CONSERVATION COMMISSION

AGENDA

Monday, April 21, 2025	**5:00 PM**	**Room 22, Recreation Center**

Commission Members

Councilor Andrew Madison, Chair
Councilor Robert Williams, Vice Chair
Katie Kinsella *(nominated)*
Art Walker
Barbara Richter
Steven Bill
Gary Flaherty
Bob Milliken, Alternate
Thomas P. Haynes, Alternate
John Therriault, Alternate
Alexander Von Plinsky, Alternate
Kenneth Bergman, Alternate

1. **Call to Order**
2. **Approval of Meeting Minutes** – March 17, 2025
3. **Planning Board Referral:**

   PB-2025-06 – Guitard Homes Cottage Court Development – Cottage Court Conditional Use Permit, Major Site Plan, & Surface Water Protection Conditional Use Permit – 0 Court St – Applicant Fieldstone Land Consultants PLLC, on behalf of owner Guitard Homes LLC, proposes a Cottage Court Development consisting of 29 single-family units accessed by a private driveway on the undeveloped lot at 0 Court St (TMP #228-016-000). A Surface Water Protection CUP is requested for impacts to the 30' surface water buffer. The parcel is 9.7-ac in size and is located in the Low-Density District.

4. **Report-outs:**
   a) Greater Goose Pond Forest Stewardship Subcommittee
   b) Invasive Plant Species
   c) Land Conservation / easement monitoring
   d) Pollinator Updates

5. **Discussion Items**:
   a) Master Plan Update
   b) Outreach
   c) Budget
      i. Annual ARLAC request
      ii. CCCD Farm Camp
      iii. Materials for invasive plant species program

6. **New or Other Business**
7. **Adjourn** – Next meeting date: Monday, May 19, 2025

Link to shared folder: https://drive.google.com/drive/folders/13IzbQesczW8YMaem3OM-wVS8f6bk7TF4?usp=share_link

City of Keene
New Hampshire

CONSERVATION COMMISSION MEETING MINUTES

Monday, March 17, 2025 **5:00 PM** **Room 22, Recreation Center**

Members Present:
Councilor Andrew Madison, Chair
Councilor Robert Williams, Vice Chair
Gary Flaherty
Ken Bergman (remote; non-Voting)
Steven Bill
Thomas Haynes, Alternate (Voting)
John Therriault, Alternate (Voting)
Bob Milliken, Alternate (Voting)
Alexander Von Plinsky, IV (left at ~5:30 PM)

Staff Present:
Mari Brunner, Senior Planner

Members Not Present:
Art Walker
Barbara Richter

SITE VISIT: At approximately 4:00 PM, prior to the meeting, a quorum of the Conservation Commission conducted a site visit of the properties located at 21 & 57 Route 9 (TMP#s 215-007-000 & 215-008-000).

1) Call to Order

Chair Madison called the meeting to order at 5:11 PM.

2) Approval of Meeting Minutes – January 21, 2025

A motion by Vice Chair Williams to adopt the minutes of the January 21, 2025, meeting was duly seconded by Mr. Bill and the motion carried unanimously.

3) Planning Board Earth Excavation Permit Referral:

A) PB-2024-20 – 21 & 57 Route 9 – Applicant Granite Engineering LLC, on behalf of owner G2 Holdings LLC, proposes to expand the existing gravel pit located at 21 & 57 Route 9 (TMP#s 215-007-000 & 215-008-000). A Hillside Protection CUP is requested for impacts to steep slopes. Waivers are requested from Section 25.3.1.D & Section 25.3.13 of the LDC related to the

required 250' surface water resource setback and the 5-ac excavation area maximum. The parcels are a combined ~109.1-ac in size and are located in the Rural District.

Mari Brunner, City of Keene Senior Planner, explained that the Conservation Commission receives referrals from the Planning Board for various types of projects, one of which is earth excavation. She said this earth excavation project started when it was initially permitted in 2023. This is a request to expand that operation. When the Planning Board votes to accept applications as complete, it refers them to the Conservation Commission and its role is to advise the Planning Board specifically on the protection of water bodies and water quality in general. The Conservation Commission's comments are sent to the Planning Board to help it make its decision. Ms. Brunner said this project had already been through the Planning Board review process for the first phase that was already underway.

Now, Ms. Brunner said the applicant was proposing to have multiple phases approved at once. If approved, the applicant would have to come back to the Planning Board for permit renewals when staff and a third party (who staff proposed hiring) would conduct inspections to confirm that the previous phase was completed according to plan. Staff would report out to the Planning Board before the next phase could occur. Mr. Bill asked if there would be inspection and approval after each of the seven proposed phases. Ms. Brunner said yes, those would be called permit renewals with the Planning Board at each phase. She continued, stating that this would be the last time in the process that the Conservation Commission would have a role in reviewing the whole project. Ms. Brunner said the Planning Board had voted to accept this application as complete, hence this referral to the Commission, and there would be a public hearing at the Planning Board meeting on March 24, which she thought would be continued due to the applicant's need for more time to respond to the letter from the third party reviewer, Fieldstone Land Consultants (in the meeting packet). Chair Madison confirmed that the Commission's role was to make recommendations less about whether the Planning Board should approve the application and more about water quality and surface water issues to consider, as well as any recommendations for the remediation plan (e.g., pollinator friendly plantings).

Chair Madison welcomed Justin Daigneault (of Granite Engineering, LLC, on behalf of the owner, G2 Holdings, LLC) to speak about the subject property in Keene (TMP#s 215-007-000 & 215-008-000) and Sullivan (Map 5, lots 46 and 46-1). Mr. Daigneault showed overview plans and explained some of the various phases. The four properties accessed off Route 9 total 300 acres. He referred to the existing conditions plan, stating that the applicant purchased the property in 2019. He showed what was permitted in 2022, the access road, the processing equipment area, stockpiles, the sediment retention area, the limit of clearing, and where the site visit occurred. He continued, reviewing the various proposed project periods on the plans. For example, expanding the sedimentation pond in Period 1 (sheet 5). Regarding Period 2, he answered a question from the site visit, stating that the distance between the two pit faces would be approximately 200'. Period 7 is the most northern that would be across the Sullivan town line. Once all the other periods have been reclaimed and completed, Mr. Daigneault said that Period 8

would lower the site an additional 40', the last portion of the access road would come down (be lowered) and the final infiltration area would be excavated. Lastly, Mr. Daigneault talked about the reclamation plans; as each period is completed, the City's inspection would occur and the area would be reclaimed before moving on to the next one. He welcomed questions.

Chair Madison opened the floor to public comments.

Jim Manley of 67 Tyler Lane, Sullivan, stated that he was the major abutter to this project with approximately one mile of adjacent property line. He asked what year excavation began in Keene and Sullivan. Brenton Cole, P.E., (Granite Engineering, LLC) asked whether the question about Sullivan was relevant to the Keene Conservation Commission. Mr. Manley thought the question was very relevant, stating that both excavations were initiated without permitting from Keene, Sullivan, or the State of NH. Mr. Cole stated that whatever happened in Keene prior to 2023 was rectified through permits received through the City of Keene. Mr. Manley said those were received after the excavation occurred. Mr. Cole said that the applicant would be moving forward with a plan before any work occurred, on the up-and-up, and not going beyond what was permitted in 2023. Mr. Cole reiterated that this meeting was about Keene and not Sullivan, and that whatever happened in 2019 was rectified in 2023 with permits. Mr. Manley felt the past actions cast doubt on the character of the organization and Mr. Cole was sorry he felt that way. Mr. Manley felt it was a major alteration of terrain. He said he spoke with the State of NH Alteration of Terrain (AOT) Bureau, which told Mr. Manley that it asked Granite Engineering some more questions. Mr. Manley asked the status of the response to those questions. Mr. Cole said it was normal for the AOT Bureau to scrutinize the permit application and Granite Engineering was working through the comments as with every project.

Mr. Manley continued questioning the applicants, referring to sheet 4 of 22. His understanding was that the perimeter shown represented all of the wells within a one-mile radius of the proposed permit. Mr. Cole said this plan represented many things, including the wells permitted with the NH GIS; it would not include wells without documentation. They utilize meetings to add unknown wells; if someone feels their well is not represented, they can notify Granite Engineering to add it. Granite Engineering will make sure that any well within a one-mile radius that needs testing for blasting or water quality protocols are on this plan. Mr. Manley suggested that there were many individual homeowners within this proposed one-mile radius who did not know about this project and said they should be contacted and told they would be eligible for Keene's and the State of NH's well monitoring protocols. He stated that his home was within the radius, and he had two wells, but his home was not located on the plans. Mr. Manley also asked what the ramifications would be if a home lost access to its water; what indemnification would exist to compensate the homeowner without water? Mr. Cole asked Chair Madison if this line of questioning was relevant to the Conservation Commission, or more so to the Planning Board. Chair Madison said it was not relevant to the Conservation Commission and would be better for the Planning Board, but that he would allow it because it was a public hearing, and it was within the permitted scope of a public hearing.

The project hydrogeologist, Joel Banaszak (Frontier Geoservices), addressed some of Mr. Manley's questions about what the ramifications would be for a neighboring property. Mr. Banaszak explained that the applicant would be required to follow the City of Keene's earth excavation requirements, which include a hydrogeological investigation report and determining whether any aquifers connect to abutting domestic water supply wells. He said none were found in the applicant's report, calling it a very dry hill. He said they also assessed the relative elevation of the wells, noting that the depths of a lot of the domestic water supply wells in the area are much deeper than this excavation would be because this is on a plateau. Regarding wells that might not be represented on the map, Mr. Banaszak said they were limited by what was available through the State of NH GIS database.

Mr. Banaszak continued and said that, for offering monitoring and testing of an abutting property, they look at the tax map and even if a parcel does not look particularly developed, they send a letter to the parcel owner offering monitoring because the parcel is within the radius. Mr. Manley asked when those letters are sent. Mr. Banaszak said those letters are sent once project approval is received from the AOT Bureau and the City. Mr. Manley asked if that was according to the law. Mr. Banaszak said yes. As an abutter and in the interest of his neighbors, Mr. Manley thought that it would be good if they were alerted to matters like this, stating that the property owner never had the courtesy—as a neighbor—to reach out to him; he received a notification from the City of Keene about the Planning Board meeting in February.

Mr. Manley asked if it was correct that the applicant would monitor wells within the radius once everything was approved and done. Mr. Banaszak said yes, they would need to have a plan approved by the AOT Bureau and City to be able to move forward with well monitoring, because the plan would include the protocol for communicating with the public. Mr. Manley said that point would be too late for the general public to comment on their concerns. Mr. Daigneault asked if Mr. Manley was notified of the project enough to be at this meeting. Mr. Manley said he was notified of the Planning Board meeting in February and Ms. Brunner informed him of this meeting; he thought any other abutter in the one-mile radius was likely unaware. Mr. Daigneault said that all abutters would be notified as a part of the March 24 Planning Board public hearing.

Mr. Manley asked about the Acid Mine Drainage Potential Report prepared by Mr. Banaszak. Mr. Manley thought it looked good with the exception of Wells 7 and 8, which he said were located in Sullivan, and Mr. Banaszak added that they were also outside of this work area. Mr. Manley noted the report said the potential for drainage there was significant. Mr. Banaszak discussed acid mine drainage, stating that methods for prediction are not simple. They assessed the rock for acid producing and acid neutralizing compounds, and there were locations with the potential to create acid. They also looked at metal content, stating that granite quarries do not typically have acid mine drainage problems unless they are historic and operated incorrectly. If they find the potential for acid mine drainage, the next step is to monitor. So, Mr. Banaszak said the report recommended monitoring both groundwater and surface water. They could also mitigate acid mine drainage through actions like increasing the pH to neutral 7 by adding an alkaline compound like lime or limestone. He said acid mine drainage is usually a much larger

concern for coal or gold ore mines, not granite quarries, particularly with the mitigation techniques available in New England. He said the applicant was offering a protocol acknowledging that there could be a problem, a way to look to see if the problem shows up, and a way to deal with it if it does. Mr. Manley cited from the report that the acid could leech heavy metals, in particular arsenic and lead into the subsurface.

Mr. Manley read parts of a letter that he wrote for both the Conservation Commission and Planning Board in objection to this application:

I live at 67 Tyler Lane, Sullivan. I purchased my property,consisting of 105 acres and shown on Sullivan Tax Map 5, Lot 47, on 16 June 2021. I have two undergraduate and two graduate degrees in business administration and also in electrical engineering and I am a 2021 alumni of UNH's natural resources steward program.

I am the major abutter to G2 Holdings with over 5,500 feet of adjourning property. I'm particularly concerned about the 2,300-plus feet abutment on my southern border.

Moving from the Virginia Beach area, I purchased this mostly wooded property to find quiet enjoyment, enjoy the abundant wildlife, and practice homesteading. Wildlife on my property includes a sizable herd of deer, bobcat, coyotes, bears, hawks, owls, and the occasional moose.

A rate of quiet enjoyment includes freedom from excessive noise and disruptions from surrounding areas such as construction or unreasonable disturbances from neighbors. Blasting noise will be a regional environmental issue affecting residents of Keene, Sullivan, and Roxbury.

No blasting schedule has been provided beyond Monday to Friday operations for the next 13 years, but I'm especially concerned what this is going to do to the wildlife on my property as they'll most likely migrate to more peaceful settings.

I'm also concerned about the effects of blasting on my home, the original portion of which was built in 1825 using a stone wall foundation. My home is located approximately 2,400 feet from the northern edge of planned excavations and well within the one-mile radius depicted on plan sheet 4 of 22, which claims to identify all wells for monitoring within a one-mile radius. It is wildly incomplete without depiction of wells servicing the private homes within that radius. Also, some public wells are identified as inactive, but there is also always the potential for those to become active again in the future.

While the supplied documentation talks about monitoring of wells and omits mention of other property damage, no mention is made of indemnification from G2 activities. What would happen if a well ran dry and or foundations for homes are damaged?

There are two streams which traverse both G2 and my properties. One of these [more westerly] *originates on my property and was flagged for wetlands, without my permission despite clearly*

visible no trespassing signs. If wetlands were studied, why are there no corresponding reports present in the package submitted [and why did he not receive a copy since they went on his property without permission].

I'm also genuinely concerned about G2's demonstrated performance of acting first, ask for forgiveness. G2 has started logging and mining operations unilaterally in both Keene and Sullivan without first obtaining the necessary local, State, and Federal permitting. I'd like to hear an explanation from G2 why this was done and know if it was done out of ignorance or just plain old disrespect for the law. I'd also like to know what penalties have been levied against G2 for these transactions. Can we assume that this leopard can indeed change its spots? I'm not so sure about that.

In a similar manner, I was assured by G2 employees both at the site and the February 24 Planning Board meeting that this site would serve only as a transfer station for G2's other mining locations. Needless to say, G2 never reached out to me, as I'd like to think a good neighbor would, to discuss their plans in advance.

I'm very concerned about the creation of manmade 60-to-70-foot cliffs close to my property and the dangers they could pose to children, pets, and wildlife. The plans call for the construction of a four-foot fence, but do not specify when this will be constructed or how it will be maintained in perpetuity.

Lastly, I'm concerned about the aesthetics of Granite Gorge. Currently this is a beautiful stretch of Route 9 when traveling from Concord along Otter Brook and provides a very nice prequel to views overlooking Keene, nestled in the valley below. What will the site of a major hillside destroyed communicate to future generations about Keene's values?

Mr. Manley wondered if 3D visualizations of the view from Route 9 could be generated, citing the very good GIS program at Antioch University New England. He questioned—if the proposed quarry location was visible to the multitude of residents in town—would the Planning Board have a different impression about allowing this activity to move forward? Mr. Manley asked if the applicant would answer his questions about why they initiated operations without permitting or why they did not reach out to him as their major abutter. The applicant declined to comment.

Mr. Bill asked what storm frequency the applicants were planning for. Mr. Daigneault said 50 years, which Mr. Bill said was better than 25 years. Mr. Cole cited the various State of NH storm frequency event categories (2-year, 10-year, 25-year, 50-year; and by volume), noting that all stormwater from this site must be maintained on site. Mr. Bill asked about the nature of the surficial materials (e.g., till, outwash). Mr. Banaszak said it is very gravelly and there might be some till at the very base but everything down to the bedrock is primarily gravel, with high hydraulic conductivity. He said there was not much overburden at this site on the hill (excluding the present-day basin that Mr. Bill mentioned), with the most at one location up to 14' deep. Mr. Bill asked where the water drained at present; would it drain down to the bedrock and then

somewhere else? Mr. Banaszak said yes, explaining that the site was unique, exhibiting spring groundwater (very ephemeral) recharge signatures in the overburden that would disappear by June/July because it runs off the hill or evapotranspiration by plants, etc. He said it appears in the test beds but not the boring logs or monitoring well logs.

Regarding storm frequency events, Mr. Haynes noted that the City was grappling with weather changes and asked if the applicants modeled for a 100-year storm. Mr. Cole said no because it was not required. However, there was already some run-off occurring on site pre-development. So, they were trying to make the site significantly better prepared than the 50-year storm by completely removing whatever is leaving the site and allowing it to infiltrate back in the ground. They could consider the 100-year event; they had comments from the City Engineer to look at some models and Mr. Cole said they could consider the 100-year with the pre-development.

Vice Chair Williams asked if there was anything the applicants could do about the sight lines to Route 9 in the future, like planting trees to block the view of the cliff face. Mr. Cole thought Route 9 was situated lower, so he thought that vantage point already looked into a set of trees. He also cited a City regulation that would create a setback from Route 9 and explained how the grade would change and level off to where the site visit was. He did not think the cliff face would be visible from Route 9; he said skiers on Granite Gorge might see it. Mr. Manley said the current excavation area was very visible from the Sullivan Store and going down the hill. Vice Chair Williams hoped to see something like a buffer of fast-growing red oaks, for example, which would line the roadway nicely 20–40 years from now. He said it is one of the most attractive and welcoming vistas to Keene, so he wanted to mitigate. Mr. Manley agreed.

Chair Madison pointed out an ephemeral stream to the east of a collection of buildings at the center of Otter Brook. During high water, he said the stream was falling pretty rapidly but looked like it was cutting into the hillside sharply. Mr. Cole said that was not a part of the project but that there was erosion there that predated the current property owner's purchase. Cody Gordon (G2 Holdings, LLC, applicant), the property owner, said he learned through conversations with the Planning Board that some of what Chair Madison referenced was a result of historic logging (and roads) of the hillside and subsequent flooding around 2005. He said G2 had not done anything to that location but that in theory they would look at it in a future phase. Chair Madison also asked if the retention ponds would be left on site or filled in. Mr. Cole said they would be left on site.

The Commission continued discussing its recommendations for the Planning Board, agreeing that the Commission's purview was surface water concerns.

Mr. Bill knew the applicant had described the rock on site as a rusty schist and the potential for acid drainage on site. When crushing that rock and using it on road or water systems, he said they would be taking some of those components and scattering them on the road surface or in the waterway, for which he imagined there were State guidelines. Mr. Bill said he would feel much better about this if he knew what those State limits were and how the applicant's product would

fit into those. He said they could control the acid drainage on their site, but not the product once it is scattered around the City and causes problems the City must deal with. So, Mr. Bill wanted some reassurance that he could not glean from the data presented; what was the sulfur content, did they sample the entire well distance and a composite for that? He wanted either additional information from the applicants or further testing.

The Commission debated whether it could recommend the forest buffer. Mr. Bill said that trees could enhance transpiration and therefore water quality.

Mr. Flaherty made the following motion, which was duly seconded by Mr. Bill.

On a vote of 7–0, the Conservation Commission recommended that the Planning Board consider the following for application PB-2024-20:

- Greater consideration of 100-year storm/flood events in planning.
- Further study into potential offsite impacts of acid mine drainage.
- Potential to increase forest buffer with Route 9.
- Remediation with pollinator friendly plants.

4) Report-Outs:

A) Greater Goose Pond Forest Stewardship Subcommittee

Mr. Haynes reported that the Subcommittee met on March 7 and discussed enlarging the trailhead maps as well as making paper maps available at the trailheads for those who do not visit with their phones. He said he was continuing to put up new trail signs as he completed them, which had been helpful. Most of the March 7 meeting was focused on the new bridge planned at the spillway, which had been designed. The Subcommittee was working with the City Engineer, Bryan Ruoff, who was finalizing the engineering plans (e.g., abutments). The group also started working on the fundraising brochure. They hoped to have the engineering plans and brochure mostly finalized by April, in which case the project might be able to proceed in the fall, though Mr. Haynes said that timing was still unclear.

B) Invasive Plant Species

Vice Chair Williams said it was still winter, so he expected to start developing a list of areas for the summer invasive species removal events by the April meeting. He welcomed recommendations of sites to consider. Ms. Brunner asked if Vice Chair Williams anticipated requesting anything from the Commission's budget for invasive species removal this fiscal year. The Vice Chair replied that if funds remained available, he thought it would be a good use and he could think of many places in the City where shrubs would be useful to replace invasive species.

Mr. Bill mentioned that the Subaru dealership offered him a free tree to plant in his yard and he wondered if they might do something on a City-wide basis too if someone contacted them. Vice

Chair Williams mentioned hearing that Eversource was doing something similar, so he said the City should have a street tree planting program in the spring.

C) Land Conservation

No updates.

D) Pollinator Updates

Mr. Therriault showed a photo from the Edgewood Neighborhood pollinator garden—an 18-yard diameter circle/2,000-square foot garden around the flagpole. At this time, it was bare, with a small pathway of woodchips. The garden was populated with native plants and low-growing shrubs. Mr. Therriault would report back with new photos in June. They also placed a small sign indicating why they planted native plants and the benefits to pollinators. Mr. Therriault also said that he was working on the City's annual report to Bee City USA.

5) Discussion Items:

A) Citywide Approach/Strategy For Invasive Species Management

This matter was referred to the City Council's Municipal Services, Facilities, & Infrastructure Standing Committee several months prior, which asked the City Manager to come up with something and report back to it. That had not occurred yet.

B) Airport Wildlife Control Fence

Mr. Bergman said there was no update from the Airport Director, David Hickling. Mr. Bergman was concerned that part of the project could be tied to funding from the Bipartisan Act of Congress, and he was unsure where that stood with attempts to rollback. He would ask the Airport Director.

C) Land Stewardship Updates (Easement Monitoring)

No updates.

D) NHDOT Route 101 Project

No updates.

E) Master Plan Update

Ms. Brunner reported that the Comprehensive Master Plan Update was entering a busy phase, with June 3 being the date to present the full Master Plan to the public. The online Discussion Boards were still active at www.KeeneMasterPlan.com and the final Task Force meetings were

occurring on the Six Strategic Pillars: Livable Housing, Flourishing Environment, Vibrant Neighborhoods, Connected Mobility, Adaptable Workforce, and Thriving Economy. The Master Plan Steering Committee would be reviewing individual chapters of the Master Plan on each Pillar. There would also be an online StoryMap launching early April created with ArcGIS, allowing users to visually explore the pillars and goals. Ms. Brunner said there would also be a decision matrix sent (end of April/early May) to specific groups throughout the City including the membership of all City boards and committees (more than 200 individuals), City staff leadership, and the City Council, among others. The purpose of the matrix is to get specific feedback to help prioritize the goals and strategies developed in the Master Plan. Ms. Brunner would keep the Commission informed of these various aspects but told them about the Future Summit on June 3 at 5:00 PM, at Heberton Hall, Keene Public Library.

F) Outreach

No updates.

6) New or Other Business

Mr. Flaherty shared that the NH Department of Environmental Services Wetlands Bureau was revising its 300 and 500 Series wetland rules; it was still in the review process. He added that as a member, the Northern Soil Scientist Society was trying to push for stricter NH Alteration of Terrain (AOT) regulations for what is accepted into the soil (e.g., a sediment basin). Mr. Flaherty went on to explain how the Society provides professional opinions to engineers to report to the NH AOT.

Mr. Milliken recalled the Planning Board referral for 19 Ferry Brook Rd at the January 21, 2025, Conservation Commission meeting. At that meeting, Vice Chair Williams asked about lead in the soil from past uses and Otto A. Busher, III, Chairman of the Board of Directors of the Cheshire County Shooting Sports Education Foundation, quickly said no. Mr. Milliken wondered if the Commission was able to ask for a water sample, noting that the brook next to that location flows into Otter Brook. Chair Madison said the Commission could always *ask* but does not have the statutory authority to *require*. Mr. Haynes wondered if such testing could be a recommendation to the Planning Board from the Conservation Commission when reviewing an application. Chair Madison said the Conservation Commission has the broad authority to request or recommend, but not to force. So, the Commission could certainly recommend that someone collect water quality samples, for example, within reason. Ms. Brunner said it was a good point, reiterating that the Commission makes recommendations to the Planning Board, which decides whether it agrees with those recommendations and whether to make those conditions of the Planning Board's approval.

7) Adjournment

There being no further business, Chair Madison adjourned the meeting at 6:19 PM.

Respectfully submitted by,
Katryna Kibler, Minute Taker
March 24, 2025

Reviewed and edited by,
Mari Brunner, Senior Planner

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Cottage Court Development
Site Plan and CUP Narrative

Guitard Homes, LLC
Tax Map Parcel 228, Lot 16
Court Street, Keene, New Hampshire

Revised April 14, 2025

Project Narrative:

Fieldstone Land Consultants, on behalf of Guitard Homes, LLC, is submitting a Cottage Court Overlay development plan for Planning Board review. The proposal consists of developing Tax Map Lot 228-16 located on Court Street, in a Cottage Court single-family residential development with 29 dwelling units. The applicant has decided to utilize the recently adopted Cottage Court Overlay regulations with a private driveway. This layout will provide condominium style ownership for future homeowners with a goal of providing much needed affordable, owner-occupied housing.

The existing Tax Map Lot 228-16 has 9.7+/- acres with 303.59 feet of frontage along Court Street. The lot is located in the Low Density District and is currently undeveloped. The property is primarily wooded with young forest with some forested wetland areas in the lower elevations.

The proposed buildings will have access from Court Street via a central driveway that has one small spur to utilize the dry areas on site. We anticipate two wetland crossings for this development and there will be buffer impacts in the wetland crossing areas as well as in some backyard areas to provide for a nice residential setting with proper spacing around the units. A homeowner's association will be formed to provide maintenance of the access road and common facilities and amenities.

The sizes of the units will vary, as there is a mix of two-bedroom and three-bedroom designs. The buildings will be 1-2 stories, and include either an optional garage or shed. The building designs contemplate a modern New England style architecture and will meet the Cottage Court standards. The plans for these units have been provided for review and comment.

The residential development will be serviced by the municipal water and sanitary sewer infrastructure that is located along Court Street. Easements will be provided to the City of Keene where necessary for the infrastructure. The stormwater management will be constructed on site and maintained by the homeowner's association. The project will disturb more than 100,000 S.F. of land, requiring an Alteration of Terrain permit with NHDES. The shared driveway will cross wetland areas and require a Wetland permit with NHDES.

The development will require three applications from the Planning Board; the Cottage Court Conditional Use Permit (CUP), Major Site Plan, and Surface Water CUP. The development standards for the three applications are outlined below with descriptions on how the standards are met.

Cottage Court Overlay CUP Standards (Article 17.5.3 of the LDC):

17.5.3.A Dwelling Unit Sizes: The dwelling unit sizes vary based on the three house styles; all units will meet the maximum of 900 footprint area, and 1250 S.F. in average gross floor area (average for the whole development). The unit sizes are listed on SP-1 sheet.
17.5.3.B Parking: There are no parking lots proposed for this site. Each dwelling unit can fit at least 2 spaces per driveway and some homes will have an attached garage.
17.5.3.C Building Separation: The buildings are separated to meet building and fire codes. The two closest buildings are 14.0 feet apart.
17.5.3.D Driveways: The driveways will meet the requirements of this section. The main private drive will be 20' wide with cape cod curbing, street lighting, and trees. The driveways will be 9' wide. Intersections of the spur and main driveway will have radial corners to allow for turnaround of emergency vehicles, such as a ladder truck.
17.5.3.E Internal Roads: The development will not have a "road" with a defined right-of-way. There will be an easement for water & sewer utilities, owned by the City.
17.5.3.F Screening: The proposed buildings will be screened from adjacent properties and the City Street. There is a vegetated buffer to remain along property lines. The southern boundary along Court Street will have a forest buffer and fence along the main entrance to the site.

Site Development Standards (Article 21 of the LDC):

21.2. Drainage & Stormwater: The site will be designed to convey the drainage away from the buildings and off the paved driveways. The stormwater will be managed to provide treatment and retention of rainstorm runoff waters. The systems have been designed to match or reduce the stormwater runoff that exists on the undeveloped site for the 2, 10, 25, and 50 year storm events, as required by NHDES and the City of Keene. The project will require an NHDES – Alteration of Terrain permit and Wetland Impact permit.
21.3 Sediment & Erosion Control: Temporary erosion control measures consisting of catch basin silt-socks, silt fencing, and a stabilized construction entrance will be used during the construction process. The permanent erosion control measures will consist of stone rip-rap, stone check dams, established vegetation, erosion control matting, and asphalt pavement.
21.4 Snow Storage & Removal: Snow will be stored on site. The snow will be plowed to the sides of the roads and driveways of the homes.
21.5 Landscaping: Landscaping will meet the City LDC standards and is provided along the roadway and entrance of the development. Plantings around the homes will be based on the homeowners' preference.
21.6 Screening: The perimeter of the site will have trees maintained for natural screening from the public way. The HVAC equipment for the buildings will be placed behind the buildings to not be visible from the public way. The transformers for the development will be screened by evergreen shrubs. There is vegetated buffer between Court Street and the site, as well as a fence that is placed along Court Street which will provide overall screening for the development.
21.7 Lighting: All lighting will meet the City LDC standards and will not impact the public. Details

are shown on the LT-1 Lighting Plan.

21.8 Sewer & Water: Sewer and water will be municipal services, which includes domestic water and sanitary sewer to each building. Easements will be provided to the City to allow access to the municipal infrastructure where necessary.

21.9 Traffic & Access Management: Access will be off Court Street with a private drive, built to City road standards. As well as an entrance off of Keene Center's (Genesis Health Care) private drive utilizing the easement shown on sheet EX-1. A traffic memo has been provided by a Traffic Engineer with trip generation estimates outlined. A full traffic study will be conducted and submitted in the near future. We ask for this to be a condition of approval, as the traffic study will require data collection of traffic on Court Street, adding substantial time delays to the project.

21.10 Filling & Excavation: The proposed grading will require filling in some areas and excavation in other areas. The materials used to fill on site, will be stock piled on the property. Select gravels and fill material for construction will need to be imported to the site. Any excavations within the City right-of-way will be outlined in the Excavation Permit with Keene Public Works. The overall amount of borrow material will exceed 50 truckloads for all three phases of the project. The trucking route will be along Court Street to Maple Ave, and onto NH Route 12.

21.11 Surface Waters & Wetlands: There are impacts to the delineated wetlands on the site for the crossing of the roadway. The homes do not impact the wetland resources, only the access across the wetlands. The wetland buffer of 30' will impacted slightly by housing. 6 structures (dwelling unit/shed) are impacting the buffer. The majority of the proposed work within the 30' buffer is for stormwater management. The wetland crossings will be permitted with NHDES.

21.12 Hazardous & Toxic Materials: There are none associated with this project. The trash for the homes will be handled by each individual homeowner; no dumpsters are proposed. The HOA or Condo-Association could contract for a scheduled pickup day at each home, if financially beneficial. This would not be finalized until the association is formed.

21.13 Noise: Noise increase will be minimal for the residential use and the project is buffered from the nearest residential home.

21.14 Architecture & Visual Appearance: The architecture will be 2–3 bedroom dwellings that vary 1-2 stories in height. The colors will be natural tones and fit with the nearby neighborhoods in the City. The architecture of the three styles of homes compliment one another and will be visually pleasing. The homes will be smaller in footprint and fit in with the "Cottage" style as outlined in the LDC. The three styles have been submitted for review. The three types of homes have been provided and labeled to correlate with the site plans.

26.12.11.C Phasing: The project will be phased, as shown on the plans. The first phase will include the homes nearest Court Street before the wetland crossing. This phase is anticipated to start construction in 2025. Phase 2 would include the homes from the wetland crossing to the cul-de-sac. This phase is anticipated to start in 2026. Phase 3 would include the remaining homes from the cul-de-sac to the end of hammerhead turn-around. This phase would start in 2027. The table of phasing is included on the site plan and the phasing will be driven by market conditions. This table shows the number of homes per phase.

Surface Water Protection CUP Standards (Article 11 of the LDC):

11.6.2A Generally: The proposed use is designed to utilize the Cottage Court overlay district to it'd fullest.
11.6.2B Buffer Encroachment: The proposed use encroaches the wetland buffer in 7 places where structures are partially over the buffer. Totaling to an area of 1,365 S.F.
11.6.2C Surface water Impacts: The proposed private drive has two wetland crossings. Each crossing is designed to keep the natural characteristics of the wetlands and is for access to the property.
11.6.2D-E Surface Water Buffer: The proposed design has stormwater improvements within the buffer. These impacts to the buffer will not impact the wetlands and ensure the water quality of runoff is treated prior to flowing to the wetland resource. Erosion control measures are specified to protect the adjacent wetlands in the areas of encroachment. The stormwater management and wetland impacts will require approval by the NHDES.

MULTI-FAMILY RESIDENTIAL DEVELOPMENT

- TAX MAP 228, LOT 16 -

GUITARD HOMES COTTAGE COURT

0 COURT STREET
KEENE, NH 03431
MARCH 21, 2025

LAST REVISED: APRIL 14, 2025

WILDLIFE PROTECTION NOTES

- ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: NHB25-0462, GUITARD HOMES – COTTAGE COURT, WILDLIFE SPECIES OBSERVATION.
- PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHF&G IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION AS FEASIBLE;
- IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL NOT BE DISTURBED, HANDLED, OR HARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHF&G AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHF&G, IF ANY, TO ASSURE THE PROJECT DOES NOT APPRECIABLY JEOPARDIZE THE CONTINUED EXISTENCE OF THREATENED AND ENDANGERED SPECIES AS DEFINED IN FIS 1002.04
- THE NHF&G, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

WETLAND NOTES:

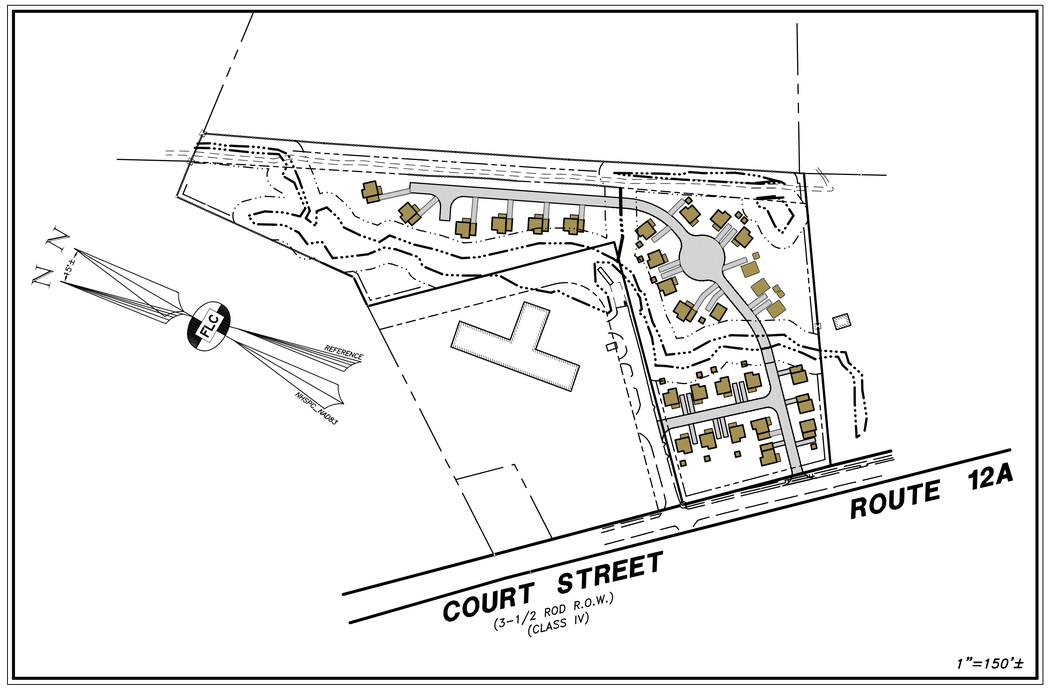
1. RIP-RAP SHOULD BE FILLED WITH FINER MATERIAL (I.E., NATIVE WETLAND MATERIAL, NATIVE WETLAND SEED MIX, OR GRAVEL) TO CREATE A RELATIVELY SMOOTH SURFACE FOR WILDLIFE TO TRAVERSE.
2. IF HYDROSEEDING IS DEEMED NECESSARY, MIX SHOULD NOT CONTAIN MICRO- PLASTICS. DYES SHOULD BE WATER-SOLUBLE AND ECO-FRIENDLY. HYDROSEEDING SHOULD NOT OCCUR WITHIN 75 FEET OF WETLANDS.
3. AVOID/MINIMIZE THE USE OF FERTILIZERS IN UPLAND AREAS OR TRANSITION ZONES. IF FERTILIZERS ARE NECESSARY, USE ORGANIC VERSUS SYNTHETIC FERTILIZERS OPTIONS. IF CHOSEN, SYNTHETIC OPTIONS SHOULD BE CONTROLLED-RELEASED/SLOW-RELEASED AND AT LOW STRENGTHS.

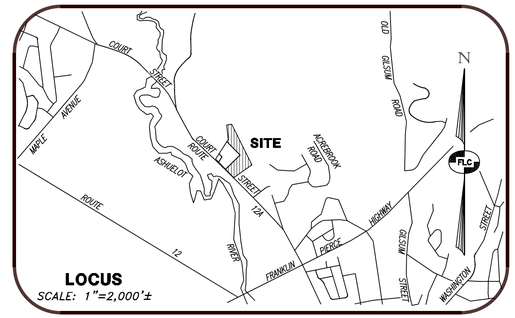
NEW ENGLAND CONSERVATION/WILDLIFE SEED MIX:

1. SEED MIX INCLUDES: VIRGINIA WILD RYE (ELYMUS VIRGINICUS), LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM), BIG BLUESTEM (ANDROPOGON GERARDII), RED FESCUE (FESTUCA RUBRA), SWITCH GRASS (PANICUM VIRGATUM), PARTRIDGE PEA (CHAMAECRISTA FASCICULATA), PANICLEDLEAF TICK TREFOIL (DESMODIUM PANICULATUM), INDIAN GRASS (SORGHASTRUM NUTANS), BLUE VERVAIN (VERBENA HASTATA), BUTTERFLY MILKWEED (ASCLEPIAS TUBEROSA), BLACK EYED SUSAN (RUDBECKIA HIRTA), COMMON SNEEZEWEED (HELENIUM AUTUNALE), HEATH ASTER (ASTERPILOSUS/SYMPHYOTRICHUM PILOSUM), EARLY GOLDENROD (SOLIDAGO JUNCEA), UPLAND BENTGRASS (AGROSTIS PERENNANS
2. THE NEW ENGLAND CONSERVATION/WILDLIFE MIX PROVIDES A PERMANENT COVER OF GRASSES, WILDFLOWERS, AND LEGUMES FOR BOTH GOOD EROSION CONTROL AND WILDLIFE HABITAT VALUE. THE MIX IS DESIGNED TO BE A NO MAINTENANCE SEEDING, AND IS APPROPRIATE FOR CUT AND FILL SLOPES, DETENTION BASIN SIDE SLOPES, AND DISTURBED AREAS ADJACENT TO COMMERCIAL AND RESIDENTIAL PROJECTS.

NEW ENGLAND WETLAND SEED MIX:

1. SEED MIX INCLUDES: FOX SEDGE (CAREX VULPINOIDEA), LURID SEDGE (CAREX LURIDA), BLUNT BROOM SEDGE (CAREX SCOPARIA), BLUE VERVAIN (VERBENA HASTATA), FOWL BLUEGRASS (POA PALUSTRIS), HOP SEDGE (CAREX LUPULINA), GREEN BULRUSH (SCIRPUS ATROVIRENS), CREEPING SPIKE RUSH (ELEOCHARIS PALUSTRIS), FRINGED SEDGE (CAREX CRINITA), SOFT RUSH (JUNCUS EFFUSUS), SPOTTED JOE PYE WEED (EUPATORIUM MACULATUM), RATTLESNAKE GRASS (GLYCERIA CANADENSIS), SWAMP ASTER (ASTER PUNICEUS), BLUEFLAG (IRIS VERSICOLOR), SWAMP MILKWEED (ASCLEPIAS INCARNATA), SQUARE STEMMED MONKEY FLOWER (MIMULUS RINGENS).
2. THE NEW ENGLAND WETMIX (WETLAND SEED MIX) CONTAINS A WIDE VARIETY OF NATIVE SEEDS THAT ARE SUITABLE FOR MOST WETLAND RESTORATION SITES THAT ARE NOT PERMANENTLY FLOODED. ALL SPECIES ARE BEST SUITED TO MOIST GROUND AS FOUND IN MOST WET MEADOWS, SCRUB SHRUB, OR FORESTED WETLAND RESTORATION AREAS. THE SEEDS WILL NOT GERMINATE UNDER INUNDATED CONDITIONS. IF PLANTED DURING THE FALL MONTHS, THE SEED MIX WILL GERMINATE THE FOLLOWING SPRING. DURING THE FIRST SEASON OF GROWTH, SEVERAL SPECIES WILL PRODUCE SEEDS WHILE OTHER SPECIES WILL PRODUCE SEEDS AFTER THE SECOND GROWING SEASON. NOT ALL SPECIES WILL GROW IN ALL WETLAND SITUATIONS. THIS MIX IS COMPRISED OF THE WETLAND SPECIES MOST LIKELY TO GROW IN CREATED/RESTORED WETLANDS AND SHOULD PRODUCE MORE THAN 75% GROUND COVER IN TWO FULL GROWING SEASONS.
3. THE WETLAND SEEDS IN THIS MIX CAN BE SOWN BY HAND, WITH A HAND HELD SPREADER, OR HYDRO-SEEDED ON LARGE OR HARD TO REACH SITES. LIGHTLY RAKE TO INSURE GOOD SEED TO SOIL CONTACT. SEEDING CAN TAKE PLACE ON FROZEN SOIL, AS THE FREEZING AND THAWING WEATHER OF LATE FALL AND LATE WINTER WILL WORK THE SEED INTO THE SOIL. IF SPRING CONDITIONS ARE DRIER THAN USUAL WATERING MAY BE REQUIRED. IF SOWING DURING THE SUMMER MONTHS SUPPLEMENTAL WATERING WILL LIKELY BE REQUIRED UNTIL GERMINATION. A LIGHT MULCH OF CLEAN, WEED FREE STRAW IS RECOMMENDED.





SHEET INDEX

PREPARED FOR AND LAND OF:

GUITARD HOMES
P.O. BOX 604 JAFFREY, NH 03452

PERMITS/APPROVALS REQUIRED:

1. CITY OF KEENE PLANNING BOARD: MAJOR SITE PLAN APPROVAL
2. CITY OF KEENE SURFACE WATER C.U.P.:
3. CITY OF KEENE COTTAGE COURT C.U.P.:
4. CITY OF KEENE BUILDING PERMITS:
5. NHDES SEWER CONNECTION PERMIT:
6. NHDES ALTERATION OF TERRAIN PERMIT:
7. NHDES WETLAND PERMIT:
8. NHDES SHORELAND PROTECTION PERMIT:

LAND-OWNER SIGNATURE

OWNER: _____
DATE:

APPROVED BY THE KEENE PLANNING BOARD

ON: _____ CERTIFIED BY
CHAIRMAN: _____ AND
SECRETARY: _____

Surveying ⌖ Engineering ⌖ Land Planning ⌖ Permitting ⌖ Septic Designs

FIELDSTONE
LAND CONSULTANTS, PLLC

206 Elm Street, Milford, NH 03055
Phone: (603)-672-5456 Fax: (603)-413-5456
www.FieldstoneLandConsultants.com

REV.	DATE	DESCRIPTION	C/O	DR	CK
A	4/14/25	REVS PER STAFF COMMENTS		CJC	JEN

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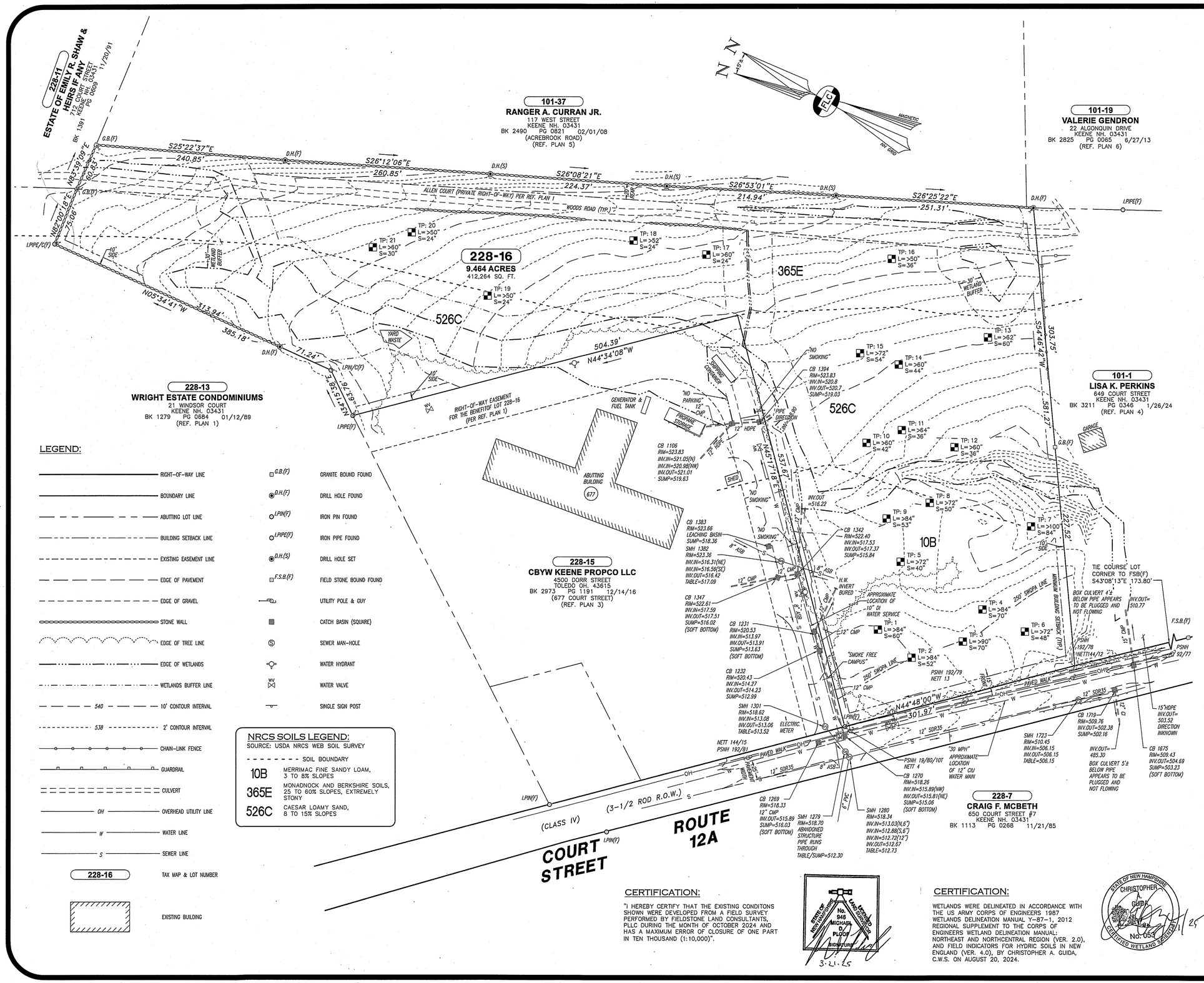

LEGEND:

RIGHT-OF-WAY LINE	G.B.(F)	GRANITE BOUND FOUND
BOUNDARY LINE	D.H.(F)	DRILL HOLE FOUND
ABUTTING LOT LINE	I.PIN(F)	IRON PIN FOUND
BUILDING SETBACK LINE	I.PIPE(F)	IRON PIPE FOUND
EXISTING EASEMENT LINE	D.H.(S)	DRILL HOLE SET
EDGE OF PAVEMENT	F.S.B.(F)	FIELD STONE BOUND FOUND
EDGE OF GRAVEL		UTILITY POLE & GUY
STONE WALL		CATCH BASIN (SQUARE)
EDGE OF TREE LINE	S	SEWER MAN-HOLE
EDGE OF WETLANDS		WATER HYDRANT
WETLANDS BUFFER LINE	WV	WATER VALVE
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CHAIN-LINK FENCE		
GUARDRAIL		
CULVERT		
OH OVERHEAD UTILITY LINE		
W WATER LINE		
S SEWER LINE		
228-16 TAX MAP & LOT NUMBER		
EXISTING BUILDING		

NRCS SOILS LEGEND:
SOURCE: USDA NRCS WEB SOIL SURVEY

- - - - - - - -	SOIL BOUNDARY
10B	MERRIMAC FINE SANDY LOAM, 3 TO 8% SLOPES
365E	MONADNOCK AND BERKSHIRE SOILS, 25 TO 60% SLOPES, EXTREMELY STONY
526C	CAESAR LOAMY SAND, 8 TO 15% SLOPES

CERTIFICATION:

"I HEREBY CERTIFY THAT THE EXISTING CONDITONS SHOWN WERE DEVELOPED FROM A FIELD SURVEY PERFORMED BY FIELDSTONE LAND CONSULTANTS, PLLC DURING THE MONTH OF OCTOBER 2024 AND HAS A MAXIMUM ERROR OF CLOSURE OF ONE PART IN TEN THOUSAND (1:10,000)".

STATE OF NEW HAMPSHIRE No. 848 MICHAEL D. FLOOT SURVEYOR
3.21.25

CERTIFICATION:

WETLANDS WERE DELINEATED IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS 1987 WETLANDS DELINEATION MANUAL Y-87-1, 2012 REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHEAST AND NORTHCENTRAL REGION (VER. 2.0), AND FIELD INDICATORS FOR HYDRIC SOILS IN NEW ENGLAND (VER. 4.0), BY CHRISTOPHER A. GUIDA, C.W.S. ON AUGUST 20, 2024.

STATE OF NEW HAMPSHIRE CHRISTOPHER A. GUIDA No. 053 CERTIFIED WETLAND SCIENTIST
3/21/25

REFERENCE PLANS:

1. "SUBDIVISION OF LAND OF – S.B.D. TRUST", SCALE: 1"=50', DATED: JULY 18, 1977, REVISED THROUGH: SEPTEMBER 27, 1977, PREPARED BY: DUFRESNE–HENRY ENGINEERING CORPORATION, AND RECORDED IN PLAN CABINET 1, DRAWER 00, NUMBER 71 IN THE C.C.R.D.
2. "BOUNDARY PLAN – C.W.N.C. – KEENE, NH", SCALE: 1"=40', DATED: OCTOBER 23, 1995 AND REVISED THROUGH DECEMBER 6, 1995. PREPARED BY: HOLDEN ENGINEERING & SURVEYING, INC. AND RECORDED IN PLAN CABINET 11, DRAWER 10, NUMBER 100 IN THE C.C.R.D.
3. "WRIGHT ESTATES – BOUNDARY PLAN", SCALE: 1"=50'. DATED: MARCH, 1987. PREPARED BY: COSTELLO, LOMASNEY & DE NAPOLI, INC. AND RECORDED IN PLAN CABINET 10 DRAWER 00 NUMBER 50 IN THE C.C.R.D.
4. "SUBDIVISION PROPOSAL – OF – JOHN P. WRIGHT ESTATE – KEENE, .N.H.", SCALE: 1"=50'. DATED: APRIL 3, 1973. PREPARED BY: JOHN C. CALHOUN, JR. L.S. AND RECORDED IN PLAN BK. 25 PG. 40 IN THE C.C.R.D.
5. "REVISED SUBDIVISION PLAT – OF LAND OF – JAMES A. MASIELLO & – A. RANGER CURRAN, JR. – KEENE, N.H.", SCALE: 1"=200'. DATED: APRIL 20, 1988. PREPARED BY: DAVID A. MANN ASSOCIATES AND RECORDED IN CABINET 10, DRAWER 00, NUMBER 16 IN THE C.C.R.D.
6. "REVISED SUBDIVISION PLAT OF – LOT 11 – HIGHLAND ESTATES – KEENE NH.", DATED: MARCH 30, 1988. PREPARED BY: DAVID A. MANN ASSOCIATES AND RECORDED IN CABINET 10, DRAWER 00, NUMBER 15.

NOTES:

1. THE OWNER OF RECORD FOR TAX MAP 228 LOT 16 IS GUITARD HOMES, P.O. BOX 604, JAFFREY, NH. 03452. DEED REFERENCE TO PARCEL IS BK. 3290 PG. 1192, DATED 10/11/2024 IN THE C.C.R.D.
2. THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING SITE IMPROVEMENTS FOR TAX MAP 228 LOT 16, AS SHOWN.
3. ZONING FOR THE ENTIRE PARCEL IS THE LOW DENSITY (LD) DISTRICT. MINIMUM LOT AREA IS 10,000 S.F. MINIMUM LOT WIDTH AT BUILDING LINE IS 70 FT. MINIMUM ROAD FRONTAGE IS 60 FT. BUILDING SETBACKS ARE 15' FRONT, 10' SIDE AND 20' REAR. SURFACE WATER PROTECTION DISTRICT BUFFER IS 30 FT.
4. THE PARCEL IS SUBJECT TO THE CITY OF KEENE SURFACE WATER PROTECTION OVERLAY DISTRICT AND ITS ASSOCIATED RULES.
5. THE EXISTING IMPROVEMENTS, MONUMENTS AND LINES OF OCCUPATION SHOWN ARE THE RESULT OF AN ON–SITE FIELD SURVEY PERFORMED BY THIS OFFICE IN AUGUST THROUGH OCTOBER OF 2024.
6. THE BOUNDARY INFORMATION SHOWN FOR EXISTING LOT 228–16 WAS DEVELOPED FROM THE REFERENCE PLANS CITED HEREON TOGETHER WITH A PRECISE FIELD SURVEY PERFORMED BY THIS OFFICE DURING THE MONTH OF OCTOBER 2024.
7. HORIZONTAL ORIENTATION IS NAD83 & VERTICAL DATUM IS NAVD88 PER A GPS CORS SOLUTION.
8. NO PORTION OF LOT 228–16 IS SUBJECT TO THE 100 YEAR FLOOD PER FEMA FIRM MAP FOR THE CITY OF KEENE, NH. NUMBER 33005C0258E PANEL NUMBER 258 OF 610, EFFECTIVE DATE MAY 23, 2006.
9. LOT 228–16 MAY BE SUBJECT TO A PRIVATE RIGHT–OF–WAY KNOWN AS ALLEN COURT AS SHOWN ON REFERENCE PLAN 1. LOT 228–16 BENEFITS FROM A RIGHT–OF–WAY OVER ABUTTING LOT 228–15 PER REFERENCE PLAN 1.
10. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN COMPILED IN PART FROM PLANS OF RECORD TOGETHER WITH CITY GIS DATA & FIELD LOCATIONS. THE LOCATION OF UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITIES.

GRAPHIC SCALE
60' 30' 0 60' 120' 180'
IMPERIAL: 1"=60'

REV.	DATE	DESCRIPTION	C/O	DR	CK

EXISTING CONDITIONS PLAN
TAX MAP 228 LOT 16
(COURT STREET)
KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:
GUITARD HOMES
P.O. BOX 604 JAFFREY, NH. 03452

SCALE: 1" = 60' DECEMBER 6, 2024

Surveying ✣ Engineering ✣ Land Planning ✣ Permitting ✣ Septic Designs

FIELDSTONE LAND CONSULTANTS, PLLC
206 Elm Street, Milford, NH 03055
45 Roxbury Street, Keene, NH 03431
Phone: (603) 672-5456 Fax: (603) 413-5456
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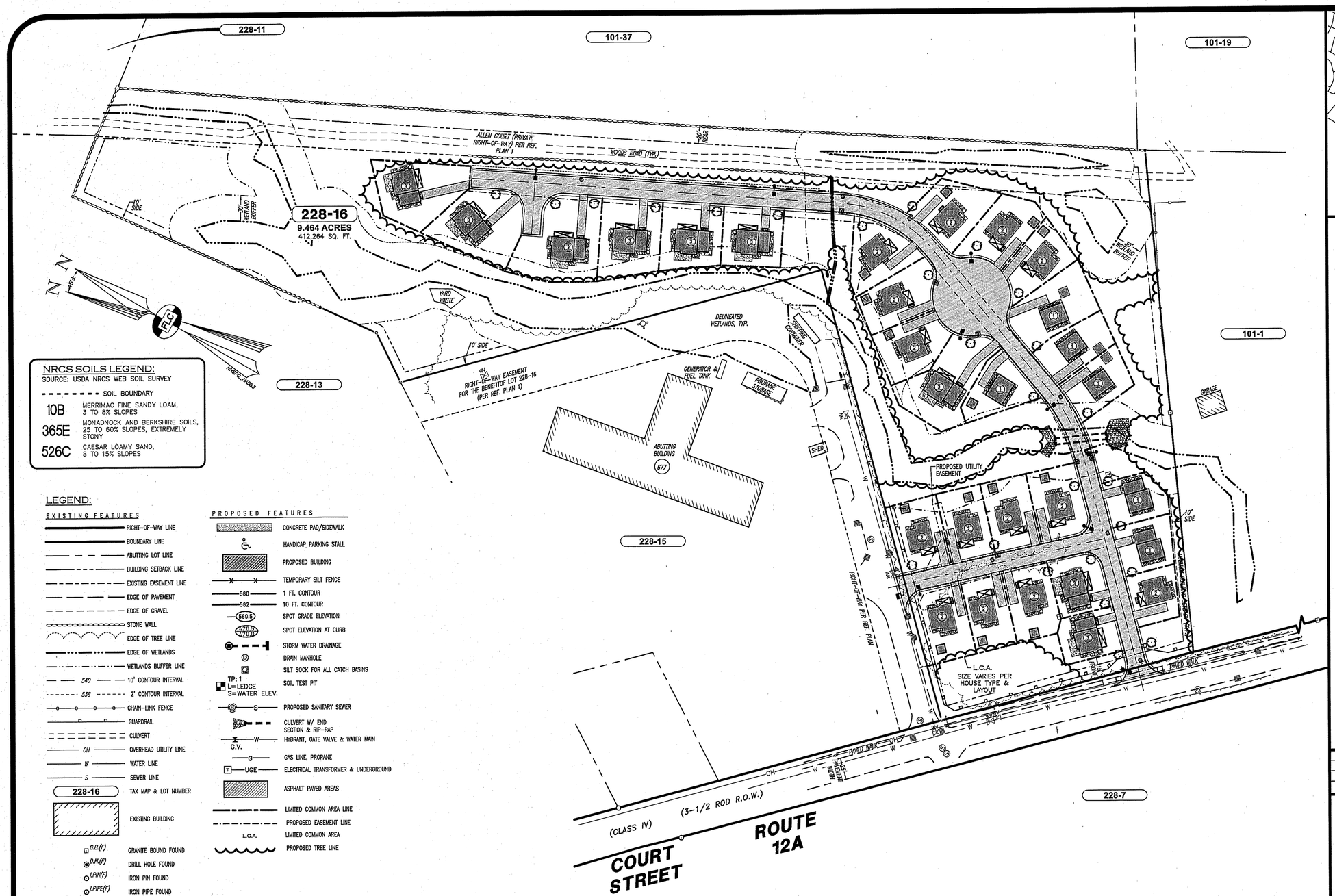

NRCS SOILS LEGEND:

SOURCE: USDA NRCS WEB SOIL SURVEY

- SOIL BOUNDARY

10B	MERRIMAC FINE SANDY LOAM, 3 TO 8% SLOPES
365E	MONADNOCK AND BERKSHIRE SOILS, 25 TO 60% SLOPES, EXTREMELY STONY
526C	CAESAR LOAMY SAND, 8 TO 15% SLOPES

LEGEND:

EXISTING FEATURES

- RIGHT-OF-WAY LINE
- BOUNDARY LINE
- ABUTTING LOT LINE
- BUILDING SETBACK LINE
- EXISTING EASEMENT LINE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- STONE WALL
- EDGE OF TREE LINE
- EDGE OF WETLANDS
- WETLANDS BUFFER LINE
- 540 — 10' CONTOUR INTERVAL
- 538 — 2' CONTOUR INTERVAL
- CHAIN-LINK FENCE
- GUARDRAIL
- CULVERT
- OH — OVERHEAD UTILITY LINE
- W — WATER LINE
- S — SEWER LINE
- 228-16 — TAX MAP & LOT NUMBER
- EXISTING BUILDING
- C.B.(F) — GRANITE BOUND FOUND
- D.H.(F) — DRILL HOLE FOUND
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- UTILITY POLE & GUY
- CATCH BASIN (SQUARE)
- SEWER MAN-HOLE
- WATER HYDRANT
- WATER VALVE
- SINGLE SIGN POST

PROPOSED FEATURES

- CONCRETE PAD/SIDEWALK
- HANDICAP PARKING STALL
- PROPOSED BUILDING
- TEMPORARY SILT FENCE
- 580 — 1 FT. CONTOUR
- 582 — 10 FT. CONTOUR
- 580.5 — SPOT GRADE ELEVATION
- 470.8 / 470.6 — SPOT ELEVATION AT CURB
- STORM WATER DRAINAGE
- DRAIN MANHOLE
- SILT SOCK FOR ALL CATCH BASINS
- TP: 1 L=LEDGE S=WATER ELEV. — SOIL TEST PIT
- S — PROPOSED SANITARY SEWER
- CULVERT W/ END SECTION & RIP-RAP
- G.V. — W — HYDRANT, GATE VALVE & WATER MAIN
- G — GAS LINE, PROPANE
- T — UGE — ELECTRICAL TRANSFORMER & UNDERGROUND
- ASPHALT PAVED AREAS
- LIMITED COMMON AREA LINE
- PROPOSED EASEMENT LINE
- L.C.A. — LIMITED COMMON AREA
- PROPOSED TREE LINE

CERTIFICATION:

WETLANDS WERE DELINEATED IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS 1987 WETLANDS DELINEATION MANUAL Y-87-1, 2012 REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHEAST AND NORTHCENTRAL REGION (VER. 2.0), AND FIELD INDICATORS FOR HYDRIC SOILS IN NEW ENGLAND (VER. 4.0), BY CHRISTOPHER A. GUIDA, C.W.S. ON AUGUST 20, 2024.

STATE OF NEW HAMPSHIRE — CHRISTOPHER A. GUIDA — No. 053 — CERTIFIED WETLAND SCIENTIST

4/14/2025

CERTIFICATION:

"I HEREBY CERTIFY AS TO THE ACCURACY OF THIS PLAN AND ITS COMPLIANCE WITH RSA 356-B:20, I & V, AND THAT THE CONSTRUCTION OF THE BUILDINGS AND THEIR LIMITED COMMON AREAS HAVE NOT BEGUN."

"AND, I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN. (RSA 676:18,III & 672:14)."

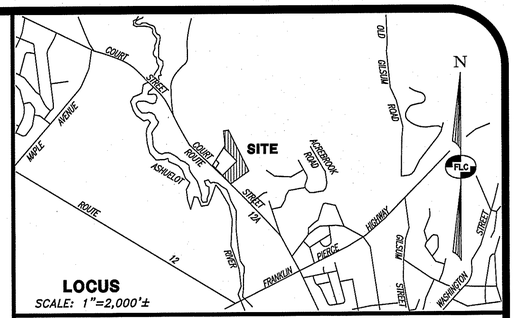
STATE OF NEW HAMPSHIRE — No. 946 — MICHAEL IDA PLOOF — LICENSED LAND SURVEYOR — SIGNATURE

4.14.25

GRAPHIC SCALE

60' 30' 0 60' 120' 180'

IMPERIAL: 1"=60'



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2. THE PURPOSE OF THIS PLAN IS TO SHOW A COTTAGE COURT RESIDENTIAL DEVELOPMENT WITH SITE IMPROVEMENTS ON TAX MAP 228 LOT 16.
3. ZONING FOR THE ENTIRE PARCEL IS THE LOW DENSITY (LD) DISTRICT. MINIMUM LOT AREA IS 10,000 S.F. MINIMUM LOT WIDTH AT BUILDING LINE IS 70 FT. MINIMUM ROAD FRONTAGE IS 60 FT. BUILDING SETBACKS ARE 15' FRONT, 10' SIDE AND 20' REAR. SURFACE WATER PROTECTION DISTRICT BUFFER IS 30 FT.
4. THE PARCEL IS SUBJECT TO THE CITY OF KEENE COTTAGE COURT OVERLAY DISTRICT. PROPOSED USE TO BE SINGLE FAMILY DWELLINGS.

	REQUIRED:	PROPOSED:
	MAX BUILDING HEIGHT=2.5 STORIES OR 35'	MAX 2 STORIES
	MAX AVG GROSS AREA=1,250 S.F. (EXCLUDING GARAGES)	AVG. 1,164 S.F.
	MAX BUILDING FOOTPRINT=900 S.F. (EXCLUDING GARAGES & PORCHES)	852 S.F.
	ROAD WIDTH=20-24' FT	20 FT
	MAX BUILDING COVERAGE=35%	6.9%
	MAX IMPERVIOUS COVERAGE=45%	17.6%
	AREA OF DISTURBANCE=	223,000 S.F.

BUILDING DESCRIPTIONS:

	BUILDING 1:	BUILDING 2:	BUILDING 3:
AMOUNT (#):	6	14	9
GROSS AREA (S.F.):	627	1250	1394
FOOTPRINT (S.F.):	627	772	852
BEDROOMS:	2	3	3

TOTAL GROSS AREA: 33,808 S.F.

PHASE 1: (12 HOMES)	PHASE 2: (11 HOMES)	PHASE 3: (6 HOMES)
(2) BUILDING 1	(4) BUILDING 1	(6) BUILDING 3
(8) BUILDING 2	(6) BUILDING 2	
(2) BUILDING 3	(1) BUILDING 3	

5. THE PARCEL IS SUBJECT TO THE CITY OF KEENE SURFACE WATER PROTECTION OVERLAY DISTRICT AND ITS ASSOCIATED RULES.
6. THE EXISTING IMPROVEMENTS, MONUMENTS AND LINES OF OCCUPATION SHOWN ARE THE RESULT OF AN ON-SITE FIELD SURVEY PERFORMED BY THIS OFFICE IN AUGUST THROUGH OCTOBER OF 2024.
7. THE BOUNDARY INFORMATION SHOWN FOR EXISTING LOT 228-16 WAS DEVELOPED FROM THE REFERENCE PLANS CITED HEREON TOGETHER WITH A PRECISE FIELD SURVEY PERFORMED BY THIS OFFICE DURING THE MONTH OF OCTOBER 2024.
8. HORIZONTAL ORIENTATION IS NAD83 & VERTICAL DATUM IS NAVD88 PER A GPS CORS SOLUTION.
9. NO PORTION OF LOT 228-16 IS SUBJECT TO THE 100 YEAR FLOOD PER FEMA FIRM MAP FOR THE CITY OF KEENE, NH, NUMBER 33005C0258E PANEL NUMBER 258 OF 610, EFFECTIVE DATE MAY 23, 2006.
10. LOT 228-16 MAY BE SUBJECT TO A PRIVATE RIGHT-OF-WAY KNOWN AS ALLEN COURT AS SHOWN ON REFERENCE PLAN 1. LOT 228-16 BENEFITS FROM A RIGHT-OF-WAY OVER ABUTTING LOT 228-15 PER REFERENCE PLAN 1.
11. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN COMPILED IN PART FROM PLANS OF RECORD TOGETHER WITH CITY GIS DATA & FIELD LOCATIONS. THE LOCATION OF UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITIES.
12. DWELLING UNITS WERE APPROVED AS PART OF THE COTTAGE COURT DEVELOPMENT AND ANY FUTURE MODIFICATIONS TO THE DWELLING UNIT OR COMMON LAND MAY REQUIRE REVIEW BY THE CITY OF KEENE PLANNING BOARD AS A MODIFICATIONS TO THE APPROVED COTTAGE COURT USE PERMIT, PB-2025-06.
13. MUNICIPAL WATER AND SEWER IS PROPOSED TO BE TAKEN OVER BY THE CITY OF KEENE. EASEMENTS ARE SHOWN HERE ON.

REV.	DATE	DESCRIPTION	C/O	DR	CK
A	4/14/25	REVS PER CITY REVIEW COMMENTS		CJC	MDP

CONDOMINIUM SITE PLAN

TAX MAP 228 LOT 16

(COURT STREET)

KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:

GUITARD HOMES

P.O. BOX 604 JAFFREY, NH. 03452

SCALE: 1" = 60' MARCH 21, 2025

Surveying ⌖ Engineering ⌖ Land Planning ⌖ Permitting ⌖ Septic Designs

FIELDSTONE LAND CONSULTANTS, PLLC

206 Elm Street, Milford, NH 03055
45 Roxbury Street, Keene, NH 03431
Phone: (603) 672-5456 Fax: (603) 413-5456
www.FieldstoneLandConsultants.com

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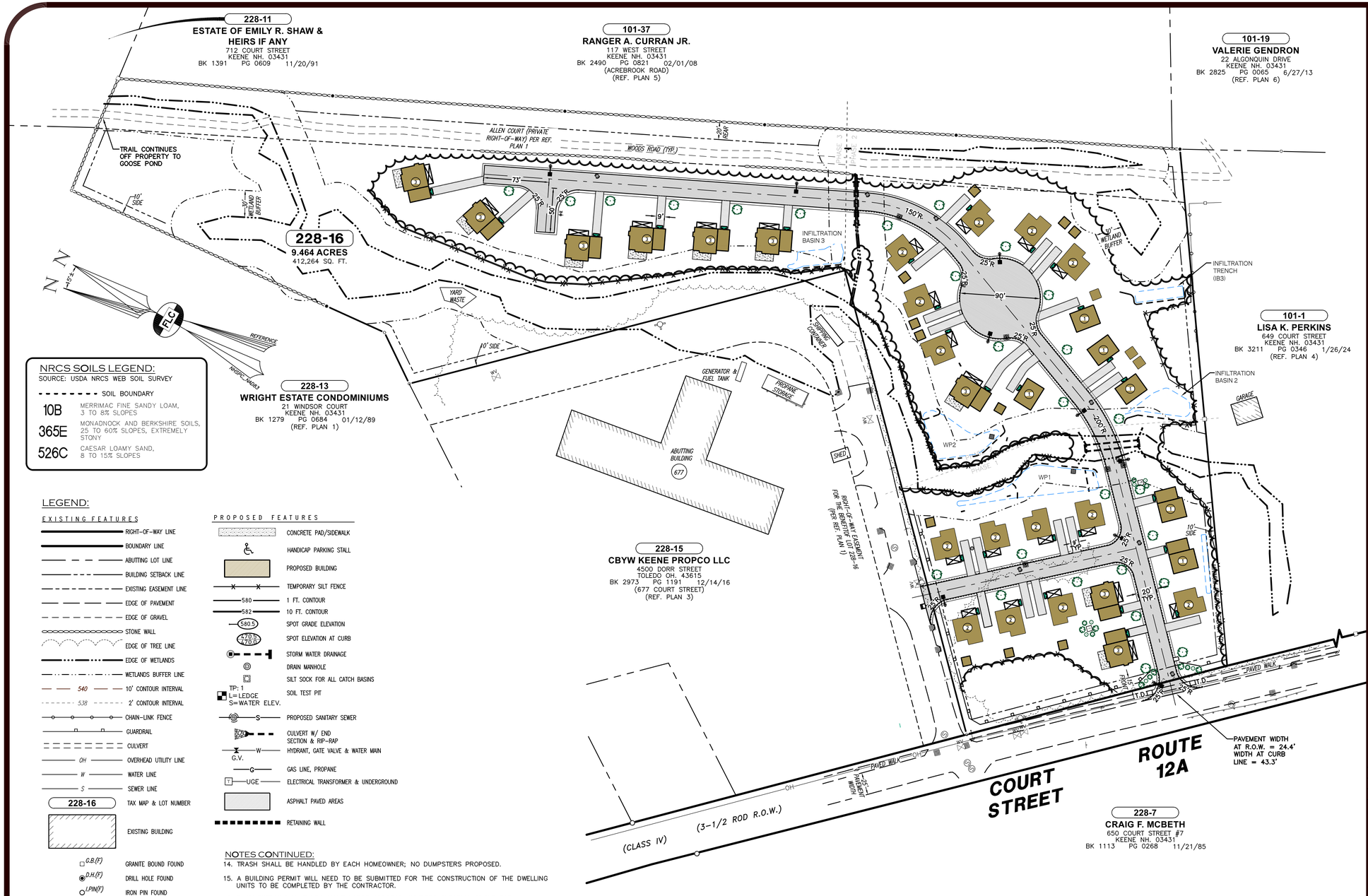

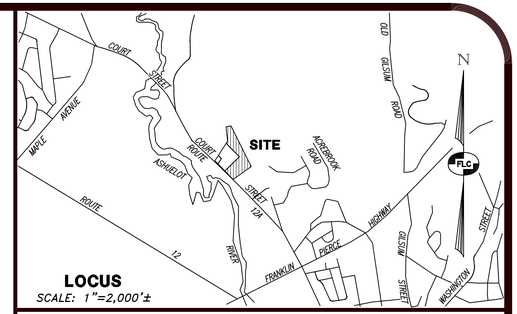

LOCUS
SCALE: 1"=2,000'±

NRCS SOILS LEGEND:

SOURCE: USDA NRCS WEB SOIL SURVEY

- SOIL BOUNDARY
- 10B — MERRIMAC FINE SANDY LOAM, 3 TO 8% SLOPES
- 365E — MONADNOCK AND BERKSHIRE SOILS, 25 TO 60% SLOPES, EXTREMELY STONY
- 526C — CAESAR LOAMY SAND, 8 TO 15% SLOPES

LEGEND:

EXISTING FEATURES

- RIGHT-OF-WAY LINE
- BOUNDARY LINE
- ABUTTING LOT LINE
- BUILDING SETBACK LINE
- EXISTING EASEMENT LINE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- STONE WALL
- EDGE OF TREE LINE
- EDGE OF WETLANDS
- WETLANDS BUFFER LINE
- 540 — 10' CONTOUR INTERVAL
- 538 — 2' CONTOUR INTERVAL
- CHAIN-LINK FENCE
- GUARDRAIL
- CULVERT
- OH — OVERHEAD UTILITY LINE
- W — WATER LINE
- S — SEWER LINE
- 228-16 — TAX MAP & LOT NUMBER
- EXISTING BUILDING
- G.B.(F) — GRANITE BOUND FOUND
- D.H.(F) — DRILL HOLE FOUND
- I.PIN(F) — IRON PIN FOUND
- I.PIPE(F) — IRON PIPE FOUND
- D.H.(S) — DRILL HOLE SET
- F.S.B.(F) — FIELD STONE BOUND FOUND
- UTILITY POLE & GUY
- CATCH BASIN (SQUARE)
- SEWER MAN-HOLE
- WATER HYDRANT
- WATER VALVE
- SINGLE SIGN POST

PROPOSED FEATURES

- CONCRETE PAD/SIDEWALK
- HANDICAP PARKING STALL
- PROPOSED BUILDING
- TEMPORARY SILT FENCE
- 580 — 1 FT. CONTOUR
- 582 — 10 FT. CONTOUR
- 580.5 — SPOT GRADE ELEVATION
- 470.0 / 470.8 — SPOT ELEVATION AT CURB
- STORM WATER DRAINAGE
- DRAIN MANHOLE
- SILT SOCK FOR ALL CATCH BASINS
- TP: 1 L=LEDGE S=WATER ELEV. — SOIL TEST PIT
- S — PROPOSED SANITARY SEWER
- CULVERT W/ END SECTION & RIP-RAP
- W G.V. — HYDRANT, GATE VALVE & WATER MAIN
- G — GAS LINE, PROPANE
- UGE — ELECTRICAL TRANSFORMER & UNDERGROUND
- ASPHALT PAVED AREAS
- RETAINING WALL

NOTES CONTINUED:

14. TRASH SHALL BE HANDLED BY EACH HOMEOWNER; NO DUMPSTERS PROPOSED.
15. A BUILDING PERMIT WILL NEED TO BE SUBMITTED FOR THE CONSTRUCTION OF THE DWELLING UNITS TO BE COMPLETED BY THE CONTRACTOR.
16. EACH DWELLING UNIT WILL HAVE LARGE ADDRESS NUMBERS CLEARLY VISIBLE FOR EMERGENCY RESPONSES. ADDRESSES DETERMINED BY THE 911 MANAGER.
17. PROPOSED STORMWATER COLLECTION SYSTEMS WILL NOT BE OWNED OR MAINTAINED BY THE CITY. THE OWNER OF SUBJECT LOT IS RESPONSIBLE FOR ALL DRAINAGE MAINTENANCE.
18. ANY TREE CANOPY EXTENDING INTO THE PLANE OF ROAD TRAVEL SURFACES SHALL BE MAINTAINED AT 13' – 6" MINIMUM.

PERMITS/APPROVALS REQUIRED:

1. CITY OF KEENE PLANNING BOARD: MAJOR SITE PLAN APPROVAL
2. CITY OF KEENE SURFACE WATER C.U.P.:
3. CITY OF KEENE COTTAGE COURT C.U.P.:
4. CITY OF KEENE BUILDING PERMITS:
5. NHDES SEWER CONNECTION PERMIT:
6. NHDES ALTERATION OF TERRAIN PERMIT:
7. NHDES WETLAND PERMIT:
8. NHDES SHORELAND PROTECTION PERMIT:

PARKING CALCS:

REQUIRED:
MIN OF 1 SPACE PER UNIT => 29 SPACES MIN
MAX OF 1 SPACE PER BEDROOM => 81 SPACES MAX

PROPOSED:
2 SPACES PER UNIT => 58 SPACES

NOTES:

1. THE OWNER OF RECORD FOR TAX MAP 228 LOT 16 IS GUITARD HOMES, P.O. BOX 604, JAFFREY, NH. 03452. DEED REFERENCE TO PARCEL IS BK. 3290 PG. 1192, DATED 10/11/2024 IN THE C.C.R.D.
2. THE PURPOSE OF THIS PLAN IS TO SHOW A COTTAGE COURT RESIDENTIAL DEVELOPMENT WITH SITE IMPROVEMENTS ON TAX MAP 228 LOT 16.
3. ZONING FOR THE ENTIRE PARCEL IS THE LOW DENSITY (LD) DISTRICT. MINIMUM LOT AREA IS 10,000 S.F. MINIMUM LOT WIDTH AT BUILDING LINE IS 70 FT. MINIMUM ROAD FRONTAGE IS 60 FT. BUILDING SETBACKS ARE 15' FRONT, 10' SIDE AND 20' REAR. SURFACE WATER PROTECTION DISTRICT BUFFER IS 30 FT.
4. THE PARCEL IS SUBJECT TO THE CITY OF KEENE COTTAGE COURT OVERLAY DISTRICT. PROPOSED USE TO BE SINGLE FAMILY DWELLINGS.

	REQUIRED:	PROPOSED:
	MAX BUILDING HEIGHT=2.5 STORIES OR 35'	MAX 2 STORIES
	MAX AVG GROSS AREA=1,250 S.F. (EXCLUDING GARAGES)	AVG. 1,164 S.F.
	MAX BUILDING FOOTPRINT=900 S.F. (EXCLUDING GARAGES & PORCHES)	852 S.F.
	ROAD WIDTH=20–24' FT	20 FT
	MAX BUILDING COVERAGE=35%	6.9%
	MAX IMPERVIOUS COVERAGE=45%	17.6%
	AREA OF DISTURBANCE=	223,000 S.F.

BUILDING DESCRIPTIONS:

	BUILDING 1:	BUILDING 2:	BUILDING 3:
AMOUNT (#):	6	14	9
GROSS AREA (S.F.):	627	1250	1394
FOOTPRINT (S.F.):	627	772	852
BEDROOMS:	2	3	3

TOTAL GROSS AREA: 33,808 S.F.

PHASE 1: (12 HOMES)	PHASE 2: (11 HOMES)	PHASE 3: (6 HOMES)
(2) BUILDING 1	(4) BUILDING 1	(6) BUILDING 3
(8) BUILDING 2	(6) BUILDING 2	
(2) BUILDING 3	(1) BUILDING 3	

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6. THE EXISTING IMPROVEMENTS, MONUMENTS AND LINES OF OCCUPATION SHOWN ARE THE RESULT OF AN ON–SITE FIELD SURVEY PERFORMED BY THIS OFFICE IN AUGUST THROUGH OCTOBER OF 2024.
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8. HORIZONTAL ORIENTATION IS NAD83 & VERTICAL DATUM IS NAVD88 PER A GPS CORS SOLUTION.
9. NO PORTION OF LOT 228–16 IS SUBJECT TO THE 100 YEAR FLOOD PER FEMA FIRM MAP FOR THE CITY OF KEENE, NH. NUMBER 33005C0258E PANEL NUMBER 258 OF 610, EFFECTIVE DATE MAY 23, 2006.
10. LOT 228–16 MAY BE SUBJECT TO A PRIVATE RIGHT–OF–WAY KNOWN AS ALLEN COURT AS SHOWN ON REFERENCE PLAN 1. LOT 228–16 BENEFITS FROM A RIGHT–OF–WAY OVER ABUTTING LOT 228–15 PER REFERENCE PLAN 1.
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12. DWELLING UNITS WERE APPROVED AS PART OF THE COTTAGE COURT DEVELOPMENT AND ANY FUTURE MODIFICATIONS TO THE DWELLING UNIT OR COMMON LAND MAY REQUIRE REVIEW BY THE CITY OF KEENE PLANNING BOARD AS A MODIFICATIONS TO THE APPROVED COTTAGE COURT USE PERMIT, PB–2025–06.
13. SNOW CANNOT BE PUSHED OR STORED IN WETLAND AREAS.

REV.	DATE	DESCRIPTION	C/O	DR	CK
A	4/14/25	REVS PER STAFF COMMENTS		CJC	JEN

MASTER SITE PLAN
TAX MAP 228 LOT 16
(COURT STREET)
KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:
GUITARD HOMES
P.O. BOX 604 JAFFREY, NH. 03452

SCALE: 1" = 60' MARCH 21, 2025

LAND-OWNER SIGNATURE
OWNER: _____ DATE: _____

APPROVED BY THE KEENE PLANNING BOARD
ON: _____ CERTIFIED BY
CHAIRMAN: _____ AND
SECRETARY: _____

GRAPHIC SCALE
60' 30' 0 60' 120' 180'
IMPERIAL: 1"=60'

Surveying ⌖ Engineering ⌖ Land Planning ⌖ Permitting ⌖ Septic Designs
FIELDSTONE LAND CONSULTANTS, PLLC
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45 Roxbury Street, Keene, NH 03431
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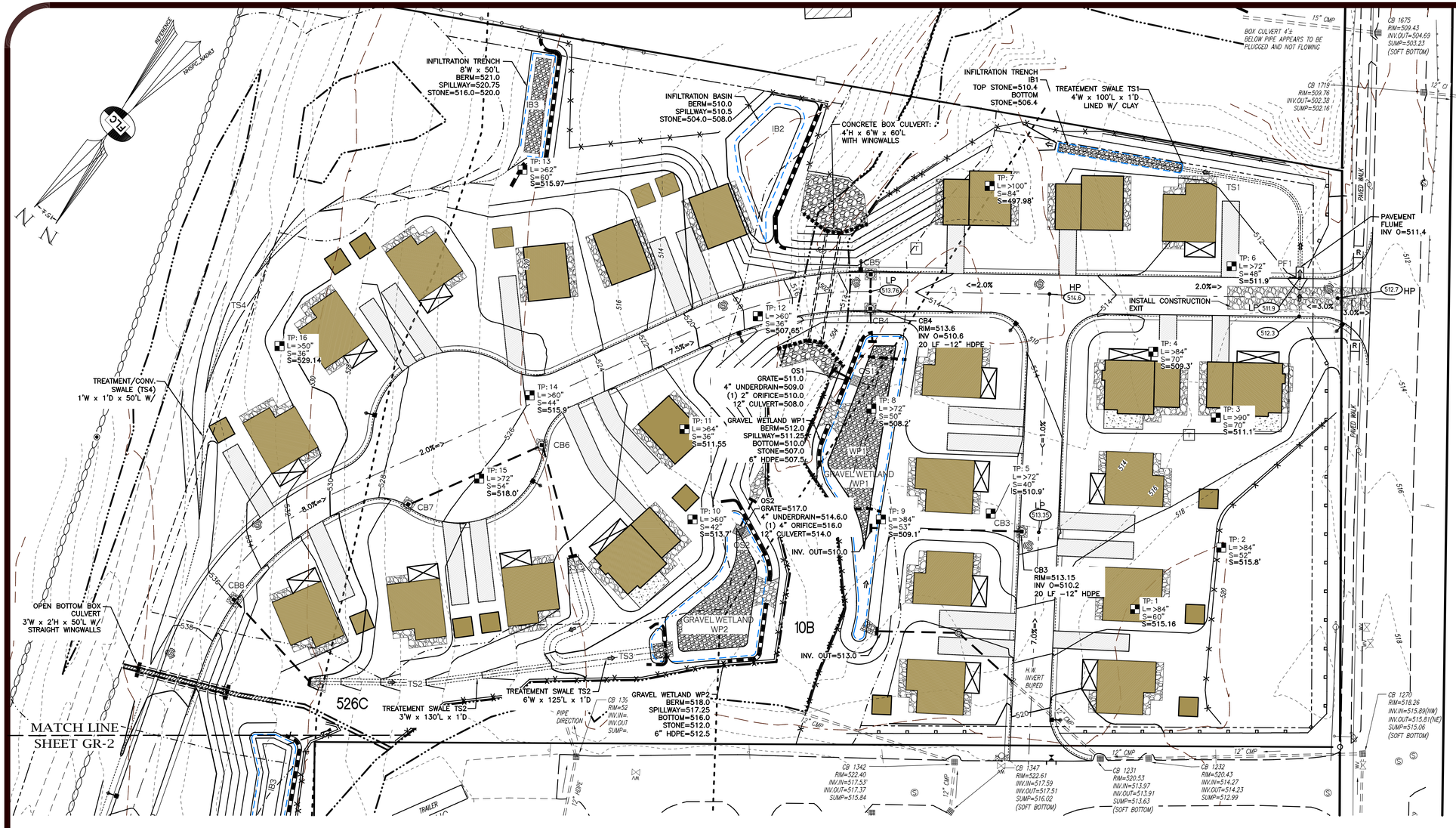

LEGEND:

EXISTING FEATURES

- RIGHT-OF-WAY LINE
- BOUNDARY LINE
- ABUTTING LOT LINE
- BUILDING SETBACK LINE
- EXISTING EASEMENT LINE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- STONE WALL
- EDGE OF TREE LINE
- EDGE OF WETLANDS
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- EXISTING BUILDING
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- UTILITY POLE & GUY
- CATCH BASIN (SQUARE)
- SEWER MAN-HOLE
- WATER HYDRANT
- WV — WATER VALVE
- SINGLE SIGN POST

PROPOSED FEATURES

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- PROPOSED BUILDING
- TEMPORARY SILT FENCE
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- 582 — 10 FT. CONTOUR
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- S — PROPOSED SANITARY SEWER
- CULVERT W/ END SECTION & RIP-RAP
- W — HYDRANT, GATE VALVE & WATER MAIN
- G.V.
- G — GAS LINE, PROPANE
- T UGE — ELECTRICAL TRANSFORMER & UNDERGROUND
- ASPHALT PAVED AREAS
- RETAINING WALL

GRADING NOTES:

1. THE OWNER OF RECORD FOR TAX MAP 228 LOT 16 IS GUITARD HOMES, P.O. BOX 604, JAFFREY, NH. 03452. DEED REFERENCE TO PARCEL IS BK. 3290 PG. 1192, DATED 10/11/2024 IN THE C.C.R.D.
2. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED SITE IMPROVEMENTS FOR TAX MAP 228 LOT 16, AS SHOWN.
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4. THE PARCEL IS SUBJECT TO THE CITY OF KEENE SURFACE WATER PROTECTION OVERLAY DISTRICT AND ITS ASSOCIATED RULES.
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GENERAL CONTRUCTION NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE REQUIREMENTS AND SPECIFICATIONS OF THE CITY OF KEENE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS AND SHALL VERIFY THAT ALL THE INFORMATION SHOWN HEREON IS CONSISTENT, COMPLETE, ACCURATE, AND CAN BE CONSTRUCTED PRIOR TO AND/OR DURING CONSTRUCTION. FIELDSTONE LAND CONSULTANTS, PLLC, AS THE DESIGN ENGINEER, SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES, ERRORS, OMISSIONS, OR EXISTING UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION SO THAT REMEDIAL ACTION MAY BE TAKEN BEFORE PROCEEDING WITH THE WORK.
3. THE CONTRACTOR SHALL CONTACT "DIGSAFE" 72 HOURS PRIOR TO THE START OF CONSTRUCTION (1-800-255-4977 IN NH, 1-888-344-7233 IN MA).
4. COMPLIANCE WITH ALL APPLICABLE REGULATIONS AND SPECIAL CONDITIONS OF TOWN/CITY AGENCIES, SUCH AS THE PLANNING BOARD, ZONING BOARD, CONSERVATION COMMISSION, AND OTHERS, IS MANDATORY AND IS THE RESPONSIBILITY OF THE OWNER.
5. ANY ALTERATION OF THIS DESIGN OR CHANGE DURING CONSTRUCTION MAY REQUIRE APPROVAL OF VARIOUS TOWN/CITY BOARDS OR AGENCIES AND SHALL BE DISCUSSED WITH THE OWNER AND FIELDSTONE LAND CONSULTANTS, PLLC PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE APPROPRIATE CITY DEPARTMENTS PRIOR TO CONSTRUCTION TO ARRANGE FOR NECESSARY INSPECTIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCURATE AS-BUILT INFORMATION OF ALL WORK, ESPECIALLY UNDERGROUND CONSTRUCTION OF UTILITY LINES, SERVICES, CONNECTIONS, ETC. AND APPROPRIATE TIES TO ABOVE GROUND PERMANENT STRUCTURES, FIELD SURVEY COORDINATES, OR SOME OTHER METHOD OF ESTABLISHING THE AS-BUILT CONDITION OF ALL CONSTRUCTION.
8. THE CONTRACTOR AND OWNER ARE RESPONSIBLE FOR OBSERVING AND MANAGING THE PROJECT PER RSA 430:53 AND AGR 3800 REGARDING INVASIVE SPECIES (PLANTS AND INSECTS). NO INVASIVE SPECIES PLANT OR INSECT SHALL BE INTRODUCED ONTO THE SITE.
9. PROPOSED STORMWATER COLLECTION SYSTEMS WILL NOT BE OWNED OR MAINTAINED BY THE TOWN.
10. ANY RETAINING WALLS OR STRUCTURAL HEADWALLS AT THE BOX CULVERTS SHALL BE DESIGNED BY OTHERS. FIELDSTONE LAND CONSULTANTS IS NOT RESPONSIBLE FOR STRUCTURAL DESIGN OF THESE WALLS. PLANS TO BE SUBMITTED WITH BUILDING PERMIT.

GRAPHIC SCALE

30' 15' 0 30' 60' 120'

IMPERIAL: 1"=30'

REV.	DATE	DESCRIPTION	C/O	DR	CK
A	4/14/25	REVS PER STAFF COMMENTS		CJC	JEN

GRADING AND DRAINAGE PLAN (SOUTH)

TAX MAP 228 LOT 16

(COURT STREET)

KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:

GUITARD HOMES

P.O. BOX 604 JAFFREY, NH. 03452

SCALE: 1" = 30' MARCH 21, 2025

Surveying ⌖ Engineering ⌖ Land Planning ⌖ Permitting ⌖ Septic Designs

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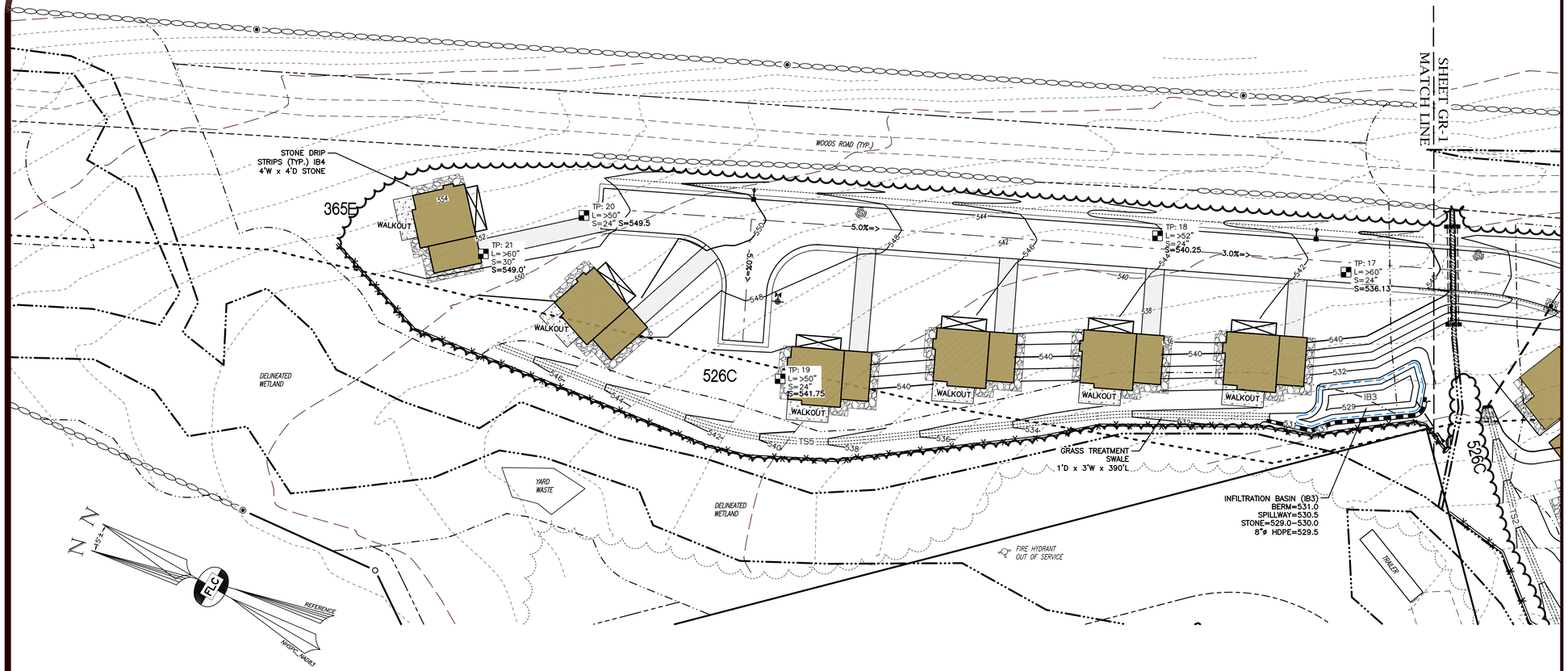

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9. PROPOSED STORMWATER COLLECTION SYSTEM WILL NOT BE OWNED OR MAINTAINED BY THE TOWN.

GRAPHIC SCALE

30' 15' 0 30' 60' 120'

IMPERIAL: 1"=30'

LEGEND:

EXISTING FEATURES

- RIGHT-OF-WAY LINE
- BOUNDARY LINE
- ABUTTING LOT LINE
- BUILDING SETBACK LINE
- EXISTING EASEMENT LINE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- STONE WALL
- EDGE OF TREE LINE
- EDGE OF WETLANDS
- WETLANDS BUFFER LINE
- 540 — 10' CONTOUR INTERVAL
- 538 — 2' CONTOUR INTERVAL
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- GUARDRAIL
- CULVERT
- OH — OVERHEAD UTILITY LINE
- W — WATER LINE
- S — SEWER LINE
- 228-16 — TAX MAP & LOT NUMBER
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- D.H.(F) — DRILL HOLE FOUND
- I.PIN(F) — IRON PIN FOUND
- I.PIPE(F) — IRON PIPE FOUND
- D.H.(S) — DRILL HOLE SET
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- UTILITY POLE & GUY
- CATCH BASIN (SQUARE)
- SEWER MAN-HOLE
- WATER HYDRANT
- WATER VALVE
- SINGLE SIGN POST

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- CONCRETE PAD/SIDEWALK
- HANDICAP PARKING STALL
- PROPOSED BUILDING
- TEMPORARY SILT FENCE
- 580 — 1 FT. CONTOUR
- 582 — 10 FT. CONTOUR
- 580.5 — SPOT GRADE ELEVATION
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- STORM WATER DRAINAGE
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- SILT SOCK FOR ALL CATCH BASINS
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- PROPOSED SANITARY SEWER
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- G — GAS LINE, PROPANE
- T — UGE — ELECTRICAL TRANSFORMER & UNDERGROUND
- ASPHALT PAVED AREAS
- RETAINING WALL

REV.	DATE	DESCRIPTION	C/O	DR	CK
A	4/14/25	REVS PER STAFF COMMENTS		CJC	JEN

GRADING AND DRAINAGE PLAN (NORTH)

TAX MAP 228 LOT 16

(COURT STREET)

KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:

GUITARD HOMES

P.O. BOX 604 JAFFREY, NH. 03452

SCALE: 1" = 30' MARCH 21, 2025

Surveying ⌖ Engineering ⌖ Land Planning ⌖ Permitting ⌖ Septic Designs

FIELDSTONE LAND CONSULTANTS, PLLC

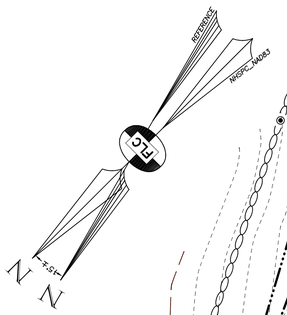
206 Elm Street, Milford, NH 03055
45 Roxbury Street, Keene, NH 03431
Phone: (603) 672-5456 Fax: (603) 413-5456
www.FieldstoneLandConsultants.com

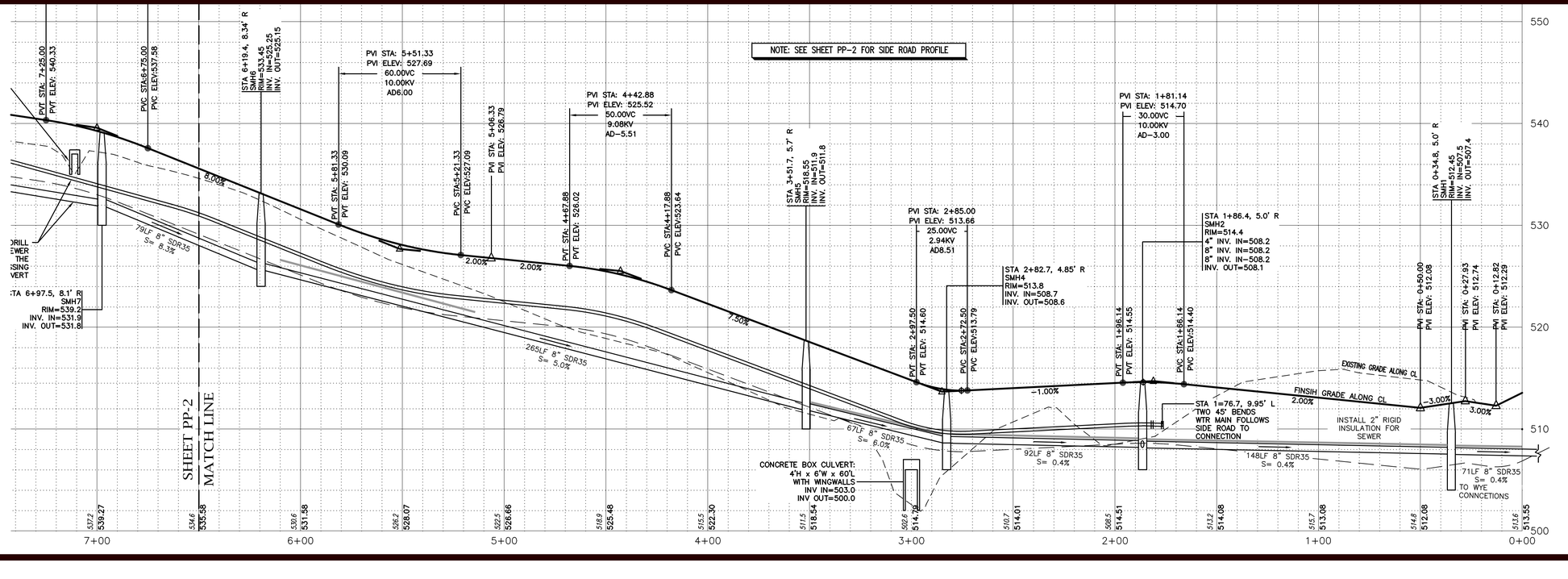
FILE: 3941SP00A.dwg	PROJ. NO. 3941.00	SHEET: GR-2	PAGE NO. 6 OF 17

NOTE: SEE SHEET GR-1 FOR PLAN LEGEND AND NOTES

CONTACT DIG SAFE
72 HOURS PRIOR
TO CONSTRUCTION
DIGSAFE.COM
OR DIAL 811
CALL 811 - KNOW WHAT'S BELOW

GRAPHIC SCALES
30' 15' 0 30' 60' 120'
IMPERIAL: 1"=30'





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GUITARD HOMES
P.O. BOX 604
JAFFREY, NH. 03452

GUITARD HOMES

PLANS ISSUED FOR:
REVIEW

TAX MAP 228 LOT 16
KEENE, NEW HAMPSHIRE

ROAD PROFILE 1 (SOUTH)

SCALE: 1" = 30'

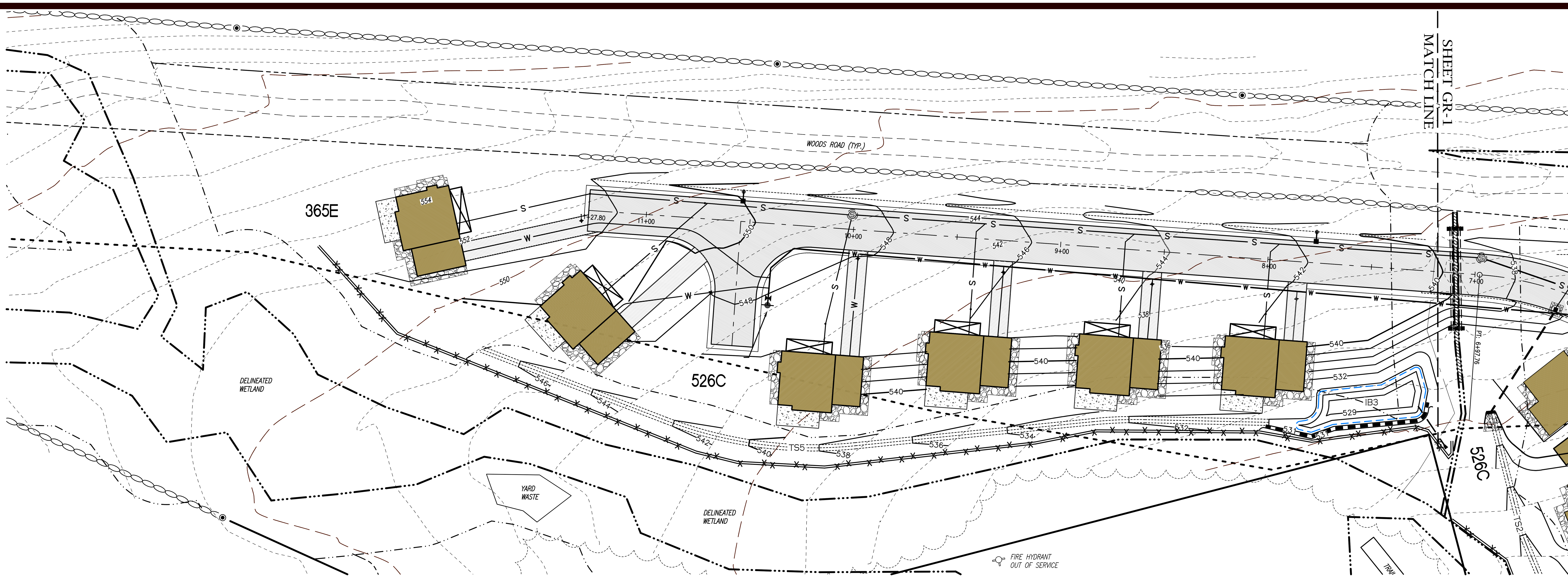
MARCH 21, 2025

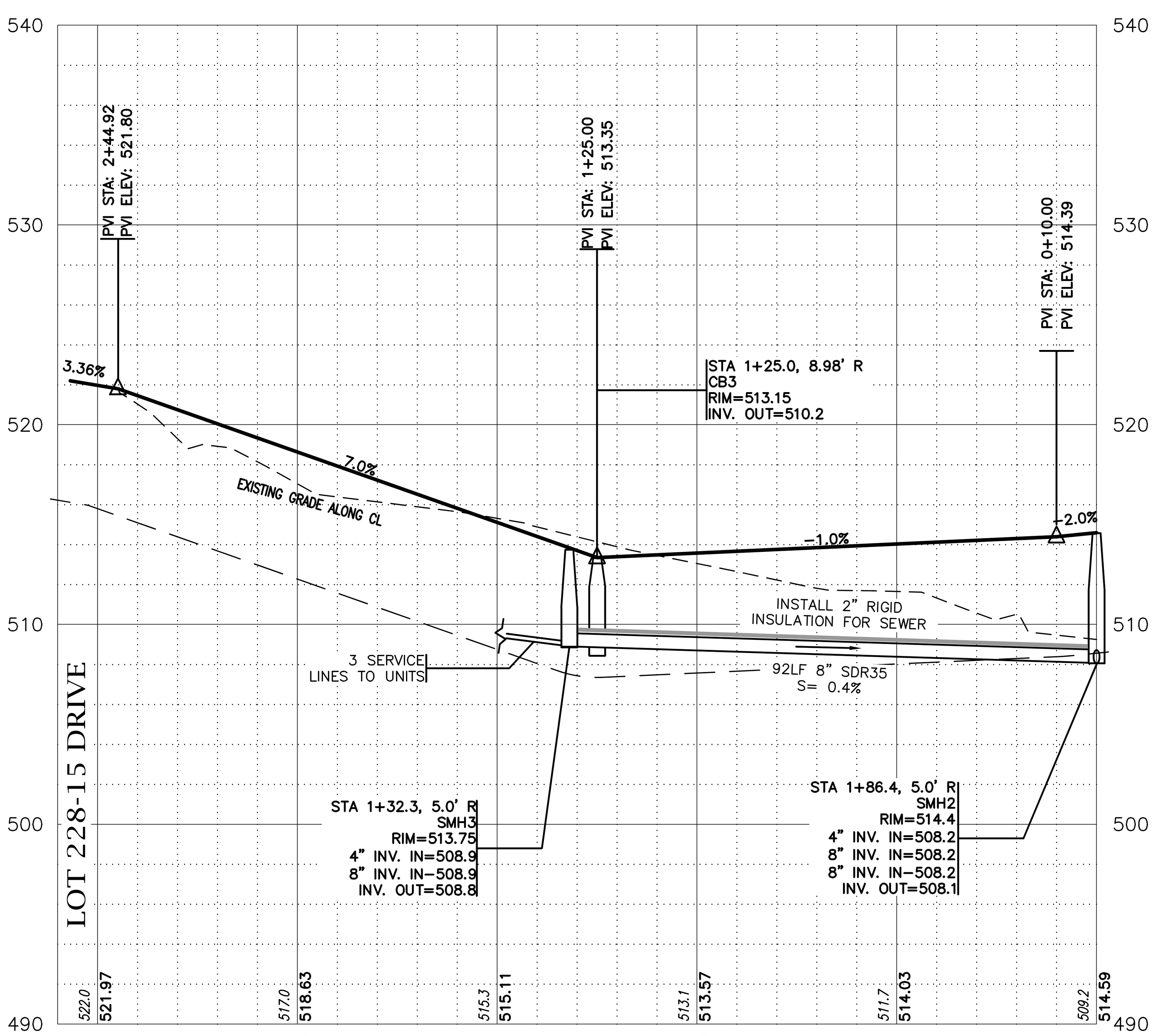
PP-1
SHEET

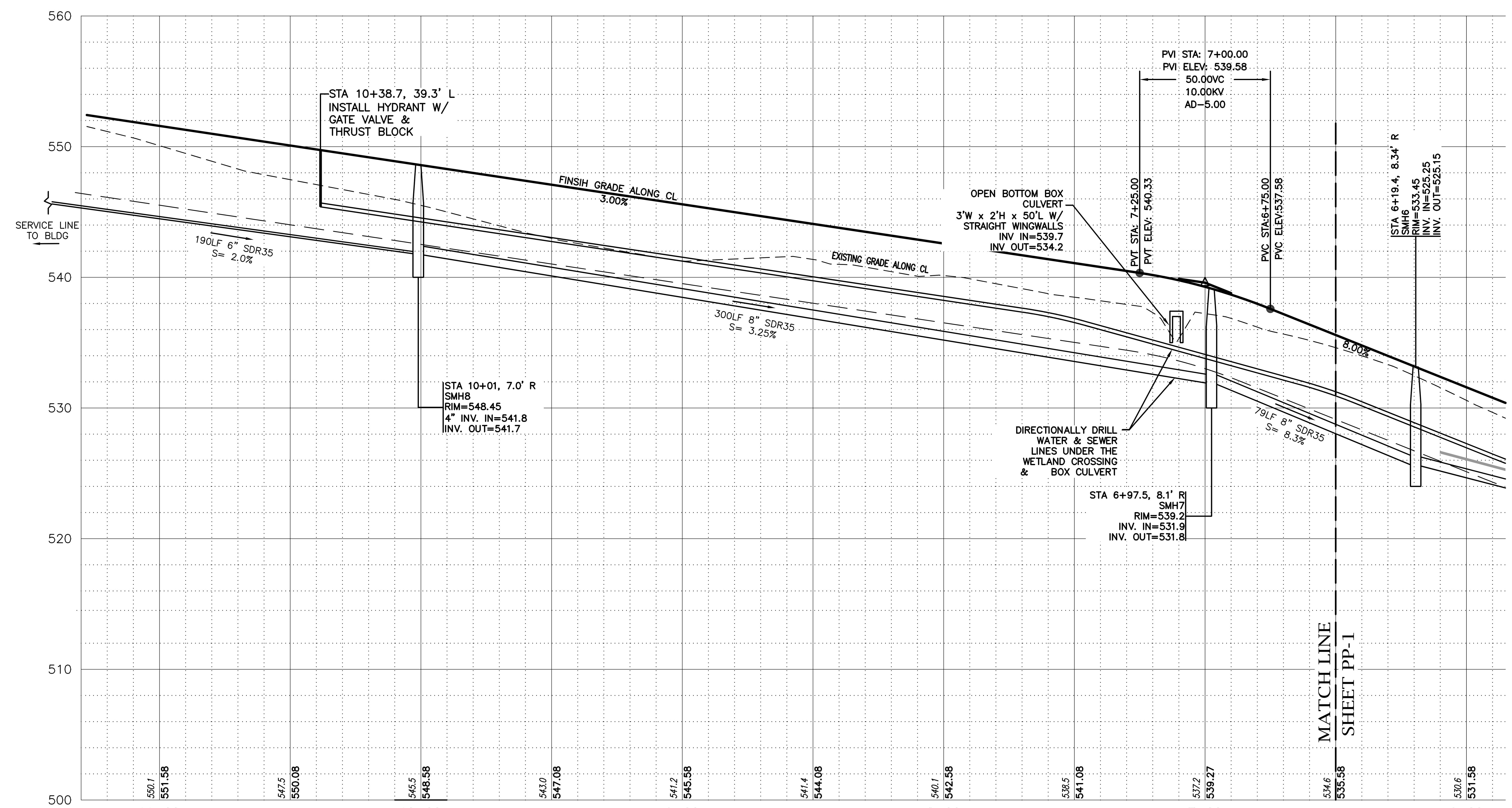
PROJECT NO. 3941.00

SHEET NO. 7 OF 17

FILE: 3941SP00A.dwg







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ROAD PROFILE 2 (NORTH)

GUITARD HOMES
P.O. BOX 604
JAFFREY, NH 03452

GUITARD HOMES

TAX MAP 228 LOT 16
KEENE, NEW HAMPSHIRE

PLANS ISSUED FOR:
REVIEW

SCALE: 1" = 30'

MARCH 21, 2025

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PP-2
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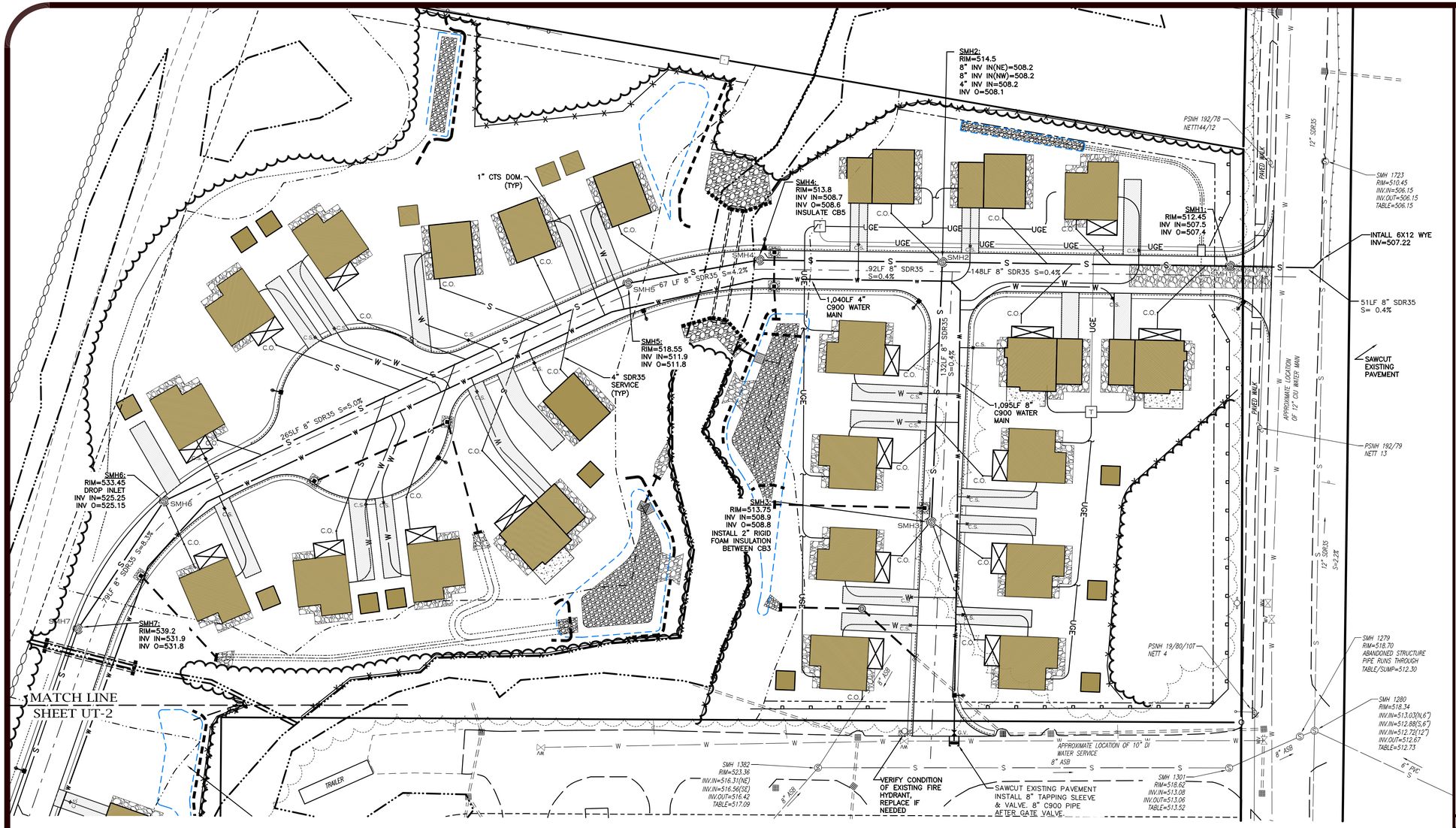
SHEET NO. 8 OF 17



NOTES:

1. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF KEENE AND SHALL BE BUILT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE CITY OF KEENE DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS FOR ROAD CONSTRUCTION AND SEWERS AND DRAINS AND THE NHDOT STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION APPROVED AND ADOPTED 2010 ARE HEREBY INCORPORATED BY REFERENCE.
2. ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS AND THE SPECIFICATIONS NOTED ABOVE. ANY ALTERATION OF THIS DESIGN OR CHANGE DURING CONSTRUCTION MAY REQUIRE APPROVAL OF VARIOUS CITY BOARDS OR AGENCIES AND SHALL BE DISCUSSED WITH THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS AND SHALL VERIFY THAT ALL THE INFORMATION SHOWN HEREON IS CONSISTENT, COMPLETE, ACCURATE, AND CAN BE CONSTRUCTED PRIOR TO AND/OR DURING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES, ERRORS, OMISSIONS, OR EXISTING UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION SO THAT REMEDIAL ACTION MAY BE TAKEN BEFORE PROCEEDING WITH THE WORK.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACT "DIGSAFE" AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION (1-888-344-7233)
5. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE APPROPRIATE TOWN DEPARTMENTS PRIOR TO CONSTRUCTION TO ARRANGE FOR NECESSARY INSPECTIONS. THE SEWER CONNECTIONS IN COURT STREET WILL REQUIRE AN EXCAVATION PERMIT AND COORDINATION WITH KEENE PUBLIC WORKS.
6. BLASTING, IF REQUIRED, SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF KEENE FIRE DEPARTMENT REGULATIONS. BASED ON TEST PITS, THIS IS UNLIKELY TO BE PRESENT.
7. ALL DISTURBED NON-PAVED AREAS SHALL BE LOAMED AND SEEDED IMMEDIATELY UPON BEING CONSTRUCTED. THE RETAINING WALLS SHOWN SHALL BE DESIGNED BY OTHERS UNLESS OTHERWISE NOTED.
8. ALL TRAFFIC SIGNS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
9. EXISTING PAVEMENT SHALL BE SAW-CUT AS NECESSARY. THE CONTRACTOR SHALL ENSURE A SMOOTH TRANSITION BETWEEN EXISTING AND NEW PAVEMENT. RESTORE ANY CURBING IF DAMAGE OCCURS DURING CONSTRUCTION.
10. ALL POWER WORK SHALL CONFORM TO EVERSOURCE STANDARDS. THE POWER SERVICE SIZES SHALL BE VERIFIED BY AN ELECTRICAL ENGINEER AND EVERSOURCE.
11. ALL TELEPHONE WORK SHALL CONFORM TO CONSOLIDATED COMMUNICATIONS SPECIFICATIONS.
12. ALL PROPANE GAS WORK SHALL CONFORM TO THE SUPPLIER'S GAS SPECIFICATIONS. PROVIDE SHUTOFF VALVE AND REGULATOR FOR EACH HOME IF APPLICABLE.
13. WATER AND SEWER SERVICES TO TIE INTO THE KEENE MUNICIPAL SERVICE IN COURT STREET. CONTRACTOR TO PERMIT AND COORDINATE WITH KEENE PUBLIC WORKS FOR CONSTRUCTION WITHIN COURT STREET. WATER TIE IN SHALL BE MADE WITHIN THE EXISTING UTILITY AND ACCESS EASEMENT ON LOT 228-15.
14. SEWER SERVICE SHALL HAVE INDIVIDUAL CLEAN-OUT INSIDE EACH BUILDING.
15. CONTRACTOR SHALL OBTAIN STRUCTURAL DESIGN PLANS, DETAILS AND SPECIFICATIONS FOR ANY RETAINING WALLS AND WING-WALLS SHOWN ON THIS PLAN PRIOR TO CONSTRUCTION.
16. ALL HVAC EQUIPMENT SHALL MEET THE SCREENING STANDARDS OF THE L.D.C. GROUND-MOUNTED EQUIPMENT TO BE LOCATED SO AS NOT TO BE VISIBLE FROM THE PUBLIC WAY – SCREEN IF VISIBLE.
17. AN EXCAVATION PERMIT, ENCUMBRANCE PERMIT, AND UTILITY CONNECTION PERMIT FROM THE KEENE PUBLIC WORKS IS REQUIRED FOR THE UTILITY IMPROVEMENTS SHOWN.
18. INSTALL PRECAST THRUST BLOCKS AT ALL FITTINGS ON WATER MAIN. MECHANICALLY RESTRAIN TEE FITTINGS.

GRAPHIC SCALE

30' 15' 0 30' 60' 120'

IMPERIAL: 1"=30'

LEGEND:

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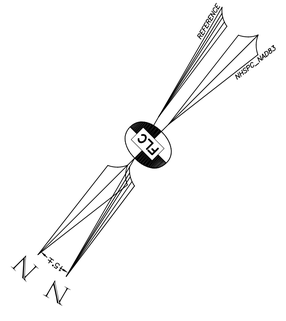

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UTILITY PLAN (SOUTH)

TAX MAP 228 LOT 16

(COURT STREET)

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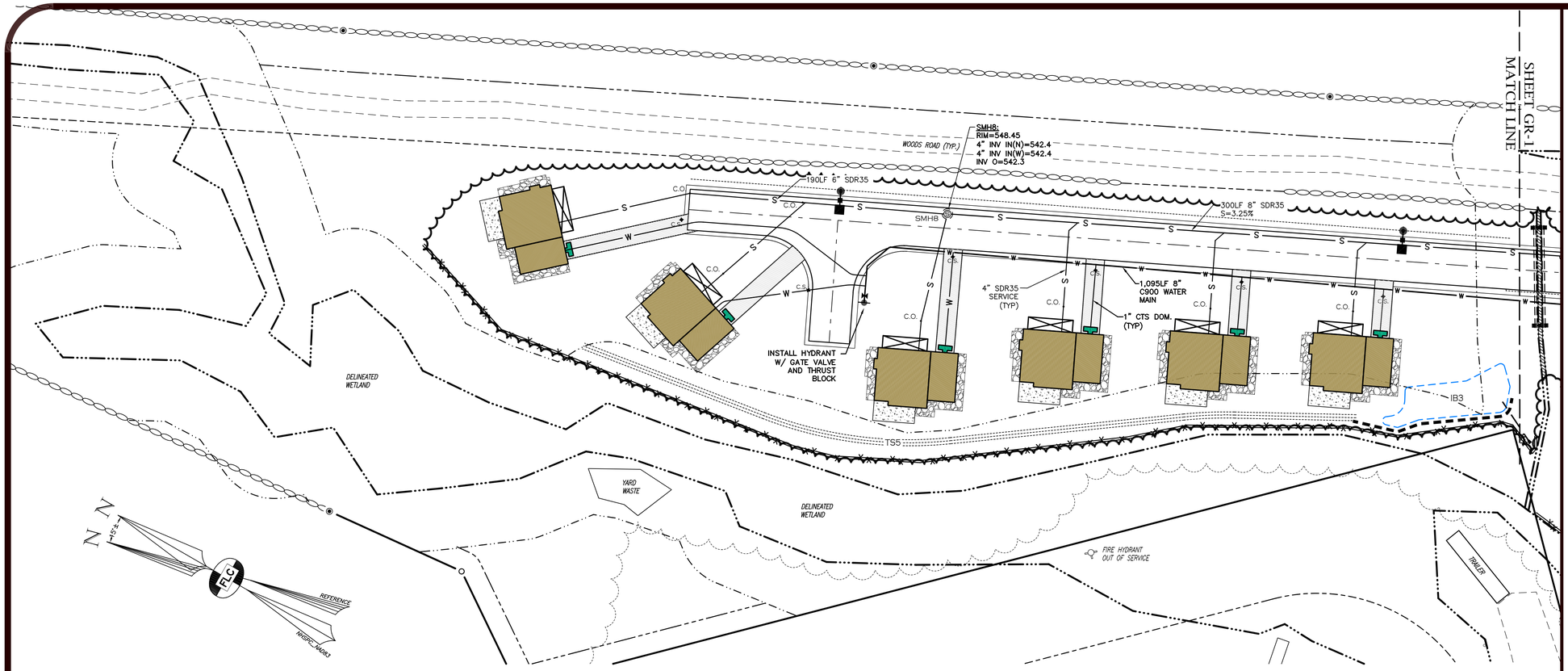

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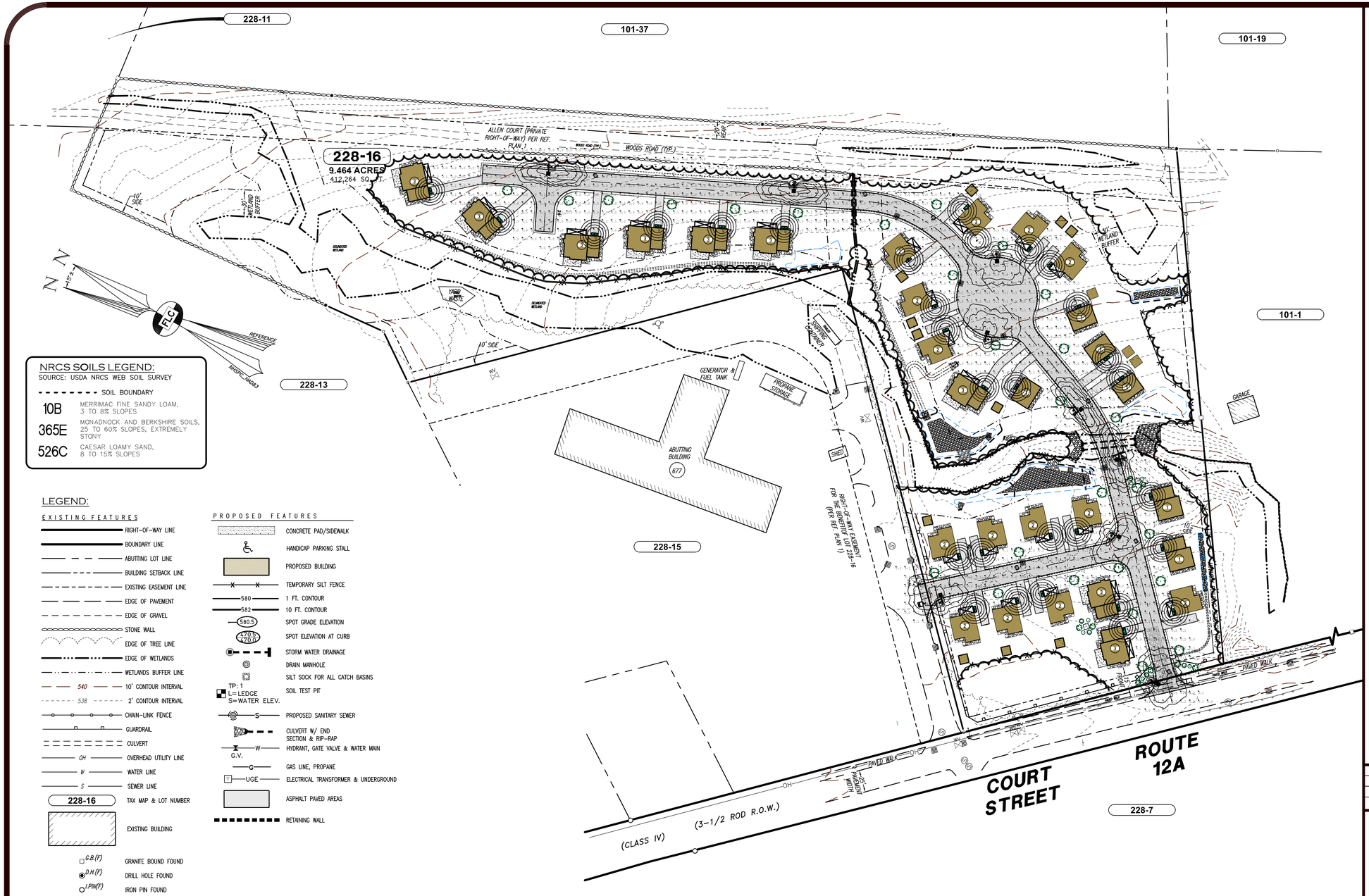

NRCS SOILS LEGEND:

SOURCE: USDA NRCS WEB SOIL SURVEY

SOIL BOUNDARY

10B	MERRIMAC FINE SANDY LOAM, 3 TO 8% SLOPES
365E	MONADNOCK AND BERKSHIRE SOILS, 25 TO 60% SLOPES, EXTREMELY STONY
526C	CAESAR LOAMY SAND, 8 TO 15% SLOPES

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- ASPHALT PAVED AREAS
- RETAINING WALL

ROADWAY

Illuminance (Fc)
Average = 0.38
Maximum = 3.1
Minimum = 0.0
Avg/Min Ratio = N.A.
Max/Min Ratio = N.A.

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Description	Tag	[MANUFAC]
	4	P3	Single	CSL-P-1M-30-T3-TBK-BLS-7P	12' POLE	Amerlux, LLC
	5	P4	Single	CSL-P-1M-30-T4-TBK-BLS-7P	12' POLE	Amerlux, LLC
	32	W	Single	RD100-12L-UNV-30-GBK-LDS96WL / GB A 3 GBK	WALL MOUNTED 9' AFG	LSI INDUSTRIES, INC.

LIGHTING NOTES:

1. LIGHTING SHALL BE INSTALLED AND ARRANGED SO AS NOT TO REFLECT OR CAUSE GLARE UPON ABUTTING LAND, HIGHWAYS AND ROADS.
2. ALL FIXTURES ARE FULL CUTOFF, LED FIXTURES. FLOOD LIGHTING AND UP-LIGHTING ARE PROHIBITED.
3. LIGHTING IS PROVIDED VIA BUILDING MOUNTED LIGHTS AND POLE MOUNTED LIGHTS.
4. MOUNTING HEIGHT OF ALL PROPOSED WALL MOUNT LIGHTING FIXTURES SHALL BE 9 FEET ABOVE FINISH GRADE ON THE BUILDINGS. LOCATED AT EACH BUILDING UNIT.
5. POLE MOUNTED LIGHTS ARE TO BE MOUNTED 12.0 FEET ABOVE FINISH GRADE. LIGHTS SHALL NOT EXCEED 15' A.F.G.
6. ALL PROPOSED LIGHTING MUST BE GREATER THAN 70 COLOR RENDERING INDEX (80 CRI ON WALL MOUNT LIGHTS, 80 CRI ON POLE LIGHTS PROPOSED).
7. ALL PROPOSED LIGHTING MUST BE 3000 KELVIN COLOR-TEMPERATURE TO MATCH.
8. LIGHT FIXTURES ARE AVAILABLE THROUGH EXPOSURE 2 LIGHTING. ANY CHANGE IN FIXTURE MUST BE APPROVED BY THE OWNER, DESIGN ENGINEER, AND CITY OF KEENE.
9. ANY CHANGES TO LIGHTING FIXTURES SHALL BE SUBMITTED TO THE COMMUNITY DEVELOPMENT DEPARTMENT.

COACH STYLE LANTERN
Post Top Mount
amerlux
A Della Group Company

POST MOUNTED STREET LIGHT

RD
LSI Abolite® LED Standard Dome

WALL MOUNTED HOUSE LIGHT

GRAPHIC SCALE
60' 30' 0 60' 120' 180'
IMPERIAL: 1"=60'

REV.	DATE	DESCRIPTION	C/O	DR	CK
A	4/14/25	REVS PER STAFF COMMENTS		CJC	JEN

LIGHTING PLAN
TAX MAP 228 LOT 16
(COURT STREET)
KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:
GUITARD HOMES
P.O. BOX 604 JAFFREY, NH. 03452

SCALE: 1" = 60' MARCH 21, 2025

Surveying ⌖ Engineering ⌖ Land Planning ⌖ Permitting ⌖ Septic Designs

FIELDSTONE
LAND CONSULTANTS, PLLC

206 Elm Street, Milford, NH 03055
45 Roxbury Street, Keene, NH 03431
Phone: (603) 672-5456 Fax: (603) 413-5456
www.FieldstoneLandConsultants.com

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Apr 14, 2025 - 2:35pm FLC-19
P:\0_FLC\0_PROJECTS\03941\3941.00\DWGS\

NRCS SOILS LEGEND:

SOURCE: USDA NRCS WEB SOIL SURVEY

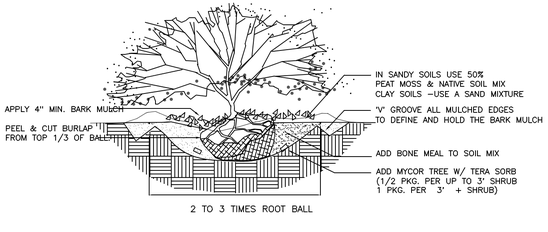
SOIL BOUNDARY

10B	MERRIMAC FINE SANDY LOAM, 3 TO 8% SLOPES
365E	MONADNOCK AND BERKSHIRE SOILS, 25 TO 60% SLOPES, EXTREMELY STONY
526C	CAESAR LOAMY SAND, 8 TO 15% SLOPES

NOTE: ALL PYRAMIDAL EVERGREENS & DECIDUOUS TREES SHALL BE PLANTED W/ ROOTS HORMONE ENHANCER.

SCALE: N.T.S.

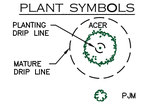
DECIDUOUS TREE PLANTING DETAIL — 1 / LS-1



SCALE: N.T.S.

B & B SHRUB PLANTING DETAIL — 2 / LS-1

PLANT SYMBOLS



		PLANT LIST & NAME	QTY.
		ACER RUBRUM (RED MAPLE TREE)	(27) 3" CAL., 12' TALL, 6' DRIP LINE 50'H, 40' DRIP LINE AT MATURITY
	PJM	RHOD. 'P.J.M.' COMP. CLONE (COMPACT RHODODENDRON)	(6) 18"–24"
	JGO	JUNIPERUS CHINENSIS (GREY OWL JUNIPER)	(6) 3 GAL.
	LEX	ILEX MESURVEAE 'BLUE PRINCE' (MALE HOLLY)	(6) 2.5'–3'

LANDSCAPING NOTES:

1. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR CONTACTING DIG–SAFE AND FOR VERIFICATION OF ALL UTILITIES AND SHALL NOTIFY THE OWNERS REPRESENTATIVE OF ANY CONFLICTS PRIOR TO COMMENCING.
2. EXISTING TREES TO REMAIN SHALL BE PRESERVED AND PROTECTED DURING CONSTRUCTION. TEMPORARY FENCING SHALL BE INSTALLED PRIOR TO THE START OF SITE WORK TO PROTECT ROOT MASSES.
3. EXISTING TREES THAT ARE TO BE REMOVED, SHALL BE REMOVED ENTIRELY FROM THE SITE, INCLUDING STUMPS. NO STUMP–DUMPS ARE ALLOWED ON SITE.
4. UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED WITHIN THE IMMEDIATE AREA NO PLANT MATERIAL SHALL BE INSTALLED.
5. UNLESS OTHERWISE NOTED OR APPROVED, ALL TREES MUST BE BALLED AND BURLAPPED.
6. ALL PLANT MATERIALS INSTALLED SHALL MEET OR EXCEED THE SPECIFICATIONS OF "THE AMERICAN STANDARDS FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
7. ANY PROPOSED PLANT MATERIAL SUBSTITUTIONS MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE.
8. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE INSTALLER FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE. ANY PLANT MATERIAL THAT IS SIGNIFICANTLY DAMAGED, MISSING, DISEASE RIDDEN, OR DEAD SHALL BE ABATED WITHIN 1–YEAR OR BEFORE THE END OF THE FOLLOWING PLANTING SEASON, WHICHEVER OCCURS FIRST.
9. IN AREAS OF STONE MULCH LAY 6 MIL SHEETS OF "VISQUEEN" TYPE POLYETHYLENE ON COMPACTED SUBGRADE BEFORE PLACING STONE, MINIMUM 6" OVERLAP. PERFORATE SHEETING IN PLANTING BEDS BEFORE PLACING STONE.
10. UNLESS OTHERWISE NOTED LOAM AND SEED ALL DISTURBED AREAS WITH A MINIMUM 4" OF SUITABLE LOAM. SLOPES GREATER THAN 3:1 SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET. SEE SITE PLAN.
11. WHERE APPLICABLE, THE CONTRACTOR SHALL HAVE ALL FALL TRANSPLANTING HAZARD PLANTS DUG IN THE SPRING AND STORED FOR FALL PLANTING.
12. PLANTS SHALL BE INSTALLED WITHIN ONE YEAR OF COMMENCEMENT OF CONSTRUCTION
13. ALL LANDSCAPING SHALL BE LOCATED AND MAINTAINED SO AS NOT TO IMPACT THE LINES OF SIGHT AT THE ENTRANCE AND INTERNAL INTERSECTIONS TO PROVIDE SAFE PASSAGE OF PEDESTRIANS, BICYCLISTS, AND MOTORISTS.
14. ALL LANDSCAPED AREAS WILL BE MAINTAINED TO HAVE A SUFFICIENT AMOUNT OF WATER TO MAINTAIN VIABILITY EITHER BY IRRIGATION OR BY OTHER MEANS.
15. PROPOSED PLANTINGS SHALL NOT CONFLICT WITH SNOW STORAGE AREAS, LIGHT FIXTURES OR UNDERGROUND UTILITIES.
16. ALL LANDSCAPING APPROVED AS PART OF THE SITE PLAN SHALL BE CONSIDERED AS ELEMENTS OF THE SITE, IN THE SAME MANNER AS PARKING, BUILDING MATERIALS, AND OTHER SITE DETAILS. ANY CHANGES WILL REQUIRE APPROVAL BY THE OWNER AND CITY COMMUNITY DEVELOPMENT DIRECTOR.
17. TREE CANOPY EXTENDING INTO THE ROADWAY MUST BE MAINTAINED AT 13'–6" FROM THE ROAD SURFACE.
18. THIS PLAN IS BASED ON AN ALTERNATIVE DESIGN TO BE APPROVED BY THE PLANNING BOARD.

GRAPHIC SCALE

60' 30' 0 60' 120' 180'

IMPERIAL: 1"=60'

REV.	DATE	DESCRIPTION	C/O	DR	CK
A	4/14/25	REVS PER STAFF COMMENTS		CJC	JEN

LANDSCAPING PLAN

TAX MAP 228 LOT 16

(COURT STREET)

KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:

GUITARD HOMES

P.O. BOX 604 JAFFREY, NH. 03452

SCALE: 1" = 60' MARCH 21, 2025

Surveying ⌖ Engineering ⌖ Land Planning ⌖ Permitting ⌖ Septic Designs

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1. PRIOR TO STARTING ANY WORK ON THE SITE THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES.

2. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS THEREOF IN NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICE STORM WATER MANUALS, VOLUME 1–3, LATEST EDITION.

3. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PER PLANS AND DETAILS. PERIMETER CONTROLS SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF EARTH DISTURBING ACTIVITIES.

4. INSTALL INLET PROTECTION AROUND ALL STORM DRAIN STRUCTURES. INLET PROTECTION BMP'S SHALL REMAIN UNTIL THE SITE IS STABILIZED. CONSTRUCTION OF STORMWATER BASINS AND TREATMENT SWALES SHALL OCCUR PRIOR TO AND EARTH MOVING OPERATION THAT WILL INFLUENCE STORM WATER RUNOFF.

5. THE WORK AREA SHALL BE GRADED, SHAPED AND OTHERWISE DRAINED IN SUCH A MANNER AS TO MINIMIZE SOIL EROSION, SILTATION OF DRAINAGE CHANNELS, DAMAGE TO EXISTING VEGETATION, AND DAMAGE TO PROPERTY OUTSIDE THE LIMITS OF THE WORK AREA.

6. EXISTING VEGETATION IS TO REMAIN UNDISTURBED WHEN POSSIBLE.

7. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE KEPT CLEAN DURING CONSTRUCTION. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE A WEEK AND AFTER EVERY 0.25–INCH OR GREATER RAINFALL. SEDIMENTS SHALL BE DISPOSED OF IN AN UPLAND AREA THAT WILL NOT CONTRIBUTE TO SEDIMENT OFF–SITE AND BE PERMANENTLY STABILIZED.

8. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMPS ARE STABILIZED. THE SITE WILL BE SUBJECT TO ENVIRONMETNAL MONITORING.

9. THE LAND AREA EXPOSED SHALL BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME. ALL NON–ACTIVE DISTURBED AREAS SHALL BE STABILIZED WITHIN 30 DAYS OF THE DISTURBANCE. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF FINAL GRADING.

10. DITCHES, SWALES AND DRAINAGE BASINS SHALL BE CONSTRUCTED DURING THE INITIAL PHASE OF CONSTRUCTION AND STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

11. AN AREA SHALL BE CONSIDERED STABILIZED IF ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   C. A MINIMUM OF 3–INCHES OF NON–EROSIVE MATERIAL, SUCH AS STONE OR RIPRAP, HAS BEEN INSTALLED; OR
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

12. EROSION CONTROL BLANKETS SHALL BE INSTALLED ON ALL SLOPES THAT ARE STEEPER THAN 3:1 (HORIZONTAL / VERTICAL). UNLESS OTHERWISE SPECIFIED THE CONTRACTOR SHALL USE NORTH AMERICAN GREEN BIONET SC150BN SHORT TERM BIODEGRADABLE DOUBLE–NET STRAW BLANKET, OR APPROVED EQUAL.

13. ALL AREAS RECEIVING EROSION CONTROL STONE OR RIPRAP SHALL HAVE A GEOTEXTILE MATERIAL INSTALLED BELOW THE STONE (SEE APPROPRIATE DETAILS).

14. ALL DISTURBED AREAS TO TURF FINISHED SHALL BE COVERED WITH A MINIMUM THICKNESS OF 6 INCHES OF COMPACTED LOAM. LOAM SHALL BE COVERED WITH THE APPROPRIATE SEED MIXTURE AS INDICATED BELOW:

PERMANENT SEED (LAWN AREAS)	LBS / 1,000 SQ. FT.
CREEPING RED FESCUE	0.92 LBS
PERENNIAL RYEGRASS	1.15 LBS
KENTUCKY BLUEGRASS	0.58 LBS
REDTOP	0.12 LBS
**APPLICATION RATE TOTALS	2.8 LBS PER 1,000 SF**

PERMANENT SLOPE SEED MIX	LBS / 1,000 SQ. FT.
CREEPING RED FESCUE	0.80 LBS
PERENNIAL RYEGRASS	0.69 LBS
REDTOP	0.12 LBS
ALSIKE CLOVER	0.12 LBS
BIRDSFOOT TREFOIL	
**APPLICATION RATE TOTALS	*1.85 LBS PER 1,000 SF**

15. TEMPORARY STABILIZATION OF DISTURBED AREAS:
STRIPPED SOIL SHALL BE STOCKPILED UNCOMPACTED, AND STABILIZED AGAINST EROSION AS OUTLINED BELOW:
SEED BED PREPARATION: 10–10–10 FERTILIZATION TO BE SPREAD AT THE RATE OF 7 LBS. PER 100 SF AND AGRICULTURAL LIMESTONE AT A RATE OF 90 LBS PER 1000 SF AND INCORPORATED INTO THE SOIL. THE SOIL, FERTILIZER AND LIMESTONE SHALL BE TILLED TO PREPARE FOR SEEDING.

A. SEED MIXTURE: USE ANY OF THE FOLLOWING:

SPECIES	RATE PER 1,000 SF	DEPTH	SEEDING DATES
WINTER RYE	2.5 LBS	1 INCH	8/15 TO 9/15
OATS	2.5 LBS	1 INCH	4/15 TO 10/15
ANNUAL RYEGRASS	1.0 LBS	0.25 INCH	8/15 TO 9/15

B. MULCHING: MULCH SHOULD BE USED ON HIGHLY ERODIBLE AREAS, AND WHERE CONSERVATION OF MOISTURE WILL FACILITATE PLANT ESTABLISHMENT AS FOLLOWS:

TYPE	RATE PER 1,000 SF	USE AND COMMENTS
STRAW	70 TO 90 LBS	MAY BE USED WITH PLANTINGS, MUST BE ANCHORED TO BE USED ALONE
WOOD CHIPS OR BARK MULCH	460 TO 920 LBS	USED WITH TREE AND SHRUB PLANTINGS
FIBROUS MATTING	AS RECOMMENDED BY MANUFACTURER	MUST BE BIODEGRADABLE. USE IN SLOPE AREAS AND AREAS DIFFICULT TO VEGETATE
CRUSHED STONE 1/4" TO 1–1/2" DIA.	SPREAD TO GREATER THAN 1/2" THICKNESS	USE IN SPECIFIC AREAS AS SHOWN ON PLAN OR AS NEEDED

16. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE (CRITICAL TIME FRAMES OR VARIABLE SITES) THEN APPLY FERTILIZER AT A RATE OF 11 POUNDS PER 1,000 SF AND LIMESTONE AT A RATE OF 90 POUNDS PER 1,000 SF. FERTILIZER SHALL BE LOW PHOSPHATE (LESS THAN 2% PHOSPHORUS).

17. CAUTION SHOULD BE TAKE WHEN THE PROPERTY IS LOCATED WITHIN 250 FEET OF A WATER BODY. IN THIS CASE ALL FERTILIZERS SHALL BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER. SLOW RELEASE FERTILIZERS MUST BE AT LEAST 50% SLOW RELEASE NITROGEN COMPONENT. NO FERTILIZER EXCEPT LIMESTONE SHALL BE APPLIED WITHIN 25 FEET OF THE SURFACE WATER. THESE ARE REGULATED LIMITATIONS.

18. PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS (SEE WINTER CONSTRUCTION NOTES). NO DISTURBED AREAS SHALL BE LEFT EXPOSED DURING THE WINTER MONTHS.

19. A VIGOROUS DUST CONTROL PROGRAM SHALL BE APPLIED BY THE SITE CONTRACTOR. DUST SHALL BE MANAGED THROUGH THE USE OF WATER AND/OR CALCIUM CHLORIDE.

20. IN NO WAY ARE THE MEASURES INDICATED ON THE PLANS OR IN THESE NOTES TO BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL USE JUDGMENT TO INSTALL ADDITIONAL EROSION CONTROL MEASURES AS SITE CONDITIONS, WEATHER OR CONSTRUCTION METHODS WARRANT.

21. FOLLOWING PERMANENT STABILIZATION, TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND ACCUMULATED SEDIMENTATION IS TO BE DISPOSED OF IN AN APPROVED LOCATION, OUTSIDE OF JURISDICTIONAL WETLANDS.

22. LOT DISTURBANCE OTHER THAN SHOWN ON THE APPROVED PLANS, SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.

23. THE CONTRACTOR AND OWNER ARE RESPONSIBLE FOR OBSERVING AND MANAGING THE PROJECT PER RSA 430:53 AND AGR 3800 REGARDING INVASIVE SPECIES (PLANTS AND INSECTS). NO INVASIVE SPECIES PLANT OR INSECT SHALL BE INTRODUCED ONTO THE SITE.

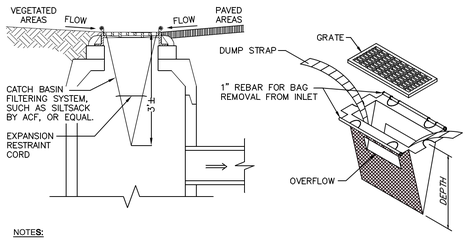
EROSION CONTROL NOTES — 1 / DT - 1

1. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATED GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED. STABILIZATION METHODS SHALL INCLUDE SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATED GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL OR PROPERLY INSTALLED EROSION CONTROL BLANKETS COVERED WITH HAY. OTHER STABILIZATION OPTIONS ARE TO BE APPROVED BY THE APPROPRIATE AGENCIES AND THE DESIGN ENGINEER. IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER MONTHS THEN THE ROAD SHOULD BE CLEARED OF ACCUMULATED SNOW AFTER EACH STORM EVENT.

WINTER CONSTRUCTION NOTES — 2 / DT - 1



NOTES:

1. INSTALL AND MAINTAIN SACKS IN ALL CATCH BASINS.

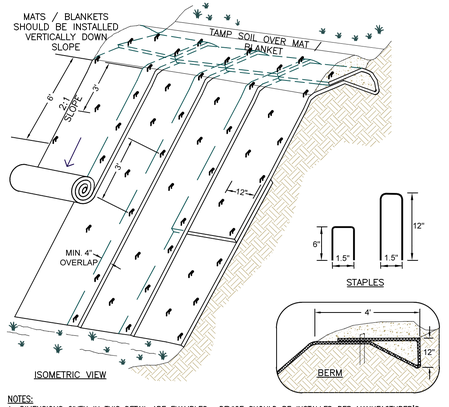
2. TO INSTALL SACK, REMOVE CATCH BASIN GRATE AND PLACE SACK IN OPENING. HOLD OUT APPROXIMATELY SIX INCHES OF THE SACK OUTSIDE THE FRAME FOR THE LIFTING STRAPS. REPLACE THE GRATE TO HOLD THE SACK IN PLACE.

3. THE SACK SHOULD BE INSPECTED AFTER EVERY STORM, OR ONCE EVERY TWO WEEKS, WHICH EVER OCCURS FIRST.

4. THE RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF THE CORD IS COVERED WITH SEDIMENT, THE SACK SHOULD BE EMPTIED. EMPTY THE SACK AWAY FROM THE CATCH BASIN TO PREVENT SEDIMENT FROM RE–ENTERING THE CATCH BASIN. EMPTY THE SACK PER THE MANUFACTURES RECOMMENDATIONS.

5. REPLACE THE SACK IN THE CATCH BASIN AFTER THE SACK HAS BEEN EMPTIED. ONCE CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS HAVE BEEN STABILIZED BY PAVING OR A HEALTHY VEGETATIVE COVER, REMOVE THE SACK FROM THE CATCH BASINS.

SILT SACK SEDIMENT FILTER — 3 / DT - 1



NOTES:
1. DIMENSIONS GIVEN IN THIS DETAIL ARE EXAMPLES: DEVICE SHOULD BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

2. INSTALL STRAW/COCONUT FIBER EROSION CONTROL MAT SUCH AS NORTH AMERICAN GREEN BIONET SC150BN SHORT TERM BIODEGRADABLE DOUBLE–NET STRAW BLANKET OR EQUAL ON ALL SLOPES EXCEEDING 3' HORZ : 1' VERT.

3. THE EROSION CONTROL MATERIAL(S) SHALL BE ANCHORED WITH "U" SHAPED 11 GAUGE WIRE STAPLES OR WOODEN STAKES WITH A MINIMUM TOP WIDTH OF 1 INCH AND LENGTH OF 6 INCH.

4. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS / BLANKETS SHALL HAVE GOOD SOIL CONTACT.

5. APPLY LIME, FERTILIZER AND PERMANENT SEEDING BEFORE PLACING BLANKETS.

6. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET AS SHOWN. ROLL THE BLANKETS DOWN THE SLOPE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES OR STAKES IN APPROPRIATE LOCATIONS. REFER TO MANUFACTURERS STAPLE GUIDE FOR CORRECT STAPLE PATTERN.

7. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

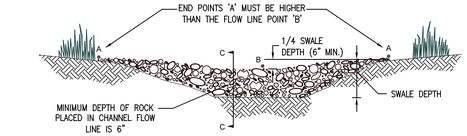
8. IN LOOSE SOIL CONDITIONS THE USE OF STAPLES OR STAKE LENGTHS GREATER THAN 6 INCHES MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

9. THE CONTRACTOR SHALL MAINTAIN THE BLANKET UNTIL ALL WORK ON THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MAINTENANCE SHALL CONSIST OF THE REPAIR OF AREAS WHERE DAMAGED BY ANY CAUSE. ALL DAMAGED AREAS SHALL BE REPAIRED TO REESTABLISH THE CONDITIONS AND GRADE OF THE SOIL PRIOR TO APPLICATION OF THE COVERING AND SHALL BE REFERTILIZED, RESEEDED AND REMULCHED AS DIRECTED.

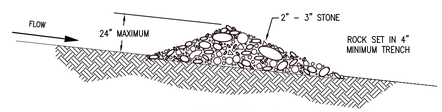
10. THERE SHALL BE NO PLASTIC FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN ⅛ INCHES MATERIAL UTILIZED. THIS DOES NOT APPLY TO TURF REINFORCEMENT MATS.

11. TURF REINFORCEMENT MATS SHALL BE COVERED WITH SOIL TO PREVENT EXPOSURE OF THE MATS TO THE SURFACE.

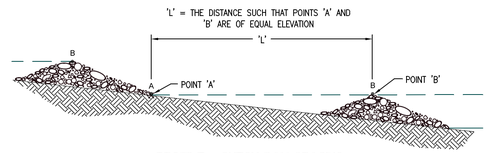
EROSION BLANKETS - SLOPE INSTALLATION — 4 / DT - 1



VIEW LOOKING UPSTREAM



SECTION C - C



PROFILE - CHECK DAM SPACING

NOTES:

1. STONE CHECK DAMS SHOULD BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE OR DRAINAGE DITCH.

2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE CHECK DAM SHOULD BE LESS THAN ONE ACRE.

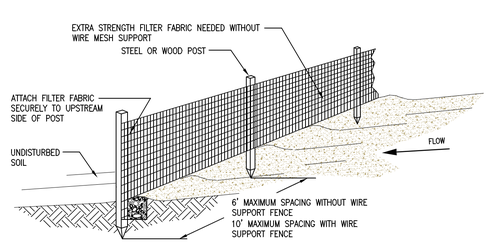
3. STONE CHECK DAMS SHOULD NOT BE USED IN A FLOWING STREAM.

4. STONE CHECK DAMS SHOULD BE CONSTRUCTED OF WELL–GRADED ANGULAR 2 TO 3 INCH STONE. THE INSTALLATION OF 3/4–INCH STONE ON THE UPGRADIENT FACE IS RECOMMENDED FOR BETTER FILTERING.

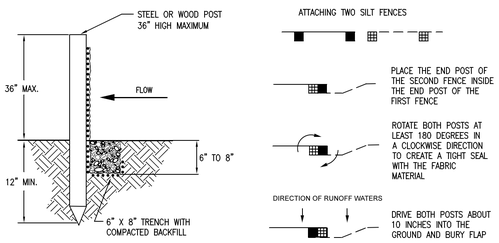
5. WHEN INSTALLING STONE CHECK DAMS THE CONTRACTOR SHALL KEY THE STONE INTO THE CHANNEL BANKS AND EXTEND THE STONE BEYOND THE ABUTMENTS A MINIMUM OF 18–INCHES TO PREVENT FLOW AROUND THE DAM.

6. STONE CHECK DAMS SHOULD BE REMOVED ONCE THE SWALE OR DITCH HAS BEEN STABILIZED UNLESS OTHERWISE SPECIFIED.

STONE CHECK DAM — 5 / DT - 1



PERSPECTIVE VIEW



SECTION VIEW — ATTACHING TWO SILT FENCES

NOTES:

1. SILT FENCES SHOULD NOT BE USED ACROSS STREAMS, CHANNELS, SWALES, DITCHES OR OTHER DRAINAGE WAYS.

2. SILT FENCE SHOULD BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE AND THE ENDS OF THE SILT FENCE SHOULD BE FLARED UPSLOPE.

3. IF THE SITE CONDITIONS INCLUDE FROZEN GROUND, LEDGE OR THE PRESENCE OF HEAVY ROOTS THE BASE OF THE FABRIC SHOULD BE EMBEDDED WITH A MINIMUM THICKNESS OF 8 INCHES OF 3/4–INCH STONE.

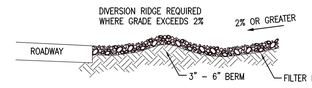
4. SILT FENCES PLACED AT THE TOE OF SLOPES SHOULD BE INSTALLED AT LEAST 6 FEET FROM THE TOE TO ALLOW SPACE FOR SHALLOW PONDING AND ACCESS FOR MAINTENANCE.

5. THE MAXIMUM SLOPE ABOVE THE FENCE SHOULD BE 2:1 AND THE MAXIMUM LENGTH OF SLOPE ABOVE THE FENCE SHOULD BE 100 FEET.

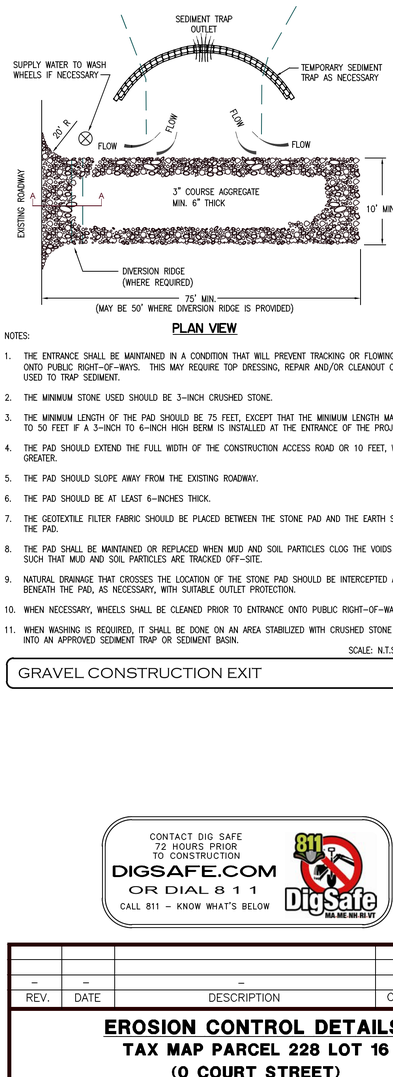
6. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE TO SEDIMENT OFF–SITE AND CAN BE PERMANENTLY STABILIZED.

7. SILT FENCES SHOULD BE REMOVED WHEN THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

SILT FENCE — 6 / DT - 1



SECTION A-A



PLAN VIEW

NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

2. THE MINIMUM STONE USED SHOULD BE 3–INCH CRUSHED STONE.

3. THE MINIMUM LENGTH OF THE PAD SHOULD BE 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3–INCH TO 6–INCH HIGH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE.

4. THE PAD SHOULD EXTEND THE FULL WIDTH OF THE CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER.

5. THE PAD SHOULD SLOPE AWAY FROM THE EXISTING ROADWAY.

6. THE PAD SHOULD BE AT LEAST 6–INCHES THICK.

7. THE GEOTEXTILE FILTER FABRIC SHOULD BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE BELOW THE PAD.

8. THE PAD SHALL BE MAINTAINED OR REPLACED WHEN MUD AND SOIL PARTICLES CLOG THE VOIDS IN THE STONE SUCH THAT MUD AND SOIL PARTICLES ARE TRACKED OFF–SITE.

9. NATURAL DRAINAGE THAT CROSSES THE LOCATION OF THE STONE PAD SHOULD BE INTERCEPTED AND PIPED BENEATH THE PAD, AS NECESSARY, WITH SUITABLE OUTLET PROTECTION.

10. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.

11. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

SCALE: N.T.S.

GRAVEL CONSTRUCTION EXIT — 7 / DT - 1

CONTACT DIG SAFE
72 HOURS PRIOR
TO CONSTRUCTION
DIGSAFE.COM
OR DIAL 8 1 1
CALL 811 – KNOW WHAT'S BELOW
811 DigSafe NH ME VT

REV.	DATE	DESCRIPTION	C/O	DR	CK
–	–	–		–	–

EROSION CONTROL DETAILS
TAX MAP PARCEL 228 LOT 16
(0 COURT STREET)
KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:

GUITARD HOMES
P.O. BOX 604 JAFFREY, NH. 03452

SCALE: NOT TO SCALE — MARCH 21, 2025

Surveying ⊕ **E**ngineering ⊕ **L**and **P**lanning ⊕ **P**ermitting ⊕ **S**eptic **D**esigns

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206 Elm Street, Milford, NH 03055
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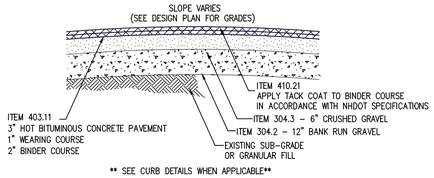
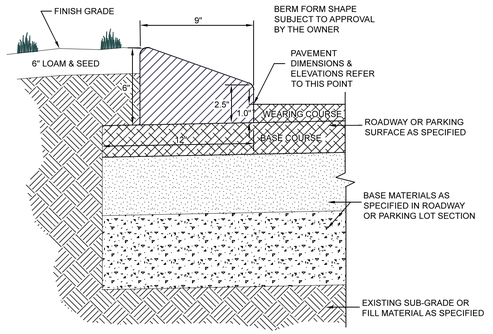


** SEE CURB DETAILS WHEN APPLICABLE**

PAVEMENT SECTION | 1 | DT - 2



CURB - ASPHALT (CAPE COD BERM) | 2 | DT - 2

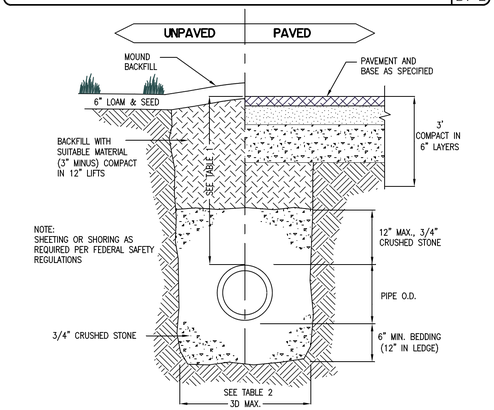
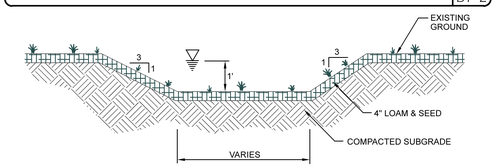


TABLE 1 (RECOMMENDED COVER)		
LOCATION	PIPE MATERIAL	MINIMUM COVER
PAVED ROADS	ALL	3 FT.
GRAVEL ROADS	ALL	2 FT.
DRIVEWAYS	ALL	1 FT.
UNPAVED AREAS	ALL	2 FT.

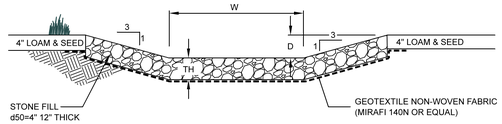
TABLE 2 (RECOMMENDED TRENCH WIDTH)	
INSIDE DIAMETER	TOTAL WIDTH
12" TO 24" OVER 24"	I.D. + 24" 2 x I.D.

DRAINAGE TRENCH (TYPICAL) | 3 | DT - 2

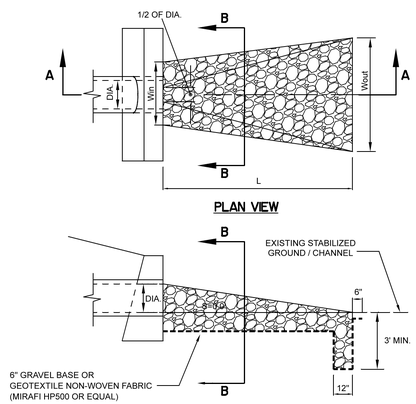


STRUCTURE	W	L	SLOPE
TS1 (CLAY LINED)	4 FT	100 FT	0.5%
TS2	3 FT	130 FT	VARIES
TS3	6 FT	125 FT	VARIES
TS4	3 FT	310 FT	VARIES
TS5	3 FT	390 FT	VARIES

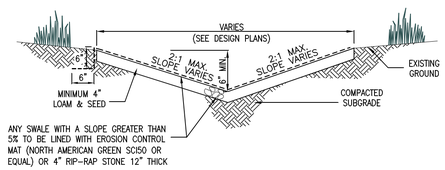
TREATMENT SWALE | 4 | DT - 2



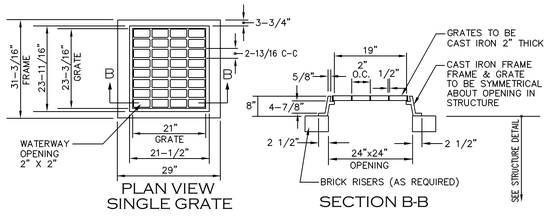
EMERGENCY SPILLWAY DETAIL | 5 | DT - 2



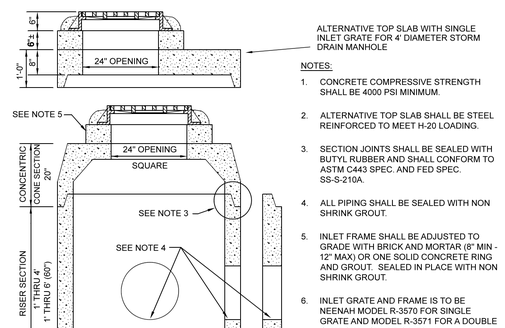
RIP-RAP OUTLET PROTECTION | 6 | DT - 2



TYPICAL SWALE DETAIL | 7 | DT - 2



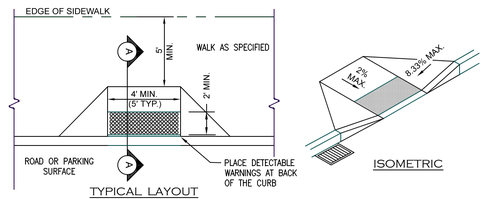
FRAME AND GRATE - NHDOT TYPE B | 8 | DT - 2



NOTES:

1. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI MINIMUM.
2. ALTERNATIVE TOP SLAB SHALL BE STEEL REINFORCED TO MEET H-20 LOADING.
3. SECTION JOINTS SHALL BE SEALED WITH BUTYL RUBBER AND SHALL CONFORM TO ASTM C443 SPEC. AND FED SPEC. SS-S-210A.
4. ALL PIPING SHALL BE SEALED WITH NON SHRINK GROUT.
5. INLET FRAME SHALL BE ADJUSTED TO GRADE WITH BRICK AND MORTAR (8" MIN - 12" MAX) OR ONE SOLID CONCRETE RING AND GROUT. SEALED IN PLACE WITH NON SHRINK GROUT.
6. INLET GRATE AND FRAME IS TO BE NEENAH MODEL R-3570 FOR SINGLE GRATE AND MODEL R-3571 FOR A DOUBLE GATE STRUCTURE OR EQUAL.
7. THE 48" DIAMETER MANHOLE SHALL BE RESTRICTED TO PIPES OF 24" IN DIAMETER OR LESS. THE 60" DIAMETER MANHOLE SHALL BE RESTRICTED TO PIPES OF 36" IN DIAMETER OR LESS.

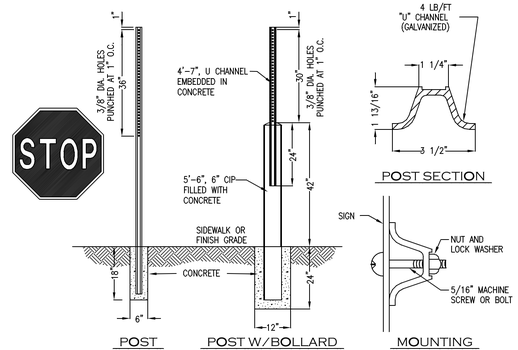
CATCH BASIN | 9 | DT - 2



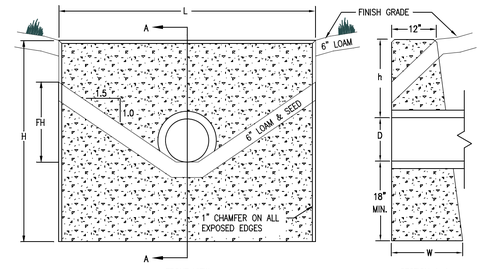
HANDICAP RAMP NOTES:

1. A SIDEWALK CURB RAMP IS DEFINED AS THE ENTIRE CONCRETE SURFACE WHICH INCLUDES THE RAMP AND FLARED SIDES.
2. THE MAXIMUM RUNNING SLOPE OF ANY SIDEWALK CURB RAMP IS 8.33% (1:12). THE MAXIMUM CROSS SLOPE IS 2%. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION. THE FLARED SIDE OF THE RAMP SHALL LIE ON A SLOPE OF 10% (1:10) MAXIMUM MEASURED ALONG THE CURB.
3. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. ROADWAY SHOULDER SLOPES ADJOINING SIDEWALK CURB RAMPS SHALL BE A MAXIMUM OF 5% (FULL WIDTH) FOR A DISTANCE OF 2 FEET FROM THE ROADWAY CURBLINE.
4. INTERCEPT DRAINAGE ALONG THE CURB IN ADVANCE OF SIDEWALK CURB RAMPS OR LANDINGS. CATCH BASINS, MANHOLES, ETC. SHALL NOT BE LOCATED IN, OR AT THE BASE OF, SIDEWALK CURB RAMPS OR LANDINGS.
5. THE BOTTOM OF THE SIDEWALK CURB RAMP OR LANDING, EXCLUSIVE OF THE FLARED SIDES, SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS. IT IS DESIRABLE THAT THE LOCATION OF THE RAMP BE AS CLOSE AS POSSIBLE TO THE CENTER OF THE CROSSWALK.
6. THE SIDEWALK CURB RAMP OR THE LANDING AREA (PARALLEL SIDEWALK CURB RAMP) SHALL CONTRAST VISUALLY WITH THE ADJOINING SIDEWALK SURFACE, EITHER ASPHALT/LIGHT-COLORED CONCRETE OR LIGHT-COLORED CONCRETE/DARK-STAINED CONCRETE. THE CONCRETE SURFACE SHALL BE SLIP RESISTANT (BROOM FINISHED).
7. DETECTABLE WARNING PANELS SHALL BE THE FULL WIDTH OF THE LANDING, BLENDED TRANSITION, OR CURB RAMP THEY ARE A PART OF AND SHALL BE A MINIMUM OF 2 FEET IN DEPTH. THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP, BLENDED TRANSITION OR LANDING AND THE STREET.
8. A LEVEL LANDING 5'-0" DEEP, WITH A 2% MAXIMUM SLOPE IN EACH DIRECTION SHALL BE PROVIDED AT THE UPPER END OF EACH CURB RAMP TO ALLOW SAFE EGRESS FROM THE RAMP SURFACES. THE WIDTH OF THE LEVEL LANDING SHALL BE AT LEAST AS WIDE AS THE WIDTH OF THE RAMP. A LEVEL LANDING 4' DEEP SHALL BE PROVIDED AT ALL PEDESTRIAN PUSH BUTTONS AT SIGNALIZED CROSSINGS.
9. RAMP OPENING SHALL BE THE SAME WIDTH AS THE SIDEWALK, UP TO 6'-0" WIDE.
10. FOR NEW CONSTRUCTION – ALL DETECTABLE WARNINGS ARE TO BE CAST IRON AND SET IN CONCRETE.

HANDICAP SIDEWALK RAMP - HCR1 | 10 | DT - 2



SIGN POST - STANDARD & W/BOLLARD | 11 | DT - 2



CULVERT DIAM.	HEADWALL LENGTH	HEADWALL HEIGHT	FILL HEIGHT	TOP HEIGHT	HEADWALL BOTTOM
D	L	H	FH	h	WIDTH W
INCHES	FEET & INCHES				
12	4'-3"	3'-9"	1'-1"	1'-3"	1'-11.25"
15	6'-0"	4'-3"	1'-7"	1'-6"	2'-0.75"
18	7'-0"	4'-6"	1'-10"	1'-6"	2'-1.50"
24	9'-0"	5'-0"	2'-4"	1'-6"	2'-3.00"

HEADWALL SHALL BE STEEL REINFORCED AND CONFORM TO NHDOT STANDARD PLAN HW-2, LAST REVISED JUNE 16, 2010.

HEADWALL - PRECAST CONCRETE (HW1) | 12 | DT - 2

REV.	DATE	DESCRIPTION	C/O	DR	CK
A	4/14/25	REVS PER STAFF COMMENTS		CJC	JEN

CONTRUCTION DETAILS

TAX MAP PARCEL 228 LOT 16

(0 COURT STREET)

KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:

GUITARD HOMES

P.O. BOX 604 JAFFREY, NH. 03452

SCALE: NOT TO SCALE

MARCH 21, 2025

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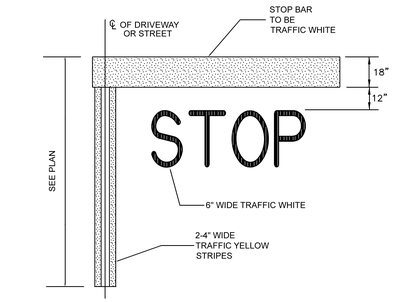
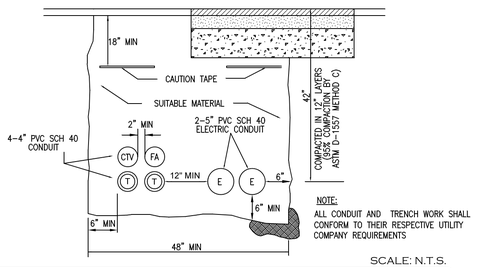


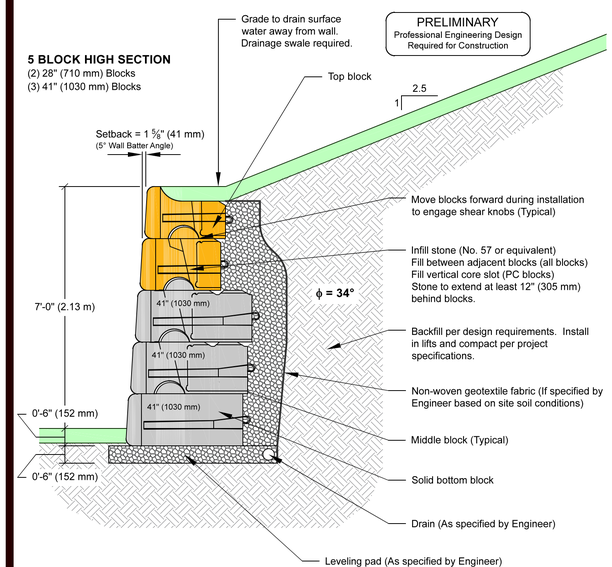
STOP BAR DETAIL — 1 / DT-3



NOTE:
ALL CONDUIT AND TRENCH WORK SHALL CONFORM TO THEIR RESPECTIVE UTILITY COMPANY REQUIREMENTS

SCALE: N.T.S.

TYPICAL UTILITY TRENCH — 2 / DT-3



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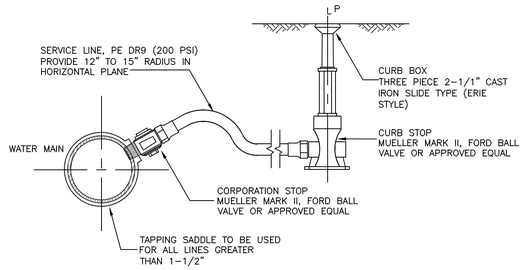
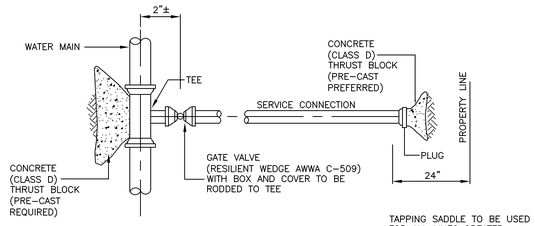
(866) 222-8400 ext 3010 • engineering@redi-rock.com
www.redi-rock.com

This drawing is for reference only. Determination of the suitability and/or manner of use of any details contained in this document is the sole responsibility of the design engineer of record. Final project designs, including all construction details, shall be prepared by a licensed professional engineer using the actual conditions of the proposed site. Final wall design must address both internal and external drainage and all modes of wall stability.

MODULAR BLOCK RETAINING WALL (OR EQUAL) — 3 / DT-3



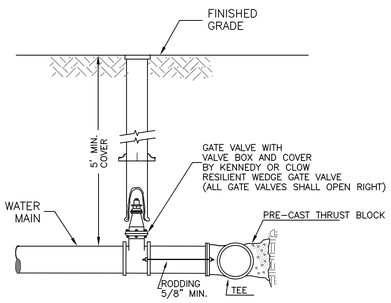
SERVICE CONNECTION 3/4" THRU 2"



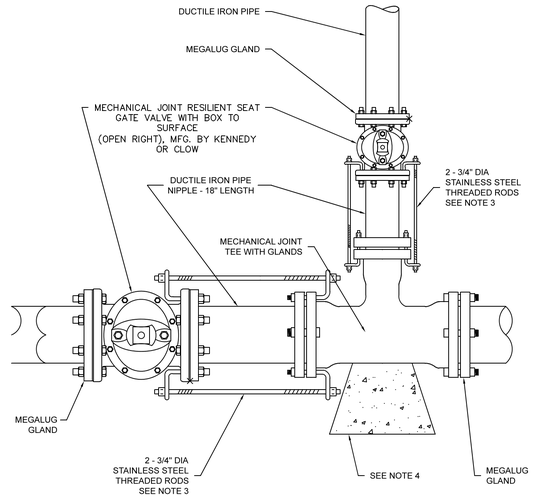
TAPPING SADDLE TO BE USED FOR ALL LINES GREATER THAN 1-1/2"

SERVICE CONNECTION 4" AND OVER

WATER SERVICE CONNECTION DETAILS — 4 / DT-3

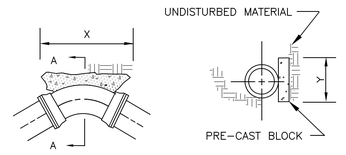


GATE VALVE WITH VALVE BOX — 5 / DT-3



NOTES:
1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO KEENE PUBLIC WORKS (K.P.W.) TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTHS OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. ALL THREADED RODS AND NUTS MUST BE STAINLESS STEEL.
4. MIN 2'x2'x4' PRECAST CONCRETE THRUST BLOCK MAY BE USED WITH K.P.W. APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH - SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATERMAIN.

WATER MAIN TEE — 6 / DT-3

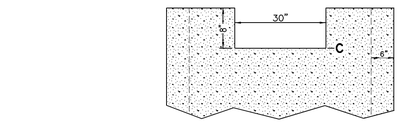


PLAN — SECTION A–A

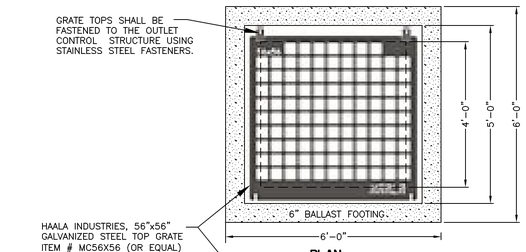
TABLE OF DIMENSIONS										
PIPE SIZE	90° BEND		45° BEND		22½ BEND		11¼ BEND		TEE&PLUG	
	X	Y	X	Y	X	Y	X	Y	X	Y
6"	33"	21"	18"	21"	12"	18"	9"	12"	21"	24"
8"	45"	27"	24"	27"	18"	21"	12"	15"	27"	33"
10"	60"	36"	36"	36"	24"	30"	18"	21"	36"	42"
12"	66"	39"	36"	42"	24"	30"	18"	21"	39"	45"
14"	72"	45"	42"	48"	27"	36"	18"	27"	45"	54"

HORIZONTAL BEND
NOTE: K.P.W. REQUIRES PRE-CAST THRUST BLOCKS

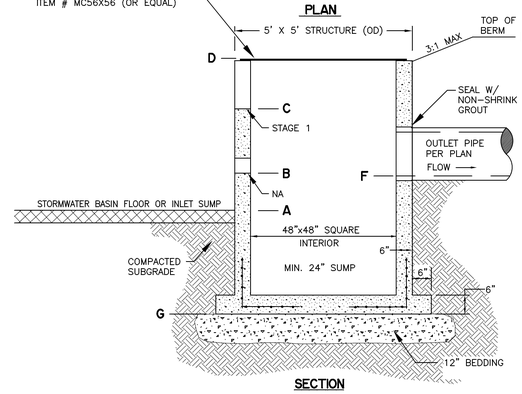
WATER LINE THRUST BLOCK — 7 / DT-3



OS-1 FRONT VIEW



PLAN



SECTION

SCALE: N.T.S.

OUTLET STRUCTURE — 8 / DT-3

REV.	DATE	DESCRIPTION	C/O	DR	CK
A	4/14/25	REVS PER STAFF COMMENTS		CJC	JEN

CONTRUCTION DETAILS
TAX MAP PARCEL 228 LOT 16
(0 COURT STREET)
KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:
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SCALE: NOT TO SCALE — MARCH 21, 2025

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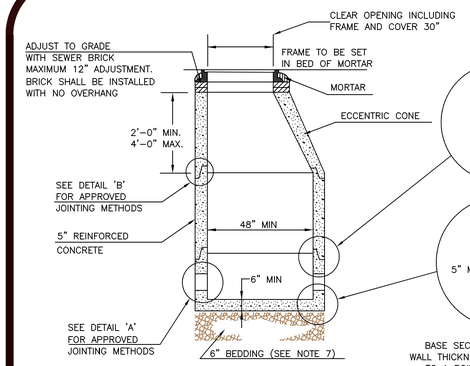
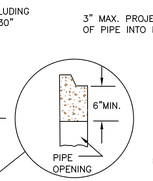
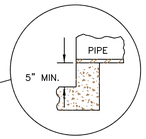
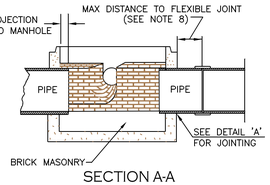


TYPICAL SECTION

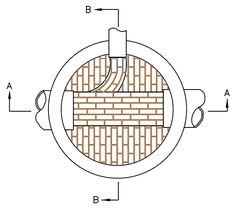




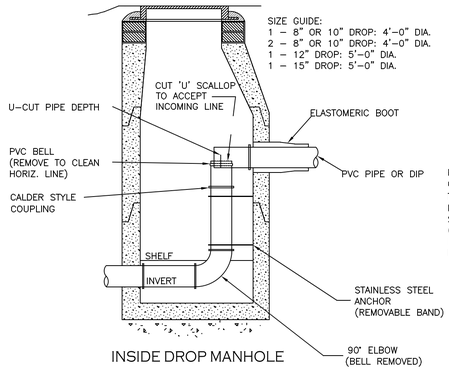
BASE SECTION TO BE FULL WALL THICKNESS AND MONOLITHIC TO A POINT 6" ABOVE THE PIPE CROWN.



SECTION A-A

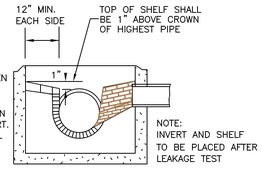


PLAN



INSIDE DROP MANHOLE

NOTE:
CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE.



NOTE:
INVERT AND SHELF TO BE PLACED AFTER LEAKAGE TEST

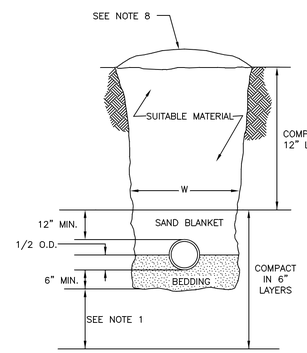
SECTION B-B

NOTES:

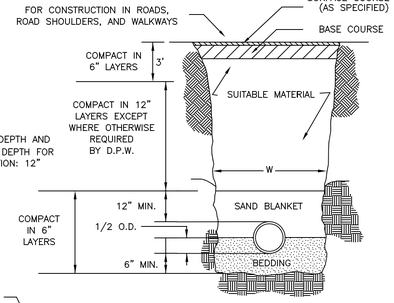
1. IT IS INTENDED: THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE SPACE REQUIREMENTS AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING PER Env-Wq 704.10 (d). IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
2. BARRELS AND CONE SECTIONS: SHALL BE PRECAST REINFORCED CONCRETE
3. PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL CONFORM TO ASTM C 478.
4. BASE SECTIONS: SHALL BE MONOLITHIC TO A POINT 6" ABOVE THE CROWN OF THE INCOMING PIPE, AND SHALL BE PRE-CAST REINFORCED CONCRETE.
5. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE DIRECTION OF FLOW. THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE. CROWN AND SLOPE TO DRAIN TOWARD THE FLOW THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
6. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN EQUAL TO CLASS 30, CONFORMING TO ASTM A48 AND PROVIDE A 30 INCH CLEAR OPENING. THE COVERS SHALL BE THE WORD "SEWER" IN 3 INCH HIGH LETTERS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
7. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 SIZE #67.
   100% PASSING 1 INCH SCREEN
   90-100% PASSING 3/4 INCH SCREEN
   20-55% PASSING 3/8 INCH SCREEN
   0-10% PASSING #4 SIEVE
   0-5% PASSING #8 SIEVE
   WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE. SCREENED GRAVEL OR CRUSHED STONE 1-1/2 TO ½ INCH SHALL BE USED.
8. FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:
   RCP & CI PIPE - ALL SIZES - 48"
   PVC PIPE - UP THROUGH 15" DIAMETER - NO FLEXIBLE JOINT REQUIRED
9. SHALLOW MANHOLE IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED. IT MUST HAVE AN ECCENTRIC ENTRANCE OPENING AND BE CAPABLE OF SUPPORTING H-20 LOADING.
10. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE SEALED WITH A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT IN ACCORDANCE WITH Env-Wq 704.10 (f). A TYPE APPROVED BY THE ENGINEER, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATERTIGHTNESS UPON AN MASTIC-LIKE OR ELASTOMERIC SEALANT
11. PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND IN GENERAL, WILL DEPEND FOR WATERTIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.
12. MATERIAL REQUIREMENTS FOR BRICK AND MORTAR SHALL CONFORM TO Env-Wq 704.10 (k) (9) THROUGH (14)
13. ALL SEWER CONSTRUCTION SHALL CONFORM TO SPECIFICATIONS DEFINED BY TOWN OF WILTON STANDARD SPECIFICATIONS FOR ROAD CONSTRUCTION. THESE STANDARD MANHOLE DRAWINGS ARE NOT COMPLETE WITHOUT THESE SPECIFICATIONS.

SCALE: N.T.S.

STANDARD MANHOLE - PART A	1 DT - 4

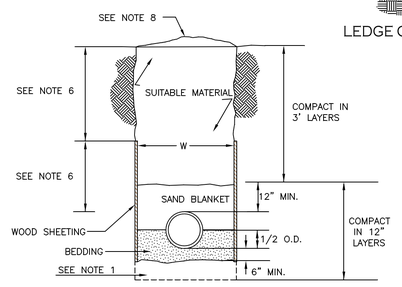


EARTH CONSTRUCTION



NOTE:
MIN. BEDDING DEPTH AND MAX. PAYMENT DEPTH FOR LEDGE EXCAVATION: 12"

LEDGE CONSTRUCTION



EARTH CONSTRUCTION WITH SHEETING

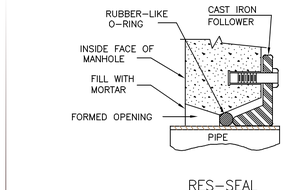
NOTES:

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE, REFILL WITH BEDDING MATERIAL. (SEE ALSO NOTE 7).
2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33, STONE SIZE #67
   100% PASSING 1 INCH SCREEN
   90-100% PASSING 3/4 INCH SCREEN
   20-50% PASSING 3/8 INCH SCREEN
   0-10% PASSING #4 SIEVE
   0-5% PASSING #8 SIEVE
3. SAND BLANKET: CLEAN SAND, FREE FROM ORGANIC MATTER, SO GRADED THAT 90-100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR DUCTILE IRON AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE.
4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALK WAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOPSOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES, IN LARGEST DIMENSION OR ANY MATERIAL WHICH AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT TO MAINTAIN THE COMPLETED CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP-SOIL, LOAM, MUCK OR PEAT. IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE REASONABLY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE (AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY) WILL BE PRESERVED.
5. BASE COURSE: IF ORDERED BY THE ENGINEER, SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF N.H. DEPT. OF TRANSPORTATION.
6. WOOD SHEETING: IF REQUIRED, IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER. IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE THE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISH GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
7. W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D.. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
8. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
9. CONCRETE: FOR ENCASEMENT SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000#) CONCRETE OF THE N.H. DEPT. OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:
   CEMENT: 6.0 BAGS PER CUBIC YARD
   WATER: 5.75 GALLONS PER BAG OF CEMENT
   MAXIMUM AGGREGATE SIZE: 1 INCH
   NOTE: ANY SEWER PIPE TO BE ENCASED MUST BE MADE OF DUCTILE IRON.

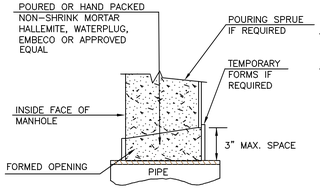
SCALE: N.T.S.

STANDARD TRENCH SECTION	2 DT - 4

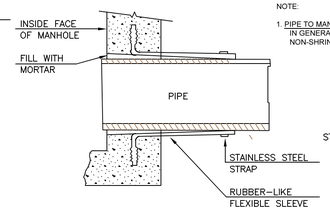
CONTACT DIG SAFE
72 HOURS PRIOR TO CONSTRUCTION
DIGSAFE.COM
OR DIAL 811
811



RES–SEAL (OR EQUAL)



NON–SHRINKING MORTAR (OR EQUAL)

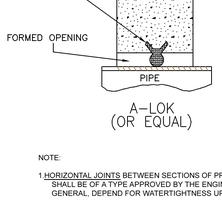


LOCK–JOINT FLEXIBLE MANHOLE SLEEVE (OR EQUAL)

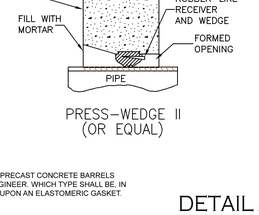
NOTE:
1 PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND, IN GENERAL, WILL DEPEND FOR WATERTIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.

NOTE:
ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

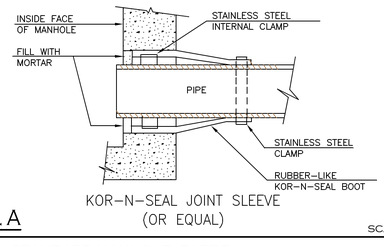
STATE OF NEW HAMPSHIRE APPROVED PRODUCTS
[A] SIKAFLEX–12–SL
[B] SONNEBORN BUILDING PRODUCTS SONNOLASTIC SL–1



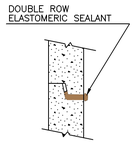
A–LOK (OR EQUAL)



PRESS–WEDGE II (OR EQUAL)



KOR–N–SEAL JOINT SLEEVE (OR EQUAL)



ELASTOMERIC SEALANT (OR EQUAL)

DETAIL B

NOTE:
1 HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE ENGINEER. WHICH TYPE SHALL BE, IN GENERAL, DEPEND FOR WATERTIGHTNESS UPON AN ELASTOMERIC GASKET.

DETAIL A

SCALE: N.T.S.

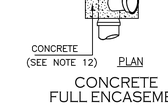
STANDARD MANHOLE - PART B	3 DT - 4

NOTES:

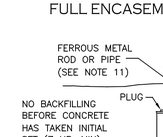
1. MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE 4 INCHES.
2. PIPE AND JOINT MATERIALS
   A. PLASTIC SEWER PIPE
      1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	PVC (SOLID WALL)*	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F789	PVC (SOLID WALL)	4" THROUGH 18" (T-1 TO T-3)
F794	PVC (ROBBED WALL)	8" THROUGH 36"
D2680	ABS (COMPOSITES WALL)*	8" THROUGH 15"

      *PVC: POLY VINYL CHLORIDE
      *ABS: ACRYLONITRILE-BUTADIENE-STYRENE
      2. JOINTS SEALS FOR PVC PIPE SHALL BE OIL-RESISTANT COMPRESSION RINGS OF ELASTOMREIC MATERIAL CONFORMING TO ASTM D-3212 AND SHALL BE PUSH-ON, BELL AND SPIGOT TYPE.
      ABS TRUSS PIPE AND FITTINGS SHALL CONFORM TO ASTM D-2680, POLYMER COMPOUNDING SHALL BE TO ASTM D-1788 (CLASS 322).
      JOINTS FOR ABS TRUSS PIPE SHALL BE CHEMICAL WELDED COUPLINGS TYPE SC IN ACCORDANCE WITH ASTM D-2680, FORMING A CHEMICAL WELDED JOINT.
   B. DUCTILE-IRON PIPE, FITTINGS AND JOINTS.
      1. DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE UNITED STATES OF AMERICA STANDARDS INSTITURE:
         A21.50 THICKNESS DESIGN OF DICTILE IRON PIPE AND WITH ASTM A-536 DUCTILE IRON CASTINGS.
         A21.51 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS.
      2. JOINTS SHALL BE OF THE MECHNICAL OR PUSH-ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO:
         A21.11 RUBBER GASKETS JOINTS FOR CAST IRON PRESSURE PIPE AND FITTINGS
3. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
4. JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATERTIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER "Y" OR AT THE FOUNDATION WALL, APPROPRIATE ADAPTERS SHALL BE USED.
5. "T" AND "Y": WHERE A "T" OR "Y" IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE IN THE SEWER, FOLLOWING MANUFACTURERS INSTRUCTIONS USING A BOLTED, CLAMPED, OR EPOXY CEMENTED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING. THE PRACTICE OF BREAKING AN OPENING WITH A SLEDGE HAMMER, STUFFING CLOTH (OR OTHER SUCH MATERIAL) AROUND THE JOINT OR APPLYING MORTAR TO HOLD THE CONNECTION AND ANY OTHER SIMILAR CRUDE PRACTICES OR INEPT OR HASTY IMPROVISATIONS WILL NOT BE PERMITTED. THE CONNECTION SHALL BE CONCRETE ENCASED, AS SHOWN IN THE DETAIL, UP TO AND INCLUDING 15" DIAMETER.*
6. HOUSE SEWER INSTALLATION THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL, AS SPECIFIED IN NOTE 10. BEDDING AND RE-FILL FOR A DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE HOUSE FOUNDATION AT A GRADE OF NOT LESS THAN 1/4 INCH PER FOOT. PIPE JOINTS MUSH BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.
7. TESTING THE COMPLETED HOUSE SEWER SHALL BE SUBJECTED TO A LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS (PRIOR TO BACKFILLING):
   A. AN OBSERVATION "T" SHALL BE INSTALLED AS SHOWN. WHEN READY TESTING, AN INFLATABLE BLADDER OR PLUG SHALL BE INSERTED JUST UPSTREAM FROM THE OPENING IN THE "T". AFTER INFLATION, WATER SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG.
   B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER TO SIMULATE, AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS. IF THE TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEANOUT WITH A FLASHLIGHT.
   C. DRY FLUORESCENT DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED WITH WATER. IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE POPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST MANHOLE DOWNSTREAM. LEAKAGE O OBSERVED IN ANY OF THE ABOVE, ALTERNATE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG UP, IF NECESSARY, AND RELAID SO AS TO ASSURE WATERTIGHTNESS.
8. ILLEGAL CONNECTIONS NOTHING BUT SANITARY WASTE FLOW FROM THE HOUSE TOILETS SINKS, LAUNDRY, ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR ANY OTHER SIMILAR CONNECTION CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.
9. HOUSE WATER SERVICE SHALL NOT BE LAID IN THE SAME TRENCH AS THE SEWER SERVICE.
10. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33-67.
    100% PASSING 1 INCH SCREEN
    90-100% PASSING 3/4 INCH SCREEN
    20-55% PASSING 3/8 INCH SCREEN
    0-10% PASSING #4 SIEVE
    0-5% PASSING #8 SIEVE
    WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE (1-1/2 TO 1/2 INCH) SHALL BE USED.
11. LOCATION THE LOCATION OF THE "T" OR "Y" SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE "T" OR "Y", AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPEFINDER.
12. CONCRETE CONCRETE SHALL CONFORM TO THE REQUREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE N.H. DEPT. OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:
    CEMENT: 6.0 BAGSIC.Y. WATER: 5.75 GALS/BAG CEMENT
    AGGREGATE: 1 INCH MAX
13. CHIMNEYS IF VERTICAL DROP INTO THE SEWER IS GREATER THAN 4 FEET, A CHIMNEY SHALL BE CONSTRUCTED FOR THE HOUSE CONNECTION. CHIMNEY INSTALLATION AS RECOMMENDED BY THE PIPE MANUFACTURER MAY BE USED IF APPROVED BY THE ENGINEER.



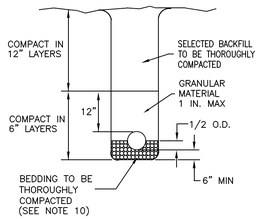
SECTION



PLAN

CONCRETE FULL ENCASEMENT

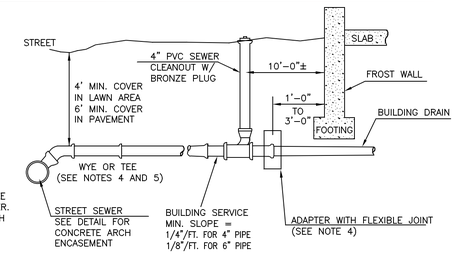
CHIMNEY (SEE NOTE 13)



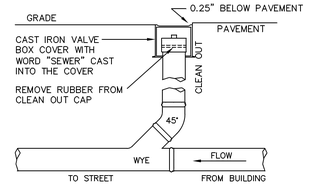
TRENCH CROSS-SECTION

SCALE: N.T.S.

HOUSE SEWER DETAILS	4 DT - 4



SERVICE CONNECTION BUILDING



SEWER SERVICE CLEAN OUT DETAIL

REV.	DATE	DESCRIPTION	C/O	DR	CK
–	–	–	–	–	–

SEWER CONTRUCTION DETAILS

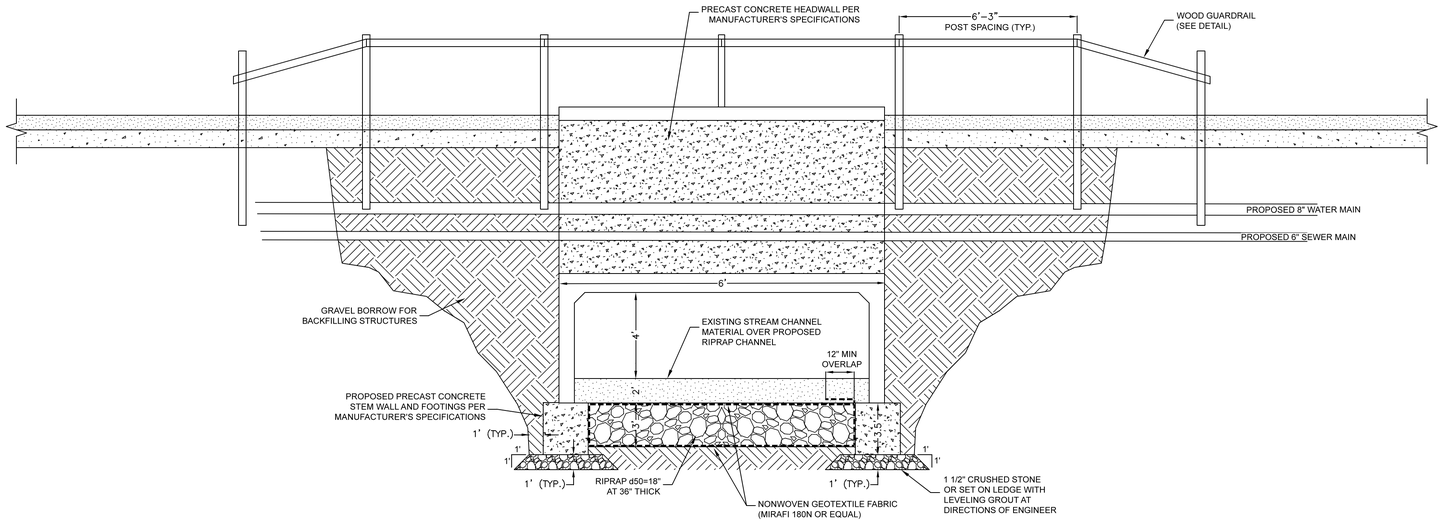
TAX MAP PARCEL 228 LOT 16
(0 COURT STREET)
KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:
GUITARD HOMES
P.O. BOX 604 JAFFREY, NH. 03452

SCALE: NOT TO SCALE — MARCH 21, 2025

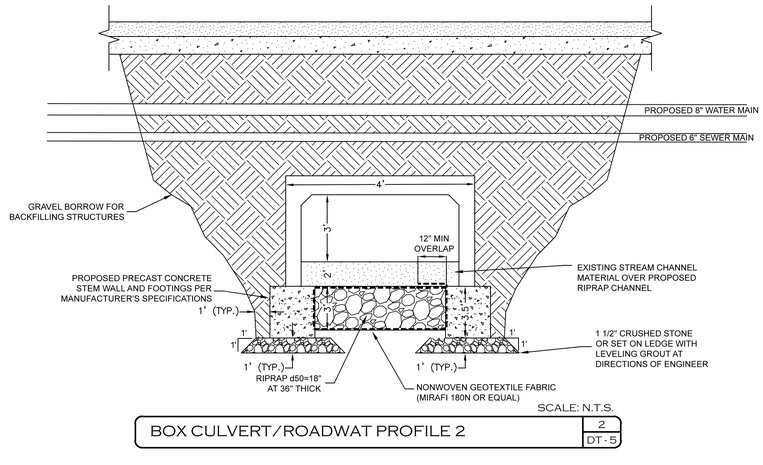
Surveying ⌖ Engineering ⌖ Land Planning ⌖ Permitting ⌖ Septic Designs

FIELDSTONE LAND CONSULTANTS, PLLC
206 Elm Street, Milford, NH 03055
Phone: (603) 672-5456 Fax: (603) 413-5456
www.FieldstoneLandConsultants.com



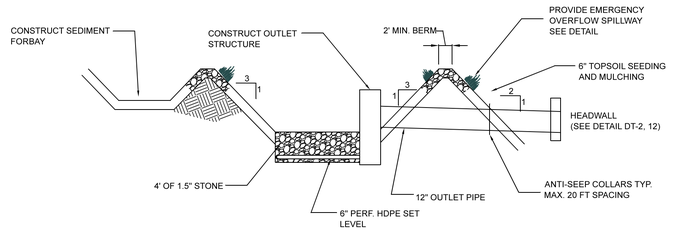
SCALE: N.T.S.

BOX CULVERT/ROADWAT PROFILE 1 | 1 | DT - 5



SCALE: N.T.S.

BOX CULVERT/ROADWAT PROFILE 2 | 2 | DT - 5



TYPICAL GRAVEL STORMWATER BASIN DETAIL | 3 | DT - 5

REV.	DATE	DESCRIPTION	C/O	DR	CK
A	4/14/25	REVS PER STAFF COMMENTS		CJC	JEN

CONTRUCTION DETAILS

TAX MAP PARCEL 228 LOT 16

(0 COURT STREET)

KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:

GUITARD HOMES

P.O. BOX 604 JAFFREY, NH. 03452

SCALE: NOT TO SCALE

MARCH 21, 2025

Surveying ⌖ **E**ngineering ⌖ **L**and **P**lanning ⌖ **P**ermitting ⌖ **S**eptic **D**esigns

FIELDSTONE LAND CONSULTANTS, PLLC

206 Elm Street, Milford, NH 03055

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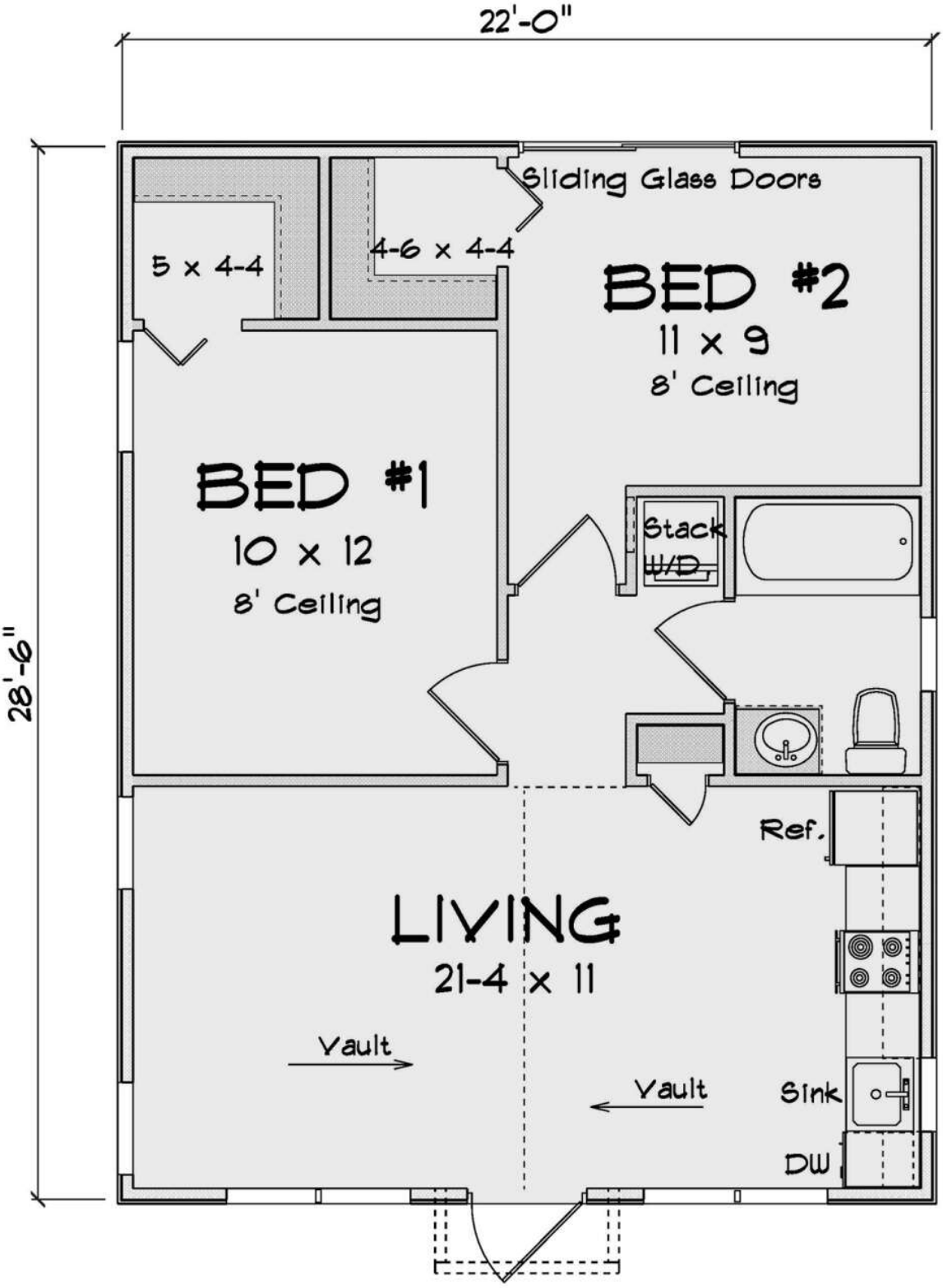
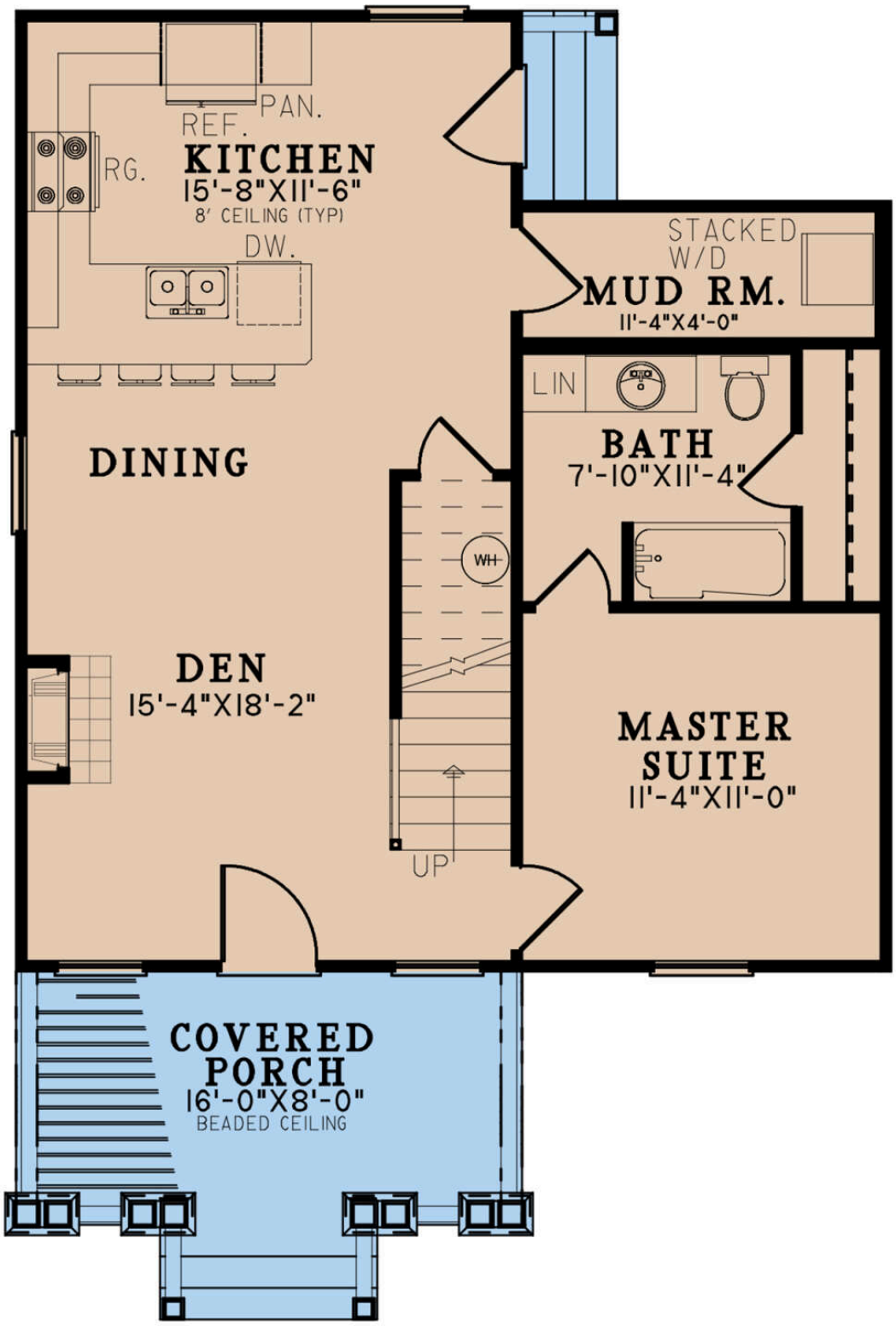
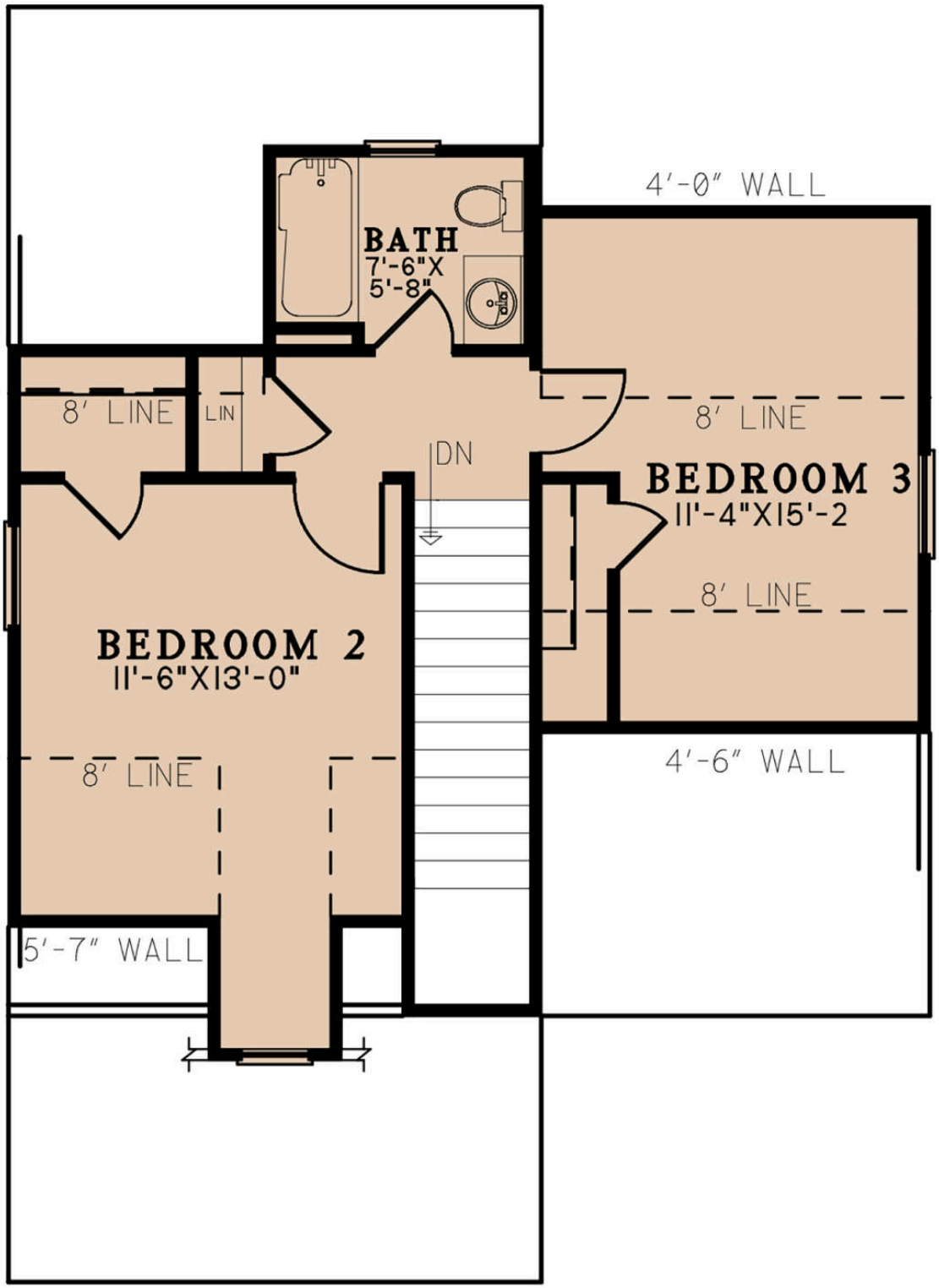
HOUSE OPTION 1

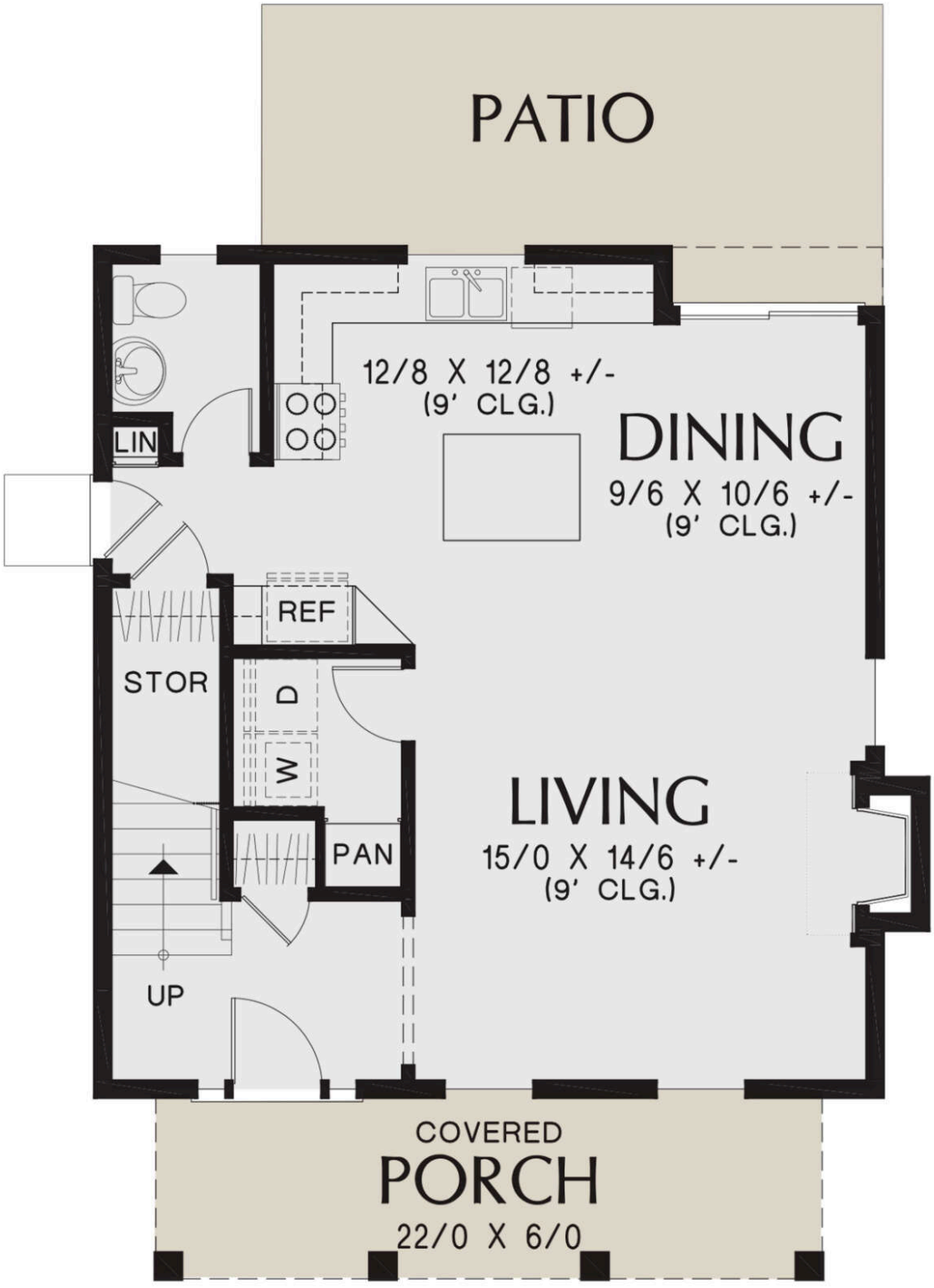

22'-0"
28'-6"
Sliding Glass Doors
5 x 4-4
4-6 x 4-4
BED #2
11 x 9
8' Ceiling
BED #1
10 x 12
8' Ceiling
Stack
W/D
Ref.
LIVING
21-4 x 11
Vault
Vault
Sink
DW

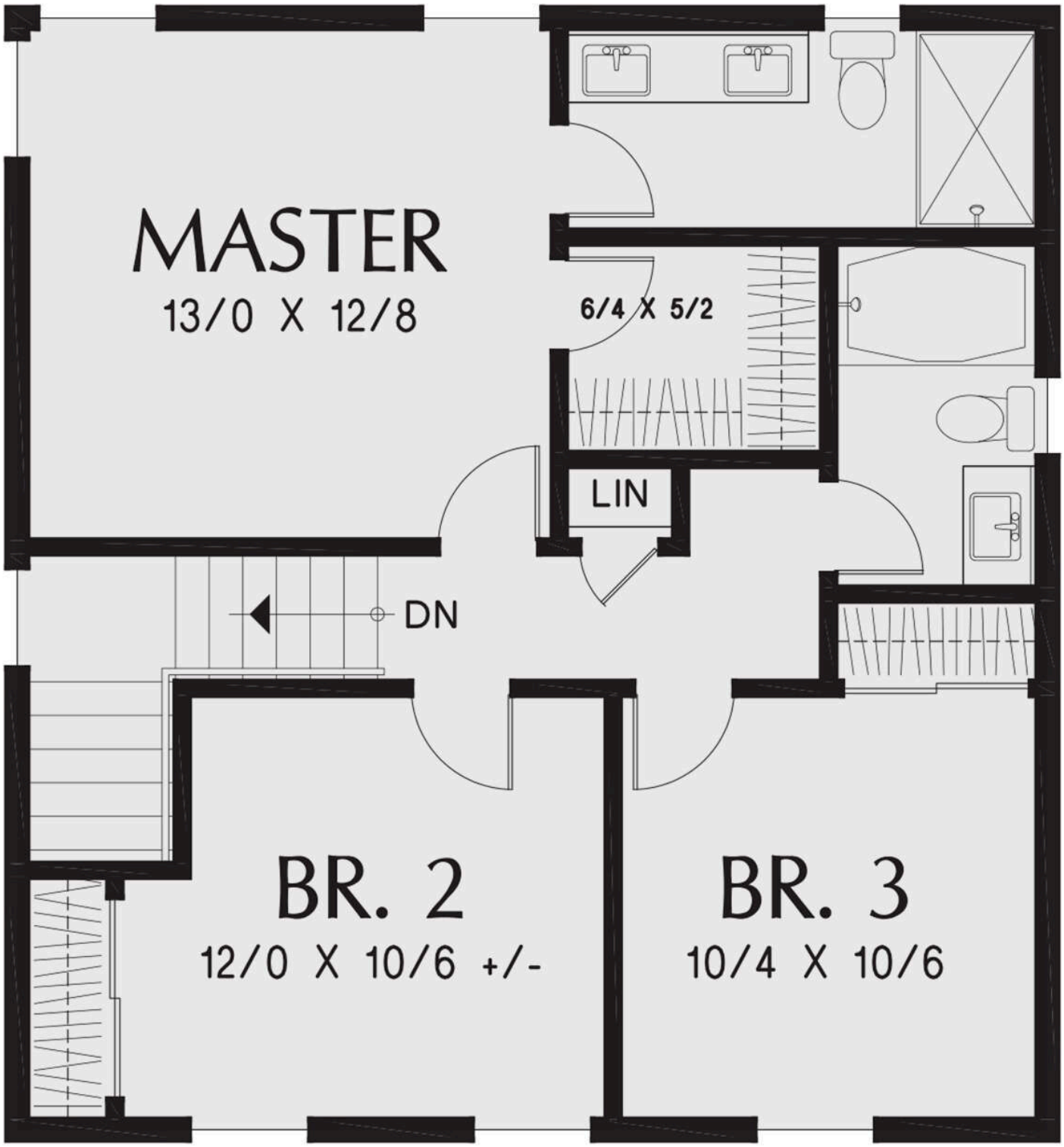
HOUSE OPTION 2

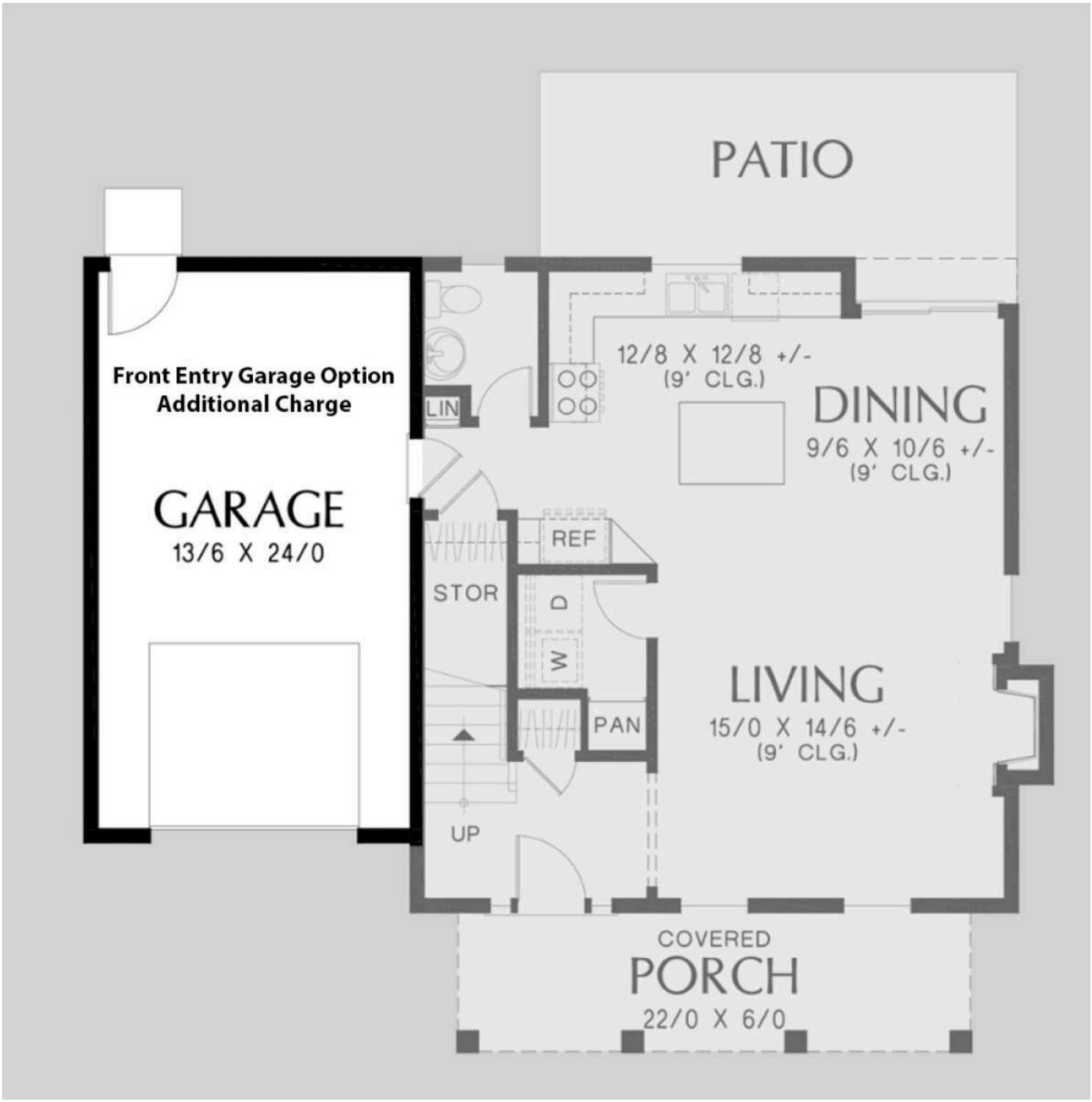

REF.
PAN.
RG.
KITCHEN
15'-8"X11'-6"
8' CEILING (TYP)
DW.
STACKED
W/D
MUD RM.
11'-4"X4'-0"
LIN
BATH
7'-10"X11'-4"
DINING
WH
DEN
15'-4"X18'-2"
MASTER
SUITE
11'-4"X11'-0"
UP
COVERED
PORCH
16'-0"X8'-0"
BEADED CEILING


4'-0" WALL
BATH
7'-6"X
5'-8"
8' LINE
LIN
DN
8' LINE
BEDROOM 3
11'-4"X15'-2
8' LINE
BEDROOM 2
11'-6"X13'-0"
8' LINE
4'-6" WALL
5'-7" WALL

HOUSE OPTION 3


PATIO
12/8 X 12/8 +/-
(9' CLG.)
DINING
9/6 X 10/6 +/-
(9' CLG.)
LIN
REF
STOR
D
W
PAN
LIVING
15/0 X 14/6 +/-
(9' CLG.)
UP
COVERED
PORCH
22/0 X 6/0


MASTER
13/0 X 12/8
6/4 X 5/2
LIN
DN
BR. 2
12/0 X 10/6 +/-
BR. 3
10/4 X 10/6


PATIO
Front Entry Garage Option
Additional Charge
GARAGE
13/6 X 24/0
LIN
12/8 X 12/8 +/-
(9' CLG.)
DINING
9/6 X 10/6 +/-
(9' CLG.)
REF
STOR
D
W
PAN
LIVING
15/0 X 14/6 +/-
(9' CLG.)
UP
COVERED
PORCH
22/0 X 6/0

Storm Water Management Report

GUITARD HOMES COTTAGE COURT

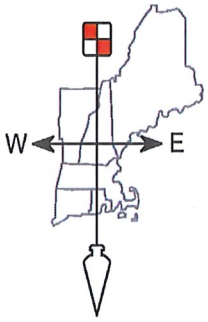
Project Location:
Tax Map Parcel 228-016
0 Court Street
Keene, NH 03431

Prepared for:
Guitard Homes, LLC
PO Box 604
Jaffrey, NH 03452

Date: March 21, 2025

4/14/2025

Surveying ⌖ Engineering ⌖ Land Planning ⌖ Permitting ⌖ Septic Designs



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STORM WATER MANAGEMENT REPORT
GUITARD HOMES – COTTAGE COURT
KEENE, NEW HAMPSHIRE

Prepared for:
Guitard Homes, LLC

March 21, 2025

I) INTRODUCTION

This storm-water management report was conducted for a proposed site development for a Cottage Court Overlay single-family housing development. The proposal consists of developing Tax Map Lot 228-16 located on Court Street, in a Cottage Court single-family residential development with 29 dwelling units. The applicant has decided to utilize the recently adopted Cottage Court Overlay regulations with a private driveway. This layout will provide condominium style ownership for future homeowners with a goal of providing much needed affordable, owner-occupied housing.

The existing Tax Map Lot 228-16 has 9.7+/- acres with 303.59 feet of frontage along Court Street. The lot is located in the Low-Density District and is currently undeveloped. The property is primarily wooded with young forest with some forested wetland areas in the lower elevations.

The proposed buildings will have access from Court Street via a central driveway that has one small spur to utilize the dry areas on site. There are two wetland crossings proposed for this development and there will be buffer impacts in various areas for grading and stormwater management. A homeowner's association will be formed to provide maintenance of the access road and common facilities and amenities.

The sizes of the units will vary, as there is a mix of two-bedroom and three-bedroom designs. The buildings will be 1-2 stories, and include either an optional garage or shed. The building designs contemplate a modern New England style architecture and will meet the Cottage Court standards. The plans for these units have been provided for review and comment.

The residential development will be serviced by the municipal water and sanitary sewer infrastructure that is located along Court Street. Easements will be provided to the City of Keene where necessary for the infrastructure. The stormwater management will be constructed on site and maintained by the homeowner's association. The project will disturb more than 100,000 S.F. of land, requiring an Alteration of Terrain permit with NHDES. The shared driveway will cross wetland areas and require a Wetland permit with NHDES.

II) SITE DESCRIPTION (EXISTING)

The existing site is Tax Map Lot 228-16 has 9.7+/- acres with 303.59 feet of frontage along Court Street. The lot is currently undeveloped and forested. There is a wetland swale that bisects the property and drains to a box culvert under Court Street. This wetland swale originates near Goose Pond and runs parallel to the

hiking that trail that runs from Goose Pond and through the subject lot. There is wetland area on the north side of the trail that traps water and slowly outlets onto the property through a stone culvert under the trail.

The NRCS websoil survey indicates that the soils present on the site are Merrimac, Monadnock, Berkshire, Caesar and Windsor series. These soils are denoted on the plan and are Hydrologic Soils Group (HSG) "B" and "A" soils. The HSG "A" soils are located closest to Court Street and the Ashuelot River. The uphill soils are classified as HSG "B" soils. Test pits have been conducted on the property, and a Site-Specific Soils Map will be completed and submitted as part of the AOT permit.

III) METHODOLOGY

The quantity of runoff and the conveyance of that flow through the site are determined using the software package HydroCAD r 10.0 by HydroCAD Software Solutions, LLC. HydroCAD is a computer aided design program for modeling storm water hydrology based on the Soil Conservation Service (SCS) TR-20 method combined with standard hydraulics calculations used to model stormwater systems, such as detention basins, culverts, swales, and catch basins.

The stormwater management systems are designed in accordance with the methodology for the "Best Management Practices" (BMP's), as outlined in the New Hampshire Storm Water Manual, Volume 2.

IV) DRAINAGE DESIGN

In accordance with the City of Keene LDC and the NHDES Alteration of Terrain, there will be no increase in the peak flow of surface runoff. In order to demonstrate this the two (2), ten (10), twenty-five (25) and fifty (50) year frequency storm events have been evaluated. The proposed box culverts at the wetland crossings have been sized based on the hundred (100) year storm event. The values for each storm modeled match the Extreme Precipitation Estimates, as listed by the Northeast Regional Climate Center, specifically for the property in Keene NH (see below). These design storms have been analyzed to compare the Pre and Post-development peak flow rates for the site (see attached comparison tables below).

2 Year = 2.75" 10 Year = 3.97" 25 Year = 4.90" 50 Year = 5.75"

Pre-Development Drainage Conditions:

The Pre-Development Drainage Area Plan outlines the area where water flows across the property. The high point of the property is along the northern boundary, uphill of the hiking trail. The property slopes towards Court Street and is bisected by the wetland swale. The condominium healthcare facility to the west has stormwater structures that outlet onto the property and into the wetland swale. Ultimately all of the runoff on site and in Court Street flows toward the box culvert under Court Street. The upstream side of the Court Street box culvert was used as the Observation Point for the model (OP1).

Post-Development Drainage Conditions:

The client is looking to construct the development in three phases; Phase 1 closest to Court Street; Phase 2 from the Box Culvert up to the cul-de-sac; and Phase 3 from the cul-de-sac to the end of the road. The proposed drainage systems were designed to capture runoff from the buildings and paved areas, and direct the flow to stormwater management systems in each phase of the project. All of the houses will have stone drip-strip infiltration trenches to capture the roof runoff, as treatment is not required for the residential

homes. The proposed roadway will use grass treatment swales for pre-treatment with two gravel wetlands, and four infiltration practices to mitigate the stormwater runoff rates.

The net result is that virtually all of the new impervious areas will receive qualitative treatment and there will be a reduction of peak rates of runoff leaving this site for all storm events.

V) SUMMARY

The intent of the stormwater management system for this project is to address the qualitative and quantitative aspects of the stormwater runoff so that there are no downstream adverse impacts created by the project. To mitigate the resulting increases in runoff peak rates due to the development of Lot 228-16, this project proposes that a stormwater management system consisting of catch basins, two (2) concrete box culverts, five (5) grass treatment swales, two (2) gravel wetlands, two (2) infiltration trenches, two (2) infiltration basins, and twenty-nine (29) drip-strip stone trenches to be constructed. The net result is that new buildings and paved areas will receive qualitative treatment and there will be no increase in the peak rates of runoff leaving the site.

The stormwater management design for this project therefore complies with the standards set forth in the City of Keene's Site Plan Review Regulations and meets the NHDES Alteration of Terrain regulations.

The following table is a summary of the attached calculations and shows a comparison of the peak flow rates at the summary point for the site. The values presented are based on Pre- and Post-development conditions.

Table 1.1: Peak Flow Rates (CFS)/Volume (AF) to Observation Point 1 (OP1) – PRE VS. POST DEVELOPMENT

STORM FREQUENCY	PRE-DEV. RUNOFF (CFS/AF)	POST-DEV. RUNOFF (CFS/AF)	CHANGE (CFS/AF)
2-YEAR	2.26/0.761	3.34/0.874	+1.08/+0.113
10-YEAR	8.51/2.830	8.11/2.96	-0.40/+0.130
25-YEAR	19.31/5.090	16.76/5.14	-2.55/+0.050
50-YEAR	32.05/7.549	26.52/7.47	-5.53/-0.079

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point	
Smoothing	Yes
State	
Location	
Latitude	42.955 degrees North
Longitude	72.296 degrees West
Elevation	160 feet
Date/Time	Tue Feb 18 2025 10:42:24 GMT-0500 (Eastern Standard Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.70	0.87	1.08	1yr	0.75	1.01	1.25	1.54	1.90	2.34	2.61	1yr	2.07	2.51	2.88	3.52	4.08	1yr
2yr	0.34	0.52	0.65	0.85	1.07	1.33	2yr	0.92	1.20	1.53	1.87	2.27	2.75	3.11	2yr	2.44	2.99	3.49	4.16	4.76	2yr
5yr	0.40	0.62	0.78	1.05	1.34	1.68	5yr	1.16	1.51	1.92	2.35	2.83	3.39	3.88	5yr	3.00	3.73	4.33	5.11	5.82	5yr
10yr	0.45	0.71	0.90	1.22	1.59	2.00	10yr	1.37	1.79	2.30	2.79	3.35	3.97	4.57	10yr	3.52	4.40	5.09	5.97	6.78	10yr
25yr	0.54	0.86	1.09	1.50	1.99	2.52	25yr	1.72	2.25	2.90	3.51	4.18	4.90	5.71	25yr	4.34	5.49	6.32	7.33	8.29	25yr
50yr	0.61	0.97	1.25	1.75	2.36	3.02	50yr	2.04	2.67	3.47	4.18	4.94	5.75	6.75	50yr	5.09	6.49	7.44	8.56	9.66	50yr
100yr	0.70	1.13	1.46	2.07	2.81	3.59	100yr	2.42	3.18	4.12	4.96	5.83	6.75	8.00	100yr	5.97	7.69	8.76	10.01	11.26	100yr
200yr	0.80	1.30	1.69	2.42	3.34	4.28	200yr	2.88	3.78	4.92	5.90	6.90	7.92	9.47	200yr	7.01	9.11	10.33	11.71	13.13	200yr
500yr	0.96	1.58	2.06	2.99	4.19	5.40	500yr	3.62	4.77	6.20	7.40	8.60	9.81	11.87	500yr	8.68	11.41	12.84	14.42	16.10	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.22	0.35	0.42	0.57	0.70	0.87	1yr	0.60	0.85	0.94	1.20	1.53	2.13	2.39	1yr	1.88	2.30	2.63	3.32	3.74	1yr
2yr	0.32	0.50	0.61	0.83	1.03	1.18	2yr	0.89	1.15	1.33	1.70	2.15	2.69	3.04	2yr	2.38	2.93	3.42	4.07	4.65	2yr
5yr	0.37	0.57	0.71	0.97	1.23	1.40	5yr	1.06	1.37	1.57	1.99	2.50	3.21	3.64	5yr	2.84	3.50	4.03	4.82	5.46	5yr
10yr	0.41	0.63	0.78	1.08	1.40	1.59	10yr	1.21	1.55	1.77	2.24	2.78	3.61	4.15	10yr	3.20	3.99	4.64	5.48	6.16	10yr
25yr	0.46	0.71	0.88	1.26	1.65	1.88	25yr	1.43	1.84	2.08	2.60	3.21	4.29	4.92	25yr	3.79	4.73	5.52	6.48	7.22	25yr
50yr	0.51	0.78	0.97	1.39	1.88	2.14	50yr	1.62	2.09	2.34	2.92	3.58	4.89	5.59	50yr	4.32	5.38	6.31	7.37	8.16	50yr
100yr	0.56	0.85	1.07	1.54	2.12	2.42	100yr	1.83	2.37	2.65	3.28	3.97	5.58	6.37	100yr	4.94	6.13	7.24	8.40	9.23	100yr
200yr	0.62	0.94	1.19	1.72	2.40	2.75	200yr	2.07	2.68	2.99	3.68	4.42	6.38	7.27	200yr	5.65	6.99	8.29	9.58	10.43	200yr
500yr	0.72	1.07	1.37	1.99	2.83	3.24	500yr	2.44	3.17	3.51	4.29	5.07	7.63	8.65	500yr	6.75	8.32	9.95	11.44	12.29	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.31	0.48	0.58	0.78	0.96	1.13	1yr	0.83	1.10	1.25	1.58	1.99	2.49	2.80	1yr	2.21	2.69	3.08	3.71	4.33	1yr
2yr	0.35	0.54	0.67	0.91	1.12	1.28	2yr	0.97	1.25	1.43	1.82	2.29	2.83	3.22	2yr	2.50	3.10	3.60	4.28	4.91	2yr
5yr	0.44	0.67	0.83	1.15	1.46	1.69	5yr	1.26	1.65	1.87	2.31	2.86	3.59	4.14	5yr	3.18	3.98	4.63	5.45	6.20	5yr
10yr	0.52	0.80	1.00	1.39	1.80	2.09	10yr	1.55	2.05	2.29	2.78	3.40	4.39	5.03	10yr	3.88	4.84	5.58	6.55	7.43	10yr
25yr	0.66	1.01	1.26	1.79	2.36	2.80	25yr	2.04	2.73	2.99	3.56	4.28	5.64	6.52	25yr	4.99	6.27	7.18	8.33	9.44	25yr
50yr	0.79	1.21	1.50	2.16	2.91	3.48	50yr	2.51	3.40	3.68	4.30	5.10	6.82	7.94	50yr	6.03	7.64	8.68	10.01	11.32	50yr
100yr	0.96	1.45	1.82	2.62	3.60	4.34	100yr	3.10	4.24	4.51	5.19	6.08	8.24	9.68	100yr	7.29	9.31	10.50	12.03	13.58	100yr
200yr	1.16	1.74	2.21	3.19	4.45	5.42	200yr	3.84	5.30	5.54	6.28	7.26	9.95	11.81	200yr	8.80	11.36	12.71	14.44	16.29	200yr
500yr	1.49	2.21	2.85	4.14	5.88	7.28	500yr	5.08	7.11	7.28	8.08	9.17	12.76	15.34	500yr	11.30	14.75	16.35	18.39	20.74	500yr

Powered by ACIS
Northeast Regional Climate Center

Section 1.1

Existing Conditions
2, 10, 50 Year Storm Node List

Time span=0.01-24.00 hrs, dt=0.01 hrs, 2400 points x 4
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E1S: to Trail culvert Runoff Area=207,607 sf 0.00% Impervious Runoff Depth>0.13"
Flow Length=587' Tc=14.7 min CN=55 Runoff=0.14 cfs 0.053 af

Subcatchment E2S: TO SWALE Runoff Area=2,699,870 sf 3.21% Impervious Runoff Depth>0.09"
Flow Length=2,596' Tc=58.0 min CN=53 Runoff=0.82 cfs 0.479 af

Subcatchment E3S: TO CB 1394 Runoff Area=37,371 sf 46.41% Impervious Runoff Depth>0.43"
Tc=2.0 min CN=66 Runoff=0.35 cfs 0.031 af

Subcatchment E4S: TO CB1342 Runoff Area=60,023 sf 68.77% Impervious Runoff Depth>1.45"
Flow Length=450' Tc=2.3 min CN=86 Runoff=2.68 cfs 0.166 af

Subcatchment E5S: TO CB 1231 Runoff Area=18,247 sf 43.35% Impervious Runoff Depth>0.30"
Tc=2.0 min CN=62 Runoff=0.08 cfs 0.011 af

Subcatchment E6S: TO CB 1675 Runoff Area=13,274 sf 78.12% Impervious Runoff Depth>1.25"
Flow Length=416' Tc=4.7 min CN=83 Runoff=0.46 cfs 0.032 af

Reach 1R: WET SWALE Avg. Flow Depth=0.25' Max Vel=2.00 fps Inflow=3.09 cfs 0.739 af
n=0.050 L=1,432.0' S=0.0503 '/' Capacity=1,164.18 cfs Outflow=1.85 cfs 0.729 af

Pond 1P: TRAIL CULV. Peak Elev=568.26' Inflow=0.14 cfs 0.053 af
6.0" Round Culvert n=0.025 L=28.0' S=0.0714 '/' Outflow=0.14 cfs 0.053 af

Pond 2P: CB 1394 Peak Elev=568.26' Inflow=0.35 cfs 0.031 af
12.0" Round Culvert n=0.025 L=16.0' S=0.1125 '/' Outflow=0.35 cfs 0.031 af

Pond 3P: CB 1342 Peak Elev=570.43' Inflow=2.68 cfs 0.166 af
12.0" Round Culvert n=0.025 L=88.0' S=0.0131 '/' Outflow=2.69 cfs 0.166 af

Pond 4P: CB 1231 Peak Elev=568.25' Inflow=0.08 cfs 0.011 af
12.0" Round Culvert n=0.025 L=58.0' S=0.0157 '/' Outflow=0.10 cfs 0.011 af

Pond 5P: CT. ST. CB1675 Peak Elev=505.06' Inflow=0.46 cfs 0.032 af
15.0" Round Culvert n=0.025 L=68.0' S=0.0172 '/' Outflow=0.46 cfs 0.032 af

Link OP1: COURT ST. BOX CULV. Inflow=2.26 cfs 0.761 af
Primary=2.26 cfs 0.761 af

Total Runoff Area = 69.706 ac Runoff Volume = 0.771 af Average Runoff Depth = 0.13"
94.61% Pervious = 65.950 ac 5.39% Impervious = 3.756 ac

Time span=0.01-24.00 hrs, dt=0.01 hrs, 2400 points x 4
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E1S: to Trail culvert Runoff Area=207,607 sf 0.00% Impervious Runoff Depth>0.51"
Flow Length=587' Tc=14.7 min CN=55 Runoff=1.33 cfs 0.204 af

Subcatchment E2S: TO SWALE Runoff Area=2,699,870 sf 3.21% Impervious Runoff Depth>0.42"
Flow Length=2,596' Tc=58.0 min CN=53 Runoff=7.61 cfs 2.193 af

Subcatchment E3S: TO CB 1394 Runoff Area=37,371 sf 46.41% Impervious Runoff Depth>1.07"
Tc=2.0 min CN=66 Runoff=1.12 cfs 0.076 af

Subcatchment E4S: TO CB1342 Runoff Area=60,023 sf 68.77% Impervious Runoff Depth>2.52"
Flow Length=450' Tc=2.3 min CN=86 Runoff=4.63 cfs 0.289 af

Subcatchment E5S: TO CB 1231 Runoff Area=18,247 sf 43.35% Impervious Runoff Depth>0.85"
Tc=2.0 min CN=62 Runoff=0.40 cfs 0.030 af

Subcatchment E6S: TO CB 1675 Runoff Area=13,274 sf 78.12% Impervious Runoff Depth>2.26"
Flow Length=416' Tc=4.7 min CN=83 Runoff=0.85 cfs 0.057 af

Reach 1R: WET SWALE Avg. Flow Depth=0.50' Max Vel=3.19 fps Inflow=8.60 cfs 2.792 af
n=0.050 L=1,432.0' S=0.0503 '/' Capacity=1,164.18 cfs Outflow=8.44 cfs 2.773 af

Pond 1P: TRAIL CULV. Peak Elev=575.24' Inflow=1.33 cfs 0.204 af
6.0" Round Culvert n=0.025 L=28.0' S=0.0714 '/' Outflow=1.33 cfs 0.204 af

Pond 2P: CB 1394 Peak Elev=568.50' Inflow=1.12 cfs 0.076 af
12.0" Round Culvert n=0.025 L=16.0' S=0.1125 '/' Outflow=1.12 cfs 0.076 af

Pond 3P: CB 1342 Peak Elev=574.94' Inflow=4.63 cfs 0.289 af
12.0" Round Culvert n=0.025 L=88.0' S=0.0131 '/' Outflow=4.66 cfs 0.289 af

Pond 4P: CB 1231 Peak Elev=568.50' Inflow=0.40 cfs 0.030 af
12.0" Round Culvert n=0.025 L=58.0' S=0.0157 '/' Outflow=0.40 cfs 0.030 af

Pond 5P: CT. ST. CB1675 Peak Elev=505.19' Inflow=0.85 cfs 0.057 af
15.0" Round Culvert n=0.025 L=68.0' S=0.0172 '/' Outflow=0.85 cfs 0.057 af

Link OP1: COURT ST. BOX CULV. Inflow=8.51 cfs 2.830 af
Primary=8.51 cfs 2.830 af

Total Runoff Area = 69.706 ac Runoff Volume = 2.850 af Average Runoff Depth = 0.49"
94.61% Pervious = 65.950 ac 5.39% Impervious = 3.756 ac

Time span=0.01-24.00 hrs, dt=0.01 hrs, 2400 points x 4
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E1S: to Trail culvert Runoff Area=207,607 sf 0.00% Impervious Runoff Depth>1.37"
Flow Length=587' Tc=14.7 min CN=55 Runoff=5.05 cfs 0.544 af

Subcatchment E2S: TO SWALE Runoff Area=2,699,870 sf 3.21% Impervious Runoff Depth>1.21"
Flow Length=2,596' Tc=58.0 min CN=53 Runoff=29.93 cfs 6.233 af

Subcatchment E3S: TO CB 1394 Runoff Area=37,371 sf 46.41% Impervious Runoff Depth>2.26"
Tc=2.0 min CN=66 Runoff=2.57 cfs 0.161 af

Subcatchment E4S: TO CB1342 Runoff Area=60,023 sf 68.77% Impervious Runoff Depth>4.17"
Flow Length=450' Tc=2.3 min CN=86 Runoff=7.54 cfs 0.479 af

Subcatchment E5S: TO CB 1231 Runoff Area=18,247 sf 43.35% Impervious Runoff Depth>1.92"
Tc=2.0 min CN=62 Runoff=1.04 cfs 0.067 af

Subcatchment E6S: TO CB 1675 Runoff Area=13,274 sf 78.12% Impervious Runoff Depth>3.86"
Flow Length=416' Tc=4.7 min CN=83 Runoff=1.43 cfs 0.098 af

Reach 1R: WET SWALE Avg. Flow Depth=0.93' Max Vel=4.78 fps Inflow=32.21 cfs 7.484 af
n=0.050 L=1,432.0' S=0.0503 '/' Capacity=1,164.18 cfs Outflow=31.92 cfs 7.451 af

Pond 1P: TRAIL CULV. Peak Elev=668.08' Inflow=5.05 cfs 0.544 af
6.0" Round Culvert n=0.025 L=28.0' S=0.0714 '/' Outflow=5.05 cfs 0.544 af

Pond 2P: CB 1394 Peak Elev=569.23' Inflow=2.57 cfs 0.161 af
12.0" Round Culvert n=0.025 L=16.0' S=0.1125 '/' Outflow=2.58 cfs 0.161 af

Pond 3P: CB 1342 Peak Elev=585.84' Inflow=7.54 cfs 0.479 af
12.0" Round Culvert n=0.025 L=88.0' S=0.0131 '/' Outflow=7.54 cfs 0.479 af

Pond 4P: CB 1231 Peak Elev=568.93' Inflow=1.04 cfs 0.067 af
12.0" Round Culvert n=0.025 L=58.0' S=0.0157 '/' Outflow=1.06 cfs 0.067 af

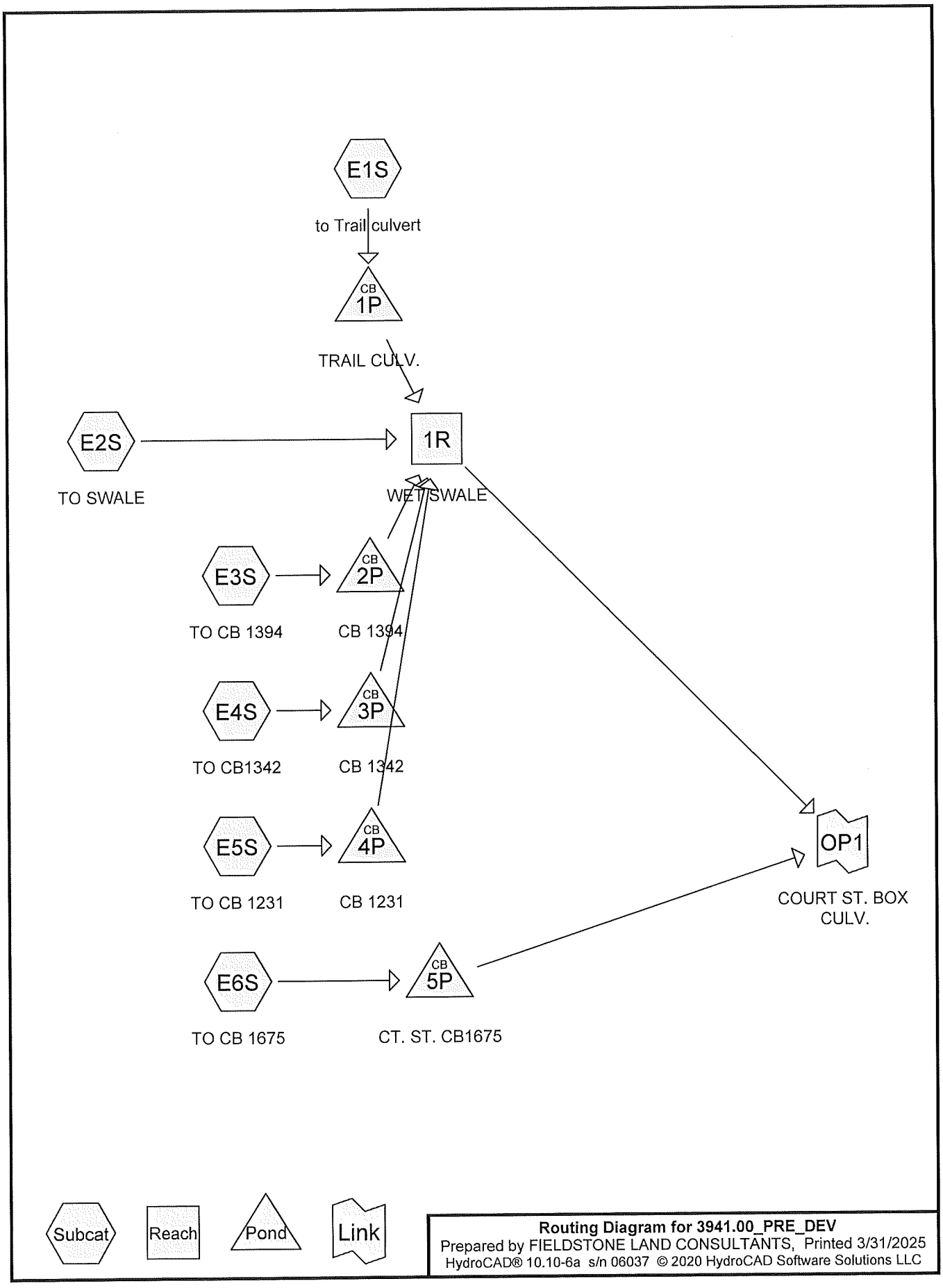
Pond 5P: CT. ST. CB1675 Peak Elev=505.35' Inflow=1.43 cfs 0.098 af
15.0" Round Culvert n=0.025 L=68.0' S=0.0172 '/' Outflow=1.43 cfs 0.098 af

Link OP1: COURT ST. BOX CULV. Inflow=32.05 cfs 7.549 af
Primary=32.05 cfs 7.549 af

Total Runoff Area = 69.706 ac Runoff Volume = 7.582 af Average Runoff Depth = 1.31"
94.61% Pervious = 65.950 ac 5.39% Impervious = 3.756 ac

Section 1.2

Existing Conditions
25 Year Storm Full Summary



Routing Diagram for 3941.00_PRE_DEV
Prepared by FIELDSTONE LAND CONSULTANTS, Printed 3/31/2025
HydroCAD® 10.10-6a s/n 06037 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.328	39	>75% Grass cover, Good, HSG A (E2S, E3S, E5S)
1.812	61	>75% Grass cover, Good, HSG B (E2S, E4S)
4.546	58	Meadow, non-grazed, HSG B (E2S)
3.756	98	Paved parking, HSG B (E2S, E3S, E4S, E5S, E6S)
8.258	30	Woods, Good, HSG A (E2S, E3S, E5S, E6S)
50.006	55	Woods, Good, HSG B (E1S, E2S, E4S)
69.706	**54**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
9.586	HSG A	E2S, E3S, E5S, E6S
60.119	HSG B	E1S, E2S, E3S, E4S, E5S, E6S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
69.706		**TOTAL AREA**

Time span=0.01-24.00 hrs, dt=0.01 hrs, 2400 points x 4
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E1S: to Trail culvert Runoff Area=207,607 sf 0.00% Impervious Runoff Depth>0.93"
Flow Length=587' Tc=14.7 min CN=55 Runoff=3.07 cfs 0.368 af

Subcatchment E2S: TO SWALE Runoff Area=2,699,870 sf 3.21% Impervious Runoff Depth>0.80"
Flow Length=2,596' Tc=58.0 min CN=53 Runoff=17.87 cfs 4.116 af

Subcatchment E3S: TO CB 1394 Runoff Area=37,371 sf 46.41% Impervious Runoff Depth>1.66"
Tc=2.0 min CN=66 Runoff=1.84 cfs 0.119 af

Subcatchment E4S: TO CB1342 Runoff Area=60,023 sf 68.77% Impervious Runoff Depth>3.37"
Flow Length=450' Tc=2.3 min CN=86 Runoff=6.15 cfs 0.387 af

Subcatchment E5S: TO CB 1231 Runoff Area=18,247 sf 43.35% Impervious Runoff Depth>1.38"
Tc=2.0 min CN=62 Runoff=0.72 cfs 0.048 af

Subcatchment E6S: TO CB 1675 Runoff Area=13,274 sf 78.12% Impervious Runoff Depth>3.08"
Flow Length=416' Tc=4.7 min CN=83 Runoff=1.15 cfs 0.078 af

Reach 1R: WET SWALE Avg. Flow Depth=0.73' Max Vel=4.10 fps Inflow=19.45 cfs 5.038 af
n=0.050 L=1,432.0' S=0.0503 '/' Capacity=1,164.18 cfs Outflow=19.21 cfs 5.012 af

Pond 1P: TRAIL CULV. Peak Elev=605.32' Inflow=3.07 cfs 0.368 af
6.0" Round Culvert n=0.025 L=28.0' S=0.0714 '/' Outflow=3.07 cfs 0.368 af

Pond 2P: CB 1394 Peak Elev=568.79' Inflow=1.84 cfs 0.119 af
12.0" Round Culvert n=0.025 L=16.0' S=0.1125 '/' Outflow=1.85 cfs 0.119 af

Pond 3P: CB 1342 Peak Elev=580.06' Inflow=6.15 cfs 0.387 af
12.0" Round Culvert n=0.025 L=88.0' S=0.0131 '/' Outflow=6.18 cfs 0.387 af

Pond 4P: CB 1231 Peak Elev=568.74' Inflow=0.72 cfs 0.048 af
12.0" Round Culvert n=0.025 L=58.0' S=0.0157 '/' Outflow=0.75 cfs 0.048 af

Pond 5P: CT. ST. CB1675 Peak Elev=505.28' Inflow=1.15 cfs 0.078 af
15.0" Round Culvert n=0.025 L=68.0' S=0.0172 '/' Outflow=1.15 cfs 0.078 af

Link OP1: COURT ST. BOX CULV. Inflow=19.31 cfs 5.090 af
Primary=19.31 cfs 5.090 af

Total Runoff Area = 69.706 ac Runoff Volume = 5.116 af Average Runoff Depth = 0.88"
94.61% Pervious = 65.950 ac 5.39% Impervious = 3.756 ac

Summary for Subcatchment E1S: to Trail culvert

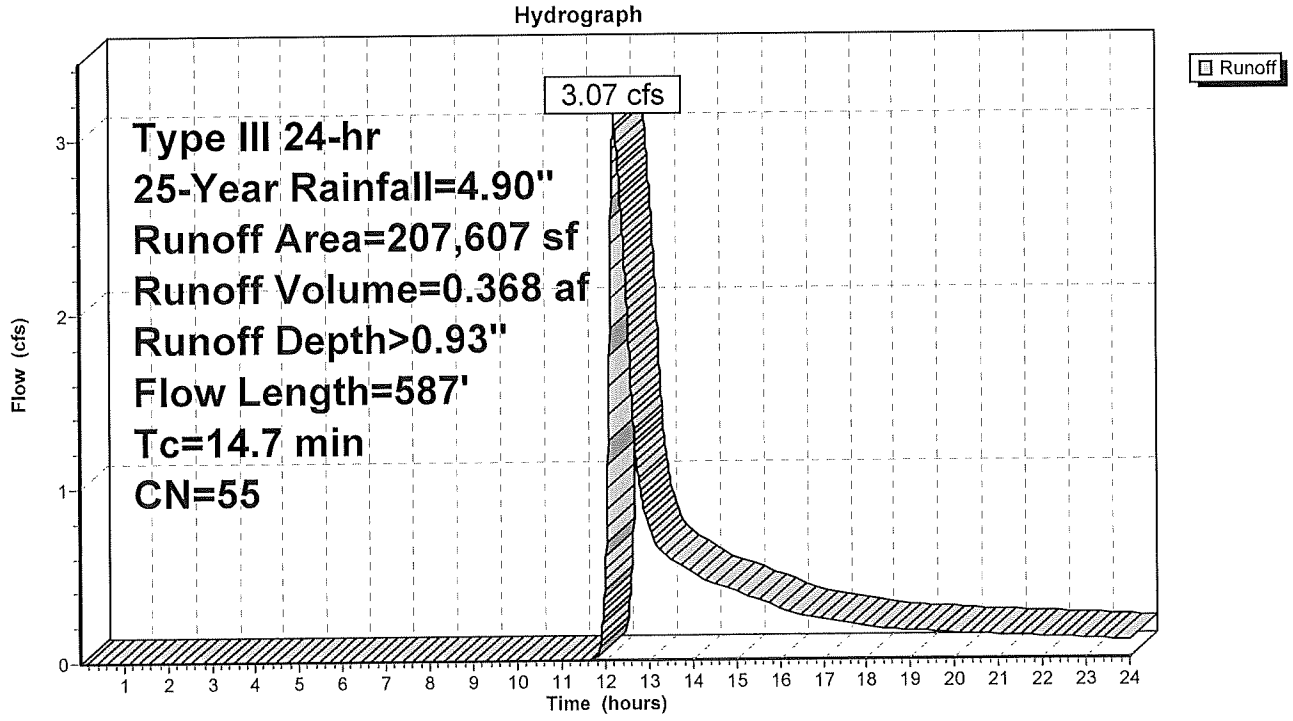
Runoff = 3.07 cfs @ 12.24 hrs, Volume= 0.368 af, Depth> 0.93"
Routed to Pond 1P : TRAIL CULV.

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.01-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
207,607	55	Woods, Good, HSG B
207,607		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.1400	0.16		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 2.92"
1.1	126	0.1580	1.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
1.9	158	0.0760	1.38		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
1.4	203	0.2360	2.43		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
14.7	587	Total			

Subcatchment E1S: to Trail culvert



Summary for Subcatchment E2S: TO SWALE

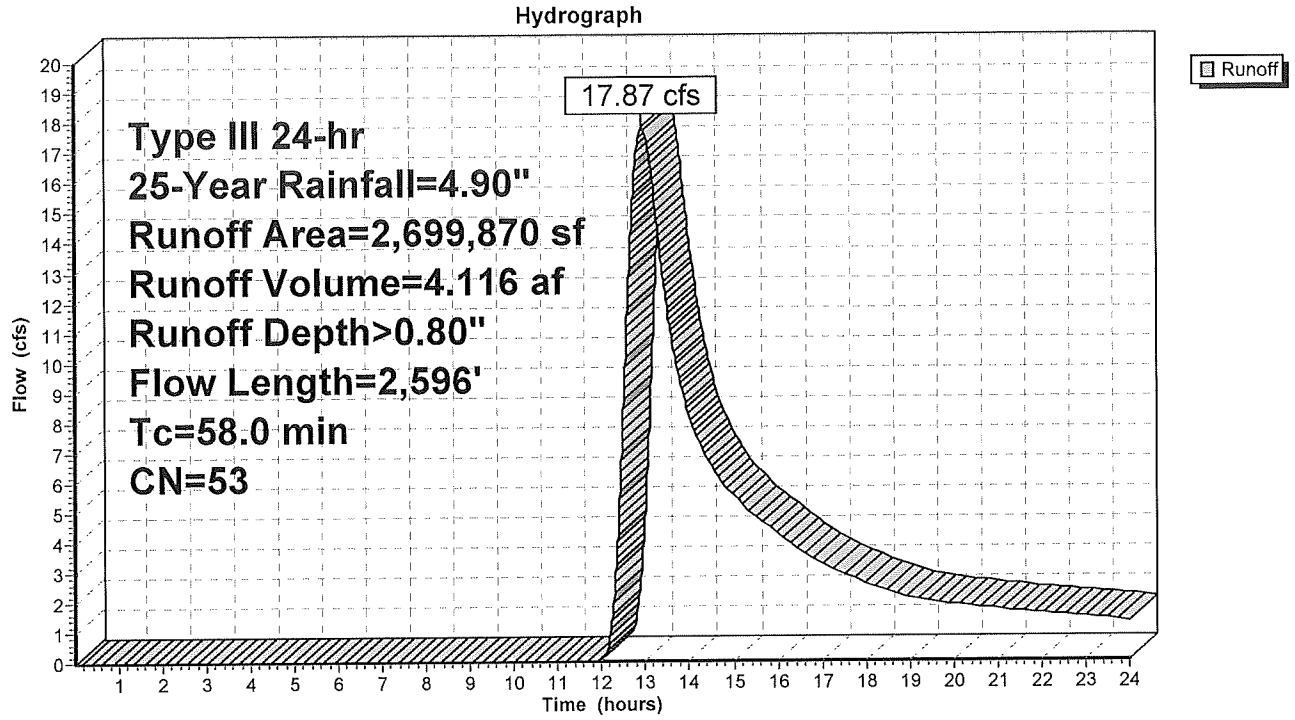
Runoff = 17.87 cfs @ 12.95 hrs, Volume= 4.116 af, Depth> 0.80"
Routed to Reach 1R : WET SWALE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.01-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
86,701	98	Paved parking, HSG B
349,312	30	Woods, Good, HSG A
35,006	39	>75% Grass cover, Good, HSG A
1,965,023	55	Woods, Good, HSG B
65,801	61	>75% Grass cover, Good, HSG B
198,027	58	Meadow, non-grazed, HSG B
2,699,870	53	Weighted Average
2,613,169		96.79% Pervious Area
86,701		3.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0300	0.09		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 2.92"
13.2	1,158	0.0860	1.47		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
25.7	1,338	0.0300	0.87		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
58.0	2,596	Total			

Subcatchment E2S: TO SWALE



Summary for Subcatchment E3S: TO CB 1394

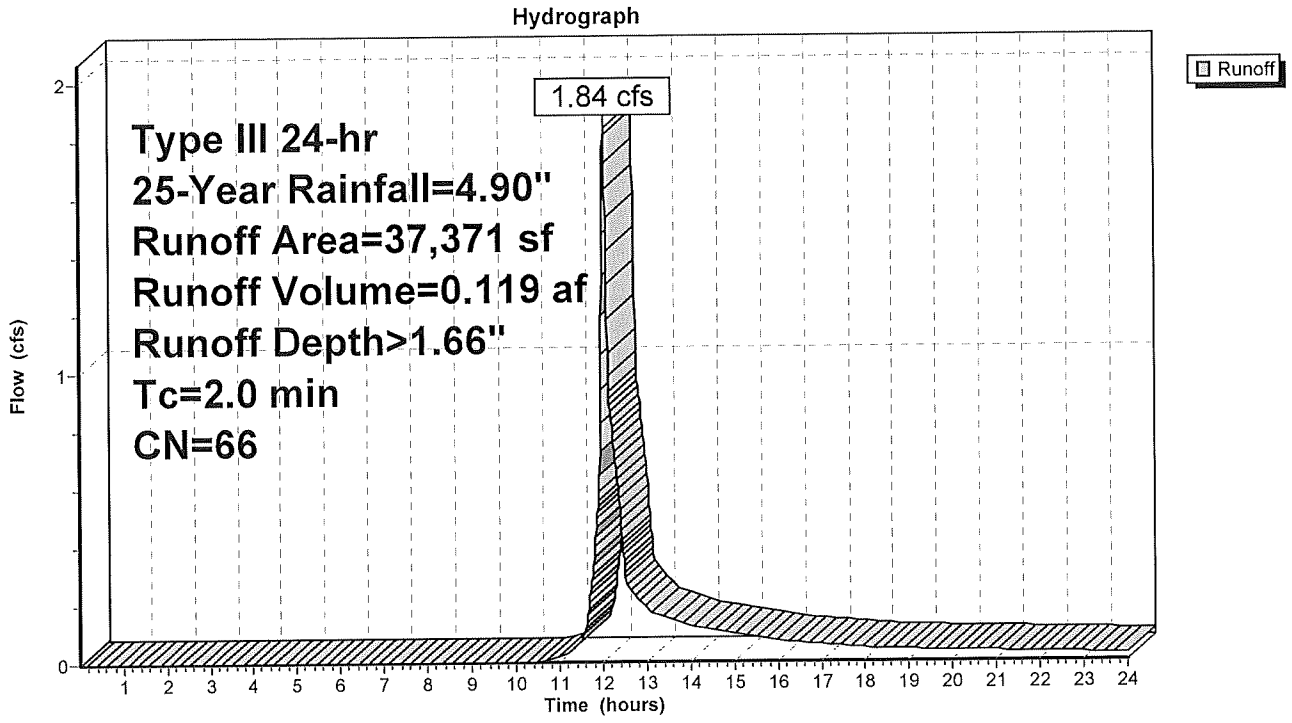
Runoff = 1.84 cfs @ 12.04 hrs, Volume= 0.119 af, Depth> 1.66"
Routed to Pond 2P : CB 1394

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.01-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
17,343	98	Paved parking, HSG B
2,492	30	Woods, Good, HSG A
17,536	39	>75% Grass cover, Good, HSG A
37,371	66	Weighted Average
20,028		53.59% Pervious Area
17,343		46.41% Impervious Area

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

Subcatchment E3S: TO CB 1394



Summary for Subcatchment E4S: TO CB1342

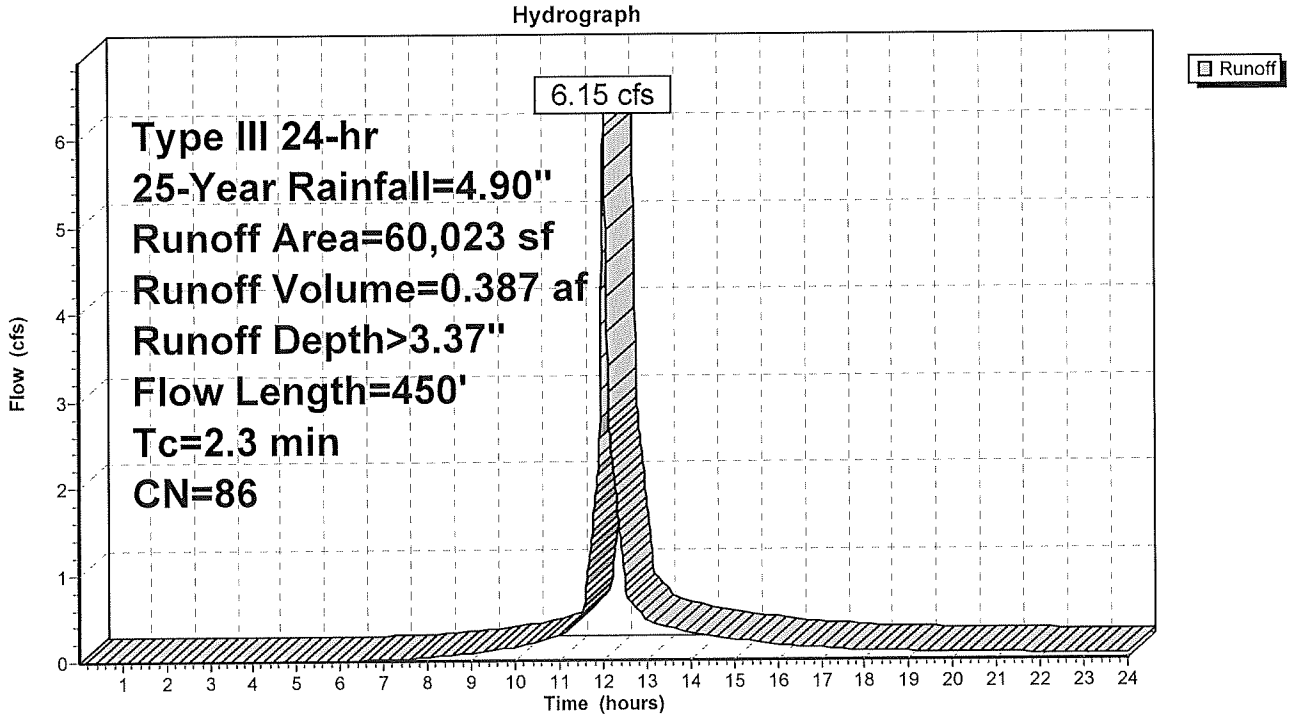
Runoff = 6.15 cfs @ 12.03 hrs, Volume= 0.387 af, Depth> 3.37"
Routed to Pond 3P : CB 1342

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.01-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
41,275	98	Paved parking, HSG B
13,138	61	>75% Grass cover, Good, HSG B
5,610	55	Woods, Good, HSG B
60,023	86	Weighted Average
18,748		31.23% Pervious Area
41,275		68.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	25	0.0100	0.75		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.92"
1.7	425	0.0420	4.16		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
2.3	450	Total			

Subcatchment E4S: TO CB1342



Summary for Subcatchment E5S: TO CB 1231

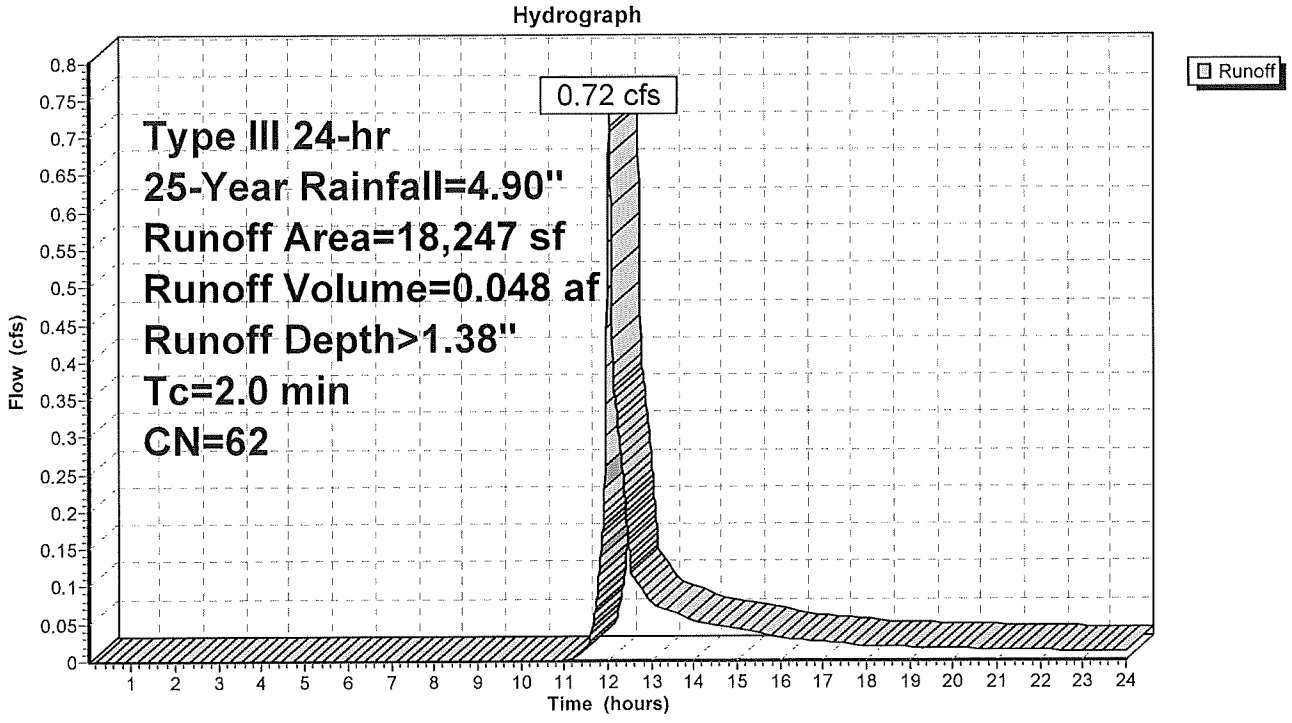
Runoff = 0.72 cfs @ 12.04 hrs, Volume= 0.048 af, Depth> 1.38"
Routed to Pond 4P : CB 1231

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.01-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
7,910	98	Paved parking, HSG B
5,325	39	>75% Grass cover, Good, HSG A
5,012	30	Woods, Good, HSG A
18,247	62	Weighted Average
10,337		56.65% Pervious Area
7,910		43.35% Impervious Area

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

Subcatchment E5S: TO CB 1231



Summary for Subcatchment E6S: TO CB 1675

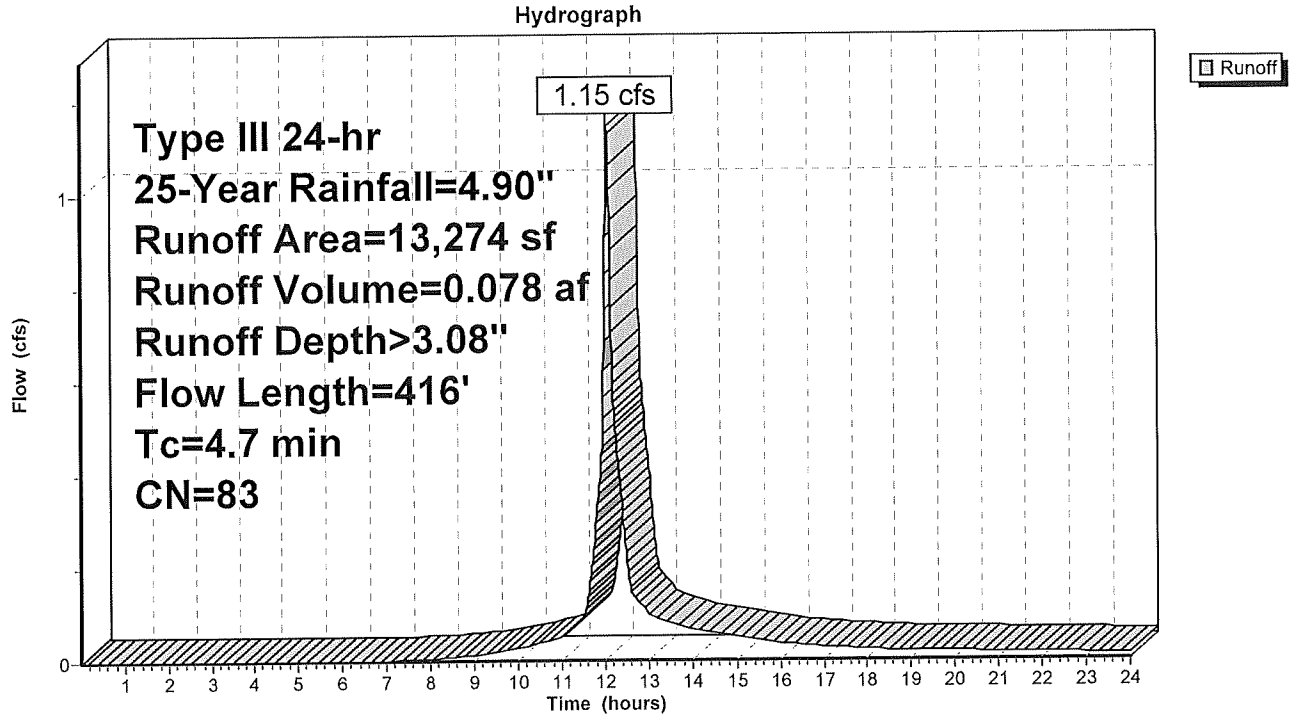
Runoff = 1.15 cfs @ 12.07 hrs, Volume= 0.078 af, Depth> 3.08"
Routed to Pond 5P : CT. ST. CB1675

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.01-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
10,370	98	Paved parking, HSG B
2,904	30	Woods, Good, HSG A
13,274	83	Weighted Average
2,904		21.88% Pervious Area
10,370		78.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	100	0.0050	0.75		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.92"
2.5	316	0.0200	2.12		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
4.7	416	Total			

Subcatchment E6S: TO CB 1675



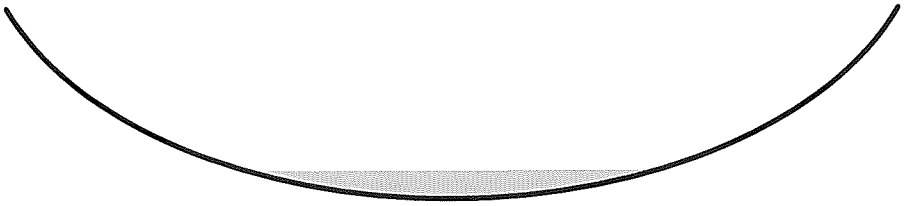
Summary for Reach 1R: WET SWALE

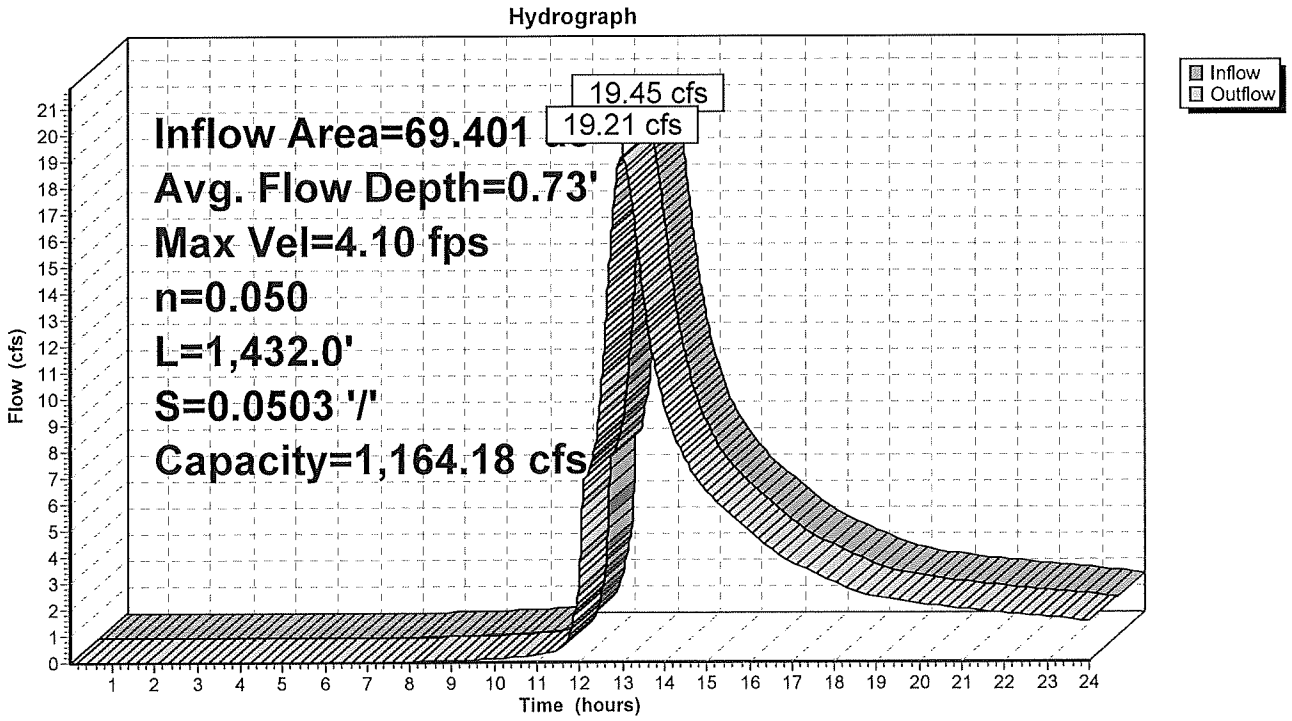
Inflow Area = 69.401 ac, 5.07% Impervious, Inflow Depth > 0.87" for 25-Year event
Inflow = 19.45 cfs @ 12.95 hrs, Volume= 5.038 af
Outflow = 19.21 cfs @ 13.00 hrs, Volume= 5.012 af, Atten= 1%, Lag= 3.0 min
Routed to Link OP1 : COURT ST. BOX CULV.

Routing by Dyn-Stor-Ind method, Time Span= 0.01-24.00 hrs, dt= 0.01 hrs / 4
Max. Velocity= 4.10 fps, Min. Travel Time= 5.8 min
Avg. Velocity = 1.98 fps, Avg. Travel Time= 12.0 min

Peak Storage= 6,711 cf @ 13.00 hrs
Average Depth at Peak Storage= 0.73' , Surface Width= 9.58'
Bank-Full Depth= 5.00' Flow Area= 83.3 sf, Capacity= 1,164.18 cfs

25.00' x 5.00' deep Parabolic Channel, n= 0.050 Mountain streams w/large boulders
Length= 1,432.0' Slope= 0.0503 '/'
Inlet Invert= 568.00', Outlet Invert= 496.00'





Summary for Pond 1P: TRAIL CULV.

APPEARS TO BE A HEADWALL AND CRUSHED CULVERT OR STONE UNDERDRAIN UNDER TRAIL

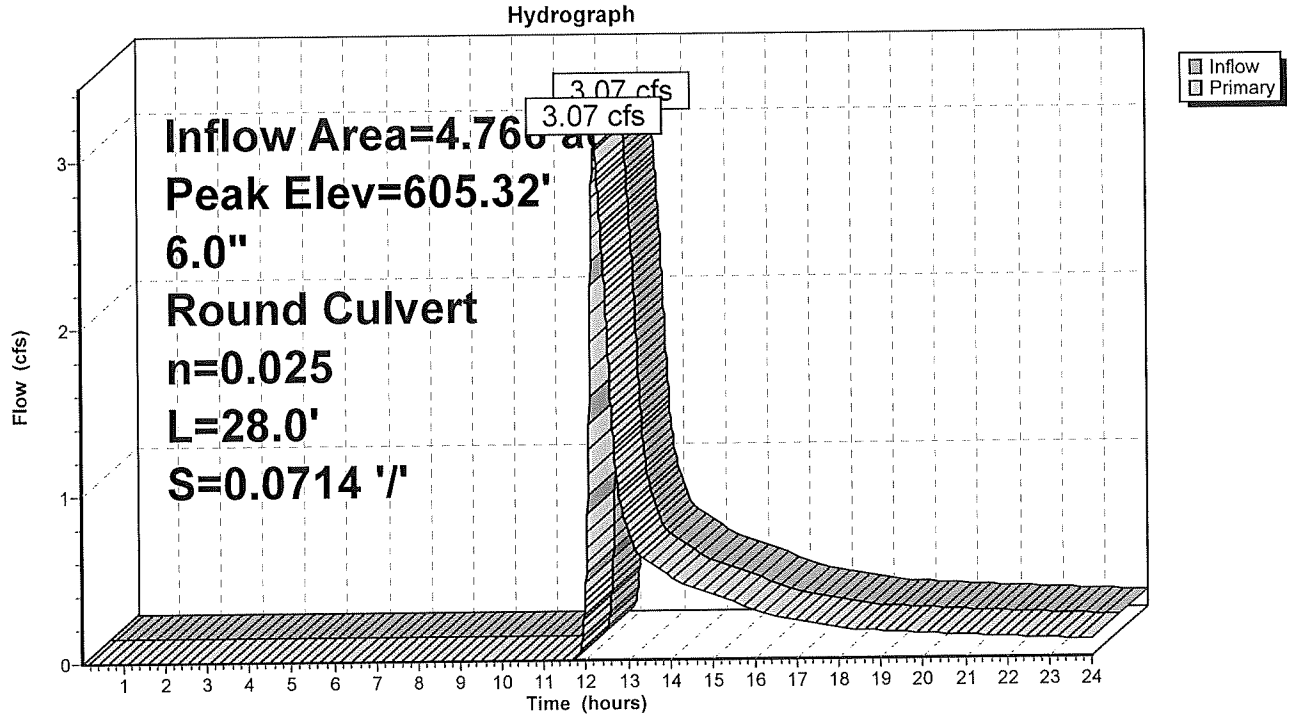
Inflow Area = 4.766 ac, 0.00% Impervious, Inflow Depth > 0.93" for 25-Year event
Inflow = 3.07 cfs @ 12.24 hrs, Volume= 0.368 af
Outflow = 3.07 cfs @ 12.24 hrs, Volume= 0.368 af, Atten= 0%, Lag= 0.0 min
Primary = 3.07 cfs @ 12.24 hrs, Volume= 0.368 af
Routed to Reach 1R : WET SWALE

Routing by Dyn-Stor-Ind method, Time Span= 0.01-24.00 hrs, dt= 0.01 hrs / 4
Peak Elev= 605.32' @ 12.24 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	542.00'	**6.0" Round Culvert** L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 542.00' / 540.00' S= 0.0714 '/' Cc= 0.900 n= 0.025 Rubble masonry, cemented, Flow Area= 0.20 sf

Primary OutFlow Max=3.07 cfs @ 12.24 hrs HW=605.29' TW=568.47' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 3.07 cfs @ 15.64 fps)

Pond 1P: TRAIL CULV.



Summary for Pond 2P: CB 1394

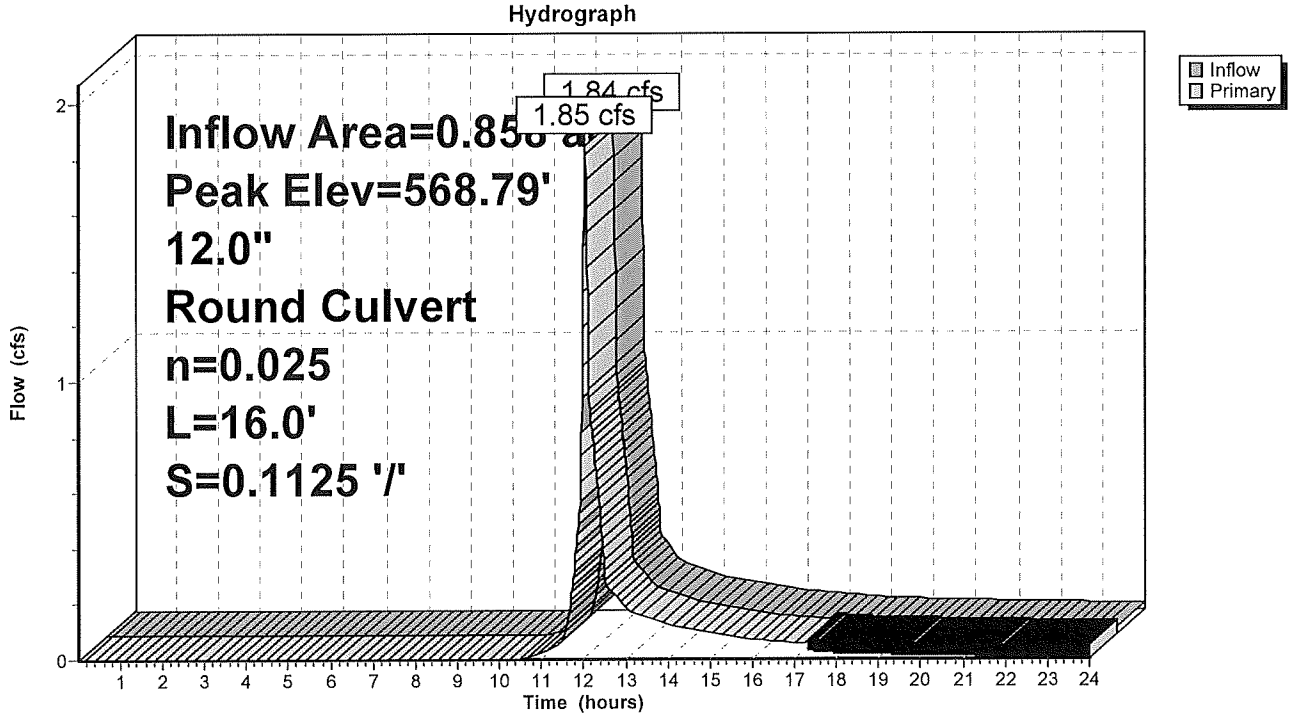
Inflow Area = 0.858 ac, 46.41% Impervious, Inflow Depth > 1.66" for 25-Year event
Inflow = 1.84 cfs @ 12.04 hrs, Volume= 0.119 af
Outflow = 1.85 cfs @ 12.04 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.1 min
Primary = 1.85 cfs @ 12.04 hrs, Volume= 0.119 af
Routed to Reach 1R : WET SWALE

Routing by Dyn-Stor-Ind method, Time Span= 0.01-24.00 hrs, dt= 0.01 hrs / 4
Peak Elev= 568.79' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	520.70'	**12.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 520.70' / 518.90' S= 0.1125 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf

Primary OutFlow Max=1.84 cfs @ 12.04 hrs HW=568.78' TW=568.40' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.84 cfs @ 2.34 fps)

Pond 2P: CB 1394



Summary for Pond 3P: CB 1342

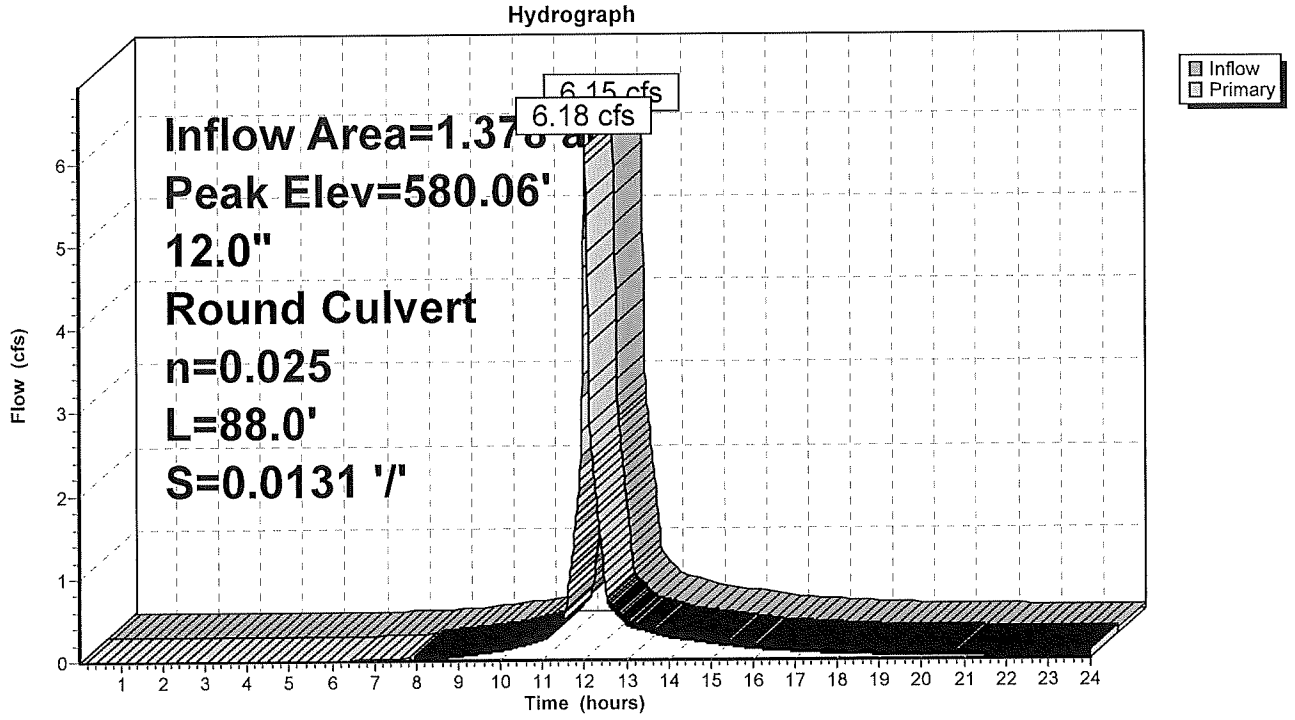
Inflow Area = 1.378 ac, 68.77% Impervious, Inflow Depth > 3.37" for 25-Year event
Inflow = 6.15 cfs @ 12.03 hrs, Volume= 0.387 af
Outflow = 6.18 cfs @ 12.03 hrs, Volume= 0.387 af, Atten= 0%, Lag= 0.0 min
Primary = 6.18 cfs @ 12.03 hrs, Volume= 0.387 af
Routed to Reach 1R : WET SWALE

Routing by Dyn-Stor-Ind method, Time Span= 0.01-24.00 hrs, dt= 0.01 hrs / 4
Peak Elev= 580.06' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	517.37'	**12.0" Round Culvert** L= 88.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 517.37' / 516.22' S= 0.0131 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf

Primary OutFlow Max=6.15 cfs @ 12.03 hrs HW=579.93' TW=568.40' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 6.15 cfs @ 7.83 fps)

Pond 3P: CB 1342



Summary for Pond 4P: CB 1231

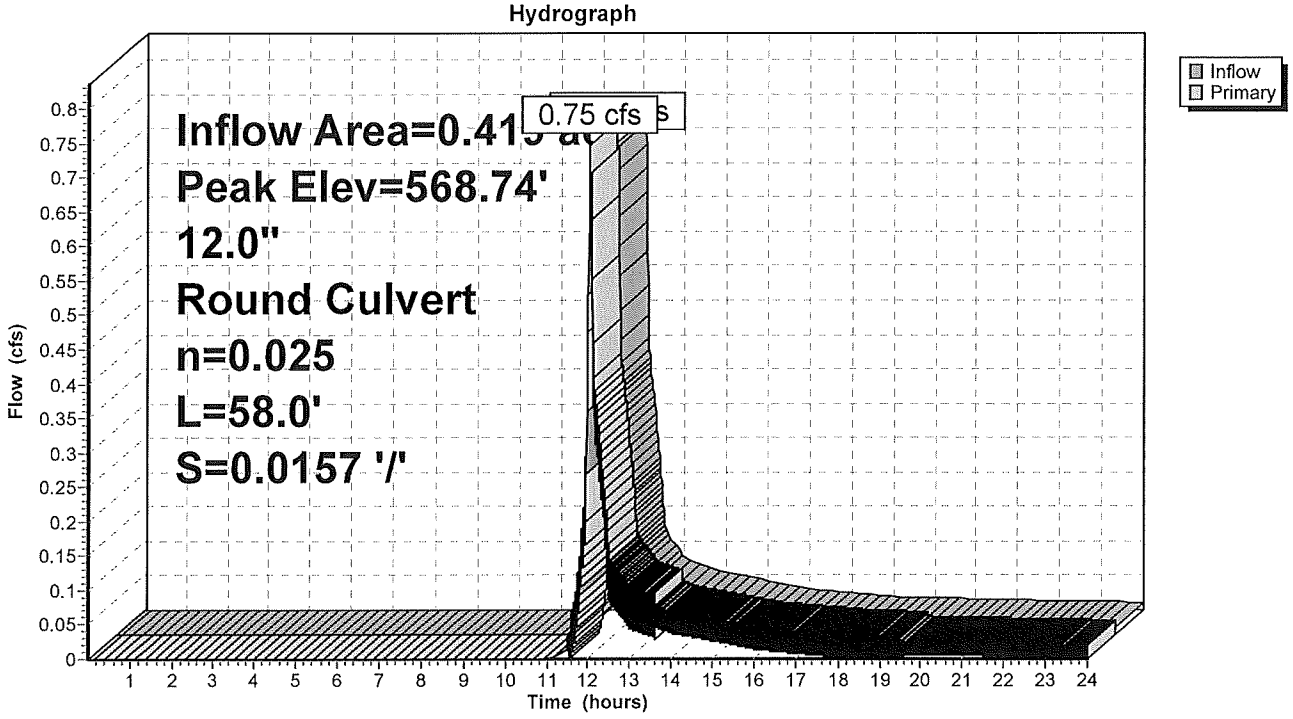
Inflow Area = 0.419 ac, 43.35% Impervious, Inflow Depth > 1.38" for 25-Year event
Inflow = 0.72 cfs @ 12.04 hrs, Volume= 0.048 af
Outflow = 0.75 cfs @ 12.04 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.1 min
Primary = 0.75 cfs @ 12.04 hrs, Volume= 0.048 af
Routed to Reach 1R : WET SWALE

Routing by Dyn-Stor-Ind method, Time Span= 0.01-24.00 hrs, dt= 0.01 hrs / 4
Peak Elev= 568.74' @ 13.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	513.91'	**12.0" Round Culvert** L= 58.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 513.91' / 513.00' S= 0.0157 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf

Primary OutFlow Max=0.74 cfs @ 12.04 hrs HW=568.52' TW=568.41' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.74 cfs @ 0.95 fps)

Pond 4P: CB 1231



Summary for Pond 5P: CT. ST. CB1675

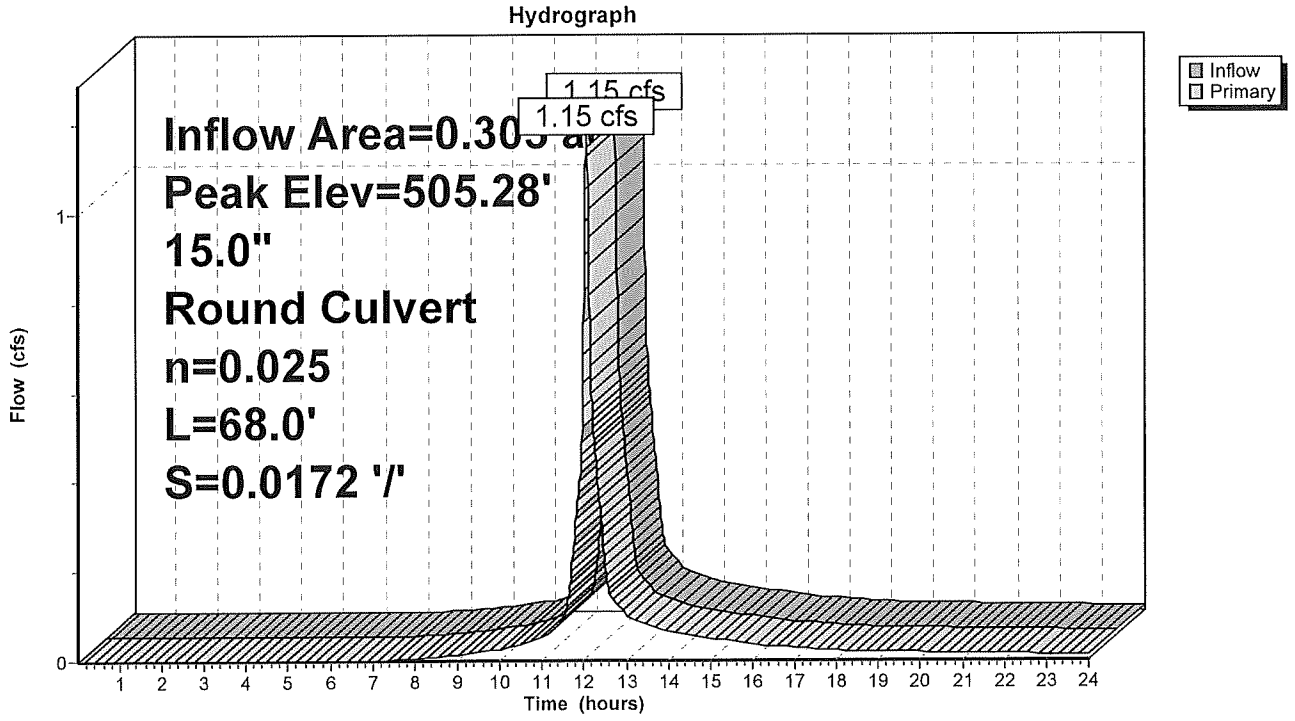
Inflow Area = 0.305 ac, 78.12% Impervious, Inflow Depth > 3.08" for 25-Year event
Inflow = 1.15 cfs @ 12.07 hrs, Volume= 0.078 af
Outflow = 1.15 cfs @ 12.07 hrs, Volume= 0.078 af, Atten= 0%, Lag= 0.0 min
Primary = 1.15 cfs @ 12.07 hrs, Volume= 0.078 af
Routed to Link OP1 : COURT ST. BOX CULV.

Routing by Dyn-Stor-Ind method, Time Span= 0.01-24.00 hrs, dt= 0.01 hrs / 4
Peak Elev= 505.28' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	504.69'	**15.0" Round Culvert** L= 68.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 504.69' / 503.52' S= 0.0172 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=1.15 cfs @ 12.07 hrs HW=505.28' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 1.15 cfs @ 2.96 fps)

Pond 5P: CT. ST. CB1675



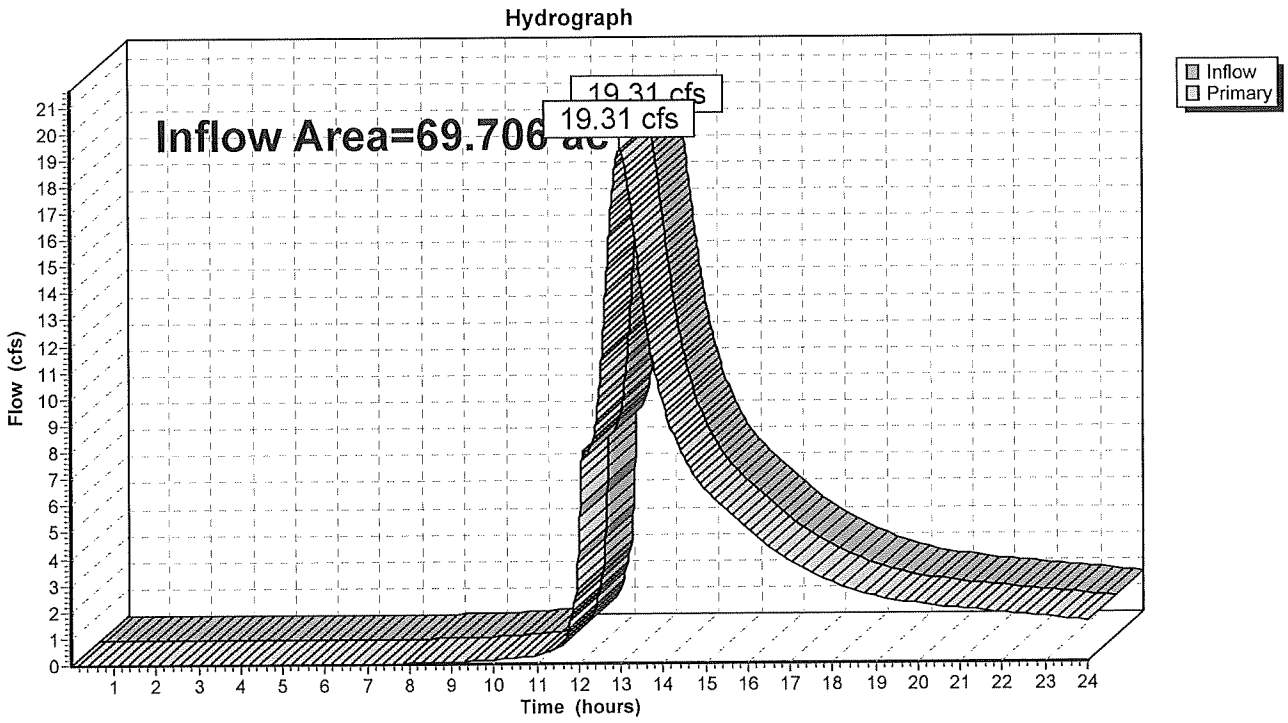
Summary for Link OP1: COURT ST. BOX CULV.

OVERALL WETLAND TO THE NORTHEAST OF PROPERTY

Inflow Area = 69.706 ac, 5.39% Impervious, Inflow Depth > 0.88" for 25-Year event
Inflow = 19.31 cfs @ 13.00 hrs, Volume= 5.090 af
Primary = 19.31 cfs @ 13.00 hrs, Volume= 5.090 af, Atten= 0%, Lag= 0.0 min

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

Link OP1: COURT ST. BOX CULV.



Section 2.1

Proposed Conditions
2, 10, 50 Year Storm Node List

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment101S: TO TS1 Runoff Area=16,804 sf 24.84% Impervious Runoff Depth=0.11"
Tc=6.0 min CN=54 Runoff=0.01 cfs 0.004 af

Subcatchment102S: TO CB4/5 Runoff Area=15,615 sf 51.69% Impervious Runoff Depth=0.90"
Tc=6.0 min CN=77 Runoff=0.36 cfs 0.027 af

Subcatchment103S: TO CB3 Runoff Area=22,075 sf 34.83% Impervious Runoff Depth=0.25"
Tc=6.0 min CN=60 Runoff=0.06 cfs 0.010 af

Subcatchment104S: TO WP1 Runoff Area=10,095 sf 0.00% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment201S: TO TS4 Runoff Area=135,954 sf 2.97% Impervious Runoff Depth=0.30"
Flow Length=865' Tc=13.6 min CN=62 Runoff=0.46 cfs 0.079 af

Subcatchment202S: TO TS2 Runoff Area=10,362 sf 8.05% Impervious Runoff Depth=0.04"
Tc=6.0 min CN=49 Runoff=0.00 cfs 0.001 af

Subcatchment203S: ALL HOUSES Runoff Area=28,530 sf 100.00% Impervious Runoff Depth=2.52"
Tc=6.0 min CN=98 Runoff=1.74 cfs 0.138 af

Subcatchment204S: TO WP2 Runoff Area=15,081 sf 3.07% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=41 Runoff=0.00 cfs 0.000 af

Subcatchment205S: CIRCLE Runoff Area=18,309 sf 56.20% Impervious Runoff Depth=0.95"
Tc=6.0 min CN=78 Runoff=0.45 cfs 0.033 af

Subcatchment206S: R HOUSES P2 Runoff Area=131,411 sf 0.00% Impervious Runoff Depth=0.00"
Tc=2.0 min CN=44 Runoff=0.00 cfs 0.001 af

Subcatchment301S: TO TS5 Runoff Area=77,170 sf 9.96% Impervious Runoff Depth=0.25"
Tc=6.0 min CN=60 Runoff=0.20 cfs 0.037 af

Subcatchment302S: UPHILL OF SWALE Runoff Area=192,173 sf 0.00% Impervious Runoff Depth=0.13"
Flow Length=660' Tc=12.2 min CN=55 Runoff=0.14 cfs 0.049 af

SubcatchmentE1S: to Trail culvert Runoff Area=207,607 sf 0.00% Impervious Runoff Depth=0.13"
Flow Length=587' Tc=14.7 min CN=55 Runoff=0.14 cfs 0.053 af

SubcatchmentE2S: TO SWALE Runoff Area=2,026,299 sf 4.28% Impervious Runoff Depth=0.13"
Flow Length=2,598' Tc=71.2 min CN=55 Runoff=0.91 cfs 0.517 af

SubcatchmentE3S: TO CB 1394 Runoff Area=37,371 sf 46.41% Impervious Runoff Depth=0.43"
Tc=2.0 min CN=66 Runoff=0.35 cfs 0.031 af

SubcatchmentE4S: TO CB1342 Runoff Area=60,023 sf 68.77% Impervious Runoff Depth=1.45"
Flow Length=450' Tc=2.3 min CN=86 Runoff=2.68 cfs 0.167 af

Subcatchment E5S: TO CB 1231 Runoff Area=18,247 sf 43.35% Impervious Runoff Depth=0.30"
Tc=2.0 min CN=62 Runoff=0.08 cfs 0.011 af

Subcatchment E6S: TO CB 1675 Runoff Area=13,274 sf 82.63% Impervious Runoff Depth=1.45"
Flow Length=416' Tc=4.7 min CN=86 Runoff=0.54 cfs 0.037 af

Reach 1A: SWALE UPSTREAM Avg. Flow Depth=0.19' Max Vel=1.60 fps Inflow=0.99 cfs 0.566 af
n=0.050 L=925.0' S=0.0454 '/' Capacity=1,106.31 cfs Outflow=0.99 cfs 0.566 af

Reach 1B: SWALE ON SITE Avg. Flow Depth=0.29' Max Vel=2.41 fps Inflow=3.09 cfs 0.827 af
n=0.050 L=367.0' S=0.0586 '/' Capacity=1,256.64 cfs Outflow=2.81 cfs 0.827 af

Reach 1C: SWALE DOWNSTREAM Avg. Flow Depth=0.32' Max Vel=2.29 fps Inflow=2.81 cfs 0.837 af
n=0.050 L=85.0' S=0.0471 '/' Capacity=1,491.07 cfs Outflow=2.80 cfs 0.837 af

Reach 101R: TS1 Avg. Flow Depth=0.03' Max Vel=0.06 fps Inflow=0.01 cfs 0.004 af
n=0.150 L=100.0' S=0.0050 '/' Capacity=3.78 cfs Outflow=0.01 cfs 0.004 af

Reach 201R: TS4-DITCH Avg. Flow Depth=0.28' Max Vel=0.56 fps Inflow=0.46 cfs 0.079 af
n=0.150 L=160.0' S=0.0250 '/' Capacity=5.58 cfs Outflow=0.45 cfs 0.079 af

Reach 202R: TS2 Avg. Flow Depth=0.00' Max Vel=0.10 fps Inflow=0.00 cfs 0.001 af
n=0.150 L=130.0' S=0.0500 '/' Capacity=9.91 cfs Outflow=0.00 cfs 0.001 af

Reach 203R: TS3 Avg. Flow Depth=0.18' Max Vel=0.30 fps Inflow=0.45 cfs 0.034 af
n=0.150 L=125.0' S=0.0100 '/' Capacity=7.23 cfs Outflow=0.36 cfs 0.034 af

Reach 301R: TS5 Avg. Flow Depth=0.11' Max Vel=0.37 fps Inflow=0.20 cfs 0.037 af
n=0.150 L=475.0' S=0.0305 '/' Capacity=7.74 cfs Outflow=0.13 cfs 0.037 af

Pond 1P: GRAVEL WETLAND WP1 Peak Elev=509.08' Storage=1,351 cf Inflow=0.39 cfs 0.037 af
Primary=0.01 cfs 0.007 af Secondary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.007 af

Pond 2P: GRAVEL WETLAND WP2 Peak Elev=514.66' Storage=1,405 cf Inflow=0.36 cfs 0.034 af
Primary=0.01 cfs 0.003 af Secondary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.003 af

Pond 3P: INFIL. TRENCH IB1 Peak Elev=506.40' Storage=0 cf Inflow=0.01 cfs 0.004 af
Discarded=0.01 cfs 0.004 af Secondary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.004 af

Pond 4P: DRIP STRIPS IB4 Peak Elev=514.33' Storage=1,588 cf Inflow=1.74 cfs 0.138 af
Discarded=0.30 cfs 0.138 af Secondary=0.00 cfs 0.000 af Outflow=0.30 cfs 0.138 af

Pond 5P: CT. ST. CB1675 Peak Elev=505.09' Inflow=0.54 cfs 0.037 af
15.0" Round Culvert n=0.025 L=68.0' S=0.0172 '/' Outflow=0.54 cfs 0.037 af

Pond 6P: INFIL. TRENCH IB2 Peak Elev=504.00' Storage=0 cf Inflow=0.00 cfs 0.001 af
Discarded=0.00 cfs 0.001 af Secondary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.001 af

Pond 7P: BOX Peak Elev=538.04' Inflow=0.14 cfs 0.053 af
48.0" x 32.0" Box Culvert n=0.040 L=60.0' S=0.1000 '/' Outflow=0.14 cfs 0.053 af

Pond 8P: BOX CULVERT Peak Elev=503.34' Inflow=2.81 cfs 0.837 af
Primary=2.81 cfs 0.837 af Secondary=0.00 cfs 0.000 af Outflow=2.81 cfs 0.837 af

Pond 9P: INFIL. BASIN IB4 Peak Elev=529.01' Storage=2 cf Inflow=0.13 cfs 0.037 af
Discarded=0.13 cfs 0.037 af Primary=0.00 cfs 0.000 af Outflow=0.13 cfs 0.037 af

Pond 10P: INFIL. TRENCH IB3 Peak Elev=517.79' Storage=287 cf Inflow=0.45 cfs 0.079 af
Discarded=0.30 cfs 0.079 af Secondary=0.00 cfs 0.000 af Outflow=0.30 cfs 0.079 af

Pond 101P: PAVEMENT FLUME Peak Elev=511.43' Inflow=0.01 cfs 0.004 af
Outflow=0.01 cfs 0.004 af

Pond 102P: CB 4/5 Peak Elev=510.91' Inflow=0.36 cfs 0.027 af
12.0" Round Culvert n=0.013 L=15.0' S=0.0133 '/' Outflow=0.36 cfs 0.027 af

Pond E1P: TRAIL CULV. Peak Elev=542.23' Inflow=0.14 cfs 0.053 af
6.0" Round Culvert n=0.025 L=28.0' S=0.0714 '/' Outflow=0.14 cfs 0.053 af

Pond E2P: CB 1394 Peak Elev=525.30' Inflow=0.35 cfs 0.031 af
12.0" Round Culvert n=0.025 L=16.0' S=0.1125 '/' Outflow=0.35 cfs 0.031 af

Pond E3P: CB 1342 Peak Elev=527.48' Inflow=2.68 cfs 0.167 af
12.0" Round Culvert n=0.025 L=88.0' S=0.0131 '/' Outflow=2.68 cfs 0.167 af

Pond E4P: CB 1231 Peak Elev=525.29' Inflow=0.08 cfs 0.011 af
12.0" Round Culvert n=0.025 L=58.0' S=0.0157 '/' Outflow=0.08 cfs 0.011 af

Link OP1: COURT ST. BOX CULV. Inflow=3.34 cfs 0.874 af
Primary=3.34 cfs 0.874 af

Total Runoff Area = 69.706 ac Runoff Volume = 1.193 af Average Runoff Depth = 0.21"
92.23% Pervious = 64.289 ac 7.77% Impervious = 5.417 ac

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment101S: TO TS1 Runoff Area=16,804 sf 24.84% Impervious Runoff Depth=0.48"
Tc=6.0 min CN=54 Runoff=0.12 cfs 0.015 af

Subcatchment102S: TO CB4/5 Runoff Area=15,615 sf 51.69% Impervious Runoff Depth=1.79"
Tc=6.0 min CN=77 Runoff=0.75 cfs 0.053 af

Subcatchment103S: TO CB3 Runoff Area=22,075 sf 34.83% Impervious Runoff Depth=0.75"
Tc=6.0 min CN=60 Runoff=0.35 cfs 0.032 af

Subcatchment104S: TO WP1 Runoff Area=10,095 sf 0.00% Impervious Runoff Depth=0.04"
Tc=6.0 min CN=39 Runoff=0.00 cfs 0.001 af

Subcatchment201S: TO TS4 Runoff Area=135,954 sf 2.97% Impervious Runoff Depth=0.85"
Flow Length=865' Tc=13.6 min CN=62 Runoff=2.00 cfs 0.221 af

Subcatchment202S: TO TS2 Runoff Area=10,362 sf 8.05% Impervious Runoff Depth=0.29"
Tc=6.0 min CN=49 Runoff=0.03 cfs 0.006 af

Subcatchment203S: ALL HOUSES Runoff Area=28,530 sf 100.00% Impervious Runoff Depth=3.74"
Tc=6.0 min CN=98 Runoff=2.54 cfs 0.204 af

Subcatchment204S: TO WP2 Runoff Area=15,081 sf 3.07% Impervious Runoff Depth=0.08"
Tc=6.0 min CN=41 Runoff=0.00 cfs 0.002 af

Subcatchment205S: CIRCLE Runoff Area=18,309 sf 56.20% Impervious Runoff Depth=1.86"
Tc=6.0 min CN=78 Runoff=0.91 cfs 0.065 af

Subcatchment206S: R HOUSES P2 Runoff Area=131,411 sf 0.00% Impervious Runoff Depth=0.14"
Tc=2.0 min CN=44 Runoff=0.07 cfs 0.036 af

Subcatchment301S: TO TS5 Runoff Area=77,170 sf 9.96% Impervious Runoff Depth=0.75"
Tc=6.0 min CN=60 Runoff=1.21 cfs 0.110 af

Subcatchment302S: UPHILL OF SWALE Runoff Area=192,173 sf 0.00% Impervious Runoff Depth=0.52"
Flow Length=660' Tc=12.2 min CN=55 Runoff=1.29 cfs 0.190 af

SubcatchmentE1S: to Trail culvert Runoff Area=207,607 sf 0.00% Impervious Runoff Depth=0.52"
Flow Length=587' Tc=14.7 min CN=55 Runoff=1.33 cfs 0.206 af

SubcatchmentE2S: TO SWALE Runoff Area=2,026,299 sf 4.28% Impervious Runoff Depth=0.52"
Flow Length=2,598' Tc=71.2 min CN=55 Runoff=6.65 cfs 2.008 af

SubcatchmentE3S: TO CB 1394 Runoff Area=37,371 sf 46.41% Impervious Runoff Depth=1.07"
Tc=2.0 min CN=66 Runoff=1.12 cfs 0.076 af

SubcatchmentE4S: TO CB1342 Runoff Area=60,023 sf 68.77% Impervious Runoff Depth=2.52"
Flow Length=450' Tc=2.3 min CN=86 Runoff=4.63 cfs 0.289 af

Subcatchment E5S: TO CB 1231 Runoff Area=18,247 sf 43.35% Impervious Runoff Depth=0.85"
Tc=2.0 min CN=62 Runoff=0.40 cfs 0.030 af

Subcatchment E6S: TO CB 1675 Runoff Area=13,274 sf 82.63% Impervious Runoff Depth=2.52"
Flow Length=416' Tc=4.7 min CN=86 Runoff=0.94 cfs 0.064 af

Reach 1A: SWALE UPSTREAM Avg. Flow Depth=0.47' Max Vel=2.90 fps Inflow=6.99 cfs 2.198 af
n=0.050 L=925.0' S=0.0454 '/' Capacity=1,106.31 cfs Outflow=6.94 cfs 2.198 af

Reach 1B: SWALE ON SITE Avg. Flow Depth=0.47' Max Vel=3.28 fps Inflow=7.80 cfs 2.799 af
n=0.050 L=367.0' S=0.0586 '/' Capacity=1,256.64 cfs Outflow=7.79 cfs 2.799 af

Reach 1C: SWALE DOWNSTREAM Avg. Flow Depth=0.52' Max Vel=3.16 fps Inflow=8.04 cfs 2.896 af
n=0.050 L=85.0' S=0.0471 '/' Capacity=1,491.07 cfs Outflow=8.04 cfs 2.896 af

Reach 101R: TS1 Avg. Flow Depth=0.12' Max Vel=0.16 fps Inflow=0.12 cfs 0.015 af
n=0.150 L=100.0' S=0.0050 '/' Capacity=3.78 cfs Outflow=0.09 cfs 0.015 af

Reach 201R: TS4-DITCH Avg. Flow Depth=0.60' Max Vel=0.84 fps Inflow=2.00 cfs 0.221 af
n=0.150 L=160.0' S=0.0250 '/' Capacity=5.58 cfs Outflow=1.93 cfs 0.221 af

Reach 202R: TS2 Avg. Flow Depth=0.03' Max Vel=0.23 fps Inflow=0.03 cfs 0.006 af
n=0.150 L=130.0' S=0.0500 '/' Capacity=9.91 cfs Outflow=0.02 cfs 0.006 af

Reach 203R: TS3 Avg. Flow Depth=0.29' Max Vel=0.40 fps Inflow=0.91 cfs 0.071 af
n=0.150 L=125.0' S=0.0100 '/' Capacity=7.23 cfs Outflow=0.78 cfs 0.071 af

Reach 301R: TS5 Avg. Flow Depth=0.30' Max Vel=0.66 fps Inflow=1.21 cfs 0.110 af
n=0.150 L=475.0' S=0.0305 '/' Capacity=7.74 cfs Outflow=0.76 cfs 0.110 af

Pond 1P: GRAVEL WETLAND WP1 Peak Elev=509.39' Storage=1,551 cf Inflow=1.09 cfs 0.086 af
Primary=0.20 cfs 0.056 af Secondary=0.00 cfs 0.000 af Outflow=0.20 cfs 0.056 af

Pond 2P: GRAVEL WETLAND WP2 Peak Elev=514.92' Storage=1,540 cf Inflow=0.78 cfs 0.073 af
Primary=0.10 cfs 0.042 af Secondary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.042 af

Pond 3P: INFIL. TRENCH IB1 Peak Elev=506.41' Storage=1 cf Inflow=0.09 cfs 0.015 af
Discarded=0.09 cfs 0.015 af Secondary=0.00 cfs 0.000 af Outflow=0.09 cfs 0.015 af

Pond 4P: DRIP STRIPS IB4 Peak Elev=514.57' Storage=2,736 cf Inflow=2.54 cfs 0.204 af
Discarded=0.32 cfs 0.204 af Secondary=0.00 cfs 0.000 af Outflow=0.32 cfs 0.204 af

Pond 5P: CT. ST. CB1675 Peak Elev=505.22' Inflow=0.94 cfs 0.064 af
15.0" Round Culvert n=0.025 L=68.0' S=0.0172 '/' Outflow=0.94 cfs 0.064 af

Pond 6P: INFIL. TRENCH IB2 Peak Elev=504.81' Storage=324 cf Inflow=0.94 cfs 0.050 af
Discarded=0.35 cfs 0.050 af Secondary=0.00 cfs 0.000 af Outflow=0.35 cfs 0.050 af

Pond 7P: BOX Peak Elev=538.19' Inflow=1.33 cfs 0.206 af
48.0" x 32.0" Box Culvert n=0.040 L=60.0' S=0.1000 '/' Outflow=1.33 cfs 0.206 af

Pond 8P: BOX CULVERT Peak Elev=503.66' Inflow=8.04 cfs 2.896 af
Primary=8.04 cfs 2.896 af Secondary=0.00 cfs 0.000 af Outflow=8.04 cfs 2.896 af

Pond 9P: INFIL. BASIN IB4 Peak Elev=530.02' Storage=413 cf Inflow=0.76 cfs 0.110 af
Discarded=0.63 cfs 0.110 af Primary=0.00 cfs 0.000 af Outflow=0.63 cfs 0.110 af

Pond 10P: INFIL. TRENCH IB3 Peak Elev=520.79' Storage=1,069 cf Inflow=1.93 cfs 0.221 af
Discarded=0.87 cfs 0.207 af Secondary=0.88 cfs 0.014 af Outflow=1.75 cfs 0.221 af

Pond 101P: PAVEMENT FLUME Peak Elev=511.54' Inflow=0.12 cfs 0.015 af
Outflow=0.12 cfs 0.015 af

Pond 102P: CB 4/5 Peak Elev=511.06' Inflow=0.75 cfs 0.053 af
12.0" Round Culvert n=0.013 L=15.0' S=0.0133 '/' Outflow=0.75 cfs 0.053 af

Pond E1P: TRAIL CULV. Peak Elev=547.38' Inflow=1.33 cfs 0.206 af
6.0" Round Culvert n=0.025 L=28.0' S=0.0714 '/' Outflow=1.33 cfs 0.206 af

Pond E2P: CB 1394 Peak Elev=525.54' Inflow=1.12 cfs 0.076 af
12.0" Round Culvert n=0.025 L=16.0' S=0.1125 '/' Outflow=1.12 cfs 0.076 af

Pond E3P: CB 1342 Peak Elev=531.94' Inflow=4.63 cfs 0.289 af
12.0" Round Culvert n=0.025 L=88.0' S=0.0131 '/' Outflow=4.63 cfs 0.289 af

Pond E4P: CB 1231 Peak Elev=525.47' Inflow=0.40 cfs 0.030 af
12.0" Round Culvert n=0.025 L=58.0' S=0.0157 '/' Outflow=0.40 cfs 0.030 af

Link OP1: COURT ST. BOX CULV. Inflow=8.11 cfs 2.960 af
Primary=8.11 cfs 2.960 af

Total Runoff Area = 69.706 ac Runoff Volume = 3.608 af Average Runoff Depth = 0.62"
92.23% Pervious = 64.289 ac 7.77% Impervious = 5.417 ac

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment101S: TO TS1 Runoff Area=16,804 sf 24.84% Impervious Runoff Depth=1.30"
Tc=6.0 min CN=54 Runoff=0.50 cfs 0.042 af

Subcatchment102S: TO CB4/5 Runoff Area=15,615 sf 51.69% Impervious Runoff Depth=3.26"
Tc=6.0 min CN=77 Runoff=1.37 cfs 0.097 af

Subcatchment103S: TO CB3 Runoff Area=22,075 sf 34.83% Impervious Runoff Depth=1.76"
Tc=6.0 min CN=60 Runoff=0.98 cfs 0.074 af

Subcatchment104S: TO WP1 Runoff Area=10,095 sf 0.00% Impervious Runoff Depth=0.38"
Tc=6.0 min CN=39 Runoff=0.03 cfs 0.007 af

Subcatchment201S: TO TS4 Runoff Area=135,954 sf 2.97% Impervious Runoff Depth=1.92"
Flow Length=865' Tc=13.6 min CN=62 Runoff=5.22 cfs 0.500 af

Subcatchment202S: TO TS2 Runoff Area=10,362 sf 8.05% Impervious Runoff Depth=0.96"
Tc=6.0 min CN=49 Runoff=0.19 cfs 0.019 af

Subcatchment203S: ALL HOUSES Runoff Area=28,530 sf 100.00% Impervious Runoff Depth=5.51"
Tc=6.0 min CN=98 Runoff=3.69 cfs 0.301 af

Subcatchment204S: TO WP2 Runoff Area=15,081 sf 3.07% Impervious Runoff Depth=0.48"
Tc=6.0 min CN=41 Runoff=0.07 cfs 0.014 af

Subcatchment205S: CIRCLE Runoff Area=18,309 sf 56.20% Impervious Runoff Depth=3.36"
Tc=6.0 min CN=78 Runoff=1.66 cfs 0.118 af

Subcatchment206S: R HOUSES P2 Runoff Area=131,411 sf 0.00% Impervious Runoff Depth=0.64"
Tc=2.0 min CN=44 Runoff=1.31 cfs 0.162 af

Subcatchment301S: TO TS5 Runoff Area=77,170 sf 9.96% Impervious Runoff Depth=1.76"
Tc=6.0 min CN=60 Runoff=3.42 cfs 0.260 af

Subcatchment302S: UPHILL OF SWALE Runoff Area=192,173 sf 0.00% Impervious Runoff Depth=1.38"
Flow Length=660' Tc=12.2 min CN=55 Runoff=5.01 cfs 0.506 af

SubcatchmentE1S: to Trail culvert Runoff Area=207,607 sf 0.00% Impervious Runoff Depth=1.38"
Flow Length=587' Tc=14.7 min CN=55 Runoff=5.05 cfs 0.547 af

SubcatchmentE2S: TO SWALE Runoff Area=2,026,299 sf 4.28% Impervious Runoff Depth=1.38"
Flow Length=2,598' Tc=71.2 min CN=55 Runoff=22.91 cfs 5.335 af

SubcatchmentE3S: TO CB 1394 Runoff Area=37,371 sf 46.41% Impervious Runoff Depth=2.26"
Tc=2.0 min CN=66 Runoff=2.57 cfs 0.161 af

SubcatchmentE4S: TO CB1342 Runoff Area=60,023 sf 68.77% Impervious Runoff Depth=4.17"
Flow Length=450' Tc=2.3 min CN=86 Runoff=7.54 cfs 0.479 af

Subcatchment E5S: TO CB 1231 Runoff Area=18,247 sf 43.35% Impervious Runoff Depth=1.92"
Tc=2.0 min CN=62 Runoff=1.04 cfs 0.067 af

Subcatchment E6S: TO CB 1675 Runoff Area=13,274 sf 82.63% Impervious Runoff Depth=4.17"
Flow Length=416' Tc=4.7 min CN=86 Runoff=1.53 cfs 0.106 af

Reach 1A: SWALE UPSTREAM Avg. Flow Depth=0.83' Max Vel=4.22 fps Inflow=23.84 cfs 5.841 af
n=0.050 L=925.0' S=0.0454 '/' Capacity=1,106.31 cfs Outflow=23.71 cfs 5.841 af

Reach 1B: SWALE ON SITE Avg. Flow Depth=0.81' Max Vel=4.71 fps Inflow=25.57 cfs 7.095 af
n=0.050 L=367.0' S=0.0586 '/' Capacity=1,256.64 cfs Outflow=25.55 cfs 7.095 af

Reach 1C: SWALE DOWNSTREAM Avg. Flow Depth=0.90' Max Vel=4.53 fps Inflow=26.40 cfs 7.364 af
n=0.050 L=85.0' S=0.0471 '/' Capacity=1,491.07 cfs Outflow=26.40 cfs 7.364 af

Reach 101R: TS1 Avg. Flow Depth=0.30' Max Vel=0.28 fps Inflow=0.50 cfs 0.042 af
n=0.150 L=100.0' S=0.0050 '/' Capacity=3.78 cfs Outflow=0.40 cfs 0.042 af

Reach 201R: TS4-DITCH Avg. Flow Depth=0.96' Max Vel=1.09 fps Inflow=5.22 cfs 0.500 af
n=0.150 L=160.0' S=0.0250 '/' Capacity=5.58 cfs Outflow=5.09 cfs 0.500 af

Reach 202R: TS2 Avg. Flow Depth=0.11' Max Vel=0.46 fps Inflow=0.19 cfs 0.019 af
n=0.150 L=130.0' S=0.0500 '/' Capacity=9.91 cfs Outflow=0.16 cfs 0.019 af

Reach 203R: TS3 Avg. Flow Depth=0.43' Max Vel=0.50 fps Inflow=1.76 cfs 0.137 af
n=0.150 L=125.0' S=0.0100 '/' Capacity=7.23 cfs Outflow=1.58 cfs 0.137 af

Reach 301R: TS5 Avg. Flow Depth=0.57' Max Vel=0.95 fps Inflow=3.42 cfs 0.260 af
n=0.150 L=475.0' S=0.0305 '/' Capacity=7.74 cfs Outflow=2.51 cfs 0.260 af

Pond 1P: GRAVEL WETLAND WP1 Peak Elev=510.52' Storage=2,912 cf Inflow=2.35 cfs 0.179 af
Primary=0.56 cfs 0.149 af Secondary=0.00 cfs 0.000 af Outflow=0.56 cfs 0.149 af

Pond 2P: GRAVEL WETLAND WP2 Peak Elev=516.31' Storage=2,552 cf Inflow=1.63 cfs 0.150 af
Primary=0.46 cfs 0.119 af Secondary=0.00 cfs 0.000 af Outflow=0.46 cfs 0.119 af

Pond 3P: INFIL. TRENCH IB1 Peak Elev=508.43' Storage=325 cf Inflow=0.40 cfs 0.042 af
Discarded=0.15 cfs 0.042 af Secondary=0.00 cfs 0.000 af Outflow=0.15 cfs 0.042 af

Pond 4P: DRIP STRIPS IB4 Peak Elev=514.96' Storage=4,590 cf Inflow=3.69 cfs 0.301 af
Discarded=0.35 cfs 0.301 af Secondary=0.00 cfs 0.000 af Outflow=0.35 cfs 0.301 af

Pond 5P: CT. ST. CB1675 Peak Elev=505.38' Inflow=1.53 cfs 0.106 af
15.0" Round Culvert n=0.025 L=68.0' S=0.0172 '/' Outflow=1.53 cfs 0.106 af

Pond 6P: INFIL. TRENCH IB2 Peak Elev=510.73' Storage=4,543 cf Inflow=5.18 cfs 0.304 af
Discarded=1.89 cfs 0.303 af Secondary=0.67 cfs 0.001 af Outflow=2.56 cfs 0.304 af

Pond 7P: BOX Peak Elev=538.46' Inflow=5.05 cfs 0.547 af
48.0" x 32.0" Box Culvert n=0.040 L=60.0' S=0.1000 '/' Outflow=5.05 cfs 0.547 af

Pond 8P: BOX CULVERT Peak Elev=504.43' Inflow=26.40 cfs 7.363 af
Primary=26.40 cfs 7.363 af Secondary=0.00 cfs 0.000 af Outflow=26.40 cfs 7.363 af

Pond 9P: INFIL. BASIN IB4 Peak Elev=536.19' Storage=1,348 cf Inflow=2.51 cfs 0.260 af
Discarded=2.94 cfs 0.260 af Primary=0.00 cfs 0.000 af Outflow=2.94 cfs 0.260 af

Pond 10P: INFIL. TRENCH IB3 Peak Elev=520.87' Storage=1,126 cf Inflow=5.09 cfs 0.500 af
Discarded=0.89 cfs 0.358 af Secondary=4.20 cfs 0.142 af Outflow=5.09 cfs 0.500 af

Pond 101P: PAVEMENT FLUME Peak Elev=511.74' Inflow=0.50 cfs 0.042 af
Outflow=0.50 cfs 0.042 af

Pond 102P: CB 4/5 Peak Elev=511.27' Inflow=1.37 cfs 0.097 af
12.0" Round Culvert n=0.013 L=15.0' S=0.0133 '/' Outflow=1.37 cfs 0.097 af

Pond E1P: TRAIL CULV. Peak Elev=639.99' Inflow=5.05 cfs 0.547 af
6.0" Round Culvert n=0.025 L=28.0' S=0.0714 '/' Outflow=5.05 cfs 0.547 af

Pond E2P: CB 1394 Peak Elev=526.32' Inflow=2.57 cfs 0.161 af
12.0" Round Culvert n=0.025 L=16.0' S=0.1125 '/' Outflow=2.57 cfs 0.161 af

Pond E3P: CB 1342 Peak Elev=542.96' Inflow=7.54 cfs 0.479 af
12.0" Round Culvert n=0.025 L=88.0' S=0.0131 '/' Outflow=7.55 cfs 0.479 af

Pond E4P: CB 1231 Peak Elev=525.82' Inflow=1.04 cfs 0.067 af
12.0" Round Culvert n=0.025 L=58.0' S=0.0157 '/' Outflow=1.05 cfs 0.067 af

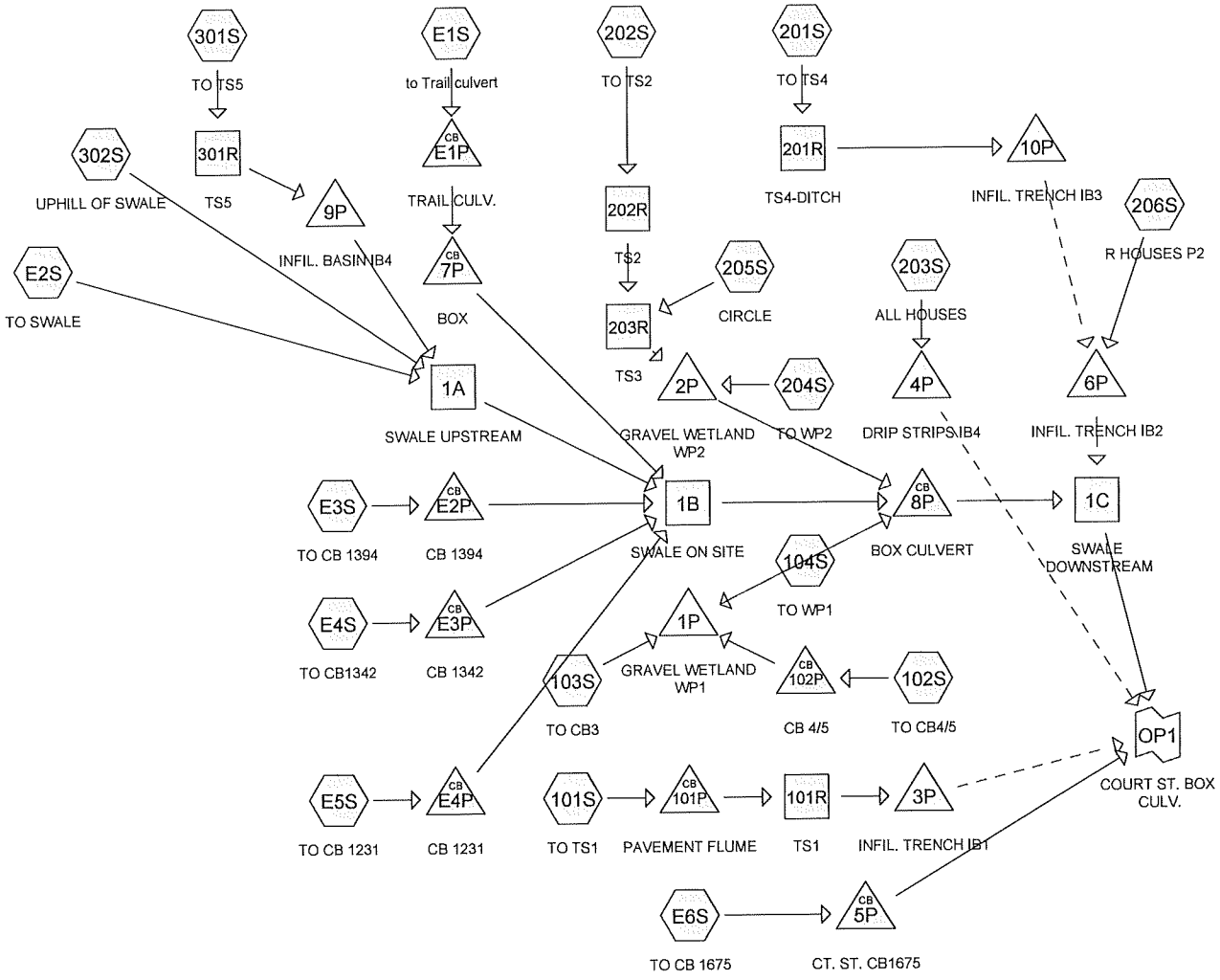
Link OP1: COURT ST. BOX CULV. Inflow=26.52 cfs 7.470 af
Primary=26.52 cfs 7.470 af

Total Runoff Area = 69.706 ac Runoff Volume = 8.795 af Average Runoff Depth = 1.51"
92.23% Pervious = 64.289 ac 7.77% Impervious = 5.417 ac

Section 2.2

Proposed Conditions

25 Year Storm Full Summary



Routing Diagram for 3941.00_POST_DEV

Prepared by FIELDSTONE LAND CONSULTANTS, Printed 3/31/2025

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.273	39	>75% Grass cover, Good, HSG A (101S, 102S, 103S, 104S, 202S, 204S, 205S, 206S, 301S, E2S, E3S, E5S)
6.435	61	>75% Grass cover, Good, HSG B (102S, 201S, 202S, 205S, 206S, 301S, E2S, E4S)
0.655	98	House Roof (203S)
4.546	58	Meadow, non-grazed, HSG B (E2S)
0.516	98	Paved parking, HSG A (101S, 102S, 103S, 202S, 204S, 205S)
4.246	98	Paved parking, HSG B (102S, 201S, 205S, 301S, E2S, E3S, E4S, E5S, E6S)
4.429	30	Woods, Good, HSG A (E2S, E3S, E5S, E6S)
43.606	55	Woods, Good, HSG B (301S, 302S, E1S, E2S, E4S)
69.706	**56**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
10.218	HSG A	101S, 102S, 103S, 104S, 202S, 204S, 205S, 206S, 301S, E2S, E3S, E5S, E6S
58.833	HSG B	102S, 201S, 202S, 205S, 206S, 301S, 302S, E1S, E2S, E3S, E4S, E5S, E6S
0.000	HSG C	
0.000	HSG D	
0.655	Other	203S
69.706		**TOTAL AREA**

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment101S: TO TS1 Runoff Area=16,804 sf 24.84% Impervious Runoff Depth=0.87"
Tc=6.0 min CN=54 Runoff=0.30 cfs 0.028 af

Subcatchment102S: TO CB4/5 Runoff Area=15,615 sf 51.69% Impervious Runoff Depth=2.54"
Tc=6.0 min CN=77 Runoff=1.07 cfs 0.076 af

Subcatchment103S: TO CB3 Runoff Area=22,075 sf 34.83% Impervious Runoff Depth=1.24"
Tc=6.0 min CN=60 Runoff=0.66 cfs 0.052 af

Subcatchment104S: TO WP1 Runoff Area=10,095 sf 0.00% Impervious Runoff Depth=0.18"
Tc=6.0 min CN=39 Runoff=0.01 cfs 0.003 af

Subcatchment201S: TO TS4 Runoff Area=135,954 sf 2.97% Impervious Runoff Depth=1.38"
Flow Length=865' Tc=13.6 min CN=62 Runoff=3.59 cfs 0.358 af

Subcatchment202S: TO TS2 Runoff Area=10,362 sf 8.05% Impervious Runoff Depth=0.60"
Tc=6.0 min CN=49 Runoff=0.09 cfs 0.012 af

Subcatchment203S: ALL HOUSES Runoff Area=28,530 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=3.14 cfs 0.255 af

Subcatchment204S: TO WP2 Runoff Area=15,081 sf 3.07% Impervious Runoff Depth=0.25"
Tc=6.0 min CN=41 Runoff=0.02 cfs 0.007 af

Subcatchment205S: CIRCLE Runoff Area=18,309 sf 56.20% Impervious Runoff Depth=2.63"
Tc=6.0 min CN=78 Runoff=1.30 cfs 0.092 af

Subcatchment206S: R HOUSES P2 Runoff Area=131,411 sf 0.00% Impervious Runoff Depth=0.37"
Tc=2.0 min CN=44 Runoff=0.45 cfs 0.092 af

Subcatchment301S: TO TS5 Runoff Area=77,170 sf 9.96% Impervious Runoff Depth=1.24"
Tc=6.0 min CN=60 Runoff=2.30 cfs 0.184 af

Subcatchment302S: UPHILL OF SWALE Runoff Area=192,173 sf 0.00% Impervious Runoff Depth=0.93"
Flow Length=660' Tc=12.2 min CN=55 Runoff=3.04 cfs 0.342 af

SubcatchmentE1S: to Trail culvert Runoff Area=207,607 sf 0.00% Impervious Runoff Depth=0.93"
Flow Length=587' Tc=14.7 min CN=55 Runoff=3.07 cfs 0.370 af

SubcatchmentE2S: TO SWALE Runoff Area=2,026,299 sf 4.28% Impervious Runoff Depth=0.93"
Flow Length=2,598' Tc=71.2 min CN=55 Runoff=14.20 cfs 3.607 af

SubcatchmentE3S: TO CB 1394 Runoff Area=37,371 sf 46.41% Impervious Runoff Depth=1.66"
Tc=2.0 min CN=66 Runoff=1.84 cfs 0.119 af

SubcatchmentE4S: TO CB1342 Runoff Area=60,023 sf 68.77% Impervious Runoff Depth=3.37"
Flow Length=450' Tc=2.3 min CN=86 Runoff=6.15 cfs 0.387 af

Subcatchment E5S: TO CB 1231 Runoff Area=18,247 sf 43.35% Impervious Runoff Depth=1.38"
Tc=2.0 min CN=62 Runoff=0.72 cfs 0.048 af

Subcatchment E6S: TO CB 1675 Runoff Area=13,274 sf 82.63% Impervious Runoff Depth=3.37"
Flow Length=416' Tc=4.7 min CN=86 Runoff=1.25 cfs 0.086 af

Reach 1A: SWALE UPSTREAM Avg. Flow Depth=0.66' Max Vel=3.65 fps Inflow=14.82 cfs 3.950 af
n=0.050 L=925.0' S=0.0454 '/' Capacity=1,106.31 cfs Outflow=14.76 cfs 3.950 af

Reach 1B: SWALE ON SITE Avg. Flow Depth=0.65' Max Vel=4.09 fps Inflow=16.11 cfs 4.873 af
n=0.050 L=367.0' S=0.0586 '/' Capacity=1,256.64 cfs Outflow=16.10 cfs 4.873 af

Reach 1C: SWALE DOWNSTREAM Avg. Flow Depth=0.73' Max Vel=3.94 fps Inflow=16.66 cfs 5.055 af
n=0.050 L=85.0' S=0.0471 '/' Capacity=1,491.07 cfs Outflow=16.66 cfs 5.055 af

Reach 101R: TS1 Avg. Flow Depth=0.21' Max Vel=0.23 fps Inflow=0.30 cfs 0.028 af
n=0.150 L=100.0' S=0.0050 '/' Capacity=3.78 cfs Outflow=0.22 cfs 0.028 af

Reach 201R: TS4-DITCH Avg. Flow Depth=0.80' Max Vel=0.99 fps Inflow=3.59 cfs 0.358 af
n=0.150 L=160.0' S=0.0250 '/' Capacity=5.58 cfs Outflow=3.48 cfs 0.358 af

Reach 202R: TS2 Avg. Flow Depth=0.07' Max Vel=0.35 fps Inflow=0.09 cfs 0.012 af
n=0.150 L=130.0' S=0.0500 '/' Capacity=9.91 cfs Outflow=0.08 cfs 0.012 af

Reach 203R: TS3 Avg. Flow Depth=0.36' Max Vel=0.45 fps Inflow=1.31 cfs 0.104 af
n=0.150 L=125.0' S=0.0100 '/' Capacity=7.23 cfs Outflow=1.16 cfs 0.104 af

Reach 301R: TS5 Avg. Flow Depth=0.44' Max Vel=0.83 fps Inflow=2.30 cfs 0.184 af
n=0.150 L=475.0' S=0.0305 '/' Capacity=7.74 cfs Outflow=1.59 cfs 0.183 af

Pond 1P: GRAVEL WETLAND WP1 Peak Elev=510.11' Storage=2,127 cf Inflow=1.72 cfs 0.132 af
Primary=0.42 cfs 0.102 af Secondary=0.00 cfs 0.000 af Outflow=0.42 cfs 0.102 af

Pond 2P: GRAVEL WETLAND WP2 Peak Elev=515.80' Storage=2,001 cf Inflow=1.16 cfs 0.111 af
Primary=0.24 cfs 0.079 af Secondary=0.00 cfs 0.000 af Outflow=0.24 cfs 0.079 af

Pond 3P: INFIL. TRENCH IB1 Peak Elev=507.23' Storage=134 cf Inflow=0.22 cfs 0.028 af
Discarded=0.12 cfs 0.028 af Secondary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.028 af

Pond 4P: DRIP STRIPS IB4 Peak Elev=514.77' Storage=3,678 cf Inflow=3.14 cfs 0.255 af
Discarded=0.34 cfs 0.255 af Secondary=0.00 cfs 0.000 af Outflow=0.34 cfs 0.255 af

Pond 5P: CT. ST. CB1675 Peak Elev=505.31' Inflow=1.25 cfs 0.086 af
15.0" Round Culvert n=0.025 L=68.0' S=0.0172 '/' Outflow=1.25 cfs 0.086 af

Pond 6P: INFIL. TRENCH IB2 Peak Elev=508.41' Storage=2,052 cf Inflow=3.05 cfs 0.164 af
Discarded=1.21 cfs 0.164 af Secondary=0.00 cfs 0.000 af Outflow=1.21 cfs 0.164 af

Pond 7P: BOX Peak Elev=538.33' Inflow=3.07 cfs 0.370 af
48.0" x 32.0" Box Culvert n=0.040 L=60.0' S=0.1000 '/' Outflow=3.07 cfs 0.370 af

Pond 8P: BOX CULVERT Peak Elev=504.05' Inflow=16.66 cfs 5.055 af
Primary=16.66 cfs 5.055 af Secondary=0.00 cfs 0.000 af Outflow=16.66 cfs 5.055 af

Pond 9P: INFIL. BASIN IB4 Peak Elev=530.74' Storage=1,047 cf Inflow=1.59 cfs 0.183 af
Discarded=0.95 cfs 0.183 af Primary=0.00 cfs 0.000 af Outflow=0.95 cfs 0.183 af

Pond 10P: INFIL. TRENCH IB3 Peak Elev=520.84' Storage=1,101 cf Inflow=3.48 cfs 0.358 af
Discarded=0.88 cfs 0.286 af Secondary=2.60 cfs 0.072 af Outflow=3.48 cfs 0.358 af

Pond 101P: PAVEMENT FLUME Peak Elev=511.65' Inflow=0.30 cfs 0.028 af
Outflow=0.30 cfs 0.028 af

Pond 102P: CB 4/5 Peak Elev=511.17' Inflow=1.07 cfs 0.076 af
12.0" Round Culvert n=0.013 L=15.0' S=0.0133 '/' Outflow=1.07 cfs 0.076 af

Pond E1P: TRAIL CULV. Peak Elev=577.35' Inflow=3.07 cfs 0.370 af
6.0" Round Culvert n=0.025 L=28.0' S=0.0714 '/' Outflow=3.07 cfs 0.370 af

Pond E2P: CB 1394 Peak Elev=525.87' Inflow=1.84 cfs 0.119 af
12.0" Round Culvert n=0.025 L=16.0' S=0.1125 '/' Outflow=1.85 cfs 0.119 af

Pond E3P: CB 1342 Peak Elev=537.05' Inflow=6.15 cfs 0.387 af
12.0" Round Culvert n=0.025 L=88.0' S=0.0131 '/' Outflow=6.16 cfs 0.387 af

Pond E4P: CB 1231 Peak Elev=525.65' Inflow=0.72 cfs 0.048 af
12.0" Round Culvert n=0.025 L=58.0' S=0.0157 '/' Outflow=0.73 cfs 0.048 af

Link OP1: COURT ST. BOX CULV. Inflow=16.76 cfs 5.140 af
Primary=16.76 cfs 5.140 af

Total Runoff Area = 69.706 ac Runoff Volume = 6.119 af Average Runoff Depth = 1.05"
92.23% Pervious = 64.289 ac 7.77% Impervious = 5.417 ac

Summary for Subcatchment 101S: TO TS1

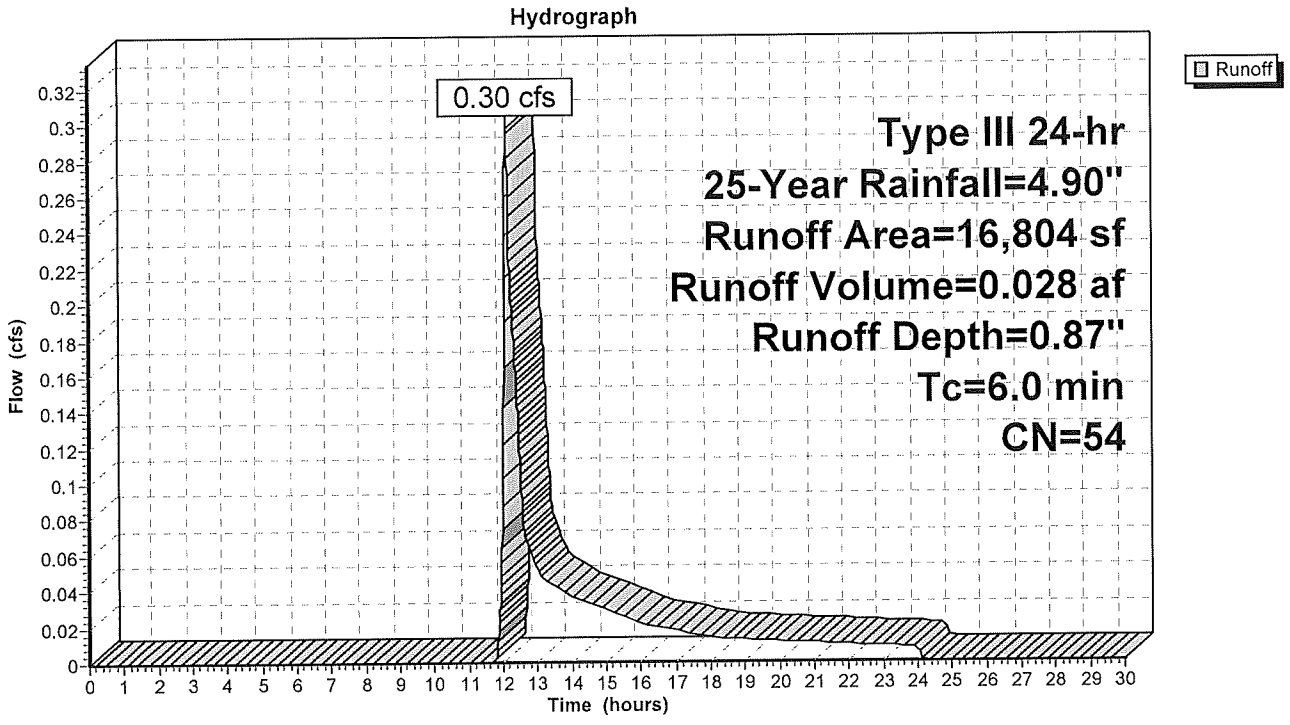
Runoff = 0.30 cfs @ 12.11 hrs, Volume= 0.028 af, Depth= 0.87"
Routed to Pond 101P : PAVEMENT FLUME

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
4,174	98	Paved parking, HSG A
12,630	39	>75% Grass cover, Good, HSG A
16,804	54	Weighted Average
12,630		75.16% Pervious Area
4,174		24.84% Impervious Area

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

Subcatchment 101S: TO TS1



Summary for Subcatchment 102S: TO CB4/5

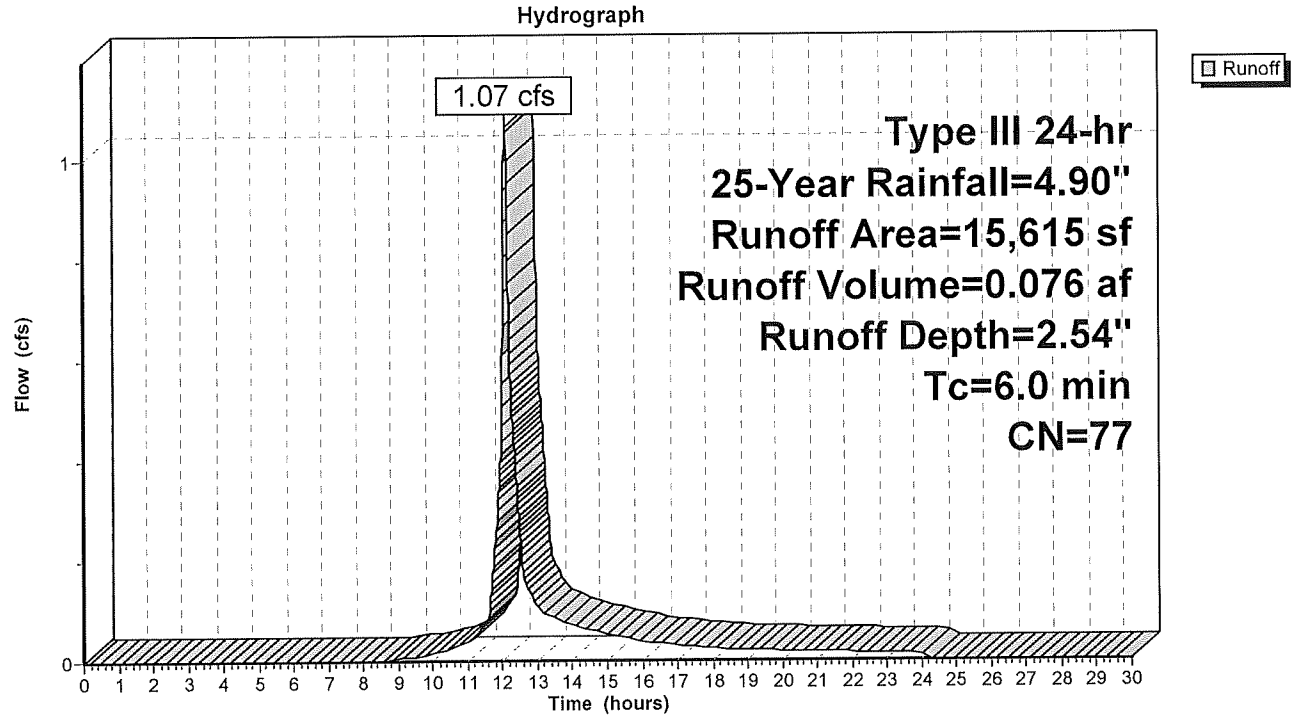
Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.076 af, Depth= 2.54"
Routed to Pond 102P : CB 4/5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
1,875	39	>75% Grass cover, Good, HSG A
1,959	98	Paved parking, HSG A
6,113	98	Paved parking, HSG B
5,668	61	>75% Grass cover, Good, HSG B
15,615	77	Weighted Average
7,543		48.31% Pervious Area
8,072		51.69% Impervious Area

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

Subcatchment 102S: TO CB4/5



Summary for Subcatchment 103S: TO CB3

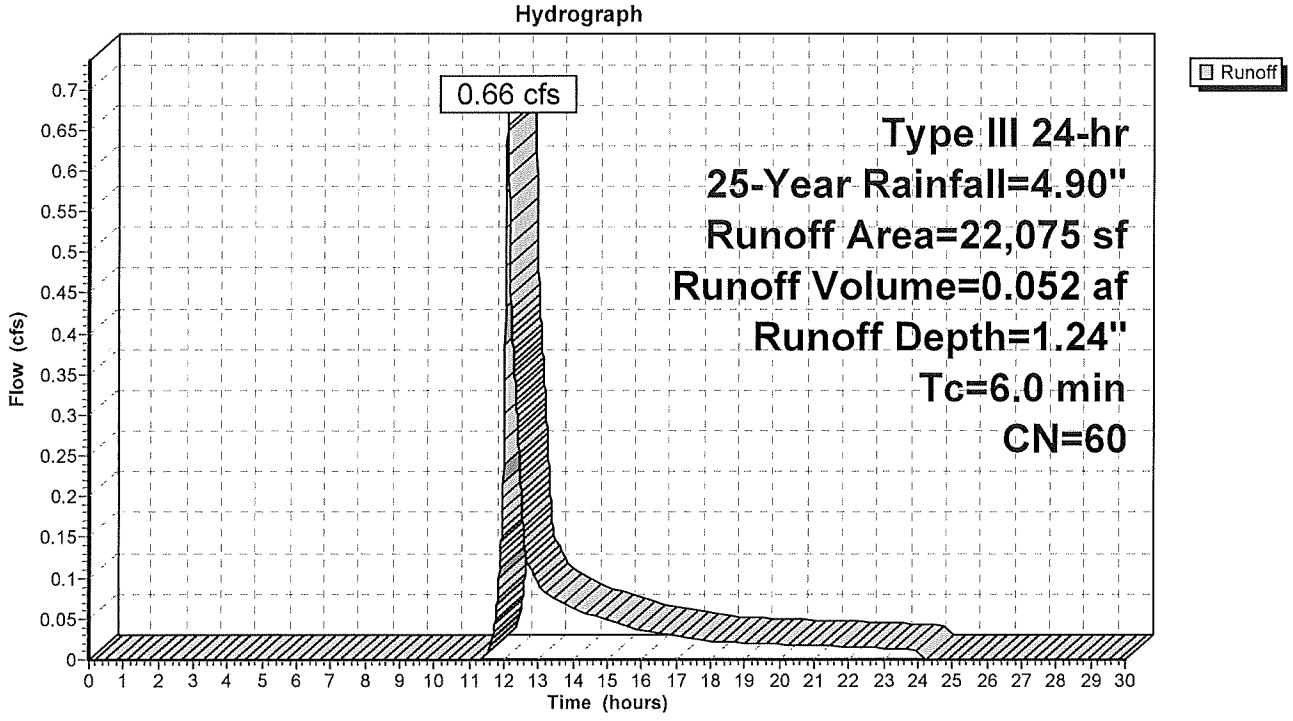
Runoff = 0.66 cfs @ 12.10 hrs, Volume= 0.052 af, Depth= 1.24"
Routed to Pond 1P : GRAVEL WETLAND WP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
7,689	98	Paved parking, HSG A
14,386	39	>75% Grass cover, Good, HSG A
22,075	60	Weighted Average
14,386		65.17% Pervious Area
7,689		34.83% Impervious Area

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

Subcatchment 103S: TO CB3



Summary for Subcatchment 104S: TO WP1

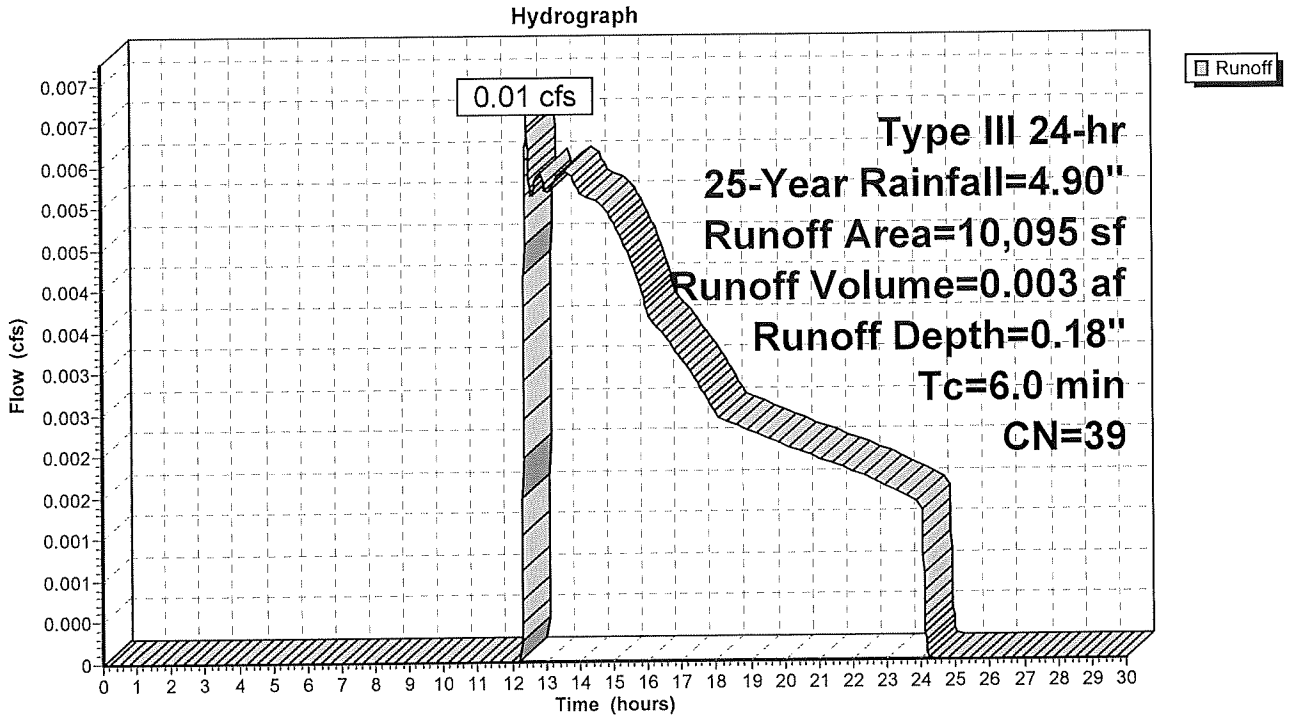
Runoff = 0.01 cfs @ 12.50 hrs, Volume= 0.003 af, Depth= 0.18"
Routed to Pond 1P : GRAVEL WETLAND WP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
10,095	39	>75% Grass cover, Good, HSG A
10,095		100.00% Pervious Area

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

Subcatchment 104S: TO WP1



Summary for Subcatchment 201S: TO TS4

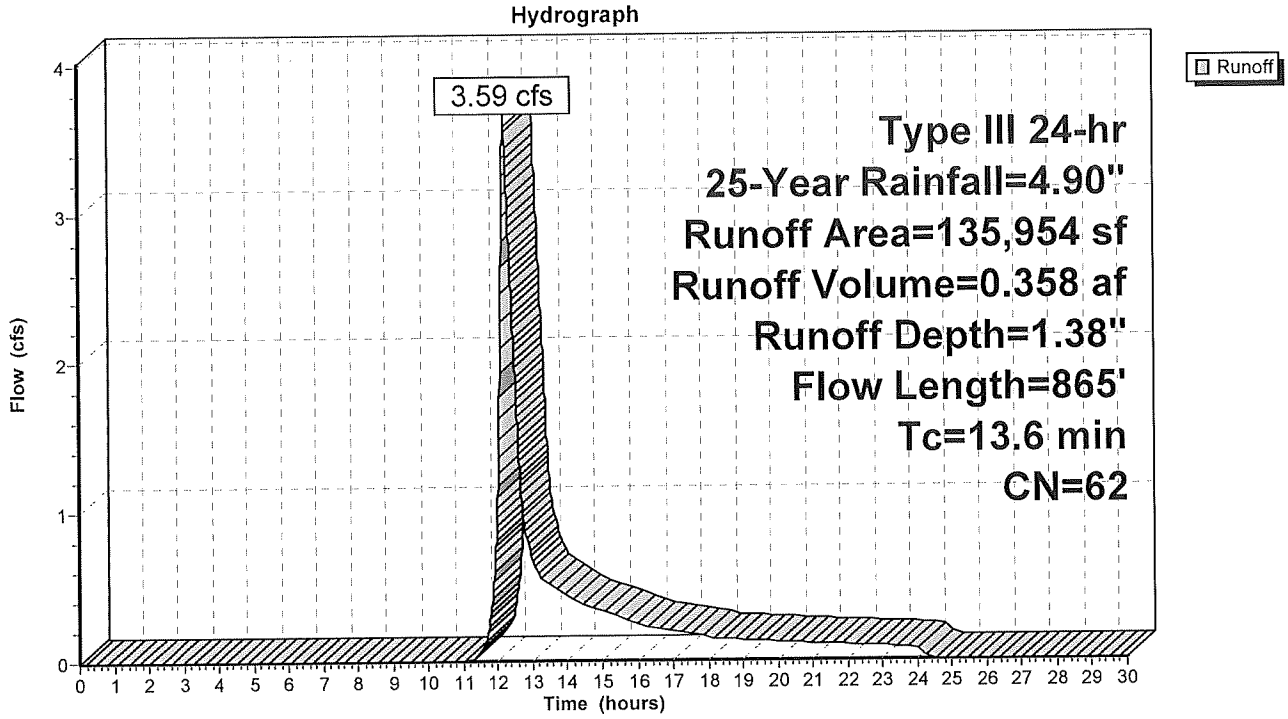
Runoff = 3.59 cfs @ 12.20 hrs, Volume= 0.358 af, Depth= 1.38"
Routed to Reach 201R : TS4-DITCH

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
4,041	98	Paved parking, HSG B
131,913	61	>75% Grass cover, Good, HSG B
135,954	62	Weighted Average
131,913		97.03% Pervious Area
4,041		2.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0800	0.11		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 2.92"
2.1	345	0.3100	2.78		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
1.1	105	0.1000	1.58		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
3.0	365	0.0400	2.02	28.21	**Trap/Vee/Rect Channel Flow, D-E** Bot.W=1.00' D=2.00' Z= 3.0 '/' Top.W=13.00' n= 0.150
13.6	865	Total			

Subcatchment 201S: TO TS4



Summary for Subcatchment 202S: TO TS2

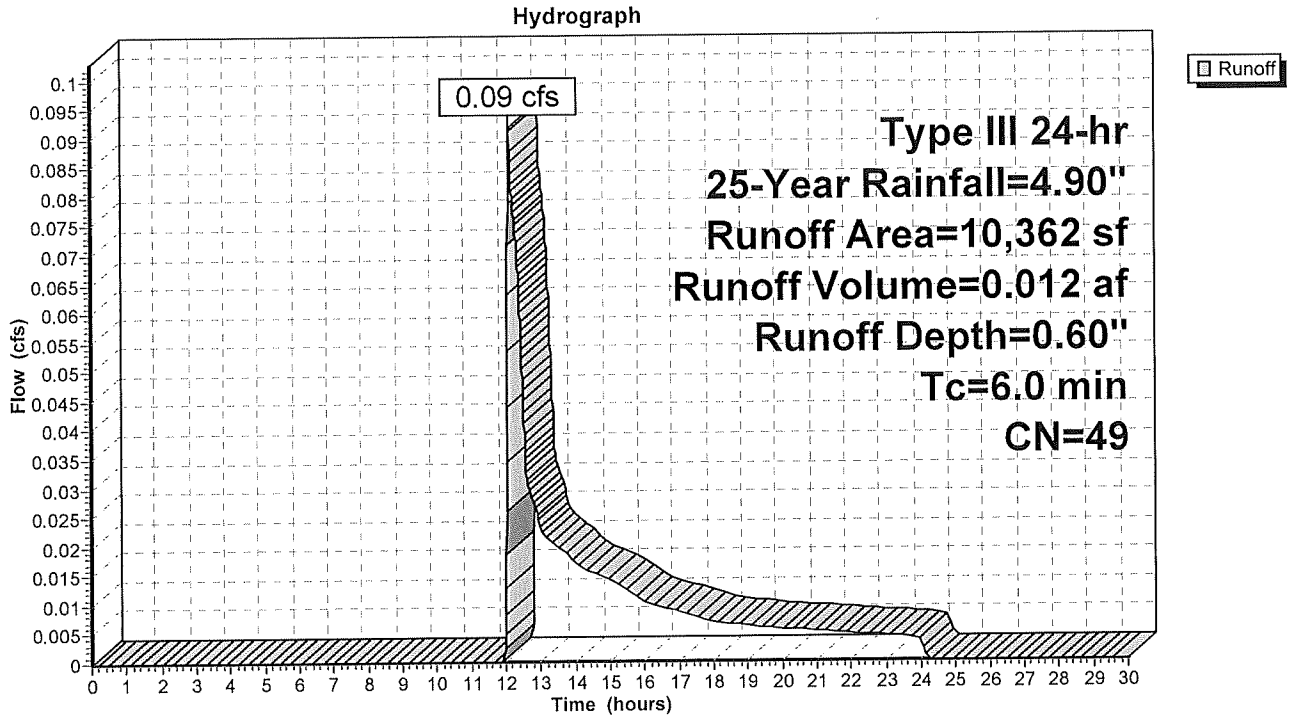
Runoff = 0.09 cfs @ 12.13 hrs, Volume= 0.012 af, Depth= 0.60"
Routed to Reach 202R : TS2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
7,165	39	>75% Grass cover, Good, HSG A
834	98	Paved parking, HSG A
2,363	61	>75% Grass cover, Good, HSG B
10,362	49	Weighted Average
9,528		91.95% Pervious Area
834		8.05% Impervious Area

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

Subcatchment 202S: TO TS2



Summary for Subcatchment 203S: ALL HOUSES

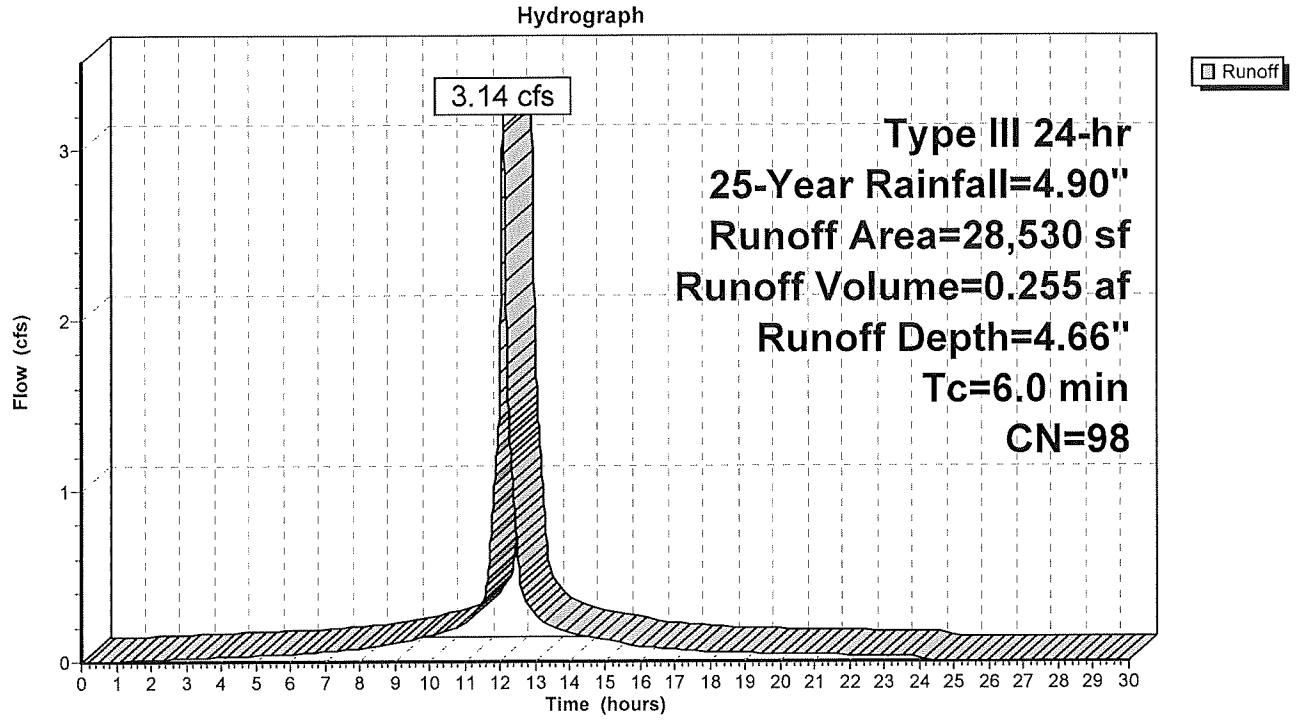
Runoff = 3.14 cfs @ 12.08 hrs, Volume= 0.255 af, Depth= 4.66"
Routed to Pond 4P : DRIP STRIPS IB4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

	Area (sf)	CN	Description
*	28,530	98	House Roof
	28,530		100.00% Impervious Area

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

Subcatchment 203S: ALL HOUSES



Summary for Subcatchment 204S: TO WP2

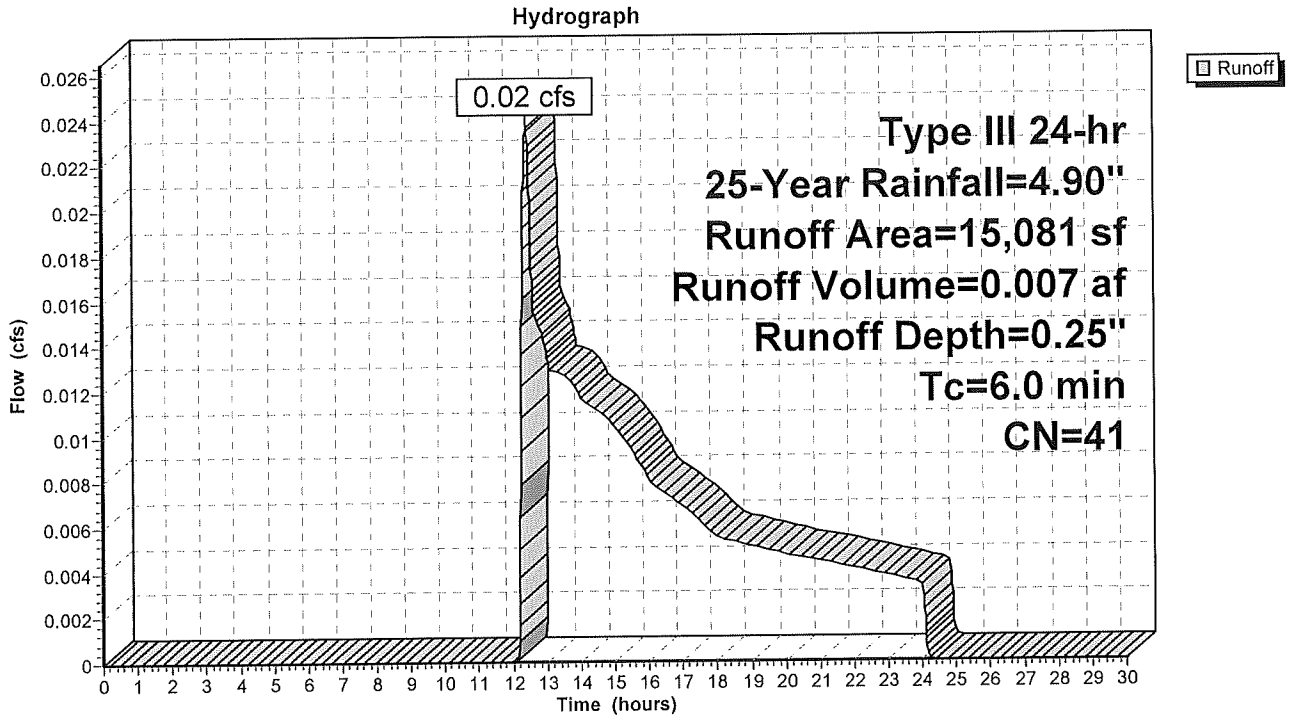
Runoff = 0.02 cfs @ 12.42 hrs, Volume= 0.007 af, Depth= 0.25"
Routed to Pond 2P : GRAVEL WETLAND WP2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
463	98	Paved parking, HSG A
14,618	39	>75% Grass cover, Good, HSG A
15,081	41	Weighted Average
14,618		96.93% Pervious Area
463		3.07% Impervious Area

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

Subcatchment 204S: TO WP2



Summary for Subcatchment 205S: CIRCLE

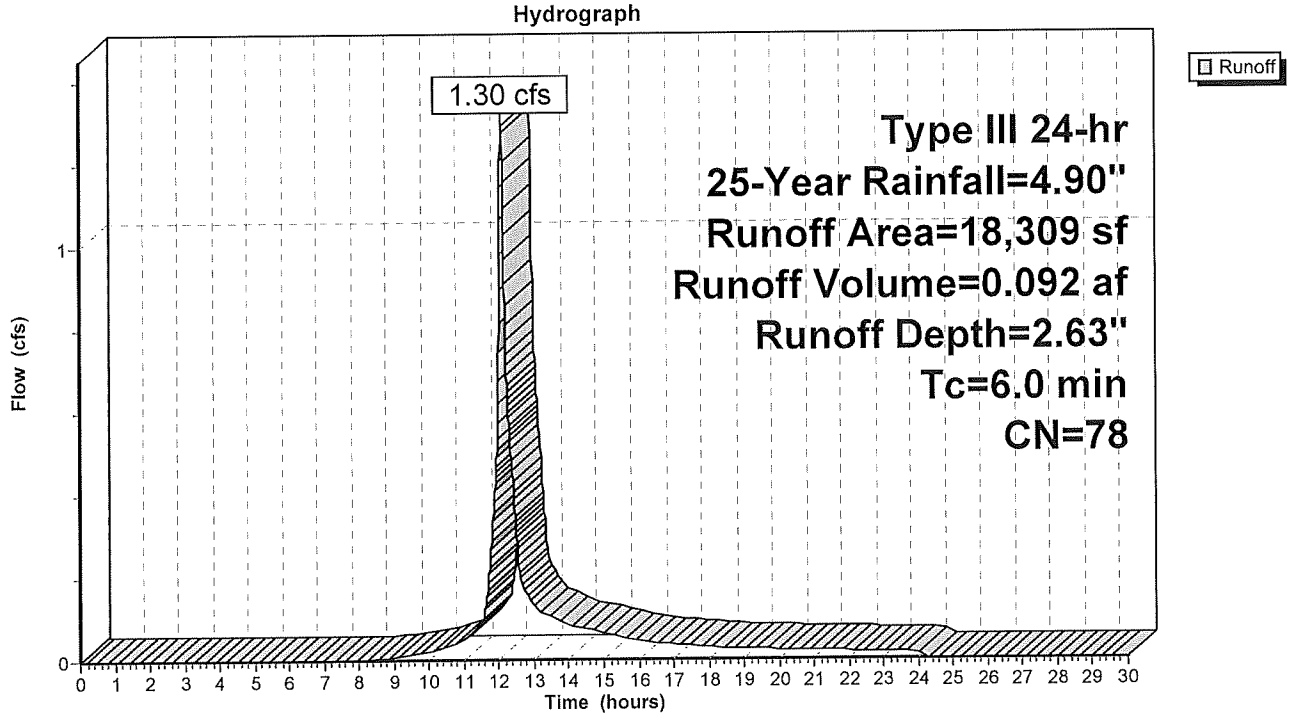
Runoff = 1.30 cfs @ 12.09 hrs, Volume= 0.092 af, Depth= 2.63"
Routed to Reach 203R : TS3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
7,375	98	Paved parking, HSG A
2,915	98	Paved parking, HSG B
3,017	39	>75% Grass cover, Good, HSG A
5,002	61	>75% Grass cover, Good, HSG B
18,309	78	Weighted Average
8,019		43.80% Pervious Area
10,290		56.20% Impervious Area

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

Subcatchment 205S: CIRCLE



Summary for Subcatchment 206S: R HOUSES P2

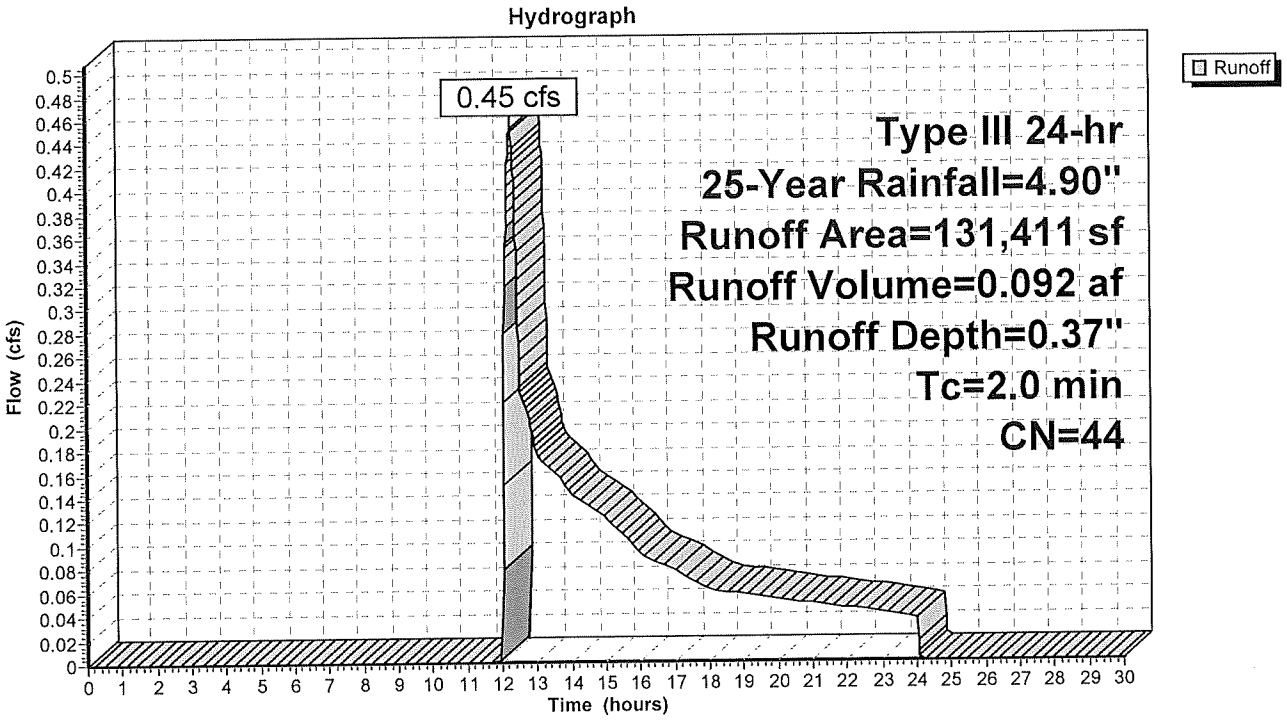
Runoff = 0.45 cfs @ 12.28 hrs, Volume= 0.092 af, Depth= 0.37"
Routed to Pond 6P : INFIL. TRENCH IB2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
31,381	61	>75% Grass cover, Good, HSG B
100,030	39	>75% Grass cover, Good, HSG A
131,411	44	Weighted Average
131,411		100.00% Pervious Area

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

Subcatchment 206S: R HOUSES P2



Summary for Subcatchment 301S: TO TS5

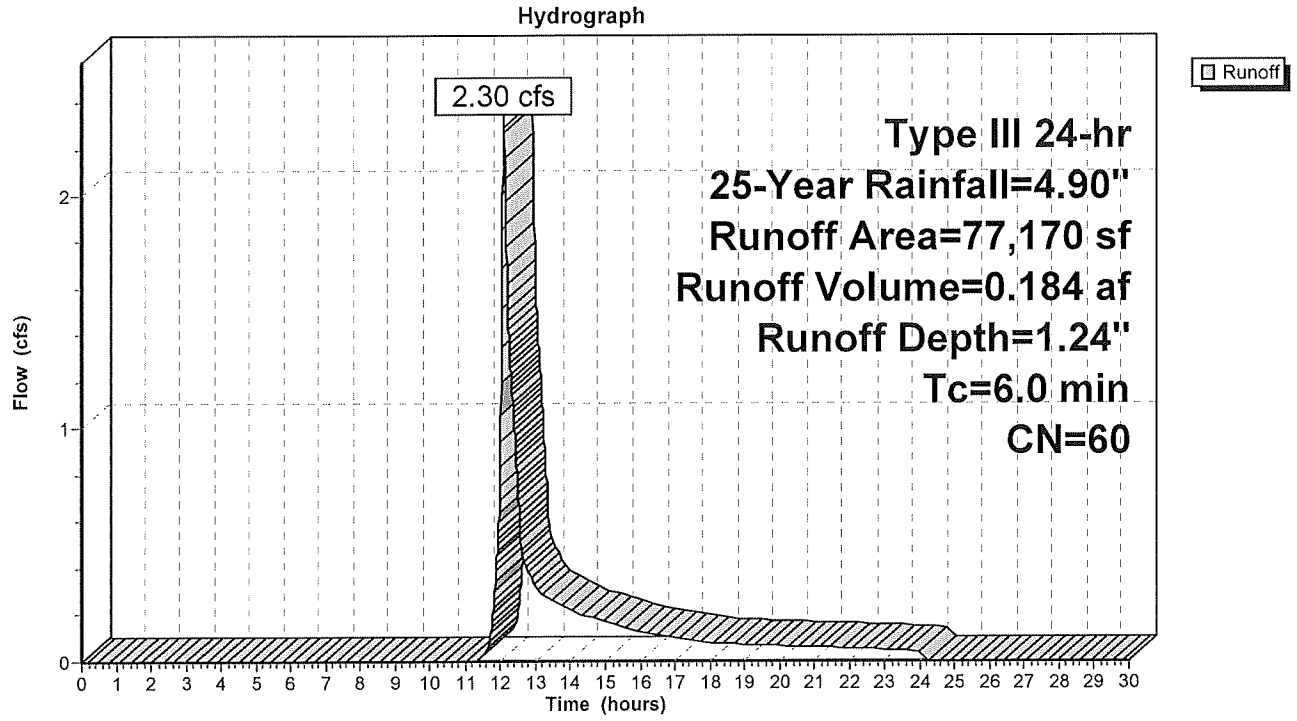
Runoff = 2.30 cfs @ 12.10 hrs, Volume= 0.184 af, Depth= 1.24"
Routed to Reach 301R : TS5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
7,684	98	Paved parking, HSG B
8,010	39	>75% Grass cover, Good, HSG A
25,038	61	>75% Grass cover, Good, HSG B
36,438	55	Woods, Good, HSG B
77,170	60	Weighted Average
69,486		90.04% Pervious Area
7,684		9.96% Impervious Area

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

Subcatchment 301S: TO TS5



Summary for Subcatchment 302S: UPHILL OF SWALE

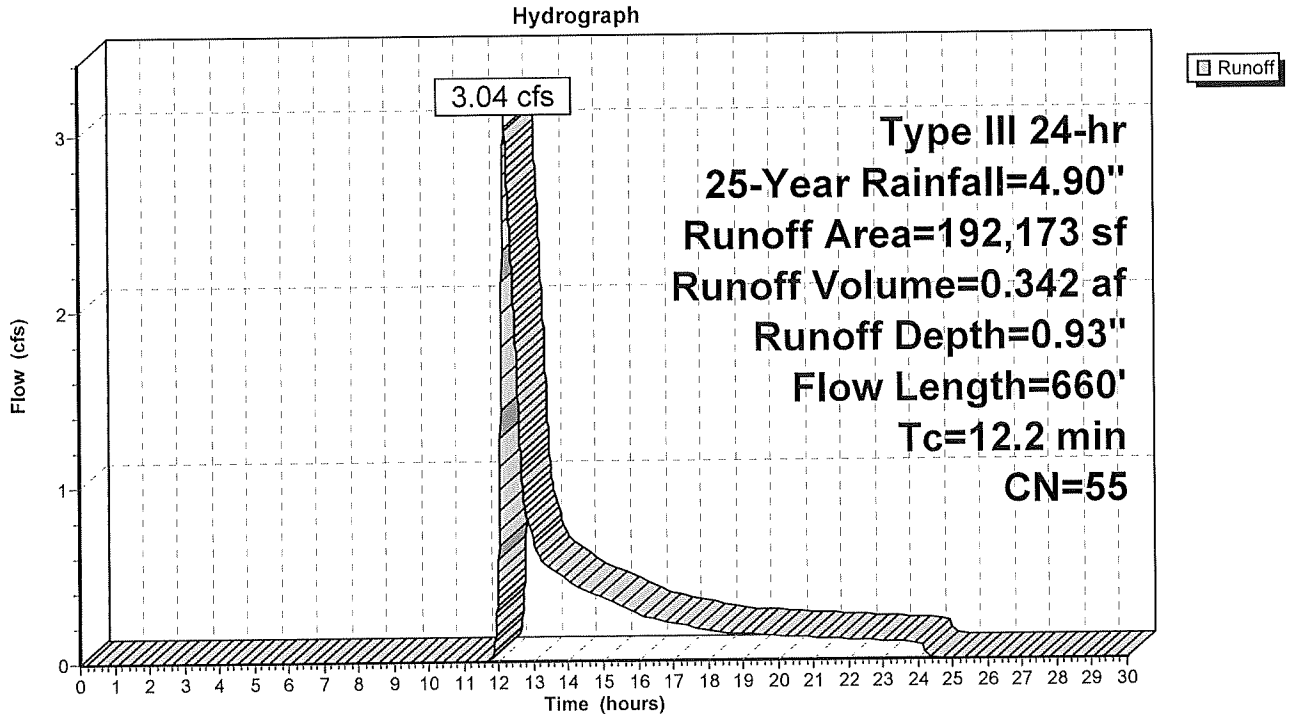
Runoff = 3.04 cfs @ 12.20 hrs, Volume= 0.342 af, Depth= 0.93"
Routed to Reach 1A : SWALE UPSTREAM

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
192,173	55	Woods, Good, HSG B
192,173		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	35	0.0520	0.09		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 2.92"
3.1	475	0.2610	2.55		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
2.5	150	0.0400	1.00		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
12.2	660	Total			

Subcatchment 302S: UPHILL OF SWALE



Summary for Subcatchment E1S: to Trail culvert

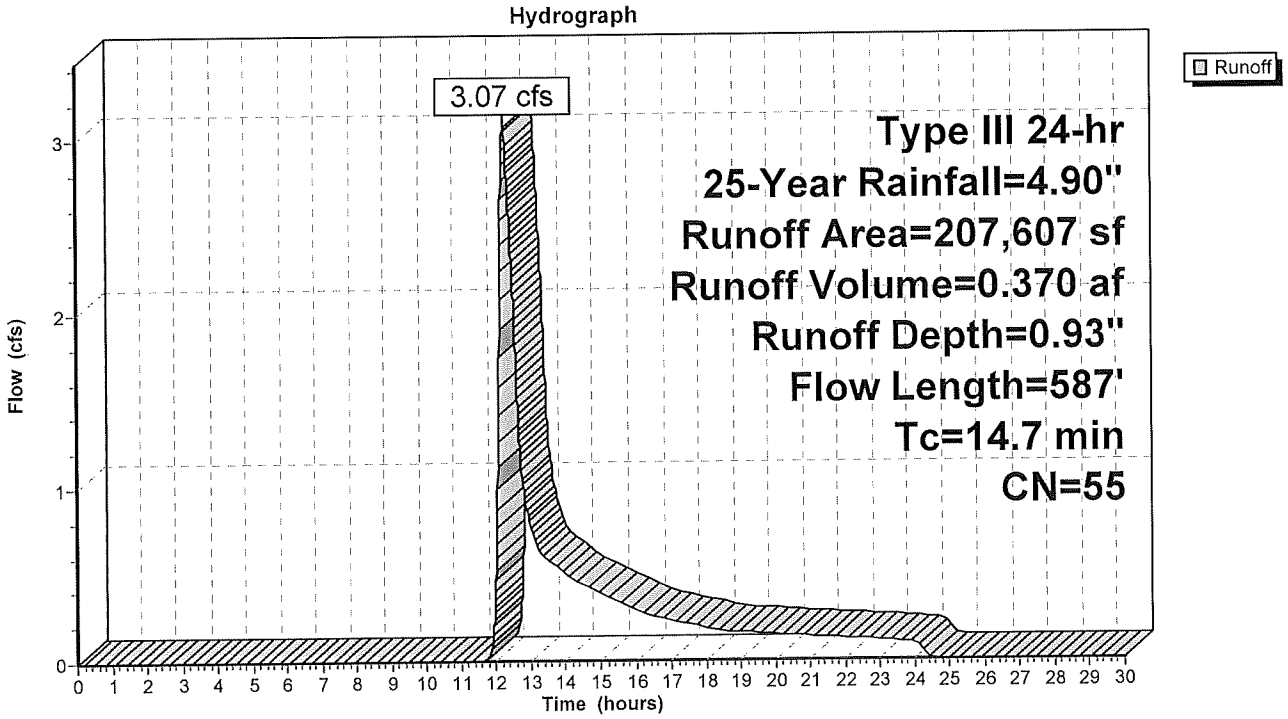
Runoff = 3.07 cfs @ 12.24 hrs, Volume= 0.370 af, Depth= 0.93"
Routed to Pond E1P : TRAIL CULV.

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
207,607	55	Woods, Good, HSG B
207,607		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.1400	0.16		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 2.92"
1.1	126	0.1580	1.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
1.9	158	0.0760	1.38		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
1.4	203	0.2360	2.43		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
14.7	587	Total			

Subcatchment E1S: to Trail culvert



Summary for Subcatchment E2S: TO SWALE

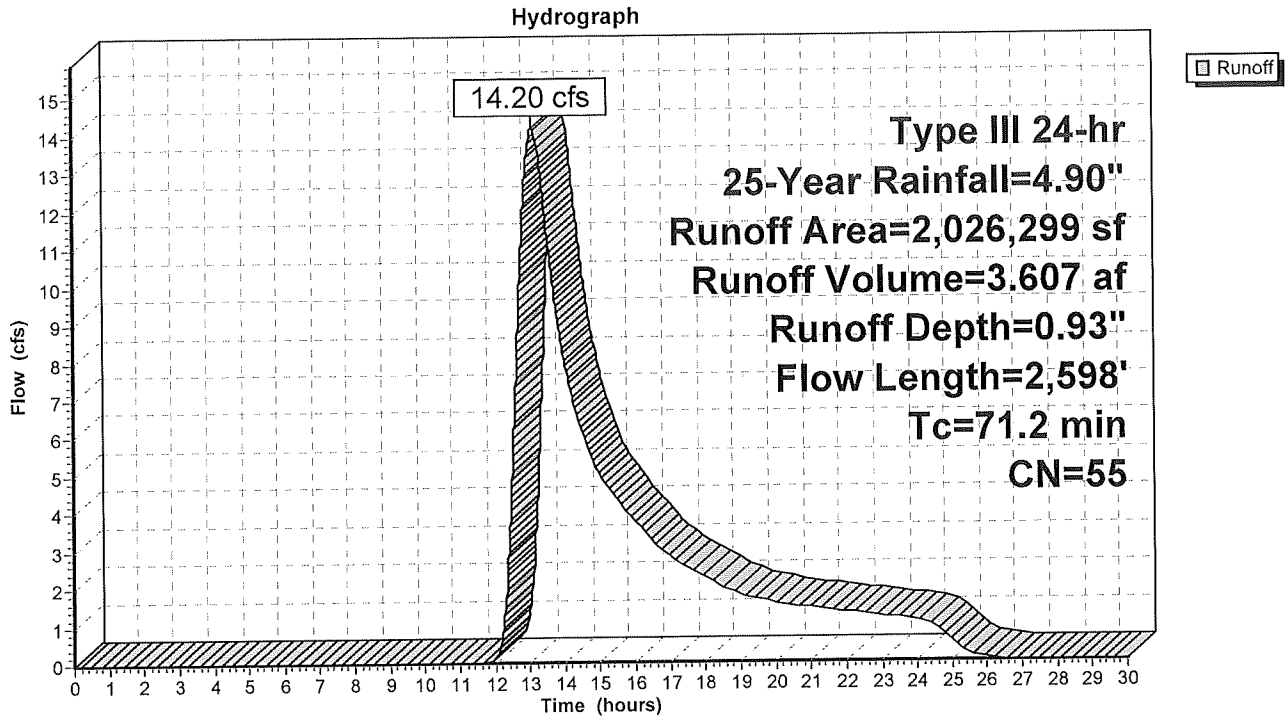
Runoff = 14.20 cfs @ 13.13 hrs, Volume= 3.607 af, Depth= 0.93"
Routed to Reach 1A : SWALE UPSTREAM

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
86,701	98	Paved parking, HSG B
35,006	39	>75% Grass cover, Good, HSG A
65,801	61	>75% Grass cover, Good, HSG B
198,027	58	Meadow, non-grazed, HSG B
183,096	30	Woods, Good, HSG A
1,457,668	55	Woods, Good, HSG B
2,026,299	55	Weighted Average
1,939,598		95.72% Pervious Area
86,701		4.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0300	0.09		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 2.92"
26.3	1,158	0.0860	0.73		**Shallow Concentrated Flow, B-C** Forest w/Heavy Litter Kv= 2.5 fps
25.8	1,340	0.0300	0.87		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
71.2	2,598	Total			

Subcatchment E2S: TO SWALE



Summary for Subcatchment E3S: TO CB 1394

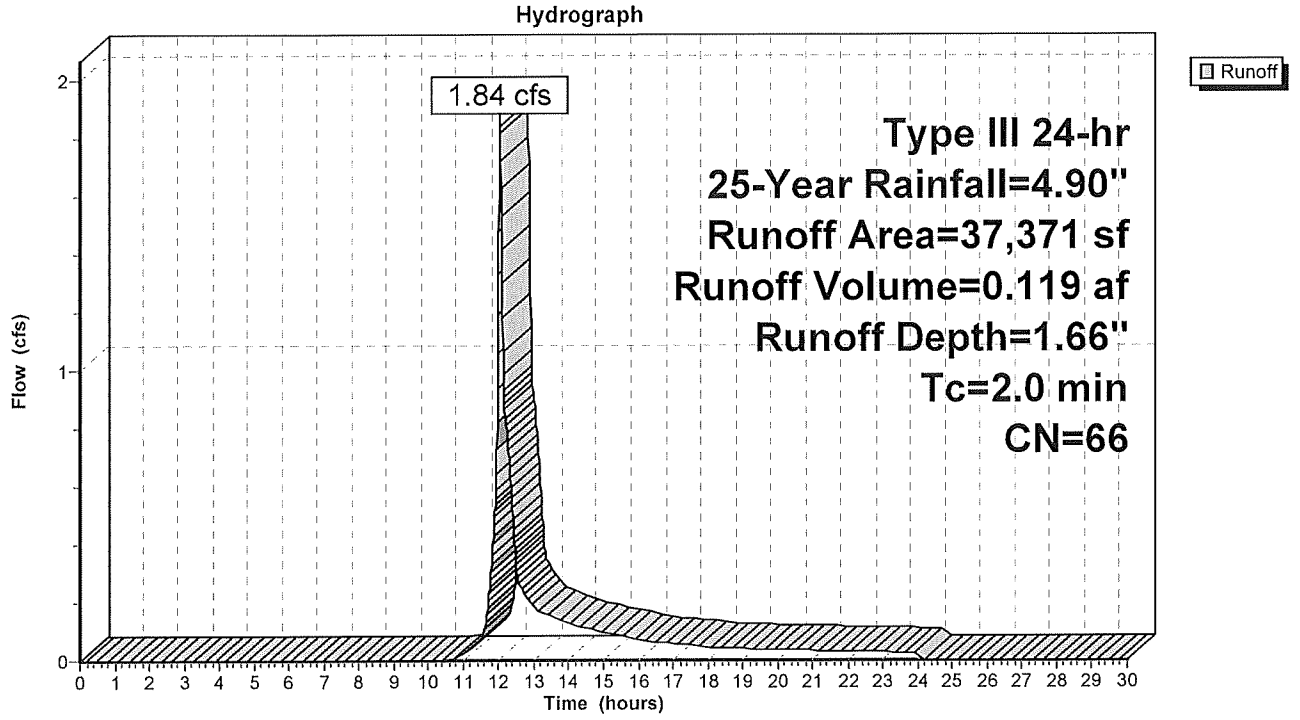
Runoff = 1.84 cfs @ 12.04 hrs, Volume= 0.119 af, Depth= 1.66"
Routed to Pond E2P : CB 1394

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
17,343	98	Paved parking, HSG B
2,492	30	Woods, Good, HSG A
17,536	39	>75% Grass cover, Good, HSG A
37,371	66	Weighted Average
20,028		53.59% Pervious Area
17,343		46.41% Impervious Area

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

Subcatchment E3S: TO CB 1394



Summary for Subcatchment E4S: TO CB1342

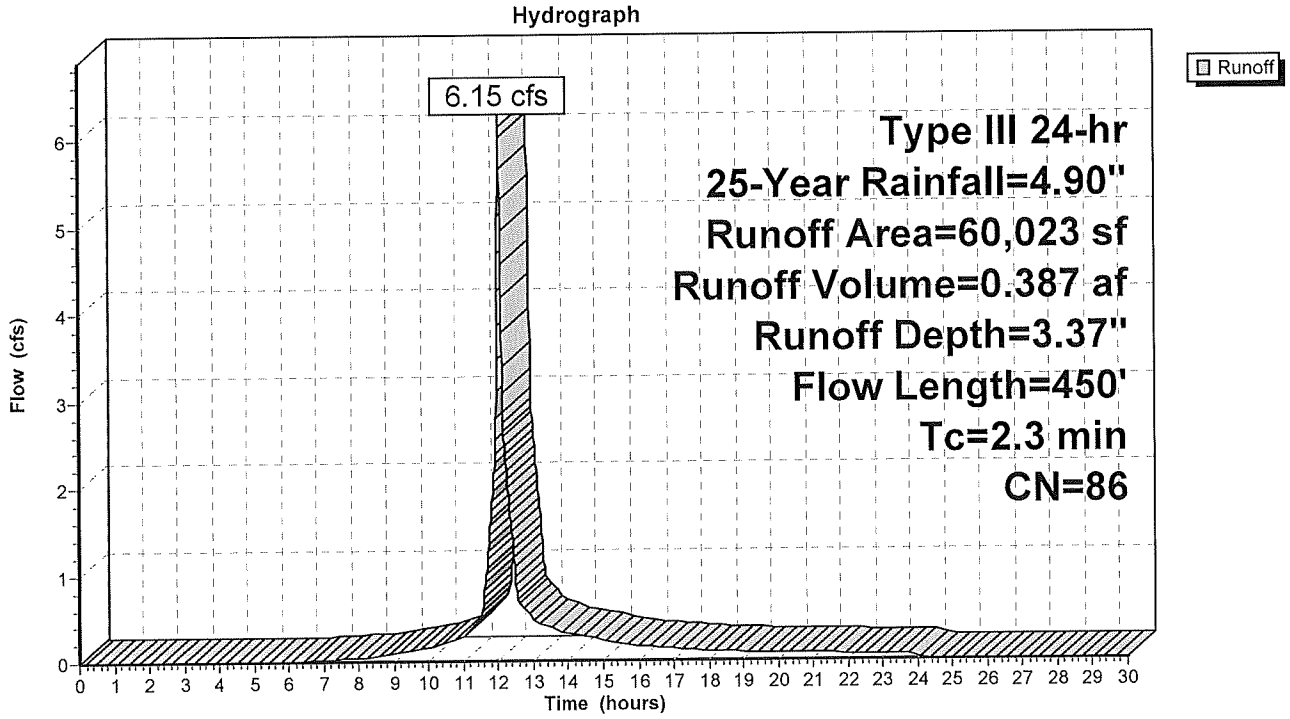
Runoff = 6.15 cfs @ 12.03 hrs, Volume= 0.387 af, Depth= 3.37"
Routed to Pond E3P : CB 1342

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
41,275	98	Paved parking, HSG B
13,138	61	>75% Grass cover, Good, HSG B
5,610	55	Woods, Good, HSG B
60,023	86	Weighted Average
18,748		31.23% Pervious Area
41,275		68.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	25	0.0100	0.75		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.92"
1.7	425	0.0420	4.16		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
2.3	450	Total			

Subcatchment E4S: TO CB1342



Summary for Subcatchment E5S: TO CB 1231

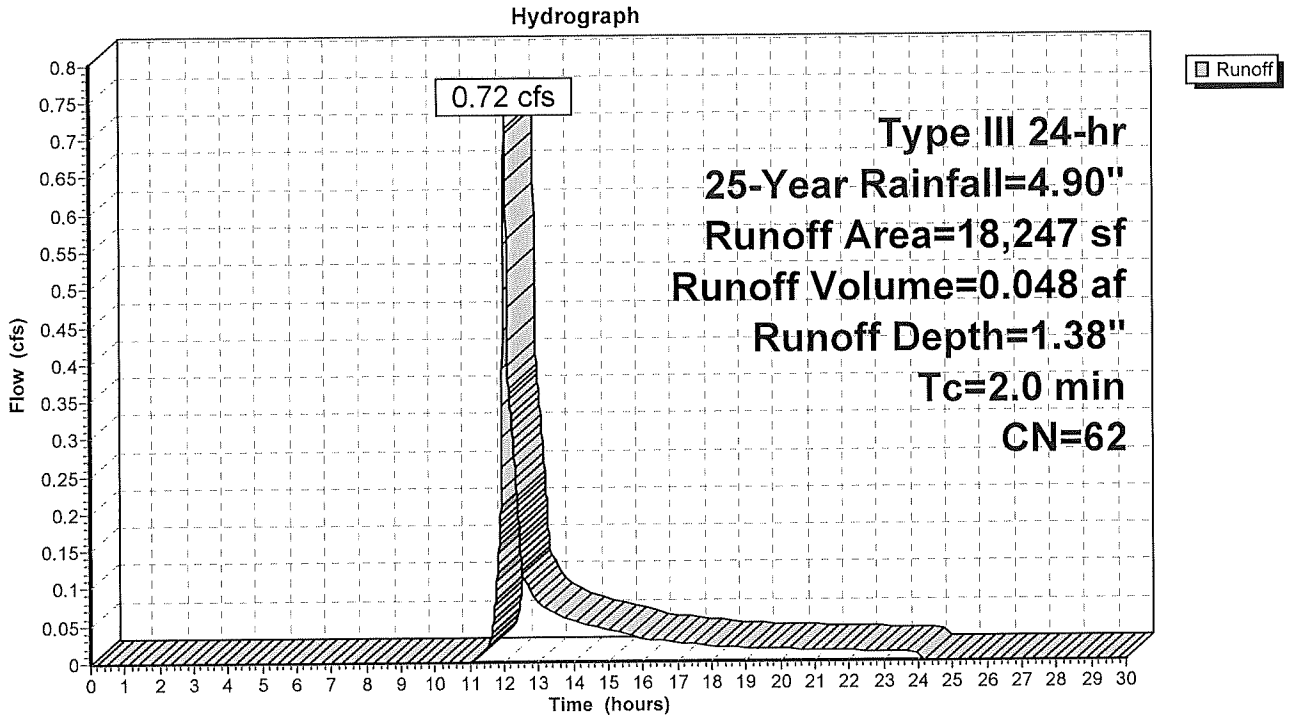
Runoff = 0.72 cfs @ 12.04 hrs, Volume= 0.048 af, Depth= 1.38"
Routed to Pond E4P : CB 1231

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
7,910	98	Paved parking, HSG B
5,325	39	>75% Grass cover, Good, HSG A
5,012	30	Woods, Good, HSG A
18,247	62	Weighted Average
10,337		56.65% Pervious Area
7,910		43.35% Impervious Area

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

Subcatchment E5S: TO CB 1231



Summary for Subcatchment E6S: TO CB 1675

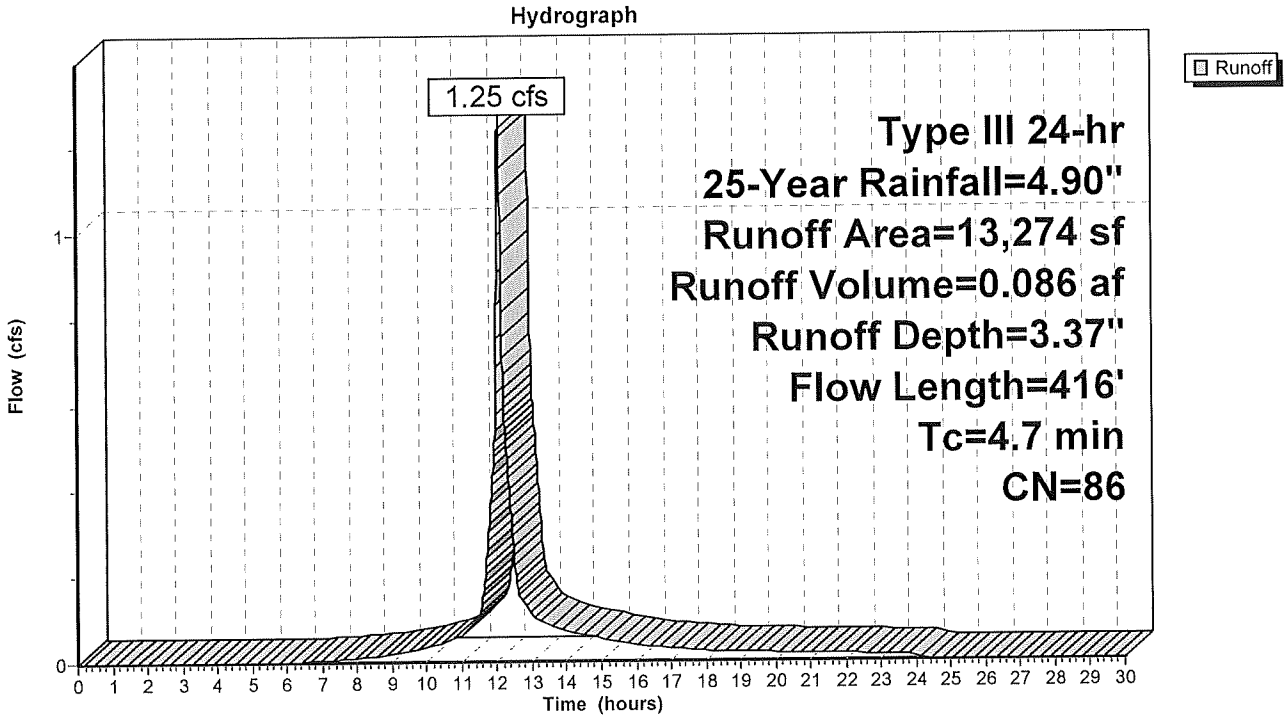
Runoff = 1.25 cfs @ 12.07 hrs, Volume= 0.086 af, Depth= 3.37"
Routed to Pond 5P : CT. ST. CB1675

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=4.90"

Area (sf)	CN	Description
10,968	98	Paved parking, HSG B
2,306	30	Woods, Good, HSG A
13,274	86	Weighted Average
2,306		17.37% Pervious Area
10,968		82.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	100	0.0050	0.75		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.92"
2.5	316	0.0200	2.12		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
4.7	416	Total			

Subcatchment E6S: TO CB 1675



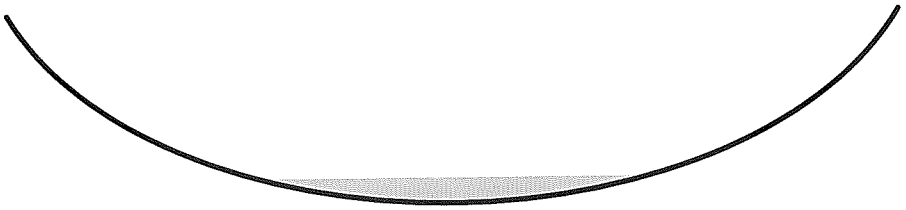
Summary for Reach 1A: SWALE UPSTREAM

Inflow Area = 52.701 ac, 4.11% Impervious, Inflow Depth = 0.90" for 25-Year event
Inflow = 14.82 cfs @ 13.13 hrs, Volume= 3.950 af
Outflow = 14.76 cfs @ 13.15 hrs, Volume= 3.950 af, Atten= 0%, Lag= 1.7 min
Routed to Reach 1B : SWALE ON SITE

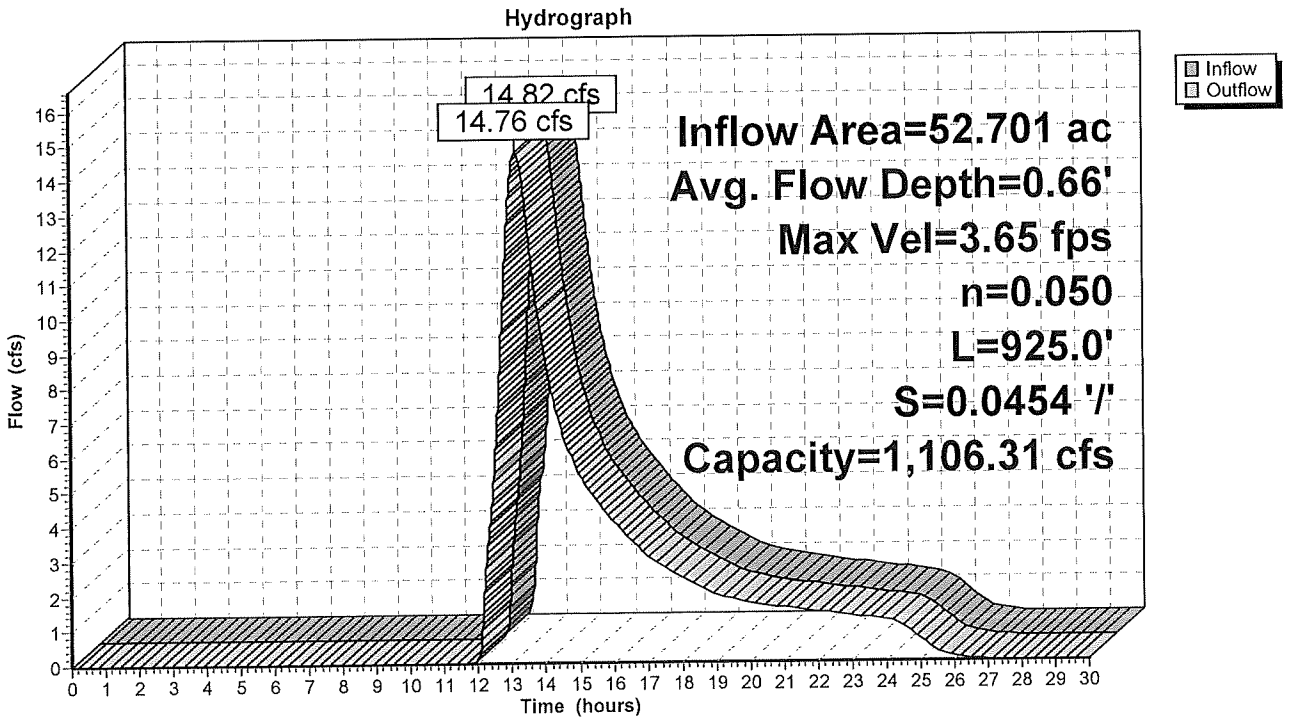
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 3.65 fps, Min. Travel Time= 4.2 min
Avg. Velocity = 1.83 fps, Avg. Travel Time= 8.4 min

Peak Storage= 3,739 cf @ 13.15 hrs
Average Depth at Peak Storage= 0.66' , Surface Width= 9.12'
Bank-Full Depth= 5.00' Flow Area= 83.3 sf, Capacity= 1,106.31 cfs

25.00' x 5.00' deep Parabolic Channel, n= 0.050
Length= 925.0' Slope= 0.0454 '/'
Inlet Invert= 568.00', Outlet Invert= 526.00'



Reach 1A: SWALE UPSTREAM



Summary for Reach 1B: SWALE ON SITE

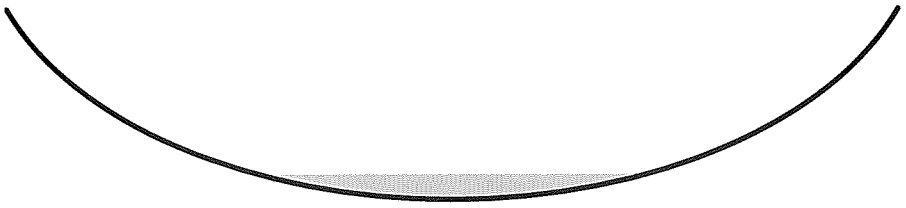
UPSTREAM OF BOX CULVERT

Inflow Area = 60.121 ac, 6.14% Impervious, Inflow Depth = 0.97" for 25-Year event
Inflow = 16.11 cfs @ 13.15 hrs, Volume= 4.873 af
Outflow = 16.10 cfs @ 13.16 hrs, Volume= 4.873 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 8P : BOX CULVERT

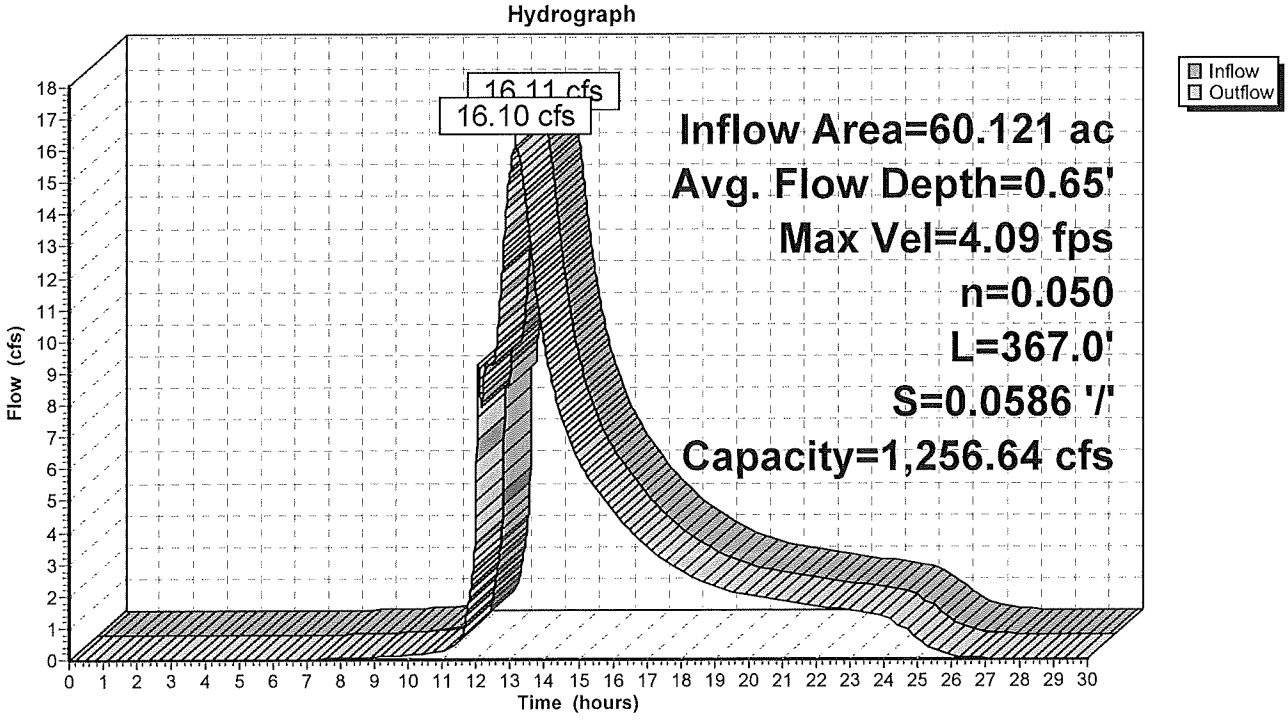
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 4.09 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.83 fps, Avg. Travel Time= 3.3 min

Peak Storage= 1,443 cf @ 13.16 hrs
Average Depth at Peak Storage= 0.65' , Surface Width= 9.03'
Bank-Full Depth= 5.00' Flow Area= 83.3 sf, Capacity= 1,256.64 cfs

25.00' x 5.00' deep Parabolic Channel, n= 0.050 Mountain streams w/large boulders
Length= 367.0' Slope= 0.0586 '/'
Inlet Invert= 525.00', Outlet Invert= 503.50'



Reach 1B: SWALE ON SITE



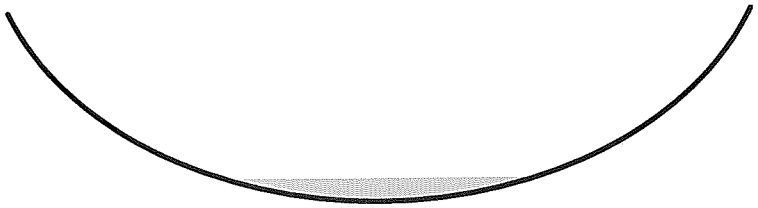
Summary for Reach 1C: SWALE DOWNSTREAM

Inflow Area = 62.223 ac, 6.95% Impervious, Inflow Depth = 0.97" for 25-Year event
Inflow = 16.66 cfs @ 13.15 hrs, Volume= 5.055 af
Outflow = 16.66 cfs @ 13.16 hrs, Volume= 5.055 af, Atten= 0%, Lag= 0.3 min
Routed to Link OP1 : COURT ST. BOX CULV.

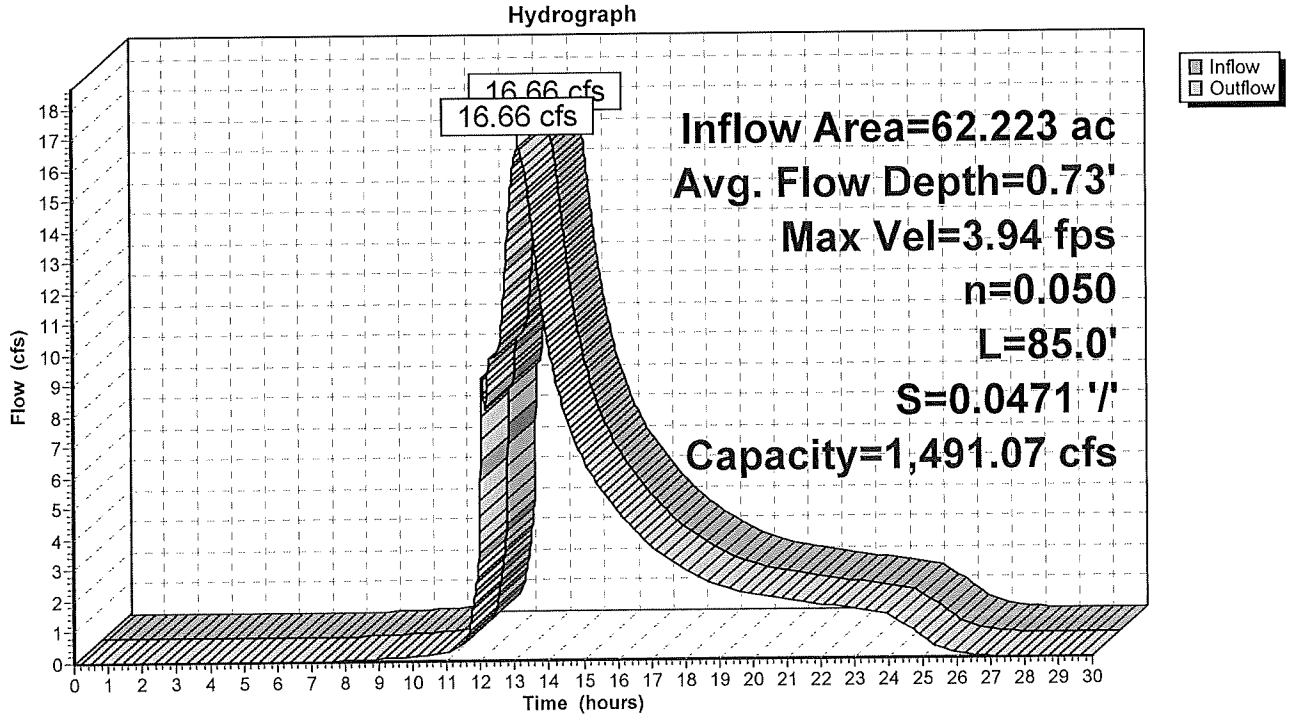
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 3.94 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.75 fps, Avg. Travel Time= 0.8 min

Peak Storage= 360 cf @ 13.16 hrs
Average Depth at Peak Storage= 0.73' , Surface Width= 8.71'
Bank-Full Depth= 6.00' Flow Area= 100.0 sf, Capacity= 1,491.07 cfs

25.00' x 6.00' deep Parabolic Channel, n= 0.050
Length= 85.0' Slope= 0.0471 '/'
Inlet Invert= 500.00', Outlet Invert= 496.00'



Reach 1C: SWALE DOWNSTREAM



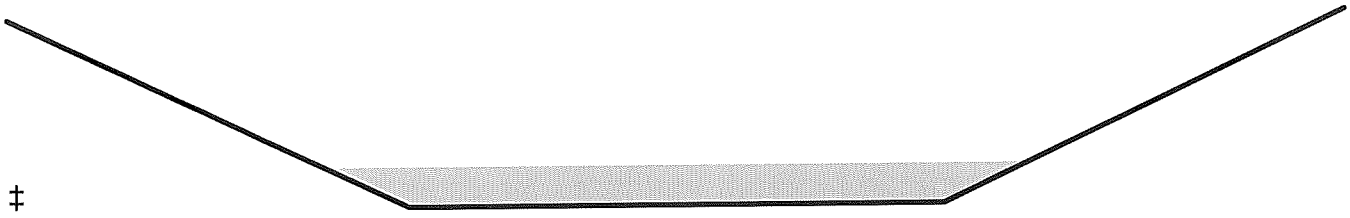
Summary for Reach 101R: TS1

Inflow Area = 0.386 ac, 24.84% Impervious, Inflow Depth = 0.87" for 25-Year event
Inflow = 0.30 cfs @ 12.11 hrs, Volume= 0.028 af
Outflow = 0.22 cfs @ 12.20 hrs, Volume= 0.028 af, Atten= 26%, Lag= 5.6 min
Routed to Pond 3P : INFIL. TRENCH IB1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.23 fps, Min. Travel Time= 7.4 min
Avg. Velocity = 0.08 fps, Avg. Travel Time= 22.1 min

Peak Storage= 98 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.21' , Surface Width= 5.27'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 3.78 cfs

4.00' x 1.00' deep channel, n= 0.150
Side Slope Z-value= 3.0 '/' Top Width= 10.00'
Length= 100.0' Slope= 0.0050 '/'
Inlet Invert= 511.40', Outlet Invert= 510.90'



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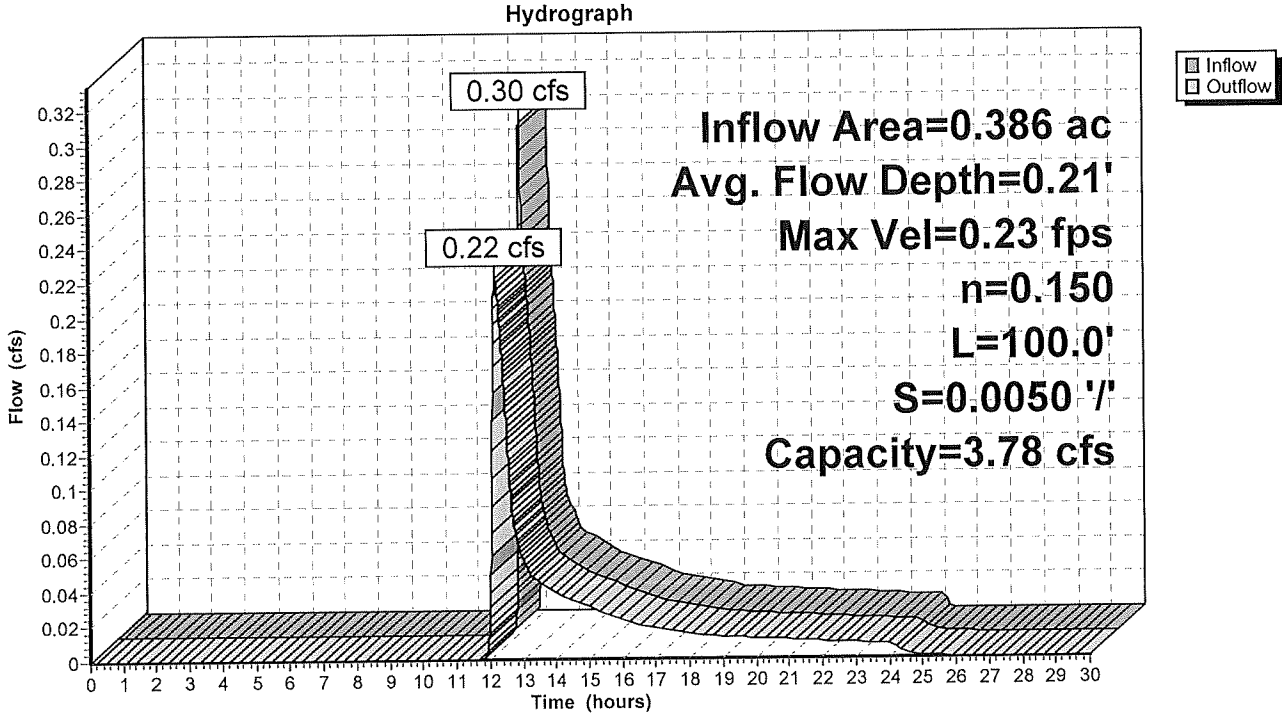
Reach 101R: TS1



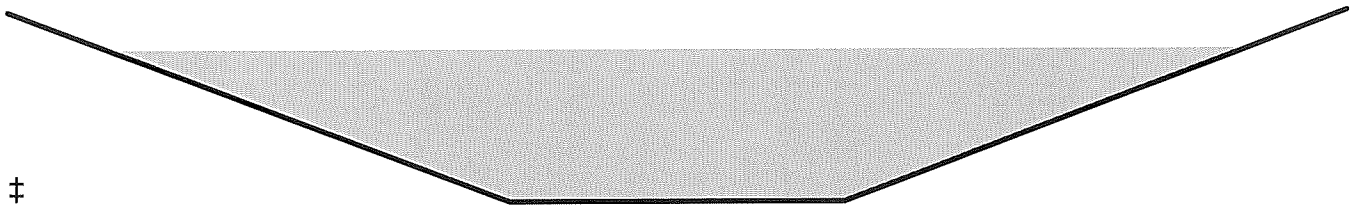
Summary for Reach 201R: TS4-DITCH

Inflow Area = 3.121 ac, 2.97% Impervious, Inflow Depth = 1.38" for 25-Year event
Inflow = 3.59 cfs @ 12.20 hrs, Volume= 0.358 af
Outflow = 3.48 cfs @ 12.24 hrs, Volume= 0.358 af, Atten= 3%, Lag= 2.3 min
Routed to Pond 10P : INFIL. TRENCH IB3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.99 fps, Min. Travel Time= 2.7 min
Avg. Velocity = 0.36 fps, Avg. Travel Time= 7.5 min

Peak Storage= 565 cf @ 12.24 hrs
Average Depth at Peak Storage= 0.80' , Surface Width= 6.81'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 5.58 cfs

2.00' x 1.00' deep channel, n= 0.150
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 160.0' Slope= 0.0250 '/'
Inlet Invert= 538.00', Outlet Invert= 534.00'



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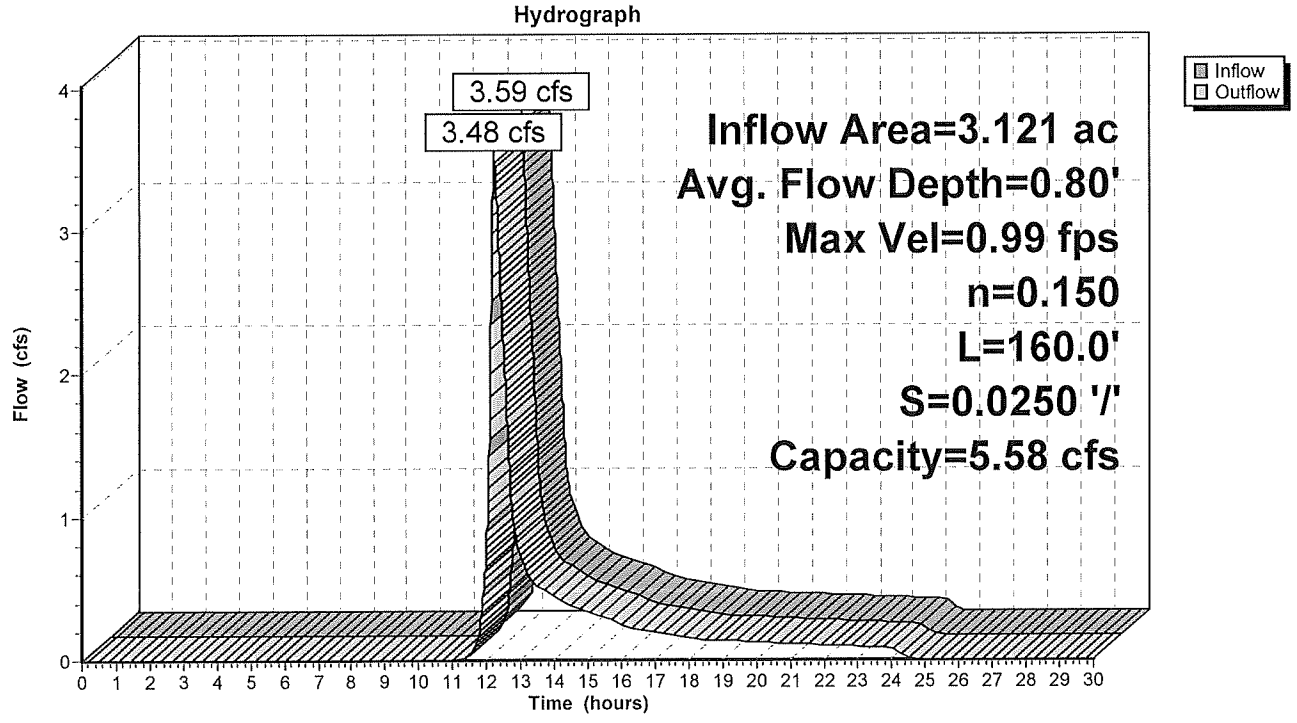
Reach 201R: TS4-DITCH



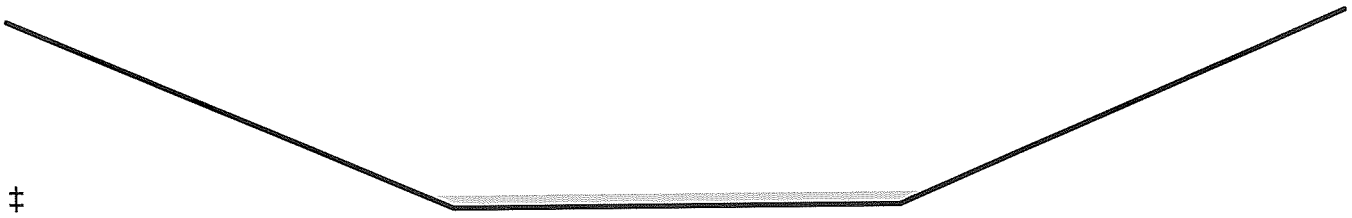
Summary for Reach 202R: TS2

Inflow Area = 0.238 ac, 8.05% Impervious, Inflow Depth = 0.60" for 25-Year event
Inflow = 0.09 cfs @ 12.13 hrs, Volume= 0.012 af
Outflow = 0.08 cfs @ 12.28 hrs, Volume= 0.012 af, Atten= 18%, Lag= 9.1 min
Routed to Reach 203R : TS3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.35 fps, Min. Travel Time= 6.2 min
Avg. Velocity = 0.15 fps, Avg. Travel Time= 14.1 min

Peak Storage= 28 cf @ 12.28 hrs
Average Depth at Peak Storage= 0.07' , Surface Width= 3.40'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 9.91 cfs

3.00' x 1.00' deep channel, n= 0.150
Side Slope Z-value= 3.0 '/' Top Width= 9.00'
Length= 130.0' Slope= 0.0500 '/'
Inlet Invert= 530.00', Outlet Invert= 523.50'



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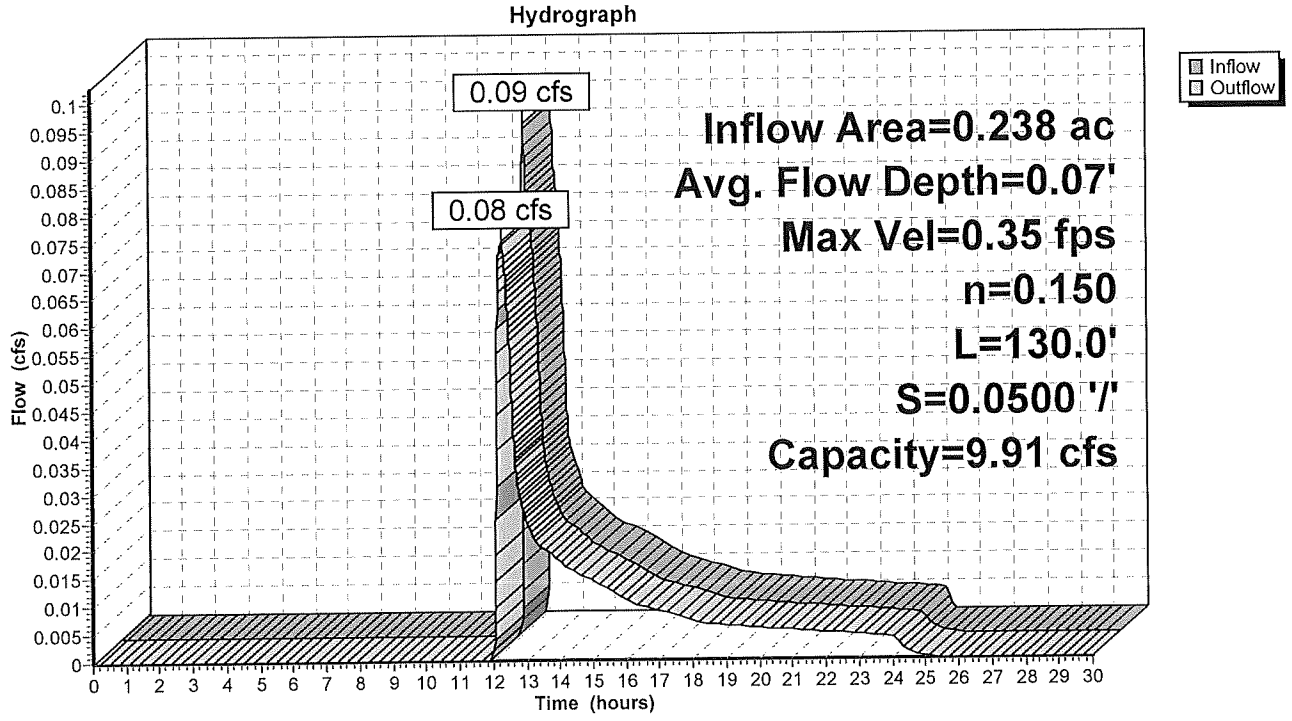
Reach 202R: TS2



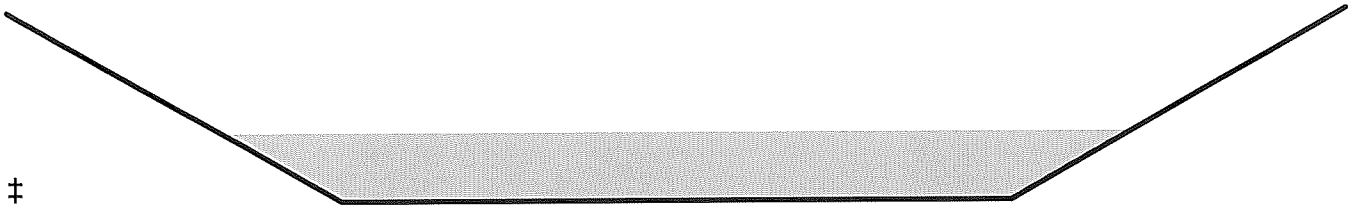
Summary for Reach 203R: TS3

Inflow Area = 0.658 ac, 38.80% Impervious, Inflow Depth = 1.89" for 25-Year event
Inflow = 1.31 cfs @ 12.09 hrs, Volume= 0.104 af
Outflow = 1.16 cfs @ 12.14 hrs, Volume= 0.104 af, Atten= 12%, Lag= 2.7 min
Routed to Pond 2P : GRAVEL WETLAND WP2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.45 fps, Min. Travel Time= 4.6 min
Avg. Velocity = 0.12 fps, Avg. Travel Time= 17.7 min

Peak Storage= 320 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.36' , Surface Width= 8.17'
Bank-Full Depth= 1.00' Flow Area= 9.0 sf, Capacity= 7.23 cfs

6.00' x 1.00' deep channel, n= 0.150
Side Slope Z-value= 3.0 '/' Top Width= 12.00'
Length= 125.0' Slope= 0.0100 '/'
Inlet Invert= 522.00', Outlet Invert= 520.75'



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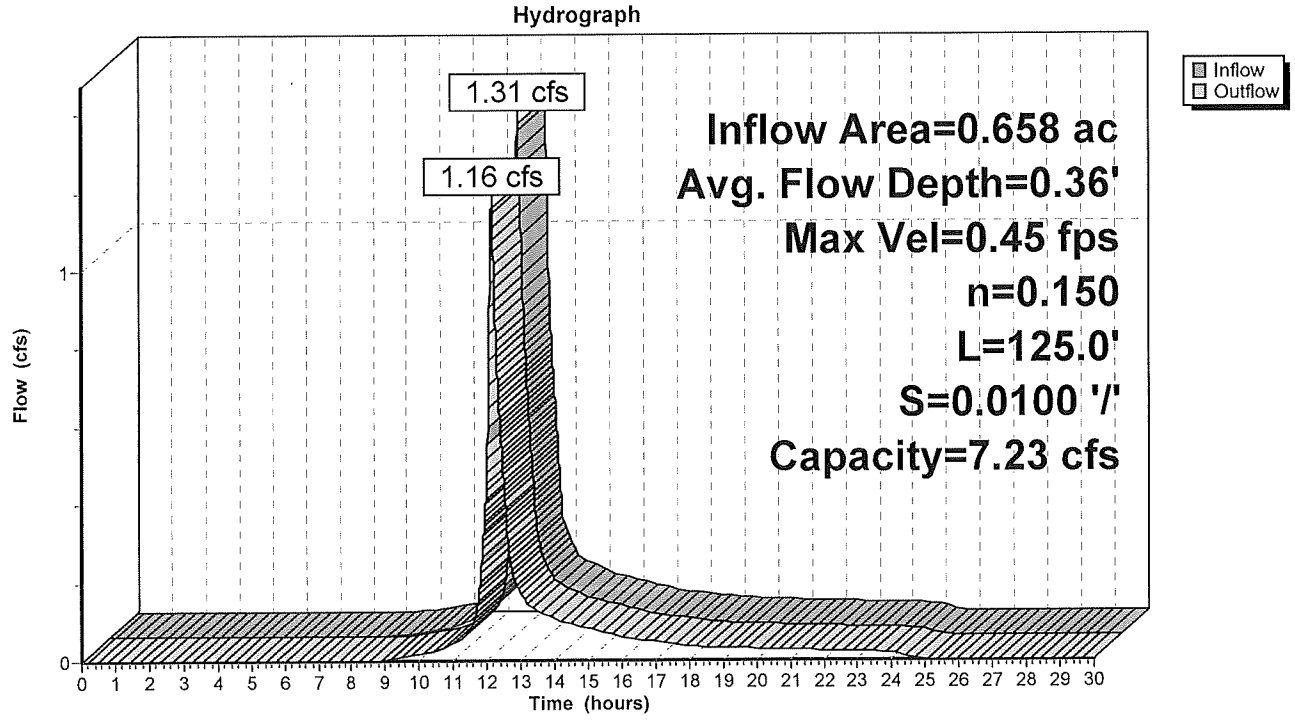
Reach 203R: TS3



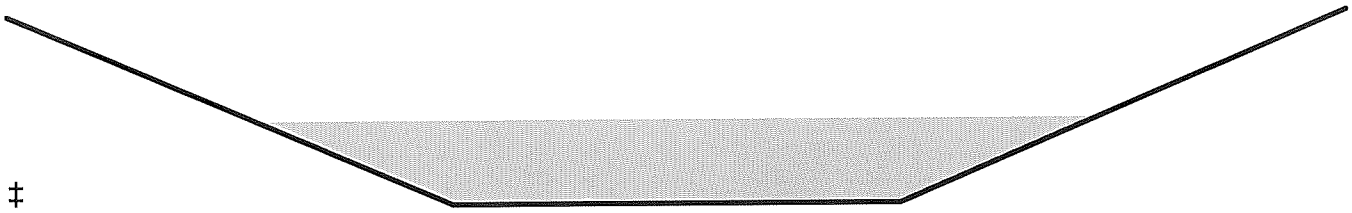
Summary for Reach 301R: TS5

Inflow Area = 1.772 ac, 9.96% Impervious, Inflow Depth = 1.24" for 25-Year event
Inflow = 2.30 cfs @ 12.10 hrs, Volume= 0.184 af
Outflow = 1.59 cfs @ 12.20 hrs, Volume= 0.183 af, Atten= 31%, Lag= 5.7 min
Routed to Pond 9P : INFIL. BASIN IB4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.83 fps, Min. Travel Time= 9.6 min
Avg. Velocity = 0.27 fps, Avg. Travel Time= 29.3 min

Peak Storage= 912 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.44' , Surface Width= 5.66'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 7.74 cfs

3.00' x 1.00' deep channel, n= 0.150
Side Slope Z-value= 3.0 '/' Top Width= 9.00'
Length= 475.0' Slope= 0.0305 '/'
Inlet Invert= 547.00', Outlet Invert= 532.50'



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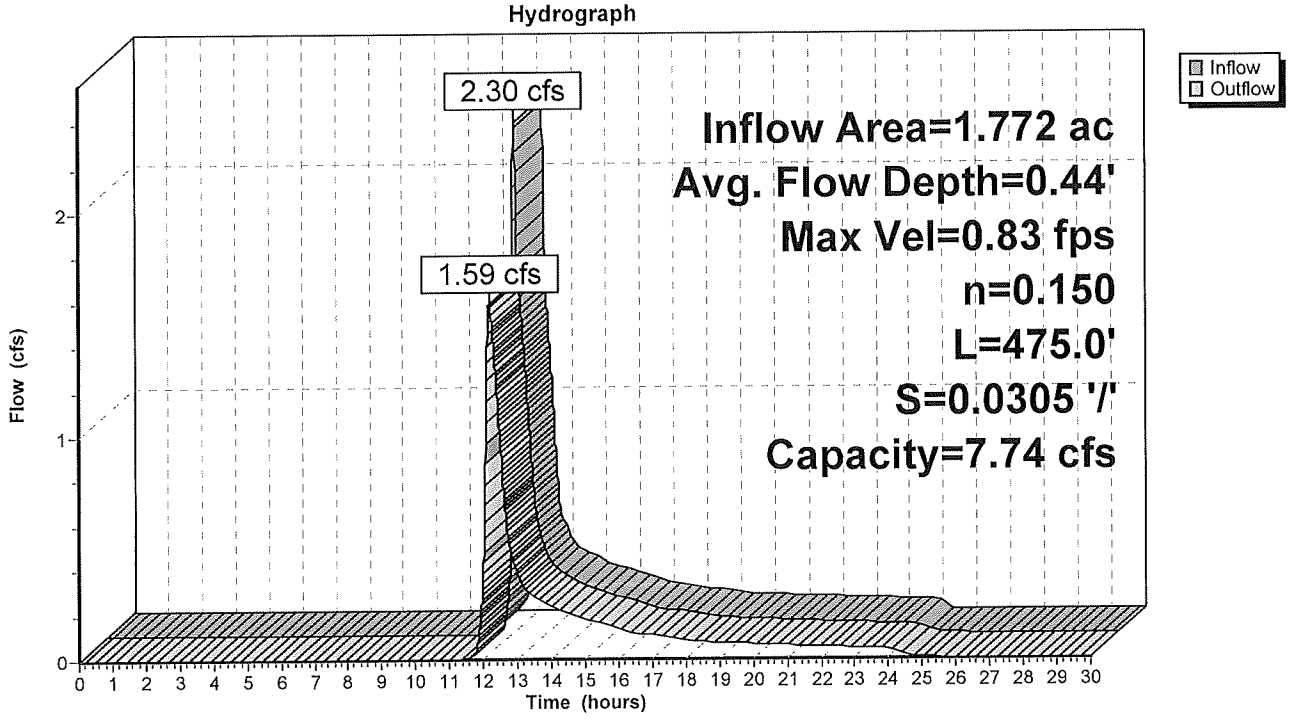
Reach 301R: TS5



Summary for Pond 1P: GRAVEL WETLAND WP1

Inflow Area = 1.097 ac, 32.98% Impervious, Inflow Depth = 1.44" for 25-Year event
Inflow = 1.72 cfs @ 12.09 hrs, Volume= 0.132 af
Outflow = 0.42 cfs @ 12.52 hrs, Volume= 0.102 af, Atten= 75%, Lag= 25.9 min
Primary = 0.42 cfs @ 12.52 hrs, Volume= 0.102 af
Routed to Pond 8P : BOX CULVERT
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 8P : BOX CULVERT

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 510.11' @ 12.52 hrs Surf.Area= 3,339 sf Storage= 2,127 cf

Plug-Flow detention time= 160.4 min calculated for 0.102 af (77% of inflow)
Center-of-Mass det. time= 71.7 min (925.7 - 854.0)

Volume	Invert	Avail.Storage	Storage Description
#1	510.00'	5,095 cf	**POND (Prismatic)** Listed below (Recalc)
#2	507.00'	1,941 cf	**STONE (Prismatic)** Listed below (Recalc) 4,860 cf Overall - 7 cf Embedded = 4,853 cf x 40.0% Voids
#3	507.50'	7 cf	**4.0" Round SUB DRAIN** Inside #2 L= 75.0'
		7,043 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
510.00	1,620	0	0
512.00	3,475	5,095	5,095

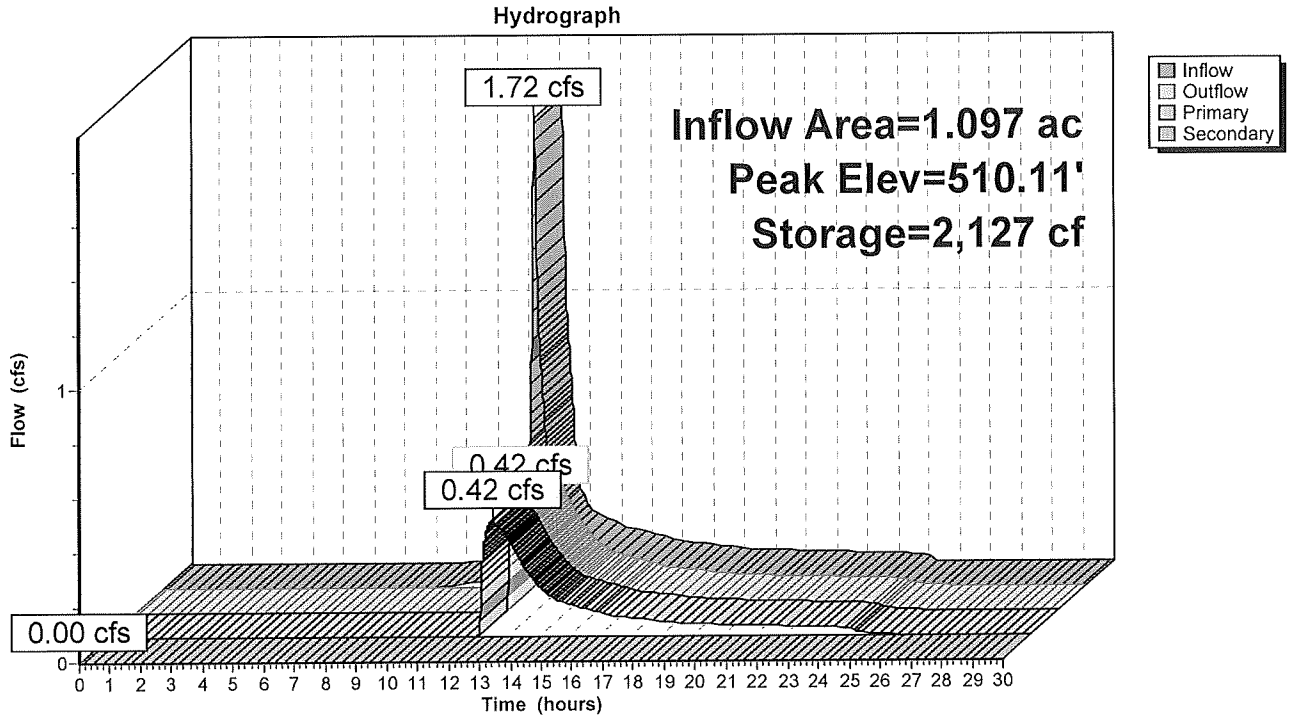
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
507.00	1,620	0	0
508.00	1,620	1,620	1,620
510.00	1,620	3,240	4,860

Device	Routing	Invert	Outlet Devices
#1	Primary	508.00'	**12.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 508.00' / 507.90' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	511.00'	**24.0" x 24.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	510.00'	**2.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#4	Secondary	511.25'	**8.0' long + 3.0 '/' SideZ x 6.0' breadth SPILLWAY** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#5	Device 1	509.00'	**4.0" Vert. UNDERDRAIN** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.42 cfs @ 12.52 hrs HW=510.11' TW=503.75' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.42 cfs of 4.79 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**3=Orifice** (Orifice Controls 0.02 cfs @ 1.11 fps)
  └─**5=UNDERDRAIN** (Orifice Controls 0.41 cfs @ 4.67 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=507.00' TW=503.00' (Dynamic Tailwater)
└─**4=SPILLWAY** (Controls 0.00 cfs)

Pond 1P: GRAVEL WETLAND WP1



Summary for Pond 2P: GRAVEL WETLAND WP2

Inflow Area = 1.004 ac, 26.48% Impervious, Inflow Depth = 1.33" for 25-Year event
Inflow = 1.16 cfs @ 12.14 hrs, Volume= 0.111 af
Outflow = 0.24 cfs @ 12.75 hrs, Volume= 0.079 af, Atten= 79%, Lag= 36.7 min
Primary = 0.24 cfs @ 12.75 hrs, Volume= 0.079 af
Routed to Pond 8P : BOX CULVERT
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 8P : BOX CULVERT

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 515.80' @ 12.75 hrs Surf.Area= 1,315 sf Storage= 2,001 cf

Plug-Flow detention time= 197.9 min calculated for 0.079 af (72% of inflow)
Center-of-Mass det. time= 93.8 min (953.4 - 859.6)

Volume	Invert	Avail.Storage	Storage Description
#1	516.00'	3,853 cf	**POND (Prismatic)** Listed below (Recalc)
#2	512.00'	2,102 cf	**STONE (Prismatic)** Listed below (Recalc) 5,260 cf Overall - 6 cf Embedded = 5,254 cf x 40.0% Voids
#3	512.50'	6 cf	**4.0" Round SUB-DRAIN** Inside #2 L= 65.0'
		5,960 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
516.00	1,315	0	0
518.00	2,538	3,853	3,853

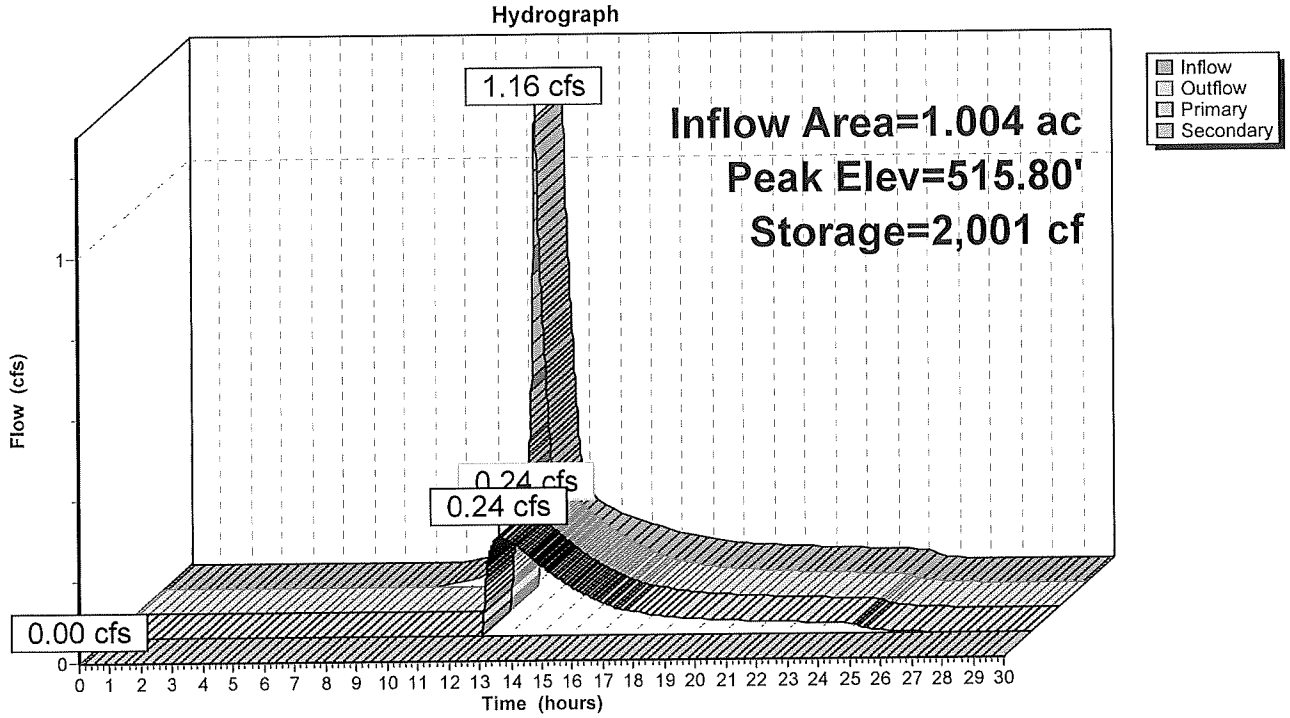
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
512.00	1,315	0	0
516.00	1,315	5,260	5,260

Device	Routing	Invert	Outlet Devices
#1	Primary	514.00'	**12.0" Round Culvert** L= 10.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 514.00' / 513.00' S= 0.1000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	517.00'	**48.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	517.25'	**6.0' long + 3.0 '/' SideZ x 8.0' breadth SPILLWAY** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#4	Device 1	514.60'	**3.0" Vert. UNDERDRAIN** C= 0.600 Limited to weir flow at low heads
#5	Device 1	516.00'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.24 cfs @ 12.75 hrs HW=515.80' TW=503.88' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.24 cfs of 3.80 cfs potential flow)
  ├─**2=Grate** (Controls 0.00 cfs)
  ├─**4=UNDERDRAIN** (Orifice Controls 0.24 cfs @ 4.99 fps)
  └─**5=Orifice** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=512.00' TW=503.00' (Dynamic Tailwater)
└─**3=SPILLWAY** (Controls 0.00 cfs)

Pond 2P: GRAVEL WETLAND WP2



Summary for Pond 3P: INFIL. TRENCH IB1

USED 10.0 IN/HR FOR 527C SOILS, 0.6 FOR 365E

Inflow Area = 0.386 ac, 24.84% Impervious, Inflow Depth = 0.87" for 25-Year event
Inflow = 0.22 cfs @ 12.20 hrs, Volume= 0.028 af
Outflow = 0.12 cfs @ 12.58 hrs, Volume= 0.028 af, Atten= 48%, Lag= 22.8 min
Discarded = 0.12 cfs @ 12.58 hrs, Volume= 0.028 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link OP1 : COURT ST. BOX CULV.

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 507.23' @ 12.58 hrs Surf.Area= 400 sf Storage= 134 cf

Plug-Flow detention time= 5.4 min calculated for 0.028 af (100% of inflow)
Center-of-Mass det. time= 5.4 min (918.5 - 913.1)

Volume	Invert	Avail.Storage	Storage Description
#1	506.40'	640 cf	**STONE (Conic)** Listed below (Recalc) 1,600 cf Overall x 40.0% Voids

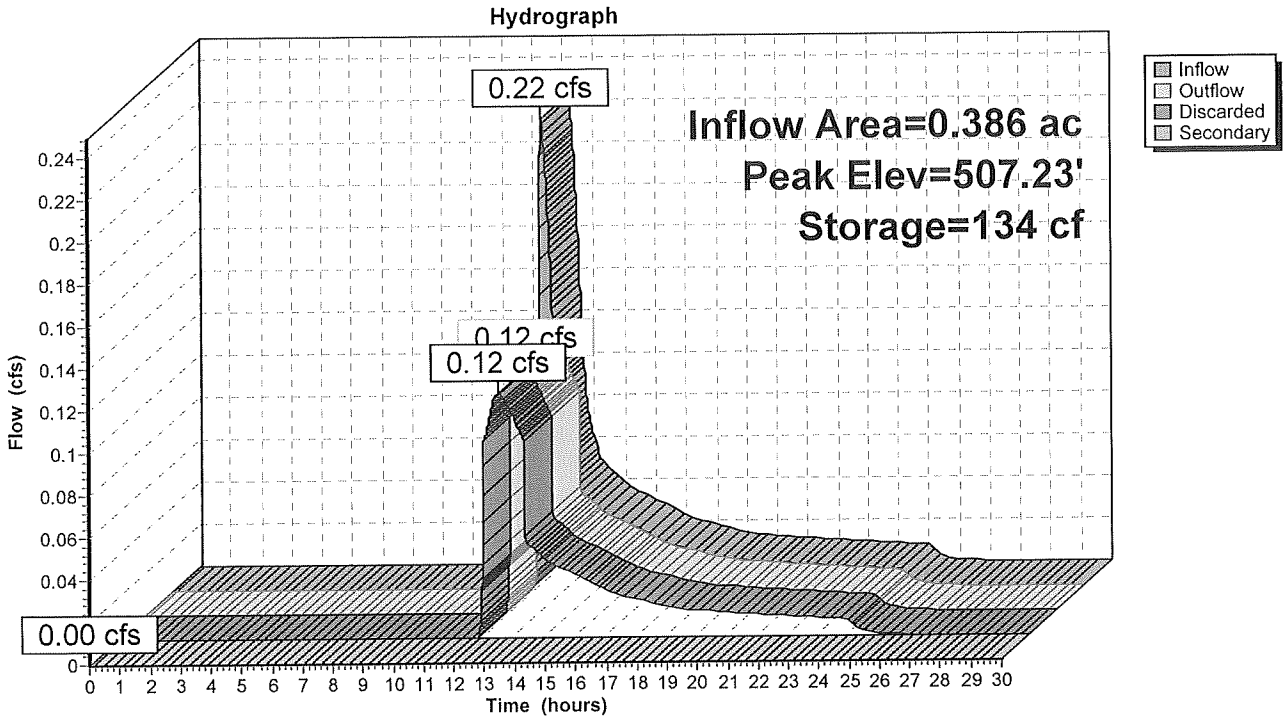
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
506.40	400	0	0	400
510.40	400	1,600	1,600	684

Device	Routing	Invert	Outlet Devices
#1	Discarded	506.40'	**10.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 497.98' Phase-In= 0.01'
#2	Secondary	510.30'	**2.0' long + 3.0 '/' SideZ x 4.0' breadth OVERFLOW** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.12 cfs @ 12.58 hrs HW=507.23' (Free Discharge)
1=Exfiltration (Controls 0.12 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=506.40' TW=0.00' (Dynamic Tailwater)
2=OVERFLOW (Controls 0.00 cfs)

Pond 3P: INFIL. TRENCH IB1



Summary for Pond 4P: DRIP STRIPS IB4

USED 1.0 IN/HR FOR 10B SOILS, 0.6 FOR 365E

Inflow Area = 0.655 ac,100.00% Impervious, Inflow Depth = 4.66" for 25-Year event
Inflow = 3.14 cfs @ 12.08 hrs, Volume= 0.255 af
Outflow = 0.34 cfs @ 12.75 hrs, Volume= 0.255 af, Atten= 89%, Lag= 39.9 min
Discarded = 0.34 cfs @ 12.75 hrs, Volume= 0.255 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link OP1 : COURT ST. BOX CULV.

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 514.77' @ 12.75 hrs Surf.Area= 12,000 sf Storage= 3,678 cf

Plug-Flow detention time= 75.8 min calculated for 0.254 af (100% of inflow)
Center-of-Mass det. time= 75.8 min (824.1 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	514.00'	19,200 cf	**STONE (Conic)** Listed below (Recalc) 48,000 cf Overall x 40.0% Voids

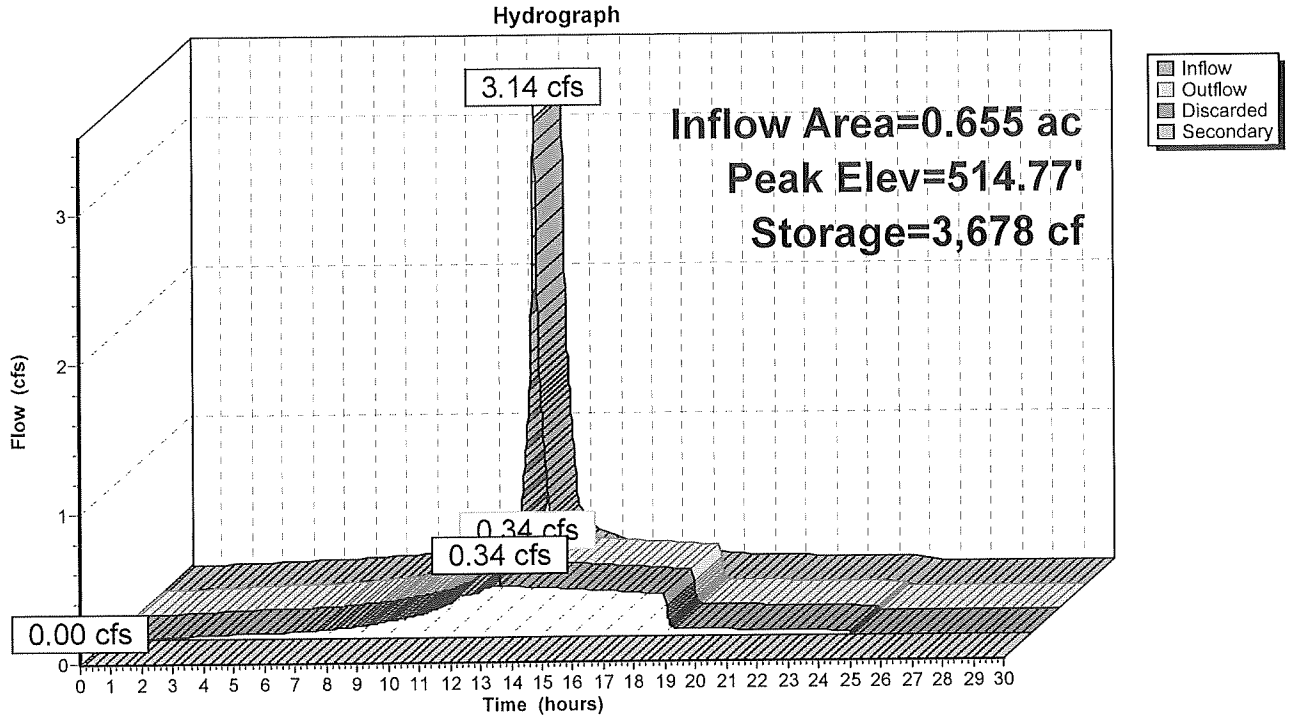
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
514.00	12,000	0	0	12,000
518.00	12,000	48,000	48,000	13,553

Device	Routing	Invert	Outlet Devices
#1	Discarded	514.00'	**1.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 510.00' Phase-In= 0.01'
#2	Secondary	517.80'	**20.0' long + 3.0 '/' SideZ x 4.0' breadth OVERFLOW** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.34 cfs @ 12.75 hrs HW=514.77' (Free Discharge)
└**1=Exfiltration** (Controls 0.34 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=514.00' TW=0.00' (Dynamic Tailwater)
└**2=OVERFLOW** (Controls 0.00 cfs)

Pond 4P: DRIP STRIPS IB4



Summary for Pond 5P: CT. ST. CB1675

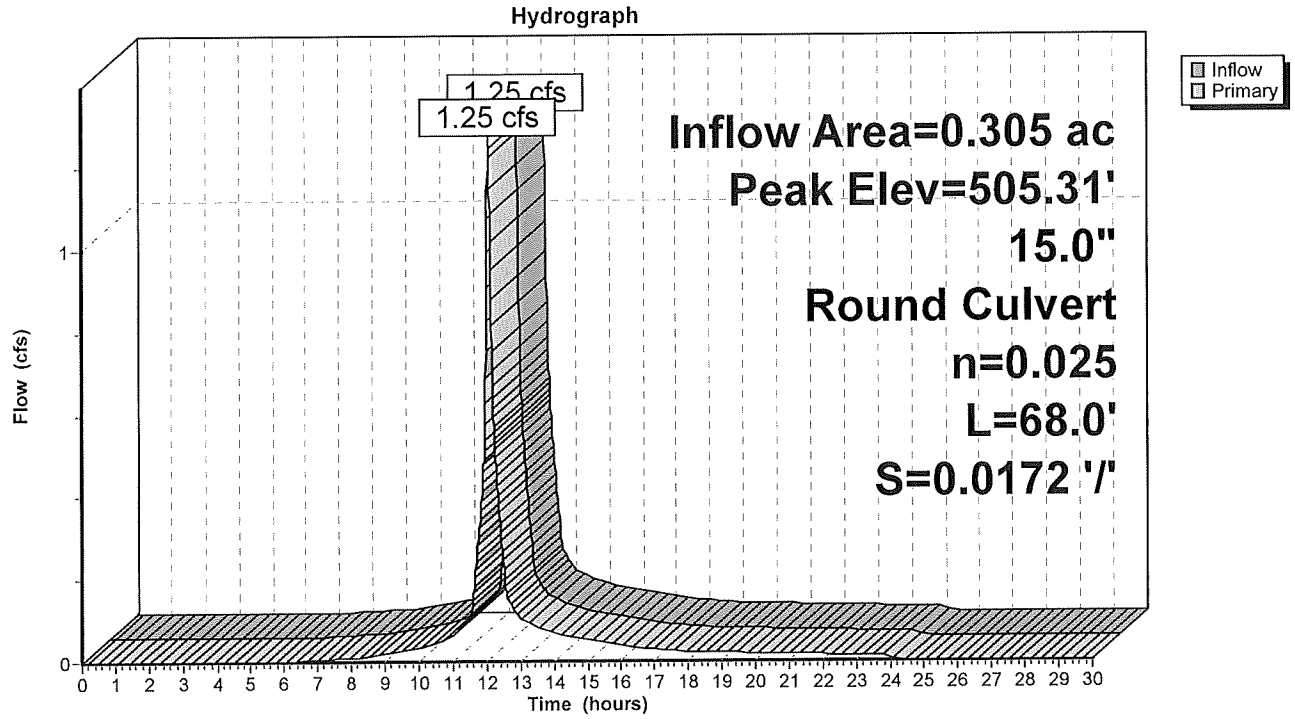
Inflow Area = 0.305 ac, 82.63% Impervious, Inflow Depth = 3.37" for 25-Year event
Inflow = 1.25 cfs @ 12.07 hrs, Volume= 0.086 af
Outflow = 1.25 cfs @ 12.07 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min
Primary = 1.25 cfs @ 12.07 hrs, Volume= 0.086 af
Routed to Link OP1 : COURT ST. BOX CULV.

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 505.31' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	504.69'	**15.0" Round Culvert** L= 68.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 504.69' / 503.52' S= 0.0172 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=1.25 cfs @ 12.07 hrs HW=505.31' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 1.25 cfs @ 3.03 fps)

Pond 5P: CT. ST. CB1675



Summary for Pond 6P: INFIL. TRENCH IB2

USED 1.0 IN/HR FOR 10B SOILS, 0.6 FOR 365E

Inflow Area = 3.017 ac, 0.00% Impervious, Inflow Depth = 0.65" for 25-Year event
Inflow = 3.05 cfs @ 12.25 hrs, Volume= 0.164 af
Outflow = 1.21 cfs @ 12.57 hrs, Volume= 0.164 af, Atten= 60%, Lag= 19.5 min
Discarded = 1.21 cfs @ 12.57 hrs, Volume= 0.164 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 1C : SWALE DOWNSTREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 508.41' @ 12.57 hrs Surf.Area= 2,179 sf Storage= 2,052 cf

Plug-Flow detention time= 15.9 min calculated for 0.164 af (100% of inflow)
Center-of-Mass det. time= 15.9 min (878.3 - 862.4)

Volume	Invert	Avail.Storage	Storage Description
#1	508.00'	2,943 cf	**POND (Conic)** Listed below (Recalc)
#2	504.00'	1,600 cf	**STONE (Conic)** Listed below (Recalc) 4,000 cf Overall x 40.0% Voids
		4,543 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
508.00	1,000	0	0	1,000
510.00	2,000	2,943	2,943	2,036

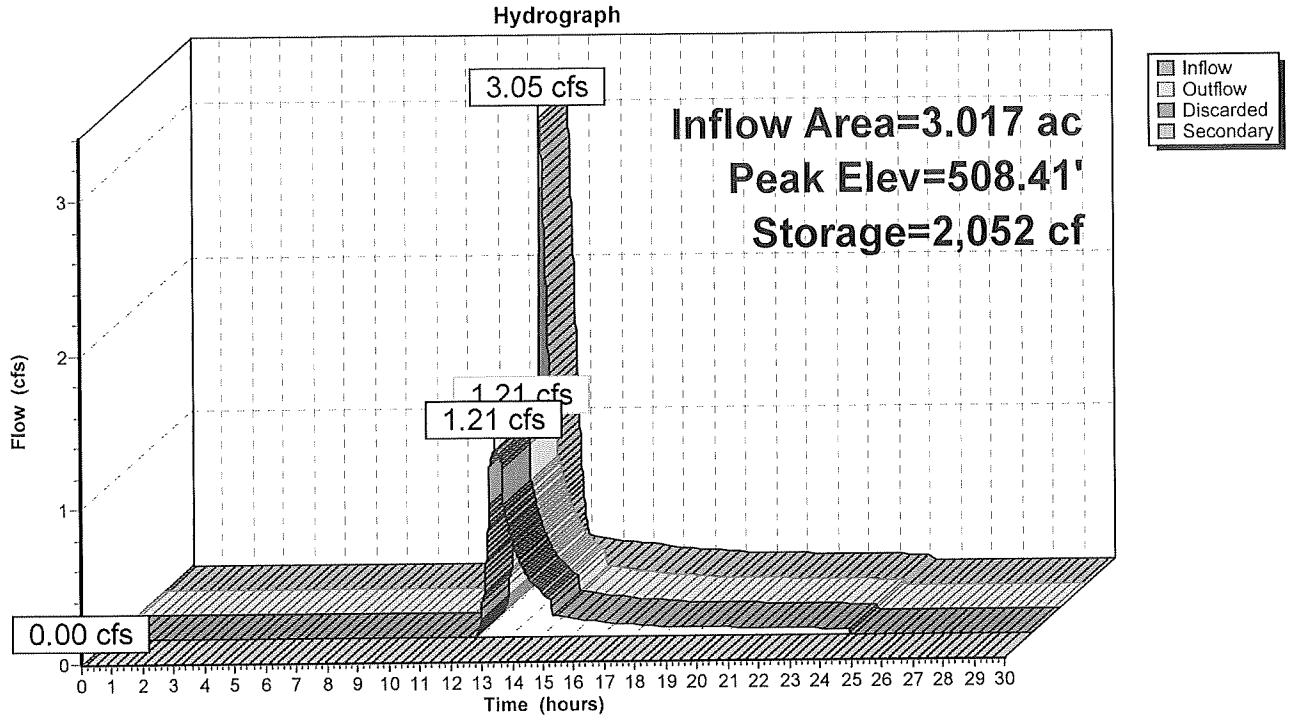
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
504.00	1,000	0	0	1,000
508.00	1,000	4,000	4,000	1,448

Device	Routing	Invert	Outlet Devices
#1	Discarded	504.00'	**10.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 502.00' Phase-In= 0.01'
#2	Secondary	510.50'	**2.0' long + 3.0 '/' SideZ x 4.0' breadth OVERFLOW** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=1.21 cfs @ 12.57 hrs HW=508.41' (Free Discharge)
↑—**1=Exfiltration** (Controls 1.21 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=504.00' TW=500.00' (Dynamic Tailwater)
↑—**2=OVERFLOW** (Controls 0.00 cfs)

Pond 6P: INFIL. TRENCH IB2



Summary for Pond 7P: BOX

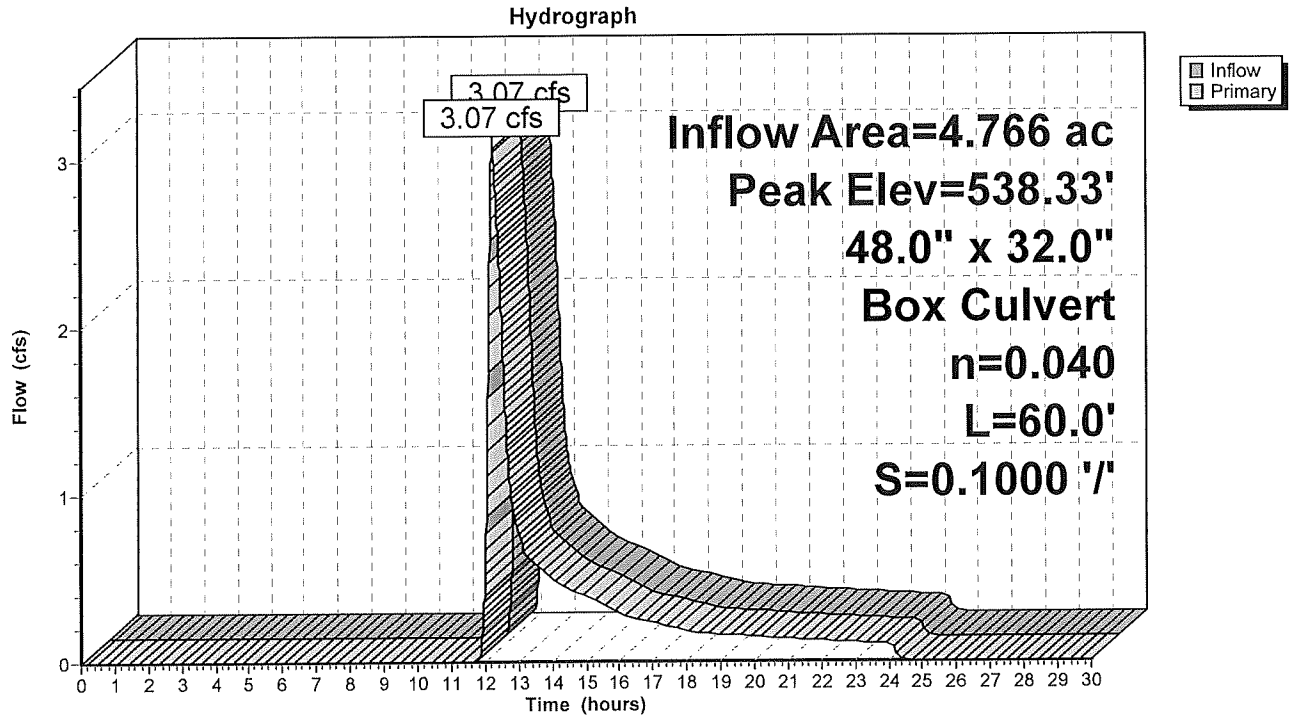
Inflow Area = 4.766 ac, 0.00% Impervious, Inflow Depth = 0.93" for 25-Year event
Inflow = 3.07 cfs @ 12.24 hrs, Volume= 0.370 af
Outflow = 3.07 cfs @ 12.24 hrs, Volume= 0.370 af, Atten= 0%, Lag= 0.0 min
Primary = 3.07 cfs @ 12.24 hrs, Volume= 0.370 af
Routed to Reach 1B : SWALE ON SITE

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 538.33' @ 12.24 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	538.00'	**48.0" W x 32.0" H Box Culvert** L= 60.0' Box, headwall w/3 rounded edges, Ke= 0.200 Inlet / Outlet Invert= 538.00' / 532.00' S= 0.1000 '/' Cc= 0.900 n= 0.040 Earth, cobble bottom, clean sides, Flow Area= 10.67 sf

Primary OutFlow Max=3.07 cfs @ 12.24 hrs HW=538.33' TW=525.50' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 3.07 cfs @ 2.31 fps)

Pond 7P: BOX



Summary for Pond 8P: BOX CULVERT

Inflow Area = 62.223 ac, 6.95% Impervious, Inflow Depth = 0.97" for 25-Year event
Inflow = 16.66 cfs @ 13.15 hrs, Volume= 5.055 af
Outflow = 16.66 cfs @ 13.15 hrs, Volume= 5.055 af, Atten= 0%, Lag= 0.0 min
Primary = 16.66 cfs @ 13.15 hrs, Volume= 5.055 af
Routed to Reach 1C : SWALE DOWNSTREAM
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 1C : SWALE DOWNSTREAM

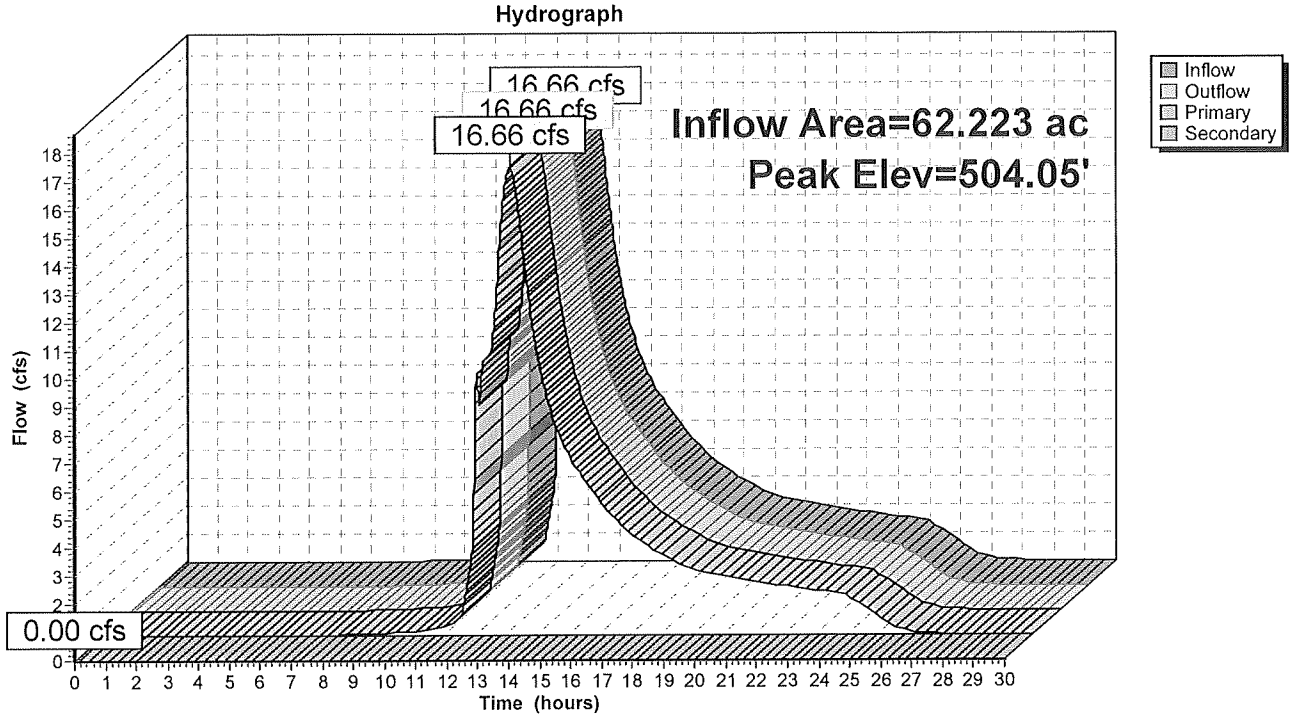
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 504.05' @ 13.15 hrs
Flood Elev= 506.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	503.00'	**72.0" W x 48.0" H Box BOX Culvert** L= 60.0' Box, 30-75° wingwalls, square crown, Ke= 0.400 Inlet / Outlet Invert= 503.00' / 500.00' S= 0.0500 '/' Cc= 0.900 n= 0.069 Riprap, 6-inch, Flow Area= 24.00 sf
#2	Secondary	512.20'	**6.0' long + 4.0 '/' SideZ x 20.0' breadth ROAD** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=16.66 cfs @ 13.15 hrs HW=504.05' TW=500.73' (Dynamic Tailwater)
↑—**1=BOX Culvert** (Barrel Controls 16.66 cfs @ 3.51 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=503.00' TW=500.00' (Dynamic Tailwater)
↑—**2=ROAD** (Controls 0.00 cfs)

Pond 8P: BOX CULVERT



Summary for Pond 9P: INFIL. BASIN IB4

USED 1.0 IN/HR FOR 10B SOILS, 0.6 FOR 365E

Inflow Area = 1.772 ac, 9.96% Impervious, Inflow Depth > 1.24" for 25-Year event
Inflow = 1.59 cfs @ 12.20 hrs, Volume= 0.183 af
Outflow = 0.95 cfs @ 12.53 hrs, Volume= 0.183 af, Atten= 40%, Lag= 20.1 min
Discarded = 0.95 cfs @ 12.53 hrs, Volume= 0.183 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 1A : SWALE UPSTREAM

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 530.74' @ 12.53 hrs Surf.Area= 2,069 sf Storage= 1,047 cf

Plug-Flow detention time= 7.9 min calculated for 0.183 af (100% of inflow)
Center-of-Mass det. time= 7.9 min (902.6 - 894.6)

Volume	Invert	Avail.Storage	Storage Description
#1	529.00'	400 cf	**POND (Conic)** Listed below (Recalc) 1,000 cf Overall x 40.0% Voids
#2	530.00'	948 cf	**ABOVE (Prismatic)** Listed below (Recalc)
		1,348 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
529.00	1,000	0	0	1,000
530.00	1,000	1,000	1,000	1,112

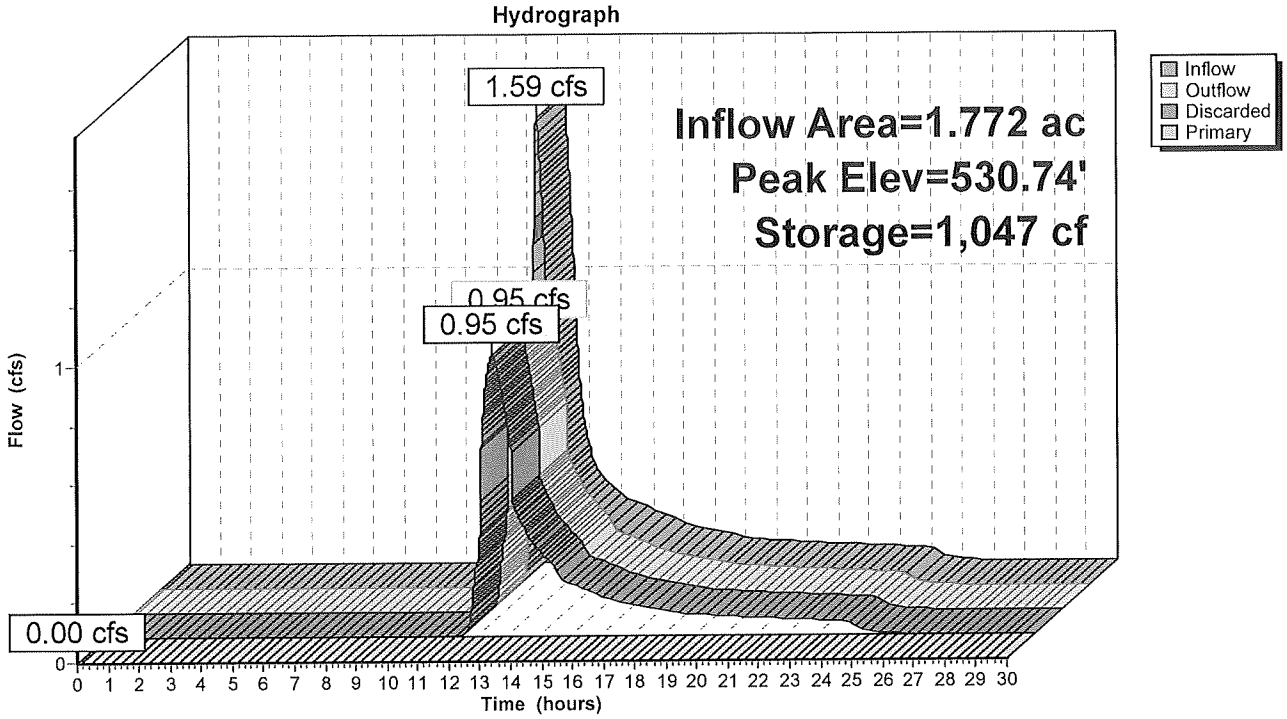
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
530.00	690	0	0
531.00	1,205	948	948

Device	Routing	Invert	Outlet Devices
#1	Discarded	529.00'	**10.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 528.00' Phase-In= 0.01'
#2	Primary	529.00'	**8.0" Round Culvert** L= 20.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 529.00' / 528.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.95 cfs @ 12.53 hrs HW=530.74' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.95 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=529.00' TW=568.00' (Dynamic Tailwater)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 9P: INFIL. BASIN IB4



Summary for Pond 10P: INFIL. TRENCH IB3

USED 10.0 IN/HR FOR 526C SOILS, 0.6 FOR 365E

Inflow Area = 3.121 ac, 2.97% Impervious, Inflow Depth = 1.38" for 25-Year event
Inflow = 3.48 cfs @ 12.24 hrs, Volume= 0.358 af
Outflow = 3.48 cfs @ 12.25 hrs, Volume= 0.358 af, Atten= 0%, Lag= 0.3 min
Discarded = 0.88 cfs @ 12.25 hrs, Volume= 0.286 af
Secondary = 2.60 cfs @ 12.25 hrs, Volume= 0.072 af
Routed to Pond 6P : INFIL. TRENCH IB2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 520.84' @ 12.25 hrs Surf.Area= 1,113 sf Storage= 1,101 cf

Plug-Flow detention time= 11.7 min calculated for 0.358 af (100% of inflow)
Center-of-Mass det. time= 11.7 min (894.2 - 882.5)

Volume	Invert	Avail.Storage	Storage Description
#1	516.00'	640 cf	**STONE (Conic)** Listed below (Recalc) 1,600 cf Overall x 40.0% Voids
#2	520.00'	580 cf	**ABOVE STONE (Conic)** Listed below (Recalc)
		1,220 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
516.00	400	0	0	400
520.00	400	1,600	1,600	684

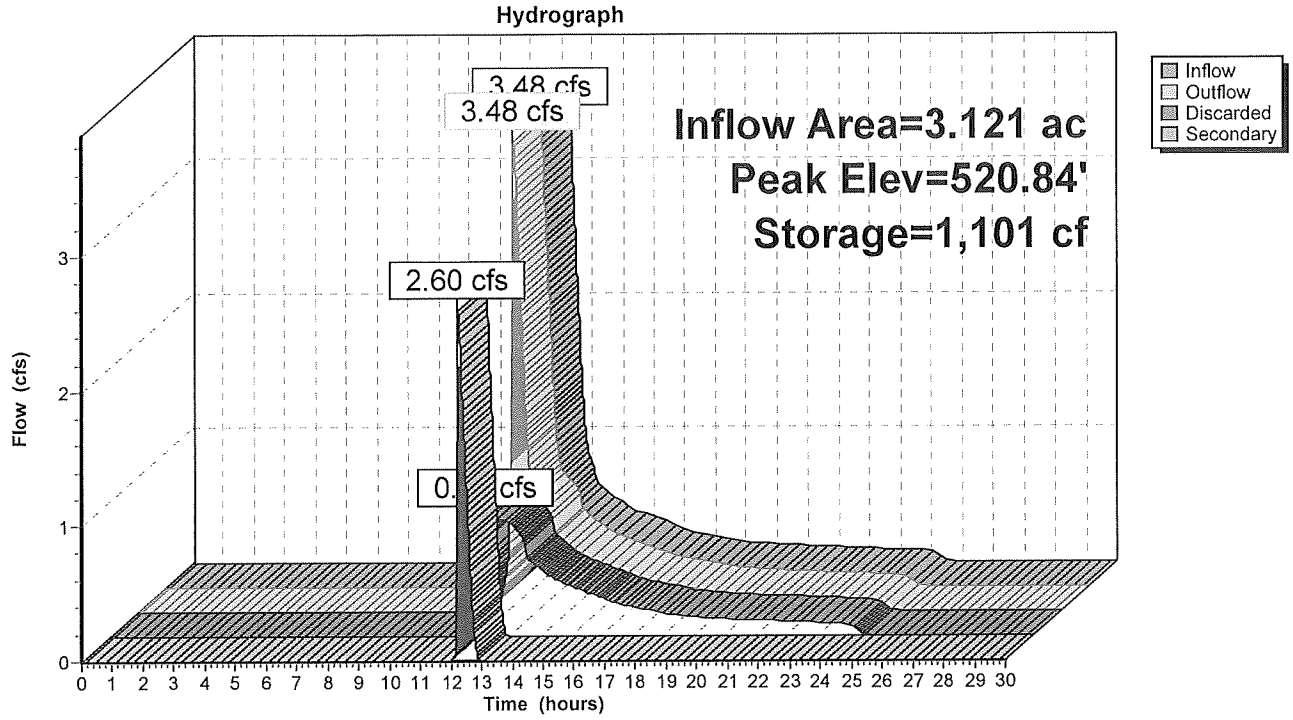
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
520.00	400	0	0	400
521.00	782	580	580	791

Device	Routing	Invert	Outlet Devices
#1	Discarded	516.00'	**10.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 515.00' Phase-In= 0.01'
#2	Secondary	520.75'	**40.0' long + 2.0 '/' SideZ x 4.0' breadth OVERFLOW** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Discarded OutFlow Max=0.88 cfs @ 12.25 hrs HW=520.84' (Free Discharge)
└**1=Exfiltration** (Controls 0.88 cfs)

Secondary OutFlow Max=2.60 cfs @ 12.25 hrs HW=520.84' TW=505.59' (Dynamic Tailwater)
└**2=OVERFLOW** (Weir Controls 2.60 cfs @ 0.71 fps)

Pond 10P: INFIL. TRENCH IB3



Summary for Pond 101P: PAVEMENT FLUME

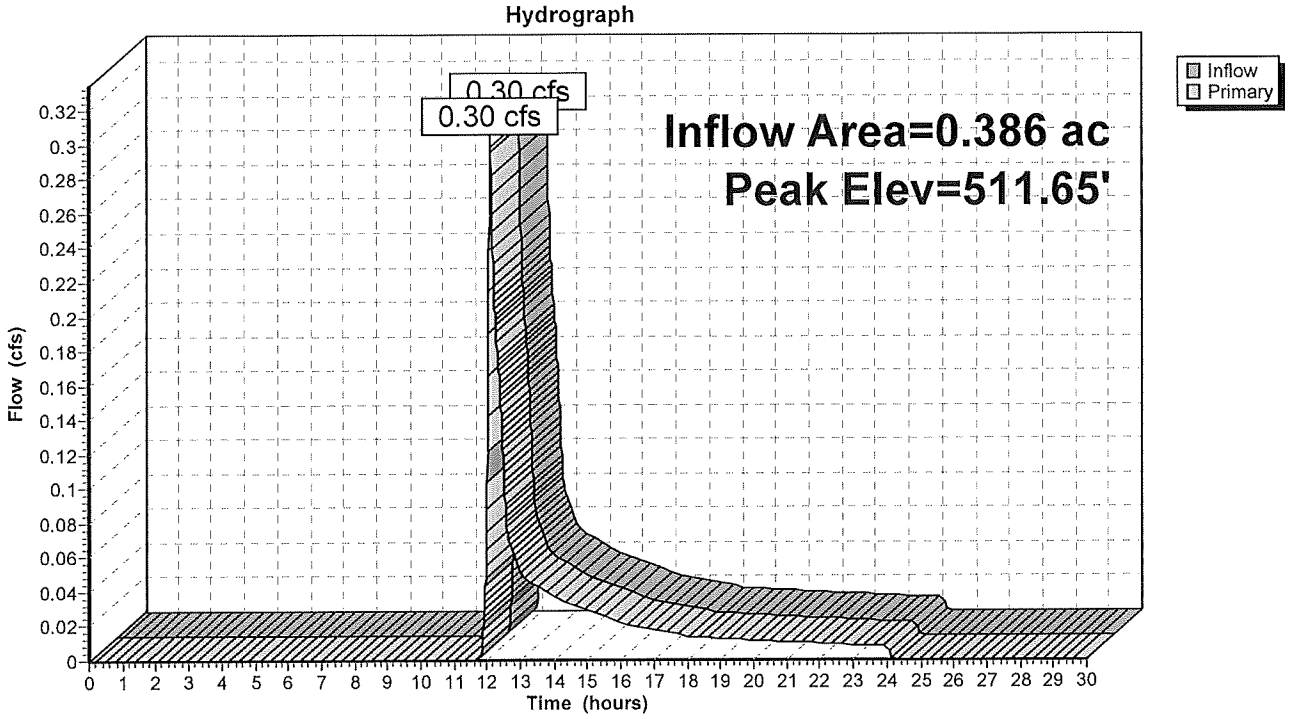
Inflow Area = 0.386 ac, 24.84% Impervious, Inflow Depth = 0.87" for 25-Year event
Inflow = 0.30 cfs @ 12.11 hrs, Volume= 0.028 af
Outflow = 0.30 cfs @ 12.11 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min
Primary = 0.30 cfs @ 12.11 hrs, Volume= 0.028 af
Routed to Reach 101R : TS1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 511.65' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	511.40'	**Channel/Reach** using Reach 101R: TS1

Primary OutFlow Max=0.30 cfs @ 12.11 hrs HW=511.65' TW=511.57' (Dynamic Tailwater)
↑—**1=Channel/Reach** (Channel Controls 0.30 cfs @ 0.25 fps)

Pond 101P: PAVEMENT FLUME



Summary for Pond 102P: CB 4/5

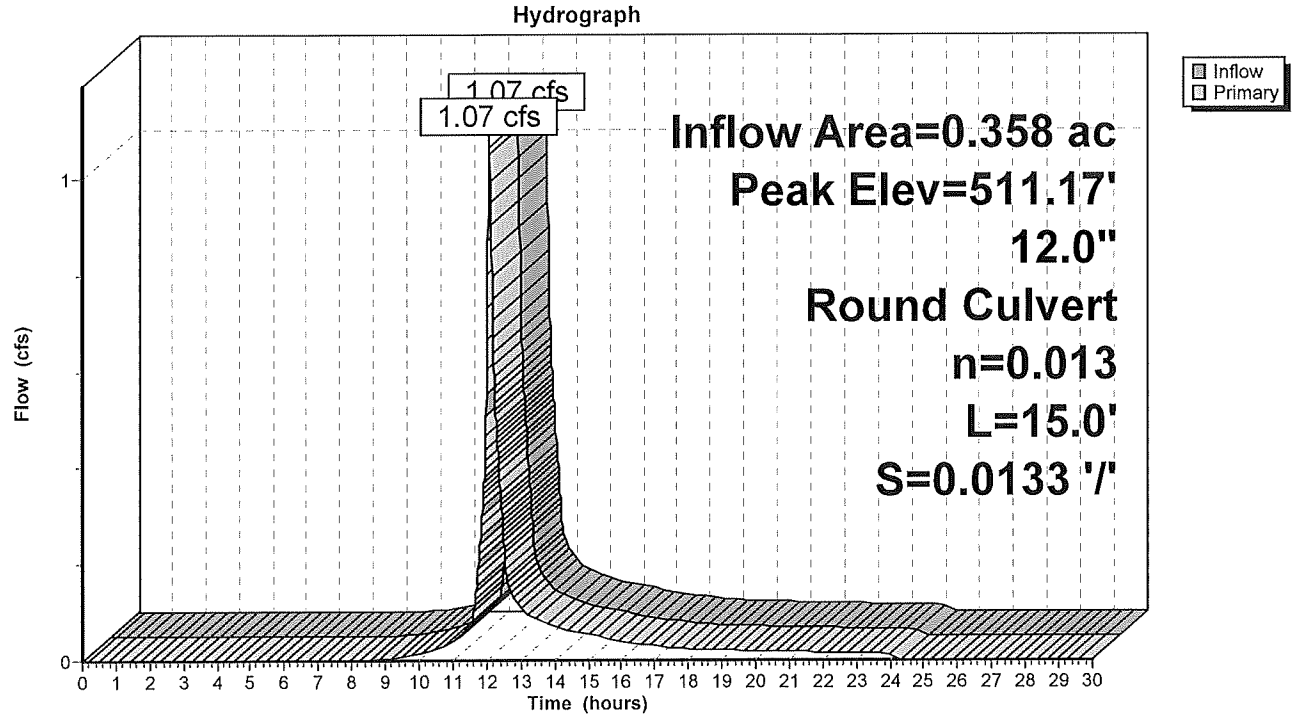
Inflow Area = 0.358 ac, 51.69% Impervious, Inflow Depth = 2.54" for 25-Year event
Inflow = 1.07 cfs @ 12.09 hrs, Volume= 0.076 af
Outflow = 1.07 cfs @ 12.09 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min
Primary = 1.07 cfs @ 12.09 hrs, Volume= 0.076 af
Routed to Pond 1P : GRAVEL WETLAND WP1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 511.17' @ 12.09 hrs
Flood Elev= 513.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	510.60'	**12.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 510.60' / 510.40' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.07 cfs @ 12.09 hrs HW=511.17' TW=508.88' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.07 cfs @ 3.29 fps)

Pond 102P: CB 4/5



Summary for Pond E1P: TRAIL CULV.

APPEARS TO BE A HEADWALL AND CRUSHED CULVERT OR STONE UNDERDRAIN UNDER TRAIL

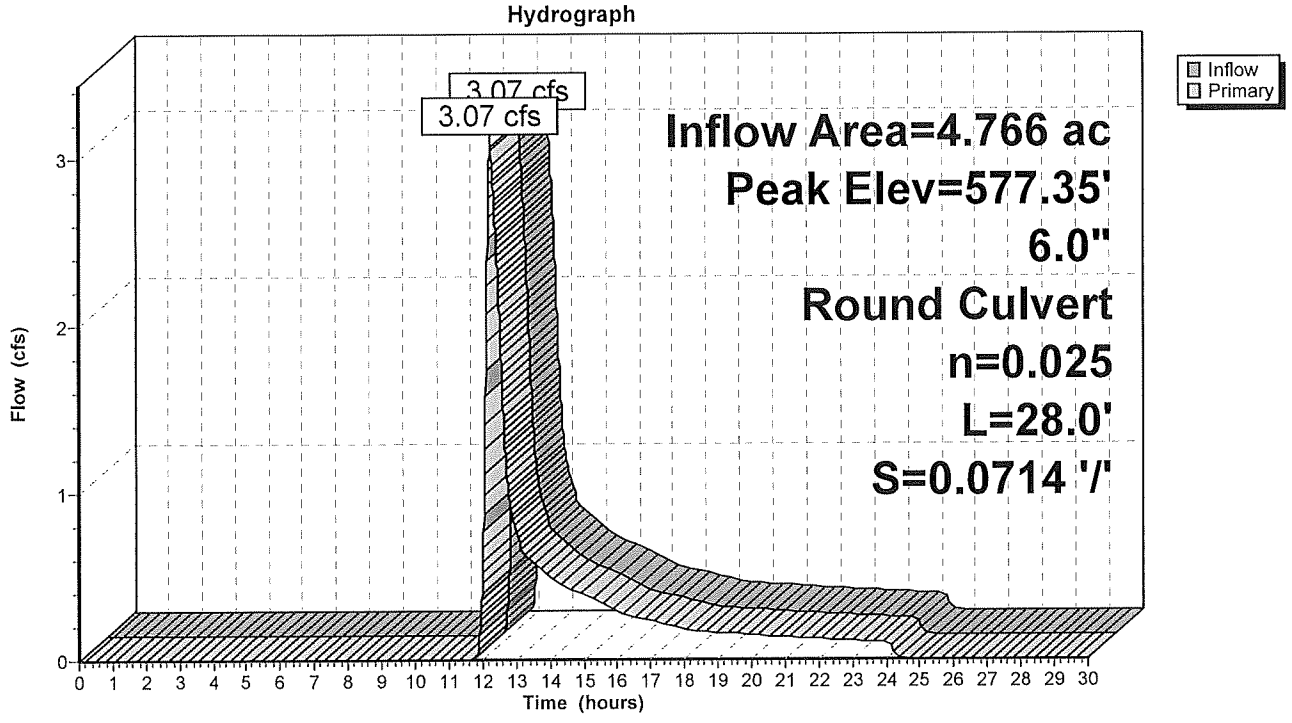
Inflow Area = 4.766 ac, 0.00% Impervious, Inflow Depth = 0.93" for 25-Year event
Inflow = 3.07 cfs @ 12.24 hrs, Volume= 0.370 af
Outflow = 3.07 cfs @ 12.24 hrs, Volume= 0.370 af, Atten= 0%, Lag= 0.0 min
Primary = 3.07 cfs @ 12.24 hrs, Volume= 0.370 af
Routed to Pond 7P : BOX

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 577.35' @ 12.24 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	542.00'	**6.0" Round Culvert** L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 542.00' / 540.00' S= 0.0714 '/' Cc= 0.900 n= 0.025 Rubble masonry, cemented, Flow Area= 0.20 sf

Primary OutFlow Max=3.07 cfs @ 12.24 hrs HW=577.32' TW=538.33' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 3.07 cfs @ 15.64 fps)

Pond E1P: TRAIL CULV.



Summary for Pond E2P: CB 1394

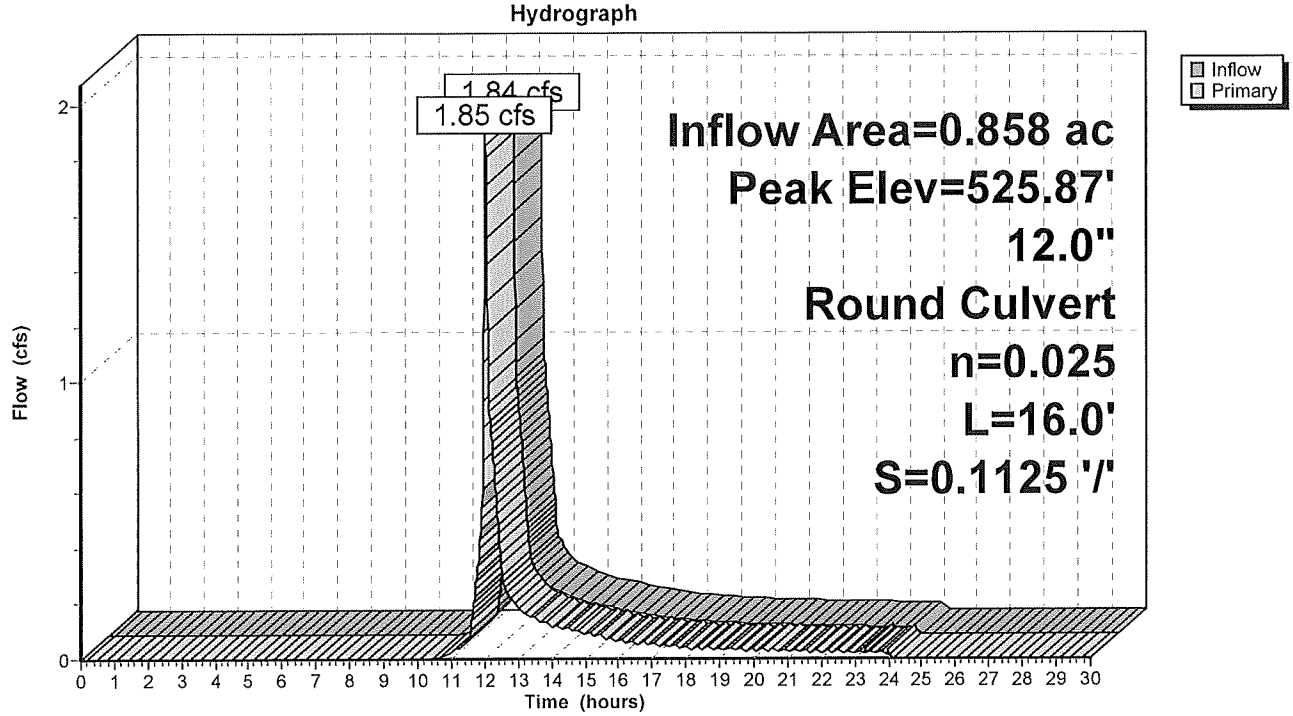
Inflow Area = 0.858 ac, 46.41% Impervious, Inflow Depth = 1.66" for 25-Year event
Inflow = 1.84 cfs @ 12.04 hrs, Volume= 0.119 af
Outflow = 1.85 cfs @ 12.03 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.0 min
Primary = 1.85 cfs @ 12.03 hrs, Volume= 0.119 af
Routed to Reach 1B : SWALE ON SITE

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 525.87' @ 12.04 hrs
Flood Elev= 523.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	520.70'	**12.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 520.70' / 518.90' S= 0.1125 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf

Primary OutFlow Max=1.84 cfs @ 12.03 hrs HW=525.86' TW=525.48' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.84 cfs @ 2.34 fps)

Pond E2P: CB 1394



Summary for Pond E3P: CB 1342

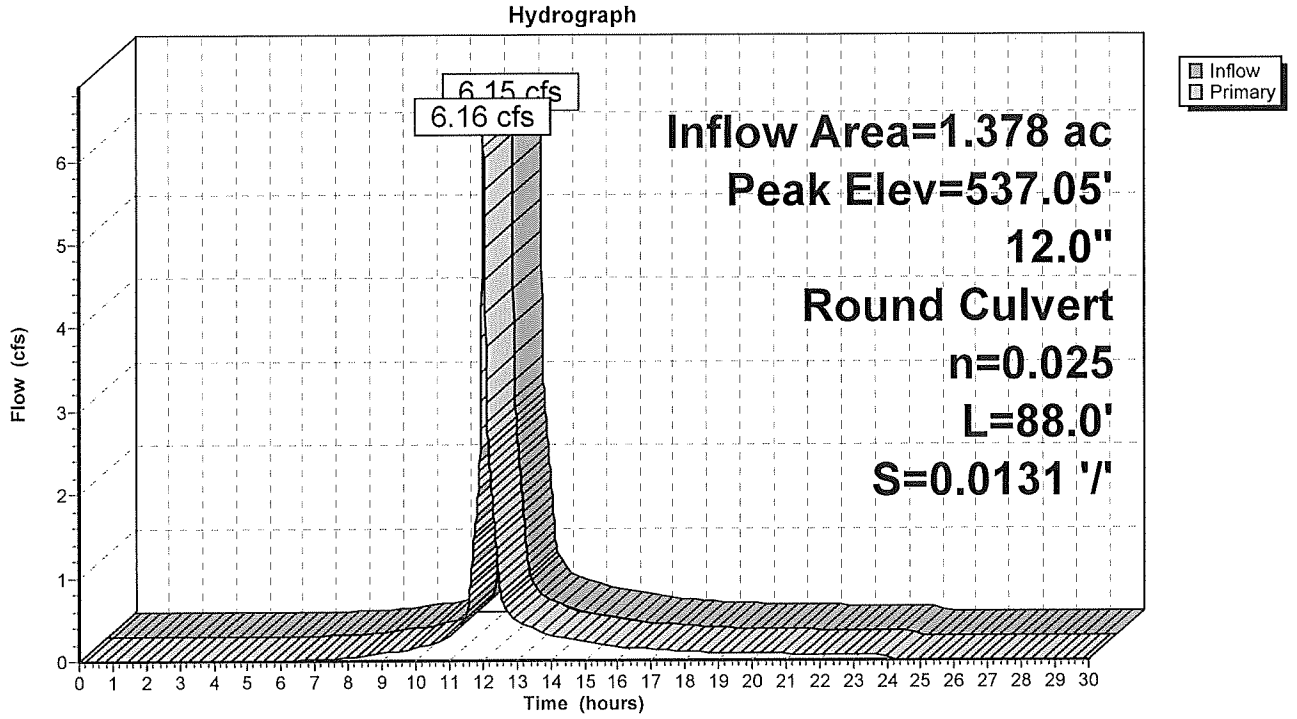
Inflow Area = 1.378 ac, 68.77% Impervious, Inflow Depth = 3.37" for 25-Year event
Inflow = 6.15 cfs @ 12.03 hrs, Volume= 0.387 af
Outflow = 6.16 cfs @ 12.03 hrs, Volume= 0.387 af, Atten= 0%, Lag= 0.0 min
Primary = 6.16 cfs @ 12.03 hrs, Volume= 0.387 af
Routed to Reach 1B : SWALE ON SITE

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 537.05' @ 12.03 hrs
Flood Elev= 520.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	517.37'	**12.0" Round Culvert** L= 88.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 517.37' / 516.22' S= 0.0131 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf

Primary OutFlow Max=6.13 cfs @ 12.03 hrs HW=536.94' TW=525.48' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 6.13 cfs @ 7.80 fps)

Pond E3P: CB 1342



Summary for Pond E4P: CB 1231

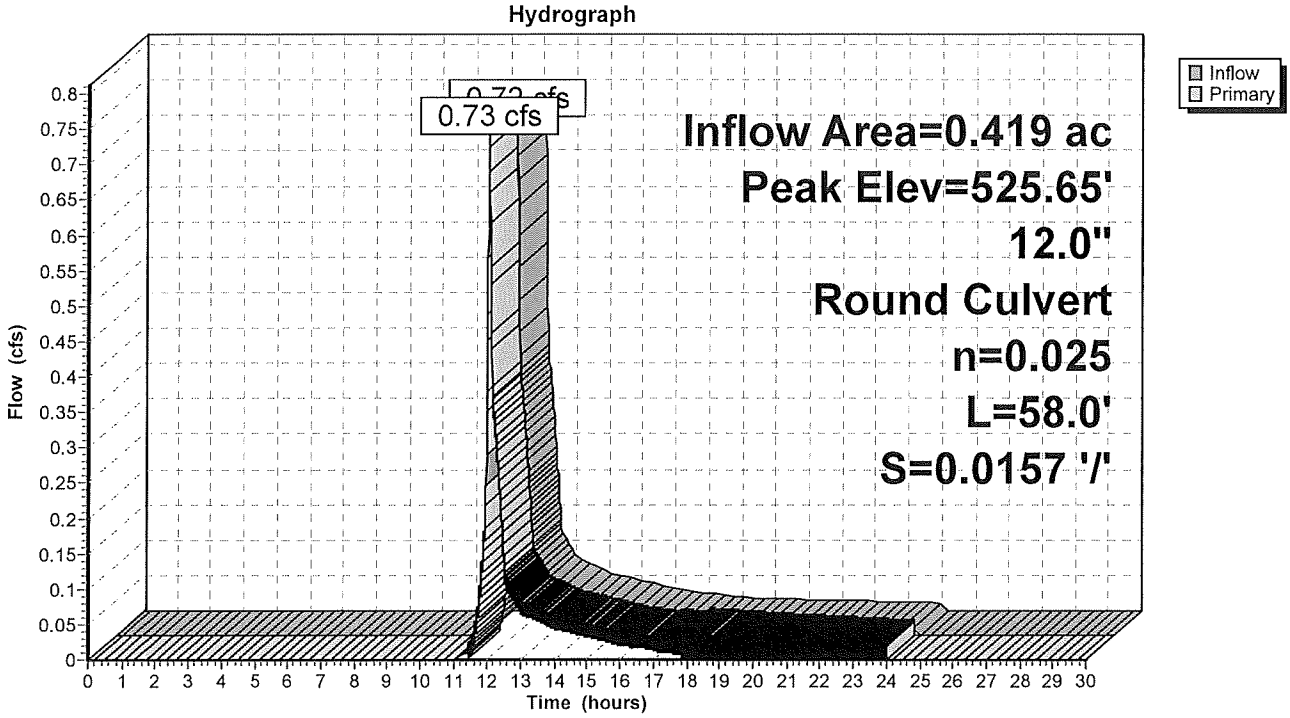
Inflow Area = 0.419 ac, 43.35% Impervious, Inflow Depth = 1.38" for 25-Year event
Inflow = 0.72 cfs @ 12.04 hrs, Volume= 0.048 af
Outflow = 0.73 cfs @ 12.04 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.1 min
Primary = 0.73 cfs @ 12.04 hrs, Volume= 0.048 af
Routed to Reach 1B : SWALE ON SITE

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 525.65' @ 13.16 hrs
Flood Elev= 520.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	513.91'	**12.0" Round Culvert** L= 58.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 513.91' / 513.00' S= 0.0157 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf

Primary OutFlow Max=0.72 cfs @ 12.04 hrs HW=525.60' TW=525.49' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.72 cfs @ 0.92 fps)

Pond E4P: CB 1231



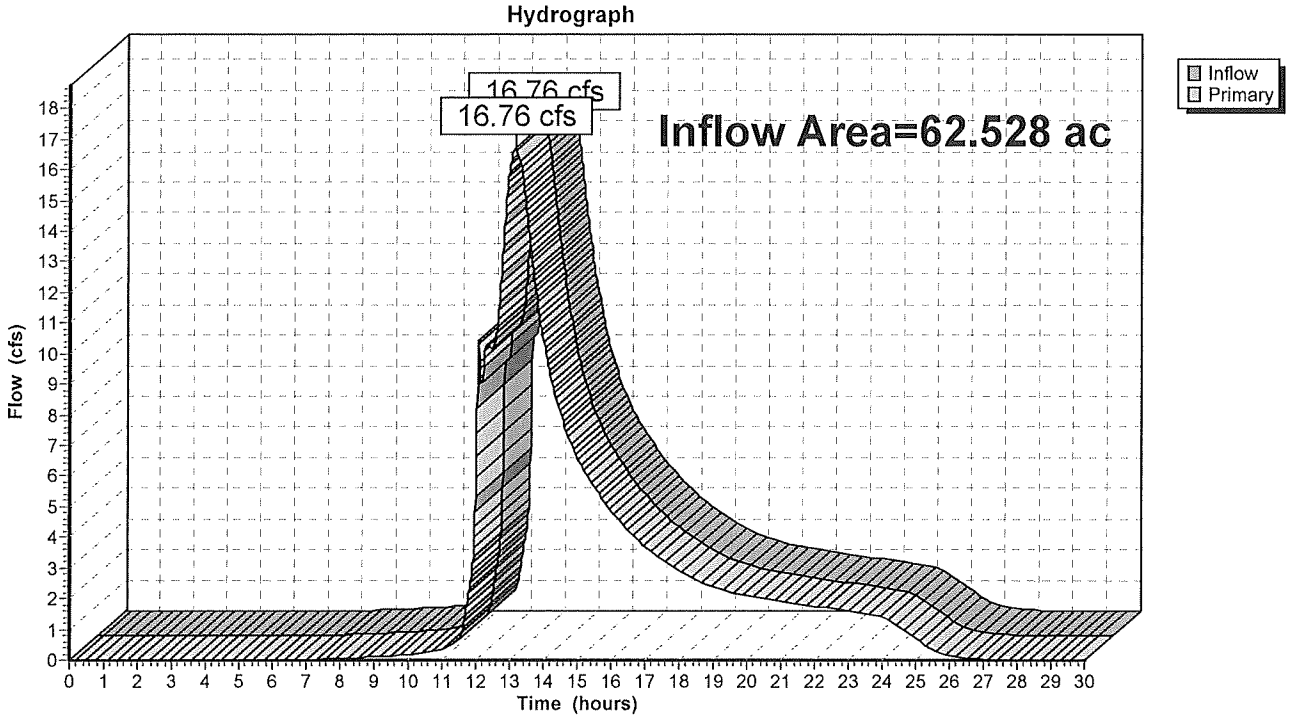
Summary for Link OP1: COURT ST. BOX CULV.

OVERALL WETLAND TO THE NORTHEAST OF PROPERTY

Inflow Area = 62.528 ac, 7.31% Impervious, Inflow Depth = 0.99" for 25-Year event
Inflow = 16.76 cfs @ 13.16 hrs, Volume= 5.140 af
Primary = 16.76 cfs @ 13.16 hrs, Volume= 5.140 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Link OP1: COURT ST. BOX CULV.



Section 3.1

USGS & AERIAL MAPS
(Project Location Maps)

GUITARD HOMES

City of Keene, NH

1 inch = 2000 Feet

0 2000 4000 6000

February 12, 2025

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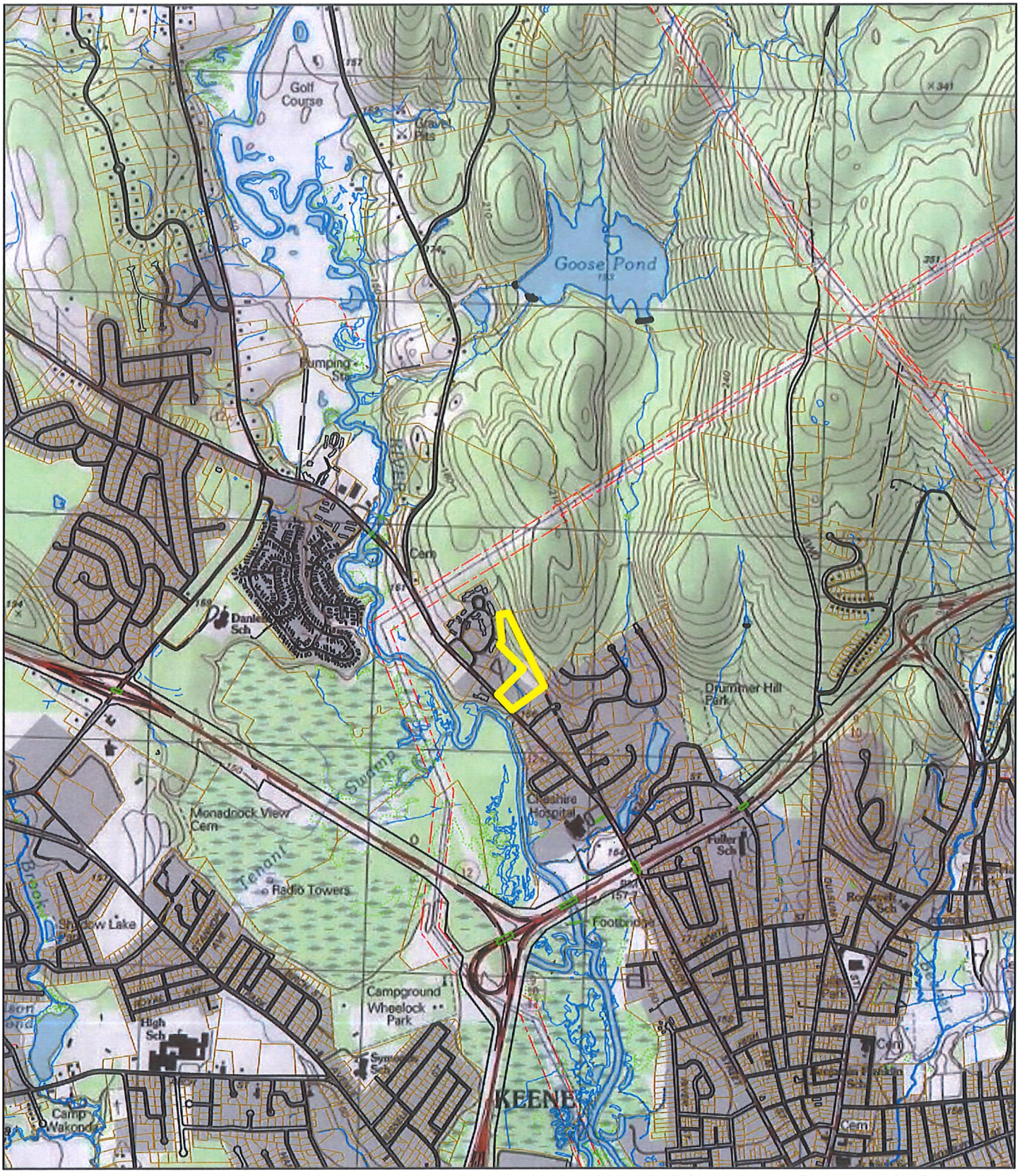

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GUITARD HOMES

City of Keene, NH

1 inch = 2000 Feet

0 2000 4000 6000

February 12, 2025

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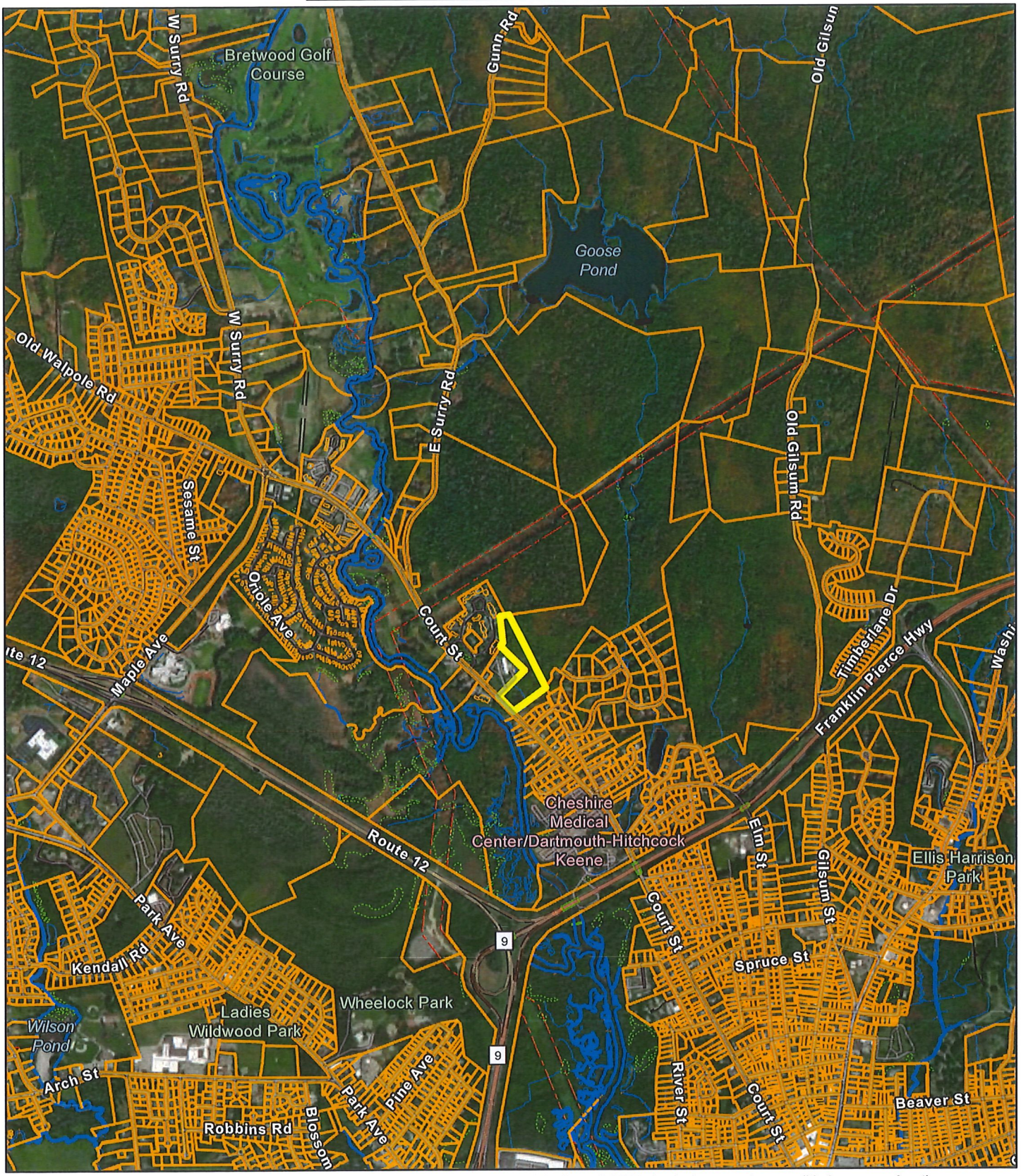

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Section 3.2

Soils Analysis
(Test Pit Report)

FIELDSTONE
LAND CONSULTANTS, PLLC
Surveying ✦ Engineering
Land Planning ✦ Septic Designs
206 Elm Street, Milford, NH 03055 - Phone: 603-672-5456 - Fax: 603-413-5456
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TEST PIT DATA
MAP 228 LOT 16
677 COURT STREET
KEENE, NH

NEW HAMPSHIRE
Designer
of
Subsurface Disposal
Systems
* * *
Kenneth M. Robinson
No. 1896
Department of Environmental Services

1/10/25
Test Pit #1
0-8" – 10YR 3/3 Dark brown loam, granular, friable.
8-24" – 7.5 YR 4/4 Brown fine sandy loam, granular, friable.
24-60" – 2.5 Y 6/4 Light yellowish brown gravelly fine sandy loam, granular, friable.
60-84" – 2.5 Y 6/4 Light yellowish brown gravelly fine sandy loam, granular, friable, moderately firm
ESHWT = 60" **Observed Water = None** **Ledge/Boulders = None** **Roots = 52"**

1/10/25
Test Pit #2
0-6" – 10YR 3/3 Dark brown loam, granular, friable.
6-18" – 7.5 YR 4/4 Brown fine sandy loam, granular, friable.
18-52" – 2.5 Y 6/4 Light yellowish brown gravelly fine sandy loam, granular, friable.
52-84" – 2.5 Y 6/4 Light yellowish brown fine sandy loam, granular, friable, moderately firm.
ESHWT = 52" **Observed Water = None** **Ledge/Boulders = None** **Roots = 50"**

1/10/25
Test Pit #3
0-10" – 10YR 3/3 Dark brown loam, granular, friable.
10-36" – 7.5 YR 4/4 Brown fine sandy loam, granular, friable.
36-70" – 2.5 Y 6/4 Light yellowish brown gravelly fine sandy loam, granular, friable.
70-90" – 2.5 Y 6/4 Light yellowish brown fine sandy loam, granular, friable, moderately firm.
ESHWT = 70" **Observed Water = None** **Ledge/Boulders = None** **Roots = 72"**

1/10/25
Test Pit #4
0-10" – 10YR 3/3 Dark brown loam, granular, friable.
10-18" – 7.5 YR 4/4 Brown fine sandy loam, granular, friable.
18-48" – 2.5 Y 6/4 Light yellowish brown gravelly fine sandy loam, granular, friable.
48-84" – 2.5 Y 6/4 Light yellowish brown fine sandy loam, granular, friable, moderately firm
ESHWT = 70" **Observed Water = None** **Ledge/Boulders = None** **Roots = 72"**

3941.00

1/10/25
Test Pit #5
0-7" – 10YR 3/3 Dark brown loam, granular, friable.
7-28" – 10 YR 5/8 Yellowish brown fine sandy loam.
28-38" – 2.5 Y 6/4 Light yellowish brown loamy fine sand, granular, friable.
38-72" – 2.5 Y 6/4 Light yellowish brown gravelly loamy fine sand, massive, very firm.
ESHWT = 40" **Observed Water = None** **Ledge/Boulders = None** **Roots = 40"**

1/10/25
Test Pit #6
0-12" – 10YR 3/3 Dark brown loam, granular, friable.
12-24" – 7.5 YR 4/4 Brown fine sandy loam, granular, friable.
24-48" – 2.5 Y 6/4 Light yellowish brown gravelly fine sandy loam, granular, friable.
48-72" – 2.5 Y 6/4 Light yellowish brown gravelly fine sandy loam, granular, friable. Very firm
ESHWT = 48" **Observed Water = None** **Ledge/Boulders = None** **Roots = 36"**

1/10/25
Test Pit #7
0-36" – 10YR 3/3 Dark brown loam, granular, friable. (old bottle dump)
36-60" – 10 YR 5/6 Brown fine sandy loam, granular, friable.
60-100" – 2.5 Y 6/6 Olive yellow fine sand, granular, friable.
ESHWT = 84" **Observed Water = None** **Ledge/Boulders = None** **Roots = 60"**

1/10/25
Test Pit #8
0-10" – 10YR 3/3 Dark brown loam, granular, friable.
10-26" – 10 YR 5/8 Yellowish brown fine sandy loam.
26-50" – 2.5 Y 6/4 Light yellowish brown loamy fine sand, granular, friable.
50-72" – 2.5 Y 6/4 Light yellowish brown gravelly loamy fine sand, massive, very firm.
ESHWT = 50" **Observed Water = None** **Ledge/Boulders = None** **Roots = 52"**

1/10/25
Test Pit #9
0-8" – 10YR 3/3 Dark brown loam, granular, friable.
8-36" – 10 YR 5/8 Yellowish brown fine sandy loam.
36-60" – 2.5 Y 6/4 Light yellowish brown loamy fine sand, granular, friable.
60-84" – 2.5 Y 6/4 Light yellowish brown gravelly loamy fine sand, massive, very firm
ESHWT = 53" **Observed Water = None** **Ledge/Boulders = None** **Roots = 56**

NEW HAMPSHIRE
Designer
of
Subsurface Disposal
Systems
* * *
Kenneth M. Robinson
No. 1896
Department of Environmental Services

1/10/25
Test Pit #10
0-8" – 10YR 3/3 Dark brown loam, granular, friable.
8-26" – 10 YR 5/8 Yellowish brown fine sandy loam.
26-42" – 2.5 Y 6/4 Light yellowish brown loamy fine sand, granular, friable.
42-60" – 2.5 Y 6/4 Light yellowish brown gravelly loamy fine sand, massive. Very firm
ESHWT = 42" **Observed Water = None** **Ledge/Boulders = None** **Roots = 60"**

1/10/25
Test Pit #11
0-12" – 10YR 3/3 Dark brown loam, granular, friable.
12-24" – 10 YR 5/8 Yellowish brown fine sandy loam.
24-48" – 2.5 Y 6/4 Light yellowish brown loamy fine sand, granular, friable.
48-64" – 2.5 Y 6/4 Light yellowish brown gravelly loamy fine sand, platy, firm.
ESHWT = 36" **Observed Water = None** **Ledge/Boulders = None** **Roots = 40"**

1/10/25
Test Pit #12
0-6" – 10YR 3/3 Dark brown loam, granular, friable.
6-20" – 10 YR 5/8 Yellowish brown fine sandy loam.
20-36" – 2.5 Y 6/4 Light yellowish brown loamy fine sand, granular, friable.
36-60" – 2.5 Y 6/4 Light yellowish brown gravelly loamy fine sand, massive, very firm.
ESHWT = 36" **Observed Water = None** **Ledge/Boulders = None** **Roots = 38"**

1/10/25
Test Pit #13
0-14" – 10YR 3/3 Dark brown loam, granular, friable.
14-60" – 10 YR 4/6 Dark yellowish brown fine sandy loam, granular, friable.
60-62" – 2.5 Y 6/6 Olive yellow gravelly fine sandy loam, massive, firm.
ESHWT = 60" **Observed Water = None** **Ledge/Boulders = None** **Roots = 60"**

1/10/25
Test Pit #14
0-14" – 10YR 3/3 Dark brown loam, granular, friable.
14-44" – 10 YR 4/6 Dark yellowish brown fine sandy loam, granular, friable.
44-60" – 2.5 Y 6/6 Olive yellow gravelly fine sandy loam, massive, firm
ESHWT = 44" **Observed Water = None** **Ledge/Boulders = None** **Roots = 44"**

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1/10/25
Test Pit #15
0-18" – 10YR 3/3 Dark brown loam, granular, friable.
18-56" – 10 YR 4/6 Dark yellowish brown fine sandy loam, granular, friable.
56-72" – 2.5 Y 6/6 Olive yellow gravelly fine sandy loam, massive, firm.
ESHWT = 54" **Observed Water = None** **Ledge/Boulders = None** **Roots = 56"**

1/10/25
Test Pit #16
0-12" – 10YR 3/3 Dark brown loam, granular, friable.
12-36" – 10 YR 4/6 Dark yellowish brown fine sandy loam, granular, friable.
36-50" – 2.5 Y 6/6 Olive yellow gravelly fine sandy loam. Moderately firm
ESHWT = 36" **Observed Water = 50"** **Ledge/Boulders = None** **Roots = 36"**

1/10/25
Test Pit #17
0-8" – 10YR 3/3 Dark brown loam, granular, friable.
8-20" – 2.5 Y 5/4 Light olive brown fine sandy loam, granular, friable.
20-60" – 2.5 Y 6/4 Light yellow brown fine sandy loam, massive, friable.
ESHWT = 24" **Observed Water = 48"** **Ledge/Boulders = None** **Roots = 30"**

1/10/25
Test Pit #18
0-6" – 10YR 3/3 Dark brown loam, granular, friable.
6-20" – 2.5 Y 5/4 Light olive brown fine sandy loam, granular, friable.
20-52" – 2.5 Y 6/4 Light yellow brown fine sandy loam, massive, friable.
ESHWT = 24" **Observed Water = None** **Ledge/Boulders = None** **Roots = 28"**

1/10/25
Test Pit #19
0-6" – 10YR 3/3 Dark brown loam, granular, friable.
6-28" – 2.5 Y 5/4 Light olive brown fine sandy loam, granular, friable.
28-50" – 2.5 Y 6/4 Light yellow brown fine sandy loam, massive, friable. Stony
ESHWT = 24" **Observed Water = None** **Ledge/Boulders = None** **Roots = 26"**

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Designer
of
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Systems
* * *
Kenneth M. Robinson
No. 1896
Department of Environmental Services

1/10/25
Test Pit #20
0-8" – 10YR 3/3 Dark brown loam, granular, friable. Bouldery
8-20" – 2.5 Y 5/4 Light olive brown fine sandy loam, granular, friable. Bouldery
20-50" – 2.5 Y 6/4 Light yellow brown fine sandy loam, massive, friable. Bouldery
ESHWT = 24" **Observed Water = None** **Ledge/Boulders = None** **Roots = 26"**

1/10/25
Test Pit #21
0-8" – 10YR 3/3 Dark brown loam, granular, friable.
8-30" – 2.5 Y 5/4 Light olive brown fine sandy loam, granular, friable.
30-60" – 2.5 Y 6/4 Light yellow brown fine sandy loam, massive, friable.
ESHWT = 30" **Observed Water = None** **Ledge/Boulders = None** **Roots = 34"**

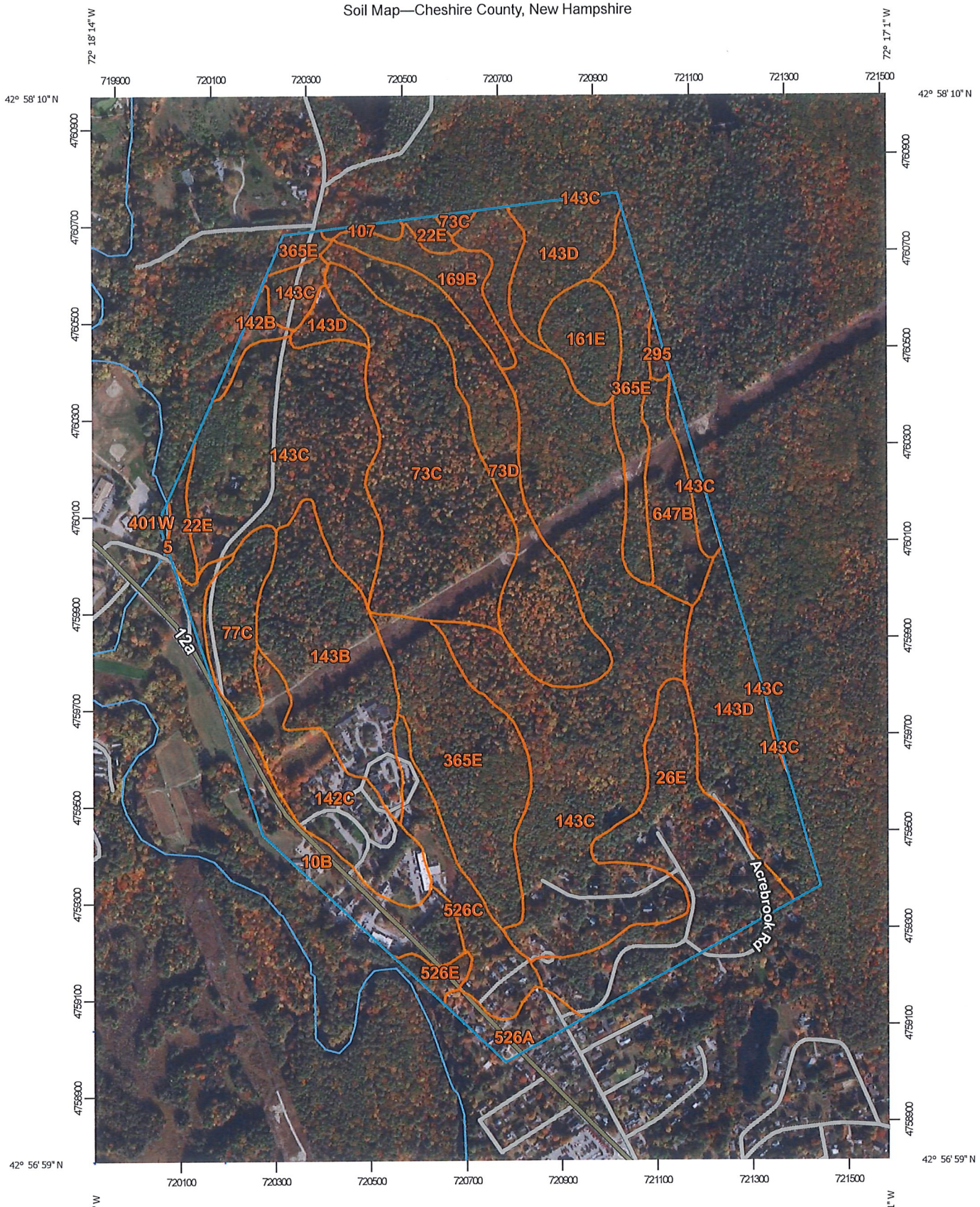
Test Pits were logged by:

Kenneth M. Robinson, CWS
NH Septic Designer #1896

Section 3.3

NRCS Soils Map

Soil Map—Cheshire County, New Hampshire



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cheshire County, New Hampshire
Survey Area Data: Version 28, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 15, 2020—Oct 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
5	Rippowam fine sandy loam	0.0	0.0%
10B	Merrimac fine sandy loam, 3 to 8 percent slopes	15.5	3.8%
22E	Colton gravelly sandy loam, 15 to 60 percent slopes	3.7	0.9%
26E	Windsor loamy sand, 15 to 60 percent slopes	30.9	7.6%
73C	Berkshire fine sandy loam, 8 to 15 percent slopes, very stony	39.2	9.6%
73D	Berkshire fine sandy loam, 15 to 25 percent slopes, very stony	24.9	6.1%
77C	Marlow fine sandy loam, 8 to 15 percent slopes, very stony	9.0	2.2%
107	Rippowam-Saco complex	0.8	0.2%
142B	Monadnock fine sandy loam, 3 to 8 percent slopes	2.0	0.5%
142C	Monadnock fine sandy loam, 8 to 15 percent slopes	17.6	4.3%
143B	Monadnock fine sandy loam, 0 to 8 percent slopes, very stony	26.1	6.4%
143C	Monadnock fine sandy loam, 8 to 15 percent slopes, very stony	119.6	29.3%
143D	Monadnock fine sandy loam, 15 to 25 percent slopes, very stony	36.1	8.9%
161E	Lyman-Tunbridge-Rock outcrop complex, 25 to 60 percent slopes	7.6	1.9%
169B	Sunapee fine sandy loam, 0 to 8 percent slopes, very stony	7.0	1.7%
295	Greenwood mucky peat	0.9	0.2%
365E	Monadnock and Berkshire soils, 25 to 60 percent slopes, extremely stony	38.2	9.4%
401	Occum fine sandy loam	0.0	0.0%
526A	Caesar loamy sand, 0 to 3 percent slopes	5.1	1.3%
526C	Caesar loamy sand, 8 to 15 percent slopes	11.8	2.9%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
526E	Caesar loamy sand, 15 to 50 percent slopes	2.0	0.5%
647B	Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony	9.3	2.3%
W	Water	0.3	0.1%
Totals for Area of Interest		**407.7**	**100.0%**

Section 3.4

Inspection and Maintenance Manual

GUITARD HOMES, LLC
Cottage Court Residential - Keene, New Hampshire
Storm Water Management System
Inspection and Maintenance Manual

Introduction

The operation and maintenance of a storm water management system and its individual components is as critical to system performance as the design. Without proper maintenance, best management practices (BMPs) are likely to become functionally impaired or to fail, providing reduced or no treatment of storm water. Proper operation and maintenance will ensure that the storm water system and individual BMPs will remain effective at removing pollutants as designed and meeting New Hampshire's water quality objectives. Proper maintenance will:

- Maintain the volume of storm water treated over the long term;
- Sustain the pollutant removal efficiency of the BMP;
- Reduce the risk of re-suspending sediment and other pollutants captured by the BMP;
- Prevent structural deterioration of the BMP and minimize the need for expensive repairs;
- Decrease the potential for failure of the BMP.

Responsible Maintenance Party:

Applicant: Mike Guitard
Guitard Homes, LLC
PO Box 604
Jaffrey, NH 03452

Transfer of Responsibility:

In the event that the property is sold or transferred to another party, the Responsible Maintenance Party, shall notify the City of Keene and the New Hampshire Department of Environmental Services (NHDES) of the transfer of ownership and include the name and contact information for the new Responsible Maintenance Party. The new Responsible Maintenance Party will take ownership and carry out all inspections as outlined in the maintenance manual, and keep records of such inspections. The listed landowner will be the responsible party if the NHDES is not notified of transfer. The mailing address for NHDES is:

NHDES – Alteration of Terrain
P.O. Box 95
Concord, NH 03302-0095

Report Information:

- Guitard Homes, LLC will be the entity responsible for implementing the required reporting, inspection, and maintenance activities identified in the I & M manual.

- Inspection and maintenance reports shall be completed after each inspection. Copies of the report forms to be completed by the inspector are attached at the end of this manual, including:
    - Inspection checklist to be used during each inspection;
    - Inspection and maintenance logs to document each inspection and maintenance activity;
    - Deicing Log to track the amount and type of deicing materials applied on site;
    - Photos of each drainage practice at the time of inspection.
- A plan showing the locations of all the storm water practices described in the I &M manual is attached at the end of this manual.
- How to Identify and Dispose of Invasive Plant Species (per UNH Cooperative Extension).

Maintenance Recommendations for Best Management Practices:

The following recommendations are to be used as a guide for the inspection and maintenance of the permanent erosion and sediment control measures.

The checklist and inspection log must be filled out and photos taken of each practice listed at the time of the inspection.

We recommend that inspections be performed every couple of weeks and after larger storm events within the first year following construction to ensure that the site remains stabilized (site and slopes).

Infiltration – Building Drip Strips

- Inspect drip strips at least semi-annually.
- Remove leaves and debris from top of stone to ensure proper drainage.
- Cut any vegetation back from the edge of the stone to ensure water can drip from roofline directly onto stone below. Trim tree branches back so they do not overhang the roof.
- Dispose of vegetation cuttings away from any infiltration area.

Outlet Protection - Stone spillways & Rip-rap aprons

- Inspect the outlet protection annually for damage and deterioration. Repair damages immediately.
- Remove debris & woody vegetation from the stone apron area.
- Inspect the stone spillways for deterioration and remove any vegetation.
- Stone drip-strips should be cleared of leaves, vegetation, and sediments. Replace top stone if needed.

Infiltration Basins/Trenches and Grass Swales

- Inspect the basin and swales for erosion, debris, and woody vegetation. Remove debris and cut woody vegetation. Repair any eroded areas with loam and seed immediately.
- Identify if any invasive plant species are growing, refer to appendix on how to identify such.
- Verify that at least 4" of grass is thriving in the grass swales.
- Overflow outlet structures should be free of debris and checked for damage/deterioration.
- Verify that no sediment has filled in the bottom of the basins.

Wet Ponds and Gravel Wetlands

- Inspect all catch basins that outlet to the BMPs and vacuum the sumps as needed.
- Inspect the BMPs for erosion, debris, and woody vegetation growth. Remove debris and cut woody vegetation. Repair any eroded areas with loam and seed immediately.
- Overflow outlet structures should be free of debris and checked for damage/deterioration.
- Inspect the emergency spillway for erosion and ensure no debris is restricting the outlet.

Inspection Checklist /Maintenance Logs

The inspection checklist and maintenance logs following this report shall be used as a guide for the inspection reporting for this project.

Inspection Checklist

☐ Building Drip Edge (Stone Drip Strips)

☐ Rip-Rap Aprons

☐ Infiltration Basins/Trenches & Grass Treatment Swales

☐ Wet Ponds and Gravel Wetlands

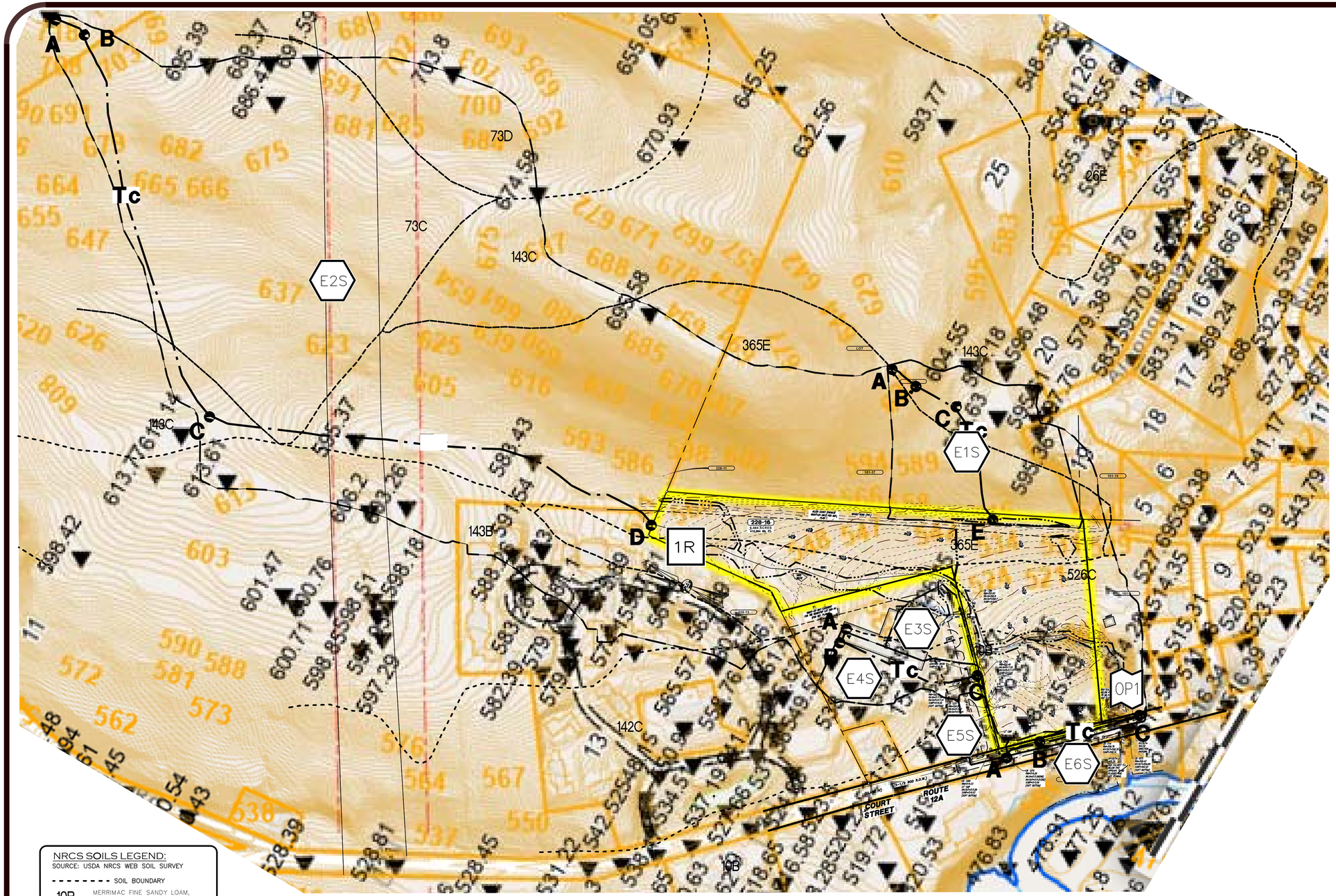
Inspection and Maintenance Log					
	BMP	Inspection Date	Inspected By	Maintenance Required?	Maintenance Performed
1				❑Yes ❑No	
2				❑Yes ❑No	
3				❑Yes ❑No	
4				❑Yes ❑No	
5				❑Yes ❑No	
6				❑Yes ❑No	
7				❑Yes ❑No	
8				❑Yes ❑No	

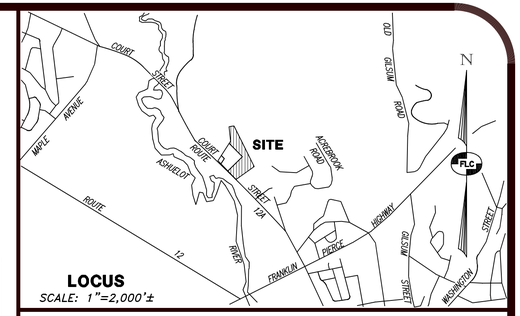
*Any time a deicing material (ex. Road salt) is applied on site, fill in the log below.

DEICING LOG		
DATE APPLIED	TYPE OF DEICING MATERIAL	AMOUNT APPLIED

Section 3.5

Drainage Area Plans
(Pre and Post Development)





LOCUS
SCALE: 1"=2,000'±

NRCS SOILS LEGEND:

SOURCE: USDA NRCS WEB SOIL SURVEY

SOIL BOUNDARY

10B	MERRIMAC FINE SANDY LOAM, 3 TO 8% SLOPES, HSG A
365E	MONADNOCK AND BERKSHIRE SOILS, 25 TO 60% SLOPES, EXTREMELY STONY, HSG B
526C	CAESAR LOAMY SAND, 8 TO 15% SLOPES, HSG A
26E	WINDSOR LOAMY SAND 15 TO 60% SLOPES, A
143B	MONADNOCK FINE SANDY LOAM, 0 TO 8% SLOPES, HSG B
143C	MONADNOCK FINE SANDY LOAM, 8 TO 15% SLOPES, HSG B
73C	BERKSHIRE FINE SANDY LOAM, 8 TO 15% SLOPES, VERY STONY HSG B
73D	BERKSHIRE FINE SANDY LOAM, 15 TO 25% SLOPES, VERY STONY, HSG B

DRAINAGE SYMBOLS:

- 1P — POND (PIPE OR BASIN)
- 1S — SUBCATCHMENT
- 1R — REACH
- 0P1 — OBSERVATION POINT
- WATERSHED BOUNDARY
- TIME OF CONCENTRATION
- SURFACE WATER FLOW

GRAPHIC SCALE
150' 75' 0 150' 300' 450'
IMPERIAL: 1"=150'

REV.	DATE	DESCRIPTION	C/O	DR	CK

MASTER PRE-DEVELOPMENT MAP

TAX MAP 228 LOT 16
(COURT STREET)
KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:
GUITARD HOMES
P.O. BOX 604 JAFFREY, NH. 03452

SCALE: 1" = 150' MARCH 21, 2025

Surveying ⌖ Engineering ⌖ Land Planning ⌖ Permitting ⌖ Septic Designs

FIELDSTONE LAND CONSULTANTS, PLLC

206 Elm Street, Milford, NH 03055
45 Roxbury Street, Keene, NH 03431
Phone: (603) 672-5456 Fax: (603) 413-5456
www.FieldstoneLandConsultants.com

FILE: 3941SP00.dwg	PROJ. NO. 3941.00	SHEET: DP-1	PAGE NO. 1 OF 4

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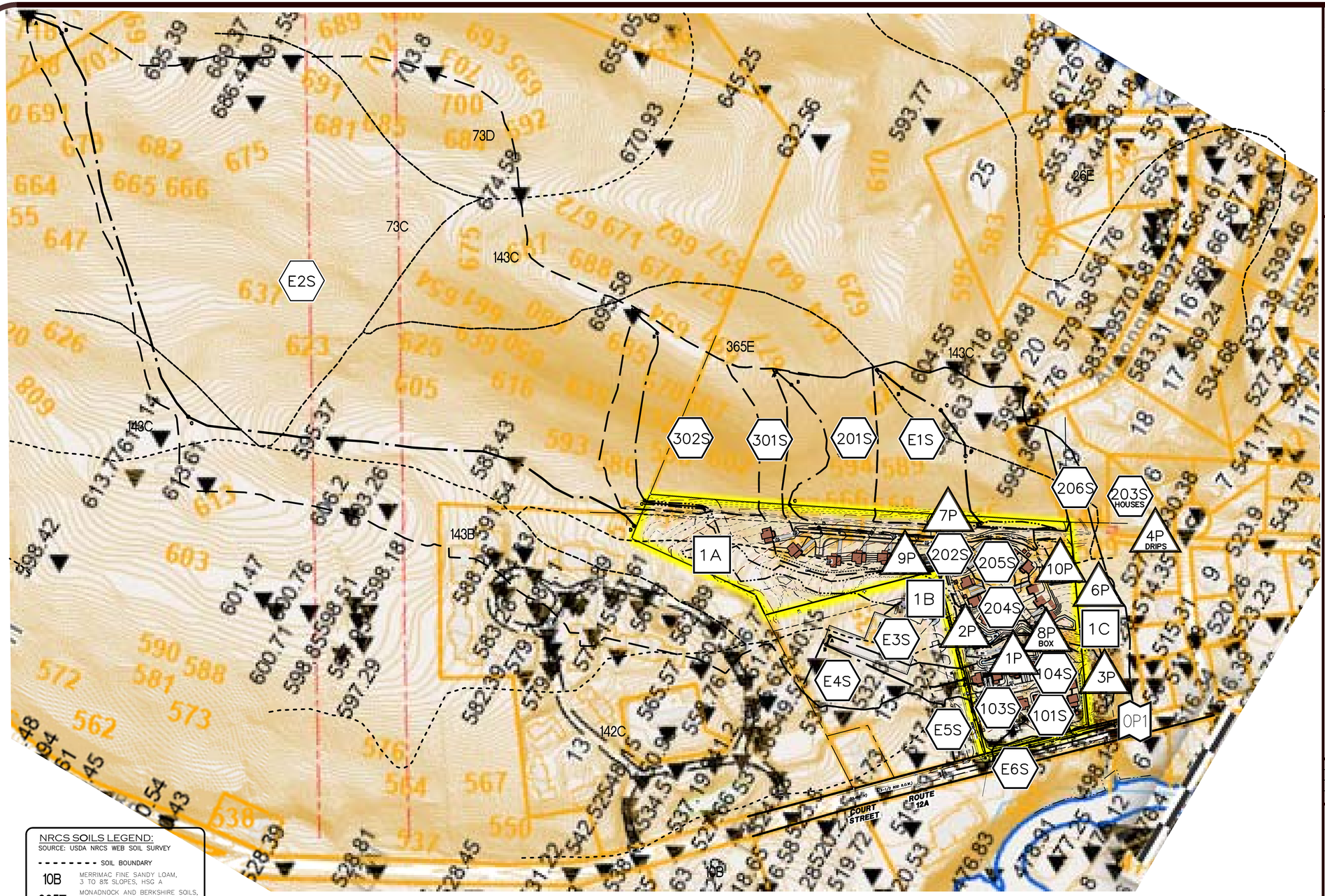

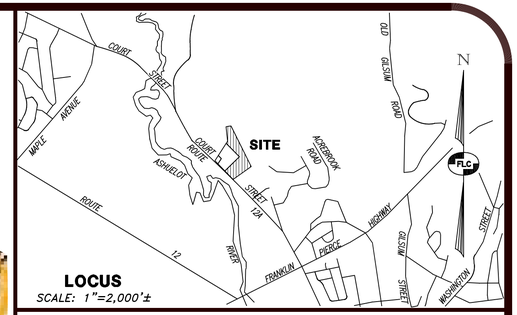

DRAINAGE SYMBOLS:

- 1P — POND (PIPE OR BASIN)
- 1S — SUBCATCHMENT
- 1R — REACH
- 0P1 — OBSERVATION POINT
- WATERSHED BOUNDARY
- TIME OF CONCENTRATION
- SURFACE WATER FLOW

GRAPHIC SCALE

150' 75' 0 150' 300' 450'

IMPERIAL: 1"=150'

NRCS SOILS LEGEND:

SOURCE: USDA NRCS WEB SOIL SURVEY

SOIL BOUNDARY

10B	MERRIMAC FINE SANDY LOAM, 3 TO 8% SLOPES, HSG A
365E	MONADNOCK AND BERKSHIRE SOILS, 25 TO 60% SLOPES, EXTREMELY STONY, HSG B
526C	CAESAR LOAMY SAND, 8 TO 15% SLOPES, HSG A
26E	WINDSOR LOAMY SAND 15 TO 60% SLOPES, A
143B	MONADNOCK FINE SANDY LOAM, 0 TO 8% SLOPES, HSG B
143C	MONADNOCK FINE SANDY LOAM, 8 TO 15% SLOPES, HSG B
73C	BERKSHIRE FINE SANDY LOAM, 8 TO 15% SLOPES, VERY STONY HSG B
73D	BERKSHIRE FINE SANDY LOAM, 15 TO 25% SLOPES, VERY STONY, HSG B

REV.	DATE	DESCRIPTION	C/O	DR	CK

MASTER POST-DEVELOPMENT MAP

TAX MAP 228 LOT 16

(COURT STREET)

KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:

GUITARD HOMES

P.O. BOX 604 JAFFREY, NH. 03452

SCALE: 1" = 150' MARCH 21, 2025

Surveying ⌖ Engineering ⌖ Land Planning ⌖ Permitting ⌖ Septic Designs

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206 Elm Street, Milford, NH 03055
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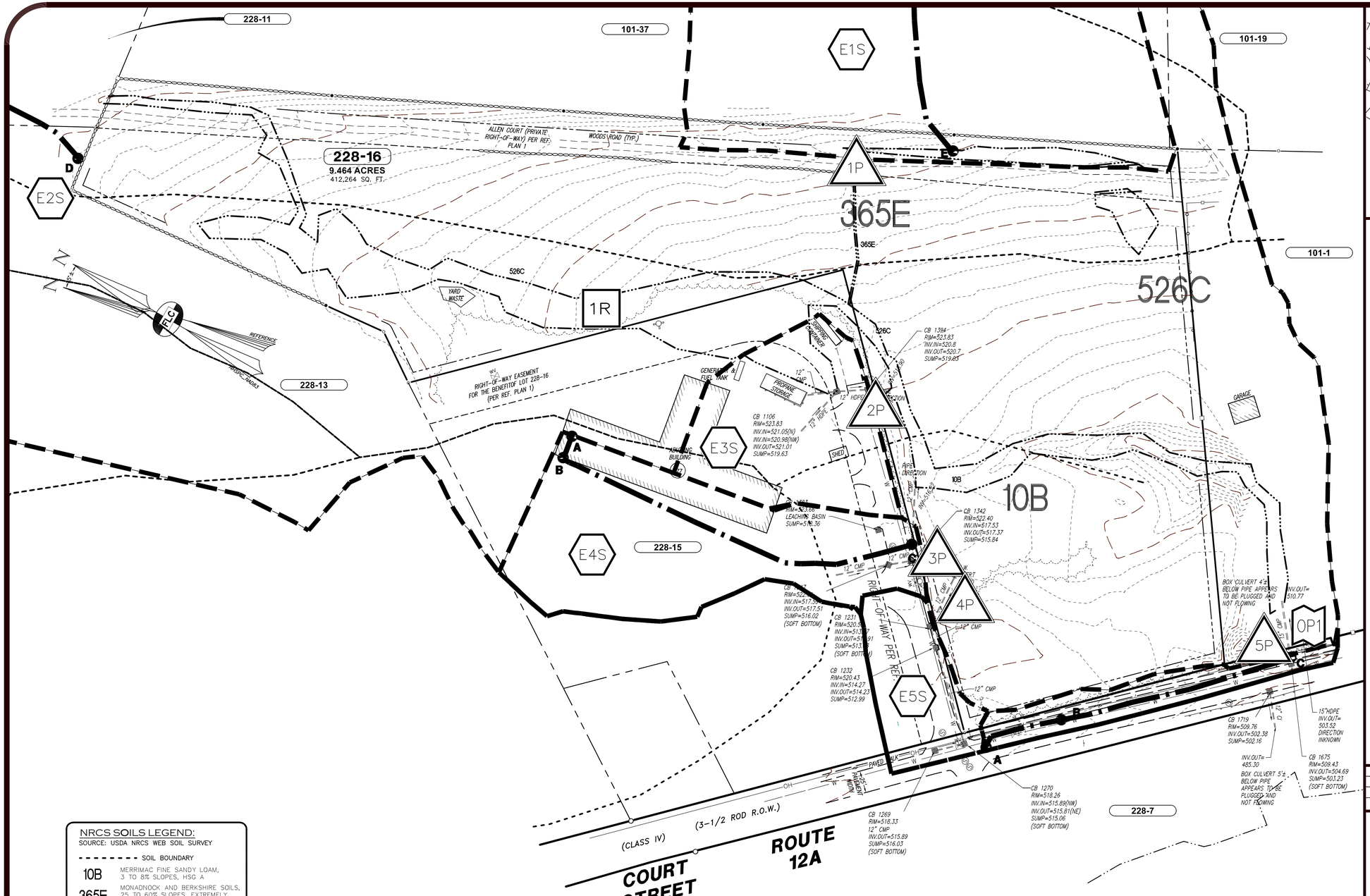
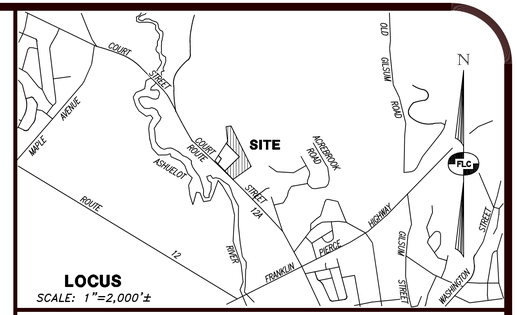
FILE: 3941SP00.dwg	PROJ. NO. 3941.00	SHEET: DP-2	PAGE NO. 2 OF 4





GRAPHIC SCALE

60' 30' 0 60' 120' 180'

IMPERIAL: 1"=60'

NRCS SOILS LEGEND:

SOURCE: USDA NRCS WEB SOIL SURVEY

	SOIL BOUNDARY
10B	MERRIMAC FINE SANDY LOAM, 3 TO 8% SLOPES, HSG A
365E	MONADNOCK AND BERKSHIRE SOILS, 25 TO 60% SLOPES, EXTREMELY STONY, HSG B
526C	CAESAR LOAMY SAND, 8 TO 15% SLOPES, HSG A
26E	WINDSOR LOAMY SAND 15 TO 60% SLOPES, A
143B	MONADNOCK FINE SANDY LOAM, 0 TO 8% SLOPES, HSG B
143C	MONADNOCK FINE SANDY LOAM, 8 TO 15% SLOPES, HSG B
73C	BERKSHIRE FINE SANDY LOAM, 8 TO 15% SLOPES, VERY STONY HSG B
73D	BERKSHIRE FINE SANDY LOAM, 15 TO 25% SLOPES, VERY STONY, HSG B

REV.	DATE	DESCRIPTION	C/O	DR	CK

PRE-DEVELOPMENT DRAINAGE MAP

TAX MAP 228 LOT 16

(COURT STREET)

KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:

GUITARD HOMES

P.O. BOX 604 JAFFREY, NH. 03452

SCALE: 1" = 60' MARCH 21, 2025

Surveying ⌖ **E**ngineering ⌖ **L**and **P**lanning ⌖ **P**ermitting ⌖ **S**eptic **D**esigns

FIELDSTONE LAND CONSULTANTS, PLLC

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FILE: 3941SP00.dwg	PROJ. NO. 3941.00	SHEET: DP-3	PAGE NO. 3 OF 4

NRCS SOILS LEGEND:
SOURCE: USDA NRCS WEB SOIL SURVEY

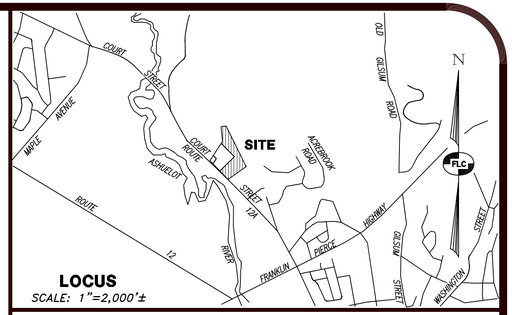
- SOIL BOUNDARY

10B	MERRIMAC FINE SANDY LOAM, 3 TO 8% SLOPES
365E	MONADNOCK AND BERKSHIRE SOILS, 25 TO 60% SLOPES, EXTREMELY STONY
526C	CAESAR LOAMY SAND, 8 TO 15% SLOPES

NRCS SOILS LEGEND:
SOURCE: USDA NRCS WEB SOIL SURVEY

- SOIL BOUNDARY

10B	MERRIMAC FINE SANDY LOAM, 3 TO 8% SLOPES, HSG A
365E	MONADNOCK AND BERKSHIRE SOILS, 25 TO 60% SLOPES, EXTREMELY STONY, HSG B
526C	CAESAR LOAMY SAND, 8 TO 15% SLOPES, HSG A
26E	WINDSOR LOAMY SAND 15 TO 60% SLOPES, A
143B	MONADNOCK FINE SANDY LOAM, 0 TO 8% SLOPES, HSG B
143C	MONADNOCK FINE SANDY LOAM, 8 TO 15% SLOPES, HSG B
73C	BERKSHIRE FINE SANDY LOAM, 8 TO 15% SLOPES, VERY STONY HSG B
73D	BERKSHIRE FINE SANDY LOAM, 15 TO 25% SLOPES, VERY STONY, HSG B



LOCUS
SCALE: 1"=2,000'±

DRAINAGE SYMBOLS:

- 1P — POND (PIPE OR BASIN)
- 1S — SUBCATCHMENT
- 1R — REACH
- 0P1 — OBSERVATION POINT
- WATERSHED BOUNDARY
- TIME OF CONCENTRATION
- SURFACE WATER FLOW

GRAPHIC SCALE
60' 30' 0 60' 120' 180'
IMPERIAL: 1"=60'

REV.	DATE	DESCRIPTION	C/O	DR	CK

POST-DEVELOPMENT DRAINAGE MAP

TAX MAP 228 LOT 16
(COURT STREET)
KEENE, NEW HAMPSHIRE

PREPARED FOR AND LAND OF:
GUITARD HOMES
P.O. BOX 604 JAFFREY, NH. 03452

SCALE: 1" = 60' MARCH 21, 2025

Surveying ⌖ Engineering ⌖ Land Planning ⌖ Permitting ⌖ Septic Designs

FIELDSTONE LAND CONSULTANTS, PLLC

206 Elm Street, Milford, NH 03055
45 Roxbury Street, Keene, NH 03431
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From: Sparky Von Plinsky
To: Mari Brunner; Councilor Andrew Madison
Subject: Agenda Item for April Meeting
Date: Monday, March 31, 2025 12:52:27 PM

Mari & Andrew,

I hope you are both well. I was wondering if I could add something to April's Conservation Commission Agenda. The Cheshire County Conservation District offers local kids a scholarship to attend a local farm camp in the summer. The majority of the kids who attend are from Keene, so I would like to ask the commission if they'd like to donate $250 to help a kid go to farm camp.

Could we add this to the agenda to see what folks think, please?

Thanks, and have a great week,

Sparky