

Provost & Rovero, Inc.

Civil Engineering • Surveying • Site Planning • Structural • Mechanical • Architectural Engineering

P.O. Box 191
57 East Main Street
Plainfield, CT 06374

Telephone (860) 230-0856
Fax (860) 230-0860
www.prorovinc.com

January 23, 2023

Town of Putnam
Inland Wetlands Commission
Attention: Bruce Fitzback, Land Use Agent
200 School Street
Putnam, CT 06260

**RE: 285 River Road & 357 River Road – Proposed 11 Lot Resubdivision – Putnam, CT
P&R Job No. 203095**

Dear Mr. Fitzback:

Attached please find three copies of revised plans for the above referenced project. The plan revisions have been prepared to address comments in a January 17, 2023 letter from CLA Engineers, Inc. The following responses correspond to each review comment:

General Comments Regarding Potential for Wetland Impacts

1. Consistent with the previously review plans, no direct wetland impacts are proposed.
2. No response required.
3. See #4 below for a discussion of hydrologic impacts to wetlands.
4. The potential for hydrologic impacts associated with proposed excavation area 1 and the corresponding proposed pond have been further investigated. This investigation was intended to address the specific concerns raised by Weston & Sampson in their December 29, 2022 report. The results of this additional investigation are summarized in the January 23, 2023 supplemental report prepared by One Earth Environmental, LLC which has been submitted electronically under separate cover and copies of which are attached hereto. To summarize the conclusion of this supplemental report, there will be no hydrologic impact to the wetlands around proposed excavation area 1. The additional supplemental report prepared by Joseph Theroux also concludes that there will be no adverse impacts to the functions and values of the wetlands surrounding either excavation area as a result of the proposed project.
5. Additional groundwater data has been obtained up to January 20, 2023. Given that both this January reading and the previous December reading of the monitor wells occurred shortly after significant precipitation events, we feel confident that aside from an unusually large singular rain event (essentially a flooding condition), this data is representative of the expected high groundwater condition during a typical year. In addition to the significant rain events prior to these well readings, we note that evapotranspiration losses would be at a minimal level during the December and January time period. We would typically anticipate that groundwater levels would remain at this level until

early to mid spring when vegetative uptake and increased evapotranspiration would begin to lower the regional groundwater table.

6. Detailed test pit logs for TP 6-4 through 6-7 were not recorded. These areas were found to be unsuitable for septic systems because of the presence of fill and/or disturbed soils near the ground surface, presumably from past agricultural activities. As a result a previously proposed subdivision lot was eliminated from the plan. Based on my observations of TP 7-1 and 7-2 when they were excavated, any indication of ledge is likely to be a large boulder and no efforts to remove these boulders was necessary as the test pits confirm satisfactory conditions for a proposed septic system. Note that all septic system test pits were excavated with a mini excavator. While there may be a need for isolated ledge removal for house construction depending on specific house designs, there is no ledge removal anticipated as part of the sand and gravel excavation portion of this project. Excavation Note #1 on sheet 16 has been revised to reflect this intent.
7. No response required.
8. No response required.

Editorial Comments

1. Feasible soil stockpile areas have been shown for each lot and for each excavation area. Note that the topsoil stockpile area for excavation area #1 could be constructed as a berm in the location shown to provide screening for the neighboring property.
2. The restoration notes have been revised to allow for the use of either erosion control blankets or hydroseeding with an appropriate tackifier and bonded fiber mulch on 3:1 slopes.
3. The sediments to be used for backfilling will come from off site and they would be dewatered prior to being brought to the site. There is no proposed washing or other processing of excavated material on the subject property.
4. Feasible dewatering areas for each excavation site have been shown. Note that dewatering will take place at the site of the actual material excavation which will be self contained from a storm drainage perspective.
5. The proposed stabilization measures for final excavation slopes (erosion control blankets or bonded fiber hydroseeding) are sufficient erosion protection due to any run on for the northerly pond excavation.
6. We feel that while weekly E&S inspections may be appropriate at the beginning of the excavation portion of this project, this would be excessive under normal operations when the site is self contained.
7. The excavation notes have been revised to require a water truck be *available* to the site at any time, however a dedicated water truck for this single site is not warranted if the selected site operator has other nearby sites that may also require dust control.
8. The excavation notes have been revised and the excavation site plans have been revised to require temporary orange construction fence at the limits of clearing or limits of disturbance.

If you have any questions or need additional information, please do not hesitate to contact us at your convenience.

Sincerely,

A handwritten signature in dark ink, reading "David J. Held". The signature is written in a cursive style with a large, prominent "D" at the beginning.

David J. Held, P.E., L.S.
Provost & Rovero, Inc.

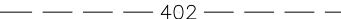
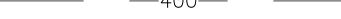
PROPOSED 11 LOT RESUBDIVISION

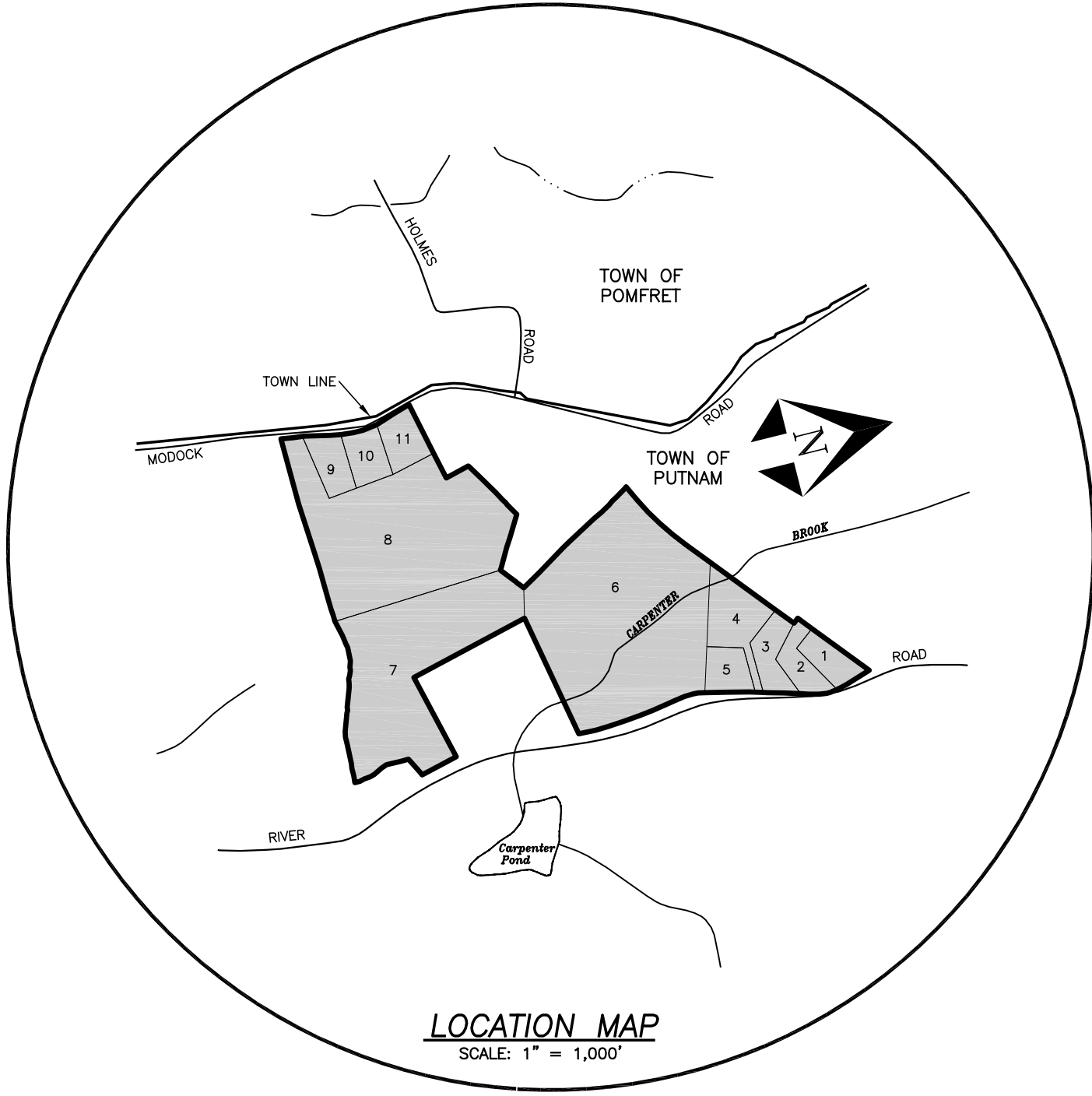
**RIVER ROAD & MODOCK ROAD
PUTNAM, CONNECTICUT**

OWNER & APPLICANT:

PUTNAM RIVER ROAD, L.L.C. & 285 RIVER ROAD, LLC
P.O. BOX 271
PUTNAM, CT 06260

LEGEND

- | | |
|---|------------------------------|
|  | IRON PIN OR PIPE RECOVERED |
|  | MONUMENT RECOVERED |
|  | IRON PIN TO BE SET |
|  | WETLAND FLAG |
|  | UTILITY POLE |
|  | EXISTING MANHOLE |
|  | EXISTING SIGN |
|  | TEST PIT |
|  | PERCOLATION TEST |
|  | EXISTING WELL |
|  | STONE WALL |
|  | EXISTING CONTOUR |
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|  | TEMPORARY EXCAVATION CONTOUR |
|  | PROPOSED SILT FENCE |
|  | PROPOSED CLEARING LIMITS |
|  | LIMIT OF 100 YEAR FLOOD |
|  | BUILDING SETBACK LINE |
|  | PROPOSED U.G. UTILITIES |



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PREPARED BY:

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REVISIONS	
DATE	DESCRIPTION
11/30/2022	CROSS SECTION A-A
12/15/2022	BRIDGE DETAILS
12/27/2022	IW COMMENTS
12/28/2022	IW COMMENTS
1/20/2023	IW COMMENTS FROM CLA

JUNE 29, 2022

FINAL APPROVAL BY THE TOWN OF
PUTNAM PLANNING COMMISSION

CHAIRMAN / SECRETARY _____ DATE _____

APPROVED BY THE TOWN OF PUTNAM INLAND
WETLAND AND WATER COURSES COMMISSION

CHAIRMAN / SECRETARY DATE

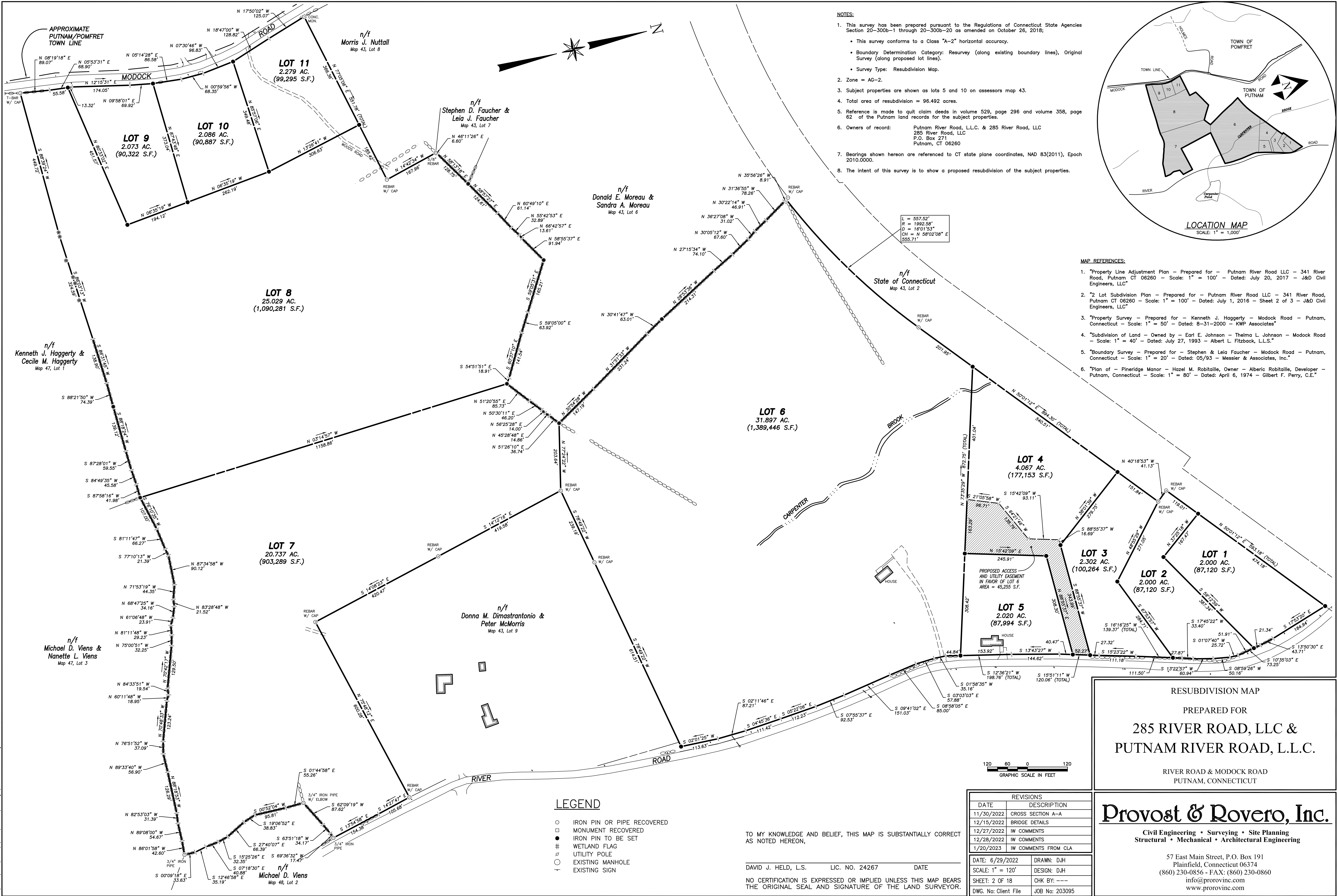
ENGINEER

DATE _____

SHEET 1 OF 18

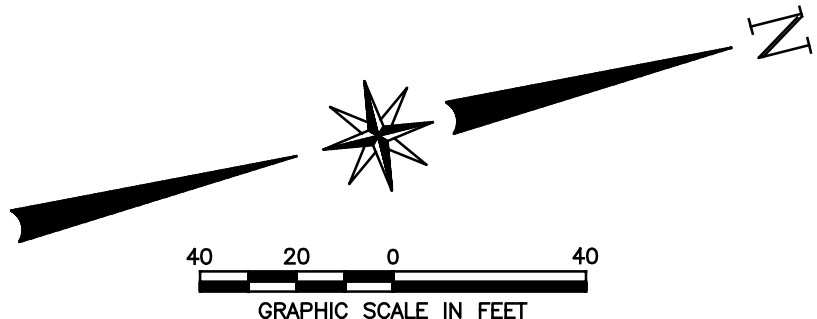
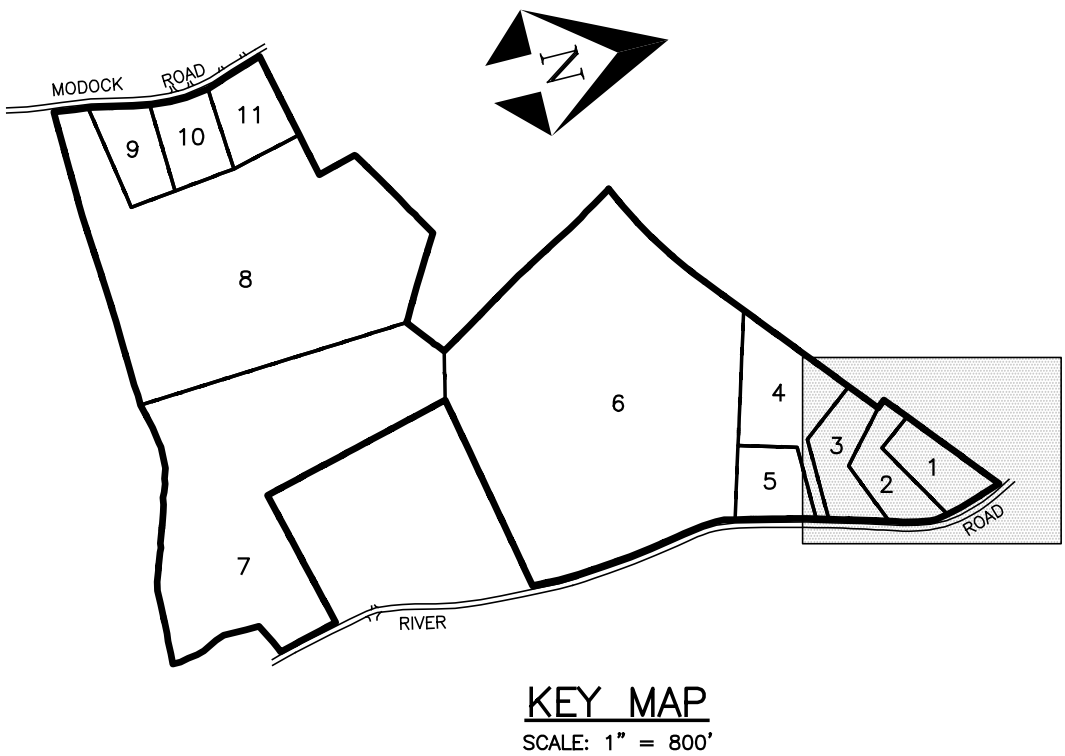
JOB NO: 203095
DWG NO: Client File

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- NOTES:
1. This survey has been prepared pursuant to the Regulations of Connecticut State Agencies Section 20-300b-1 through 20-300b-20 as amended on October 26, 2018;
This map was prepared from record research, other maps, limited field measurements and other sources. It is not to be construed as a Property/Boundary or Limited Property/Boundary Survey and is subject to such facts as said surveys may disclose.
- This survey conforms to a Class "C" horizontal accuracy.
- Topographic features conform to a Class "T-2" accuracy.
- Survey Type: General Location Survey.
 2. The subject parcel is shown as lots 5 and 10 on assessor's map 43.
 3. Zone: AG-2.
 4. Owner of record: Putnam River Road, L.L.C. & 285 River Road, LLC
P.O. Box 271
Putnam, CT 06260
 5. The intent of this survey is to show the conceptual development of the subject properties and the extent of two proposed ponds.
 6. Elevations based on NAVD 1988. Contour interval = 2'.
 7. The locations of existing utilities are based on surface evidence and other sources of information. Before any construction is to commence contact "CALL BEFORE YOU DIG" at 1-800-922-4455.
 8. Wetlands shown were flagged in the field by Joseph Theroux, certified soil scientist in 2021.



LEGEND

- IRON PIN OR PIPE RECOVERED
- MONUMENT RECOVERED
- IRON PIN TO BE SET
- # WETLAND FLAG
- UTILITY POLE
- EXISTING MANHOLE
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- ⊕ TEST PIT
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SITE PLAN No. 1

PREPARED FOR

285 RIVER ROAD, LLC &
PUTNAM RIVER ROAD, L.L.C.

RIVER ROAD & MODOCK ROAD
PUTNAM, CONNECTICUT

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DATE: 6/29/2022	DRAWN: DJH
SCALE: 1" = 40'	DESIGN: DJH
SHEET: 4 OF 18	CHK BY: ---
DWG. No: Client File	JOB No: 203095

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT
AS NOTED HEREON,

DAVID J. HELD, L.S. LIC. NO. 24267 DATE

NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS MAP BEARS
THE ORIGINAL SEAL AND SIGNATURE OF THE LAND SURVEYOR.

ENGINEER	DATE
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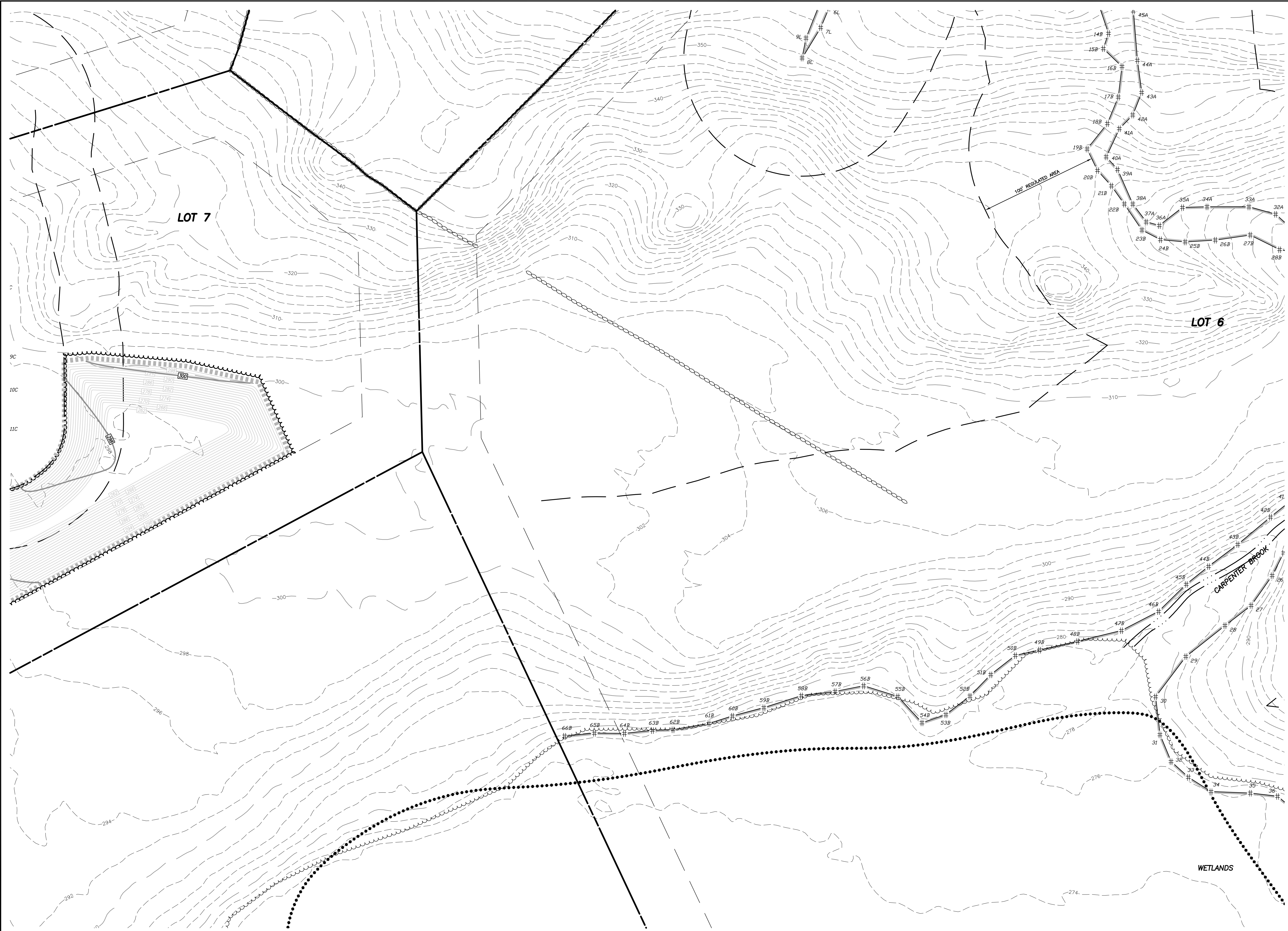
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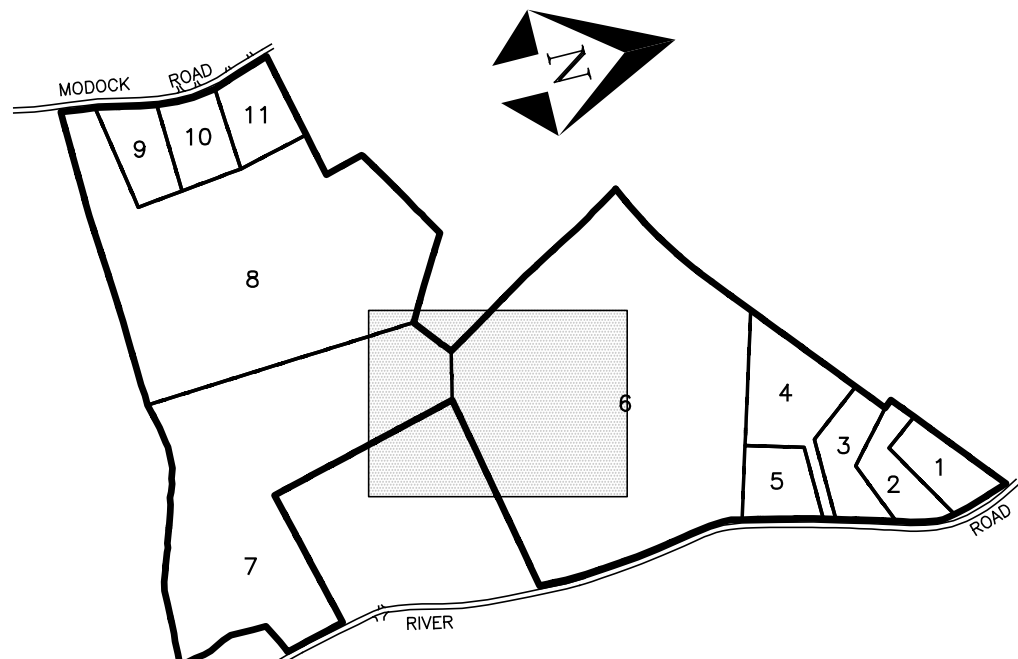
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DWG. NO: Client File	JOB NO: 203095

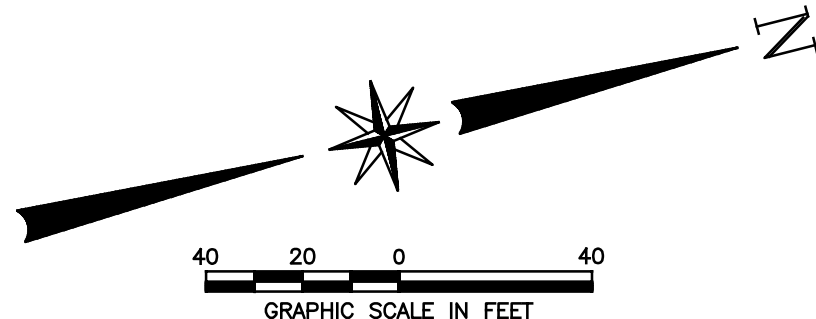
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P.O. Box 271
Putnam, CT 06260
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KEY MAP
SCALE: 1" = 800'



LEGEND

- IRON PIN OR PIPE RECOVERED
- MONUMENT RECOVERED
- IRON PIN TO BE SET
- # WETLAND FLAG
- UTILITY POLE
- EXISTING MANHOLE
- EXISTING SIGN
- ⊕ TEST PIT
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- STONE WALL
- 402 EXISTING CONTOUR
- 400 EXISTING INDEX CONTOUR
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SITE PLAN No. 3

PREPARED FOR

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PUTNAM RIVER ROAD, L.L.C.

RIVER ROAD & MODOCK ROAD
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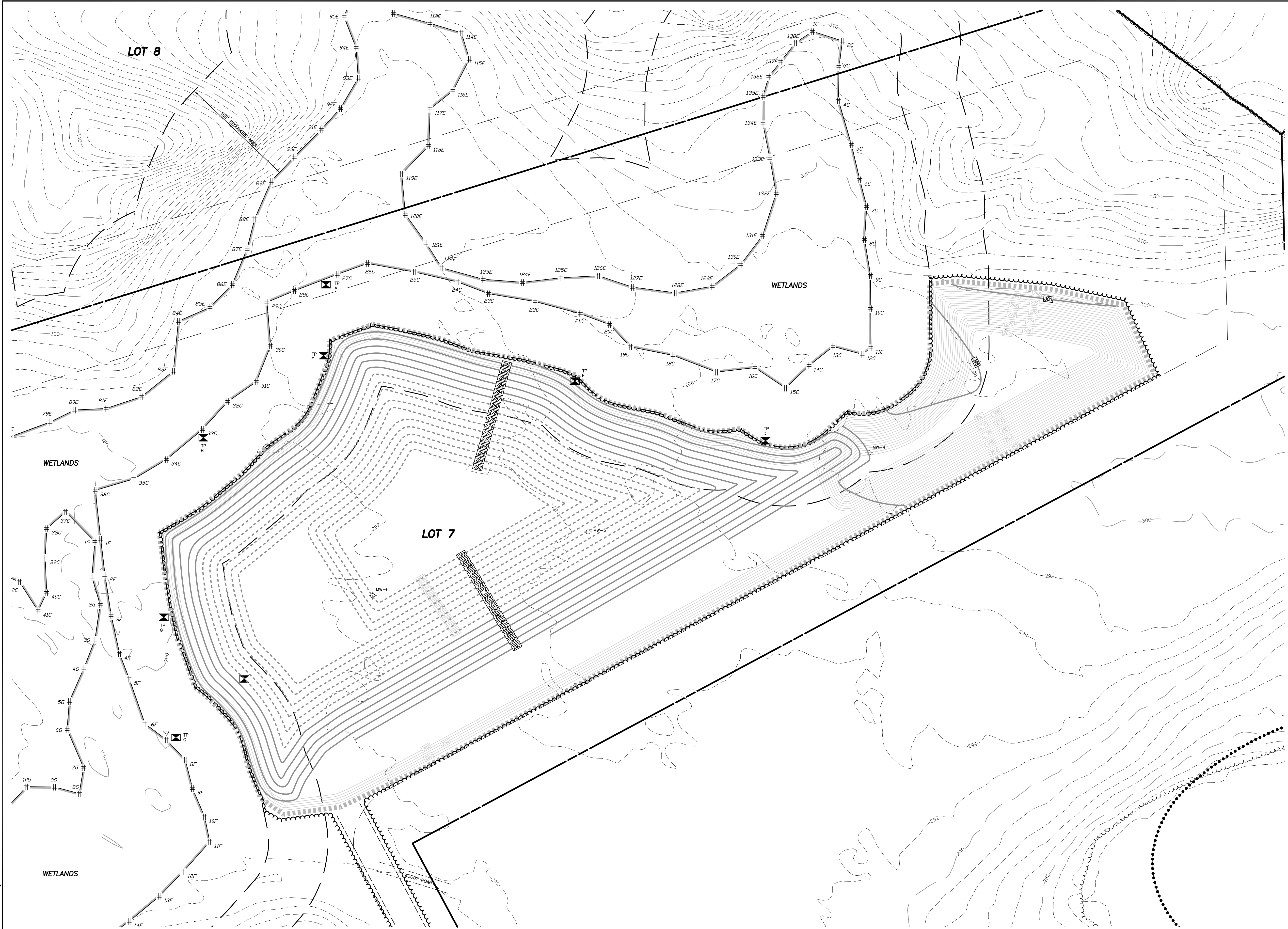
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DATE: 6/29/2022	DRAWN: DJH
SCALE: 1" = 40'	DESIGN: DJH
SHEET: 6 OF 18	CHK BY: ---
DWG. No: Client File	JOB No: 203095

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT
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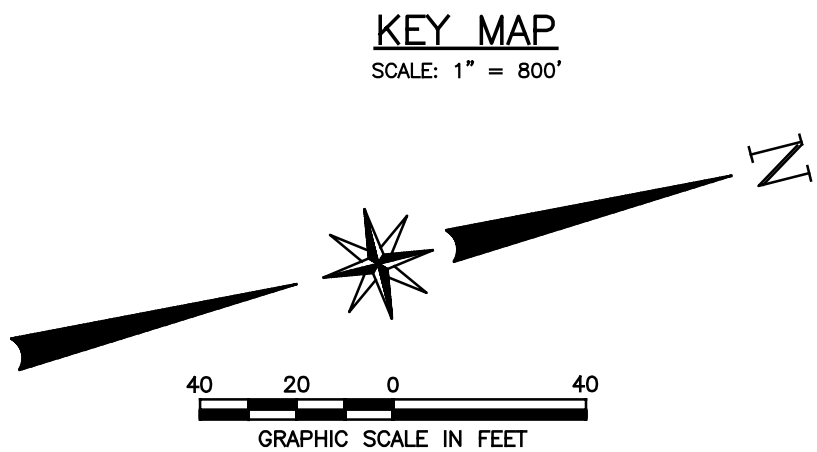
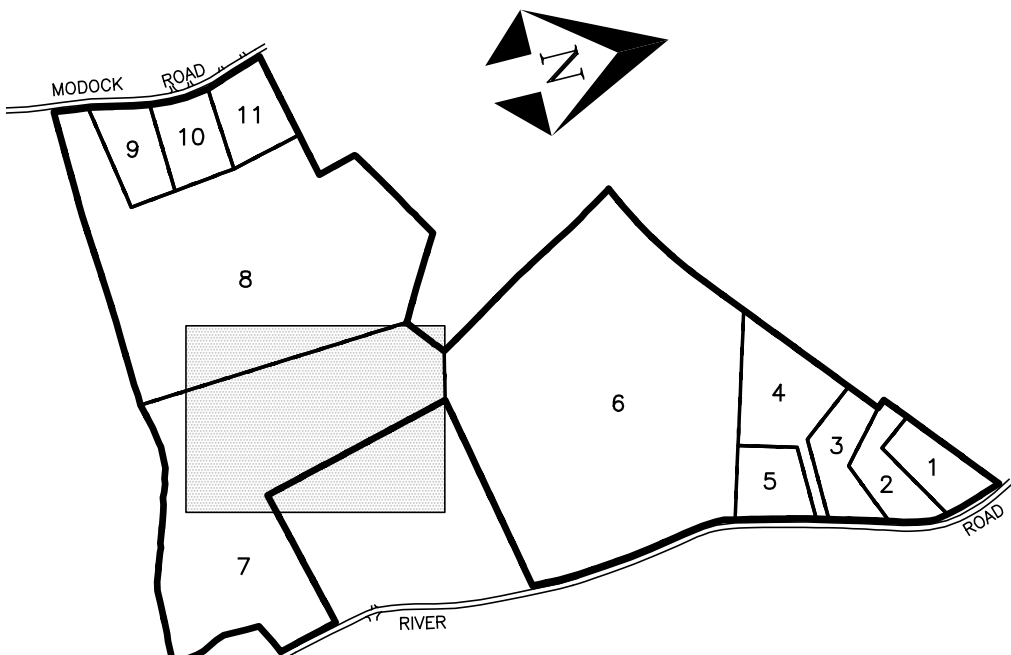
DAVID J. HELD, L.S. LIC. NO. 24267 DATE

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SITE PLAN No. 4

PREPARED FOR

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PUTNAM, CONNECTICUT

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SHEET: 7 OF 18	CHK BY: ---
DWG. No: Client File	JOB No: 203095

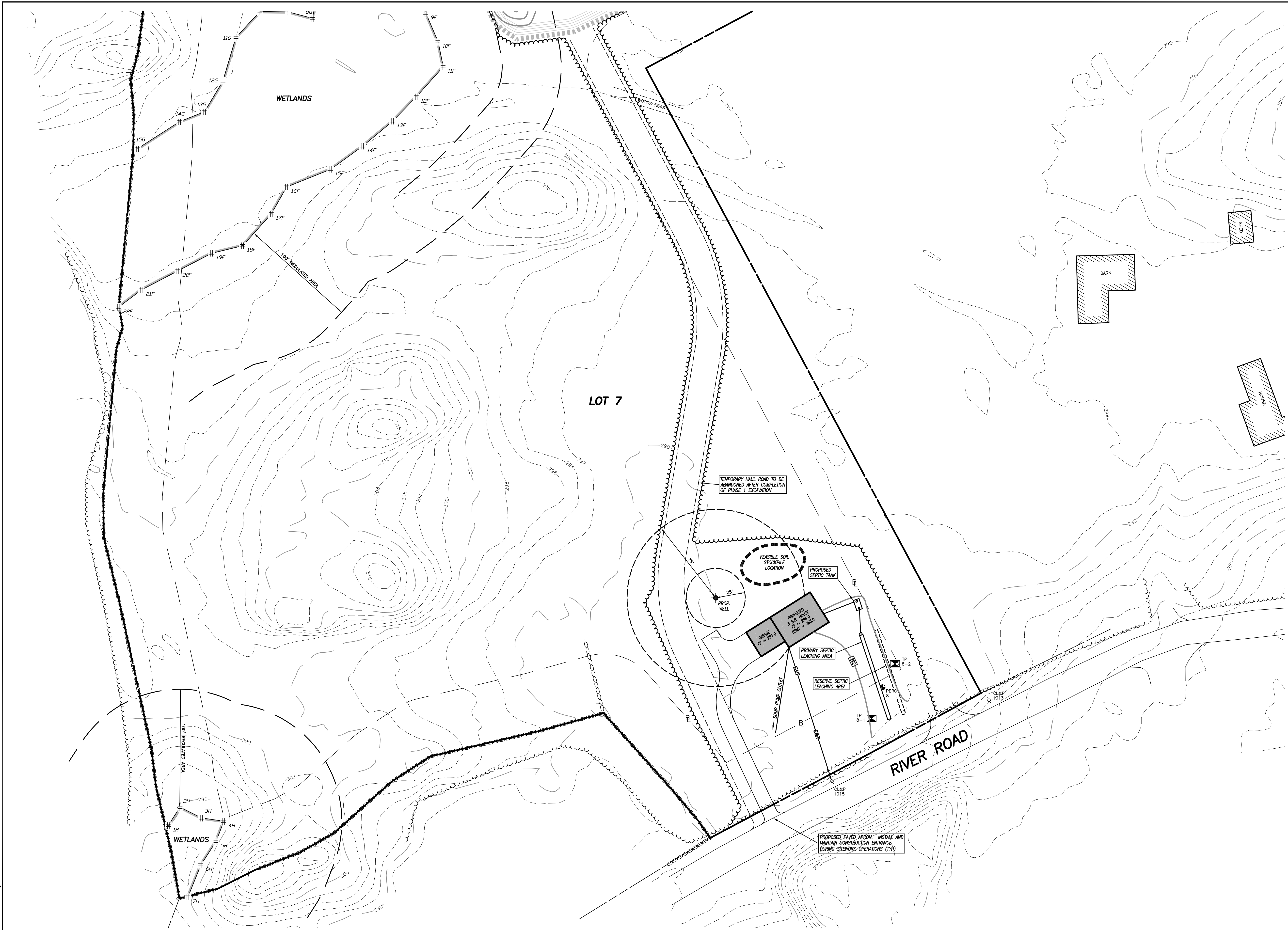
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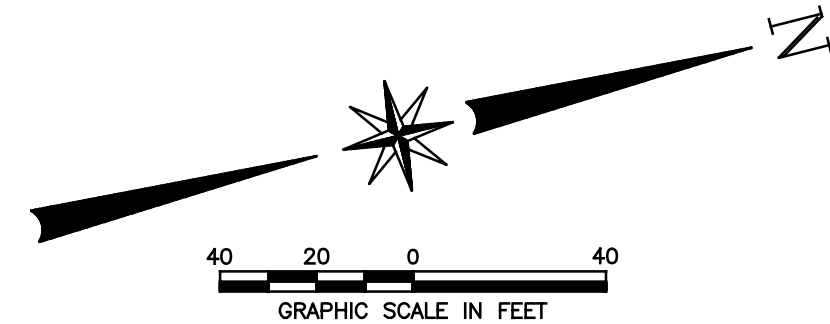
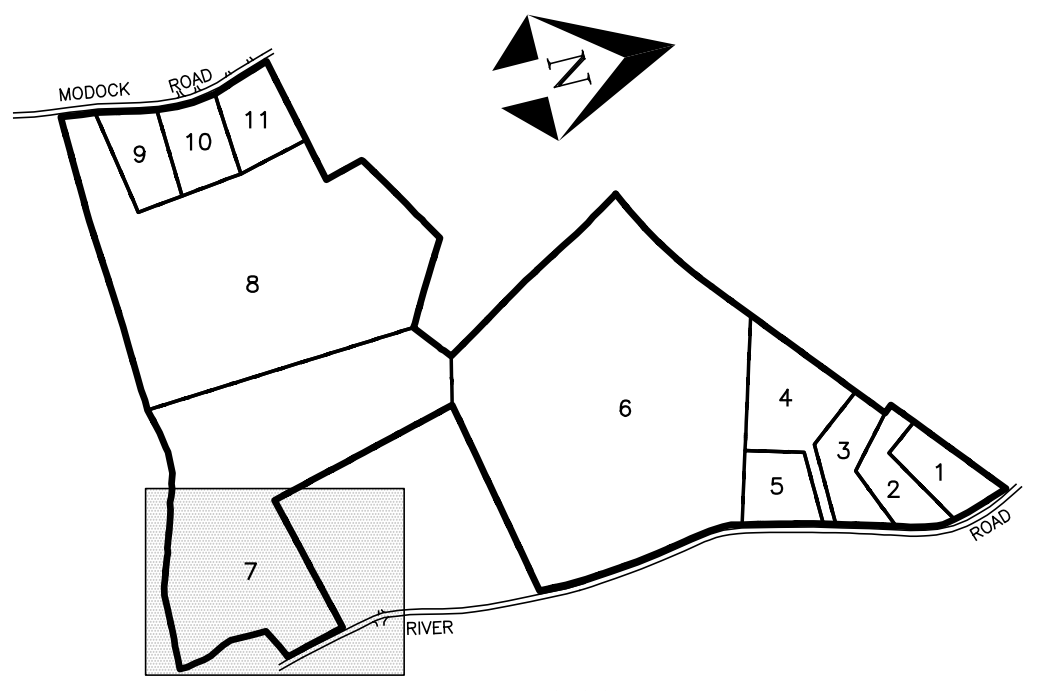
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C:\Users\Dave\Desktop\0603\Drawings\Drawings\08 SITE PLAN 5.dwg Jun 23, 2023 1:10:52 PM



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SITE PLAN No. 5

PREPARED FOR

**285 RIVER ROAD, LLC &
PUTNAM RIVER ROAD, L.L.C.**

RIVER ROAD & MODOCK ROAD
PUTNAM, CONNECTICUT

REVISIONS	
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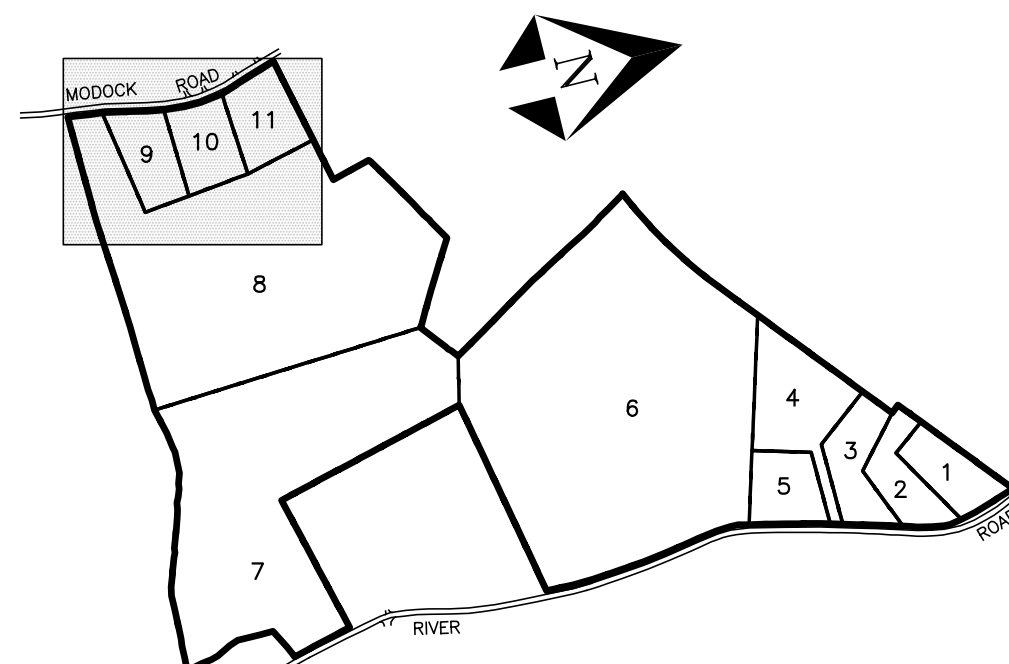
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C:\Users\Dave\Desktop\0603\030905\Drawings\09 SITE PLAN 6.dwg Jun 23, 2023 1:10:53 PM

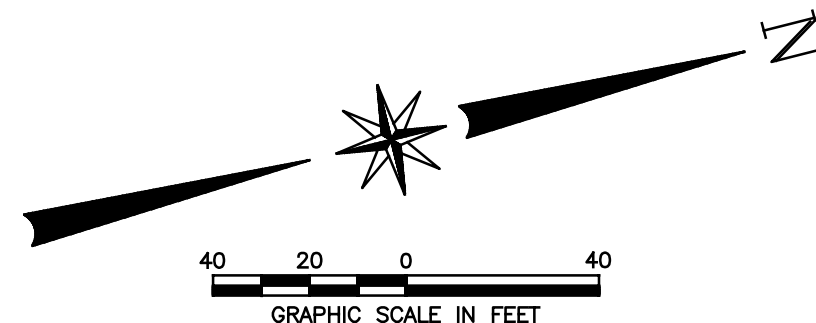


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KEY MAP
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- ⊕ PERCOLATION TEST
- ⊕ EXISTING WELL
- STONE WALL
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- OHW
- OVERHEAD WIRES
- EXISTING TREE LINE
- PROPOSED CONTOUR
- PROPOSED POND CONTOUR
- TEMPORARY EXCAVATION CONTOUR
- PROPOSED SILT FENCE
- PROPOSED CLEARING LIMITS
- LIMIT OF 100 YEAR FLOOD
- BUILDING SETBACK LINE
- PROPOSED U.G. UTILITIES

SITE PLAN No. 6

PREPARED FOR

285 RIVER ROAD, LLC &
PUTNAM RIVER ROAD, L.L.C.

RIVER ROAD & MODOCK ROAD
PUTNAM, CONNECTICUT

Provost & Rovero, Inc.

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REVISIONS	
DATE	DESCRIPTION
11/30/2022	CROSS SECTION A-A
12/15/2022	BRIDGE DETAILS
12/27/2022	IW COMMENTS
12/28/2022	IW COMMENTS
1/20/2023	IW COMMENTS FROM CLA
DATE: 6/29/2022	DRAWN: DJH
SCALE: 1" = 40'	DESIGN: DJH
SHEET: 9 OF 18	CHK BY: ---
DWG. No: Client File	JOB No: 203085

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT
AS NOTED HEREON,

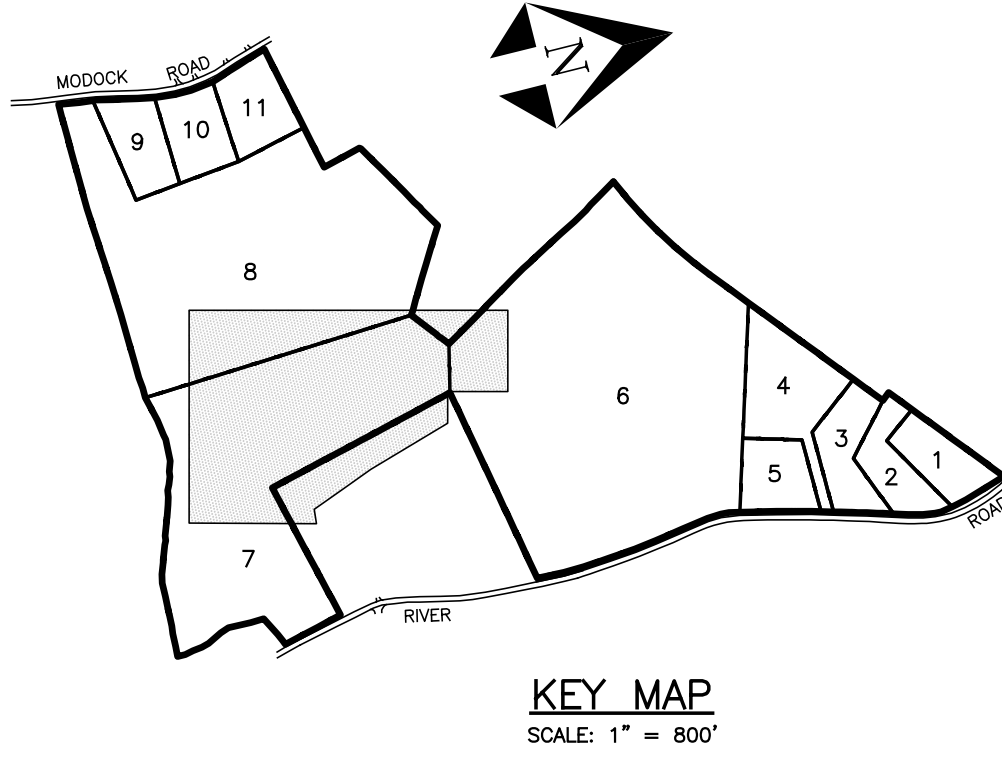
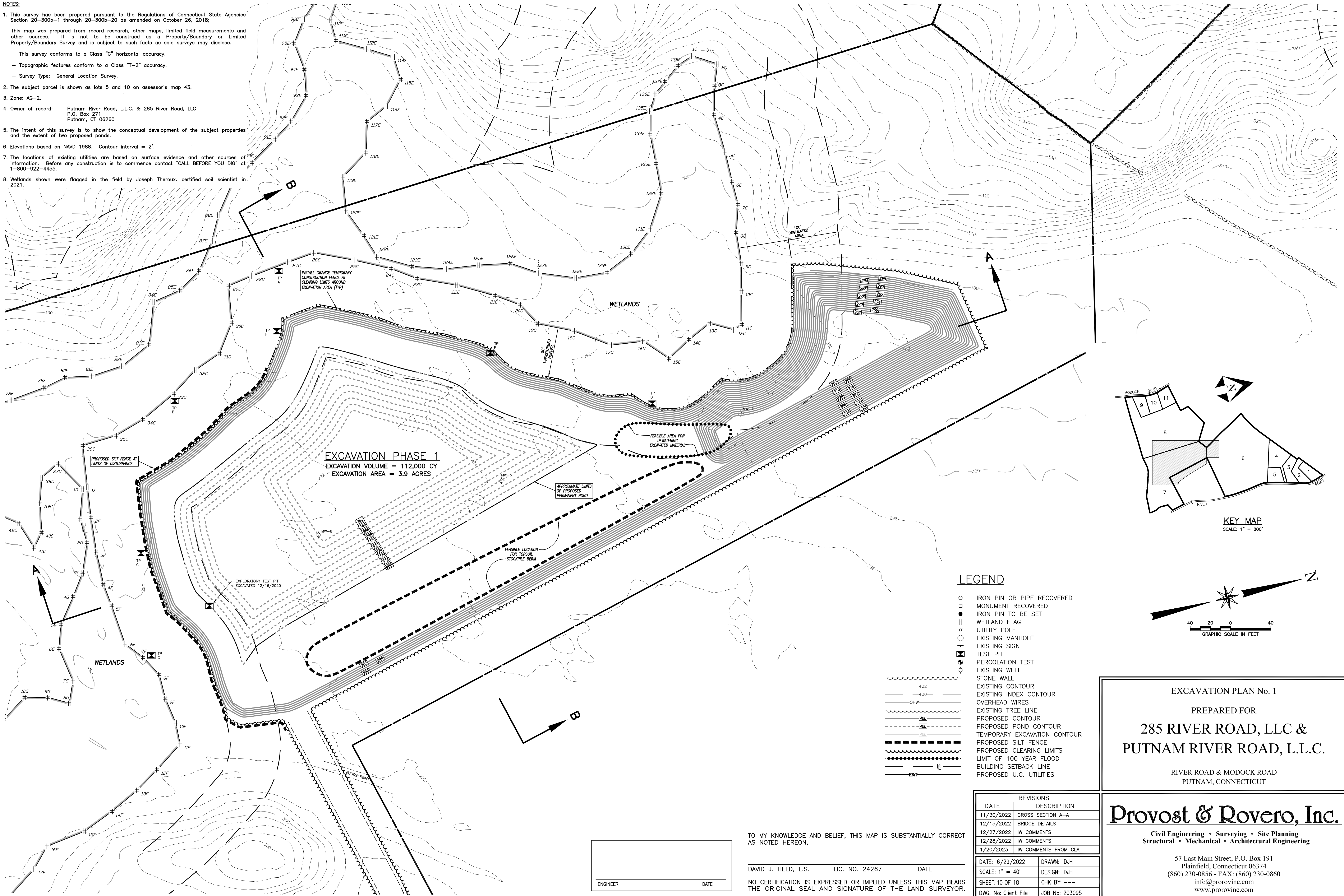
DAVID J. HELD, L.S. LIC. NO. 24267 DATE

NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS MAP BEARS
THE ORIGINAL SEAL AND SIGNATURE OF THE LAND SURVEYOR.

ENGINEER	DATE
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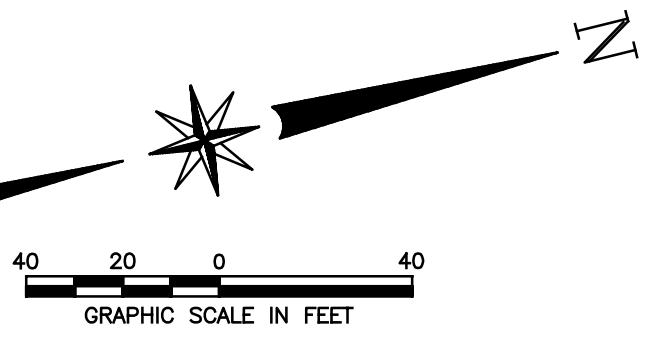
NOTES:

- This survey has been prepared pursuant to the Regulations of Connecticut State Agencies Section 20-300b-1 through 20-300b-20 as amended on October 26, 2018;
This map was prepared from record research, other maps, limited field measurements and other sources. It is not to be construed as a Property/Boundary or Limited Property/Boundary Survey and is subject to such facts as said surveys may disclose.
 - This survey conforms to a Class "C" horizontal accuracy.
 - Topographic features conform to a Class "T-2" accuracy.
 - Survey Type: General Location Survey.
- The subject parcel is shown as lots 5 and 10 on assessor's map 43.
- Zone: AG-2.
- Owner of record: Putnam River Road, L.L.C. & 285 River Road, LLC
P.O. Box 271
Putnam, CT 06260
- The intent of this survey is to show the conceptual development of the subject properties and the extent of two proposed ponds.
- Elevations based on NAVD 1988. Contour interval = 2'.
- The locations of existing utilities are based on surface evidence and other sources of information. Before any construction is to commence contact "CALL BEFORE YOU DIG" at 1-800-922-4455.
- Wetlands shown were flagged in the field by Joseph Theroux, certified soil scientist in 2021.



LEGEND

- IRON PIN OR PIPE RECOVERED
- MONUMENT RECOVERED
- IRON PIN TO BE SET
- WETLAND FLAG
- UTILITY POLE
- EXISTING MANHOLE
- EXISTING SIGN
- TEST PIT
- PERCOLATION TEST
- EXISTING WELL
- STONE WALL
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- OVERHEAD WIRES
- EXISTING TREE LINE
- PROPOSED CONTOUR
- PROPOSED POND CONTOUR
- TEMPORARY EXCAVATION CONTOUR
- PROPOSED SILT FENCE
- PROPOSED CLEARING LIMITS
- LIMIT OF 100 YEAR FLOOD
- BUILDING SETBACK LINE
- PROPOSED U.G. UTILITIES



EXCAVATION PLAN No. 1

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SCALE: 1" = 40'	DESIGN: DJH
SHEET: 10 OF 18	CHK BY: ---
DWG. No: Client File	JOB No: 203085

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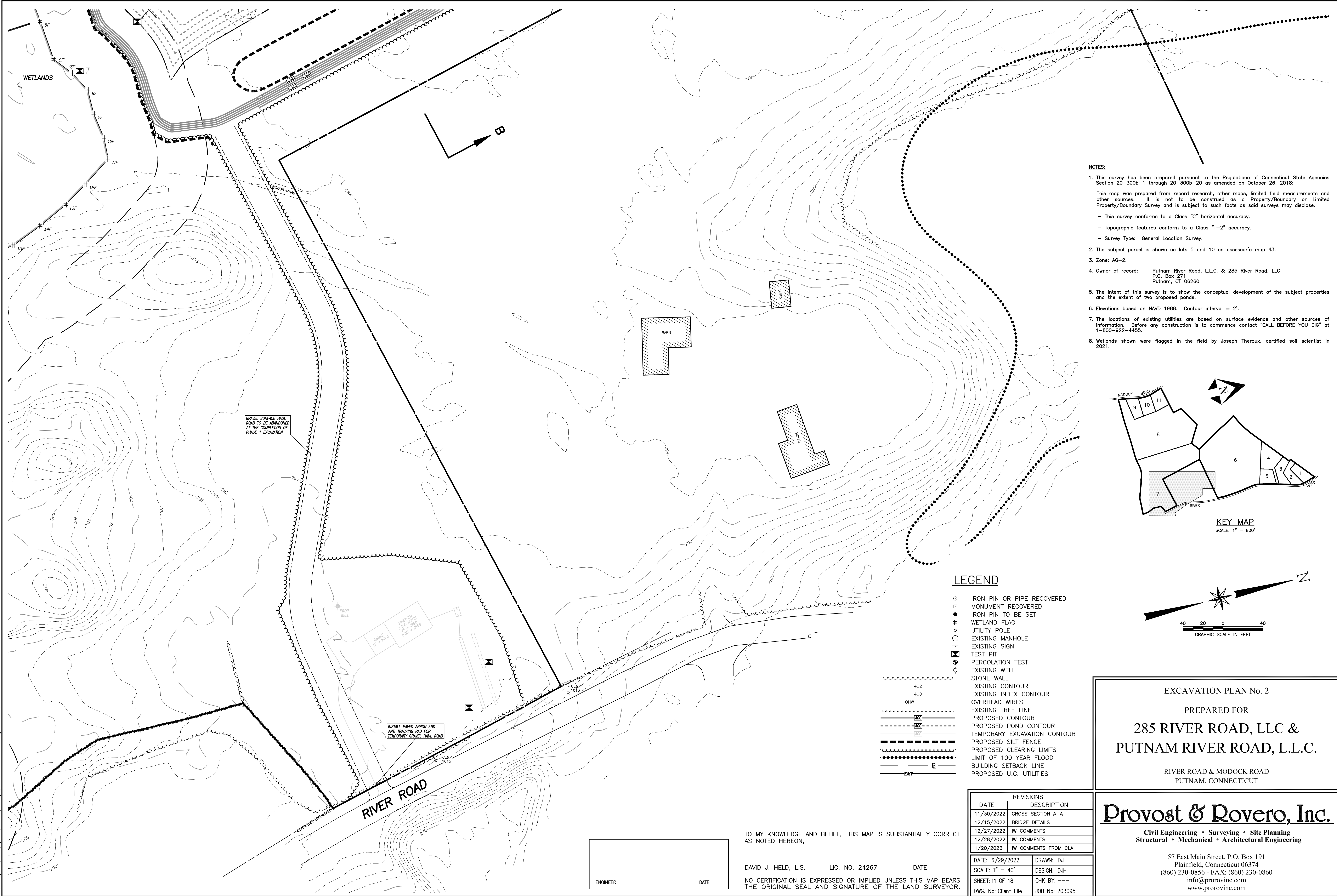
DAVID J. HELD, L.S. LIC. NO. 24267 DATE

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ENGINEER

DATE

C:\Users\Dave\Desktop\0603\203085\Drawings\10 EXCAVATION PLANS.dwg Jun 23, 2023 - 10:55 PM



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1/20/2023	IW COMMENTS FROM CLA
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SCALE: 1" = 40'	DESIGN: DJH
SHEET: 11 OF 18	CHK BY: ---
DWG. No: Client File	JOB No: 203085

EXCAVATION PLAN No. 2

PREPARED FOR

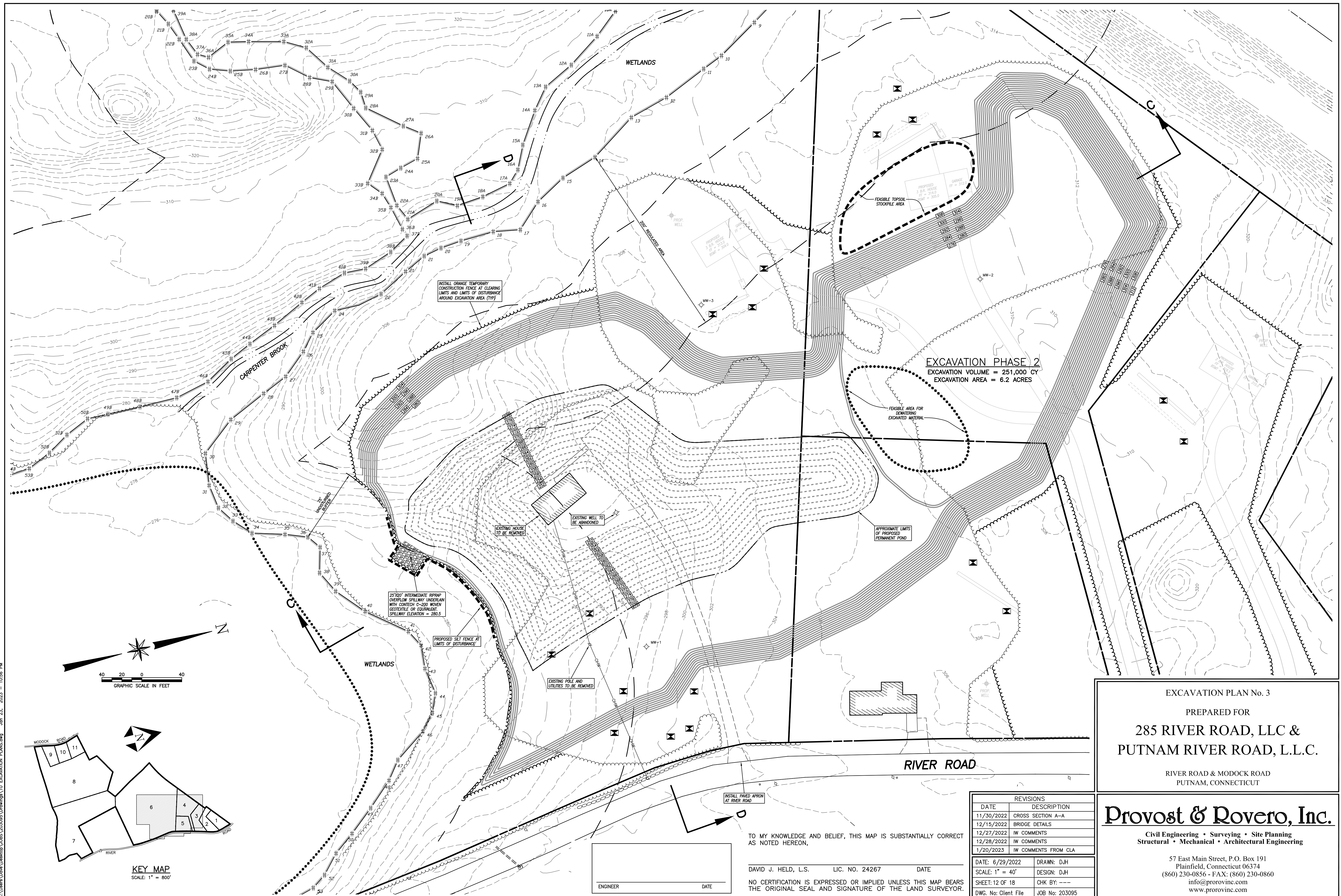
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PUTNAM, CONNECTICUT

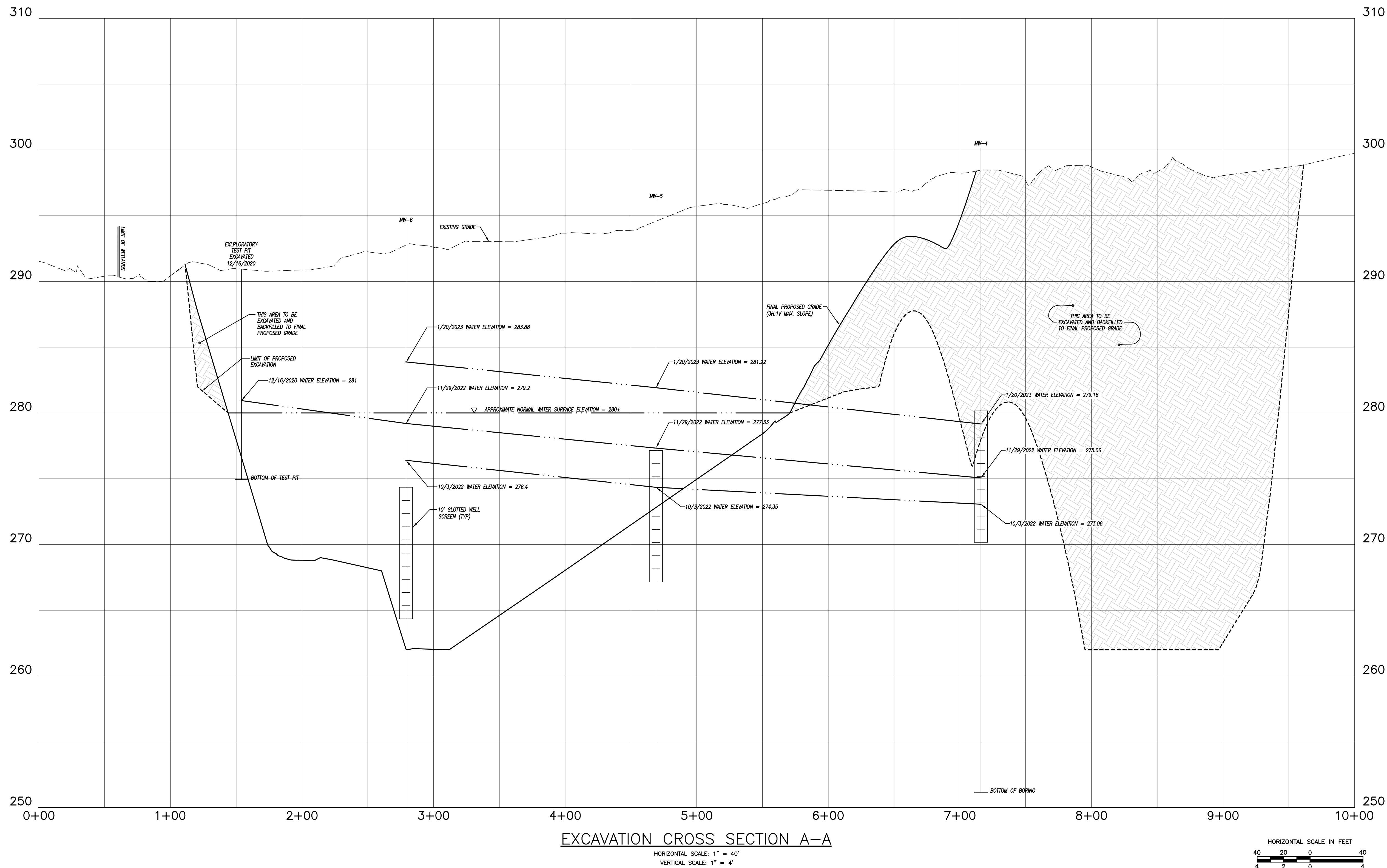
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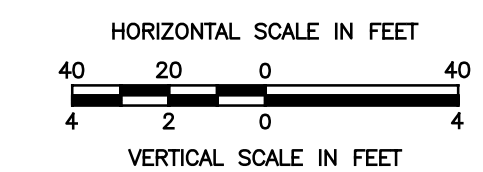
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12/27/2022	IW COMMENTS
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1/20/2023	IW COMMENTS FROM CLA
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SCALE: AS SHOWN	DESIGN: DJH
SHEET: 13 OF 18	CHK BY: ---
DWG. No: Client File	JOB No: 203085

EXCAVATION CROSS SECTION A-A

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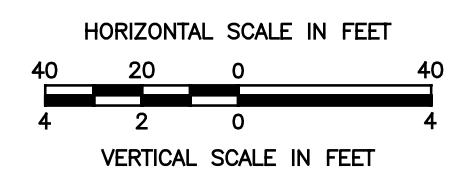
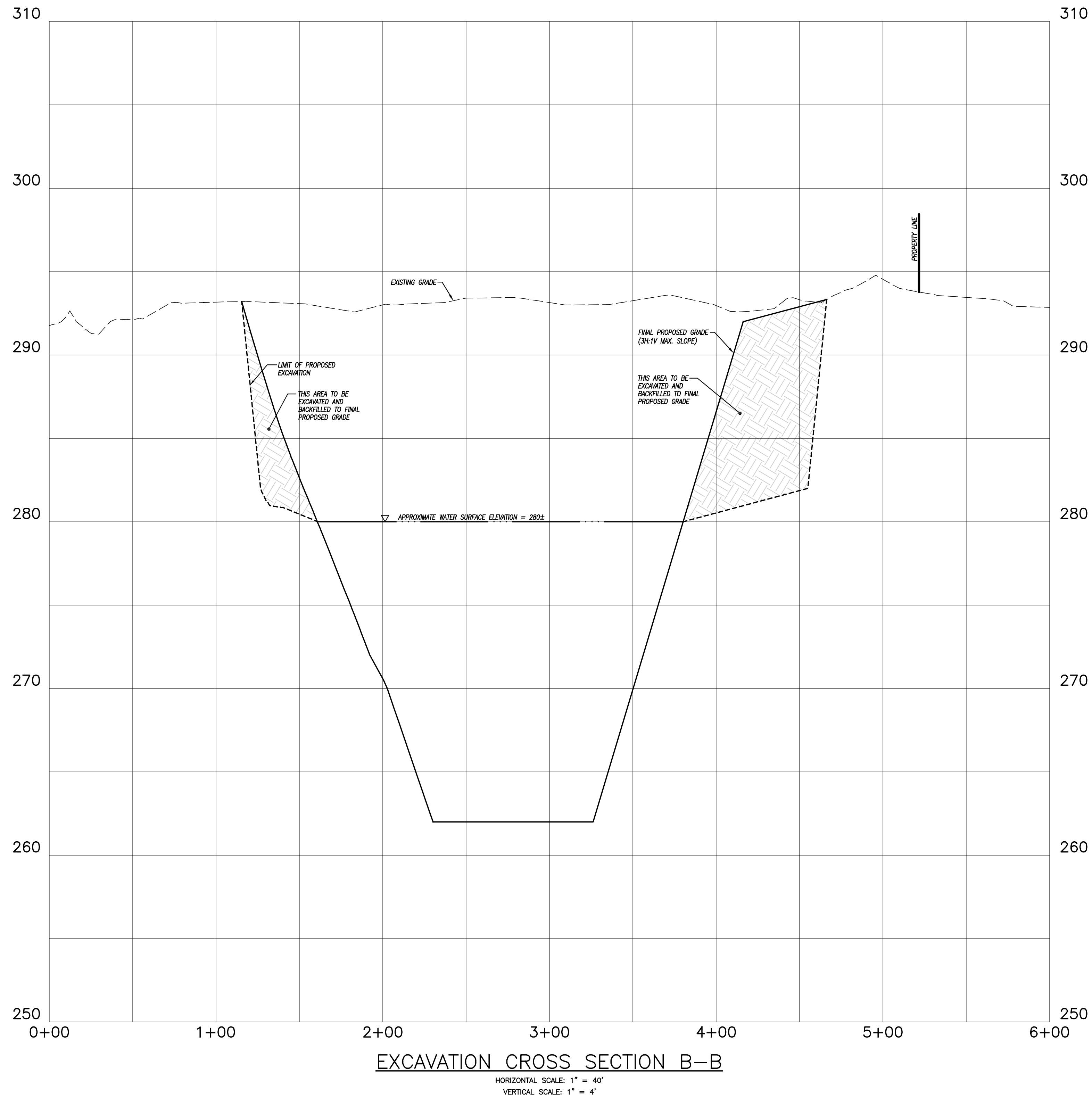
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12/28/2022	IW COMMENTS
1/20/2023	IW COMMENTS FROM CLA
DATE: 6/29/2022	DRAWN: DJH
SCALE: AS SHOWN	DESIGN: DJH
SHEET: 14 OF 18	CHK BY: ---
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EXCAVATION CROSS SECTION B-B

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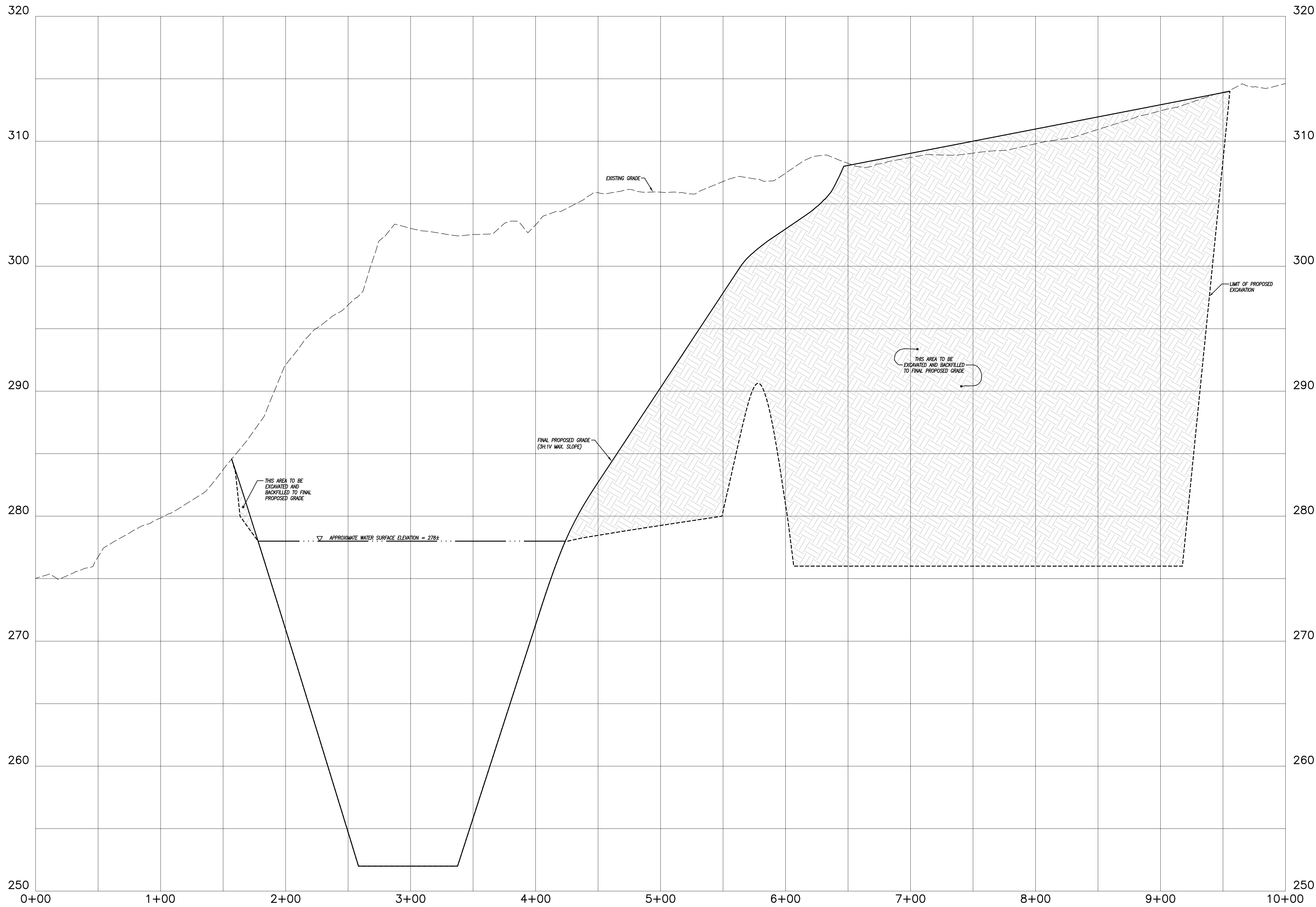
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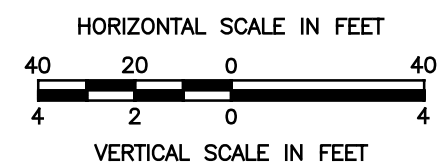
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EXCAVATION CROSS SECTION C-C

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



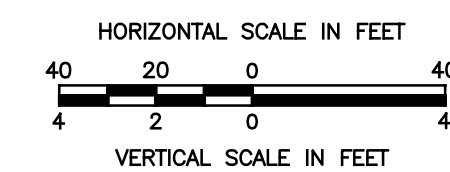
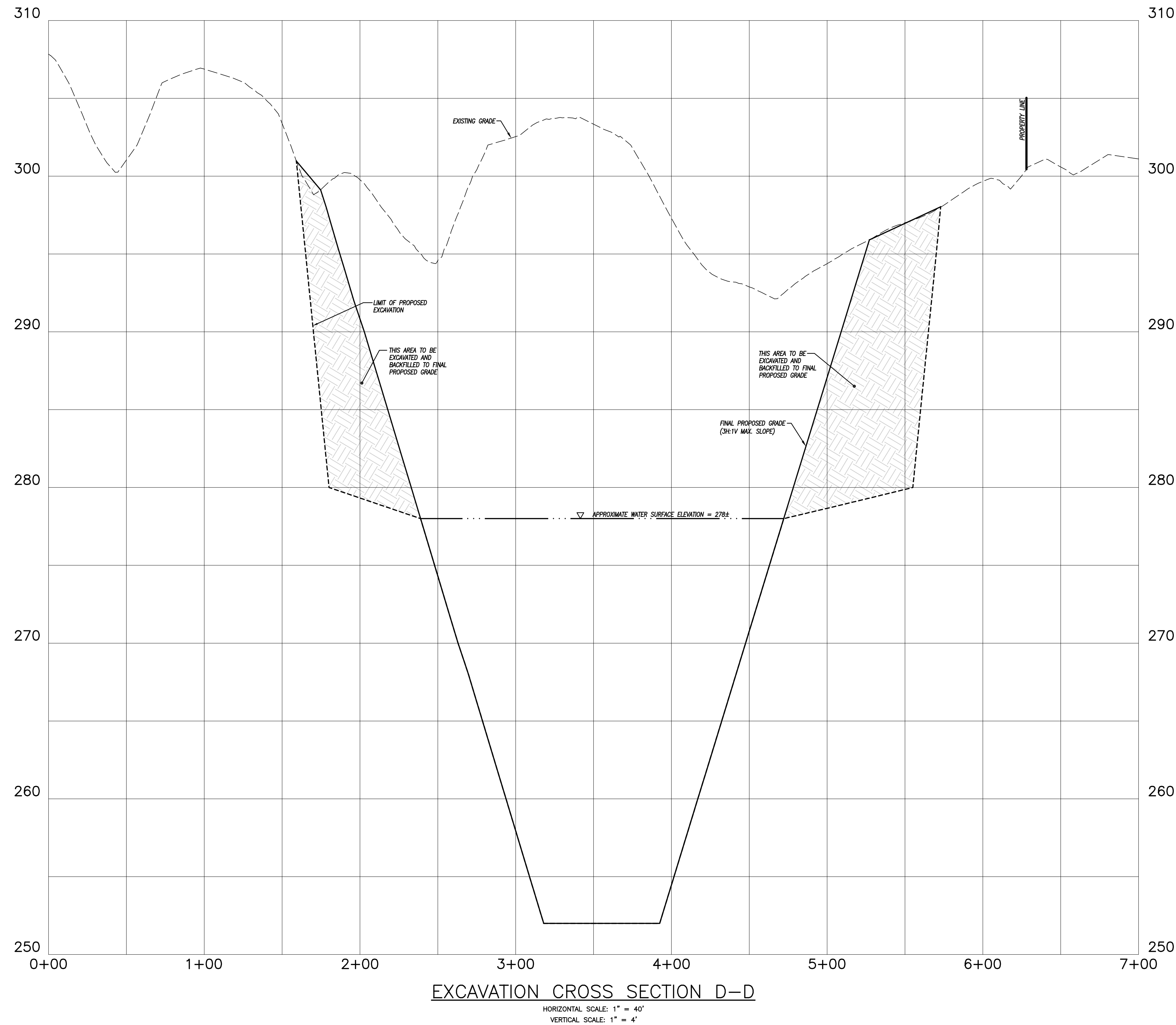
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SHEET: 15 OF 18	CHK BY: ---
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1/20/2023	IW COMMENTS FROM CLA
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SCALE: AS SHOWN	DESIGN: DJH
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EXCAVATION CROSS SECTION D-D

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EROSION AND SEDIMENT CONTROL PLAN:

REFERENCE IS MADE TO:

- Connecticut Guidelines for Soil Erosion and Sediment Control 2002 (2002 Guidelines).
- Soil Survey of Connecticut, N.R.C.S.

SILT FENCE INSTALLATION AND MAINTENANCE:

- Dig a 6" deep trench on the uphill side of the barrier location.
- Position the posts on the downhill side of the barrier and drive the posts 1.5 feet into the ground.
- Lay the bottom 6" of the fabric in the trench to prevent undermining and backfill.
- Inspect and repair barrier after heavy rainfall.
- Inspections will be made at least once per week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater to determine maintenance needs.
- Sediment deposits are to be removed when they reach a height of 1 foot behind the barrier or half the height of the barrier and are to be deposited in an area which is not regulated by the inland wetlands commission.

- Replace or repair the fence within 24 hours of observed failure. Failure of the fence has occurred when sediment fails to be retained by the fence because:
 - the fence has been overtopped, undercut or bypassed by runoff water,
 - the fence has been moved out of position (knocked over), or
 - the geotextile has decomposed or been damaged.

HAY BALE INSTALLATION AND MAINTENANCE:

- Bales shall be placed as shown on the plans with the ends of the bales tightly abutting each other.
- Each bale shall be securely anchored with at least 2 stakes and gaps between bales shall be wedged with straw to prevent water from passing between the bales.
- Inspect bales at least once per week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inches or greater to determine maintenance needs.
- Remove sediment behind the bales when it reaches half the height of the bale and deposit in an area which is not regulated by the Inland Wetlands Commission.
- Replace or repair the barrier within 24 hours of observed failure. Failure of the barrier has occurred when sediment fails to be retained by the barrier because:
 - the barrier has been overtopped, undercut or bypassed by runoff water,
 - the barrier has been moved out of position, or
 - the hay bales have deteriorated or been damaged.

TEMPORARY VEGETATIVE COVER:

SEED SELECTION

Grass species shall be appropriate for the season and site conditions. Appropriate species are outlined in Figure TS-2 in the 2002 Guidelines.

TIMING CONSIDERATIONS

Seed with a temporary seed mixture within 7 days after the suspension of grading work in disturbed areas where the suspension of work is expected to be more than 30 days but less than 1 year.

SITE PREPARATION

Install needed erosion control measures such as diversions, grade stabilization structures, sediment basins and grassed waterways.

Grade according to plans and allow for the use of appropriate equipment for seedbed preparation, seeding, mulch application, and mulch anchoring.

SEEDBED PREPARATION

Loosen the soil to a depth of 3-4 inches with a slightly roughened surface. If the area has been recently loosened or disturbed, no further roughening is required. Soil preparation can be accomplished by tracking with a bulldozer, discing, harrowing, raking or dragging with a section of chain link fence. Avoid excessive compaction of the surface by equipment traveling back and forth over the surface. If the slope is tracked, the clear marks shall be perpendicular to the anticipated direction of the flow of surface water.

If soil testing is not practical or feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 300 pounds per acre or 7.5 pounds per 1,000 square feet of 10-10-10 or equivalent. Additionally, lime may be applied using rates given in Figure TS-1 in the 2002 Guidelines.

SEEDING

Apply seed uniformly by hand cyclone seeder, drill, cultipacker type seeder or hydroseeder at a minimum rate for the selected species. Increase seeding rates by 10% when hydroseeding.

MULCHING

Temporary seedlings made during optimum seeding dates shall be mulched according to the recommendations in the 2002 Guidelines. When seeding outside of the recommended dates, increase the application of mulch to provide 95%-100% coverage.

MAINTENANCE

Inspect seeded area at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater for seed and mulch movement and soil erosion.

Where seed has moved or where soil erosion has occurred, determine the cause of the failure. Repair eroded areas and install additional controls if required to prevent recurrence of erosion.

Continue inspections until the grasses are firmly established. Grasses shall not be considered established until a ground cover is achieved which is mature enough to control soil erosion and to survive severe weather conditions (approximately 80% vegetative cover).

PERMANENT VEGETATIVE COVER:

Refer to Permanent Seeding Measure in the 2002 Guidelines for specific applications and details related to the installation and maintenance of a permanent vegetative cover. In general, the following sequence of operations shall apply:

- Topsoil will be replaced once the excavation and grading has been completed. Topsoil will be spread at a uniform depth approximating existing conditions on imported silt or suitable on-site materials.
- Apply agricultural ground limestone. Apply fertilizer. Quantities shall be determined based on laboratory soil tests. Work lime and fertilizer into the soil to a depth of 4".
- Inspect seedbed before seeding. If traffic has compacted the soil, retilt compacted areas.
- Apply the chosen grass seed mix. The recommended seeding dates are: April 1 to June 15 & August 15 - October 1.
- Following seeding, firm seedbed with a roller. Mulch immediately following seeding. If a permanent vegetative stand cannot be established by September 30, apply a temporary cover on the topsoil such as netting, mat or organic mulch.

EROSION AND SEDIMENT CONTROL NARRATIVE:

PRINCIPLES OF EROSION AND SEDIMENT CONTROL

The primary function of erosion and sediment controls is to absorb erosional energies and reduce runoff velocities that force the detachment and transport of soil and/or encourage the deposition of eroded soil particles before they reach any sensitive area.

KEEP LAND DISTURBANCE TO A MINIMUM

The more land that is in vegetative cover, the more surface water will infiltrate into the soil, thus minimizing stormwater runoff and potential erosion. Keeping land disturbance to a minimum not only involves minimizing the extent of exposure at any one time, but also the duration of exposure. Phasing, sequencing and construction scheduling are interrelated. Phasing divides a large project into distinct sections where construction work over a specific area occurs over distinct periods of time and each phase is not dependent upon a subsequent phase in order to be functional. A sequence is the order in which construction activities are to occur during any particular phase. A sequence should be developed on the premise of "first things first" and "last things last" with proper attention given to the inclusion of

adequate erosion and sediment control measures. A construction schedule is a sequence with time lines applied to it and should address the potential overlap of actions in a sequence which may be in conflict with each other.

- Limit areas of clearing and grading. Protect natural vegetation from construction equipment with fencing, tree armoring, and retaining walls or tree wells.

- Route traffic patterns within the site to avoid existing or newly planted vegetation.

- Phase construction so that areas which are actively being developed at any one time are minimized and only that area under construction is exposed. Clear only those areas essential for construction.

- Sequence the construction of storm drainage systems so that they are operational as soon as possible during construction. Ensure all outlets are stable before outletting storm drainage flow into them.

- Schedule construction so that final grading and stabilization is completed as soon as possible.

SLOW THE FLOW

Detachment and transport of eroded soil must be kept to a minimum by absorbing and reducing the erosive energy of water. The erosive energy of water increases as the volume and velocity of runoff increases. The volume and velocity of runoff increases during development as a result of reduced infiltration rates caused by the removal of existing vegetation, removal of topsoil, compaction of soil and the construction of impervious surfaces.

- Use diversions, stone dikes, silt fences and similar measures to break flow lines and dissipate storm water energy.

- Avoid diverting one drainage system into another without calculating the potential for downstream flooding or erosion.

KEEP CLEAN RUNOFF SEPARATED

Clear runoff should be kept separated from sediment laden water and should not be directed over disturbed areas without additional controls. Additionally, prevent the mixing of clean off-site generated runoff with sediment laden runoff generated on-site until after adequate filtration of on-site waters has occurred.

- Segregate construction waters from clean water.

- Divert site runoff to keep it isolated from wetlands, watercourses and drainage ways that flow through or near the development until the sediment in that runoff is trapped or detained.

REDUCE ON SITE POTENTIAL INTERNALLY AND INSTALL PERIMETER CONTROLS

While it may seem less complicated to collect all waters to one point of discharge for treatment and just install a perimeter control, it can be more effective to apply internal controls to many small sub-drainage basins within the site. By reducing sediment loading from within the site, the chance of perimeter control failure and the potential off-site damage that it can cause is reduced. It is generally more expensive to correct off-site damage than it is to install proper internal controls.

- Control erosion and sedimentation in the smallest drainage area possible. It is easier to control erosion than to contend with sediment after it has been carried downstream and deposited in unwanted areas.

- Direct runoff from small disturbed areas to adjoining undisturbed vegetated areas to reduce the potential for concentrated flows and increase settlement and filtering of sediments.

- Concentrated runoff from development should be safely conveyed to stable outlets using rip rapped channels, waterways, diversions, storm drains or similar measures.

- Determine the need for sediment basins. Sediment basins are required on larger developments where major grading is planned and where it is impossible or impractical to control erosion at the source. Sediment basins are needed on large and small sites when sensitive areas such as wetlands, watercourses, and streets would be impacted by off-site sediment deposition. Do not locate sediment basins in wetlands or permanent or intermittent watercourses. Sediment basins should be located to intercept runoff prior to its entry into the wetland or watercourse.

- Grade and landscape around buildings and septic systems to divert water away from them.

EXCAVATION NOTES:

- No blasting or on-site processing is allowed for completion of the excavation work shown without the approval of by the Putnam Wetlands Agent and Zoning Agent. If blasting is required, the owner is responsible for obtaining all other necessary permits.
- The emergency contact for operations at this site is Jeffrey Rawson (860) 428-7110. A different emergency contact may be designated if operations are completed by a different party.
- The allowable hours of operation shall be 7:00 AM to 4:30 PM, Monday through Friday and 7:00 AM to 12:00 noon on Saturday. No operations shall be allowed on Sundays, Christmas, New Years Day, Memorial Day, Fourth of July, Labor Day and Thanksgiving except by special permission of the Putnam Zoning Commission or its designated agent.
- The owner and/or site operator shall provide adequate dust control to prevent any off-site nuisance. The preferred dust control measure is the application of water to vehicular travel areas. A watering truck shall be available for use at the site at all times.

- The owner/operator shall install any necessary barricades or barriers to provide protection around the perimeter of open excavation faces and steep slopes.

- Excavation operations shall be completed in accordance with all appropriate Mine Safety & Health Administration (MSHA) rules and regulations.

- The proposed excavation shown hereon is anticipated to be completed over the course of several years. The total amount of material to be excavated per the proposed grades shown hereon is approximately 363,000 CY. All useable material excavated will be transported off-site for processing and/or consumer sales. Over excavation of suitable material within the limits of disturbance and limits of excavation shown hereon is allowable. Over excavation shall not include the blasting or removal of ledge rock. Silt from off site aggregate washing and processing shall be imported as necessary to establish final subgrade elevations.

- The site operator is responsible for determining the most appropriate means and methods for excavating material in the applicable phase. In general, excavation shall begin with stripping and stockpiling of topsoil and subsoil which will be utilized for site restoration. Removal of material should begin with a downcutting technique to ensure complete internal drainage with the disturbed area (bowl effect).

- The entire site, including the active excavation area shall be maintained in a self-contained condition to prevent the discharge of sediment laden stormwater to undisturbed areas, Carpenter Brook, adjacent properties or wetlands.

- All trucks leaving the site shall have the loads covered.

- No stumps, trimmings, brush or other deleterious materials shall be buried on site. All such materials shall be chipped for use in site restoration or shall be properly disposed of at an off site facility.

EXCAVATION SEQUENCE OF OPERATIONS:

- Limits of clearing/disturbance for Phase 1 excavation shall be field staked or flagged by a licensed land surveyor.

- Contact CALL BEFORE YOU DIG at 1-800-922-4455 to verify the location of underground utilities prior to the start of any ground disturbance.

- Clear and grub trees for the Phase 1 excavation area, and gravel haul road.

- Install temporary orange construction fencing at the limits of clearing and limits of disturbance around the excavation area.

- Install the temporary gravel haul road to the Phase 1 excavation area.

- Install silt fence at the down gradient limits of the Phase 1 excavation area perimeter.

- Strip topsoil and subsoil. An adequate quantity of topsoil and subsoil shall be stockpiled on the site for final restoration. Stockpiles should be within the approved limits of excavation and shall be protected with perimeter erosion controls and/or temporary seeding as required.

- Begin excavation by downcutting the entire Phase 1 area to an elevation approximately 2' above the water table.

- Excavate the northerly portion of Phase 1 to the proposed final elevation and then backfill to the proposed final subgrade elevation. Subgrade elevations shall allow for containment during dewatering of excavated materials.

- Excavate the southerly portion of Phase 1 to the proposed final elevations. Side slopes and the area adjacent to property boundaries shall be backfilled as required to establish proposed grades.

- Lawn and seed disturbed areas and side slopes to establish permanent vegetative cover. See Restoration Notes below for additional details.

- Upon the establishment of permanent vegetative stabilization of Phase 1, the gravel haul road shall be abandoned in place. This road may be utilized in the future for access to the permanent pond and other areas of the property as may be required from time to time.

- Limits of clearing/disturbance for Phase 2 excavation shall be field staked or flagged by a licensed land surveyor.

- Contact CALL BEFORE YOU DIG at 1-800-922-4455 to verify the location of underground utilities prior to the start of any ground disturbance.

- Clear and grub trees for the excavation of Phase 2.

- Demolish the existing house, remove electrical utilities, abandon the well and remove the existing septic system. Abandonment of the well shall be coordinated with the installation of a new well to serve 285 River Road.

- Install silt fence at the down gradient limits of the Phase 2 excavation area perimeter.

- Strip topsoil and subsoil. An adequate quantity of topsoil and subsoil shall be stockpiled on the site for final restoration. Stockpiles should be within the approved limits of excavation and shall be protected with perimeter erosion controls and/or temporary seeding as required.

- Begin excavation by downcutting the entire Phase 2 area to an elevation approximately 2' above the water table.

- Excavate the northerly portion of Phase 2 to the proposed final elevation and then backfill to the proposed final subgrade elevation. Subgrade elevations shall allow for containment during dewatering of excavated materials.

- Excavate the southerly portion of Phase 2 to the proposed final elevations beginning with the installation of the riprap overflow spillway. Side slopes and the area adjacent to property boundaries shall be backfilled as required to establish proposed grades.

- Lawn and seed disturbed areas and side slopes to establish permanent vegetative cover. See Restoration Notes below for additional details.

- Temporary erosion and sediment controls shall be removed after the establishment of permanent vegetative cover.

RESTORATION NOTES:

- Restoration of disturbed areas shall take place following the completion of excavation or other work. Sufficient restoration bonding should be maintained as required by the Town to cover the restoration cost for disturbed/open site areas.

- Final restoration shall begin with establishing the required subgrade elevations. Proposed grades shown are approximate and may be adjusted to match field conditions at the time of restoration. In general, all disturbed slopes shall be graded to a 3H:1V maximum gradient.

- Prepare the restoration area by spreading a 12" min. thickness (compacted) layer of silt for restoration. Silt shall be dewatered prior to being delivered to the site for restoration.

- Complete restoration by spreading on-site stockpiled topsoil to an approximate minimum thickness of 4" (compacted) and seeding for a permanent vegetative cover. On-site topsoil stockpiles may be supplemented with composted organic matter, wood chips and imported topsoils as necessary to provide a suitable planting medium.

- Spread seed for a permanent vegetative cover over the prepared restoration area. The permanent vegetative cover may be a suitable wildlife habitat mix or the following mixture which is suitable for use in all locations:

Variety	Lbs./Acres
Switchgrass (Blackwell, Shelter, Cave-in-rock)	4.0
Big Bluestem (Niagra, Kaw)	4.0
Little Bluestem (Blaze, Aldous, Camper)	2.0
Sand Lovegrass (NE-27, Bend)	1.5
Bird's-foot Trefol (Empire, Viking)	2.0
TOTAL	13.5

- Hay or straw mulch shall be utilized on 3H:1V slopes to provide temporary stabilization different from establishment of permanent vegetative cover. In general, no slopes greater than 3H:1V will be allowable. In the event that steeper slopes are necessary in isolated locations to transition to existing natural grades, no slopes should be steeper than 2H:1V. Install temporary erosion control blankets on 3H:1V and steeper slopes.

- Fertilizer and lime shall be provided as required to establish a permanent vegetative cover.

- In lieu of the manual application of mulch and fertilizer, the restoration area may be planted with hydroseeding methods with a suitable tackifier, mulch and fertilizer mix.

PERCOLATION TEST RESULTS	PERCOLATION TEST RESULTS	PERCOLATION TEST RESULTS
May 24, 2022	May 24, 2022	May 24, 2022
NDH	NDH	NDH
File #22000255 & 22000293	File #22000255 & 22000293	File #22000255 & 22000293

PERC 1	PERC 5	PERC 9
Depth: 23"	Depth: 24"	Depth: 22"
TIME	TIME	TIME
READING	READING	READING
11:47 2.5"	1:21 4.75"	10:51 7.5"
11:54 8"	1:24 9.25"	11:01 10.75"
12:01 11.5"	1:27 12.875"	11:11 12.5"
12:08 15.25"	1:33 15"	11:21 14"
12:15 17.5"	1:38 16.75"	11:31 14.5"
12:22 19"	1:36 18.5"	11:41 17"
12:25 dry	1:39 20"	Percolation Rate: 6.6 min/inch
Percolation Rate: 4.6 min/inch	1:42 21"	
	1:45 22"	
	Percolation Rate: 3 min/inch	
PERC 2	PERC 6	PERC 10
Depth: 24"	Depth: 15"	Depth: 22"
TIME	TIME	TIME
READING	READING	READING
12:18 8.5"	10:22 2.75"	10:22 2.75"
12:20 10.875"	10:30 8"	10:30 8"
12:25 14"	10:25 4"	10:38 11.25"
12:30 16.5"	10:31 5.75"	10:52 14.875"
12:35 19"	10:40 7.5"	11:01 16.5"
12:40 20.75"	10:55 9.5"	11:13 17.75"
Percolation Rate: 2.8 min/inch	11:00 10.125"	Percolation Rate: 9.6 min/inch
	11:05 10.5"	
	11:10 10.875"	
Percolation Rate: 3 min/inch	Percolation Rate: 13 min/inch	
PERC 3	PERC 7	PERC 11
Depth: 23"	Depth: 19"	Depth: 23"
TIME	TIME	TIME
READING	READING	READING
11:18 7.75"	11:23 5.25"	11:23 5.25"
11:20 9.5"	11:35 11.75"	11:35 11.75"
11:22 11.375"	11:43 13.5"	11:43 13.5"
11:24 12.875"	11:51 14.5"	11:51 14.5"
11:26 14"	12:01 16.5"	11:59 15.5"
11:28 15.125"	12:02 17.875"	12:07 16.5"
11:30 16"	12:07 9.5"	Percolation Rate: 8.0 min/inch
11:32 16.875"	12:12 11.125"	
11:34 17.75"	12:17 12.375"	
11:36 18.375"	12:22 13.25"	
11:38 19"	12:27 14.125"	
Percolation Rate: 3.2 min/inch	12:32 15"	
	Percolation Rate: 5.7 min/inch	
PERC 4	PERC 8	PERC 12
Depth: 25"	Depth: 26"	Depth: 22"
TIME	TIME	TIME
READING	READING	READING
10:00 8"	3:02 4.25"	11:47 7.75"
10:37 11.5"	3:05 11"	11:53 11.375"
10:49 15.75"	3:08 14.5"	12:00 13.25"
10:59 18"	3:11 17.25"	12:10 15"
11:14 21.25"	3:16 19.875"	12:20 16.25"
Percolation Rate: 4.6 min/inch	3:22 22"	12:30 17.5"
	3:24 dry	Percolation Rate: 8.0 min/inch
	Percolation Rate: 2.8 min/inch	

TEST PIT OBSERVATIONS
May 24, 2022
Northeast District Department of Health
File #22000255 & 22000293

TEST PIT	DEPTH	SOIL DESCRIPTION
1-1	0"-4" 4"-25" 25"-48" Mottling GTW Ledge Restrictive	organics, topsoil brown loamy sand rotten rock N/A N/A 46" 25"
1-2	0-3" 3"-30" Mottling GTW Ledge Restrictive	organics, topsoil brown loamy sand, boney, rotten rock starts @ 16" N/A N/A 30" 16" (unsuitable)
1-3	0-5" 5"-32" 32"-75" Mottling GTW Ledge Restrictive	organics, topsoil brown loamy sand gray compact sandy pan N/A N/A N/A N/A
1-4	0-3" 3"-22" 22"-74" Mottling GTW Ledge	organics, topsoil brown sandy loam, roots mottled gray moist very fine sandy loam 22" N/A N/A
1-5	0-5" 5"-27" 27"-76" Mottling GTW Ledge Restrictive	organics, topsoil tan sandy loam gray compact sandy pan N/A N/A N/A 27"
2-1	0-6" 6"-20" 20"-32" 32"-72" Mottling GTW Ledge Restrictive	organics, topsoil, roots yellow brown fine sandy loam loamy very fine sand gray very fine loamy sand, mottled 32" N/A N/A N/A
2-2	0-8" 8"-25" 25"-40" 40"-74" Mottling GTW Ledge Restrictive	organics, topsoil, roots loamy fine sand, some roots gray loamy fine sand, mottled compact rotten rock, mica 25" N/A N/A 25"
3-1	0-12" 12"-26" 26"-32" 32"-73" Mottling GTW Ledge Restrictive	organics, topsoil, roots fine sandy loam, roots, some rocks tight gray loamy very fine sand, some roots loamy coarse sand & gravel 26" Mottling GTW Ledge Restrictive
3-2	0-10" 10"-18" 18"-26" 26"-43" Mottling GTW Ledge Restrictive	organics, topsoil, roots fine sandy loam, roots loamy very fine sand, few roots tight gray loamy very fine sand, mottled coarse sands & gravel 26" Mottling GTW Ledge Restrictive
4-1	0-12" 12"-26" 26"-36" 36"-54" 54"-75" Mottling GTW Ledge Restrictive	topsoil, roots silty loamy fine sand, few roots gray silty loamy fine sand, mottled tight loamy sand & gravel boney med. sands & gravel 26" Mottling GTW Ledge Restrictive
4-2	0-14" 14"-22" 22"-45" Mottling GTW Ledge	topsoil, roots sandy loam, roots, large rocks silty loamy fine sand N/A N/A N/A
4-3	0-12" 12"-30" 30"-72" Mottling GTW Ledge Restrictive	topsoil, roots fine sandy loam to silty loamy fine sand, roots, large rocks tight very boney sands & gravel N/A N/A N/A
5-1	0-12" 12"-25" 25"-43" Mottling GTW Ledge Restrictive	organics, topsoil brown loamy sand moist, gray very fine loamy sand, silty mod. compact boney med. sand N/A N/A N/A
5-2	0-10" 10"-35" 35"-45" 45"-77" Mottling GTW Ledge Restrictive	organics, topsoil brown loamy sand boney compact gray loamy sand boney med. sand N/A N/A N/A
6-1	0-5" 5"-27" 27"-67" Mottling GTW Ledge Restrictive	organics, topsoil brown sandy loam, rocks gray boney mottled very fine sand 28" N/A N/A 27"

ENGINEER	DATE

TEST PIT OBSERVATIONS
May 24, 2022
Northeast District Department of Health
File #22000255 & 22000293

TEST PIT	DEPTH	SOIL DESCRIPTION
6-2	0-14"	topsoil, garbage
	14"-24"	tan loamy sand, boney
	24"-68"	gray mottled loamy sand
	Mottling	26"
	GW	N/A
	Ledge	N/A
6-3	Restrictive	27"
	0-10"	organics, topsoil
	10"-15"	loamy sand
	15"-44"	gray very fine loamy sand, silty
	44"-78"	sandy & gravel, boney
	Mottling	N/A
7-1	GW	N/A
	Ledge	N/A
	Restrictive	15"
	0-8"	topsoil
	8"-24"	gravely loam sand, large rocks
	24"-73"	coarse sand & gravel, boney
7-2	Mottling	N/A
	GW	N/A
	Ledge	73"
	0-8"	topsoil, roots
	8"-22"	loamy fine sand, roots, rocks
	Mottling	N/A
7-3	GW	N/A
	Ledge	22" (unsuitable)
	0-8"	topsoil, roots
	8"-24"	loamy sand with fines, large rock
	24"-72"	boney coarse sands & gravel
	Mottling	N/A
8-1	GW	N/A
	Ledge	N/A
	Restrictive	30"
	0-10"	organics, topsoil, roots
	10"-30"	sandy loam, some gravel, roots
	30"-75"	coarse sands and gravel with roots
8-2	Mottling	N/A
	GW	N/A
	Ledge	N/A
	Restrictive	30"
	0-7"	organics, topsoil
	7"-30"	sandy loam, some gravel, roots
9-1	GW	N/A
	Ledge	N/A
	Restrictive	30"
	0-4"	organics, topsoil, roots
	4"-19"	sandy loam, roots
	Ledge	18"-19" (unsuitable)
9-3	0-4"	organics, topsoil, roots
	4"-26"	sandy loam, roots, rocks
	26"-32"	loamy fine sand, some roots, rocks
	32"-74"	compact rocks, silty loamy fine sand
	Mottling	N/A
	GW	N/A
9-4	Ledge	N/A
	Restrictive	32"
	0-5"	organics, topsoil, roots
	5"-14"	sandy loam, roots, rocks
	14"-29"	loamy fine sand, few roots, rocks
	29"-63"	compact silty loamy very fine sand
10-1	Mottling	N/A
	GW	N/A
	Ledge	N/A
	Restrictive	29"
	0-2"	organics, topsoil
	2"-15"	brown fine sandy loam
10-2	15"-22"	tan sandy loam, mod. compact
	22"-36"	gray compact sandy pan
	Mottling	N/A
	GW	N/A
	Ledge	36" (unsuitable)
	0-3"	organics, topsoil
10-3	3"-16"	brown fine sandy loam
	16"-24"	mod. compact fine sandy loam
	24"-34"	compact gray sandy pan
	Mottling	N/A
	GW	N/A
	Ledge	34" (unsuitable)
0-2"	organics, topsoil, large rocks	
20/2023	2"-16"	brown fine sandy loam
	16"-22"	tan loamy fine sand
	22"-44"	gray sandy pan, moist
	Mottling	N/A
	GW	N/A
	Ledge	44" (unsuitable)
20/2023	Restrictive	22"
	DATE	REVISIONS
	/30/2022	DESCRIPTION
	/15/2022	CROSS SECTION A-A
	/27/2022	HW COMMENTS
	/28/2022	HW COMMENTS
20/2023	HW COMMENTS FROM CLA	

SEPTIC SYSTEM DESIGN CRITERIA

LOT 1
TP 1-3, 1-4, 1-5
Depth to restrictive layer = 27 in.
Slope % = 2.8 %
Number of Bedrooms = 3
Percolation rate = 4.6 min/in
Max. depth into exist. grade = 0 in.
System Size = 495 s.f.

Hydraulic Factor = 42
Flow Factor = 1.50
Perc Factor = 1.00

$42 \times 1.50 \times 1.00 = 63.0'$
MLSS = 63.0'

LOT 2
TP 2-1, 2-2
Depth to restrictive layer = 29 in.
Slope % = 9.5 %
Number of Bedrooms = 3
Percolation rate = 2.8 min/in
Max. depth into exist. grade = 1 in.
System Size = 495 s.f.

Hydraulic Factor = 26
Flow Factor = 1.50
Perc Factor = 1.00

$26 \times 1.50 \times 1.00 = 39.0'$
MLSS = 39.0'

LOT 3
TP 3-1, 3-2
Depth to restrictive layer = 26 in.
Slope % = 2.5 %
Number of Bedrooms = 3
Percolation rate = 3.2 min/in
Max. depth into exist. grade = 2 in.
System Size = 495 s.f.

Hydraulic Factor = 48
Flow Factor = 1.50
Perc Factor = 1.00

$48 \times 1.50 \times 1.00 = 72.0'$
MLSS = 72.0'

LOT 4
TP 4-1, 4-3
Depth to restrictive layer = 28 in.
Slope % = 1.1 %
Number of Bedrooms = 3
Percolation rate = 4.6 min/in
Max. depth into exist. grade = 2 in.
System Size = 495 s.f.

Hydraulic Factor = 49
Flow Factor = 1.50
Perc Factor = 1.00

$49 \times 1.50 \times 1.00 = 73.5'$
MLSS = 73.5'

LOT 5
TP 5-1, 5-2
Depth to restrictive layer = 30 in.
Slope % = 1.1 %
Number of Bedrooms = 3
Percolation rate = 3.0 min/in
Max. depth into exist. grade = 1 in.
System Size = 495 s.f.

Hydraulic Factor = 49
Flow Factor = 1.50
Perc Factor = 1.00

$49 \times 1.50 \times 1.00 = 73.5'$
MLSS = 73.5'

LOT 6
TP 7-1, 7-3
Depth to restrictive layer = 72 in.
Slope % = 2.4 %
Number of Bedrooms = 3
Percolation rate = 5.7 min/in
Max. depth into exist. grade = 24 in.
System Size = 495 s.f.

MLSS is not applicable

LOT 7
TP 8-1, 8-2
Depth to restrictive layer = 30 in.
Slope % = 1.2 %
Number of Bedrooms = 3
Percolation rate = 2.8 min/in
Max. depth into exist. grade = 6 in.
System Size = 495 s.f.

Hydraulic Factor = 49
Flow Factor = 1.50
Perc Factor = 1.00

$49 \times 1.50 \times 1.00 = 73.5'$
MLSS = 73.5'

LOT 8
TP 9-3, 9-4
Depth to restrictive layer = 31 in.
Slope % = 11.8 %
Number of Bedrooms = 3
Percolation rate = 6.6 min/in
Max. depth into exist. grade = 11 in.
System Size = 495 s.f.

Hydraulic Factor = 20
Flow Factor = 1.50
Perc Factor = 1.00

$20 \times 1.50 \times 1.00 = 30.0'$
MLSS = 30.0'

LOT 9
TP 10-6, 10-7, 10-8
Depth to restrictive layer = 28 in.
Slope % = 5.7 %
Number of Bedrooms = 3
Percolation rate = 9.6 min/in
Max. depth into exist. grade = 8 in.
System Size = 495 s.f.

Hydraulic Factor = 30
Flow Factor = 1.50
Perc Factor = 1.00

$30 \times 1.50 \times 1.00 = 45.0'$
MLSS = 45.0'

LOT 10
TP 11-1, 11-2
Depth to restrictive layer = 28 in.
Slope % = 5.3 %
Number of Bedrooms = 3
Percolation rate = 8.0 min/in
Max. depth into exist. grade = 5 in.
System Size = 495 s.f.

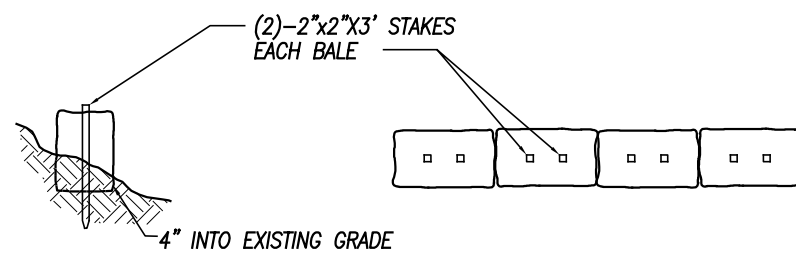
Hydraulic Factor = 30
Flow Factor = 1.50
Perc Factor = 1.00

$30 \times 1.50 \times 1.00 = 45.0'$
MLSS = 45.0'

LOT 11
TP 12-1, 12-2
Depth to restrictive layer = 25 in.
Slope % = 8.9 %
Number of Bedrooms = 3
Percolation rate = 8.0 min/in
Max. depth into exist. grade = 6 in.
System Size = 495 s.f.

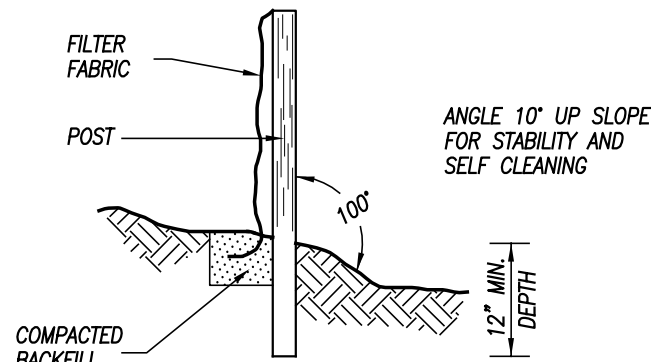
Hydraulic Factor = 28
Flow Factor = 1.50
Perc Factor = 1.00

$28 \times 1.50 \times 1.00 = 42.0'$
MLSS = 42.0'



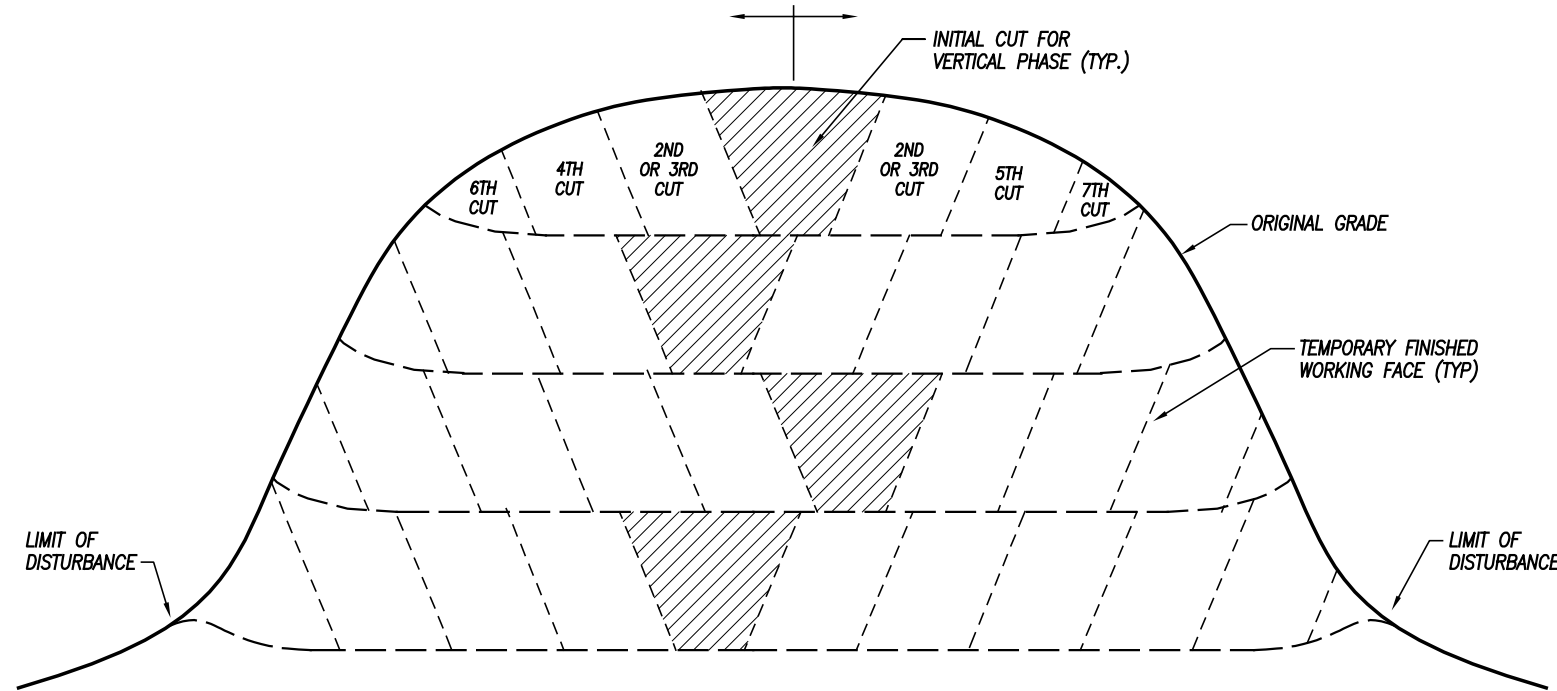
HAYBALE BARRIER

NOT TO SCALE



SILT FENCE

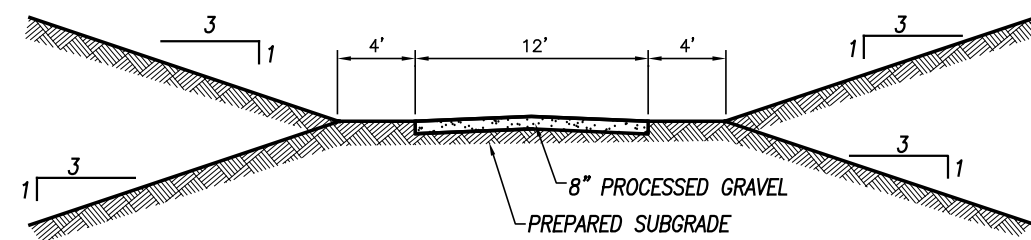
NOT TO SCALE



EXCAVATION PROGRESSES IN BOTH DIRECTIONS FOR ENTIRE LENGTH OF EACH VERTICAL SUBPHASE, STARTING AT BOTTOM OF INITIAL CUT, THEN AN INITIAL CUT IS MADE FOR THE SUBSEQUENT LOWER VERTICAL SUBPHASE AND THE PROCESS CONTINUES.

DETAIL SHOWING "DOWNCUTTING" EXCAVATION METHOD

NOT TO SCALE



RESIDENTIAL GRAVEL DRIVEWAY DETAIL

NOT TO SCALE

DETAIL SHEET No. 2

PREPARED FOR

285 RIVER ROAD, LLC &
PUTNAM RIVER ROAD, L.L.C.

RIVER ROAD & MODOCK ROAD
PUTNAM, CONNECTICUT

Provost & Rovero, Inc.

Civil Engineering • Surveying • Site Planning
Structural • Mechanical • Architectural Engineering

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REVISIONS	
DATE	DESCRIPTION
11/30/2022	CROSS SECTION A-A
12/15/2022	BRIDGE DETAILS
12/27/2022	IW COMMENTS
12/28/2022	IW COMMENTS
1/20/2023	IW COMMENTS FROM CLA

DATE: 6/29/2022	DRAWN: DJH
SCALE: AS SHOWN	DESIGN: DJH
SHEET: 18 OF 18	CHK BY: ---
DWG. No: Client File	JOB No: 203095

ENGINEER	DATE
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