CITY OF PATASKALA PLANNING & ZONING COMMISSION

City Hall, Council Chambers
621 West Broad Street
Pataskala, Ohio 43062

STAFF REPORT

September 1, 2021

Planned Manufacturing Application PM-21-004

Applicant:	Trevor Extine
Owner:	Howard P. and Rosemary A. Emswiler, Trustees
Location:	0 Etna Parkway (PID 064-152862-00.000)
Acreage:	20.02 acres
Zoning:	PM – Planned Manufacturing
Request:	Requesting approval of a Planned Manufacturing application pursuant to Section 1253.07 of the Pataskala Code to allow for the construction of an office/warehouse facility for the property located at 0 Etna Parkway (PID 064-152862-00.000).

Description of the Request:
The applicant is seeking approval of a Planned Manufacturing District application to allow for combination office/warehouse to be constructed on the property located at 0 Etna Parkway (PID 064-152856-00.000).

Staff Summary:
There are currently two (2) properties on which the overall site is located. A 57.48-acre parcel (PID: 064-152862-00.001) which is split by Etna Parkway, with portions of the overall parcel on the east and west sides of the road, and a 32.29-acre parcel (PID: 064-152862-00.000) adjacent to the eastern part of the 57.48-acre parcel and having frontage on Refugee Road SW. The Applicant is proposing to construct a combination office/warehouse on approximately 20.02-acres of these parcels on the east side of Etna Parkway, having frontage on both Etna Parkway and Refugee Road SW, just north and to the east of the Michael Shank Racing Services building at 3001 Etna Parkway. Currently, both parcels are used as agricultural land.

The Applicant is proposing to construct a 75,250-square foot combination office/warehouse, with approximately 20,000-square feet dedicated to office use and the remaining portion occupied by warehouse/shop space for Thayer Power & Communications Line Construction Co., LLC, a fiber, power, and wireless communications construction contractor. A large portion of the remaining acreage would be paved in gravel as a lay-down yard for equipment and materials. Access to the facility would only be from Etna Parkway.

On the following page is a general summary of the property facility as submitted.

General

- Proposed size of lot where the structure will be placed is 20.0226-acres.
    - 492.74-feet of frontage along Etna Parkway.
    - 496.82-feet of frontage along Refugee Road SW.
    - Acreage on pages C107 and C107A indicates the acreage as 24.15-acres, which appears to be incorrect.
- Proposed stormwater basin at southern end of lot along Refugee Road SW frontage.
- Utilities provided by central water and *potentially* a septic system
    - SWLCWSD potentially extending sanitary lines along Etna Parkway in the future, which proposed structure will need to connect too when finished. Should the sanitary project not be finished by the time the building is constructed, a septic field will be installed until such time that a connection to the sanitary line is made.

Structure

- 75,250-square foot building.
    - 20,400-square foot office space
    - 33,400-square foot warehouse space
    - 22,700-square foot shop space
- Building Height: 28-feet
- Exterior: Light and dark concrete masonry bricks, stone veneer, charcoal gray metal siding.

Setbacks

- Primary Structure / Pavement Area
    - Front (West): 130.08-feet / 40-feet
    - Side (North): 173.82-feet / 34.26-feet
    - Rear (East): Unknown / 17.99-feet
    - Side (South) setback: 142.80-feet / 15.58-feet

Access

- The proposed plan has two (2) entrances Etna Parkway:
    - Northern entrance, exit-only, 30-feet wide.
    - Southern entrance, entrance-only, 30-feet wide.

Traffic Management

- In-lieu of conducting a traffic study, the applicant has committed to the installation of a left turn lane on Etna Parkway. The applicant will need to coordinate with the Public Service Director for specifications.
- Although not required, the applicant has also committed to contribute the applicable amount ($48,000) in impact fees to area traffic improvements.
- These items will be memorialized in the CRA agreement with Council and the applicant.

Parking Lot

- 73 vehicle parking spaces total
    - 68 regular parking spaces (10'x20')
    - 5 ADA accessible spaces (size unknown)

    - Section 1291.16 requires any Industrial or manufacturing, compounding, assembling, warehousing, etc. to provide one (1) parking space per 750-square feet of gross floor area for the first 3,000-square feet of floor area plus one (1) per 2,000-square feet thereafter.
        - 81 spaces required
- 40 trailer parking spaces (12'x40')
    - 6 total trailer parking spaces required.
        - 40 trailer parking spaces provided
    - Loading Spaces on plan = 40 feet in length by 12 feet in width.
        - Loading Space Size = 50 feet in length by 12 feet in width required
- The parking area in front will be paved in light-duty asphalt.
- Entrance drives/rear trailer parking area to be paved in heavy-duty asphalt
- Gravel paved lay-down yard in rear (unknown size), surround by 6-foot chain link fence with 1-foot of barbed wire. Portion of fence adjacent to Myers Shank racing with have opaque slats.
- One (1) concrete loading dock on south side of the building.

Landscaping

- NOTE: The landscaping plan as submitted does not reflect the current proposed configuration of the lot as shown on the site plans.
- Frontage (Etna Parkway): 2-foot raised mound along Etna Parkway Frontage with trees ranging from 5 to 6-foot on-center.
- Frontage (Refugee Road): 5 new trees, 2 existing trees.
- Side (North): 5 trees along asphalt paved area.
- Side (South): Shrub line, with trees, arborvitae along rearmost portion.
- Side (Southeast, bordering Michael Shank Racing): None provided.
- Rear (East): None provided.

Signage

- One Monument sign shown, unknown size. All signs shall meet the requirements of Chapter 1295 of the Pataskala Code and be subject to a Sign Permit.
- The applicant plans to move the sign from their existing facility to the new site. Based upon the rendering (attached) it appears to meet applicable sign requirements.

Staff Review: *The following summary does not constitute recommendations but merely conclusions and suggestions from staff.*

Planning and Zoning Staff

Per the City of Pataskala Comprehensive Plan (2006), The Future Land Use Map designates this property as Heavy Industrial. The proposed use would be in line with the comprehensive plan. The proposed use is also a permitted use within the PM – Planned Manufacturing District.

The Applicant met with Staff to go over the plans and receive feedback on August 3, 2021. A list of Staff's comments is attached to this Staff Report. Items which have been addressed from the initial concept review are ~~struck through,~~ remaining items from the concept review are left as-is, and additional items are in red.

There are a few items from the Staff Review are noted below:

Section 1253.05(B) states that every lot shall have a minimum width of 500-feet throughout and a lot area of not less than five (5) acres. The proposed acreage is OK, however, the lot frontage at both Etna Parkway and Refugee Road SW (492.74-feet and 496.82-feet, respectively) is less than 500-feet. The Applicant will need to increase the amount of frontage on Etna Parkway to 500-feet, however, this would not be possible on Refugee Road SW as the current road frontage is all that is available. The applicant is currently in the process of having the property resurveyed to correct this issue.

Section 1253.06(A)(3) of the Pataskala Code states that all buildings must be serviced by public water and sewer prior to occupancy. However, there is currently no sanitary sewer on Etna Parkway for the proposed building to connect to. The Southwest Licking Community Water and Sewer District (SWLCWSD) is currently in the process of obtaining funding to construct a sanitary sewer up Etna Parkway, which, once finished, all existing and future buildings will have to connect to. The Applicant has provided a "Potential Septic Field" for the time being, the need of which is dependent on the timing both of this project and SWLCWSD's sanitary line project. Should the sanitary be finished before this building is finished, they will not construct the septic field, or they will have to connect once the sanitary is in place and the septic field abandoned pursuant to the Licking County Health Department's requirements.

The proposed Landscape Plans reflect the original layout from the concept plan. Following the meeting with Staff on August 3, 2021, a different layout for the access drives was proposed, and the Landscape Plans included now do not reflect the proposed layout of the development. In addition, there are several areas where additional landscaping is required: Rear Yard, North Side Yard, Southeast Side Yard, and South Frontage.

Due the fluid nature of the project and the time constraints imposed; staff is suggesting that the provisions in Section 1255.14(c) for Planned Development Districts be included as a condition. This will allow staff to have the ability to work with the developer moving forward to address any outstanding items. Section 1255.14(c) has been attached to the staff report.

<u>Public Service Director</u>

1. Full engineering plans and stormwater report have not been reviewed as part of this application. These items will be reviewed in the engineering plan review phase after PZC.
2. Access Management
    a. Only 1 full access drive will be permitted.
    b. If 2 drives are requested, the southern shall be enter only, and clearly marked as such, and the northern exit only. While this configuration could work, it must actually work, and be vetted/proved as such.
    c. If 1 full access, it shall be the northern drive, and the southern emergency access only (preferred).
    d. A left-turn lane shall be included at the entrance (preferred), or a traffic access study shall be provided.
3. Traffic Impacts

a. The equivalent impact fees shall be provided, in the amount of $48,000, or a traffic impact study shall be provided to determine impacts at adjacent intersections and a fee determined accordingly.

SWLCWSD
The District does not currently have sanitary sewer service to the site. The District recently released an "Request for Qualifications" for design of sanitary sewer services to the Pataskala Corporate Park. Once the sanitary sewer system is installed, this property will be required to connect to the centralized sewer system. It is recommended that provisions are made in the design of the facility to connect to sanitary sewer along Etna Parkway. Please be aware that tap and capacity fees will be due prior to connection to the system in addition to any fees that the District Board of Trustees may levy to complete the sanitary sewer project.

West Licking Joint Fire District
Comments relating to Fire Code, addition of Hydrants, Inspections. Full comments attached.

City Engineer
Stormwater report to be reviewed with engineering plans. Needed adjustments to southern entrance. Full comments attached.

Other Departments and Agencies
No other comments received.

Performance Standards of the PM District
Section 1253.06 outlines four performance standards that must be met for any lot located within the PM – Planned Manufacturing District. The proposed facility will meet three of the four requirements due to the lots current inability to connect to public sewer. As mentioned above, SWLCWSD is currently undergoing preliminary preparations to construct a sanitary sewer line up Etna Parkway, which the proposed facility will be required to connect to once constructed.

Site Design Approval
Section 1253.07 states that the Planning and Zoning Commission will review the application and provide a recommendation to the Planning Director. The Planning Commission shall recommend approval if the requirements of the Code have been met.

Surrounding Area:

Direction	Zoning	Land Use
North	PM – Planned Manufacturing	Agricultural
East	PM – Planned Manufacturing	Agricultural
South	PM – Planned Manufacturing Etna Township	Michael Shank Racing Golf Course
West	PM – Planned Manufacturing	Agricultural

Department and Agency Review

- Zoning Inspector – No comments
- City Engineer – See attached
- Police Department – No comments
- Public Service Director – See attached
- West Licking Joint Fire District – See attached
- Health Department – No comments
- Southwest Licking Schools – No comments
- SWLCSWD – See attached

Modifications:
Should the Board choose to approve the applicant's request, the following modifications may be considered:

1. The Applicant shall address all comments from Planning and Zoning Staff, City Engineer, Public Service Director, and the West Licking Joint Fire District.
2. The applicant shall receive all necessary permits from the City of Pataskala and the Licking County Building Department.
3. The Applicant shall supply Planning and Zoning Department with a set of mylar plans upon approval of the Zoning Permit.
4. As determined by the City Administrator, minor revisions to the plan, including but not limited to those outlined in Section 1255.14(c) of the Pataskala Code, shall be approved by the City Administrator or their designee.

Resolution:
For your convenience, the following resolution may be considered by the Planning and Zoning Commission when making a motion:

"I move to approve a Planned Manufacturing District Application pursuant to Section 1253.07 of the Pataskala Code for application PM-21-004 ("with the following modifications" if modifications are to be placed on the approval)."

CITY OF PATASKALA PLANNING & ZONING DEPARTMENT
621 West Broad Street, Suite 2A
Pataskala, Ohio 43062

PM-21-004 Staff Review

September 1, 2021

Procedure:

Step 1: Planned Manufacturing (PM) Application
- Applicant has applied for PM-21-004, pending approval.

Step 2: Any Variance Applications required
- Board of Zoning Appeals approval.

Step 3: Construction Plans
- Administrative Approval.

Step 4: New Commercial Construction Permit
- Administrative Approval.

Step 5: Certificate of Compliance
- Administrative Approval.

General Comments:
- Add "PM-21-004" to the title page.
- Apron on South Side access drive crosses approximately where property line is.
- Acreage on pages C107 and C107A indicates the acreage as 24.15-acres, which appears to be incorrect.

Chapter 1253 – Planned Manufacturing (PM)

~~1253.03 – Permitted Uses~~
- ~~Permitted in PM~~

~~1253.05 – General Requirements of the GB District~~
- ~~1253.05(A): Maximum building height is 35-feet.~~
  - ~~28-feet~~
- 1253.05(B): Lot area and Width – Every lot shall have minimum width of 500' throughout and a lot area not less than 5 acres exclusive of road right-of-way.
  - Lot width at frontage (both Etna Parkway and Refugee Road SW) is below 500-feet. 492.74-feet, and 496.82-feet, respectively. Lot Size OK.
- 1253.05(C): Setbacks and Yards
  - ~~1253.05(C)(1): Front yard of not less than 50' in depth.~~
    - ~~130.08-feet.~~
  - ~~1249.05(C)(2): Side yard of not less than 50'.~~
    - ~~North Side: 173.82-feet~~
    - ~~South Side: 142.80-feet~~
  - 1249.05(C)(3): Rear yard of not less than 50'.
    - Unknown
- 1253.05(D): Maximum Lot Occupancy – Max percentage of total lot area which may be occupied by both principal and accessory structures is 65%.
  - ~~Proposed site acreage: 20.0226, Proposed building SF: 75,250. Lot Occupancy of ~8.63%.~~
  - Still need to see square footage of pavement, gravel.

- 1253.05(G): Trash and Garbage Control – All trash and garbage shall be stored in container systems which are located and enclosed to effectively screen them from view. Screening of trash and garbage areas shall meet the requirements of Section 1283.06. Container systems shall not be in front yards.
    - Two (2) 15'x15' dumpster pads identified. Locations OK. Need details on proposed screening.
- ~~1253.05(H): Bulk Requirements – All structures shall have 625 square feet per business unit and not be less than 25 feet in width and depth. All bulk requirements for the PM District are to be determined from outside dimensions, exclusive of porches, garages, and cellars or basements.~~
- 1253.05(L): Drainage – The amount and rate of runoff from a developed site shall be no greater after development than it was prior to development.
    - TBD with Construction Plans

1253.06 – Performance Standards of the PM District

- 1253.06(A)(3): All buildings must be serviced by public water and sewer prior to occupancy.
    - Plans indicate potential septic field. As noted in Staff Report, SWLCWSD is planning to extend sanitary up Etna Parkway. Should sanitary be installed, proposed structure must connect. Need for septic field TBD on timing on SWLCWSD project.

Chapter 1279 – Fences

1279.03 – Height and Location

- ~~1279.03(A)(1): A fence or wall not exceeding 48" in height may be erected between the building setback line and a line 3' feet toward the building setback line from the street right-of-way line.~~
- ~~1279.03(A)(2): A fence or wall not exceeding 72" in height may be erected in any area of the lot behind the building setback line.~~
    - ~~Proposed fencing is behind front building setback, 6-feet in height with 1-foot of 3-strand barbed wire along top.~~

Chapter 1283 – Landscaping and Screening

~~1283.03 – Tree Preservation and Replacement~~

- ~~No trees on site currently.~~

1283.07 – Application of Landscaping Standards

- 1283.07(B): Landscaping Standards for Individual Lots – the following landscaping standards apply to each individual lot. See below for descriptions of standards.
    - Note: The Landscape Plans provided do not match the proposed site plans. Will need revised Landscape Plans showing the correct layout of the proposed development.
    - Should you be unable to meet any of the requirements below, a Variance will be required.
    - Use Notes and Planting Details from Section 1283 of the Pataskala Code on page LS.2
    - Front Yard: **L2**
        - Etna Frontage: 2' mound with juniper plantings on top, trees at 5'-6' O.C.
            - Mix of mound and shrubs allowed as long as minimum height is 3' total, place note on plans stating shrub plantings to be minimum 1' in height.
        - Refugee Frontage: Trees provided, unknown spacing.
            - Will need tree spacing, shrubs or mound (3' in height minimum) is still required.
    - Side Yard: **L2 if abutting similar use**; L5 if abutting residential use or district, L3 if abutting any district other than residential.
        - North: Red Maples along asphalt parking area, unknown O.C. distance.

        - Need distance between trees, landscaping shall run perimeter of property line or extent of development. L2 also requires 3' high shrubs.
    - South: Shrub line (6' O.C.?) with trees, unknown spacing, arborvitae along rearmost portion.
        - Unknown shrub height; must be 3' height minimum. Provide tree spacing. Arborvitae section not required by L2 but would provide more screening so that's OK.
    - Southeast (Bordering Michael Shank Racing):
        - None provided.
            - L2 required.
- Rear Yard: **L2 if abutting similar use**; L5 if abutting residential use or district, L3 if abutting any district other than residential.
    - Rear (east): none provided
        - L2 required.

1283.06 – Landscaping and Screening Standards

- 1283.06(3): Low Screen (L2) – Requires enough low shrubs to form a continuous screen 3' high and 95% opaque year-round. In addition, 1 tree is required per 30 lineal feet. A 3' high berm, or a 3' high masonry or stone wall may be substituted for the shrubs, but the trees shall still be required. When applied along street lot lines, the screen, wall, or berm is to be placed along the interior side of the landscaped area.
- 1283.06(4): High Screen (L3) – Requires enough high shrubs to form a screen 6' high and 95% opaque year-round. In addition, 1 tree is required every 30 lineal feet. A 6' high wall may be substituted for the shrubs.
- 1283.06(6): High Berm (L5) – Requires a berm between 4' and 6' high. If the berm is less than 6' high, low shrubs that meet the L2 standard shall be planted on top of the berm to assure that the overall screen is 6' high. One tree is required per 30 lineal feet

Chapter 1291 – Parking and Loading

1291.02 – General Requirements

- ~~1291.02(A)(4): All off-street parking shall be hard-surfaced with asphaltic cement, concrete, pavers to provide a durable and dust-free surface.~~
    - ~~Parking area to be light or heavy duty asphalt.~~
- ~~1291.02(A)(7): A curbed landscaped island min. 6' in width, shall separate parking areas within a site from any entrance or exit to the parking lot.~~
    - ~~Parking area should be separated from access drive on south side of building.~~

~~1291.03 – Lighting~~

- ~~Any nonresidential parking area with ten or more off-street parking spaces and any residential parking area with 20 or more off-street parking spaces shall be illuminated during periods of darkness to provide an average intensity of 1/2 foot candles of light as measured at the parking surface area. All outdoor lighting shall be constant intensity, and shall be directed, reflected, or shielded so as not to be of excessive brightness or cause glare hazardous to pedestrians or drivers, create a nuisance or unreasonably interfere with a neighboring property owner's right to enjoy his/her property.~~
    - ~~Lighting provided by building mounted lights. Photometric plan on page E0.~~

1291.05 – Location of Parking and Loading Spaces

- 1291.05(B) 40-foot vegetated zone (landscaped to the L2 standard identified in Chapter 1283) shall be maintained between the street right-of-way-line, and any parking or loading area exclusive of ingress and egress points.
    - 40-foot setback identified, L2 type landscaping required.

1291.07 – Parking Spaces for People With Disabilities

- 1291.07(B): Number shall follow ADA guidelines. Accessible spaces shall be a minimum of 11-feet wide and 19-feet deep, with a 5-foot-wide access aisle on one side.
    - 5 ADA Spaces provided. Length/Width of spaces and of access aisles unknown.
- ~~1291.07(C)(1-3): Proper signage shall be posted.~~
    - ~~Include a note on the plans.~~

~~1291.11 – Parking and Loading Space Dimensions~~

- ~~Figure 655-1: For 75-90 degree parking the minimum dimensions are 9-feet wide, 19-feet deep. Parking Space maneuvering (distance between two opposing lanes of parking) shall be minimum of 20-feet.~~
    - ~~10'x20' parking spaces with 24' maneuvering space.~~

1291.13 – Interior Screening and/or Landscaping

- ~~1291.13(1): All surface parking areas with more than 10 spaces shall provide curbed interior landscaping complying with one or a mix of the standards set forth below:~~
    - ~~1291.13(1)(a): Option 1 - Interior landscaping shall be provided at the rate of 20 square feet per stall. At least one tree must be provided for every 200 square feet of landscaped area. Ground cover plants as listed in Chapter 1283 must completely cover the remainder of the landscaped area~~
        - ~~73 Parking spaces provided. 78 x 20 = 1,560 SF.~~
            - ~~1,560 / 200 = 8 trees~~
    - ~~1291.13(1)(b): Option 2 - One tree must be provided for every four parking spaces. The tree planting area must have a minimum dimension of 25 square feet. All island trees shall be protected from potential damage by vehicles.~~
        - ~~73 / 4 = 19 trees and (19 x 25) 475 SF of landscape area.~~

1291.13 – Width of Access Driveway

- ~~For a two-way access drive, a minimum width of 28-feet is required.~~
    - ~~Main entrance/exit drive has width of 30-feet.~~
- Parking Areas having more than one aisle or driveway shall have directional signs or markings in each aisle or driveway.
    - Parking aisles, entrances and exits to/from site and parking areas will need arrows indicating flow of traffic.

1291.16 – Required Number of Off-Street Parking Spaces

- 1291.16(Industrial/Manufacturing)(1) = Manufacturing, distribution, warehousing, etc.
    - 1 per 750-square feet of gross floor area for the first 3,000-square feet. Plus 1 per 2,000-square feet of gross floor area thereafter.
        - Square Footages provided on page C102A (55,561) do not match floor plan on page A-100 (56,100)
        - 3000/750 = 4.
        - (55,651-3000)/2000 = 27
        - Total required for warehouse/shop space is 31. Calculation provided on page C102A is incorrect, please revise on plans.
- 1291.16(Industrial/Manufacturing)(2) – Administrative offices

- 1 for each 400 square feet of gross floor area.
  - Square Footages provided on page C102A (22,279) do not match floor plan on page A-100 (20,400).
  - 20,400-square foot office space/400 = 51 required parking spaces.
  - In total, 81 parking spaces are required. Calculation on C102A incorrect, please revise.
  - The plans identify only 73 total parking spaces, while 81 are required.

1291.18 – Required Number of Off-Street Loading Spaces

- 1291.18(Industrial/Manufacturing)
  - 2,500 to 10,000-square feet: 1
  - Over 10,000-square feet: 1 for each additional 10,000-square feet or fraction thereof over 10,000-square feet.
    - ~~55,561/10,000 = 6 loading spaces required. 40 provided.~~
  - Loading Space Size = 50 feet in length by 12 feet in width.
  - Loading Spaces on plan = 40 feet in length by 12 feet in width.
- Chapter 1295 – Signs
  - One Monument sign shown, unknown size. All signs shall meet the requirements of Chapter 1295 of the Pataskala Code and be subject to a Sign Permit.
  - Relocation of sign will need to meet signage requirements

(c) Modifications to approved final development plans. Applicant requests to modify approved final development plans will be reviewed according to the following:

(1) Administrative approval. The Director of Planning, in administering approved final development plans may authorize minor design modifications, subject to the limitation of subsections (c)(2) or (3) below, that are required to correct any undetected errors and/or that are consistent with the purpose of the approved final development plan.

(2) Such administrative modifications shall not allow increases in intensity of development or additions to the list of permitted or conditional uses. Such modifications shall be limited to:

A. Minor adjustments in lot lines provided no additional lots are created.

B. Minor adjustments in location of building footprints and parking lots provided the perimeter setbacks, yards and buffers remain in compliance.

C. Minor adjustments in building heights.

D. Substitution of landscaping materials.

E. Redesigning and/or relocating stormwater management facilities.

F. Redesigning and/or relocating mounds.

G. Minor modifications to the design of signs, including the sign face, and sign lighting, provided the color palette, maximum sign area and maximum sign height, approved in the final development plan are not exceeded.

H. Minor changes in building material that are similar to and have the same general appearance as the material approved on the final development plan.

(3) The Director of Planning shall report any administrative approved modifications to the Planning and Zoning Commission.

(d) Planning and Zoning Commission. Modifications other than those listed in part (c)(1), or (c)(2) above shall be submitted to the Planning and Zoning Commission. If during their review they determine that the modifications are compatible with the surrounding development and that they are not requirements that are necessary to ensure consistency with the preliminary development plan, the Planning and Zoning Commission may approve such change.

(e) Zoning and Building Permits. Following the approval of the final development plan, and recording of the final subdivision plat if applicable, the applicant may proceed with the application process for certificate of zoning compliance and building permit process, consistent with approval as granted, including any conditions and modifications made by the Planning and Zoning Commission.

(1) After approval of the final development plan, the applicant shall obtain a certificate of zoning compliance and building permits, prior to construction of any structures.

(2) However, a certificate of zoning compliance shall not be issued until the appropriate final plat has been recorded and the City has accepted any applicable land areas that are to be dedicated to the City, including streets and utility improvements. No zoning certificate of occupancy shall be granted prior to the City's acceptance of public infrastructure serving that

From:	Trevor Extine
To:	Scott Fulton; Jack Kuntzman
Cc:	Matthew L. Weber; Maura Maresh; Greg Seifert; Kevin Hartfelder
Subject:	Thayer Communications
Date:	Thursday, August 26, 2021 10:07:39 AM

Scott,

I have talked it over with the team here. I do plan on attending the planning meeting on the 1st.

Please incorporate in your staff report that the re-plat of the property will be filed prior to the 9th. (that's when we close on the property, and will need to be filed by then)
Property pins have been moved, re-survey has been completed. This replat is coordinated by the seller – so we have little control of the timing.

The property line in question only moved 7.26 feet. We don't think it's unreasonable to ask for a conditional approval pending final plat approval, considering that we agreed to pay the traffic impact fee *and* provide a left turn lane into the site.

As for the landscaping, we did meet and show a landscape plan, the perimeter landscape requirement was not brought up. A conditional approval for a compliant/approved landscape plan is also not an unreasonable request. Landscaping will be one of the last things to be installed, and therefore should allow time for proper modifications to the landscape plans for approval.

Winter will be here soon and we will need to be well underway on this project prior to snow hitting the ground.

Please let me know if you have any further questions.

Thank you,

Trevor Extine
Architect
trevor@geis-companies.com

GEIS COMPANIES
10020 Aurora-Hudson Road
Streetsboro, Ohio 44241
330.528.3500 | 330.528.0008 fax
www.geis.us

CONSTRUCTION | DEVELOPMENT | ARCHITECTURE | PROPERTY MANAGEMENT

From:	Chris Gilcher
To:	Scott Fulton; Jim Roberts; Scott Haines; Bruce Brooks; Doug White; Philip Wagner; Alan Haines; Perkins, Kasey (Southwest Licking Local Schools)
Cc:	Lisa Paxton; Jack Kuntzman
Subject:	RE: PZC Review Memo for 09-01-2021
Date:	Friday, August 20, 2021 8:26:40 AM
Attachments:	image001.png

Scott,

Please see below:

TCOD-21-005 – No comment

PM-21-004 – The District does not currently have sanitary sewer service to the site. The District recently released an "Request for Qualifications" for design of sanitary sewer services to the Pataskala Corporate Park. Once the sanitary sewer system is installed, this property will be required to connect to the centralized sewer system. It is recommended that provisions are made in the design of the facility to connect to sanitary sewer along Etna Parkway. Please be aware that tap and capacity fees will be due prior to connection to the system in addition to any fees that the District Board of Trustees may levy to complete the sanitary sewer project.

Thanks,

CJ Gilcher
Utilities Superintendent
8718 Gale Road
Hebron, Ohio 43025
Ph: 740-928-2178 Cell: 614-348-6627

From: Scott Fulton <sfulton@ci.pataskala.oh.us>
Sent: Wednesday, August 11, 2021 1:32 PM
To: Jim Roberts <jroberts@hullinc.com>; Scott Haines <shaines@hullinc.com>; Bruce Brooks <bbrooks@pataskalapolice.net>; Doug White <DWhite@westlickingfire.org>; Philip Wagner

<pwagner@lhschools.org>; Chris Gilcher <cgilcher@swlcws.com>; Alan Haines <ahaines@ci.pataskala.oh.us>; Perkins, Kasey (Southwest Licking Local Schools) <kperkins@laca.org>
Cc: Lisa Paxton <lpaxton@ci.pataskala.oh.us>; Jack Kuntzman <jkuntzman@ci.pataskala.oh.us>
Subject: PZC Review Memo for 09-01-2021

Good afternoon everyone.

You are receiving this email because one or more of the Applications submitted for the September 1, 2021 Planning and Zoning Commission is within your jurisdiction. Please see the list below for which Applications are being submitted for your review.

TCOD-21-005: Jim Roberts, Bruce Brooks, Doug White, Philip Wagner, CJ Gilcher, Alan Haines

PM-21-004: Jim Roberts, Bruce Brooks, Doug White, Kasey Perkins, CJ Gilcher, Alan Haines

Please review the applications, and if you have any comments or concerns regarding them they may be submitted to me in writing no later than Monday, August 23rd.

And if you have any questions about the Applications themselves, feel free to contact me.

Here is a link to download the review memo: https://pataskala-my.sharepoint.com/:f:/g/personal/sfulton_ci_pataskala_oh_us/EtY_gCEqbzhJtrdCRX1Tfy4B-XlRS5pQhuXczcY0AJn0oA?e=sRHquE

Respectfully,

Scott Fulton
Director of Planning
City of Pataskala
621 West Broad Street, Suite 2-A
Pataskala, Ohio 43062
Phone: 740-927-2168
Cell: 614-440-5222

From:	Scott Haines
To:	Jack Kuntzman
Cc:	Lisa Paxton; Scott Fulton; Alan Haines; Jim Roberts
Subject:	RE: PZC Review Memo for 09-01-2021
Date:	Monday, August 23, 2021 8:51:12 PM

Jack

Hull & Associates has reviewed the following applications as well as reviewed the comments provided by the Public Service Director and we offer the following additional comments:

1. PM-21-004
    a. The engineering plans and stormwater report have not been reviewed as part of this application. These items will be reviewed in the engineering plan review phase.
    b. The southern drive apron conflicts with the existing drive apron to the south. Additional details will be required during the engineering phase if this drive remains at the current location for construction and drainage concerns.
2. TCOD-21-005
    a. The Future 45' R.O.W. line should extend to the northern property line
    b. It is recommended all trees be located outside the future R.O.W.
    c. Engineering comments including Stormwater retention/detention will be reviewed in subsequent engineering review submittals.

Thank You

Scott R. Haines, P.E., CPESC

Senior Project Manager

HULL | Newark, Ohio
Environment / Energy / Infrastructure

d: 740-224-0839 | **o**: 740-344-5451 | **f**: 614-360-0023

Follow Hull on **Facebook** & **LinkedIn**
web | **directions to offices**

Scott R. Haines, P.E., CPESC

Senior Project Manager

HULL | Newark, Ohio
Environment / Energy / Infrastructure

d: 740-224-0839 | **o**: 740-344-5451 | **f**: 614-360-0023

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From: Scott Fulton <sfulton@ci.pataskala.oh.us>
Sent: Wednesday, August 11, 2021 1:32 PM
To: Jim Roberts <jroberts@hullinc.com>; Scott Haines <shaines@hullinc.com>; Bruce Brooks <bbrooks@pataskalapolice.net>; Doug White <DWhite@westlickingfire.org>; Philip Wagner <pwagner@lhschools.org>; Chris Gilcher <cgilcher@swlcws.com>; Alan Haines <ahaines@ci.pataskala.oh.us>; Perkins, Kasey (Southwest Licking Local Schools) <kperkins@laca.org>
Cc: Lisa Paxton <lpaxton@ci.pataskala.oh.us>; Jack Kuntzman <jkuntzman@ci.pataskala.oh.us>
Subject: PZC Review Memo for 09-01-2021

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TCOD-21-005: Jim Roberts, Bruce Brooks, Doug White, Philip Wagner, CJ Gilcher, Alan Haines

PM-21-004: Jim Roberts, Bruce Brooks, Doug White, Kasey Perkins, CJ Gilcher, Alan Haines

Please review the applications, and if you have any comments or concerns regarding them they may be submitted to me in writing no later than Monday, August 23rd.

And if you have any questions about the Applications themselves, feel free to contact me.

Here is a link to download the review memo: https://pataskala-my.sharepoint.com/:f:/g/personal/sfulton_ci_pataskala_oh_us/EtY_gCEqbzhJtrdCRX1Tfy4B-XlRS5pQhuXczcY0AJn0oA?e=sRHquE

Respectfully,

Scott Fulton
Director of Planning
City of Pataskala
621 West Broad Street, Suite 2-A
Pataskala, Ohio 43062
Phone: 740-927-2168
Cell: 614-440-5222

WEST LICKING JOINT FIRE DISTRICT

www.westlickingfire.org

District Headquarters

851 East Broad Street
Pataskala, Ohio 43062
740-927-8600 [Office]
740-964-6621 [Fax]
www.westlicking fire.org

August 19, 2021
Subject: Plan review Thayer Power / (Civil)

Scott,

The West Licking Fire District has reviewed the plans for Thayer Power and we have the following comments.

1) All fire hydrants on a private system shall have the bonnet of the hydrant painted blue. **This comment shall be added to the detail page of the construction plans.**
2) Each project shall provide 1 spare "screw on "type Stortz fitting for every (5) fire hydrants installed on the water line to be used at the discretion of the Fire District. They shall be delivered to the Fire District prior to the final acceptance of the project. **This comment shall be added to the detail page of the construction plans.**
3) All fire hydrants shall have: One (1) 5" Stortz connection / Two (2) 2.5" hose connections. **This comment shall be added to the detail page of the construction plans.**
4) Per the Fire Districts regulations section J note (b): All fire hydrants shall be installed every 300' and out of the collapse zone. i.e. 1 ½ times the height of the building.
5) All threads provided for the FDC's shall be a 5" Stortz fitting with a 30 degree angle towards the ground and at a height of 36" off of finish grade. **This comment shall be added to the detail page of the construction plans.**
6) The FDC shall be marked with a red aluminum sign, 18" in height and 24" wide. The sign shall have white letters reading "FDC" that are 6" in height and 1" stroke width. **This comment shall be added to the detail page of the construction plans.**
7) The water line shall be a minimum of 6" diameter line from the 5" Stortz fitting to the sprinkler riser. **This comment shall be added to the detail page of the construction plans.**
8) All fire hydrants, PIV's and FDC's that are in areas subject to vehicular traffic, impact bollards shall be installed per the 2017 edition of the Ohio Fire Code section 312 guidelines. **This comment shall be added to the detail page of the construction plans.**
9) FDC's shall be painted fire protection red.**This comment shall be added to the detail page of the construction plans.**
10) The following requirements are in addition to NFPA 24, and the Water Department jurisdiction that work is to be performed. Installation requirements: All clamps, rods, rod couplings or turnbuckles, bolts, washers and straps used below ground level shall be stainless steel. **This comment shall be added to the detail page of the construction plans.**
11) Where access to or within a structure or an area is restricted because of secured openings or where immediate access for life-saving or firefighting purposes, the Fire

Code Official is authorized to require a key box to be installed in an approved location. The key box shall be of an approved type listed per the Fire Districts regulations section G.

12) The Fire District requires a 48 hour notice for any inspections and testing.
13) The Fire District's regulations can be found on our website at westlickingfire.org

This concludes our comments at this time. If you have any questions please feel free to contact me.

Regards,

Doug White
dwhite@westlickingfire.org
Fire Marshal
West Licking Fire District
851 E. Broad St.
Pataskala Oh 43062
Office Phone # 740-927-3046 Opt. 2
Westlickingfire.org

From: Alan Haines
To: Scott Fulton; Jim Roberts; Scott Haines
Cc: Lisa Paxton; Jack Kuntzman
Subject: RE: PZC Review Memo for 09-01-2021
Date: Friday, August 20, 2021 10:41:11 AM

Jack,

My comments on the applications for the PZC meeting for 9-1-21 are as follows:

1. PM-21-004
    a. Full engineering plans and stormwater report have not been reviewed as part of this application. These items will be reviewed in the engineering plan review phase after PZC.
    b. Access Management
        i. Only 1 full access drive will be permitted.
        ii. If 2 drives are requested, the southern shall be enter only, and clearly marked as such, and the northern exit only. While this configuration could work, it must actually work, and be vetted/proved as such.
        iii. If 1 full access, it shall be the northern drive, and the southern emergency access only (preferred).
        iv. A left-turn lane shall be included at the entrance (preferred), or a traffic access study shall be provided.
    c. Traffic Impacts
        i. The equivalent impact fees shall be provided, in the amount of $48,000, or a traffic impact study shall be provided to determine impacts at adjacent intersections and a fee determined accordingly.
2. TCOD-21-005
    a. Right-of-way
        i. Proposed right-of-way width on Taylor Road is 90', existing right-of-way is 60'. Half of this distance, 15', is proposed for dedication.
        ii. Proposed right-of-way width on Broad Street is 120', existing right-of-way is unclear. Proposed dedication is a total of 60' from centerline.
        iii. Request that set-back requirements be loosened to achieve right-of-way goal if necessary.
    b. TCOD requirements
        i. To satisfy TCOD, the left-turn lane on Taylor Road shall be extended. The actual length of the extension to be determined during engineering phase.
    c. Access management
        i. Access on Taylor Road is adequate with extension of turn-lane.
        ii. Access on Broad St. is preferred as a cross-access agreement with property to the west; barring that availability, a right-in/right-out as shown is the next best option. Full details of this shall be addressed during engineering phase.
    d. Stormwater management
        i. Assuming that an underground system will be provided for review during engineering phase, as an above ground system is not shown.

Please let me know if questions.

Regards,

Alan W. Haines, P.E.
Public Service Director
City of Pataskala

621 W. Broad St.
Suite 2B
Pataskala, Ohio 43062

Office: 740-927-0145
Cell: 614-746-5365
Fax: 740-927-0228

From: Scott Fulton <sfulton@ci.pataskala.oh.us>
Sent: Wednesday, August 11, 2021 1:32 PM
To: Jim Roberts <jroberts@hullinc.com>; Scott Haines <shaines@hullinc.com>; Bruce Brooks <bbrooks@pataskalapolice.net>; Doug White <DWhite@westlickingfire.org>; Philip Wagner <pwagner@lhschools.org>; Chris Gilcher <cgilcher@swlcws.com>; Alan Haines <ahaines@ci.pataskala.oh.us>; Perkins, Kasey (Southwest Licking Local Schools) <kperkins@laca.org>
Cc: Lisa Paxton <lpaxton@ci.pataskala.oh.us>; Jack Kuntzman <jkuntzman@ci.pataskala.oh.us>
Subject: PZC Review Memo for 09-01-2021

Good afternoon everyone.

You are receiving this email because one or more of the Applications submitted for the September 1, 2021 Planning and Zoning Commission is within your jurisdiction. Please see the list below for which Applications are being submitted for your review.

TCOD-21-005: Jim Roberts, Bruce Brooks, Doug White, Philip Wagner, CJ Gilcher, Alan Haines

PM-21-004: Jim Roberts, Bruce Brooks, Doug White, Kasey Perkins, CJ Gilcher, Alan Haines

Please review the applications, and if you have any comments or concerns regarding them they may be submitted to me in writing no later than Monday, August 23rd.

And if you have any questions about the Applications themselves, feel free to contact me.

Here is a link to download the review memo: https://pataskala-my.sharepoint.com/:f:/g/personal/sfulton_ci_pataskala_oh_us/EtY_gCEqbzhJtrdCRX1Tfy4B-XlRS5pQhuXczcY0AJn0oA?e=sRHquE

Respectfully,

Scott Fulton
Director of Planning
City of Pataskala
621 West Broad Street, Suite 2-A
Pataskala, Ohio 43062

Phone: 740-927-2168
Cell: 614-440-5222

CITY OF PATASKALA PLANNING AND ZONING COMMISSION

621 West Broad Street, Suite 2A
Pataskala, Ohio 43062

PLANNED MANUFACTURING DISTRICT APPLICATION

(Pataskala Codified Ordinances Chapter 1253)

Property Information		
Address: O Etna Parkway		
Parcel Number: 64-152856-00.000		
Zoning: PLANNED MANUFACTURING	Acres: 20.02	
Water Supply:		
☐ City of Pataskala	☒ South West Licking	☐ On Site
Wastewater Treatment:		
☐ City of Pataskala	☐ South West Licking	☒ On Site

Staff Use
Application Number: PM-21-004
Fee: 1000
Filing Date: 8-9-21
Hearing Date: 9-1-21
Receipt Number: 000214 CK 43790

Applicant Information		
Name: TREVOR EXTINE		
Address: 10020 AURORA-HUDSON RD		
City: STREETSBORO	State: OH	Zip: 44241
Phone: 330.528.3500	Email: TREVOR@GEKCO.NET	

Property Owner Information		
Name: DAVID N. PHILLIPS TRUST		
Address: REFUGEE RD		
City: PATASKALA	State: OH	Zip: 43062
Phone:	Email:	

Documents	
☑ Application	
☑ Fee	
☑ Building Elevations	
☑ Site Plan	
☑ Deed	
☑ Area Map	

Planned Manufacturing District Information
Describe the Project: PLEASE REFER TO THE COVER LETTER

Revised January 1, 2018

Additional Information on Back of Page

Documents to Submit

Planned Manufacturing District Application: Submit 1 copy of the application.

Site Plan: Submit 14 copies of a development plan including the following:

- All proposed structures including square footage, dimensions, setbacks, entrances, service and pedestrian areas.
- All property lines and dimensions of the lot.
- All points of ingress and egress onto public roadways, traffic flow patterns, traffic control points and traffic safety measures.
- A traffic study of the affected area according to Ohio Department of Transportation standards if applicable.
- A parking layout including vehicular and pedestrian routes.
- All proposed landscaping including type, size, materials, locations and berms in accordance with Section 1253.05(I).
- The use of land and location of structures on adjacent property within 100 feet of the property line.
- Location and screening of dumpsters.
- Location, dimensions and design of all signage and lighting.
- The proposed use of all parts of the lot and structures.

Building Elevations: Submit 14 copies of a site plan to scale of the subject property indicating the following:

- Location and dimensions (length, width, height) of all proposed buildings and structures.
- Total square footage of each structure.
- The proposed use of all parts of the structures.
- Location and screening of dumpsters.

Deed: Provide a copy of the deed for the property with any deed restrictions. Deeds can be obtained at www.lcounty.com/rec.

Area Map: Submit 1 copy of an area map from the Licking County Engineer's office showing the property and surrounding area. Area maps can be obtained at www.lcounty.com/taxparcelviewer/default.

Signatures

I certify the facts, statements and information provided on and attached to this application are true and correct to the best of my knowledge. Also, I authorize City of Pataskala staff to conduct site visits and photograph the property as necessary as it pertains to this Planned Manufacturing District request.

Applicant (required):	Date:
TREVOR EVANS	05 AUG 21
Property Owner (required):	**Date:**
Howard P Emerick - Rooney + Emerick, Trustees	8-6-2021

August 3rd, 2021

City of Pataskala Planning & Zoning Department
621 Broad Street, Suite 2A
Pataskala, Ohio 43062

RE: Thayer Power & Communication

Thayer Power & Communication Line Construction Co., LLC has become one of the premier contractors in the Fiber, Power, and Wireless construction industries. With the growing infrastructure of power, and communications, Thayer Power & Communications must also grow, and are pleased to submit for your approval a new facility to do just that.

Please find attached plans for a new 75,250 square foot facility situated at the corner of Etna Parkway and Refugee Road. This building consists of an office portion totaling around 20,000 square feet with the balance committed to 55,250 square feet of warehouse. The site for this project is in the "Planned Manufacturing" use district occupying 20.02 acres. Within this site we are proposing one point of access from Etna Parkway.

We feel an approval of the proposed project will comply, promote, and protect the public health, safety, convenience, comfort, prosperity and general welfare of the community and neighbors. We look forward to a successful planning and zoning approval.

Sincerely,

Trevor Extine

Trevor Extine, Architect
Geis Construction Company

(5)

200712070031205
Pgs: 2 $28.00 T20070028252
12/07/2007 10:02AM BXHAYES BOX
Bryan A. Long
Licking County Recorder

GENERAL WARRANTY DEED

David N. Phillips, Successor Trustee of the David N. Phillips Trust dated February 19, 2001 and David N. Phillips, Successor Trustee of the Peggy A. Phillips Trust dated February 19, 2001, of Licking County, Ohio, for valuable consideration paid, grants with general warranty covenants to ***Rosemary A. Emswiler, Trustee of the Rosemary A. Emswiler Revocable Trust U/A dated December 27, 1978, as amended,*** whose tax mailing address is 13167 Morse Road, Pataskala, OH 43062, the following real property:

BEING AN UNDIVIDED ONE-HALF INTEREST IN THE FOLLOWING DESCRIBED REAL ESTATE:

Situated in the State of Ohio, County of Licking, City of Pataskala and being further described on the attached Exhibit "A", incorporated herein by reference.

The Grantees, their heirs, and assigns do hereby acknowledge and agree that this conveyance is subject to the covenant and agreement of the grantees, their heirs, and assigns that this exempted lot combination does not create an ***additional*** building site or ***new*** access to a public roadway in as much as the 23.661 acre parcel is an existing building site and has access to a public roadway; the combination of the 23.661 acres and the 16.339 acres is an addition of acreage to the existing parcel.

Prior Deed Reference: Instrument No. 200507140021375 and Instrument No. 200712070031203, Recorder's Office, Licking County, Ohio.
Also known as: Combination of 23.661 acres and 16.339 acres (as surveyed), 11558 Refugee Road, Pataskala, OH 43062
Auditor's Parcel Numbers: #064-152862-00.000 & Part of 064-152856-00.000

Excepting conditions, easements, restrictions, rights of way and zoning and other governmental regulations of record and taxes and assessments not yet due and payable which Grantees assume and agree to pay as a part of the consideration herein.

TRANSFERRED
Date Dec 7, 2007
Licking County Auditor

Executed this 27th day of November, 2007.

David N. Phillips Successor Trustee of the David N. Phillips Trust dated February 19, 2001 and David N. Phillips, Successor Trustee of the Peggy A. Phillips Trust dated February 19, 2001

"APPROVED
Exempted Lot Combination
City of Pataskala
Deanne C Harris
Date Approved Planning Director
Nov. 20, 2007

SEC.319.202 COMPLIED WITH
J. TERRY EVANS, AUDITOR
BY MW 550.00

State of Ohio
County of Licking SS:

The foregoing instrument was acknowledged before me this 27th day of November, 2007 by David N. Phillips, Successor Trustee of the David N. Phillips Trust dated February 19, 2001 and the Peggy A. Phillips Trust dated February 19, 2001, who, under penalty of perjury in violation of section 2921.11 of the Revised Code, represented to me to be said person.

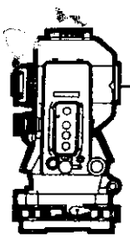
NOTARY

NOTARIAL SEAL
STATE OF OHIO

SERENA FRYE
Notary Public, State of Ohio
My Commission Expires 09-12-10

DESCRIPTION APPROVED
TIM LOLLO
LICKING COUNTY ENGINEER
APPROVED BY AJL

This Document Has Been Prepared By:
William C. Hayes
195 E. Broad Street*PO Box 958*Pataskala, Ohio 43062-0958*(740) 927-2927*(800) 536-8678*Fax (740) 927-3060
www.hayesoffices.com



S.A. ENGLAND & ASSOCIATES

Professional Land Surveying

5179 Walnut Road • P.O. Box 1770

Buckeye Lake, Ohio 43008

E-mail: www.surveyohio.com

Phone: 740-928-8680 **Fax: 740-928-9565** **Ohio Phone: 1-800-551-5844**

Exhibit "A"
Legal Description
40.000 Acres (combined parcels)
23.661 Ac. & 16.339 Acre parcels

Situated in the City of Pataskala, County of Licking, State of Ohio, and being a part of Quarter Township 4, Township 1N, Range 15W, of the United States Military Lands, and being more particularly described as follows;

Being a Survey of a combination of an original 23.661 Acre parcel conveyed to David N. Phillips, Successor of Trustee of the David N. Phillips, Trust, as recorded in Instrument No. Instrument No. 2005-07140021375, and a 16.339 Acre parcel conveyed to David N. Phillips, Successor of Trustee of the David N. Phillips Trust, as recorded in Instrument No. 2007-_____, in the Licking County Deed Records, and being further described as follows;

Commencing at an iron pin found on the South Corporation Line of the City of Pataskala marking the intersection of the centerlines of Refugee Road (Twp. Road 30) and Columbia Road (Twp. Road 38), and being on the North line of Etna Township;

Thence, S 85°46'30"W 1058.61 feet with the centerline of Refugee Road and said Corporation Line, to a mag nail set marking the Southeast corner of said original 70.26 acre parcel conveyed to Phillips of which the 16.338 Acre parcel is a part;

Thence, S 85°52'00" W 1045.33 feet continuing with the centerline of Refugee Road and said Corporation Line, to a mag nail set marking the Southeast corner of said 16.339 acre parcel of which this description is a part, and being the **PRINCIPLE PLACE OF BEGINNING** of the **40.000 Acre** parcel herein to be described;

Thence, **S 85°52'00" W 935.51 feet** continuing with the centerline of Refugee Road and said Corporation Line, the same being the South line of said 16.339 acre parcel and continuing along the South line of said 23.661 acre parcel, to a mag nail set marking the Southwest corner thereof, and being the Southeast corner of a 71.722 Acre parcel conveyed to Rosemary A. Emswiler, Trustee of Rosemary A. Emswiler Revocable Trust, as recorded in Instrument No. 2005–7140021372;

Thence leaving said Corporation Line and the centerline of Refugee Road with the West line of said 23.661 acre parcel, the same being the East line of said 71.722 acre parcel conveyed to Emswiler, with the following three (3) courses and distances:

1) **N 03°48'08" W 432.46 feet** to an iron pin set, and passing over an iron pin set at 30.00 feet;
2) **N 85°52'00" E 78.00 feet** to an iron pin set;
3) **N 03°59'20" W 1562.42 feet** to a 1"o.d. iron pipe found marking the Northwest corner thereof, and being the Southwest corner of a parcel conveyed to Osborn Family Farm, Ltd., as recorded in O.R. Volume 864, Page 785;

Thence, **N 85°54'22" E 856.81 feet** with the North line of said 23.661 acre residual and continuing along the North line of said 16.339 acre parcel of which this description is a part, the same being the South line of said parcel conveyed to Osborn Family Farm, Ltd., to an iron pin set, and passing over an iron pin set marking the Northwest corner of said 16.339 acre parcel at 500.00 feet;

Thence, **S 03°58'17 E 1994.29 feet** with the East line of said 16.339 Acre parcel of which this description is a part, to the **PRINCIPLE PLACE OF BEGINNING,** passing over an iron pin set at 1964.29 feet, and containing **40.000 Acres**, more or less, and is subject to all legal easements, right of ways, restrictions, and zoning ordinances of record.

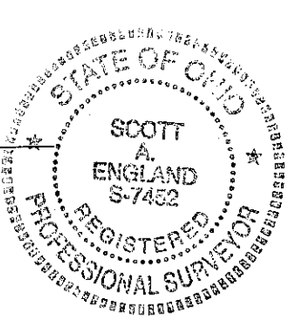
Bearings of the above description are based on the centerline of Refugee Road (Twp. Road 30), as being **S 85°52'00" W,** and is an assumed Meridian used to denote angles only.

All iron pins set are 5/8" o.d. iron pins 30" long with red caps labeled "S.A. ENGLAND #S-7452".

The above description was prepared by S.A. England & Associates, under the direct supervision of Scott A. England, Ohio Registered Surveyor #S-7452 from September of 1997 to October of 2007.

Dated 10/5/17

Scott A. England P.S.
Ohio Registered Surveyor #7452



0653-07LI(combined)

THAYER
POWER & COMMUNICATION

ETNA PARKWAY
PATASKALA, OHIO

GEIS COMPANIES

THAYER
POWER & COMMUNICATION

ETNA PARKWAY
PATASKALA, OHIO

GEIS
COMPANIES

THAYER
POWER & COMMUNICATION

ETNA PARKWAY
PATASKALA, OHIO

GEIS COMPANIES

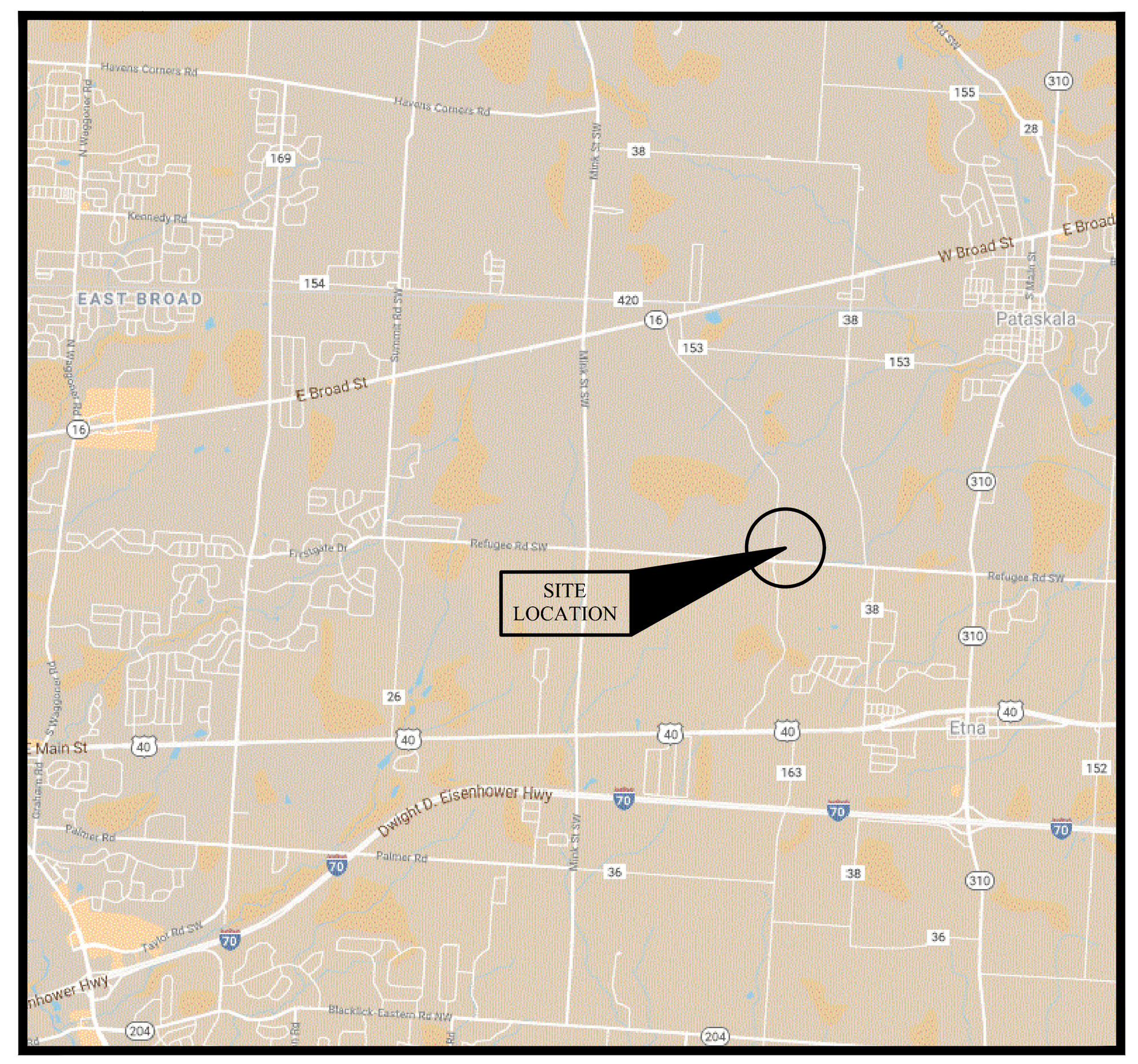
THAYER
POWER & COMMUNICATION

ETNA PARKWAY
PATASKALA, OHIO

GEIS
COMPANIES

THAYER

CITY OF PATASKALA
COUNTY OF LICKING
STATE OF OHIO



VICINITY MAP
NO SCALE

N

WEBER ENGINEERING SERVICES
Where Strong Relationships & Superior Service Guide Your Project

2555 Hartville Rd., Suite B
Rootstown, OH 44272
www.WeberEngineeringServices.com
330-329-2037
matt@webercivil.com

STATE OF OHIO
MATTHEW L. WEBER
61709
REGISTERED
PROFESSIONAL ENGINEER

Reg. No.: 61709

CLIENT:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

OWNER:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

TITLE SHEET

C100
Project No. 2021-259

INDEX

OHIO Utilities Protection SERVICE
Call Before You Dig
800-362-2764 or 8-1-1
www.oups.org

OGPUPS
Ohio Oil & Gas Producers Underground Protection Service
800-925-0988 or 8-1-1
www.ogpups.org

W:\A-1 Projects\2021 Projects\2021-259 ETNA 75K Pataskala (Thayer)\2021-259 Dwg\2021-259 Site01F - 08-05-2021\2021-259 Site01F.dwg
8/6/2021 6:25:51 AM

SOUTH LICKING WATER & SEWER

SOUTHWEST LICKING COMMUNITY WATER & SEWER DISTRICT GENERAL NOTES

G-1 GENERAL: The current Southwest Licking Community Water & Sewer District Construction and Material Specifications together with the O.D.O.T. Construction and Material Specifications including all supplements thereto in force on the date of contract, shall govern all materials, methods of construction and workmanship involved in the improvements shown on these plans, except as such specifications are modified by the following specifications or by the construction details set forth herein.

G-2 WORK LIMITS: The Contractor shall confine his activities to the Project Site under development, existing rights-of-way, construction easements and permanent easements, and shall not trespass upon other private property without the written consent of the property owner.

G-3 MISCELLANEOUS WORK: All items of work called for on the plans for which no specific method of payment is provided shall be performed by the Contractor and the cost of same shall be included in the price bid for the various related items.

G-4 FIELD TILE: All field tile and other drainage tile broken during excavation shall be replaced to its original condition as directed by the District representative.

G-5 SURPLUS EXCAVATION: The Contractor shall properly dispose of all surplus excavation.

G-6 EXISTING UTILITIES: The information shown concerning existing utilities is not represented, warranted or guaranteed to be complete or accurate. It shall be the Contractor's responsibility to physically locate and verify in the field, all utility locations and elevations, whether shown on the plans or not, prior to the beginning of construction operations. The Contractor shall support, protect, and restore all existing utilities and associated items to the satisfaction of the utility owner.

The Contractor shall notify all utility owners, in accordance with Section 153.64 of the Ohio Revised Code, at least forty-eight (48) hours prior to the beginning of any work, to request utility locations, to coordinate the work, and to keep the utility owners appraised of the construction schedule and requirements until all work is completed.

Notice shall be given to the Ohio Utilities Protection Service (800-362-2764) for the member utilities.

G-7 SAFETY OF CONSTRUCTION: Compliance with the Occupational Safety and Health Act of 1970, as amended, and applicable OSHA regulations is required of all contractors on the project. Each Contractor and Subcontractor is responsible to implement, maintain and supervise all safety requirements, precautions and programs in connection with the work.

G-8 NOTIFICATION: The Contractor shall notify the District (740-927-0410) seventy-two (72) hours, excluding weekends and holidays, prior to the start of construction of water and/or sanitary sewer utilities. When construction is suspended for more than seven days, the Contractor shall notify the District seventy-two (72) hours, excluding weekends and holidays, prior to resuming construction. Construction shall not start prior to the required notice being given.

G-9 CLEAN-UP: The tracking of mud, dirt or debris upon any public roadway is prohibited and any such occurrence shall be cleaned up immediately by the Contractor. The Contractor shall clean up all debris and materials resulting from the construction operation and restore all surfaces, structures, ditches, and property to its original condition and to the satisfaction of the District.

G-10 PERMITS: The Contractor shall obtain any and all necessary permits prior to beginning construction. All work shall be performed in accordance with the applicable Federal, State and Local regulations and requirements.

G-11 CROSSINGS: All water mains and services shall be constructed with at least 10 feet horizontal separation and at least an 18 inch vertical separation from all sanitary and storm sewers.

G-12 TRAFFIC CONTROL: Where it is anticipated that the utility work will close a street, the Contractor shall inform the residents to be affected, County Sheriff's Office or local Police Department, Fire Department, the District, applicable School District, and other applicable entities as to the extent, nature, and time of the anticipated work.

Adequate lights, signs, and barricades shall be used, as required in the O.D.O.T. Construction and Material Specifications and OMUTCD, to safeguard the traveling public at all times. All trenches shall be backfilled or securely plated within the public right-of-way during non-working hours.

G-13 CURB MARKINGS: The District requires that the letters "WV" for water main valve, "W" for water service line, "S" for sanitary sewer service line, and "MH" for sanitary sewer manhole be embedded in the concrete curb. For standard curbs, the letter is to be located in the center on the top flat portion of the curb. For rolled curbs, the top of the letter is to be located on the face of the curb within one and one-half (1-1/2) inches of the crest. The letter is to be at least two (2) inches wide, three (3) inches high and one quarter (1/4) inch deep. The letters "WV" and "MH" are to be located on the curb immediately adjacent to all water main valves and sanitary sewer manholes. The letters "W" and "S" are to be located directly over the house service lines.

G-14 SEDIMENT AND EROSION CONTROL: The Contractor shall be solely responsible for providing necessary and adequate measures for proper control of erosion and sediment runoff from the site along with proper maintenance and inspection in compliance with the NPDES General Permit for Storm Water Discharge Associated with Construction Activity. All sediment and erosion control measures required in the plans, the District Construction and Material Specifications, and the Ohio EPA Storm Water Regulations and General Permit shall be in place and operational prior to construction beginning in the work area.

G-15 PROHIBITED CONSTRUCTION ACTIVITIES: The following construction activities are prohibited on the project.

- Using any substance other than water to control dust.
- Tracking of mud, dirt and debris onto any public roadway.
- Open burning of project debris without a permit. The Contractor is responsible for obtaining the permit or disposing of the trees and stumps.
- Pumping of sediment-laden water from trenches or other excavations into any surface waters, any stream corridors, any wetlands, or storm sewers.
- Discharging pollutants - such as chemicals, fuels, lubricants, bituminous materials, raw sewage - and other harmful waste into or alongside rivers, streams, and impoundments or into natural or man-made channels leading thereto.
- Storing construction equipment and vehicles and/or stockpiling construction materials on property, public or private, not previously specified for said purposes.
- Disposing of excess or unsuitable excavated material in wetlands or floodplains, even with the permission of the property owner.
- Indiscriminate, arbitrary, or capricious operation of equipment in any stream corridors, wetlands, surface waters, or outside the easement area.
- Permanent or unspecified alteration of the flow line of a stream.
- Removal of trees and bushes, or damaging vegetation outside the limits of the construction area.
- Disposal of trees, brush and other debris in any stream corridors, any wetlands, any surface waters or at unspecified locations.

G-16 AS-BUILTS: All bends, fittings, mainline valves, water service valves, fire hydrants, manholes, and sanitary sewer services must be GPS located and shown on the as-built drawings using the Ohio State Plane Coordinate System. Two (2) full size (2'x3') and two (2) half size (1'x1.5') sets of as-built construction drawings and a USB in AutoCAD and PDF format shall be provided to the Southwest Licking Community Water & Sewer District as soon as all public improvements are completed and prior to final acceptance.

G-17 SPECIFICATION DEVIATIONS: The Southwest Licking Community Water & Sewer District reserves the right to deviate from its' Construction Material Specifications on a case by case basis at the sole discretion of the District Administration. Deviations shall be in the best interest of the Districts' customers and/or provide a better means of operations and maintenance.

SOUTHWEST LICKING COMMUNITY WATER & SEWER DISTRICT WATERLINE NOTES

W-1 CONNECTING WATERLINES: The connection of proposed waterlines to existing waterlines shall be done in a manner that will cause a minimum of inconvenience to those with affected services. Work concerning the disconnection and re-connection of existing waterlines shall be done between the hours of 10:00 p.m. and 5:00 a.m., or as directed by the District. No such work shall begin until the Fire Department, District, County Sheriff's Office and residents whose services will be affected are all notified at least seventy-two (72) hours prior to the connection, of the extent, nature and time of the anticipated work, nor until the method and schedule of such work has been approved by the District.

W-2 SERVICE LOCATIONS: All water services shall be laid at least 10 feet horizontally from the sanitary sewer service and in a separate trench. A permit for each water service must be obtained from the District, prior to making any connection from the water main or water service box to any existing or proposed building.

W-3 CONFLICTS: When conflicts in grade between waterlines and sewers are found during construction, the waterlines shall be lowered, unless directed otherwise by the District. A minimum vertical separation of 18 inches, measured from the outside of each pipe, shall be maintained.

W-4 MINIMUM DEPTH: Water lines shall be laid with a minimum of four (4) feet of cover from the final proposed ground or pavement grade to the top of the waterline.

W-5 LINE CROSSINGS: At all points of crossing of water mains and sewers, the backfill shall be granular material between the deeper and shallower pipe. The minimum horizontal separation between water mains and all sewers shall be ten (10) feet measured from the outside of each pipe. The minimum vertical separation at crossings of water mains and all sewers shall be 18 inches measured from the outside of each pipe.

W-6 DISINFECTION: All water mains shall be cleaned and disinfected in accordance with the applicable sections of AWWA Specification C651. Special attention is directed to the requirements of flushing and chlorinating valves and fire hydrants. Results of the disinfection tests shall be furnished to the District prior to acceptance of the system. Testing for acceptance to be conducted after all other utilities located within the right-of-way are installed.

W-7 TESTING: A hydrostatic test, as required in Section 7.3 of AWWA Specification C605 for PVC Pipe or Section 5.2 of AWWA Specification C600 for Ductile Iron Pipe as applicable, shall be applied to the water main. If there are indications of leaks under this pressure test, the Contractor shall locate and repair all leaks at the contractor's expense until the leakage is within the specified allowance. All bends, joint deflections and hydrants shall have concrete backing, and all valves shall have concrete supports, in accordance with the Standard Construction Drawings. Testing for acceptance to be conducted after all other utilities located within the right-of-way are installed.

W-8 FIRE HYDRANTS: Fire hydrants shall be American Flow Control Model MK-73-5, Mueller Super Centurion 250 Model A-421 or Clow Medallion, as shown on Standard Drawing W-20, and be installed as per Standard Drawings W-21, W-22, W-23, W-24 and W-25. West Licking Fire Department requires all fire hydrants to have a "screw on" type storz fitting. Fire hydrants shall be painted Fire Protection Red from the manufacturer and the lids of watch valve boxes painted Fire Protection Red in the field. Fire hydrants on a private water system shall be painted Fire Protection Red with a Blue Bonnett. The District may require specific hydrants to match existing developments.

W-9 CURB AND VALVE BOXES: Curb boxes shall be located 6 inches from the front property line or easement line, and within 10 feet of the side property line, unless otherwise shown on the plans. All curb box and valve box tops shall be adjusted to be 3" above final surface grades. The Contractor shall furnish and place, as directed, a stake made of 4" x 4" hardwood lumber at all curb boxes and valve boxes, extending a minimum of 3 feet above final surface grades with the top 2 feet of the 4"x4" being painted safety blue. All curb and valve box lids shall be painted safety blue.

W-10 CURB BOX EXTENSION ROD: A Ford ROD-42 extension rod with centering ring shall be installed on all curb boxes.

W-11 VALVE EXTENSION: If the top of the operating nut is lower than 36 inches below finished grade, an extension stem shall be furnished to bring the top of the operating nut to between 24 inches and 36 inches of finished grade elevation.

W-12 INSTALLATION IN EMBANKMENT: Where water mains are to be installed in embankment areas, the embankment shall be placed and compacted in accordance with the specifications prior to the installation of the water main. The water main shall be installed with a minimum of four (4) feet of cover in all directions.

W-13 VALVE OPERATION: Existing valves shall be operated by District personnel only.

W-14 CONSTRUCTION AND MATERIAL SPECIFICATIONS: All materials and construction shall meet the requirements of the current Southwest Licking Community Water & Sewer District Construction and Material Specifications, including all supplements thereto (unless Township, City, and/or County standards are more stringent, in which case those standards shall be followed). Water main pipe shall be PVC Plastic Pipe, AWWA C900 DR 18. Ductile Iron Pipe Class 53, AWWA C151, Cement Lined AWWA C104, with joints conforming to AWWA C111 is an acceptable alternate water main pipe. All bends, joint deflections and fittings shall be backed with concrete. Blue metallic field locator tape of six (6) inch width shall be placed over all water mains, within 12 to 18 inches of finished grade. Ten (10) gauge solid tracer wire shall be laid in the pipe trench and extended into each valve opening. Tracer wire connections shall be made with copperhead snakebite waterproof direct bury lugs #3WB-01.

Water main valves shall be AWWA C509, Resilient Wedge with 250 PSI working pressure, non-rising stem, left hand open valve with rubber "O" packing seals. All valve bonnet bolts shall to be stainless steel.

Water service line pipe shall be AWWA C901, PE 4710, DR9, CTS ASTM D2737 and shall be installed with a cover of four (4) feet.

W-15 WATER SYSTEM PRESSURE: All water mains including those not designed to provide fire protection, shall be sized after a hydraulic analysis based on flow demands and pressure requirements. The system shall be designed to maintain a minimum pressure of 20 psi (140 kPa) at ground level at all points in the distribution system under all conditions of flow. The normal working pressure in the distribution system shall be at least 35 psi (240 kPa) and should be approximately 60 to 80 psi (410 – 550 kPa) and not less than 35 psi (240 kPa).

W-16 CURB STOP: Curb stop shall be equivalent to Mueller H-15209 with a box equivalent to Bingham and Taylor NO. 4901,size 94E.

W-17 CORPORATION STOP AND SADDLE: Corporation stops shall be Mueller H-15008 with a Ford style "FS" Series 313 Tapping Saddle or District pre-approved equal.

W-18 TAPPING SLEEVE: Tapping Sleeves shall be stainless steel and shall be equivalent to Mueller H-304 or Smith Blair 663.

W-19 BACKFLOW PREVENTERS: Backflow preventers shall be provided on all commercial connections and any residential connections where an auxiliary water supply is available. All backflow preventers shall have an approved expansion tank.

Reduced pressure backflow preventers shall be provided for all areas deemed by the District where there is a high potential health hazard from contamination. All reduced pressure backflow preventers shall meet AWWA C511 and be from the latest approved list of the OEPA.

Double check backflow preventers shall be provided for all areas deemed by the District where there is a low potential health hazard from contamination. All double check backflow preventers shall meet AWWA C510 and be from the latest approved list of the OEPA.

W-20 TOOLS AND SPARE PARTS: The following tools and spare parts shall be delivered to the District prior to Final Acceptance of the project: One (1) mainline wrench, one (1) probe (four feet), one (1) forty eight inch curb box wrench (Mueller H-10356), one (1) complete curb box, one (1) fire hydrant wrench, and one (1) straight stortz fitting.

SOUTHWEST LICKING COMMUNITY WATER & SEWER DISTRICT SANITARY SEWER NOTES

SA-1 TESTING: An infiltration or exfiltration test shall be made in accordance with the District Specifications with maximum test sections of 400 feet. Leakage through joints shall not exceed 100 gallons per day per inch of sewer diameter per mile of pipe. Air testing is an acceptable alternate testing method for leakage and shall be made in accordance with District Specifications and ASTM F1417-92. Sanitary sewers shall be mandrel tested and leakage tested no sooner than 30 days after installation. All sanitary manholes shall be vacuum tested, in accordance with ASTM C1244-93. Existing structures that are disturbed shall be re-tested and corrected if needed per District specifications. All test reports shall be furnished to the District prior to acceptance of the system.

SA-2 WYE POLES: The Contractor shall furnish and place, as directed, approved wye poles made of 4" x 4" hardwood lumber at all wye locations, ends of extended services, or at the end of each riser where risers are required, extending a minimum of 3 feet above final surface grades with the top 2 feet being painted green.

SA-3 RISERS: Risers shall be placed on all wyes where the flow line depth is greater than 12 feet. Tops of risers are to be 10 feet below ground, plus or minus one foot, or as otherwise directed by the District.

SA-4 SERVICE CONNECTIONS: Service or house connections shall not be connected to the lateral or main line sewers shown hereon until full approval of said lateral or main line sewer has been received and a permit for each sewer service obtained from the District.

SA-5 STORM WATER CONNECTIONS: No foundation drains, roof drains, or other storm water drains of any kind shall be connected into the sanitary sewer system.

SA-6 TRENCH DAMS: The contractor shall place a cut off trench dam of native clay or impervious soil across and along the trench upstream from the main line sewer connection to retard and resist the movement of groundwater through the trench granular bedding or backfill material. The trench dams shall be carefully compacted and shall be six (6) feet in thickness as measured along the service center line and shall be constructed against the undisturbed trench sides from the subgrade or bottom of the stone foundation, whichever is lower, to the limit of 36 inches over the top of the pipe, no more than ten (10) feet from the main line sanitary sewer. See District Standard Drawing Sa.S-7 for the six (6) inch Sanitary Sewer Service detail.

SA-7 MANHOLE SEALING: Sanitary manhole frame sealing shall meet the following specifications:

External chimney seal shall be manufactured by CCI Pipeline Systems (WrapidSeal) or a pre-approved equal. An internal epoxy chimney seal by Spectrashield or Spayroc Spraywall can be used in lieu of the external chimney if desired. All areas where the seal is to be attached must be free of any dirt, grease, rust, or any loose mortar.

SA-8 INFLOW PROTECTION DISH: An inflow protection dish as manufactured by Parsons Environmental PMI-1S or equivalent shall be installed in each sanitary sewer manhole casting per Standard Drawing Sa.S.-2.

SA-9 MANHOLE TOPS: Where manholes are located within road grading limits, the tops shall be built to elevations shown on the approved plans or directed by the District. Elsewhere, manholes shall be built or subsequently adjusted to be not more than three (3) inches above final surface grades established for the development.

SA-10 CONSTRUCTION AND MATERIAL SPECIFICATIONS: All materials and construction shall meet the requirements of the current Southwest Licking Community Water & Sewer District Construction and Material Specifications including all supplements thereto (unless Township, City, and/or County standards are more stringent, in which case those standards shall be followed). All sewer pipe shall be laid with stone or gravel bedding as shown on Standard Drawing Sa.S-1. All gravity sewer pipe shall be PVC Plastic Pipe, SDR 35 cell classification 12454 B or C unless otherwise noted on the plans. Pipe for all house services shall be six (6) inches nominal diameter PVC Plastic Sewer Pipe, ASTM D3034, SDR 35. Services shall be subject to the infiltration and exfiltration tests. Air testing of sanitary sewers and service lines is acceptable. All service extensions shall be laid at a minimum grade of 1/4 inch per foot (2.08%).

Where the sanitary sewer crosses under a proposed storm sewer, the trench shall be backfilled to the bottom of the proposed storm sewer with compacted granular material meeting ODOT Item 304, ten (10) feet centered on the storm sewer. The cost of this work is to be included in the price bid for the various sewer items.

Where the sanitary sewer crosses a proposed street or road, the trench backfill shall be bedding material (ODOT 57 or 68) from the bottom of the trench to a plane six (6) inches above the pipe; from that point to a plane six (6) inches below the subgrade, low strength mortar backfill (ODOT 613) shall be installed. At the discretion of the District, Township, City or County, aggregate base (ODOT 304) may be used above the pipe. The limits of placement shall be from the right-of-way line to the right-of-way line. All other trench backfill shall be compacted Type C backfill, unless otherwise noted on the plans. The cost of backfill is to be included in the price bid for the various sewer items.

All manhole castings, frames, covers, and steps shall be in accordance with Standard Drawings SA.S.-2 and SA.S.-3.

Green metallic field locator tape of six (6) inch width shall be placed over all sanitary sewer and force main lines, within 12 to 18 inches of finished grade. Ten (10) gauge solid tracer wire shall also be installed on all sanitary force mains.

SA-11 INTERCEPTORS: The contractor shall install all oil and grease interceptors in accordance with the Southwest Licking Community Water & Sewer District Construction Material Specifications and the requirements of the Licking County Health Department. All interceptors shall be approved by the District prior to installation and inspected when installed.

SA-12 CLEANING AND INSPECTION: All sanitary sewers shall be cleaned and video inspected after all other utilities located within the right-of-way are installed. The District shall receive one (1) copy of the inspection report in PDF format and one (1) copy of the inspection video on a USB prior to the final acceptance.

SA-13 TOOLS AND SPARE PARTS: The following set of tools and spare parts shall be delivered to the District prior to final acceptance of the project: One (1) Wrapid Seal External Chimney Seal, one (1) inflow protection dish, one (1) manhole lifting hook, and one (1) complete manhole casting and an additional set per every ten (10) manholes.

WEBER ENGINEERING SERVICES
Where Strong Relationships & Superior Service Guide Your Project

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STATE OF OHIO
MATTHEW L. WEBER
61709
REGISTERED
PROFESSIONAL ENGINEER

Reg. No.: 61709

CLIENT:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

OWNER:

GEIS CONSTRUCTION

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THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

GENERAL NOTES

C100A
Project No. 2021-259

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CITY OF PATASKALA

GENERAL SPECIFICATIONS & NOTES

SPECIFICATIONS

THE CITY OF PATASKALA DETAILED SPECIFICATIONS TOGETHER WITH THE CITY OF COLUMBUS AND THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, INCLUDING ALL SUPPLEMENTS THERETO, MOST RECENT EDITION, SHALL GOVERN ALL MATERIAL AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS UNLESS OTHERWISE NOTED.

ALL WORK TO BE COMPLETELY ACCEPTABLE TO THE CITY OF PATASKALA OFFICIALS. NO WORK TO BE COMMENCED UNTIL ARRANGEMENTS HAVE BEEN MADE WITH THE CITY OF PATASKALA ENGINEER FOR INSPECTION. NECESSARY LINE AND GRADE STAKING SHALL BE PROVIDED BY THE OWNER. THE CITY OF PATASKALA SHALL BE THE AUTHORITY FOR INTERPRETING AND ENFORCING ALL REQUIREMENTS OF THE SPECIFICATIONS.

SPECIFICATION DEVIATIONS

THE CITY OF PATASKALA RESERVES THE RIGHT TO DEVIATE FROM ITS CONSTRUCTION MATERIAL SPECIFICATIONS ON A CASE BY CASE BASIS AT THE SOLE DISCRETION OF THE CITY ADMINISTRATION. DEVIATIONS SHALL BE IN THE BEST INTEREST OF THE CITY AND/OR PROVIDE A BETTER MEANS OF OPERATIONS AND MAINTENANCE AS DETERMINED BY THE CITY.

STANDARD CONSTRUCTION DRAWINGS

ALL PERTINENT CITY OF PATASKALA STANDARD CONSTRUCTION DRAWINGS ARE AVAILABLE UPON REQUEST AT CITY HALL

PERMITS AND FEES

THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND GOVERNMENT FEES, LICENSES AND INSPECTION FEES NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE IMPROVEMENTS SHOWN ON THE PLANS. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AN APPROVED AND SIGNED SET OF CONSTRUCTION DRAWINGS. WITHOUT THE REQUIRED PERMITS AND APPROVED SET OF CONSTRUCTION PLANS, CONSTRUCTION WILL NOT BE PERMITTED TO START.

OHIO EPA PLAN APPROVAL

THE CONTRACTOR SHALL COMPLY WITH ALL THE REQUIREMENTS AND SPECIAL CONDITIONS OF THE OHIO EPA PLAN APPROVAL ISSUED FOR THE PROJECT.

SITE VISIT

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND VERIFY THE EXTENT OF THE WORK TO BE PERFORMED PRIOR TO MAKING HIS BID.

PRE-CONSTRUCTION VIDEO

BEFORE ANY WORK BEGINS THE CONTRACTOR SHALL THOROUGHLY VIDEOTAPE THE PROJECT AREA. THE PURPOSE OF THE VIDEOTAPING IS TO ESTABLISH A BENCHMARK OF THE PRE-CONSTRUCTION CONDITION OF THE PROJECT AREA, ESPECIALLY OF THE SURROUNDING PRIVATE PROPERTY. IN THE EVENT AN ADJOINING PROPERTY OWNER MAKES A CLAIM FOR DAMAGES RESULTING FROM THE PERFORMANCE OF THE WORK, THE VIDEOTAPE WILL BE USED TO DETERMINE THE LEGITIMACY OF THE CLAIM. THE CONTRACTOR SHALL USE DUE DILIGENCE IN PERFORMING THIS OPERATION TO ALLOW THE PERSON OPERATING THE RECORDER TO ADD COMMENTARY AS THEY ARE RECORDED. THE CONTRACTOR SHALL SUBMIT ONE COPY OF EACH VIDEOTAPE OF THE PROJECT AREA TO THE ENGINEER AT THE PRE-CONSTRUCTION CONFERENCE.

SUBMITTALS

ALL MATERIALS PROPOSED FOR USE ON THE PROJECT SHALL BE SUBMITTED TO THE CONSTRUCTION ADMINISTRATOR PRIOR TO COMMENCEMENT OF THE PROJECT FOR REVIEW AND APPROVAL.

ONCE APPROVED, CUT SHEETS SHALL BE SUBMITTED TO THE CITY OF PATASKALA PRIOR TO THE BEGINNING OF CONSTRUCTION.

MANUFACTURER

ALL MANUFACTURED MATERIALS ARE TO BE "MADE IN THE U.S.A" OR AS APPROVED BY THE CITY ENGINEER.

WORK HOURS

GENERAL WORK HOURS IN ACCORDANCE WITH THE CODIFIED ORDINANCES OF THE CITY OF PATASKALA ARE 7 AM TO 9 PM MONDAY THROUGH FRIDAY AND 8 AM TO 8 PM ON WEEKENDS. SUNDAY WORK IS NOT PERMITTED WITHOUT PRIOR PERMISSION FROM THE PATASKALA PUBLIC SERVICE DIRECTOR. NO WORK SHALL BE PERMITTED ON MAJOR HOLIDAYS OR MAJOR HOLIDAY WEEKENDS

SAFETY REQUIREMENTS

THE CONTRACTOR AND SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS. TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY, IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTION AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR AND SUBCONTRACTOR SHALL ALSO ABIDE BY ALL ORDINANCES OF THE CITY OF PATASKALA.

COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 IS REQUIRED OF ALL CONTRACTORS ON THIS PROJECT.

EXISTING UTILITIES

THE IDENTITY AND LOCATIONS OF EXISTING UNDERGROUNDFACILITIES KNOWN TO BE LOCATED IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE PLANS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UTILITY. THE CITY OF PATASKALA AND/OR THE ENGINEER ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OF THE LOCATION OR THE DEPTHS OF THE UNDERGROUND FACILITIES AS SHOWN ON THE PLANS.

INVESTIGATION, LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

WHERE POTENTIAL GRADE CONFLICTS MIGHT OCCUR WITH EXISTING UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO UNCOVER SUCH UTILITY SUFFICIENTLY IN ADVANCE OF LAYING PIPE OR DUCT IN ORDER THAT THE ENGINEER MAY DETERMINE THE EXACT ELEVATION AND MAKE ANY NECESSARY ADJUSTMENTS. COST OF THE ABOVE SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS IN THE CONTRACT. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE RELOCATION OF ANY UTILITIES AS REQUIRED BY THE PLAN WITH THE OWNER OF THE AFFECTED UTILITY.

THE CONTRACTOR SHALL CAUSE NOTICE TO BE GIVEN TO THE OHIO UTILITIES PROTECTION SERVICE (PHONE 1-800-362-2764 TOLL FREE) AND TO THE OWNERS OF THE UTILITY FACILITIES SHOWN ON THE PLAN WHO ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE IN ACCORDANCE WITH SECTION 153.64 OF THE REVISED CODE. THE ABOVE-MENTIONED NOTICE SHALL BE GIVEN AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

PRIVATE UTILITIES

ALL PRIVATE UTILITIES (ELECTRIC, TELEPHONE, NATURAL GAS AND CABLE TELEVISION) WILL BE PLACED IN THE 15-FOOT EASEMENT SHOWN ON THE FRONT OFTHE LOTS, UNLESS REQUESTED OTHERWISE BY THE UTILITY COMPANY. A COPY OF THE PLANNED LOCATION OF EACH UTILITY WILL BE FURNISHED TO THE CITY OF PATASKALA AND THE DEVELOPER AS SOON AS POSSIBLE AFTER RECEIVED BY THE CITY ENGINEER FROM EACH UTILITY COMPANY FOR THE CITY'S APPROVAL AND USE IN THE FUTURE LOCATION AND/OR REPAIR OF PUBLIC UTILITIES. ALL PRIVATE UTILITY "CONDUITS" SHALL BE PLACED PRIOR TO THE CONSTRUCTION OF THE PROPOSED STREETS.

UTILITY OWNERS

COLUMBIA GAS TRANSMISSION
P.O. BOX 34 HOMER,
OHIO 43027-0034
(740)892-2552

COLUMBIA GAS OF OHIO
935 BUCKEYE AVENUE
NEWARK, OHIO 43055
(740)892-2552

ENERGY COOPERATIVE
11339 MOUNT VERNON ROAD
UTICA, OHIO 43080
1-800-255-6815

SPRINT UNITED TELEPHONE
P.O. BOX 3555
MANSFIELD, OHIO 44907
(419)755-8811

PATASKALA UTILITIES DEPARTMENT
430 S. MAIN STREET
PATASKALA, OHIO 43062
(740)964-6275

PATASKALA PUBLIC SERVICE DEPARTMENT
621 W. BROAD STREET, SUITE 2B
PATASKALA, OHIO 43062
(740)927-0145

AMERICAN ELECTRIC POWER COMPANY
215 N. FRONT STREET
COLUMBUS, OHIO 43215-2291
(614)464-7348

REPLACEMENT OF DRAIN TILES AND STORM SEWERS

ALL DRAIN TILE AND STORM SEWERS DAMAGED, DISTURBED OR REMOVED AS A RESULT OF THE CONTRACTOR'S OPERATIONSSHALL BE REPLACED WITH THE SAME QUALITY PIPE OR BETTER, AND UTILIZE FERNCO ADAPTORS WHEN CONNECTING TO EXISTING PIPE, MAINTAINING THE SAME GRADIENT AS EXISTING. REPLACEMENT DRAIN TILE OR STORM SEWER SHALL BE LAID ON COMPACTED BEDDING EQUAL IN DENSITY TO THE SURROUNDING STRATUM. REPLACEMENT SHALL BE DONE AT THE TIME OF BACKFILL OPERATION. COST OF THIS WORK TO BE INCLUDED IN THE PRICE BID FOR VARIOUS ITEMS.

MAINTAIN DRAINAGE

THE FLOW IN ALL SEWERS, DRAINS AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS EXPENSE, AND WHENEVER SUCH WATERCOURSES AND DRAINS ARE DISTURBED OR DESTROYED DURING THE PROSECUTION OF THE WORK, THEY SHALL BE RESTORED BY THE CONTRACTOR AT HIS OWN COST AND EXPENSE, UNLESS SPECIFIC PROVISIONS MADE WITH THE CONTRACT DOCUMENTS FOR THE MEASURE OF ANY PAVEMENT FOR SUCH SPECIFIC ITEMS, TO A CONDITION SATISFACTORY TO THE ENGINEER.

DEWATERING

ANY WELL, WELL POINT, PIT, OR OTHER DEVICE INSTALLED FOR THE PURPOSE OF LOWERING THE GROUNDWATER LEVEL TO FACILITATE CONSTRUCTION OF THIS PROJECT SHALL BE PROPERLY ABANDONED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 3745-9-10 OF THE OHIO ADMINISTRATIVE CODE OR IN ACCORDANCE WITH THE PROVISION OF THIS PLAN OR AS DIRECTED BY THE SERVICE DIRECTOR OR HIS REPRESENTATIVE.

THE COST OF ANY DEWATERING OPERATIONS REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

WATER WITHDRAWAL REGISTRATION

THE OHIO DEPARTMENT OF NATURAL RESOURCES REQUIRES A WATER REGISTRATION WHERE SURFACE OR GROUNDWATER IS WITHDRAWN AT A RATE GREATER THAN 100,000 GALLONS PER DAY. THE CONTRACTOR WILL BE REQUIRED TO APPLY AND SUBMIT THE REQUIRED FORMS.

TREES

THE OWNER WILL HAVE TREES WITHIN THE RIGHTS-OF-WAY AND EASEMENTS REMOVED PRIOR TO CONSTRUCTION AT HIS OWN EXPENSE. REMOVAL OF STUMPS SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS ITEMS. TREES ENCOUNTERED DURING CONSTRUCTION OUTSIDE THE RIGHTS-OF-WAY AND EASEMENT LIMITS SHALL BE REMOVED ONLY WHEN NECESSARY AND THE COST SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS SEWER ITEMS.

ROCK

THE COST OF ANY ROCK EXCAVATION SHALL BE INCLUDED IN THE PRICE BID FOR THE STORM SEWER. THE BIDDER SHALL DETERMINE IF ANY ROCK EXCAVATION WILL BE REQUIRED AND ADJUST HIS BIDS ACCORDINGLY.

SEQUENCE OF CONSTRUCTION

1. ESTABLISH STABILIZED CONSTRUCTION ENTRANCE
2. CLEAR AND GRUB SITE
3. INSTALL PERIMETER SEDIMENT FENCE
4. INSTALL CONCRETE WASHOUT AREA
5. INSTALL PROPOSED OUTLET PIPING, OUTLET STRUCTURE, AND STORMWATER BASIN PRIOR TO COMMENCEMENT OF EARTHWORK ACTIVITIES
6. ESTABLISH ROUGH GRADE OF SITE WITHIN 1' OF PROPOSED GRADE PRIOR TO INSTALLING UTILITIES
7. INSTALL UTILITIES. STORM SEWERS, SANITARY SEWERS AND WATER MAINS CONSTRUCTED IN FILL AREAS SHALL BE CONSTRUCTED AFTER COMPACTED FILL HAS BEEN INSTALLED TO PROPOSED GRADE. THE STORM SEWERS, SANITARY SEWERS OR WATER MAINS SHALL BE INSTALLED AS PER SPECIFIED TRENCH INSTALLATION DETAILS
8. INSTALL EROSION CONTROL MEASURES ON STORM SEWER IMMEDIATELY AFTER INSTALLATION
9. CONSTRUCT PROPOSED STRUCTURES AND PAVEMENT
10. FINE GRADE AND PERMANENTLY STABILIZE SITE
11. REMOVAL OF SEDIMENT CONTROL DEVICES AND FINAL OUTLET STRUCTURE CONFIGURATION TO BE COORDINATED WITH AND AT THE DIRECTION OF THE CITY OF PATASKALA
12. ANY DISTURBED AREAS TO REMAIN IDLE FOR A PERIOD OF 14 DAYS OR LONGER SHALL BE TEMPORARILY STABILIZED

EROSION CONTROL

EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF OHIO'S STANDARDS FOR STORMWATER MANAGEMENT LAND DEVELOPMENT AND URBAN STREAM PROTECTION MANUAL "RAINWATER AND LAND DEVELOPMENT".

ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD VERIFICATION AT THE DISCRETION OF THE CITY OF PATASKALA AND/OR THE OHIO EPA.

THE CITY OF PATASKALA SHALL BE NOTIFIED AT LEAST 3 WORKING DAYS PRIOR TO THE START OF ANY CONSTRUCTION.

DITCH CHECKS AND EROSION CONTROL MATING ON SLOPES SHALL BE PROVIDED AND INSTALLED AS DIRECTED BY THE CITY OF PATASKALA.

GEOTECHNICAL WORK

ALL EARTHWORK OPERATIONS, ESPECIALLY PAVEMENT SUBGRADE CONSTRUCTION, SHALL BE INSPECTED BY A REGISTERED GEOTECHNICAL ENGINEER EMPLOYED AND PAID FOR BY THE OWNER. ADDITIONALLY, ALL FINAL GRADES SHALL BE FIELD CHECKED BY THE CONSTRUCTION MANAGER UPON COMPLETION OF CONTRACTOR'S OPERATIONS TO DETERMINE IF THE SITE HAS BEEN CONSTRUCTED TO THE GRADES INDICATED.

TESTING REPORTS

ANY AND ALL TESTING REPORTS RELATED TO CONSTRUCTION OF PUBLIC INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO: GEOTECHNICAL, CONCRETE, WATER, WASTERWATER, STORMWATER, AND ROADWAY WORK SHALL BE SUBMITTED TO THE CITY OF PATASKALA PUBLIC SERVICE DIRECTOR

TRAFFIC CONTROL DEVICES

ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE "OHIO MANUAL OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION AND MAINTENANCE OPERATIONS" COPIES OF WHICH ARE AVAILABLE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, BUREAU OF TRAFFIC, 1980 W. BROAD STREET, COLUMBUS, OHIO 43223.

INGRESS AND EGRESS SHALL BE MAINTAINED TO PUBLIC AND PRIVATE PROPERTY AT ALL TIMES.

NON-RUBBER TIRED VEHICLES

NO NON-RUBBER TIRED VEHICLES SHALL BE MOVED ON PUBLIC STREETS. EXCEPTIONS MAY BE GRANTED BY THE CITY OF PATASKALA WHERE SHORT DISTANCES AND SPECIAL CIRCUMSTANCES ARE INVOLVED. GRANTING OF EXCEPTIONS MUST BE IN WRITING AND ANY DAMAGE MUST BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY.

SITE GRADING

THE CONTRACTOR SHALL RETURN ALL GRADES TO ORIGINAL CONDITION, MATCHING UNDISTURBED AREAS, SO AS TO MAINTAIN ORIGINAL DRAINAGE UNLESS OTHERWISE SHOWN ON THE PLANS. COST OF THIS WORK TO BE INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS.

RESTORATION

THE CONTRACTOR SHALL REPAIR OR REPLACE ANY AND ALL EXISTING WORK DAMAGED DURING OR DUE TO THE EXECUTION OF THIS CONTRACT AT HIS OWN EXPENSE. ALL SAID WORK TO BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S ENGINEER AND THE CITY OF PATASKALA.

ALL SIGNS, FENCES, SHRUBS, DRAINAGE STRUCTURES OR OTHER PHYSICAL FEATURES THAT ARE TO REMAIN INTACT OR ARE DISTURBED OR DAMAGED DURING WORK UNDER THE CONTRACT SHALL BE RESTORED TO THEIR ORIGINAL CONDITION BY THE CONTRACTOR. UNLESS OTHERWISE PROVIDED IN THE CONTRACT, THE COST OF ALL SUCH WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS SEWER ITEMS.

THE CONTRACTOR SHALL LEAVE THE AREA DISTURBED BY HIS WORK IN AS GOOD OF CONDITION AS THE AREA WAS PRIOR TO COMMENCEMENT OF THIS WORK. ANY DAMAGE TO OTHER UTILITIES DURING THIS WORK BY THE CONTRACTOR SHALL BE REPAIRED BY THE APPROPRIATE UTILITY OWNER AT THE CONTRACTOR'S EXPENSE.

MONUMENTS

ANY PROPERTY CORNER PINS OR PERMANENT SURVEY MARKERS DISTURBED DURING CONSTRUCTION SHALL BE RESET BY OR UNDER THE SUPERVISION OF A LICENSED PROFESIONAL SURVEYOR AT THE CONTRACTOR'S EXPENSE.

CUT SHEETS AND STAKING

CUT SHEETS FOR CONSTRUCTION LAYOUT SHALL BE PROVIDED TO THE CITY PRIOR TO BEGINNING CONSTRUCTION. ALL CONSTRUCTION STAKING SHALL BE COMPLETED BY, OR UNDER THE DIRECTION OF, A REGISTERED PROFESSIONAL SURVEYOR.

EASEMENTS

APPROVAL OF THIS PLAN IS CONTINGENT ON ALL EASEMENTS REQUIRED FOR THE CONSTRUCTION OF THE WORK BEING SECURED AND SUBMITTED TO THE CITY OF PATASKALA FOR RECORDING PRIOR TO COMMENCEMENT OF THE WORK AND NO WORK WHICH REQUIRED AN EASEMENT WILL BE ALLOWED TO PROCEED UNTIL THIS HAS BEEN DONE.

RESPONSIBILITY FOR MAINTENANCE/OUPS LOCATES

ALL INFRASTRUCTURE, AND MAINTENANCE THEREOF, SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER UNTIL SUCH TIME AS THE INFRASTRUCTURE IS ACCEPTED BY THE CITY. SIMILARLY, ALL UTILITY LOCATING REQUIREMENTS SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER UNTIL SUCH TIME AS THE INFRASTRUCTURE IS ACCEPTED BY THE CITY.

RECORD DRAWINGS

THE DEVELOPER'S CONTRACTOR SHALL MAINTAIN ONE (1) COMPLETE FIELD MARKUP SET OF CONSTRUCTION DRAWINGS ON SITE FOR THE SOLE PURPOSE OF RECORDING THE FOLLOWING INFORMATION:

1. ANY AND ALL CHANGES MADE DURING THE CONSTRUCTION OF THE PROJECT.
2. LOCATION OF ALL WATER TAPS, AND MAINLINE VALVES MEASURED FROM IDENTIFIABLE POINTS.

ALL FIELD CHANGES, IF CONSIDERED MAJOR MUST BE APPROVED BY THE CITY. ALL CHANGES SHOWN ON THE CONTRACTOR'S FIELD MARKUP SET MUST BE INITIALED BY THE RESIDENT INSPECTOR AND THE CONTRACTOR. AFTER COMPLETION OF THE PROJECT, THE CONTRACTOR'S FIELD MARKUP SET IS TO BE TURNED OVER TO THE DEVELOPER'S ENGINEER FOR COMPLETING THE "RECORD DRAWINGS". THE FOLLOWING IS TO BE SUBMITTED TO THE CITY ENGINEER.

-ONE MYLAR SET OF "RECORD DRAWINGS"
-CONTRACTOR'S FIELD MARKUP SET
-CD WITH PDF OF "RECORD DRAWINGS" AND CAD BASE DRAWING

MISCELLANEOUS WORK

ALL ITEMS OF WORK CALLED FOR ON WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR AND THE COST SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

RECYCLED MATERIALS

RECYCLED MATERIALS SHALL NOT BE PERMITTED FOR ANY PART OF ANY WORK UNLESS OTHERWISE DIRECTED OR APPROVED BY THE OWNER OR ENGINEER.

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GENERAL NOTES

C100B
Project No. 2021-259

CITY OF PATASKALA

ROADWAY AND DRAINAGE SPECIFICATIONS & NOTES

PAVEMENT DESIGN

CITY OF PATASKALA HAS A STANDARD FOR MINIMUM PAVEMENT DESIGN. THIS STANDARD IS TO BE USED UNLESS THE EXISTING SOILS CONDITIONS ARE LESS THEN OPTIMAL FOR THE STANDARD CONDITION AS DETERMINED BY A REGISTERED GEOTECHNICAL ENGINEER. PAVEMENT DESIGN CALCULATIONS, BY A REGISTERED GEOTECHNICAL ENGINEER, SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL. PRIOR TO PLACING THE BASE COURSE, THE SUBGRADE SHALL BE PROOF ROLLED TO CONFIRM SUBGRADE COMPACTION.

PAVEMENT SUBGRADE

ALL PAVEMENT SUBGRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH ITEM 204 AND TESTED BY A REGISTERED GEOTECHNICAL ENGINEER. SECTION 203.12 SHALL BE MODIFIED SUCH THAT ALL COMPACTION SHALL BE TO 100% OF THE MAXIMUM DRY UNIT WEIGHT OBTAINED IN THE LABORATORY BY THE "STANDARD PROCTOR TEST (ASTM D 698). MOISTURE CONTENT OF THE NEW FILL SHALL BE IN THE RANGE OF PLUS/MINUS 2% OF THE OPTIMUM MOISTURE CONTENT DETERMINED BY ASTM D 698.

ASPHALT SURFACE REPAIR

THE DEVELOPER SHALL BE REQUIRED TO TAKE CORRECTIVE ACTION TO RESTORE ANY AND ALL DAMAGES TO THE ASPHALT SURFACE COURSE THAT OCCUR WITHIN THE 1-YEAR MAINTENANCE PERIOD. CORRECTIVE ACTION MAY INCLUDE REPAIR OR REPLACEMENT OF PART, OR ALL, OF THE SURFACE COURSE USING SAND MIX, REJUVENATOR, SEAL COAT, OR SURFACE COURSE ASPHALT AS DIRECTED BY THE OWNER OR ENGINEER.

UNAUTHORIZED STREET EXCAVATION

IN THE EVENT EXCAVATION FOR THE STREET IS 0-INCHES TO 6-INCHES BELOW THAT CALLED FOR ON THE PLANS, THE CONTRACTOR SHALL REPLACE THE EXCESS EXCAVATED MATERIAL AS DIRECTED BY THE ENGINEER WITH COMPACTED 304 CRUSHED LIMESTONE AGGREGATE AT NO COST TO THE OWNER OR ENGINEER.

PAVEMENT MARKINGS

STOP BARS SHALL BE INSTALLED AT ALL STOP SIGNS. CROSSWALKS SHALL BE INSTALLED BETWEEN CURB RAMPS ON THE STOP CONTROLLED LEGS OF ALL INTERSECTIONS.

SIDEWALKS

SIDEWALKS ARE REQUIRED AS PER TYPICAL STREET SECTION(S) SHOWN ON THESE PLANS. ALL SIDEWALKS ARE REQUIRED TO HAVE A MINIMUM 3" AGGREGATE BASE CONSISTING OF #57 BANK RUN GRAVEL.

HANDICAP RAMPS

ALL CURB RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED IN FULL COMPLIANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE AMERICANS WITH DISABILITIES ACT (ADA). ALL HANDICAP RAMPS AND CONNECTING SIDEWALKS SHALL BE INSTALLED AT THE TIME OF THE STREETS CONSTRUCTION.

STREET LIGHTING NOT APPLICABLE

STREET LIGHTING SHALL BE REQUIRED AS PER CITY OF PATASKALA, STANDARD DRAWINGS AND SPECIFICATIONS. COPIES OF THE STANDARD DRAWINGS AND SPECIFICATIONS ARE AVAILABLE AT THE OFFICE OF THE DIRECTOR OF PUBLIC SERVICES. LIGHT FIXTURES TO BE INSTALLED SHALL BE THE CITY OF PATASKALA RESIDENTIAL COLONIAL STYLE FIXTURES. ONE ADDITIONAL STREET LIGHT SHALL BE PROVIDED TO THE CITY OF PATASKALA PRIOR TO ACCEPTANCE OF THE PROJECT.

STREET LIGHT WIRING NOT APPLICABLE

PLANS FOR STREET LIGHT WIRING SHALL BE SUBMITTED TO THE CITY FOR REVIEW PRIOR TO INSTALLATION. HORIZONTAL LOCATIONS FOR ALL WIRING/CONDUIT/EQUIPMENT ASSOCIATED WITH THIS INFRASTRUCTURE SHALL BE INCLUDED IN THE AS-BUILT DRAWINGS ON THE SIGNING, STRIPING AND LIGHTING PLAN SHEET(S).

SIGN POSTS

ALL SIGN POSTS SHALL BE 2" SQUARE POSTS. U-CHANNEL POSTS WILL NOT BE ACCEPTED.

GUTTER TESTING NOT APPLICABLE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING THE GRADES OF THE GUTTERS WITH WATER PRIOR TO FINAL ACCEPTANCE OF THE STREET. THE COST SHALL BE INCLUDED IN THE PRICE BID FOR CURB AND GUTTER.

ROOF DRAIN OPENINGS NOT APPLICABLE

THE CONTRACTOR SHALL PROVIDE TWO 3-INCH DIAMETER ROOF DRAIN OPENINGS IN THE CURB FOR EACH LOT. EACH OPENING LOCATED NO MORE THAN 4-FEET IN FROM EACH LOT LINE. EACH OPENING SHALL BE INSTALLED AT THE TIME OF CURB INSTALLATION. INVERT OF OPENING SHALL BE NO MORE THAN 3/4 INCHES ABOVE THE INVERT OF THE CURB GUTTER WITH 1/2 INCH SLOPE FROM BACK OF CURB.

UNDERDRAINS

OPENINGS SHALL BE PROVIDED IN THE DRAINAGE STRUCTURES TO ACCOMMODATE UNDERDRAIN OUTLETS. UNDERDRAINS TO BE CONSTRUCTED IN ACCORDANCE WITH PLAN DETAILS.

STORM SEWERS

UNLESS OTHERWISE NOTED ON THE PLANS ALL STORM SEWERS SHALL BE AS HEREAFTER SPECIFIED:

(1) ALL STORM LOCATED WITHIN OR ACROSS PROPOSED OR EXISTING PAVEMENT AREAS SHALL BE SANITITE HP OR APPROVED EQUAL, COC CMS 720.12, WITH TYPE 2 BEDDING. CONCRETE ENCASEMENT (COC 706.02) TO BE USED WHEN COVER IS LESS THAN 3' TO PROPOSED GRADE.

(2) STORM SEWER LOCATED IN ALL OTHER AREAS SHALL BE N-12 OR APPROVED EQUAL, COC CMS 720.12, WITH TYPE 2 BEDDING. CONCRETE ENCASEMENT TO BE USED WHEN COVER IS LESS THAN 2' TO PROPOSED GRADE.

PIPE TYPE AND CLASSIFICATION SHALL RUN FROM STRUCTURE TO STRUCTURE. CHANGING PIPE TYPE BETWEEN STRUCTURES IS PROHIBITED.

RETENTION AND DETENTION BASIN OUTLET STRUCTURES SHALL BE FABRICATED AT THE PLANT PER THE DETAILS OF THIS PLAN. ON-SITE FABRICATION OF STOCK STRUCTURES WITH KNOCKOUTS SHALL NOT BE PERMITTED.

BACKFILL - STORM SEWERS AND WATER MAINS

WHERE THE STORM SEWER AND/OR THE WATER MAINS AND WATER SERVICES CROSS PROPOSED OR EXISTING RIGHTS-OF-WAYS AND/OR PAVEMENTS, THE TRENCH SHALL BE BACKFILLED WITH COMPACTED GRANULAR MATERIAL, ITEM 912, AND SHALL BE COMPACTED IN 8-INCH LIFTS, FROM R/W LINE TO R/W LINE AND WITHIN THE 1:1 INFLUENCE OF PAVEMENT. SAND, CINDERS, OR OTHER NON-GRADED MATERIALS SHALL NOT BE ACCEPTABLE SUBSTITUTES FOR GRADED BACKFILL MATERIAL FOR THE 912 SPEC ITEM, ALL GRANULAR BACKFILL SHALL CONFORM TO THE ODOT 304 SPECIFICATION.

WHERE STORM AND/OR WATER MAINS RUN PARALLEL WITH THE CENTERLINE OF THE STREET OR UNDER SIDEWALKS OR WITHIN THE INFLUENCE LINE, MEASURED FROM THE BACK OF CURB, BACKFILL SHALL BE COMPACTED GRANULAR BACKFILL FROM THE BOTTOM OF THE TRENCH TO WITHIN 6-INCHES OF THE FINISHED OR EXISTING GRADE.

ALL OTHER TRENCH BACKFILL ITEM 911 SHALL BE COMPACTED IN 12-INCH LAYERS, LOOSE MEASUREMENT. COMPACTION SHALL BE TO AT LEAST THE DENSITY OF THE SURROUNDING GROUND. THE COST OF ALL BACKFILL IS TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS SEWER ITEMS.

MANHOLES AND CURB INLETS

ALL MANHOLES, CURB INLETS AND OTHER DRAINAGE STRUCTURES SHALL BE CHANNELED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ALL SOLID TYPE LIDS SHALL BE INSCRIBED WITH THE WORDS 'STORM SEWER". ALL MANHOLES AND CURB INLETS SHALL BE CONSTRUCTED AS PER CITY'S STANDARD DRAWINGS. MANHOLES CASTINGS LOCATED OUTSIDE OF PAVED AREAS SHALL BE SET 0.1 FOOT ABOVE FINISHED GRADE OR AS INDICATED ON THE PLANS.

CURB INLETS

ALL CURB INLETS SHALL BE CITY OF COLUMBUS STANDARD AA-S125 (A OR B) WITH EAST JORDAN 7030 OR NEENAH R-3067-V CASTINGS, OR APPROVED EQUAL, UNLESS OTHERWISE NOTED.

CURB AND GUTTER GRADES ARE TO BE DEPRESSED ONE (1) INCH BELOW FINAL GRADE AND WARPED TO NORMAL GRADE TEN (10) FEET ON EITHER SIDE OF THE INLET.

STORM SEWER FLUSHING

ALL STORM SEWERS SHALL BE FLUSHED WITH CLEAN WATER 1 YEAR FOLLOWING SUBSTANTIAL COMPLETION.

PRIVATE PONDING OR DETENTION AREAS

THE PONDING OR DETENTION AREAS SHOWN ON THESE PLANS ARE TO BE CONSTRUCTED AS A PRIVATE SYSTEM. IT IS THE DEVELOPER/OWNER'S RESPONSIBILITY TO MAINTAIN THE PONDING OR DETENTION AREAS IN A WAY SO AS NOT TO REDUCE THE CAPACITY OF THE WATER SURFACE AREA. IF THE DEVELOPER/OWNER DOES NOT MAINTAIN THE PONDING OR DETENTION AREAS, THE PLANS WILL BECOME VOID AND THE CITY WILL PLUG THE SEWER(S) AT THE OUTLET(S). STANDBY INSPECTION WILL BE REQUIRED DURING CONSTRUCTION.

DEVELOPER MUST ENTER INTO AN AGREEMENT WITH THE CITY REGARDING INSPECTION AND MAINTENANCE.

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GENERAL NOTES

C100C
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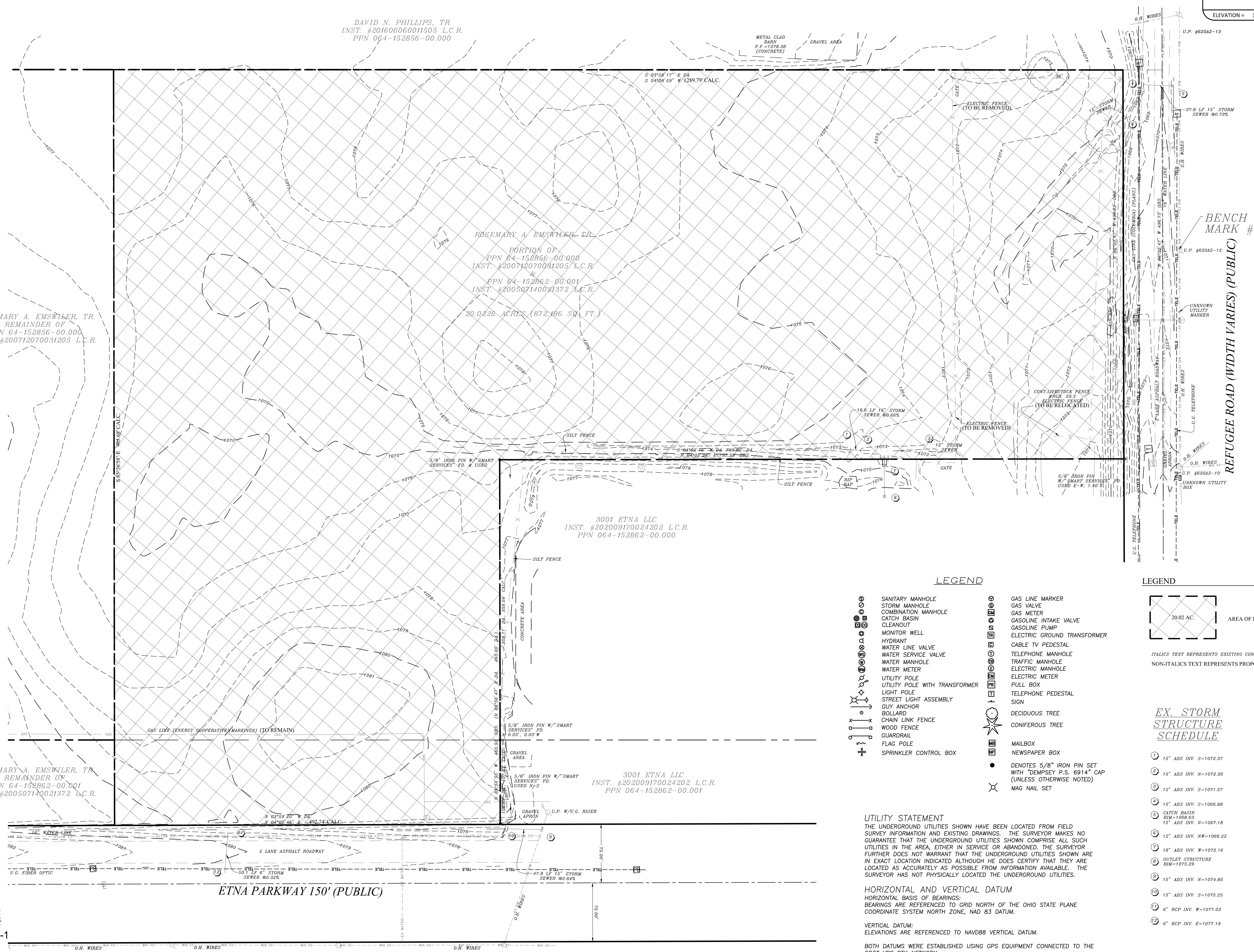

SITE BENCH MARK

BENCH MARK #1
RAILROAD SPIKE IN UTILITY POLE
ELEVATION = 1072.02

LEGEND

- SANITARY MANHOLE
- STORM MANHOLE
- COMBINATION MANHOLE
- CATCH BASIN
- CLEANOUT
- MONITOR WELL
- HYDRANT
- WATER LINE VALVE
- WATER SERVICE VALVE
- WATER MANHOLE
- WATER METER
- UTILITY POLE
- UTILITY POLE WITH TRANSFORMER
- LIGHT POLE
- STREET LIGHT ASSEMBLY
- GUY ANCHOR
- BOLLARD
- CHAIN LINK FENCE
- WOOD FENCE
- GUARDRAIL
- FLAG POLE
- SPRINKLER CONTROL BOX
- GAS LINE MARKER
- GAS VALVE
- GAS METER
- GASOLINE INTAKE VALVE
- GASOLINE PUMP
- ELECTRIC GROUND TRANSFORMER
- CABLE TV PEDESTAL
- TELEPHONE MANHOLE
- TRAFFIC MANHOLE
- ELECTRIC MANHOLE
- ELECTRIC METER
- PULL BOX
- TELEPHONE PEDESTAL
- SIGN
- DECIDUOUS TREE
- CONIFEROUS TREE
- MAILBOX
- NEWSPAPER BOX
- DENOTES 5/8" IRON PIN SET WITH "DEMPSEY P.S. 6914" CAP (UNLESS OTHERWISE NOTED)
- MAG NAIL SET

LEGEND

20.02 AC. — AREA OF DEMOLITION & CLEARING

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

EX. STORM STRUCTURE SCHEDULE

1. 15" ADS INV. S=1072.37
2. 15" ADS INV. N=1072.26
3. 12" ADS INV. S=1071.57
4. 15" ADS INV. S=1066.88
5. CATCH BASIN RIM=1068.63 15" ADS INV. N=1067.18
6. 12" ADS INV. NW=1066.22
7. 18" ADS INV. W=1072.16
8. OUTLET STRUCTURE RIM=1075.29
9. 15" ADS INV. N=1074.85
10. 15" ADS INV. S=1075.25
11. 6" RCP INV. W=1077.03
12. 6" RCP INV. E=1077.19

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

HORIZONTAL AND VERTICAL DATUM

HORIZONTAL BASIS OF BEARINGS:
BEARINGS ARE REFERENCED TO GRID NORTH OF THE OHIO STATE PLANE COORDINATE SYSTEM NORTH ZONE, NAD 83 DATUM.

VERTICAL DATUM:
ELEVATIONS ARE REFERENCED TO NAVD88 VERTICAL DATUM.

BOTH DATUMS WERE ESTABLISHED USING GPS EQUIPMENT CONNECTED TO THE ODOT VRS RTK NETWORK.

www.dempseysurvey.com
est. 62
DEMPSEY / SURVEYING / COMPANY
P 216/226/1130
F 216/226/1131
12815 DETROIT AVENUE
CLEVELAND, OH 44107-2835

Scale: 1" = 60'

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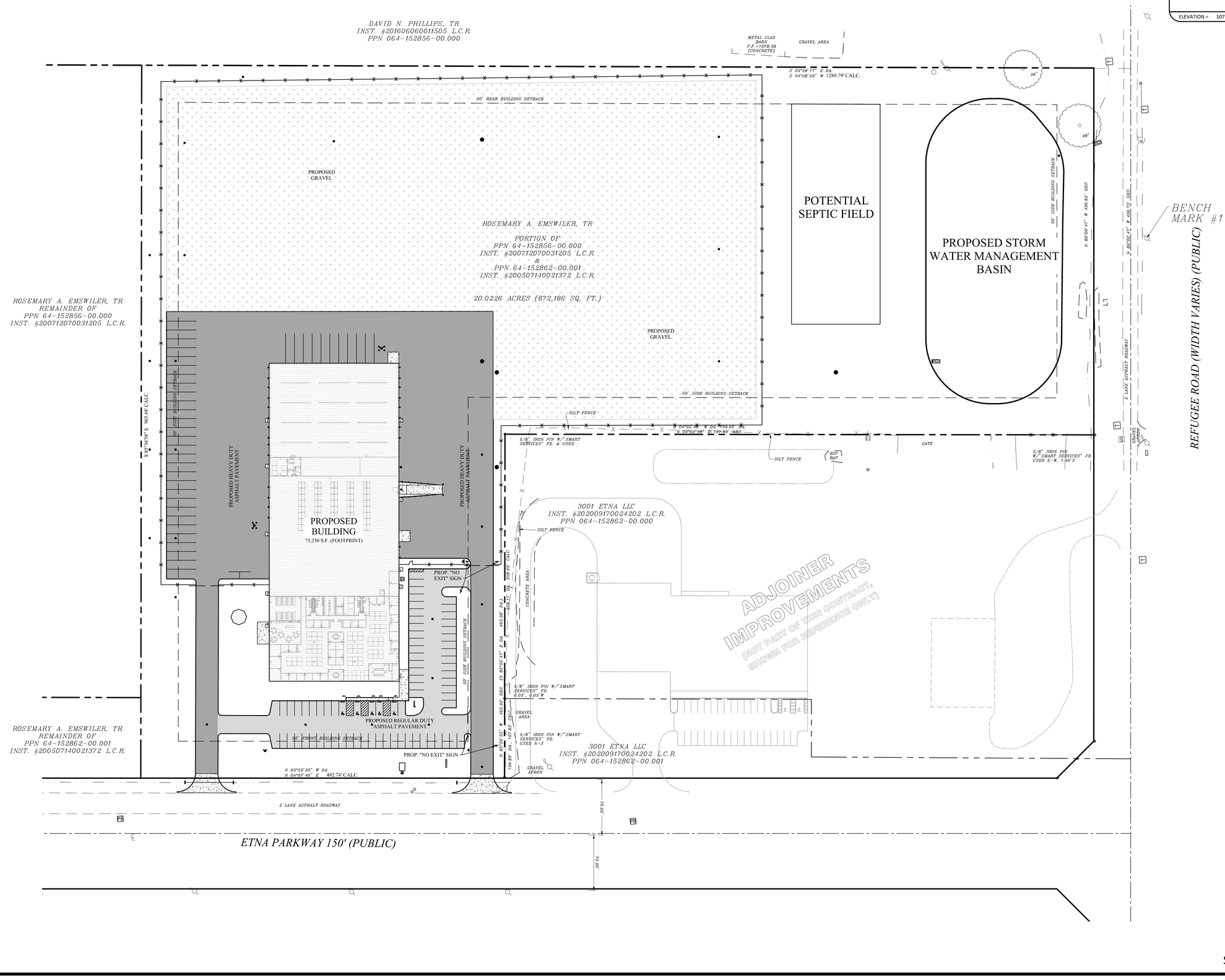
DEMOLITION PLAN

C101
Project No. 2021-259



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07-15-2021
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07-26-2021
08-05-2021

OVERALL SITE PLAN

C102

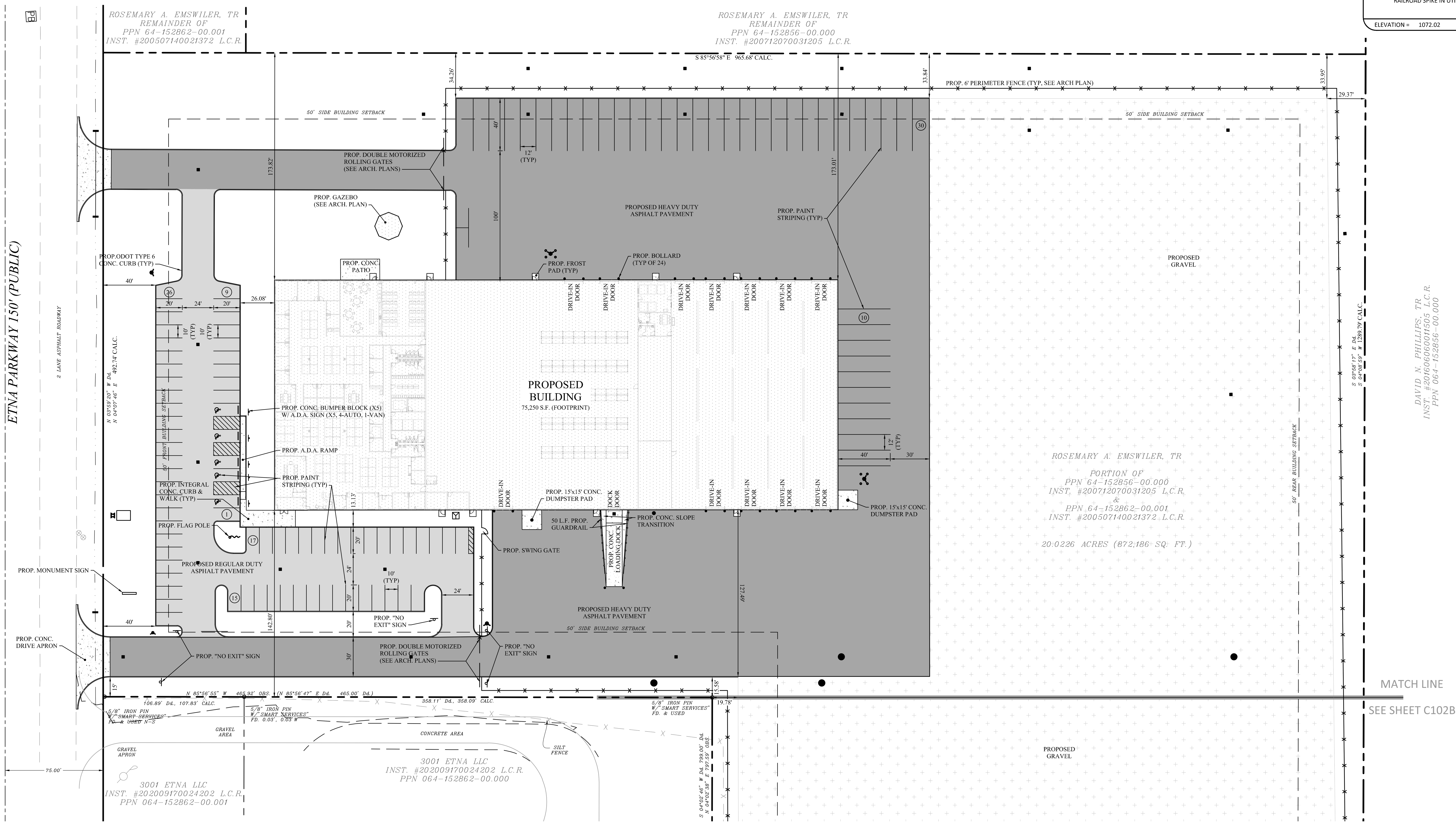
Project No. 2021-259

Scale: 1" = 60'

SITE BENCH MARK

BENCH MARK #1
RAILROAD SPIKE IN UTILITY POLE

ELEVATION = 1072.02



SITE DATA

USE DISTRICT	=	PM (PLANNED MANUFACTURING)
SITE AREA	=	(20.0226 AC.)
PROP. BUILDING AREA	=	75,250 S.F. (FOOTPRINT)

BUILDING SETBACKS:

FRONT YARD	=	50'
SIDE YARD	=	50'
REAR YARD	=	50'

REQUIRED PARKINGS SPACES:
OFFICE = 1/400 = 20,279/400 = 51
WAREHOUSE = 1/750 = 55,561/750 = 74
TOTAL REQUIRED PARKING SPACES = 125

NUMBER OF PARKING SPACES:

REGULAR PARKING SPACES	=	68
HANDICAP PARKING SPACES	=	5
TOTAL PARKING SPACES	=	73
TRAILER PARKING SPACES	=	40

SIDEWALK - NO FRONTAGE SIDEWALK CONTEMPLATED
(FEE IN LIEU OF TO BE DETERMINED)

FLOOD ZONE

FLOOD ZONE "X" PER FLOOD INSURANCE
RATE MAP NUMBER 39089C 0427 H
COMMUNITY PANEL NUMBER 39089 0427 H
EFFECTIVE DATE MAY 2, 2007

LEGEND

- REGULAR DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE PAVING
- GRAVEL PAVING

ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

N

Scale: 1" = 40'

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matt@webercivil.com

STATE OF OHIO
MATTHEW L. WEBER
61709
REGISTERED
PROFESSIONAL ENGINEER
Reg. No.: 61709

CLIENT:
GEIS CONSTRUCTION
10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

OWNER:
GEIS CONSTRUCTION
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THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

PARTIAL SITE PLAN

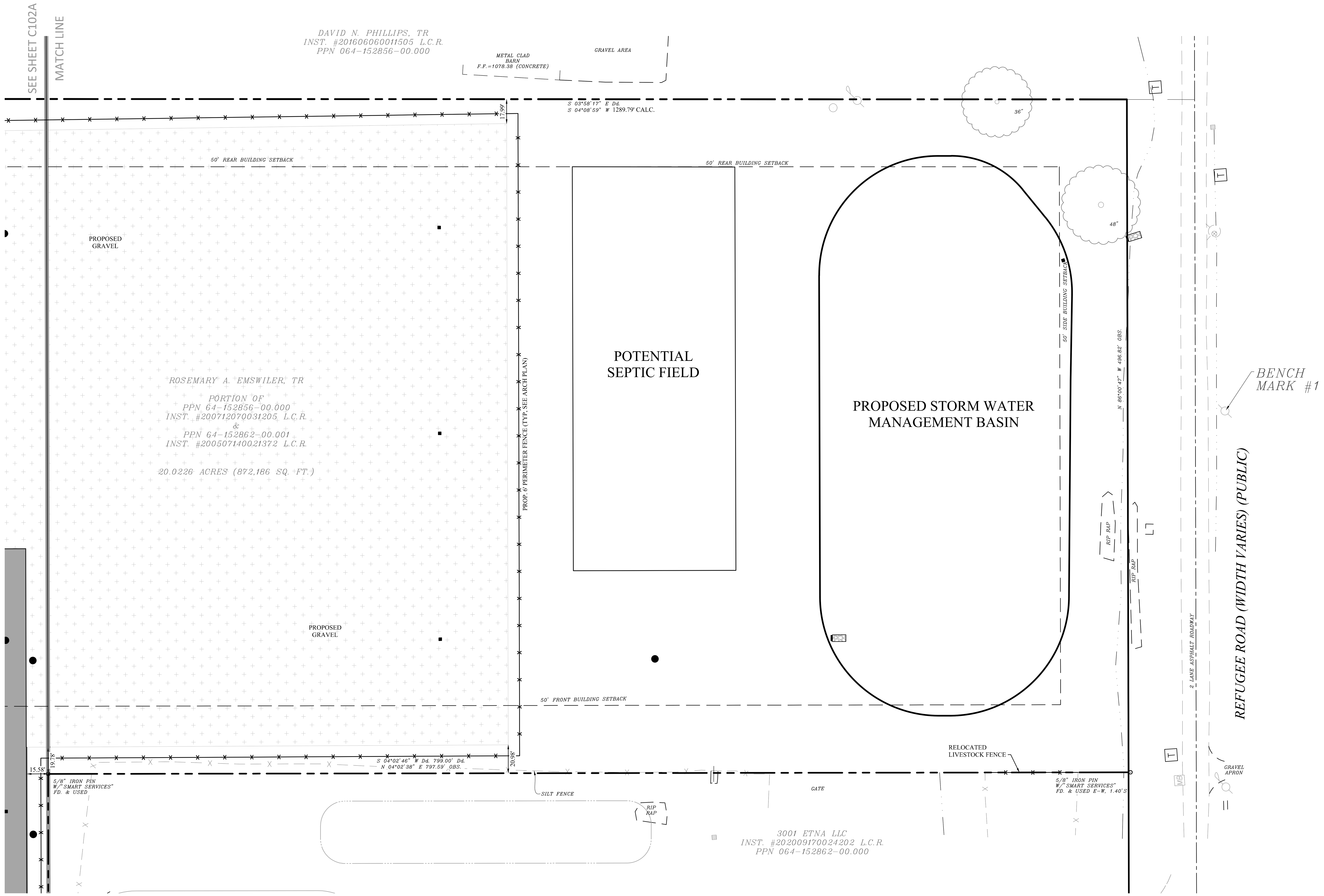
C102A

Project No. 2021-259

SITE BENCH MARK

BENCH MARK #1
RAILROAD SPIKE IN UTILITY POLE

ELEVATION = 1072.02



LEGEND

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- HEAVY DUTY ASPHALT
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PARTIAL SITE PLAN

C102B
Project No. 2021-259

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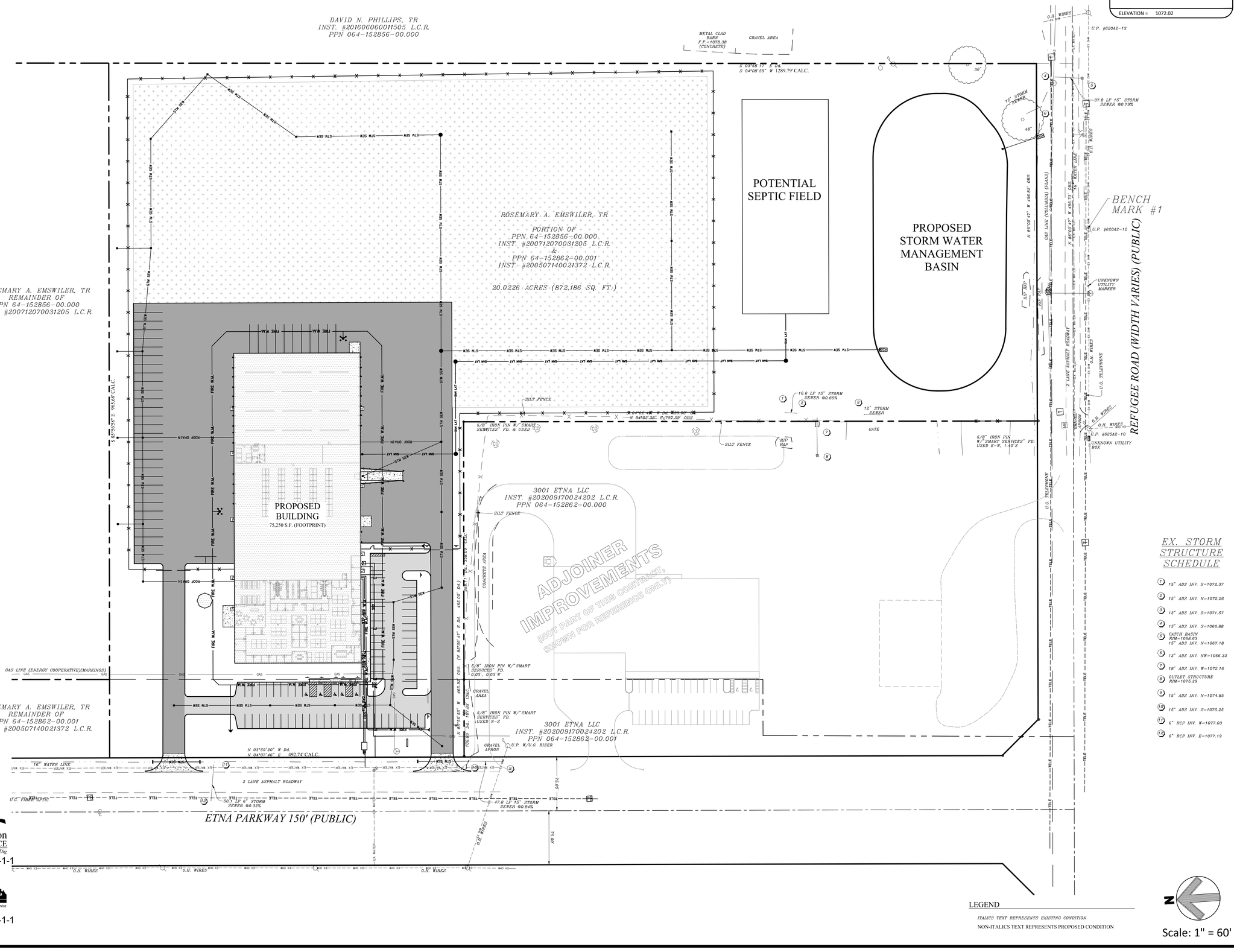

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OVERALL UTILITY PLAN

C103
Project No. 2021-259

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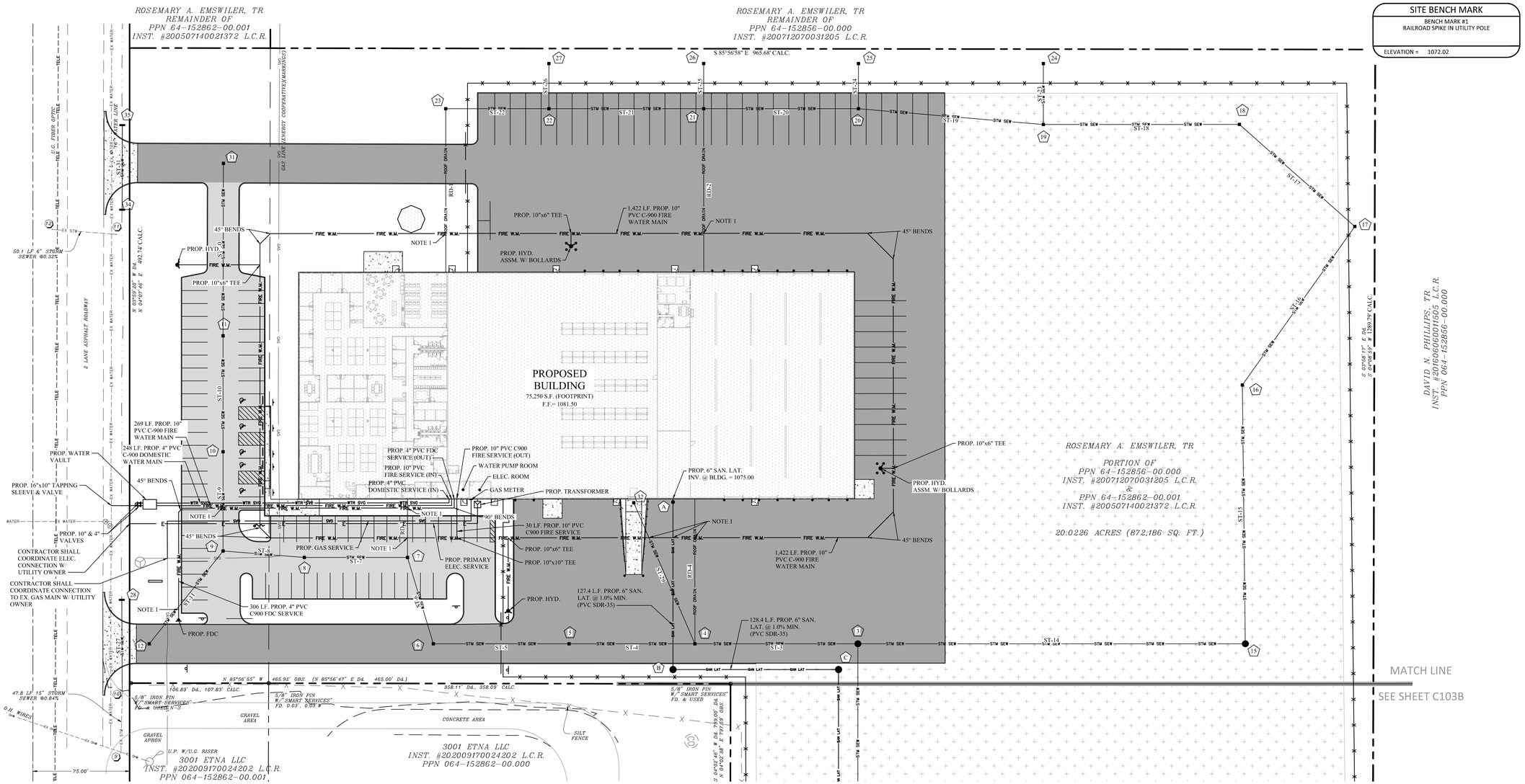

SITE BENCH MARK

BENCH MARK #1
RAILROAD SPIKE IN UTILITY POLE

ELEVATION = 1072.02

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3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

PARTIAL UTILITY PLAN

C103A
Project No. 2021-259

STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
3	STORM MANHOLE RIM = 1079.00 INV IN = 1068.75, 24" W INV IN = 1068.75, 42" E INV OUT = 1068.75, 42" S
4	ODOT CB 2-2C RIM = 1079.30 INV IN = 1069.50, 24" W INV IN = 1075.30, 12" N INV IN = 1072.20, 12" N INV OUT = 1069.50, 24" E
5	ODOT CB 2-2C RIM = 1079.30 INV IN = 1070.15, 24" W INV OUT = 1070.15, 24" E
6	ODOT CB 2-2C RIM = 1079.00 INV IN = 1071.35, 18" N INV OUT = 1070.85, 24" E
7	ODOT CB 2-2C RIM = 1080.00 INV IN = 1072.10, 15" W INV IN = 1075.10, 12" N INV OUT = 1071.85, 18" S
8	ODOT CB 2-2C RIM = 1080.00 INV IN = 1072.65, 15" W INV OUT = 1072.65, 15" E
9	ODOT CB 2-2C RIM = 1080.00 INV IN = 1073.30, 15" N INV IN = 1073.55, 12" SW INV OUT = 1073.30, 15" E

STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
10	ODOT CB 2-2C RIM = 1080.00 INV IN = 1073.90, 12" N INV OUT = 1073.65, 15" S
11	ODOT CB 2-2C RIM = 1081.05 INV IN = 1074.50, 12" N INV OUT = 1074.50, 12" S
12	ODOT CB 2-2C RIM = 1078.00 INV OUT = 1075.00, 12" NE
15	STORM MANHOLE RIM = 1077.75 INV IN = 1069.45, 42" N INV OUT = 1069.45, 42" W
16	ODOT CB 2-4 RIM = 1077.25 INV IN = 1069.90, 36" NE INV OUT = 1069.90, 42" S
17	ODOT CB 2-4 RIM = 1076.00 INV IN = 1070.30, 36" NW INV OUT = 1070.30, 36" SW
18	ODOT CB 2-4 RIM = 1077.00 INV IN = 1070.60, 36" W INV OUT = 1070.60, 36" SE

STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
19	ODOT CB 2-4 RIM = 1077.00 INV IN = 1070.90, 30" W INV IN = 1071.25, 18" N INV OUT = 1070.90, 36" E
20	ODOT CB 2-4 RIM = 1077.65 INV IN = 1071.25, 30" W INV IN = 1071.85, 12" N INV OUT = 1071.25, 30" E
21	ODOT CB 2-3 RIM = 1077.65 INV IN = 1071.55, 30" W INV IN = 1071.85, 12" N INV IN = 1073.05, 12" S INV OUT = 1071.55, 30" E
22	ODOT CB 2-3 RIM = 1077.65 INV IN = 1071.85, 24" W INV IN = 1071.85, 15" N INV OUT = 1071.85, 30" E
23	ODOT CB 2-3 RIM = 1075.50 INV IN = 1073.00, 12" S INV OUT = 1072.00, 24" E
24	ODOT CB 2-2B W/ BEEHIVE GRATE RIM = 1075.00 INV OUT = 1071.50, 18" S
25	ODOT CB 2-2B W/ BEEHIVE GRATE RIM = 1075.00 INV OUT = 1072.00, 12" S

STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
26	ODOT CB 2-2B W/ BEEHIVE GRATE RIM = 1075.00 INV OUT = 1072.00, 12" S
27	ODOT CB 2-2B W/ BEEHIVE GRATE RIM = 1075.00 INV OUT = 1072.00, 15" S
28	ODOT HW 2.1 INV OUT = 1075.85, 15" S
31	ODOT CB 2-2C RIM = 1079.50 INV OUT = 1075.50, 12" S
32	ODOT CB 2-2C RIM = 1077.40 INV OUT = 1073.40, 12" S
34	ODOT HW 2.1 INV IN = 1077.30, 15" N
35	ODOT HW 2.1 INV OUT = 1077.80, 15" S

STORM PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	TYPE
RD-1	12"	126.81'	1.00% (MIN.)	HDPE
RD-2	12"	126.68'	1.00% (MIN.)	HDPE
RD-3	12"	45.31'	1.00% (MIN.)	HDPE
RD-4	12"	112.46'	1.00% (MIN.)	HDPE
ST-3	24"	126.37'	0.59%	HDPE
ST-4	24"	97.52'	0.67%	HDPE
ST-5	24"	105.26'	0.67%	HDPE
ST-6	18"	69.93'	0.72%	HDPE
ST-7	15"	80.00'	0.69%	HDPE
ST-8	15"	63.20'	1.03%	HDPE
ST-9	15"	77.00'	0.45%	HDPE
ST-10	12"	90.00'	0.67%	HDPE
ST-11	12"	91.95'	1.58%	HDPE
ST-14	42"	300.36'	0.23%	HDPE
ST-15	42"	200.76'	0.22%	HDPE
ST-16	36"	150.78'	0.27%	HDPE
ST-17	36"	119.45'	0.25%	HDPE
ST-18	36"	152.00'	0.20%	HDPE
ST-19	30"	143.88'	0.24%	HDPE
ST-20	30"	120.00'	0.25%	HDPE

STORM PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	TYPE
ST-21	30"	120.00'	0.25%	HDPE
ST-22	24"	80.00'	0.19%	HDPE
ST-23	18"	47.26'	0.53%	HDPE
ST-24	12"	35.00'	0.43%	HDPE
ST-25	12"	35.00'	0.43%	HDPE
ST-26	15"	35.00'	0.43%	HDPE
ST-27	15"	70.35'	0.85%	RCP
ST-29	12"	119.25'	1.01%	HDPE
ST-30	12"	133.75'	0.75%	HDPE
ST-31	15"	64.60'	0.77%	RCP

PROPOSED SANITARY STRUCTURE SCHEDULE

(A) PROP. SANITARY CLEANOUT
TOP 1081.40
INV. 1074.95, 6" N & E

(B) PROP. SANITARY MANHOLE
TOP 1079.50
INV. 1073.65, 6" N & E

(C) PROP. SANITARY MANHOLE
TOP 1078.75
INV. 1072.35, 6" S & W

NOTE 1:

CONTRACTOR SHALL DEFLECT W.M. AS NECESSARY TO MAINTAIN 18" MIN. VERTICAL CLEARANCE BETWEEN W.M. & SAN. SEW. AND/OR STM. SEW. AT ALL TIMES. (INSTALL BENDS WHERE NECESSARY)

SEE SITE LIGHTING PLAN FOR LIGHT POLE LOCATIONS

LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

EX. STORM STRUCTURE SCHEDULE

(9) *15" ADS INV. N=1074.85*
(10) *15" ADS INV. S=1075.25*
(17) *6" RCP INV. W=1077.03*
(12) *6" RCP INV. E=1079.19*

N

Scale: 1" = 40'

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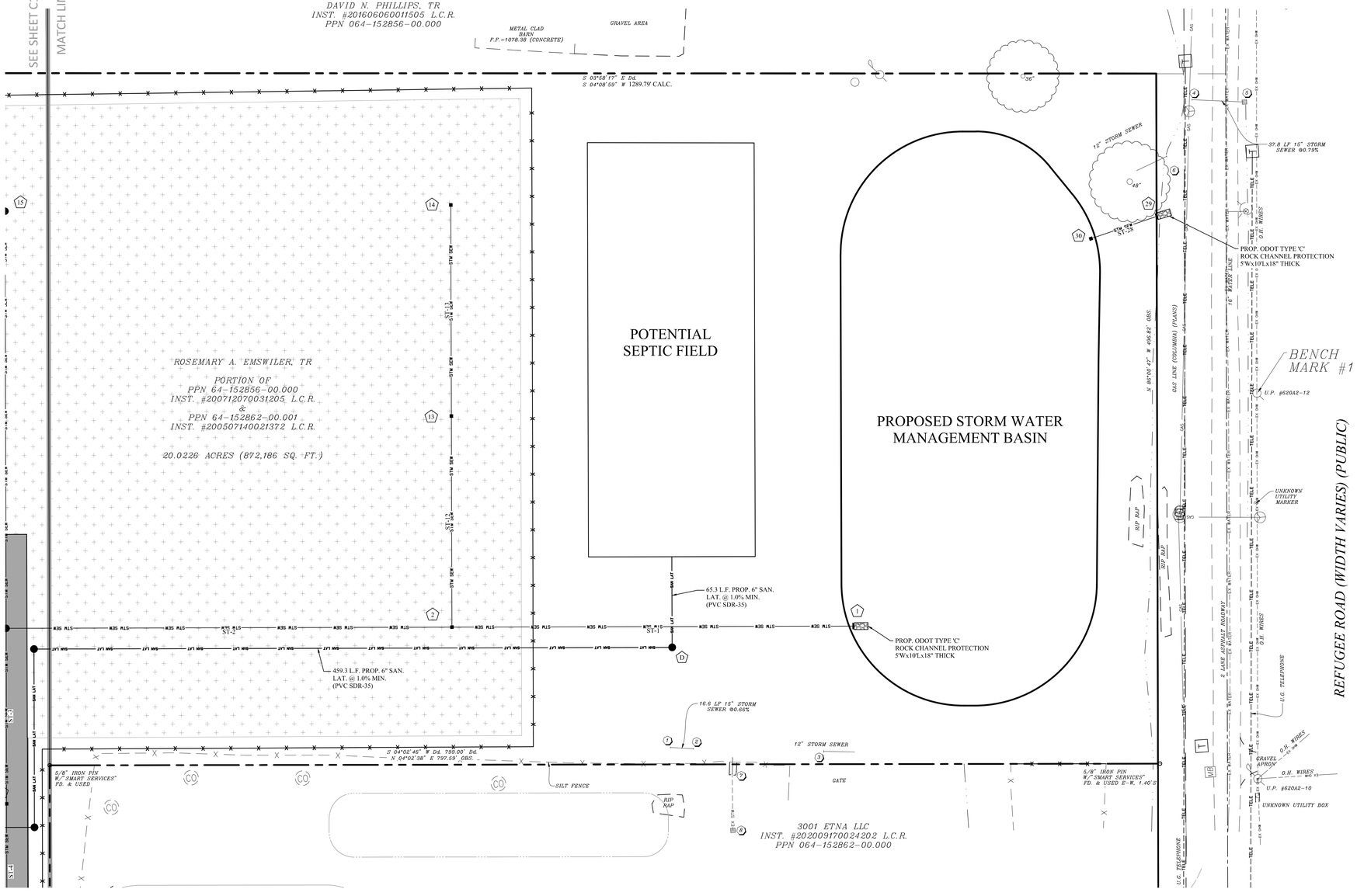

SITE BENCH MARK
BENCH MARK #1 RAILROAD SPIKE IN UTILITY POLE
ELEVATION = 1072.02

STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
1	ODOT HW 2.1 RIM = 1070.85 INV IN = 1067.25, 48" N
2	ODOT CB 2-5 RIM = 1074.00 INV IN = 1067.95, 42" N INV IN = 1068.45, 30" E INV OUT = 1067.95, 48" S
13	ODOT CB 2-3 RIM = 1074.00 INV IN = 1069.45, 24" E INV OUT = 1068.95, 30" W
14	ODOT CB 2-3 RIM = 1074.00 INV OUT = 1070.00, 24" W
29	ODOT HW 2.1 INV IN = 1067.00, 30" N
30	OUTLET STRUCTURE RIM = 1070.33 INV OUT = 1067.25, 30" S

STORM PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	TYPE
ST-1	48"	289.51'	0.24%	HDPE
ST-2	42"	320.81'	0.25%	HDPE
ST-12	30"	152.00'	0.33%	HDPE
ST-13	24"	152.00'	0.36%	HDPE
ST-28	30"	50.46'	0.50%	HDPE

PROPOSED SANITARY STRUCTURE SCHEDULE

(D) PROP. SANITARY MANHOLE
TOP 1073.90
INV. 1067.75, 6" N & W

NOTE 1:

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LEGEND

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EX. STORM STRUCTURE SCHEDULE

1. *15" ADS INV. S=1072.37*
2. *15" ADS INV. N=1072.26*
3. *12" ADS INV. S=1071.57*
4. *15" ADS INV. S=1066.88*
5. *CATCH BASIN RIM=1068.63 15" ADS INV. N=1067.18*
6. *12" ADS INV. NW=1066.22*
7. *18" ADS INV. W=1072.16*
8. *OUTLET STRUCTURE RIM=1075.29*

Scale: 1" = 40'

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3003 ETNA PARKWAY, PATASKALA, OHIO

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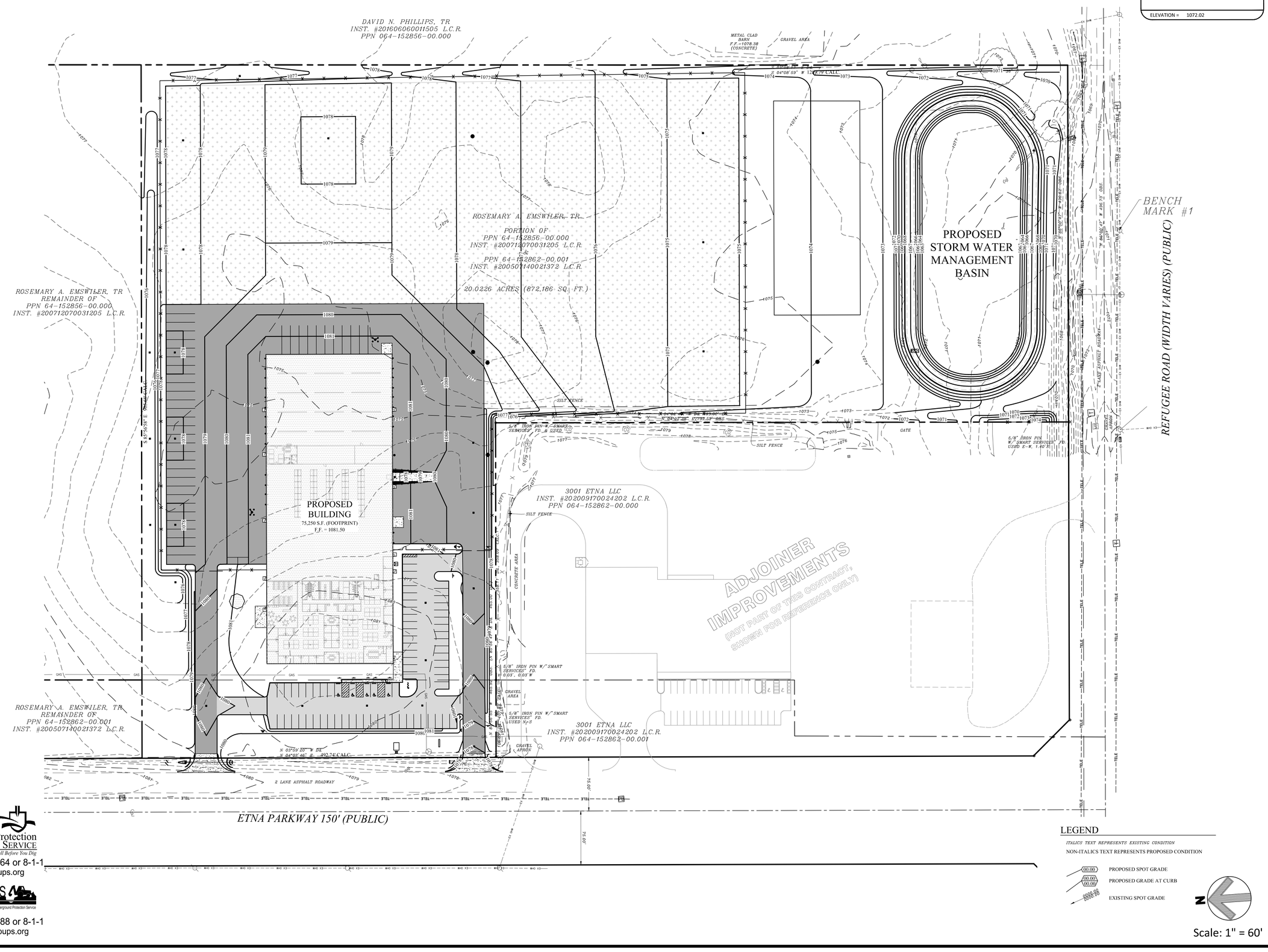
PARTIAL UTILITY PLAN

C103B
Project No. 2021-259



SITE BENCH MARK

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ELEVATION = 1072.02

LEGEND

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NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

- 00.00 — PROPOSED SPOT GRADE
- 00.00 / V00.00 — PROPOSED GRADE AT CURB
- 1000.00 / 1000.00 — EXISTING SPOT GRADE

Scale: 1" = 60'

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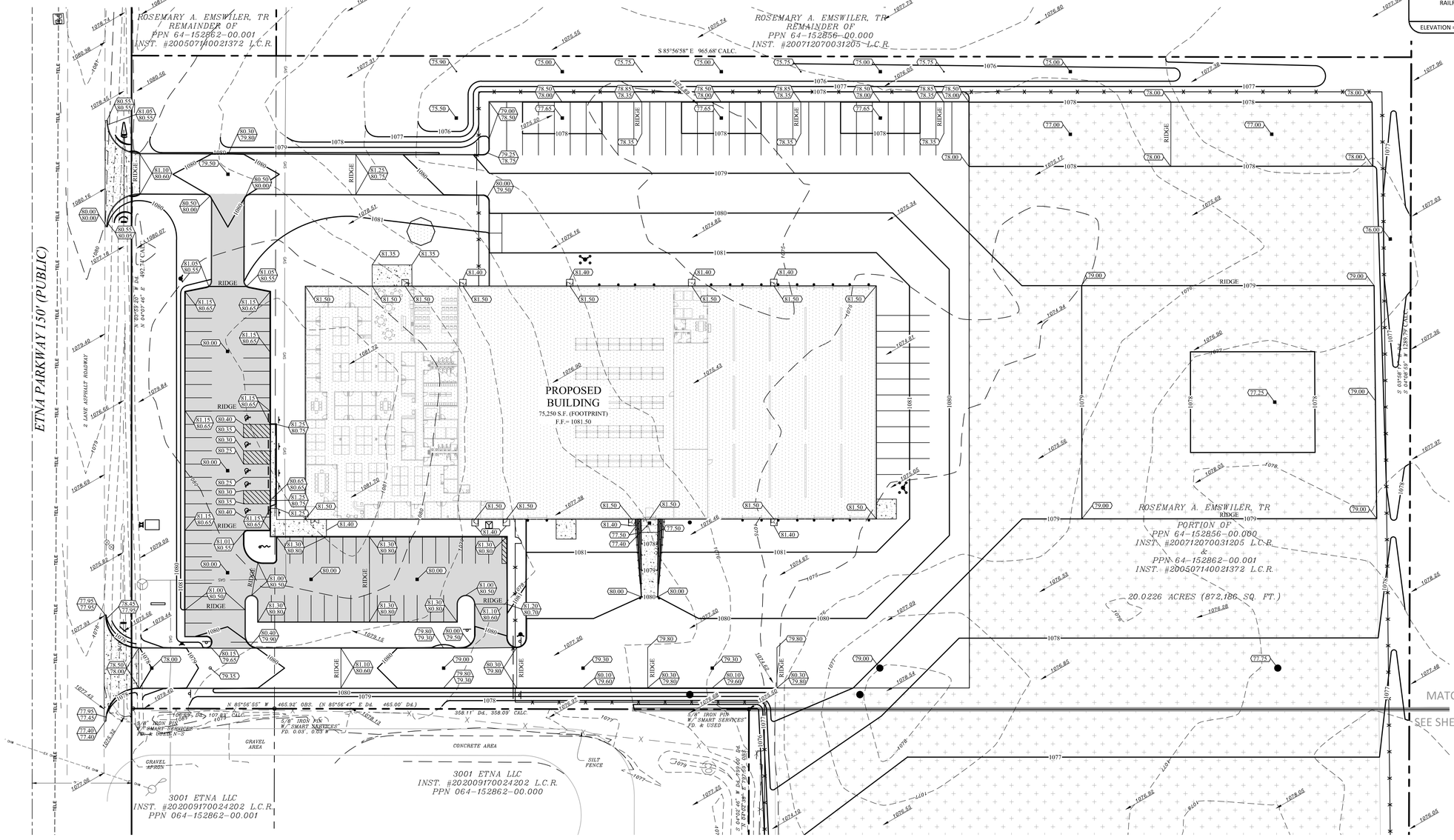
OVERALL GRADING PLAN

C104

Project No. 2021-259



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NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

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00.00 / 00.00 PROPOSED GRADE AT CURB

1000.00 EXISTING SPOT GRADE

N

Scale: 1" = 40'

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Issue Date
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07-26-2021
08-05-2021

PARTIAL GRADING PLAN

C104A

Project No. 2021-259

SEE SHEET C104A

MATCH LINE

DAVID N. PHILLIPS, TR
INST. #201606060011505 L.C.R.
PPN 064-152856-00.000

METAL CLAD BARN F.F.=1078.38 (CONCRETE)

GRAVEL AREA

S 64°08'59" W 1289.79' CALC

ROSEMARY A. EMSWILER, TR

PORTION OF
PPN 64-152856-00.000
INST. #200712070031205 L.C.R.

PPN 64-152862-00.001
INST. #200507110021372 L.C.R.

20.0226 ACRES (872,186 SQ. FT.)

RIDGE

POTENTIAL SEPTIC FIELD

PROPOSED STORM WATER MANAGEMENT BASIN

60' EMERGENCY SPILLWAY
ELEV. = 1070.50

BENCH MARK #1

REFUGEE ROAD (WIDTH VARIES) (PUBLIC)

S 64°02'46" W Dd. 799.00' Dd.
S 64°02'38" E 797.59' GBD.

5/8" IRON PIN W/ SMART SERVICES" FD. & USED

SILT FENCE

RIP RAP

GATE

5/8" IRON PIN W/ SMART SERVICES" FD. & USED E-W 1.40'S

GRAVEL APRON

3001 ETNA LLC
INST. #202009170024202 L.C.R.
PPN 064-152862-00.000

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LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

00.00 PROPOSED SPOT GRADE

00.00 / V00.00 PROPOSED GRADE AT CURB

0000.00 / 0000.00 EXISTING SPOT GRADE

N

Scale: 1" = 40'

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330-329-2037
matt@webercivil.com

STATE OF OHIO
MATTHEW L. WEBER
61709
REGISTERED
PROFESSIONAL ENGINEER

Reg. No.: 61709

CLIENT:

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JEN DIASIO
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OWNER:

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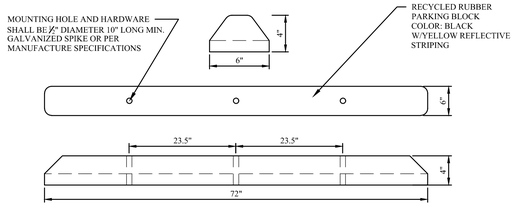
THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

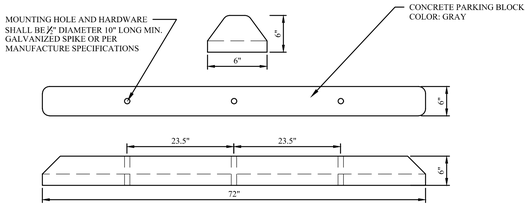
PARTIAL GRADING PLAN

C104B
Project No. 2021-259



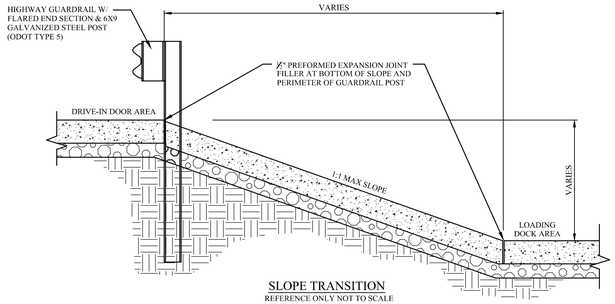
PROP. RECYCLED RUBBER BUMPER BLOCK

REFERENCE ONLY NOT TO SCALE



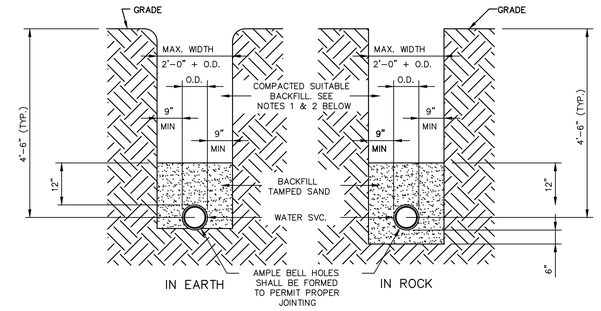
PROP. CONCRETE BUMPER BLOCK

REFERENCE ONLY NOT TO SCALE



SLOPE TRANSITION

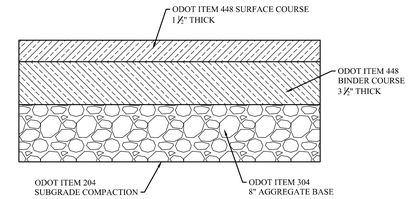
REFERENCE ONLY NOT TO SCALE



WATER SERVICE TRENCH DETAILS

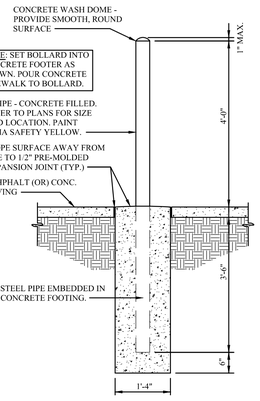
– NOT TO SCALE –

NOTES:
1) PREMIUM BACKFILL REQUIRED UNDER EXISTING OR FUTURE PAVEMENTS, SIDEWALKS, AND/OR DRIVES OR WHEN REQUIRED BY LOCAL MUNICIPALITY.
2) PREMIUM BACKFILL SHALL BE LIMESTONE SCREENINGS GRADED PER ODOT 304.02 OR ODOT 411. NO SLAG IS PERMITTED.
3) CONTRACTOR SHALL USE SPECIAL CARE IN PLACING THE SAND BEDDING BACKFILL, SO AS TO AVOID SCRAPING OF THE EXTERIOR COATING, INJURING THE PIPE, DISTORTING OR MOVING THE PIPE WHEN COMPACTING THE SAME. THE SAND BEDDING BACKFILL SHALL BE TAMPED IN SIX (6) INCH LAYERS, SIMULTANEOUSLY ON EACH SIDE OF THE PIPE, AND THOROUGHLY COMPACTED SO AS TO PROVIDE A SOLID BACKING AGAINST THE EXTERNAL SURFACE OF THE PIPE.
4) MINIMUM COMPACTION FOR ALL SAND BEDDING BACKFILL, BACKFILL AND PREMIUM BACKFILL SHALL BE 95% STANDARD PROCTOR.
5) PAVEMENT, SIDEWALK OR DRIVES TO BE INSTALLED IN ACCORDANCE WITH LOCAL MUNICIPALITY'S SPECIFICATIONS.



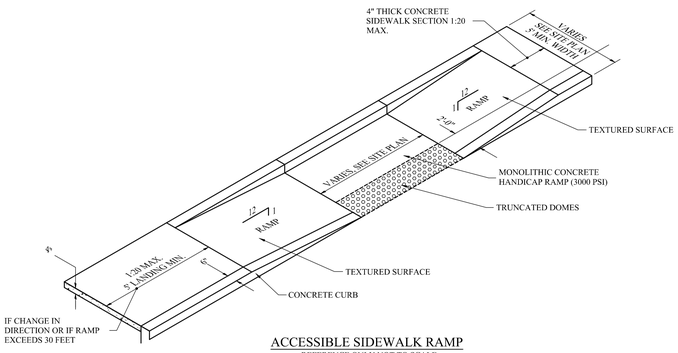
PROP. HEAVY DUTY ASPHALT PAVEMENT

REFERENCE ONLY NOT TO SCALE



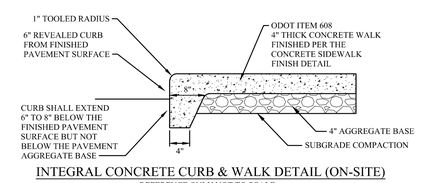
TYPICAL BOLLARD DETAIL

REFERENCE ONLY NOT TO SCALE



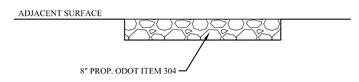
ACCESSIBLE SIDEWALK RAMP

REFERENCE ONLY NOT TO SCALE



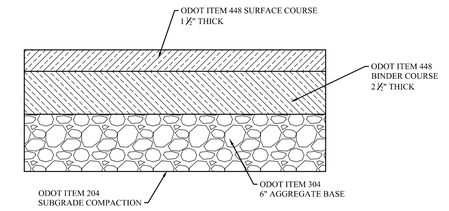
INTEGRAL CONCRETE CURB & WALK DETAIL (ON-SITE)

REFERENCE ONLY NOT TO SCALE



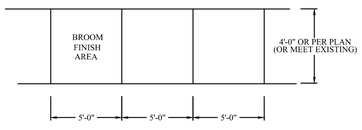
GRAVEL PAVEMENT DETAIL

REFERENCE ONLY NOT TO SCALE



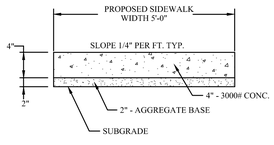
PROP. REGULAR DUTY ASPHALT PAVEMENT

REFERENCE ONLY NOT TO SCALE



CONCRETE SIDEWALK FINISH AND JOINTS

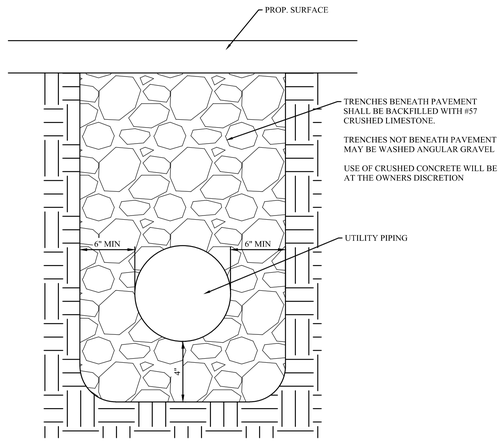
REFERENCE ONLY NOT TO SCALE



NOTE:
CRACK CONTROL SHALL BE AT FIFTEEN FOOT (15') INTERVALS AND SCORE MARKS SHALL BE AT FIVE FOOT (5') INTERVALS. CONSTRUCTION SHALL BE IN ACCORDANCE WITH O.D.O.T. ITEM 608. PRIOR TO THE START OF SIDEWALK CONSTRUCTION THE SUBGRADE MUST BE INSPECTED AND APPROVED BY THE OWNERS REPRESENTATIVE. ANY SETTLEMENT OR DEFICIENT AREAS IDENTIFIED BY THE OWNERS REPRESENTATIVE SHALL BE REPAIRED BY A A METHOD ACCEPTABLE TO THE OWNER. THE REPAIRED AREAS WILL BE SUBJECT TO COMPACTION TESTING AND APPROVAL BY THE OWNER PRIOR TO THE START OF SIDEWALK CONSTRUCTION.

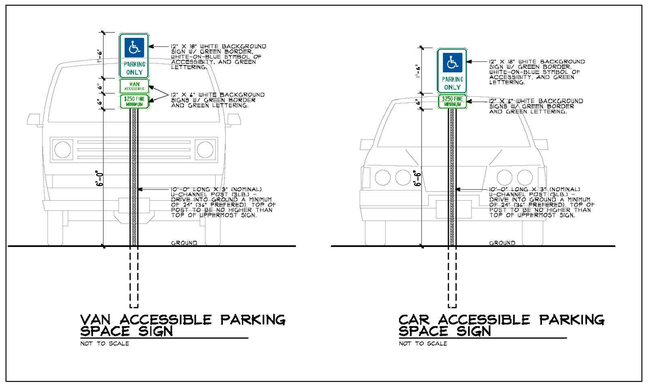
CONCRETE SIDEWALK

REFERENCE ONLY NOT TO SCALE



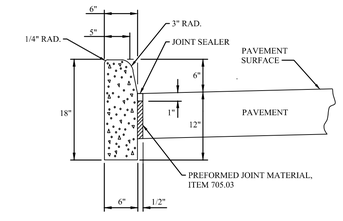
UTILITY TRENCH DETAIL

REFERENCE ONLY NOT TO SCALE



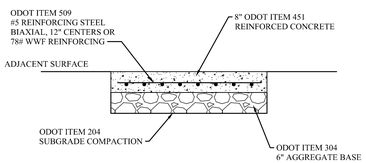
HANDICAPPED PARKING DETAIL

REFERENCE ONLY NOT TO SCALE



ODOT TYPE 6 CONCRETE CURB

REFERENCE ONLY NOT TO SCALE



CONCRETE LOADING DOCK, DUMPSTER PAD, & DRIVE APRON DETAIL

REFERENCE ONLY NOT TO SCALE

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STATE OF OHIO — MATTHEW L. WEBER — 61709 — REGISTERED PROFESSIONAL ENGINEER

Reg. No.: 61709

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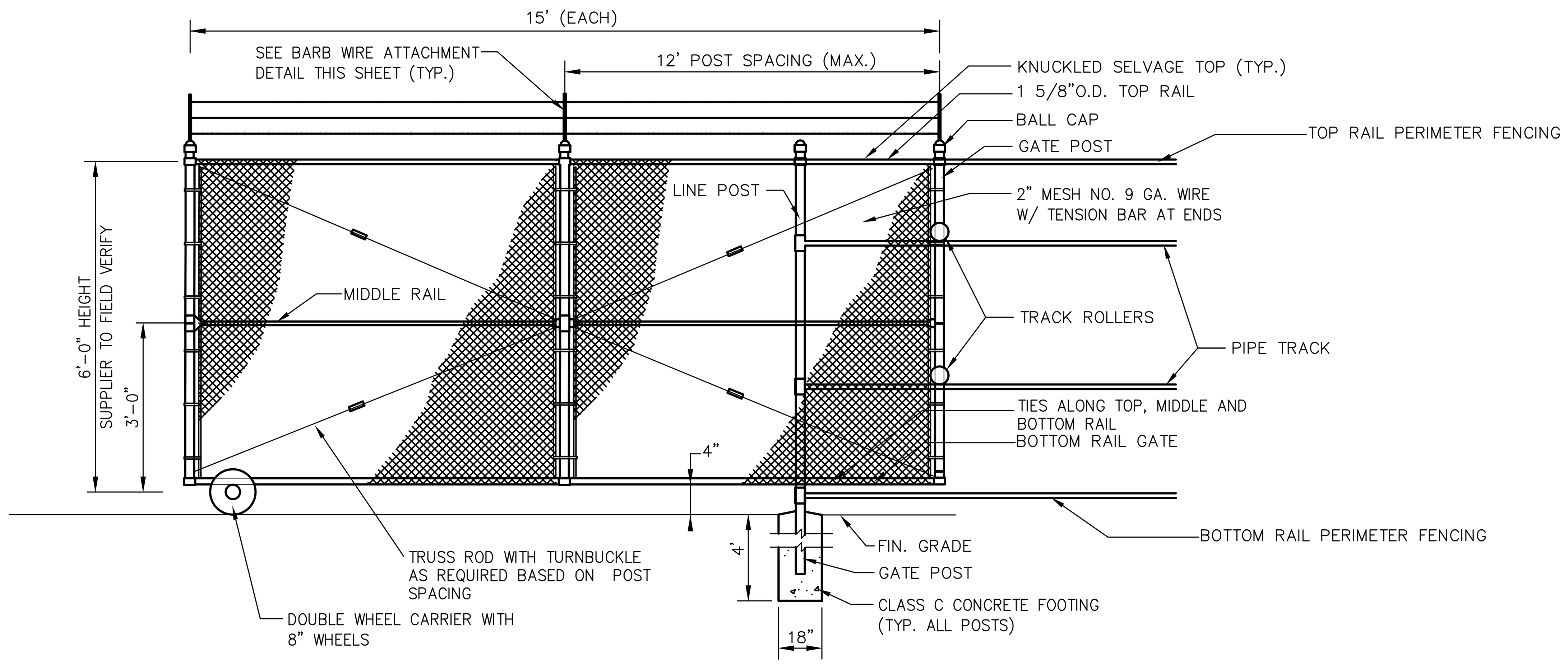
THAYER SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

SITE DETAILS

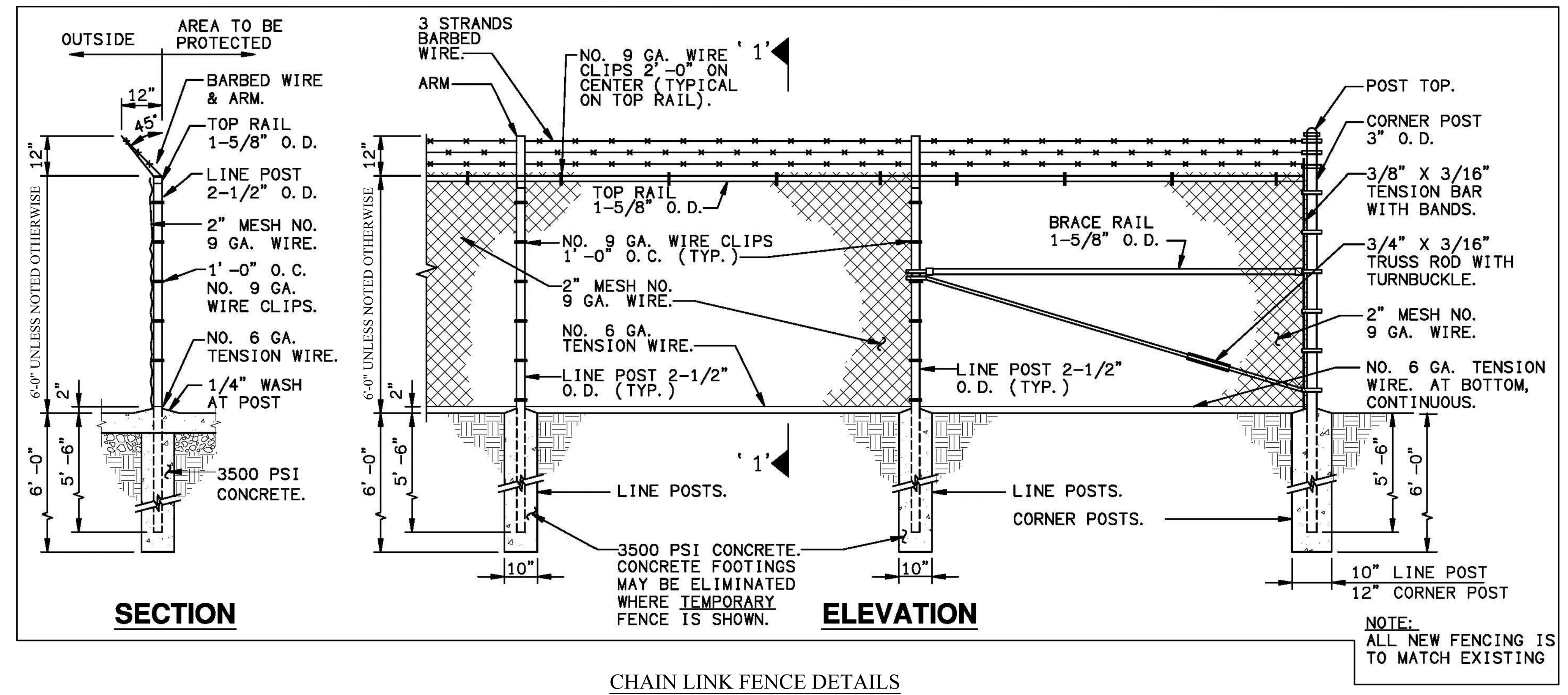
C105
Project No. 2021-259

W:\A-I Projects\2021 Projects\2021-259 ETNA 75K Pataskala (Thayer)\2021-259 Dwg\2021-259 Site01F - 08-05-2021\2021-259 Site01F.dwg



ROLLING GATE (MOTORIZED) DETAIL

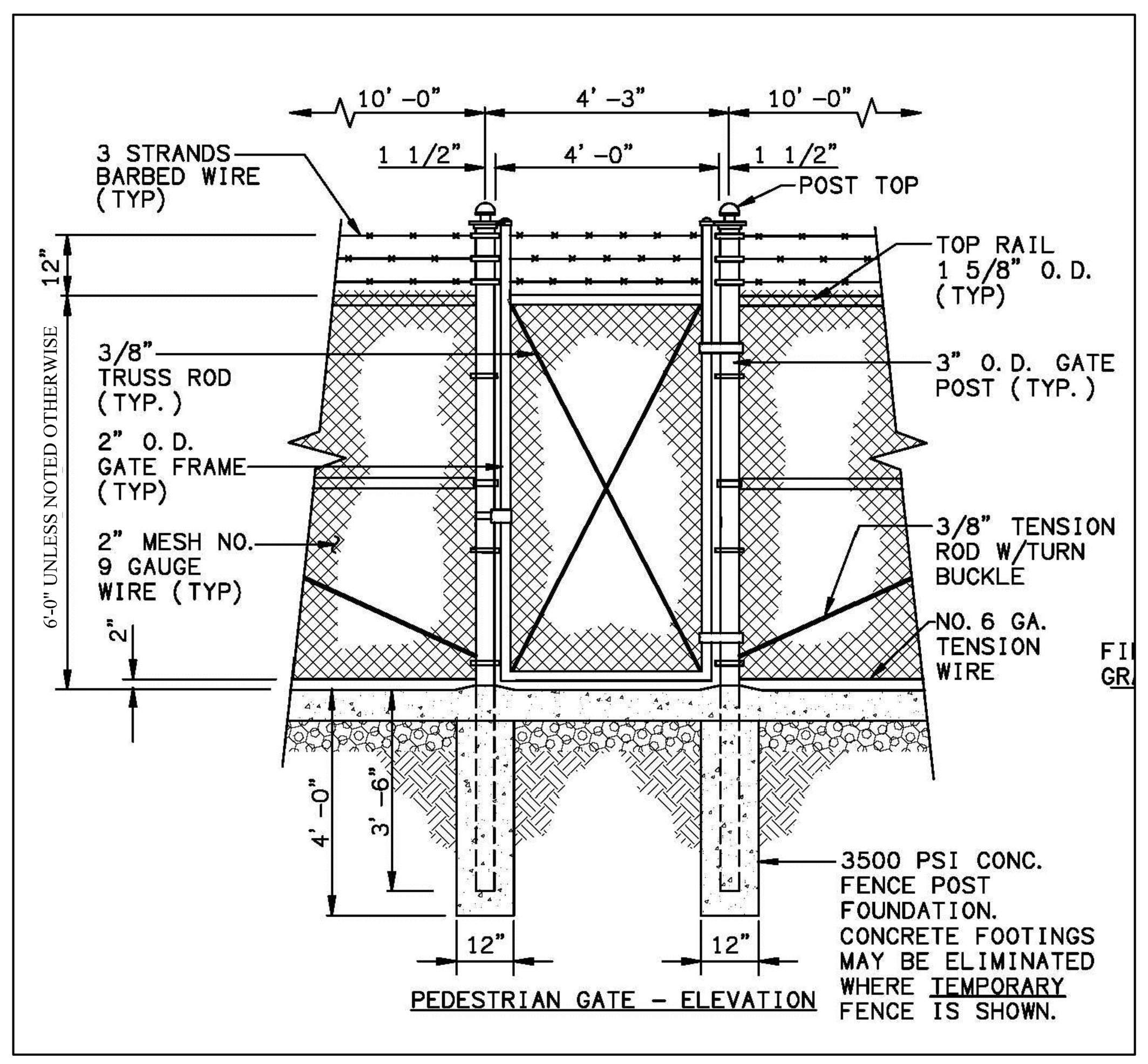
REFERENCE ONLY NOT TO SCALE



CHAIN LINK FENCE DETAILS

REFERENCE ONLY NOT TO SCALE

FENCE SUPPLIER SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL BY OWNER
STYLE TO BE DETERMINED BY OWNER.....STYLE SHALL BE SIMILAR TO
MATERIAL SHOWN ON THIS PLAN

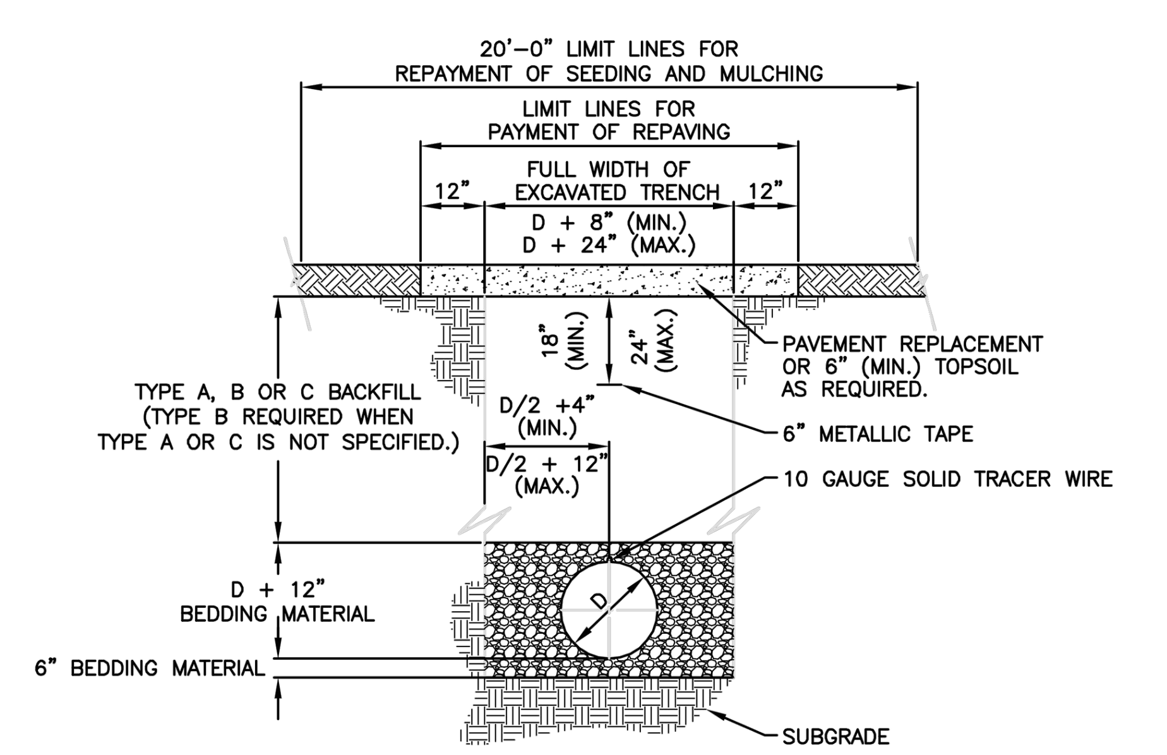


TYPICAL FENCE AND GATE DETAILS

REFERENCE ONLY NOT TO SCALE

NOTES:

1. ITEM NUMBERS REFER TO THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.
2. AGGREGATE FOR BEDDING SHALL BE WASHED AND BE NO. 57, NO. 67 OR NO. 68 PER CMS 304.02.
3. TYPE A BACKFILL SHALL BE GRANULAR MATERIAL AS SPECIFIED IN ITEM 703.11, GRANULAR MATERIAL, TYPE 2. TYPE A BACKFILL SHALL BE USED WHEN THE TRENCH IS 5' OR LESS FROM ANY PAVED OR GRAVEL SURFACE OR BENEATH THE PAVEMENT OR GRAVEL. COMPACTION SHALL MEET THE REQUIREMENTS OF ITEM 203.
4. TYPE B BACKFILL SHALL BE NATURAL SOIL FREE FROM STONES LARGER THAN 2" ACROSS THEIR GREATEST DIMENSION, TOPSOIL, VEGETATION, DEBRIS, RUBBISH OR FROZEN MATERIAL, COMPACTED TO 95% OF ITS MAXIMUM LABORATORY DRY WEIGHT.
5. TYPE C BACKFILL SHALL BE NATURAL SOIL FREE FROM STONES LARGER THAN 6" ACROSS THEIR GREATEST DIMENSION, VEGETATION, DEBRIS, RUBBISH OR FROZEN MATERIAL, COMPACTED TO 90% OF ITS MAXIMUM LABORATORY DRY WEIGHT. WHEN APPROVED BY THE CONTRACT ADMINISTRATOR, STONES NO LARGER THAN ONE CUBIC FOOT MAY BE DEPOSITED AT LEAST 3' ABOVE THE TOP OF THE PIPE.
6. THE EXCAVATED TRENCH WIDTH 12" ABOVE THE CONDUIT MAY BE INCREASED WITHOUT ADDITIONAL COMPENSATION.
7. FLEXIBLE PIPE SHALL INCLUDE PVC AND POLYETHYLENE.
8. ENCASEMENT SHALL BE CLASS C CONCRETE.



SECTION WITH **ENCASEMENT**

SECTION WITH **BEDDING MATERIAL**

APPROVED: 5-15-17 DATE

REGISTERED ENGINEER

TYPICAL TRENCH FOR FLEXIBLE PIPE

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

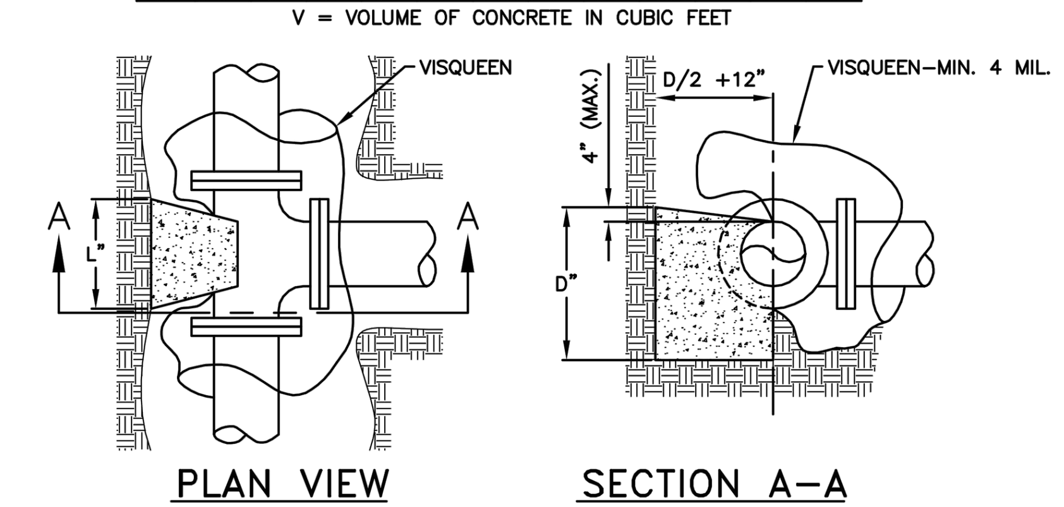
STANDARD CONSTRUCTION DWG.

REVISED: 05/2017 | DRAWING NO. W-1 2 OF 2

RUN	BRANCH 3"			4"			6"			8"		
	L	D	V	L	D	V	L	D	V	L	D	V
3"	12	5	0.5									
4"	10	6	0.5	11	8	0.8						
6"	9	7	0.5	11	8	0.8	18	12	1.9			
8"	8	8	0.5	10	9	0.7	18	12	1.9	23	16	3.5
12"	6	12	0.6	8	12	0.8	18	12	1.9	23	16	3.5
16"	6	16	0.8	6	16	0.8	14	16	2.0	20	18	3.3
20"	6	20	1.0	6	20	1.0	11	20	1.9	18	20	3.3
24"	6	24	1.2	6	24	1.2	9	24	1.9	15	24	3.3

RUN	BRANCH 12"			16"			20"			24"		
	L	D	V	L	D	V	L	D	V	L	D	V
3"												
4"												
6"												
8"												
12"	38	22	8.7									
16"	36	23	8.7	49	30	13.6						
20"	35	24	8.7	46	32	13.6	60	38	26.5			
24"	30	28	8.7	42	36	14.0	54	42	26.3	68	48	45.4

V = VOLUME OF CONCRETE IN CUBIC FEET



NOTES:

1. CONCRETE FOR BACKING SHALL BE CLASS "C".
2. BACKING SHALL BE DESIGNED FOR 3000 PSF SOIL BEARING.
3. REINFORCING STEEL SHALL BE USED AS DIRECTED BY THE ENGINEER
4. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
5. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.
6. VISQUEEN SHALL BE PLACED IN A MANNER SUCH THAT CONCRETE BLOCKING DOES NOT HAVE DIRECT CONTACT WITH TEE AND OR FITTINGS.

APPROVED: 5-15-17 DATE

REGISTERED ENGINEER

BACKING FOR TEES

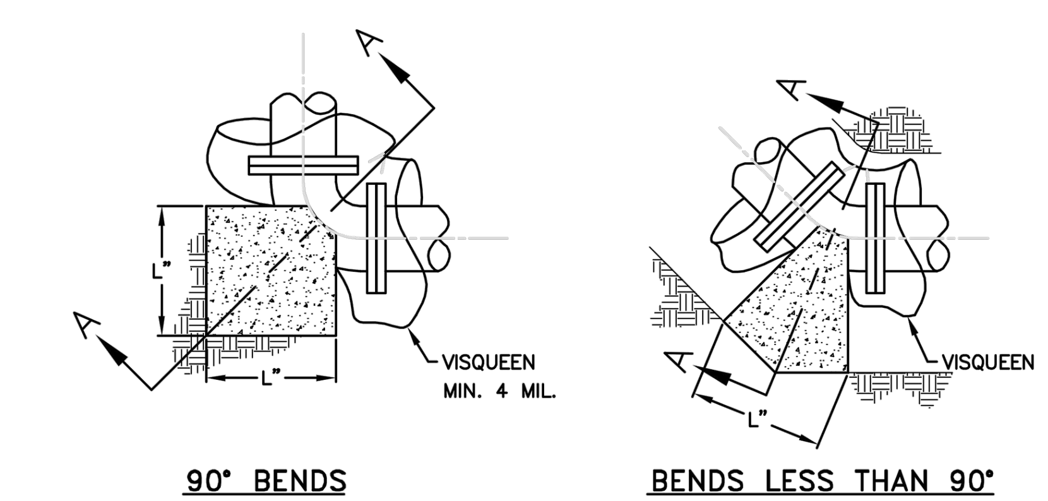
SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED: 05/2017 | DRAWING NO. W-3

PIPE SIZE	DEGREE OF BEND 11 1/4°			22 1/2°			45°			90°		
	L	D	V	L	D	V	L	D	V	L	D	V
3"	4	3	0.1	6	4	0.2	10	4	0.3	10	4	0.3
4"	5	4	0.2	9	5	0.4	14	5	0.6	14	5	0.6
6"	8	6	0.5	12	7	0.7	20	8	1.4	18	9	1.7
8"	9	8	0.7	16	9	1.4	24	12	2.7	25	11	4.0
12"	14	12	1.8	24	14	3.6	36	18	6.8	32	18	10.7
16"	18	16	3.4	32	18	6.7	36	32	13.4	41	26	25.4
20"	25	20	6.4	30	30	11.5	49	36	20.5	50	32	46.5
24"	27	24	9.0	39	34	18.4	60	42	35.0	58	40	77.7

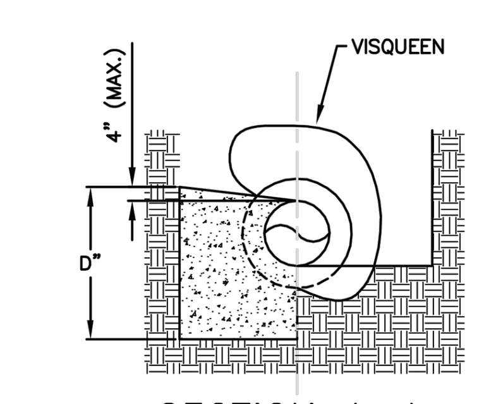
V = VOLUME OF CONCRETE IN CUBIC FEET



PLAN VIEWS

NOTES:

1. CONCRETE FOR BACKING SHALL BE CLASS "C".
2. BACKING SHALL BE DESIGNED FOR 3000 PSF SOIL BEARING.
3. REINFORCING STEEL SHALL BE USED AS DIRECTED BY THE ENGINEER.
4. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
5. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.
6. VISQUEEN SHALL BE PLACED IN A MANNER SUCH THAT CONCRETE BLOCKING DOES NOT HAVE DIRECT CONTACT WITH TEE AND OR FITTINGS.



SECTION A-A

APPROVED: 5-15-17 DATE

REGISTERED ENGINEER

BACKING FOR BENDS

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED: 05/2017 | DRAWING NO. W-4

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STATE OF OHIO MATTHEW L. WEBER 61709 REGISTERED PROFESSIONAL ENGINEER

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OWNER:

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THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

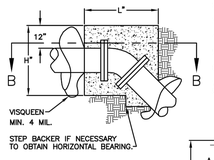
Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

SITE DETAILS

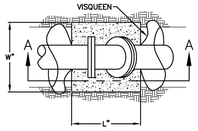
C105A
Project No. 2021-259

SIZE	DEGREE OF BEND														
	11 1/4°				22 1/2°				45°				90°			
	L	W	H	V	L	W	H	V	L	W	H	V	L	W	H	V
3"	12	18	12	1.5	13	25	16	3.0	18	30	19	5.9	25	30	24	10.4
4"	12	24	16	2.6	16	30	18	5.0	22	36	24	11.0	27	48	25	18.7
6"	12	48	18	6.0	15	43	36	13.4	30	55	24	22.9	37	54	36	41.6
8"	12	63	24	10.5	18	57	34	20.2	36	57	33	39.2	47	60	46	75.0
12"	20	54	36	22.6	37	62	37	49.0	48	62	51	87.9	66	66	66	166.4
16"	31	65	38	44.3	60	65	39	88.1	65	65	65	159.2	72	96	72	288.0
20"	45	70	40	72.8	56	70	60	136.2	72	76	78	247.0	86	108	84	451.8
24"	41	72	54	92.3	67	74	69	196.0	88	84	84	359.1	96	120	96	640.0

V = VOLUME OF CONCRETE IN CUBIC FEET



SECTION A–A



SECTION B–B

NOTES:

1. CONCRETE FOR BACKING SHALL BE CLASS "C".
2. BACKING SHALL BE DESIGNED FOR 3000 PSF SOIL BEARING.
3. REINFORCING STEEL SHALL BE USED AS DIRECTED BY THE ENGINEER.
4. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
5. BACKING SHALL BE CENTERED HORIZONTALLY ON BEND.
6. ANY PIPE WHICH COMES IN CONTACT WITH THE CONCRETE ENCASEMENT SHALL BE DUCTILE IRON.
7. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.
8. VISQUEEN SHALL BE PLACED IN A MANNER SUCH THAT CONCRETE BLOCKING DOES NOT HAVE DIRECT CONTACT WITH TEE AND OR FITTINGS.

APPROVED: 5-15-17 DATE

REGISTERED ENGINEER

BACKING FOR VERTICAL BENDS (OVER BENDS ONLY)

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED: 05/2017 | DRAWING NO. W-5

	SIZE	L	V
GATE VALVES	3"	15	0.31
	4"	16	0.33
	6"	17	0.36
	8"	20	0.42
	12"	24	0.50
	16"	30	0.63
BUTTERFLY VALVES	20"	36	0.75
	24"	42	0.88
	30"	48	1.00

V = VOLUME OF CONCRETE IN CUBIC FEET

NOTES:

1. CONCRETE FOR SUPPORTS SHALL BE CLASS C.
2. BACKING SHALL BE DESIGNED FOR 3000 PSF SOIL BEARING.
3. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
4. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.
5. VISQUEEN SHALL BE PLACED IN A MANNER SUCH THAT CONCRETE BLOCKING DOES NOT HAVE DIRECT CONTACT WITH VALVE.

APPROVED: 5-15-17 DATE

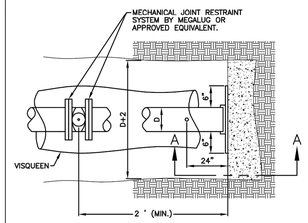
REGISTERED ENGINEER

CONCRETE VALVE SUPPORTS

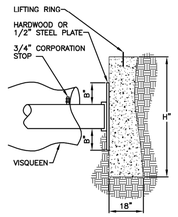
SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED: 05/2017 | DRAWING NO. W-6



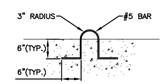
PLAN VIEW



SECTION A–A

NOTES:

1. CONCRETE FOR BACKING SHALL BE CLASS "C".
2. BACKING SHALL BE DESIGNED FOR 3000 PSF SOIL BEARING.
3. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
4. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.
5. VISQUEEN SHALL BE PLACED IN A MANNER SUCH THAT CONCRETE BLOCKING DOES NOT HAVE DIRECT CONTACT WITH TEE AND OR FITTINGS.
6. END OF PIPE SHALL BE CAPPED OR PLUGGED.
7. STEEL PLATE SHALL BE GREASED WHERE IN CONTACT WITH CONCRETE BACKING.
8. PLUG POLES SHALL BE INSTALLED AT ALL END-OF-LINE STUBS AT THE THRUST BLOCK.



LIFTING RING DETAIL

SIZE OF PIPE	H	B	L (PVC)	L (DIP)	V
6"	8	1	20	18	2.52
8"	12	1	20	18	4.00
12"	23	3	20	18	8.64
16"	37	3	20	18	15.39

V = VOLUME OF CONCRETE IN CUBIC FEET.

APPROVED: 5-15-17 DATE

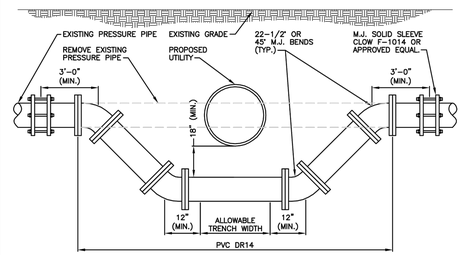
REGISTERED ENGINEER

THRUST BLOCK DETAIL

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED: 05/2017 | DRAWING NO. W-7



NOTES:

1. TIME AND DURATION OF SHUTDOWN SHALL BE DETERMINED OR APPROVED BY THE DISTRICT.
2. THE CONTRACTOR SHALL NOTIFY ANY CUSTOMERS AFFECTED BY THE PROPOSED WORK AT LEAST 48 HOURS IN ADVANCE OF SHUTDOWN.
3. ALL SLEEVES AND BENDS SHALL BE SECURED BY RESTRAINING GLANDS, RODDING OR OTHER METHODS AS APPROVED BY THE ENGINEER TO RESTORE MAIN SERVICE AS SOON AS POSSIBLE.
4. THE RELOCATED LINES SHALL BE LAID TO THE NEW LINE AND GRADE, TESTED AND DISINFECTED AS REQUIRED PRIOR TO THE SHUTDOWN OF EXISTING MAIN AND CONNECTION OF THE RELOCATED LINES TO THE EXISTING MAIN.
5. ALL WATER LINES SHALL BE DISINFECTED BY A SWABBING WITH A 5% HYPOHLORITE SOLUTION IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF AWWA C651.

APPROVED: 5-15-17 DATE

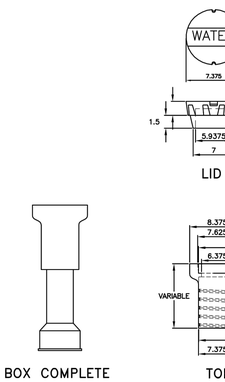
REGISTERED ENGINEER

TYPICAL PRESSURE PIPE LOWERING

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED: 05/2017 | DRAWING NO. W-10



NOTE:
VALVE BOX TO BE STAR ITEM NO VB664A, BINGHAM & TAYLOR NO. 8000 CIP 22 OR DISTRICT APPROVED EQUAL.

APPROVED: 5-15-17 DATE

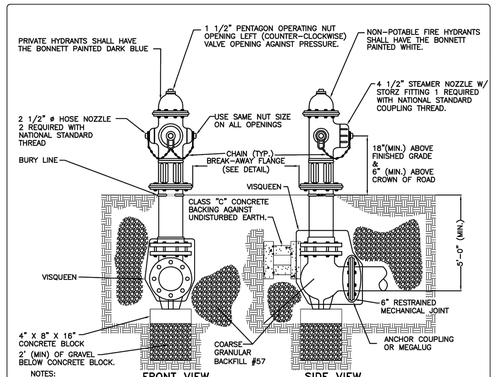
REGISTERED ENGINEER

STANDARD VALVE BOX

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

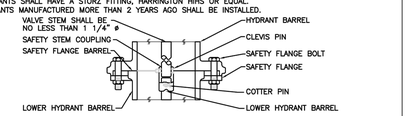
REVISED: 05/2017 | DRAWING NO. W-14



FRONT VIEW SIDE VIEW

NOTES:

1. BACKFILL SHALL EXTEND FROM THE BOTTOM OF THE PIT TO 12" ABOVE THE HYDRANT SHOE. COST OF FURNISHING AND PLACING BACKFILL SHALL BE INCLUDED IN THE PRICE BID FOR EACH FIRE HYDRANT.
2. ALL FIRE HYDRANTS SHALL BE INSTALLED WITH CLASS "C" CONCRETE BACKING AGAINST UNDISTURBED EARTH.
3. ALL FIRE HYDRANTS SHALL BE OF THE DRY-BARREL TYPE.
4. ALL FIRE HYDRANTS SHALL HAVE A STORZ FITTING, HARRINGTON HIHS OR EQUAL.
5. NO FIRE HYDRANTS MANUFACTURED MORE THAN 2 YEARS AGO SHALL BE INSTALLED.



BREAK-AWAY FLANGE & SAFETY COUPLING SECTION

APPROVED: 5-15-17 DATE

REGISTERED ENGINEER

STANDARD FIRE HYDRANT DETAIL

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED: 05/2017 | DRAWING NO. W-20 1 OF 3

FIRE HYDRANT NOTES

TYPE OF HYDRANT: THE HYDRANT SHALL BE THE POST TYPE TRAFFIC MODEL MADE OF CAST IRON AS SHOWN HEREON, AMERICAN FLOW CONTROL MK 73-5 CLOW MEDALLION, MUELLER SUPER CENTURION 250 MODEL A-421. IT SHALL HAVE A BREAKING CONNECTION THAT PREVENTS LOSS OF WATER WHEN THE UPPER AND LOWER SECTIONS ARE SEPARATED BY A SMASHING IMPACT. THE HYDRANT SHALL BE OF THE COMPRESSION TYPE WITH THE VALVE OPENING IN A COUNTERCLOCKWISE DIRECTION AGAINST THE PRESSURE AND CLOSING WITH THE PRESSURE. THE VALVE END OF THE STEM OR VALVE ROD SHALL BE SO CONSTRUCTED AS TO ELIMINATE CONTACT OF DISSIMILAR METALS IN THE PRESENCE OF MOISTURE.

THE STEM OR VALVE ROD SHALL BE CONSTRUCTED IN ONE CONTINUOUS LENGTH FROM THE VALVE TO THE BREAKING COUPLING OR TO THE BOTTOM OF THE EXTENSION PIECE WHERE EXTENSIONS ARE REQUIRED. THE STEM OR VALVE ROD BETWEEN THE VALVE AND OPERATING NUT SHALL BE MADE OF STEEL STOCK NO LESS THAN A 1 1/4 INCH MINIMUM DIAMETER AFTER MACHINING. THE BREAKING COUPLING SHALL FIT OVER THE VALVE ROD AND BE LOCATED AT THE PROPER POINT TO CONFORM TO THE BREAKING CONNECTION IN THE STANDPIPE.

THE BARREL SHALL HAVE AN AREA OF NOT LESS THAN 120 PERCENT OF THE VALVE OPENING. THE TYPE OF VALVE SEAL SHALL BE RUBBER WITH THE DIAMETER OF THE PORT IN THE SEAL RING BEING A MINIMUM OF 4 1/4 INCH.

ALL INTERIOR WORKING PARTS OF THE HYDRANT INCLUDING THE VALVE AND VALVE SEAT SHALL BE SUCH THAT THEY CAN BE REMOVED THROUGH THE TOP OF THE STANDPIPE WITHOUT EXCAVATION. THE UPPER SECTION OF THE STANDPIPE ABOVE THE GROUND LINE SHALL BE ADJUSTABLE SO THAT THE NOZZLES CAN BE ROTATED TO ANY DESIRED POSITION.

REFERENCE SPECIFICATIONS: ALL FIRE HYDRANTS SHALL CONFORM TO THE LATEST AMERICAN WATER WORKS ASSOCIATION SPECIFICATIONS C502, THE REQUIREMENTS OF THE DISTRICT AND APPLICABLE LOCAL FIRE DEPARTMENT. ALL SPECIFICATIONS SHALL BE THE LATEST EDITION IN EFFECT ON THE DATE THE CONSTRUCTION DRAWINGS ARE APPROVED (SIGNED) BY THE DISTRICT, UNLESS OTHERWISE NOTED.

APPROVALS AND CERTIFICATION: THE SUPPLIER OR MANUFACTURER SHALL SUBMIT TO THE DISTRICT SIX (6) COPIES OF THE RESULTS OF CERTIFIED FLOW TESTS RUN BY AN INDEPENDENT TESTING LABORATORY AND SHOP DRAWINGS WITH DIMENSIONS, MATERIALS AND NOMENCLATURE OF PARTS FOR EACH TYPE OR MODEL OF HYDRANT PROPOSED FOR USE IN THE PROJECT AREA.

UPON APPROVAL OF THE ABOVE INFORMATION BY THE DISTRICT, IT SHALL REMAIN ON FILE WITH THE DISTRICT. SUBMISSION OF THE ABOVE MATERIALS WITH EACH ORDER OF FIRE HYDRANTS IS NOT NECESSARY IF APPROVED MATERIAL IS ALREADY ON FILE. SUBMISSION OF NEW MATERIAL IS REQUIRED WHEN A DEVIATION IN THE PRODUCT, ITS MANUFACTURER, OR THE STANDARDS IS REQUESTED.

ANY FIRE HYDRANTS DELIVERED TO A PROJECT WHICH FAIL TO CONFORM TO THE APPROVED INFORMATION ON FILE WITH THE DISTRICT SHALL BE REJECTED.

WITH EACH DELIVERY SHIPMENT OF FIRE HYDRANTS, THE HYDRANT MANUFACTURER SHALL CERTIFY THAT THE HYDRANTS CONFORM TO THE INFORMATION APPROVED AND ON FILE WITH THE DISTRICT. THIS CERTIFICATE SHALL INCLUDE THE MODEL OR IDENTIFICATION NUMBERS OF THE HYDRANTS BEING DELIVERED AND THE APPROVAL DATE OF THE INFORMATION ON FILE WITH THE DISTRICT. THIS DOCUMENTATION DOES NOT CONSTITUTE APPROVAL OF FINAL ACCEPTANCE OF THE SPECIFIC HYDRANTS DELIVERED.

APPROVED: 5-15-17 DATE

REGISTERED ENGINEER

STANDARD FIRE HYDRANT DETAIL

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED: 05/2017 | DRAWING NO. W-20 2 OF 3

FIRE HYDRANT NOTES (CONTINUED)

INSPECTION: PRIOR TO INSTALLATION, ALL FIRE HYDRANTS SHALL BE INSPECTED BY THE DISTRICT AND BY THE CHIEF OF THE APPLICABLE FIRE DEPARTMENT OR HIS REPRESENTATIVE. THE HYDRANTS SHALL RECEIVE EITHER A CONDITIONAL ACCEPTANCE OR A REJECTION. CONDITIONAL ACCEPTANCE SHALL MEAN THAT THE HYDRANTS MAY BE INSTALLED.

UPON INSTALLATION, EACH HYDRANT SHALL BE TESTED FOR OPERATION AND LEAKS WITH A MEMBER OF THE APPLICABLE FIRE DEPARTMENT PRESENT DURING THE TEST AND SHALL RECEIVE EITHER OPERATIONAL ACCEPTANCE OR A REJECTION.

THE DISTRICT RESERVES THE RIGHT TO REJECT ANY AND ALL FIRE HYDRANTS FOUND TO BE IN NON-COMPLIANCE WITH ANY OF THE REQUIREMENTS STATED HEREIN AT ANY TIME DURING THE ACCEPTANCE OR ABOVE DESCRIBED APPROVAL PROCESS. ANY HYDRANTS WHICH ARE REJECTED AND WHICH CANNOT BE BROUGHT INTO COMPLIANCE WITH THE REQUIREMENTS AS STATED HEREIN SHALL BE REMOVED FROM THE PROJECT SITE, STORAGE SITE OR THE WORK SITE AT NO EXPENSE TO THE DISTRICT.

THE FINAL FIELD ACCEPTANCE SHALL GOVERN OVER ANY DOCUMENT APPROVAL AND SHALL BE BASED ON ALL WORK BEING COMPLETED INCLUDING INSTALLATION, TESTING, OPERATION, PAINTING AND LUBRICATION.

INSTALLATION: THE FIRE HYDRANTS SHALL BE INSTALLED AS SPECIFIED HEREIN AND IN ACCORDANCE WITH STANDARD DRAWING W-20, STANDARD FIRE HYDRANT DETAIL, W-21, TYPICAL HYDRANT SETTING (TYPE "A"); W-22, TYPICAL HYDRANT SETTING (TYPE "A" MODIFIED); W-23, TYPICAL HYDRANT SETTING (TYPES "B" AND "D" MODIFIED); W-24, 6"-90° HYDRANT BEND OR AS SPECIFIED BY THE DISTRICT.

THE BASE SECTION OF ALL FIRE HYDRANTS SHALL BE SET TO AN ELEVATION WHICH WILL BE CORRECT FOR THE PROPOSED GRADE OF THE STREET. THE ELEVATION OF THE TOP BARREL SECTION SHALL BE SET SO THAT THE GRADE LINE OF THE HYDRANT IS AT THE ESTABLISHED OR PROPOSED FINISHED GRADE AS INDICATED ON THE CONSTRUCTION DRAWINGS, THROUGH THE INSTALLATION OF HYDRANT EXTENSION SECTIONS AS NEEDED.

PRIOR TO OPERATIONAL ACCEPTANCE, THE HYDRANT NOZZLES SHALL BE TURNED AWAY FROM THE STREET. UPON RECEIVING OPERATIONAL ACCEPTANCE, THE HYDRANT SHALL BE TURNED WITH THE STEAMER NOZZLE FACING THE ROAD OR STREET AND THE HYDRANT EXERCISED TO CHECK THE OPERATION AND FOR LEAKS.

PAINTING: FINAL PAINT COLOR SHALL BE FIRE PROTECTION RED ENAMEL FROM THE MANUFACTURE. PRIOR TO PAINTING, SAMPLES SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL. AFTER OPERATIONAL ACCEPTANCE, ALL HYDRANT SURFACES ABOVE THE GROUND LINE SHALL BE CLEANED, WASHED AND WIRE BRUSHED. ALL SURFACES OR SPOTS THAT REQUIRE TOUCHING UP SHALL HAVE TWO (2) COATS OF ZINC CHROMATE PRIMER. WHEN ALL THE SURFACES HAVE BEEN PRIMED AND ARE DRY, ALL HYDRANT SURFACES SHALL RECEIVE ONE (1) COAT OF THE APPROVED ENAMEL.

MATERIALS AND WORKMANSHIP: ALL MACHINED PARTS SHALL BE TRUE TO GAUGE SO THAT THEY WILL BE INTERCHANGEABLE BETWEEN HYDRANTS OF THE SAME MAKE AND SIZE. WHEN REQUIRED, NON-ADJUSTABLE HYDRANT WRENCHES, PROPERLY SIZED TO THE SPECIFIED OPERATING NUT DIMENSIONS AND FABRICATED BY THE HYDRANT MANUFACTURER, SHALL BE SUPPLIED.

LUBRICATION: ALL HYDRANT NOZZLE THREADS SHALL BE LUBERICATED WITH A FDA APPROVED FOOD GRADE LUBRICANT (PERMATEX SUPER LUBE OR EQUAL).

APPROVED: 5-15-17 DATE

REGISTERED ENGINEER

STANDARD FIRE HYDRANT DETAIL

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED: 05/2017 | DRAWING NO. W-20 3 OF 3

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THAYER SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

SITE DETAILS

C105B
Project No. 2021-259

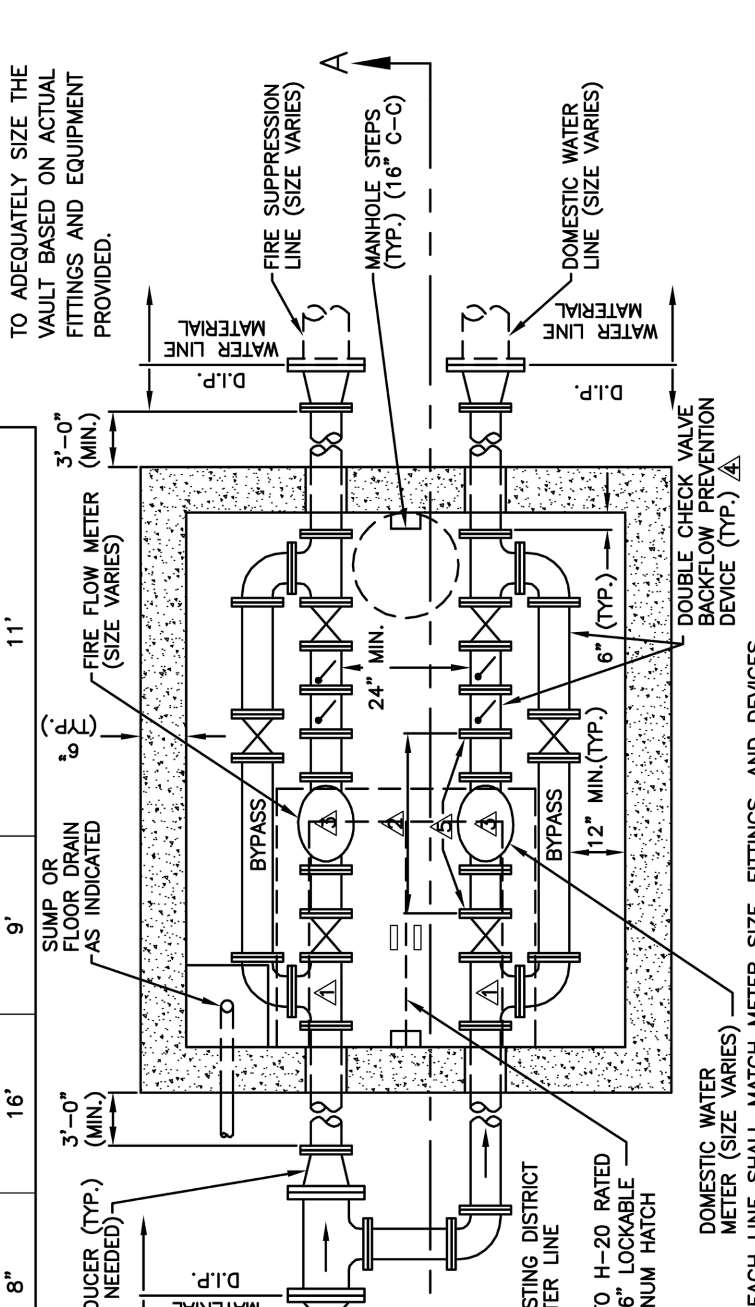
W:\A-1 Projects\2021 Projects\2021-259 ETNA 75K Pataskala (Thayer)\2021-259 Dwg\2021-259 Sht01F - 05-05-2021\2021-259 Sht01F.dwg

STANDARD METER PIT

MINIMUM VAULT DIMENSIONS *

METER SIZE	LENGTH	WIDTH	WIDTH WITH SPRINKLER LINE
4"	11'	7'-6"	9'
6"	13'	8'	10'
8"	16'	9'	11'

* SIZES SHOWN TO PROVIDE MINIMUM VAULT SIZE REQUIREMENT AND DOES NOT RELIEVE DEVELOPER, SUPPLIER, OR ENGINEER OF THE RESPONSIBILITY TO ADEQUATELY SIZE THE VAULT BASED ON ACTUAL FITTINGS AND EQUIPMENT PROVIDED.



NOTES:

1. ALL VALVES SHALL BE LOCKABLE.
2. THE DISTRICT RESERVES THE RIGHT TO REQUIRE A BYPASS LINE.
3. DI CLASS 53 MUST BE USED WITHIN 4FT OF THE VAULT EXTERIOR.
4. KOR-N-SEAL BOOT OR LINK-SEALS WITH 316SS HARDWARE SHALL BE USED WHEN SEALING VAULT PIPE PENETRATIONS

1. PIPING ON EACH LINE SHALL MATCH METER SIZE, FITTINGS, AND DEVICES UNLESS OTHERWISE APPROVED BY THE DISTRICT.
2. DISTANCE BETWEEN GATE VALVES SHALL BE AS NECESSARY FOR PROPER OPERATION OF FLOW METERS AND IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
3. METER SHALL BE A NEPTUNE COMPOUND METER WITH LOW FLOW BYPASS METER, APPROPRIATE STRAINER, ENCODER REGISTER AND RADIO READ SYSTEM COMPATIBLE WITH DISTRICT'S AUTOMATIC READ SYSTEM. RADIO READ SHALL BE INSTALLED IN A FASHION TO BE READ BY THE DISTRICT'S RADIO READ SYSTEM WITHOUT ENTERING THE VAULT.
4. DOUBLE CHECK VALVE SHALL BE AN AMES 2000SS SERIES OR APPROVED EQUAL. INSTALLED ON ALL SERVICE LINES AND BYPASS LINES.
5. PIPE FLANGES SHALL BE CAPABLE OF BEING LOOSENED AND SLID BACK TO FACILITATE METER REMOVAL.

APPROVED: 5-15-17 DATE
REGISTERED ENGINEER

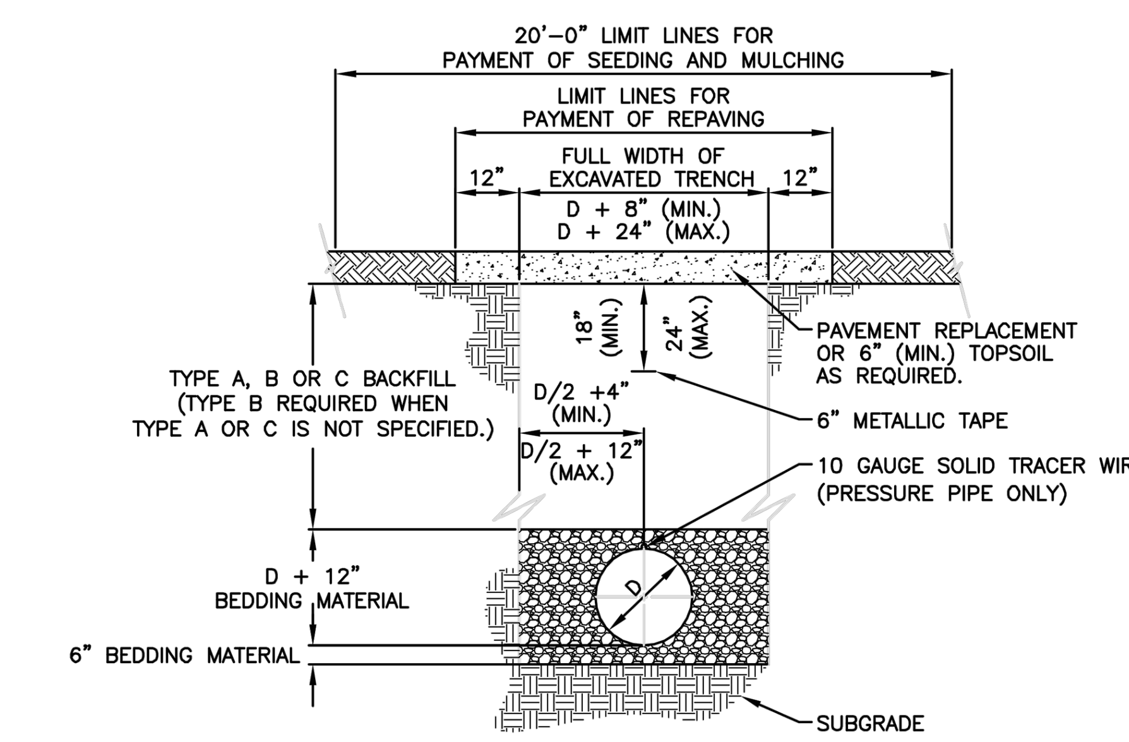
STANDARD METER PIT

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT
STANDARD CONSTRUCTION DWG.
REVISED: 05/2017 | DRAWING NO. W-35 1 OF 2

TYPICAL TRENCH FOR FLEXIBLE PIPE

NOTES:

1. ITEM NUMBERS REFER TO THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.
2. AGGREGATE FOR BEDDING SHALL BE WASHED AND BE NO. 57, NO 67, OR NO. 68 PER CMS 304.02.
3. TYPE A BACKFILL SHALL BE GRANULAR MATERIAL AS SPECIFIED IN ITEM 703.11, GRANULAR MATERIAL, TYPE 2. TYPE A BACKFILL SHALL BE USED WHEN THE TRENCH IS 5' OR LESS FROM ANY PAVED OR GRAVEL SURFACE OR BENEATH THE PAVEMENT OR GRAVEL. COMPACTION SHALL MEET THE REQUIREMENTS OF ITEM 203.
4. TYPE B BACKFILL SHALL BE NATURAL SOIL FREE FROM STONES LARGER THAN 2" ACROSS THEIR GREATEST DIMENSION, TOPSOIL, VEGETATION, DEBRIS, RUBBISH OR FROZEN MATERIAL, COMPACTED TO 95% OF ITS MAXIMUM LABORATORY DRY WEIGHT.
5. TYPE C BACKFILL SHALL BE NATURAL SOIL FREE FROM STONES LARGER THAN 2" ACROSS THEIR GREATEST DIMENSION, VEGETATION, DEBRIS, RUBBISH OR FROZEN MATERIAL, COMPACTED TO 90% OF ITS MAXIMUM LABORATORY DRY WEIGHT. APPROVED BY THE CONTRACT ADMINISTRATOR, STONES NO LARGER THAN ONE CUBIC FOOT MAY BE DEPOSITED AT LEAST 3' ABOVE THE TOP OF THE PIPE.
6. THE EXCAVATED TRENCH WIDTH 12" ABOVE THE CONDUIT MAY BE INCREASED WITHOUT ADDITIONAL COMPENSATION.
7. FLEXIBLE PIPE SHALL INCLUDE PVC AND HDPE.
8. ENCASEMENT SHALL BE CLASS C CONCRETE.



SECTION WITH ENCASEMENT

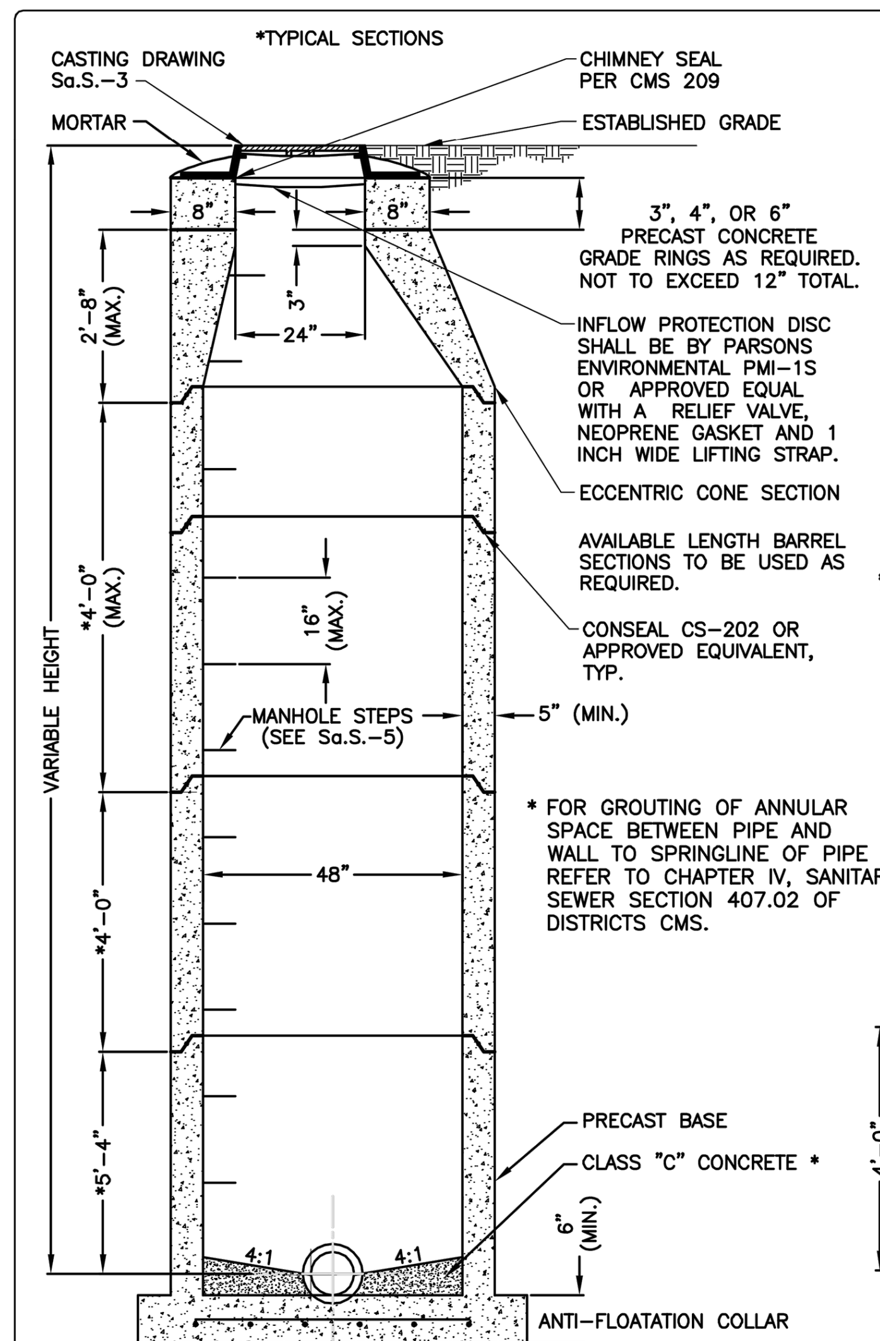
SECTION WITH BEDDING MATERIAL

APPROVED: 5-15-17 DATE
REGISTERED ENGINEER

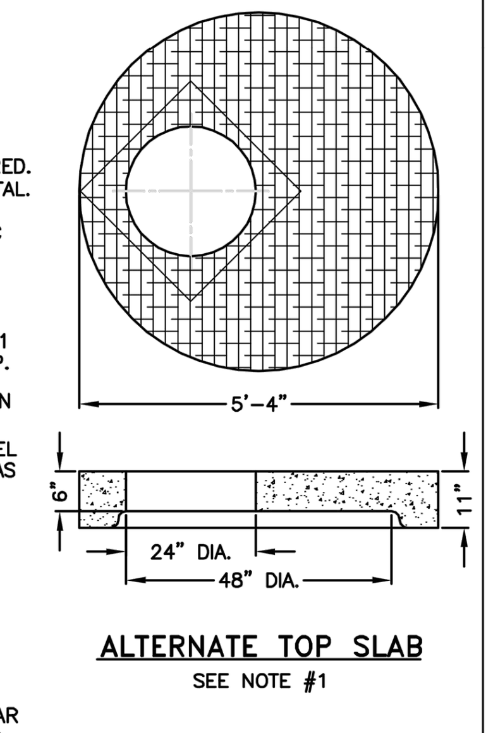
TYPICAL TRENCH FOR FLEXIBLE PIPE

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT
STANDARD CONSTRUCTION DWG.
REVISED: 05/2017 | DRAWING NO. Sa.S-1 2 OF 2

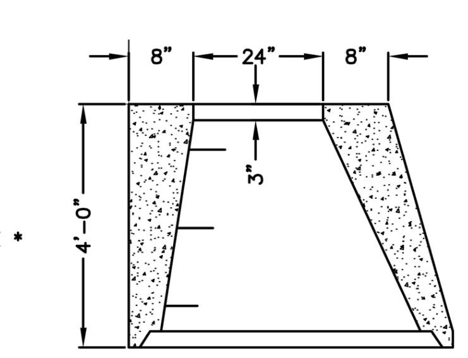
PRECAST CONCRETE MANHOLE (24" PIPE AND SMALLER)



* FOR GROUTING OF ANNULAR SPACE BETWEEN PIPE AND WALL TO SPRINGLINE OF PIPE REFER TO CHAPTER IV, SANITARY SEWER SECTION 407.02 OF DISTRICTS CMS.



ALTERNATE TOP SLAB
SEE NOTE #1



ALTERNATE ECCENTRIC CONE SECTION

NOTES:

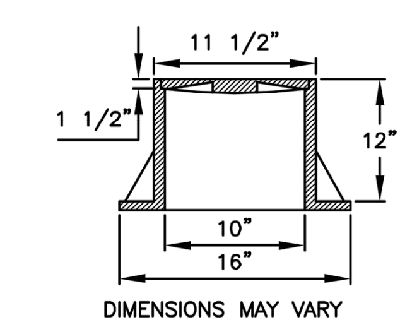
1. WHEN SHOWN IN TRAFFIC AREAS, THE ALTERNATE TOP SLAB SHALL BE DESIGNED FOR TRAFFIC LOADING.
2. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO ASTM C478-70 UNLESS OTHERWISE SHOWN.
3. ALL CORE DRILLED OPENINGS SHALL BE DONE ONLY AS APPROVED AND DIRECTED BY THE ENGINEER.
4. PRECAST CONCRETE GRADE RINGS, SEALED WITH CONSEAL, SHALL BE USED BETWEEN THE SLAB OR CONE TOP AND THE ACCESS FRAME CASTING AND COVER. NO MANHOLE BRICK SHALL BE PERMITTED FOR USE.
5. SEWER PIPE SHALL BE SECURED THROUGH THE MANHOLE WALL BY KOR-N-SEAL BOOT, PRESS WEDGE 2 GASKET OR APPROVED EQUIVALENT MEETING ASTM C923.

APPROVED: 5-15-17 DATE
REGISTERED ENGINEER

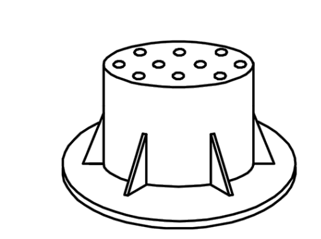
PRECAST CONCRETE MANHOLE (24" PIPE AND SMALLER)

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT
STANDARD CONSTRUCTION DWG.
REVISED: 05/2017 | DRAWING NO. Sa.S.-2 1 OF 2

TYPICAL CLEANOUT DETAIL



SECTION VIEW

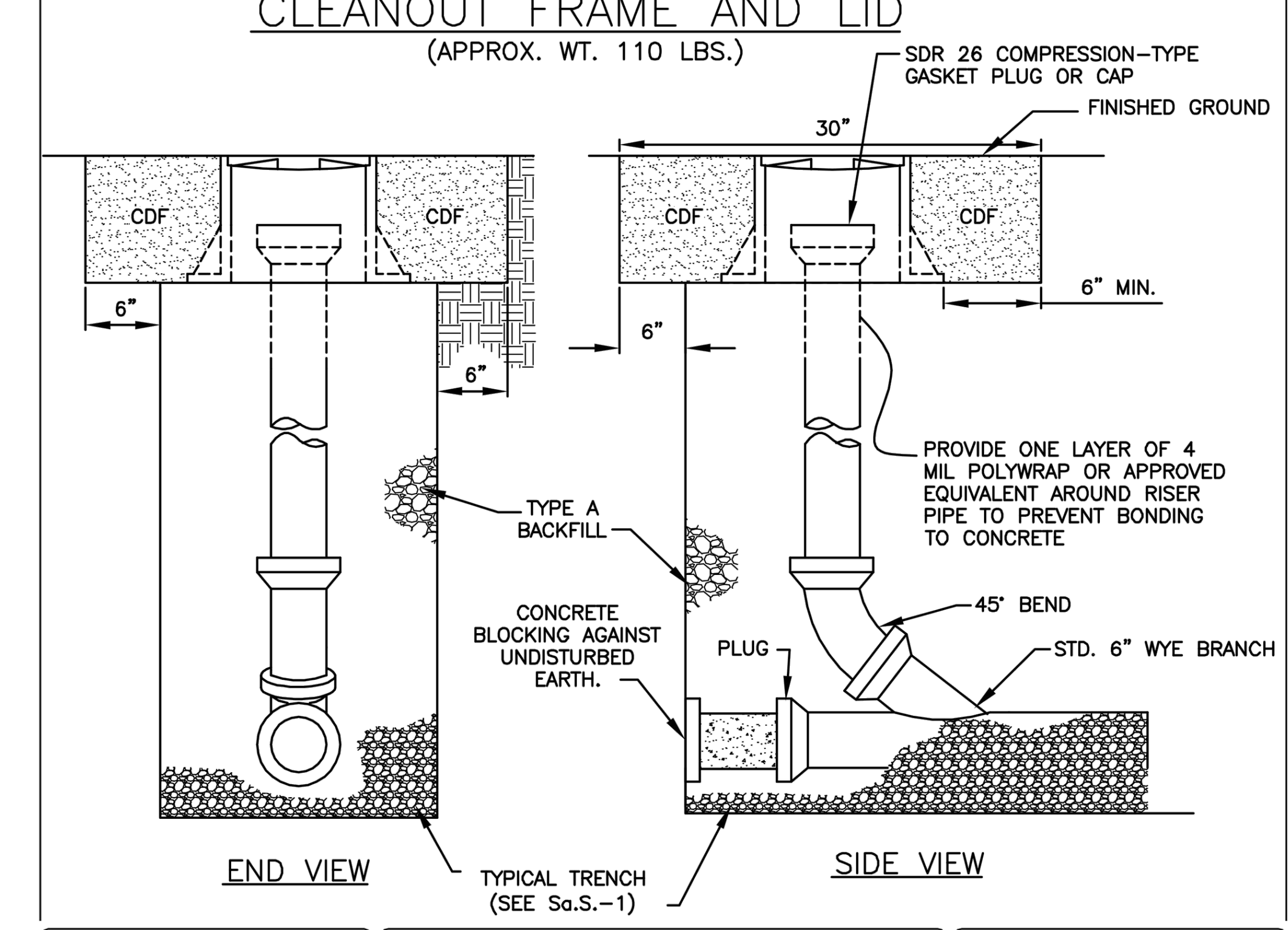


AXONOMETRIC VIEW

NOTES
1. CLEANOUT FRAME AND LID SHALL BE NEENAH R-1977 SERIES OR APPROVED EQUIVALENT.

2. CLEANOUT TOP OF CASTING SHALL BE SET FLUSH WITH FINISHED GRADE.

CLEANOUT FRAME AND LID
(APPROX. WT. 110 LBS.)



APPROVED: 5-15-17 DATE
REGISTERED ENGINEER

TYPICAL CLEANOUT DETAIL

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT
STANDARD CONSTRUCTION DWG.
REVISED: 05/2017 | DRAWING NO. Sa.S.-10

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THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
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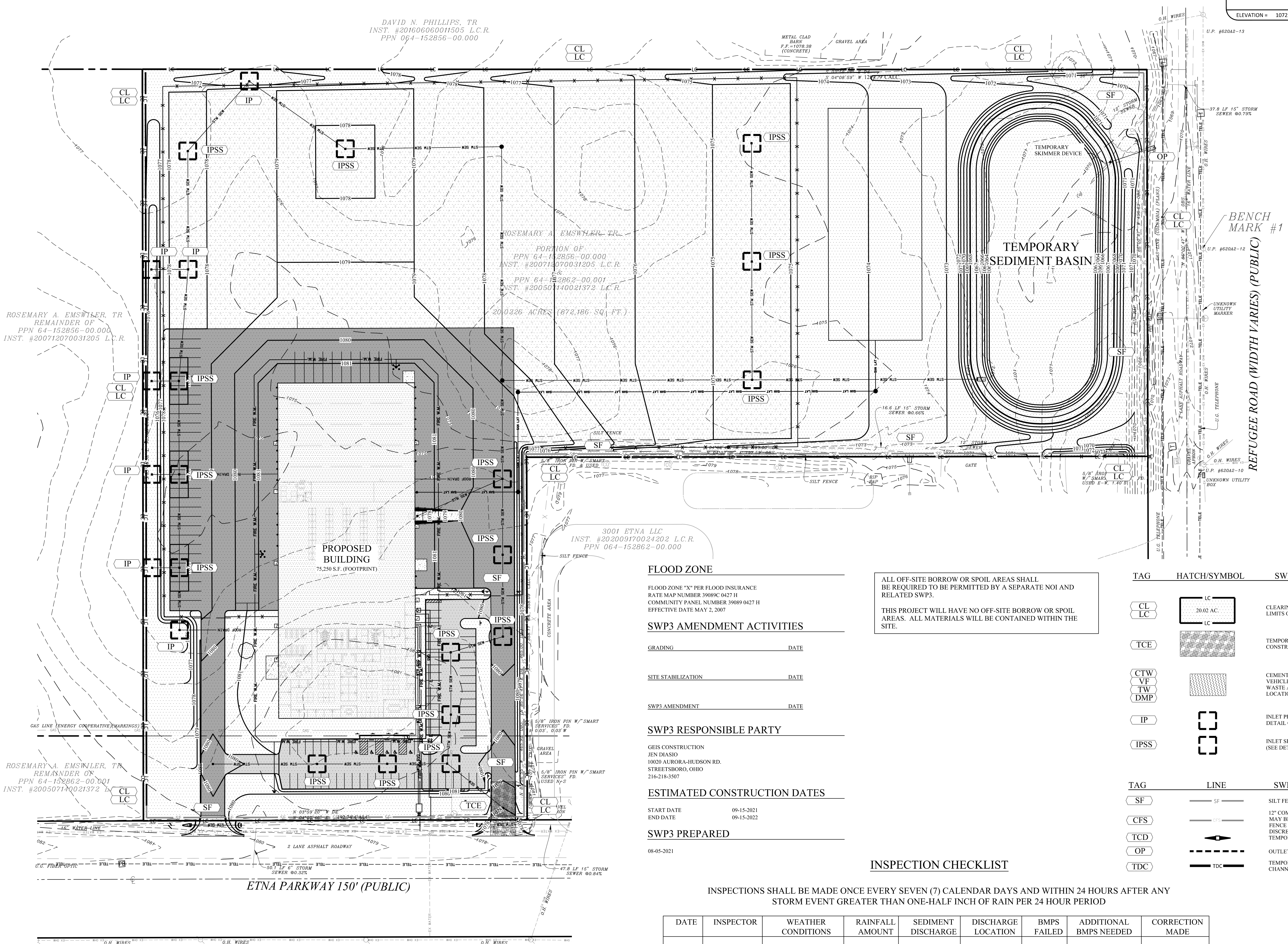
SITE DETAILS

C105C
Project No. 2021-259



FLOOD ZONE

FLOOD ZONE "X" PER FLOOD INSURANCE
RATE MAP NUMBER 39089C 0427 H
COMMUNITY PANEL NUMBER 39089 0427 H
EFFECTIVE DATE MAY 2, 2007

SWP3 AMENDMENT ACTIVITIES

GRADING ______ DATE

SITE STABILIZATION ______ DATE

SWP3 AMENDMENT ______ DATE

SWP3 RESPONSIBLE PARTY

GEIS CONSTRUCTION
JEN DIASIO
10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
216-218-3507

ESTIMATED CONSTRUCTION DATES

START DATE 09-15-2021
END DATE 09-15-2022

SWP3 PREPARED

08-05-2021

ALL OFF-SITE BORROW OR SPOIL AREAS SHALL BE REQUIRED TO BE PERMITTED BY A SEPARATE NOI AND RELATED SWP3.

THIS PROJECT WILL HAVE NO OFF-SITE BORROW OR SPOIL AREAS. ALL MATERIALS WILL BE CONTAINED WITHIN THE SITE.

TAG	HATCH/SYMBOL	SWP3 BMP
CL / LC	20.02 AC.	CLEARING LIMITS, LIMITS OF CONSTRUCTION
TCE		TEMPORARY CONSTRUCTION ENTRANCE
CTW / VF / TW / DMP		CEMENT TRUCK WASHOUT, VEHICLE FUELING, TOXIC WASTE AND DUMPSTER LOCATION
IP		INLET PROTECTION (SEE DETAIL ON SHT. C109)
IPSS		INLET SILT SACK PROTECTION (SEE DETAIL ON SHT. C109)

TAG	LINE	SWP3 BMP
SF	SF	SILT FENCE
CFS	CFS	12" COMPOST FILTER SOCK MAY BE SUBSTITUTED FOR SILT FENCE AT CONTRACTORS DISCRETION
TCD		TEMPORARY CHECK DAM
OP		OUTLET PROTECTION
TDC	TDC	TEMPORARY DIVERSION CHANNEL

INSPECTION CHECKLIST

INSPECTIONS SHALL BE MADE ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN ONE-HALF INCH OF RAIN PER 24 HOUR PERIOD

DATE	INSPECTOR	WEATHER CONDITIONS	RAINFALL AMOUNT	SEDIMENT DISCHARGE	DISCHARGE LOCATION	BMPS FAILED	ADDITIONAL BMPS NEEDED	CORRECTION MADE

N

Scale: 1" = 60'

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330-329-2037
matt@webercivil.com

STATE OF OHIO
MATTHEW L. WEBER
61709
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PROFESSIONAL ENGINEER

Reg. No.: 61709

CLIENT:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

OWNER:

GEIS CONSTRUCTION

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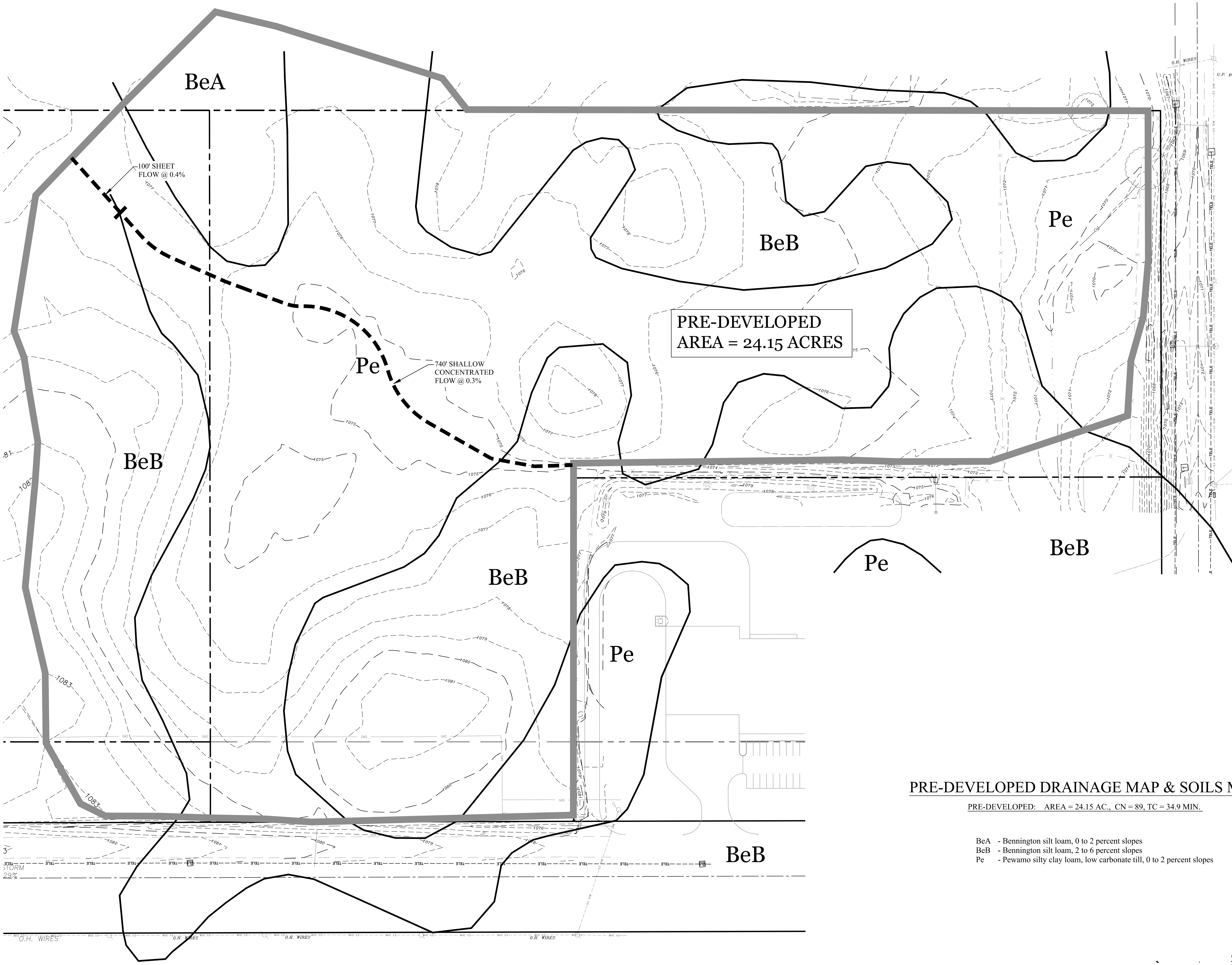
THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

SWP3

C106
Project No. 2021-259



PRE-DEVELOPED DRAINAGE MAP & SOILS MAP

PRE-DEVELOPED: AREA = 24.15 AC., CN = 89, TC = 34.9 MIN.

BeA - Bennington silt loam, 0 to 2 percent slopes
BeB - Bennington silt loam, 2 to 6 percent slopes
Pe - Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes

N

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07-15-2021
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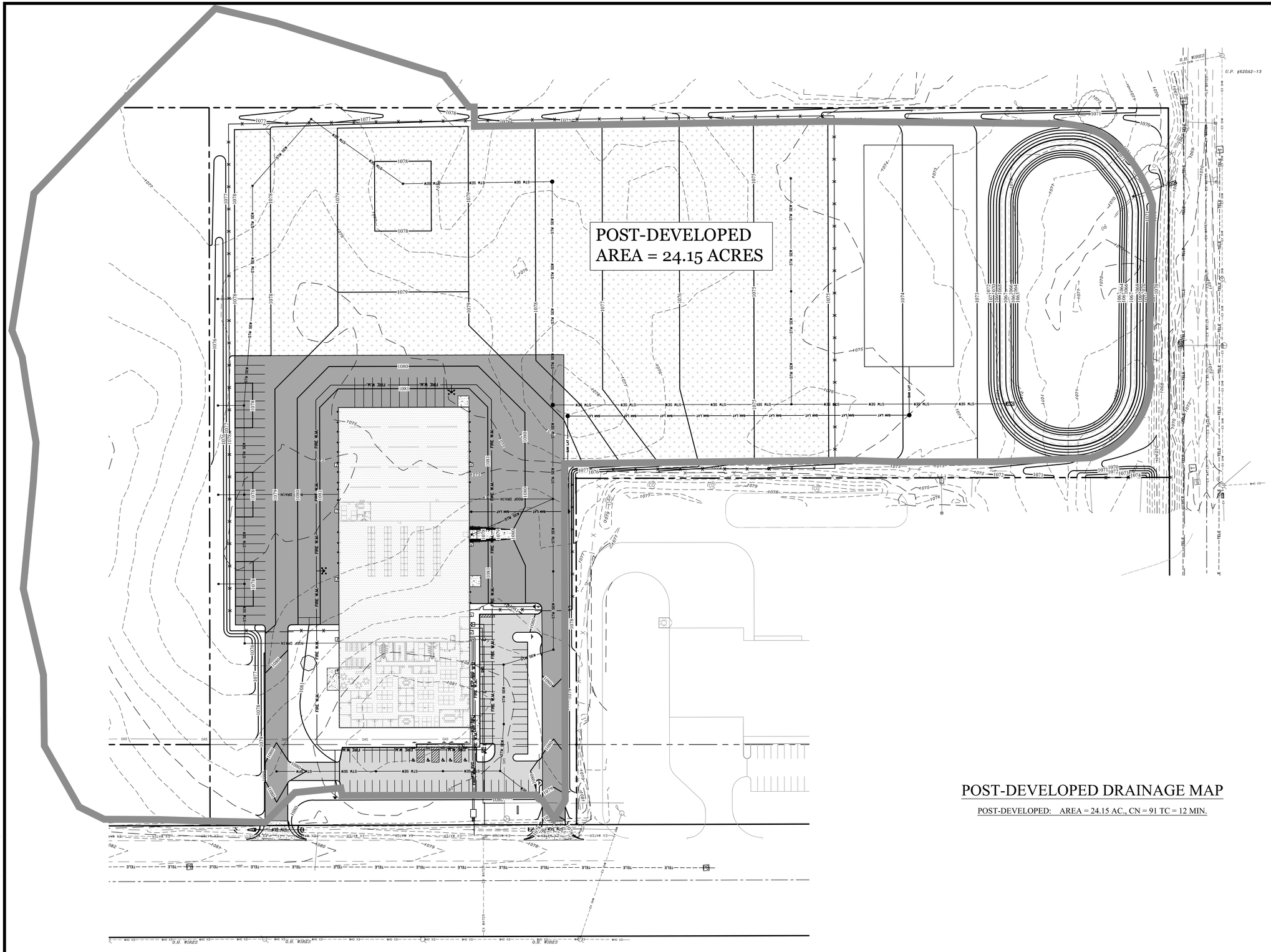
SWP3
DETAILS

C107
Project No. 2021-259



POST-DEVELOPED DRAINAGE MAP

POST-DEVELOPED: AREA = 24.15 AC., CN = 91 TC = 12 MIN.

Scale: 1" = 60'

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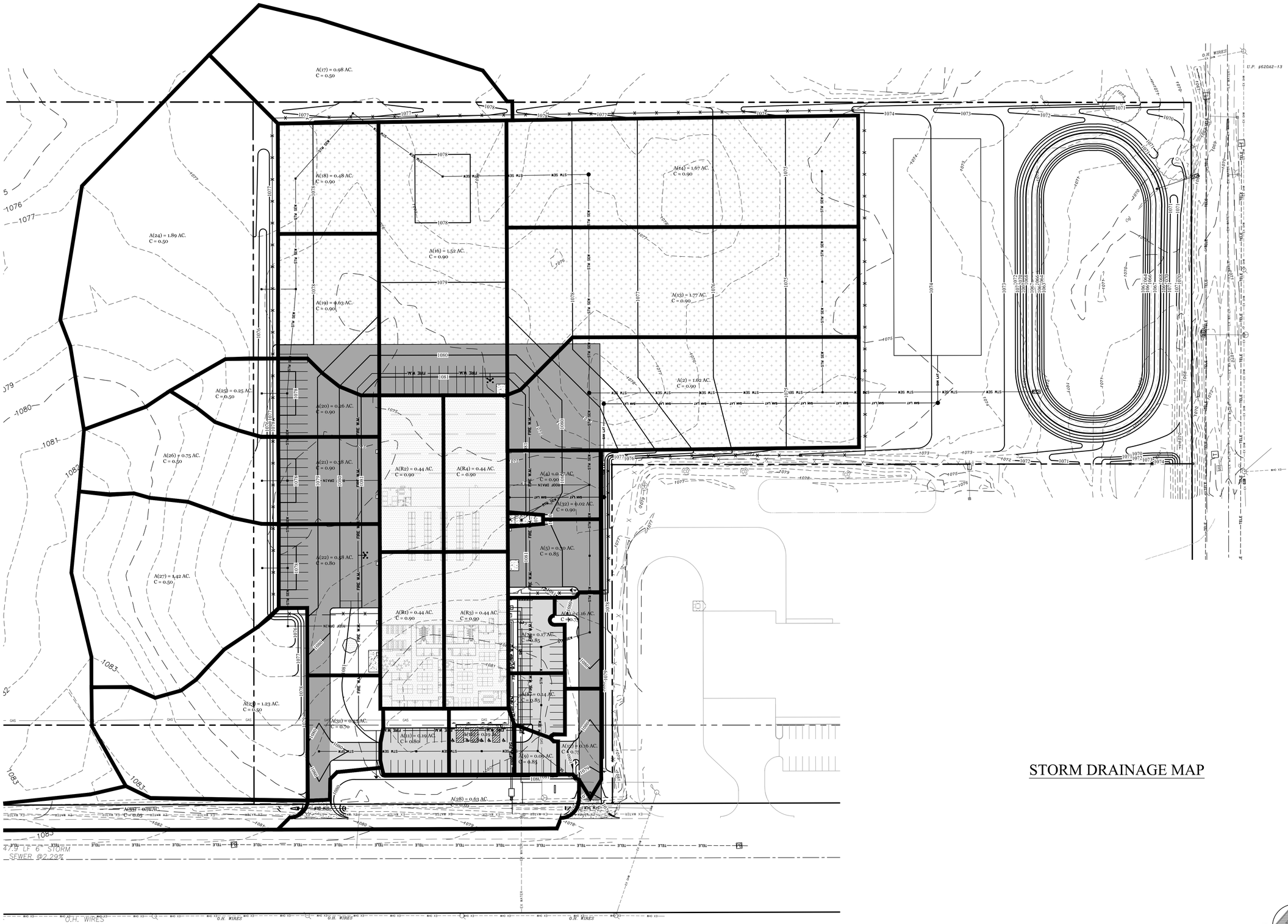
SWP3 DETAILS

C107A
Project No. 2021-259

W:\A-1 Projects\2021 Projects\2021-259 ETNA 75K Pataskala (Thayer)\2021-259 Dwg\2021-259 Site01F - (08-05-2021\2021-259 Site01F.dwg



STORM DRAINAGE MAP

Scale: 1" = 60'

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3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

SWP3 DETAILS

C107B
Project No. 2021-259

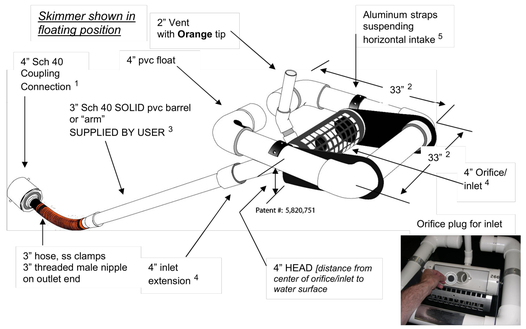
W:\A-J Projects\2021 Projects\2021-259 ETNA 79K Pataskala (Thayer)\2021-259 Dwg\2021-259 SiteHF - 08-05-2021\2021-259 SiteHF.dwg

Sediment Basin Data

Basin Number				
A. Total Contributing Watershed (ac.)	24.15			
B. Disturbed Area (ac.)	20.02			
C. Req. Dewatering Volume (A x 1,800 cu. ft./ac.)	43,470			
D. Req. Sediment Storage Zone Vol. (B* 1000)	20,020			
E. Total Required Capacity (C+D in cu ft)	63,490			
F. Dewatering Volume Provided (cu. ft./ac.)	0			
G. Sediment Storage Provided (cu. ft./ac.)	223,824			
H. Total Storage Provided in Crest of Riser (cu. ft./ac.)	223,824			
Principal Spillway				
Req. Principal Spillway Capacity (10 yr-24hr storm) (cfs)	91.41			
Principal Spillway Capacity Provided (cfs)	133.90			
Principal Spillway Elevation	1067.00			
Riser (inches)	36" SQ			
Diameter of Barrel (inches)	30"			
Volume of Concrete to Prevent Riser Flotation (cu. ft.)	25			
Outlet Type				
Drawdown Time (Hours must exceed 48 hr drawdown)	72			
Mark selected outlet type (X)				
A. Non-perforated Riser with Stub & Faircloth Skimmer	X			
(Orifice size in inches)	7			
Stone pad provided at top of Sediment storage	X			
B. Protected Single Orifice				
(Orifice size in inches)				
C. Perforated Riser				
Hole size (inches)				
Number of Holes				
Protection of Perforations - sm holes (<3/4") typ need anti-clogging				
measure - aggregate > than hole size or wire cloth/fence & geotextile				
Bottom Elevation	1063.00			
Sediment Storage Zone Elevation	1067.25			
Crest of Principal Spillway Elevation (Min. 1 ft. below crest E. S.)	1067.00			
Pool Depth at Riser (ft., ideally 3-5')	4.00			
Top of Embankment Elevation	1071.50			
Embankment Side Slopes (Max 2:1, combined 5:1)	3:1			
Embankment Top Width (ft.)	10			
Req. Emergency Spillway Capacity (25 yr-24hr storm) (cfs)	112.23			
Req. Emergency Spillway Discharge (25 yr-24 hr storm less Principal S.)	-21.67			
Emergency Spillway Capacity Provided (cfs)	168.00			
Emergency Spillway Elevation	1070.50			
Emergency Spillway Bottom Width	60.00			
Emergency Spillway Lining	Vegetative			
Rock Outlet Protection (Size, gradation and quality of rock)				
Length	5.00			
Width	5.00			
Depth	1.50			
Gradation - O.D.O.T. unless specified otherwise	C			

4" *Faircloth Skimmer®* Surface Drain Cut Sheet

J. W. Faircloth & Son, Inc.
www.FairclothSkimmer.com



1. Coupling can be removed and hose attached to outlet using the threaded 3" nipple. Typical methods used: a) a metal structure with a steel stub out welded on the side at the bottom with a 3" threaded coupling or reducer(s); b) a concrete structure with a hole or orifice at the bottom - use a steel plate with a hole cut in it and coupling welded to it that will fit over the hole in the concrete and bolted to the structure with sealant; or c) it is possible to grout a 4" pvc pipe in a hole in the concrete to connect the skimmer but this is less secure than other methods.
2. Dimensions are approximate, not intended as plans for construction.
3. Barrel (solid, not foam core pipe) should be 1.4 times the depth of water with a minimum length of 8' so the inlet can be pulled to the side for maintenance. If more than 10' long, weight may have to be added to inlet to counter the increased buoyancy.
4. Orifice/inlet tapers down from 4" maximum inlet to a 3" barrel and hose. Barrel is smaller to reduce buoyancy and tendency to lift inlet but is sufficient for flow through inlet because of slope. The orifice/inlet can be reduced using the plug and cutter provided to control the outflow rate – see #6.
5. Horizontal intake is 8" pipe between the straps with slots cut in the inlet and aluminum screen door (smaller than shown in illustration) for access to the 4" inlet and orifice inside.
6. **Capacity:** 20,109 cubic feet per day maximum with 4" inlet and 4" head. Inlet can be reduced by installing a smaller orifice using the plug and cutter provided to adjust flow rate for the particular drawdown time required. Please use the sizing template at www.fairclothskimmer.com .
7. Ships assembled. User glues inlet extension and barrel, installs vent, cuts orifice in plug and attaches to outlet pipe or structure. Includes float, flexible hose, rope, orifice plug and cutter. Does NOT include 3" Sch 40 SOLID pvc barrel or "arm" SUPPLIED BY USER.

4inchCut 5-1-2019

TEMPORARY SEDIMENT CONTROL CALCULATIONS

Use a Temporary Skimmer

Total Drainage Area:	24.15	Ac.
Disturbed Earth Area:	20.02	Ac.
Sediment Storage Volume Required (1,000 C.F./Ac.):	20,020	C.F.
Sediment Storage Volume Provided Below Skimmer Orifice:	223,824	C.F.
Dewatering Volume Required (1,800 C.F./Ac.)	43,470	C.F.
Dewatering Volume Provided Below Principal Spillway:	0	C.F.
Design Detention Volume:	321,375	C.F.
Bottom of Temporary Sediment Basin:	1063.00	
Invert of Skimmer device:	1067.25	
Normal Water Level:	1067.25	
Cleanout Elevation:	1064.70	
Set Crest of Principal Spillway at:	1067.00	
Set Crest of Emergency Spillway at:	1070.50	
Top of Bank:	1071.50	

TEMPORARY SEDIMENT CONTROL VOLUME CALCULATIONS

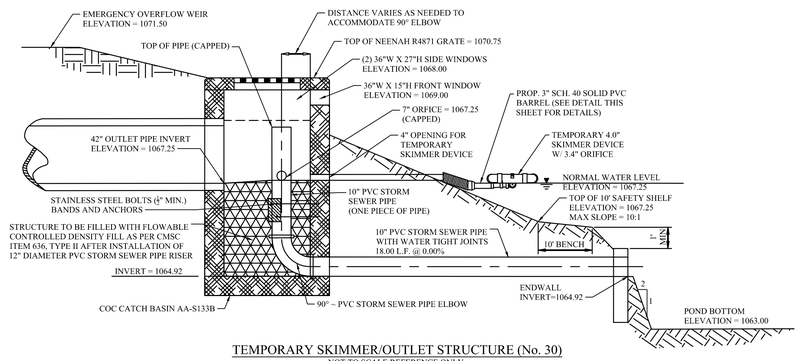
Retention Pond Information

	Elevation	Area, S.F.	Volume (C.F.)	Volume Sum (C.F.)	Spillway Design	
					147.41	100-yr Peak Flow, C.F.S.
					1.00	Spillway Height, Ft.
					60.00	Spillway Width, Ft.
BOT	1063.00	45,966	0	0		
	1064.00	48,660	47,313	47,313		
	1065.00	51,410	50,035	97,348		
	1066.00	54,217	52,813	150,161		
	1067.00	61,234	57,725	207,886		
DEW	1067.25	66,266	15,937	223,824		
	1068.00	69,360	50,860	274,684		
	1069.00	73,574	71,467	346,151		
	1070.00	77,888	75,731	421,881		
	1071.00	82,303	80,095	501,977		
TB	1071.50	83,985	41,572	543,549		

TEMPORARY SKIMMER DEVICE

Calculate Skimmer Size				
Basin Volume in Cubic Feet	43,470 Cu.Ft	**Skimmer Size**	4.0	Inch
Days to Drain*	3 Days	Orifice Radius	1.7	Inch[es]
		Orifice Diameter	3.4	Inch[es]

*In NC assume 3 days to drain



TEMPORARY SKIMMER/OUTLET STRUCTURE (No. 30)
NOT TO SCALE REFERENCE ONLY

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3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
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07-20-2021
07-26-2021
08-05-2021

SWP3 DETAILS

C108
Project No. 2021-259

STORM SEWER CALCULATIONS (10-YR)

Storm Sewer Tabulation

Page 1

Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	285.850	1.62	19.23	0.90	1.46	14.45	10.0	28.3	3.1	44.88	77.01	3.71	48	0.24	1067.25	1067.95	1071.25	1071.44	1070.85	1074.00	ST-1
2	1	320.811	0.01	14.17	0.90	0.01	9.90	10.0	26.9	3.2	31.74	54.43	3.39	42	0.25	1067.95	1068.75	1071.67	1071.91	1074.00	1079.00	ST-2
3	2	126.366	0.27	2.90	0.90	0.24	2.42	10.0	26.3	3.2	7.87	18.87	2.51	24	0.59	1068.75	1069.50	1072.10	1072.23	1079.00	1079.30	ST-3
4	3	112.455	0.44	0.44	0.90	0.40	0.40	10.0	10.0	5.3	2.11	3.87	4.58	12	1.00	1075.30	1076.43	1075.83	1077.05	1079.30	1081.50	RD-4
5	3	97.519	0.30	2.17	0.85	0.26	1.77	10.0	13.7	4.6	8.15	20.00	2.59	24	0.67	1069.50	1070.15	1072.32	1072.43	1079.30	1079.30	ST-4
6	5	105.258	0.16	1.87	0.75	0.12	1.51	10.0	13.0	4.7	7.16	19.98	2.42	24	0.66	1070.15	1070.85	1072.45	1072.51	1079.30	1079.00	ST-5
7	6	69.927	0.17	1.71	0.85	0.14	1.39	10.0	12.7	4.8	6.67	9.62	4.77	18	0.72	1071.35	1071.85	1072.61	1072.85	1079.00	1080.00	ST-6
8	7	80.000	0.14	1.10	0.85	0.12	0.85	10.0	12.3	4.9	4.14	5.80	4.98	15	0.69	1072.10	1072.65	1072.88	1073.47	1080.00	1080.00	ST-7
9	8	63.000	0.09	0.96	0.85	0.08	0.73	10.0	11.9	4.9	3.61	7.11	4.39	15	1.03	1072.65	1073.30	1073.47	1074.07	1080.00	1080.00	ST-8
10	9	77.000	0.19	0.71	0.80	0.15	0.54	10.0	11.3	5.0	2.70	4.72	3.76	15	0.45	1073.30	1073.65	1074.07	1074.31	1080.00	1080.00	ST-9
11	10	90.000	0.19	0.52	0.80	0.15	0.38	10.0	10.7	5.2	1.98	3.15	4.13	12	0.67	1073.90	1074.50	1074.48	1075.10	1080.00	1080.00	ST-10
12	7	45.309	0.44	0.44	0.90	0.40	0.40	10.0	10.0	5.3	2.11	3.85	4.57	12	0.99	1075.10	1075.55	1075.63	1076.17	1080.00	1081.50	RD-3
13	9	91.955	0.16	0.16	0.75	0.12	0.12	10.0	10.0	5.3	0.64	4.84	2.18	12	1.58	1073.55	1075.00	1074.07	1075.33	1080.00	1078.00	ST-11
14	3	119.249	0.02	0.02	0.90	0.02	0.02	10.0	10.0	5.3	0.10	3.87	1.70	12	1.01	1072.20	1073.40	1072.32	1073.53	1079.30	1077.40	ST-29
15	2	300.363	0.01	11.26	0.90	0.01	7.47	10.0	21.8	3.6	27.02	52.61	3.08	42	0.23	1068.75	1069.45	1072.10	1072.23	1079.00	1077.75	ST-14
16	15	200.762	1.52	11.25	0.90	1.37	7.46	10.0	20.7	3.7	27.81	51.61	3.43	42	0.22	1069.45	1069.90	1072.40	1072.50	1077.75	1077.25	ST-15
17	16	150.782	0.98	9.73	0.50	0.49	6.09	15.0	19.9	3.8	23.18	37.21	3.60	36	0.27	1069.90	1070.30	1072.63	1072.74	1077.25	1076.00	ST-16
18	17	119.448	0.48	8.75	0.90	0.43	5.60	10.0	19.3	3.9	21.69	36.20	3.41	36	0.25	1070.30	1070.60	1072.96	1073.03	1076.00	1077.00	ST-17
19	18	152.000	0.63	8.27	0.90	0.57	5.17	10.0	18.4	4.0	20.51	32.10	3.31	36	0.20	1070.60	1070.90	1073.17	1073.26	1077.00	1077.00	ST-18
20	19	143.878	0.26	5.75	0.90	0.23	3.66	10.0	17.7	4.1	14.85	21.91	3.07	30	0.24	1070.90	1071.25	1073.45	1073.59	1077.00	1077.65	ST-19
21	20	119.996	0.38	5.24	0.90	0.34	3.30	10.0	17.0	4.1	13.68	22.22	2.85	30	0.25	1071.25	1071.55	1073.74	1073.83	1077.65	1077.65	ST-20
22	21	120.004	0.58	3.67	0.80	0.46	2.19	10.0	15.9	4.3	9.36	22.21	2.01	30	0.25	1071.55	1071.85	1073.96	1074.00	1077.65	1077.65	ST-21

Project File: 2021-259 Storm 01B.stm | Number of lines: 34 | Run Date: 8/5/2021

NOTES:Intensity = 52.42 / (Inlet time + 8.50) ^ 0.78; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewers v2020.00

Storm Sewer Tabulation

Page 2

Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
23	22	80.000	1.23	1.67	0.50	0.62	1.01	15.0	15.0	4.4	4.47	10.61	1.42	24	0.19	1071.85	1072.00	1074.07	1074.10	1077.65	1075.50	ST-22
24	23	126.811	0.44	0.44	0.90	0.40	0.40	10.0	10.0	5.3	2.11	3.86	3.41	12	1.00	1073.00	1074.27	1074.13	1074.89	1075.50	1081.50	RD-1
25	21	126.681	0.44	0.44	0.90	0.40	0.40	10.0	10.0	5.3	2.11	3.86	3.47	12	1.00	1073.05	1074.32	1073.96	1074.94	1077.65	1081.50	RD-2
26	22	35.000	1.42	1.42	0.50	0.71	0.71	15.0	15.0	4.4	3.14	4.58	2.56	15	0.43	1071.85	1072.00	1074.07	1074.14	1077.65	1075.00	ST-26
27	21	35.000	0.75	0.75	0.50	0.38	0.38	15.0	15.0	4.4	1.66	2.53	2.11	12	0.43	1071.85	1072.00	1073.96	1074.03	1077.65	1075.00	ST-25
28	20	35.000	0.25	0.25	0.50	0.13	0.13	15.0	15.0	4.4	0.55	2.53	0.70	12	0.43	1071.85	1072.00	1073.74	1073.75	1077.65	1075.00	ST-24
29	19	47.256	1.89	1.89	0.50	0.95	0.95	15.0	15.0	4.4	4.17	8.27	2.36	18	0.53	1071.25	1071.50	1073.45	1073.51	1077.00	1075.00	ST-23
30	1	152.000	1.77	3.44	0.90	1.59	3.10	10.0	11.0	5.1	15.83	25.48	3.23	30	0.33	1068.45	1068.95	1071.67	1071.87	1074.00	1074.00	ST-12
31	30	152.000	1.67	1.67	0.90	1.50	1.50	10.0	10.0	5.3	8.01	14.74	2.55	24	0.36	1069.45	1070.00	1071.89	1072.05	1074.00	1074.00	ST-13
32	11	133.750	0.33	0.33	0.70	0.23	0.23	10.0	10.0	5.3	1.23	3.34	2.96	12	0.75	1074.50	1075.50	1075.10	1075.97	1080.00	1079.50	ST-30
33	End	70.353	0.63	0.63	0.65	0.41	0.41	15.0	15.0	4.4	1.81	6.46	2.09	15	0.85	1075.25	1075.85	1076.50	1076.52	1077.50	1077.79	ST-27
34	End	64.600	0.71	0.71	0.65	0.46	0.46	15.0	15.0	4.4	2.04	6.15	2.11	15	0.77	1077.30	1077.80	1078.55	1078.57	1080.00	1080.00	ST-31

STORM SEWER CALCULATIONS (100-YR)

Storm Sewer Tabulation

Page 1

Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	285.850	1.62	19.23	0.90	1.46	14.45	10.0	23.5	4.8	69.30	77.01	5.56	48	0.24	1067.25	1067.95	1071.25	1071.76	1070.85	1074.00	ST-1
2	1	320.811	0.01	14.17	0.90	0.01	9.90	10.0	22.4	4.9	48.65	54.43	5.06	42	0.25	1067.95	1068.75	1072.25	1072.89	1074.00	1079.00	ST-2
3	2	126.366	0.27	2.90	0.90	0.24	2.42	10.0	22.0	5.0	12.03	18.87	3.83	24	0.59	1068.75	1069.50	1073.29	1073.59	1079.00	1079.30	ST-3
4	3	112.455	0.44	0.44	0.90	0.40	0.40	10.0	10.0	7.2	2.86	3.87	5.04	12	1.00	1075.30	1076.43	1075.94	1077.16	1079.30	1081.50	RD-4
5	3	97.519	0.30	2.17	0.85	0.26	1.77	10.0	12.9	6.4	11.39	20.00	3.62	24	0.67	1069.50	1070.15	1073.82	1074.03	1079.30	1079.30	ST-4
6	5	105.258	0.16	1.87	0.75	0.12	1.51	10.0	12.4	6.6	9.94	19.98	3.17	24	0.66	1070.15	1070.85	1074.06	1074.24	1079.30	1079.00	ST-5
7	6	69.927	0.17	1.71	0.85	0.14	1.39	10.0	12.2	6.6	9.23	9.62	5.22	18	0.72	1071.35	1071.85	1074.39	1074.85	1079.00	1080.00	ST-6
8	7	80.000	0.14	1.10	0.85	0.12	0.85	10.0	11.9	6.7	5.70	5.80	4.65	15	0.69	1072.10	1072.65	1075.26	1075.79	1080.00	1080.00	ST-7
9	8	63.000	0.09	0.96	0.85	0.08	0.73	10.0	11.6	6.8	4.95	7.11	4.04	15	1.03	1072.65	1073.30	1075.84	1076.16	1080.00	1080.00	ST-8
10	9	77.000	0.19	0.71	0.80	0.15	0.54	10.0	11.2	6.9	3.68	4.72	3.00	15	0.45	1073.30	1073.65	1076.41	1076.63	1080.00	1080.00	ST-9
11	10	90.000	0.19	0.52	0.80	0.15	0.38	10.0	10.7	7.0	2.68	3.15	3.42	12	0.67	1073.90	1074.50	1076.65	1077.08	1080.00	1080.00	ST-10
12	7	45.309	0.44	0.44	0.90	0.40	0.40	10.0	10.0	7.2	2.86	3.85	5.03	12	0.99	1075.10	1075.55	1075.74	1076.28	1080.00	1081.50	RD-3
13	9	91.955	0.16	0.16	0.75	0.12	0.12	10.0	10.0	7.2	0.87	4.84	1.10	12	1.58	1073.55	1075.00	1076.41	1076.46	1080.00	1078.00	ST-11
14	3	119.249	0.02	0.02	0.90	0.02	0.02	10.0	10.0	7.2	0.13	3.87	0.29	12	1.01	1072.20	1073.40	1073.82	1073.82	1079.30	1077.40	ST-29
15	2	300.363	0.01	11.26	0.90	0.01	7.47	10.0	20.0	5.2	38.98	52.61	4.05	42	0.23	1068.75	1069.45	1073.29	1073.67	1079.00	1077.75	ST-14
16	15	200.762	1.52	11.25	0.90	1.37	7.46	10.0	19.2	5.3	39.78	51.61	4.14	42	0.22	1069.45	1069.90	1073.93	1074.20	1077.75	1077.25	ST-15
17	16	150.782	0.98	9.73	0.50	0.49	6.09	15.0	18.6	5.4	32.97	37.21	4.66	36	0.27	1069.90	1070.30	1074.37	1074.68	1077.25	1076.00	ST-16
18	17	119.448	0.48	8.75	0.90	0.43	5.60	10.0	18.1	5.5	30.70	36.20	4.34	36	0.25	1070.30	1070.60	1075.02	1075.23	1076.00	1077.00	ST-17
19	18	152.000	0.63	8.27	0.90	0.57	5.17	10.0	17.5	5.6	28.83	32.10	4.08	36	0.20	1070.60	1070.90	1075.44	1075.69	1077.00	1077.00	ST-18
20	19	143.878	0.26	5.75	0.90	0.23	3.66	10.0	17.0	5.7	20.73	21.91	4.22	30	0.24	1070.90	1071.25	1075.94	1076.26	1077.00	1077.65	ST-19
21	20	119.996	0.38	5.24	0.90	0.34	3.30	10.0	16.4	5.8	18.98	22.22	3.87	30	0.25	1071.25	1071.55	1076.53	1076.75	1077.65	1077.65	ST-20
22	21	120.004	0.58	3.67	0.80	0.46	2.19	10.0	15.7	5.9	12.87	22.21	2.62	30	0.25	1071.55	1071.85	1076.99	1077.09	1077.65	1077.65	ST-21

Project File: 2021-259 Storm 01B.stm | Number of lines: 34 | Run Date: 8/5/2021

NOTES:Intensity = 43.99 / (Inlet time + 5.60) ^ 0.66; Return period =Yrs. 100 ; c = cir e = ellip b = box

Storm Sewers v2020.00

Storm Sewer Tabulation

Page 2

Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
23	22	80.000	1.23	1.67	0.50	0.62	1.01	15.0	15.0	6.0	6.08	10.61	1.94	24	0.19	1071.85	1072.00	1077.19	1077.24	1077.65	1075.50	ST-22
24	23	126.811	0.44	0.44	0.90	0.40	0.40	10.0	10.0	7.2	2.86	3.86	3.64	12	1.00	1073.00	1074.27	1077.30	1078.00	1075.50	1081.50	RD-1
25	21	126.681	0.44	0.44	0.90	0.40	0.40	10.0	10.0	7.2	2.86	3.86	3.64	12	1.00	1073.05	1074.32	1076.99	1077.68	1077.65	1081.50	RD-2
26	22	35.000	1.42	1.42	0.50	0.71	0.71	15.0	15.0	6.0	4.27	4.58	3.48	15	0.43	1071.85	1072.00	1077.19	1077.32	1077.65	1075.00	ST-26
27	21	35.000	0.75	0.75	0.50	0.38	0.38	15.0	15.0	6.0	2.26	2.53	2.87	12	0.43	1071.85	1072.00	1076.99	1077.11	1077.65	1075.00	ST-25
28	20	35.000	0.25	0.25	0.50	0.13	0.13	15.0	15.0	6.0	0.75	2.53	0.96	12	0.43	1071.85	1072.00	1076.53	1076.55	1077.65	1075.00	ST-24
29	19	47.256	1.89	1.89	0.50	0.95	0.95	15.0	15.0	6.0	5.69	8.27	3.22	18	0.53	1071.25	1071.50	1075.94	1076.06	1077.00	1075.00	ST-23
30	1	152.000	1.77	3.44	0.90	1.59	3.10	10.0	10.7	7.0	21.70	25.48	4.42	30	0.33	1068.45	1068.95	1072.25	1072.62	1074.00	1074.00	ST-12
31	30	152.000	1.67	1.67	0.90	1.50	1.50	10.0	10.0	7.2	10.86	14.74	3.46	24	0.36	1069.45	1070.00	1072.66	1072.96	1074.00	1074.00	ST-13
32	11	133.750	0.33	0.33	0.70	0.23	0.23	10.0	10.0	7.2	1.67	3.34	2.13	12	0.75	1074.50	1075.50	1077.11	1077.36	1080.00	1079.50	ST-30
33	End	70.353	0.63	0.63	0.65	0.41	0.41	15.0	15.0	6.0	2.46	6.46	2.79	15	0.85	1075.25	1075.85	1076.50	1076.54	1077.50	1077.79	ST-27
34	End	64.600	0.71	0.71	0.65	0.46	0.46	15.0	15.0	6.0	2.78	6.15	2.80	15	0.77	1077.30	1077.80	1078.55	1078.60	1080.00	1080.00	ST-31

Project and Watershed Information; WQv Calculation

version 3.1 2018-10-25

Project Details

Project Name:	Thayer
Project Location:	Pataskala, OH
Project Latitude:	39.97536
Project Longitude:	-82.70535
NPDES Permit Applicant:	
Submitted by:	MLW
Date:	8/4/2021

Subwatershed Details

Subwatershed ID/Label: New Pond

Subwatershed Drainage Area, A_{total} =	24.15	acres	=	1,051,974	ft^2
Subwatershed Impervious Area, A_{imp} =	13.57	acres	=	591,109	ft^2
Imperviousness fraction, i =	0.56		=	56	%
Volumetric Runoff Coefficient, Rv =	0.56				
Water Quality Volume, WQv =	43,845	ft^3			

Wet Extended Detention Basin WQv Compliance Tool

version 3.1 2018-10-25

Project Summary

Project Name: Thayer
Subwatershed ID/Label: New Pond
Submitted by: MLW
Date: 8/4/2021

Subwatershed Drainage Area, A_{total} =	24.15	acres	=	1,051,974	ft2
Subwatershed Impervious Area, A_{imp} =	13.57	acres	=	591,109	ft2
Imperviousness fraction, i =	0.56			56	%
Water Quality Volume, WQv =	43,845	ft^3	=	1.01	ac-ft

Step 1 - Soil Suitability

Soil Series: Pewamo — HSG: D

Step 2 - Wet ED Basin Volume Requirements

Extended Detention Volume, EDv =	43845	ft^3
Minimum Sediment Storage Volume, $V_{sediment}$ =	8769	ft^3
Minimum Permanent Pool Volume, PPv =	52614	ft^3

Step 3 - Basin Stage-Storage Relationship

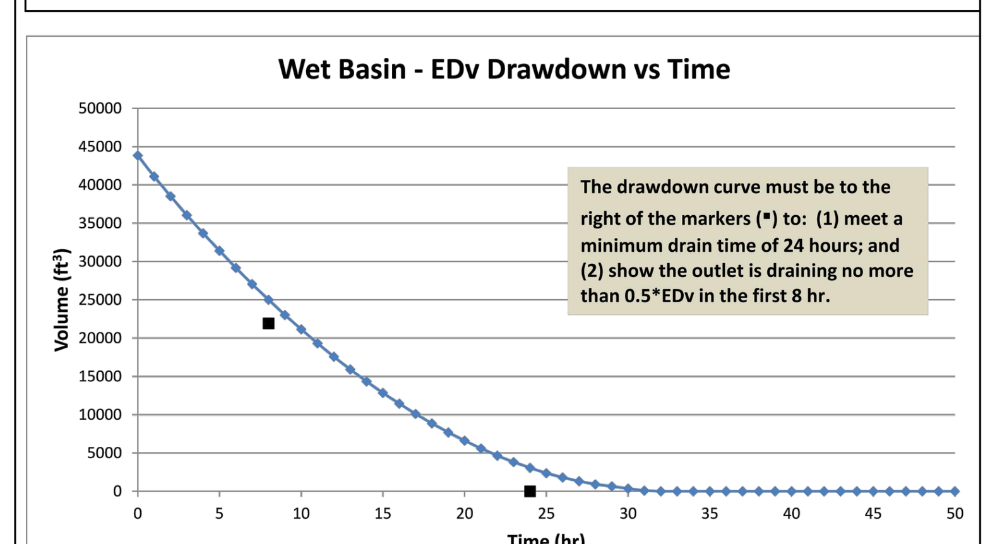
	Elevation ft	Area ft^2	Incremental Volume ft^3	Cumulative Volume ft^3
Bottom of Permanent Micropool =	1063.00	45966		
	1064.00	48660	47,307	47,307
	1065.00	51410	50,029	97,335
	1066.00	54217	52,807	150,143
	1067.00	61234	57,690	207,833
	1067.25	66266	15,933	223,766
	1068.00	69360	50,855	274,621
	1069.00	73574	71,457	346,078
	1070.00	77888	75,721	421,799
	1071.00	82303	80,085	501,884
	1071.50	83985	41,571	543,455

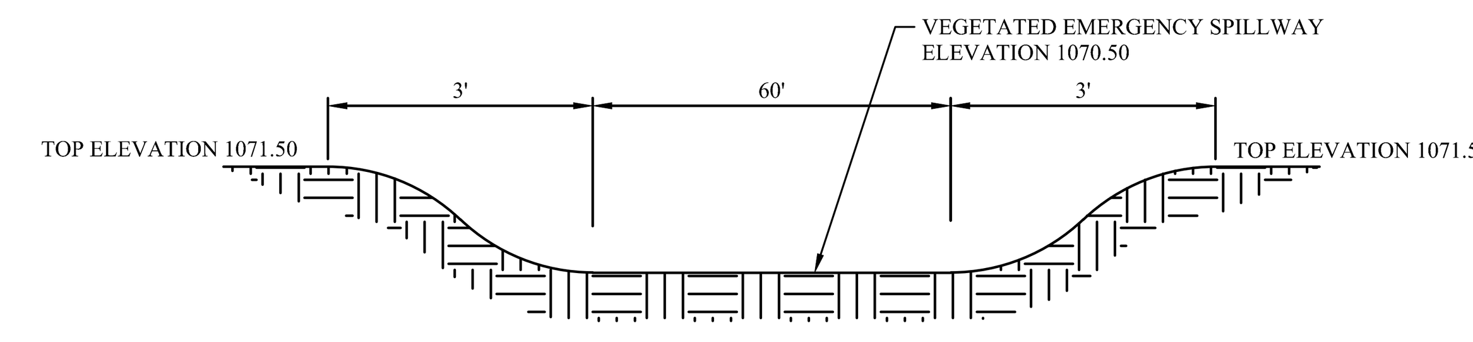
Step 4 - Outlet Elevations and Storage Volumes

WQ Orifice Invert Elevation =	1067.25				
Elevation of Top of EDv =	1067.91				
Secondary Outlet Invert Elevation =	1068.00				OKAY
WQ Treatment Volume Provided, $V_{treatment}$ =	50,855	ft^3			
Treatment Vol Provided Relative to EDv, $V_{treatment}$/EDv =	1.16		=	116%	OKAY
Permanent Pool Volume Provided, PPv =	223,766	ft^3			
Ratio PPv Provided to PPv Required =	4.25		=	425%	OKAY

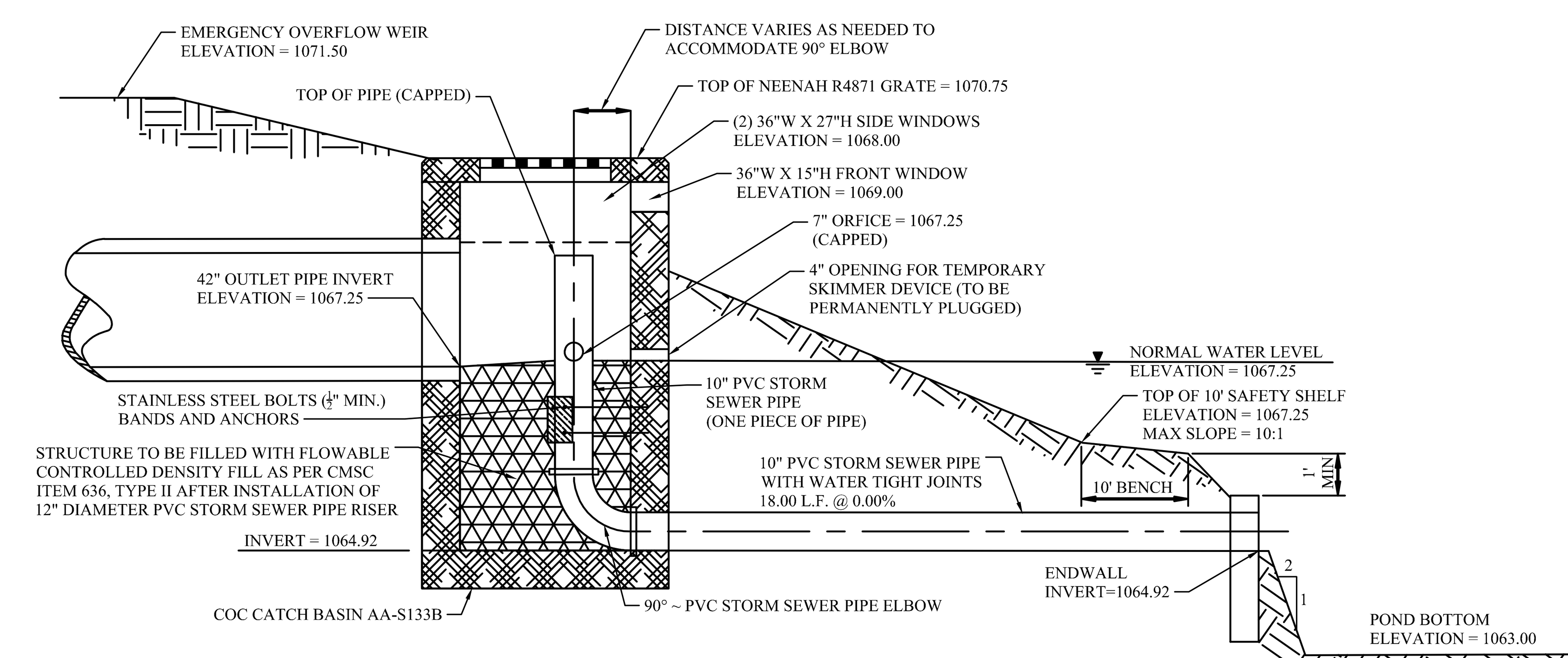
Step 5 - Outlet (Orifice) Sizing

Maximum Hydraulic Head, Hmax =	0.65	ft				
Orifice Coefficient, C =	0.6					
Target (Minimum) Draw-down Time, T_d =	24	hr				
Target Average Discharge, Q_{avg} =	0.51	cfs				
Average Hydraulic Head, H_{avg} =	0.33	ft				
Estimated Orifice Area, $A_{orifice}$ =	26.52	in^2	=	0.184	ft^2	
Estimated Orifice Diameter, $D_{orifice}$ =	5.81	in	=	0.48	ft	
Design Orifice Diameter, $D_{orifice}$ =	7.00	in	=	0.58	ft	
Design Orifice Area, $A_{orifice}$ =	38.24	in^2	=	0.266	ft^2	
Time to Completely Drain EDv, T_d =	32	hr	must be ≥ 24 hr			OKAY
Volume Drained in First 8 hr =	18,845	ft^3				
% of EDv =	43.0	%	must be ≤ 50%			OKAY





EMERGENCY SPILLWAY
REFERENCE ONLY



PERMANENT OUTLET STRUCTURE (No. 30)
NON-CLOG FIGURE 2.6.3 OF OHIO RAINWATER AND LAND DEVELOPMENT MANUAL
REFERENCE ONLY

WEBER ENGINEERING SERVICES
Where Strong Relationships & Superior Service Guide Your Project
2555 Hartville Rd., Suite B
Rootstown, OH 44272
www.WeberEngineeringServices.com
330-329-2037
matt@webercivil.com

STATE OF OHIO — MATTHEW L. WEBER — 61709 — REGISTERED PROFESSIONAL ENGINEER
Reg. No.: 61709

CLIENT:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

OWNER:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

SWP3 DETAILS

C109
Project No. 2021-259

1. Construction personnel, including subcontractors who may use or handle hazardous or toxic materials. shall be made aware of the following general guidelines regarding disposal and handling of hazardous and construction wastes:

- Prevent spills
- Use products up
- Follow label directions for disposal
- Remove lids from empty bottles and cans when disposing in trash
- Recycle wastes whenever possible
- Don't pour into waterways, storm drains or onto the ground
- Don't pour down the sink, floor drain or septic tanks
- Don't bury chemicals or containers
- Don't bum chemicals or containers
- Don't mix chemicals together

2. **Containers shall be provided for the proper collection of all waste material including construction debris, trash, petroleum products and any hazardous materials used on-site.** Containers shall be covered and not leaking. All waste material shall be disposed of at facilities approved for that material. Construction Demolition and Debris (CD&D) waste must be disposed of at an Ohio EPA approved CD&D landfill.

3. **No construction related waste materials are to be buried on-site.** By exception, clean fill (bricks, hardened concrete, soil) may be utilized in a way which does not encroach upon natural wetlands, streams or floodplains or result in the contamination of waters of the state.

4. **Handling Construction Chemicals.** Mixing. pumping. transferring or other handling of construction chemicals such as fertilizer. lime. asphalt. concrete drying compounds. and all other potentially hazardous materials shall be performed in an area away from any watercourse. ditch or storm drain.

5. **Equipment Fueling and Maintenance,** oil changing. etc .. shall be performed away from watercourses. ditches or storm drains. in an area designated for that purpose. The designated area shall be equipped for recycling oil and catching spills. Secondary containment shall be provided for all fuel oil storage tanks. These areas must be inspected every seven days and within 24 hrs. of a 0.5 inch or greater rain event to ensure there are no exposed materials which would contaminate storm water. Site operators must be aware that Spill Prevention Control and Countermeasures (SPCC) requirements may apply. An SPCC plan is required for sites with one single above ground tank of 660 gallons or more, accumulative above ground storage of 1330 gallons or more, or 42,000 gallons of underground storage. Contaminated soils must be disposed of in accordance with Item 8.

6. **Concrete Wash Water** shall not be allowed to flow to streams, ditches, storm drains, or any other water conveyance. A sump or pit with no potential for discharge shall be constructed if needed to contain concrete wash water. Field tile or other subsurface drainage structures within 10 ft. of the sump shall be cut and plugged.

7. **Spill Reporting Requirements:** Spills on pavement shall be absorbed with sawdust or kitty litter and disposed of with the trash at a licensed sanitary landfill. Hazardous or industrial wastes such as most solvents, gasoline, oil-based paints, and cement curing compounds require special handling. Spills shall be reported to Ohio EPA (1-800-282-9378). Spills of 25 gallons or more of petroleum products shall be reported to Ohio EPA, the local fire department, and the Local Emergency Planning Committee within 30 min. of the discovery of the release. All spills which contact waters of the state must be reported to Ohio EPA.

8. **Contaminated Soils.** If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto the soil, the soil should be dug up and disposed of at licensed sanitary landfill or other approved petroleum contaminated soil remediation facility. (not a construction/demolition debris landfill). Note that storm water runoff associated with contaminated soils are not be authorized under Ohio EPA's General Storm Water Permit associated with Construction Activities.

9. **Open Burning.** No materials containing rubber, grease, asphalt, or petroleum products, such as tires, autoparts, plastics or plastic coated wire may be burned (OAC 3745-19). Open burning is not allowed in restricted areas, which are defined as: 1) within corporation limits; 2) within 1000 feet outside a municipal corporation having a population of 1000 to 10,000; and 3) a one mile zone outside of a corporation of 10, 000 or more. Outside of restricted areas, no open burning is allowed within a 1000 feet of an inhabited building on another property. Open burning is permissible in a restricted area for: heating tar, welding, smudge pots and similar occupational needs, and heating for warmth or outdoor barbeques. Outside of restricted areas, open burning is permissible for landscape or land-clearing wastes (plant material, with prior written permission from Ohio EPA) , and agricultural wastes, excluding buildings.

10. **Dust Control or dust suppressants** shall be used to prevent nuisance conditions, in accordance with the manufacturer's specifications and in a manner, which prevent a discharge to waters of the state. Sufficient distance must be provided between applications and nearby bridges, catch basins, and other waterways. Application (excluding water) may not occur when rain is imminent as noted in the short term forecast. Used oil may not be applied for dust control.

11. **Other Air Permitting Requirements:** Certain activities associated with construction will require air permits including but not limited to: mobile concrete batch plants, mobile asphalt plants, concrete crushers, large generators, etc. These activities will require specific Ohio EPA Air Permits for installation and operation. Operators must seek authorization from the corresponding district of Ohio EPA. For demolition of all commercial sites, a Notification for Restoration and Demolition must be submitted to Ohio EPA to determine if asbestos corrective actions are required.

12. **Process Waste Water/Leachate Management.** Ohio EPA's Construction General Permit only allows the discharge of storm water and does not include other waste streams/discharges such as vehicle and/or equipment washing, on-site septic leachate concrete wash outs, which are considered process wastewaters. All process wastewaters must be collected and properly disposed at an approved disposal facility. In the event, leachate or septage is discharged; it must be isolated for collection and proper disposal and corrective actions taken to eliminate the source of waste water.

13. **A Permit To Install (PTn** is required prior to the construction of all centralized sanitary systems, including sewer extensions, and sewerage systems (except those serving one, two, and three family dwellings) and potable water lines. Plans must be submitted and approved by Ohio EPA. Issuance of an Ohio EPA Construction General Storm Water Permit does not authorize the installation of any sewerage system where Ohio EPA has not approved a PTI.

OHIO EPA PERMIT NO. OHC000005

PART III G. SWP3 REQUIREMENTS

a. COMMERCIAL BUILDING

b. TOTAL SITE AREA - 20.0226 AC. - DISTURBED AREA = 20.02 AC.

c. PRE-CONSTRUCTION CURVE NUMBER - CN=89;
POST-CONSTRUCTION CURVE NUMBER - CN=92

d. IMPERVIOUS AREA = 13.36 AC. (ENTIRE SITE), PERCENT IMPERVIOUS = 66.7%.

e. SOIL TYPES:

BeA - Bennington silt loam, 0 to 2 percent slopes
BeB - Bennington silt loam, 2 to 6 percent slopes
Pe - Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes

f. PRIOR LAND USE: AGRICULTURAL

g. CONSTRUCTION SEQUENCE - SEE IMPROVEMENT PLANS

h. UNNAMED TRIBUTARY TO MUDDY FORK

- NO WETLANDS

i. NOT SUBDIVIDED (MEASURES IDENTIFIED ON PLANS)

j. NOT APPLICABLE

k. PERMIT REQUIREMENTS ATTACHED. (FIELD COPY)

l. IDENTIFIED ON SHEET C106

m. IDENTIFIED ON SHEET C106

n. SITE MAP SHOWN ON PLANS

(i) LIMITS OF CONSTRUCTION IDENTIFIED ON THE PLANS (LC).
(ii) SOIL TYPES IDENTIFIED ON THE PLANS
(iii) DRAINAGE WATER SHEDS IDENTIFIED ON THE PLANS.
(iv) THERE ARE NO WETLANDS ON THE SITE. NO SPRINGS, LAKES OR WATER WELLS WITHIN 200 FEET OF THE SITE.
(v) EXISTING & PLANNED LOCATIONS OF BUILDINGS, ROADS, PARKING FACILITIES AND UTILITIES ARE IDENTIFIED ON THE PLANS.
(vi) EROSION AND SEDIMENT CONTROL PRACTICES ARE IDENTIFIED ON THE PLANS.
(vii) SEDIMENT & STORM WATER MANAGEMENT DATA IS IDENTIFIED ON THE PLANS.
(viii) PERMANENT STORM WATER MANAGEMENT PRACTICES ARE IDENTIFIED ON THE PLANS.
(ix) CEMENT TRUCK WASHOUT, DUMPSTER & VEHICLE FUELING AREA ARE IDENTIFIED ON THE PLANS.
(x) CONSTRUCTION ENTRANCE IS IDENTIFIED ON THE PLANS.
(xi) NOT APPLICABLE

2. A. NOT APPLICABLE.

B. TEMPORARY SEEDING AND PERMANENT SEEDING MEASURES ARE IDENTIFIED ON THE PLANS.
(I) TABLE 1 & TABLE 2 HAVE BEEN IDENTIFIED ON THE PLANS.
(II)NOT APPLICABLE.

C. SHEET FLOW RUNOFF HAS BEEN CONTROLLED BY MEANS OF SILT FENCE AND DIRECTED TOWARDS UNDISTURBED SOILS. POINT DISCHARGES HAVE BEEN CONTAINED WITHIN STORM SEWERS.

D. SEDIMENT CONTROL HAS BEEN MANAGED BY MEANS OF SILT FENCE.
(I) NOTED THROUGHOUT THE PLANS.
(II) SILT FENCE UTILIZED.
(III) SILT FENCE IS IDENTIFIED ON THE PLANS.
(IV) INLET PROTECTION IS IDENTIFIED ON THE PLANS.
(V) NOT APPLICABLE.
(VI) NOTED ON THE IMPROVEMENT PLANS.

E. POST-CONSTRUCTION MAINTENANCE AND INSPECTION IS IDENTIFIED ON THE PLANS.
LARGE CONSTRUCTION ACTIVITIES - NOT APPLICABLE
SMALL CONSTRUCTION ACTIVITIES - RATIONALE IDENTIFIED ON PLANS

F. SURFACE WATER PROTECTION - NOT APPLICABLE

G. OTHER CONTROLS
(I) CEMENT TRUCK WASHOUT AREA IS IDENTIFIED ON THE PLANS.
(II)DUST CONTROL MEASURES AND VEHICLE TRACKING ARE IDENTIFIED ON THE PLANS.
(III) ADDITIONAL NOTES ARE IDENTIFIED ON THE PLANS.
(IV) NOTED ON THE PLANS.
(V) NOTED ON THE PLANS.

H. NOTED THROUGHOUT THE PLANS.

I. INSPECTION FREQUENCY AND INSPECTION CHECKLIST IS NOTED ON THE PLANS.
(I) NOTED ON THE PLANS.
(II) NOTED ON THE PLANS.
(III) STATEMENT NOTED.

3. APPROVED STATE OR LOCAL PLANS
STATEMENT NOTED.

4. EXCEPTIONS
STATEMENT NOTED.

CONSTRUCTION SEQUENCE SEE SEQUENCE OF CONSTRUCTION ON C100B

(ALL ITEMS ARE TO BE THE RESPONSIBILITY OF THE GENERAL SITE CONTRACTOR)

SITE PREPARATION

NOTE:

PROVIDE SAFE AND SECURE PEDESTRIAN AND VEHICULAR TRAFFIC CIRCULATION THROUGHOUT THE ENTIRETY OF THE CONSTRUCTION SEQUENCE WITH WELL DEFINED CONSTRUCTION BOUNDARIES TO BE ACCESSED BY CONSTRUCTION PERSONNEL ONLY. ALL EROSION CONTROLS ARE TO BE THOROUGHLY INSPECTED BY THE CONTRACTOR UPON THE COMPLETION OF EACH WORK DAY AND MAINTAINED THROUGHOUT THE REQUIRED LIFE OF THE CONTROL, AS SPECIFIED BY THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS AND NARRATIVE. THE CONTRACTOR MUST REVIEW THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS AND NARRATIVE. THE CONTRACTOR MUST REVIEW THE APPROVED NPDES PERMIT AND SIGN THE PERMIT TO ACCEPT RESPONSIBILITIES AS THE CO-PERMITEE.

INITIAL PHASE (WITHIN 7 DAYS OF START OF GRUBBING)

1. INSTALL A TEMPORARY CONSTRUCTION ENTRANCE FOR ACCESS TO CONSTRUCTION AREAS OF SITE.
2. SETUP CONSTRUCTION TRAILER ON SITE AND ESTABLISH TEMPORARY POWER AND TELEPHONE SERVICE AS NECESSARY.
3. ALL TEMPORARY UTILITY SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. STAKEOUT LIMITS OF DISTURBANCE.
5. INSTALL TEMPORARY INLET PROTECTION ON ALL EXISTING CATCH BASINS WITHIN LIMITS OF CONSTRUCTION. REMOVE SILT PROTECTION FROM DESIGNATED INLETS ONLY WHEN INLET STRUCTURE IS TO BE REMOVED AS REQUIRED BY PROGRESSION OF CONSTRUCTION. REFER TO PLANS FOR IDENTIFICATION OF INLET STRUCTURES TO BE REMOVED.
6. INSTALL ALL FILTER FABRIC FENCE WHERE SHOWN ON PLANS.
7. BEGIN SITE CLEARING.
8. REMOVE TOPSOIL FROM AREAS OF BUILDING AND PAVEMENT.
9. BEGIN EARTHWORK OPERATIONS.
10. CONSTRUCT STORM WATER BASIN.
11. IN THE EVENT OF RAIN, ALLOW STANDING WATER TO SETTLE PRIOR TO PUMPING. UTILIZE THE PUMPING SYSTEMS TO PUMP POLLUTED WATER PER E.P.A. REQUIREMENTS. ALLOW ONLY CLEAN WATER TO BE DISCHARGED TO THE EXISTING DRAINAGE SYSTEM. REMOVE SILT FROM BASINS AS NECESSARY PRIOR TO CONTINUING EARTHWORK. MATERIAL SHOULD BE MECHANICALLY SPREAD AND DRIED PRIOR TO INCORPORATION INTO THE EARTHWORK PROCEDURES. ADEQUACY OF THE DRIED MATERIAL IS TO BE DETERMINED BY A GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE AND ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. CONSTRUCTION WASTES INCLUDES, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, ETC., THAT COULD ADVERSELY IMPACT WATER QUALITY. MEASURES SHALL BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING, MATERIALS MANAGEMENT, AND LITTER CONTROL. WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED, RATHER THAN DISPOSAL.

INTERIM PHASE GENERAL CONSTRUCTION

1. MAINTAIN TEMPORARY CONTROLS UNTIL REMOVAL IS WARRANTED DUE TO PROGRESSION OF WORK.
2. BEGIN EARTHMOVING OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE COUNTY CONSERVATION DISTRICT OF LOCATION AND EROSION AND SEDIMENTATION CONTROL MEASURES IMPLEMENTED AT BORROW OR SPOIL SITE OF IMPORT/EXPORT MATERIAL. THE CONTRACTOR IS TO COORDINATE WITH OWNER THE PLACEMENT OF SUCH MEASURES.
3. STORM SEWER, SANITARY SEWER, WATER LINE AND UTILITY LINE CONSTRUCTION MAY BEGIN IMMEDIATELY FOLLOWING ESTABLISHMENT OF GRADE AND WITH THE PERMISSION OF THE OWNER.
4. STABILIZE ALL UTILITY TRENCHES AT THE END OF EACH WORKDAY BY MEANS OF GRAVEL BACKFILL TO SURFACE, REPAVING OR MULCHING.
5. REPLACE TOPSOIL, FINE GRADE AND SEED AS REQUIRED.
6. STABILIZE ALL DISTURBED AREAS WITH PERMANENT SEED AND MULCHING OR CROWNVETCH SEEDING IMMEDIATELY UPON REACHING FINAL GRADE.
7. INSTALL PAVEMENT SUBBASE.
8. BEGIN BITUMINOUS PAVING, REMOVING TEMPORARY CONSTRUCTION ENTRANCE ONLY WHEN NECESSARY.
9. RESEED AND REDRESS ANY AREAS THAT MAY REQUIRE ATTENTION IMMEDIATELY. NOTE THAT LAWN AREAS WILL NOT BE DEEMED STABLE UNTIL A UNIFORM 80% COVERAGE IS ACHIEVED.
10. ALL EROSION MEASURES SHALL REMAIN IN PLACE UNTIL THE SITE IS STABILIZED. ALL AREAS OF VEGETATIVE SURFACE STABILIZATION, WHETHER TEMPORARY OR PERMANENT, SHALL BE CONSIDERED TO BE IN PLACE AND FUNCTIONAL WHEN THE REQUIRED UNIFORM RATE OF COVERAGE (80%) IS OBTAINED.

FINAL PHASE POST-PAVING BASIN CONVERSION

1. IF, FOR ANY REASON, THE PROJECT IS SUSPENDED, THE CONTRACTOR SHALL INSURE THAT ALL INSTALLED EROSION MEASURES ARE FUNCTIONING AND PROPERLY MAINTAINED DURING THIS PERIOD, AND THAT ALL BARED SOILS ARE SEEDED AND MULCHED WITH TEMPORARY SEED MIXTURE.
2. THE FOLLOWING ITEMS MUST BE COMPLETED BY THE CONTRACTOR, IN ORDER, ONCE THE SITE HAS BEEN DEEMED STABLE:
   A. REMOVE SEDIMENT CONTROL DEVICES AND ESTABLISH WATER QUALITY CONTROL ORIFICE.
   B. REMOVE TEMPORARY CONSTRUCTION ENTRANCE PRIOR TO COMPLETION OF PAVING.
   C. SITE CLEAN UP.
   D. RESEED ANY AREAS THAT REQUIRE ADDITIONAL SEED
   E. FILTER FENCES ARE TO BE CLEANED, REMOVED, BACKFILLED AND SEEDED WITH PERMANENT SEEDING.
   F. VERIFY POSITIVE CONVEYANCE FLOW IN ALL DRAINAGE STRUCTURES.

SPECIFICATIONS FOR TEMPORARY SEEDING

TEMPORARY SEEDING SPECIES SELECTION

SEEDING DATES	SPECIES	LB/100 FT^2	LB/ACRE
MARCH 1 TO AUGUST 15	OATS TALL FESCUE ANNUAL RYEGRASS	3 1 1	128 (4 BUSHEL) 40 40
	PERENNIAL RYEGRASS TALL FESCUE ANNUAL RYEGRASS	1 1 1	40 40 40
	ANNUAL RYEGRASS PERENNIAL RYEGRASS CREEPING RED FESCUE KENTUCKY BLUEGRASS	1.25 3.25 0.4 0.4	55 142 17 17
	OATS TALL FESCUE ANNUAL RYEGRASS	3 1 1	128 (3 BUSHELS) 40 40
AUGUST 16TH TO NOVEMBER	RYE TALL FESCUE ANNUAL RYEGRASS	3 1 1	112 (2 BUSHEL) 40 40
	WHEAT TALL FESCUE ANNUAL RYEGRASS	3 1 1	120 (BUSHEL) 40 40
	PERENNIAL RYE TALL FESCUE ANNUAL RYEGRASS	1 1 1	40 40 40
	ANNUAL RYEGRASS PERENNIAL RYEGRASS CREEPING RED FESCUE KENTUCKY BLUEGRASS	1.25 3.25 0.4 0.4	40 40 40
NOVEMBER 1 TO FEB. 29	USE MULCH ONLY FOR DORMANT SEEDING		

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED

1. STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION-SITE.
2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 14 DAYS OR MORE. THESE IDLE AREAS SHOULD BE SEEDED AS SOON AS POSSIBLE AFTER GRADING OR SHALL BE SEEDED WITHIN 7 DAYS. SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON TYPICAL CONSTRUCTION PROJECTS.
3. THE SEEDBED SHALL BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. HOWEVER, TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.
4. SOIL AMENDMENTS--APPLICATIONS OF TEMPORARY VEGETATION SHALL ESTABLISHED ADEQUATE STANDS OF VEGETATION WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. SOIL TESTS SHOULD BE TAKEN ON THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER.
5. SEEDING METHOD--SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

MULCHING TEMPORARY SEEDING

1. APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING OPTIMUM SEEDING DATES AND WITH FAVORABLE SOIL CONDITIONS AND ON VERY FLAT SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION.
2. MATERIALS: STRAW--IF STRAW IS USED, IT SHALL BE UNROTTED SMALL-GRAIN APPLIED AT 2 TONS/AC. OR 90 LB. / 1,000 SQ. FT. (TWO TO THREE BALES). THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ. FT. SECTIONS AND SPREAD TWO 45 LB. BALES OF STRAW IN EACH SECTION. HYDROSEEDERS--IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2,000 LB. / AC. OR 46 LB. /1,000 SQ. FT. OTHER--OTHER ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS / AC.
3. STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER. ANCHORING METHODS: MECHANICAL--A DISK, CRIMPER OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT, GENERALLY BE LEFT LONGER THAN 6 IN. MULCH NETTINGS--NETTINGS SHALL BE USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES. SYNTHETIC BINDERS--SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA-TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER. WOOD-CELLULOSE FIBRE--WOOD-CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB. /AC. THE WOOD-CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB. / 100 GAL.

BMP INSPECTION CHECKLIST

BMP	FREQUENCY	NOTES
GENERAL INSPECTION	EVERY 6 MO.	
STORM WATER BASIN	MONTHLY	
VEGETATION	MONTHLY	FIRST 2 GROWING SEASONS THEN TWICE A YEAR
SILT FENCE	MONTHLY	FIRST GROWING SEASON

REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE KEPT THROUGHOUT THE CONSTRUCTION PERIOD. INSPECTIONS MUST BE MADE A MINIMUM OF ONCE EVERY 7 DAYS AND IMMEDIATELY AFTER STORM EVENTS GREATER THAN 0.5 INCHES OF RAIN IN A 24 HOUR PERIOD. PROVIDED WILL BE NAME OF INSPECTOR, MAJOR OBSERVATIONS, DATED OF INSPECTION AND CORRECTIVE MEASURES TAKEN. RECORDS SHALL BE SUBMITTED TO THE CITY OF PATASKALA ENGINEERING DEPARTMENT FOR REVIEW BY MAY 1st OF EACH YEAR.

ALL CONTROL PRACTICES THAT REQUIRE REPAIR SHALL BE REPAIRED WITHIN THREE (3) DAYS OF THE INSPECTION.

ADDITIONAL SWP3 CONSIDERATIONS

NO OPEN BURNING

DUST CONTROL SHALL BE ACHIEVED BY USE OF WATERING TRUCKS. USE OF OIL IS STRICTLY PROHIBITED. INLET PROTECTION MUST BE IMPLEMENTED PRIOR TO DUST CONTROL MEASURES.

IN THE EVENT OF A PETROLEUM SPILL (>25 GALLONS) OR THE PRESENCE OF OIL SHEEN, THE CONTRACTOR SHALL CONTACT THE OHIO E.P.A. AT 800-282-9378, THE LOCAL FIRE DEPARTMENT.

SMALL SPILLS (<25 GALLONS) SHALL BE CLEANED UP USING AN ABSORBING AGENT, THE ABSORBING AGENT REMOVED AND DISPOSED OF ACCORDING TO FEDERAL REGULATIONS.

ALL TRENCH DEWATERING MEASURES SHALL BE DISCHARGED INTO SETTLING BASINS PRIOR TO DISCHARGE FROM SITE. BMP'S THAT REQUIRE REPAIR SHALL BE REPAIRED WITHIN 3 DAYS OF INSPECTION. SETTLING PONDS MUST BE REPAIRED WITHIN 10 DAYS OF INSPECTION.

STREETS ADJACENT TO SITE SHALL BE CLEANED AT THE END OF EACH WORK DAY.

POST-CONSTRUCTION BMP RATIONALE

STORM WATER MANAGEMENT AND POST CONSTRUCTION WATER QUALITY BMP'S HAVE BEEN ADDRESSED BY MEANS OF AN ON-SITE STORM WATER MANAGEMENT/WATER QUALITY BASIN.

MAINTENANCE FOR PERMANENT SEEDINGS FERTILIZATION AND MOWING

MIXTURE	FORMULA	LBS./ACRE	LBS./1,000 SQ. FT	TIME	MOWING
CREEPING RE FESCUE RYEGRASS KEENTCKY BLUEGRASS	10-10-10	500	12	FALL, YEARLY AS NEEDED	NOT CLOSER THAN 3"
TALL FESCUE	10-10-10	500	12		NOT CLOSER THAN 4"
TURF-TYPE FESCUE	10-10-10	500	12		
CROWN VETCH FESCUE	0-20-20	400	10	SPRING, YEARLY FOLLOWING ESTABLISHMENT AND EVERY 4-7 YEARS THEREAFTER	DO NOT MOW
FLAT PEA FESCUE	0-20-20	400	10		DO NOT MOW

NOTE: FOLLOWING SOIL TEST RECOMMENDATIONS IS PREFERRED TO FERTILIZER RATES SHOWN ABOVE.

SPECIFICATIONS FOR PERMANENT SEEDING

SITE PREPARATION

1. A SUBSOILER, PLOW OR OTHER IMPLEMENT SHALL BE USED TO REDUCE SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. (MAXIMIZING INFILTRATION WILL HELP CONTROL BOTH RUNOFF RATE AND WATER QUALITY.) SUBSOILING SHOULD BE DONE WHEN THE SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING SHALL NOT BE DONE ON SLIP-PRONE AREAS WHERE SOIL PREPARATION SHOULD BE LIMITED TO WHAT IS NECESSARY FOR ESTABLISHING VEGETATION.
2. THE SITE SHALL BE GRADED AS NEEDED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.
3. TOPSOIL SHALL BE APPLIED WHERE NEEDED TO ESTABLISH VEGETATION. SEEDBED PREPARATION
   a. LIME--AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED TO ACID SOIL AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, LIME SHALL BE APPLIED AT THE RATE OF 100 LB./1,000 SQ. FT. OR 2 TONS/ACRE.
   b. FERTILIZER--FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, FERTILIZER SHALL BE APPLIED AT A RATE OF 25 LB./1,000 SQ. FT. OR 1000 LB./ACRE OF 10-10-10 OR 12-12-12 ANALYSES.
   c. THE LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING-TOOTH HARROW OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3 INCHES. ON SLOPING LAND, THE SOIL SHALL BE WORKED ON THE CONTOUR.

EROSION PREVENTION PRACTICES

SEEDING DATES AND SOIL CONDITIONS

SEEDING SHOULD BE DONE MARCH 1 TO MAY 31 OR AUG 1 TO SEPTEMBER 30. IF SEEDING OCCURS OUTSIDE OF THE ABOVE SPECIFIED DATES, ADDITIONAL MULCH AND IRRIGATION MAY BE REQUIRED TO ENSURE A MINIMUM OF 80% GERMINATION. TILLAGE FOR SEEDBED PREPARATION SHOULD BE DONE WHEN SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. FOR WINTER SEEDING, SEE THE FOLLOWING SECTION ON DORMANT SEEDING.

DORMANT SEEDING

1. SEEDINGS SHOULD NOT BE MADE FROM OCTOBER 1 THROUGH NOVEMBER 20. DURING THIS PERIOD, THE SEEDS ARE LIKELY TO GERMINATE BUT PROBABLY WILL NOT BE ABLE TO SURVIVE THE WINTER.
2. THE FOLLOWING METHODS MAY BE USED FOR "DORMANT SEEDING":

- FROM OCTOBER 1 THROUGH NOVEMBER 20, PREPARE THE SEEDBED, ADD THE REQUIRED AMOUNTS OF LIME AND FERTILIZER, THEN MULCH AND ANCHOR. AFTER NOVEMBER 20, BROADCAST THE SELECTED SEED MIXTURE AT A 50% INCREASE IN THE SEEDING RATE.
- FROM NOVEMBER 20 THROUGH MARCH 15, WHEN SOIL CONDITIONS PERMIT, PREPARE THE SEEDBED, LIME AND FERTILIZE, APPLY THE SELECTED SEED MIXTURE, MULCH AND ANCHOR. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.
- APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER OR HYDRO-SEEDER (SLURRY MAY INCLUDE SEED AND FERTILIZER) ON A FIRM, MOIST SEEDBED.
- WHERE FEASIBLE, EXCEPT WHEN A CULTIPACKER TYPE SEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A CULTIPACKER, ROLLER OR LIGHT DRAG. ON SLOPING LAND, SEEDING OPERATIONS SHOULD FOLLOW THE CONTOUR WHERE FEASIBLE.

MULCHING

1. MULCH MATERIAL SHALL BE APPLIED IMMEDIATELY AFTER SEEDING. DORMANT SEEDING SHALL BE MULCHED. 100% OF THE GROUND SURFACE SHALL BE COVERED WITH AN APPROVED MATERIAL.
2. MATERIALS

STRAW--IF STRAW IS USED IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/ACRE OR 90 LB./1,000 SQ. FT. (TWO TO THREE BALES). THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF DIVIDE AREA INTO APPROXIMATELY 1,000-SQ.-FT. HAND-SPREAD MULCH, SECTIONS AND SPREAD TWO 45-LB. BALES OF STRAW IN EACH SECTION.

HYDROSEEDERS--IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2,000 LB./ACRE. OR 46 LB./1,000 SQ. FT.

OTHER--OTHER ACCEPTABLE MULCHES INCLUDE ROLLED EROSION CONTROL MATTINGS OR BLANKETS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS/ACRE.

3. STRAW AND MULCH ANCHORING METHODS

STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER.

MECHANICAL--A DISK, CRIMPER OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT GENERALLY LEFT LONGER THAN 6 IN.

MULCH NETTINGS-NETTINGS SHALL BE USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.

SYNTHETIC BINDERS-SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUIVALENT MAY BE USED AT RATES SPECIFIED BY THE MANUFACTURER.

EROSION PREVENTION PRACTICES

WOOD CELLULOSE FIBER--WOOD CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LBS./ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER WITH THE MIXTURE CONTAINING A MAXIMUM OF 50 LBS. CELLULOSE/100 GALLONS OF WATER.

IRRIGATION

1. PERMANENT SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY WEATHER OR ON ADVERSE SITE CONDITIONS, WHICH REQUIRE ADEQUATE MOISTURE FOR SEED GERMINATION AND PLANT GROWTH.
2. IRRIGATION RATES SHALL BE MONITORED TO PREVENT EROSION AND DAMAGE TO SEEDED AREAS FROM EXCESSIVE RUNOFF.

PERMANENT SEEDING

SEED MIX	SEEDING RATE		NOTES
	LBS./ACRE	LBS./1,000 SQ. FEET	
GENERAL USE			
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	20-40 10-20 20-40	1/2-1 1/4-1/2 1/2-1	FOR CLOSE MOWING & FOR WATERWAYS WITH<2.0 FT/SEC VELOCITY
TALL FESCUE	40-50	1-1 1/4	
TURF- TYPE (DWARF) FESCUE	90	2 1/4	
STEEP BANKS OR CUT SLOPES			
TALL FESCUE	40-50	1-1/4	
CROWN VETCH TALL FESCUE	10-20 20-30	1/4-1/2 1/2-3/4	DO NOT SEED LATER THAN AUGUST
FLAT PEA TALL FESCUE	20-25 20-30	1/2-3/4 1/2-3/4	DO NOT SEED LATER THAN AUGUST
ROAD DITCHES AND SWALES			
TALL FESCUE	40-50	1-1 1/4	
TURF-TYPE (DWARF) FESCUE KENTUCKY BLUEGRASS	90 5	2 1/4 0.1	
LAWNS			
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100-120	2 2	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	100-120	2 1-1/2	FOR SHADED AREAS

NOTE: OTHER APPROVAL SEED SPECIES MAY BE SUBSTITUTED.

TABLE 1: PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREAS

TABLE 2: TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND NOT AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, AND DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A SURFACE WATER OF THE STATE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S).
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER

WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNOBTAINABLE, ALTERNATIVE STABILIZATION TECHNIQUES MUST BE EMPLOYED. PERMANENT AND TEMPORARY STABILIZATION ARE DEFINED IN PART VII.

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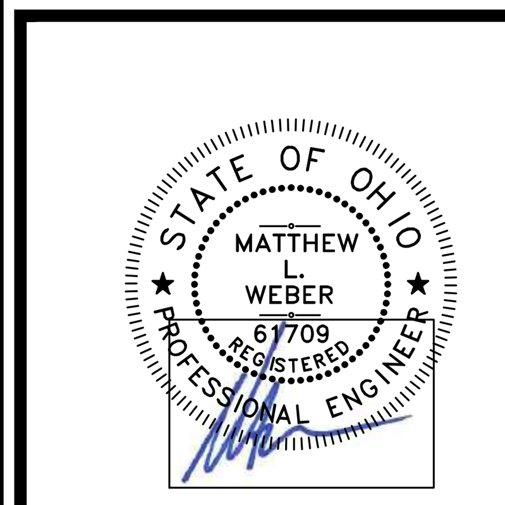

Reg. No.: 61709

CLIENT:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
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PHONE: (216) 218-3507

OWNER:

GEIS CONSTRUCTION

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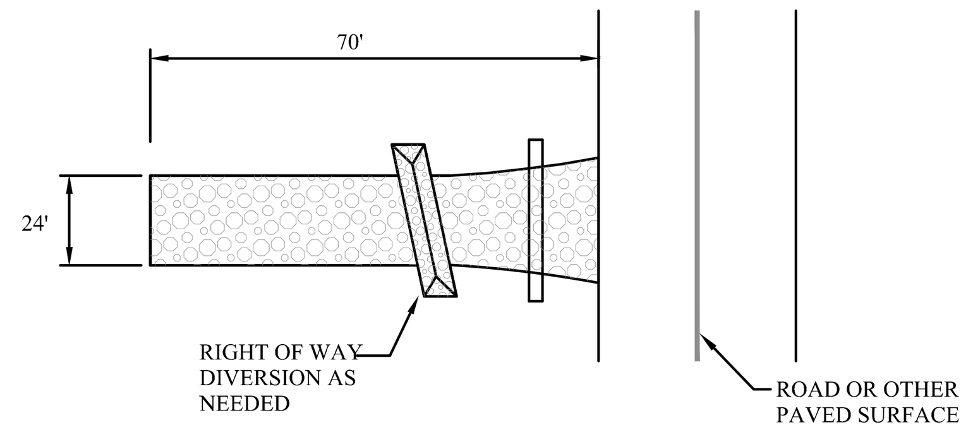
THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

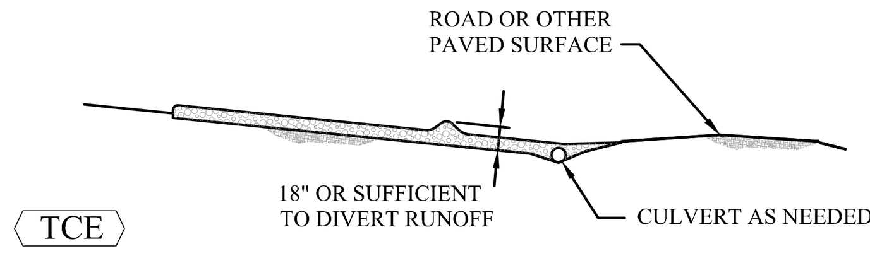
SWP3 DETAILS

C110
Project No. 2021-259



CONSTRUCTION ENTRANCE PLAN

REFERENCE ONLY NOT TO SCALE



TCE

CONSTRUCTION ENTRANCE PROFILE

REFERENCE ONLY NOT TO SCALE

1. STONE SIZE - ODOT #2 (1.5-2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABALIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY 30 FT. MINIMUM TO SINGLE RESIDENCE LOTS.)
3. THICKNESS- THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10 INCHES FOR HEAVY DUTY USE.
4. WIDTH- THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE- A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA PRIOR TO PLACING STONE . IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS.

GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCE	
MINIMUM TENSILE STRENGTH	200 LBS.
MINIIMUM PUNCTURE STRENGTH	80 PSI.
MINIMUM TEAR STRENGTH	50 LBS.
MINIMUM BURST STENGTH	320 PSI.
MINIMUM ELONGATION	20%
EQUIVALENT OPENIING SIZE	EOS<0.6MM.
PERMITTIVITY	1X10^3 CM/SEC.

6. TIMING- THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
7. CULVERT- A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECT OUT ONTO PAVED SURFACES.
8. WATER BAR- A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED
9. SURFACES.

MAINTENANCE- TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS,
10. SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.

CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND
11. PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.

REMOVAL- THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

TCE

SPECIFICATIONS FOR CONSTRUCTION ENTRANCE

REQUIREMENTS FOR GEOTEXTILES

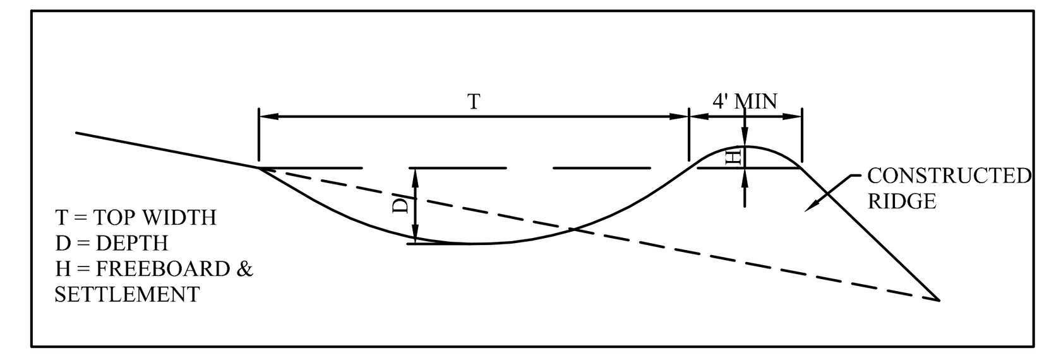
PROPERTY	TEST METHOD	WOVEN- CLASS I	NONWOVEN-I
TENSILE STRENGTH (POUNDS) 1/	ASTM C 4632 GRAB TEST	200 MINIMUM IN ANY PRINCIPAL DIRECTION	180 MINIMUM
ELONGATION AT FAILURE (PERCENT) 1/	ASTM D 4632 GRAB TEST	<50	> 50
PUNCTURE (POUNDS) 1/	ASTM D 4833	90 MINIMUM	80 MINIMUM
ULTRAVIOLET LIGHT (% RESIDUAL TENSILE STRENGTH)	ASTM D 4355 150-HR EXPOSURE	70 MINIMUM	70 MINIMUM
APPARENT OPENING SIZE (AOS)	ASTM D 4751	AS SPECIFIED, BUT NO SMALLER THAN .212 (#70) 2/	AS SPECIFIED MAX. #40 2/
PERCENT OPEN AREA (PERCENT)	CWO-02215-86	4.0 MINIMUM	------
PERMITIVITY SEC-1	ASTM D 4491	0.10 MINIMUM	0.70 MINIMUM

1. MINIMUM AVERAGE ROLL VALUE (WEAKEST PRINCIPAL DIRECTION).
2. U.S. STANDARD SIEVE SIZE

NOTE: CWO IS A USACE REFERENCE

RIPRAP SIZE CHART

TYPE OF ROCK OR RIPRAP (ODOT)	"N" VALUE	SIZE OF ROCK	
		50%	85%
TYPE D	.036	>6 IN.	3-12 IN.
TYPE C	.04	>12 IN.	6-18 IN.
TYPE B	.043	>18 IN.	12-24 IN.
TYPE A	.045	>24 IN.	18-30 IN.

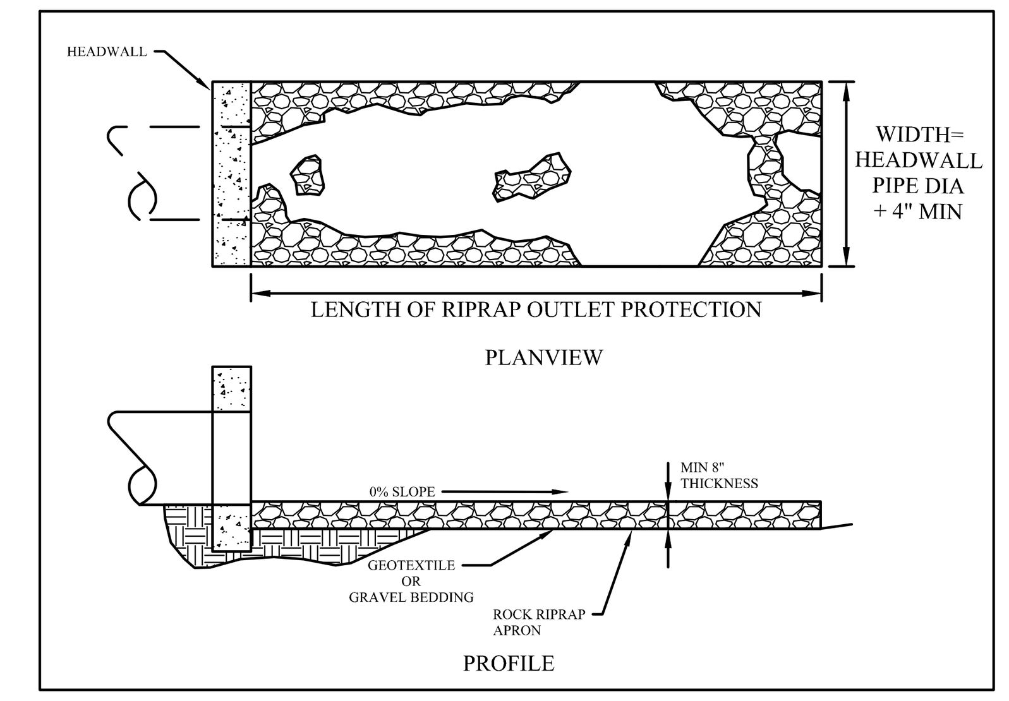


1. ALL TREES, BRUSH, STUMPS, AND OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE WORK SITE.
2. THE DIVERSION SHALL BE EXCAVATED AND SHAPED TO THE PROPER GRADE AND CROSS SECTION.
3. FILL MATERIAL USED IN THE CONSTRUCTION OF THE CHANNEL SHALL BE WELL COMPACTED IN UNIFORM LAYERS NOT EXCEEDING 9 INCHES USING THE WHEEL TREADS OR TRACKS OF THE CONSTRUCTION EQUIPMENT TO PREVENT UNEQUAL SETTLEMENT.
4. EXCESS EARTH SHALL BE GRADED OR DISPOSED OF SO THAT IT WILL NOT RESTRICT FLOW TO THE CHANNEL OR INTERFERE WITH ITS FUNCTIONING.
5. FERTILIZING, SEEDING, AND MULCHING SHALL CONFORM TO THE RECOMMENDATION IN THE APPLICABLE VEGETATIVE SPECIFICATIONS.
6. CONSTRUCTION SHALL BE SEQUENCED SO THAT THE NEWLY CONSTRUCTED CHANNEL IS STABILIZED PRIOR TO BECOMING OPERATIONAL. TO AID IN THE ESTABLISHMENT OF VEGETATION, SURFACE WATER MAY BE PREVENTED FROM ENTERING THE NEWLY CONSTRUCTED CHANNEL THROUGH THE ESTABLISHMENT PERIOD.
7. GULLIES THAT MAY FORM IN THE CHANNEL OR OTHER EROSION DAMAGE THAT OCCURS BEFORE THE GRASS LINING BECOMES ESTABLISHED SHALL BE REPAIRED WITHOUT DELAY.

TDC

SPECIFICATIONS FOR TEMPORARY DIVERSION

REFERENCE ONLY NOT TO SCALE

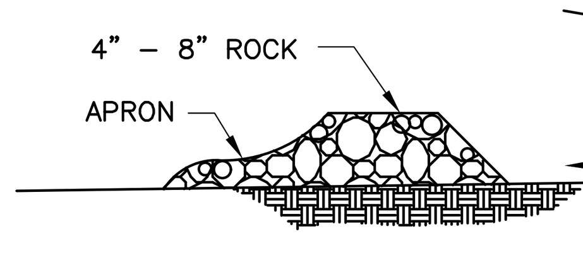


1. SUBGRADE FOR THE FILTER OR BEDDING AND RIPRAP SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES AS SHOWN ON THE PLAN. THE SUBGRADE SHALL BE CLEARED OF ALL TREES, STUMPS, ROOTS, SOD, LOOSE ROCK, OR OTHER MATERIAL.
2. RIPRAP SHALL CONFORM TO THE GRADING LIMITS AS SHOWN ON THE PLAN.
3. GEOTEXTILE SHALL BE SECURELY ANCHORED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS.
4. GEOTEXTILE SHALL BE LAID WITH THE LONG DIMENSION PARALLEL TO THE DIRECTION OF FLOW AND SHALL BE LAID LOOSELY BUT WITHOUT WRINKLES AND CREASES. WHERE JOINTS ARE NECESSARY, STRIPS SHALL BE PLACED TO PROVIDE A 12-IN. MINIMUM OVERLAP, WITH THE UPSTREAM STRIP OVERLAPPING THE DOWNSTREAM STRIP.
5. GRAVEL BEDDING SHALL BE ODOT NO. 67'S OR 57'S UNLESS SHOWN DIFFERENTLY ON THE DRAWINGS.
6. RIPRAP MAY BE PLACED BY EQUIPMENT BUT SHALL BE PLACED IN A MANNER TO PREVENT SLIPPAGE OR DAMAGE TO THE GEOTEXTILE.
7. RIPRAP SHALL BE PLACED BY A METHOD THAT DOES NOT CAUSE SEGREGATION OF SIZES. EXTENSIVE PUSHING WITH A DOZER CAUSES SEGREGATION AND SHALL BE AVOIDED BY DELIVERING RIPRAP NEAR ITS FINAL LOCATION WITHIN THE CHANNEL.
8. CONSTRUCTION SHALL BE SEQUENCED SO THAT OUTLET PROTECTION IS PLACED AND FUNCTIONAL WHEN THE STORM DRAIN, CULVERT, OR OPEN CHANNEL ABOVE IT BECOMES OPERATIONAL.
9. ALL DISTURBED AREAS WILL BE VEGETATED AS SOON AS PRACTICAL.

OP

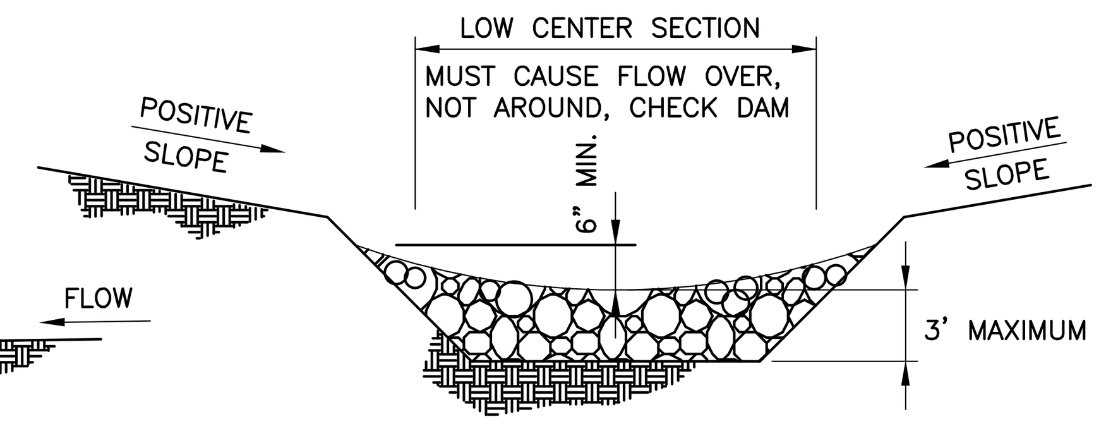
SPECIFICATIONS FOR ROCK OUTLET PROTECTION

REFERENCE ONLY NOT TO SCALE



CHECK DAM PROFILE

NO SCALE



CHECK DAM CROSS SECTION

NO SCALE

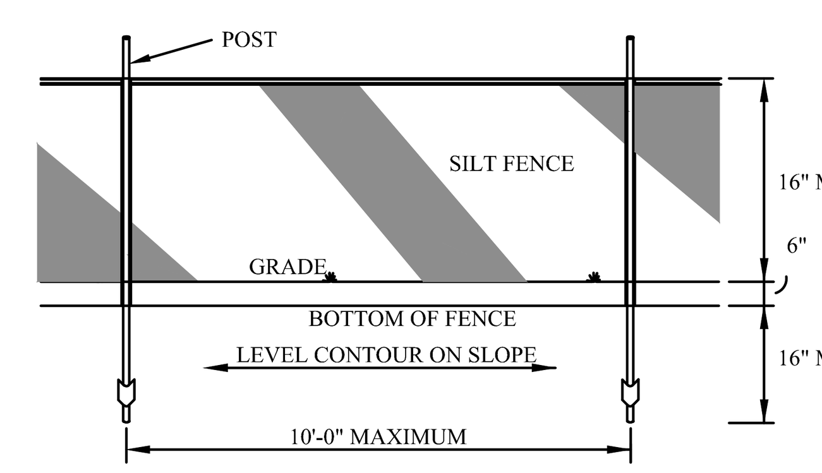
1. THE CHECK DAM SHALL BE CONSTRUCTED OF 4-8 INCH DIAMETER STONE, PLACED SO THAT IT COMPLETELY COVER THE WIDTH OF THE CHANNEL. ODOT TYPE D STONE IS ACCEPTABLE, BUT SHOULD BE UNDERLAIN WITH A GRAVEL FILTER CONSISTING OF ODOT NO. 3 OR 4 OR SUITABLE FILTER FABRIC.
2. MAXIMUM HEIGHT OF CHECK DAM SHALL NOT EXCEED 3.0 FEET.
3. THE MIDPOINT OF THE ROCK CHECK DAM SHALL BE A MINIMUM OF 6 INCHES LOWER THAN THE SIDES IN ORDER TO DIRECT ACROSS THE CENTER AND AWAY FROM THE CHANNEL SIDES.
4. THE BASE OF THE CHECK DAM SHALL BE ENTRENCHED APPROXIMATELY 6 INCHES.
5. SPACING OF CHECK DAMS SHALL BE IN A MANNER SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
6. A SPLASH APRON SHALL BE CONSTRUCTED WHERE CHECK DAMS ARE EXPECTED TO BE IN USE FOR AN EXTENDED PERIOD OF TIME, A STONE APRON SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE CHECK DAM TO PREVENT FLOWS FROM UNDERCUTTING THE STRUCTURE. THE APRON SHOULD BE 6 IN. THICK AND ITS LENGTH TWO TIMES THE HEIGHT OF THE DAM.
7. STONE PLACEMENT SHALL BE PERFORMED EITHER BY HAND OR MECHANICALLY AS LONG AS THE CENTER OF CHECK DAM IS LOWER THAN THE SIDES AND EXTNEDS ACROSS ENTIRE CHANNEL.
8. SIDE SLOPES SHALL BE MINIMUM OF 2:1

CHECK DAM SPACING				
DAM HEIGHT (FT)	CHANNEL SLOPE			
	<5%	5 – 10%	10 – 15%	15 – 20%
1	65 FT.	30 FT.	20 FT.	15 FT.
2	130 FT.	65 FT.	40 FT.	30 FT.
3	200 FT.	100 FT.	65 FT.	50 FT.

TCD

ROCK CHECK DAMS

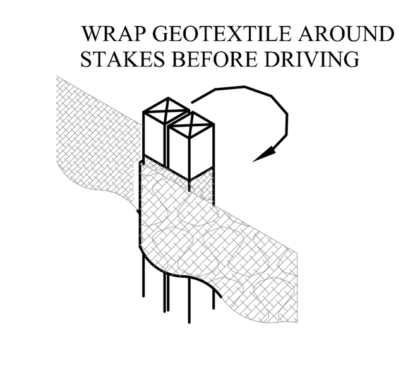
REFERENCE ONLY NOT TO SCALE



SF

SILT FENCE DETAIL

REFERENCE ONLY NOT TO SCALE



JOINING SECTIONS OF SILT FENCE DETAIL

REFERENCE ONLY NOT TO SCALE

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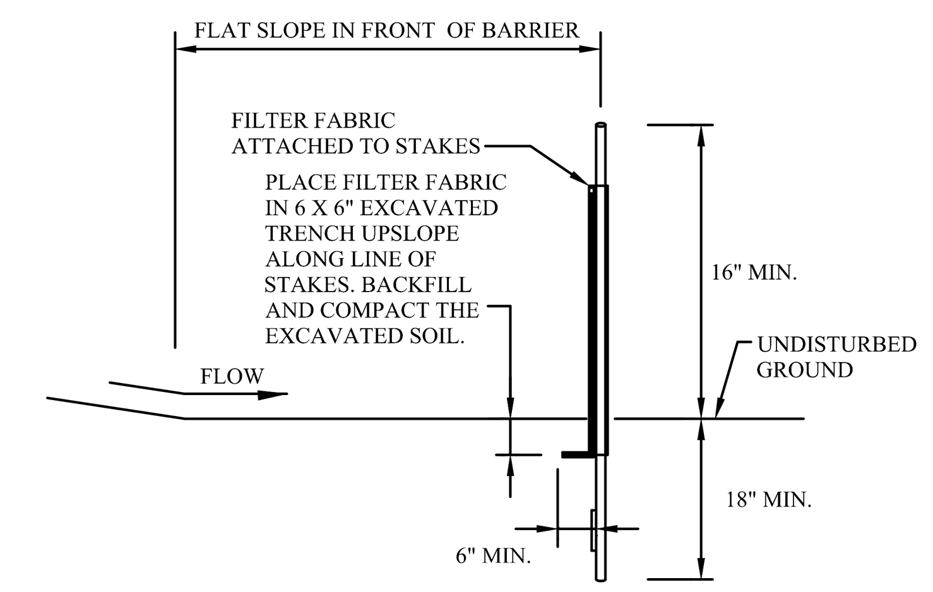

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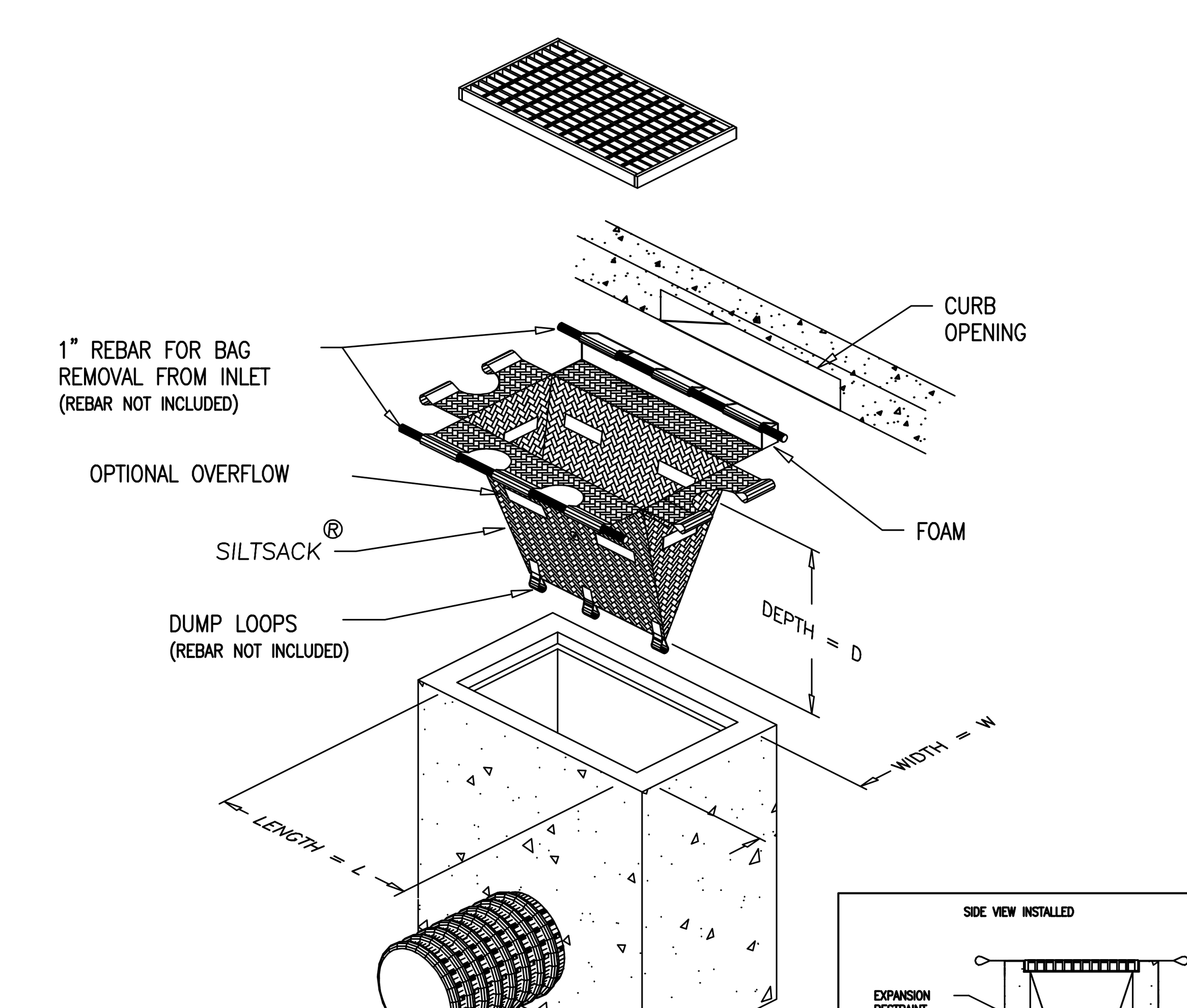
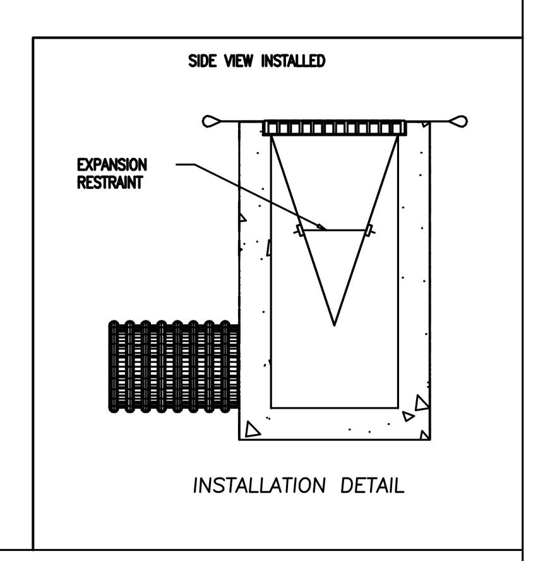
SILT FENCE SECTION

REFERENCE ONLY NOT TO SCALE





INLET PROTECTION NOTE

1. THE TYPICAL INLET SILT FENCE DETAIL SHALL REMAIN IN PLACE UNTIL PAVEMENT IS ESTABLISHED.
2. ONCE PAVEMENT HAS BEEN INSTALLED, THE INLETS WITHIN THE PAVING LIMITS MUST BE FITTED WITH THE "SILTSACK" SEDIMENT CONTROL DEVICE AS MANUFACTURED BY ACF ENVIROMENTAL CONTROL INC., OR APPROVED EQUAL.
3. SILT SACK MUST REMAIN IN PLACE UNTIL THE SITE HAS BEEN SEEDED & STABILIZED.

DETAIL OF INLET SEDIMENT CONTROL DEVICE WITH CURB DEFLECTOR

IPSS

SILTSACK DETAIL

1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
4. WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FT. (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
6. THE HEIGHT OF THE SILT FENCE SHALL BE A MIN. OF 16 IN. ABOVE THE ORIGINAL GROUND SURFACE.
7. THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MIN. OF 6 IN. DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWN SLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8 IN. OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6 IN. DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE FABRIC.
9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-IN. OVERLAP PRIOR TO DRIVING INTO THE GROUND.
10. MAINTENANCE--SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

SEDIMENT DEPOSITS SHALL BE ROUTINELY REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELYONE-HALF OF THE HEIGHT OF THE SILT FENCE.

SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING A PROLONGED RAINFALL. THE LOCATION OF EXISTING SILT FENCE SHALL BE REVIEWED DAILY TO ENSURE ITS PROPER LOCATION AND EFFECTIVENESS. IF DAMAGED, THE SILT FENCE SHALL BE REPAIRED IMMEDIATELY.

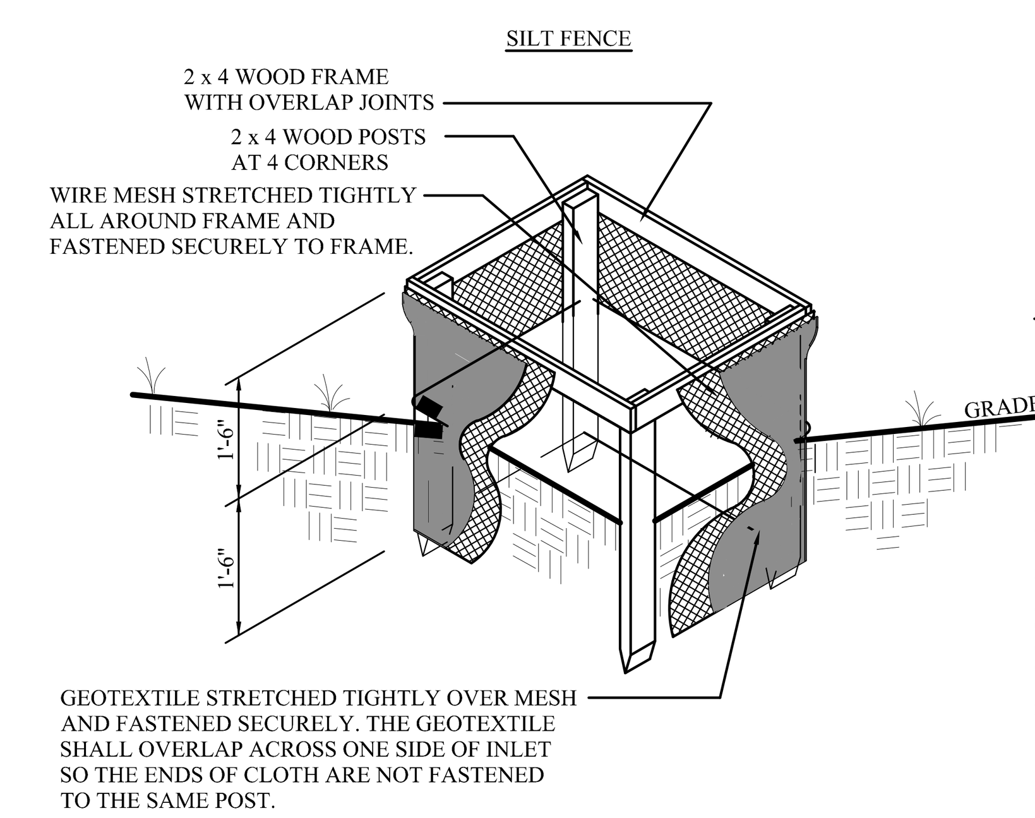
CRITERIA FOR SILT FENCE MATERIALS

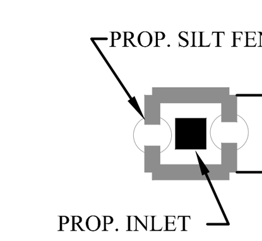
1. FENCE POSTS-- THE LENGTH SHALL BE A MINIMUM OF 32 IN. LONG. WOOD POSTS WILL BE 2-BY-2 IN. HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
2. SILT FENCE FABRIC (SEE CHART BELOW):

MINIMUM CRITERIA FOR SILT FENCE FABRIC (ODOT, 2002)		
FABRIC PROPERTIES	VALUES	TEST METHOD
MINIMUM TENSILE STRENGTH	120 LBS. (535 N)	ASTM D 4362
MAXIMUM ELONGATION AT 60 LBS	50%	ASTM D 4632
MINIMUM PUNCTURE STRENGTH	50 LBS (220 N)	ASTM D 4833
MINIMUM TEAR STRENGTH	40 LBS (180 N)	ASTM D 4533
APPARENT OPENING SIZE	<.84 MM	ASTM D 4751
MINIMUM PERMITTIVITY	1X10^2 SEC^-1	ASTM D 4491
UV EXPOSURE STRNEGTH RETENTION	70%	ASTM D 4355

SF

SPECIFICATIONS FOR SILT FENCE





TYPICAL SILT FENCE INSTALLATION AT ALL INLETS

1. THE TYPICAL INLET SILT FENCE DETAIL SHALL REMAIN IN PLACE UNTIL PAVEMENT IS ESTABLISHED.
2. ONCE PAVEMENT HAS BEEN INSTALLED, THE INLETS WITHIN THE PAVING LIMITS MUST BE FITTED WITH THE "SILTSACK" SEDIMENT CONTROL DEVICE AS MANUFACTURED BY ACF ENVIROMENTAL CONTROL INC., OR APPROVED EQUAL.
3. SILT SACK MUST REMAIN IN PLACE UNTIL THE SITE HAS BEEN SEEDED & STABILIZED.

1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM INLET BECOMES FUNCTIONAL
2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 INCHES.
3. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2-BY-4-IN. CONSTRUCTION-GRADE LUMBER. THE 2-BY-4-IN. POSTS SHALL BE DRIVEN 1 FT. INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2-BY-4-IN. FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
4. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
5. GEOTEXTILE MATERIAL SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20-40- SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM TOP OF THE FRAME TO 18 INCHES BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ON SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
6. BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6-IN. LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
7. A COMPACTED EARTH DIKE OR A CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION AND IF RUNOFF BYPASSING THE INLET WILL NOT FLOW TO A SETTLING POND. THE TOP OF EARTH DIKES SHALL BE AT LEAST 6 INCHES HIGHER THAN THE TOP OF THE FRAME.

MAINTENANCE

EFFECTIVE STORM DRAIN INLET PROTECTION COLLECTS SEDIMENT AND THEREFORE MUST BE CLEANED REGULARLY TO PREVENT CLOGGING AND SUBSEQUENT FLOODING CONDITIONS, PIPING, OR OVERTOPPING OF THE CONTROL STRUCTURES. SEDIMENT BARRIERS THAT SAG, FALL OVER, OR ARE NOT PROPERLY SECURED, MUST BE PROMPTLY REPAIRED OR REPLACED.

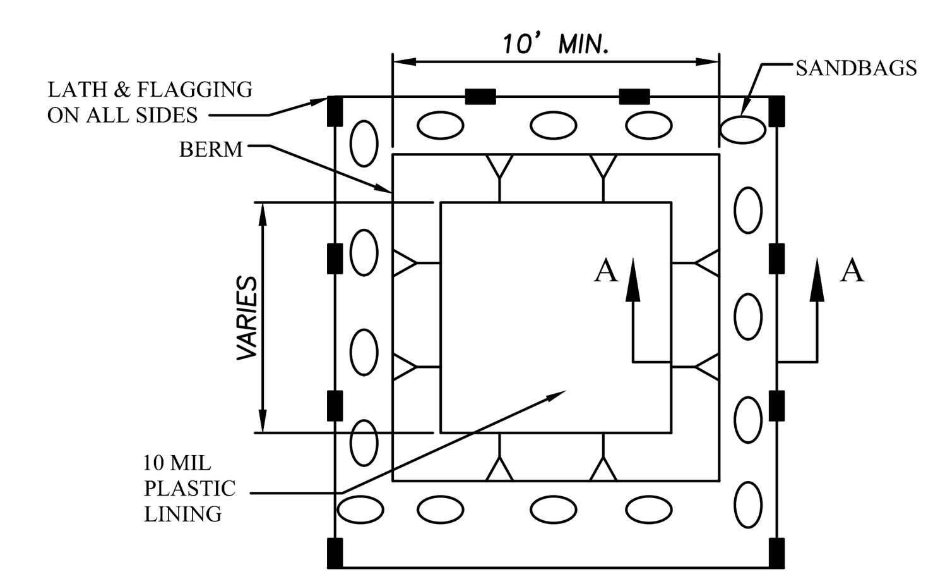
INLET PROTECTION SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT. AREAS WHERE THERE IS ACTIVE TRAFFIC SHALL BE INSPECTED DAILY. REPAIRS SHALL BE MADE AS NEEDED TO ASSURE THE PRACTICE IS PERFORMING AS INTENDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION IS ONE-HALF THE HEIGHT OF THE TRAP. SEDIMENT SHALL NOT BE WASHED INTO THE INLET. SEDIMENT SHALL BE REMOVED AND PLACED IN A LOCATION WHERE IT IS STABLE AND NOT SUBJECT TO EROSION.

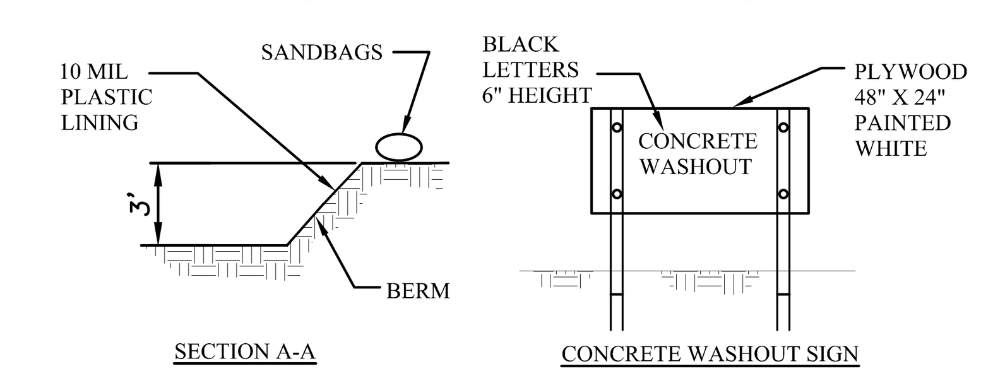
ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, ALL FILTER MATERIAL AND COLLECTED SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED.

IP

SPECIFICATIONS FOR GEOTEXTILE INLET PROTECTION

REFERENCE ONLY NOT TO SCALE





1. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE LOCATED A MINIMUM OF 50 FT FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, AND WATERCOURSES. FACILITY SHALL BE LOCATED AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS AREAS TO PREVENT DISTURBANCE OR TRACKING.
2. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED AS SHOWN ON THE DETAIL WITH A MINIMUM LENGTH AND MINIMUM WIDTH OF 10'.
3. LATH AND FLAGGING SHALL BE COMMERCIAL TYPE.
4. PLASTIC LINING MATERIAL SHALL BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHALL BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
5. A SIGN SHALL BE INSTALLED ADJACENT TO WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.
6. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL HAVE A TEMPORARY PIT OR BERMED AREAS OF SUFFICIENT VOLUME TO COMPLETELY CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT PROCEDURES.
7. WASHOUT OF CONCRETE TRUCKS SHALL BE PERFORMED IN DESIGNATED AREAS ONLY.
8. ONLY CONCRETE FROM MIXER TRUCK CHUTES SHOULD BE WASHED INTO CONCRETE WASHOUT.
9. CONCRETE WASHOUT FROM CONCRETE PUMPER BINS CAN BE WASHED INTO CONCRETE PUMPER TRUCKS AND DISCHARGED INTO DESIGNATED WASHOUT AREA OR PROPERLY DISPOSED OF OFFSITE.
10. CONCRETE WASTES SHALL BE ALLOWED TO HARDEN THEN BROKEN UP, REMOVED, AND PROPERLY DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATION ON A REGULAR BASIS.
11. WHEN TEMPORARY WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHALL BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT THE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.

TCW

TEMP. CONCRETE WASHOUT FACILITY

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THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

SWP3 DETAILS

C111

Project No. 2021-259

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THAYER
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3003 ETNA PARKWAY, PATASKALA, OHIO

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SWP3 DETAILS

C112
Project No. 2021-259

SPECIFICATIONS FOR DUST CONTROL

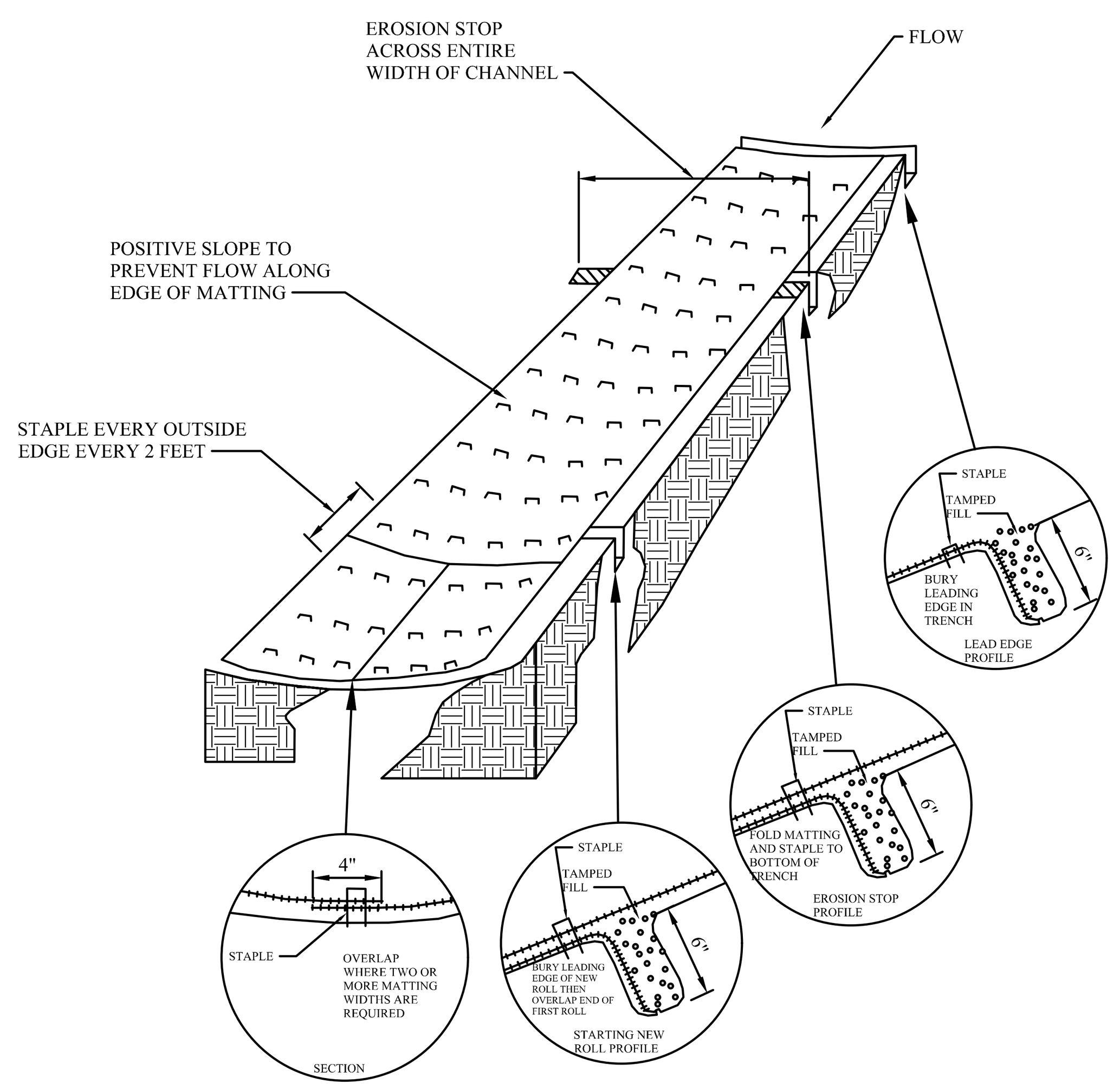
ADHESIVES FOR DUST CONTROL			
ADHESIVE	WATER DILUTION (ADHESIVE WATER)	NOZZLE TYPE	APPLICATION RATE GAL./AC.
LATEX EMULSION	12.5:1	FINE	235
TESIN IN WATER ACRYLIC EMULSION (NO-TRAFFIC)	4:1	FINE	300
ACRYLIC EMULSION (NO-TRAFFIC)	7:1	COARSE	450
ACRYLIC EMULSION (TRAFFIC)	3.5:1	COARSE	350

1. VEGETATIVE COVER AND/MULCH- APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 21 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING; PERMANENT SEEDING; MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.

2. WATERING- SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.

3. SPRAY-ON ADHESIVES-APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURERS' INSTRUCTIONS
4. STONE - GRADED ROADWAYS AND OTHER SUITABLE AREAS WILL BE STABILIZED USING CRUSHED STONE OR COARSE GRAVEL AS SOON AS PRACTICABLE AFTER REACHING AN INTERIM OR FINAL GRADE. CRUSHED STONE OR COARSE GRAVEL CAN BE USED AS A PERMANENT COVER TO PROVIDE CONTROL OF SOIL EMISSIONS.
5. BARRIERS- EXISTING WINDBREAK VEGETATION SHALL BE MARKED AND PRESERVED. SNOW FENCING OR OTHER SUITABLE BARRIER MAY BE PLACED PERPENDICULAR TO PREVAILING AIR CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT TO CONTROL AIR CURRENTS AND BLOWING SOIL
6. CALCIUM CHLORIDE - THIS CHEMICAL MAY BE APPLIED BY MECHANICAL SPREADER AS LOOSE, DRY GRANULES OR FLAKES AT A RATE THAT KEEPS THE SURFACE MOIST BUT NOT SO HIGH AS TO CAUSE WATER POLLUTION OR PLANT DAMAGE. APPLICATION RATES SHOULD BE STRICTLY IN ACCORDANCE WITH SUPPLIERS' SPECIFIED RATES.
7. OPERATION AND MAINTENANCE - WHEN TEMPORARY DUST CONTROL MEASURES ARE USED; REPETITIVE TREATMENT SHOULD BE APPLIED AS NEEDED TO ACCOMPLISH CONTROLS.

STREET CLEANING- PAVED ARES THAT HAVE ACCUMULATED SEDIMENT FROM CONSTRUCTION SHOULD BE CLEANED DAILY, OR AS NEED, UTILIZING A STREET SWEEPER OR BUCKET-TYPE ENDLOADER OR SCRAPER.



ECM — TEMPORARY ROLLED EROSION CONTROL PRODUCT DETAIL
REFERENCE ONLY NOT TO SCALE

SPECIFICATIONS FOR TEMPORARY ROLLED EROSION CONTROL PRODUCT

1. CHANNEL/SLOPE SOIL PREPARATION GRADE AND COMPACT AREA OF INSTALLATION, PREPARING SEEDBED BY LOOSENING 2"-3" OF TOPSOIL ABOVE FINAL GRADE. INCORPORATE AMENDMENTS SUCH AS LIME AND FERTILIZER INTO SOIL. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER DEBRIS SO THAT INSTALLED RECP WILL HAVE DIRECT CONTACT WITH THE SOIL SURFACE.

2. CHANNEL/SLOPE SEEDING APPLY SEED TO SOIL SURFACE PRIOR TO INSTALLATION. ALL CHECK SLOTS, ANCHOR TRENCHES, AND OTHER DISTURBED AREAS MUST BE RESEEDED. REFER TO THE PERMANENT SEEDING SPECIFICATION FOR SEEDING RECOMMENDATIONS.

SLOPE INSTALLATION

3. EXCAVATE TOP AND BOTTOM TRENCHES (12"X6"). INTERMITTENT EROSION CHECK SLOTS (6"X6") MAY BE REQUIRED BASED ON SLOPE LENGTH. EXCAVATE TOP ANCHOR TRENCH 2'X3' OVER CREST OF THE SLOPE

4. IF INTERMITTENT EROSION CHECK SLOTS ARE REQUIRED, INSTALL RECP IN 6"X6" SLOT AT A MAXIMUM OF 30' CENTERS OR THE MID POINT OF THE SLOPE. RECP SHOULD BE STAPLED INTO TRENCH ON 12" CENTERS.

5. INSTALL RECP IN TOP ANCHOR TRENCH, ANCHOR ON 12" SPACING, BACKFILL AND COMPACT SOIL.

6. UNROLL RECP DOWN SLOPE WITH ADJACENT ROLLS OVERLAPPED A MINIMUM OF 3". ANCHOR THE SEAM EVERY 18". LAY THE RECP LOOSE TO MAINTAIN DIRECT SOIL CONTACT, DO NOT PULL TAUGHT.

7. OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSLOPE RECP ON TOP FOR A SHINGLE EFFECT. BEGIN ALL NEW ROLLS IN AN EROSION CHECK SLOT IF REQUIRED; DOUBLE ANCHOR ACROSS ROLL EVERY 12".

8. INSTALL RECP IN BOTTOM ANCHOR TRENCH (12"X6"), ANCHOR EVERY 12". PLACE ALL OTHER STAPLES THROUGHOUT SLOPE AT 1 TO 2.5 PER SQUARE YARD DEPENDANT ON SLOPE. REFER TO MANUFACTURES ANCHOR GUIDE.

CHANNEL INSTALLATION

9. EXCAVATE INITIAL ANCHOR TRENCH (12"X6") ACROSS THE LOWER END OF THE PROJECT AREA.

10. EXCAVATE INTERMITTENT CHECK SLOTS (6"X6") ACROSS THE CHANNEL AT 30' INTERVALS ALONG THE CHANNEL.

11. EXCAVATE LONGITUDINAL CHANNEL ANCHOR SLOTS (4"X4") ALONG BOTH SIDES OF THE CHANNEL TO BURY THE EDGES. WHENEVER POSSIBLE EXTEND THE RECP 2'-3' ABOVE THE CREST OF CHANNEL SIDE SLOPES.

12. INSTALL RECP IN INITIAL ANCHOR TRENCH (DOWNSTREAM) ANCHOR EVERY 12", BACKFILL AND COMPACT SOIL.

13. ROLL OUT RECP BEGINNING IN THE CENTER OF THE CHANNEL TOWARD THE INTERMITTENT CHECK SLOT. DO NOT PULL TAUGHT. UNROLL ADJACENT ROLLS UPSTREAM WITH A 3" MINIMUM OVERLAP (ANCHOR EVERY 18") AND UP EACH CHANNEL SIDE SLOPE.

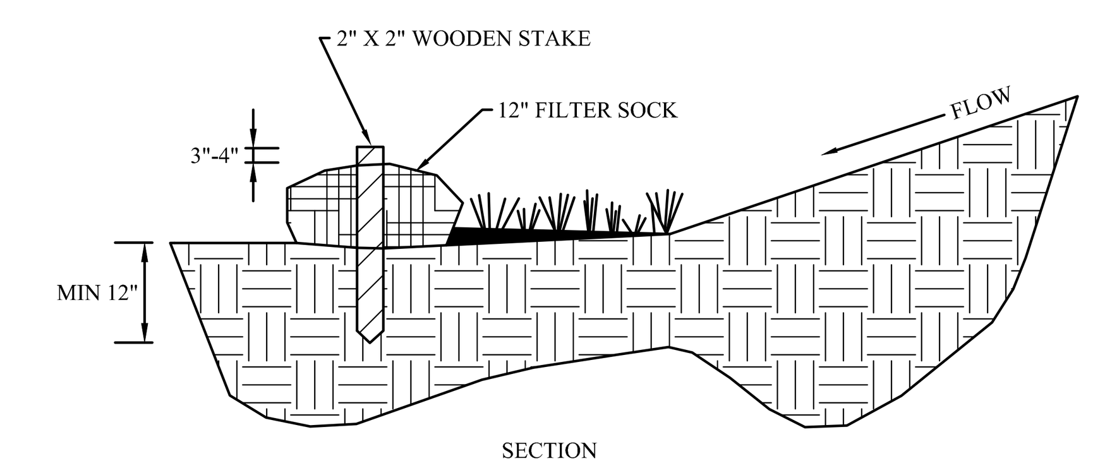
14. AT TOP OF CHANNEL SIDE SLOPES INSTALL RECP IN THE LONGITUDINAL ANCHOR SLOTS, ANCHOR EVERY 18".

15. INSTALL RECP IN INTERMITTENT CHECK SLOTS. LAY INTO TRENCH AND SECURE WITH ANCHORS EVERY 12", BACKFILL WITH SOIL AND COMPACT.

16. OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSTREAM RECP ON TOP FOR A SHINGLING EFFECT. BEGIN ALL NEW ROLLS IN AN INTERMITTENT CHECK SLOT, DOUBLE ANCHOR EVERY 12".

17. INSTALL UPSTREAM END IN A TERMINAL ANCHOR TRENCH (12"X6"); ANCHOR EVERY 12", BACKFILL AND COMPACT.

18. COMPLETE ANCHORING THROUGHOUT CHANNEL AT 2.5 PER SQUARE YARD USING SUITABLE GROUND ANCHORING DEVICES (U SHAPED WIRE STAPLES, METAL GEOTEXTILE PINS, PLASTIC STAKES, AND TRIANGULAR WOODEN STAKES). ANCHORS SHOULD BE OF SUFFICIENT LENGTH TO RESIST PULLOUT. LONGER ANCHORS MAY BE REQUIRED IN LOOSE SAND OR GRAVELLY SOILS.



1. MATERIALS-COMPOST USED FOR FILTER SOCKS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF PARTICLES RANGING FROM $\frac{3}{8}$" TO 2"

2. FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE $\frac{3}{8}$" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST PASSING THE ABOVE SPECIFICATIONS FOR COMPOST PRODUCTS.

INSTALLATION:

3. FILTER SOCKS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MID-SLOPE.

4. FILTER SOCKS INTENDED TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE SHALL BE SEEDED AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.

5. FILTER SOCKS ARE NOT TO BE USED IN CONCENTRATE FLOW SITUATIONS OR IN RUNOFF CHANNELS.

MAINTENANCE:

6. ROUTINELY INSPECT FILER SOCKS AFTER EACH SIGNIFICANT RAIN. MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.

7. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.

8. WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.

9. REMOVAL-FILTER SOCKS WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH A WAY AS TO FACILITATE AN NO OBSTRUCT SEEDINGS.

CFS — COMPOST FILTER SOCK DETAIL
REFERENCE ONLY NOT TO SCALE

SPECIFICATIONS FOR MULCHING

1. MULCH AND OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN 21 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.

2. MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:
- STRAW - SHALL BE UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/AC. OR 90 LB./1,000 SQ. FT. (TWO TO THREE BALES). THE STRAW MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000-SQ.-FT. SECTIONS AND PLACE TWO 45-LB. BALES OF STRAW IN EACH SECTION.
- HYDROSEEDERS - WOOD CELLULOSE FIBER SHOULD BE USED AT 2,000 LB./AC. OR 46 LB./1,000 SQ. FT.
- OTHER - ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS AND ROLLED EROSION CONTROL PRODUCTS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD MULCH/CHIPS APPLIED AT 10-20 TONS/AC.

3. MULCH ANCHORING - MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH:
- MECHANICAL - USE A DISK, CRIMPER, OR SIMILAR TYPE TOOL SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT BE LEFT GENERALLY LONGER THAN 6 INCHES.
- MULCH NETTINGS - USE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING REQUIREMENTS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
- SYNTHETIC BINDERS - FOR STRAW MULCH, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK, OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER. ALL APPLICATIONS OF SYNTHETIC BINDERS MUST BE CONDUCTED IN SUCH A MANNER WHERE THERE IS NO CONTACT WITH WATER OF THE STATE.
- WOOD CELLULOSE FIBER - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LBS./AC. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB./100 GAL. OF WOOD CELLULOSE FIBER.

SPECIFICATIONS FOR SODDING

MATERIALS
1. SOD SHALL BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 48 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE INSPECTED AND APPROVED PRIOR TO INSTALLATION.

2. THE SOD SHALL BE KEPT MOIST AN COVERED DURING HAULING AND PREPARATION FOR PLACEMENT.

3. SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 0.75 INCHES, PLUS OR MINUS 0.25 INCHES, AT THE TIME OF CUTTING. MEASUREMENTS FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH.

SITE PREPARATION
1. A SUBSOILER, PLOW OR OTHER IMPLEMENT SHALL BE USED TO REDUCE SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. MAXIMIZING INFILTRATION WILL HELP CONTROL BOTH RUNOFF RATE AND WATER QUALITY. SUBSOILING SHALL NOT BE CONDUCTED ON SLIP-PRONE AREAS WHERE SOIL PREPARATION SHOULD BE LIMITED ONLY TO WHAT IS NECESSARY FOR ESTABLISHING VEGETATION.

2. THE AREA SHALL BE GRADED AND TOPSOIL SPREAD WHERE NEEDED.

3. SOIL AMENDMENTS

LIME- AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED TO ACIDIC SOILS AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, LIME SHALL BE APPLIED AT THE RATE OF 100 LB./1,000 SQ. FT OR 2 TONS/AC.

FERTILIZER- FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A 2 SOIL TEST FERTILIZER SHALL BE APPLIED AT A RATE OF 12 LB./1,000 SQ. FT OR 500 LB./AC. OF 10-10-10 OR 12-12-12 ANALYSIS

THE LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING-TOOTH HARROW, OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3 INCHES.

4. BEFORE LAYING SOD, THE SURFACE SHALL BE UNIFORMLY GRADED AND CLEARED OF ALL DEBRIS, STONES AND CLODS LARGER THAN 3-IN. DIAMETER.

SOD INSTALLATION
1. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURES, THE SOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY BEFORE LAYING THE SOD.

2. SOD SHALL NOT BE PLACED ON FROZEN SOIL.

3. THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED IN A BRICK-LIKE PATTERN. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS THAT WOULD DRY THE ROOTS.

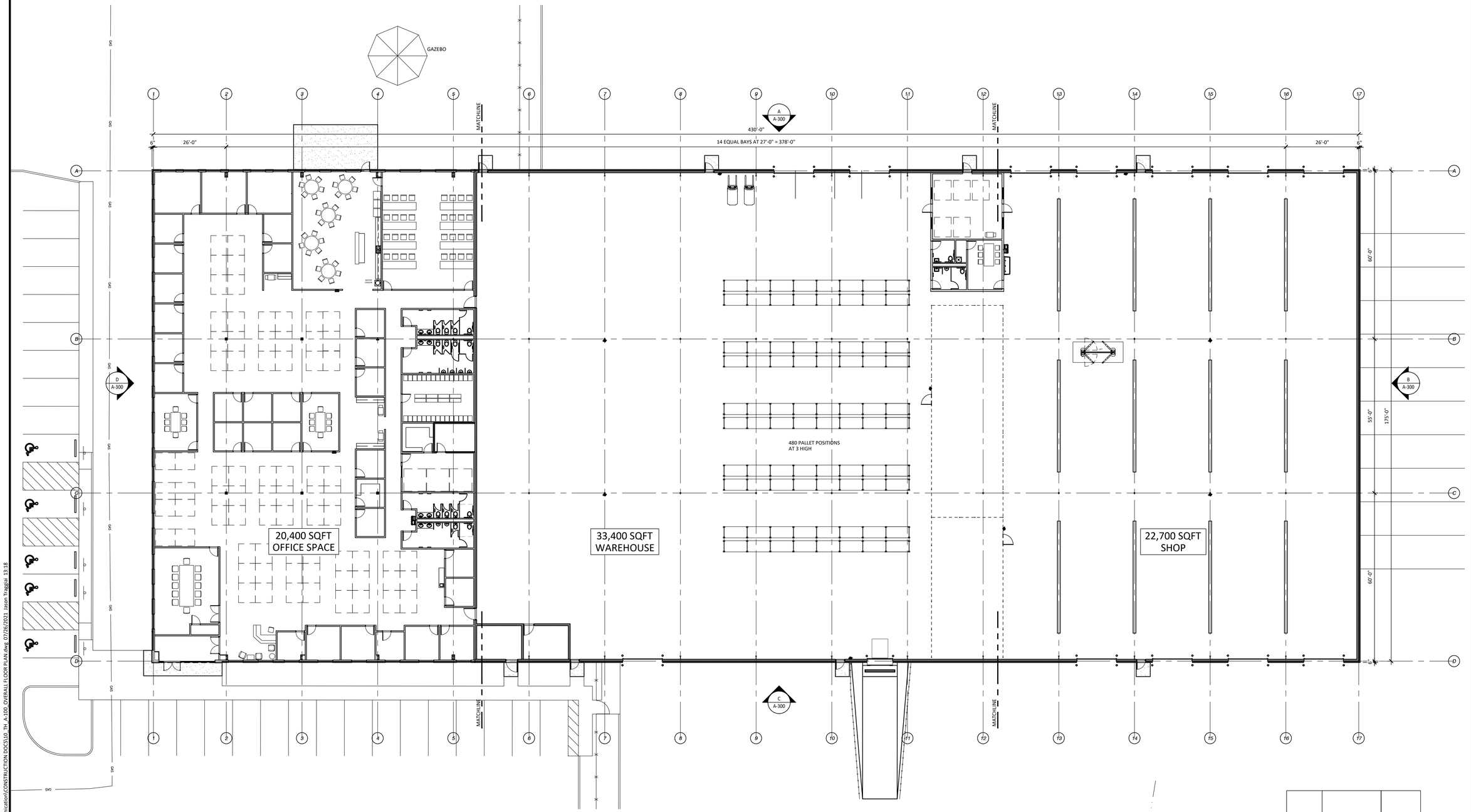
4. ON SLOPING AREAS WHERE EROSION MAY BE A PROBLEM, SOD SHALL BE LAID WITH THE LONG EDGE PARALLEL TO THE CONTOUR AND STAGGERED JOINTS. THE SOD SHALL BE SECURED WITH PEGS OR STAPLES.

5. AS SODDING IS COMPLETED IN ANY ONE SECTION, THE ENTIRE AREA SHALL BE ROLLED OR TAMPED TO ENSURE SOLID CONTACT OF ROOTS WITH THE SOIL SURFACE. SOD SHALL BE WATERED IMMEDIATELY AFTER ROLLING OR TAMPING UNTIL THE SOD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. THE OPERATIONS OF LAYING TAMPING AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN 8 HOURS.

MAINTENANCE
1. IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED DAILY OR AS OFTEN AS NECESSARY DURING THE FIRST WEEK WITH SUFFICIENT QUANTITIES TO MAINTAIN MOIST SOIL TO A DEPTH OF 4-6 INCHES.

2. AFTER THE FIRST WEEK, SOD SHALL BE WATERED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE AND ENSURE ESTABLISHMENT.

3. THE FIRST MOWING SHALL NOT BE ATTEMPTED UNTIL SOD IS FIRMLY ROOTED.



OVERALL FLOOR PLAN

SCALE: 1/16" = 1'-0"

1 / A-100

A-110	A-120	A-130

KEY PLAN

NOT TO SCALE

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PRELIMINARY
NOT FOR CONSTRUCTION

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Drawn By	----
Checked By	----
Project Number	##-##-####

DATES AND REVISIONS

MM-DD-YYYY
DESCRIPTION

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THAYER POWER AND COMMUNICATION

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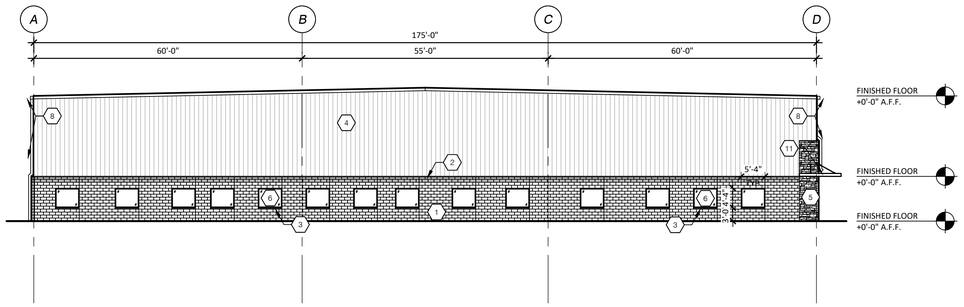
ETNA, OHIO 43018

OVERALL
FLOOR PLAN

A-100



WEST ELEVATION

SCALE: 1/16" = 1'-0"

D / A-300

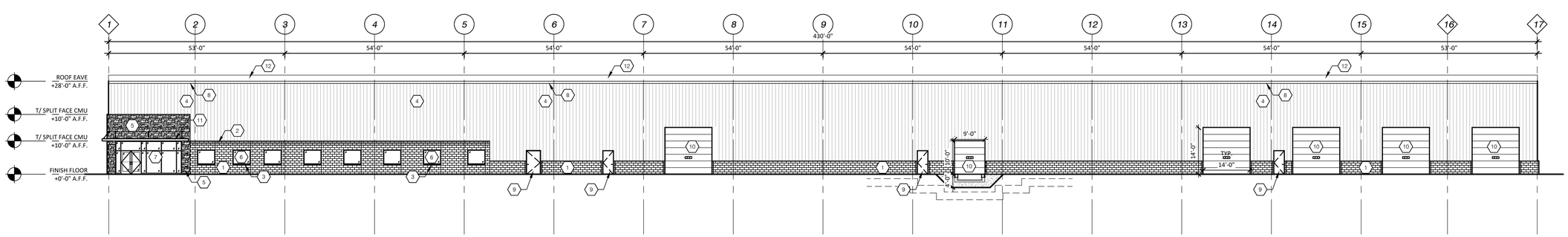
MATERIAL LEGEND

1	SPLIT FACE CMU BY SCHORY EMERALD SERIES, COLOR "SNOW"
2	SPLIT FACE CMU BY SCHORY EMERALD SERIES, COLOR "SHADOW"
3	CMU WATER TABLE BLOCK (8X4X16 NOMINAL) SERIES: TBD, COLOR "TO MATCH SHADOW"
4	PREFINISHED METAL WALL PANEL BY GOLDEN GIANT BUILDING SYSTEMS, COLOR: CHARCOAL GRAY
5	STONE VENEER MANUFACTURER: TBD, SERIES: TBD
6	ALUMINUM WINDOW & DOOR FRAMES 4½" FRAMING WITH INTEGRAL THERMAL BREAK CLEAR ANODIZED WITH LOW 'E' COATED 1" INSULATED GLASS
7	ALUMINUM STOREFRONT SYSTEM WITH LOW 'E' COATED 1" INSULATED GLASS MANF: KAWNEER COLOR: ANODIZED
8	PRE-FINISHED METAL GUTTERS AND DOWNSPOUTS COLOR: TBD
9	HOLLOW METAL DOOR AND FRAME. SEE DOOR SCHEDULE. COLOR: TBD
10	SECTIONAL OVERHEAD DOOR. SEE DOOR SCHEDULE FOR DETAILS/ACCESSORIES. MANF: TBD, COLOR: MATCH 'POLAR WHITE'
11	MAPES CANOPY COLOR: TBD
12	PREFINISHED METAL ROOF PANEL BY GOLDEN GIANT BUILDING SYSTEMS COLOR: POLAR WHITE

NOTE:

1). 'T' = TEMPERED GLASS

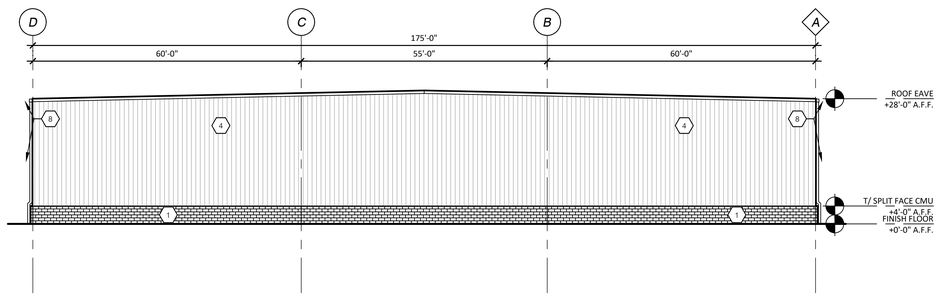
2). 'S' = SPANDREL GLASS



SOUTH ELEVATION

SCALE: 1/16" = 1'-0"

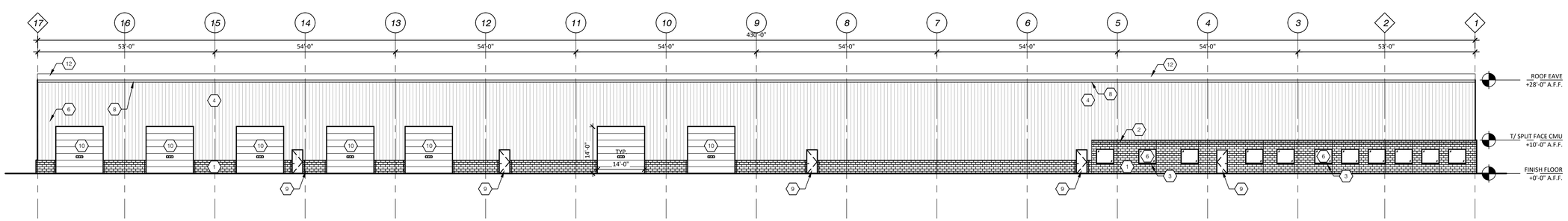
C / A-300



EAST ELEVATION

SCALE: 1/16" = 1'-0"

B / A-300



NORTH ELEVATION

SCALE: 1/16" = 1'-0"

A / A-300

PRELIMINARY
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Drawn By	----
Checked By	----
Project Number	##-##-####

DATES AND REVISIONS

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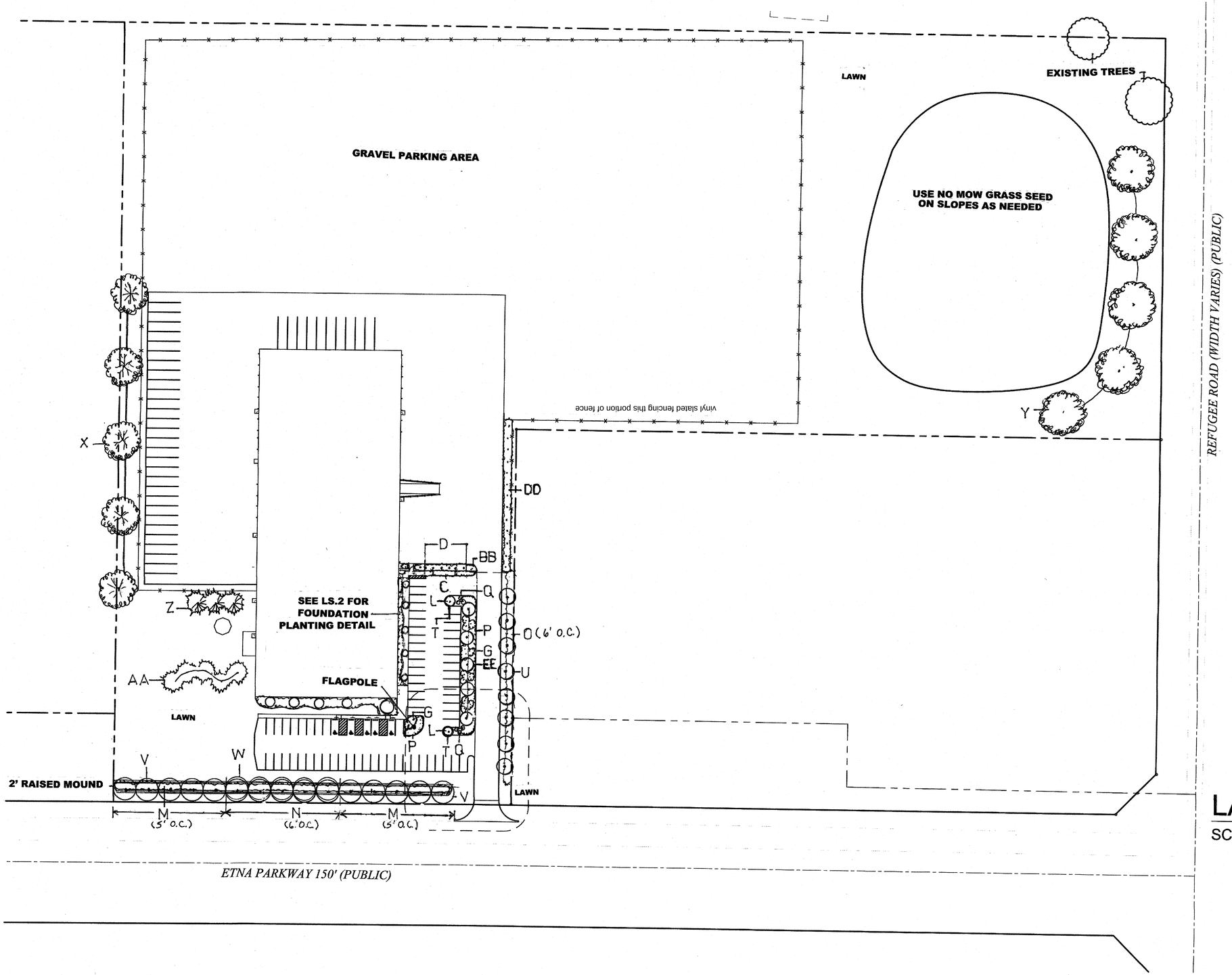
ELEVATIONS

A-300



LANDSCAPE PLAN

SCALE: 1" =60'

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DATES AND REVISIONS

25 JULY, 2021

Thayer Power & Communication
ETNA PARKWAY
Pataskala, Ohio

Drawn By
Checked By
Project Number

REFERENCE NORTH

LANDSCAPE PLAN
DRAWING NO:

LS.1

INSTRUCTIONS FOR PLANT INSTALLATION

1. ALL PLANTING AREAS WILL HAVE EXISTING SOIL AMENDED WITH TOPSOIL PRIOR TO PLANT INSTALLATION.
2. REMOVE ALL TAGS, CONTAINERS, TWINE AND NYLON BURLAP BEFORE PLANTING. REMOVE ONLY THE TOP 1/3 OF BURLAP AND WIRE BASKET ON TREES.
3. WHEN PLANTING TREES, SHRUBS AND PERENNIALS, DIG THE HOLE TWICE THE SIZE OF THE BALL AND BACK FILL WITH TOPSOIL/HUMUS MIX. APPLY OSMOCOTE 6 MONTH FERTILIZER ON TO SOIL.
4. REMOVE ALL BROKEN BRANCHES.
5. ALL BEDS TO HAVE SHREDDED HARDWOOD MULCH APPLIED TO THE DEPTH OF 3" TO INSURE PROPER GROWTH AND WEED CONTROL. INDIVIDUAL TREES WILL HAVE A 3' DIAMETER BED OF MULCH AROUND EACH TREE.
6. ALL TREES SHALL BE STAKED TO INSURE PROPER GROWTH HABITS FOR THE FIRST YEAR.
7. ALL TREES SHALL BE WRAPPED TO PROTECT TRUNKS FROM DEER AND WEATHER DAMAGE.

INSTUCTIONS FOR LAWN AND NO MOW AREAS

ALL SEEDED AREAS FOR LAWN AND NO MOW AREAS TO HAVE ROCKS, WEEDS AND DEBRIS REMOVED BEFORE THE APPLICATION OF SEED, STRAW AND SEED STARTER FERTILIZER. 3-4 WEEKS AFTER INSTALLATION ALL AREAS WILL BE FERTILIZED AGAIN AND BARE SPOTS WILL BE RE-SEEDED.

LAWN SEED MIX

FESCUE PLUS MIX 7 LBS/1,000 SQ FT

25% INFERNO SUMMER TALL FESCUE — 25% BULLSEYE OR HEMI TALL FESCUE

25% TITANIUM 2LS TALL FESCUE — 18% TRAVERSE 2 TALL FESCUE

7% JACKPOT OR BROOKLAWN KENTUCKY BLUEGRASS

NO MOW SEED MIX

NO MOW MIXTURE 6 LBS/1,000 SQ FT

30% BEACON HARD FESCUE — 40% GLADIATOR HARD FESCUE

15% MARCO POLO SHEEP FESCUE — 15% NAKISKA SHEEP FESCUE

WARRANTY

THE CONTRACTOR WILL GUARANTEE ALL PLANTS AND LAWN FOR THE PERIOD OF 1 YEAR. THIS YEAR WILL START ON THE DAY AFTER THE OWNER'S FINAL ACCEPTANCE OF THE WORK COMPLETED. DEAD PLANTS WILL BE REPLACED ONCE AT THE END OF 90 DAYS, AND DEAD AND UNHEALTHY PLANTS WILL BE REPLACED AT THE END OF THE GUARANTEE PERIOD. IN THE CASE OF A PLANT DYING A SECOND TIME, A PLANT SUBSTITUTION OR CHANGE IN CONDITIONS MAY BE NECESSARY. WARRANTY ON REPLACEMENTS IS ALSO 365 DAYS. IN ALL CASES REPLACEMENTS WILL BE MADE DURING THE LOW RISK PERIODS: APRIL 1 TO JUNE 1 AND SEPTEMBER 15 TO NOVEMBER 15. PROVIDED PROPER MAINTENANCE HAS BEEN PERFORMED, ALL LAWN AREAS IN NEED OF REPAIR SHALL ALSO BE GUARANTEED FOR 1 YEAR.

WATERING INSTRUCTION FOR CONTAINER PLANTS

WATER EACH PLANT FOR ONE MINUTE ONCE A DAY DURING SPRING AND FALL MONTHS FOR THE FIRST 45 DAYS.

WATER EACH PLANT FOR ONE MINUTE TWICE A DAY DURING THE SUMMER MONTHS FOR THE FIRST 45 DAYS.

USE WATERING INSTRUCTIONS FOR TREES

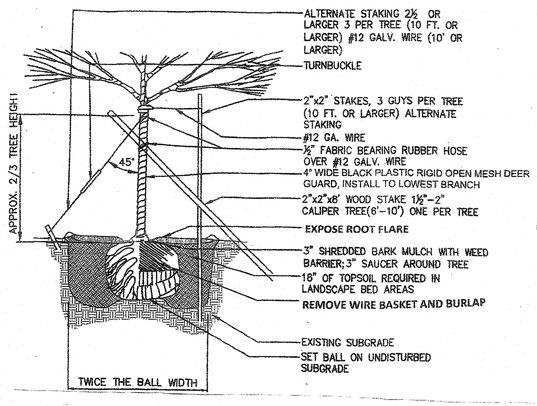
USE TREE GATER SLOW RELEASE WATER BAGS FOR THE FIRST 6 MONTHS OR UNTIL FALL ON ALL TREES OUTSIDE THE IRRGATION LIMITS.

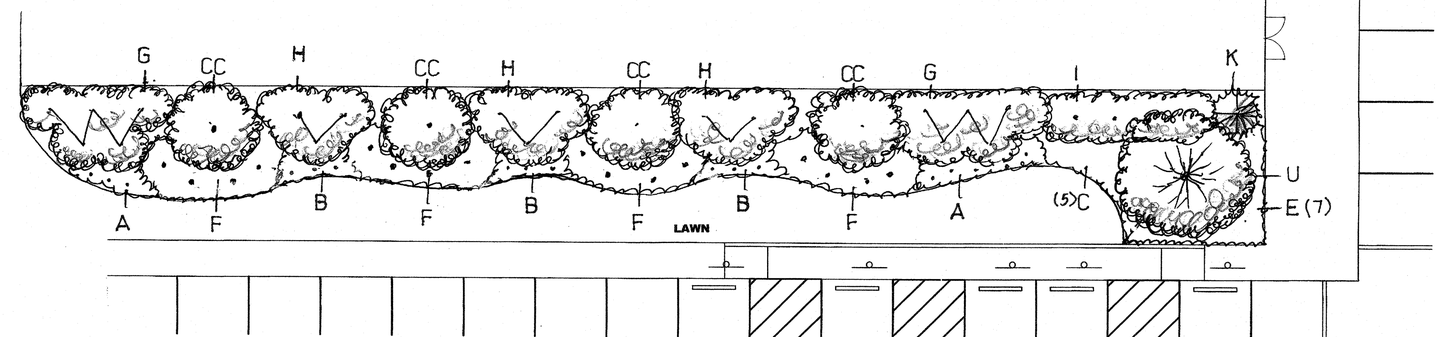
PLANT LIST

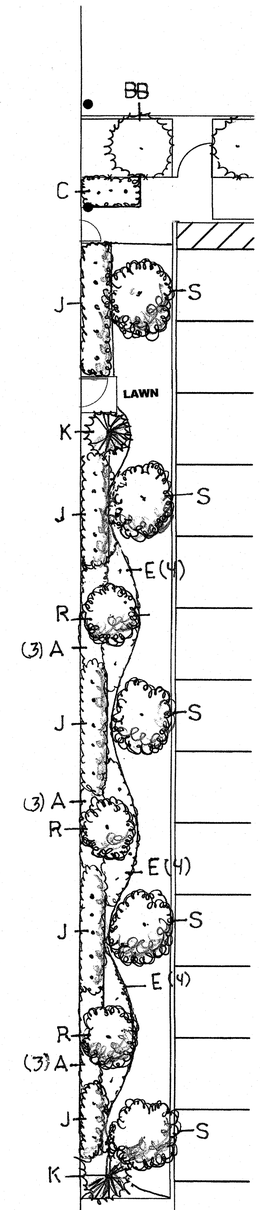
CODE	SCIENTIFIC NAME	COMMON NAME	SIZE		QTY
A	PEROVSKIA ATRIPLICIFOLIA 'LITTLE SPIRE'	LITTLE SPIRE RUSSIAN SAGE	1 GAL.	CONT.	17
B	DIANTHUS 'FIREWITCH'	FIREWITCH DIANTHUS	1 GAL.	CONT.	9
C	COREOPSIS VERTICILLATA 'ZAGREB'	ZAGREB COREOPSIS	1 GAL.	CONT.	15
D	NEPETA RACEMOSA 'WALKER'S LOW'	WALKER'S LOW CATMINT	1 GAL.	CONT.	14
E	JUNIPERUS HORIZONTALIS 'ICEE BLUE'	ICEE CHIP JUNIPER	3 GAL.	CONT.	19
F	CHAMAECYPARIS PISIFERA	GOLD THREAD 'MOP' CYPRESS	3 GAL.	CONT.	16
G	WEIGELA FLORIDA 'SONIC BLOOM'	SONIC BLOOM WEIGELA	3 GAL.	CONT.	22
H	HYDRANGEA PANICULATA 'LITTLE LIME'	LITTLE LIME HYDRANGEA	3 GAL.	CONT.	9
I	PIERIS JAPONICA 'MOUNTAIN FIRE'	MOUNTAIN FIRE PIERIS	3 GAL.	CONT.	4
J	BUXUS SEMPERVIRENS 'GREEN VELVET'	GREEN VELVET BOXWOOD	3 GAL.	CONT.	23
K	BUXUS SEMPERVIRENS	PYRAMIDAL BOXWOOD	3 GAL.	CONT.	3
L	SPIREA JAPONICA 'DOUBLE PLAY'	DOUBLE PLAY SPIREA	3 GAL.	CONT.	10
M	JUNIPERUS X PFITZERIANA 'OLD GOLD'	OLD GOLD JUNIPER	3 GAL.	CONT.	56
N	JUNIPERUS CHINENSIS 'SEA GREEN'	SEA GREEN JUNIPER	3 GAL.	CONT.	24
O	JUNIPERUS VIRGINIANA 'GREY OWL'	GREY OWL JUNIPER	3 GAL.	CONT.	45
P	DEUTZIA GRACILIS 'NIKKO'	NIKKO DEUTZIA	3 GAL.	CONT.	30
Q	HYDRANGEA PANICULATA 'DVPPINKY'	PINKY WINKY HYDRANGEA	3 GAL.	CONT.	6
R	SYRINGA MEYERI "PALABIN"	DWARF MEYER LILAC TREE	4	B+B	3
S	HYDRANGEA PANICULATA 'LIMELIGHT'	LIMELIGHT HYDRANGEA TREE FORM	4'	B+B	5
T	MALUS 'CANDY MINT'	CANDYMINT CRAB	1.5" CAL.	B+B	2
U	SYRINGA RETICULATA 'IVORY SILK'	IVORY SILK LILAC	2" CAL.	B+B	9
V	TILIA TOMENTOSA 'STERLING'	STERLING SILVER LINDEN	2.5" CAL.	B+B	10
W	GLEDITSIA TRIACANTHOS INERMIS 'SKYLINE'	SKYLINE LOCUST	2.5" CAL.	B+B	5
X	ACER RUBRUM 'RED SUNSET'	RED SUNSET MAPLE	2.5" CAL.	B+B	5
Y	ACER PLATANOIDES 'EMERALD QUEEN'	EMERALD QUEEN MAPLE	2.5" CAL.	B+B	5
Z	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	6-8'	B+B	3
AA	PICEA ABIES	NORWAY SPRUCE	6-8'	B+B	5
BB	THUJA OCCIDENTALIS 'EMERALD GREEN'	EMERALD GREEN ARBORVITAE	4-5'	B+B	9
CC	CORNUS KOUSA	KOUSA DOGWOOD	6-8'	B+B	4
DD	THUJA PLICATA 'GREEN GIANT'	GREEN GIANT ARBORVITAE	4-5'	B+B	13
EE	MALUS 'PURPLE PRINCE'	PURPLE PRINCE FLOWERING CRAB	1.5" CAL.	B+B	5

TREE PLANTING DETAIL

NOT TO SCALE







ENLARGED ENTRY LANDSCAPE PLAN

SCALE: 1" =10'-0"

GEIS COMPANIE
10020 Aurora-Hudson R
Streetsboro, Ohio 4424
PH: (330) 528-350
FX: (330) 528-000
www.geisco.ne

DATES AND REVISIONS

25 JULY, 2021

Thayer Power & Communication

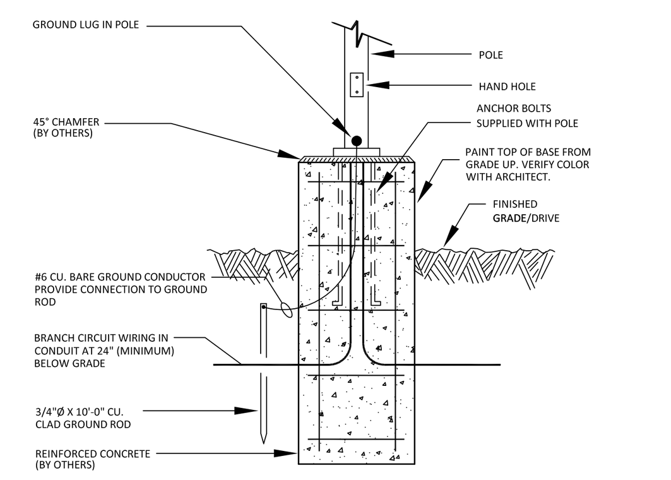
ETNA PARKWAY
Pataskala, Ohio

Drawn By
Checked By
Project Number

REFERENCE NORTH

LANDSCAPE PLAN
DRAWING NO:

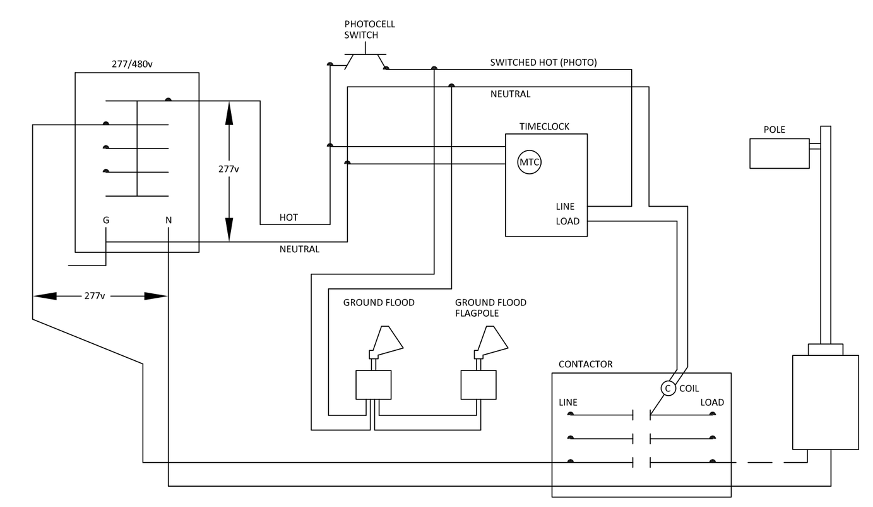
LS.2



FIXTURE TYPE ' POLE LIGHT ' BASE DETAIL

NO SCALE

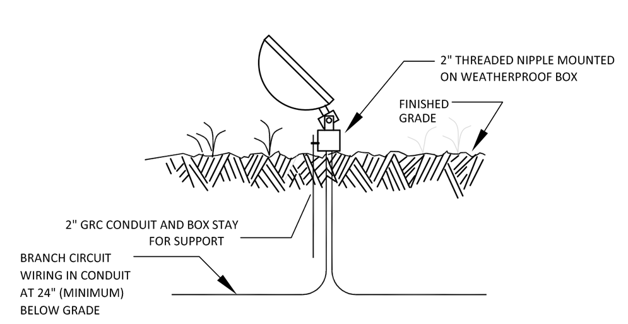
1.) COORDINATE WITH STRUCTURAL ENGINEER FOR POLE BASE DIMENSIONS.



SITE LIGHTING CONTROL DIAGRAM

NO SCALE

1.) DIAGRAM ABOVE IS A TYPICAL CONNECTION DETAIL FOR EXTERIOR LIGHTING.
2.)PROVIDE, INSTALL AND WIRE PHOTOCELL AND CONTACTORS WHERE NEEDED.
3.)INDIVIDUAL PHOTOCELLS ON FIXTURES ARE NOT ACCEPTED.

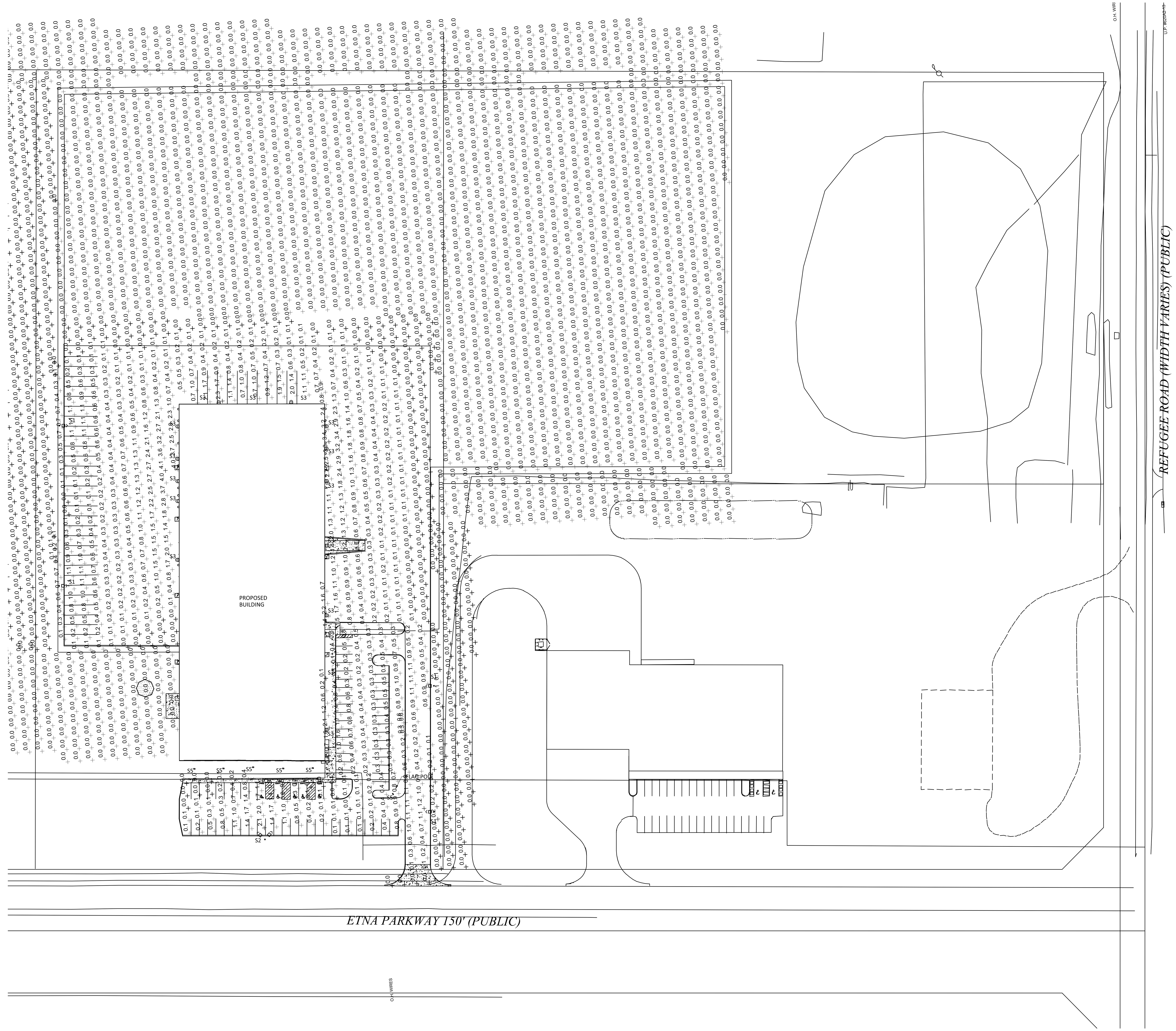


FLOOD LIGHT DETAIL

NO SCALE

SITE FIXTURE SCHEDULE

TAG	MFG/ MODEL #	DESC	LAMP	WATT	VOLT	NOTES
S1	LSI/ MRM-LED-09L-SIL-FT-40-70CRI-IL	SITE POLE	LED	62	UNV	OR EQUAL
S2	LSI/ MRM-LED-09L-SIL-FT-40-70CRI-IL	SITE POLE	LED	124	UNV	OR EQUAL
S3	LSI/ XWM-FT-LED-12L-40	WALLPACK	LED	62	UNV	OR EQUAL
S4	LSI/ MRM-LED-09L-SIL-FT-40-70CRI-IL	SITE POLE	LED	248	UNV	OR EQUAL
S5	LSI/ SFLS-WF-LED-PL1-40	SPOT	LED	20	UNV	OR EQUAL



PHOTOMETRIC PLAN

SCALE: 1" =60'

GEIS COMPANIES
10020 Aurora-Hudson Rd
Streetsboro, Ohio 44241
PH: (330) 528-3500
FX: (330) 528-0008
www.geisco.net

DATES AND REVISIONS

JULY 2021

NOTICE

Thayer Power & Communication

ETNA PARKWAY
Pataskala, Ohio

Drawn By
Checked By
Project Number

REFERENCE NORTH

ELECTRICAL PLAN
DRAWING NO:
E0

Storm Water Management Report

For

THAYER

3003 Etna Parkway
Pataskala, OH 43062

Prepared For

Geis Construction

10020 Aurora-Hudson Rd.
Streetsboro, OH 44241
Jen Diasio
Phone: 216-218-3507
Fax: 330-528-3500
jend@geisco.net

Design Engineer

WEBER ENGINEERING SERVICES

2555 Hartville Road, Suite B
Rootstown, OH 44272
Phone: 330-329-2037
www.weberengineeringservices.com

WES Job No.: 2021-259

Date: 08-02-2021
Revised: 08-05-2021

DESCRIPTION AND DESIGN CRITERIA

This project has been designed per the city of Columbus Stormwater Drainage Manual whereas the critical storm method is utilized for stormwater quantity control. The runoff from the post developed critical storm and all more frequent storm events shall be constrained to the 1-year pre-developed rate. All less frequent post developed rates shall be restricted to the respective pre-developed rates.

The existing site is undeveloped (agricultural), and runoff currently discharges to the south portion of the site to the existing drainage ditch in the Refugee Road right-of-way. Runoff discharges to an unnamed tributary to Muddy Fork. The pre-developed conditions have been observed as "straight row crops".

Water quality control for the storm water management basin has been designed to serve the entire 24.15 ac. post-developed drainage area per the Ohio EPA General Permit No. OHC000005. The required water quality volume will occur between elevation 1067.25 and 1068.00 at which point the primary outlet control structure will begin functioning.

The pre-developed areas are shown below:

-The pre-developed site drainage area subcatchment "1S" is 24.15 Acres (CN = 89 & Tc = 34.9 min.)

The post-developed areas are shown below:

-The post developed site drainage area subcatchment "2S" is 24.15 Acres (CN = 91 & Tc = 12.0 min.)

WATER QUALITY DESIGN CRITERIA

The Storm Water Quality system proposed for the site has been designed to account for the proposed buildings, parking, and stormwater management basin area. Water Quality is provided by means of a water quality orifice (7.0").

STORM ROUTING THROUGH THE STORM WATER MANAGEMENT BASIN (1P)

The following table is a summary of the storm routing for the proposed site.

Storm Event	Pre-Developed Runoff from Site (1S) c.f.s.	Post Developed Runoff Allowed c.f.s.	Post Developed Runoff Generated (2S) c.f.s.	Post Developed Outflow from System (1P) c.f.s.	Peak Elevation	Peak Storage, c.f.
1	22.57	**22.57**	45.57	**3.33**	1068.24	67,575
2	29.69	**22.57**	58.31	**6.67**	1068.45	82,833
5	40.02	**40.02**	76.50	**10.42**	1068.81	108,249
10	48.58	**48.58**	91.41	**13.82**	1069.10	129,363
25	60.62	**60.62**	112.23	**18.77**	1069.49	158,906
50	70.60	**70.60**	129.42	**22.78**	1069.81	183,285
100	81.08	**81.08**	147.41	**26.56**	1070.14	208,621

The following table summarizes the new storm water management system design information.

Storm Water Management/Quality Basin	
Top of Bank Elevation	1071.50
Emergency Spillway Elevation	1070.50
100 Year high water elevation (w/WQ orifice)	1070.14
Top of Structure Elevation	1070.75
Inv. 7.0” Water Quality Orifice Elevation	1067.25
Water Quality Elevation	1067.91
Inv. 15.0”Hx36.0”W Front Window	1069.00
Inv. (2) 27.0”Hx36.0”W Side Windows	1068.00
Inv. Outlet Storm Sewer (30”)	1067.25
Bottom of SWM Basin	1063.00

CRITICAL STORM CALCULATIONS

FOR

THAYER

Volume of Runoff from 1 Year – 24 hr Storm

Pre-Developed = 104,839 CF

Post-Developed = 117,439 CF

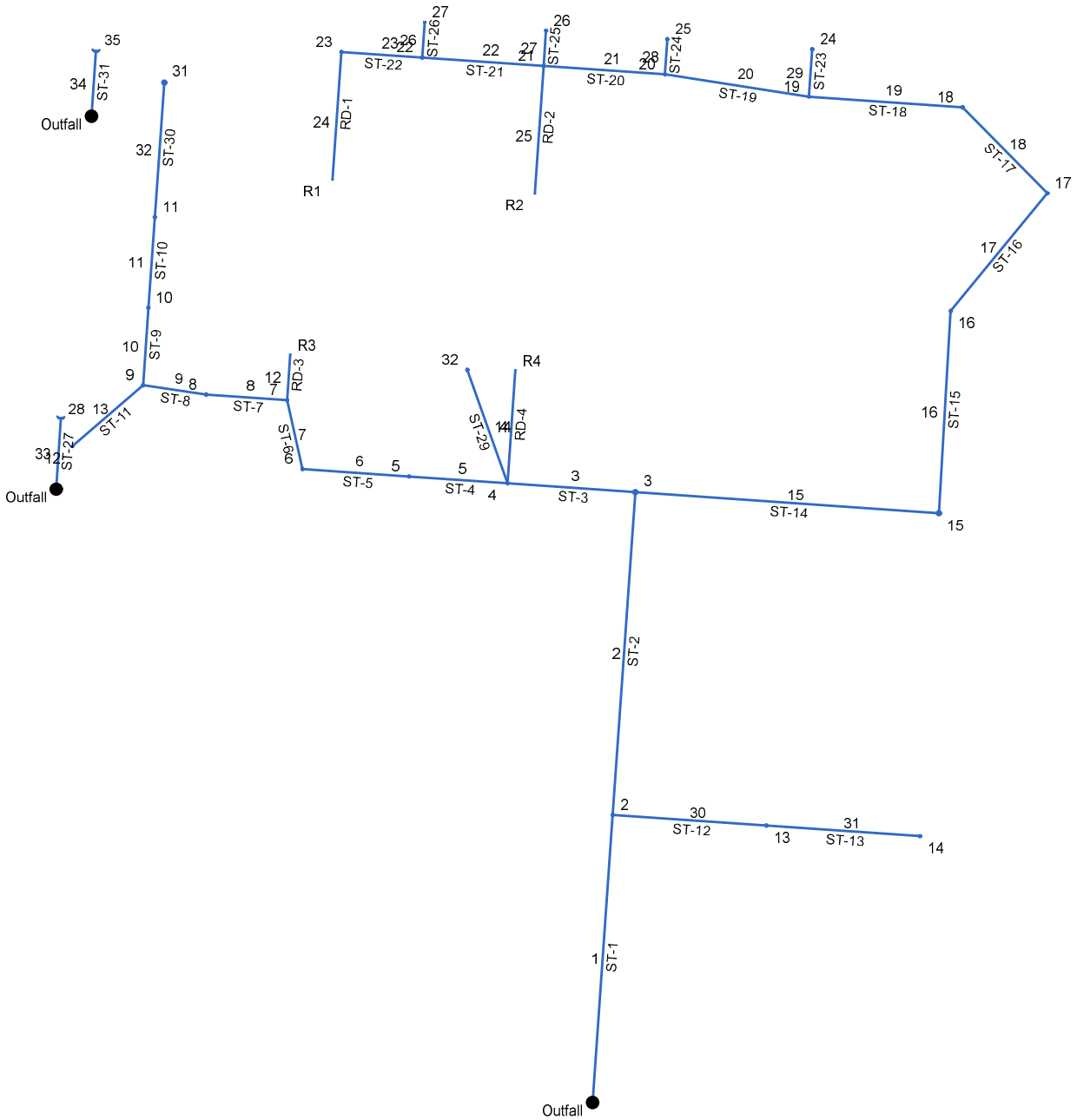
$$\frac{\text{Post-Developed Total} - \text{Pre-Developed Total}}{\text{Pre-Developed Total}} \times 100 =$$

$$\frac{117{,}439 - 104{,}839}{104{,}839} \times 100\% = 12.0\%$$

The **Critical Storm Event** for Discharge Limitation for increase in volume between 10% and 20% is the **2 Year Storm.**

10-YEAR STORM SEWER CALCULATIONS

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: 2021-259 Storm 01B.stm	Number of lines: 34	Date: 8/5/2021

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	285.850	1.62	19.23	0.90	1.46	14.45	10.0	28.3	3.1	44.88	77.01	3.71	48	0.24	1067.25	1067.95	1071.25	1071.44	1070.85	1074.00	ST-1
2	1	320.811	0.01	14.17	0.90	0.01	9.90	10.0	26.9	3.2	31.74	54.43	3.39	42	0.25	1067.95	1068.75	1071.67	1071.91	1074.00	1079.00	ST-2
3	2	126.366	0.27	2.90	0.90	0.24	2.42	10.0	26.3	3.2	7.87	18.87	2.51	24	0.59	1068.75	1069.50	1072.10	1072.23	1079.00	1079.30	ST-3
4	3	112.455	0.44	0.44	0.90	0.40	0.40	10.0	10.0	5.3	2.11	3.87	4.58	12	1.00	1075.30	1076.43	1075.83	1077.05	1079.30	1081.50	RD-4
5	3	97.519	0.30	2.17	0.85	0.26	1.77	10.0	13.7	4.6	8.15	20.00	2.59	24	0.67	1069.50	1070.15	1072.32	1072.43	1079.30	1079.30	ST-4
6	5	105.258	0.16	1.87	0.75	0.12	1.51	10.0	13.0	4.7	7.16	19.98	2.42	24	0.66	1070.15	1070.85	1072.45	1072.51	1079.30	1079.00	ST-5
7	6	69.927	0.17	1.71	0.85	0.14	1.39	10.0	12.7	4.8	6.67	9.62	4.77	18	0.72	1071.35	1071.85	1072.61	1072.85	1079.00	1080.00	ST-6
8	7	80.000	0.14	1.10	0.85	0.12	0.85	10.0	12.3	4.9	4.14	5.80	4.98	15	0.69	1072.10	1072.65	1072.88	1073.47	1080.00	1080.00	ST-7
9	8	63.000	0.09	0.96	0.85	0.08	0.73	10.0	11.9	4.9	3.61	7.11	4.39	15	1.03	1072.65	1073.30	1073.47	1074.07	1080.00	1080.00	ST-8
10	9	77.000	0.19	0.71	0.80	0.15	0.54	10.0	11.3	5.0	2.70	4.72	3.76	15	0.45	1073.30	1073.65	1074.07	1074.31	1080.00	1080.00	ST-9
11	10	90.000	0.19	0.52	0.80	0.15	0.38	10.0	10.7	5.2	1.98	3.15	4.13	12	0.67	1073.90	1074.50	1074.48	1075.10	1080.00	1080.00	ST-10
12	7	45.309	0.44	0.44	0.90	0.40	0.40	10.0	10.0	5.3	2.11	3.85	4.57	12	0.99	1075.10	1075.55	1075.63	1076.17	1080.00	1081.50	RD-3
13	9	91.955	0.16	0.16	0.75	0.12	0.12	10.0	10.0	5.3	0.64	4.84	2.18	12	1.58	1073.55	1075.00	1074.07	1075.33	1080.00	1078.00	ST-11
14	3	119.249	0.02	0.02	0.90	0.02	0.02	10.0	10.0	5.3	0.10	3.87	1.70	12	1.01	1072.20	1073.40	1072.32	1073.53	1079.30	1077.40	ST-29
15	2	300.363	0.01	11.26	0.90	0.01	7.47	10.0	21.8	3.6	27.02	52.61	3.08	42	0.23	1068.75	1069.45	1072.10	1072.23	1079.00	1077.75	ST-14
16	15	200.762	1.52	11.25	0.90	1.37	7.46	10.0	20.7	3.7	27.81	51.61	3.43	42	0.22	1069.45	1069.90	1072.40	1072.50	1077.75	1077.25	ST-15
17	16	150.782	0.98	9.73	0.50	0.49	6.09	15.0	19.9	3.8	23.18	37.21	3.60	36	0.27	1069.90	1070.30	1072.63	1072.74	1077.25	1076.00	ST-16
18	17	119.448	0.48	8.75	0.90	0.43	5.60	10.0	19.3	3.9	21.69	36.20	3.41	36	0.25	1070.30	1070.60	1072.96	1073.03	1076.00	1077.00	ST-17
19	18	152.000	0.63	8.27	0.90	0.57	5.17	10.0	18.4	4.0	20.51	32.10	3.31	36	0.20	1070.60	1070.90	1073.17	1073.26	1077.00	1077.00	ST-18
20	19	143.878	0.26	5.75	0.90	0.23	3.66	10.0	17.7	4.1	14.85	21.91	3.07	30	0.24	1070.90	1071.25	1073.45	1073.59	1077.00	1077.65	ST-19
21	20	119.996	0.38	5.24	0.90	0.34	3.30	10.0	17.0	4.1	13.68	22.22	2.85	30	0.25	1071.25	1071.55	1073.74	1073.83	1077.65	1077.65	ST-20
22	21	120.004	0.58	3.67	0.80	0.46	2.19	10.0	15.9	4.3	9.36	22.21	2.01	30	0.25	1071.55	1071.85	1073.96	1074.00	1077.65	1077.65	ST-21

Project File: 2021-259 Storm 01B.stm

Number of lines: 34

Run Date: 8/5/2021

NOTES:Intensity = 52.42 / (Inlet time + 8.50) ^ 0.78; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
23	22	80.000	1.23	1.67	0.50	0.62	1.01	15.0	15.0	4.4	4.47	10.61	1.42	24	0.19	1071.85	1072.00	1074.07	1074.10	1077.65	1075.50	ST-22
24	23	126.811	0.44	0.44	0.90	0.40	0.40	10.0	10.0	5.3	2.11	3.86	3.41	12	1.00	1073.00	1074.27	1074.13	1074.89	1075.50	1081.50	RD-1
25	21	126.681	0.44	0.44	0.90	0.40	0.40	10.0	10.0	5.3	2.11	3.86	3.47	12	1.00	1073.05	1074.32	1073.96	1074.94	1077.65	1081.50	RD-2
26	22	35.000	1.42	1.42	0.50	0.71	0.71	15.0	15.0	4.4	3.14	4.58	2.56	15	0.43	1071.85	1072.00	1074.07	1074.14	1077.65	1075.00	ST-26
27	21	35.000	0.75	0.75	0.50	0.38	0.38	15.0	15.0	4.4	1.66	2.53	2.11	12	0.43	1071.85	1072.00	1073.96	1074.03	1077.65	1075.00	ST-25
28	20	35.000	0.25	0.25	0.50	0.13	0.13	15.0	15.0	4.4	0.55	2.53	0.70	12	0.43	1071.85	1072.00	1073.74	1073.75	1077.65	1075.00	ST-24
29	19	47.256	1.89	1.89	0.50	0.95	0.95	15.0	15.0	4.4	4.17	8.27	2.36	18	0.53	1071.25	1071.50	1073.45	1073.51	1077.00	1075.00	ST-23
30	1	152.000	1.77	3.44	0.90	1.59	3.10	10.0	11.0	5.1	15.83	25.48	3.23	30	0.33	1068.45	1068.95	1071.67	1071.87	1074.00	1074.00	ST-12
31	30	152.000	1.67	1.67	0.90	1.50	1.50	10.0	10.0	5.3	8.01	14.74	2.55	24	0.36	1069.45	1070.00	1071.89	1072.05	1074.00	1074.00	ST-13
32	11	133.750	0.33	0.33	0.70	0.23	0.23	10.0	10.0	5.3	1.23	3.34	2.96	12	0.75	1074.50	1075.50	1075.10	1075.97	1080.00	1079.50	ST-30
33	End	70.353	0.63	0.63	0.65	0.41	0.41	15.0	15.0	4.4	1.81	6.46	2.09	15	0.85	1075.25	1075.85	1076.50	1076.52	1077.50	1077.79	ST-27
34	End	64.600	0.71	0.71	0.65	0.46	0.46	15.0	15.0	4.4	2.04	6.15	2.11	15	0.77	1077.30	1077.80	1078.55	1078.57	1080.00	1080.00	ST-31

Project File: 2021-259 Storm 01B.stm

Number of lines: 34

Run Date: 8/5/2021

NOTES:Intensity = 52.42 / (Inlet time + 8.50) ^ 0.78; Return period =Yrs. 10 ; c = cir e = ellip b = box

100-YEAR STORM SEWER CALCULATIONS

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	285.850	1.62	19.23	0.90	1.46	14.45	10.0	23.5	4.8	69.30	77.01	5.56	48	0.24	1067.25	1067.95	1071.25	1071.76	1070.85	1074.00	ST-1
2	1	320.811	0.01	14.17	0.90	0.01	9.90	10.0	22.4	4.9	48.65	54.43	5.06	42	0.25	1067.95	1068.75	1072.25	1072.89	1074.00	1079.00	ST-2
3	2	126.366	0.27	2.90	0.90	0.24	2.42	10.0	22.0	5.0	12.03	18.87	3.83	24	0.59	1068.75	1069.50	1073.29	1073.59	1079.00	1079.30	ST-3
4	3	112.455	0.44	0.44	0.90	0.40	0.40	10.0	10.0	7.2	2.86	3.87	5.04	12	1.00	1075.30	1076.43	1075.94	1077.16	1079.30	1081.50	RD-4
5	3	97.519	0.30	2.17	0.85	0.26	1.77	10.0	12.9	6.4	11.39	20.00	3.62	24	0.67	1069.50	1070.15	1073.82	1074.03	1079.30	1079.30	ST-4
6	5	105.258	0.16	1.87	0.75	0.12	1.51	10.0	12.4	6.6	9.94	19.98	3.17	24	0.66	1070.15	1070.85	1074.06	1074.24	1079.30	1079.00	ST-5
7	6	69.927	0.17	1.71	0.85	0.14	1.39	10.0	12.2	6.6	9.23	9.62	5.22	18	0.72	1071.35	1071.85	1074.39	1074.85	1079.00	1080.00	ST-6
8	7	80.000	0.14	1.10	0.85	0.12	0.85	10.0	11.9	6.7	5.70	5.80	4.65	15	0.69	1072.10	1072.65	1075.26	1075.79	1080.00	1080.00	ST-7
9	8	63.000	0.09	0.96	0.85	0.08	0.73	10.0	11.6	6.8	4.95	7.11	4.04	15	1.03	1072.65	1073.30	1075.84	1076.16	1080.00	1080.00	ST-8
10	9	77.000	0.19	0.71	0.80	0.15	0.54	10.0	11.2	6.9	3.68	4.72	3.00	15	0.45	1073.30	1073.65	1076.41	1076.63	1080.00	1080.00	ST-9
11	10	90.000	0.19	0.52	0.80	0.15	0.38	10.0	10.7	7.0	2.68	3.15	3.42	12	0.67	1073.90	1074.50	1076.65	1077.08	1080.00	1080.00	ST-10
12	7	45.309	0.44	0.44	0.90	0.40	0.40	10.0	10.0	7.2	2.86	3.85	5.03	12	0.99	1075.10	1075.55	1075.74	1076.28	1080.00	1081.50	RD-3
13	9	91.955	0.16	0.16	0.75	0.12	0.12	10.0	10.0	7.2	0.87	4.84	1.10	12	1.58	1073.55	1075.00	1076.41	1076.46	1080.00	1078.00	ST-11
14	3	119.249	0.02	0.02	0.90	0.02	0.02	10.0	10.0	7.2	0.13	3.87	0.29	12	1.01	1072.20	1073.40	1073.82	1073.82	1079.30	1077.40	ST-29
15	2	300.363	0.01	11.26	0.90	0.01	7.47	10.0	20.0	5.2	38.98	52.61	4.05	42	0.23	1068.75	1069.45	1073.29	1073.67	1079.00	1077.75	ST-14
16	15	200.762	1.52	11.25	0.90	1.37	7.46	10.0	19.2	5.3	39.78	51.61	4.14	42	0.22	1069.45	1069.90	1073.93	1074.20	1077.75	1077.25	ST-15
17	16	150.782	0.98	9.73	0.50	0.49	6.09	15.0	18.6	5.4	32.97	37.21	4.66	36	0.27	1069.90	1070.30	1074.37	1074.68	1077.25	1076.00	ST-16
18	17	119.448	0.48	8.75	0.90	0.43	5.60	10.0	18.1	5.5	30.70	36.20	4.34	36	0.25	1070.30	1070.60	1075.02	1075.23	1076.00	1077.00	ST-17
19	18	152.000	0.63	8.27	0.90	0.57	5.17	10.0	17.5	5.6	28.83	32.10	4.08	36	0.20	1070.60	1070.90	1075.44	1075.69	1077.00	1077.00	ST-18
20	19	143.878	0.26	5.75	0.90	0.23	3.66	10.0	17.0	5.7	20.73	21.91	4.22	30	0.24	1070.90	1071.25	1075.94	1076.26	1077.00	1077.65	ST-19
21	20	119.996	0.38	5.24	0.90	0.34	3.30	10.0	16.4	5.8	18.98	22.22	3.87	30	0.25	1071.25	1071.55	1076.53	1076.75	1077.65	1077.65	ST-20
22	21	120.004	0.58	3.67	0.80	0.46	2.19	10.0	15.7	5.9	12.87	22.21	2.62	30	0.25	1071.55	1071.85	1076.99	1077.09	1077.65	1077.65	ST-21

Project File: 2021-259 Storm 01B.stm | Number of lines: 34 | Run Date: 8/5/2021

NOTES:Intensity = 43.99 / (Inlet time + 5.60) ^ 0.66; Return period =Yrs. 100 ; c = cir e = ellip b = box

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
23	22	80.000	1.23	1.67	0.50	0.62	1.01	15.0	15.0	6.0	6.08	10.61	1.94	24	0.19	1071.85	1072.00	1077.19	1077.24	1077.65	1075.50	ST-22
24	23	126.811	0.44	0.44	0.90	0.40	0.40	10.0	10.0	7.2	2.86	3.86	3.64	12	1.00	1073.00	1074.27	1077.30	1078.00	1075.50	1081.50	RD-1
25	21	126.681	0.44	0.44	0.90	0.40	0.40	10.0	10.0	7.2	2.86	3.86	3.64	12	1.00	1073.05	1074.32	1076.99	1077.68	1077.65	1081.50	RD-2
26	22	35.000	1.42	1.42	0.50	0.71	0.71	15.0	15.0	6.0	4.27	4.58	3.48	15	0.43	1071.85	1072.00	1077.19	1077.32	1077.65	1075.00	ST-26
27	21	35.000	0.75	0.75	0.50	0.38	0.38	15.0	15.0	6.0	2.26	2.53	2.87	12	0.43	1071.85	1072.00	1076.99	1077.11	1077.65	1075.00	ST-25
28	20	35.000	0.25	0.25	0.50	0.13	0.13	15.0	15.0	6.0	0.75	2.53	0.96	12	0.43	1071.85	1072.00	1076.53	1076.55	1077.65	1075.00	ST-24
29	19	47.256	1.89	1.89	0.50	0.95	0.95	15.0	15.0	6.0	5.69	8.27	3.22	18	0.53	1071.25	1071.50	1075.94	1076.06	1077.00	1075.00	ST-23
30	1	152.000	1.77	3.44	0.90	1.59	3.10	10.0	10.7	7.0	21.70	25.48	4.42	30	0.33	1068.45	1068.95	1072.25	1072.62	1074.00	1074.00	ST-12
31	30	152.000	1.67	1.67	0.90	1.50	1.50	10.0	10.0	7.2	10.86	14.74	3.46	24	0.36	1069.45	1070.00	1072.66	1072.96	1074.00	1074.00	ST-13
32	11	133.750	0.33	0.33	0.70	0.23	0.23	10.0	10.0	7.2	1.67	3.34	2.13	12	0.75	1074.50	1075.50	1077.11	1077.36	1080.00	1079.50	ST-30
33	End	70.353	0.63	0.63	0.65	0.41	0.41	15.0	15.0	6.0	2.46	6.46	2.79	15	0.85	1075.25	1075.85	1076.50	1076.54	1077.50	1077.79	ST-27
34	End	64.600	0.71	0.71	0.65	0.46	0.46	15.0	15.0	6.0	2.78	6.15	2.80	15	0.77	1077.30	1077.80	1078.55	1078.60	1080.00	1080.00	ST-31

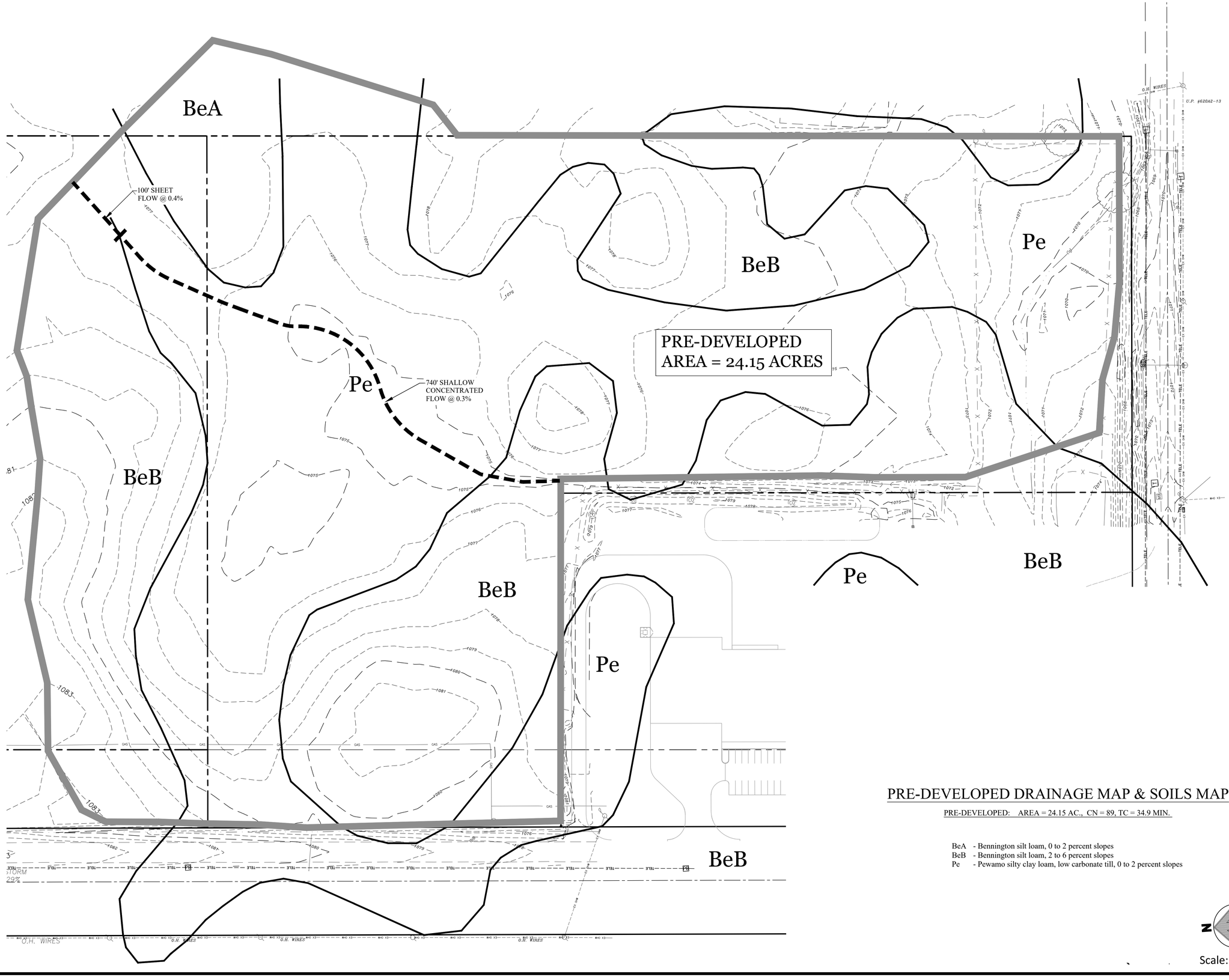
Project File: 2021-259 Storm 01B.stm

Number of lines: 34

Run Date: 8/5/2021

NOTES:Intensity = 43.99 / (Inlet time + 5.60) ^ 0.66; Return period =Yrs. 100 ; c = cir e = ellip b = box

DRAINAGE MAPS



PRE-DEVELOPED DRAINAGE MAP & SOILS MAP

PRE-DEVELOPED: AREA = 24.15 AC., CN = 89, TC = 34.9 MIN.

BeA - Bennington silt loam, 0 to 2 percent slopes
BeB - Bennington silt loam, 2 to 6 percent slopes
Pe - Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes

Scale: 1" = 60'

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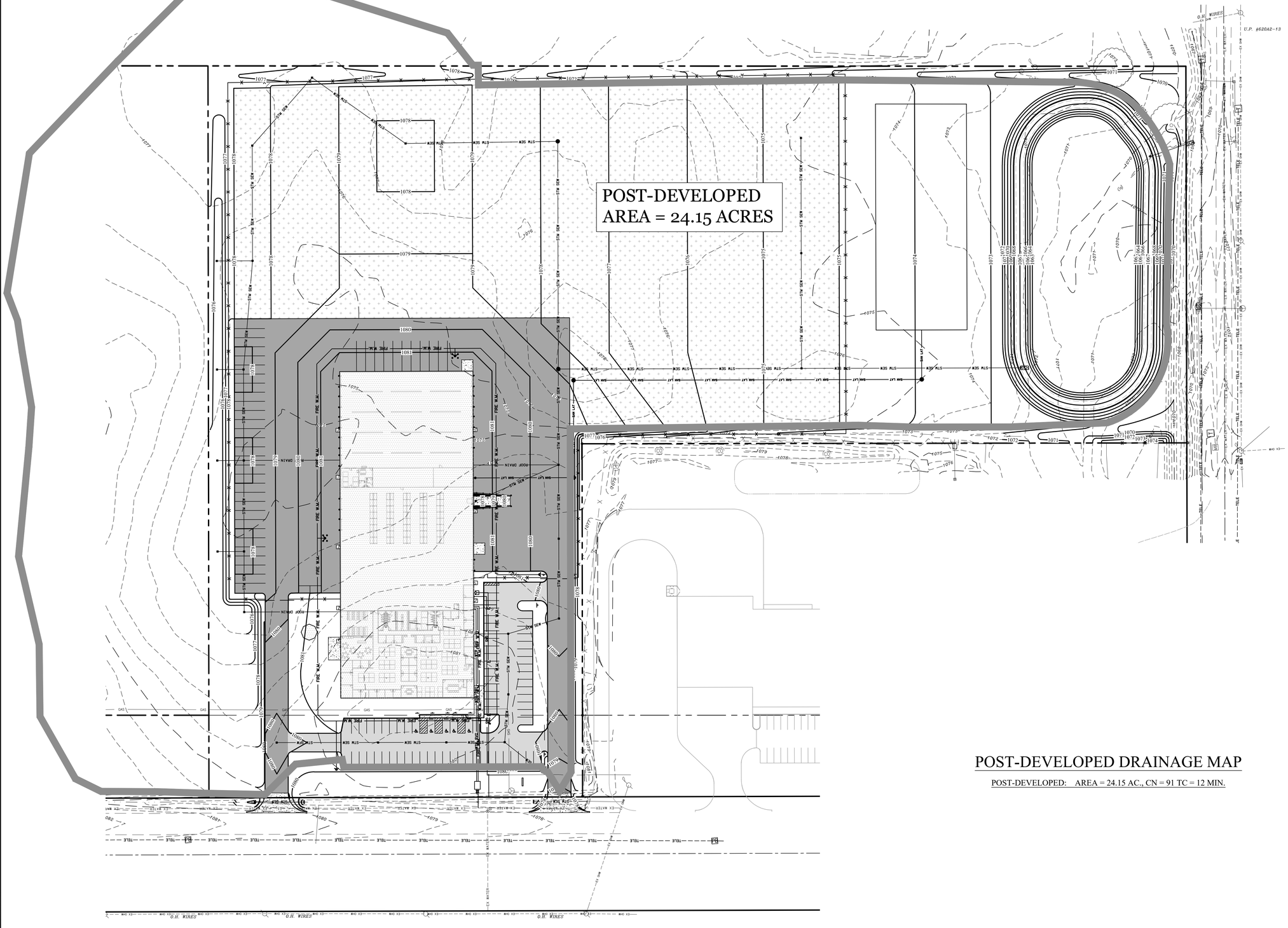
THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-05-2021

SWP3 DETAILS

C107
Project No. 2021-259



POST-DEVELOPED DRAINAGE MAP

POST-DEVELOPED: AREA = 24.15 AC., CN = 91 TC = 12 MIN.

Scale: 1" = 60'

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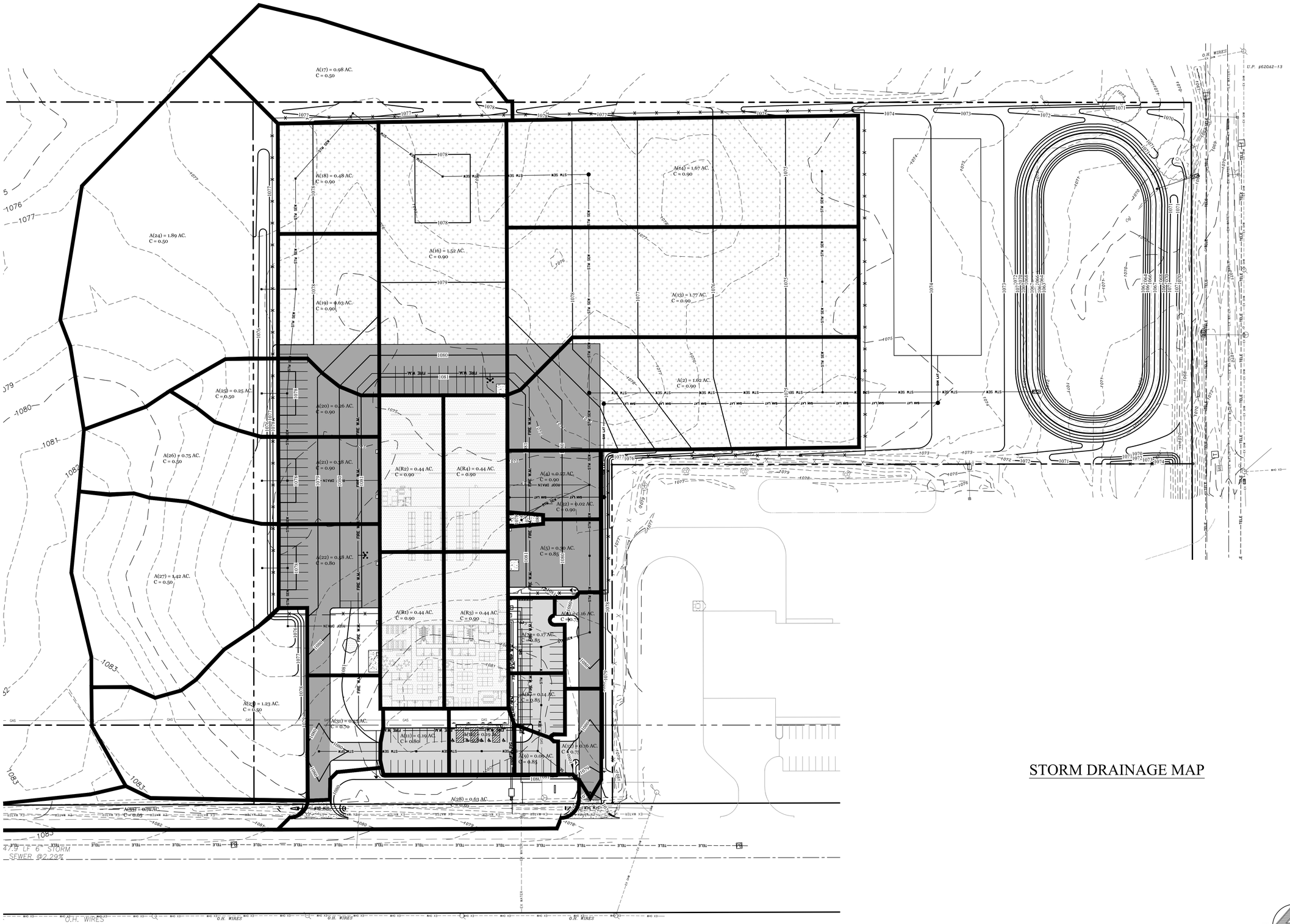
SWP3 DETAILS

C107A

Project No. 2021-259



STORM DRAINAGE MAP

Scale: 1" = 60'

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08-05-2021

SWP3 DETAILS

C107B
Project No. 2021-259

WATER QUALITY CALCULATIONS

Project and Watershed Information; WQv Calculation

version 3.1 2018-10-25

Project Details

Project Name:	Thayer
Project Location:	Pataskala, OH
Project Latitude:	39.97536
Project Longitude:	-82.70535
NPDES Permit Applicant:	
Submitted by:	MLW
Date:	8/4/2021

Subwatershed Details

Subwatershed ID/Label: New Pond

Subwatershed Drainage Area, A_{total} =	**24.15**	**acres**	**=**	**1,051,974**	**ft^2**
Subwatershed Impervious Area, A_{imp} =	**13.57**	**acres**	**=**	**591,109**	**ft^2**
Imperviousness fraction, i =	**0.56**		**=**	**56**	**%**
Volumetric Runoff Coefficient, Rv =	**0.56**				
Water Quality Volume, WQv =	**43,845**	**ft^3**			

Wet Extended Detention Basin WQv Compliance Tool

version 3.1 2018-10-25

Project Summary

Project Name: Thayer
Subwatershed ID/Label: New Pond
Submitted by: MLW
Date: 8/4/2021

Subwatershed Drainage Area, A_{total} =	24.15	acres	=	1,051,974	ft2
Subwatershed Impervious Area, A_{imp} =	13.57	acres	=	591,109	ft2
Imperviousness fraction, i =	0.56			56	%
Water Quality Volume, WQv =	43,845	ft^3	=	1.01	ac-ft

Step 1 - Soil Suitability

Soil Series: Pewamo HSG: D

Step 2 - Wet ED Basin Volume Requirements

Extended Detention Volume, EDv =	43845	ft^3
Minimum Sediment Storage Volume, $V_{sediment}$ =	8769	ft^3
Minimum Permanent Pool Volume, PPv =	52614	ft^3

Step 3 - Basin Stage-Storage Relationship

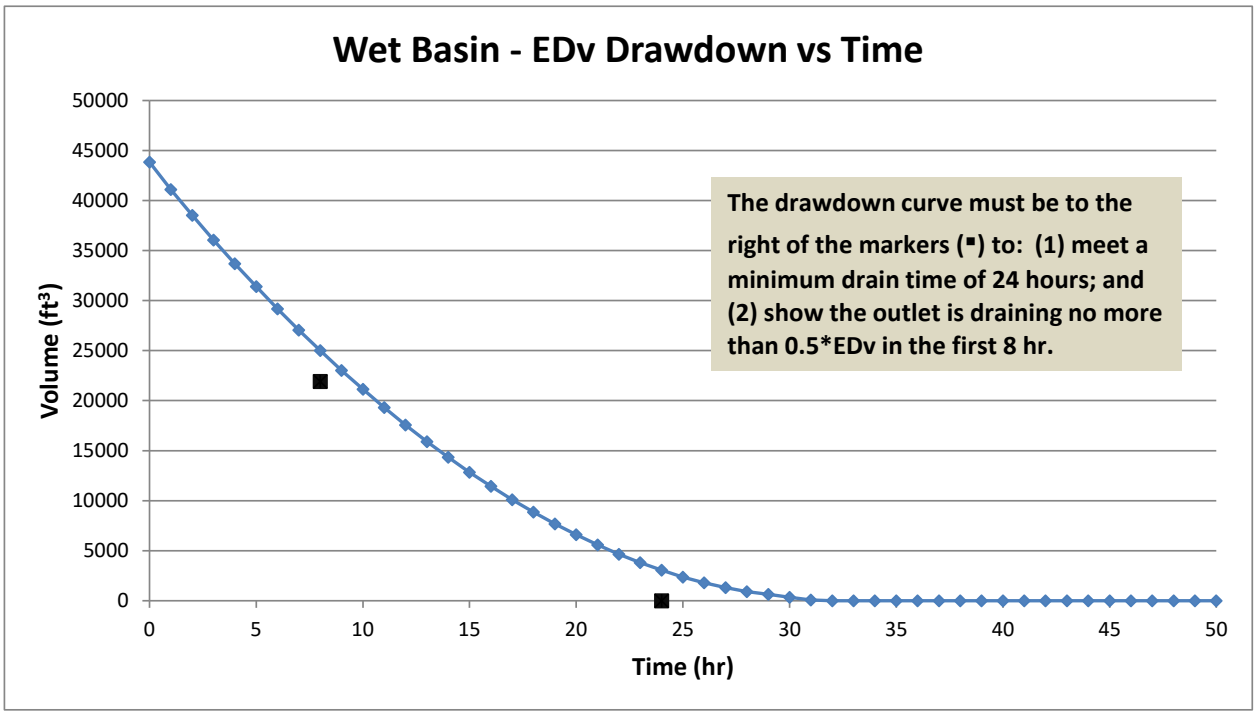
	Elevation ft	Area ft^2		Incremental Volume ft^3	Cumulative Volume ft^3
Bottom of Permanent Micropool =	1063.00	45966			
	1064.00	48660		47,307	47,307
	1065.00	51410		50,029	97,335
	1066.00	54217		52,807	150,143
	1067.00	61234		57,690	207,833
	1067.25	66266		15,933	223,766
	1068.00	69360		50,855	274,621
	1069.00	73574		71,457	346,078
	1070.00	77888		75,721	421,799
	1071.00	82303		80,085	501,884
	1071.50	83985		41,571	543,455

Step 4 - Outlet Elevations and Storage Volumes

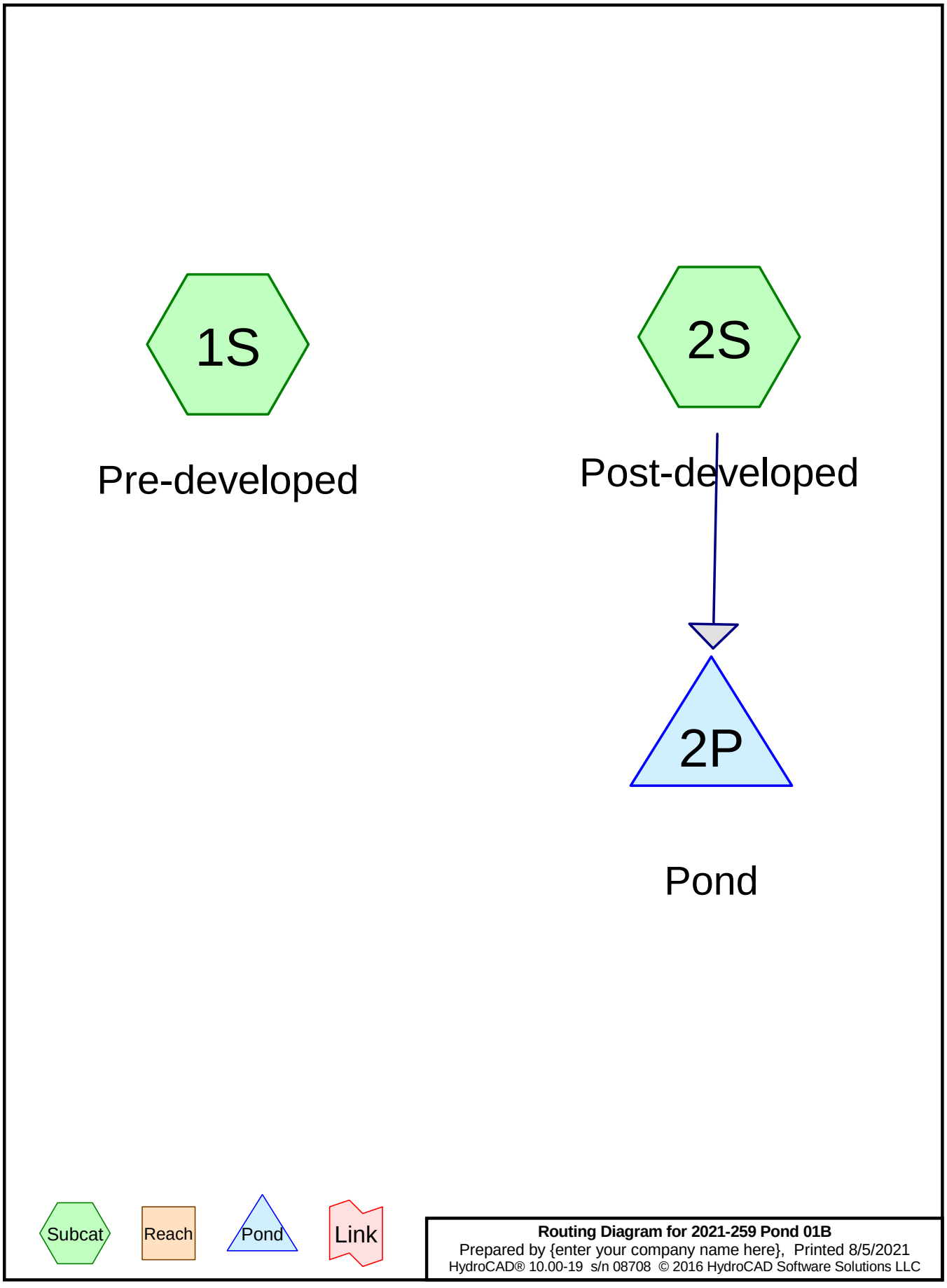
WQ Orifice Invert Elevation =	1067.25				
Elevation of Top of EDv =	1067.91				
Secondary Outlet Invert Elevation =	1068.00				OKAY
WQ Treatment Volume Provided, $V_{treatment}$ =	50,855	ft^3			
Treatment Vol Provided Relative to EDv, $V_{treatment}/EDv$ =	1.16		=	116%	OKAY
Permanent Pool Volume Provided, PPv =	223,766	ft^3			
Ratio PPv Provided to PPv Required =	4.25		=	425%	OKAY

Step 5 - Outlet (Orifice) Sizing

Maximum Hydraulic Head, Hmax =	0.65	ft			
Orifice Coefficient, C =	0.6				
Target (Minimum) Draw-down Time, T_d =	24	hr			
Target Average Discharge, Q_{avg} =	0.51	cfs			
Average Hydraulic Head, H_{avg} =	0.33	ft			
Estimated Orifice Area, $A_{orifice}$ =	26.52	in^2	=	0.184	ft^2
Estimated Orifice Diameter, $D_{orifice}$ =	5.81	in	=	0.48	ft
Design Orifice Diameter, $D_{orifice}$ =	7.00	in	=	0.58	ft
Design Orifice Area, $A_{orifice}$ =	38.24	in^2	=	0.266	ft^2
Time to Completely Drain EDv, T_d =	32	hr	must be ≥ 24 hr		OKAY
Volume Drained in First 8 hr =	18,845	ft^3			
% of EDv =	43.0	%	must be ≤ 50%		OKAY



STORM ROUTING


1S
Pre-developed
2S
Post-developed
2P
Pond
Subcat
Reach
Pond
Link
Routing Diagram for 2021-259 Pond 01B
Prepared by {enter your company name here}, Printed 8/5/2021
HydroCAD® 10.00-19 s/n 08708 © 2016 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
80,586	84	50-75% Grass cover, Fair, HSG D (1S)
405,544	80	>75% Grass cover, Good, HSG D (2S)
971,388	89	Row crops, straight row, Good, HSG D (1S)
591,109	98	Unconnected pavement, HSG D (2S)
54,886	98	Water Surface, HSG D (2S)

Summary for Subcatchment 1S: Pre-developed

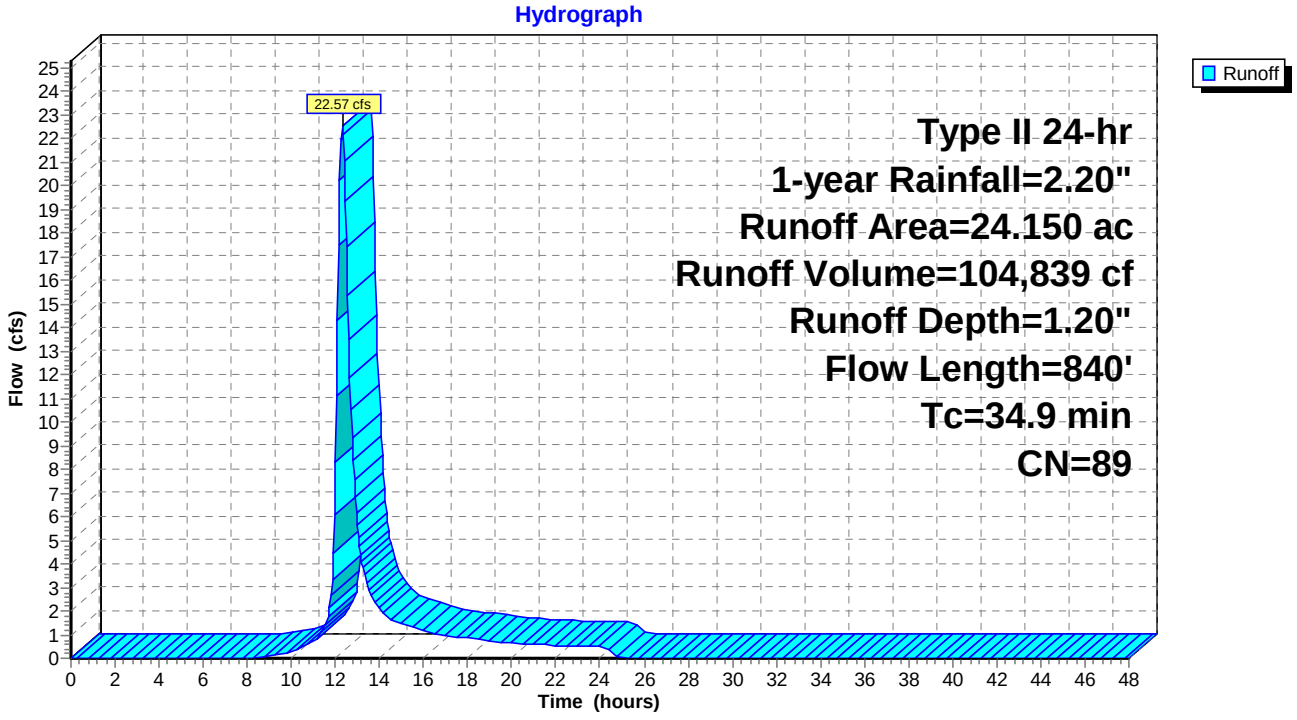
Runoff = 22.57 cfs @ 12.31 hrs, Volume= 104,839 cf, Depth= 1.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-year Rainfall=2.20"

Area (ac)	CN	Description
1.850	84	50-75% Grass cover, Fair, HSG D
22.300	89	Row crops, straight row, Good, HSG D
24.150	89	Weighted Average
24.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.0040	0.17		**Sheet Flow,** Cultivated: Residue<=20% n= 0.060 P2= 2.60"
25.0	740	0.0030	0.49		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
34.9	840	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Post-developed

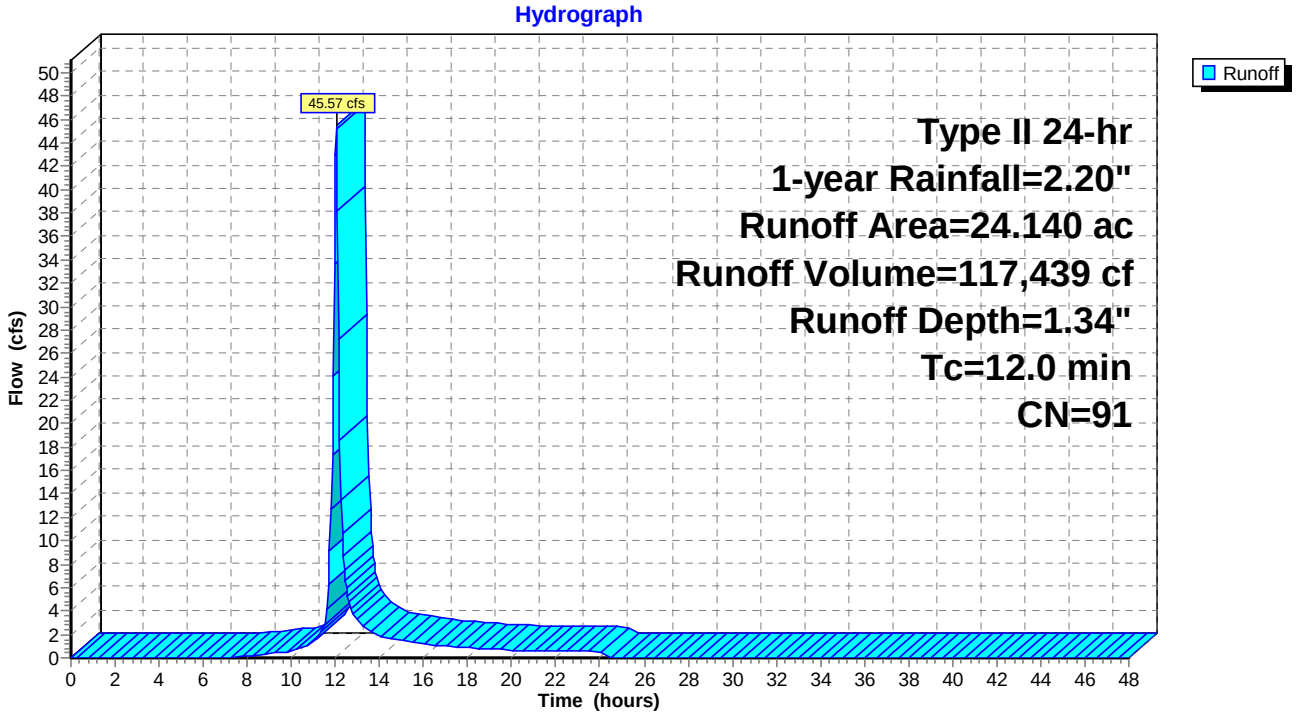
Runoff = 45.57 cfs @ 12.04 hrs, Volume= 117,439 cf, Depth= 1.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-year Rainfall=2.20"

Area (ac)	CN	Description
13.570	98	Unconnected pavement, HSG D
9.310	80	>75% Grass cover, Good, HSG D
1.260	98	Water Surface, HSG D
24.140	91	Weighted Average
9.310		38.57% Pervious Area
14.830		61.43% Impervious Area
13.570		91.50% Unconnected

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

Subcatchment 2S: Post-developed



Summary for Pond 2P: Pond

Inflow Area = 1,051,538 sf, 61.43% Impervious, Inflow Depth = 1.34" for 1-year event
Inflow = 45.57 cfs @ 12.04 hrs, Volume= 117,439 cf
Outflow = 3.33 cfs @ 12.93 hrs, Volume= 103,326 cf, Atten= 93%, Lag= 53.8 min
Primary = 3.33 cfs @ 12.93 hrs, Volume= 103,326 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,068.24' @ 12.93 hrs Surf.Area= 70,368 sf Storage= 67,574 cf

Plug-Flow detention time= 545.1 min calculated for 103,218 cf (88% of inflow)
Center-of-Mass det. time= 487.7 min (1,307.5 - 819.8)

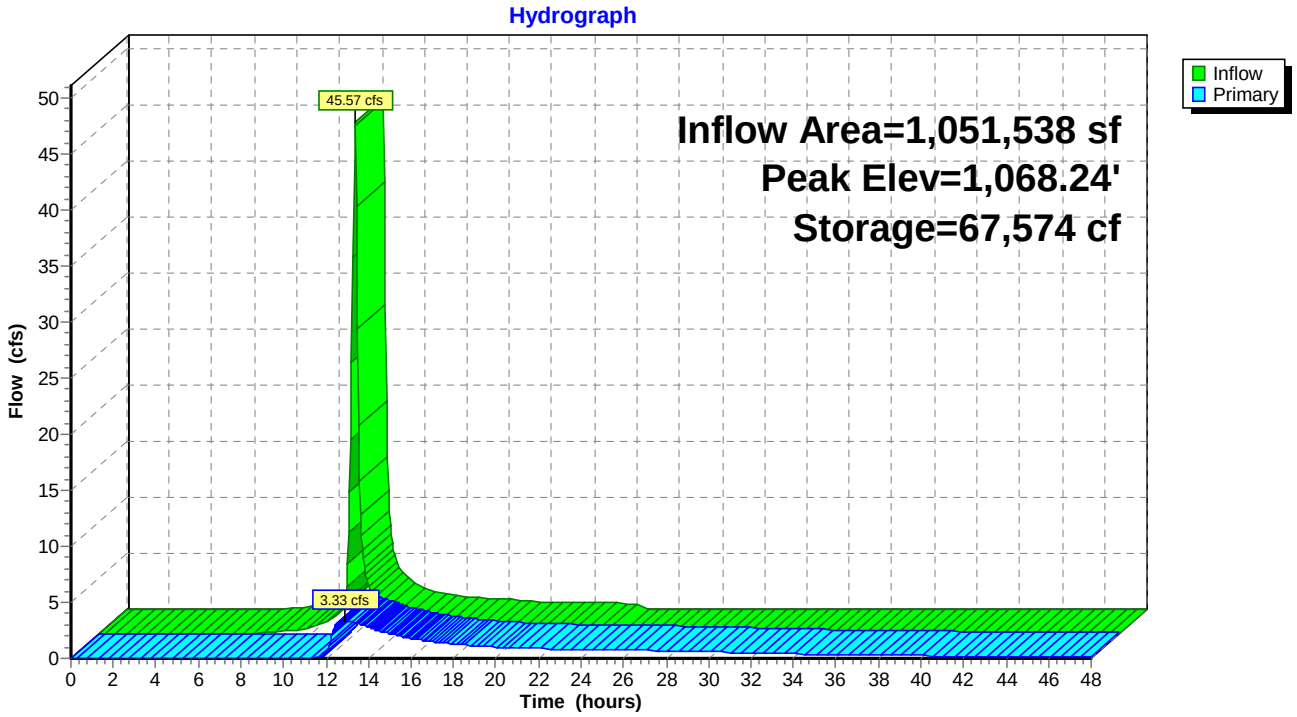
Volume	Invert	Avail.Storage	Storage Description
#1	1,067.25'	319,725 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,067.25	66,266	0	0
1,068.00	69,360	50,860	50,860
1,069.00	73,574	71,467	122,327
1,070.00	77,888	75,731	198,058
1,071.00	82,303	80,096	278,153
1,071.50	83,985	41,572	319,725

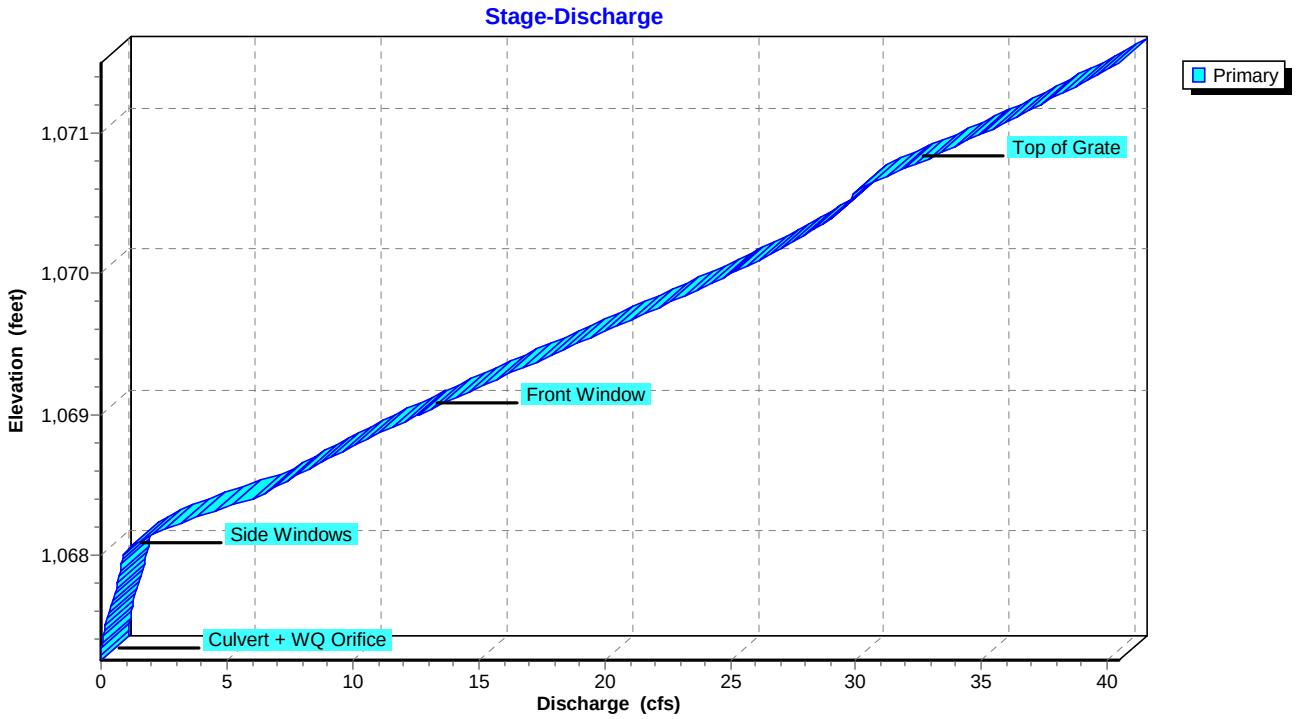
Device	Routing	Invert	Outlet Devices
#1	Primary	1,067.25'	**30.0" Round Culvert** L= 50.2' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,067.25' / 1,067.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	1,067.25'	**7.0" Vert. WQ Orifice** C= 0.600
#3	Device 1	1,068.00'	**36.0" W x 27.0" H Vert. Side Windows X 2.00** C= 0.600
#4	Device 1	1,069.00'	**36.0" W x 15.0" H Vert. Front Window** C= 0.600
#5	Device 1	1,070.75'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=3.33 cfs @ 12.93 hrs HW=1,068.24' (Free Discharge)
└**1=Culvert** (Passes 3.33 cfs of 4.69 cfs potential flow)
  ├**2=WQ Orifice** (Orifice Controls 1.07 cfs @ 4.02 fps)
  ├**3=Side Windows** (Orifice Controls 2.25 cfs @ 1.57 fps)
  ├**4=Front Window** (Controls 0.00 cfs)
  └**5=Top of Grate** (Controls 0.00 cfs)

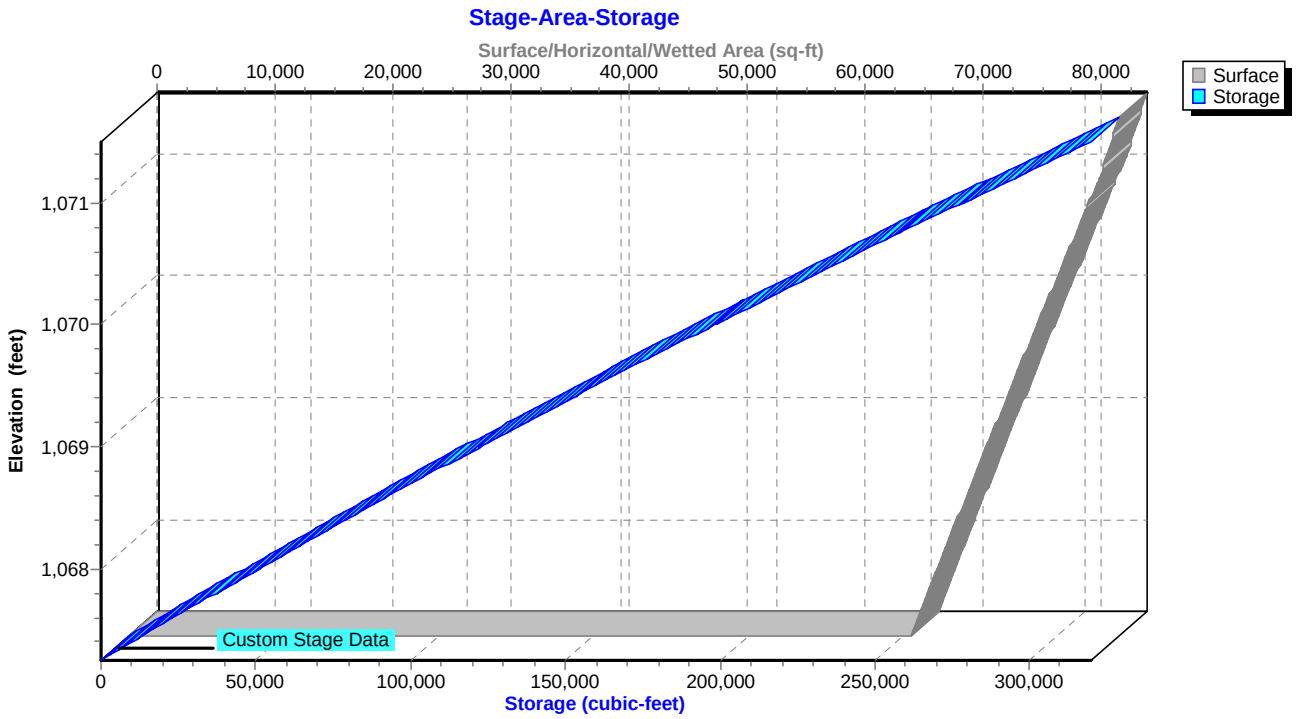
Pond 2P: Pond



Pond 2P: Pond



Pond 2P: Pond


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
Surface
Storage
1,071
1,070
1,069
1,068
Elevation (feet)
Custom Stage Data
0
50,000
100,000
150,000
200,000
250,000
300,000
Storage (cubic-feet)

Summary for Subcatchment 1S: Pre-developed

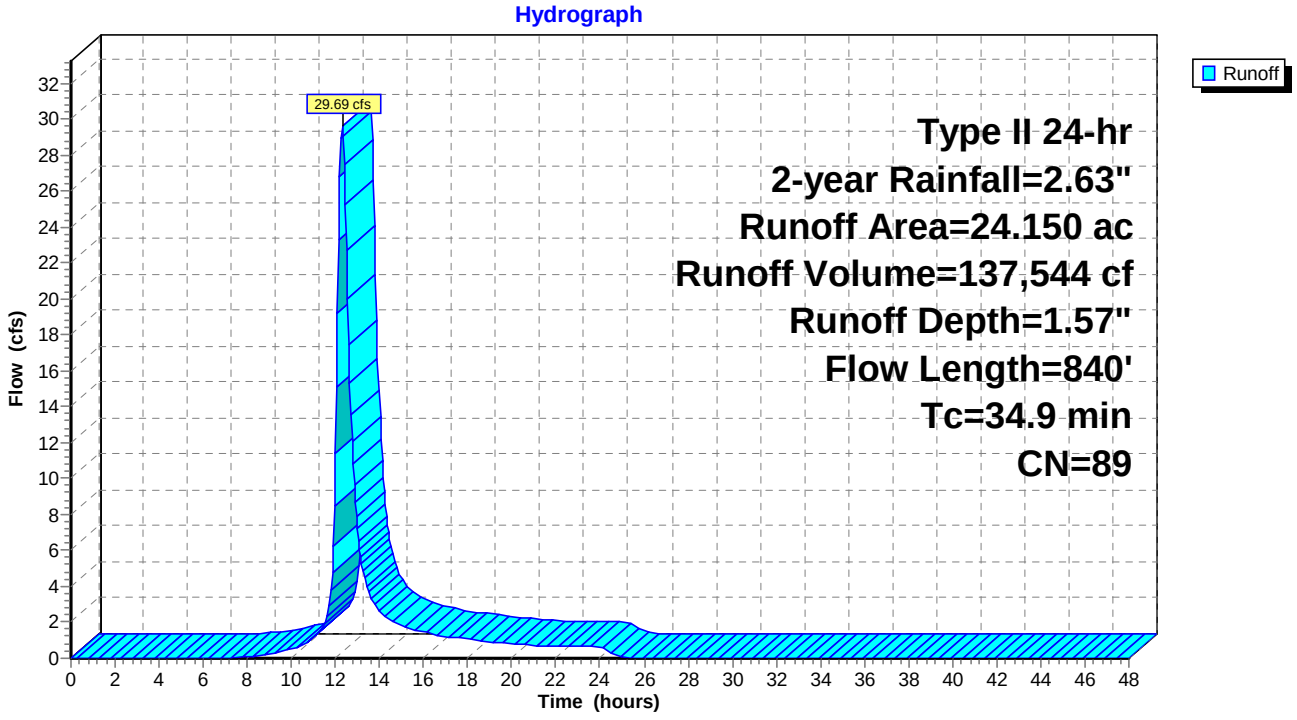
Runoff = 29.69 cfs @ 12.30 hrs, Volume= 137,544 cf, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-year Rainfall=2.63"

Area (ac)	CN	Description
1.850	84	50-75% Grass cover, Fair, HSG D
22.300	89	Row crops, straight row, Good, HSG D
24.150	89	Weighted Average
24.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.0040	0.17		**Sheet Flow,** Cultivated: Residue<=20% n= 0.060 P2= 2.60"
25.0	740	0.0030	0.49		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
34.9	840	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Post-developed

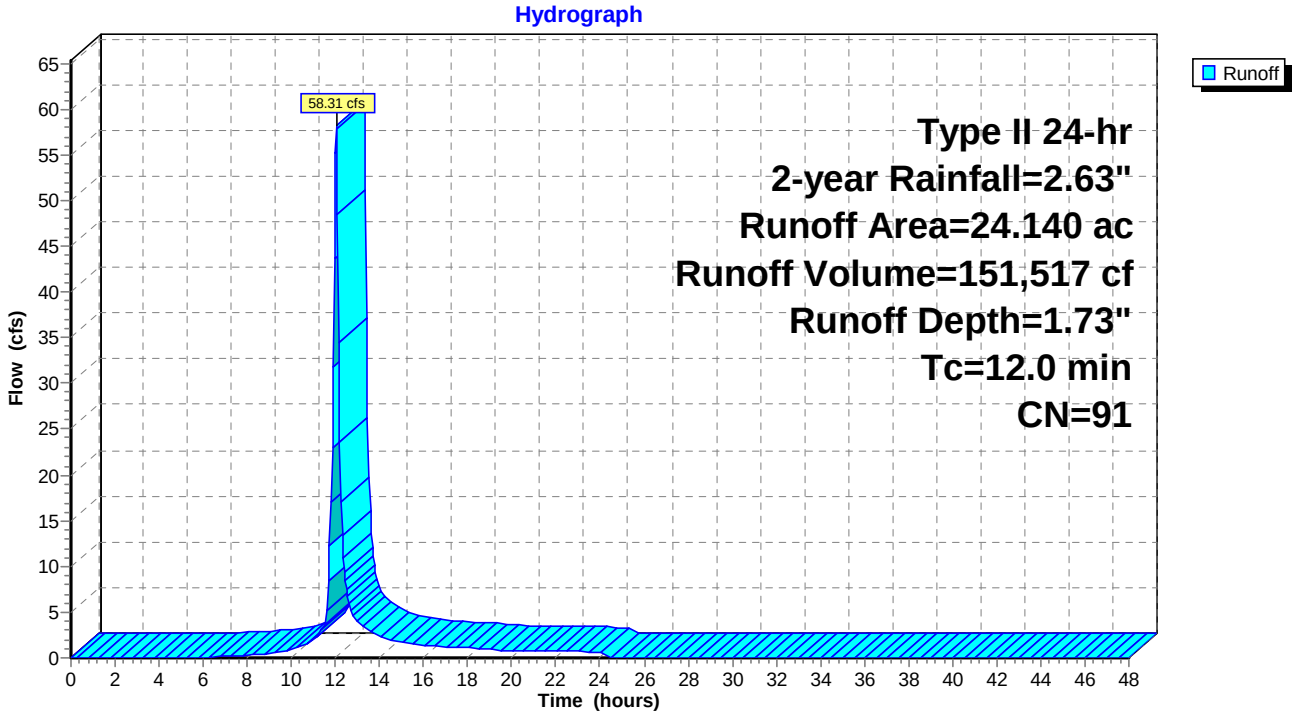
Runoff = 58.31 cfs @ 12.04 hrs, Volume= 151,517 cf, Depth= 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-year Rainfall=2.63"

Area (ac)	CN	Description
13.570	98	Unconnected pavement, HSG D
9.310	80	>75% Grass cover, Good, HSG D
1.260	98	Water Surface, HSG D
24.140	91	Weighted Average
9.310		38.57% Pervious Area
14.830		61.43% Impervious Area
13.570		91.50% Unconnected

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

Subcatchment 2S: Post-developed



Summary for Pond 2P: Pond

Inflow Area = 1,051,538 sf, 61.43% Impervious, Inflow Depth = 1.73" for 2-year event
Inflow = 58.31 cfs @ 12.04 hrs, Volume= 151,517 cf
Outflow = 6.67 cfs @ 12.55 hrs, Volume= 137,008 cf, Atten= 89%, Lag= 30.8 min
Primary = 6.67 cfs @ 12.55 hrs, Volume= 137,008 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,068.45' @ 12.55 hrs Surf.Area= 71,276 sf Storage= 82,832 cf

Plug-Flow detention time= 448.5 min calculated for 136,865 cf (90% of inflow)
Center-of-Mass det. time= 400.5 min (1,213.0 - 812.5)

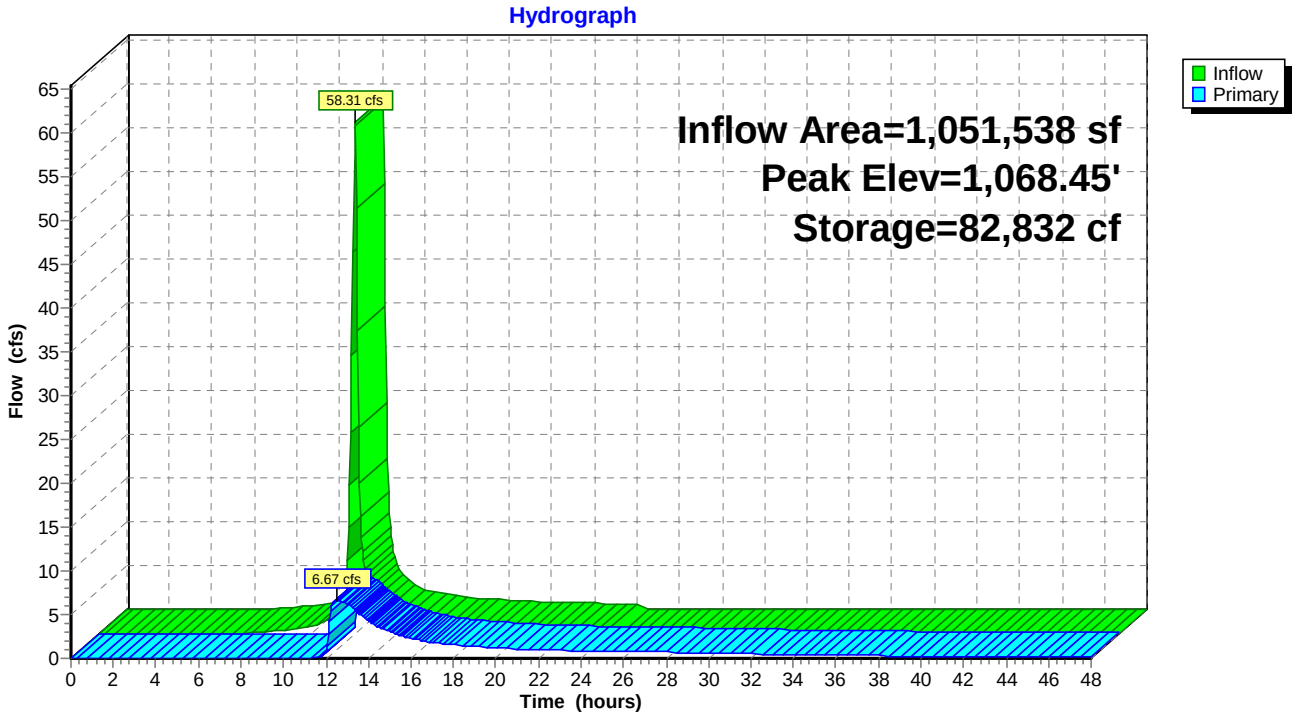
Volume	Invert	Avail.Storage	Storage Description
#1	1,067.25'	319,725 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,067.25	66,266	0	0
1,068.00	69,360	50,860	50,860
1,069.00	73,574	71,467	122,327
1,070.00	77,888	75,731	198,058
1,071.00	82,303	80,096	278,153
1,071.50	83,985	41,572	319,725

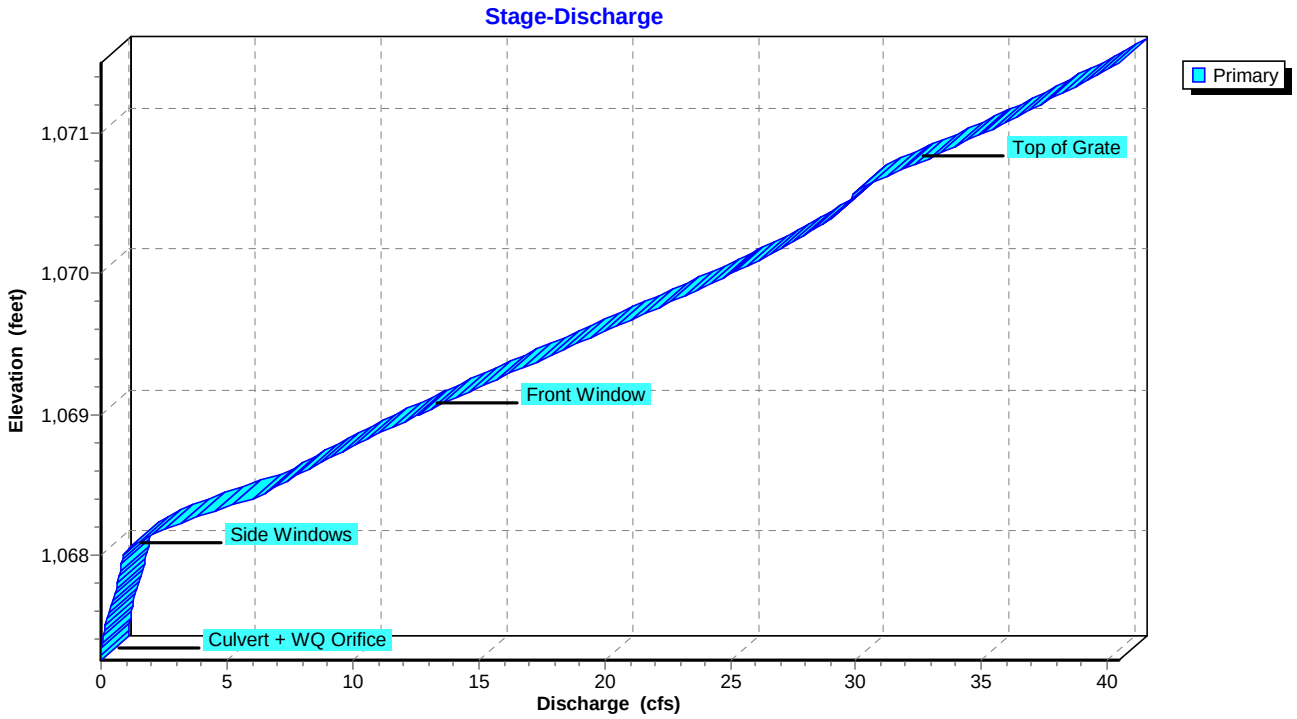
Device	Routing	Invert	Outlet Devices
#1	Primary	1,067.25'	**30.0" Round Culvert** L= 50.2' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,067.25' / 1,067.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	1,067.25'	**7.0" Vert. WQ Orifice** C= 0.600
#3	Device 1	1,068.00'	**36.0" W x 27.0" H Vert. Side Windows X 2.00** C= 0.600
#4	Device 1	1,069.00'	**36.0" W x 15.0" H Vert. Front Window** C= 0.600
#5	Device 1	1,070.75'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=6.67 cfs @ 12.55 hrs HW=1,068.45' (Free Discharge)
└**1=Culvert** (Barrel Controls 6.67 cfs @ 4.17 fps)
  ├**2=WQ Orifice** (Passes < 1.23 cfs potential flow)
  ├**3=Side Windows** (Passes < 5.90 cfs potential flow)
  ├**4=Front Window** (Controls 0.00 cfs)
  └**5=Top of Grate** (Controls 0.00 cfs)

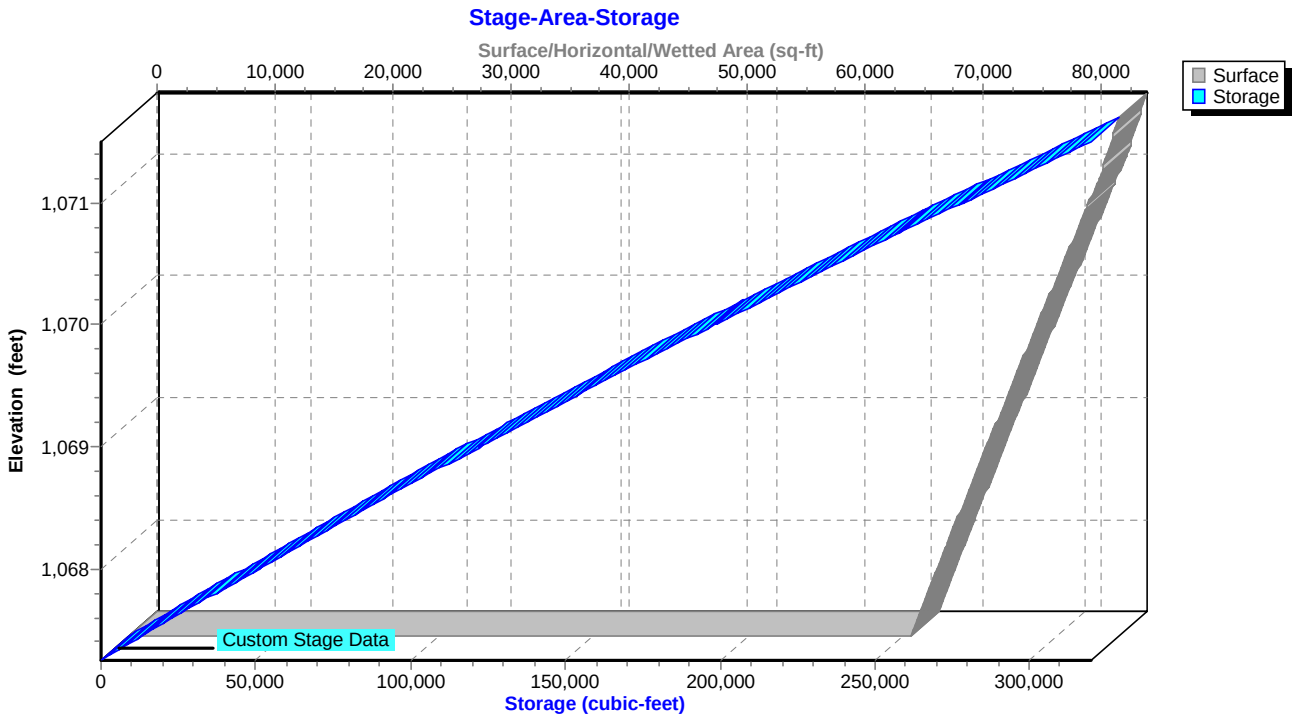
Pond 2P: Pond



Pond 2P: Pond



Pond 2P: Pond


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
Surface
Storage
1,071
1,070
1,069
1,068
Elevation (feet)
Custom Stage Data
0
50,000
100,000
150,000
200,000
250,000
300,000
Storage (cubic-feet)

Summary for Subcatchment 1S: Pre-developed

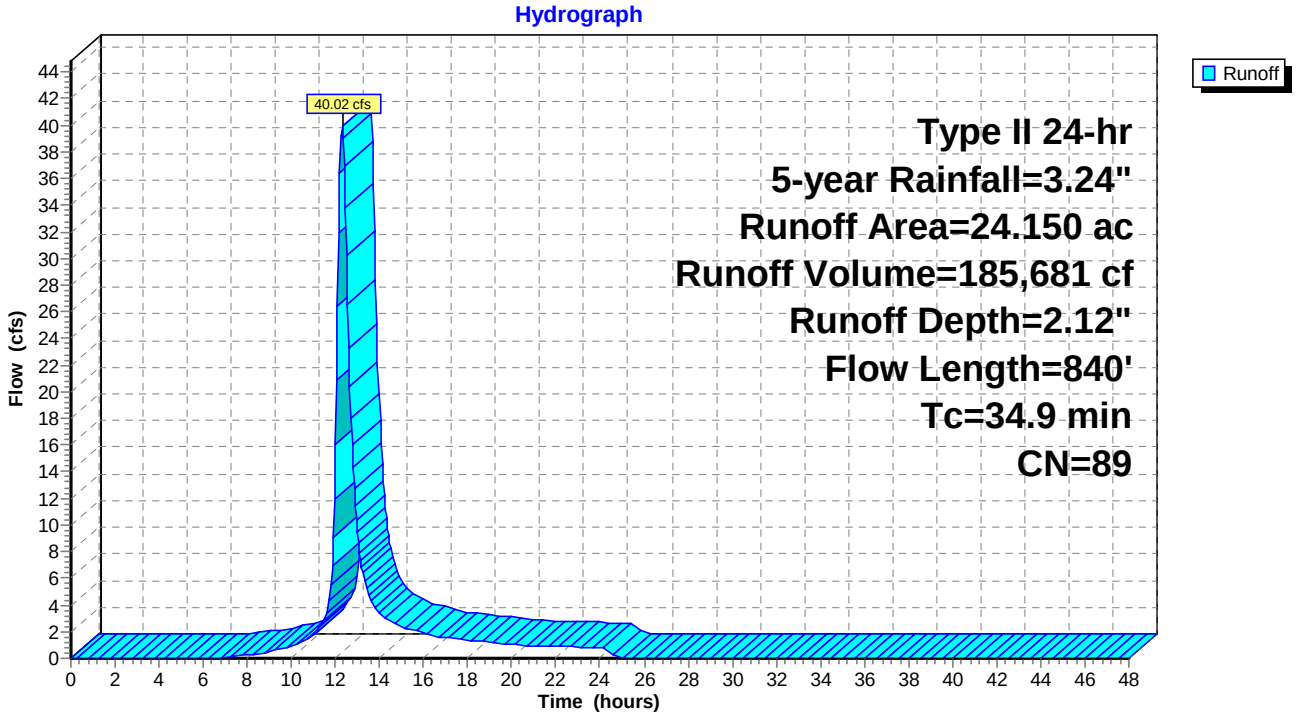
Runoff = 40.02 cfs @ 12.30 hrs, Volume= 185,681 cf, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-year Rainfall=3.24"

Area (ac)	CN	Description
1.850	84	50-75% Grass cover, Fair, HSG D
22.300	89	Row crops, straight row, Good, HSG D
24.150	89	Weighted Average
24.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.0040	0.17		**Sheet Flow,** Cultivated: Residue<=20% n= 0.060 P2= 2.60"
25.0	740	0.0030	0.49		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
34.9	840	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Post-developed

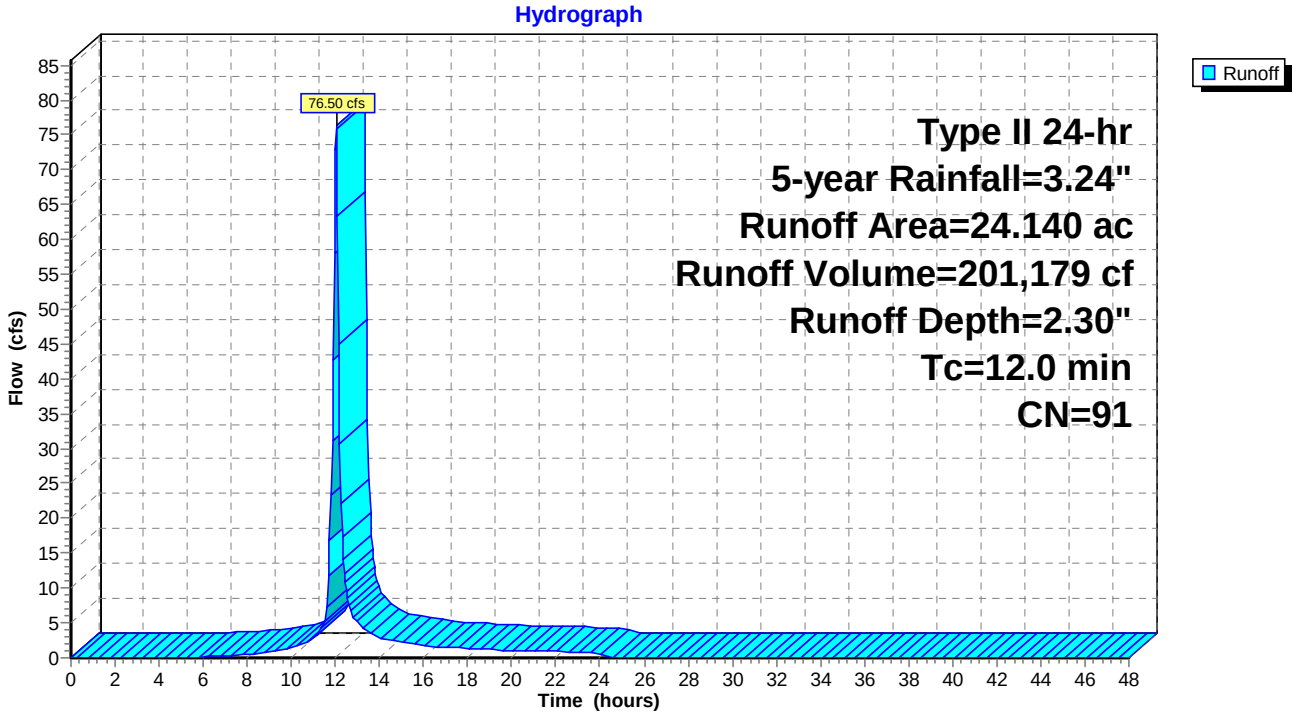
Runoff = 76.50 cfs @ 12.03 hrs, Volume= 201,179 cf, Depth= 2.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-year Rainfall=3.24"

Area (ac)	CN	Description
13.570	98	Unconnected pavement, HSG D
9.310	80	>75% Grass cover, Good, HSG D
1.260	98	Water Surface, HSG D
24.140	91	Weighted Average
9.310		38.57% Pervious Area
14.830		61.43% Impervious Area
13.570		91.50% Unconnected

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

Subcatchment 2S: Post-developed



Summary for Pond 2P: Pond

Inflow Area = 1,051,538 sf, 61.43% Impervious, Inflow Depth = 2.30" for 5-year event
Inflow = 76.50 cfs @ 12.03 hrs, Volume= 201,179 cf
Outflow = 10.42 cfs @ 12.46 hrs, Volume= 186,322 cf, Atten= 86%, Lag= 25.8 min
Primary = 10.42 cfs @ 12.46 hrs, Volume= 186,322 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,068.81' @ 12.46 hrs Surf.Area= 72,763 sf Storage= 108,248 cf

Plug-Flow detention time= 369.8 min calculated for 186,322 cf (93% of inflow)
Center-of-Mass det. time= 329.6 min (1,134.1 - 804.5)

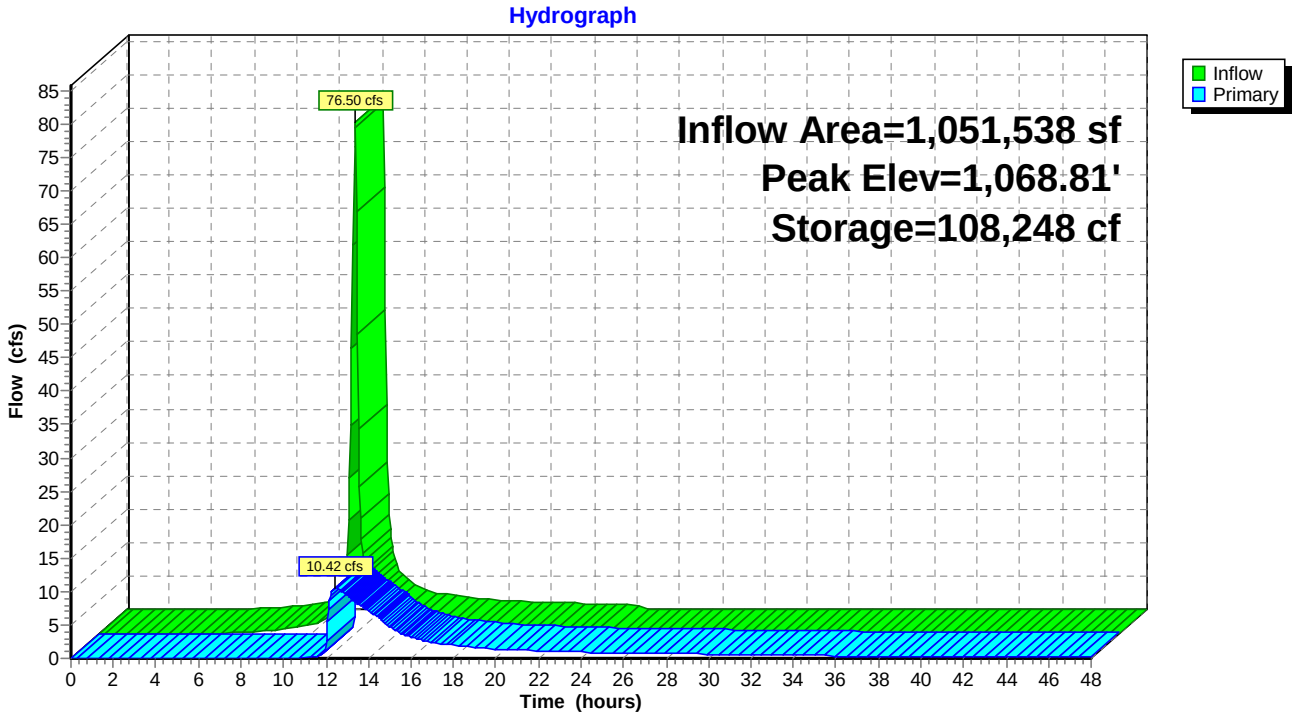
Volume	Invert	Avail.Storage	Storage Description
#1	1,067.25'	319,725 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,067.25	66,266	0	0
1,068.00	69,360	50,860	50,860
1,069.00	73,574	71,467	122,327
1,070.00	77,888	75,731	198,058
1,071.00	82,303	80,096	278,153
1,071.50	83,985	41,572	319,725

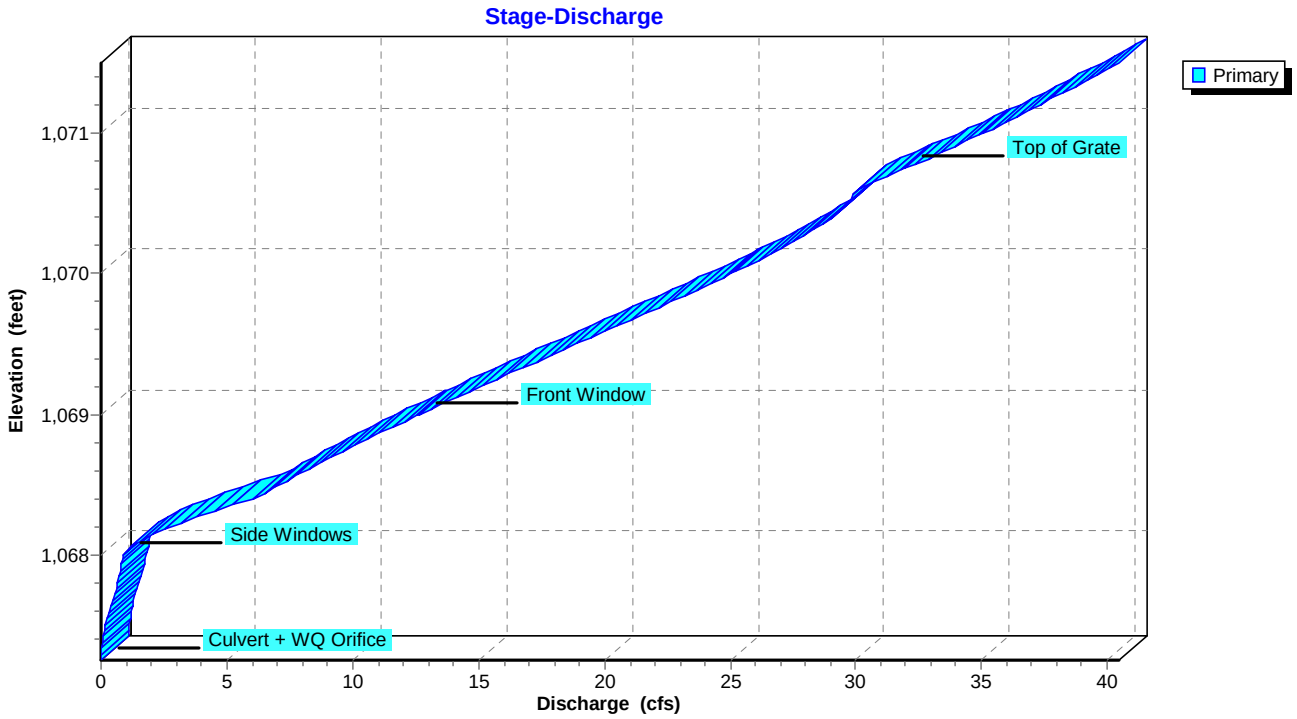
Device	Routing	Invert	Outlet Devices
#1	Primary	1,067.25'	**30.0" Round Culvert** L= 50.2' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,067.25' / 1,067.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	1,067.25'	**7.0" Vert. WQ Orifice** C= 0.600
#3	Device 1	1,068.00'	**36.0" W x 27.0" H Vert. Side Windows X 2.00** C= 0.600
#4	Device 1	1,069.00'	**36.0" W x 15.0" H Vert. Front Window** C= 0.600
#5	Device 1	1,070.75'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=10.42 cfs @ 12.46 hrs HW=1,068.81' (Free Discharge)
└**1=Culvert** (Barrel Controls 10.42 cfs @ 4.63 fps)
  └**2=WQ Orifice** (Passes < 1.45 cfs potential flow)
  └**3=Side Windows** (Passes < 13.97 cfs potential flow)
  └**4=Front Window** (Controls 0.00 cfs)
  └**5=Top of Grate** (Controls 0.00 cfs)

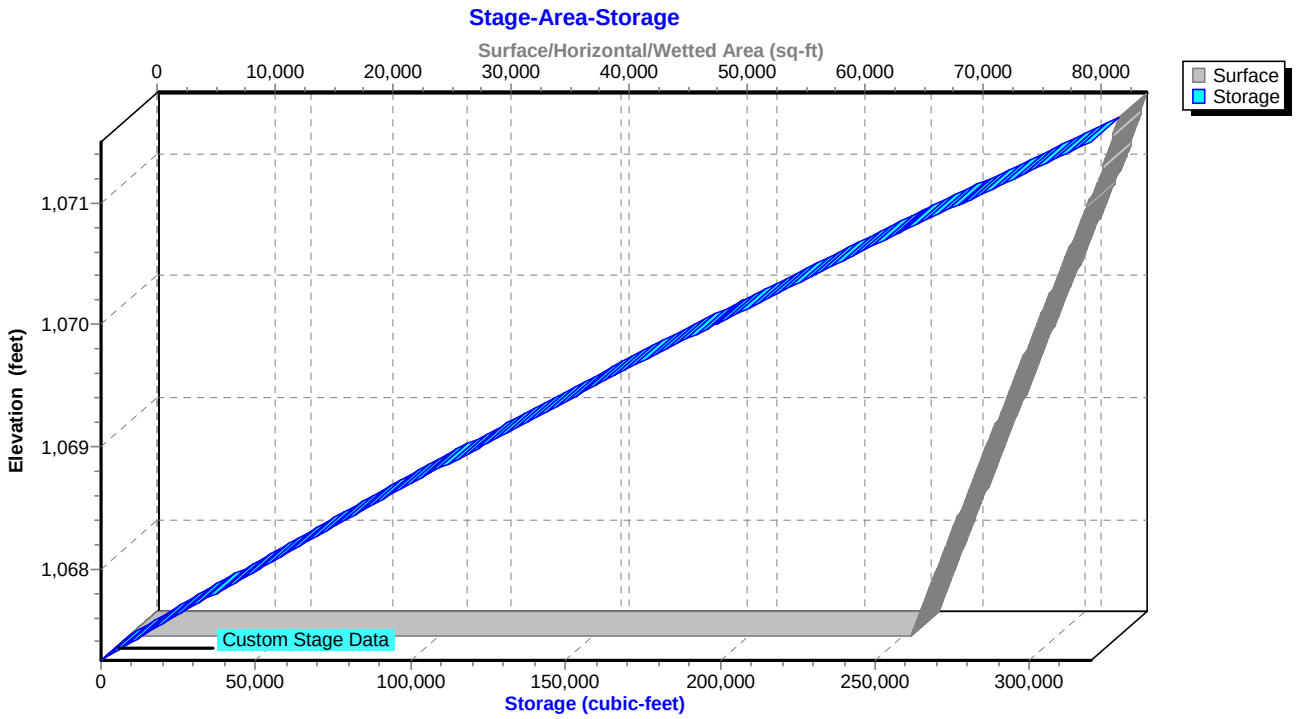
Pond 2P: Pond



Pond 2P: Pond



Pond 2P: Pond


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
Surface
Storage
1,071
1,070
1,069
1,068
Elevation (feet)
Custom Stage Data
0
50,000
100,000
150,000
200,000
250,000
300,000
Storage (cubic-feet)

Summary for Subcatchment 1S: Pre-developed

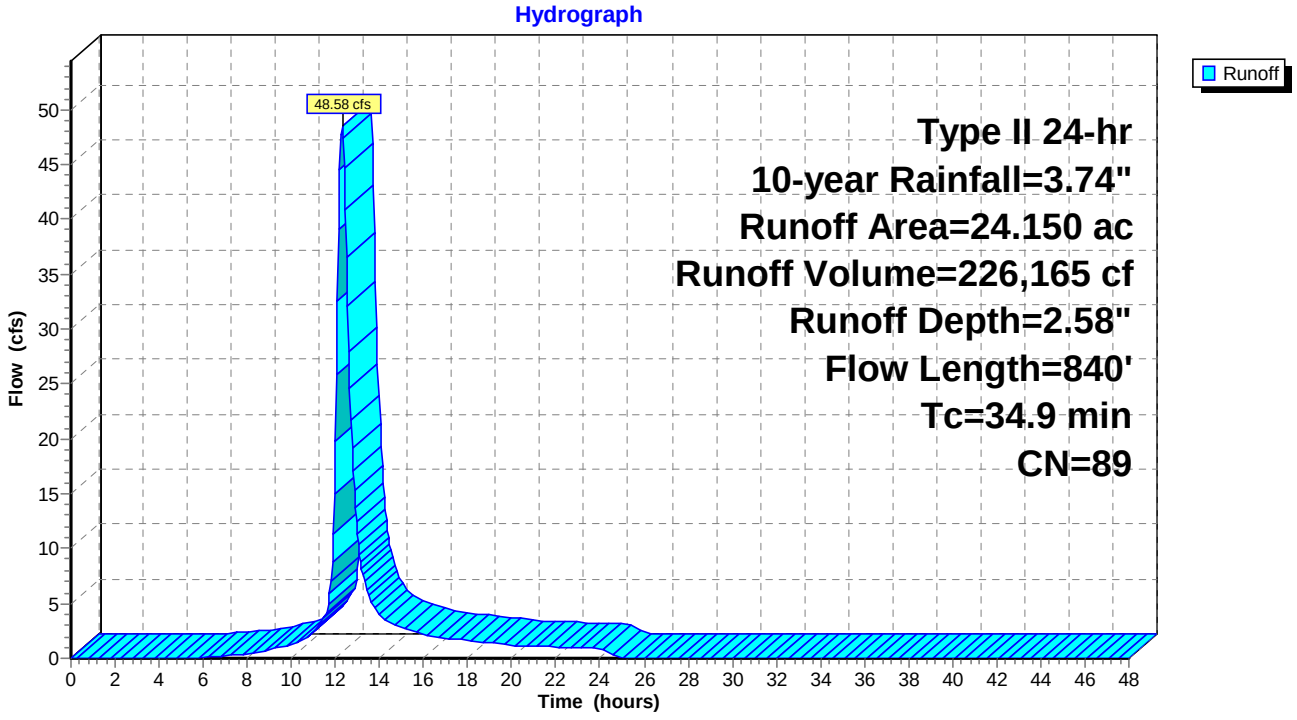
Runoff = 48.58 cfs @ 12.30 hrs, Volume= 226,165 cf, Depth= 2.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-year Rainfall=3.74"

Area (ac)	CN	Description
1.850	84	50-75% Grass cover, Fair, HSG D
22.300	89	Row crops, straight row, Good, HSG D
24.150	89	Weighted Average
24.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.0040	0.17		**Sheet Flow,** Cultivated: Residue<=20% n= 0.060 P2= 2.60"
25.0	740	0.0030	0.49		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
34.9	840	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Post-developed

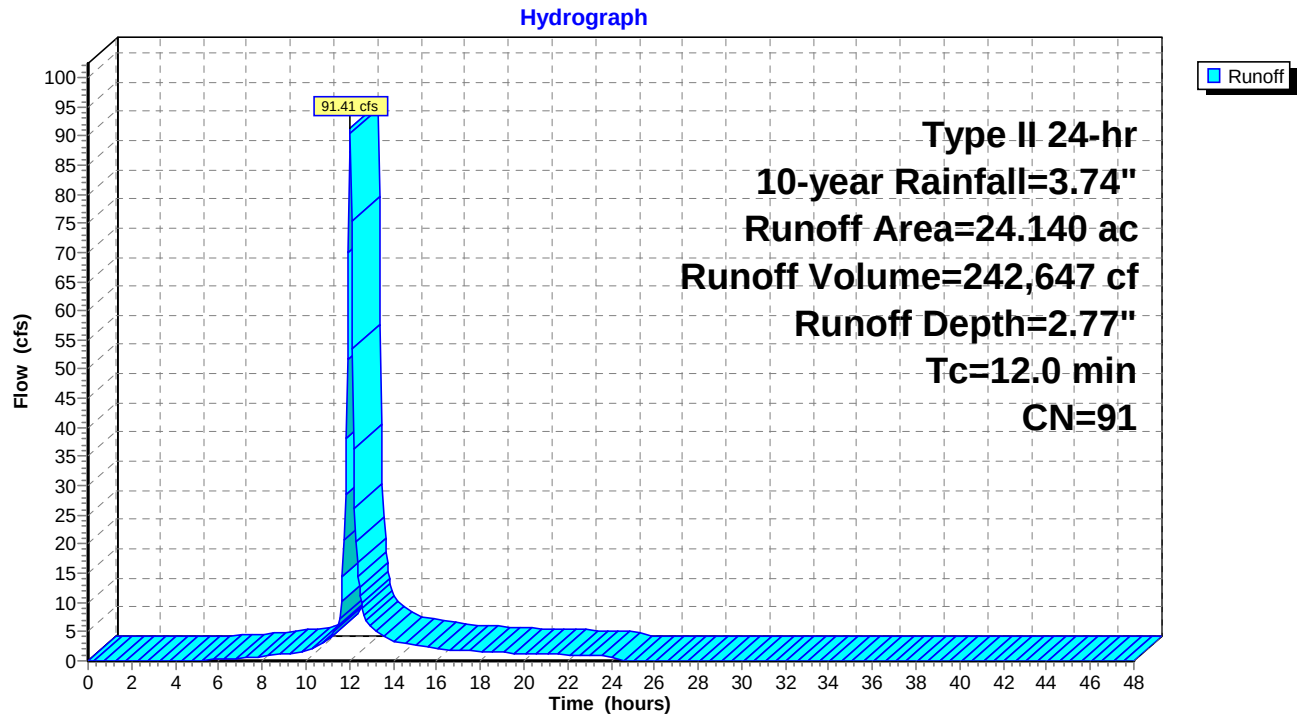
Runoff = 91.41 cfs @ 12.03 hrs, Volume= 242,647 cf, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-year Rainfall=3.74"

Area (ac)	CN	Description
13.570	98	Unconnected pavement, HSG D
9.310	80	>75% Grass cover, Good, HSG D
1.260	98	Water Surface, HSG D
24.140	91	Weighted Average
9.310		38.57% Pervious Area
14.830		61.43% Impervious Area
13.570		91.50% Unconnected

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

Subcatchment 2S: Post-developed



Summary for Pond 2P: Pond

Inflow Area = 1,051,538 sf, 61.43% Impervious, Inflow Depth = 2.77" for 10-year event
Inflow = 91.41 cfs @ 12.03 hrs, Volume= 242,647 cf
Outflow = 13.82 cfs @ 12.42 hrs, Volume= 227,580 cf, Atten= 85%, Lag= 23.0 min
Primary = 13.82 cfs @ 12.42 hrs, Volume= 227,580 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,069.10' @ 12.42 hrs Surf.Area= 73,985 sf Storage= 129,363 cf

Plug-Flow detention time= 328.5 min calculated for 227,580 cf (94% of inflow)
Center-of-Mass det. time= 293.7 min (1,092.9 - 799.2)

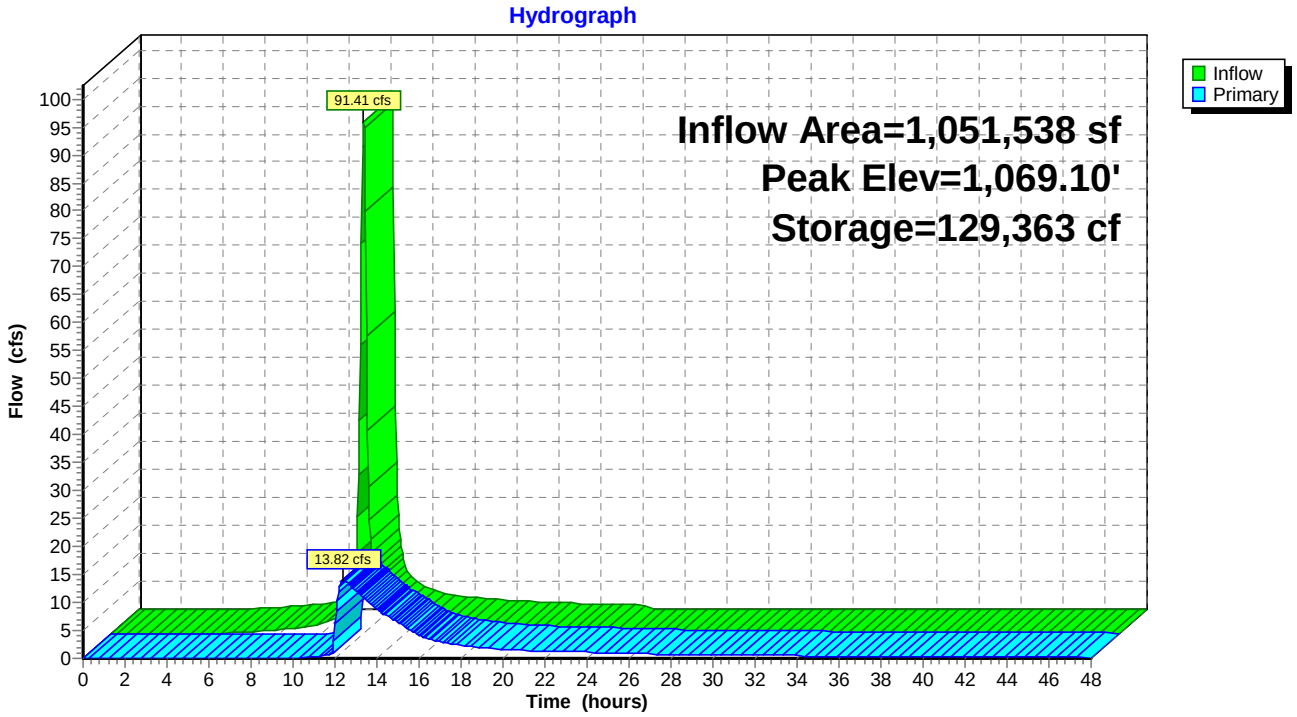
Volume	Invert	Avail.Storage	Storage Description
#1	1,067.25'	319,725 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,067.25	66,266	0	0
1,068.00	69,360	50,860	50,860
1,069.00	73,574	71,467	122,327
1,070.00	77,888	75,731	198,058
1,071.00	82,303	80,096	278,153
1,071.50	83,985	41,572	319,725

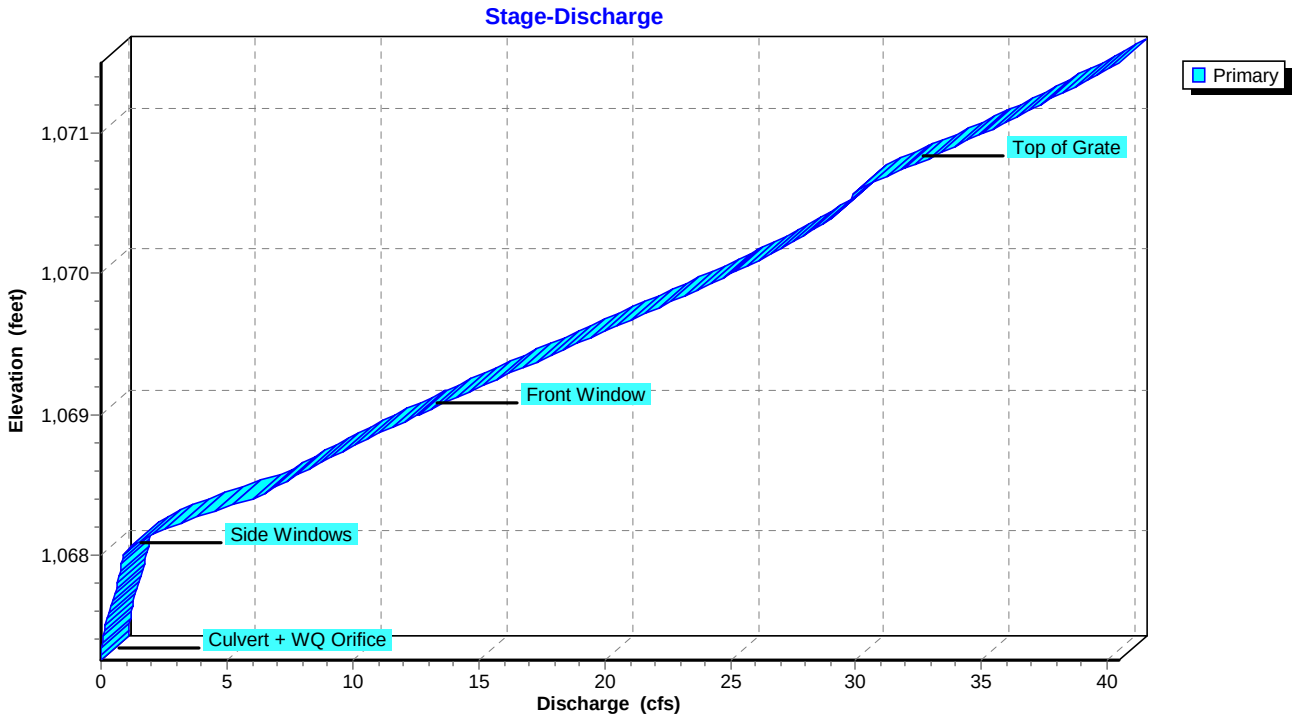
Device	Routing	Invert	Outlet Devices
#1	Primary	1,067.25'	**30.0" Round Culvert** L= 50.2' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,067.25' / 1,067.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	1,067.25'	**7.0" Vert. WQ Orifice** C= 0.600
#3	Device 1	1,068.00'	**36.0" W x 27.0" H Vert. Side Windows X 2.00** C= 0.600
#4	Device 1	1,069.00'	**36.0" W x 15.0" H Vert. Front Window** C= 0.600
#5	Device 1	1,070.75'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=13.82 cfs @ 12.42 hrs HW=1,069.09' (Free Discharge)
└**1=Culvert** (Barrel Controls 13.82 cfs @ 4.96 fps)
  └**2=WQ Orifice** (Passes < 1.60 cfs potential flow)
  └**3=Side Windows** (Passes < 22.06 cfs potential flow)
  └**4=Front Window** (Passes < 0.28 cfs potential flow)
  └**5=Top of Grate** (Controls 0.00 cfs)

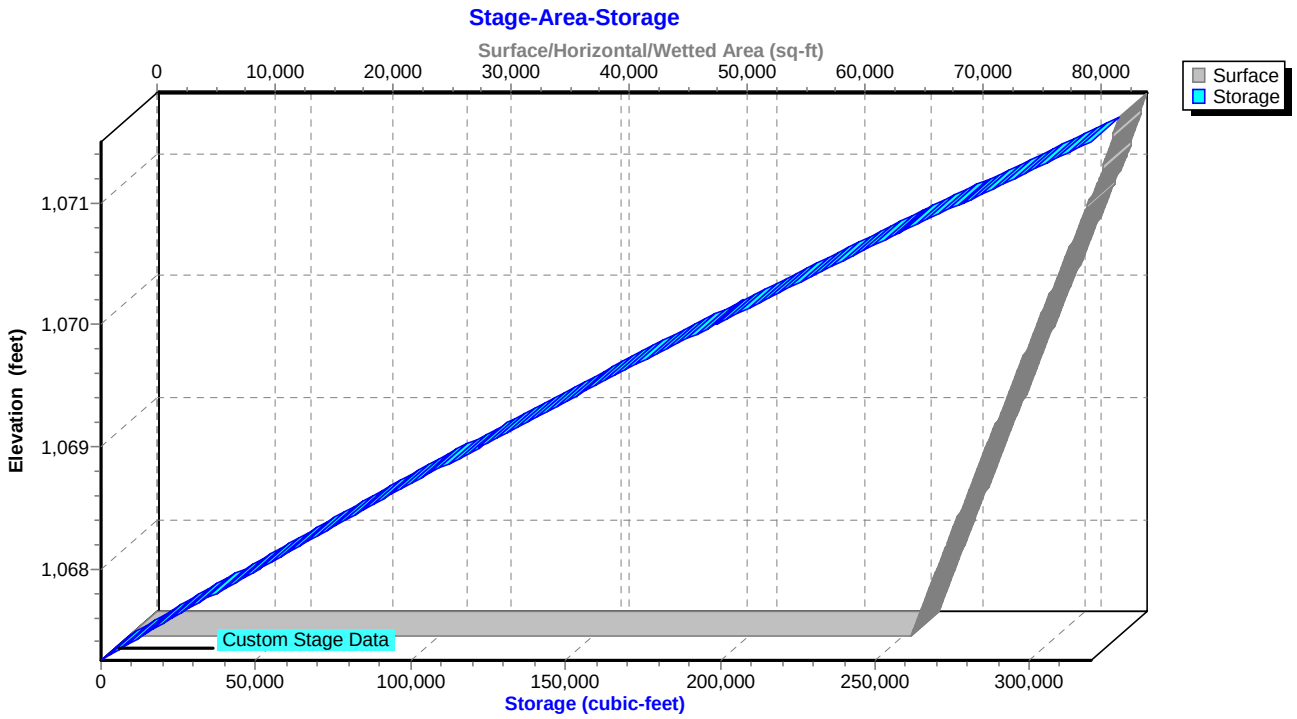
Pond 2P: Pond



Pond 2P: Pond



Pond 2P: Pond


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
Surface
Storage
1,071
1,070
1,069
1,068
Elevation (feet)
Custom Stage Data
0
50,000
100,000
150,000
200,000
250,000
300,000
Storage (cubic-feet)

Summary for Subcatchment 1S: Pre-developed

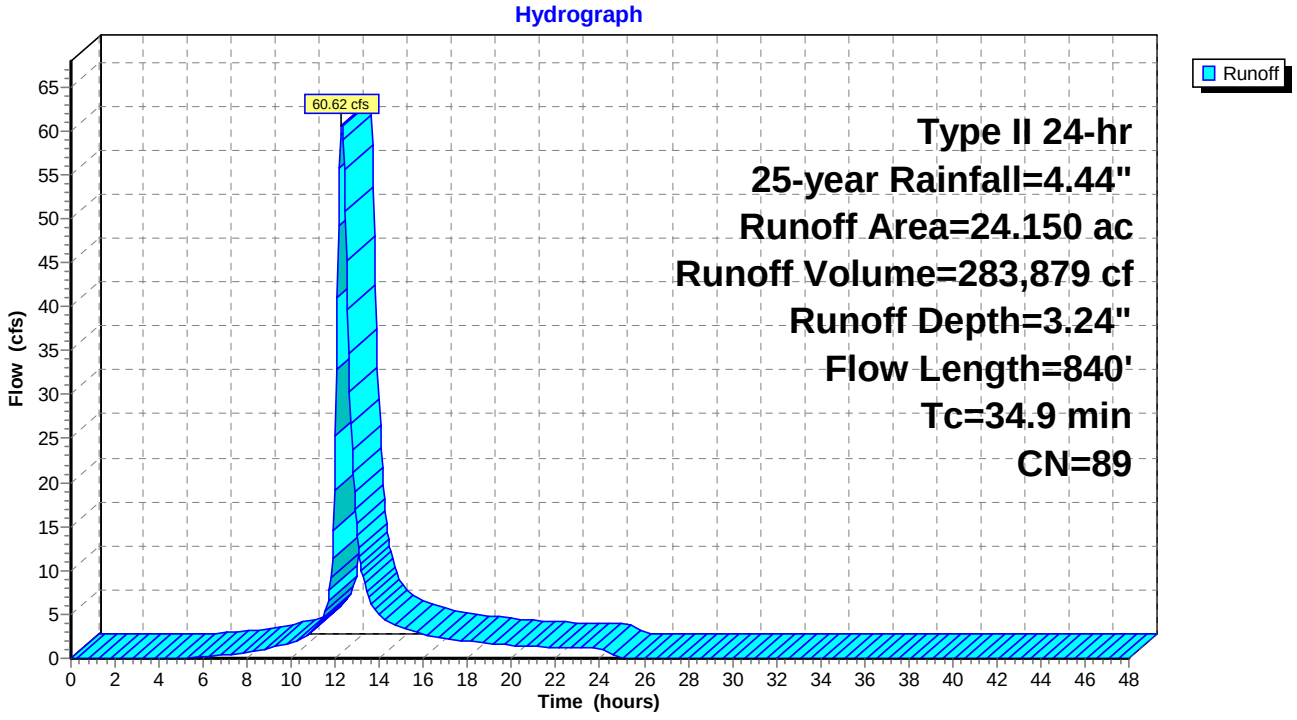
Runoff = 60.62 cfs @ 12.29 hrs, Volume= 283,879 cf, Depth= 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-year Rainfall=4.44"

Area (ac)	CN	Description
1.850	84	50-75% Grass cover, Fair, HSG D
22.300	89	Row crops, straight row, Good, HSG D
24.150	89	Weighted Average
24.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.0040	0.17		**Sheet Flow,** Cultivated: Residue<=20% n= 0.060 P2= 2.60"
25.0	740	0.0030	0.49		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
34.9	840	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Post-developed

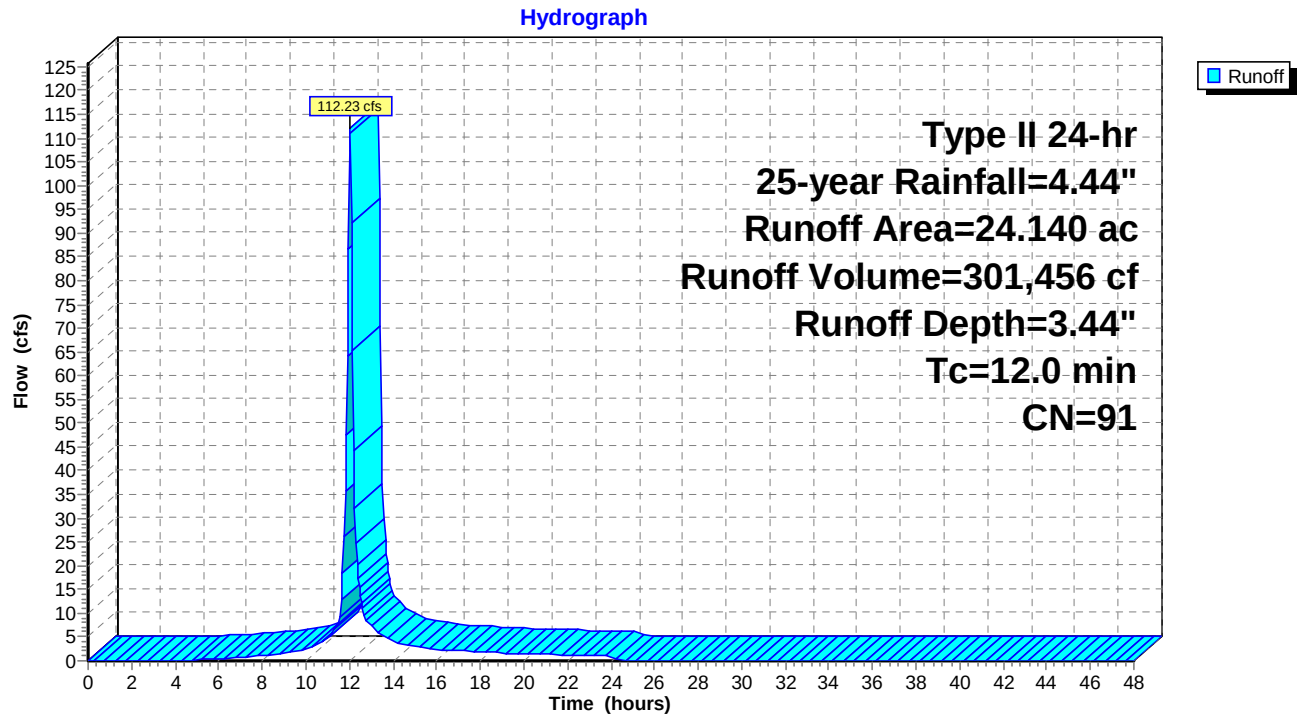
Runoff = 112.23 cfs @ 12.03 hrs, Volume= 301,456 cf, Depth= 3.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-year Rainfall=4.44"

Area (ac)	CN	Description
13.570	98	Unconnected pavement, HSG D
9.310	80	>75% Grass cover, Good, HSG D
1.260	98	Water Surface, HSG D
24.140	91	Weighted Average
9.310		38.57% Pervious Area
14.830		61.43% Impervious Area
13.570		91.50% Unconnected

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

Subcatchment 2S: Post-developed



Summary for Pond 2P: Pond

Inflow Area = 1,051,538 sf, 61.43% Impervious, Inflow Depth = 3.44" for 25-year event
Inflow = 112.23 cfs @ 12.03 hrs, Volume= 301,456 cf
Outflow = 18.77 cfs @ 12.38 hrs, Volume= 286,171 cf, Atten= 83%, Lag= 20.7 min
Primary = 18.77 cfs @ 12.38 hrs, Volume= 286,171 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,069.49' @ 12.38 hrs Surf.Area= 75,688 sf Storage= 158,905 cf

Plug-Flow detention time= 289.4 min calculated for 286,171 cf (95% of inflow)
Center-of-Mass det. time= 259.9 min (1,053.1 - 793.1)

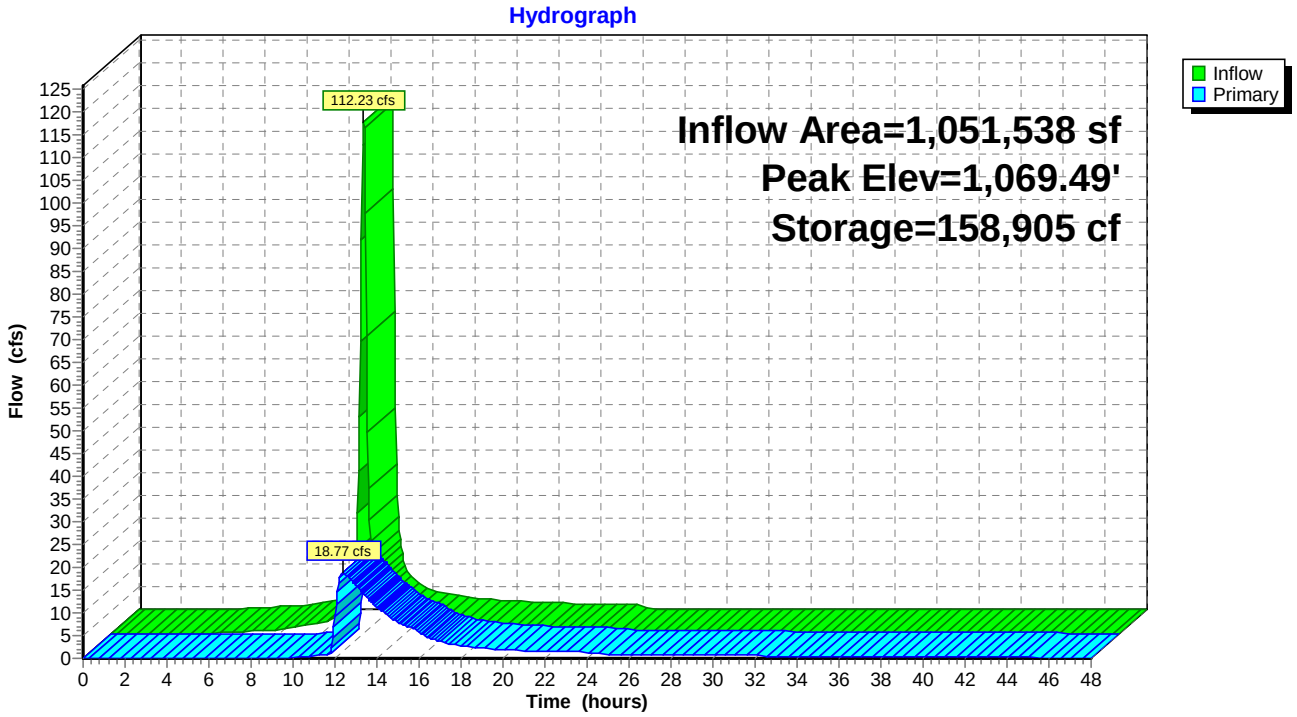
Volume	Invert	Avail.Storage	Storage Description
#1	1,067.25'	319,725 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,067.25	66,266	0	0
1,068.00	69,360	50,860	50,860
1,069.00	73,574	71,467	122,327
1,070.00	77,888	75,731	198,058
1,071.00	82,303	80,096	278,153
1,071.50	83,985	41,572	319,725

Device	Routing	Invert	Outlet Devices
#1	Primary	1,067.25'	**30.0" Round Culvert** L= 50.2' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,067.25' / 1,067.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	1,067.25'	**7.0" Vert. WQ Orifice** C= 0.600
#3	Device 1	1,068.00'	**36.0" W x 27.0" H Vert. Side Windows X 2.00** C= 0.600
#4	Device 1	1,069.00'	**36.0" W x 15.0" H Vert. Front Window** C= 0.600
#5	Device 1	1,070.75'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=18.76 cfs @ 12.38 hrs HW=1,069.49' (Free Discharge)
└**1=Culvert** (Barrel Controls 18.76 cfs @ 5.35 fps)
  ├**2=WQ Orifice** (Passes < 1.80 cfs potential flow)
  ├**3=Side Windows** (Passes < 35.01 cfs potential flow)
  ├**4=Front Window** (Passes < 3.30 cfs potential flow)
  └**5=Top of Grate** (Controls 0.00 cfs)

Pond 2P: Pond



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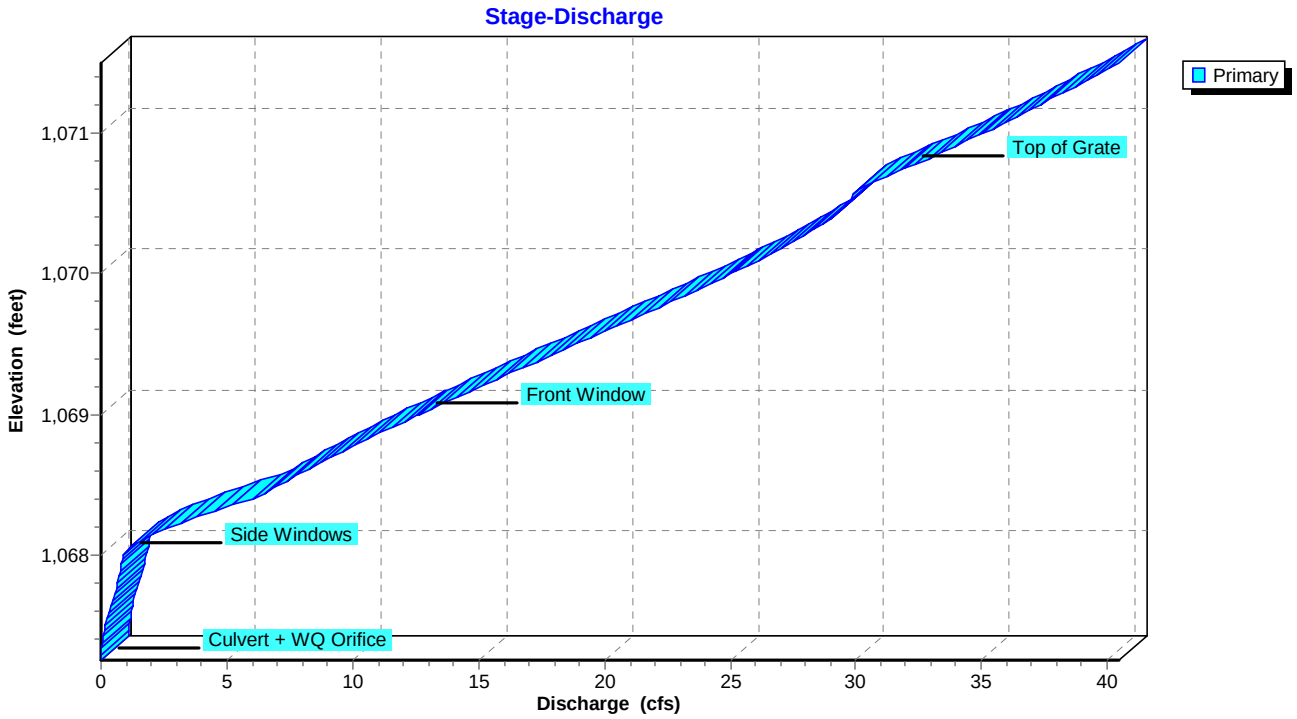

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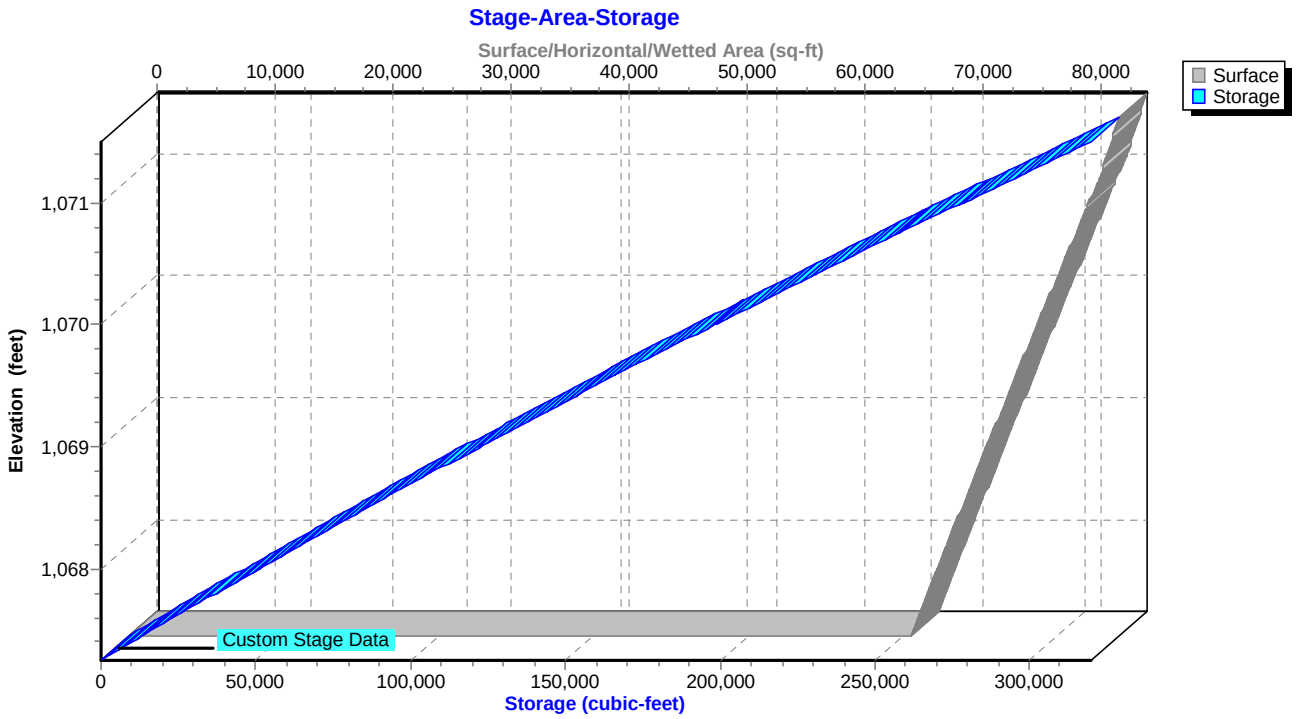

Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
Surface
Storage
1,071
1,070
1,069
1,068
Elevation (feet)
Custom Stage Data
0
50,000
100,000
150,000
200,000
250,000
300,000
Storage (cubic-feet)

Summary for Subcatchment 1S: Pre-developed

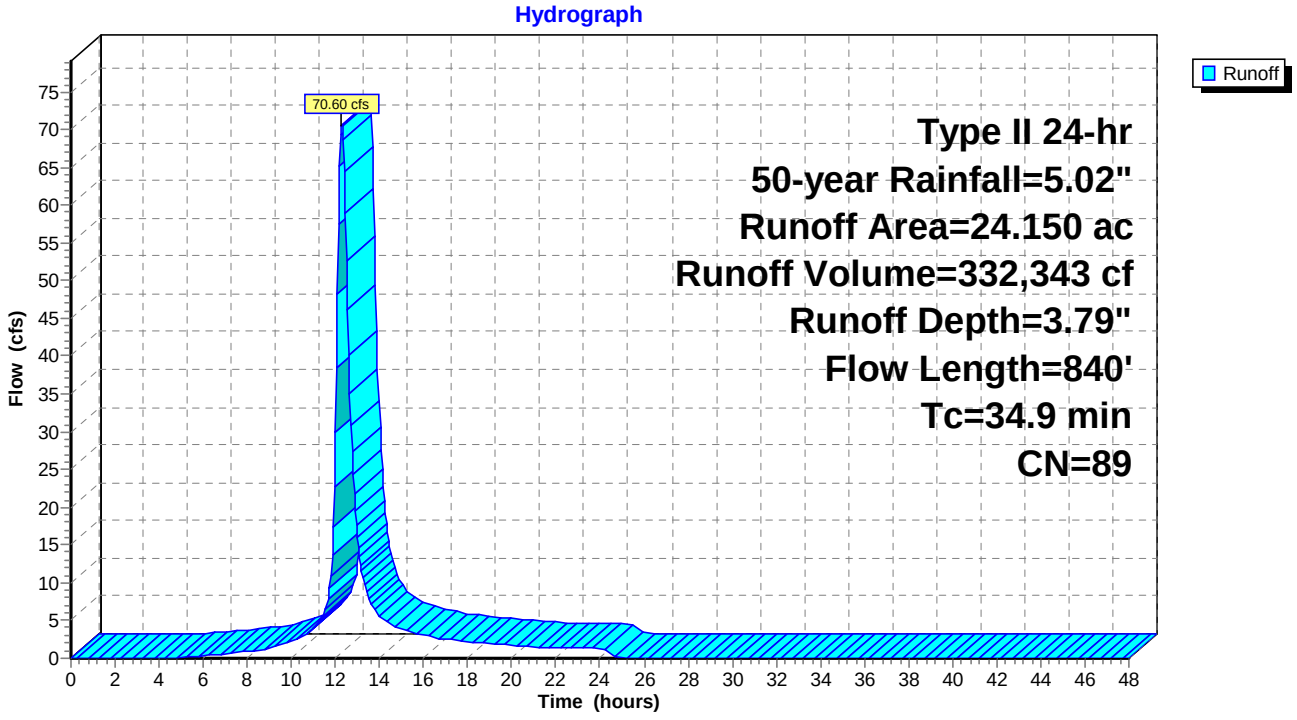
Runoff = 70.60 cfs @ 12.29 hrs, Volume= 332,343 cf, Depth= 3.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-year Rainfall=5.02"

Area (ac)	CN	Description
1.850	84	50-75% Grass cover, Fair, HSG D
22.300	89	Row crops, straight row, Good, HSG D
24.150	89	Weighted Average
24.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.0040	0.17		**Sheet Flow,** Cultivated: Residue<=20% n= 0.060 P2= 2.60"
25.0	740	0.0030	0.49		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
34.9	840	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Post-developed

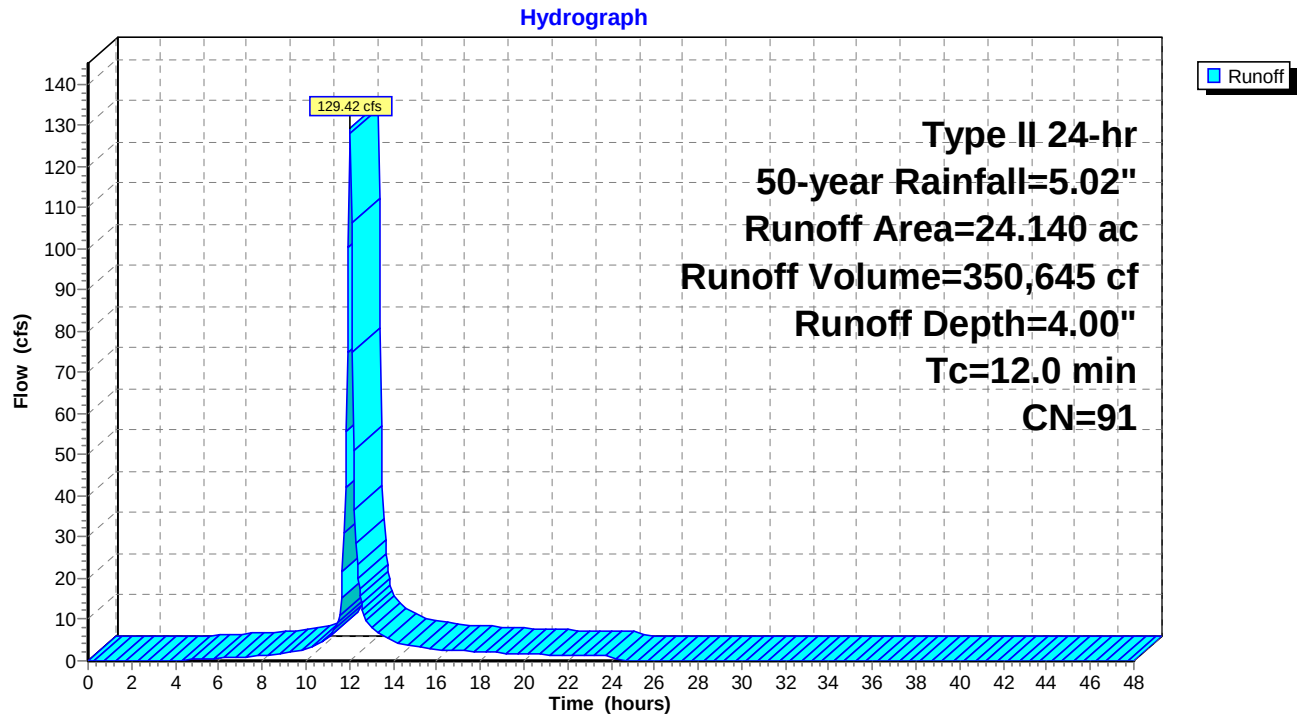
Runoff = 129.42 cfs @ 12.03 hrs, Volume= 350,645 cf, Depth= 4.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-year Rainfall=5.02"

Area (ac)	CN	Description
13.570	98	Unconnected pavement, HSG D
9.310	80	>75% Grass cover, Good, HSG D
1.260	98	Water Surface, HSG D
24.140	91	Weighted Average
9.310		38.57% Pervious Area
14.830		61.43% Impervious Area
13.570		91.50% Unconnected

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

Subcatchment 2S: Post-developed



Summary for Pond 2P: Pond

Inflow Area = 1,051,538 sf, 61.43% Impervious, Inflow Depth = 4.00" for 50-year event
Inflow = 129.42 cfs @ 12.03 hrs, Volume= 350,645 cf
Outflow = 22.78 cfs @ 12.36 hrs, Volume= 335,214 cf, Atten= 82%, Lag= 19.8 min
Primary = 22.78 cfs @ 12.36 hrs, Volume= 335,214 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,069.81' @ 12.36 hrs Surf.Area= 77,065 sf Storage= 183,285 cf

Plug-Flow detention time= 265.3 min calculated for 334,866 cf (95% of inflow)
Center-of-Mass det. time= 240.6 min (1,029.6 - 789.0)

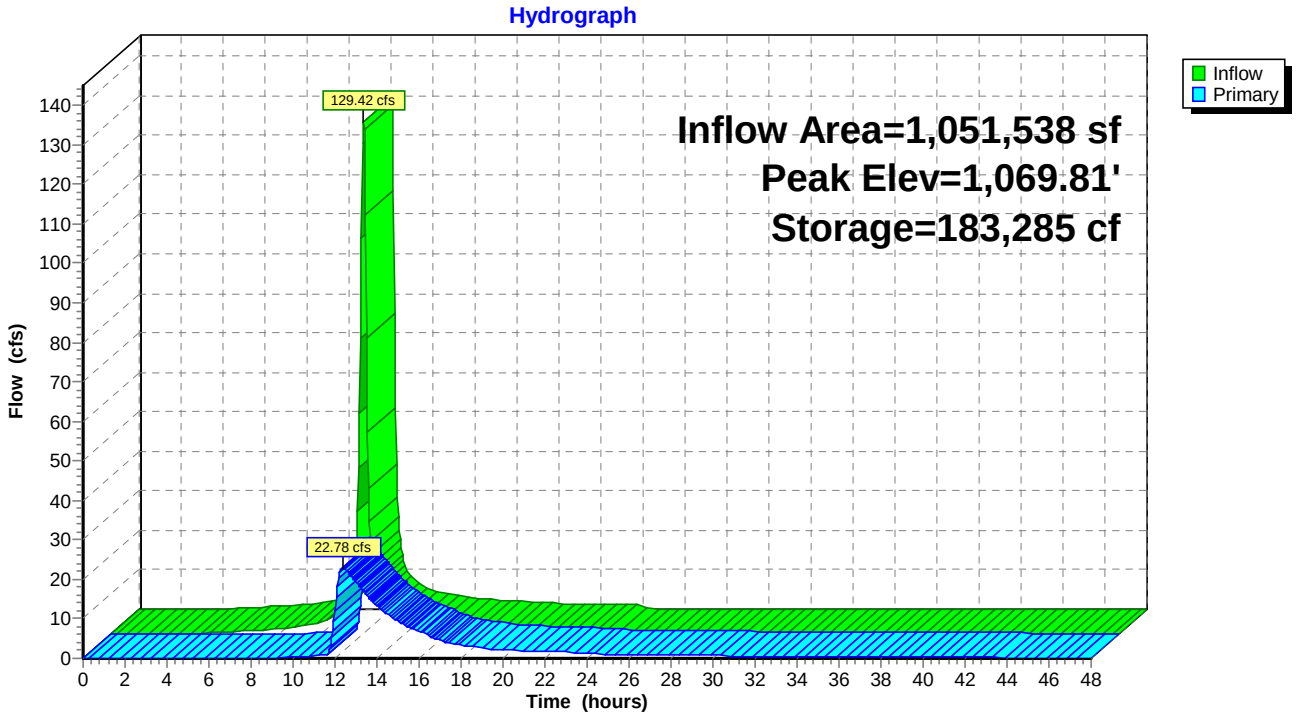
Volume	Invert	Avail.Storage	Storage Description
#1	1,067.25'	319,725 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,067.25	66,266	0	0
1,068.00	69,360	50,860	50,860
1,069.00	73,574	71,467	122,327
1,070.00	77,888	75,731	198,058
1,071.00	82,303	80,096	278,153
1,071.50	83,985	41,572	319,725

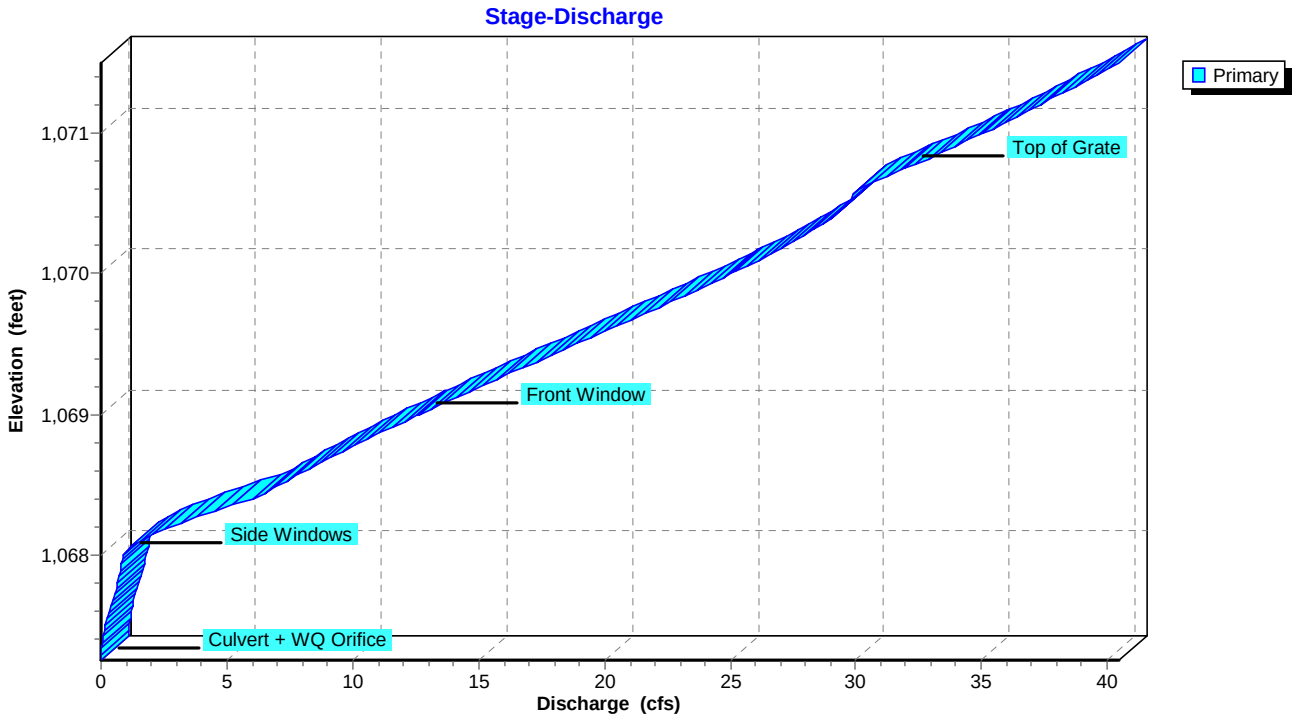
Device	Routing	Invert	Outlet Devices
#1	Primary	1,067.25'	**30.0" Round Culvert** L= 50.2' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,067.25' / 1,067.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	1,067.25'	**7.0" Vert. WQ Orifice** C= 0.600
#3	Device 1	1,068.00'	**36.0" W x 27.0" H Vert. Side Windows X 2.00** C= 0.600
#4	Device 1	1,069.00'	**36.0" W x 15.0" H Vert. Front Window** C= 0.600
#5	Device 1	1,070.75'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=22.77 cfs @ 12.36 hrs HW=1,069.81' (Free Discharge)
- **1=Culvert** (Barrel Controls 22.77 cfs @ 5.63 fps)
  - **2=WQ Orifice** (Passes < 1.94 cfs potential flow)
  - **3=Side Windows** (Passes < 46.84 cfs potential flow)
  - **4=Front Window** (Passes < 7.00 cfs potential flow)
  - **5=Top of Grate** (Controls 0.00 cfs)

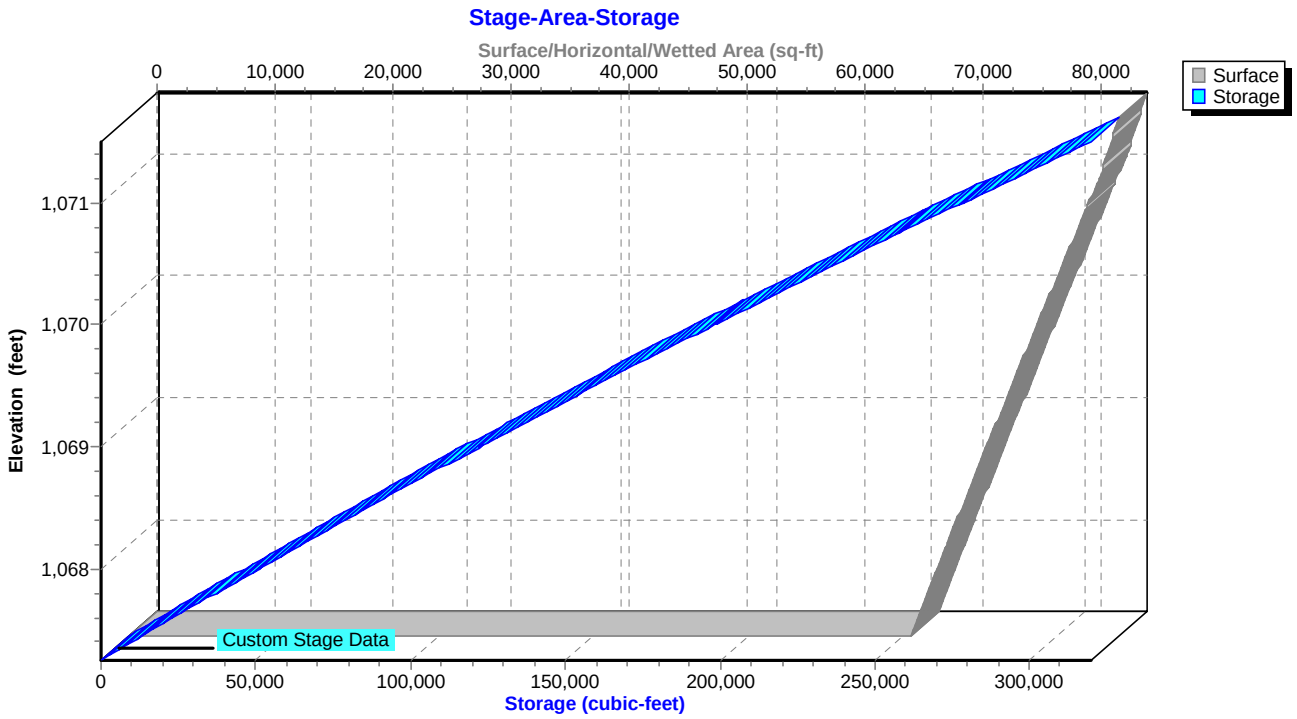
Pond 2P: Pond



Pond 2P: Pond



Pond 2P: Pond


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
Surface
Storage
1,071
1,070
1,069
1,068
Elevation (feet)
Custom Stage Data
0
50,000
100,000
150,000
200,000
250,000
300,000
Storage (cubic-feet)

Summary for Subcatchment 1S: Pre-developed

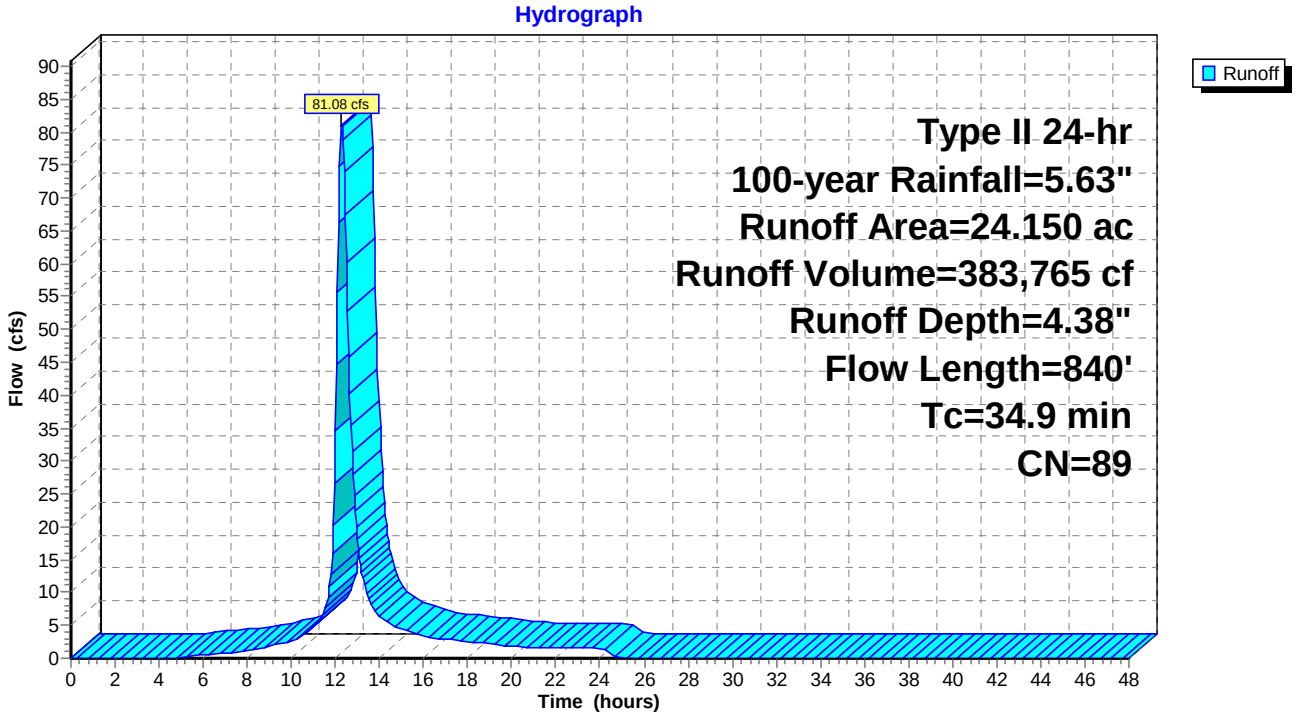
Runoff = 81.08 cfs @ 12.29 hrs, Volume= 383,765 cf, Depth= 4.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-year Rainfall=5.63"

Area (ac)	CN	Description
1.850	84	50-75% Grass cover, Fair, HSG D
22.300	89	Row crops, straight row, Good, HSG D
24.150	89	Weighted Average
24.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.0040	0.17		**Sheet Flow,** Cultivated: Residue<=20% n= 0.060 P2= 2.60"
25.0	740	0.0030	0.49		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
34.9	840	Total			

Subcatchment 1S: Pre-developed



Summary for Subcatchment 2S: Post-developed

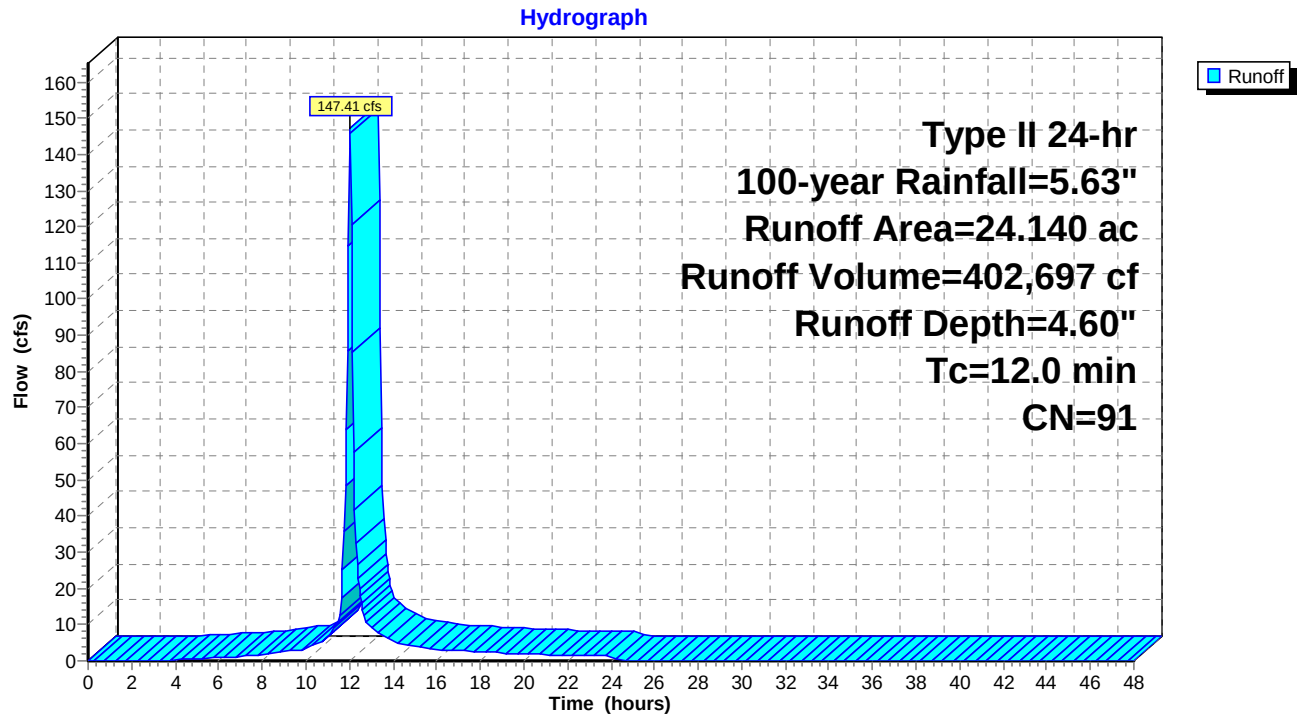
Runoff = 147.41 cfs @ 12.03 hrs, Volume= 402,697 cf, Depth= 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-year Rainfall=5.63"

Area (ac)	CN	Description
13.570	98	Unconnected pavement, HSG D
9.310	80	>75% Grass cover, Good, HSG D
1.260	98	Water Surface, HSG D
24.140	91	Weighted Average
9.310		38.57% Pervious Area
14.830		61.43% Impervious Area
13.570		91.50% Unconnected

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

Subcatchment 2S: Post-developed



Summary for Pond 2P: Pond

Inflow Area = 1,051,538 sf, 61.43% Impervious, Inflow Depth = 4.60" for 100-year event
Inflow = 147.41 cfs @ 12.03 hrs, Volume= 402,697 cf
Outflow = 26.56 cfs @ 12.35 hrs, Volume= 387,141 cf, Atten= 82%, Lag= 19.4 min
Primary = 26.56 cfs @ 12.35 hrs, Volume= 387,141 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,070.14' @ 12.35 hrs Surf.Area= 78,484 sf Storage= 208,620 cf

Plug-Flow detention time= 247.4 min calculated for 386,738 cf (96% of inflow)
Center-of-Mass det. time= 225.5 min (1,010.8 - 785.3)

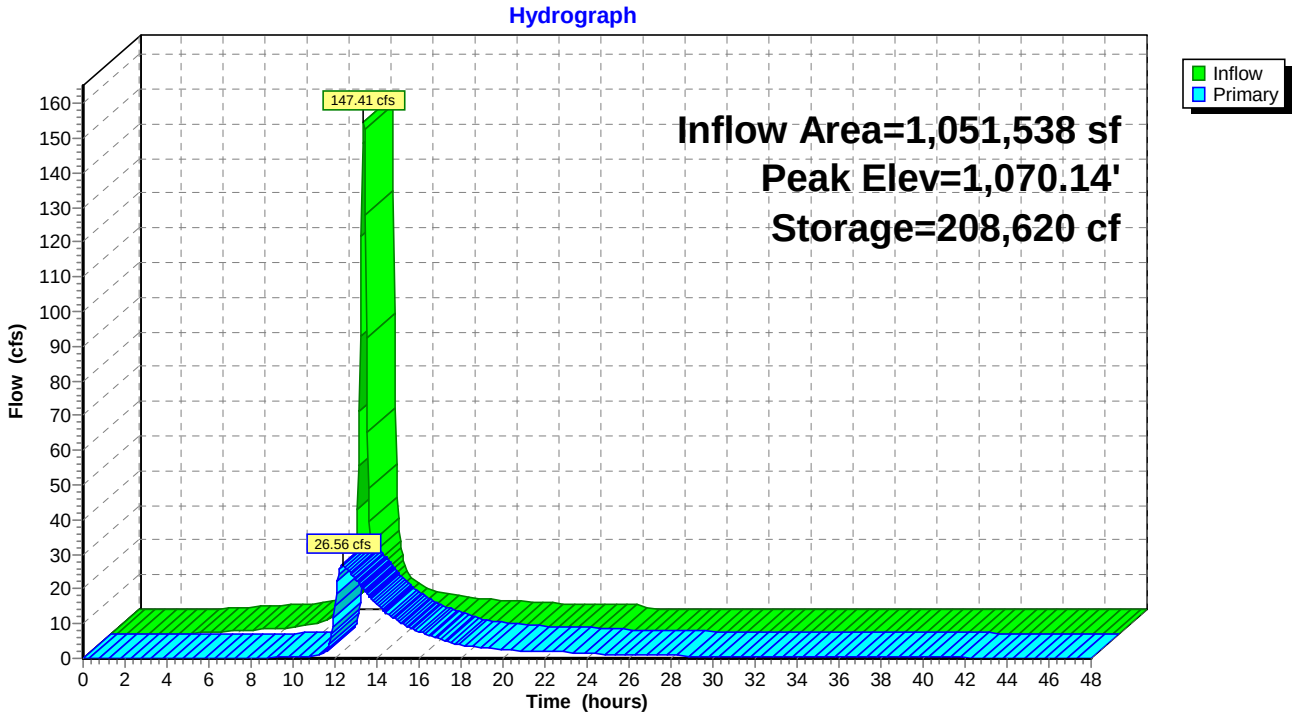
Volume	Invert	Avail.Storage	Storage Description
#1	1,067.25'	319,725 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,067.25	66,266	0	0
1,068.00	69,360	50,860	50,860
1,069.00	73,574	71,467	122,327
1,070.00	77,888	75,731	198,058
1,071.00	82,303	80,096	278,153
1,071.50	83,985	41,572	319,725

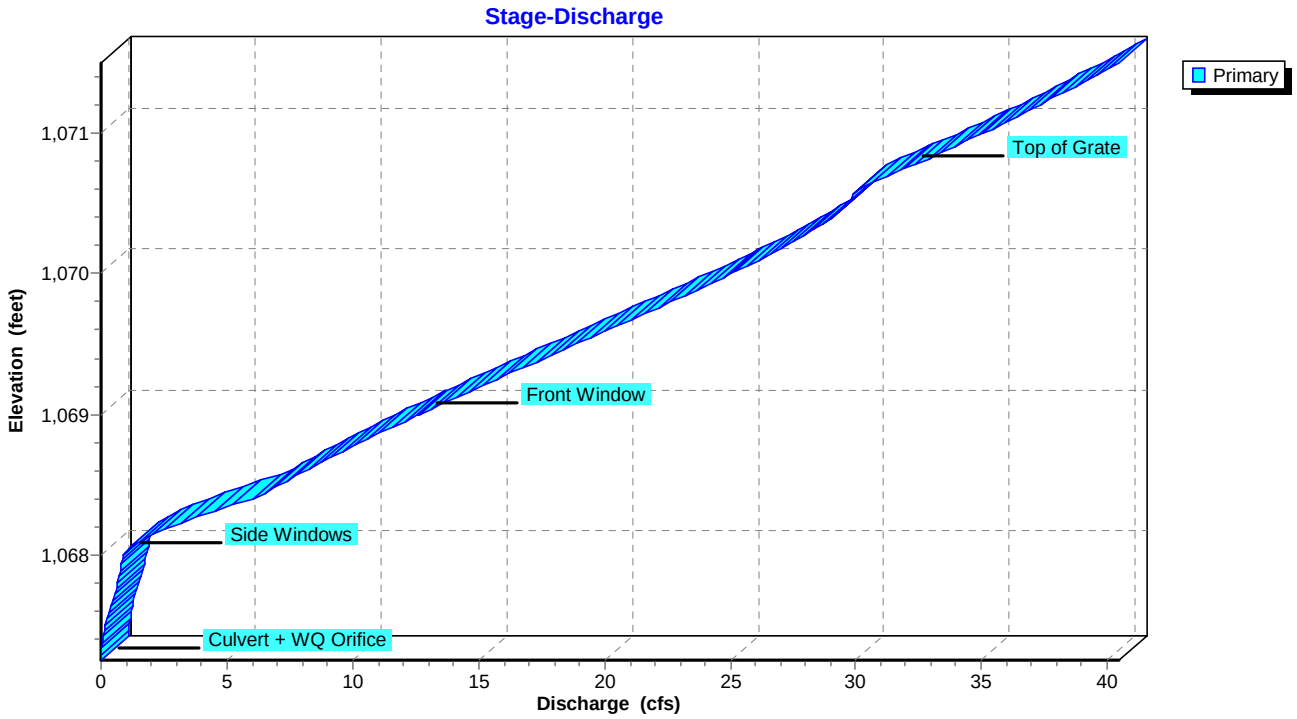
Device	Routing	Invert	Outlet Devices
#1	Primary	1,067.25'	**30.0" Round Culvert** L= 50.2' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,067.25' / 1,067.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	1,067.25'	**7.0" Vert. WQ Orifice** C= 0.600
#3	Device 1	1,068.00'	**36.0" W x 27.0" H Vert. Side Windows X 2.00** C= 0.600
#4	Device 1	1,069.00'	**36.0" W x 15.0" H Vert. Front Window** C= 0.600
#5	Device 1	1,070.75'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=26.55 cfs @ 12.35 hrs HW=1,070.13' (Free Discharge)
- **1=Culvert** (Barrel Controls 26.55 cfs @ 5.88 fps)
  - **2=WQ Orifice** (Passes < 2.07 cfs potential flow)
  - **3=Side Windows** (Passes < 60.07 cfs potential flow)
  - **4=Front Window** (Passes < 11.64 cfs potential flow)
  - **5=Top of Grate** (Controls 0.00 cfs)

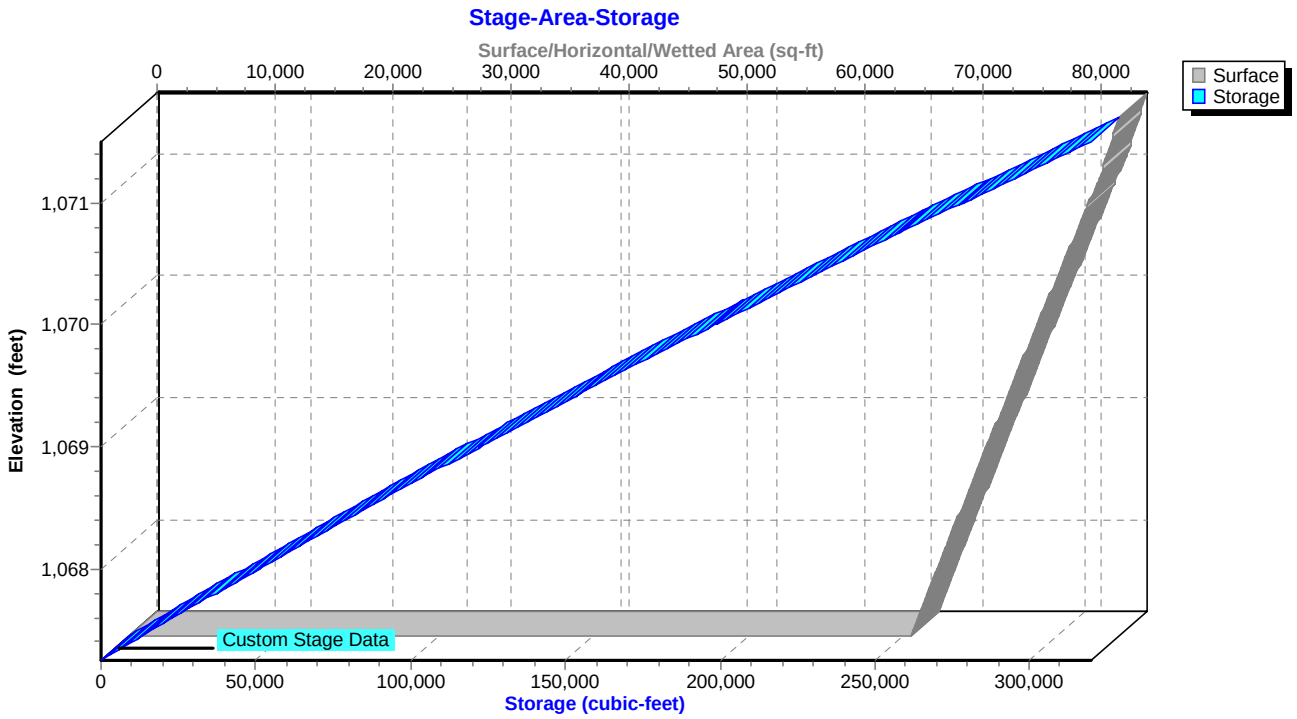
Pond 2P: Pond



Pond 2P: Pond



Pond 2P: Pond


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
Surface
Storage
1,071
1,070
1,069
1,068
Elevation (feet)
Custom Stage Data
0
50,000
100,000
150,000
200,000
250,000
300,000
Storage (cubic-feet)

Post-Construction Operations & Maintenance Plan

For

THAYER

3003 Etna Parkway
Pataskala, OH 43062

Prepared For

Geis Construction

10020 Aurora-Hudson Rd.
Streetsboro, OH 44241
Jen Diasio
Phone: 216-218-3507
Fax: 330-528-3500
jend@geisco.net

Design Engineer

WEBER ENGINEERING SERVICES

2555 Hartville Road, Suite B
Rootstown, OH 44272
Phone: 330-329-2037
www.weberengineeringservices.com

WES Job No.: 2021-259 **Date: 08-02-2021**

Post-Construction Storm Water Operation and Maintenance Responsibilities

(a) Storm Water Quality Basin Maintenance. To be completed MONTHLY.

(1) Clean trash and debris from outlet structure.

(2) Remove trash and/or accumulated sediment.

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
(1)												
(2)												

(b) Storm Water Quality Basin Maintenance. To be completed ANNUALLY.

(1) Inspect embankment, emergency spillway and outlet structure for damage and proper flow.

(2) Remove woody vegetation within flow path and side slopes.

(3) Fix any eroded areas.

(4) Monitor sediment accumulation in main pool.

(5) Vacuum structure sump and remove sediment.

	(1)	(2)	(3)	(4)	Notes:
2022					
2023					
2024					

(c) Storm Water Quality Basin Maintenance. To be completed SEMI-ANNUALLY.

(1) Inspect pond for invasive plants

(2) Remove accumulated debris/sediment from basin area.

	(1)	(2)	Notes:
2022 (1/2)			
2022 (2/2)			
2023 (1/2)			
2023 (2/2)			

(d) Storm Water Quality Basin Maintenance. To be completed EVERY 15-20 YEARS.

(1) Monitor sediment accumulations in the pond main pool bottom and clean as pond becomes eutrophic or storage volume is reduced significantly.

	(1)	Notes:
2037		

Storm Water Management Inspection Responsibilities

1. The following agreement pertains to the stormwater management system located at the site encompassing PPN 64-152856-00.000 and 64-152862-00.001.

2. The Owner shall submit Inspection Reports in writing to the Community engineer within 30 days after each inspection.

3. The Owner grants permission to the Community to enter the Property and to inspect all aspects of the storm water management practices and related damage whenever the Community deems necessary. The Community shall provide the Owner copies of the inspection findings and a directive to commence with the repairs if necessary.

4. The Owner shall maintain the best management practice(s) in perpetuity and make all repairs within forty-five (45) days of their discovery through Owner inspections or through a request from the Community. If repairs will not occur within this forty-five (45) day period, the Owner must receive written approval from the Community engineer for a repair schedule.

5. In the event of any default or failure by the Owner in the performance of any of the covenants and warranties pertaining to the maintenance of the storm water management practices, or the Owner fails to maintain the storm water management practices in accordance with the approved design standards and Maintenance Plan, or, in the event of an emergency as determine by the Community, it is the sole discretion the Community, after providing reasonable notice to the Owner, to enter the property and take whatever steps necessary to correct deficiencies and to charge the cost of such repairs to the Owner. The Owner shall reimburse the Community upon demand, within thirty (30) days of receipt thereof for all actual cost incurred by the Community. All costs expended by the Community in performing such necessary maintenance or repairs shall constitute a lien against the properties of the Owner. Nothing herein shall obligate the Community to maintain the storm water management practices.

Owner/Operator Signature

Owner/Operator agrees to perform the maintenance responsibilities as outlined above.

Geis Construction

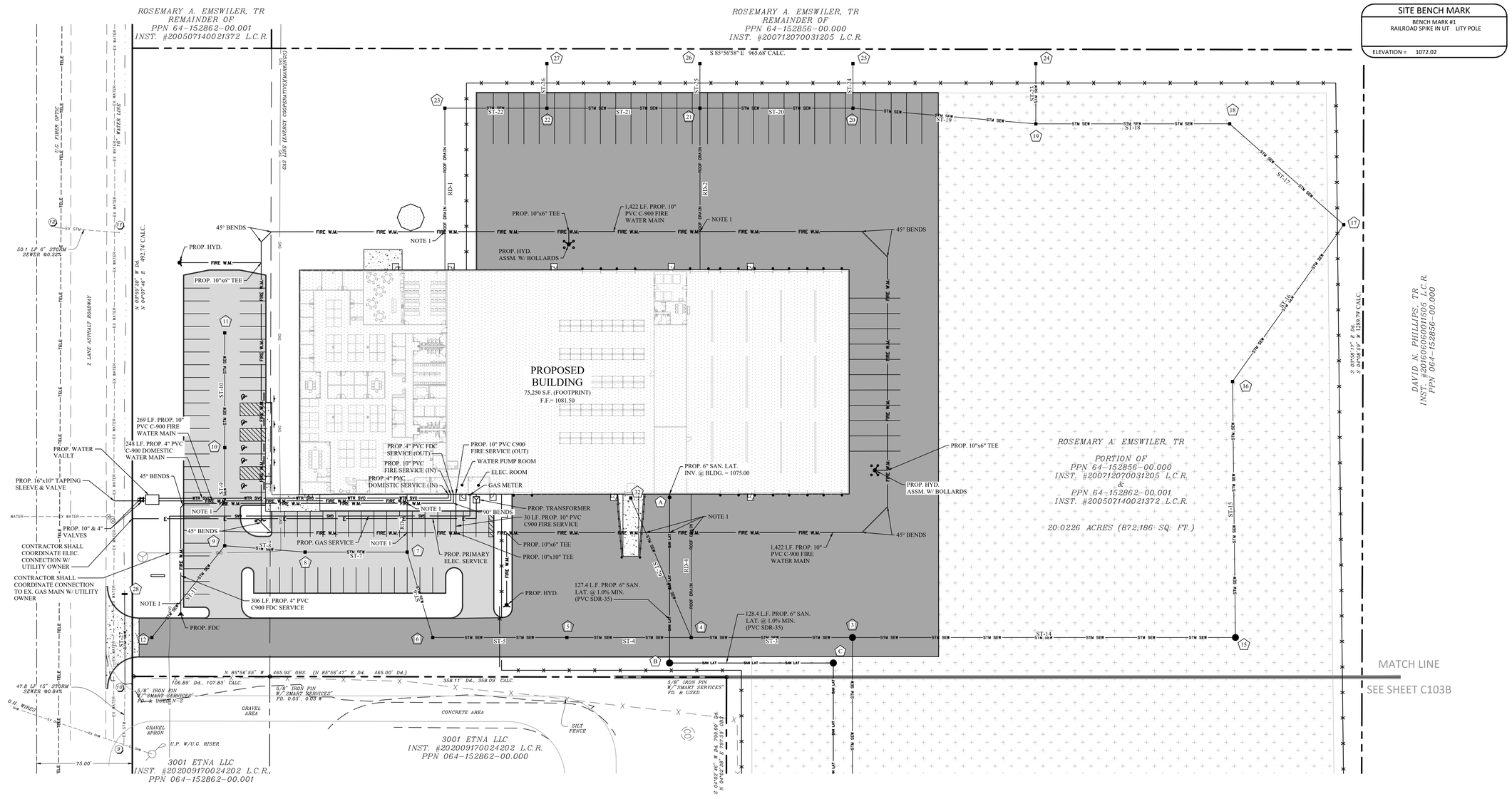
_____

Printed Name

_____

Signature Date

REFERENCE EXHIBITS



SITE BENCH MARK

BENCH MARK #1
RAILROAD SPIKE IN UT LITY POLE

ELEVATION = 1072.02

STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
3	STORM MANHOLE RIM = 1079.00 INV IN = 1069.15, 18" W INV IN = 1068.75, 42" E INV OUT = 1068.75, 42" S
4	ODOT CB 2-2C RIM = 1079.30 INV IN = 1070.30, 18" W INV IN = 1075.30, 12" N INV IN = 1072.20, 12" N INV OUT = 1070.30, 18" E
5	ODOT CB 2-2C RIM = 1079.30 INV IN = 1071.10, 18" W INV OUT = 1071.10, 18" E
6	ODOT CB 2-2C RIM = 1079.00 INV IN = 1072.00, 18" N INV OUT = 1072.00, 18" E
7	ODOT CB 2-2C RIM = 1080.00 INV IN = 1072.85, 15" W INV IN = 1075.10, 12" N INV OUT = 1072.60, 18" S
8	ODOT CB 2-2C RIM = 1080.00 INV IN = 1073.75, 12" W INV OUT = 1073.50, 15" E
9	ODOT CB 2-2C RIM = 1080.00 INV IN = 1074.25, 12" N INV IN = 1074.25, 12" SW INV OUT = 1074.25, 12" E
10	ODOT CB 2-2C RIM = 1080.00 INV IN = 1075.10, 12" N INV OUT = 1075.10, 12" S

STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
11	ODOT CB 2-2C RIM = 1080.00 INV OUT = 1076.00, 12" S
12	ODOT CB 2-2C RIM = 1078.00 INV OUT = 1075.00, 12" NE
16	ODOT CB 2-4 RIM = 1077.25 INV IN = 1069.90, 36" NE INV OUT = 1069.90, 42" S
17	ODOT CB 2-4 RIM = 1076.00 INV IN = 1070.30, 36" NW INV OUT = 1070.30, 36" SW
18	ODOT CB 2-4 RIM = 1077.00 INV IN = 1070.60, 36" W INV OUT = 1070.60, 36" SE
19	ODOT CB 2-4 RIM = 1077.00 INV IN = 1070.90, 36" W INV IN = 1071.25, 18" N INV OUT = 1070.90, 36" E
20	ODOT CB 2-4 RIM = 1077.65 INV IN = 1071.25, 30" W INV IN = 1071.85, 12" N INV OUT = 1071.25, 36" E
21	ODOT CB 2-3 RIM = 1077.65 INV IN = 1071.55, 30" W INV IN = 1071.85, 12" N INV IN = 1073.05, 12" S INV OUT = 1071.55, 30" E

STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
22	ODOT CB 2-3 RIM = 1077.65 INV IN = 1071.85, 24" W INV IN = 1071.85, 15" N INV OUT = 1071.85, 30" E
23	ODOT CB 2-3 RIM = 1075.50 INV IN = 1073.00, 12" S INV OUT = 1072.00, 24" E
24	ODOT CB 2-2B W/ BEEHIVE GRATE RIM = 1075.00 INV OUT = 1071.50, 18" S
25	ODOT CB 2-2B W/ BEEHIVE GRATE RIM = 1075.00 INV OUT = 1072.00, 12" S
26	ODOT CB 2-2B W/ BEEHIVE GRATE RIM = 1075.00 INV OUT = 1072.00, 12" S
27	ODOT CB 2-2B W/ BEEHIVE GRATE RIM = 1075.00 INV OUT = 1072.00, 15" S
28	ODOT HW 2.1 INV OUT = 1075.85, 15" S
32	ODOT CB 2-2C RIM = 1077.40 INV OUT = 1073.40, 12" S

STORM PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	TYPE
RD-1	12"	126.81'	1.00% (MIN.)	HDPE
RD-2	12"	126.68'	1.00% (MIN.)	HDPE
RD-3	12"	45.31'	1.00% (MIN.)	HDPE
RD-4	12"	112.46'	1.00% (MIN.)	HDPE
ST-3	18"	126.37'	0.91%	HDPE
ST-4	18"	97.52'	0.82%	HDPE
ST-5	18"	105.26'	0.86%	HDPE
ST-6	18"	69.93'	0.86%	HDPE
ST-7	15"	80.00'	0.81%	HDPE
ST-8	12"	63.20'	0.79%	HDPE
ST-9	12"	77.00'	1.10%	HDPE
ST-10	12"	90.00'	1.00%	HDPE
ST-11	12"	91.95'	0.82%	HDPE
ST-14	42"	300.36'	0.23%	HDPE
ST-15	42"	200.76'	0.22%	HDPE
ST-16	36"	150.78'	0.27%	HDPE
ST-17	36"	119.45'	0.25%	HDPE
ST-18	36"	152.00'	0.20%	HDPE
ST-19	36"	143.88'	0.24%	HDPE
ST-20	30"	120.00'	0.25%	HDPE

STORM PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	TYPE
ST-21	30"	120.00'	0.25%	HDPE
ST-22	24"	80.00'	0.19%	HDPE
ST-23	18"	47.26'	0.53%	HDPE
ST-24	12"	35.00'	0.43%	HDPE
ST-25	12"	35.00'	0.43%	HDPE
ST-26	15"	35.00'	0.43%	HDPE
ST-27	15"	70.35'	0.85%	HDPE
ST-29	12"	119.25'	1.01%	HDPE

PROPOSED SANITARY STRUCTURE SCHEDULE

- (A) PROP. SANITARY CLEANOUT TOP 1081.40 INV. 1074.95, 6" N & E
- (B) PROP. SANITARY MANHOLE TOP 1079.50 INV. 1073.65, 6" N & E
- (C) PROP. SANITARY MANHOLE TOP 1078.75 INV. 1072.35, 6" S & W

NOTE 1:

CONTRACTOR SHALL DEFLECT W.M. AS NECESSARY TO MAINTAIN 18" MIN. VERTICAL CLEARANCE BETWEEN W.M. & SAN. SEW. AND/OR STM. SEW. AT ALL TIMES. (INSTALL BENDS WHERE NECESSARY)

LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

EX. STORM STRUCTURE SCHEDULE

- (9) *15" ADS INV. N=1074.85*
- (10) *15" ADS INV. S=1075.25*
- (11) *6" RCP INV. W=1077.03*
- (12) *6" RCP INV. E=1077.19*

EXHIBIT 'A'

OHIO Utilities Protection SERVICE
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N

Scale: 1" = 40'

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330-329-2037
matt@webercivil.com

STATE OF OHIO
MATTHEW L WEBER
61709
REGISTERED
PROFESSIONAL ENGINEER

Reg. No.: 61709

CLIENT:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

OWNER:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

THAYER SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-02-2021

PARTIAL UTILITY PLAN

C103A
Project No. 2021-259

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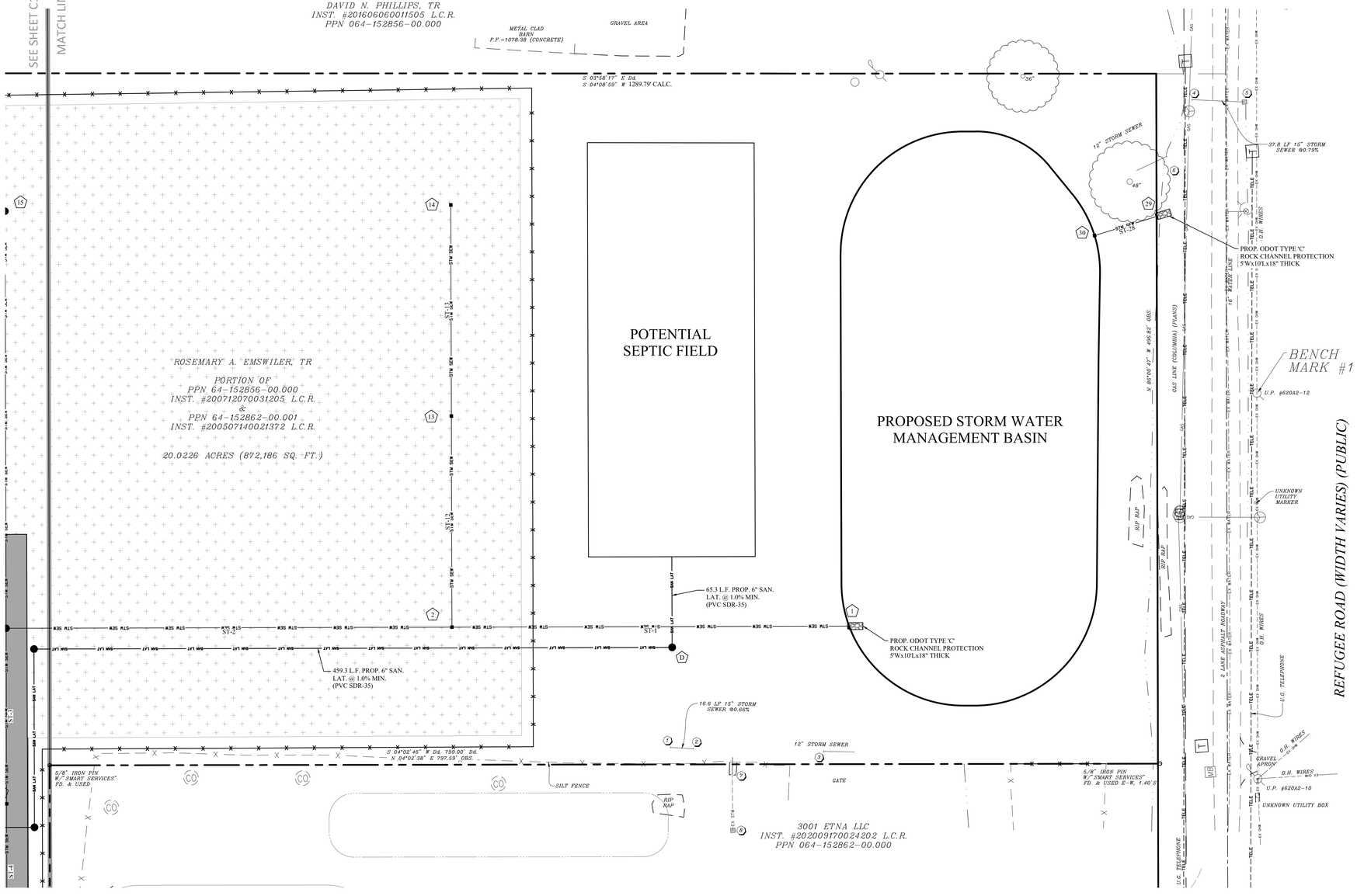

SITE BENCH MARK
BENCH MARK #1 RAILROAD SPIKE IN UT LITY POLE
ELEVATION = 1072.02

STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
1	ODOT HW 2.1 RIM = 1070.85 INV IN = 1067.25, 48" N
2	ODOT CB 2-5 RIM = 1074.00 INV IN = 1067.95, 42" N INV IN = 1068.45, 30" E INV OUT = 1067.95, 48" S
13	ODOT CB 2-3 RIM = 1074.00 INV IN = 1069.45, 24" E INV OUT = 1068.95, 30" W
14	ODOT CB 2-3 RIM = 1074.00 INV OUT = 1070.00, 24" W
29	ODOT HW 2.1 INV IN = 1067.00, 30" N
30	OUTLET STRUCTURE RIM = 1070.00 INV OUT = 1067.25, 30" S

STORM PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	TYPE
ST-1	48"	285.85'	0.24%	HDPE
ST-2	42"	320.81'	0.25%	HDPE
ST-12	30"	152.00'	0.33%	HDPE
ST-13	24"	152.00'	0.36%	HDPE
ST-28	30"	47.29'	0.53%	HDPE

PROPOSED SANITARY STRUCTURE SCHEDULE

(D) PROP. SANITARY MANHOLE
TOP 1073.90
INV. 1067.75, 6" N & W

NOTE 1:

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LEGEND

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NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

EX. STORM STRUCTURE SCHEDULE

1. *15" ADS INV. S=1072.37*
2. *15" ADS INV. N=1072.26*
3. *12" ADS INV. S=1071.57*
4. *15" ADS INV. S=1066.88*
5. *CATCH BASIN RIM=1068.63 15" ADS INV. N=1067.18*
6. *12" ADS INV. NW=1066.22*
7. *18" ADS INV. W=1072.16*
8. *OUTLET STRUCTURE RIM=1075.29*

Scale: 1" = 40'

EXHIBIT 'B'

OHIO Utilities Protection SERVICE
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Reg. No.: 61709

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OWNER:

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THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-02-2021

PARTIAL UTILITY PLAN

C103B
Project No. 2021-259

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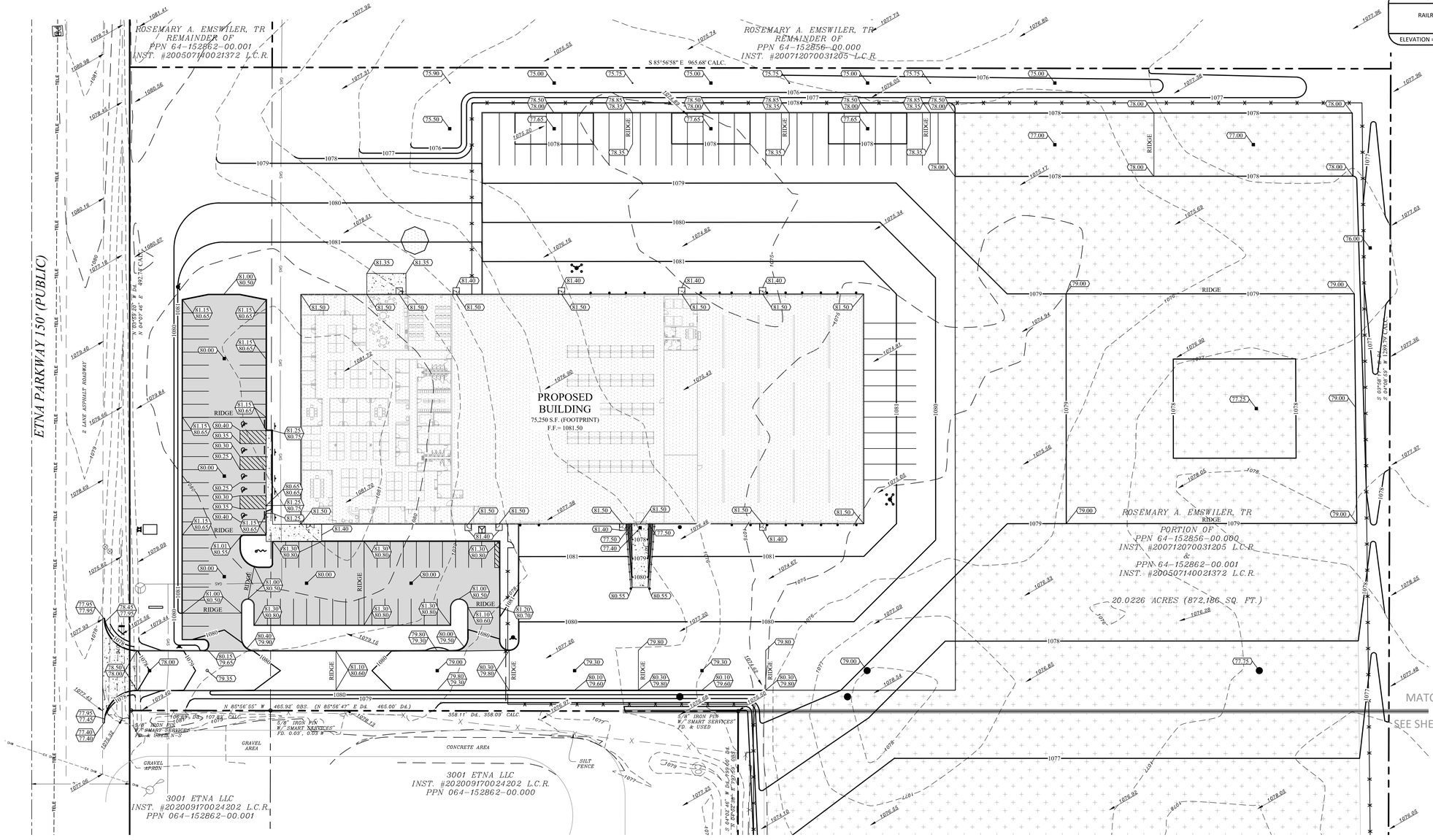

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07-20-2021
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08-02-2021

PARTIAL GRADING PLAN

C104A
Project No. 2021-259

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LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

00.00 PROPOSED SPOT GRADE
00.00 / 00.00 PROPOSED GRADE AT CURB
0000.00 / 0000.00 EXISTING SPOT GRADE

N

Scale: 1" = 40'

EXHIBIT 'C'

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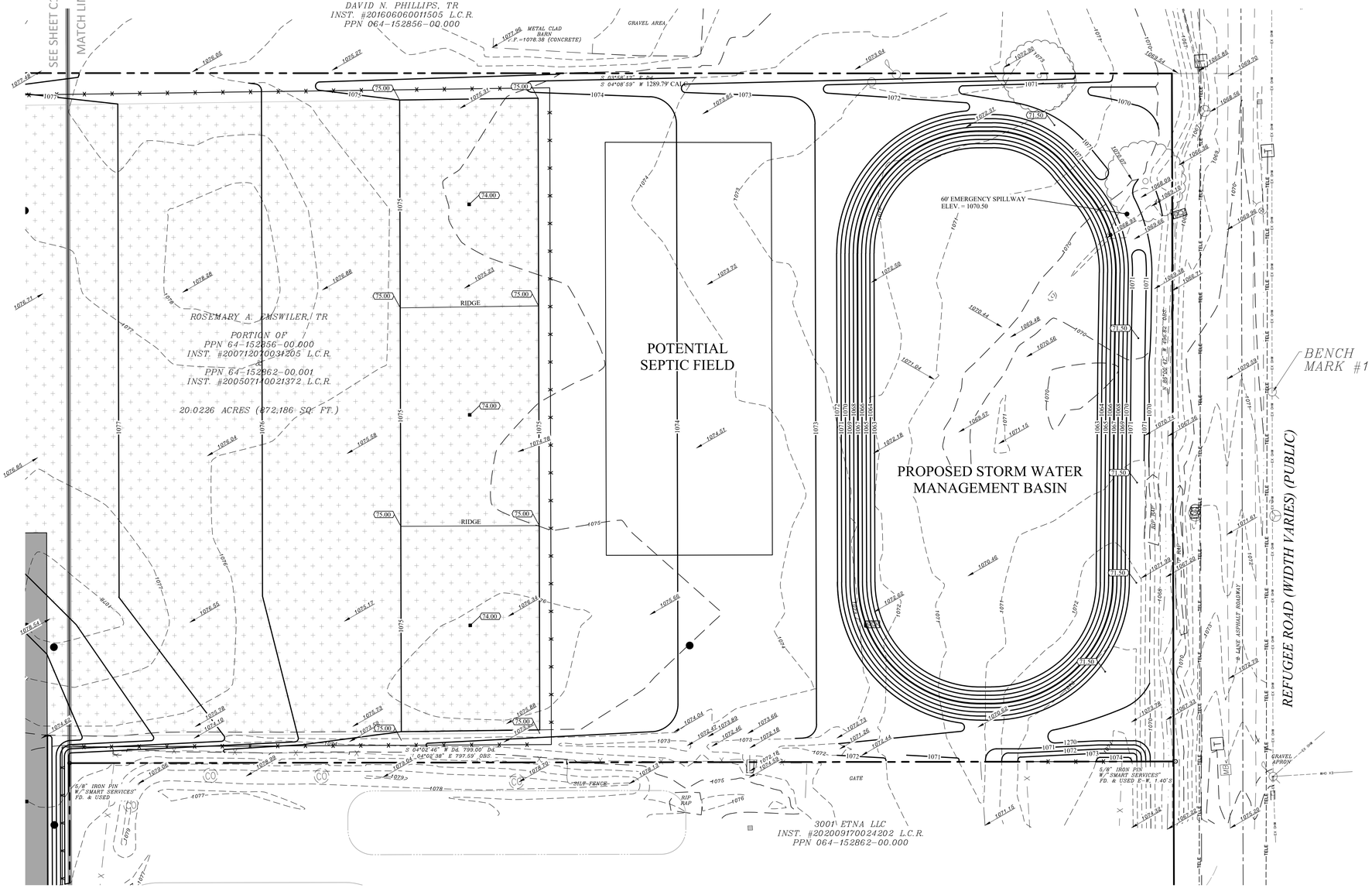

SITE BENCH MARK

BENCH MARK #1
RAILROAD SPIKE IN UT LITY POLE

ELEVATION = 1072.02

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3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
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PARTIAL GRADING PLAN

C104B
Project No. 2021-259

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LEGEND

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NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

00.00 PROPOSED SPOT GRADE
00.00 V00.00 PROPOSED GRADE AT CURB
0000.00 EXISTING SPOT GRADE

Scale: 1" = 40'

EXHIBIT 'D'

STORM SEWER CALCULATIONS (10-YR)

Storm Sewer Tabulation

Page 1

Station Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Runoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	285.850	1.62	19.23	0.90	1.46	14.42	10.0	28.1	3.1	44.98	77.01	6.56	48	0.24	1067.25	1067.95	1069.26	1070.25	1070.85	1074.00	ST-1
2	1	320.811	0.01	14.17	0.90	0.01	9.86	10.0	26.6	3.2	31.78	54.43	4.25	42	0.25	1067.95	1068.75	1070.81	1071.05	1074.00	1079.00	ST-2
3	2	126.366	0.27	2.57	0.90	0.24	2.19	10.0	26.3	3.2	7.12	10.85	4.03	18	0.91	1069.15	1070.30	1071.40	1071.90	1079.00	1079.30	ST-3
4	3	112.455	0.44	0.44	0.90	0.40	0.40	10.0	10.0	5.3	2.11	3.87	4.58	12	1.00	1075.30	1076.43	1075.83	1077.05	1079.30	1081.50	RD-4
5	3	97.519	0.30	1.84	0.85	0.26	1.54	10.0	13.8	4.6	7.07	10.30	4.08	18	0.82	1070.30	1071.10	1072.15	1072.48	1079.30	1079.30	ST-4
6	5	105.258	0.16	1.54	0.75	0.12	1.28	10.0	13.3	4.7	6.00	10.52	4.29	18	0.86	1071.10	1072.00	1072.52	1072.95	1079.30	1079.00	ST-5
7	6	69.927	0.17	1.38	0.85	0.14	1.16	10.0	12.9	4.7	5.51	10.54	4.82	18	0.86	1072.00	1072.60	1072.95	1073.50	1079.00	1080.00	ST-6
8	7	80.000	0.14	0.77	0.85	0.12	0.62	10.0	12.4	4.8	3.00	6.31	4.44	15	0.81	1072.85	1073.50	1073.50	1074.20	1080.00	1080.00	ST-7
9	8	63.198	0.09	0.63	0.85	0.08	0.50	10.0	12.1	4.9	2.45	3.43	4.56	12	0.79	1073.75	1074.25	1074.38	1074.92	1080.00	1080.00	ST-8
10	9	77.000	0.19	0.38	0.80	0.15	0.30	10.0	11.5	5.0	1.53	4.05	3.20	12	1.10	1074.25	1075.10	1074.92	1075.62	1080.00	1080.00	ST-9
11	10	90.000	0.19	0.19	0.80	0.15	0.15	10.0	10.0	5.3	0.81	3.86	2.47	12	1.00	1075.10	1076.00	1075.62	1076.38	1080.00	1080.00	ST-10
12	End	70.353	1.34	1.34	0.65	0.87	0.87	15.0	15.0	4.4	3.85	6.46	3.90	15	0.85	1075.25	1075.85	1076.50	1076.65	1077.50	1077.79	ST-27
13	7	45.309	0.44	0.44	0.90	0.40	0.40	10.0	10.0	5.3	2.11	3.85	4.57	12	0.99	1075.10	1075.55	1075.63	1076.17	1080.00	1081.50	RD-3
14	9	91.955	0.16	0.16	0.75	0.12	0.12	10.0	10.0	5.3	0.64	3.48	1.97	12	0.82	1074.25	1075.00	1074.92	1075.33	1080.00	1078.00	ST-11
15	3	119.249	0.02	0.02	0.90	0.02	0.02	10.0	10.0	5.3	0.10	3.87	1.88	12	1.01	1072.20	1073.40	1072.31	1073.53	1079.30	1077.40	ST-29
16	2	300.363	0.01	11.59	0.90	0.01	7.66	10.0	21.6	3.6	27.84	52.61	4.03	42	0.23	1068.75	1069.45	1071.40	1071.60	1079.00	1077.75	ST-14
17	16	200.762	1.52	11.58	0.90	1.37	7.65	10.0	20.5	3.7	28.63	51.61	4.26	42	0.22	1069.45	1069.90	1071.91	1072.07	1077.75	1077.25	ST-15
18	17	150.782	0.98	10.06	0.50	0.49	6.28	15.0	19.8	3.8	23.99	37.21	4.25	36	0.27	1069.90	1070.30	1072.28	1072.41	1077.25	1076.00	ST-16
19	18	119.448	0.48	9.08	0.90	0.43	5.79	10.0	19.2	3.9	22.50	36.20	3.84	36	0.25	1070.30	1070.60	1072.73	1072.82	1076.00	1077.00	ST-17
20	19	152.000	0.63	8.60	0.90	0.57	5.36	10.0	18.4	4.0	21.32	32.10	3.66	36	0.20	1070.60	1070.90	1073.00	1073.12	1077.00	1077.00	ST-18
21	20	143.878	0.26	6.08	0.90	0.23	3.85	10.0	17.3	4.1	15.79	35.63	2.74	36	0.24	1070.90	1071.25	1073.34	1073.40	1077.00	1077.65	ST-19
22	21	119.996	0.38	5.57	0.90	0.34	3.49	10.0	16.7	4.2	14.61	22.22	3.24	30	0.25	1071.25	1071.55	1073.53	1073.62	1077.65	1077.65	ST-20

Project File: 2021-259 Storm 01A stm | Number of lines: 32 | Run Date: 8/2/2021

NOTES:Intensity = 52.42 / (Inlet time + 8.50) ^ 0.78; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewers v2019.20

Storm Sewer Tabulation

Page 2

Station Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Runoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
23	22	120.004	0.37	4.00	0.90	0.33	2.38	10.0	15.7	4.3	10.26	22.21	2.33	30	0.25	1071.55	1071.85	1073.80	1073.84	1077.65	1077.65	ST-21
24	23	80.000	1.77	2.21	0.53	0.94	1.33	15.0	15.0	4.4	5.89	10.61	1.88	24	0.19	1071.85	1072.00	1073.94	1073.98	1077.65	1075.50	ST-22
25	24	126.811	0.44	0.44	0.90	0.40	0.40	10.0	10.0	5.3	2.11	3.86	3.41	12	1.00	1073.00	1074.27	1074.03	1074.89	1075.50	1081.50	RD-1
26	22	126.681	0.44	0.44	0.90	0.40	0.40	10.0	10.0	5.3	2.11	3.86	3.73	12	1.00	1073.05	1074.32	1073.80	1074.94	1077.65	1081.50	RD-2
27	23	35.000	1.42	1.42	0.50	0.71	0.71	15.0	15.0	4.4	3.14	4.58	2.56	15	0.43	1071.85	1072.00	1073.94	1074.01	1077.65	1075.00	ST-26
28	22	35.000	0.75	0.75	0.50	0.38	0.38	15.0	15.0	4.4	1.66	2.53	2.11	12	0.43	1071.85	1072.00	1073.80	1073.86	1077.65	1075.00	ST-25
29	21	35.000	0.25	0.25	0.50	0.13	0.13	15.0	15.0	4.4	0.55	2.53	0.70	12	0.43	1071.85	1072.00	1073.53	1073.54	1077.65	1075.00	ST-24
30	20	47.256	1.89	1.89	0.50	0.95	0.95	15.0	15.0	4.4	4.17	8.27	2.36	18	0.53	1071.25	1071.50	1073.34	1073.41	1077.00	1075.00	ST-23
31	1	152.000	1.77	3.44	0.90	1.59	3.10	10.0	11.0	5.1	15.83	25.48	3.53	30	0.33	1068.45	1068.95	1070.81	1070.95	1074.00	1074.00	ST-12
32	31	152.000	1.67	1.67	0.90	1.50	1.50	10.0	10.0	5.3	8.01	14.74	3.72	24	0.36	1069.45	1070.00	1070.98	1071.14	1074.00	1074.00	ST-13

STORM SEWER CALCULATIONS (100-YR)

Storm Sewer Tabulation

Page 1

Station Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Runoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	285.850	1.62	19.23	0.90	1.46	14.42	10.0	23.3	4.8	69.38	77.01	6.75	48	0.24	1067.25	1067.95	1070.34	1070.96	1070.85	1074.00	ST-1
2	1	320.811	0.01	14.17	0.90	0.01	9.86	10.0	22.3	4.9	48.65	54.43	5.06	42	0.25	1067.95	1068.75	1071.69	1072.33	1074.00	1079.00	ST-2
3	2	126.366	0.27	2.57	0.90	0.24	2.19	10.0	22.0	5.0	10.88	10.85	6.16	18	0.91	1069.15	1070.30	1072.73	1073.88	1079.00	1079.30	ST-3
4	3	112.455	0.44	0.44	0.90	0.40	0.40	10.0	10.0	7.2	2.86	3.87	5.04	12	1.00	1075.30	1076.43	1075.94	1077.16	1079.30	1081.50	RD-4
5	3	97.519	0.30	1.84	0.85	0.26	1.54	10.0	12.8	6.5	9.95	10.30	5.63	18	0.82	1070.30	1071.10	1074.47	1075.22	1079.30	1079.30	ST-4
6	5	105.258	0.16	1.54	0.75	0.12	1.28	10.0	12.4	6.6	8.41	10.52	4.76	18	0.86	1071.10	1072.00	1075.29	1075.87	1079.30	1079.00	ST-5
7	6	69.927	0.17	1.38	0.85	0.14	1.16	10.0	12.2	6.6	7.70	10.54	4.36	18	0.86	1072.00	1072.60	1076.21	1076.53	1079.00	1080.00	ST-6
8	7	80.000	0.14	0.77	0.85	0.12	0.62	10.0	11.8	6.7	4.17	6.31	3.40	15	0.81	1072.85	1073.50	1076.82	1077.10	1080.00	1080.00	ST-7
9	8	63.198	0.09	0.63	0.85	0.08	0.50	10.0	11.5	6.8	3.40	3.43	4.33	12	0.79	1073.75	1074.25	1077.13	1077.62	1080.00	1080.00	ST-8
10	9	77.000	0.19	0.38	0.80	0.15	0.30	10.0	11.1	6.9	2.10	4.05	2.68	12	1.10	1074.25	1075.10	1077.91	1078.14	1080.00	1080.00	ST-9
11	10	90.000	0.19	0.19	0.80	0.15	0.15	10.0	10.0	7.2	1.10	3.86	1.40	12	1.00	1075.10	1076.00	1078.16	1078.23	1080.00	1080.00	ST-10
12	End	70.353	1.34	1.34	0.65	0.87	0.87	15.0	15.0	6.0	5.24	6.46	4.81	15	0.85	1075.25	1075.85	1076.50	1076.78	1077.50	1077.79	ST-27
13	7	45.309	0.44	0.44	0.90	0.40	0.40	10.0	10.0	7.2	2.86	3.85	3.64	12	0.99	1075.10	1075.55	1076.82	1077.07	1080.00	1081.50	RD-3
14	9	91.955	0.16	0.16	0.75	0.12	0.12	10.0	10.0	7.2	0.87	3.48	1.10	12	0.82	1074.25	1075.00	1077.91	1077.96	1080.00	1078.00	ST-11
15	3	119.249	0.02	0.02	0.90	0.02	0.02	10.0	10.0	7.2	0.13	3.87	0.17	12	1.01	1072.20	1073.40	1074.47	1074.47	1079.30	1077.40	ST-29
16	2	300.363	0.01	11.59	0.90	0.01	7.66	10.0	19.9	5.2	40.11	52.61	4.17	42	0.23	1068.75	1069.45	1072.73	1073.13	1079.00	1077.75	ST-14
17	16	200.762	1.52	11.58	0.90	1.37	7.65	10.0	19.0	5.3	40.92	51.61	4.25	42	0.22	1069.45	1069.90	1073.40	1073.69	1077.75	1077.25	ST-15
18	17	150.782	0.98	10.06	0.50	0.49	6.28	15.0	18.5	5.4	34.09	37.21	4.82	36	0.27	1069.90	1070.30	1073.87	1074.20	1077.25	1076.00	ST-16
19	18	119.448	0.48	9.08	0.90	0.43	5.79	10.0	18.1	5.5	31.82	36.20	4.50	36	0.25	1070.30	1070.60	1074.56	1074.80	1076.00	1077.00	ST-17
20	19	152.000	0.63	8.60	0.90	0.57	5.36	10.0	17.5	5.6	29.95	32.10	4.24	36	0.20	1070.60	1070.90	1075.02	1075.28	1077.00	1077.00	ST-18
21	20	143.878	0.26	6.08	0.90	0.23	3.85	10.0	16.7	5.7	21.99	35.63	3.11	36	0.24	1070.90	1071.25	1075.56	1075.69	1077.00	1077.65	ST-19
22	21	119.996	0.38	5.57	0.90	0.34	3.49	10.0	16.2	5.8	20.23	22.22	4.12	30	0.25	1071.25	1071.55	1075.84	1076.09	1077.65	1077.65	ST-20

Project File: 2021-259 Storm 01A stm | Number of lines: 32 | Run Date: 8/2/2021

NOTES:Intensity = 43.99 / (Inlet time + 5.60) ^ 0.66; Return period =Yrs. 100 ; c = cir e = ellip b = box

Storm Sewers v2019.20

Storm Sewer Tabulation

Page 2

Station Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Runoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
23	22	120.004	0.37	4.00	0.90	0.33	2.38	10.0	15.5	5.9	14.07	22.21	2.87	30	0.25	1071.55	1071.85	1076.36	1076.48	1077.65	1077.65	ST-21
24	23	80.000	1.77	2.21	0.53	0.94	1.33	15.0	15.0	6.0	8.03	10.61	2.56	24	0.19	1071.85	1072.00	1076.60	1076.69	1077.65	1075.50	ST-22
25	24	126.811	0.44	0.44	0.90	0.40	0.40	10.0	10.0	7.2	2.86	3.86	3.64	12	1.00	1073.00	1074.27	1076.79	1077.49	1075.50	1081.50	RD-1
26	22	126.681	0.44	0.44	0.90	0.40	0.40	10.0	10.0	7.2	2.86	3.86	3.64	12	1.00	1073.05	1074.32	1076.36	1077.05	1077.65	1081.50	RD-2
27	23	35.000	1.42	1.42	0.50	0.71	0.71	15.0	15.0	6.0	4.27	4.58	3.48	15	0.43	1071.85	1072.00	1076.60	1076.74	1077.65	1075.00	ST-26
28	22	35.000	0.75	0.75	0.50	0.38	0.38	15.0	15.0	6.0	2.26	2.53	2.87	12	0.43	1071.85	1072.00	1076.36	1076.48	1077.65	1075.00	ST-25
29	21	35.000	0.25	0.25	0.50	0.13	0.13	15.0	15.0	6.0	0.75	2.53	0.96	12	0.43	1071.85	1072.00	1075.84	1075.86	1077.65	1075.00	ST-24
30	20	47.256	1.89	1.89	0.50	0.95	0.95	15.0	15.0	6.0	5.69	8.27	3.22	18	0.53	1071.25	1071.50	1075.56	1075.68	1077.00	1075.00	ST-23
31	1	152.000	1.77	3.44	0.90	1.59	3.10	10.0	10.7	7.0	21.70	25.48	4.42	30	0.33	1068.45	1068.95	1071.69	1072.05	1074.00	1074.00	ST-12
32	31	152.000	1.67	1.67	0.90	1.50	1.50	10.0	10.0	7.2	10.86	14.74	3.46	24	0.36	1069.45	1070.00	1072.10	1072.40	1074.00	1074.00	ST-13

Project and Watershed Information; WQv Calculation

version 3.1 2018-10-25

Project Details

Project Name:	Thayer
Project Location:	Pataskala, OH
Project Latitude:	39.97536
Project Longitude:	-82.70535
NPDES Permit Applicant:	
Submitted by:	MLW
Date:	7/30/2021

Subwatershed Details

Subwatershed ID/Label: New Pond

Subwatershed Drainage Area, A_{total} =	24.15	acres	=	1,051,974 ft²
Subwatershed Impervious Area, A_{imp} =	13.36	acres	=	581,831 ft²
Imperviousness fraction, i =	0.55		=	55 %
Volumetric Runoff Coefficient, Rv =	0.55			
Water Quality Volume, WQv =	43,218 ft³			

Wet Extended Detention Basin WQv Compliance Tool

version 3.1 2018-10-25

Project Summary

Project Name: Thayer
Subwatershed ID/Label: New Pond
Submitted by: MLW
Date: 7/30/2021

Subwatershed Drainage Area, A_{total} =	24.15	acres	=	1,051,974 ft2
Subwatershed Impervious Area, A_{imp} =	13.36	acres	=	581,831 ft2
Imperviousness fraction, i =	0.55		=	55 %
Water Quality Volume, WQv =	43,218 ft³		=	0.99 ac-ft

Step 1 - Soil Suitability

Soil Series: Pewamo | HSG: D

Step 2 - Wet ED Basin Volume Requirements

Extended Detention Volume, EDv =	43218 ft³
Minimum Sediment Storage Volume, $V_{sediment}$ =	8644 ft³
Minimum Permanent Pool Volume, PPv =	51862 ft³

Step 3 - Basin Stage-Storage Relationship

	Elevation ft	Area ft²	Incremental Volume ft³	Cumulative Volume ft³
Bottom of Permanent Micropool =	1063.00	57322		
	1064.00	60247	58,778	58,778
	1065.00	63228	61,732	120,510
	1066.00	66266	64,741	185,251
	1067.00	69360	67,807	253,058
	1067.25	70143	17,638	270,696
	1068.00	72511	53,493	323,989
	1069.00	75719	74,109	398,098
	1070.00	78983	77,345	475,443
	1071.00	82303	80,637	556,080
	1071.50	85992	42,070	598,151

Step 4 - Outlet Elevations and Storage Volumes

WQ Orifice Invert Elevation =	1067.25		
Elevation of Top of EDv =	1067.87		
Secondary Outlet Invert Elevation =	1068.00		OKAY
WQ Treatment Volume Provided, $V_{treatment}$ =	53,493 ft³		
Treatment Vol Provided Relative to EDv, $V_{treatment}$/EDv =	1.24	= 124%	OKAY
Permanent Pool Volume Provided, PPv =	270,496 ft³		
Ratio PPv Provided to PPv Required =	5.22	= 522%	OKAY

Step 5 - Outlet (Orifice) Sizing

Maximum Hydraulic Head, Hmax =	0.62	ft		
Orifice Coefficient, C =	0.6			
Target (Minimum) Draw-down Time, T_d =	24	hr		
Target Average Discharge, Q_{wq} =	0.50	cfs		
Average Hydraulic Head, H_{avg} =	0.31	ft		
Estimated Orifice Area, $A_{orifice}$ =	26.92	in²	=	0.187 ft²
Estimated Orifice Diameter, $D_{orifice}$ =	5.85	in	=	0.49 ft
Design Orifice Diameter, $D_{orifice}$ =	7.00	in	=	0.58 ft
Design Orifice Area, $A_{orifice}$ =	38.24	in²	=	0.266 ft²
Time to Completely Drain EDv, T_d =	32	hr	must be ≥ 24 hr	OKAY
Volume Drained in First 8 hr =	18,157	ft³		
% of EDv =	42.0	%	must be ≤ 50%	OKAY

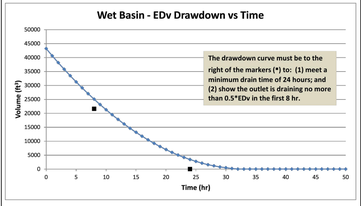
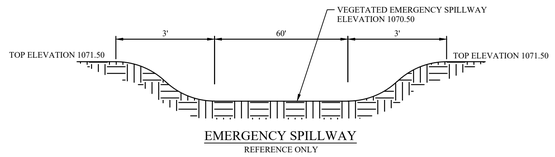


EXHIBIT 'E'



EMERGENCY SPILLWAY
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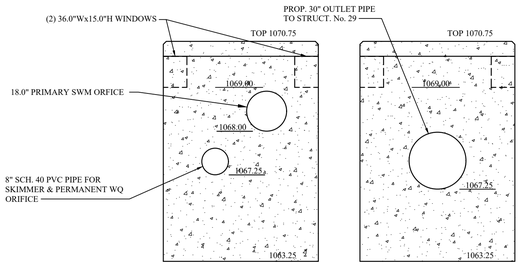
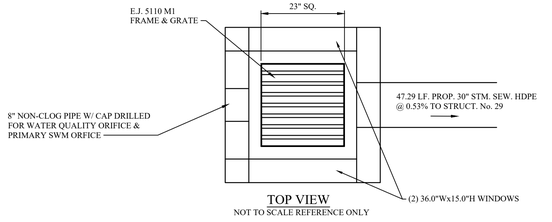


LEFT VIEW
NOT TO SCALE REFERENCE ONLY

RIGHT VIEW
NOT TO SCALE REFERENCE ONLY



TOP VIEW
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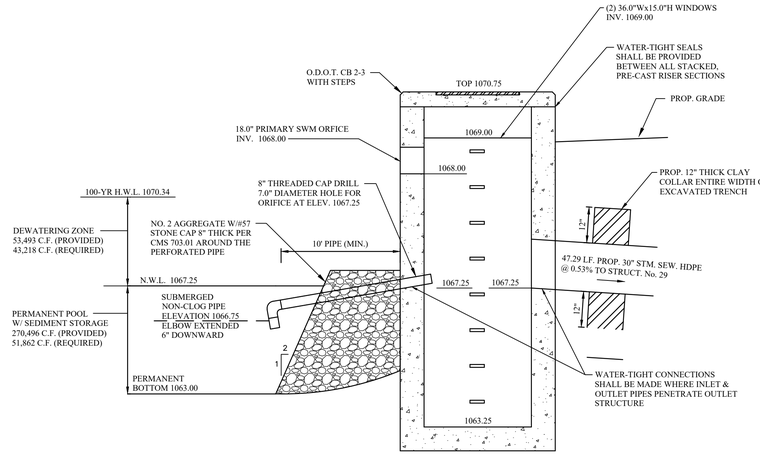

PERMANENT OUTLET STRUCTURE (No. 30)
NON-CLOG FIGURE 2.6.3 OF OHIO RAINWATER AND LAND DEVELOPMENT MANUAL
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Reg. No.: 61709

CLIENT:

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STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

OWNER:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO

THAYER
SITE IMPROVEMENTS
3003 ETNA PARKWAY, PATASKALA, OHIO

Issue Date
07-15-2021
07-20-2021
07-26-2021
08-02-2021

SWP3 DETAILS

C109
Project No. 2021-259

C:\A\-Projects\2021\2021-259 Thayer\07-30-2021\2021-259 Sim01D - 07-30-2021\2021-259 Sim01D.dwg 8/2/2021 10:04:53 AM

D/F Monument Sign
Qty: 1

SIGN FACE: 30 Sq. Ft.

Aluminum Monument Sign

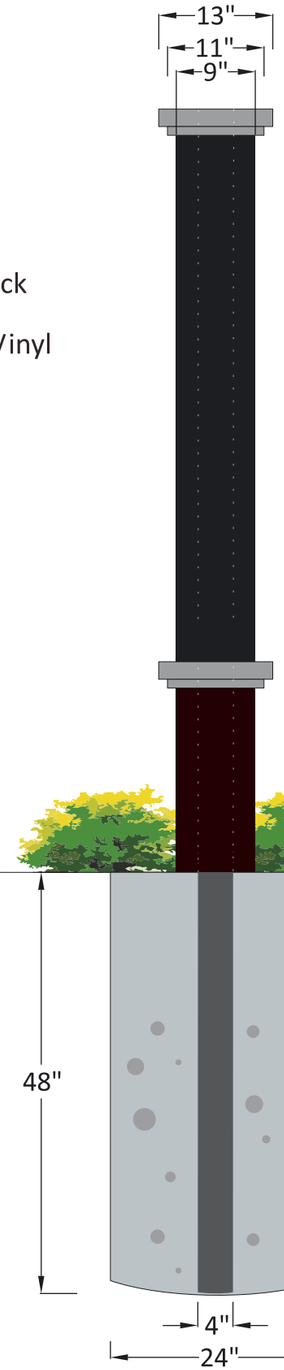
Aluminum Decorative Topper
- Painted Gray

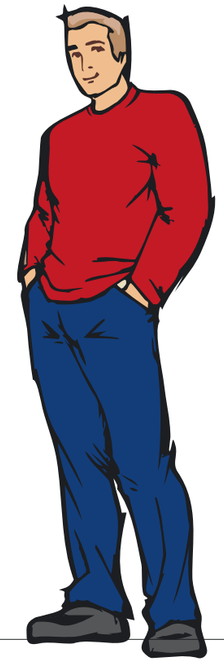
Aluminum Sign Cabinet, Painted Black
- ECB Faces, Decorated
  1st-surface with Yellow and Black Vinyl
- Black Retainer, Painted Black

Decorative Aluminum Trim
- Painted Gray

Aluminum Pole Cover
- Painted Black
- White Vinyl Address Number

24"-dia. Caisson Footer
with 4" Pole





NOTE

STRUCTURE: HAS BEEN DESIGNED TO WITHSTAND 90MPH (3-SEC GUST) DESIGN WIND SPEEDS WITH A MAXIMUM DESIGN PRESSURE OF 22 PSF ACCORDING TO 2011 OBC TABLE 1609.6.2.1(2) WITH 30' MAX OVERALL HT. SIGN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2011 OBC

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POWER & COMMUNICATION

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Pataskala, OH 43062

Installation Address:
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Pataskala, OH 43062

Sales:
jsmith@branhamsign.com

Designer:
jgreenlee@branhamsign.com

Notes:

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COMPLIES TO UL 48

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Approval:

Approved/Customer Date

Page	Sheet
1	1 of 1

Midwest Sign Association

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