO COME IN CONTACT WITH THE STONE ENTRANCE. USE A CROSS CULVERT UNDER THE NEW ENTRANCE OR CONSTRUCT A BERM ALONG THE EDGE OF EXISTING PAVEMENT TO DIVERT WATER AWAY FROM THE STONE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC ROADWAYS. TOP DRESS OR REPLACE STONE AS NEEDED. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAYS SHALL BE IMMEDIATELY REMOVED.
8. THE ENTRANCE SHALL BE MAINTAINED UNTIL THE SITE CONDITIONS WARRANT ITS REMOVAL.



PROFILE VIEW



PLAN VIEW

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

ISSUE FOR	Date	By
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CONSTRUCTION	–	–
RECORD DRAWING	–	–

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Drawn/Chk RMG
Designed JMC
Checked TGP
Approved –
Date 5/12/2021
Book No. –
Project No. 2509
Dwg. ID 2509_C_details
Scale AS SHOWN

UNDERWOOD engineers
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

ROADWAY AND SITE DETAILS II

PUDDING HILL TREATMENT FACILITY

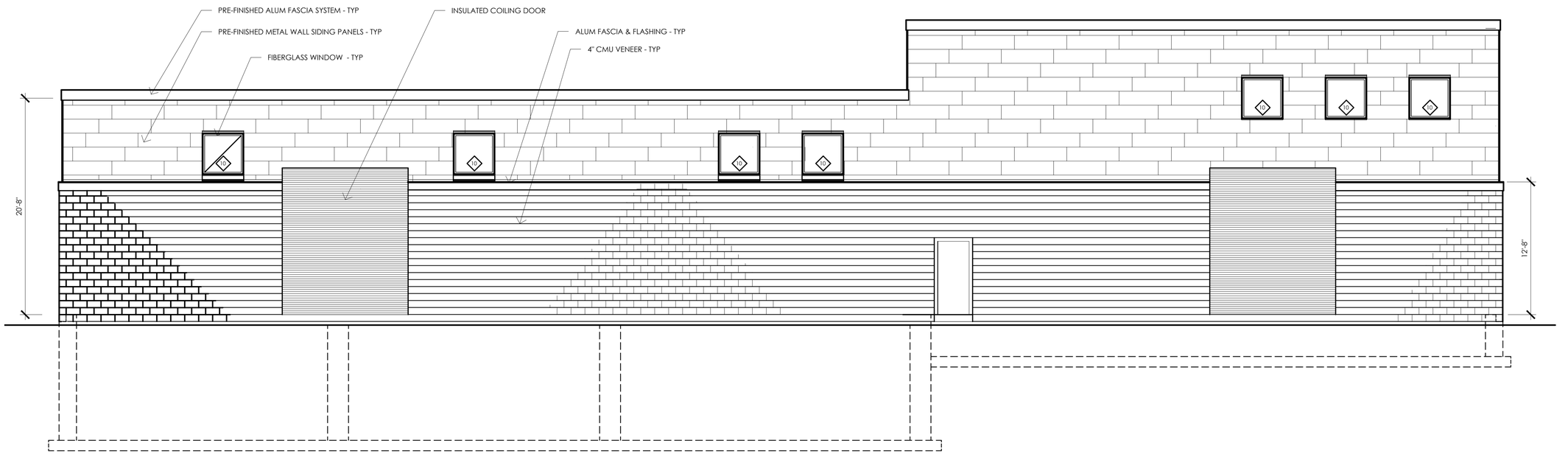
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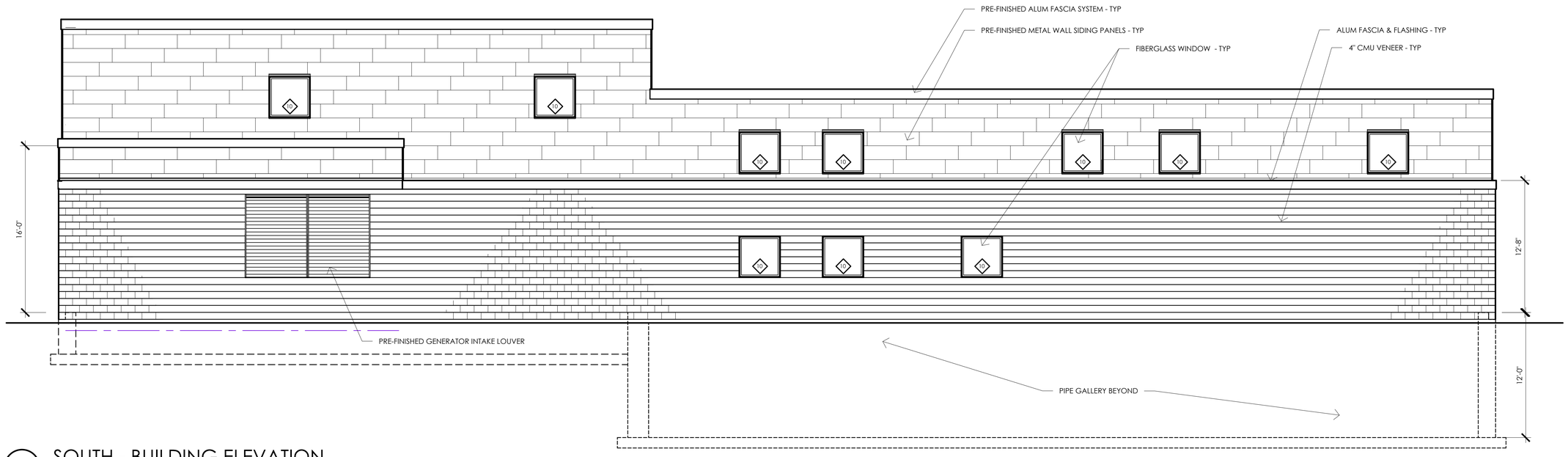
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1 NORTH - BUILDING ELEVATION

3/16" = 1'-0"

0 FT 5 10 15 FT



2 SOUTH - BUILDING ELEVATION

3/16" = 1'-0"

0 FT 5 10 15 FT

TENNANT GOUCHER architects
tennantgoucher@gmail.com 603.669.3855 110 Fremont Place Bedford, nh 03110

NO.	REVISIONS	APP'D

ISSUE FOR
APPROVAL Date — By —
CONSTRUCTION Date xx/xx/xx By xx
RECORD DRAWING Date — By —

Drawn/Chk xx
Designed xx
Checked xx
Approved —
Date 04/22/2021
Book No. —
Project No. xxxx
Dwg. ID
Scale AS SHOWN

UNDERWOOD engineers
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

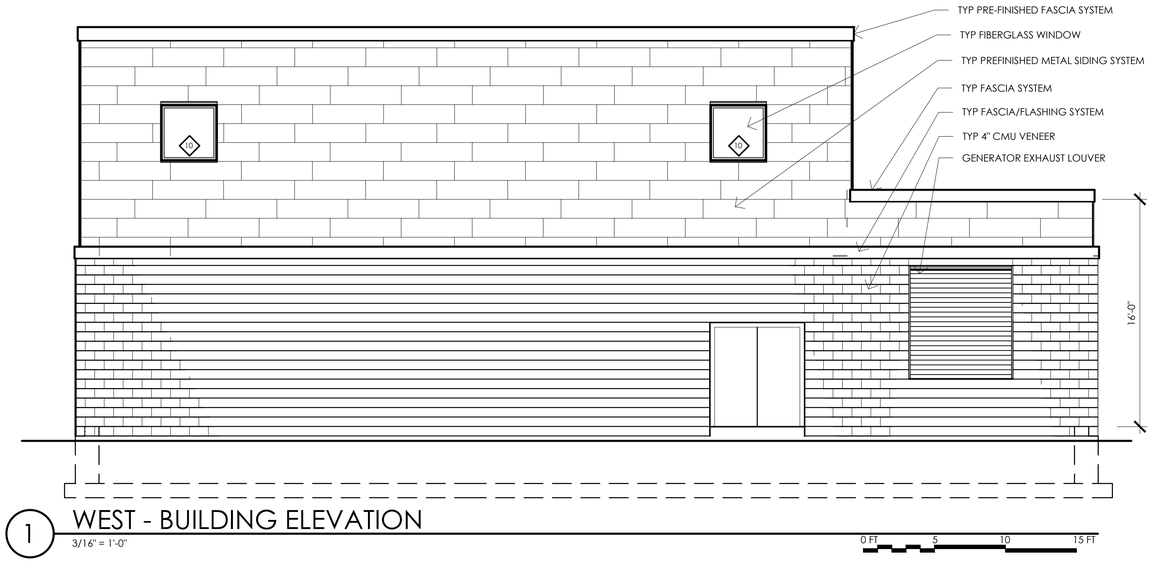
BUILDING ELEVATIONS

WATER FACILITIES IMPROVEMENTS-PHASE 2
PUDDING HILL TREATMENT FACILITY

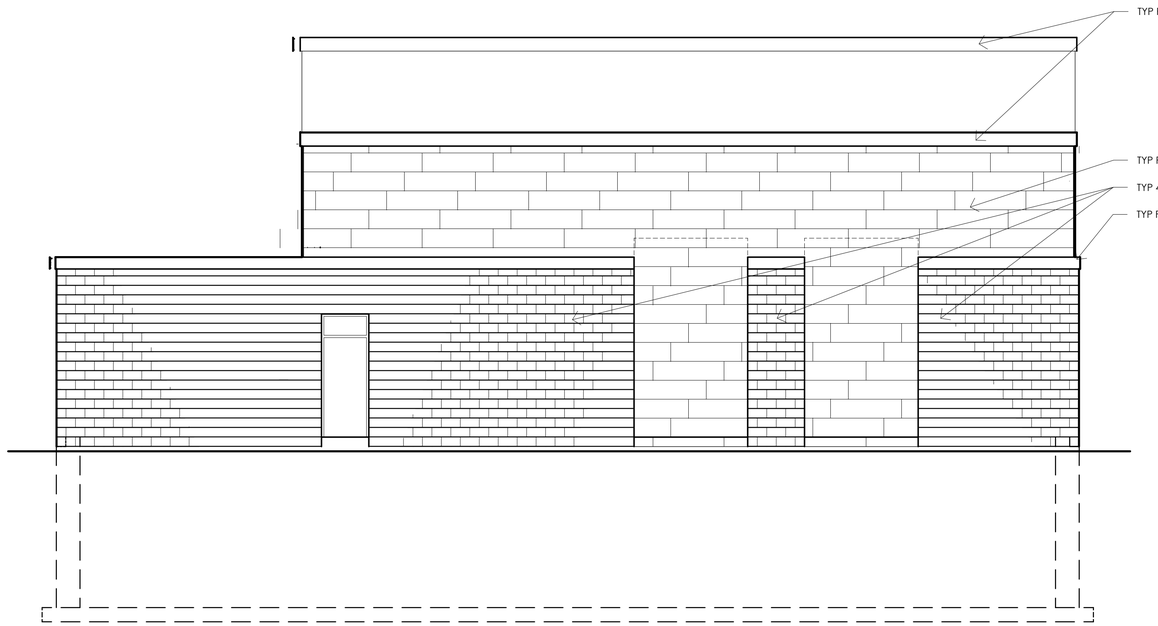
CITY OF DOVER, NEW HAMPSHIRE

DWG NO A 20

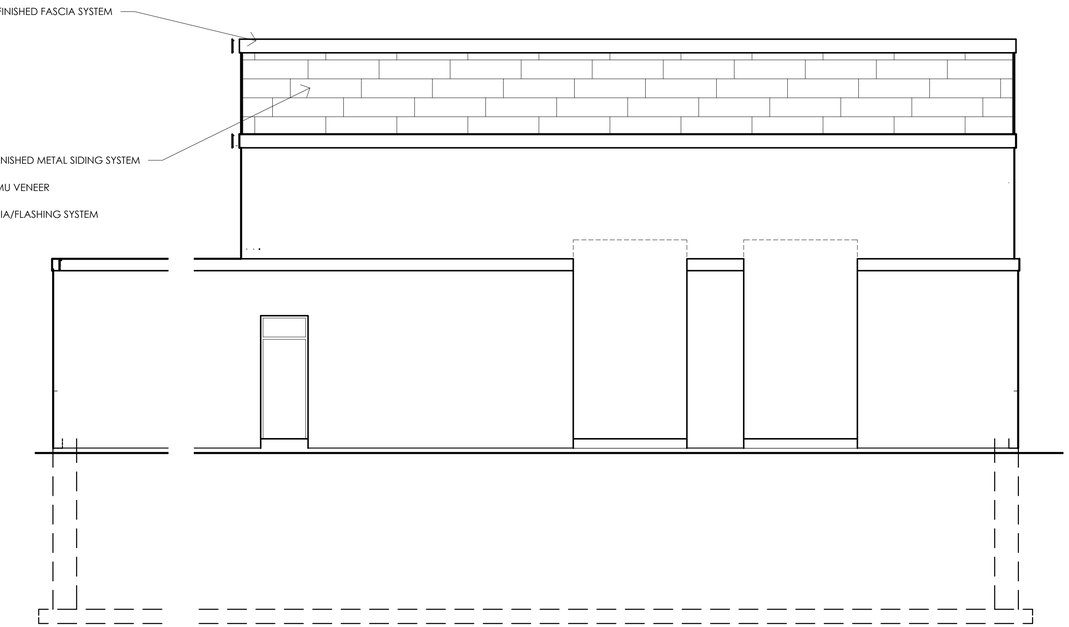
SHEET xx OF xx



1 WEST - BUILDING ELEVATION
3/16" = 1'-0"
0 FT 5 10 15 FT



2 EAST - BUILDING ELEVATION MAIN LEVEL
3/16" = 1'-0"
0 FT 5 10 15 FT



3 EAST - BUILDING ELEVATION UPPER LEVEL
3/16" = 1'-0"
0 FT 5 10 15 FT

TENNANT GOUCHER architects
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NO.	REVISIONS	APP'D

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BUILDING ELEVATIONS

WATER FACILITIES IMPROVEMENTS-PHASE 2
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CITY OF DOVER, NEW HAMPSHIRE

DWG NO A 21
SHEET xx OF xx