Town of Newington
Connecticut

Aquatic Facility Assessment Report

Mill Pond Park and Churchill Park

December 2025

Weston & Sampson

WESTON & SAMPSON ENGINEERS, INC.
1 Washington Street, 10th Floor, Boston, MA 02108
Tel: 617.412.4480

EXECUTIVE SUMMARY

Weston & Sampson Engineers ("WSE") was retained by the Town of Newington ("The Town") to conduct a comprehensive facility assessment of the Mill Pond Park and Churchill Park outdoor aquatic centers. Each location includes both a full-size swimming pool and a wading pool, complemented by a bathhouse offering changing rooms, toilets, and shower facilities. These amenities serve the community on a seasonal basis, with operations managed directly by the Town. The assessment relied on an extensive collection of data, including prior condition reports, construction drawings, topographical surveys, multiple site visits, in-depth interviews with facility staff, and a range of targeted field investigations.

The findings of this assessment reveal that both aquatic facilities are experiencing an advanced degree of physical deterioration and functional obsolescence. The concrete shells of the pools have lost their watertight integrity, leading to substantial losses of water and chemicals, and thereby driving up operational costs. The plumbing systems, which are decades old, pose a significant ongoing risk for failure, and the mechanical and filtration equipment now fall well below contemporary commercial standards for public aquatic facilities.

Beyond the pressing structural concerns, the existing facility design no longer aligns with the expectations or requirements of a growing and diverse community. Several critical shortcomings were identified:

- Insufficient infrastructure and amenities to support competitive swim programs, including a lack of starting blocks, lane markers, and timing systems.
- Absence of modern aquatic features—such as water slides, interactive play elements, or splash pads—that help attract and engage families, children, and older adults.
- Significant gaps in accessibility, with limited provisions for individuals of varying ages and abilities, and no compliant ADA access points or pool lifts.

In addition, the overall facility—including restrooms, changing areas, and circulation paths—fails to meet current building, health, and accessibility codes, putting the Town at risk of regulatory non-compliance and limiting the pool's usability for all residents.

Operational challenges compound these problems, as the aged skimmer systems require constant, labor-intensive maintenance to sustain water quality, and the deteriorating infrastructure demands persistent attention to avoid unexpected shutdowns and disruptions in service. Staff must regularly address leaks, equipment malfunctions, and water chemistry issues—diverting resources from program delivery and guest services.

Taken together, these deficiencies clearly indicate that the Mill Pond Park and Churchill Park pools have reached the end of their practical service lives. The existing conditions do not provide a safe, efficient, or inclusive environment for community use, and continued maintenance would be both risky and prohibitively expensive. This assessment underscores the urgent need for substantial renovation or complete replacement to ensure that Newington's aquatic facilities can meet modern standards, regulatory requirements, and the evolving recreational needs of its residents for decades to come.

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY ES-1

TABLE OF CONTENTS i

LIST OF FIGURES ii

LIST OF TABLES iii

LIST OF APPENDICES iv

1.0 BACKGROUND / PURPOSE / APPROACH 1
- 1.1 Background 1
- 1.2 Purpose 1
- 1.3 Approach 1
- 1.4 Documents Reviewed 2
- 1.5 Applicable Codes 3

2.0 MILL POND POOL ASSESSMENT 4
- 2.1 Overview 4
- 2.2 Pool Data 5
- 2.3 Interview Notes 5
- 2.4 Visual Observations 6
  - 2.4.1 Bathhouse 6
  - 2.4.2 Barriers and Access Control 6
  - 2.4.3 Safety Signage and Depth Markings 6
  - 2.4.4 Pool Deck 6
  - 2.4.5 Deck Finish and Drainage 6
  - 2.4.6 Accessible Features 6
  - 2.4.7 Pool Finishes 7
  - 2.4.8 Pool Shell 7
  - 2.4.9 Surface Skimming and Surge Systems 7
  - 2.4.10 Main Drains 7
  - 2.4.11 Pool Piping 7
  - 2.4.12 Pool Equipment Room 8
  - 2.4.13 Filtration System 8
- 2.5 Field Investigations 8
- 2.6 Geotechnical Investigation Analysis 8
- 2.7 Structural Analysis 9

3.0 CHURCHILL PARK POOL ASSESSMENT 10
- 3.1 Overview 10
- 3.2 Pool Data 11
- 3.3 Interview Notes 11

3.4 Visual Observations 12
3.4.1 Bathhouse 12
3.4.2 Barriers and Access Control 12
3.4.3 Safety Signage and Depth Markings 12
3.4.4 Pool Deck 12
3.4.5 Deck Finish and Drainage 12
3.4.6 Accessible Features 12
3.4.7 Pool Finishes 12
3.4.8 Pool Shell 13
3.4.9 Surface Skimming and Surge Systems 13
3.4.10 Main Drains 13
3.4.11 Pool Piping 13
3.4.12 Pool Equipment Room 13
3.4.13 Filtration System 13
3.5 Field Investigations 13
3.6 Geophysical Investigation Analysis 14
3.7 Structural Analysis 14

4.0 FEASIBILITY 15
4.1 Discussion 15
4.2 Scope of Work 15
4.3 Pool Renovation Options 16
4.3.1 PVC Liner System 16
4.3.2 Concrete Liner 17
4.3.3 Panelized Stainless Steel Liner System 18

5.0 CONCEPTS 20
5.1 Mill Pond Park Pool Facility Renovation Concepts 20
5.1.1 Concept A 20
5.1.2 Concept B 21
5.1.3 Concept C 22
5.2 Churchill Park Pool Renovation Concepts 23
5.2.1 Concept A 23
5.2.2 Concept B 24
5.2.3 Concept C 25
5.3 Precedent Images 26
5.4 Opinion of Probable Construction Costs 27

LIST OF FIGURES

Figure 1: Aerial View of Mill Pond Park 4

Figure 2: Aerial View of Churchill Park 10

Figure 3: Renovation with a PVC Membrane Liner (Renosys.com) 17

Figure 4: Pool Renovation with Concrete (shotcrete.org) 18

Figure 5: Myrtha RenovAction System 19

Figure 6: Rendered Plan - Mill Pond Concept A 20

Figure 7: Rendered Plan - Mill Pond Concept B 21

Figure 8: Rendered Plan - Mill Pond Concept C 22

Figure 9: Rendered Plan - Churchill Concept A 23

Figure 10: Rendered Plan - Churchill Concept B 24

Figure 11: Rendered Plan - Churchill Concept C 25

LIST OF TABLES

Table 1 .... Mill Pond Park Pool Data

Table 2 .... Churchill Park Pool Data

Table 3 .... Opinion of Probable Construction Costs

LIST OF APPENDICES

Appendix A .... Weston & Sampson CMR Field Investigation Report

Appendix B .... Pools Shell Sounding Plans

Appendix C .... Concrete Core Testing Reports

Appendix D .... Geophysical Survey Report

Appendix E .... Geotechnical Report

1.0 BACKGROUND / PURPOSE / APPROACH

1.1 Background

Churchill Park Pool and Mill Pond Park Pool are long-standing municipal aquatic facilities located in Newington, Connecticut. Both facilities have served the community for over six decades, supporting a wide range of recreational programming including public swim sessions, swim lessons, senior swims, competitive training, and community events.

Despite consistent maintenance efforts, both pools have exceeded their expected service lives and now exhibit significant structural and mechanical deterioration. Multiple prior assessments conducted in 2013 and 2020 have documented persistent issues such as cracking, water leakage, non-compliant hydraulic systems, and inadequate accessibility features. The pools are no longer watertight, resulting in excessive chemical and water replenishment costs. Equipment and piping are aged and below commercial standards, and the skimmer systems are ineffective, requiring extensive maintenance.

The Town of Newington, recognizing the importance of these facilities to its 30,000+ residents, initiated a comprehensive evaluation to guide future renovation or replacement. The goal is to ensure code compliance, improve accessibility, and support expanded programming for all age groups, including competitive swimming and community events, for the next 30 to 40 years.

1.2 Purpose

This assessment informs the Town's decisions about the future of both facilities. It provides a detailed overview of their current state and regulatory compliance. Additionally, feasibility concepts are developed for further evaluation.

To better meet the needs of the community, proposed enhancements and objectives for the facility include the integration of competitive swimming and diving features, such as starting platforms and backstroke flags. Full compliance with ADA standards is achieved by installing lifts, zero-entry pools, and improving accessibility at both the site and bathhouse. The addition of amenities designed to appeal to all age groups enhances guest experiences and provides improved support for camps. Consideration is also given to consolidating both facilities and expanding the centrally located Mill Pond pool to accommodate the requirements of a growing community.

1.3 Approach

The approach to assessing existing conditions at Churchill Park Pool and Mill Pond Park Pool began with a review of prior assessment reports and original construction documentation. Site visits were conducted on August 5 and August 25, 2025, during which visual observations were made to evaluate current conditions, the history of repairs, code compliance, and operational issues. Attendees present for the initial site visit and interview included:

- Jonathan Altshul, Town of Newington, Town Manager
- Bill DeMaio, Town of Newington, Parks and Recreation, Park Superintendent
- Nancy Glynn, Town of Newington, Parks and Recreation, Recreation Supervisor
- Eileen Francolino, Town of Newington, Parks and Recreation Commission
- Tom LaPierre, Town of Newington, Foreman

- Clay Pedigo, Town of Newington, Grounds Supervisor
- Patrick Bates, Weston & Sampson, Aquatics Team Leader
- Paul Gionfriddo, Weston & Sampson CMR, Junior Estimator
- Ryan Chmielewski, Weston & Sampson, DES Team Leader
- Emily Weckman, Weston & Sampson, Project Manager
- Bennett MacGregor, Weston & Sampson, Engineer I

This assessment report synthesizes current findings with information from earlier evaluations, specifically the 2013 Weston & Sampson and 2020 Owens/TLBA conditions assessment reports. Interviews were conducted with key maintenance and supervisory staff, and stakeholders from the Town and Weston & Sampson participated in on-site sessions at both pool locations.

The facility site, bathhouse, pools, and pool equipment were evaluated based on current regulatory agency requirements, along with current industry standards. See Section 1.5 for a list of referenced regulatory codes. Typically, large or major renovations to the pool shell or pool equipment require that the entire pool and pool systems be brought up to current standards.

Field investigations included testing for concrete strength and chloride penetration, sounding for inconsistencies and voids, and pipe scoping. Weston & Sampson CMR supported these efforts by providing concrete sounding, core sampling and testing, and pipe scoping services in coordination with WSE's site observations. Additionally, the Town's retained geotechnical engineer, GNCB Consulting Engineers, P.C., performed borings and geotechnical analysis at Mill Pond Park pool to determine soil composition and groundwater levels. At Churchill Park pool, a ground-penetrating radar (GPR) survey was carried out by Radar Solutions International, Inc. to identify subsurface voids or cavities, which was particularly important due to the pool's raised elevation and its significant, prolonged water loss. WSE also performed a high-level structural review based on the results of testing and site investigations.

The feasibility study was directly informed by the findings of this conditions assessment, which considered observed deficiencies in code compliance, anticipated service life of key components, results from field investigations and testing, and structural analysis. Feasibility concepts were then developed to address both the restoration and enhancement of the facilities, balancing the potential to salvage existing elements with the community's needs and aspirations for the next 30 to 40 years. These concepts are discussed in terms of their practicality with respect to construction, operational downtime, and cost.

Visual observations focused on the main pool at each facility, due to the awareness that the wading pool in both facilities is non-compliant for accessibility and therefore will need to be replaced.

The scope of this report does not include a detailed structural analysis of the pool shell, identifying causes of water loss, geotechnical testing and analysis (provided by others), water table elevations (provided by others), locating electrical currents and their sources, verification of equipotential bonding and grounding of the pool, and geophysical testing (provided by others).

1.4 Documents Reviewed

The following documents were reviewed in preparation for this assessment:

- Original Construction Drawings, Mill Pond Park Swimming Center, Allen Organization, Aug. 18, 1958.

- Original Construction Drawings, Churchill Park Swimming Center, Hirsch Hammerberg Kaestle Architects, Sep. 15, 1964.
- Mill Pond and Churchill Park Pool Evaluation Reports - Weston & Sampson, March 2013.
- Mill Pond and Churchill Park Pools – Conditions Assessment - Owens/TLBA, Oct. 2020 / Jan. 2021.
- Churchill Pool Water Loss Calculations - Owner provided (area/volume notes and utility pages).

1.5 Applicable Codes

The following statutes, codes, standards, and guidance inform this assessment and will govern design and permitting of any corrective work or replacement projects:

- Connecticut Public Health Code – Public Pools: Sec. 19 13 B33b Public Pools
- Connecticut Public Swimming Pool Design Guide (April 2021)
- 2022 Connecticut State Building Code (CSBC)
- 2021 International Swimming Pool & Spa Code (ISPSC) with CT amendments
- 2020 NFPA 70 (NEC) for electrical installations, including Article 680. CT.
- ANSI/APSP/ICC 7 2013
- ANSI/APSP/ICC 16 2017
- 2010 ADA Standards for Accessible Design - Title II (state and local government facilities).

2.0 MILL POND POOL ASSESSMENT

2.1 Overview

Mill Pond Park is a 54-acre municipal park that provides a variety of recreational opportunities for the community, including basketball and tennis courts, soccer fields, a baseball field, an outdoor exercise area, playgrounds, walking trails, picnic areas, a bathhouse, and a swimming pool facility. Constructed in 1959, Mill Pond Park Pool has served the Newington community for over 60 years as one of three heavily utilized municipal aquatic facilities.

The Mill Pond Pool facility consists of a bathhouse, a main pool, and a wading pool. The main pool is a Z-shaped design that features seven 25-yard lanes, a shallow area, and a deep area that was formerly used for diving (the original diving boards have been removed upon advice from the Town's insurance company). The pool was replumbed in 1999 and the bathhouse underwent minor renovations in 1988.

The Mill Pond Park pool is operated for eight weeks during the summer season from mid-June to mid-August.

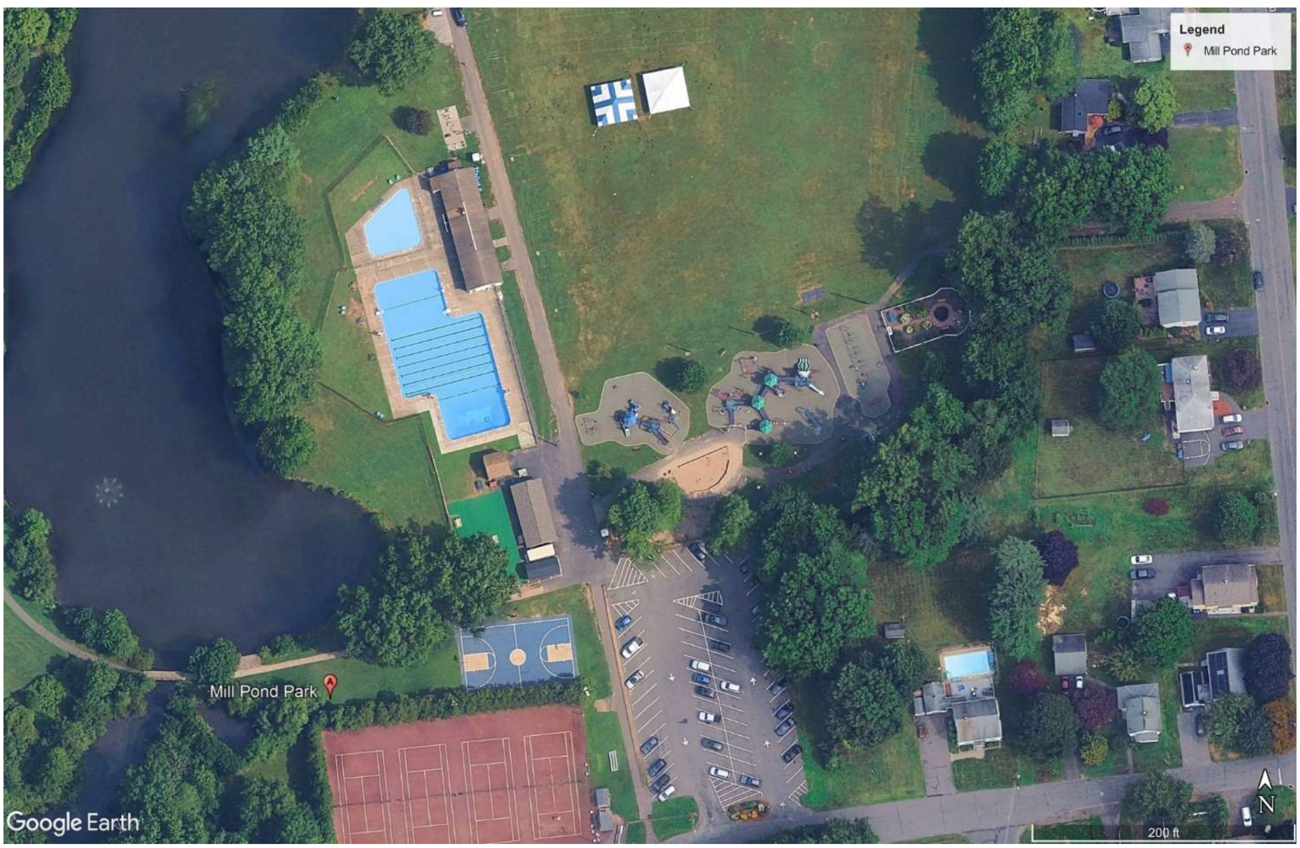


Figure 1: Aerial View of Mill Pond Park

2.2 Pool Data

Table 1: Mill Pond Park Pool Data

	Main Pool	Wading Pool
Pool size	7,750 sq. ft.	1,400 sq. ft.
Pool volume	295,000 gal	--
Water depth	3'-0" to 12'-0"	0'-6" to 1'-0"
Turnover	8 hours (615 gpm)	--
Surface skimming type	Skimmer	Skimmer
Surge/overflow control	In pool	In pool
Main drains	Direct suction (2)	Direct suction (1)
Filtration	High-rate sand (5 units)	Cartridge

2.3 Interview Notes

The Mill Pond Pool offers a wide array of aquatic programs, such as swim lessons, summer camps, public and senior swim sessions, water aerobics, adaptive swim classes, and private party rentals. The wading pool at Mill Pond Park is a standout feature, especially popular during the season and frequently used for private events.

Interview feedback emphasized the pool's longstanding durability and maintenance record but also pointed out that its current condition significantly restricts community use. Since the last assessment, only minor repairs have been made: an accessible chair lift was added to the pool, and the bathhouse's hot water heater was replaced. However, the bathhouse remains noncompliant with accessibility standards, is inadequate, and is not available to park visitors when the pool is closed.

Annual painting is performed, but persistent issues with paint buildup and ongoing concrete deterioration continue to affect the pool's condition. Additionally, the pool does not achieve the code-mandated water turnover rates.

Maintenance staff reported operational challenges including an ineffective skimmer system, insufficient filtration capacity, and outdated equipment, all contributing to higher maintenance demands and costs. Structural concerns include major cracking, hollow areas beneath the pool shell, and groundwater intrusion from the adjacent Mill Pond.

Technical experts raised safety concerns about the hydraulic systems, highlighting that the direct suction system presents entrapment risks and does not meet required velocity standards.

Given these limitations, there is discussion about expanding the Mill Pond pool facility to accommodate increased demand, especially with the potential relocation of camp programs from Churchill Park. Renovation options being considered include installing a vinyl liner, concrete liner, or a stainless steel panel system.

2.4 Visual Observations

The conditions of the wading pool, bathhouse and mechanical spaces remain generally in the same or worse condition as documented in prior reports. The facility's proximity to Mill Pond exposes the shell to high groundwater and associated hydrostatic pressures, which was especially evident while the pool was empty for observation.

2.4.1 Bathhouse

The Mill Pond bathhouse does not meet current health, safety, and accessibility standards. ADA access is limited due to raised doorway edges, improper slopes, and narrow spaces for wheelchair users. Sanitary systems are inadequate, with poorly designed shower drains and floor slopes. Health and safety signage is outdated, and accessibility features like a handicap mirror are missing. Essential safety components—including exit signs, emergency lighting, and smoke/fire detection—are also lacking and must be addressed to ensure patron safety.

2.4.2 Barriers and Access Control

The chain link fence marks the pool boundary but still needs improvements to gate clearances and latching mechanisms, as noted in earlier studies. Addressing barrier compliance is critical for liability and facility safety.

2.4.3 Safety Signage and Depth Markings

Depth and "No Diving" markings at Mill Pond are inadequate and fail to meet current code requirements for placement, size, and clarity. These markings are essential for safety and must be updated as part of mandatory facility corrections. Previous compliance reviews identified this issue, and recent inspections confirm that improvements are still needed to protect public health and support lifeguard operations.

2.4.4 Pool Deck

The deck area at Mill Pond displays extensive deterioration, including wide cracks, failed sealants, and uneven surfaces that do not properly drain water, which accelerates damage. Temporary fixes like patching and re-caulking are ineffective due to persistent structural issues and incorrect slopes, leading to non-compliance with code requirements. Full remediation requires replacing and re-grading the deck, as well as implementing a new water collection system for long-term durability. Upgrading deck slopes, transitions, and entryways is necessary to achieve compliance and support inclusive use of the facility.

2.4.5 Deck Finish and Drainage

Field inspection revealed extensive cracking, failed sealants, and surface deterioration. Water infiltration through patch edges, standing water, and negative cross-pitch reflect long-term neglect. Effective remediation would require complete deck replacement and re-grading, as ongoing minor repairs are likely to fail.

2.4.6 Accessible Features

Due to the pool's perimeter, at least two accessible entries are required, including a lift or sloped entry. Persistent barriers such as non-compliant cross-pitch and steps on key routes prevent full accessibility, and the main walkway does not meet slope or width requirements, as previously detailed in earlier reports.

2.4.7 Pool Finishes

The main pool at Mill Pond features an epoxy coating that is heavily deteriorated, with widespread cracking, peeling, and blistering. Inspections revealed black residue seeping from wall joints, indicating ongoing moisture and temperature problems. These issues result in a non-compliant, unsightly surface that can trap contaminants, negatively impacting water quality and increasing chemical use. Simple repairs like patching or recoating are ineffective due to persistent moisture intrusion undermining the finish.

2.4.8 Pool Shell

The main pool shell at Mill Pond is a cast-in-place reinforced concrete structure with a history of significant deterioration. Field observations and documentation reveal numerous cracks throughout the floor and walls, uneven joint transitions, and active groundwater infiltration, particularly at the deep end. A raised center main drain, added to improve safety, has resulted in awkward geometry transitions. Persistent hydrostatic groundwater pressure from the adjacent pond prevents the pool from being fully drained. Although outward water loss appears limited during normal operations, this is mainly due to the external hydrostatic pressure counterbalancing leaks, not true watertightness of the structure.

2.4.9 Surface Skimming and Surge Systems

The main pool at Mill Pond operates with a direct suction system featuring sixteen skimmers and twenty-one wall returns that feed directly to the pump. Inspections reveal persistent structural issues around skimmer openings, including cracking, delamination, and inadequate repairs, resulting in ongoing water leakage and loss of bond between the shell and slab. The facility lacks a surge tank or gravity surge storage, leaving it unable to buffer sudden increases in water and causing inconsistent surface skimming and further water migration into damaged joints.

2.4.10 Main Drains

The main drains at Mill Pond's deep end are in poor condition, with groundwater actively infiltrating through sump connections and significant rust and mineral buildup narrowing the cast iron piping. Multiple inspections and reports confirm the main drain hydraulics are not compliant with Connecticut Department of Public Health (DPH) and VGB/ANSI safety standards, due to excessive suction velocities, absence of anti-entrapment devices, and direct suction configuration. These deficiencies pose ongoing entrapment hazards for pool patrons.

2.4.11 Pool Piping

Scoping tests revealed significant rust and calcification in the suction and return lines, which reduced their internal diameter and increased flow velocities. The skimmer lines, scoped up to approximately 30–40 feet, showed acceptable PVC piping within that range, but the condition of the remaining lines is unverified due to limited camera access. The internal buildup increases friction losses, further reducing flow and complicating compliance with turnover and velocity requirements, especially since the system already has undersized filtration and direct suction. These issues contribute to noncompliance and may worsen entrainment risks; replacing the piping could be incorporated into upgrades to a gutter and gravity surge system.

2.4.12 Pool Equipment Room

Circulation and filtration equipment, located in the bathhouse's lower level, consist of outdated pumps and undersized sand filters. The system exhibits code deficiencies regarding suction and discharge velocities, and the aged equipment limits operability and maintenance options.

2.4.13 Filtration System

The filtration and suction system at Mill Pond's main pool has several unresolved code and safety deficiencies. The pump pulls water directly from the skimmers and main drains using undersized piping, lacks anti-entrapment devices, and operates at non-compliant velocities, increasing entrapment risk and complicating adherence to safety standards. No flow meters are present at individual filters, making balanced and effective filtration difficult to verify. The backwash system also lacks the required sanitary air gap, creating a cross-contamination risk. These deficiencies limit both the pool's code compliance and operational maintainability and must be addressed to ensure safe and reliable operation.

2.5 Field Investigations

The inspection revealed significant structural and mechanical concerns. The pool deck had visibly shifted and settled, creating an extreme pitch away from the pool and resulting in noticeable cracking and prior concrete repairs. The filtration system, though commercial grade, was undersized, necessitating the use of five filters to meet operational demands. The pump and strainer basket were outdated, with a bronze lid that prevented visual inspection, raising concerns about potential air intake issues.

Groundwater infiltration was a major issue, with water seeping through cracks in the deep end and main drain sumps. A continuous stream of water was observed in the higher sump, accompanied by rusting and calcification in the cast iron piping. Sounding tests identified multiple areas of concern, particularly around skimmer openings and the pool wall adjacent to the nearby pond. Pipe scoping revealed significant rust and calcification in the cast iron suction and return lines, reducing their internal diameter. While the PVC skimmer lines appeared to be in fair condition, their inspection was limited due to multiple bends.

Recommended corrective actions included concrete repairs to solidify the shell, complete deck demolition and replacement with a new gutter system, full plumbing replacement using Schedule 80 PVC, resetting and repouring of main drains and deep end plumbing, installation of a new pump and strainer basket, larger filters to reduce the need for daily backwashing, and the addition of a new ADA lift.

2.6 Geotechnical Investigation Analysis

Weston & Sampson collaborated with the Town's geotechnical consultant, GNCB, to gather additional site data and assess the appropriateness of the location for the proposed renovation. Supplemental borings and a monitoring well were installed to evaluate subsurface soil composition and groundwater levels around the existing pool area. The results were reviewed alongside earlier geotechnical findings from a previous study related to potential pool relocation.

These expanded investigations and analyses confirmed that the site's soil bearing capacity is adequate for the proposed renovations. However, groundwater levels in proximity to the pool were found to be relatively elevated, ranging from four to six feet, and occasionally higher in locations east of the pool. Based on these findings, the report advises installing a foundation drainage system around the perimeter of the existing pool shell. This measure would require targeted excavation, dewatering, and backfilling along all sides adjacent to the pool walls.

Subsequent to this recommendation, a similar foundation system was identified on historical drawings related to the original construction of the pool. Should the final design of the pool not require alterations to the pool shell as proposed, and this system be found operational, a new foundation drain system as described in the geotechnical report would not be required.

2.7 Structural Analysis

The pool drawings, dated August 18, 1958, do not include information on soil borings or bearing capacity. Drawings for the adjacent skate house provide general notes, indicating an assumed bearing capacity of 1,000 psf for that structure. A soil report from GNCB, dated April 2021, was reviewed; the boring location plan and details for boring B-9, situated near the existing pool, were examined. No ground water was observed during the boring process, although soil samples taken below a depth of five feet were found to be wet. It is recommended that two or three new borings be performed to further assess subsurface conditions.

According to the pool drawings, the pool wall is 11 inches thick and reinforced with two layers of vertical rebar. The footing and slab beneath the wall measure 1 foot in thickness and 5 feet 2 inches in width. The interior slab is 6 inches thick and reinforced with #3 bars spaced at 8 inches on center, with 6 inches of gravel placed below the slab as indicated in the drawings. The design also includes two expansion joints running in the up-down direction on the plan view, located 40 feet from the pool walls. Hammer testing was conducted to identify areas with a “hollow sound,” and such sounds were noted at the expansion joint locations.

Concrete core results indicate a compressive strength in the range of 6,000 to 8,000 psi, which is extremely high. Visual inspection of photographs suggests that the observed cracks are not of structural concern. However, the hammer test identified several locations with hollow sounds, indicating the possibility of soft spots beneath those areas. These areas should be chipped and further investigated as needed. It is anticipated that the pool can be relined with new structural walls and slab. A review is necessary to ensure the pool meets current standards and to determine any required modifications to the pool’s depth.

3.0 CHURCHILL PARK POOL ASSESSMENT

3.1 Overview

Churchill Park is an 18-acre municipal park that provides a variety of recreational opportunities for the community, including tennis and pickleball courts, soccer and softball fields, pavilions, playgrounds, trails, picnic areas, a bathhouse, and a swimming pool facility. Constructed in 1965, Churchill Park Pool has served the Newington community for over 60 years as one of three heavily utilized municipal aquatic facilities.

The Churchill Park Pool facility consists of a bathhouse, a main pool, and a wading pool. The main pool is a C-shaped design that features six 50-meter lanes, a shallow area, and a deep area that was formerly used for diving (the original diving boards were removed upon advice from the Town's insurance company).

The Churchill Park pool operates for eight weeks during the summer season from mid-June to mid-August.

Figure 2: Aerial View of Churchill Park

3.2 Pool Data

Table 2: Churchill Park Pool Data

	Main Pool	Wading Pool
Pool size	9,800 sq. ft.	1,500 sq. ft.
Pool volume	360,000 gal.	14,000 gal.
Water depth	2'-6" to 10'-0"	1'-0" to 2'-0"
Turnover	8 hours (740 gpm)	1.95 hours (20 gpm)
Surface skimming type	Skimmer	Skimmer
Surge/overflow control	In pool	In pool
Main drains	Direct suction (2)	Direct suction (2)
Filtration	High-rate sand (6 units)	High-rate sand (2 units)

3.3 Interview Notes

Churchill Park Pool's primary function is to support camp activities and serve the local swim club, highlighted by its 50-meter length. Recent legislative proposals may require camp programs to move to Mill Pond. Since the last review, Churchill Park has seen only minor repairs. Notably, an accessible chair lift was added to the pool, but the bathhouse remains noncompliant with accessibility standards, is inadequate, and is not available to park visitors when the pool is closed.

Although both pools are painted annually, ongoing issues include paint buildup and continued concrete deterioration. Additionally, neither pool currently meets the required water turnover rates set by code.

At Churchill Park, significant water loss was an issue until relining the main drain piping about four to five years ago, followed by pool and drain recaulking in 2019–2020. The bathhouse has experienced substantial settlement, which required structural lifting and re-support in 2015. Settlement-related piping leaks have made it necessary to operate bathhouse showers manually at the main shutoff valve.

Interview feedback highlighted several limitations: program coordinators mentioned that limited amenities hinder community engagement, and multiple sources reported persistent accessibility challenges, including non-ADA-compliant entry routes and problematic deck slopes. Maintenance staff also identified operational difficulties such as an ineffective skimmer system, insufficient filtration, outdated equipment, and structural problems including major cracking and voids beneath the pool shell. Technical experts expressed safety concerns with the hydraulic systems, specifically the direct suction system, which poses entrapment hazards and does not comply with required velocity standards.

Due to declining usage at Churchill Park, partly due to its less central location and possible relocation of camp programs, there is ongoing discussion about consolidating aquatic operations at Mill Pond Park. Suggestions include expanding Mill Pond's pool facilities and repurposing Churchill Park's pool area as a splash pad to better support picnicking and general park use. Various renovation options for the Churchill Park pools have been considered, such as installing a vinyl liner, a concrete liner, or a stainless steel panel system.

3.4 Visual Observations

The pool, bathhouse, and mechanical areas remain in a deteriorated state, with only minor repair work undertaken since previous evaluations.

3.4.1 Bathhouse

The bathhouse has not seen renovation since 2013, with persistent deficiencies in structure, finishes, and building systems. Water intrusion from the bathrooms continues to affect lower mechanical areas, evidenced by moisture staining and efflorescence. The facility requires a comprehensive structural assessment due to visible cracking and leakage. Bathrooms remain non-compliant with ADA standards, lacking accessible fixtures and routes, as previously documented.

3.4.2 Barriers and Access Control

The perimeter enclosure forms a continuous barrier but exhibits code violations due to excessive gaps, misaligned fencing, and inadequate ground clearance. Gate hardware is non-compliant, lacking self-closing/latching features and a kick-plate, which have been long-standing issues.

3.4.3 Safety Signage and Depth Markings

Pool signage is insufficient, with inadequate or missing depth and “No Diving” markings. Current standards require specific numeral sizes, contrasting colors, and proper placement—none of which are met, necessitating corrective action for continued operation.

3.4.4 Pool Deck

The deck is at the end of its service life, with pervasive cracks, spalling, unstable patches, and widespread code violations regarding enclosure, ADA access, and signage. Entrance curbs hinder accessible routes, and the main parking lot’s distance further limits accessibility. Numerous deck sections exceed permissible cross-pitch and crack size, making the deck non-compliant and impeding inclusive use.

3.4.5 Deck Finish and Drainage

Field inspection revealed extensive cracking, failed sealants, and surface deterioration. Water infiltration through patch edges, standing water, and negative cross-pitch reflect long-term neglect. Effective remediation would require complete deck replacement and re-grading, as ongoing minor repairs are likely to fail. Modernizing pool hydraulics with a gutter system is recommended to address overtopping and reduce deck deterioration.

3.4.6 Accessible Features

Due to the pool’s perimeter, at least two accessible entries are required, including a lift or sloped entry. Persistent barriers such as non-compliant cross-pitch and steps on key routes prevent full accessibility, and the main walkway does not meet slope or width requirements, as previously detailed in earlier reports.

3.4.7 Pool Finishes

The pool’s interior finish is severely deteriorated, with excessive paint buildup and failure, particularly along cracks and joints. These conditions are consistent with long-standing issues of water migration through the shell and joints, leading to further structural compromise.

3.4.8 Pool Shell

Extensive structural defects are noted throughout the pool's walls and floor, including cracks that penetrate the full thickness of the shell and widespread hollow areas, especially in the deep end and along major joints.

3.4.9 Surface Skimming and Surge Systems

The pool relies on 20 skimmers without a gutter or surge tank, which leads to water overtopping the deck during peak loads or wind, contributing to deck deterioration. Concrete around skimmer ports shows significant age-related degradation.

3.4.10 Main Drains

Main drains and skimmers connect directly to the pump in a direct suction configuration, which increases entrapment risk and leads to excessive suction velocities. Leakage at the sumps and voiding beneath the deep end further compromise the pool shell's structural integrity.

3.4.11 Pool Piping

Inspection identified substantial failures in the fiberglass lining of suction and return lines, with unverified conditions beyond 30–40 feet due to line bends. Existing piping increases friction losses and performance issues, while the pump's design limits operational monitoring and maintenance.

3.4.12 Pool Equipment Room

Circulation and filtration equipment, located in the bathhouse's lower level, consist of outdated pumps and undersized sand filters. The system exhibits code deficiencies regarding suction and discharge velocities, and the aged equipment limits operability and maintenance options.

3.4.13 Filtration System

Filtration is handled by six sand filters connected to a manifold without individual flow controls, resulting in non-compliant filtration rates. The backwash system setup is also problematic, allowing potential cross-contamination. The filters are undersized, necessitating frequent backwashing and causing operational difficulties, as only one filter can be backwashed at a time due to pipe sizing constraints.

3.5 Field Investigations

The Churchill Pool inspection uncovered extensive deterioration. The deck exhibited significant cracking. The filtration system was undersized, relying on five commercial-grade filters. The pump and strainer basket were outdated, with no means to visually confirm system operation. The pool's hillside location made it vulnerable to runoff, exacerbating water infiltration issues.

Removal of the main drain covers exposed substantial water loss, with sounding tests confirming hollow concrete throughout the deep end. These voids extended two to three inches deep. Additional sounding identified concerns along the pool floor near the hillside, a prominent crack across the pool, and the full-length expansion joint bisecting the pool. Pipe scoping revealed failures in both cast iron and PVC lines, particularly within the fiberglass liner, which also showed signs of deterioration in the main drain sump.

3.6 Geophysical Investigation Analysis

Weston & Sampson collaborated with the Town's geophysical survey consultant, Radar Solutions International, Inc., which performed ground penetrating radar analyses beneath the pool shell to investigate areas suspected of significant washout or voiding due to the pool's elevated position and prolonged water loss. The evaluation utilized three distinct radar frequencies.

The survey identified notable regions of potential voids or unconsolidated soil beneath the pool, findings that were partially consistent with previous pool sounding tests and indicative of subsurface water movement. The report concludes that ground stabilization interventions will likely be necessary as part of the planned renovation.

3.7 Structural Analysis

Three pool-related drawings were reviewed: Drawing A-1 contains the boring plan, S-4 depicts the pool layout, and S-5 details the pool sections. All drawings are dated September 1964.

A total of twelve borings were completed, with results generally indicating favorable subsurface conditions. Groundwater was not encountered in most borings; however, it was observed at a depth of 9.5 feet in boring #2.

Per the construction documents, the pool wall is specified as being twelve inches thick and reinforced with two layers of vertical rebar. The footing or slab below the wall measures one foot thick and varies from two feet six inches to three feet six inches in width, also reinforced with rebar. The interior slab is six inches thick and includes 6x6-4x4 welded wire fabric, underlain by eight inches of gravel. Increased slab thickness is noted at pool drains and at transitions between shallow and deep areas.

The drawings indicate two expansion joints running vertically in plan view—one located 45 feet from the left pool wall and one 35 feet from the right pool wall—as well as a construction joint running longitudinally along the pool.

A hammer test appears to have been conducted to detect "hollow sound" areas, primarily found near the construction/contraction joint and at select other locations.

Photographic documentation suggests that while many cracks are present, they may not be structurally significant. However, numerous cracks have developed since the pool's original construction in 1964.

4.0 FEASIBILITY

4.1 Discussion

The assessment has revealed several deficiencies related to site and facility accessibility, as well as inadequate amenities and features that indicate a need for significant expansion or redevelopment—requirements which extend beyond the current scope of this report.

Additionally, it is evident that the existing pools are outdated in their design, present substantial maintenance challenges, and are not configured to address the community's needs; thus, replacing them in their current form is not recommended. The present piping and mechanical systems do not meet regulatory standards and are unsuitable for continued use, necessitating full replacement.

Nevertheless, evaluation of the Mill Pond Park and Churchill Park pool facilities indicates that, while most components are no longer serviceable, the pool shells remain structurally sound and may serve as suitable substrates for future pool construction at the same sites. Considering factors such as the high water table at Mill Pond and the expansive dimensions of the Churchill Park pool, various renovation and adaptation options are available for further exploration.

4.2 Scope of Work

All concepts include the same basic modernizations:

- Replacement of all fencing with code compliant barriers and access control.
- Improvements to the bathhouse facility for compliance with sanitary code and accessibility standards, including accessible routes, toilets, showers, and lockers, architectural finishes, ventilation, heating, and plumbing.
- Replacement of all deck areas, deck drainage and site water management infrastructure.
- Pool paint and hollow spots fully removed to stable, competent concrete.
- Replacement of skimmers with a stainless steel gutter system and surge tank. The gutter can be configured with an integral return tube to minimize site excavation and shell penetrations. Such a system will greatly improve the pool's ability to effectively filter the water, handle surge conditions and minimize water loss, improve bather access, reduce maintenance, and reduce wave turbulence for swim competition.
- Replacement of main drains and associated piping to achieve code compliant turnover and suction entrapment avoidance.
- Provide a safe, sanitary and durable interior finish that does not require intensive ongoing maintenance.
- Improve non-compliant floor slopes and reduce deep water areas to serve a greater number of programs.
- Incorporate modern features such as stair entry, sloped entry, zero depth or beach entry, shallow areas, 6 to 8-lane regulation swimming courses for training and competition, interactive features such as spray toys, slides, and climbing structures to attract a broader age range and ability level.

- Replacement of wading pools to achieve accessibility compliance, and/or incorporation of areas for non-swimmers such as splash pads.
- Replace all equipment with modern, commercial grade energy and water efficient filtration equipment, and enhanced sanitization systems such as UV.
- Replacement of all safety and maintenance equipment.
- Incorporation of shade structures for cooling and UV protection.

4.3 Pool Renovation Options

4.3.1 PVC Liner System

The first scenario and also the most cost effective scenario is the incorporation of a polyvinyl chloride (PVC) pool liner system with a stainless steel gutter. The pool liner is a 60 mil reinforced membrane that is supplied in rolls and heat welded on site. The liner provides a cost effective, relatively durable, low maintenance, water tight solution for refinishing an existing pool. Key advantages aside from cost include speed and ease of installation. Another advantage is the minimal dimensional loss to the pool interior when installed over existing walls, thereby preserving as much water area as possible and upholding key dimensions for swim competition.

Downsides of such a system are the limited life span and 10-year warranty. A PVC liner is the least durable of all the options, susceptible to failure over time, typically requiring replacement in 10-15 years in heavy use pools.

Another significant disadvantage of this type of system is the need for enhanced substrate preparation, beyond the removal of loose or incompetent concrete. Because the membrane is flexible, any irregularities in the substrate will telescope and become a wear point over time. To avoid this, the concrete substrate must be re-leveled, filled and ground down as need to provide a smooth foundation free of sharp edges and surface inconsistencies. This prep work is laborious and diminishes the savings of this system to some extent.

Lastly, in order to achieve any of the alterations proposed in the following concepts, new concrete walls and stairs must be poured. Therefore the selectin of a liner system for the renovation does not avoid the schedule impact of having to form, reinforce, deliver and cure concrete on site.

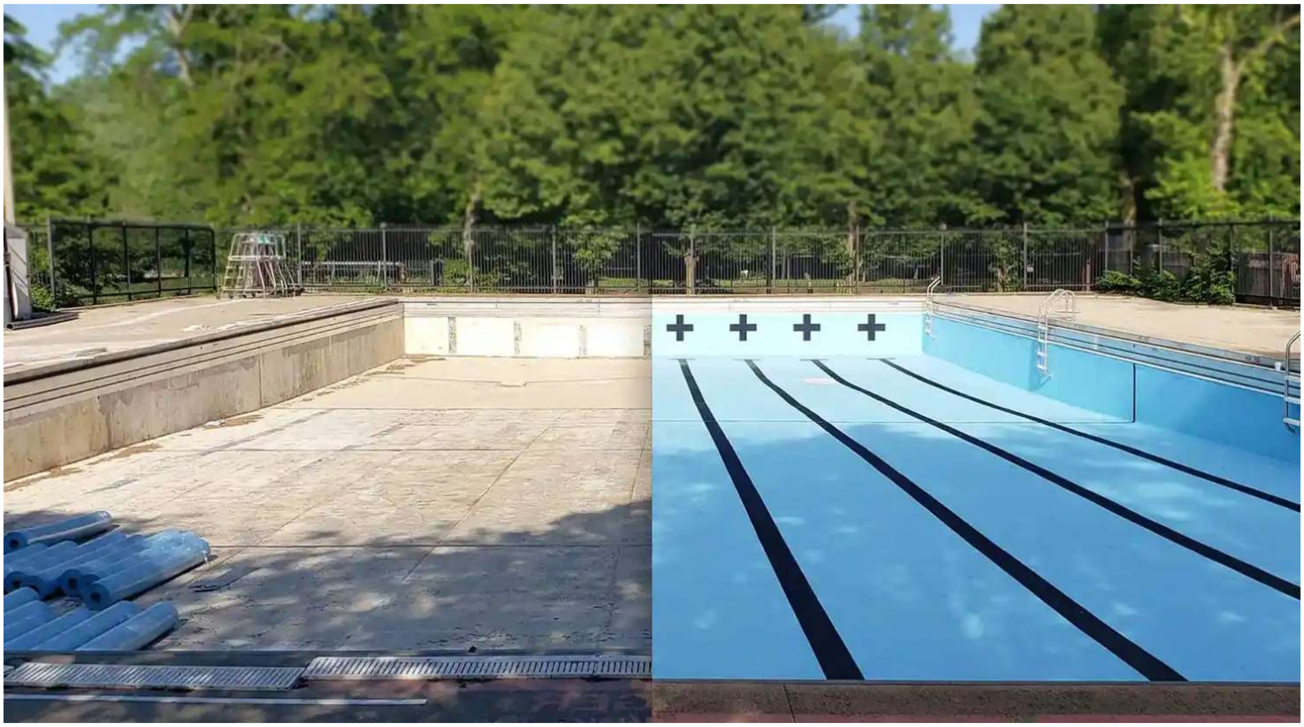


Figure 3: Renovation with a PVC Membrane Liner (Renosys.com)

4.3.2 Concrete Liner

A second option for the resurfacing and water tightening of the existing shell is known as a "pool within a pool" and includes the lining of the existing pool floor and walls with an 8-inch thick layer of concrete. The concrete liner can be pneumatically placed for a monolithic water tight structure, or the floor can be poured first and the walls pneumatically placed after.

The advantage of this approach includes a new, watertight structural pool shell capable of receiving various durable finishes, such as paint, plaster or tile.

Disadvantages of this approach include the loss of dimension to the existing pool interior, thereby reducing critical lengths for competition or requiring the demolition of one wall in each direction. The loss in floor dimension may be offset by incorporating a deck level gutter system, which raises the operating water level.

Other disadvantages include the extended on-site time, labor involved with installing new reinforcement, bonding loop, concrete and either a plaster or paint finish, inherent to a concrete pool. Fortunately the facilities operate seasonally allowing ample time to execute the construction of this type of system, however increased on-site time typically translates to increased cost. This system is expected to fall in the middle of the options in terms of cost.

Figure 4: Pool Renovation with Concrete (shotcrete.org)

4.3.3 Panelized Stainless Steel Liner System

The third renovation solution for the existing pool utilises stainless steel wall panels and flooring finished with bonded PVC, leveraging Myrtha Pools' RenovAction and Skin systems. The RenovAction system employs precision-engineered rails that are mechanically attached to the current structure, allowing for the integration of modular, high-grade stainless steel panels sealed with liquid PVC.

Alternatively, the Skin system provides superior durability and flexibility compared to conventional PVC membrane liners for the pool floor, requiring less frequent repairs and minimal preparation of the existing concrete substrate. All materials and components are sourced from Italy, which necessitates factoring in longer lead times for approvals, fabrication, and shipment. Once on site, installation is typically completed within one month.

RenovAction is a preferred choice among owners seeking to achieve new-build quality while managing renovation costs. This method is expected to deliver extended service life, lower maintenance expenses, and enhanced performance. Using the Skin system results in a premium 441 stainless steel pool base securely bonded with PVC. Additionally, advanced inlet and gutter designs improve water turnover efficiency relative to traditional pressure gutters and eliminate metal welding—a common failure point in standard stainless steel gutter installations.

Wall liners often undergo wear at points where users push off beneath gutters, commonly necessitating replacement approximately every ten years. RenovAction effectively resolves this issue by eliminating the replacement cycle and reducing water loss caused by tears. The system includes a standard 10-year waterproofing warranty, with actual waterproof performance typically ranging from 20 to 25 years.

A key benefit of the system is its minimal wall depth requirement; each panel measures only 5/8 inch thick. For competitive courses, this depth may be negligible or, if necessary, reclaimed by chiseling one wall at critical lengths of the pool.

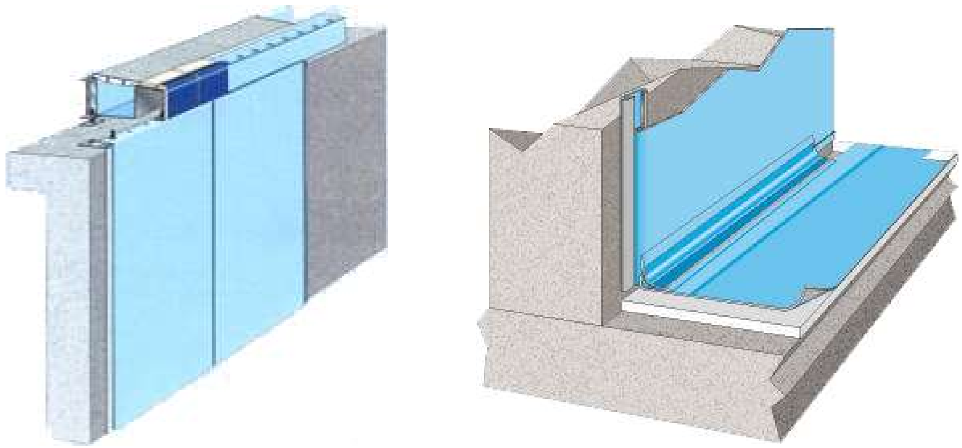


Figure 5: Myrtha RenovAction System

5.0 CONCEPTS

5.1 Mill Pond Park Pool Facility Renovation Concepts

5.1.1 Concept A

This concept incorporates a beach entry, an entry stair, and large slide while preserving the 6-lane 25-yard competition/lap swimming course. Adjacent to the main pool is a new wading pool with spray features and accessible-compliant sloped entry.

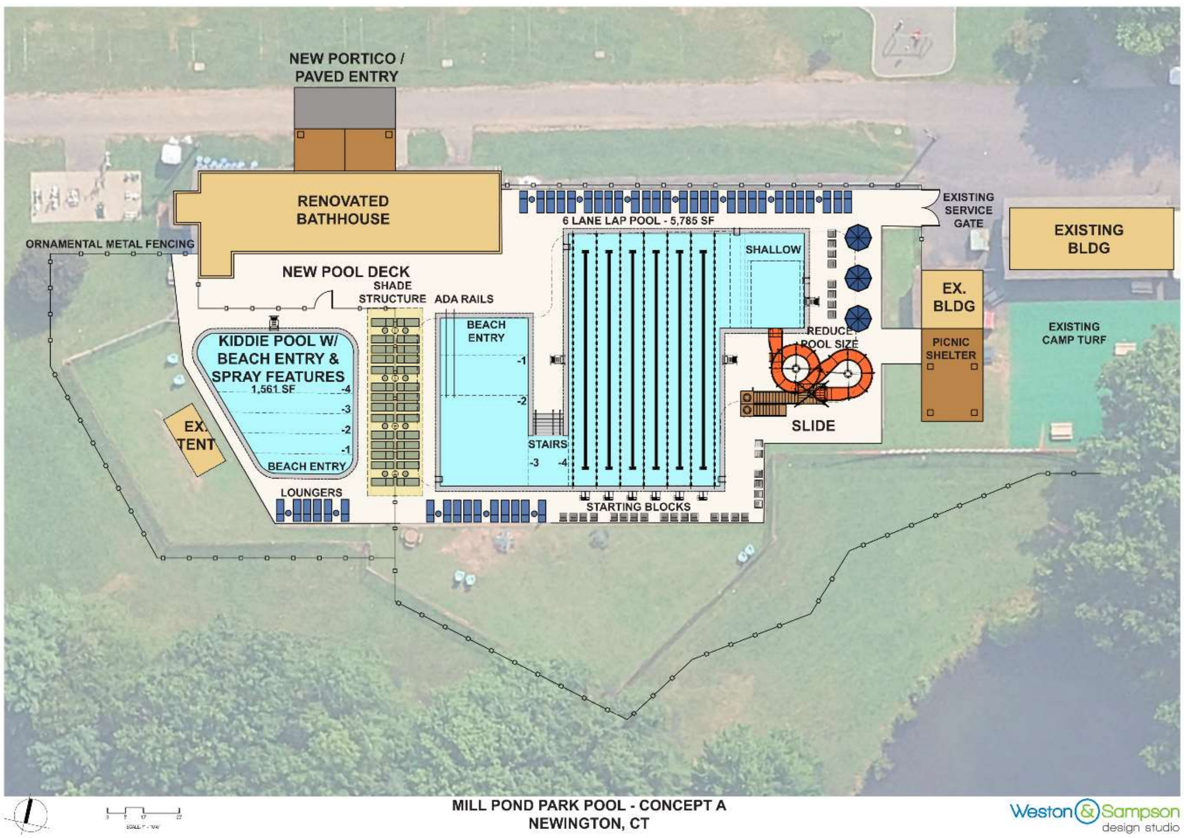


Figure 6: Rendered Plan - Mill Pond Concept A

5.1.2 Concept B

This concept reduces the main pool to accommodate two large runout slides but retains the 6-lane 25-yard competition/lap course, and incorporates a large social stair and a sloped entry for accessibility. The existing wading pool is replaced with a new wading pool with an entry stair and an accessible-compliant sloped entry ramp.

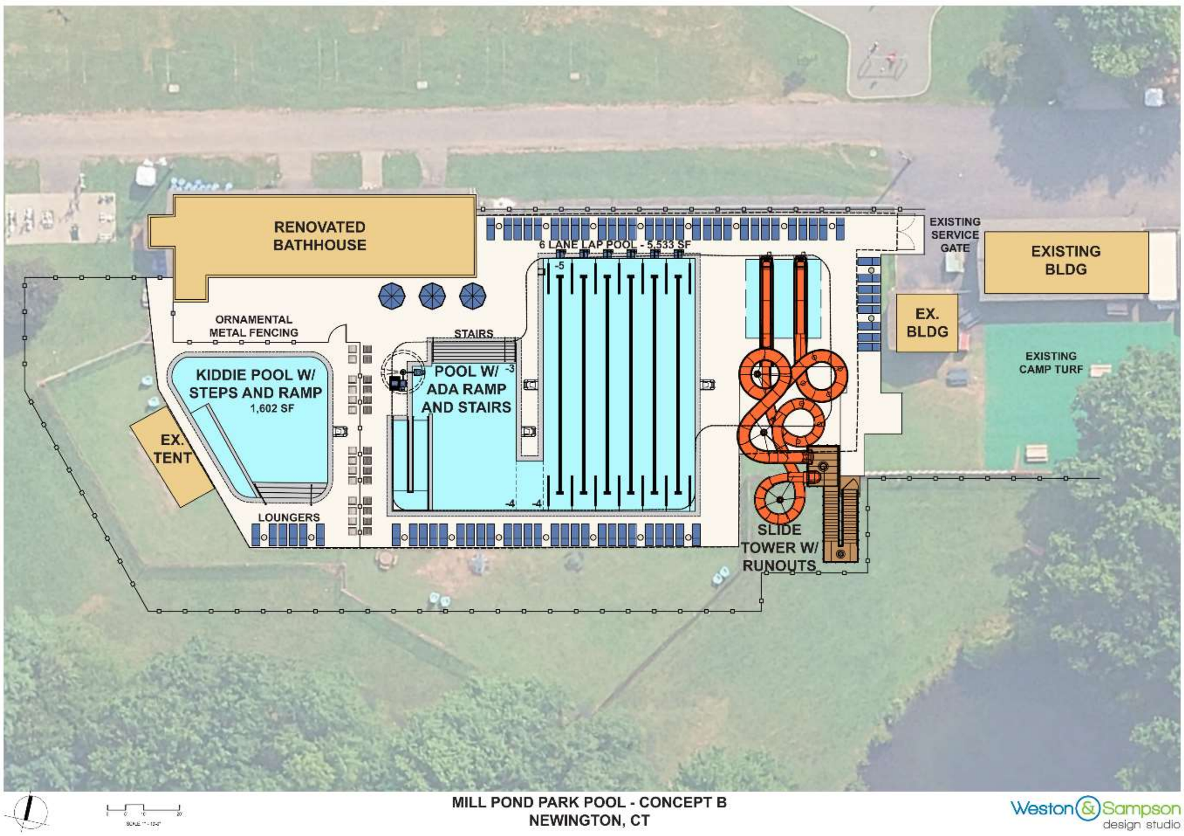


Figure 7: Rendered Plan - Mill Pond Concept B

5.1.3 Concept C

This concept rotates the 25-yard competition ninety degrees in order to take advantage of deep water areas for safer competition starts and other programs such as lifeguard training. The shallow depth area incorporates a large social stair and a sloped entry for accessibility. The existing wading pool is replaced with a new wading pool with an entry stair and an accessible-compliant sloped entry ramp.

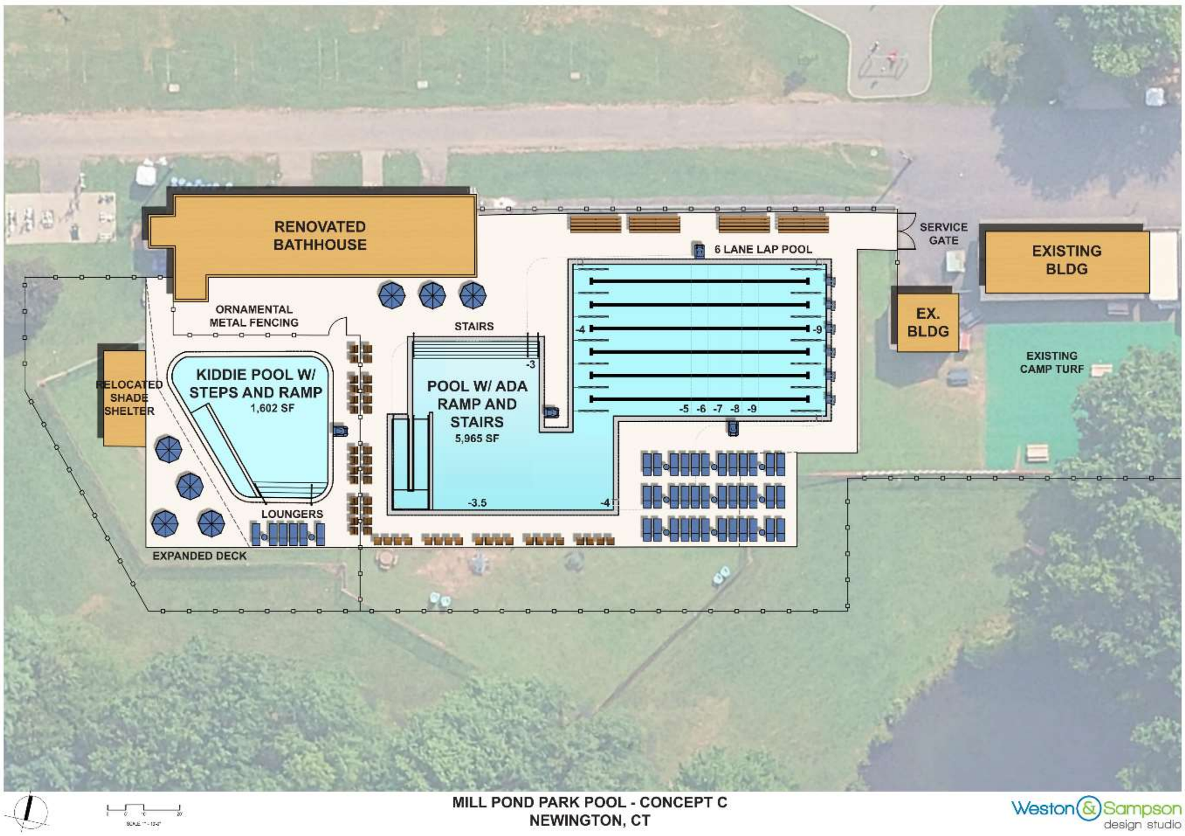


Figure 8: Rendered Plan - Mill Pond Concept C

5.2 Churchill Park Pool Renovation Concepts

5.2.1 Concept A

This concept retains a portion of the 50-meter lap area while incorporating several stair entry points, beach entry, interactive spray features, basketball hoops, and a large slide. A new accessible ramp is proposed for access from the lower field and parking area.

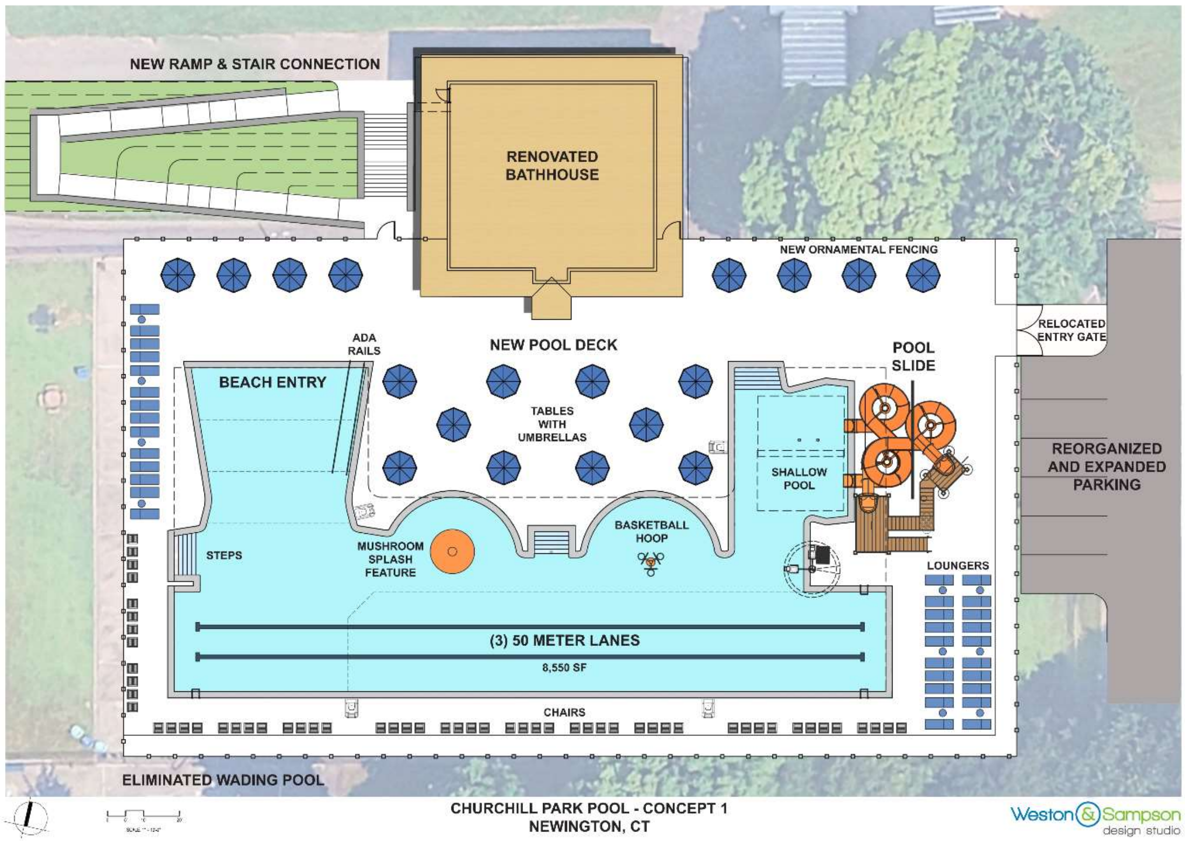


Figure 9: Rendered Plan - Churchill Concept A

5.2.2 Concept B

This concept reduces the main pool to a 6-lane, 25-yard lap pool with stair entry and a shallow depth area with an activity course. Adjacent to the pool is a large splash pad with a water tower slide structure.

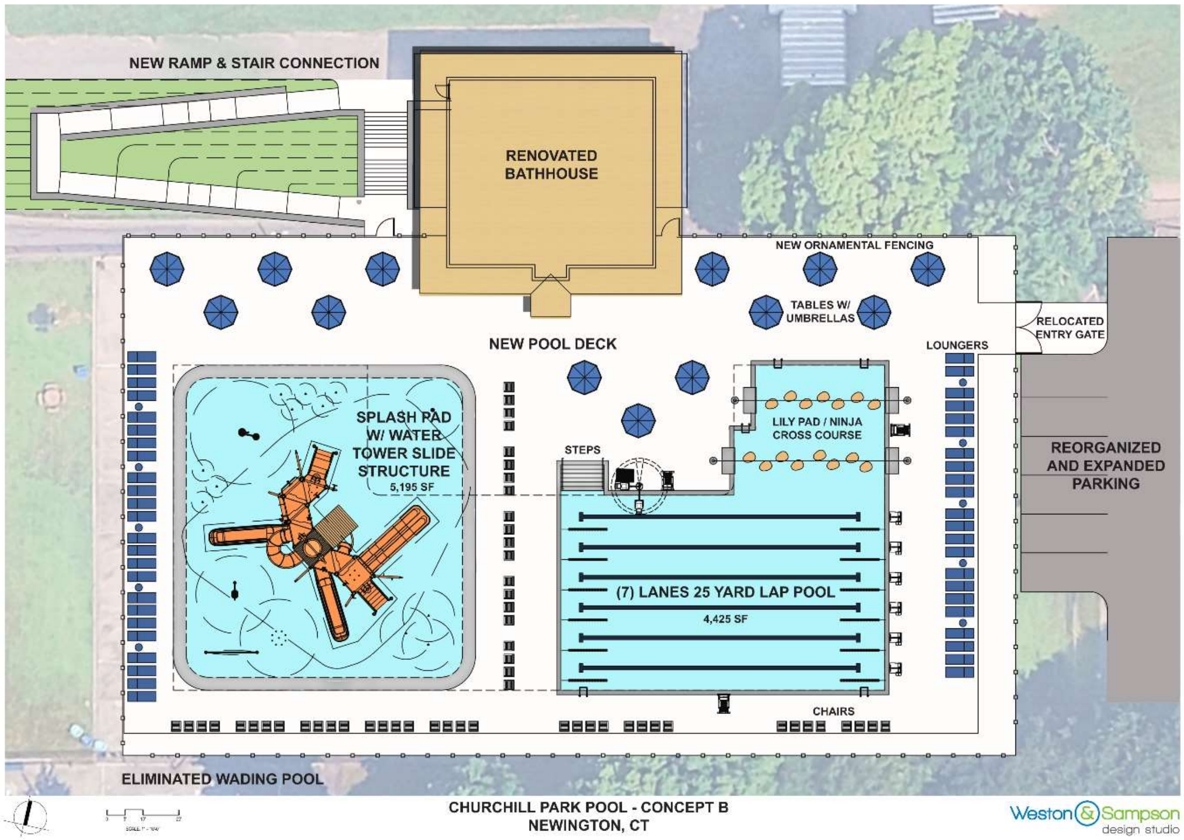


Figure 10: Rendered Plan - Churchill Concept B

5.2.3 Concept C

This concept reduces the existing swimming pool to a modest 4-lane lap swimming pool with an adjacent shallow depth area entered from a wide stair. A large splash pad is proposed to replace the existing wading pool.

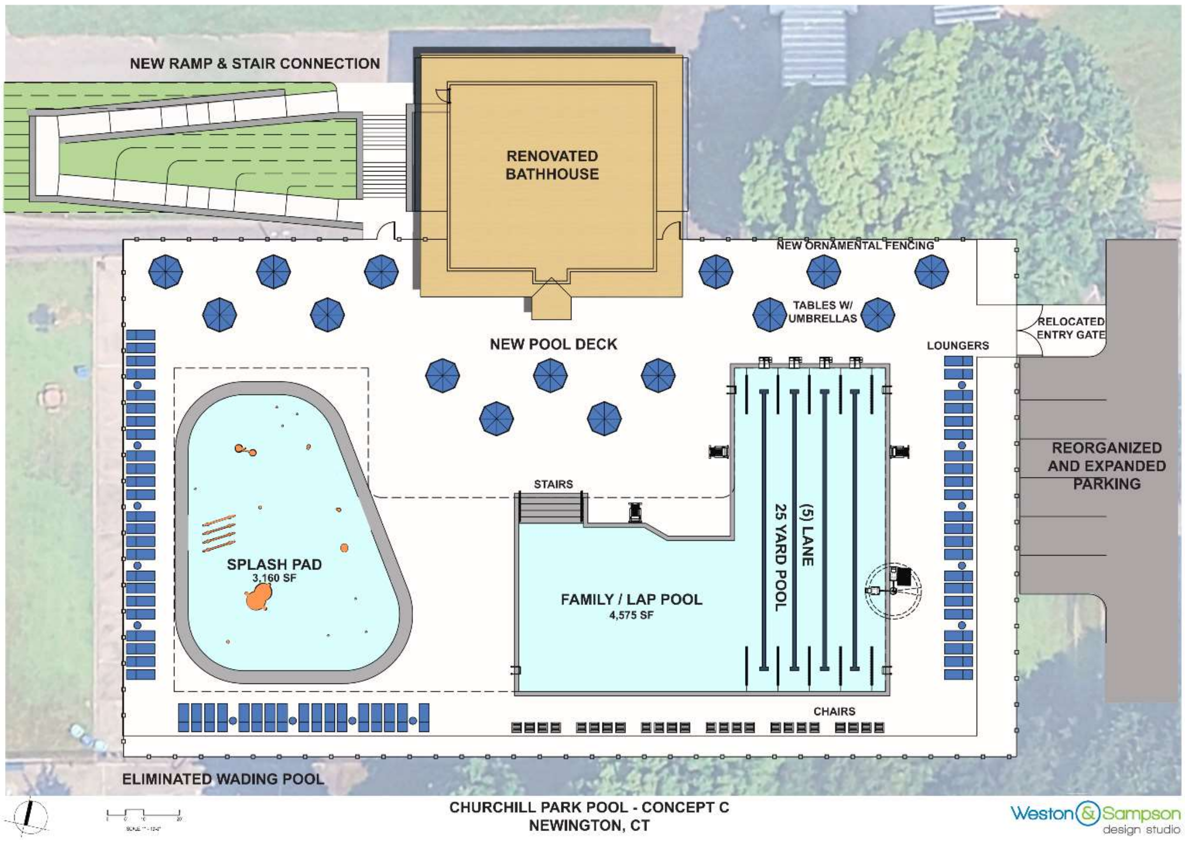


Figure 11: Rendered Plan - Churchill Concept C

5.3 Precedent Images

POOL PRECEDENTS
NEWINGTON, CT

5.4 Opinion of Probable Construction Costs

Table 3: Opinion of Probable Construction Costs

	Unit	Qty	Low		High	
Site demolition (excl environmental)	LS	1	$	120,000	$	180,000
Site improvements	LS	1	$	160,000	$	240,000
Bathhouse renovations	SF	3,000	$	480,000	$	720,000
Deck replacement	SF	5,000	$	200,000	$	300,000
Mechanical room	SF	500	$	40,000	$	60,000
Main pool renovation	SF	7,500	$	2,100,000	$	3,150,000
New wading pool/splash pad	SF	1,500	$	360,000	$	540,000
Slide	LS	1	$	240,000	$	360,000
Safety and maintenance equipment	LS	1	$	60,000	$	90,000
Shade structures	LS	1	$	120,000	$	180,000
Site construction allowance	LS	1	$	400,000	$	600,000
Furniture, fixtures and equipment	SF	15,500	$	62,000	$	93,000
Escalation (1 year)			$	217,100	$	325,650
Contingency (design/construction)			$	455,910	$	683,865
Soft costs, surveys, permitting			$	601,801	$	902,702
Opinion of Probable Construction Costs (per facility)			**$**	**5,600,000**	**$**	**8,400,000**

APPENDIX A

Weston & Sampson CMR Field Investigation Report

55 Walkers Brook Drive, Suite 100, Reading, MA 01867 (HQ)
Tel: 978.532.1900

September 10, 2025

Patrick Bates
Team Leader, Aquatics
Weston and Sampson Engineering
74 Lafayette Ave Ste 501
Suffern, NY
bates.patrick@wseinc.com

Re: Field Inspection Report for Newington, CT Mill Pond and Churchill Pools

Dear Patrick,

In accordance with our contract, please find the results of our inspections of Newington, CT Aquatic Facilities, Mill Pond and Churchill for 2025.

Our personnel performed the following services during the pump station inspections.

- Exterior examination of both pools and pool decks.
- Sounding of pool floor and walls at both pools.
- Pipe Scoping of Suction and Return lines at both sites .
- Coring and concrete testing for strength and chlorine at both sites. Done by others

The comments concerning the findings of both Aquatic Facilities were noted and are listed below.

Mill Pond Park Pool -

1. During exterior examination, it is very apparent that the deck has shifted and settled causing extreme pitch away from the pool. Noticeable cracking and previously executed concrete repairs.
2. Filtration system is undersized, although filters are commercial grade, they are undersized, therefore accounting for the quantity of a total of five filters for the one pool.
3. Pump and Strainer basket is older, strainer basket is bronze, with a bronze lid, no physical way to observe the systems operation to ensure no air is being pulled into the system.
4. Pool is located adjacent to a pond, ground water seeps in from various cracks in the deep end as well as from the main drain sumps. A steady stream of water was observed in the higher of the two main drain sumps. Along with rusting and calcification of the cast iron line from that sump.
5. Sounding completed with a hammer and chain drag, identified multiple areas of concern. Main areas of noted concern are around the skimmer openings, as well as the floor and wall on the side of the pool closest to the adjacent pond.
6. Scoping of the main drain suction line and the return line, both cast iron, showed large amounts of rust and calcification build up, thus decreasing the overall inside diameter of the plumbing.
7. Scoping the skimmer line, the PVC lines appeared to be in decent shape, however due to multiple bends in the system, we were unable to scope further than about 30 to 40 feet down the line.

Corrective Maintenance-

1. If Pool shell is deemed reusable, concrete repairs need to be completed to solid concrete regardless of shell repurposing plan.
2. Deck demo'd along with skimmers, install new gutter system and pour new deck.
3. All plumbing redone in sch 80
4. Main drains and deep end of the pool reset/repoured with new plumbing
5. New pump and strainer basket
6. New larger filters to eliminate daily backwashes for client
7. New ADA Lift

Churchill Park Pool –

1. During exterior examination, deck has significant cracking and has no ADA compliant entry.
2. Filtration system is undersized, although filters are commercial grade, they are undersized, therefore accounting for the quantity of a total of five filters for the one pool.
3. Pump and Strainer basket is older, strainer basket is bronze, with a bronze lid, no physical way to observe the systems operation to ensure no air is being pulled into the system.
4. Pool is located on a hill, subject to run off from the high side of the hill.
5. Removal of main drain covers exposed major areas of water loss where water is escaping. This was confirmed by sounding where the entirety of the deep/dive pit was hollow concrete. These voids went back 2-3 inches and beyond.
6. Sounding completed with a hammer and chain drag, identified multiple areas of concern. Main areas include the floor on the side of the pool closet to the high side of the hill, along the crack that goes across the pool, and the entire length expansion joint that cuts the pool in half length wise.
7. Scoping of all lines cast iron and or PVC should failing in the fiberglass liner. Failure in the fiberglass liner was also evident in the main drain sump once covers were removed.
8. Scoping the skimmer line, the PVC lines appeared to be in ok shape, however due to multiple bends in the system, we were unable to scope further than about 30 to 40 feet down the line.

Corrective Maintenance-

1. If Pool shell is deemed reusable, concrete repairs need to be completed to solid concrete regardless of shell repurposing plan.
2. Deck demo'd along with skimmers, install new gutter system and pour new deck.to be ADA compliant
3. All plumbing redone in sch 80
4. New Main drain sumps and new plumbing to achieve proper turn over rate
5. New pump and strainer basket
6. New larger filters to eliminate daily backwashes for client
7. New ADA lift

If you have any questions, please contact Paul Gionfriddo at (860) 616-6601 or email him at Gionfriddo.paul@wseinc.com

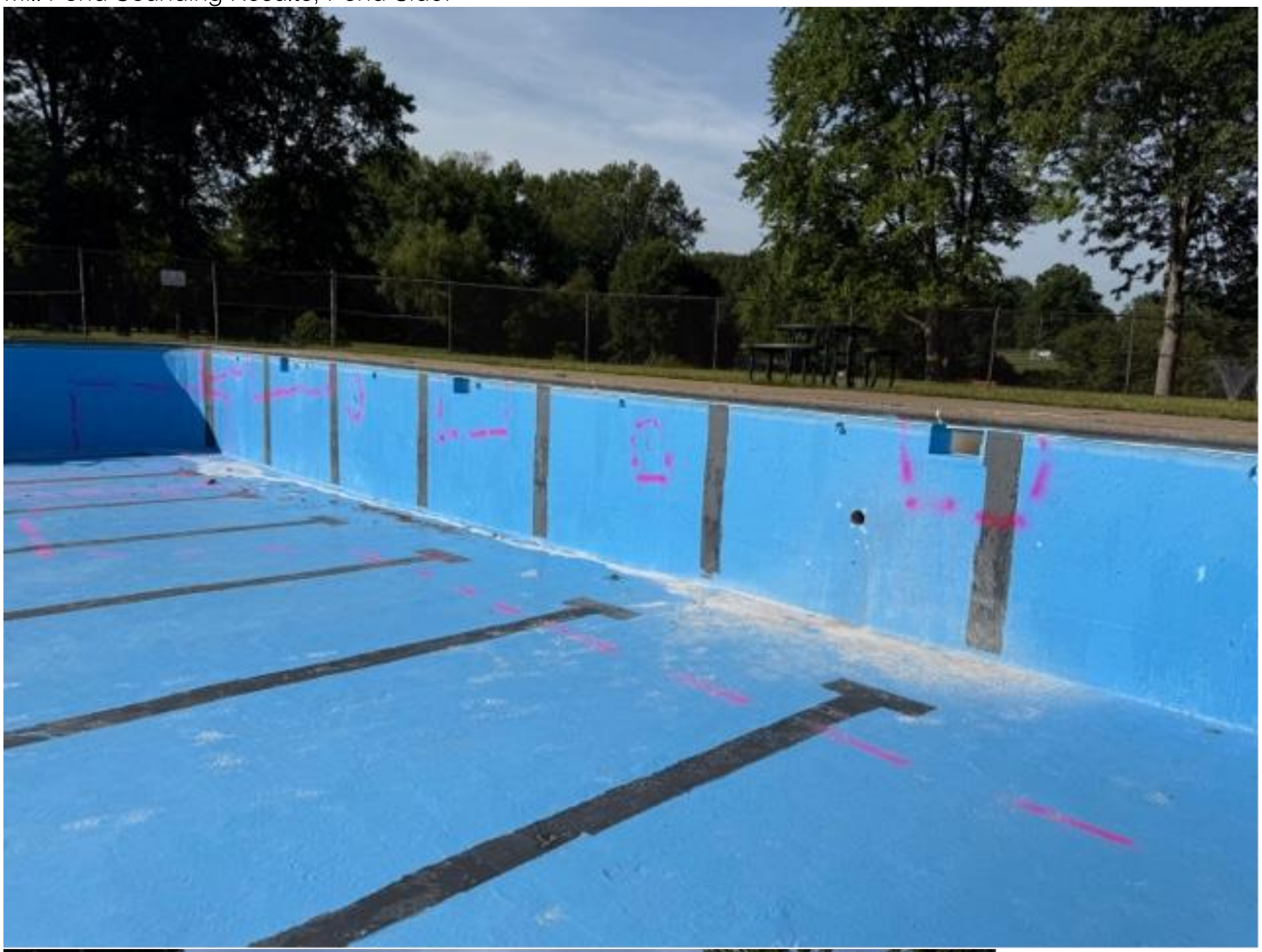
Sincerely,

Weston & Sampson CMR, Inc.

Paul Jensen
General Manager

Mill Pond Leaking Sump:

Mill Pond Sounding Results, Pond Side:



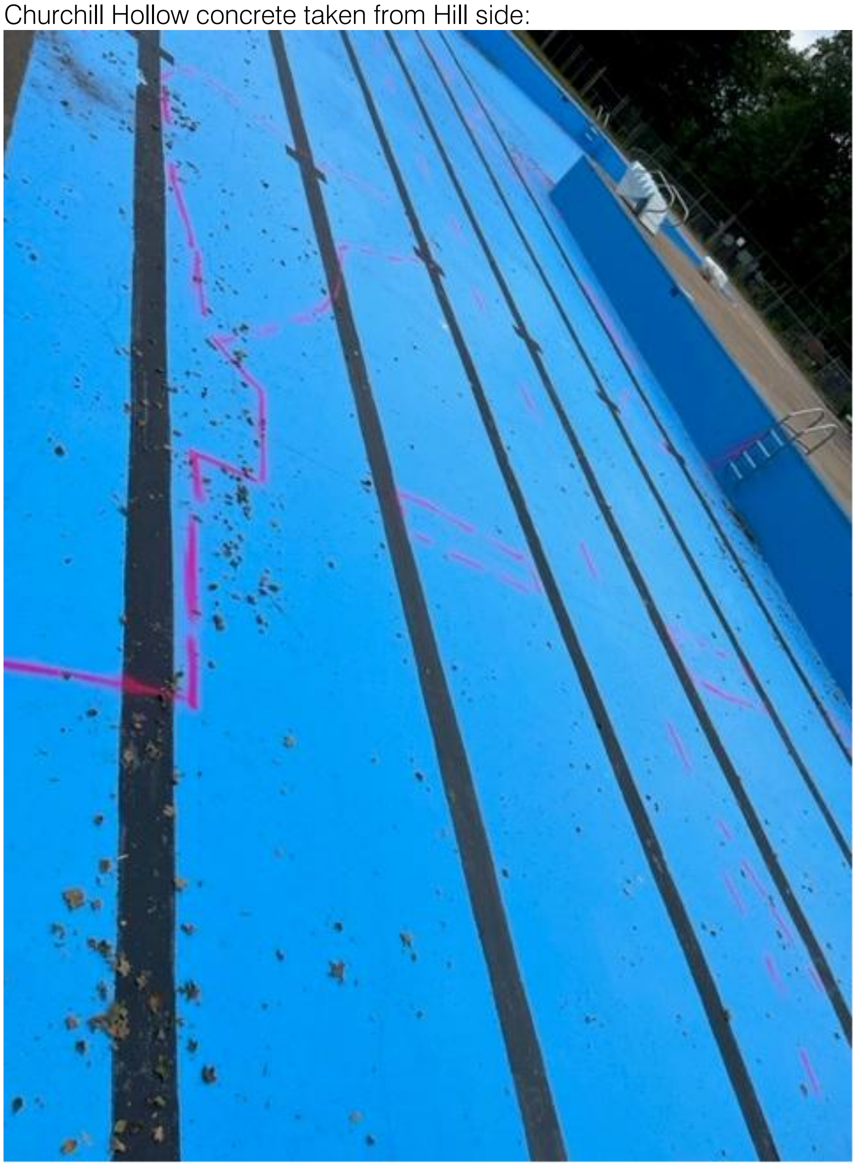
Mill Pond Park Side:

Mill Pond Filters and Pump:



Churchill Pump and Filters:


Churchill Hollow concrete taken from Hill side:



Churchill Hollow Deep End Sump:

Churchill Failing Fiberglass Coating in Sump and water loss locations:



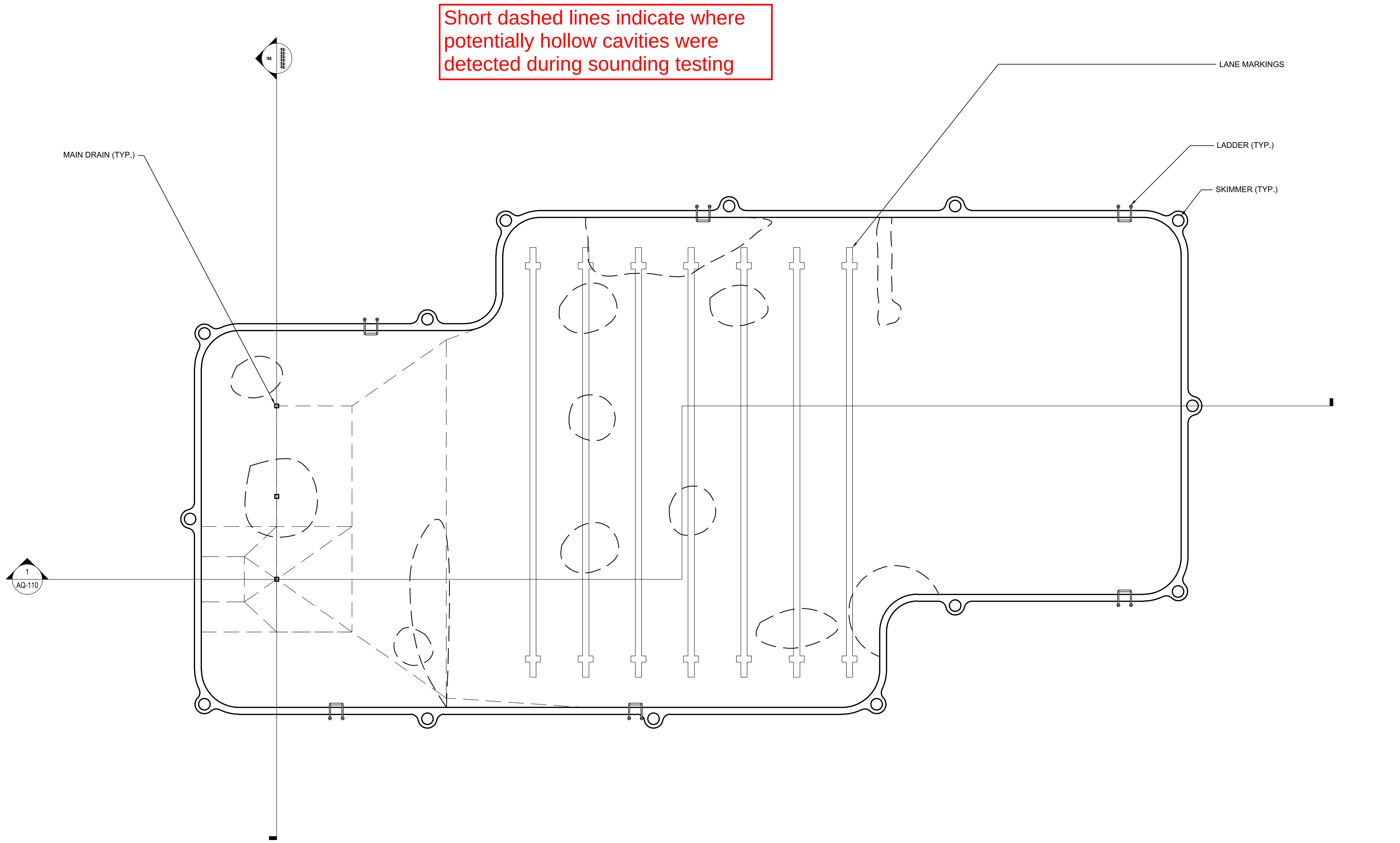

KLEIN TOOLS
650 U S A

Churchill Hollow Expansion Joint:

Mill Pond Scoping Cast iron Lines:

APPENDIX B

Pools Shell Sounding Plans



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

Project:
CITY OR TOWN OF, STATE
1 MAIN STREET
TOWN, ST 01234

Weston & Sampson
Weston & Sampson Engineers, Inc.
<<Select Regional Office>>
978.532.1900 800.SAMPSON
www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

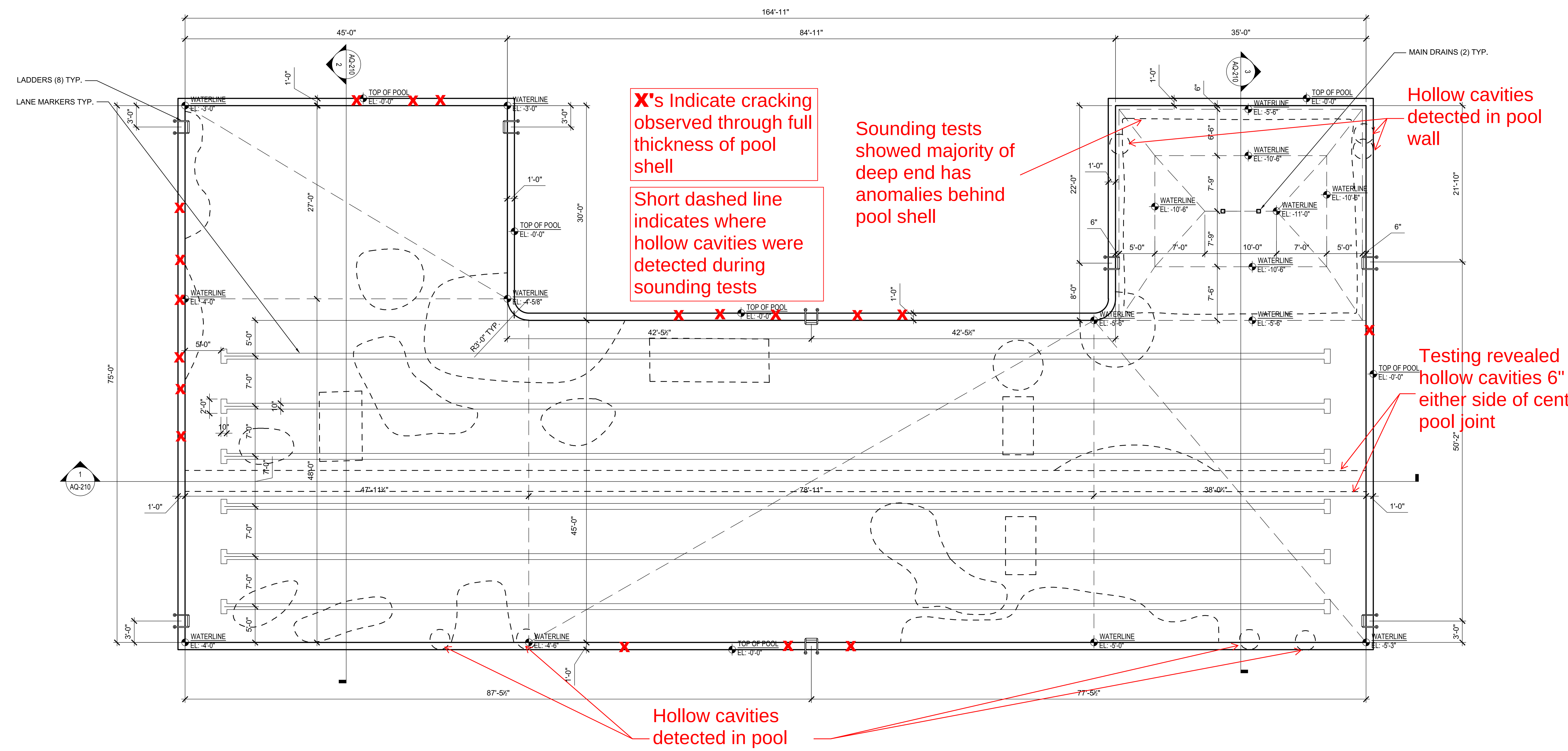
Issued For:
NOT RELEASED FOR CONSTRUCTION

Scale:

Date: MM / DD / YYYY
Drawn By:
Reviewed By:
Approved By:
W&S Project No.: ENG_ _-_ _ _ _
W&S File No.:

Drawing Title:
MILL POND POOL PLAN

Sheet Number:
AQ-100



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

Project:
CITY OR TOWN OF, STATE
1 MAIN STREET
TOWN, ST 01234

Weston & Sampson

Weston & Sampson Engineers, Inc.
<<Select Regional Office>>

978.532.1900 800.SAMPSON

www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

Issued For:
NOT RELEASED FOR CONSTRUCTION

Scale:

Date: MM / DD / YYYY

Drawn By:

Reviewed By:

Approved By:

W&S Project No.: ENG_ _-_ _ _ _

W&S File No.:

Drawing Title:
CHURCH HILL POOL PLAN

Sheet Number:
AQ-200

APPENDIX C

Concrete Core Testing Reports

TRI STATE MATERIALS TESTING LAB, LLC.
New England Regional Office
60 Woodlawn Road • Berlin, CT 060372 • Tel: 203-949-7733 • Fax: 203-949-7735

Client: Weston and Sampson
Mill Pond Park
Newington, CT 06111
Project: Mill Pond Park
Technician: Muhammad/ Babur

Report: 001-25
Concrete Core: 001
Core Date: 08-25-2025
Testing Date: 09-02-2025

Concrete Core Compression Strength Test Report (ASTM C42-20)

Location: Swimming Pool

Core #	Location	Dia.(D) (inches)	Original length (inches)	Length (L) after Saw cut (inches)	L/D Ratio	Area (sq. in)	Max Load (Lbs.)	Corr. Factor (C.F)	PSI (Load/Area) X C. F
1	Core 1	3.73	11.25	7.87	2.11	10.93	85930	N/A	7860
2	Core 2	3.73	6.31	6.37	1.71	10.93	79230	0.97	7030
3	Core 3	3.73	11.25	7.87	2.11	10.93	91080	N/A	8330
4	Core 4	3.73	11.82	7.87	2.11	10.93	82330	N/A	7530
5	Core 5	3.73	5.87	5.75	1.54	10.93	75300	0.963	6630
6	Core 6 (Cl Test)	3.73	5.50	N/A	N/A	N/A	N/A	N/A	N/A

Remarks: TSMT extracted six concrete core samples from Mill Pond Park. The core samples were visually inspected, and no cracks or voids were observed. Compression testing was conducted on 5 core samples. In accordance with ASTM C42-20, if the length-to-diameter (L/D) ratio of a specimen is less than or equal to 1.75, a correction factor is applied. No correction factor is required for specimens with an L/D ratio greater than 1.75.

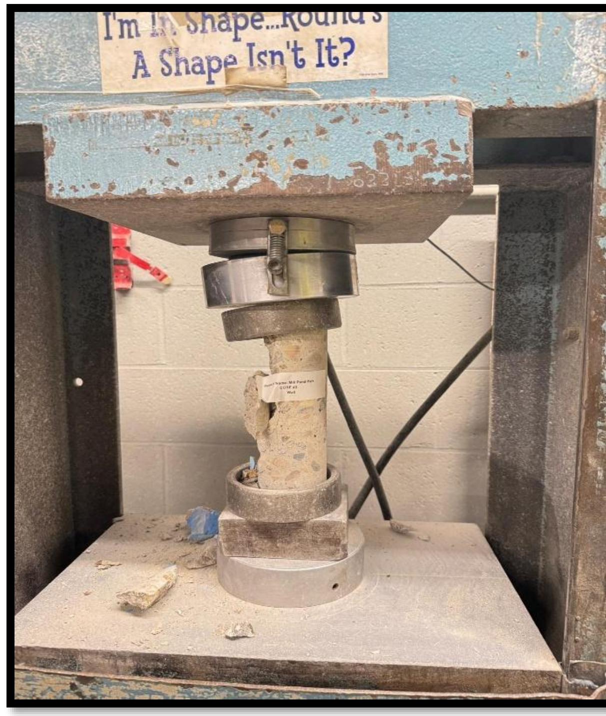
Reported To: Weston and Sampson

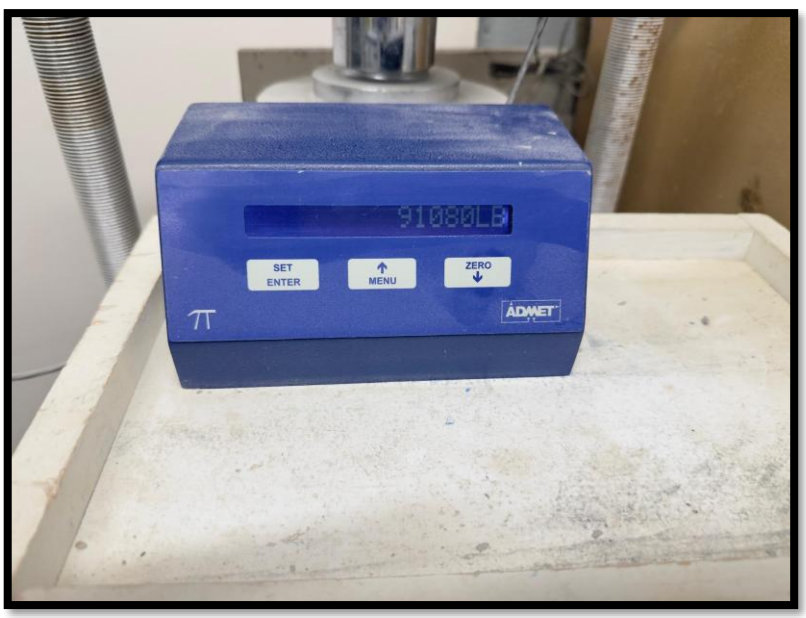
Submitted By: Tri State Materials Testing Lab, LLC

Paul J. Hessel, P.E.

Core samples:

Core #3





Core #1

Remarks:
There were no visible cracks on the cores. The cores came out perfect that is also shown in the pictures attached above.

TRI STATE MATERIALS TESTING LAB, LLC.

New England Regional Office

60 Woodlawn Road • Berlin, CT 060372 • Tel: 203-949-7733 • Fax: 203-949-7735

Client: Weston and Sampson
Mill Pond Park
Newington, CT 06111

Project: Church hill Park

Technician: Muhammad/ Babur

Report: 002-25
Concrete Core: 002
Core Date: 08-26-2025
Testing date: 09-02-2025

Concrete Core Compression Strength Test Report (ASTM C42-20)

Location: Swimming Pool

Core #	Location	Dia.(D) (inches)	Original length (inches)	Length (L) after Saw cut (inches)	L/D Ratio	Area (sq. in)	Max Load (Lbs.)	Corr. Factor (C.F)	PSI (Load/Area) X C.F
1	Core 1	3.73	6.5	5.8	1.54	10.93	88600	0.963	7810
2	Core 2	3.73	4.5	4.3	1.15	10.93	82030	0.95	7130
3	Core 3	3.73	12.0	7.9	2.11	10.93	64950	N/A	5940
4	Core 4	3.73	11.9	7.9	2.11	10.93	73890	N/A	6760
5	Core 5	3.73	5.0	4.8	1.29	10.93	81630	0.93	6950
6	Core 6 (Cl Test)	3.73	5.3	N/A	N/A	N/A	N/A	N/A	N/A

Remarks: TSMT extracted six concrete core samples from Church Hill Park. The core samples were visually inspected, and no cracks or voids were observed. Compression testing was conducted on 5 core samples. In accordance with ASTM C42-20, if the length-to-diameter (L/D) ratio of a specimen is less than or equal to 1.75, a correction factor is applied. No correction factor is required for specimens with an L/D ratio greater than 1.75.

Reported To: Weston and Sampson

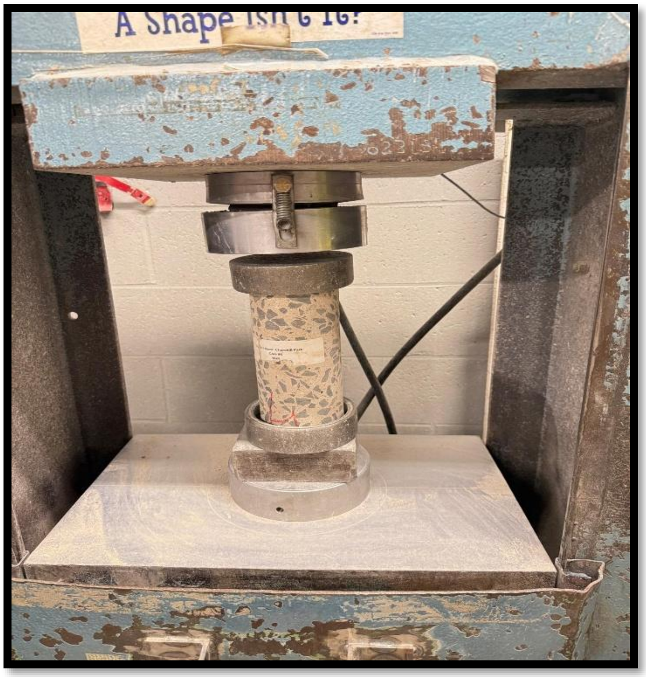
Submitted By: Tri State Materials Testing Lab, LLC

Paul J. Hessel, P.E.

Core Samples:

Core #1

Core #4



Remarks:
There were no visible cracks on the cores. The cores came out perfect that is also shown in the pictures attached above.

APPENDIX D

Geophysical Survey Report

Radar Solutions International, Inc.™
Geophysics for People and the Environment

November 26th, 2025

Jonathan Altshul
Town Manager
Town of Newington
200 Garfield Street
Newington, CT 06111

cc: Emily Weckman, PLA, Project Manager
Patrick J. Bates, AIA, NCARB, Team Leader, Aquatics
Weston & Sampson
74 Lafayette Avenue, Suite 501
Suffern, NY 10901

Via Email: jaltshul@newingtonct.gov , Weckman.Emily@wseinc.com, Bates.Patrick@wseinc.com

Dear Jonathan,

In accordance with your authorization, Radar Solutions International (RSI), a Certified **WBE/DBE** firm based in Concord, Massachusetts, performed Ground Penetrating Radar Surveys at the Churchill Park Pool on October 31st, 2025. Vice President and Geophysical Associate Cameron Russ, and Geophysical Technician Crawford Kilpatrick performed the surveys. In all, the bottom of the Churchill Park Pool, having dimensions of approximately 164 feet in length and 75 feet in width, were evaluated using 2 GPRs having frequencies of 1,000 MHz, 800 MHz, and 400 MHz. The goal of this GPR survey was to map the location and vertical extent of possible voids beneath the pool's concrete surface. Below is summarizes our interpretations from these GPR surveys.

GPR METHOD FOR VOID DETECTION

The GPR method operates by transmitting low-powered microwave energy into the ground using a transceiver antenna. The GPR signal is then reflected back to the antenna by materials with contrasting electrical impedance, which is primarily determined by the contrast of dielectric and conductivity properties, water content, magnetic permeability, and physical properties, such as density. The greater the contrast in these two materials, the greater the reflection. The highest-amplitude reflections occur where metal is encountered. However, high amplitude reflections also occur at the concrete-fill boundary, at lithologic or mineralogic changes, such as between a sand and gravel fill and a clay layer, or where there is a sudden change in water content, such as going from unsaturated to saturated fill. GPR is an ideal tool for mapping voids, as there is a high electrical, moisture, and density contrast between concrete and a void. Similarly, GPR can also identify areas of subsidence and loosely packed soils, as loosely compacted soils, caused by the subsidence of material into deeper voids, have a higher permeability and hence an increased water content in between its pores. Open voids can have particularly high-amplitude reflections that reverberate with depth, as energy becomes trapped and amplifies as it resonates within the void space.

Reflections observed on GPR records are non-unique, meaning that a similar reflector can be caused by different objects. Objects, such as rebar and utilities which have a discrete length and width, typically produce hyperbolic reflections that appear similarly on the radargram. Likewise, a chimney-type void, which forms over existing drain and sewer lines as material ravels into the pipe, can appear similarly to the pipe, itself. By mapping the horizontal and vertical continuity of targets, depths, and reflective amplitude, it is possible, however, to differentiate between targets, especially, if depth-slice imaging is performed on the data.

For this survey, RSI used two different GPR systems with three frequencies. The first system is a Sensors and Software Pulse Ekko Pro, with a 1,000 MHz, ultra-wide band (UWB), dipole-dipole antenna. The type and frequency of this antenna design makes it easier to detect subtle changes in moisture content, as well as detect voids and loosely packed fill as small as an inch to 1.5 inches in size.

The second GPR system RSI used was an Impulse Radar PinPointR System®. This system features dual-frequency, cross-polarized antennas with both 800 MHz and 400 MHz antennas housed in the same antenna housing. The cross-polarization, dual-band configuration of this system reduces ringing from structural steel and conduction losses, to maximize the GPR's investigative depth under potentially less than ideal conditions.

A cross-section of the subsurface is generated wherever the antenna is moved. The horizontal scale on each GPR record is determined by the user-specified scans per foot input into the collection parameters, which yields distance from the start of the survey line. The vertical scale of these radar "cross-sections" is a two-way travel time of the GPR waves to and from a reflector, derived from an estimated velocity associated with concrete and fill materials.

GPR data were assembled from individual lines (files) into a 3D volume and processed and imaged as plan-view depth slices using GPR-Slice©. This state-of-the-art 2D and 3D GPR imaging software quantifies GPR results by digitizing the amplitude of reflection from each cell within each GPR record or "radargram". Then, the program looks for the horizontal and vertical correlation of similar reflection amplitudes from nearby cells within the same radargram, and across adjacent and nearby parallel lines. The program then assembles them into a 3D image, then contours the data, assigning like colors for similar amplitudes of reflection, for each depth interval specified by the user. Below (NEXT PAGE) is a schematic showing how this imaging process works.

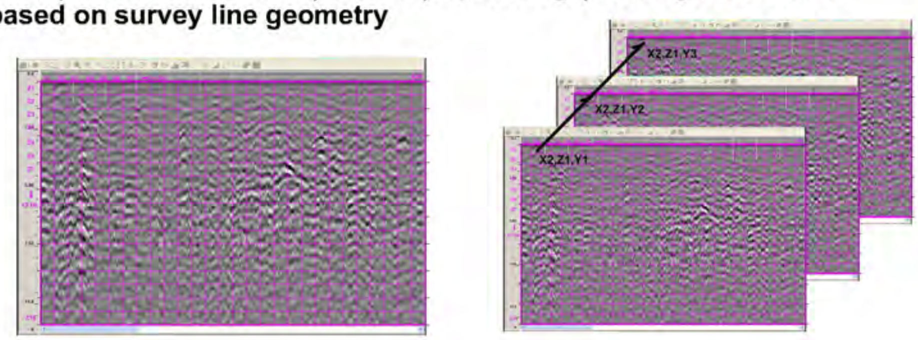
For this survey, areas of high reflectivity are shown as red to orange to black-filled contours, red being the highest, while areas of low reflectivity, i.e. high GPR signal attenuation, are shown as cyan to white-filled contours. In this color scheme, structural steel would appear as linear, reddish to orange-yellow filled contours. Likewise, potential voids, loosely packed soil/fill, and/or areas of water accumulation would appear as broad, reddish to orangish and black-filled, broad contours.

RESULTS

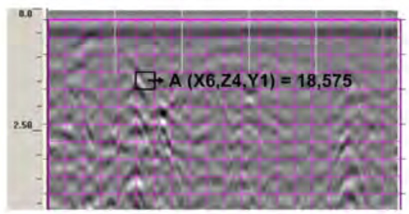
RSI's interpretive Figures are attached at the end of this report. Figure 1 shows the general area of investigation, with RSI's real-time GPR field interpretation superimposed. Figures 2a through 2q show representative depth-slice images from the 1000 GHz GPR data set collected using the Sensors and Software Pulse EKKO Pro System, with the last figure in the series, Figure 2r, is the summation Figure from the 1,000 MHz depth-slice interpretation. Similarly, Figures 3a through 3q show depth slice images from the 800 MHz PinpointR data set, with Figure 3r summarizes the 800 MHz data interpretation. Figures 4a through 4s show interpreted GPR

GPR-SLICE© PROCESSING

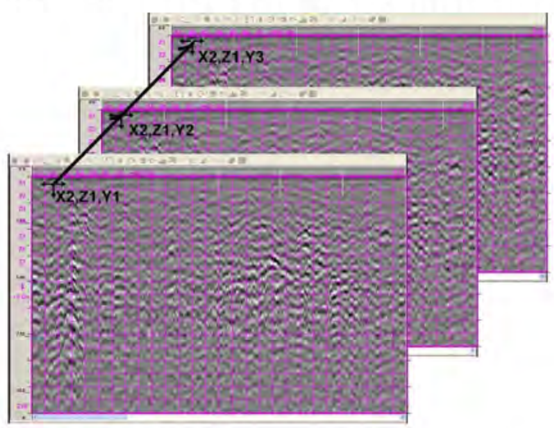
1. **Break Each Radargram into Cells, with user defined dimensions of Xi (horizontal distance) and Zi (depth range). Assign a Yi value based on survey line geometry**



2. **Assign an Amplitude of Reflection Value for Each Cell with an Xi and Zi for each Yi Radargram**

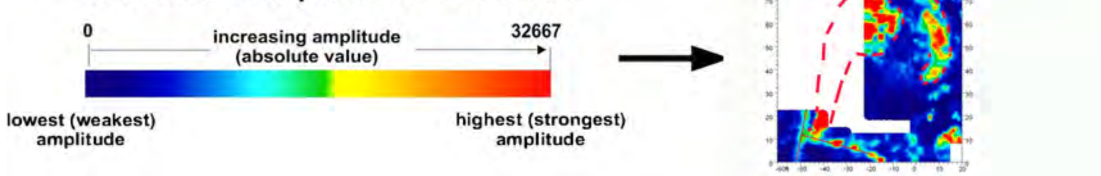


3. **Look for Horizontal and Vertical Correlation of Ampliitude Values, as well as Cross-Correlation with Adjacent Yi values with same Xi and Zi. Create 3D Array of A (xi,Yi,Zi). Contour A (xi,Yi,Zi).**



4. **Colorize and Display Amplitudes of Reflection as Plan-View Depth-Slices**

Reflection Amplitude Color Scale



depth-slice interpretation, while Figure 4t summarizes our interpretation from the 400 MHz data set. All Figures are presented at a scale of 1 inch equals 10 feet. Key findings are summarized below.

- Figure 1 shows the outline of RSI's survey grids. The main grid extends to 164Y, increasing to the west, while the maximum "X" extent to the north is 75X. Because of the steepness of the deep-end of the pool, and the physical size of the GPR antennas, smaller grids were included in the interior portion of the deep-end. Figure 1 shows the different grid coordinates. Because of the different grids, some anomalous contours have been generated from "edge" effects of the contouring process.

- Based upon RSI's field interpretation, shown on Figure 1, there are two small to moderately large areas, outlined by purple long-dashed line polygons, in the interior portion of the pool. These are centered around Grid Coordinates 31.5X, 12.75Y and 17.5X, 65.5Y. There are larger anomalous areas, interpreted in the field as potentially voided areas, along the southern edge and southeastern corner. These are located at: 3.5X, 65Y, and 7X and 10.5Y (Figure 1). It is possible that water has gotten inside the delaminated concrete, causing GPR signal to reverberate throughout the radargram, making it obvious to identify in the field. There seems to be correlation between what was observed in the field using GPR and a later "hammer" sounding test, performed by WSE's Engineers.

- Figures 2a through 2q show many high-amplitude reflections, which can represent potential voids, if beneath the bottom of the concrete estimated to be about 12 inches in thickness, and potential areas of cracking and delamination, if under 12 inches in thickness. For instance, those linear, high-amplitude reflectors observed on the shallow, 1,000 MHz depth slices (Figures 2a-2d), may be attributed to cracking of the concrete, allowing water to leak downwards. Other high-amplitude reflections observed at depths of less than 12 inches may be attributed to delaminated/debonded concrete in which water has permeated. We believe that those areas outlined as yellow polygons on Figure 2r correspond to areas of delamination, and some of anomalous areas identified in the field correspond to these areas outlined in yellow on Figure 2r. One of these areas is coincident with the anomaly observed in the field, centered around 3.5X and 65Y.

- Based upon cores obtained by WSE's Engineers, the overall PSI values in excess of 6,000 PSI, and more typically in excess of 7,000 PSI, do not indicate deteriorated concrete. This is in agreement with RSI's assessment, as GPR depth-slice images do not indicate any areas of high-attenuation areas (i.e. areas where there is an absence of GPR reflections), which would indicate areas where concrete has actually absorbed water.

- Areas of high-reflectivity observed on the 1,000 MHz depth slices below the concrete pool bottom, shown on Figures 2e through 2q, and shown as light green and sky blue polygons on Figure 2r, are attributed to areas of loosely packed fill and/or soil, and water-filled voids. We observe numerous and extensive areas of high-amplitude reflections coincident with, and extending several feet beyond the interpreted area of delamination observed centered around 31.5X, 12.75Y.

- We also observe potential voids where the slope is steepest at the deep-end. However, some of the shallowest reflections, which are also linear, are attributed to near-vertically oriented rebar, as we observe on Figures 2a through 2g. Potential voids appear below 1 to 1.5 feet below grade, suggesting that the concrete is fine surrounding the deep-end, but there may be some voids below it.

- The 1,000 MHz data set and patterns of high-amplitude reflections that appear progressively deeper to the northwest, suggest movement of leaking pool water from the area of cracking, creating a flow pattern of loosely packed and/or voided fill. This can best be viewed on Figure 2r.

- Figures 3a through 3q show 800 MHz depth-slice images, which show similar anomalous areas as the 1,000 MHz data set. However, the areas of high-amplitude reflections appear more expansive than the 1,000 MHz data set. This may be because the slightly lower frequency, longer wavelength 800 MHz data will detect anomalies further away from the antenna's electrical center. Again, there is good correlation between anomalous areas identified in the field and interpreted voids from the depth-slice images. The best correlation between field anomalies and areas of high-reflectivity are found on the depth-slices deeper than 1 feet, especially for those anomalous areas at the southern edge and southeastern corner of the pool (Figure 3r). Depth Slices from the 800 MHz data indicates potential voiding and/or loosely packed soil as deep as 5 feet at the southern edge of the pool. The pattern of water flow observed on the 1,000 MHz data set is less pronounced on 800 MHz data set (Figure 3r).

- The slices generated from the 400 MHz data set show that interpreted voiding and loosely packed soil are most pronounced below a 2 foot depth, and to depths in excess of 6+ feet (Figures 4d-4s).

SUMMARY

The concrete, itself, does not appear to be deteriorated, i.e. absorbing water within its lattice structure, weakening it, as no areas of GPR attenuation were observed on GPR depth-slices. Boring information obtained by WSE Engineers, showing a typical PSI strength in excess of 6,000 PSI and typically over 7,000 PSI, supports this assertion.

It would appear that while the concrete, itself does not appear deteriorated, there are several interpreted areas where cracking and delaminations have occurred, through which water has permeated (Figure 5a). Below the concrete and coincident with these areas identified both in the field and on GPR-depth slices from 0 to 12 inches, we observe areas of interpreted voiding and/or loosely packed soil. Water, leaking from cracks oriented to the long axis of the pool, appears to travel to the northwest, as evidenced by a series of GPR reflectors that appear to be displaced soil from water flow. There is also evidence of voiding and/or loosely packed fill from water movement below the concrete on the pool's upgradient side, along the southern and southeastern edges of the pool.

We concur with WSE Engineers' assessment that the concrete appears to be repairable, repairing delaminated and cracked areas, while more substantial remedial actions are needed to stabilize the fill and soil beneath the pool.

RECOMMENDATIONS

As GPR reflectors are non-unique, and the nature the of reflectors is interpretive, RSI suggests that interpreted areas of delamination and cracking be further evaluated to determine the extent of the repair of the concrete. This will help determine whether a skim coat of new concrete, together with stabilizing the fill and soil to prevent future cracking, will be sufficient in preventing future cracking and delaminations.

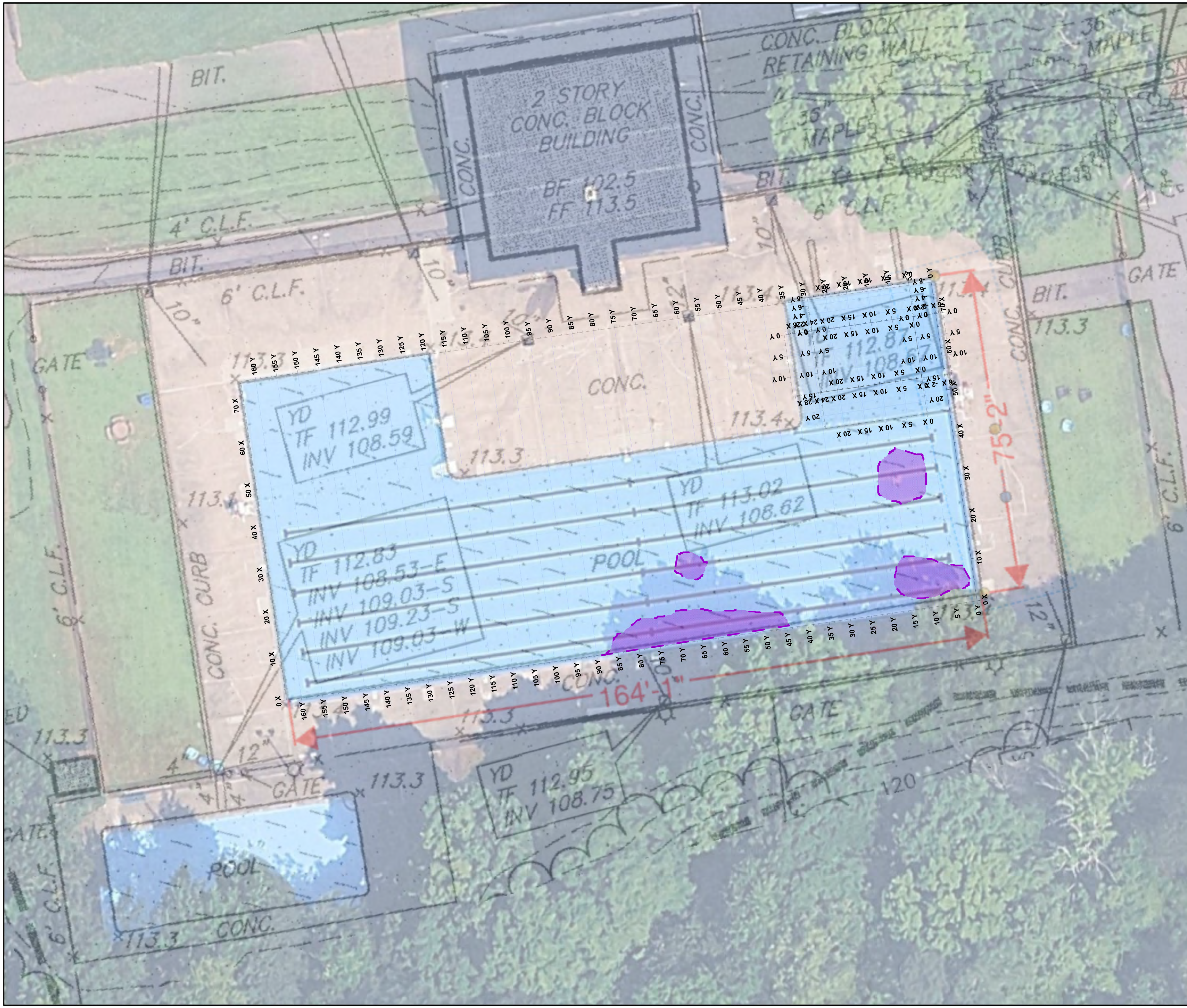
***

Thank you for the opportunity to work on this very important project. Please reach out to me if you or your Engineer have any questions or concerns.

Sincerely,

Doria L. Kutrubes, M.Sc., P.G.
President/Sr. Geophysicist

336 Baker Avenue, Suite 18
Concord, MA 01742
(781) 736-0550 / radar-solutions.com



LEGEND

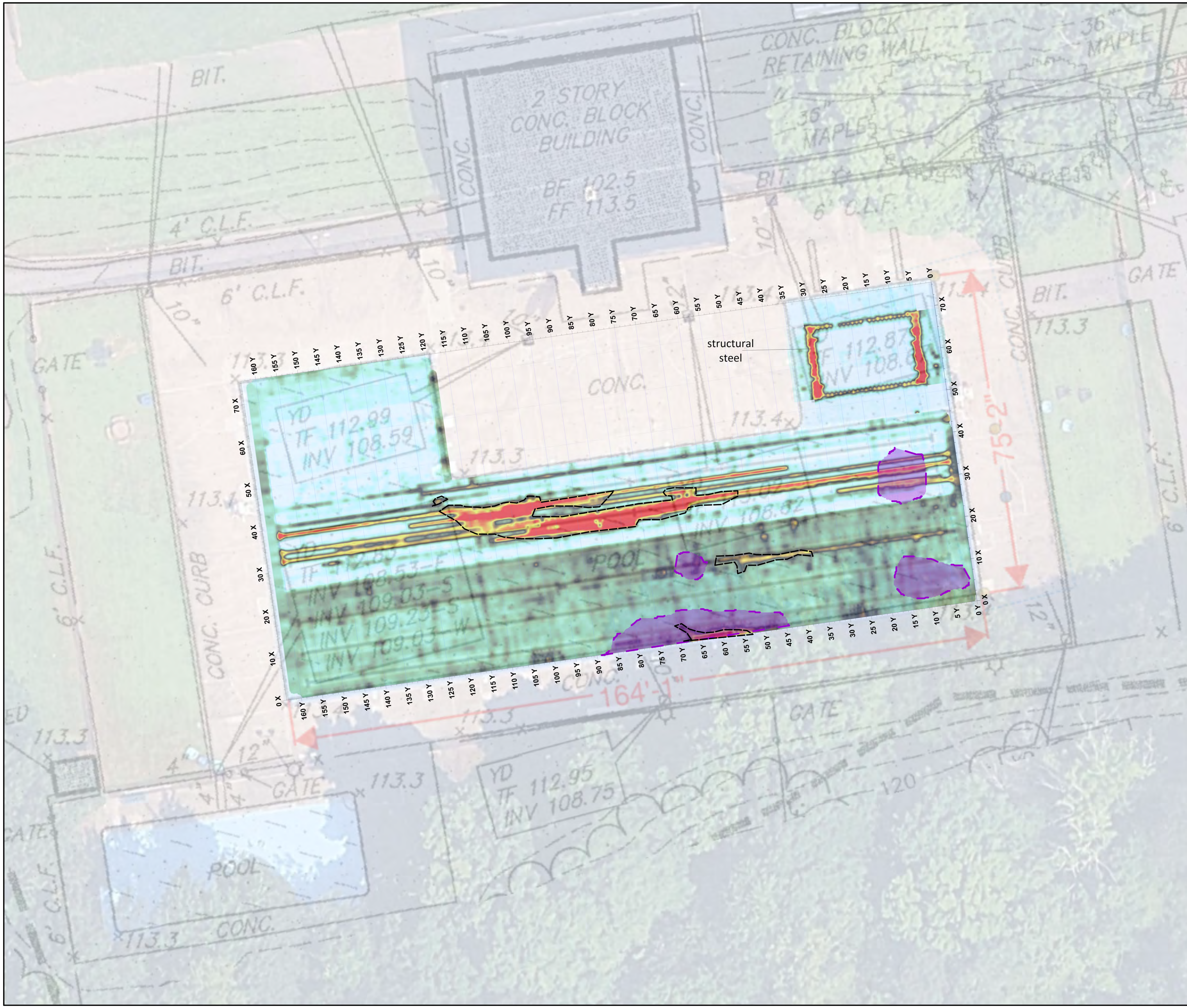
Possible Void Observed Real-Time

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 1
AREA OF INVESTIGATION WITH EMI
SURVEY COMPLETED 10/31/2025
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
OCTOBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.2 ft. to 0.3 ft.

increasing amplitude

low (weak) amplitude

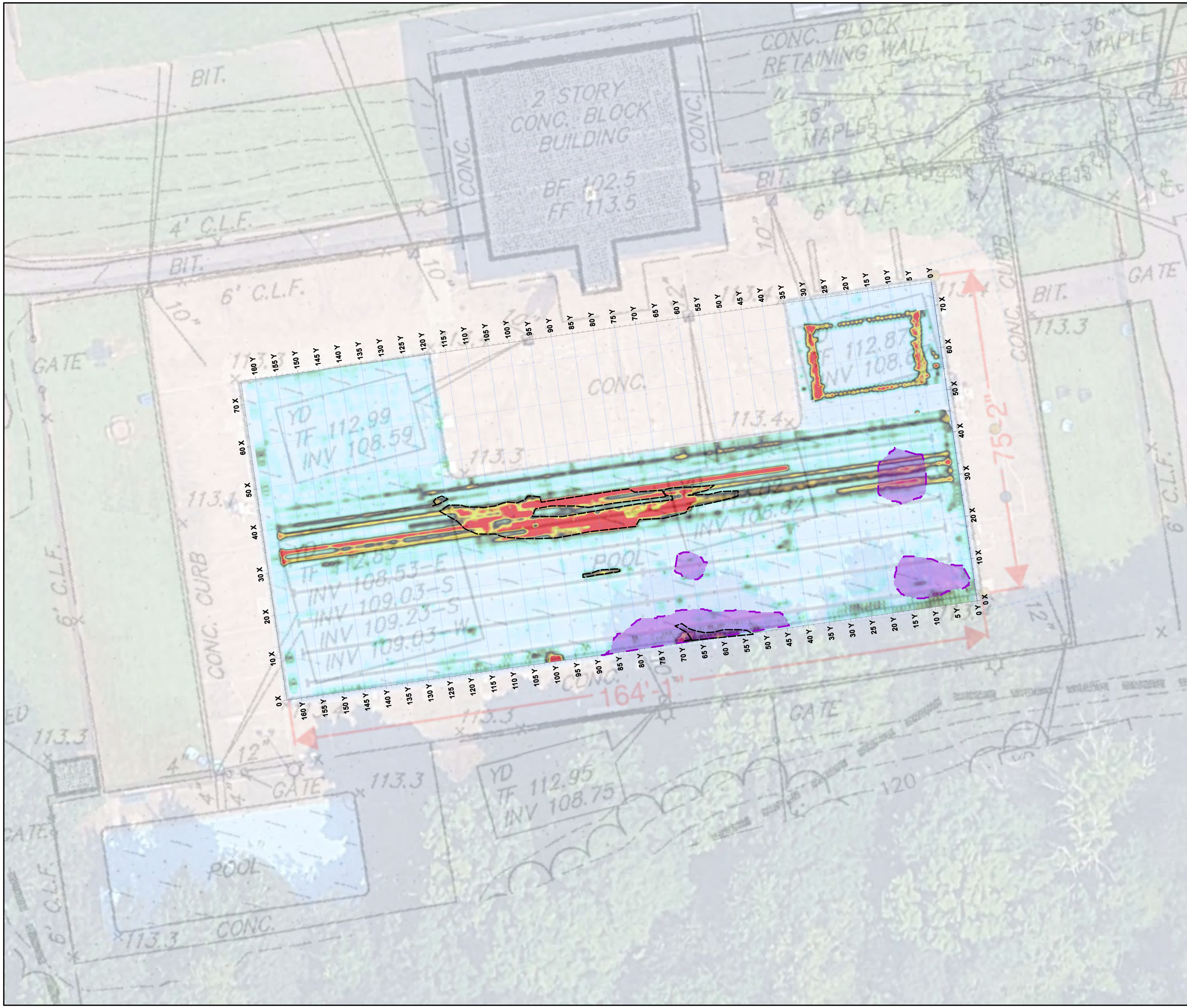
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2a
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.4 ft. to 0.5 ft.

increasing amplitude

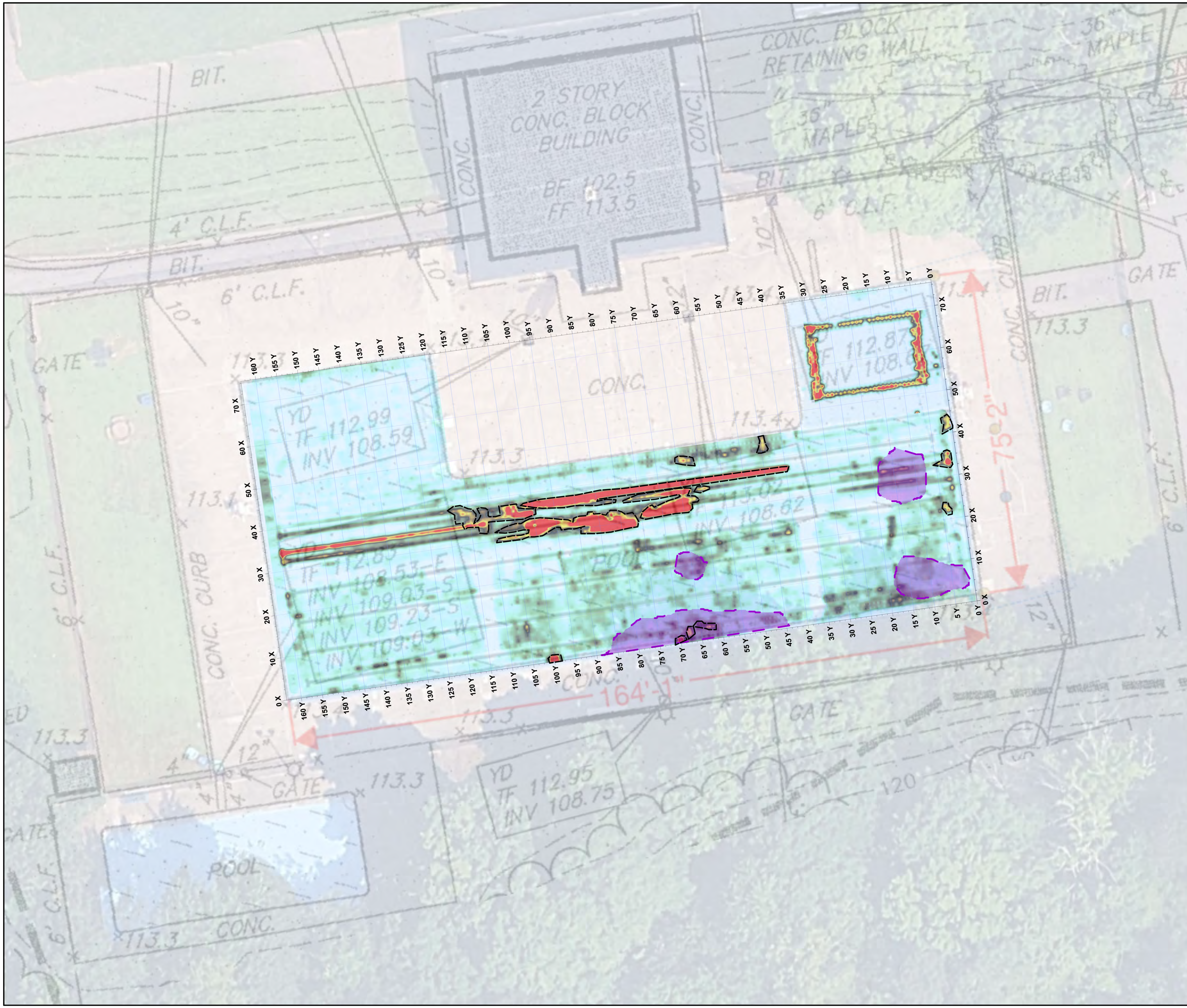
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2b
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.5 ft. to 0.7 ft.

increasing amplitude

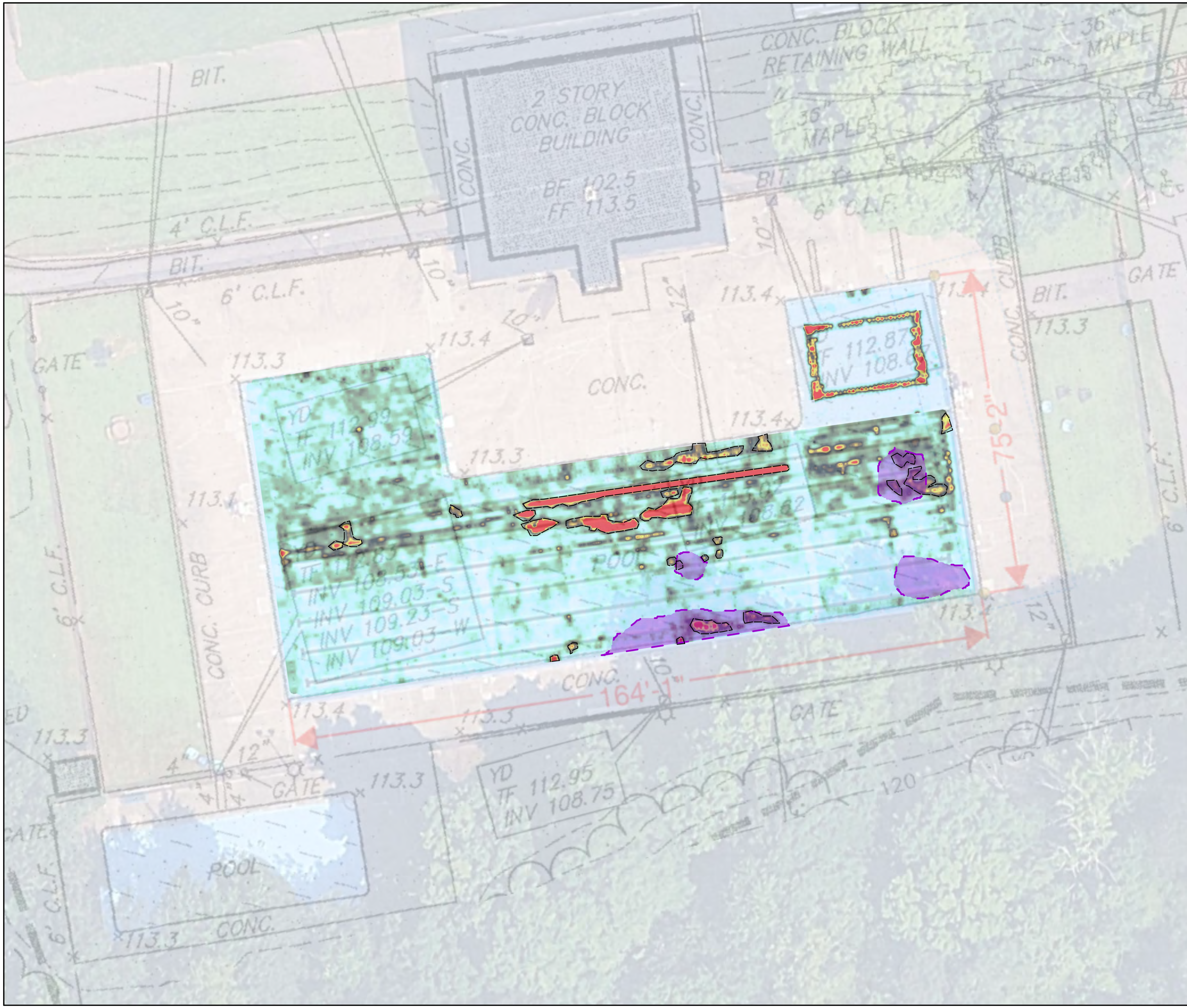
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2c
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void
Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.7 ft. to 0.8 ft.

increasing amplitude

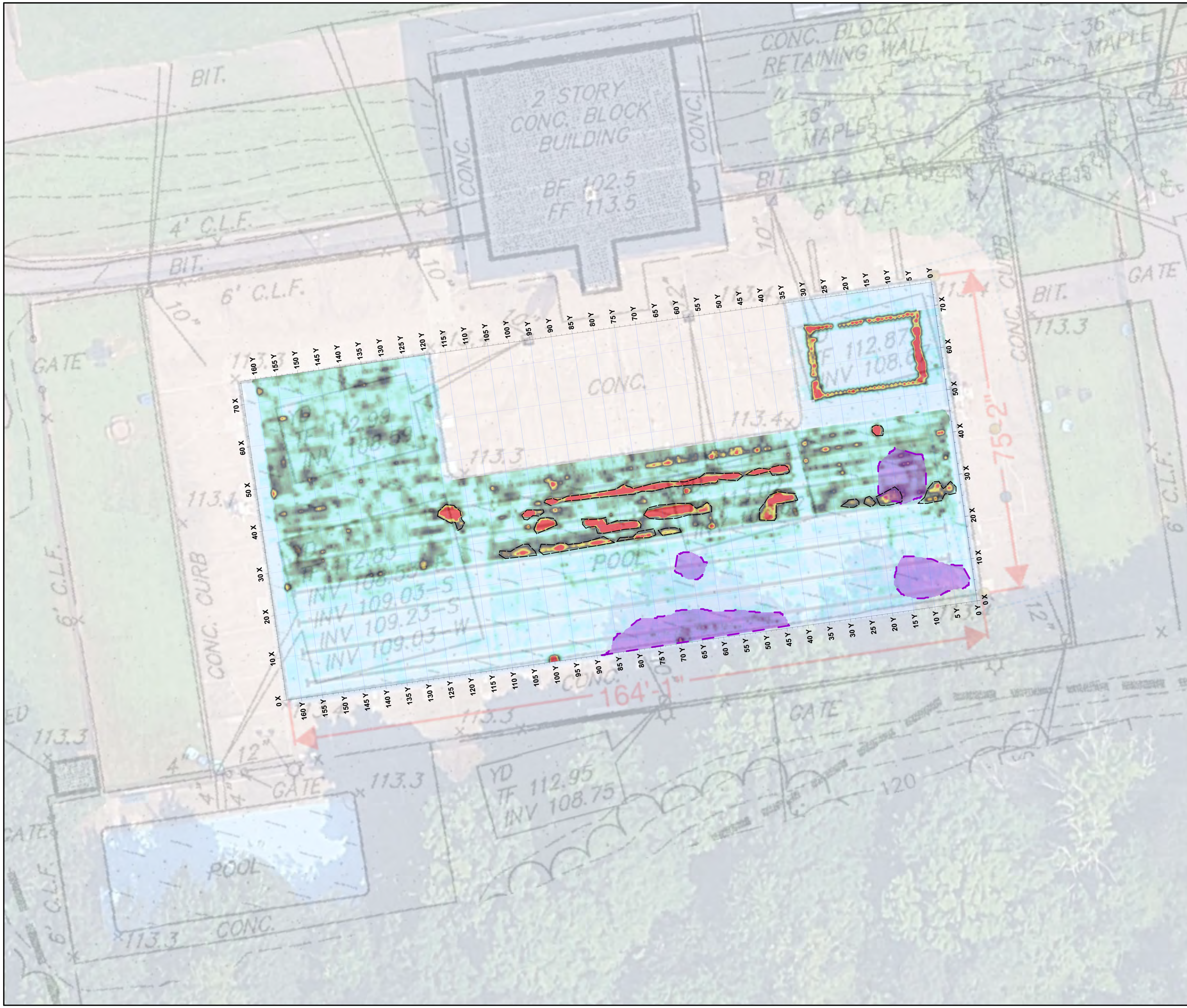
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2d
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.8 ft. to 0.9 ft.

increasing amplitude

low (weak) amplitude

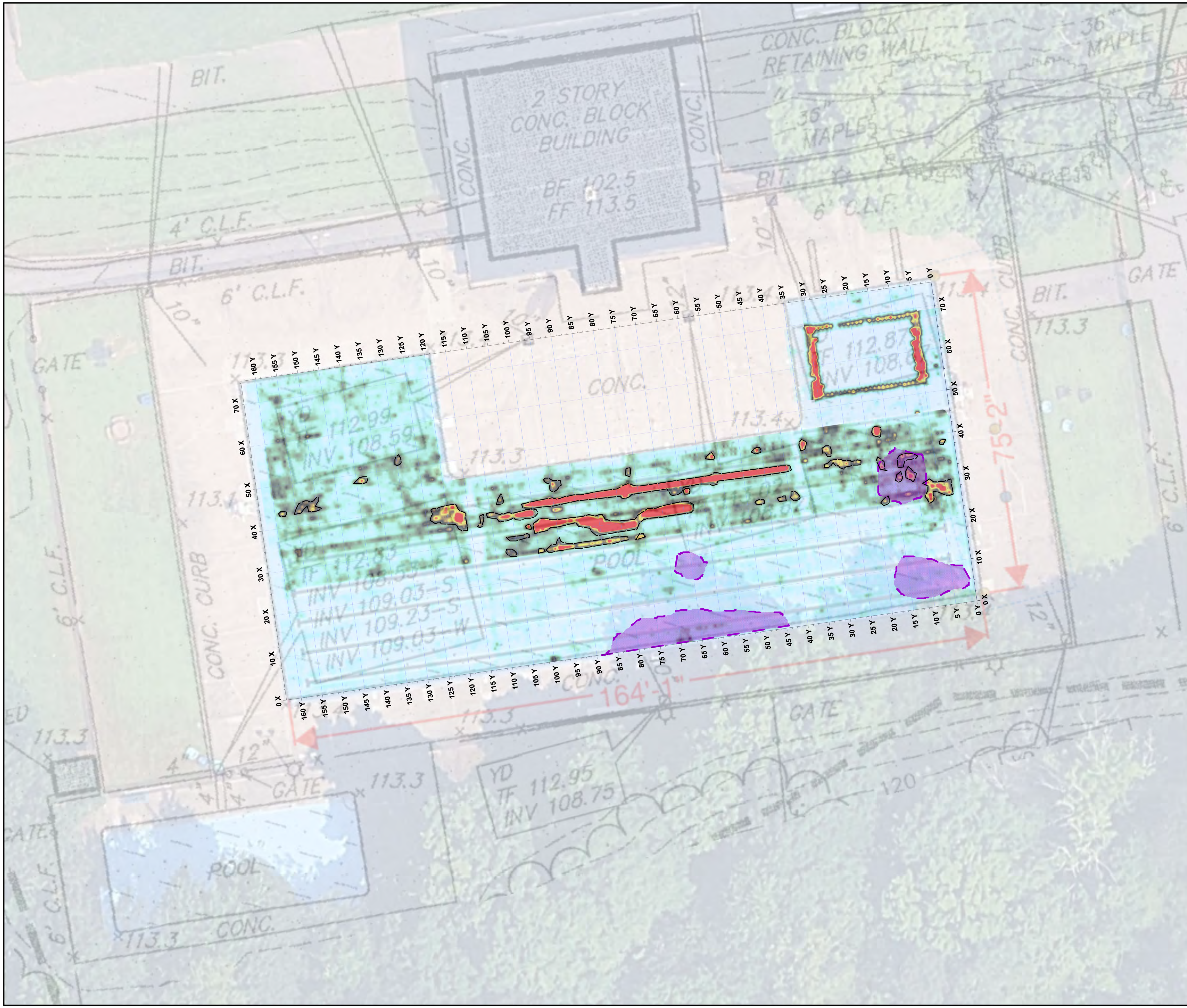
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2e
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.9 ft. to 1.1 ft.

increasing amplitude

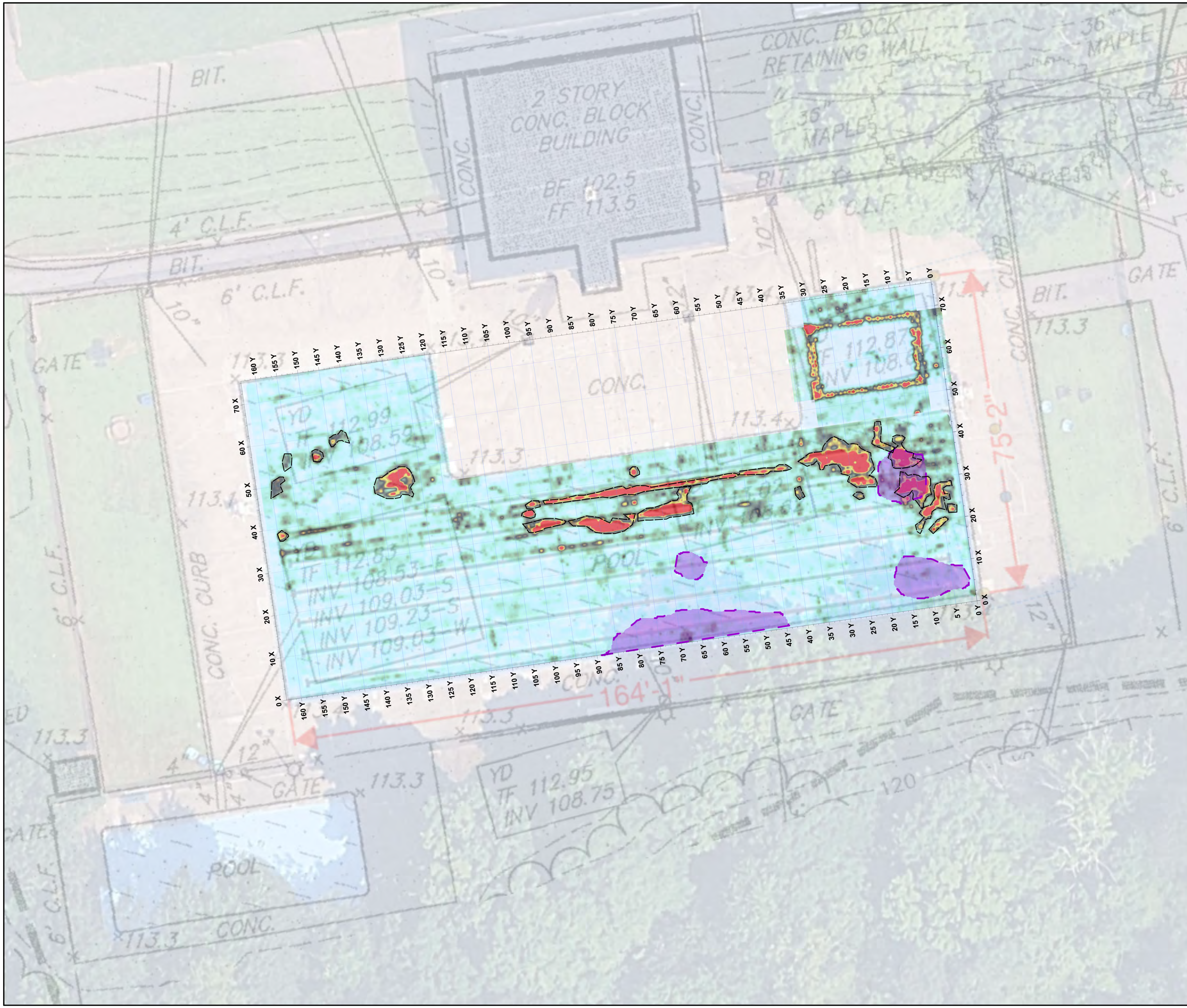
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2f
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 1.2 ft. to 1.3 ft.

increasing amplitude

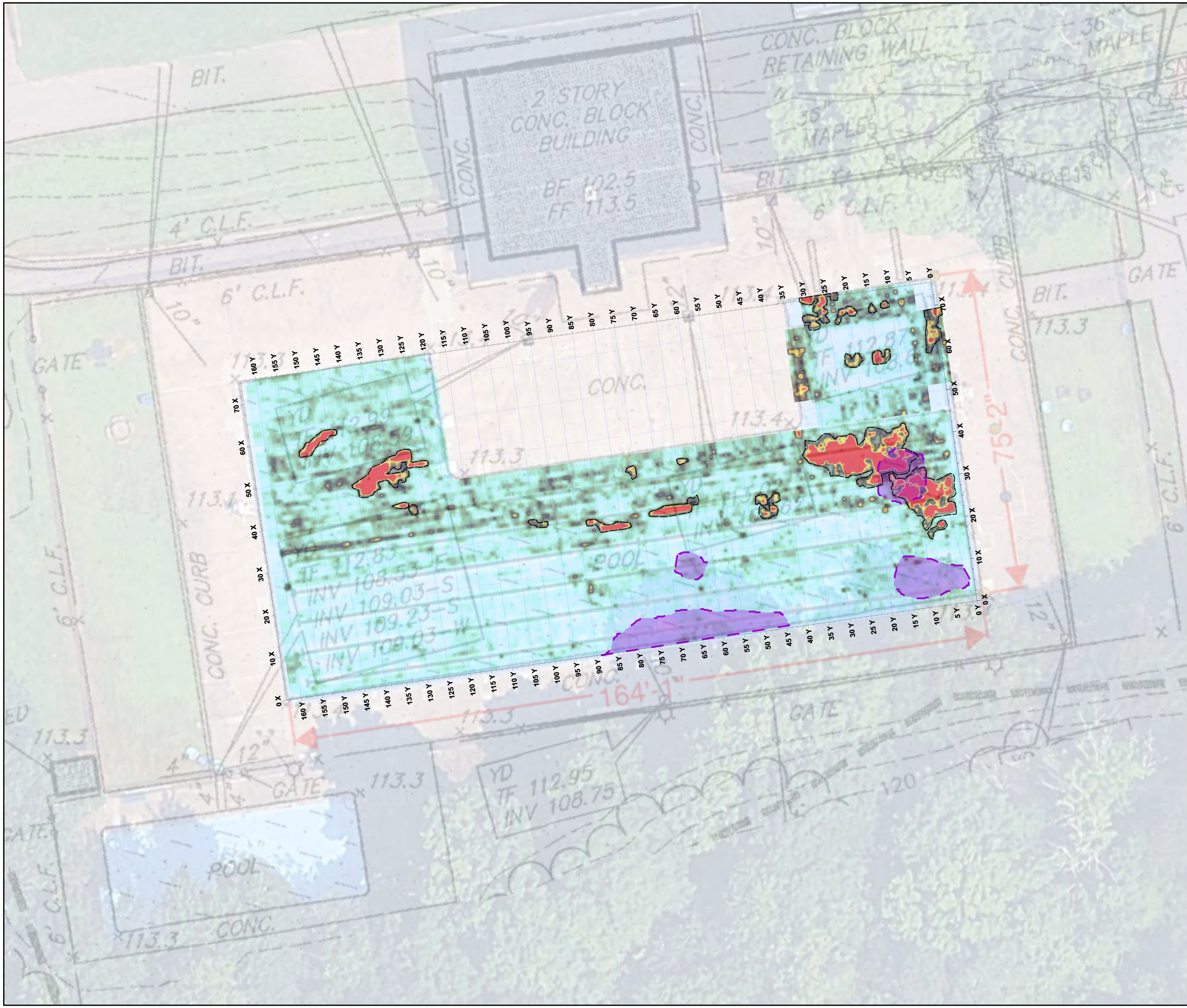
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2g
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 1.5 ft. to 1.6 ft.

increasing amplitude

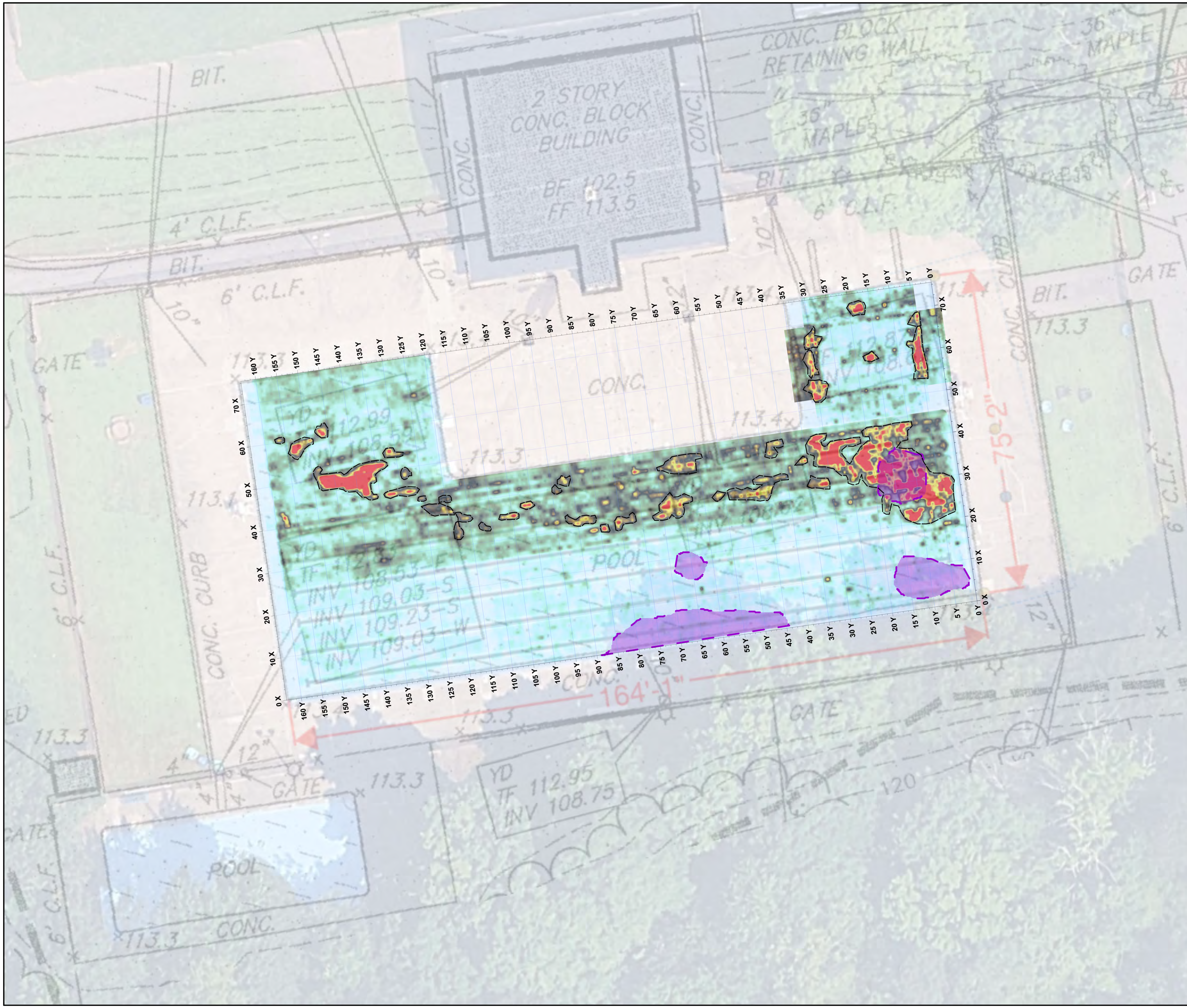
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2h
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 1.7 ft. to 1.8 ft.

increasing amplitude

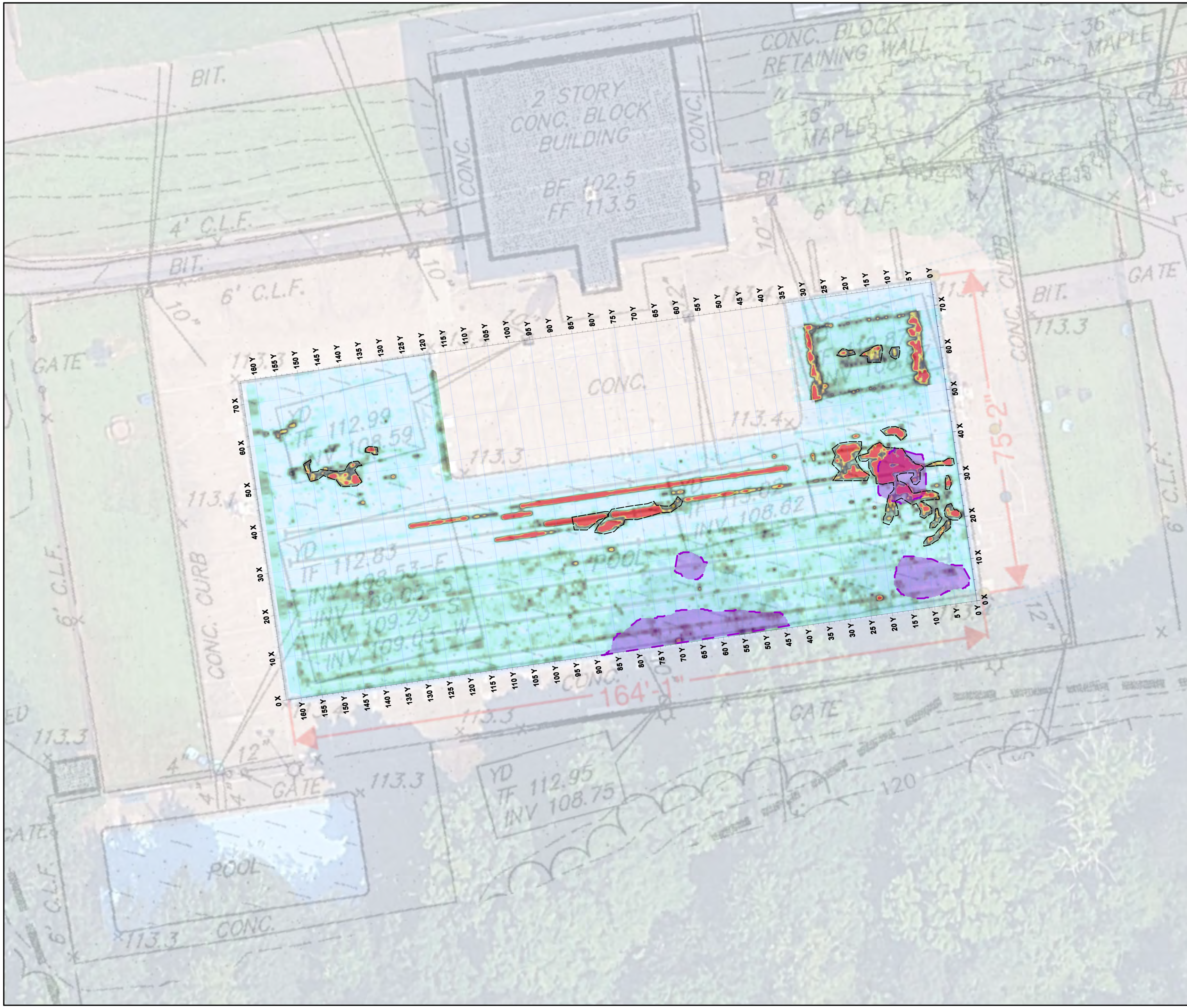
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2i
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 1.9 ft. to 2.1 ft.

increasing amplitude

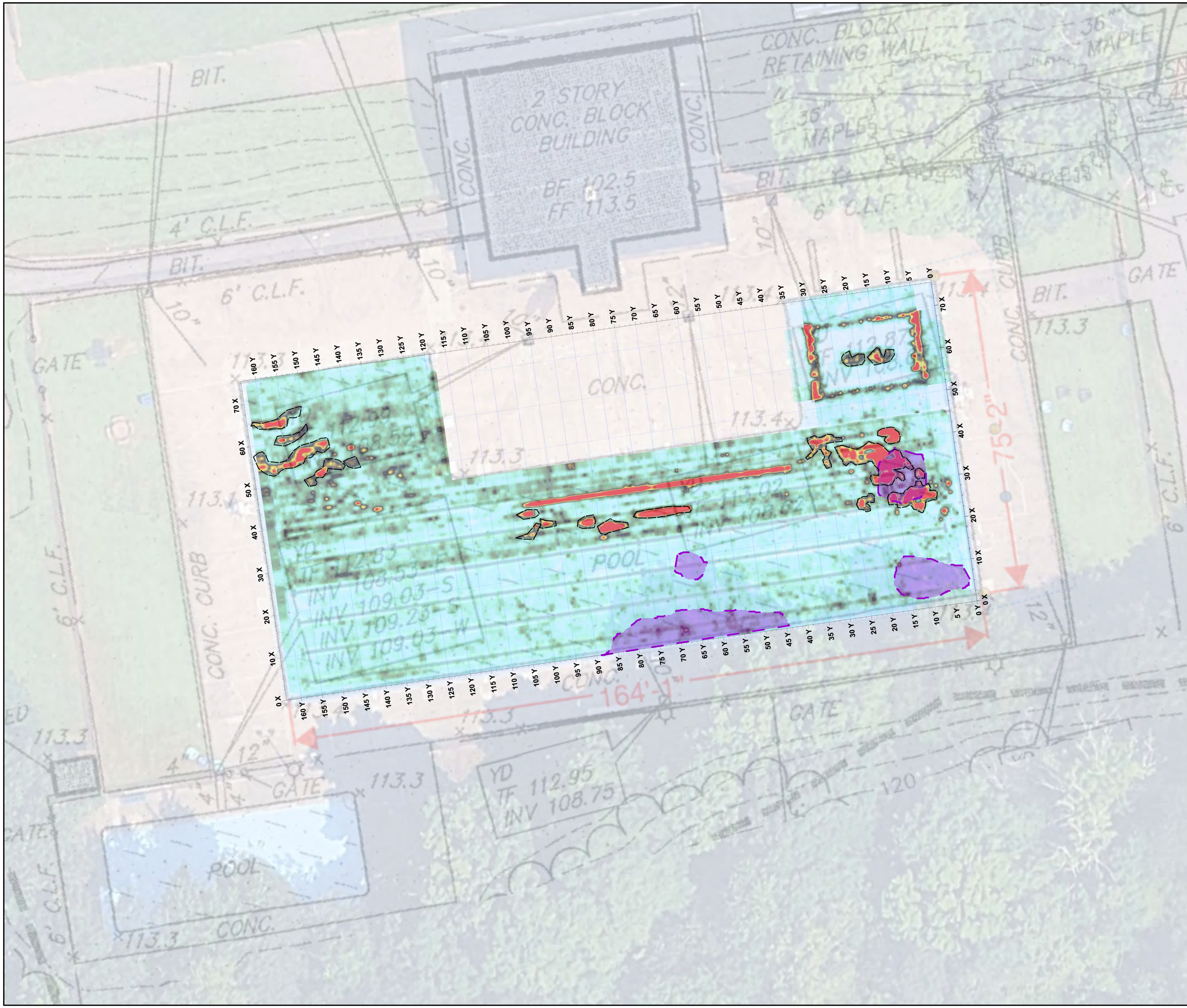
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2j
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 2.1 ft. to 2.3 ft.

increasing amplitude

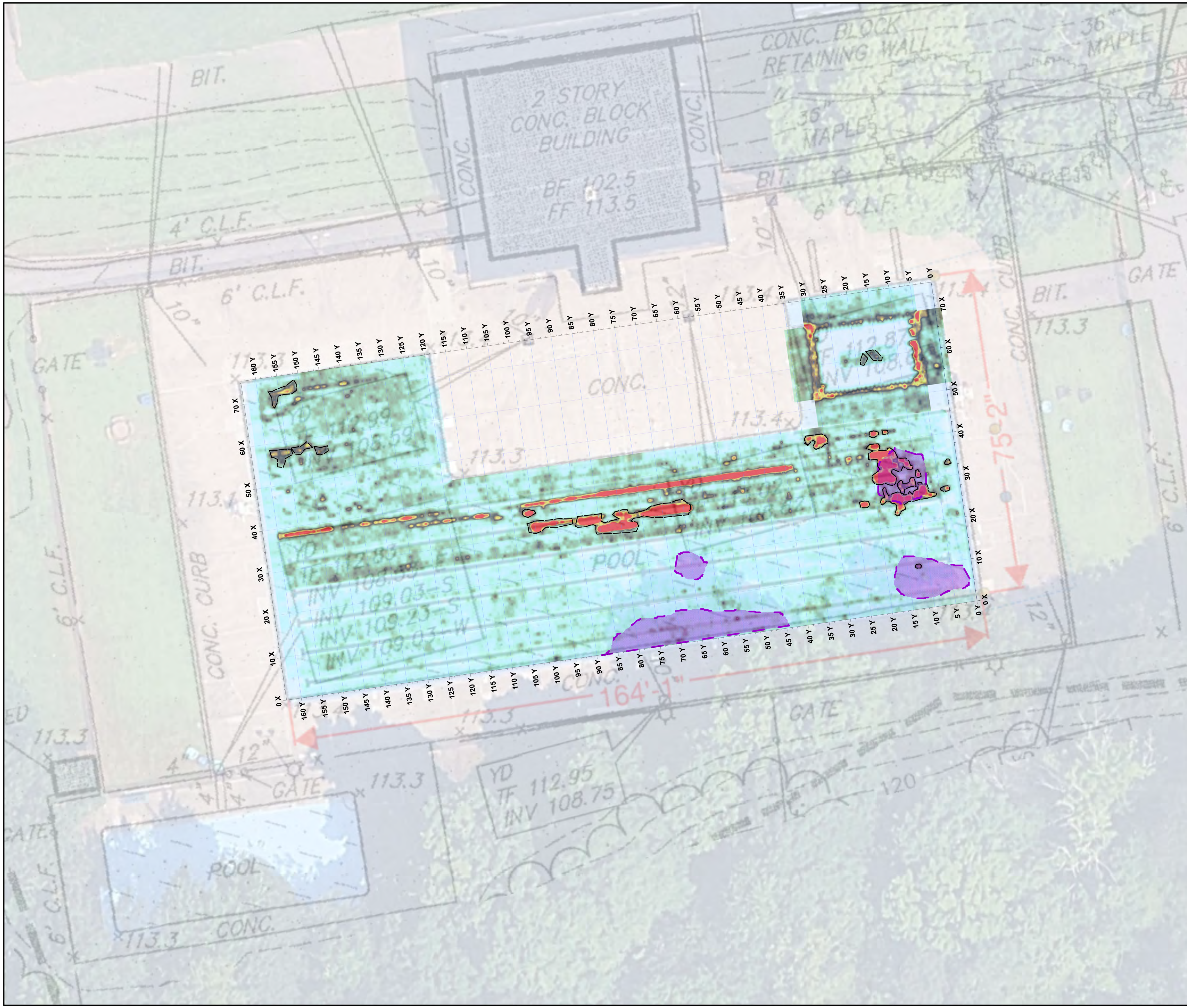
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2k
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 2.3 ft. to 2.5 ft.

increasing amplitude

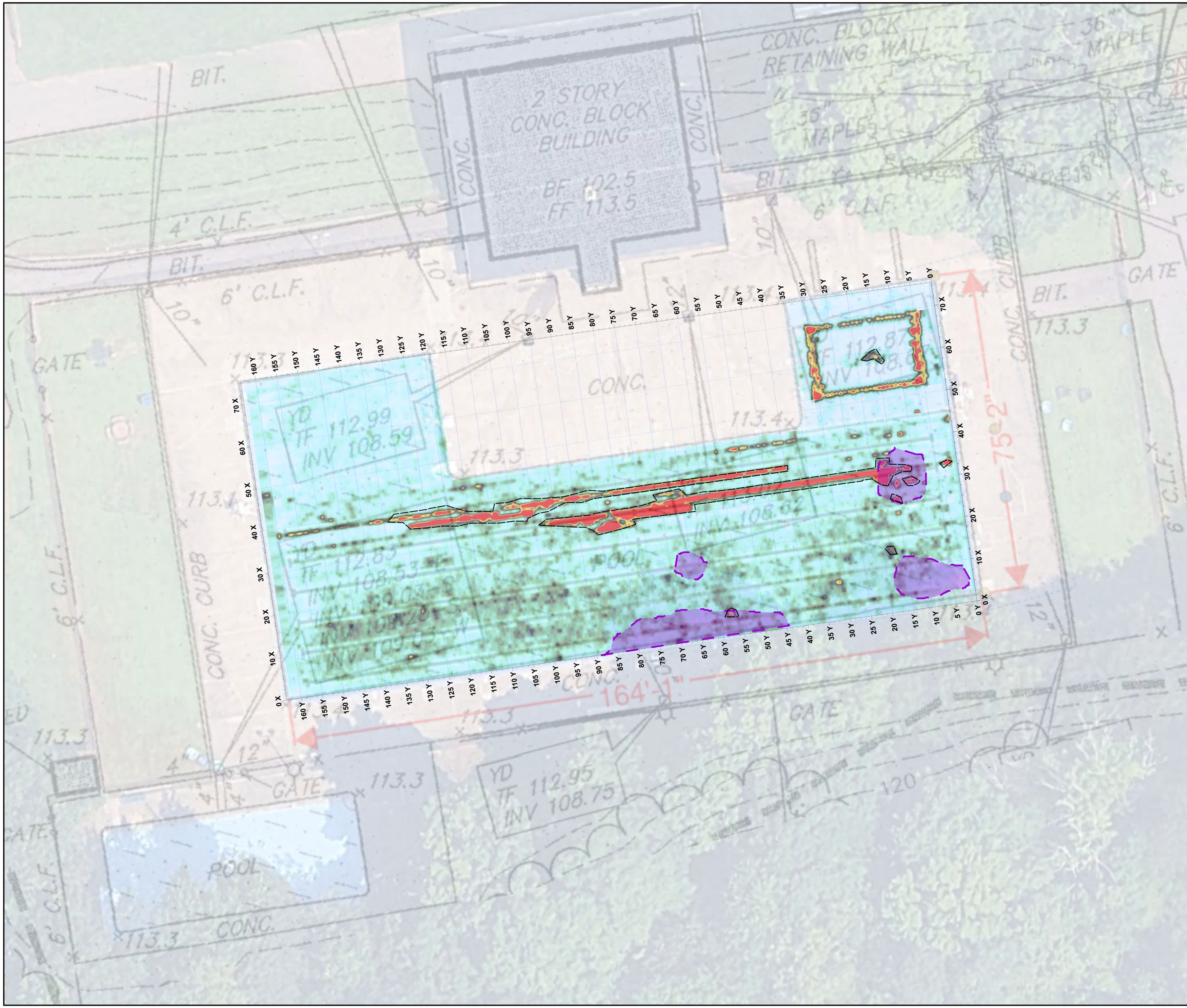
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2I
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 2.5 ft. to 2.7 ft.

increasing amplitude

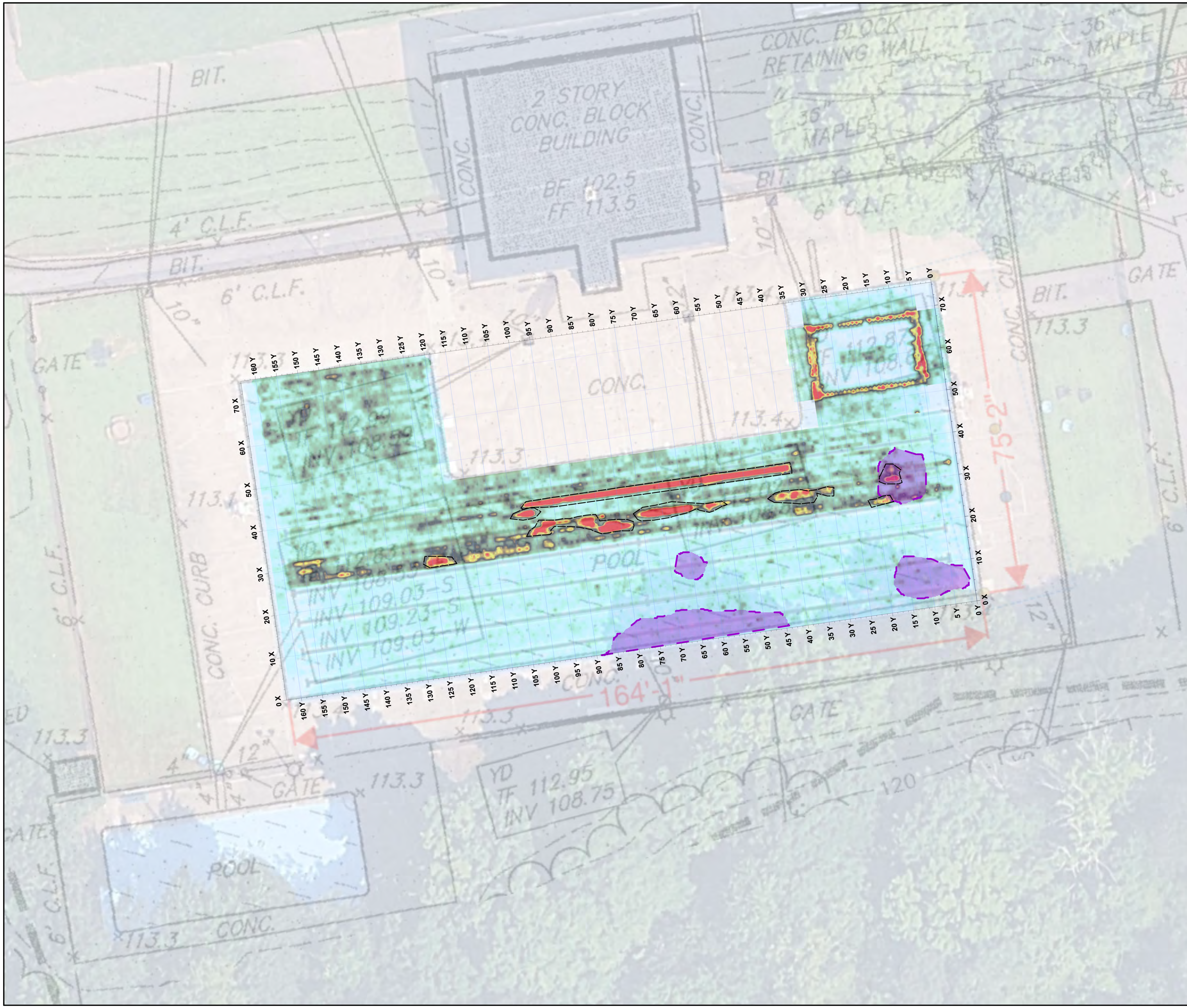
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2m
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 2.8 ft. to 3.0 ft.

increasing amplitude

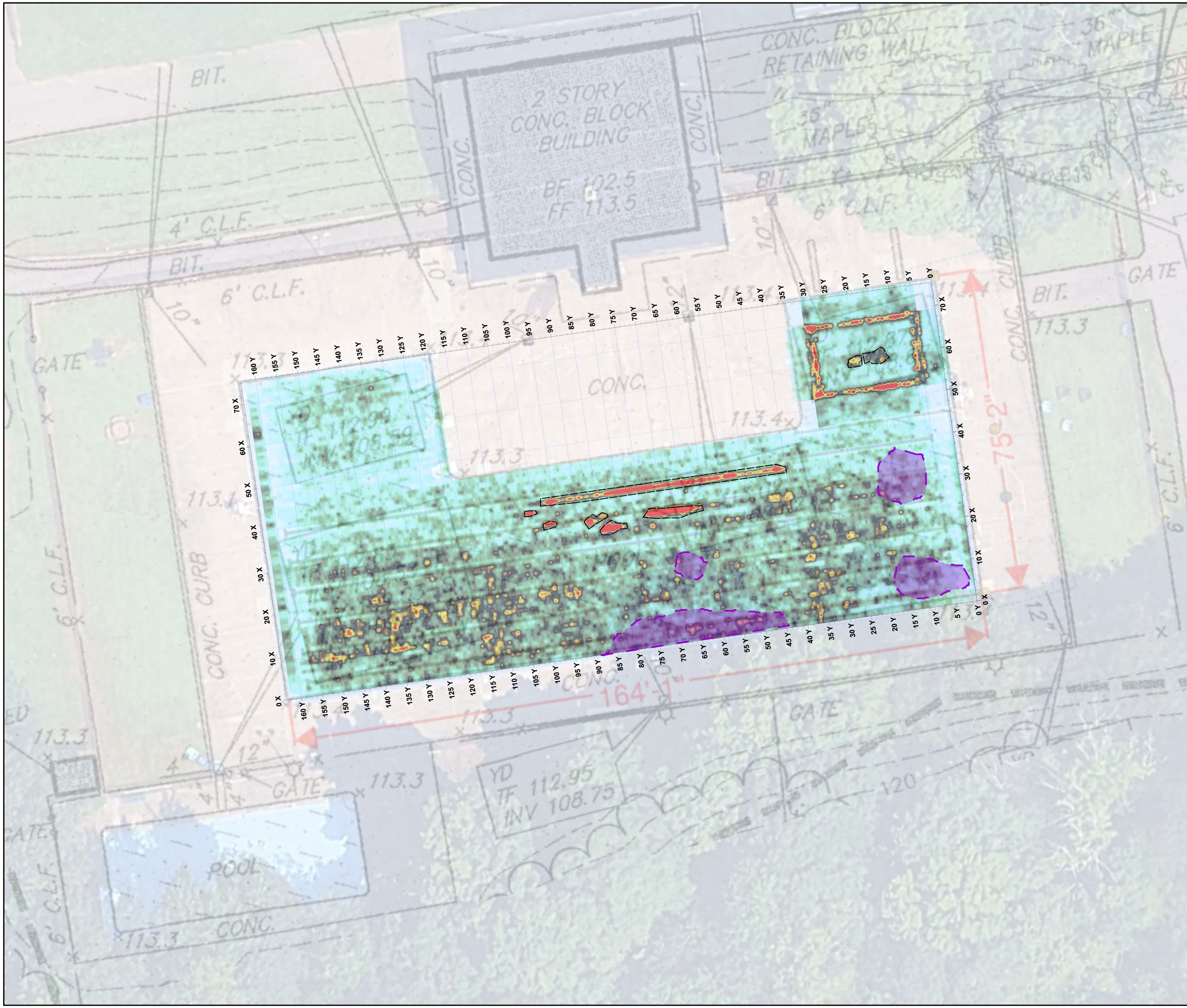
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2n
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 3.4 ft. to 3.5 ft.

increasing amplitude

low (weak) amplitude

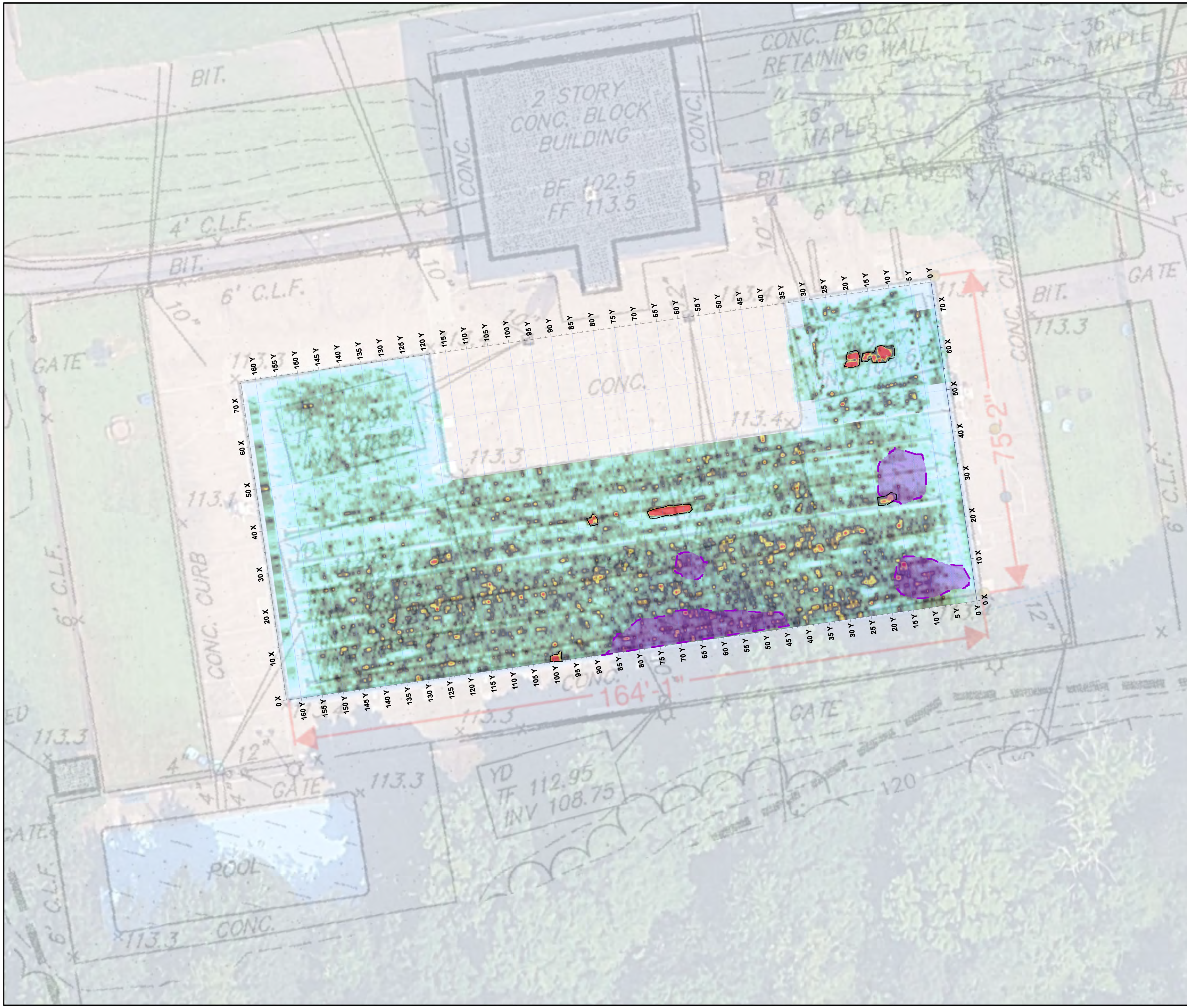
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2o
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 3.6 ft. to 3.7 ft.

increasing amplitude

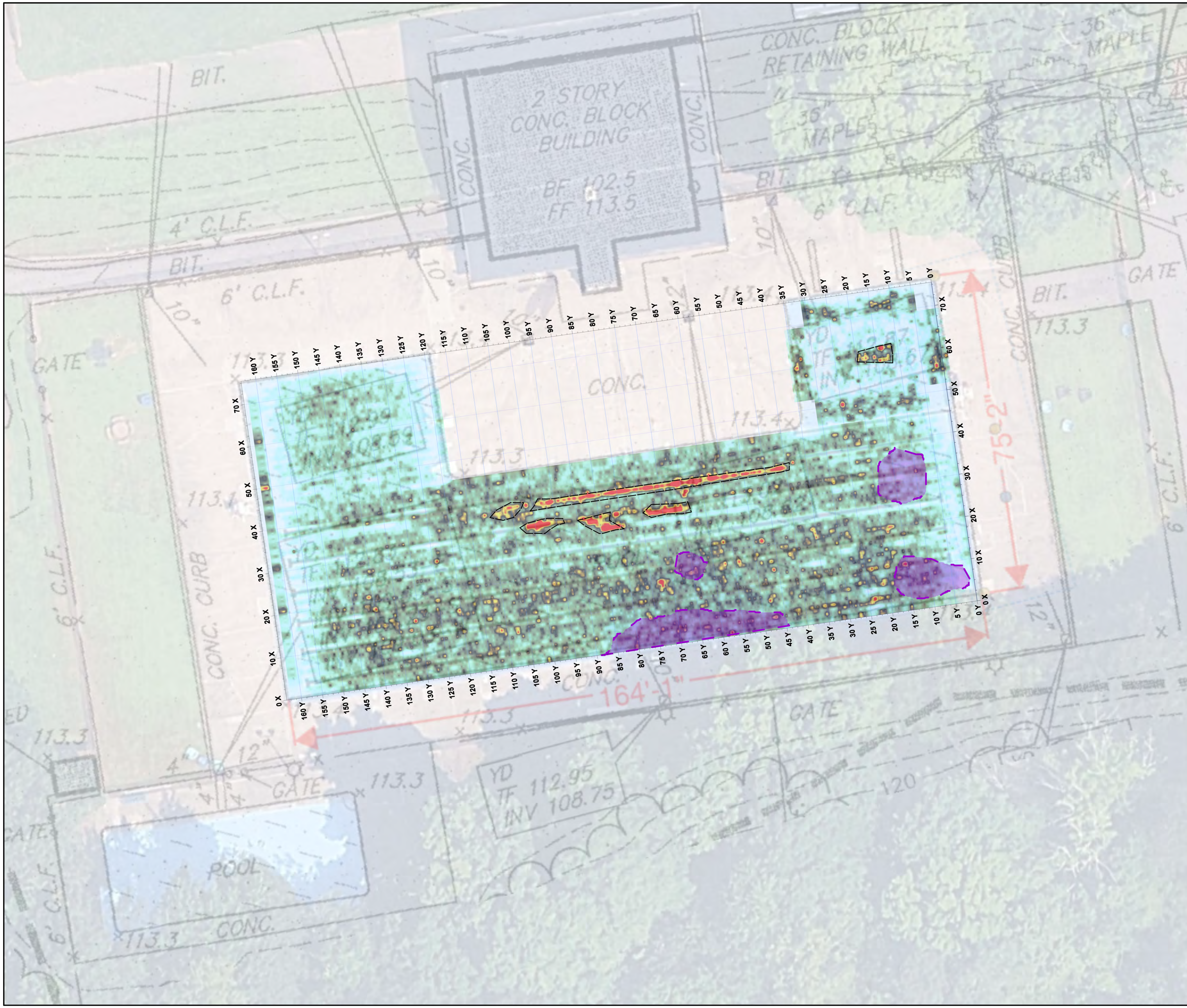
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2q
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 3.9 ft. to 4.1 ft.

increasing amplitude

low (weak) amplitude

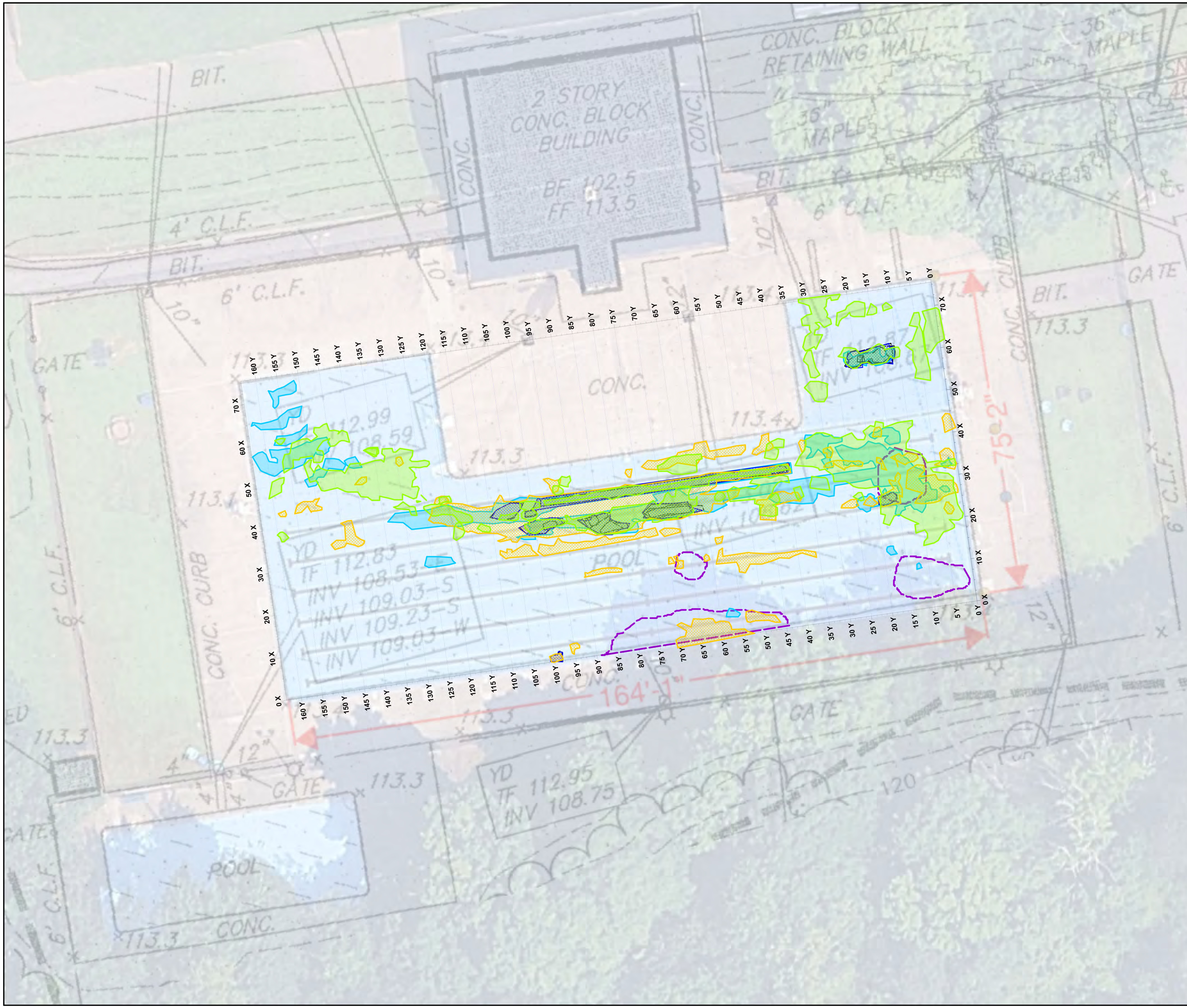
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2q
1000 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

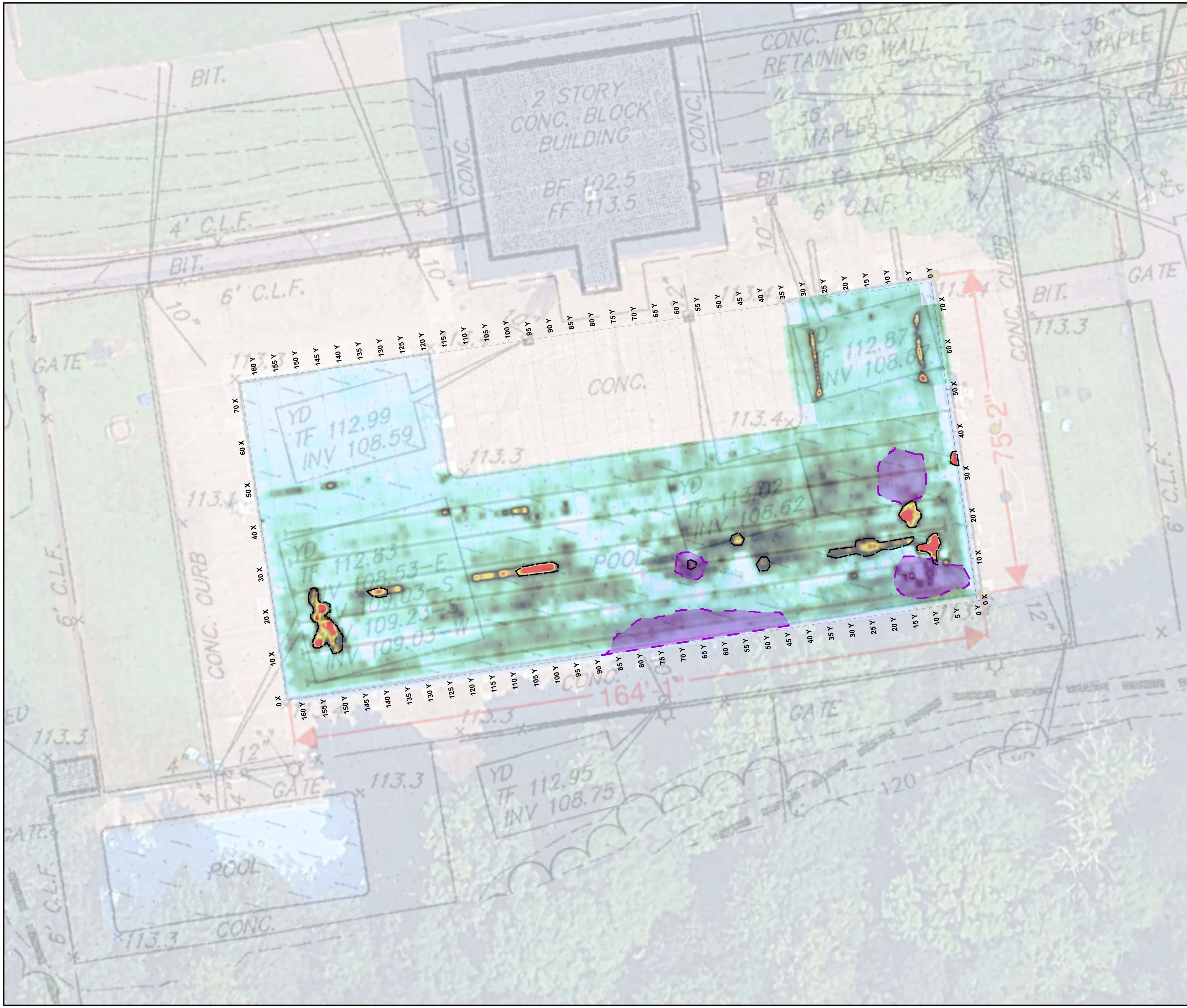
- Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear
- Concentration of possible voids, loosely packed soil and moisture accumulation observed 0-1 foot below grade. Deeper shading indicates a more dense concentration and greater vertical extent of potential voids
- Concentration of possible voids, loosely packed soil and moisture accumulation observed 1-2 feet below grade. Deeper shading indicates a more dense concentration and greater vertical extent of potential voids
- Concentration of possible voids, loosely packed soil and moisture accumulation observed 2-3 feet below grade. Deeper shading indicates a more dense concentration and greater vertical extent of potential voids
- Concentration of possible voids, loosely packed soil and moisture accumulation observed 3+ feet below grade. Deeper shading indicates a more dense concentration and greater vertical extent of potential voids

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 2r
1000 MHz
SUMMARY OF 1000 MHz GPR DEPTH-SLICE IMAGES
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.2 ft. to 0.4 ft.

increasing amplitude

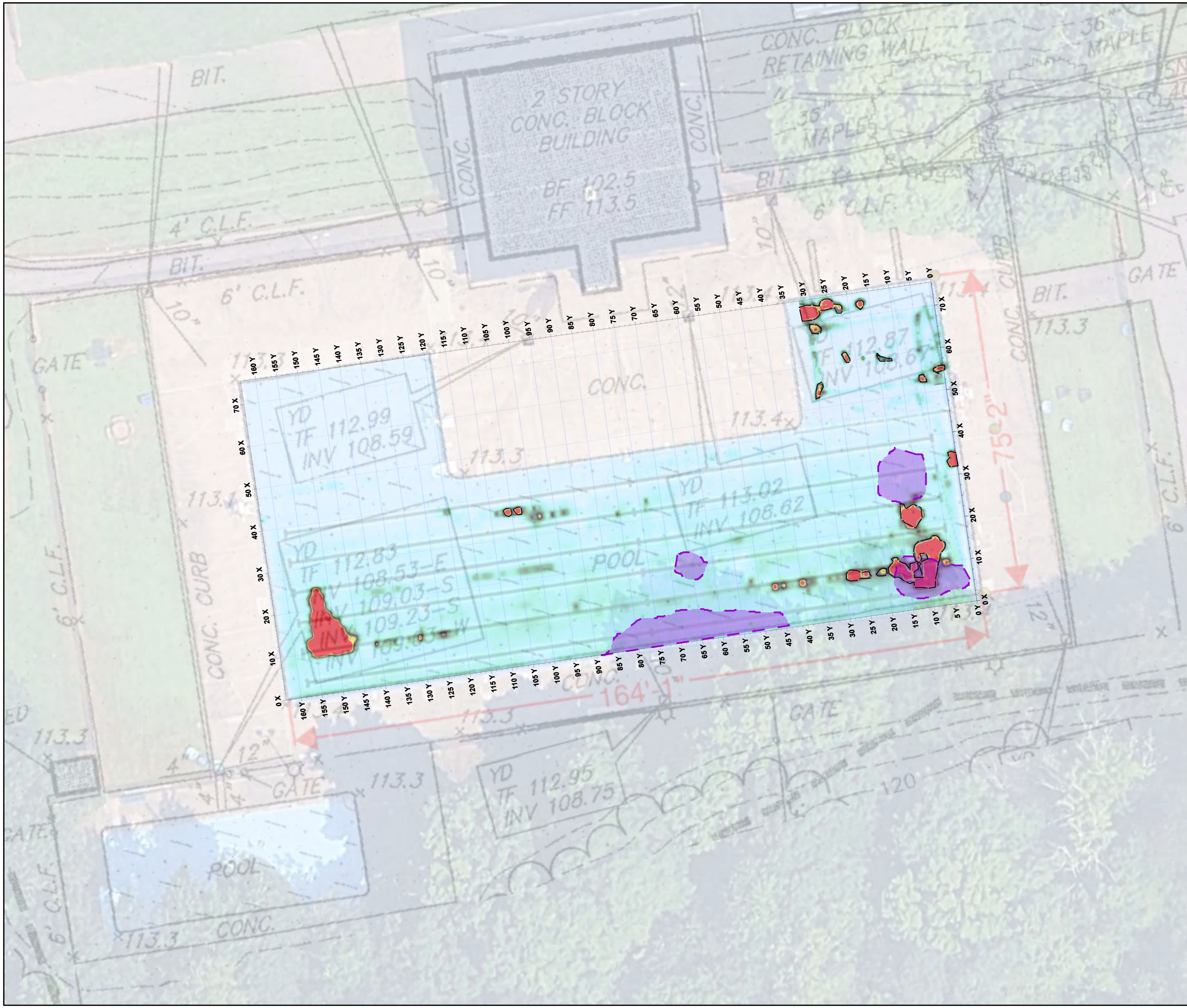
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3a
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.4 ft. to 0.5 ft.

increasing amplitude

low (weak) amplitude

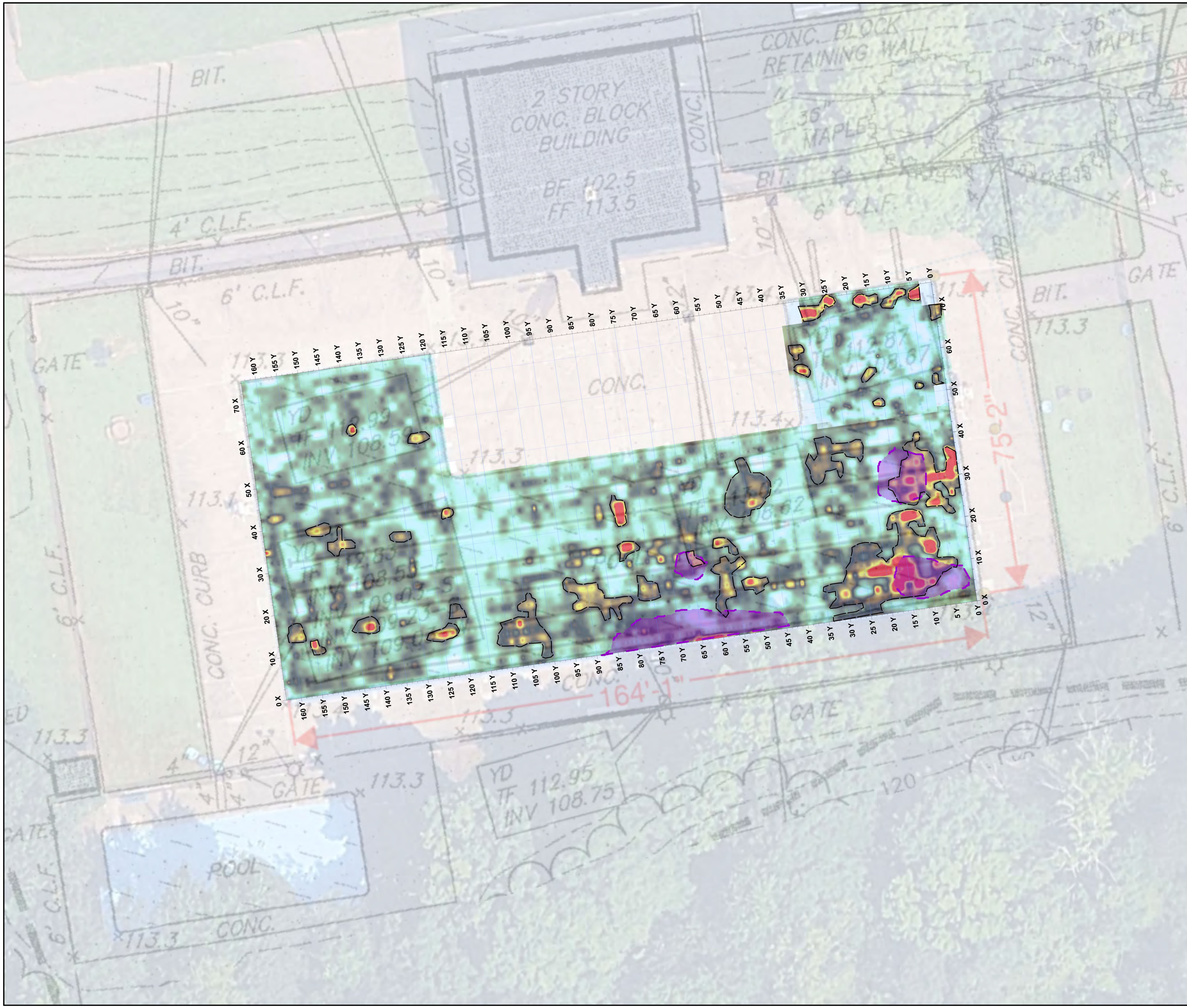
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3b
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.6 ft. to 0.7 ft.

increasing amplitude

low (weak) amplitude

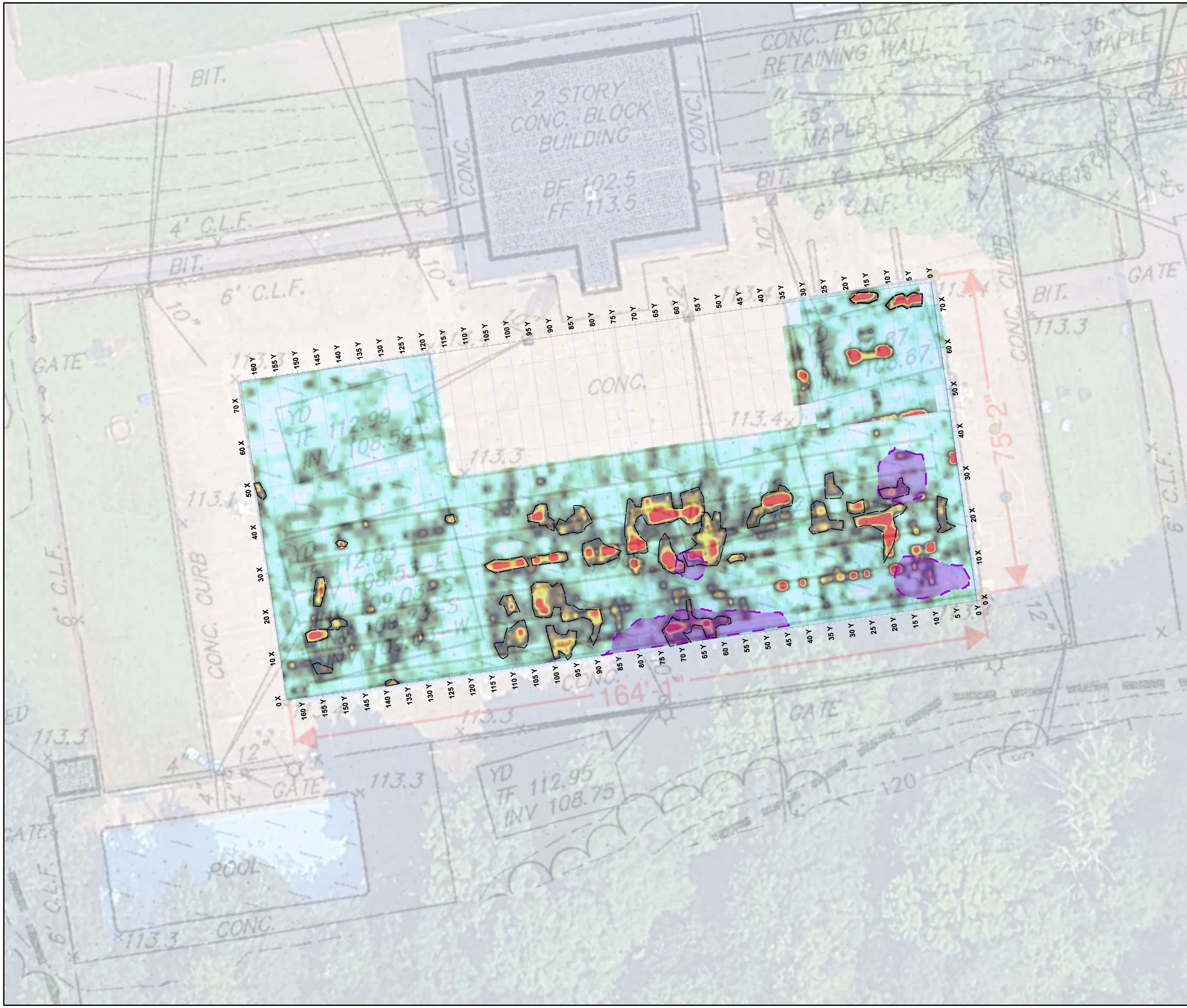
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3c
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.8 ft. to 1.0 ft.

increasing amplitude

low (weak) amplitude

high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3d
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™

LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 1.0 ft. to 1.1 ft.

increasing amplitude

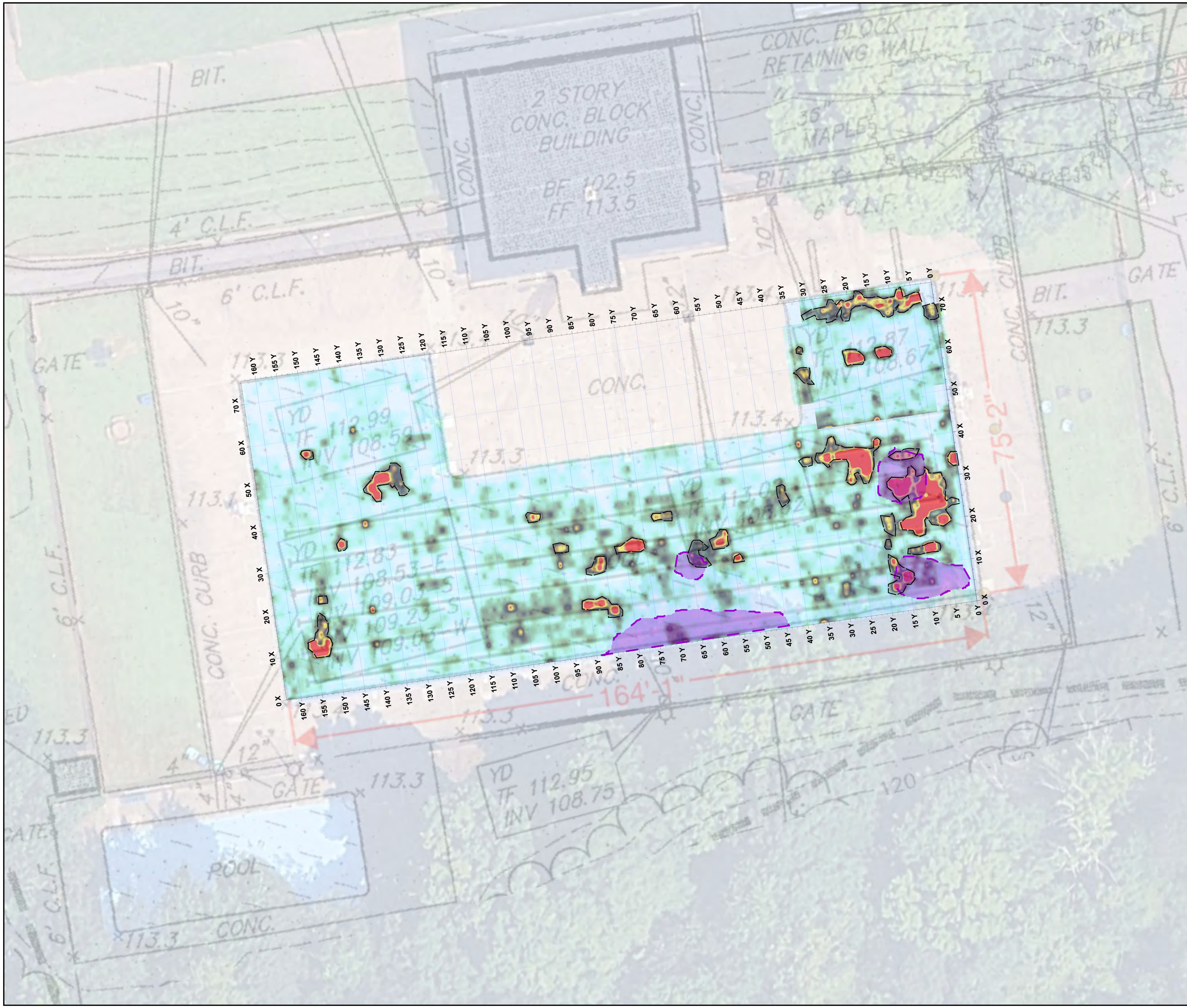
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3e
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 1.2 ft. to 1.3 ft.

increasing amplitude

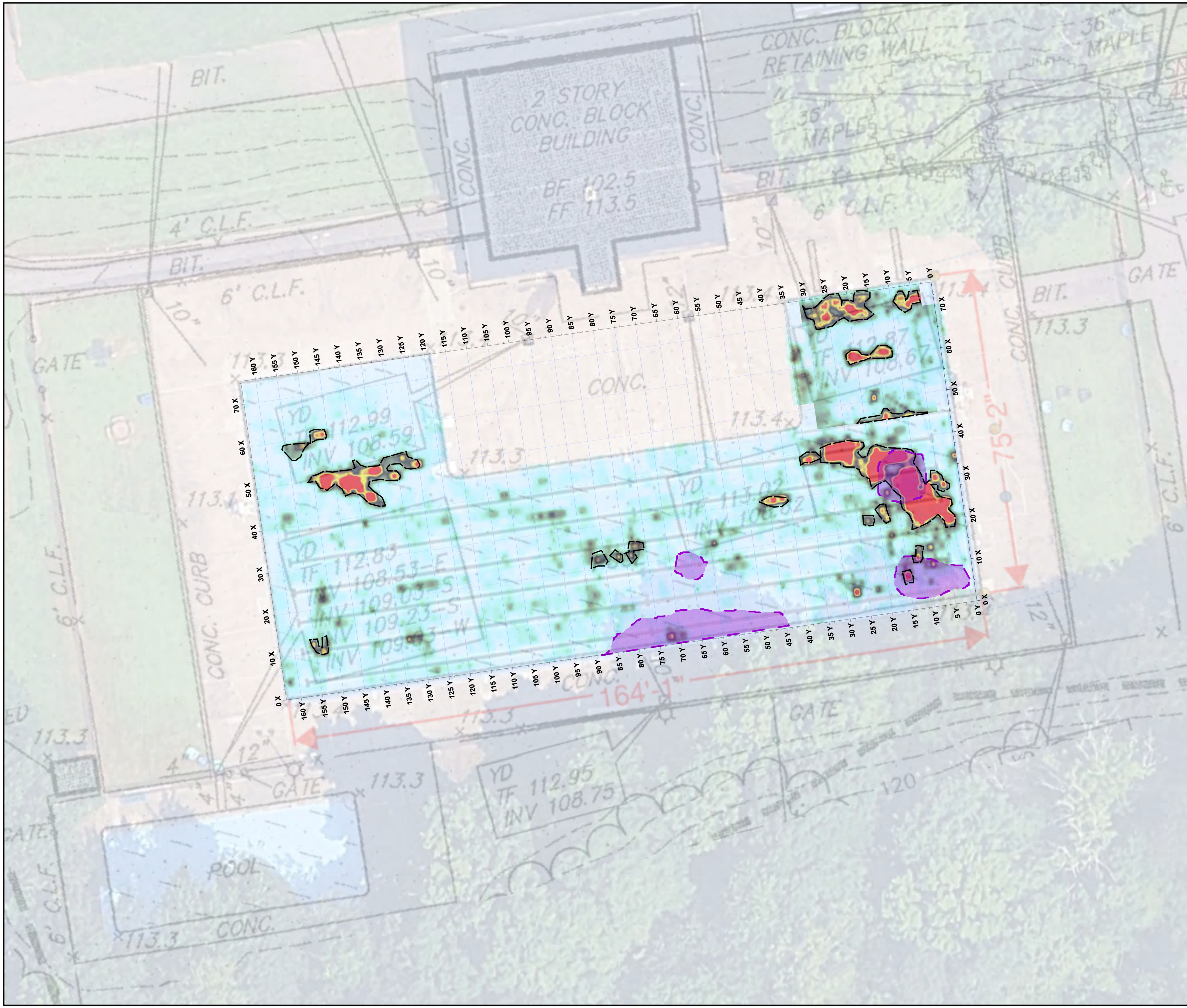
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3f
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 1.5 ft. to 1.6 ft.

increasing amplitude

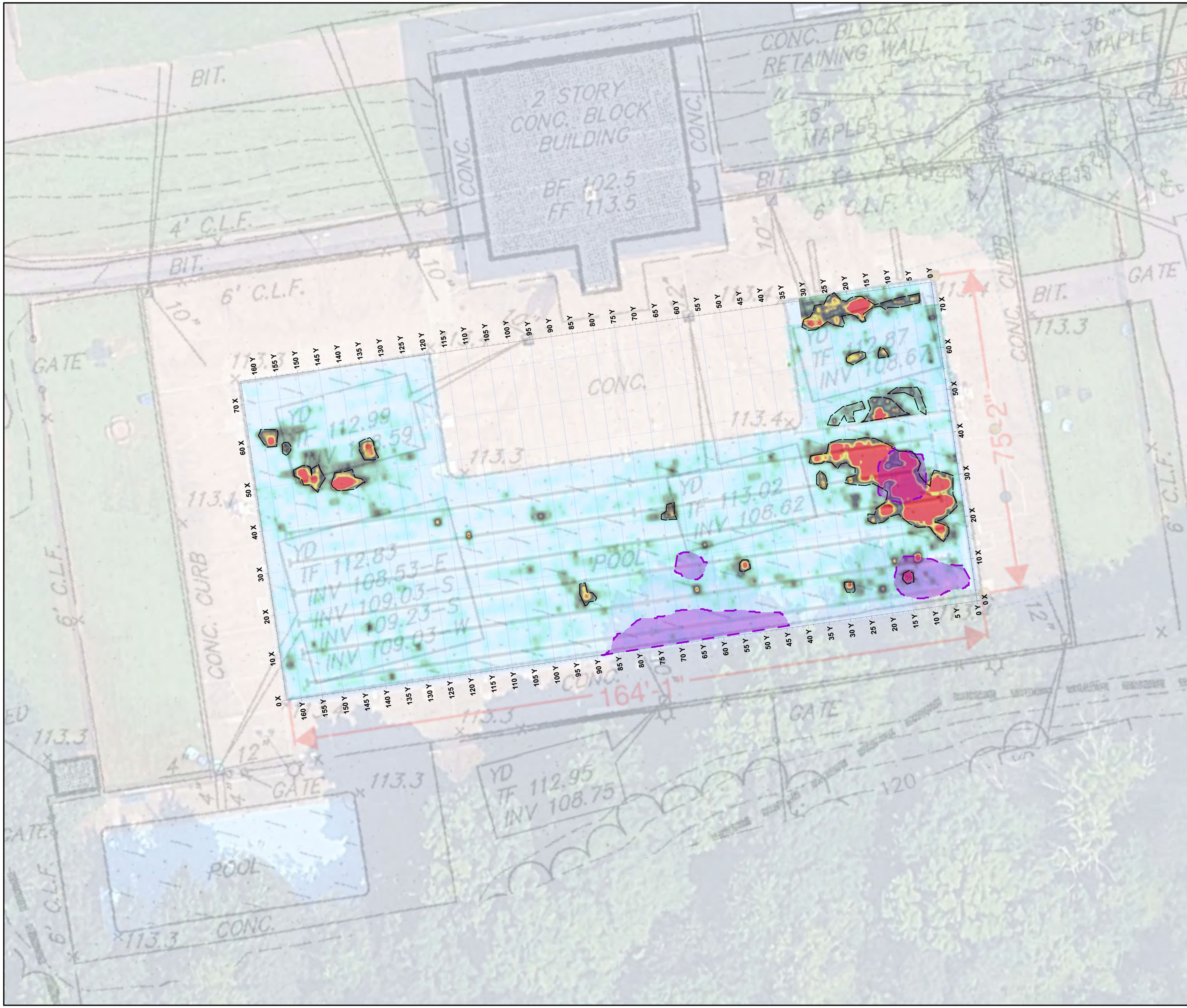
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3g
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 1.8 ft. to 1.9 ft.

increasing amplitude

low (weak) amplitude

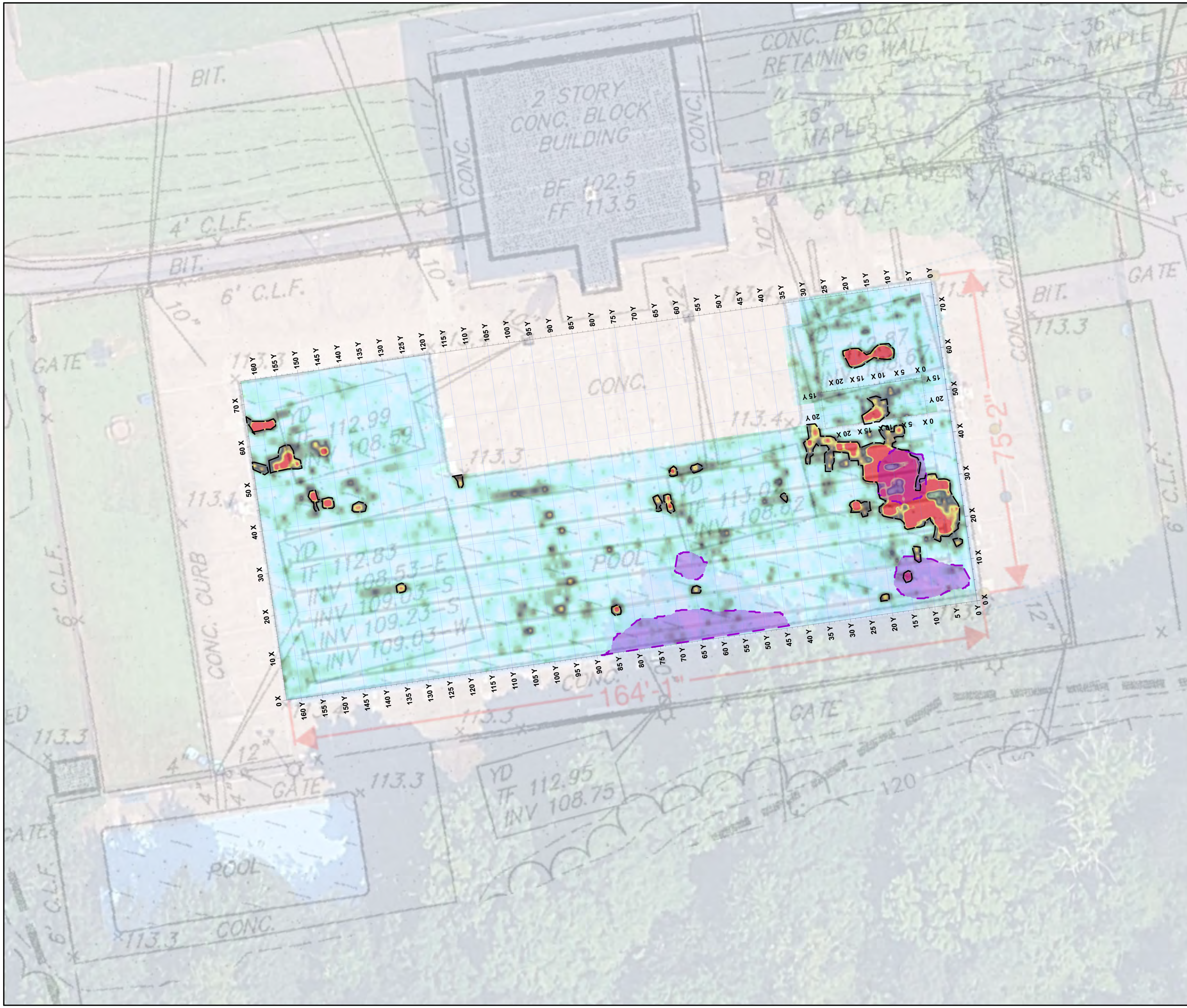
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3h
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 2.1 ft. to 2.3 ft.

increasing amplitude

low (weak) amplitude

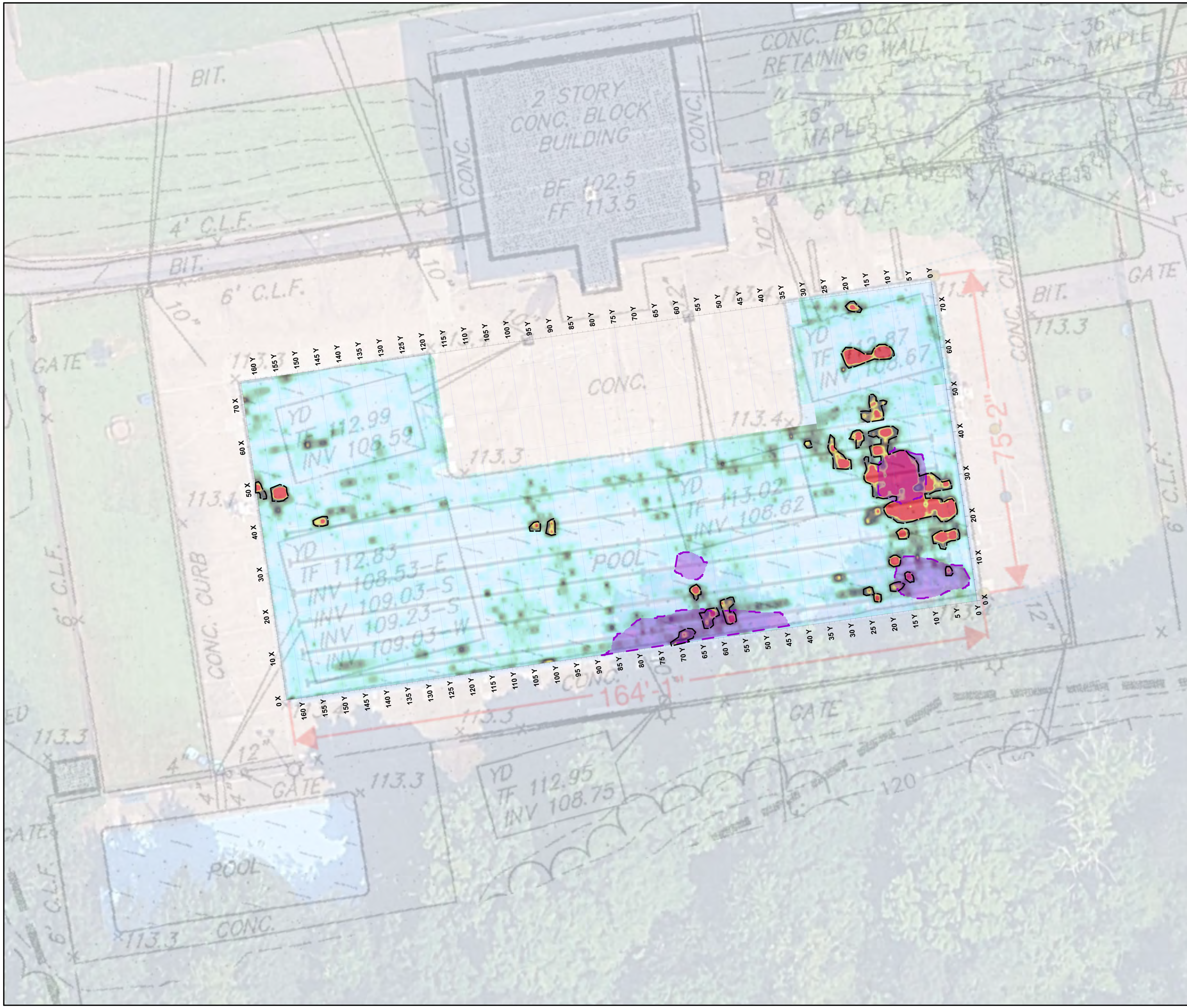
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3i
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 2.5 ft. to 2.7 ft.

increasing amplitude

low (weak) amplitude

high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3j
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™

LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 2.9 ft. to 3.0 ft.

increasing amplitude

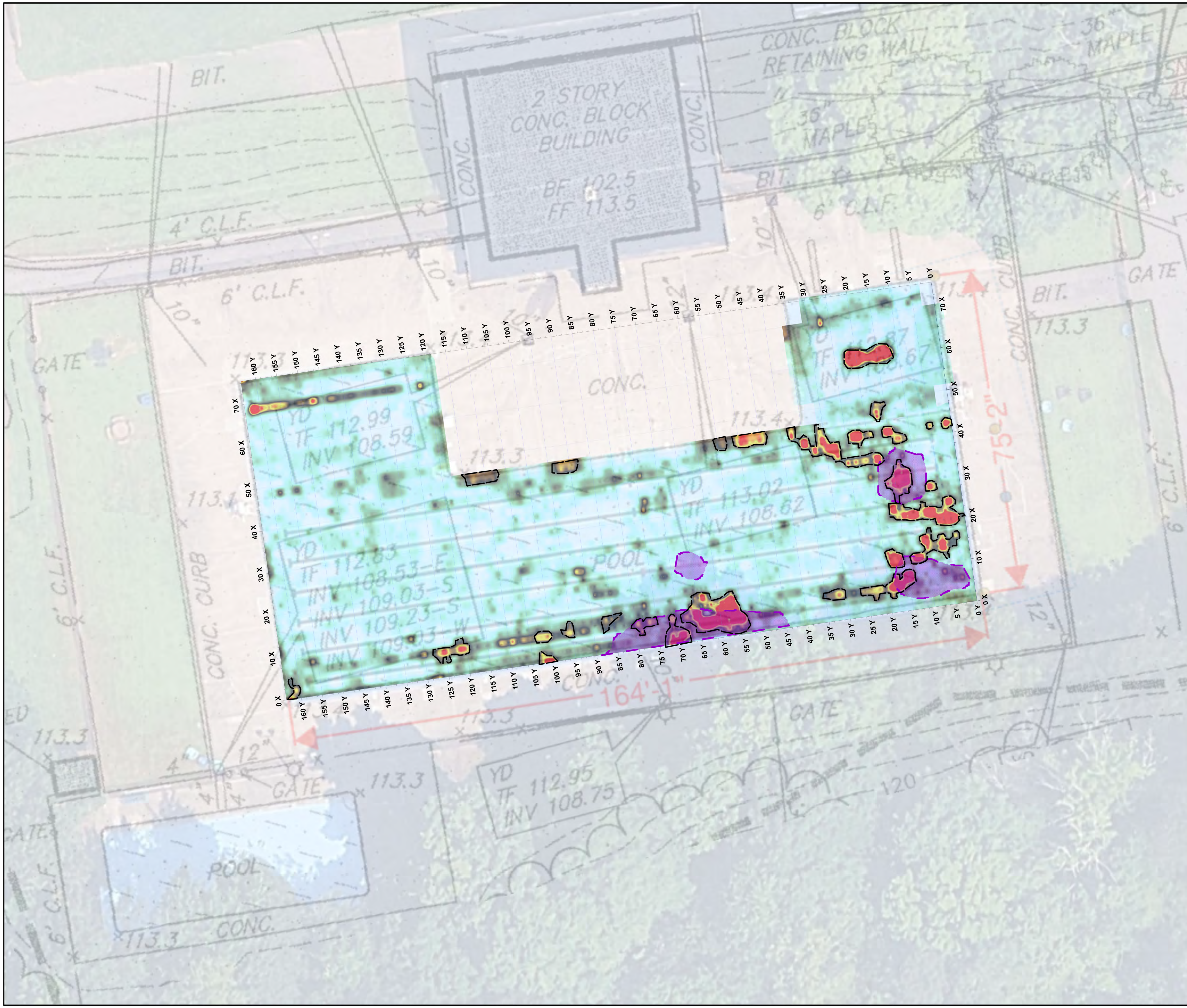
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3k
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 3.2 ft. to 3.3 ft.

increasing amplitude

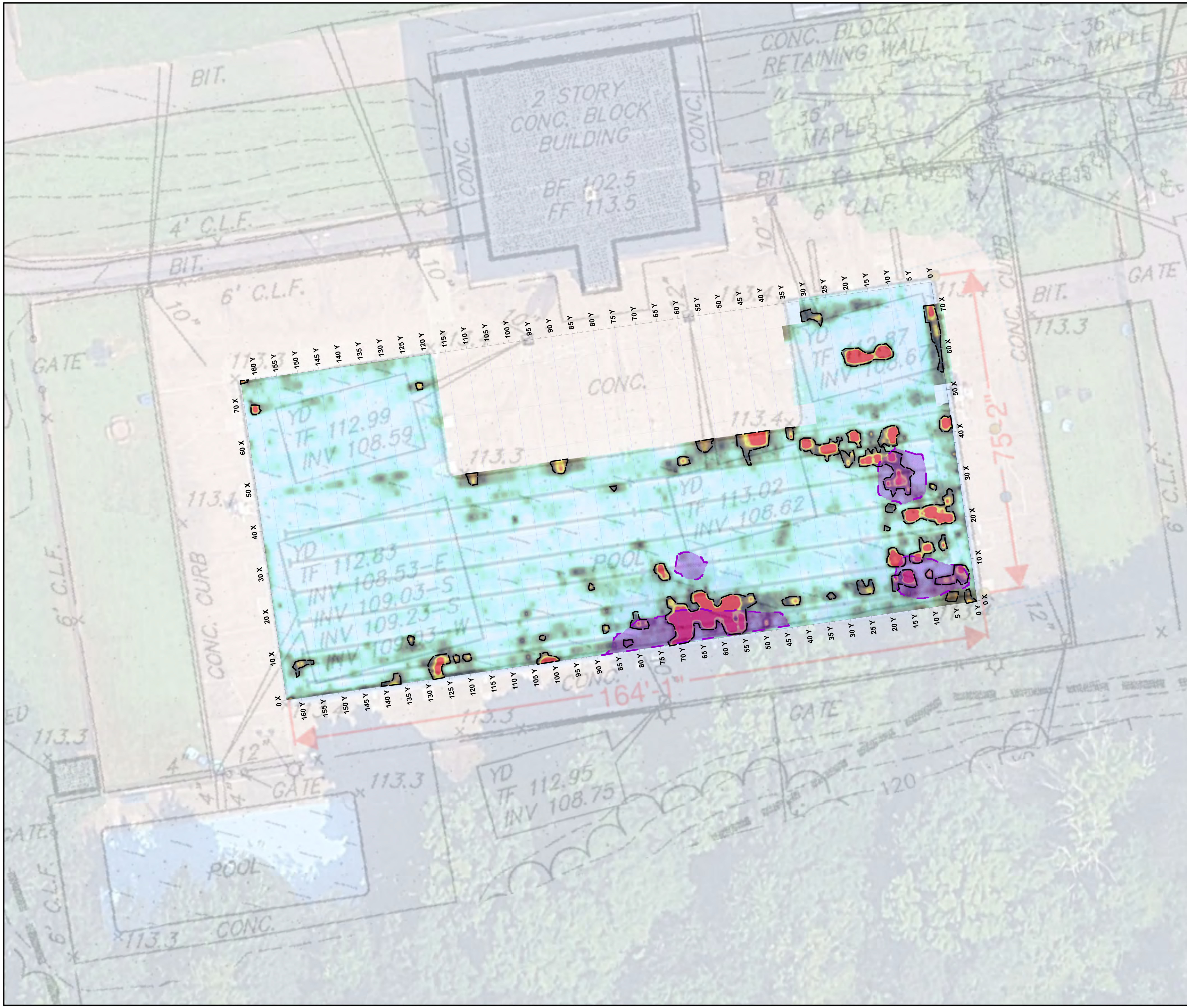
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3I
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 3.4 ft. to 3.5 ft.

increasing amplitude

low (weak) amplitude — high (strong) amplitude

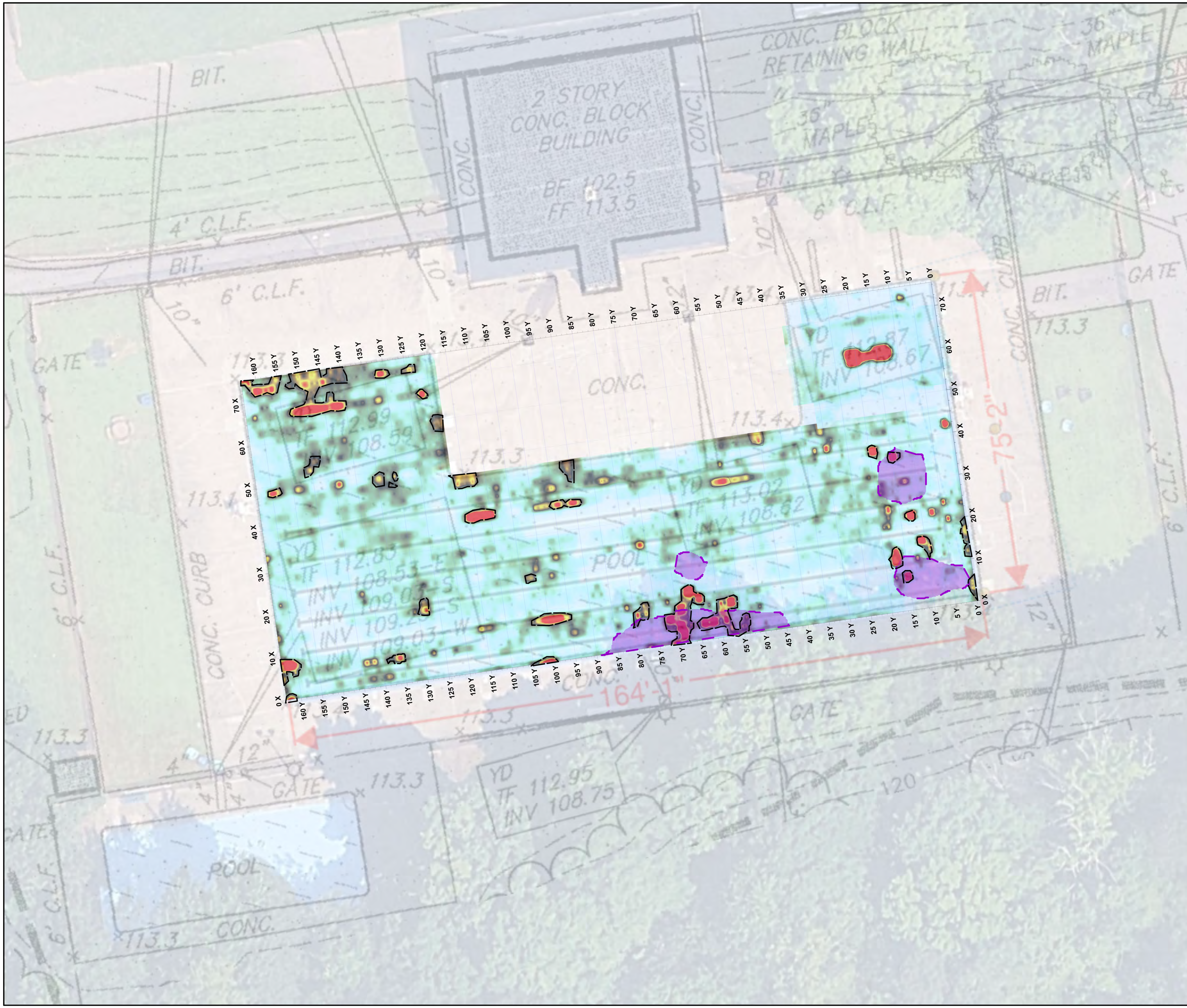
COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet

10 0 10 Feet

FIGURE 3m
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 3.7 ft. to 3.8 ft.

increasing amplitude

low (weak) amplitude

high (strong) amplitude

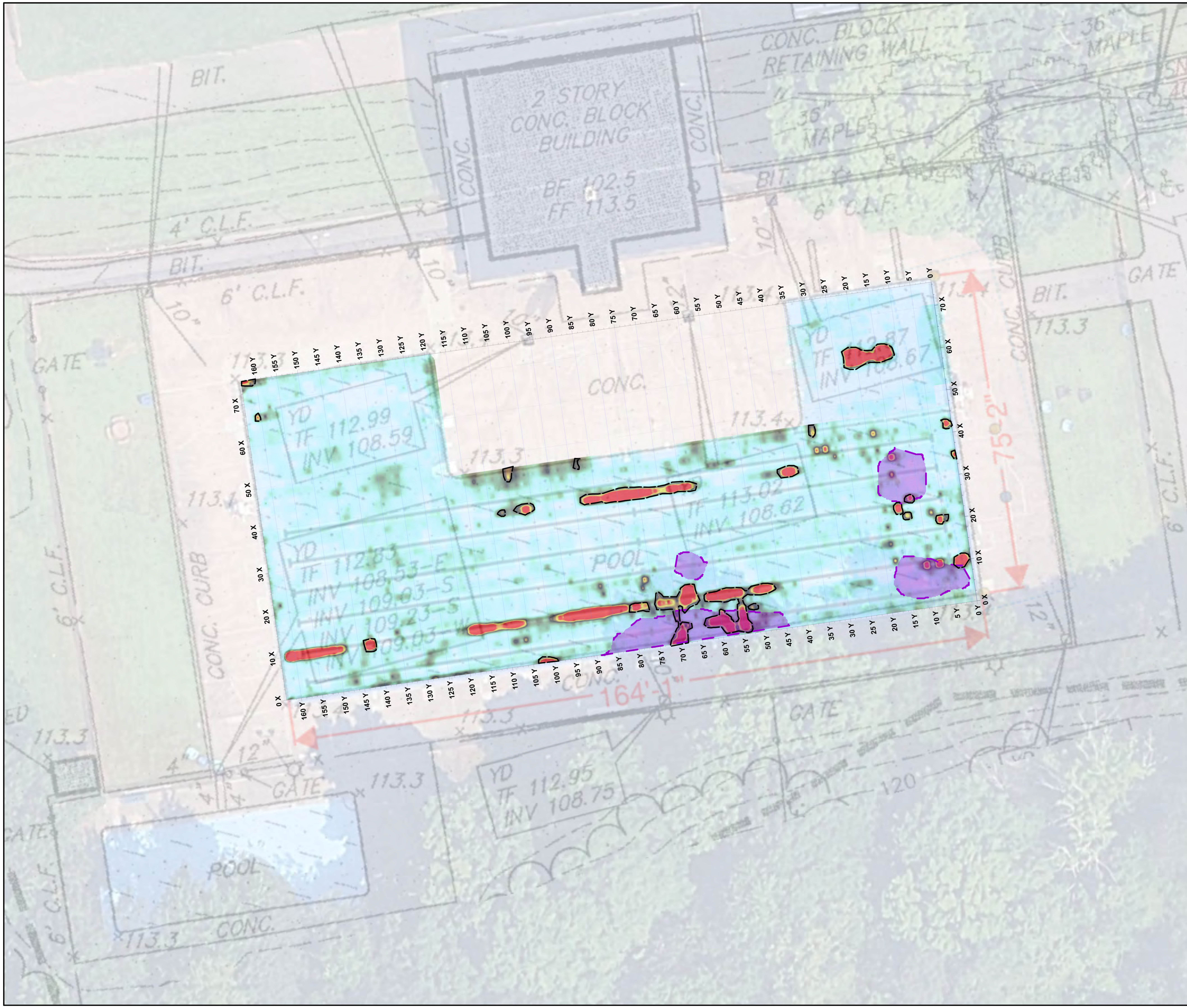
COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet

10 0 10 Feet

FIGURE 3n
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 4.1 ft. to 4.2 ft.

increasing amplitude

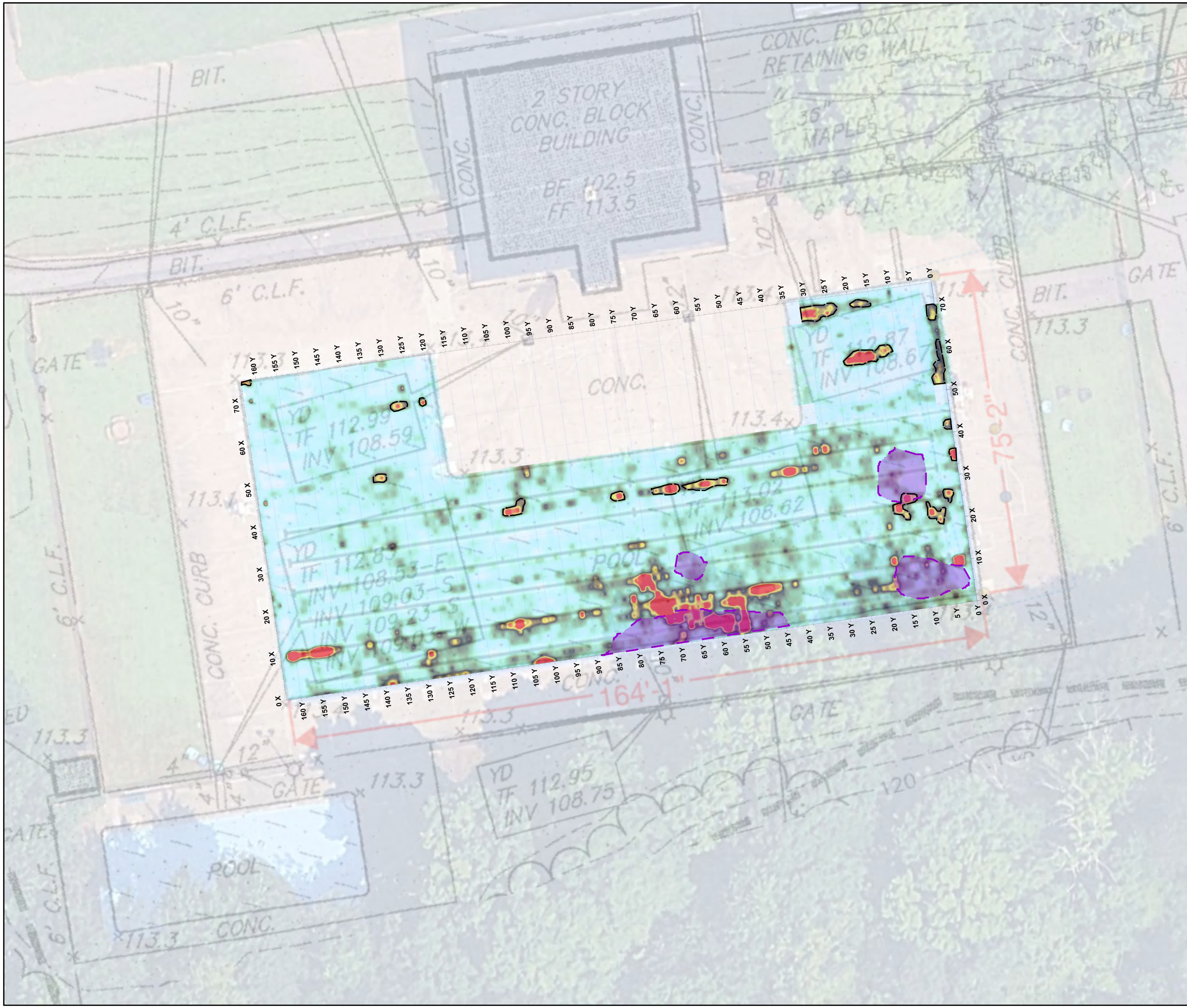
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet

FIGURE 3o
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 4.3 ft. to 4.4 ft.

increasing amplitude

low (weak) amplitude

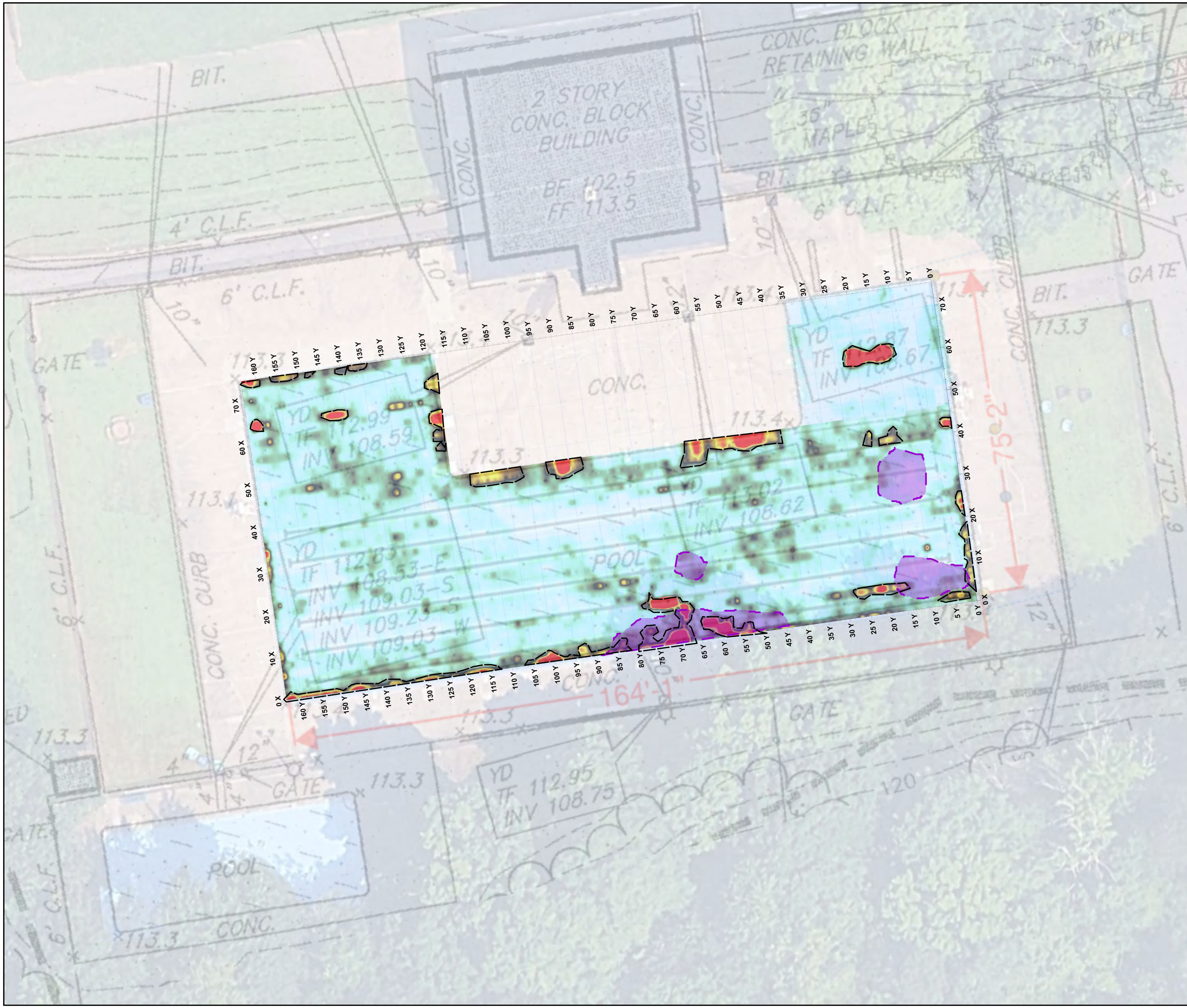
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3p
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 4.8 ft. to 4.9 ft.

increasing amplitude

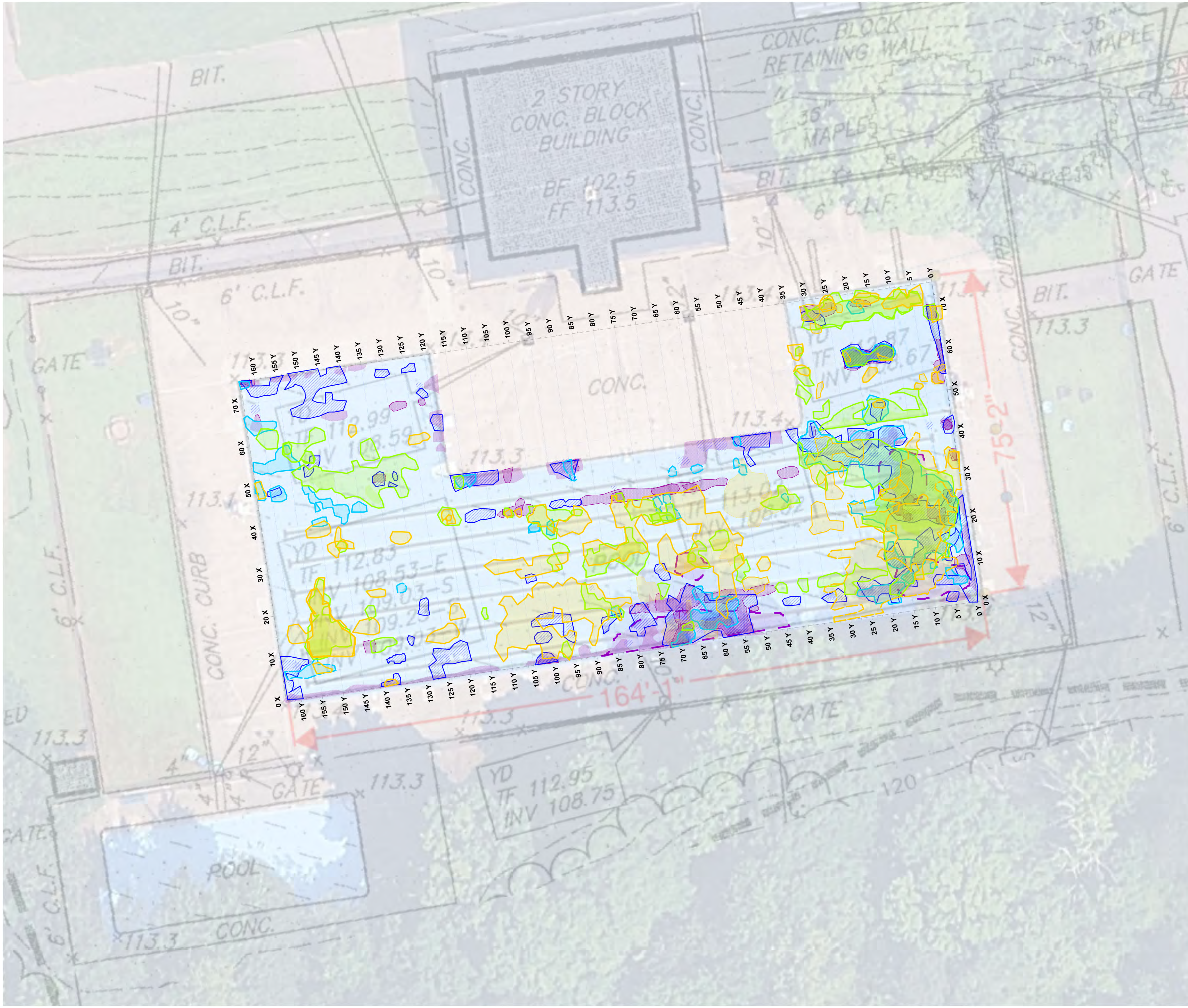
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3q
800 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

Concentration of possible voids, loosely packed soil and moisture accumulation observed 0-1 foot below grade. Deeper shading indicates a more dense concentration and greater vertical extent of potential voids

Concentration of possible voids, loosely packed soil and moisture accumulation observed 1-2 feet below grade. Deeper shading indicates a more dense concentration and greater vertical extent of potential voids

Concentration of possible voids, loosely packed soil and moisture accumulation observed 2-3 feet below grade. Deeper shading indicates a more dense concentration and greater vertical extent of potential voids

Concentration of possible voids, loosely packed soil and moisture accumulation observed 3-4 feet below grade. Deeper shading indicates a more dense concentration and greater vertical extent of potential voids

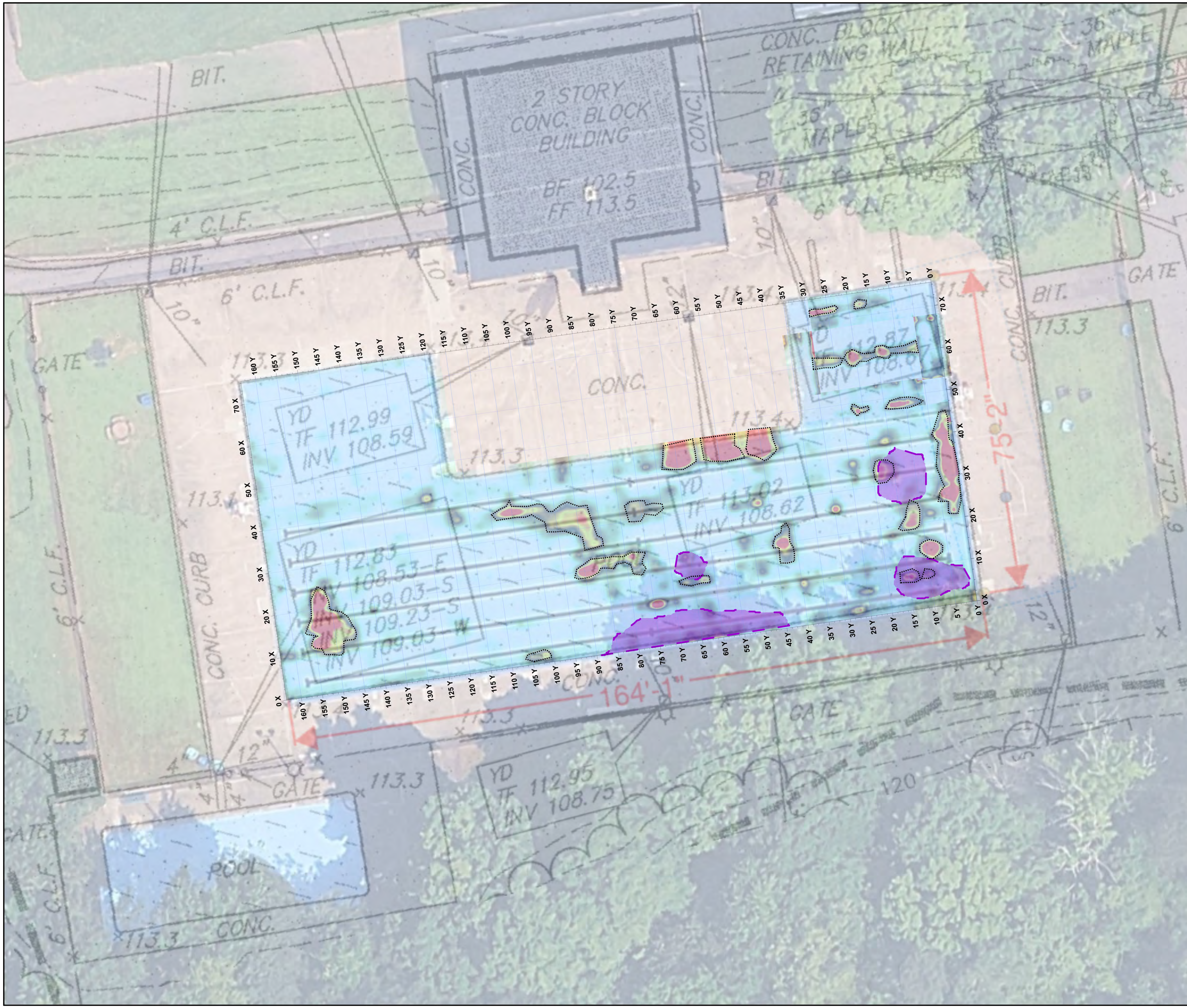
Concentration of possible voids, loosely packed soil and moisture accumulation observed 4-5 feet below grade. Deeper shading indicates a more dense concentration and greater vertical extent of potential voids

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 3r
800 MHz
SUMMARY OF DEPTH SLICE IMAGE INTERPRETATIONS
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.1 ft. to 0.4 ft.

increasing amplitude

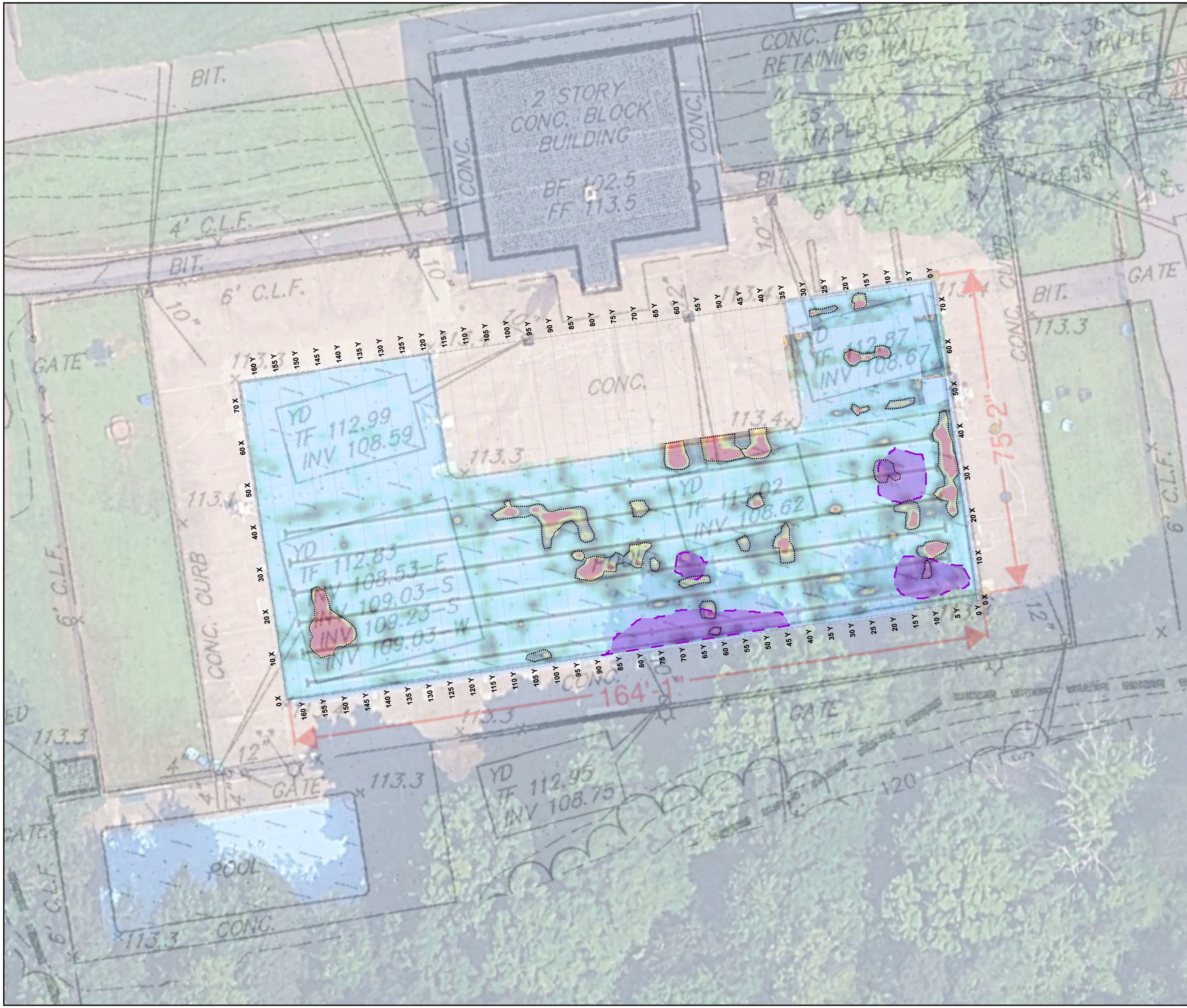
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4a
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.4 ft. to 0.6 ft.

increasing amplitude

low (weak) amplitude

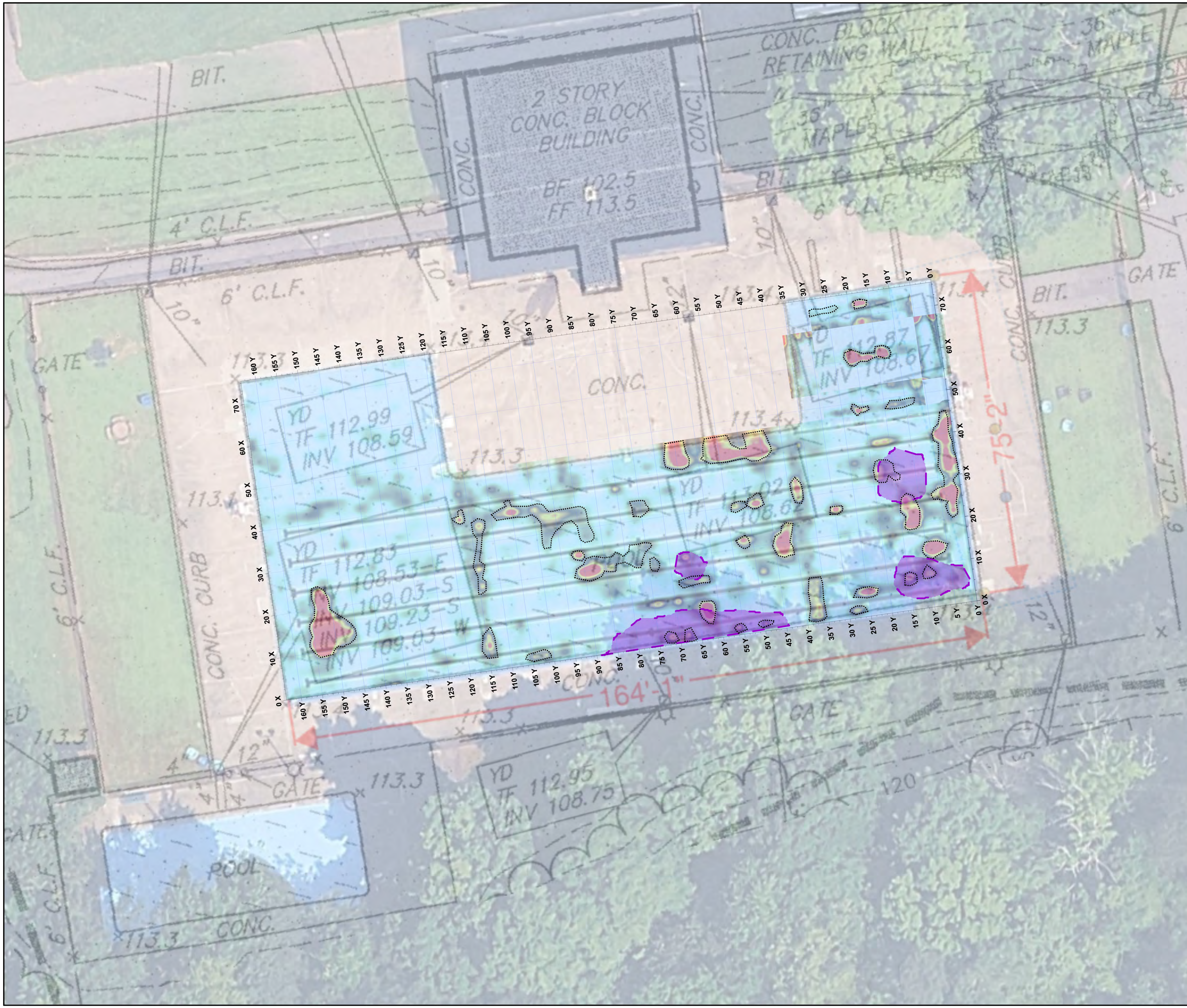
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4b
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 0.8 ft. to 1.0 ft.

increasing amplitude

low (weak) amplitude

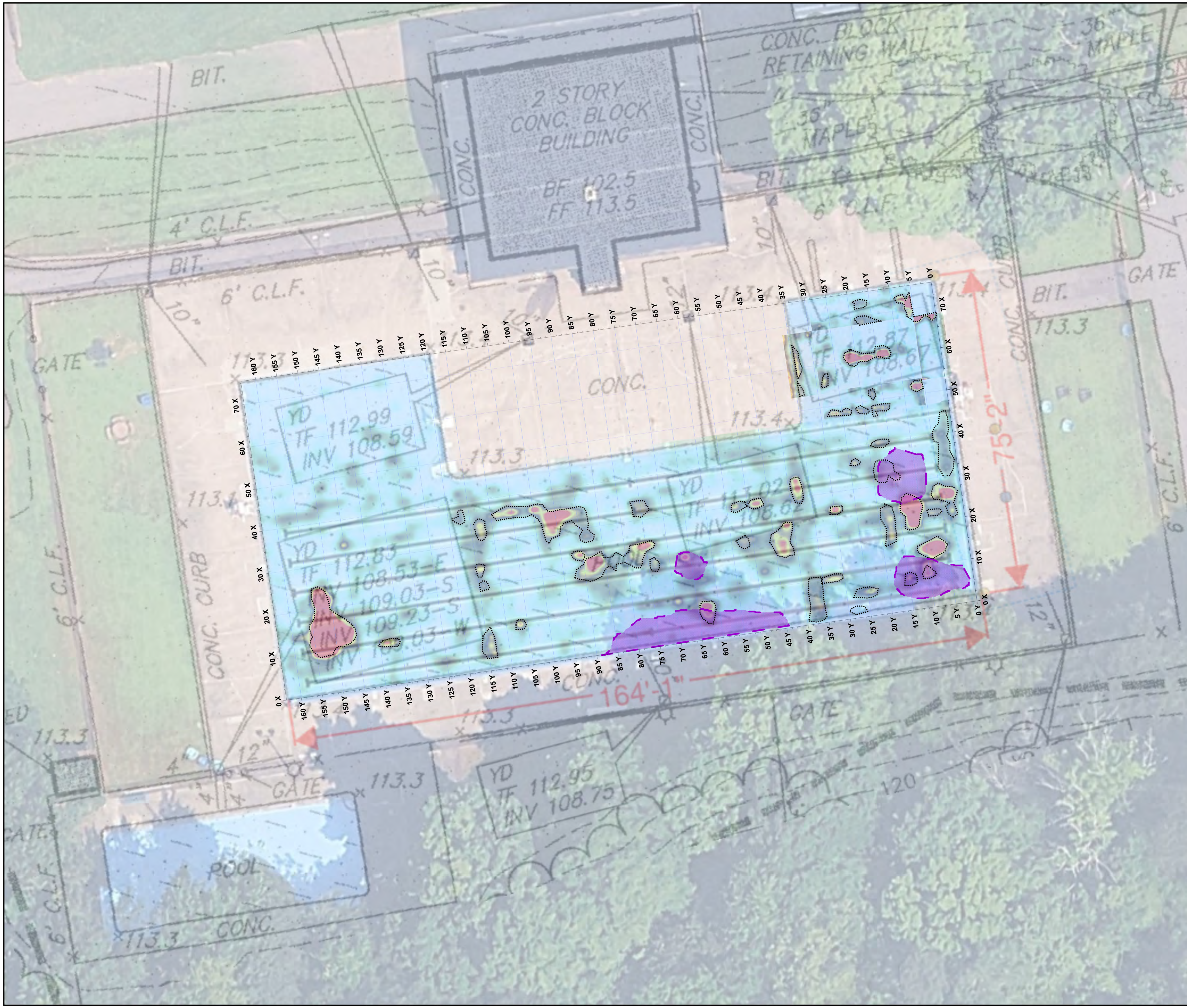
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4c
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 1.2 ft. to 1.4 ft.

increasing amplitude

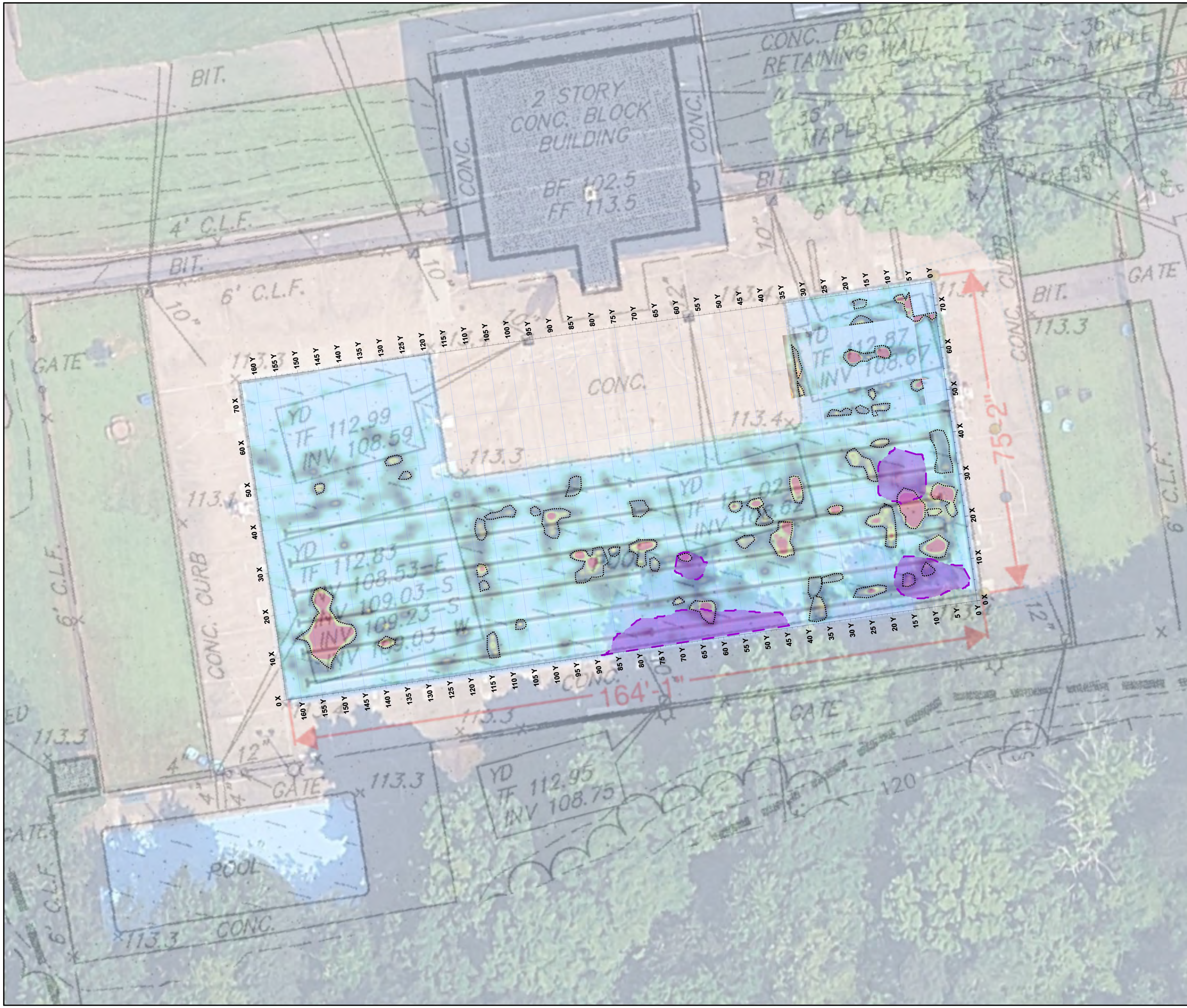
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4d
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 1.3 ft. to 1.6 ft.

increasing amplitude

low (weak) amplitude

high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

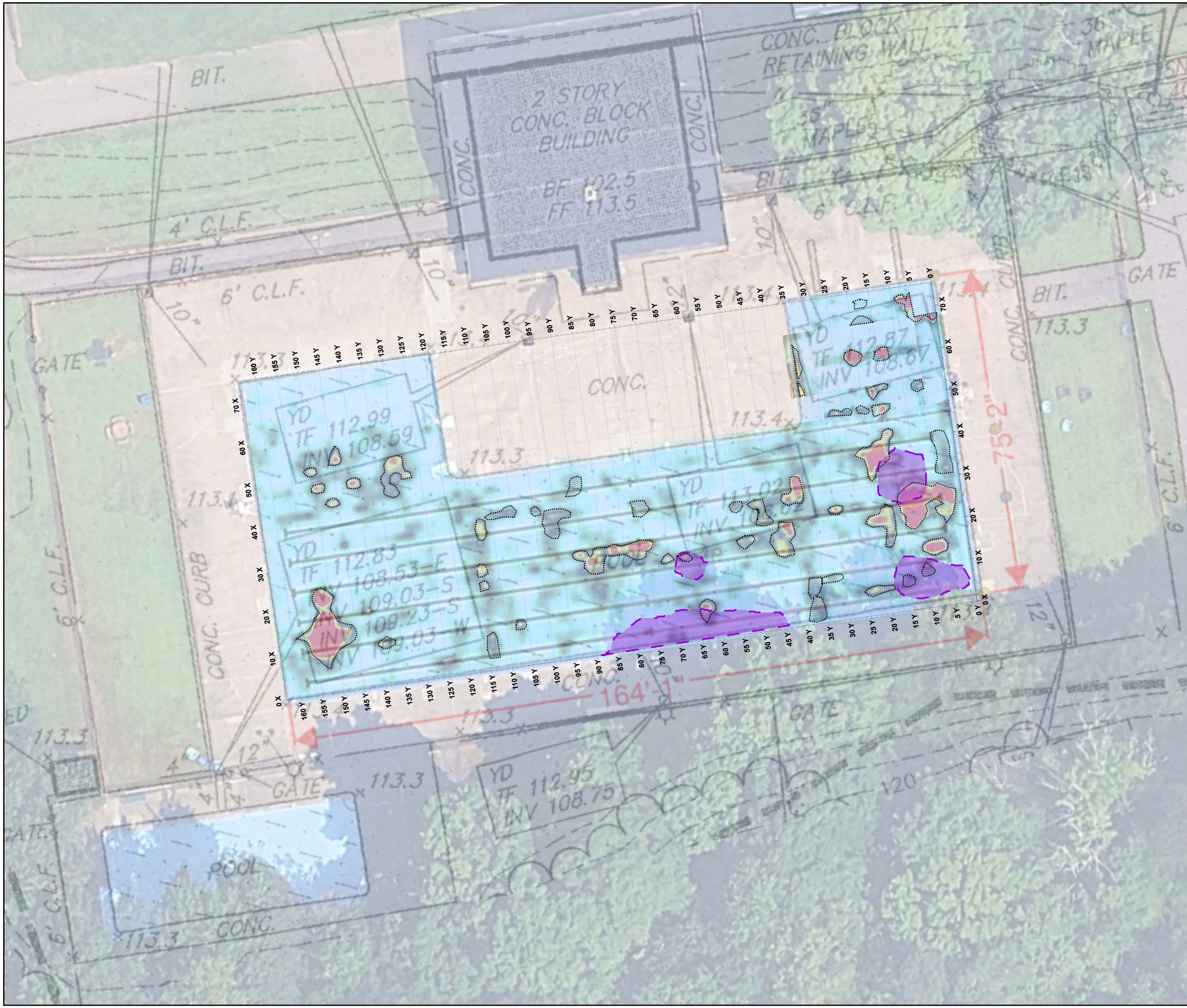
SCALE: 1 Inch = 10 Feet

10 0 10 Feet

FIGURE 4e
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment

Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 1.5 ft. to 1.8 ft.

increasing amplitude

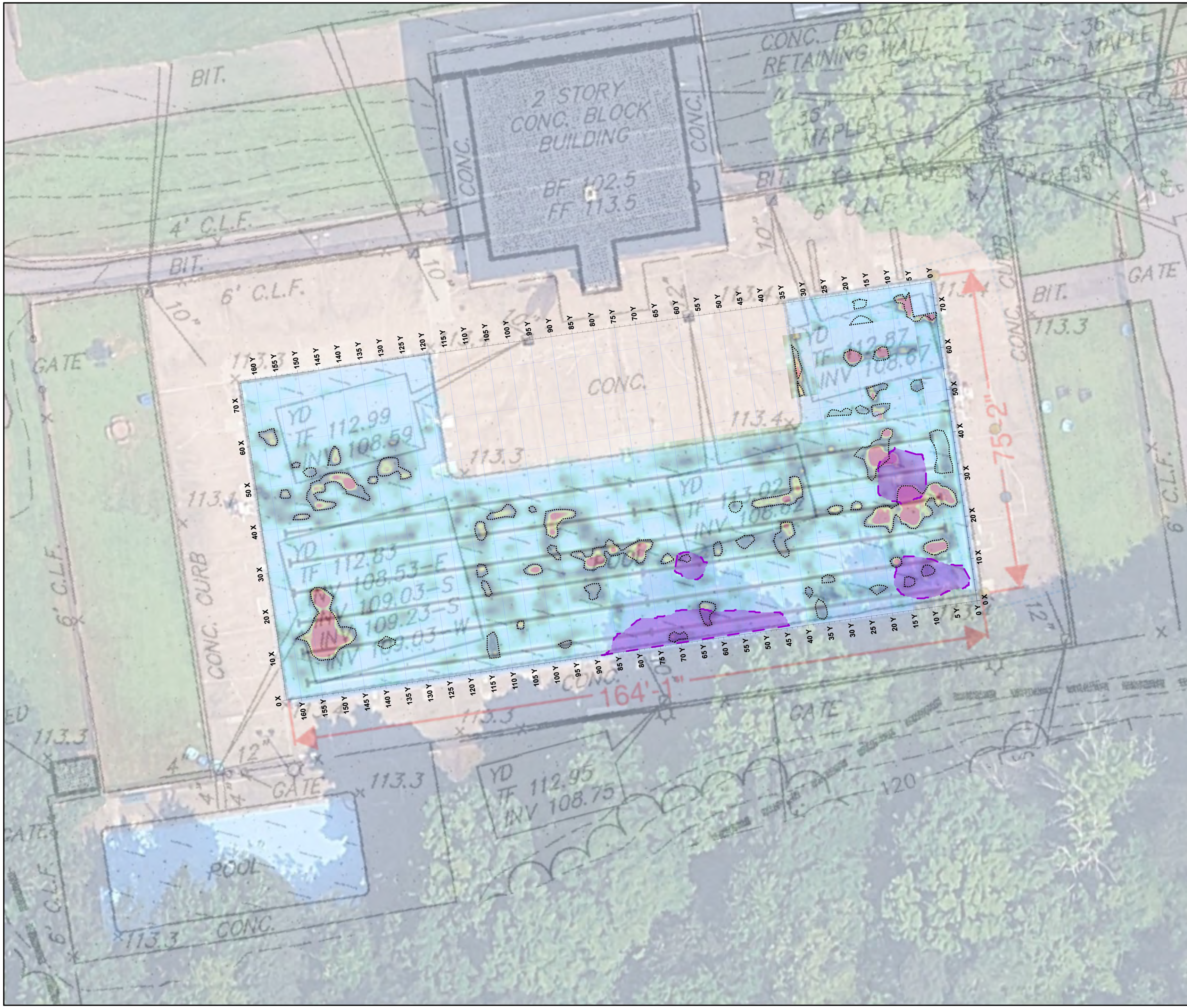
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4f
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 1.8 ft. to 2.1 ft.

increasing amplitude

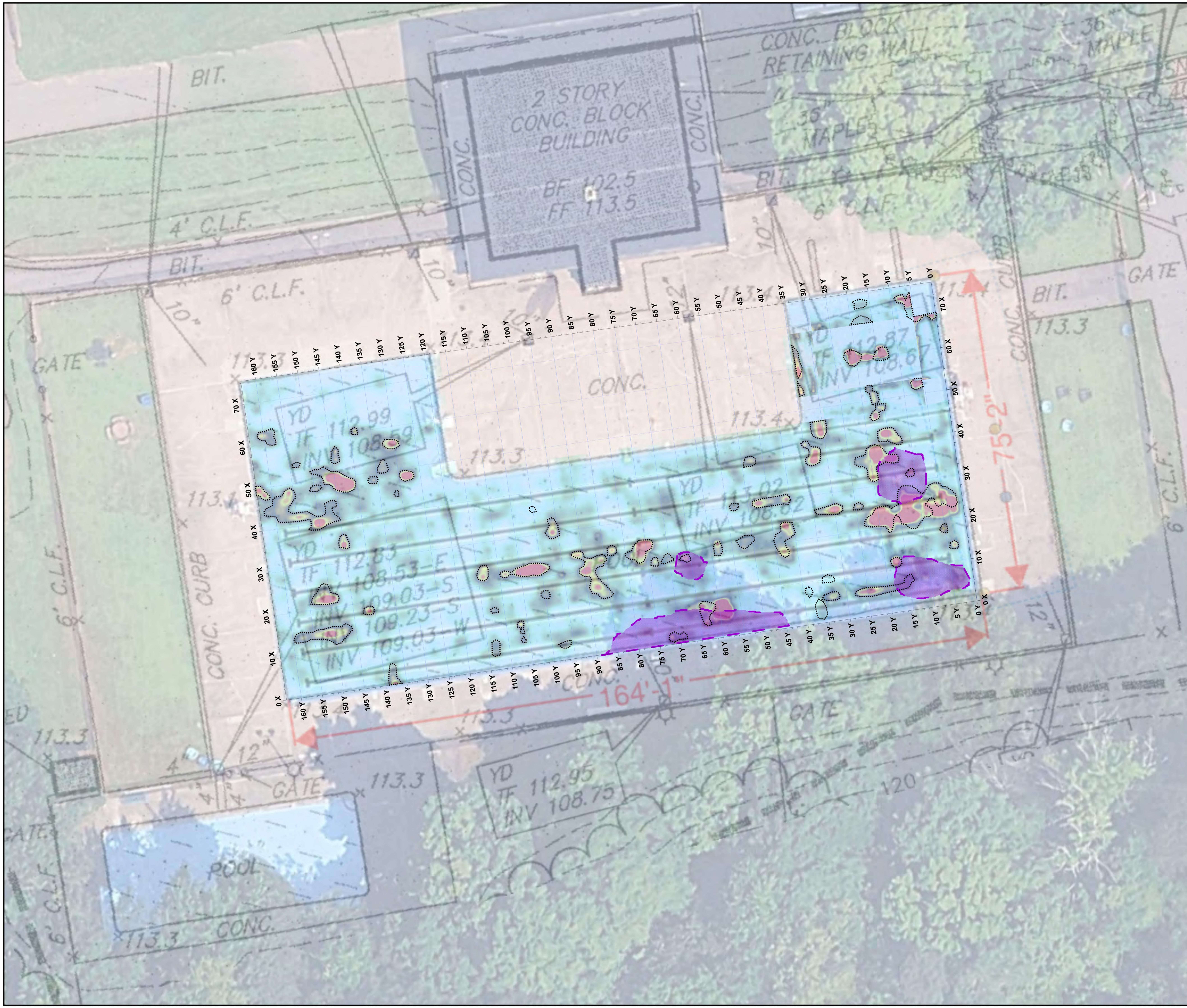
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4g
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 2.4 ft. to 2.7 ft.

increasing amplitude

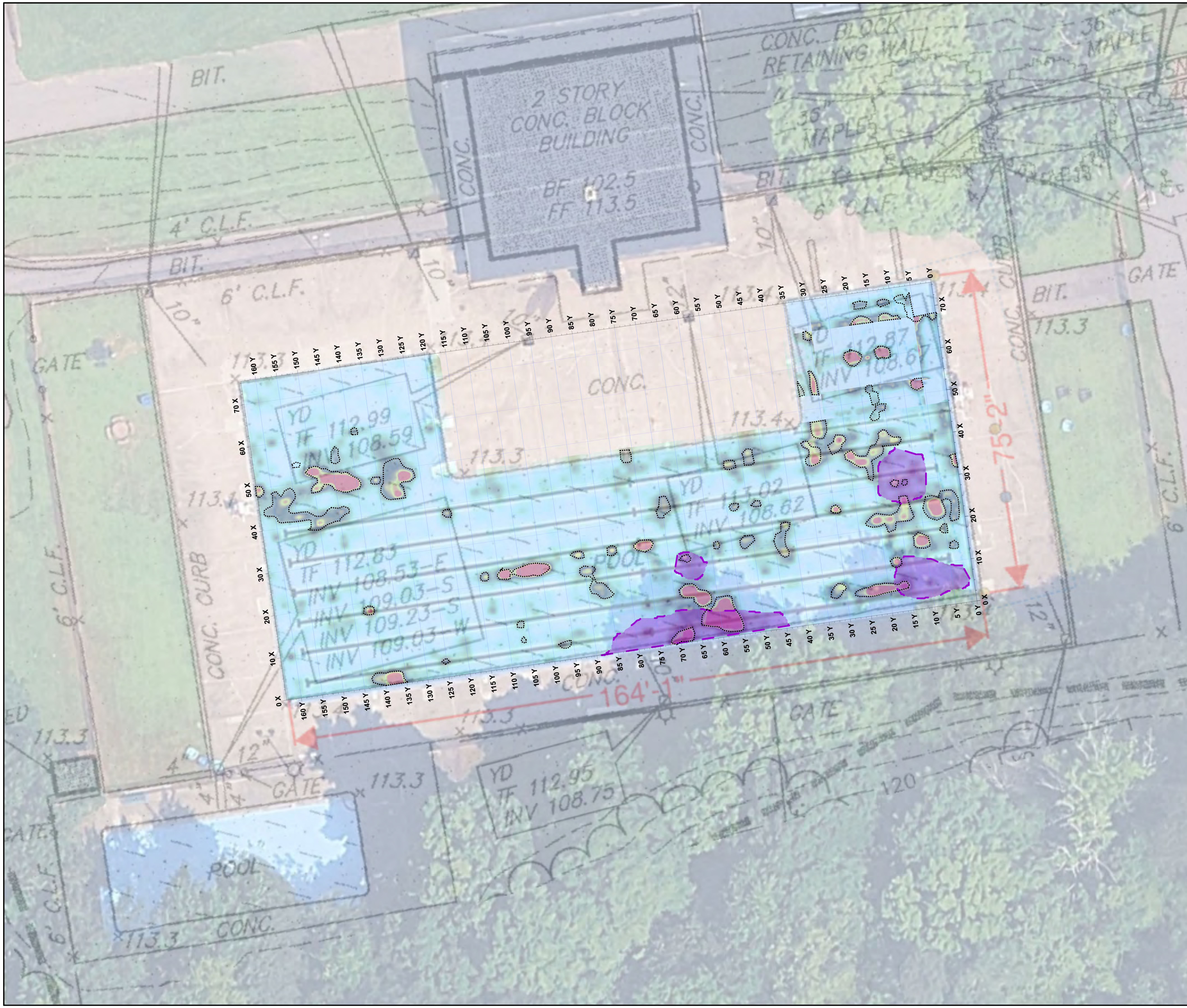
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4h
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 2.9 ft. to 3.1 ft.

increasing amplitude

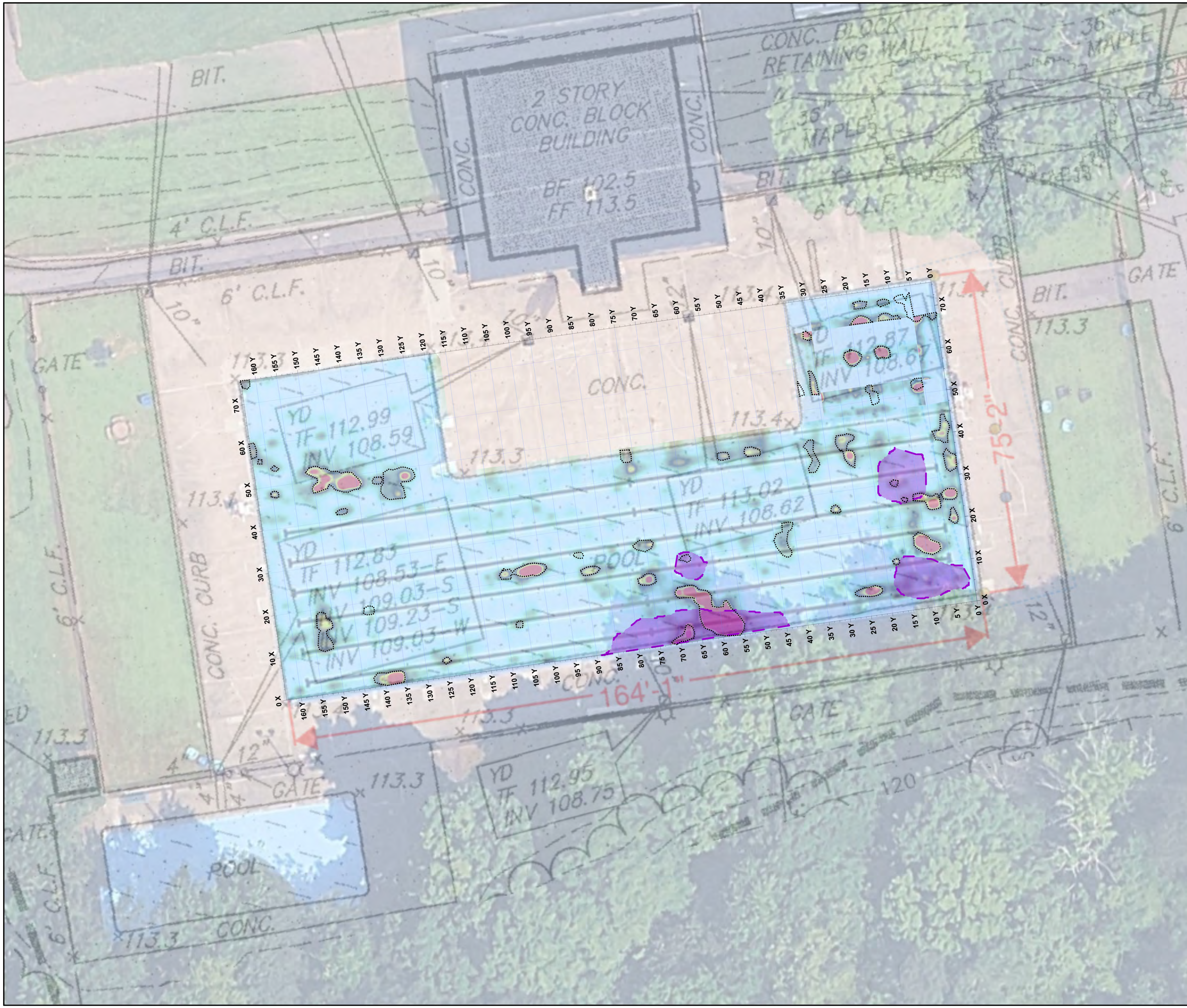
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4i
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 3.3 ft. to 3.5 ft.

increasing amplitude

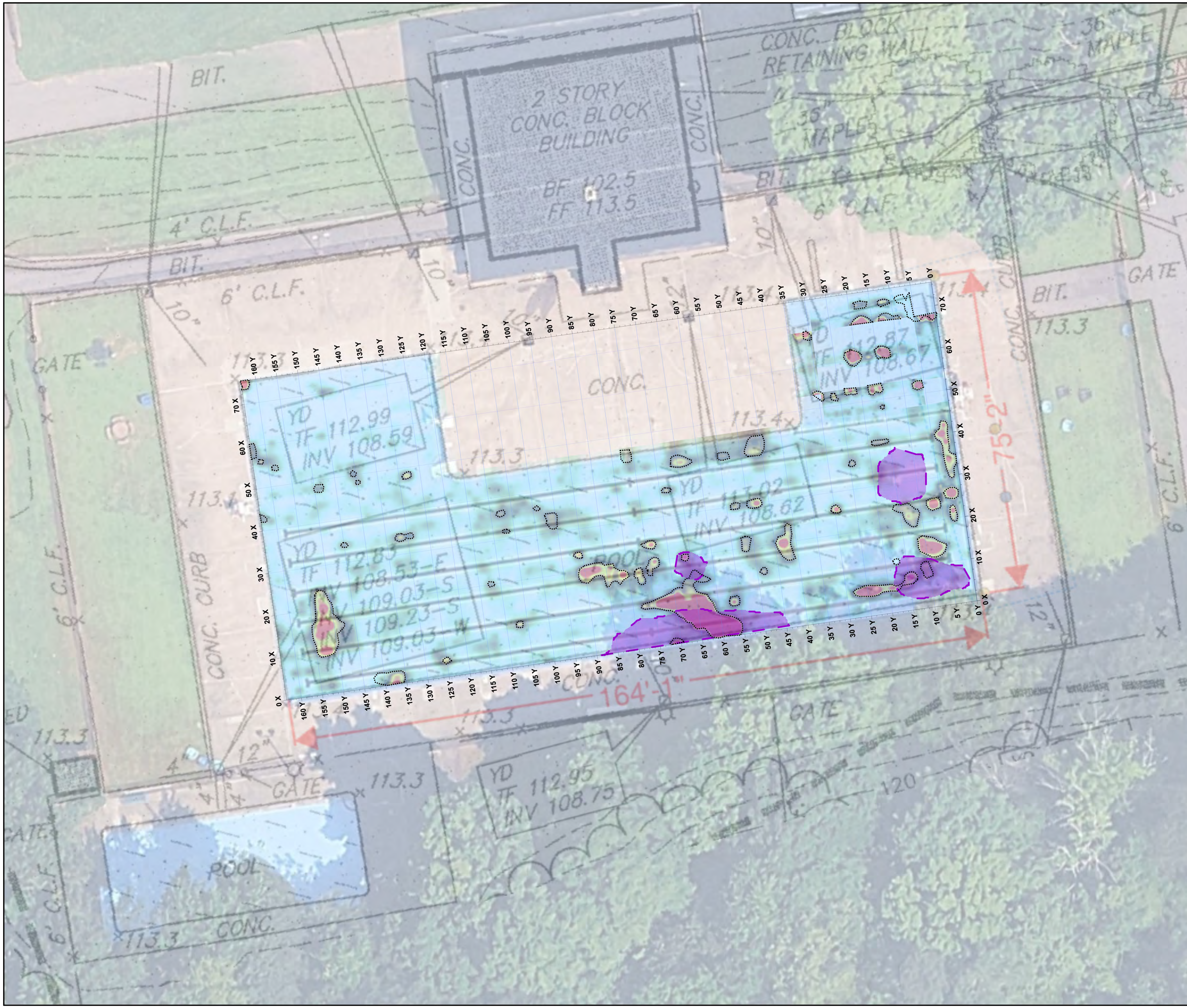
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet

FIGURE 4j
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 3.9 ft. to 4.2 ft.

increasing amplitude

low (weak) amplitude

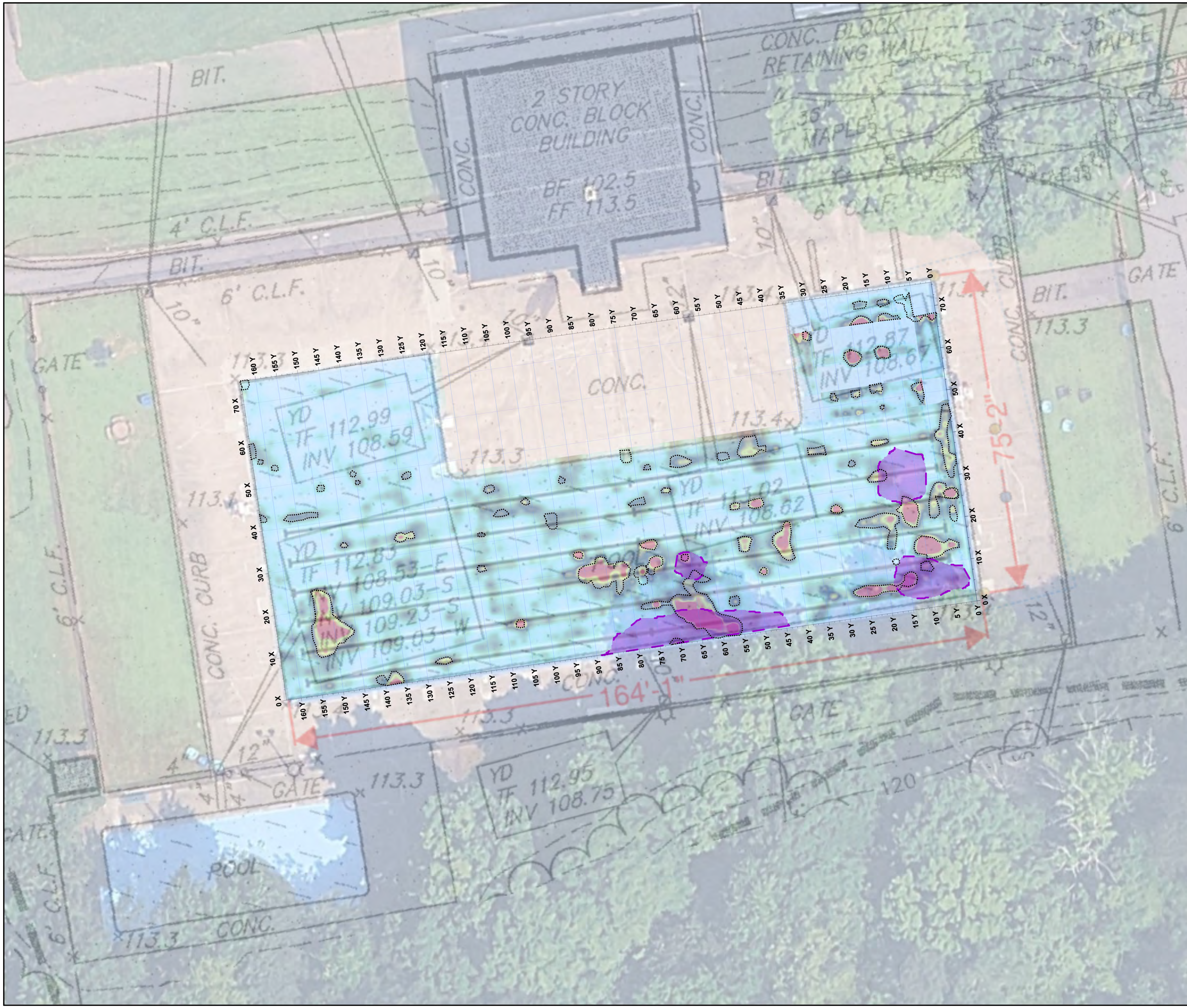
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4k
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 4.7 ft. to 5.0 ft.

increasing amplitude

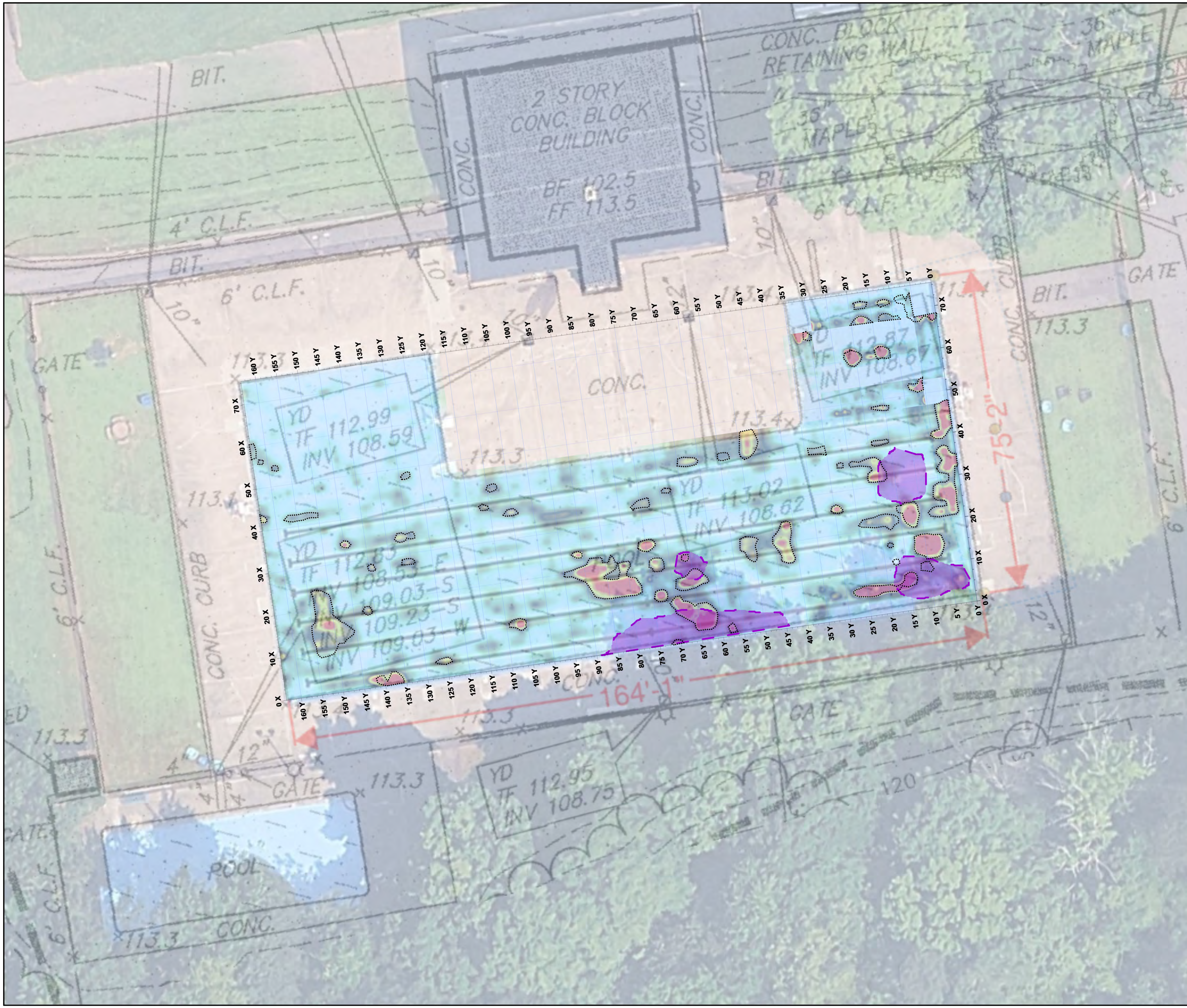
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4I
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 5.4 ft. to 5.6 ft.

increasing amplitude

low (weak) amplitude

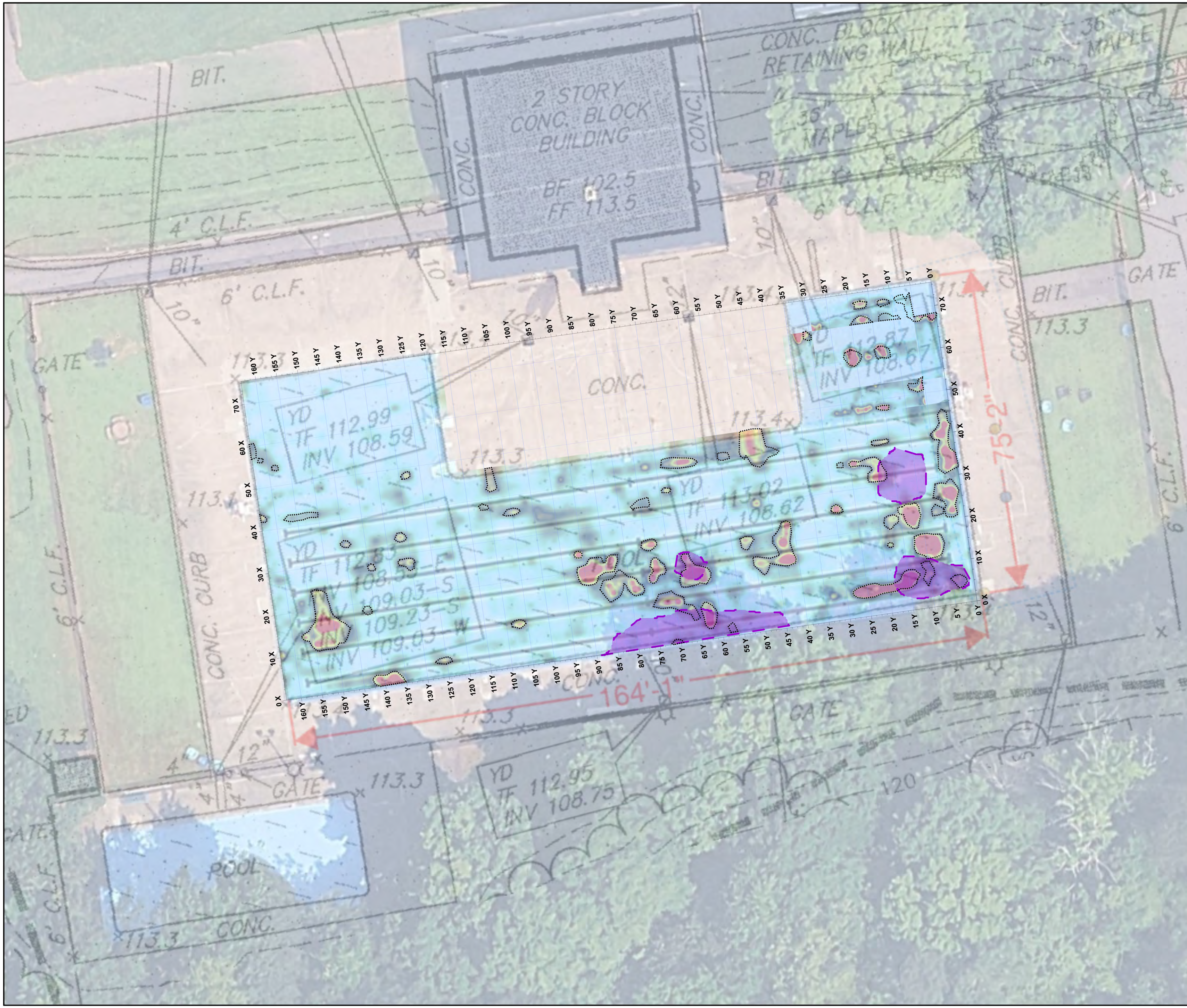
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4m
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 5.8 ft. to 6.0 ft.

increasing amplitude

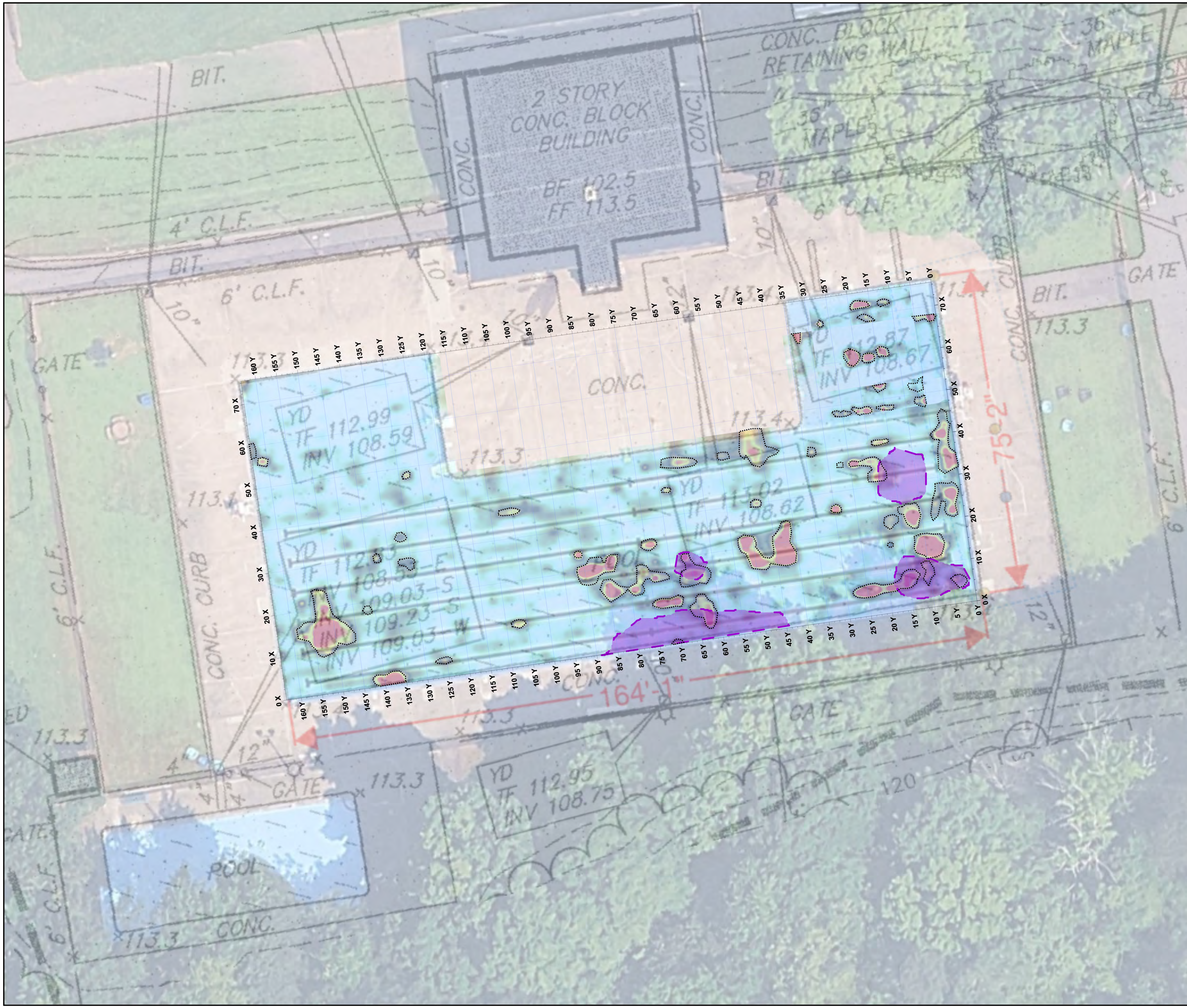
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4n
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 6.3 ft. to 6.6 ft.

increasing amplitude

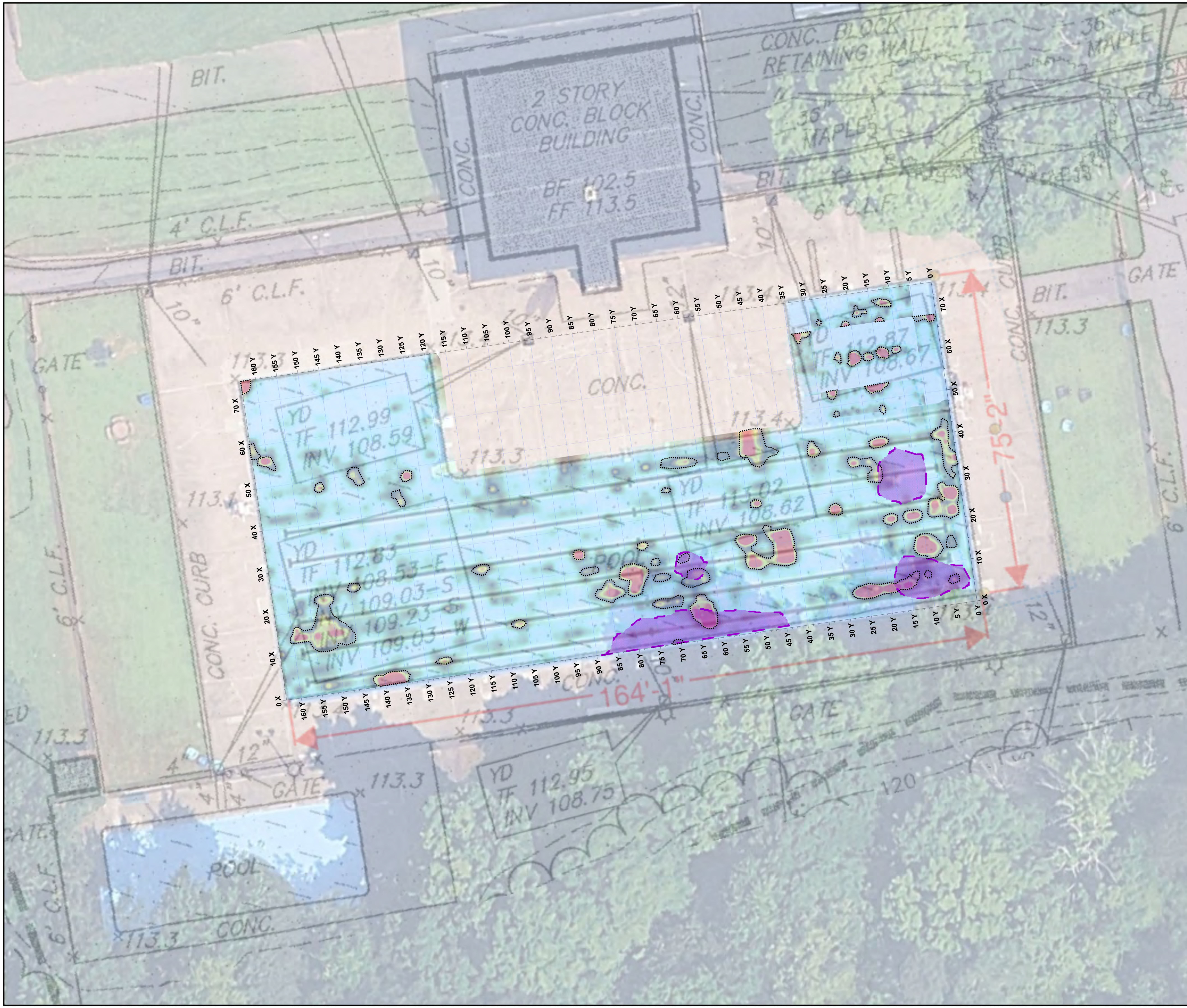
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4o
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 6.8 ft. to 7.1 ft.

increasing amplitude

low (weak) amplitude

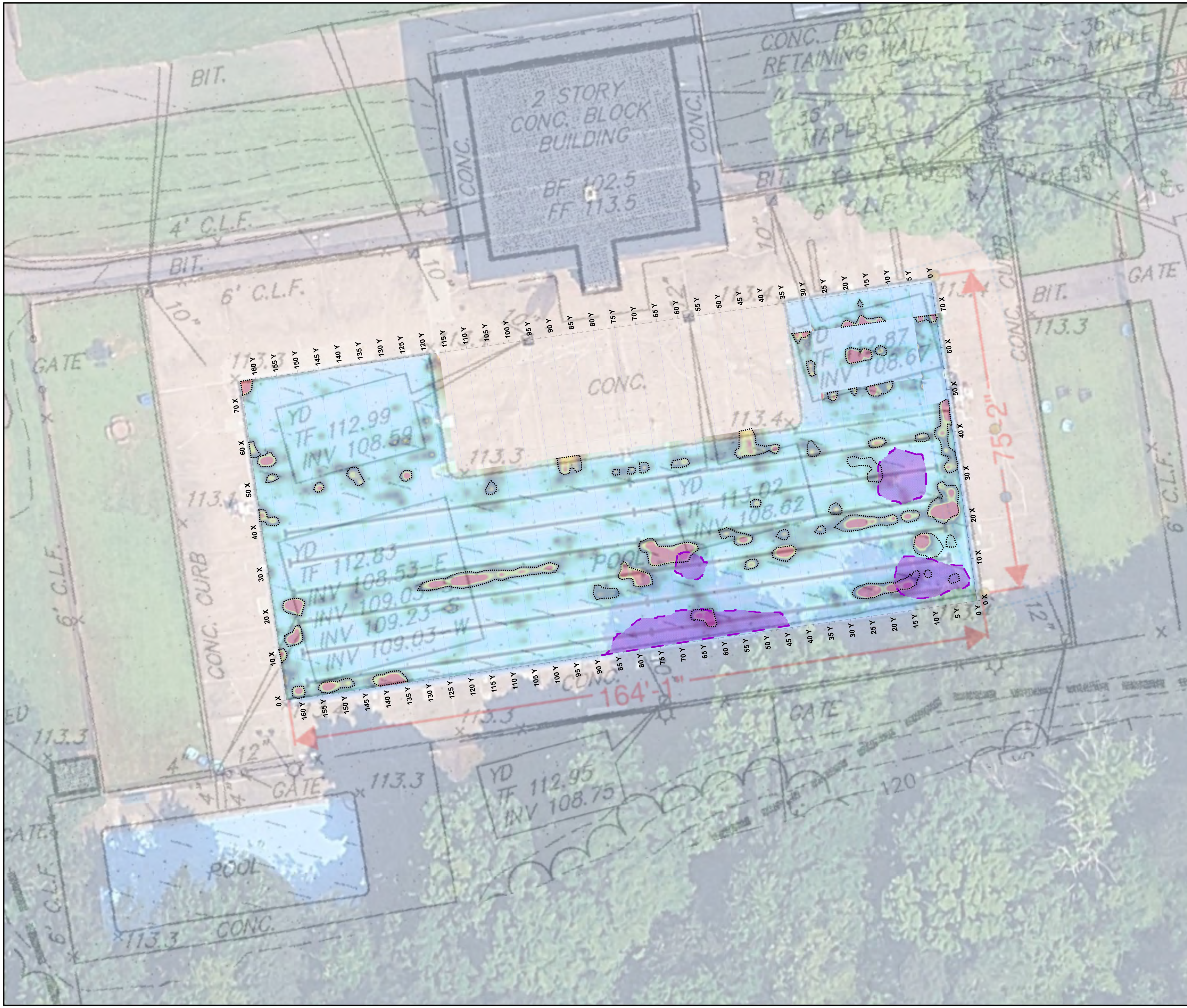
high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4p
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 7.4 ft. to 7.7 ft.

increasing amplitude

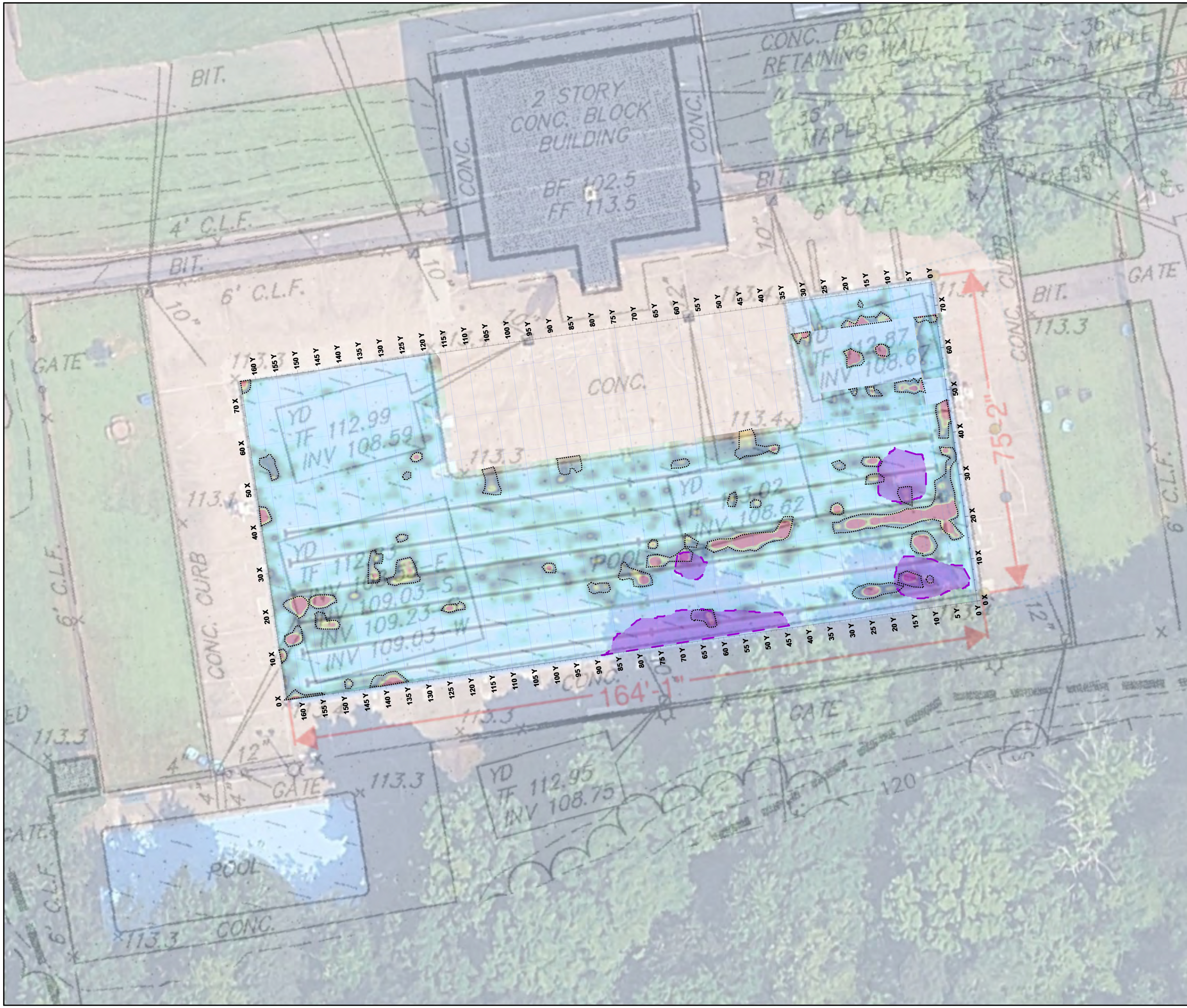
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4q
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 7.9 ft. to 8.1 ft.

increasing amplitude

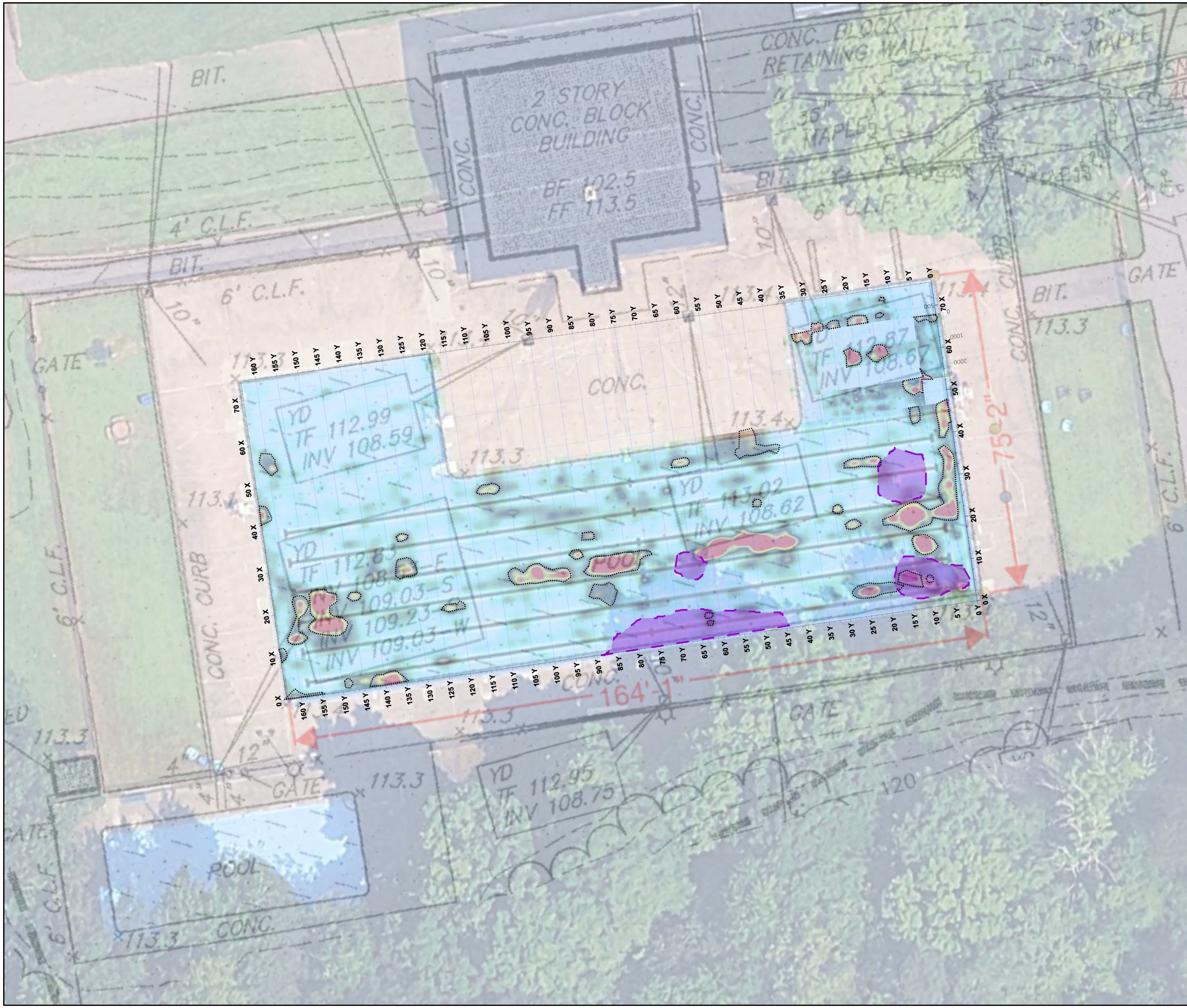
low (weak) amplitude — high (strong) amplitude

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4r
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

DEPTH: 8.3 ft. to 8.5 ft.

increasing amplitude

low (weak) amplitude

high (strong) amplitude

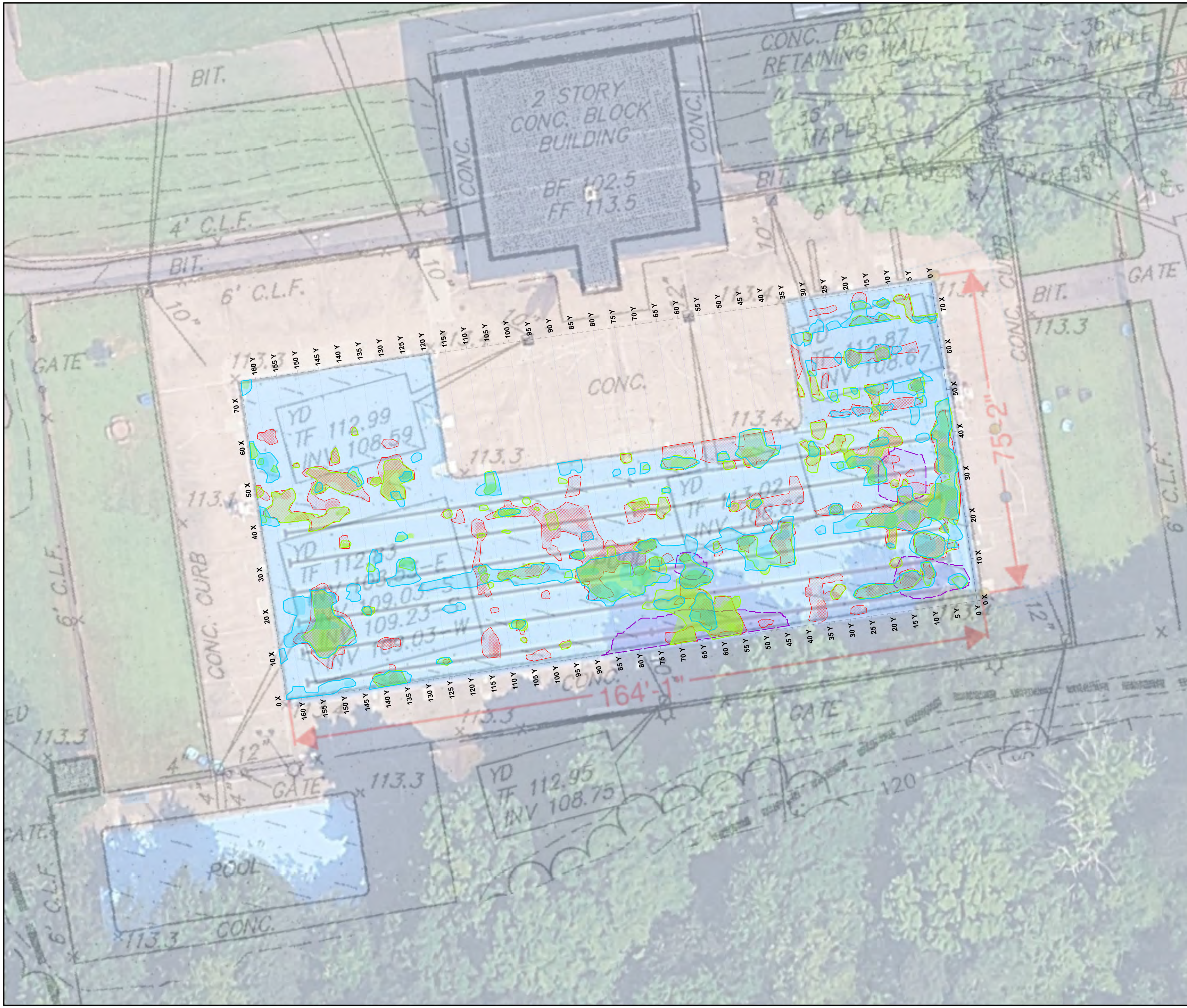
COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet

10 0 10 Feet

FIGURE 4s
400 MHz
REPRESENTATIVE DEPTH SLICE IMAGE
WITH EMI
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

Concentration of possible voids, loosely packed soil and moisture accumulation observed 0-3 feet below grade. Deeper shading indicates a more dense concentration and greater vertical extent of potential voids

Concentration of possible voids, loosely packed soil and moisture accumulation observed 3-6 feet below grade. Deeper shading indicates a more dense concentration and greater vertical extent of potential voids

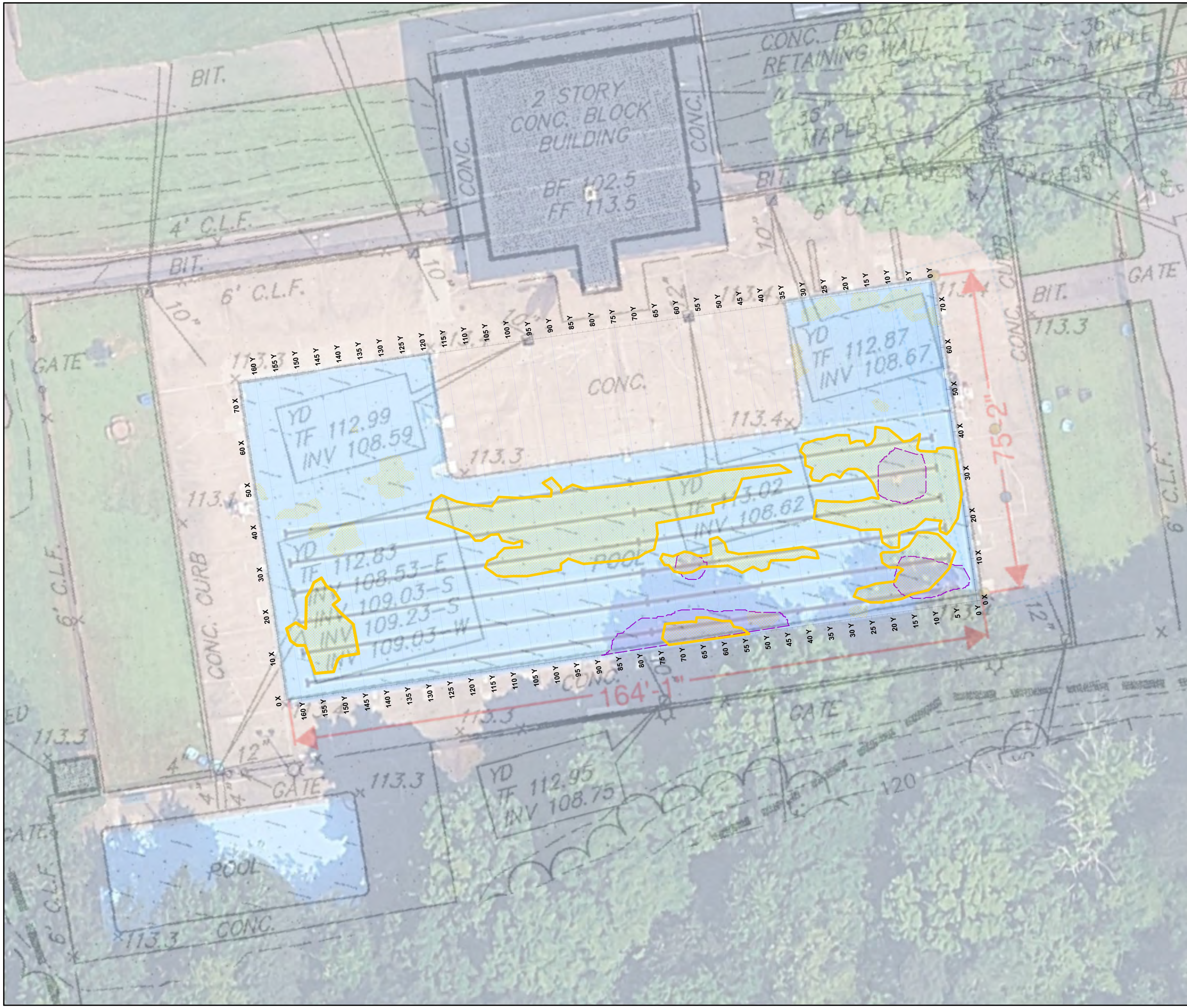
Concentration of possible voids, loosely packed soil and moisture accumulation observed 6+ feet below grade. Deeper shading indicates a more dense concentration and greater vertical extent of potential voids

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 4t
SUMMARY OF 400 MHz
DEPTH SLICE IMAGES
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Zone of High-Amplitude GPR Reflections that could indicate an area of voiding and/or moisture accumulation, or structural steel, if linear

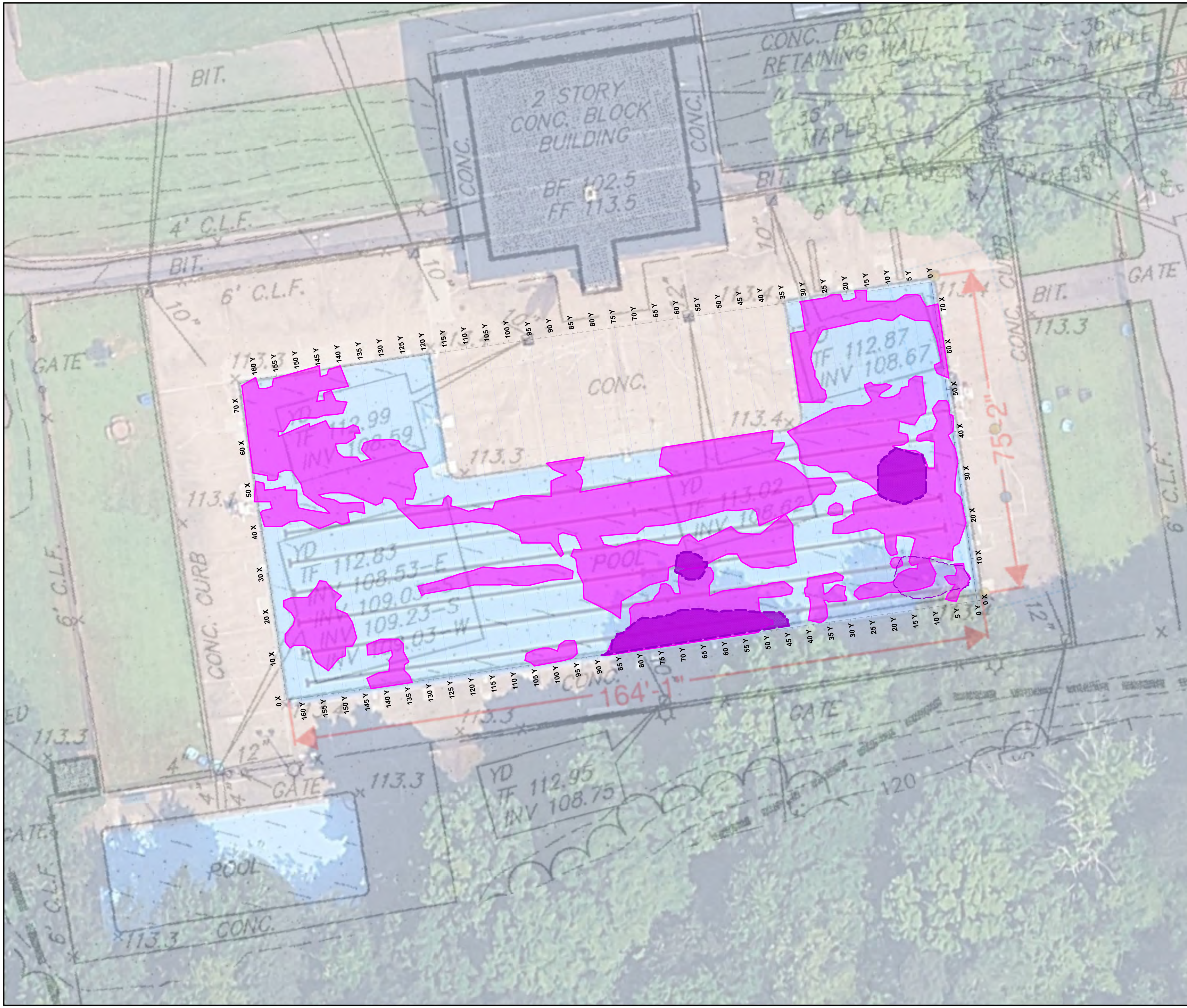
Interpreted areas of potential concrete delamination and cracking

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 5a
POTENTIAL AREAS OF CRACKED AND DELMAINATED CONCRETE (0-1 FT)
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™



LEGEND

Possible Void Observed Real-Time

Depth Slice Image Legend:

Interpreted areas of potential voiding and/or loosely packed fill/soil below concrete

COORDINATE SYSTEM
CONNECTICUT
STATE PLANE NAD(83)
US SURVEY FEET

SCALE: 1 Inch = 10 Feet
10 0 10 Feet

FIGURE 5b
POTENTIAL AREAS OF VOIDING AND/OR LOOSELY PACKED FILL/SOIL (1-6+ FT)
CHURCHILL PARK POOL
1989 MAIN STREET
NEWINGTON, CONNECTICUT
Prepared for
TOWN OF NEWINGTON CT
NOVEMBER 2025

RSI Geophysics for People and the Environment
Radar Solutions International, Inc.™

APPENDIX E

Geotechnical Report

December 10, 2025

Town of Newington
Parks and Recreation Department
200 Garfield Street, Newington, Connecticut 06111
Attention: Mr. Jonathan Altshul, Town Manager
email: altshul@newingtonct.gov

Re: Mill Pond Park – Phase II
Repair of Existing Pool
123 Garfield Street, Newington, Connecticut
Town of Newington P.O. 260828

Dear Mr. Altshul,

This letter report summarizes the results of recent test borings and foundation design studies for the Phase II renovations of the existing Mill Pond Park pool in Newington, Connecticut. This recent work was undertaken in accordance with our proposal dated September 15, 2025, as authorized by your October 27, 2025 Purchase Order Agreement.

As background, in 2020 and 2021, GNCB provided geotechnical engineering services to the Town of Newington architect, to construct a new pool at the park. GNCB summarized the results of that geotechnical engineering study, including the results of 15 test borings and 3 groundwater wells, in a report to the Town of Newington dated April 18, 2021.

At this time, the Town of Newington has engaged the design services of Weston & Sampson to proceed with options to repair the existing pool; current plans are to insert a new liner within the pool. To provide additional subsurface soil and groundwater information within the vicinity of the existing pool, two additional test borings B16 and B17, and an observation well B16/OW was recently completed. These recently completed test borings confirm the conditions revealed by the earlier 2020 investigations. Specifically, soil conditions around the existing pool typically consist of a thin surface man-placed fill/topsoil underlain by a thick deposit of glaciolacustrine silt, however, groundwater levels are consistently shallow, typically within 5 ft. of ground surface. We conclude that the existing subsurface soils can safely support a new pool liner within the confines of the existing pool. However, we recommend installation of a perimeter and underslab drainage systems to provide hydrostatic relief from the elevated groundwater levels in the area, particularly during temporary periods of pool maintenance as well as during an extended construction period of pool repair.

PURPOSE AND SCOPE:

The purpose of this study was to investigate soil and groundwater conditions within the vicinity of the existing park pool, and to develop foundation design recommendations for its repair. Comments on geotechnical engineering aspects of project construction are also provided.

To achieve these objectives, GNCB Consulting Engineers, P.C. (GNCB) completed the following scope of work:

- Arranged for and monitored a program of 2 additional test borings (B16 to B17) and one groundwater observation well (at B16/OW).
- Made several rounds of groundwater level readings at all the wells, including conducting rising head permeability tests at 2 wells.
- Completed soil laboratory index tests, consisting of hydrometer analysis and natural water content, on two test boring jar samples to characterize soil properties.
- Conducted engineering analyses on soil bearing capacity, settlement, seismic requirements, and other aspects of project design.
- Prepared an engineering report that summarizes the work completed.

GNCB worked in close association with Weston & Sampson (WS), the firm engaged by the Town of Newington as project design engineer.

SITE LOCATION AND SURFACE CONDITIONS:

Mill Pond Park is located southeast of the intersection of Willard Avenue (Route 173) and Garfield Street and just south of the town offices in Newington, Connecticut. Mill Pond Park is largely a grass and wooded area with foot paths and athletic fields; a pool exits along the west side of the park, adjacent to Willard Avenue, and east of Mill Pond. Site utilities (electric, water, communication, and drainage lines) enter the park from Garfield Street; also included is an MDC sewer pipe and easement. At the time of our earlier studies in 2020/21, Martinez Couch & Associates prepared a 12 drawing set “Topographic/Boundary Survey” that contained topographic information of the entire park; sheets 4 through 7 show information in the vicinity of the existing pool. A preliminary version of this plan, dated January 6, 2021 was used as a base plan for the attached Drawing 1, “Test Boring Plan.”

The existing pool is an approximately rectangular S-shaped concrete pool with an overall length dimension (north to south) of approximately 125 ft. and an overall width dimension (east to west) ranging from approximately 50 ft. to 70 ft., the latter within east-west orientated race lanes within the center of the pool. A shallow splash area and bathhouse structure exist north of the existing pool. Water depth within the northern 2/3 of the existing pool ranges from about 3 ft. to 5 ft., while the southern deep diving end of the pool has a water depth about 12 ft. The pool deck surface is at about El. 78 (Note: Elevations are in feet and refer to NAVD 1988 Datum). We understand that prior studies of the existing pool indicate it has some structural deficiencies; it has also been documented that during periods of pool maintenance, when water is drained from the pool, water seepage enters the pool. This latter item suggests that the pool does not have a functioning perimeter/underslab foundation system.

PROPOSED CONSTRUCTION:

Phase II construction consists of repairing in place the existing pool to ensure its long term continued use. WS indicates that current repair plans are to insert a new pool liner within the existing pool, however they maintain that it is essential that minimum water depth and overall pool dimensions be preserved within the shallow end. We understand that water is kept within the pool throughout most of the year, including winter, however the pool must be drained during periods of required maintenance.

We understand that there are no plans at this time for significant changes to the existing bathhouse.

SUBSURFACE AND LABORATORY INVESTIGATIONS:

Previous Phase I Investigations: In 2020/21, a park master plan study was completed which included constructing a new pool and bathhouse located north of the existing pool near the Garfield Street entrance to the park (primary location); an alternate construction area was also identified east of the existing pool. As geotechnical engineer to the firm completing the master plan study, GNCB arranged for and monitored the drilling of 15 test borings (B1 to B15) and installation of three groundwater observation wells (at B3, B7, and B14) within the primary and alternate areas; the locations of these explorations are shown on the attached Drawing 1 (refer to the target test boring symbols). Please refer to our previous report to the Town of Newington for the logs of the test borings; for purposes of this report, the results of these Phase I borings are summarized on the attached Table I, "Summary of Test Borings."

Current Phase II Investigations: For the current Phase II project, to repair the existing pool, GNCB concurred with the WS suggestion to supplement the previous exploration with two additional test borings (B16 and B17), and installation of an additional groundwater well (at B16/OW). GNCB arranged for and monitored on a full-time basis, this exploration program. Drawing 1 shows the location of the Phase II program (refer to solid test boring symbols). GNCB field located the test borings by taping from existing site features and interpolated the existing topographic plan prepared by Martinez Couch & Associates, to determine the as-drilled ground surface elevations. Prior to the field work, WS engaged the services of Radar

Solutions International, Inc., to undertake a geophysical investigation (including ground penetrating radar and electromagnetic induction) to confirm whether below ground utilities or other subsurface features existed within the test boring locations.

GNCB prepared Table I that summarizes the subsurface conditions observed at each test boring; detailed soil descriptions are contained in the following report section. Logs of the Phase II explorations, prepared by the contractor and reviewed by GNCB, are included as Appendix A.

General Borings, Inc. of Prospect, Connecticut, under contract to GNCB, drilled the explorations using a small ATV tracked rig; after advancing 3-1/4 in. inside diameter hollow stem augers (HSAs) and steel casing to 10 ft., the boreholes were advance open hole. At the test borings, soil samples (ASTM D 1586) were obtained generally at 5 ft. intervals; however, near continuous sampling was completed within the upper 12 ft. The test borings terminated in naturally-deposited soils and ranged in depth from 32 ft. (at B17) to 43 ft. (at B16).

A 2 in. inside diameter PVC groundwater observation well with slotted screen for the lower 10 ft. was installed in a separate location about 5 ft. east of B16 (i.e. at B16/OW). Table II, "Summary of Groundwater Levels," contains well installation information and observations of groundwater.

Laboratory Soil Testing: Two jar samples from B16 (Sample 6 obtained at depths of 15 ft. to 17 ft. and Sample S-8 obtained at depths from 25 ft. to 27 ft.) were brought to a soil testing laboratory, Terracon, to complete index testing to confirm field classifications. The laboratory testing for each sample, which was completed in substantial accordance with ASTM standards, consisted of a hydrometer and water content determination. The test results, which are included as Appendix B, indicate that the soil material consisted of SILT and their natural water content ranged from 29 percent to 32 percent.

SUBSURFACE AND GROUNDWATER CONDITIONS:

Subsurface Conditions: The recent Phase II test borings, supplemented by the nearby Phase I borins, revealed that the overburden soils in the area of the existing pool consist of a surface man-placed fill/topsoil underlain by a glaciolacustrine silt, that is further underlain by dense glacial till. The soils encountered at the test borings around the existing pool (B9, B11, B16, and B17), progressing downward from ground surface, are described below:

Thickness of Strata (ft.)	General Description
4.0	Medium dense dark brown loamy SILT, trace roots (MAN-PLACED FILL/TOPSOIL)
38.0 (at B16)	Stiff, medium stiff, soft, to very soft red-brown SILT with regular ¼ to 2 in. thick varves, including a thick seam of SILT, trace fine sand above a depth of 15 ft. (GLACIOLACUSTRINE)
1+ (at B16)	Medium dense to very dense gravelly medium to fine SAND, little silt to silty medium to fine SAND, little gravel (GLACIAL TILL)

A thin surface layer of topsoil and disturbed locally derived material/granular fill appears to blanket site. The main soil unit below the fill/topsoil, that was encountered at all the test borings, consists of a red-brown SILT (glaciolacustrine deposit). The glaciolacustrine deposit is typically a stiff material within the upper 20 ft., however, becomes very soft below that.

Test boring B16 encountered a deposit of glacial till at a depth of 42 ft.

Groundwater Levels: Groundwater at the site is shallow, typically within 4 ft. to 6 ft. of ground surface, as shown by the groundwater levels measured by GNCB following well installation (refer to Table II). At times, groundwater is particularly high, within a few feet of ground surface, in the area just east of the existing pool (refer to Table II water level readings at B14/OW) The water level in Mill Pond is controlled at about El. 70, by the northwest outlet stream from the pond; this outlet stream enters a waterfall condition over the bedrock outcrops on the west side of Willard Avenue.

Except for B1, the test boring boreholes appeared dry after completion, due to the impervious composition of the silt. However, as noted on the test boring logs, soil samples were typically saturated between depths of 4 ft. and 6 ft., suggesting the presence of a high groundwater level.

In any event, groundwater levels fluctuate with season, construction activity in the area, and other factors. As a result, water levels at the time of construction or after, may differ from those levels shown by the test borings and observation wells.

Soil Permeability: Permeability of the glaciolacustrine soils were estimated using the laboratory soil index testing and the results of rising head permeability tests completed after purging water from the observation wells at B14 and B16. Based on our best estimates, soil permeability of the silt appears to be in the range of 5x10e-05 to 5x10e-06.

FOUNDATION DESIGN AND CONSTRUCTION AT EXISTING POOL:

We understand that the existing pool consists of concrete walls and a foundation footing system. We are uncertain of the material for the new pool liner but believe it will be a concrete or a sprayed on grout material. In our opinion, the existing glaciolacustine silt can continue to serve as a suitable bearing material for the existing pool.

We understand that the depth of pool water will be maintained approximately the same within the shallow northern 2/3 of the pool, however, the water depth within the southern deep end will be reduced from its current 12 ft. to about 7 ft. To accomplish the reduction in pool water depth, the existing deep end of the pool will need to be partially filled-in and a new slab constructed. We suggest that compacted structural fill be used to partially fill in the deep end of the pool.

If the existing pool is expanded in plan size beyond its current dimensions, any new foundations may consist of shallow spread footings designed in accordance with the criteria contained in our previous report.

Pool Perimeter and Under Liner Drains: In view of the shallow groundwater levels measured to date and the potential for higher water levels following winter ground thaw, we recommend that the perimeter of the existing pool be constructed with perforated drains around the pool, in order to minimize the potential for hydrostatic pressures against the pool walls, particularly during periods when the pool is empty and during the anticipated extended construction period to repair the pool. The drains will need to be connected to a suitable gravity outlet. If a suitable gravity outlet is not available, pool design will need to include design for hydrostatic uplift, and the pool may need to be waterproofed. Our recommendations for foundation drainage, including drain layout and details, at the existing pool are shown on Drawing 2 “Foundation Drain Plan View” and Drawing 2A “Foundation Drain Details.”

Perimeter drains around the entire pool should consist of a continuous 6 in. diameter pipe that is surrounded by a minimum 6 in. thick layer of ¾ in. crushed stone. The pool walls should be backfilled with a minimum 2 ft. thick zone of compacted structural fill.

Within the deep end of the pool, we recommend that perforated drains be installed below the new pool slab within the center of a 12 in. thick layer of ¾ in. crushed stone placed below the new slab. These underliner drains should consist of a series of interconnected 4 in. diameter perforated drains. We suggest that the drain invert grades be determined after the pool geometry and grading have been finalized. The drains will need to be connected to a suitable gravity outlet.

Lateral Earth Pressure: We are not aware of any new construction which will require design for below grade walls. However, if needed for design, the lateral earth pressure design criteria contained in our previous report are applicable.

Concrete Pool Deck: In view of our recommendation to provide free draining material adjacent to the existing pool walls, we anticipate that a new concrete deck surface, at about El. 78, will need to be constructed around the existing pool. We recommend that the pool deck be underlain by a minimum 12 in. thick layer of compacted structural fill, to minimize potential for winter-time heave of the concrete surface due to subgrade freezing.
Prior to placing any fill below the new pool deck area, we recommend that the soil subgrade be recompacted with at least 4 passes of a vibratory plate compactor and any soft materials revealed by the recompaction be replaced with compacted common fill.

Compacted Structural Fill: Compacted structural fill as needed below the filled-in deep area of the pool, as needed as free draining material adjacent to the existing pool walls, and as subgrade material below the new concrete deck, should consist of sandy gravel or gravelly sand, free of organic material, snow, ice, or other unsuitable materials, and should be well graded within the following limits:

Sieve Size	Percent Finer By Weight
3 in.	100
¾ in.	45 - 90
No. 4	20 - 80
No. 40	5 - 50
No. 200	0 - 8

Compacted structural fill should be placed in horizontal layers having a maximum loose lift thickness of 10 in. (open areas) or 6 in. (confined areas). Each layer should be compacted to a dry density at least 95 percent of the maximum dry density as determined in accordance with ASTM Test Designation D1557.

CONSTRUCTION CONSIDERATIONS:
General: This section provides comments related to foundation construction, earthwork, and other geotechnical aspects of the project. It will aid those responsible for preparation of contract plans and specifications and those involved with construction monitoring. The contractor must evaluate potential construction problems based on their own knowledge and experience in the area and based on similar projects in other localities, considering their own proposed construction equipment and procedures.

Excavation: Excavation will be needed adjacent to the existing pool walls to install the perimeter foundation drain system. We anticipate the excavated material will consist of a granular soil. We expect that normal construction equipment will be adequate for excavation.

Excavation geometry should comply with OSHA excavation regulations contained in 29 CFR Part 1926 dated October 31, 1989. We expect that excavations around the pool can be made by open sloped excavation (i.e. without lateral supports). Temporary open slopes no steeper than 1.5 hor. to 1 ver. should be stable.

Dewatering: We anticipate that excavation to install the perimeter foundation system will extend below groundwater. Contractors should be required to submit a dewatering plan to permit work to proceed in the dry, and without disturbing the bearing soils. We anticipate that pumping from filtered open sumps will be adequate for excavations made only a few feet below groundwater, however a systematic deep sump or wellpoint system will be needed at deeper excavations. Surface water runoff which accumulates within excavations must be pumped to maintain dry excavations.

Preparation of Bearing Surfaces: We do not anticipate excavations will extend into the natural glaciolacustrine silt. If such excavation is needed, we recommend that final excavation be completed with backhoe equipment having smooth edged buckets.

Construction Monitoring: The recommendations contained in this report are based on the known and predictable behavior of properly engineered and constructed foundations and other facilities. We recommend that GNCB, or a qualified geotechnical engineer, be retained to partially observe the preparation of foundation related items and backfilling activities. Monitoring of this work is intended to observe compliance with the design concepts and specifications, and to allow design changes if subsurface conditions differ from those anticipated prior to construction. GNCB construction administrative services are not intended to comply with the state required special inspection program; we can provide these services, if requested.

LIMITATIONS OF RECOMMENDATIONS:
This report has been prepared for specific application to the Phase II Mill Pond Park Renovation project in Newington, Connecticut, in accordance with generally accepted geotechnical engineering practice. No other warranty, express or implied, is made. If any changes in the nature, design, or location of the construction are planned, the conclusions and recommendations contained in the report should not be considered valid unless the changes are reviewed, and conclusions of this report modified or verified in writing.

The analyses and recommendations in this report are based in part upon data obtained from the referenced test borings and observation wells. The nature and extent of variations between the explorations may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations of this report.

GNCB Consulting Engineers, P.C.

GNCB requests an opportunity to perform a general review of the final design, contract drawings and specifications in order to confirm that our earthwork and foundation recommendations have been properly interpreted and implemented as they were intended.

We appreciate the opportunity to work with you and the design team on this aspect of the project. Please call if you have any questions or need additional information.

Very truly yours,

David L. Freed, P.E.
Geotechnical Associate

List of Attachments:

Table I – Summary of Test Borings
Table II – Summary of Groundwater Levels
Drawing 1 – Test Boring Plan
Drawing 2 – Foundation Drain Plan View
Drawing 2A- Foundation Drain Details
Appendix A – Phase II Test Boring Logs (B16 and B17)
Appendix B – Results of Laboratory Soil Tests

Cc: Mr. Patrick Bates, Weston & Sampson

TABLE I

SUMMARY OF TEST BORINGS

MILL POND PARK/PHASE II
123 GARFIELD STREET, NEWINGTON, CT

TEST BORING NO.	TOTAL DEPTH (FT.)	APPROX. ELEV. GROUND SURFACE (FT.)	THICKNESS SOIL (FT.)				ELEV. TOP SILT (FT.)
			MAN-PLACED FILL	ALLUVIUM	SILT	GLACIAL TILL	
B-1	19.0	73.3	1.0	-	6.0	12.0+	72.3
B-2	19.0	76.9	1.0	7.0	11.0	-	68.9
B-3/OW(R)	15.9	75.9	1.0	-	10.0	4.9+	74.9
B-4	19.0	78.4	1.0	-	18.0+	-	77.4
B-5	22.0	76.9	1.0	-	21.0+	-	75.9
B-6	19.0	76.3	1.0	-	18.0+	-	75.3
B-7/OW	24.0	79.0	1.0	-	23.0+	-	78.0
B-8	24.0	78.8	0.5	-	23.5+	-	78.3
B-9	19.0	77.7	2.0	-	17.0+	-	75.7
B-10	8.0	76.8	-	7.0	1.0+	-	69.8
B-11	19.0	78.9	4.0	-	15.0+	-	74.9
B-12	19.0	79.5	1.0	-	18.0+	-	78.5
B-13	19.0	79.7	1.0	-	18.0+	-	78.3
B-14/OW	19.0	79.3	1.0	-	18.0+	-	78.7
B-15	22.0	79.7	1.0	-	21.0+	-	78.7
B-16/OW	43.0	77.9	4.0	`	38.0	1.0+	73.9
B-17	32.0	77.6	4.0	-	28.0+	-	73.6

(R) refusal on split spoon sampler

NOTES

1. Refer to Drawing 1, Test Boring Plan, for locations of test borings.
2. Elevations are in feet and refer to NAVD 88 Datum.

TABLE II

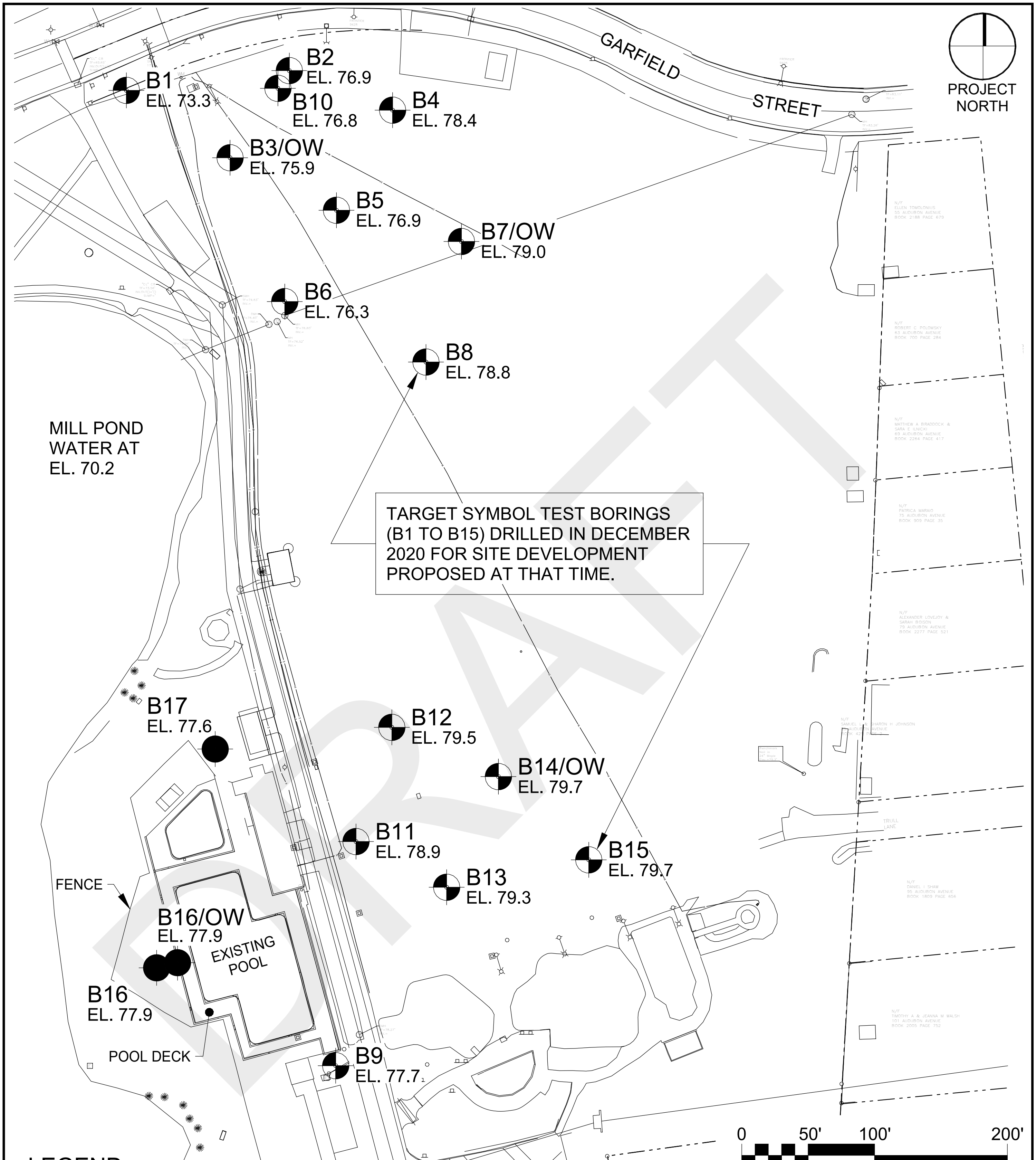
SUMMARY OF GROUNDWATER LEVELS

MILL POND PARK/PHASE II
123 GARFIELD STREET, NEWINGTON, CT

DATE	TIME (HRS)	DEPTH TO/ELEVATION OF WATER (FT.)			
		B-3/OW	B-7/OW	B-14/OW	B-16/OW
28 Dec. 20	1500 (at well installation) 1625	- -	18.0/61.0 15.5/63.5	- -	-
29 Dec. 20	0900 1515-1530	- 4.0/71.9	5.5/73.5 5.0/74.0	- -	-
30 Dec. 20	0900-0910 1500	4.0/71.9 -	5.0/74.0 -	1.0/78.7 5.3/74.4 (see note 3)	-
16 Jan. 21	1400-1430	4.0/71.9	5.4/73.6	2.0/77.7	-
11 May 21	-	4.3/71.6	5.4/73.6	0.3/79.4	-
26 May 21	-	5.4/70.5	6.5/72.5	4.5/75.2	-
13 Mar. 23	1300-1645	3.9/72.0	4.8/74.2	0.2/79.5	-
11 Sep 25	1200-1240	5.7/70.2	7.7/71.3	7.3/72.4	-
03 Nov 25	1030-1115	5.1/70.8	5.5/73.5	3.5/76.2	-
14 Nov 25	0800 1000 1330-1340 1615	- - 5.3/70.6 -	- - 5.8/73.2 -	2.6/77.1 - - -	- Installed-well dry - 7.6/70.3 (water not stabilized)
19 Nov 25	1000-1300	5.0/70.9	5.5/73.5	1.9/77.8	6.7/71.8
24 Nov 25	0945-1020	5.0/70.9	5.8/73.2	1.6/78.1	6.7/71.8
		2.0 in. O.D. diameter PVC well installed to tip at El. 60.8; bottom 5 ft. slotted screen. Ground surface at El. 75.9.	2.0 in. O.D. diameter PVC well installed to tip at El. 58.1; bottom 10 ft. slotted screen. Ground surface at El. 79.0.	2.0 in. O.D. diameter PVC well installed to tip at El. 64.7; bottom 5 ft. slotted screen. Ground surface at El. 79.7.	2.0 in. O.D. diameter PVC well installed to tip at El. 61.9; bottom 10 ft. slotted screen. Ground surface at El. 77.9.

NOTES

1. Refer to Drawing 1, Test Boring Plan for locations of test borings.
2. Elevations are in feet and refer to NAVD 88 Datum.
3. The second reading for B-14/OW on Dec. 30, 2020, was taken after purging the well to approximately 13 ft. to confirm proper operation of the well. The initial reading at a depth of 1.0 ft. is believed to be correct, considering ponded surface water in the area, at that time. The slow recovery of the purged well is normal for the low permeability soils encountered



LEGEND

B16 EL. 77.9 / B14 EL. 79.7 — LOCATION AND ELEVATION OF TEST BORING DRILLED BY GENERAL BORINGS, INC. OF PROSPECT CT DURING PERIOD DECEMBER 28-30, 2020 (TARGET SYMBOLS); "OW" INDICATES GROUND WATER WELL INSTALLED. SOLID SYMBOL TEST BORING DRILLED ON NOV. 14, 2025.

NOTES

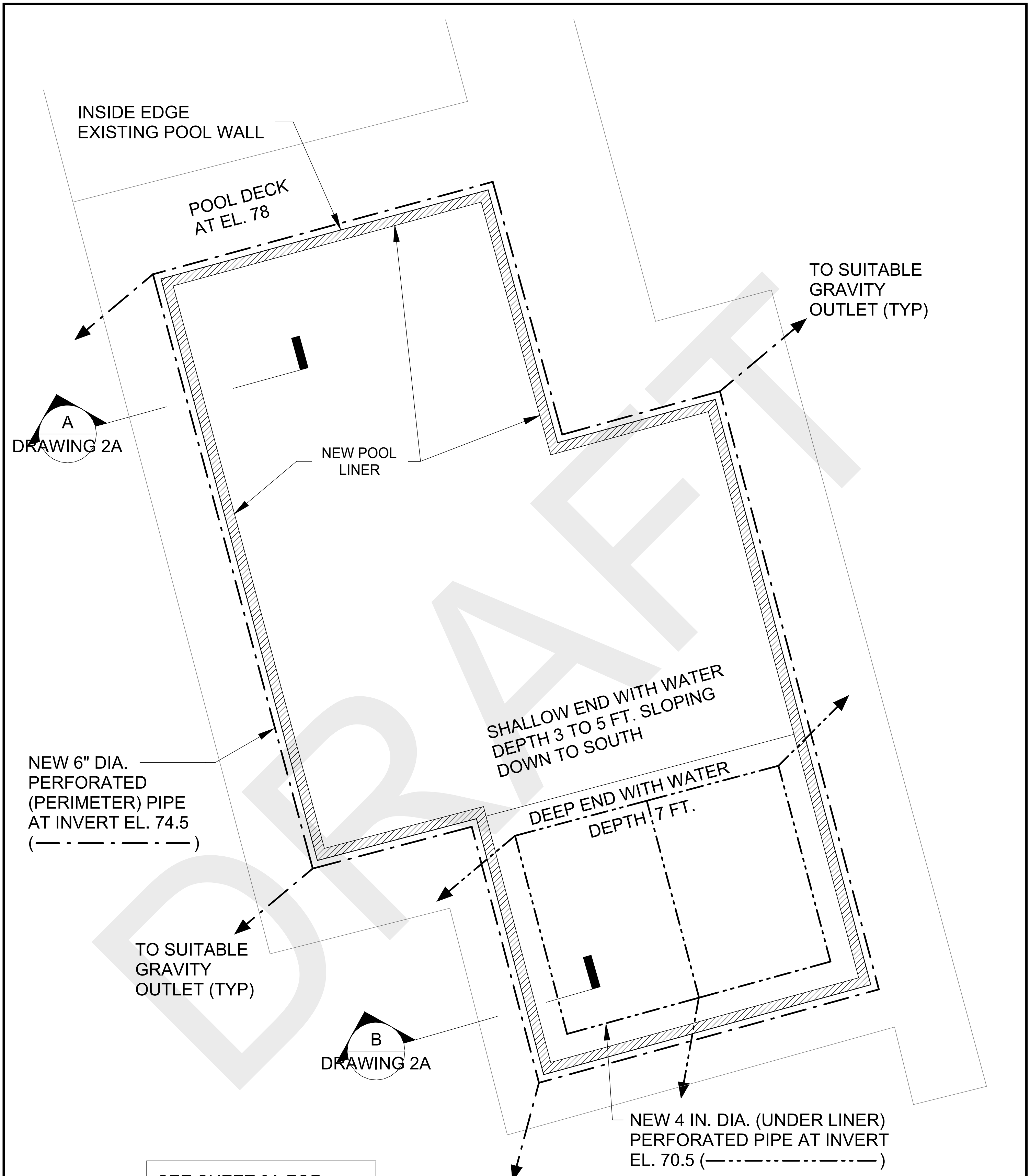
1. BASE PLAN IS AN ELECTRONIC COPY OF BORING SKETCH BY MARTINEZ COUCH, DATED JAN 6, 2021 (FINAL SURVEY DATED FEB 18, 2021).
2. ELEVATIONS ARE IN FEET AND REFER TO NAVD 88 DATUM.

GNCB Consulting Engineers, P.C.
1358 BOSTON POST ROAD
POST OFFICE BOX 802
OLD SAYBROOK
CONNECTICUT 06475
PHONE: 860 388 1224
GNCBENGINEERS.COM

MILL POND PARK (PHASE II)
NEWINGTON, CT

TEST BORING PLAN

SCALE: 1" = 100'-0" Rev. DECEMBER 2025



SEE SHEET 2A FOR SECTIONS A-A AND B-B.

0 5' 10' 20' 40'

GRAPHIC SCALE: 1" = 20'-0"

NORTH

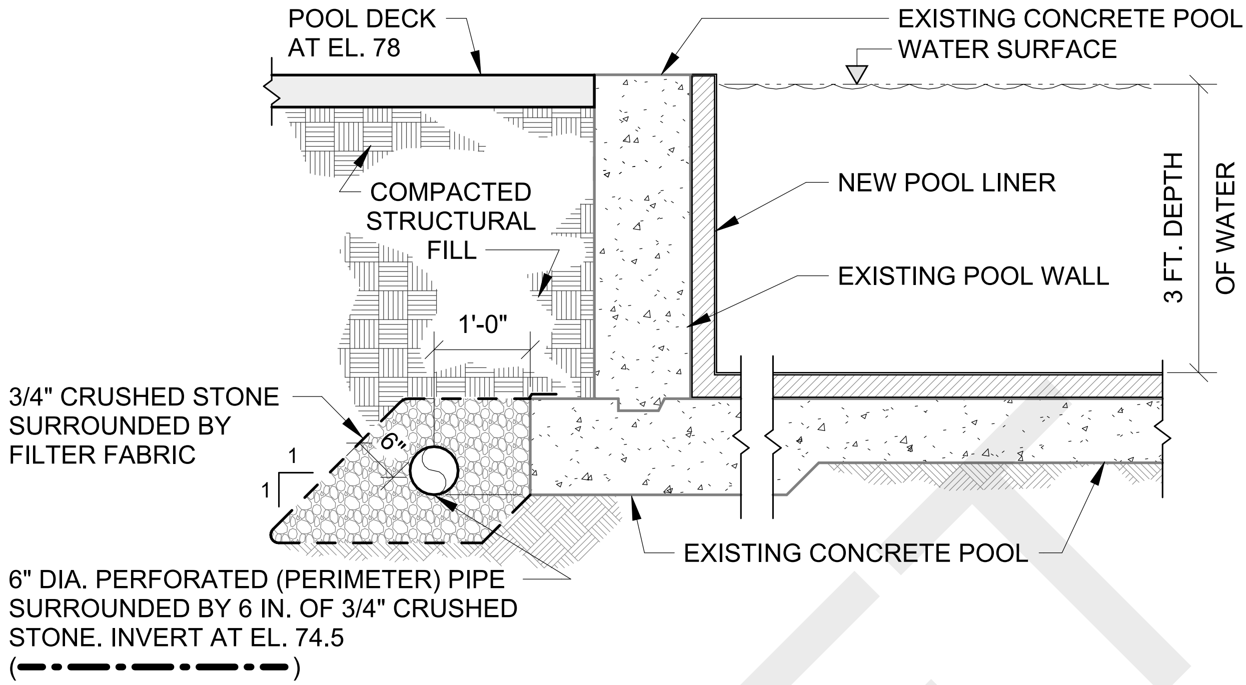
GNCB Consulting Engineers, P.C.
1358 BOSTON POST ROAD
POST OFFICE BOX 802
OLD SAYBROOK
CONNECTICUT 06475
PHONE: 860 388 1224
GNCBENGINEERS.COM

MILL POND PARK (PHASE II)
NEWINGTON, CT

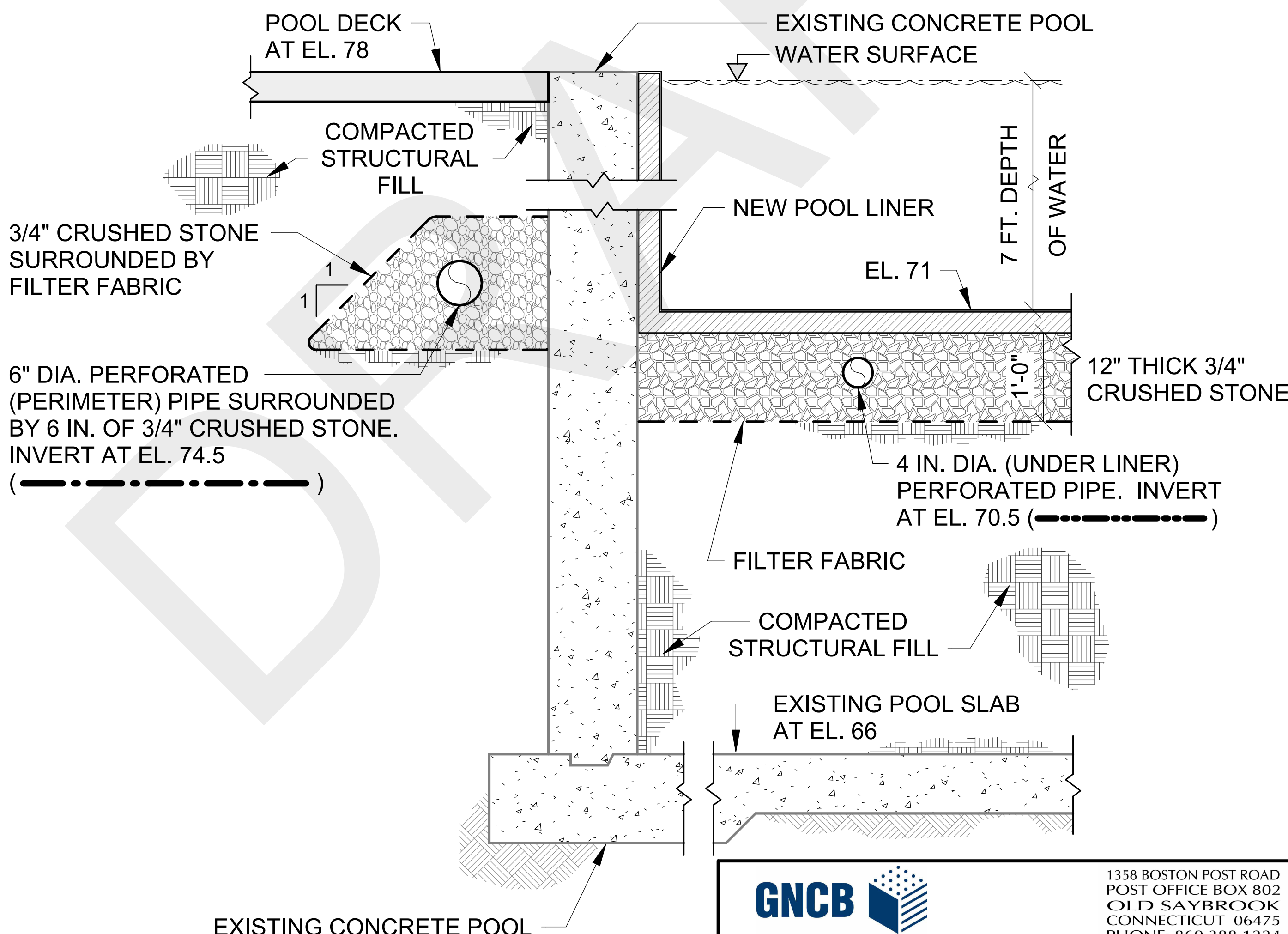
FOUNDATION DRAIN PLAN VIEW

SCALE: 1" = 20'-0" Rev. DECEMBER 2025

P:\2025 Projects\25184.09 Town of Newington Geotechnical Analysis\CAD\1 Current\25184.09 S25 Mill Pond Park - Newington.rvt



A SECTION AT SHALLOW END
1/2" = 1'-0"



B SECTION AT DEEP END
1/2" = 1'-0"

GNCB
Consulting Engineers, P.C.
1358 BOSTON POST ROAD
POST OFFICE BOX 802
OLD SAYBROOK
CONNECTICUT 06475
PHONE: 860 388 1224
GNCBENGINEERS.COM

MILL POND PARK (PHASE II)
NEWINGTON, CT

FOUNDATION DRAIN DETAILS
SCALE: 1/2" = 1'-0" Rev. DECEMBER 2025

Appendix A (Phase II Test Boring Logs B16 and B17)

General Borings, Inc.

P. O. BOX 7135 PROSPECT, CT 06712

CLIENT: GNCB Consulting Engineers, P.C.							SHEET 1 OF 2	
FOREMAN/DRILLER: James Casson	PROJECT NAME:	Mill Pond Park Pool					SOIL ENGINEER	
INSPECTOR: Garry Jacobsen	LOCATION:	Newington, CT					DESIGN ENGINEER	
Surface Elevation: 77.9	GBI JOB NO.							
Date Started: 11/14/25	TYPE	S Auger		Casing	Sampler	Core Bar	**Hole No.**	B-16
Date Finished: 11/14/25		H Auger		HA	S . S.		Line & Station	
Groundwater Observations	Size I. D.			3-1/4"	1-3/8"		Offset L R	
AT 4.0 AFTER 0.0 HRS	Hammer				140 LBS.	Bit	N Coordinate	
AT (see below*) AFTER HRS	Fall				30"		E. Coordinate	

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. IN	REC. IN	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12 18	18 24	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0-2.0	1	24	16	SS	2	3	6	11	1.0'	1) Stiff-Dark brown SILT, trace gravel, roots, Topsoil to 1.0'
		2.0-4.0	2	24	6	SS	8	9	13	13	FILL 4.0'	Brown SILT, trace sand and fine gravel. 2) Very Stiff-Light brown SILT trace gravel (sample wet at 4.0') Disturbed/FILL
5		5.0-7.0	3	24	24	SS	5	6	8	8		3) Very stiff-Red-brown SILT, trace fine gravel.
		7.0-9.0	4	24	24	SS	6	7	9	9		4) Very stiff-Same as above Used HSA to 5', drove 4" casing to 10' continued open hole.
10		10.0-12.0	5	24	24	SS	4	3	5	5		5) Stiff-Red-brown SILT, trace clay, varved 1"-2"
15		15.0-17.0	6	24	20	SS	3	4	5	7	SILT	6) Stiff-Same as above varved 1/2"-2"
20		20.0-22.0	7	24	18	SS	6	5	5	6		7) Siff-Same as above varved irregular
25		25.0-27.0	8	24	24	SS	3	1	2	2		8) Soft-Red-brown SILT
30		30.0-32.0	9	24	18	SS	1	1	1	3		9) Very soft-Red-brown SILT, bedding indistinct
35		35.0-37.0	10	24	18	SS	5	5	2	2		10) Stiff-Same as above *estimated reading, see report Table II for groundwater at adjacent B16/OW well
40												

From Ground Surface to		Feet Used	in. Casing Then	in. Casing For	Feet
Feet in Earth		Feet in Rock		No. of Samples	**Hole No.** B-16
SAMPLE TYPE CODING:	SS = DRIVEN		C = CORE	A = AUGER	U = UNDISTURBED PISTON
PROPORTIONS USED:	TRACE = 1-10%		LITTLE = 10-20%	SOME = 20-35%	AND = 35-50%

	General Borings, Inc. P. O. BOX 7135 PROSPECT, CT 06712	SHEET 2 OF 2
CLIENT: GNCB Consulting Engineers, P.C.		
FOREMAN/DRILLER: James Casson		SOIL ENGINEER
	PROJECT NAME: Mill Pond Park Pool	
INSPECTOR:	LOCATION: Newington, CT	DESIGN ENGINEER
Surface Elevation: 77.9	GBI JOB NO.	

Date Started: 11/14/25	TYPE	S Auger		Casing	Sampler	Core Bar	**Hole No.** B-16
Date Finished: 11/14/25		H Auger		HA	S . S.		Line & Station
Groundwater Observations	Size I. D.			3-1/4"	1-3/8"		Offset L R
AT 4.0 AFTER 0.0 HRS	Hammer				140 LBS.	Bit	N Coordinate
AT AFTER HRS	Fall				30"		E. Coordinate

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. IN	REC. IN	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12 18	18 24	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		40.0-42.0	11	24	18	SS	2	1	1	1	SILT 42.0'	11) Very soft-Same as above
45											TILL 43.0'	Roller bitted through gravel and cobbles from 42.0' to 43.0', probably glacial till.
												END OF BORING 43.0'
50												Installed 2" Observation Well to a tip at 16.0' in an adjacent borehole located 5 ft. to the east of B-16.
55												
60												
65												
70												
75												
80												

From Ground Surface to		Feet Used	in. Casing Then	in. Casing For	Feet
Feet in Earth	43	Feet in Rock	0	No. of Samples 11	**Hole No.** B-16
SAMPLE TYPE CODING:	SS = DRIVEN	C = CORE	A = AUGER	U = UNDISTURBED PISTON	
PROPORTIONS USED:	TRACE = 1-10%	LITTLE = 10-20%	SOME = 20-35%	AND = 35-50%	

General Borings, Inc.

P. O. BOX 7135 PROSPECT, CT 06712

CLIENT: GNCB Consulting Engineers, P.C.			SOIL ENGINEER
FOREMAN/DRILLER: James Casson	PROJECT NAME:	Mill Pond Park Pool	
INSPECTOR: Garry Jacobsen	LOCATION:	Newington, CT	DESIGN ENGINEER
Surface Elevation: 77.6	GBI JOB NO.		

		TYPE	S Auger		Casing	Sampler	Core Bar	
Date Started:	11/14/25							**Hole No.** B-17
Date Finished:	11/14/25		H Auger		HA	S . S.		Line & Station
Groundwater Observations		Size I. D.			3-1/4"	1-3/8"		Offset L R
AT 4.0* AFTER 0.0 HRS		Hammer				140 LBS.	Bit	N Coordinate
AT 2.5 on November 19		Fall				30"		E. Coordinate

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. IN	REC. IN	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12 18	18 24	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0-2.0	1	24	14	SS	2	4	2	2	1.0'	1) Soft-Dark brown SILT, trace roots, gravel. Topsoil 1.0'
		2.0-4.0	2	24	18	SS	2	4	7	7	FILL	Bottom-Dark red- brown SILT, trace gravel.
											4.0'	
5												2) Stiff-Same as above, sample wet at 4' Disturbed/Fill
		5.0-7.0	3	24	24	SS	5	5	10	1		3) Very stiff-Red-brown SILT, trace gravel, fine sand.
		7.0-9.0	4	24	20	SS	7	10	13	16		4) Very stiff-Red-brown SILT. Used HSA to 5', drive 4" casing to 10', continued open hole.
10												
		10.0-12.0	5	24	20	SS	5	9	13	13		5) Very stiff-Red-brown SILT. (thin varves 1" to 2")
15											SILT	
		15.0-17.0	6	24	20	SS	3	4	6	7		6) Stiff-Same as above (varves 1" to 2")
20												
		20.0-22.0	7	24	20	SS	4	6	6	5		7) Stiff-Red-brown SILT.
25												
		25.0-27.0	8	24	18	SS	2	1	1	2		8) Very soft-Dark red-brown SILT.
30												
		30.0-32.0	9	24	18	SS	2	1/12"		3		9) Very soft-Same as above.
											32.0'	
											EOB	END OF BORING 32.0'
35												
												* water reading at 4 ft. only an estimate
40												

From Ground Surface to		Feet Used		in. Casing For	Feet
Feet in Earth	32	Feet in Rock	0	No. of Samples 9	**Hole No.** B-17
SAMPLE TYPE CODING:	SS = DRIVEN	C = CORE		A = AUGER	U = UNDISTURBED PISTON
PROPORTIONS USED:	TRACE = 1-10%	LITTLE = 10-20%		SOME = 20-35%	AND = 35-50%

Appendix B (Results of Laboratory Soil Tests)

ASTM D422 PARTICLE-SIZE ANALYSIS OF SOILS

Report Number: J2201043.0040
Service Date: 11/20/25
Report Date: 12/04/25 Revision 1 - task change
Task: Mill Pond Park Pool (25184.09)

Terracon
201 Hammer Mill Rd, Ste B
Rocky Hill, CT 06067-3768
860-721-1900

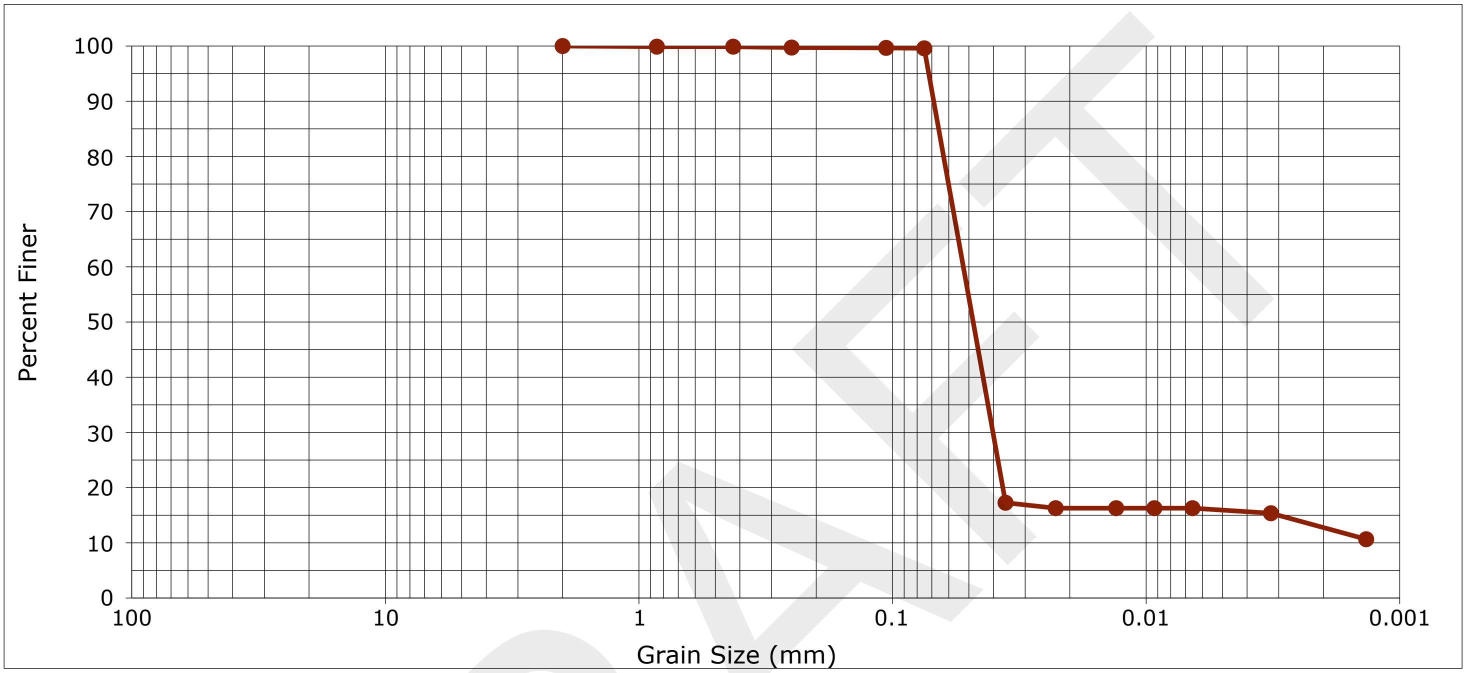
Client

GNCB Consulting Engineers, P.C.
Attn: David Freed
1358 Boston Post Road
Old Saybrook, CT 06475-4105

Project

GNCB Consulting Engineers PC
Laboratory Testing Services
Old Saybrook, CT 06475

Project No. J2201043



Spc. Location	Description	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay	USCS
B-16/S6 15'-17'	Silt	0.0	0.0	0.4	99.6	83.7	15.9	ML

Sieve	% Finer	Sieve	% Finer	Grain Size		Coefficients	
3"	100.0	#40	99.9	D_{100}	2.000	C_C	
2"	100.0	#60	99.7	D_{60}	0.053		
1 1/2"	100.0	#140	99.7	D_{30}	0.040	C_U	
1"	100.0	#200	99.6	D_{10}			
3/4"	100.0			**Assumed Specific Gravity**			
3/8"	100.0			2.65			
#4	100.0			**Remarks**			
#10	100.0						
#20	99.9						

Services:
Terracon Rep: Mary Gotlibowski
Reported To:
Contractor:

Report Distribution
(1) GNCB Consulting Engineers, P.C., David Freed

James Flynn
Department Manager - Materials

ASTM D2216 WATER CONTENT OF SOIL AND ROCK

Report Number: J2201043.0040
Service Date: 11/20/25
Report Date: 12/04/25 Revision 1 - task change
Task: Mill Pond Park Pool (25184.09)

Terracon
201 Hammer Mill Rd, Ste B
Rocky Hill, CT 06067-3768
860-721-1900

Client

GNCB Consulting Engineers, P.C.
Attn: David Freed
1358 Boston Post Road
Old Saybrook, CT 06475-4105

Project

GNCB Consulting Engineers PC
Laboratory Testing Services
Old Saybrook, CT 06475

Project No. J2201043

Sample Location	B-16/S6 15'-17'
Method Used	B
Water Content (%)	29
Visual Description	Silt
Date Tested	11/26/25
Sample Tested By	Gotlibowski, Mary

Services:
Terracon Rep: Mary Gotlibowski
Reported To:
Contractor:

Report Distribution

(1) GNCB Consulting Engineers, P.C., David Freed

James Flynn
Department Manager - Materials

ASTM D422 PARTICLE-SIZE ANALYSIS OF SOILS

Report Number: J2201043.0041
Service Date: 11/20/25
Report Date: 12/04/25 Revision 1 - task change
Task: Mill Pond Park Pool (25184.09)

Terracon
201 Hammer Mill Rd, Ste B
Rocky Hill, CT 06067-3768
860-721-1900

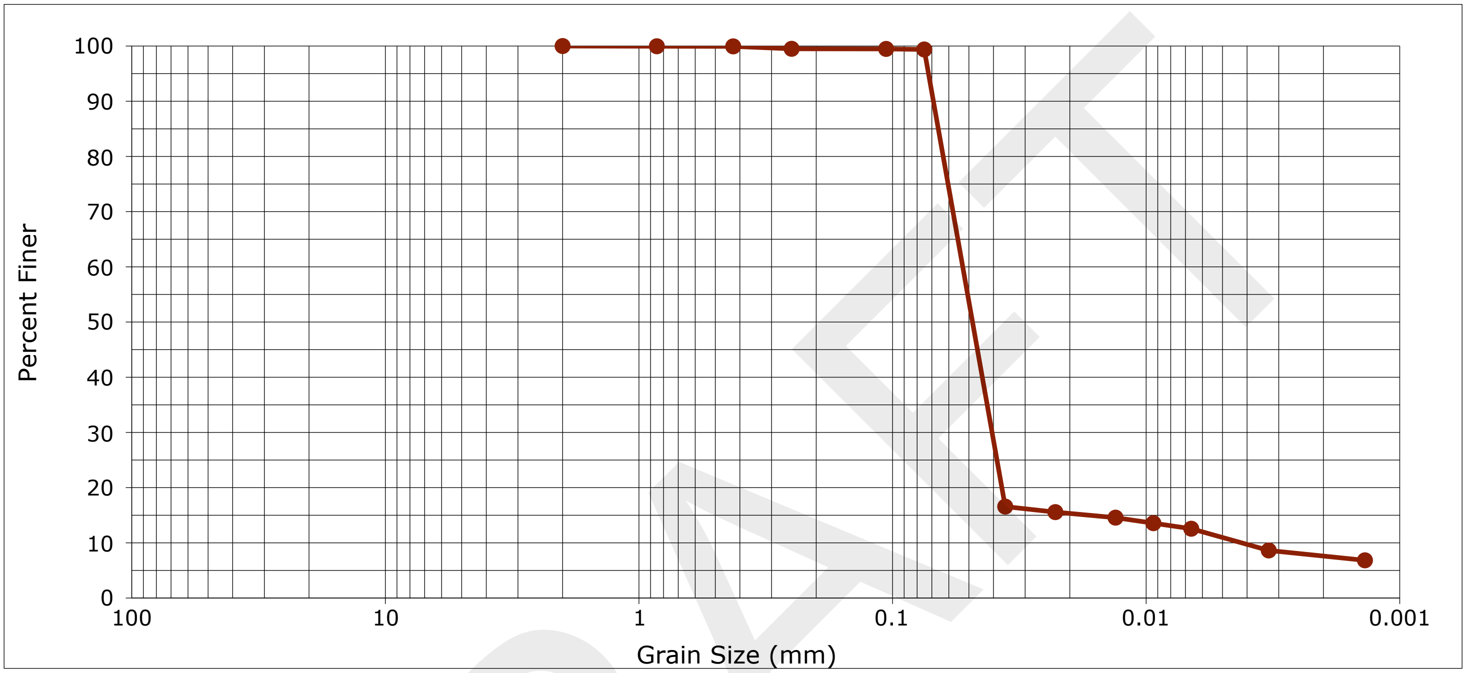
Client

GNCB Consulting Engineers, P.C.
Attn: David Freed
1358 Boston Post Road
Old Saybrook, CT 06475-4105

Project

GNCB Consulting Engineers PC
Laboratory Testing Services
Old Saybrook, CT 06475

Project No. J2201043



Spc. Location	Description	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay	USCS
B-16/S8 25'-27'	Silt	0.0	0.0	0.6	99.4	88.4	11.0	ML

Sieve	% Finer	Sieve	% Finer	Grain Size		Coefficients	
3"	100.0	#40	99.9	D_{100}	2.000	C_C	7.38
2"	100.0	#60	99.5	D_{60}	0.053		
1 1/2"	100.0	#140	99.5	D_{30}	0.041	C_U	12.58
1"	100.0	#200	99.4	D_{10}	0.004		
3/4"	100.0			**Assumed Specific Gravity**			
3/8"	100.0			2.65			
#4	100.0			**Remarks**			
#10	100.0						
#20	100.0						

Services:
Terracon Rep: Mary Gotlibowski
Reported To:
Contractor:

Report Distribution
(1) GNCB Consulting Engineers, P.C., David Freed

James Flynn
Department Manager - Materials

ASTM D2216 WATER CONTENT OF SOIL AND ROCK

Report Number: J2201043.0041
Service Date: 11/20/25
Report Date: 12/04/25 Revision 1 - task change
Task: Mill Pond Park Pool (25184.09)

Terracon
201 Hammer Mill Rd, Ste B
Rocky Hill, CT 06067-3768
860-721-1900

Client

GNCB Consulting Engineers, P.C.
Attn: David Freed
1358 Boston Post Road
Old Saybrook, CT 06475-4105

Project

GNCB Consulting Engineers PC
Laboratory Testing Services
Old Saybrook, CT 06475

Project No. J2201043

Sample Location	B-16/S8 25'-27'
Method Used	B
Water Content (%)	32
Visual Description	Silt
Date Tested	11/26/25
Sample Tested By	Gotlibowski, Mary

Services:
Terracon Rep: Mary Gotlibowski
Reported To:
Contractor:

Report Distribution
(1) GNCB Consulting Engineers, P.C., David Freed

James Flynn
Department Manager - Materials