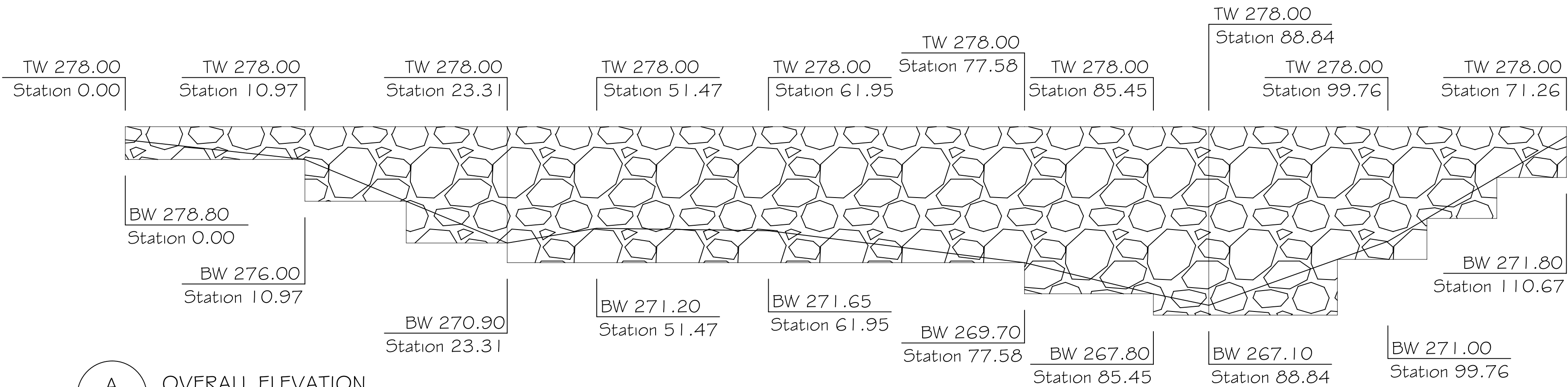


DOBBS FERRY, NY 10522

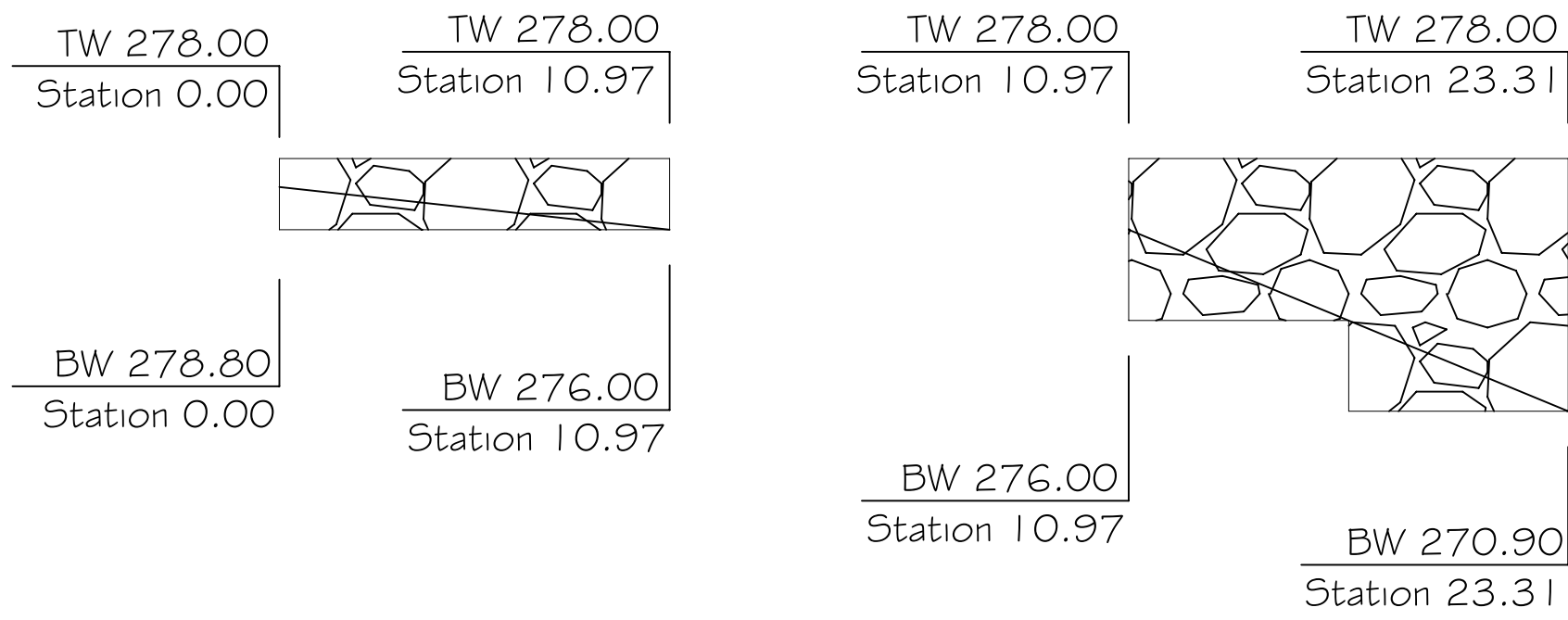


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TITLE			
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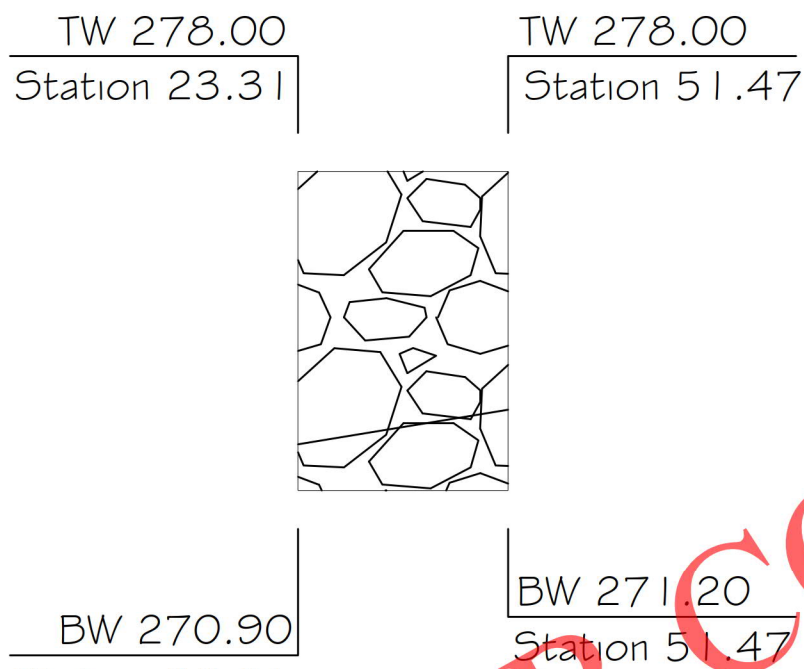


A
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OVERALL ELEVATION
SCALE: 1/4"=1'-0"

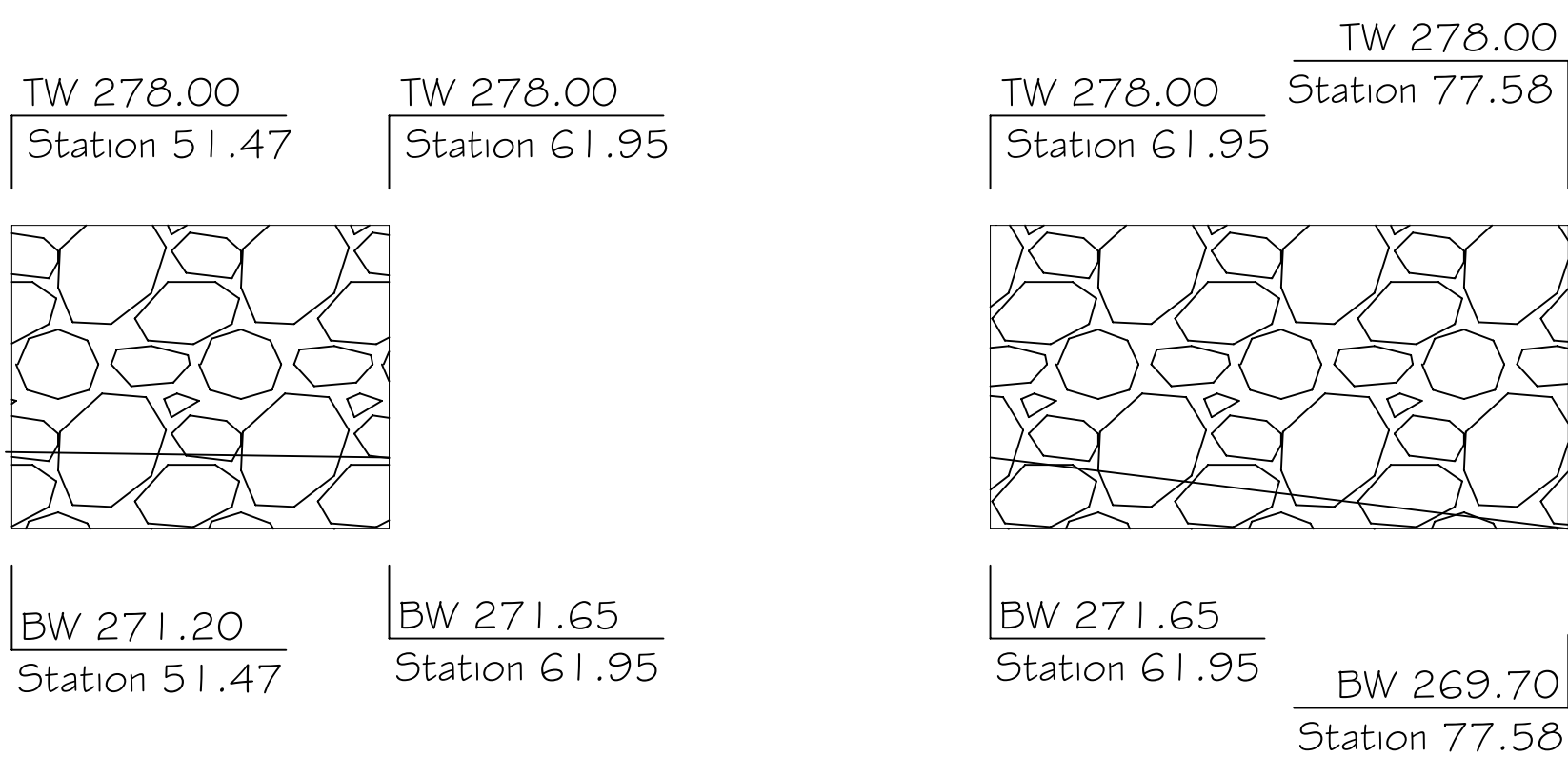


1
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ELEVATION
SCALE: 1/4"=1'-0"

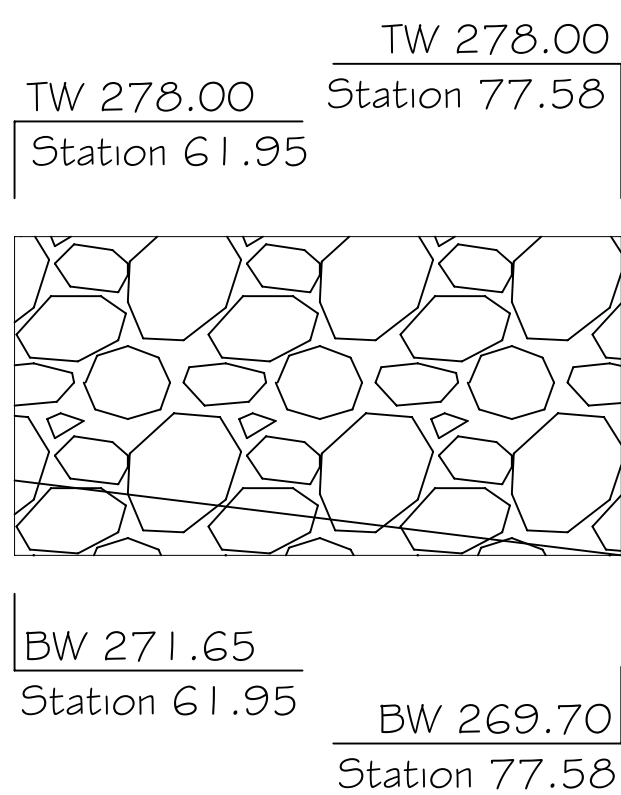
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ELEVATION
SCALE: 1/4"=1'-0"



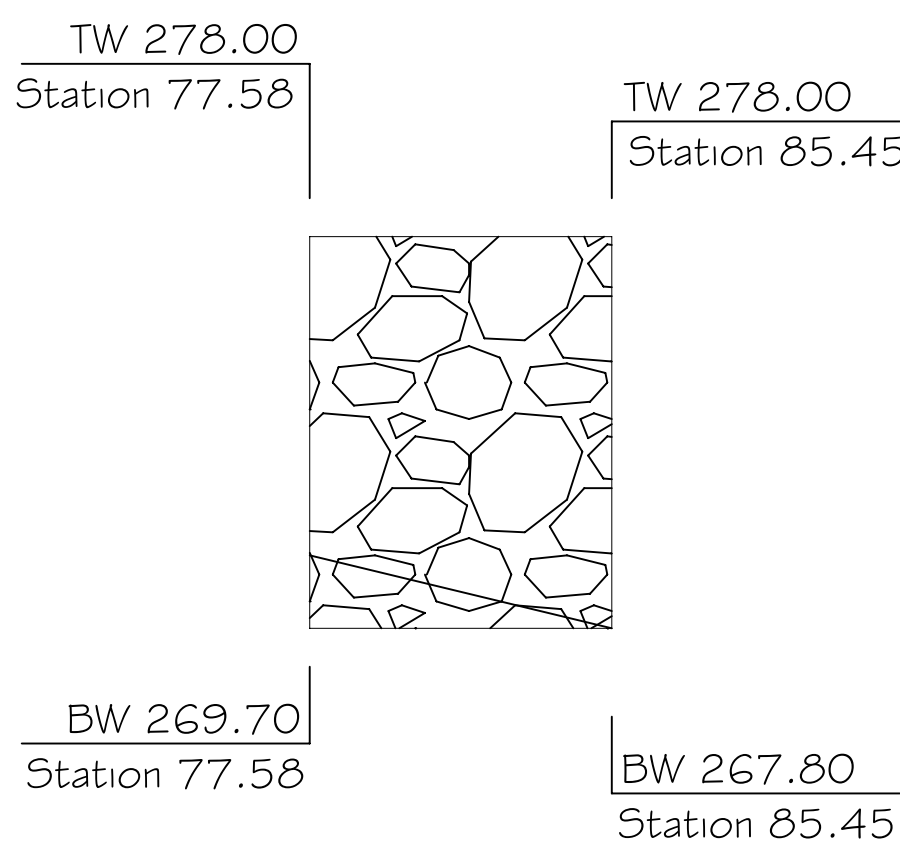
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COO1
ELEVATION
SCALE: 1/4"=1'-0"



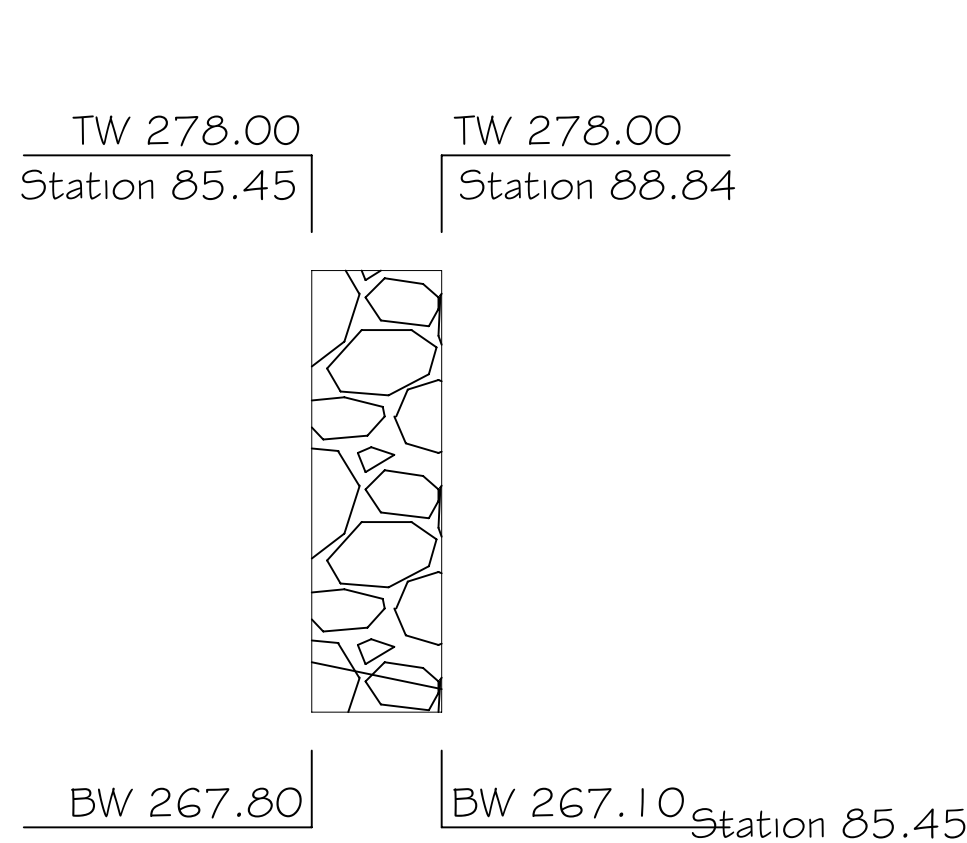
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COO1
ELEVATION
SCALE: 1/4"=1'-0"



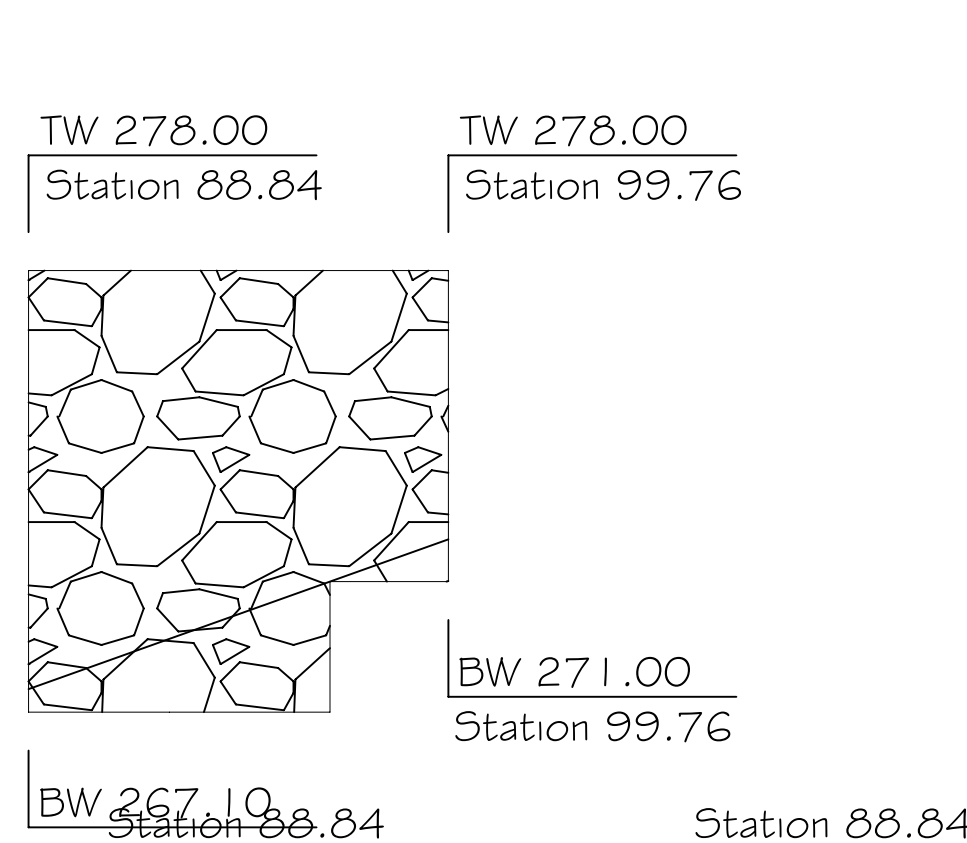
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ELEVATION
SCALE: 1/4"=1'-0"



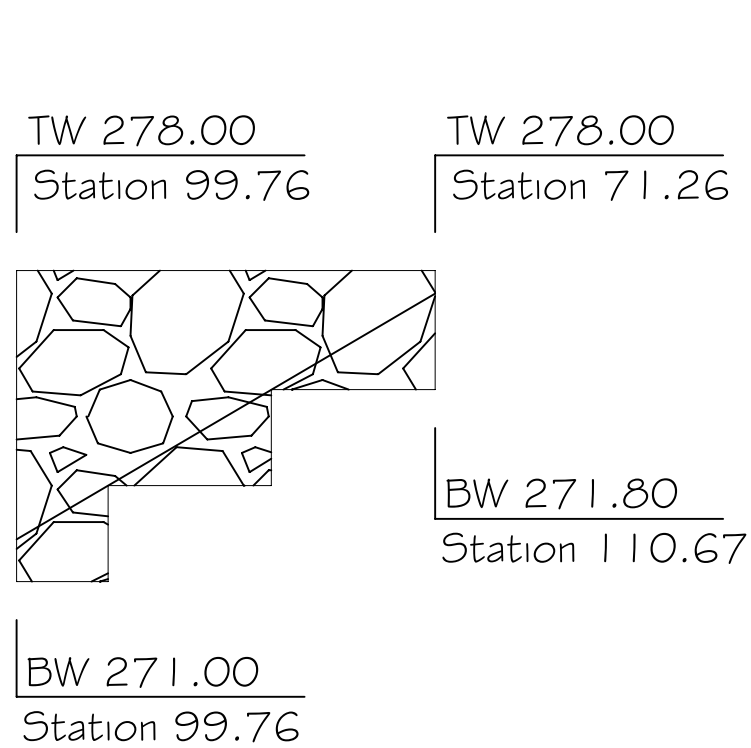
6
COO1
ELEVATION
SCALE: 1/4"=1'-0"



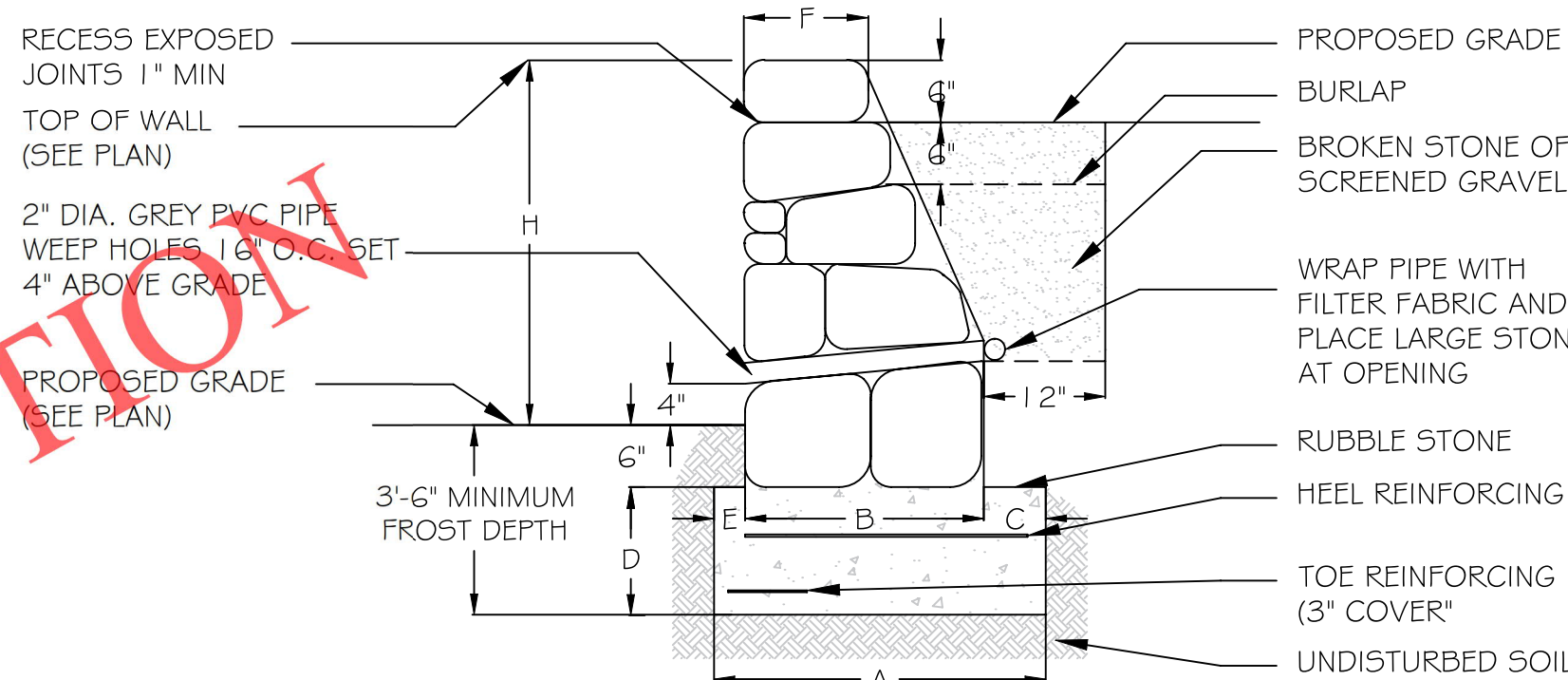
7
COO1
ELEVATION
SCALE: 1/4"=1'-0"



8
COO1
ELEVATION
SCALE: 1/4"=1'-0"



9
COO1
ELEVATION
SCALE: 1/4"=1'-0"



MAXIMUM PAYMENT LIMIT								
H	A	B	C	D	E	F	TOE REINFORCING	HEEL REINFORCING
3'-6"	1'-9"	1'-0"	6"	36"	3"	12"	#5 BARS @ 16" O.C.	#5 BARS @ 16" O.C.
4'-6"	2'-3"	1'-4"	8"	36"	3"	12"	#5 BARS @ 16" O.C.	#5 BARS @ 16" O.C.
5'-6"	2'-9"	1'-8"	7"	36"	6"	12"	#5 BARS @ 16" O.C.	#5 BARS @ 16" O.C.
6'-6"	3'-6"	2'-0"	9"	36"	9"	12"	#5 BARS @ 16" O.C.	#5 BARS @ 16" O.C.
7'-6"	4'-3"	3'-0"	3"	36"	12"	12"	#5 BARS @ 16" O.C.	#5 BARS @ 16" O.C.
8'-6"	5'-3"	3'-4"	8"	36"	15"	12"	#5 BARS @ 16" O.C.	#5 BARS @ 12" O.C.
9'-6"	6'-3"	4'-0"	9"	36"	18"	12"	#5 BARS @ 16" O.C.	#5 BARS @ 9" O.C.
10'-6"	7'-0"	4'-6"	6"	36"	24"	18"	#5 BARS @ 16" O.C.	#5 BARS @ 9" O.C.

B
COO1
TYPICAL WALL SECTION
SCALE: NTS

LEGEND	
TW	ELEVATION AT TOP OF COPING UNIT
BW	ELEVATION AT BOTTOM OF WALL
STATION	LOCATION, IN FEET, ALONG WALL
HEIGHT	WALL HEIGHT, IN FEET, FROM COPING TO LOWER GROUND SURFACE
TOTAL WALL AREA	646.73 SQ. FT.

- NOTES:
- CONTRACTOR SHALL NOTIFY AND FOLLOW "DIG SAFE NY" REQUIREMENTS FOR A MARK-OUT PRIOR TO ANY EXCAVATION ACTIVITIES.
 - FOR DRY LAID STONE WALL. CONCRETE FOOTING IS NOT REQUIRED, BUT BOTTOM STONE MUST BE PLACED MIN. 3'-0" BELOW GRADE
 - MIN. STONE SIZE IS 50 LBS. PLACE HEAVIER STONES FIRST

REVISIONS		
NO.	DATE	DESCRIPTION



VILLAGE OF DOBBS FERRY
112 MAIN STREET
DOBBS FERRY, NY 10522

CLIENT:
BRIAN FERGUSON
26 MAGNOLIA DR.
DOBBS FERRY, NY 10522

JEFFREY M. GASPAR, P.E.
NYS LICENSE NO. 091905



26 MAGNOLIA DR.		
ELEVATIONS/DETAILS		
DATE	4/7/2020	SCALE
		AS NOTED
		SHEET #
		COO1

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RETAINING WALL CONSTRUCTION

SECTION 1

MATERIALS

- 2.1 Wall Rock
- A.Material must be well-graded compactable aggregate, 0.25 in. to 1.5 in., (6 mm - 38 mm) with no more than 10% passing the #200 sieve. (ASTM D422)
- B.Material behind and within the blocks may be the same material.
- 2.2 Infill Soil
- A.Infill material shall be site excavated soils when approved by the on-site soils engineer unless otherwise specified in the drawings. Unsuitable soils for backfill (heavy clays or organic soils) shall not be used in the reinforced soil mass. Fine grained cohesive soils with friction angle (ϕ) less than 31 degrees with a PI ranging between 6 and 20 and LL from 30 to 40, may be used in wall construction, but additional backfilling, compaction and water management efforts are required. Poorly graded sands, expansive clays and/or soils with a plasticity index (PI) greater than 20 or a liquid limit (LL) greater than 40 should not be used in wall construction.
- B.The infill soil used must meet or exceed the designed friction angle and description noted on the design cross sections, and must be free of debris and consist of one of the following inorganic USCS soil types: GP, GW, SW, SP, GP-GM or SP-SM meeting the following gradation as determined in accordance with ASTM D422.

Sieve Size	Percent Passing
1 inch (25 mm)	100 - 75
No. 4 (4.75 mm)	100 - 20
No. 40 (0.425 mm)	0 - 60
No. 200 (0.075 mm)	0 - 35

- C.Where additional fill is required, contractor shall submit sample and specifications to the wall design engineer or the onsite soils engineer for approval and the approving engineer must certify that the soils proposed for use has properties meeting or exceeding original design standards.

PART 3: WALL CONSTRUCTION

- 3.1 Excavation
- A.Contractors shall excavate to the lines and grades shown on the construction drawings. Contractor shall use caution not to over-excavate beyond the lines shown, or to disturb the base elevations beyond those shown.
- B.Contractors shall verify locations of existing structures and utilities prior to excavation. Contractor shall ensure all surrounding structures are protected from the effects of wall excavation.
- 3.2 Foundation Soil Preparation
- A.Foundation soil shall be defined as any soils located beneath a wall.
- B.Foundation soil shall be excavated as dimensioned on the plans and compacted to a minimum of 95% of Standard Proctor (ASTM D698) prior to placement of the base material.
- C.Foundation soil shall be examined by the on-site soils engineer to ensure that the actual foundation soil strength meets or exceeds assumed design strength. Soil not meeting the required strength shall be removed and replaced with acceptable material.
- 3.3 Base
- A.The base material shall be the same as the Wall Rock material (Section 2.1) or a low permeable granular material.
- B.Base material shall be placed as shown on the construction drawing. Top of base shall be located to allow bottom wall units to be buried to proper depths as per wall heights and specifications.
- C.Base material shall be installed on undisturbed native soils or suitable replacement fills compacted to a minimum of 95% Standard Proctor (ASTM D698).
- D.Base shall be compacted at 95% Standard Proctor (ASTM D698) to provide a level hard surface on which to place the first course of blocks. The base shall be constructed to ensure proper wall embedment and the final elevation shown on the plans. Well-graded sand can be used to smooth the top 1/2 in. (13 mm) on the base material.
- E.Base material shall be a 4 in. (100 mm) minimum depth for walls under 4 ft. (1.2 m) and a 6 in. (150 mm) minimum depth for walls over 4 ft. (1.2 m).
- 3.4 Additional Construction Notes
- A.When one wall branches into two terraced walls, it is important to note that the soil behind the lower wall is also the foundation soil beneath the upper wall. This soil shall be compacted to a minimum of 95% of Standard Proctor (ASTM D698) prior to placement of the base material. Achieving proper compaction in the soil beneath an upper terrace prevents settlement and deformation of the upper wall. One way is to replace the soil with wall rock and compact in 8 in. (200 mm) lifts. When using on-site soils, compact in maximum lifts of 4 in. (100 mm) or as required to achieve specified compaction.
- B.Vertical filter fabric use is not suggested for use with cohesive soils. Clogging of such fabric creates unacceptable hydrostatic pressures in soil reinforced structures. When filtration is deemed necessary in cohesive soils, use a three dimensional filtration system of clean sand or filtration aggregate. Vertical filter fabric may be used to

- separate wall rock zone from fine grained, sandy infill soils if the design engineer deems it necessary based on potential water migration from above or below grade, through the reinforced zone into the wall rock on the project. Horizontal filter fabric should be placed above the wall rock column to prevent soils from above migrating into the wall rock column.
- C.Embankment protection fabric is used to stabilize rip rap and foundation soils in water applications and to separate infill materials from the retained soils. This fabric should permit the passage of fines to preclude clogging of the material. Embankment protection fabric shall be a high strength polypropylene monofilament material designed to meet or exceed typical Corps of Engineers plastic filter fabric specifications (CW-Q2215); stabilized against ultraviolet (UV) degradation and typically exceeding the values in Table 1, page 7 of the AB Spec Book.
- D.Water management is of extreme concern during and after construction. Steps must be taken to ensure that drain pipes are properly installed and vented to daylight or connected to an underground drainage system and a grading plan has been developed that routes water away from the retaining wall location. Site water management is required both during construction of the wall and after completion of construction.

SECTION 3: WATER MANAGEMENT

PART 1: GENERAL DRAINAGE

- 1.1 Surface Drainage
- Rainfall or other water sources such as irrigation activities collected by the ground surface atop the retaining wall can be defined as surface water. Retaining wall design shall take into consideration the management of this water.
- A.At the end of each day's construction and at final completion, grade the backfill to avoid water accumulation behind the wall or in the reinforced zone.
- B.Surface water must not be allowed to pond or be trapped in the area above the wall or at the toe of the wall.
- C.Existing slopes adjacent to retaining wall or slopes created during the grading process shall include drainage details so that surface water will not be allowed to drain over the top of the slope face and/or wall. This may require a combination of berms and surface drainage ditches.
- D.Irrigation activities at the site shall be done in a controlled and reasonable manner. If an irrigation system is employed, the design engineer or irrigation manufacturer shall provide details and specification for required equipment to ensure against over irrigation which could damage the structural integrity of the retaining wall system.
- E.Surface water that cannot be diverted from the wall must be collected with surface drainage swales and drained laterally in order to disperse the water around the wall structure. Construction of a typical swale system shall be in accordance with Design Detail 5: Swales, of the AB Spec Book.
- 1.2 Grading
- The shaping and re-contouring of land in order to prepare it for site development is grading. Site grading shall be designed to route water around the walls.
- A.Establish final grade with a positive gradient away from the wall structure. Concentrations of surface water runoff shall be managed by providing necessary structures, such as paved ditches, drainage swales, catch basins, etc.
- B.Grading designs must divert sources of concentrated surface flow, such as parking lots, away from the wall.
- 1.3 Drainage System
- The internal drainage systems of the retaining wall can be described as the means of eliminating the buildup of incidental water which infiltrates the soils behind the wall. Drainage system design will be a function of the water conditions on the site. Possible drainage facilities include Toe and Heel drainage collection pipes and blanket or chimney rock drains or others. Design engineer shall determine the required drainage facilities to completely drain the retaining wall structure for each particular site condition.
- A.All walls will be constructed with a minimum of 12 in. (300 mm) of wall rock directly behind the wall facing. The material shall meet or exceed the specification for wall rock outlined in Section 1, 2.2 Wall Rock.
- B.The drainage collection pipe, drain pipe, shall be a 4 in. (100 mm) perforated or slotted PVC, or corrugated HDPE pipe as approved by engineer of record.
- C.All walls will be constructed with a 4 in. (100 mm) diameter drain pipe placed at the lowest possible elevation within the 12 in. (300 mm) of wall rock. This drain pipe is referred to as a toe drain, Section 3, 1.4 Toe Drain.
- D.Geogrid Reinforced Walls shall be constructed with an additional 4 in. (100 mm) drain pipe at the back bottom of the reinforced soil mass. This drain pipe is referred to as a heel drain, Section 3, 1.5 Heel Drain

- 1.6 Ground Water
- Ground water can be defined as water that occurs within the soil. It may be present because of surface infiltration or water table fluctuation. Ground water movement must not be allowed to come in contact with the retaining wall.
- A.If water is encountered in the area of the wall during excavation or construction, a drainage system (chimney, composite or blanket) must be installed as directed by the wall design engineer.
- B.Standard retaining wall designs do not include hydrostatic forces associated with the

- presence of ground water. If adequate drainage is not provided the retaining wall design must consider the presence of the water.
- C.When non-free draining soils (soils with friction angles less than 30 degrees) are used in the reinforced zone, the incorporation of a chimney and blanket drain should be added to minimize the water penetration into the reinforced mass. Refer to Design Detail 6: Chimney and Blanket Drain, Page 13 of the AB Spec Book.
- a.Drain material to be consistent with wall rock material. For more information on wall rock material see Specification Guidelines: Allan Block Modular Retaining Wall Systems, section 2.1.
- b.Manufactured chimney and blanket drains to be approved by the geotechnical and/or the local engineer of record prior to use.

- 1.7 Concentrated Water Sources
- All collection devices such as roof downspouts, storm sewers, and curb gutters are concentrated water sources. They must be designed to accommodate maximum flow rates and to vent outside of the wall area.
- A.All roof downspouts of nearby structures shall be sized with adequate capacity to carry storm water from the roof away from the wall area. They shall be connected to a drainage system in closed pipe and routed around the retaining wall area.
- B.Site layout must take into account locations of retaining wall structures and all site drainage paths. Drainage paths should always be away from retaining wall structures.
- C.Storm sewers and catch basins shall be located away from retaining wall structures and designed so as not to introduce any incidental water into the reinforced soil mass.
- D.A path to route storm sewer overflow must be incorporated into the site layout to direct water away from the retaining wall structure.

- 1.8 Water Application
- Retaining walls constructed in conditions that allow standing or moving water to come in contact with the wall face are considered water applications. These walls require specific design and construction steps to ensure performance. Refer to Design Detail 7 and 8: Water Applications, Page 13 of the AB Spec Book.
- A.The wall rock should be placed to the limits of the geogrid lengths up to a height equal to 12 inches (30 cm) higher than the determined high water mark. If the high water mark is unknown, the entire infill zone should be constructed with wall rock.
- B.The drain pipe should be raised to the low water elevation to aid in the evacuation of water from the reinforced mass as water level fluctuates.
- C.Embankment protection fabric should be used under the infill mass and up the back of the infill mass to a height of 12 inches (30 cm) higher than the determined high water mark.
- a.Embankment protection fabric is used to stabilize rip rap and foundation soils in water applications and to separate infill materials from the retained soils. This fabric should permit the passage of fines to preclude clogging of the material. Embankment protection fabric shall be a high strength polypropylene monofilament material designed to meet or exceed typical NTPEP specifications; stabilized against ultraviolet (UV) degradation and typically meets or exceeds the values in Table 1.

Table 1: Embankment Protection Fabric Specifications	
Mechanical Property Determination Method	
Tensile Strength = 225 lbs. (39.4 kN/m)-----	ASTM D-4595
Puncture Strength = 950 lbs. (4228 N)-----	ASTM D-6241
Apparent Opening Size (AOS) = U.S. Sieve #70 (0.212 mm)-----	ASTM D-4751
Trapezoidal Tear = 100 lbs. (445 N)-----	ASTM D-4533
Percent Open Area = 4%-----	COE-Q2215
Permeability = 0.01 cm/sec-----	ASTM D-4491

- D.For walls having moving water or wave action, natural or manufactured rip-rap in front of the wall to protect the toe of the wall from scour effects is recommended.

ALTERATION STATEMENT:

IT IS A VIOLATION OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS HE OR SHE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER ANY ITEM ON THIS DRAWING IN ANY WAY. IF AN ITEM ON THIS DRAWING IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX HIS OR HER SEAL AND NOTE THE ITEM IN ACCORDANCE WITH ARTICLE 145.

GENERAL NOTES:

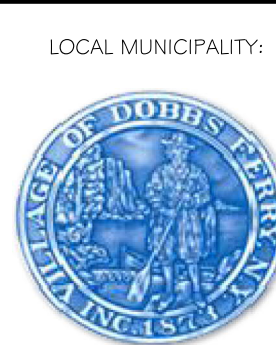
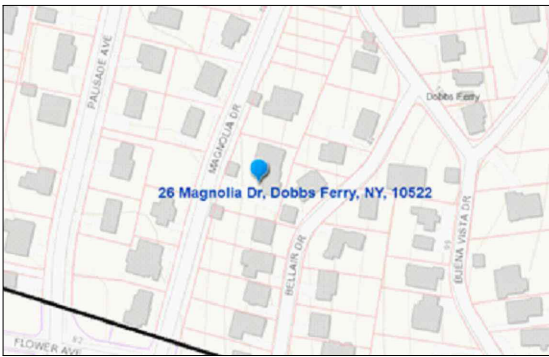
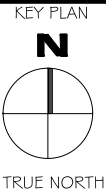
1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE DRAWINGS, SPECIFICATIONS ALL WORK SHALL COMPLY WITH THE 2015 IRC WITH NYS 2017 UNIFORM CODE SUPPLEMENT AND NYS ENERGY CODE AS WELL AS ALL LOCAL MUNICIPAL ORDINANCES.
2. THE GENERAL CONTRACTOR SHALL BE LICENSED AND INSURED TO PERFORM THE CONTRACTED WORK IN WESTCHESTER COUNTY.
3. ALL APPLICABLE CODES, ORDINANCES AND MINIMUM STRUCTURAL REQUIREMENTS TAKE PRECEDENCE OVER THE DRAWING AND NOTES.
4. THE GENERAL CONTRACTOR SHALL OBTAIN ALL REQUIRED MUNICIPAL INSPECTIONS AND APPROVALS INCLUDING THE CERTIFICATE OF OCCUPANCY.
5. THE GENERAL CONTRACTOR SHALL MAINTAIN WORKMAN'S COMPENSATION LIABILITY AND AUTOMOBILE INSURANCE DURING THE WORK.
6. ALL WORK TO BE PERFORMED IN AN ORDERLY, CLEAN AND GRADE A WORKMANLIKE MANNER.
7. THE GENERAL CONTRACTOR SHALL MAINTAIN THE SITE (REMOVE RUBBISH) AND PROTECT THE OWNER'S PROPERTY. PROVIDE SHIELDING AT AREAS ADJOINING THE WORK. DISTURBED LAWN AREAS SHALL BE RESEED. SECURE PROPERTY AT THE END OF EACH WORKDAY.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED SAFETY PRECAUTIONS AND THE MEANS, METHODS, OR PROCEDURES REQUIRED TO PERFORM THE WORK.
9. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, MEMBER SIZES, AND FIELD CONDITIONS PRIOR TO COMMENCING ANY WORK, AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ARCHITECT.
10. ALL DIMENSIONS SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES AND MUST BE VERIFIED DURING LAYOUT.
11. NO WORK SHALL COMMENCE UNTIL ALL PERMITS HAVE BEEN ISSUED.
12. DO NOT SCALE DRAWINGS.
13. WRITTEN DIMENSIONS ON DRAWINGS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
14. THE DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED. REPETITIVE FEATURE DRAWN OR NOTED ONLY ONCE SHALL BE COMPLETELY PROVIDED AS IF DRAWN OR NOTED IN FULL.
15. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.
16. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION METHODS USED WILL NOT CAUSE DAMAGE TO ADJACENT BUILDINGS, UTILITIES, OR OTHER PROPERTY.
17. THE GENERAL CONTRACTOR IS ADVISED TO CONSIDER PERFORMING PHOTOGRAPHIC SURVEYS AND OTHER DOCUMENTATION OF THE CONDITION OF ADJACENT BUILDINGS AND OTHER STRUCTURES BEFORE THE START OF CONSTRUCTION.
18. THE GENERAL CONTRACTOR SHALL COMPARE AND COORDINATE THE DRAWINGS OF ALL DISCIPLINES AND REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS TO THE ARCHITECT AND ENGINEER.
19. DETAILS LABELED "TYPICAL" SHALL APPLY TO ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SEE DETAIL TITLES FOR APPLICABILITY OF A PARTICULAR DETAIL. TYPICAL DETAILS SHALL APPLY WHETHER OR NOT THEY ARE SPECIFICALLY KEYED AT EACH LOCATION. THE ENGINEER SHALL HAVE FINAL AUTHORITY TO DETERMINE APPLICABILITY OF TYPICAL DETAILS.
- 20.WHERE CONFLICTS EXIST BETWEEN STRUCTURAL DOCUMENTS, THE STRICTEST REQUIREMENTS AS INDICATED BY THE STRUCTURAL ENGINEER SHALL GOVERN.

CONSTRUCTION RESPONSIBILITY:

1. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE COMPLETED STRUCTURE AND ARE NOT INTENDED TO INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCES, AND FOR JOB SAFETY.
2. THE ENGINEER DOES NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. PERIODIC SITE OBSERVATION VISITS MAY BE PROVIDED BY THE STRUCTURAL ENGINEER. THE SOLE PURPOSE OF THESE OBSERVATIONS IS TO REVIEW THE GENERAL CONFORMANCE OF THE CONSTRUCTION WITH THE STRUCTURAL CONTRACT DOCUMENTS. THESE LIMITED OBSERVATIONS SHOULD NOT BE CONSTRUED AS CONTINUOUS OR EXHAUSTIVE TO VERIFY THAT ALL CONSTRUCTION IS IN COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ALL WORK IN COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.



REVISIONS		
NO.	DATE	DESCRIPTION



VILLAGE OF DOBBS FERRY
112 MAIN STREET
DOBBS FERRY, NY 10522

CLIENT:

BRIAN FERGUSON
26 MAGNOLIA DR.
DOBBS FERRY, NY 10522

JEFFREY M. GASPAR, P.E.
NYS LICENSE NO. 091905



26 MAGNOLIA DR.			
NOTES			
DATE	4/7/2020	SCALE	NTS
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