

December 8, 2023

Jennifer Copeland
Town Planner
Town of Bourne
Bourne Town Hall
24 Perry Avenue - Room 201
Buzzards Bay, MA 02532-3441

Subject: Engineering Peer Review
 Ocean Pines Condominium Development – Lot 61
 Bourne, MA
 CEC Project 335-785

Dear Ms. Copeland:

In support of the upcoming Planning Board Review Hearing scheduled for December 14, 2023 before the Town of Bourne Planning Board, on behalf of the Ocean Pines Condominium Trust (the Association”), Civil & Environmental Consultants, Inc. (CEC) has prepared this letter summarizing our findings from a review of the ongoing development within Lot 61 of the condominium development proposed along Wildwood Lane as part of the Ocean Pines development in Bourne, Massachusetts (the Site).

In support of the review of the development of the overall condominium development, CEC prepared a summary letter dated October 20, 2023 detailing of our findings from a site visit on October 16, 2023 and review of the available materials provided in support of the ongoing development of the condominium development.

Subsequent to the original review, CEC was provided the following Site Plans in support of the ongoing review of the project, which have been included as an attachment to this letter:

- Site Plan for Wildwood Lane, Bourne, MA, prepared by Existing Grade, Inc dated April 12, 2007 (the “2007 Plan”).
- Site Plans for 61 Wildwood Lane, Bourne, MA, prepared by Existing Grade, Inc dated July 26, 2022 (the “Lot 61 Plans”).

As noted in the October 2023 letter, the Trust has identified numerous drainage concerns and issues that have been observed at the Site since the original development. CEC reviewed available documents, exhibits, and publicly available record and GIS information to evaluate the existing development as well as portions of the Site that are actively under construction with respect to the design of the drainage and stormwater management systems for compliance with the standard engineering and design practices and MassDEP Stormwater Management Standards. The following is a summary of the key items from the October 20, 2023 letter relative to the proposed

development on Lot 61 supplemented with comments related to the 2007 Plan and Lot 61 Plans based on cursory review. Please refer to the October 23, 2023 letter for a more detailed summary with supporting exhibits. The key items include the following:

- An Operations and Maintenance (O&M) Plan was not provided, and without this O&M Plan, the Town and Association will not be able to effectively maintain the stormwater management system effectively.
- The various components of the stormwater system within the Site were analyzed for varying storm event frequencies (1-inch, 10-year and 25-year events). The analysis also appears to only include building roof and pavement areas without consideration for pervious onsite and off-site tributary areas. A comprehensive analysis should be performed that includes an analysis including the entire tributary area, modeling the overall stormwater management system utilizing consistent storm events up to and including the 100-year storm event.
- The construction of the pavement areas at the driveway and parking areas for the units under construction within Lot 61 does not appear to result in drainage patterns consistent with the drainage analysis and should be corrected.
- The design of the units under construction appears to propose fill that will reduce the storage capacity of an existing natural depression along the northerly property line shared with existing residential properties and may result in an increase in localized ponding on existing properties. This condition should be reviewed and a means for emergency overflow should be incorporated into the design.
- The current development includes numerous deviations from the design included in the original 1987 Special Permit Approval. Additionally, the current Site Plans for the development of Lot 61 appears to be significantly different from the subsequent design as depicted on the 2007 Plan. These should be reviewed for conformance with the original permit approval and if additional review and approvals by the Town Planning Board is warranted.
- There are a limited amount of erosion controls provided for the development and no inlet protection was provided in the catch basins within the development or along Ocean Pines Drive. A search of active EPA Notice of Intents in Bourne did not appear to indicate a NOI has been issued for this Site. The Developer should confirm that coverage has been obtained and a Stormwater Pollution Prevention Plan has been prepared and an NOI has been filed.
- The Proposed Septic/Grading Layout Plan from the Lot 61 Plans appears to identify a low point at Elevation 91-ft behind Building 18 with no apparent outlet. Additional information should be provided confirming how this area will drain.
- The Proposed Septic/Grading Layout Plan from the Lot 61 Plans identify that Building 16 is proposed with a Finished Floor elevation approximately 10-ft higher than the adjacent Wildwood Lane roadway grade. This may result in the building feeling very imposing on the adjacent roadway. CEC recommends that this condition be reviewed to confirm the building design and height conform with Town requirements and regulations.
- The Lot 61 Plans identify that five (5) separate septic systems with independent leaching fields placed very closely together are proposed for the proposed seven (7) buildings. If

viewed as a single system as opposed to individual septic system per 310 CMR 15.011, the design flow would exceed the 2,000 gallon per day (gpd) threshold of 310 CMR 15.20 and the design of the Septic Systems would be required to comply with additional regulatory requirements and include additional features not currently proposed as part of the design. CEC recommends that this condition be reviewed for conformance with Board of Health and Title V regulations.

We hope that you find these comments helpful in your review of the completed and ongoing construction at the Site. Please feel free to contact us with any questions.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Karlis P. Skulte, P.E.
Principal



Brian Potvin, P.E.
Principal

Attachments: Site Plan for Wildwood Lane, Bourne, MA, prepared by Existing Grade, Inc dated April 12, 2007 (the "2007 Plan").
Site Plans for 61 Wildwood Lane, Bourne, MA, prepared by Existing Grade, Inc dated July 26, 2022 (the "Lot 61 Plans").

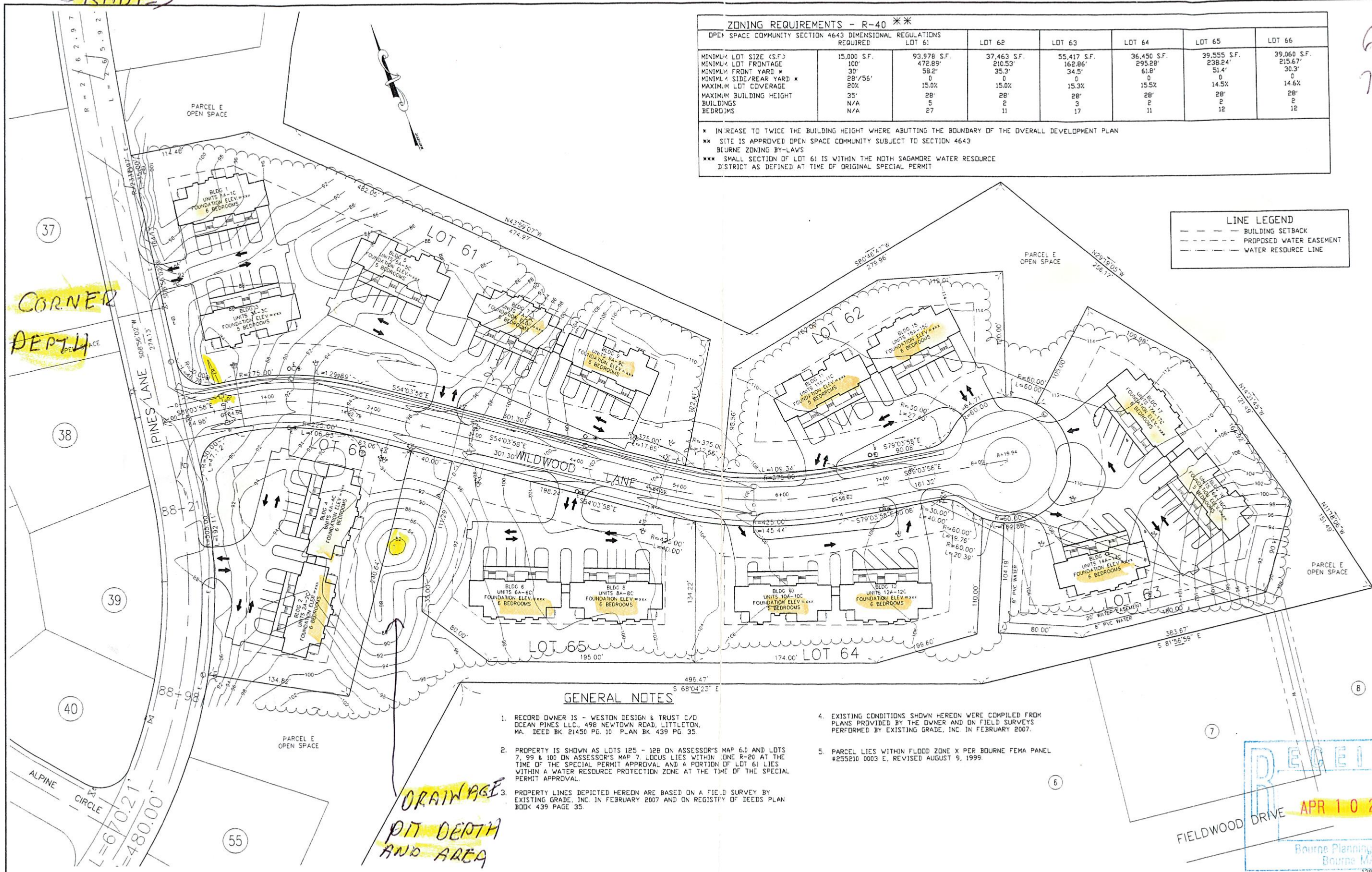
GRADES

6.93 ACRES
70/ACRES

ZONING REQUIREMENTS - R-40 **						
OPEN SPACE COMMUNITY SECTION 4643 DIMENSIONAL REGULATIONS REQUIRE	LOT 61	LOT 62	LOT 63	LOT 64	LOT 65	LOT 66
MINIMUM LOT SIZE (S.F.)	15,000 S.F.	93,978 S.F.	37,463 S.F.	55,417 S.F.	36,450 S.F.	39,555 S.F.
MINIMUM LOT FRONTAGE	100'	472.89'	210.53'	162.86'	295.28'	238.24'
MINIMUM FRONT YARD *	30'	58.2'	35.3'	34.5'	61.8'	51.4'
MINIMUM SIDE/REAR YARD *	28'/56'	0	0	0	0	0
MAXIMUM LOT COVERAGE	20%	15.0%	15.0%	15.3%	15.5%	14.5%
MAXIMUM BUILDING HEIGHT	35'	28'	28'	28'	28'	28'
BUILDINGS	N/A	5	2	3	2	2
BEDROOMS	N/A	27	11	17	11	12

* INCREASE TO TWICE THE BUILDING HEIGHT WHERE ABUTTING THE BOUNDARY OF THE OVERALL DEVELOPMENT PLAN
 ** SITE IS APPROVED OPEN SPACE COMMUNITY SUBJECT TO SECTION 4643 BOURNE ZONING BY-LAWS
 *** SMALL SECTION OF LOT 61 IS WITHIN THE NORTH SAGAMORE WATER RESOURCE DISTRICT AS DEFINED AT TIME OF ORIGINAL SPECIAL PERMIT

LINE LEGEND	
---	BUILDING SETBACK
---	PROPOSED WATER EASEMENT
---	WATER RESOURCE LINE



- GENERAL NOTES**
- RECORD OWNER IS - WESTON DESIGN & TRUST C/D OCEAN PINES LLC, 498 NEWTOWN ROAD, LITTLETON, MA. DEED BK. 21450 PG. 10 PLAN BK. 439 PG. 35.
 - PROPERTY IS SHOWN AS LOTS 125 - 128 ON ASSESSOR'S MAP 6.0 AND LOTS 7, 99 & 100 ON ASSESSOR'S MAP 7. LOCUS LIES WITHIN ZONE R-20 AT THE TIME OF THE SPECIAL PERMIT APPROVAL AND A PORTION OF LOT 61 LIES WITHIN A WATER RESOURCE PROTECTION ZONE AT THE TIME OF THE PERMIT APPROVAL.
 - PROPERTY LINES DEPICTED HEREON ARE BASED ON A FIELD SURVEY BY EXISTING GRADE, INC. IN FEBRUARY 2007 AND ON REGISTRY OF DEEDS PLAN BOOK 439 PAGE 35.
 - EXISTING CONDITIONS SHOWN HEREON WERE COMPILED FROM PLANS PROVIDED BY THE OWNER AND ON FIELD SURVEYS PERFORMED BY EXISTING GRADE, INC. IN FEBRUARY 2007.
 - PARCEL LIES WITHIN FLOOD ZONE X PER BOURNE FEMA PANEL #255210 0003 E, REVISED AUGUST 9, 1999.

EGI EXISTING GRADE INCORPORATED
 Civil Engineers and Land Surveyors
 P.O. BOX 682
 FORESTDALE, MA - 02644
 (508)833-7303 (508)833-7304 (FAX)

SCALE

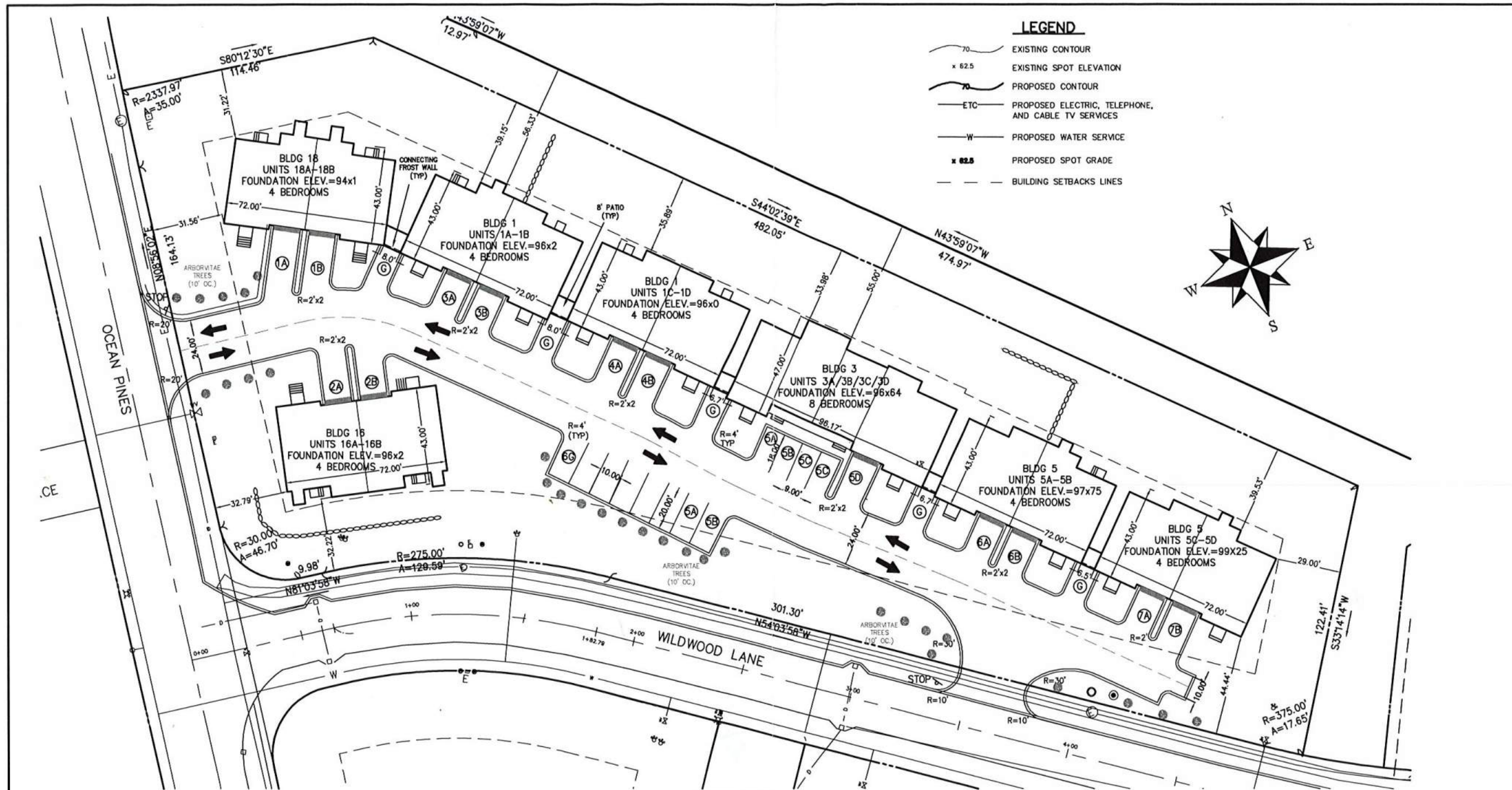
1" = 40'

NO.	DATE	BY	REVISIONS

CLIENT
OCEAN PINES LLC
 NEWTOWN ROAD
 LITTLETON, MASSACHUSETTS

SITE PLAN
 FOR
WILDWOOD LANE
 BOURNE, MASSACHUSETTS

PROJECT NO. 1
DATE: 04/12/07
SHEET NO. 1 OF 1



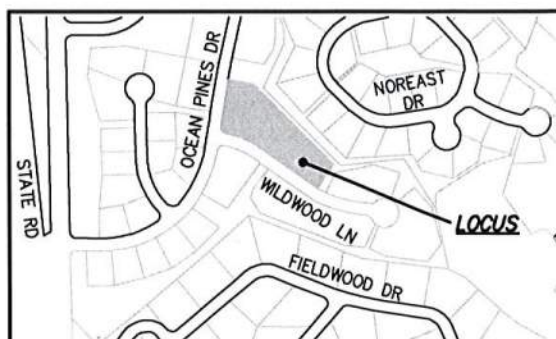
SETBACKS

BUILDING SETBACKS (MIN.)

FRONT YARD	30'
SIDE & REAR YARD	28'/56"/54'

*INCREASE TO TWICE BLDG HEIGHT WHEN ABUTTING BOUNDARY OF OVERALL DEVELOPMENT

** 54' FOR BLDG 3



GENERAL NOTES

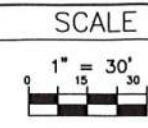
- RECORD OWNER - AMOS FINANCIAL LLC
1910 FIRST ST
HIGHLAND PARK, IL 60035
DEED BK. 26237, PAGE 42
PLAN BK. 439 PAGE 35
LOCUS ADDRESS - 62 WILDWOOD LANE
- PROPERTY IS SHOWN AS LOT 61 PARCEL 100 ON ASSESSOR'S MAP 7 AND LIES WITH IN ZONE R-20 AT THE TIME OF SPECIAL PERMIT APPROVAL.
- EXISTING CONDITIONS SHOWN HEREON WERE COMPILED FROM A FIELD SURVEY PERFORMED BY EXISTING GRADE INC. AND ON RECORD INFORMATION PROVIDED BY THE OWNER.
- PARCEL LIES WITHIN FLOOD ZONE X PER BOURNE FIRM PANEL #255210 0316J, EFFECTIVE 07/16/2014.
- ALL DIMENSIONS ARE PERPENDICULAR TO PROPERTY LINES.
- NO BUILDINGS SHALL HAVE FLOOD LIGHTS.
- ALL TRASH PICKUP SHALL BE BY PRIVATE CURB SIDE PICKUP.
- ALL SITE LIGHTING SHALL BE LIMITED TO 15' HIGH.
- PROPOSED TREES AND FENCING SHALL PROVIDE SCREENING TO PARKING AREAS.
- EXISTING CONDITIONS BASED ON MASS STATE LIDAR AND A GROUND SHOT SURVEY BY EXISTING GRADE INC.

LOT 61 PARKING SUMMARY (16 UNITS)

GARAGE SPOTS	13
PARKING SPOTS (UNITS)	13
PARKING SPOTS (9'x18')(UNITS)	4
(10'x20')5A/5B	2
TOTAL UNITS	32
GUEST SPOTS	11
TOTAL SPOTS	43

Existing Grade Inc.
Surveyors & Civil Engineers
62 RIEDELL RD
DOUGLASS, MA 01516
508-694-6501 Ph/Fax

LOCUS PLAN
1" = 500'±

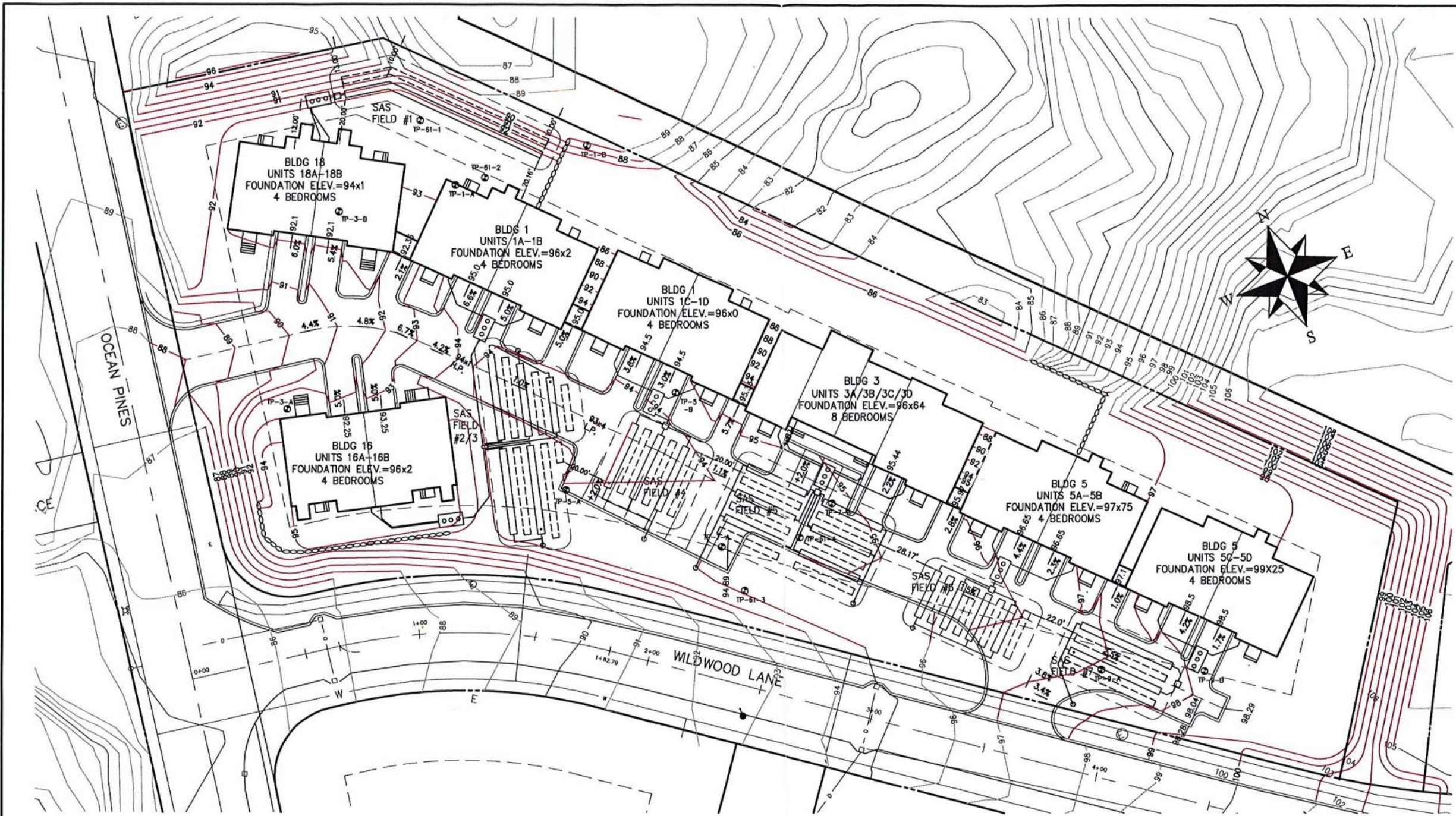


NO.	DATE	REVISIONS
1	7/26/22	RENUMBER UNITS

CLIENT
EASTERN SKY LLC
NEWTOWN ROAD
LITTLETON, MASSACHUSETTS

PROPOSED
SITE LAYOUT PLAN
61 WILDWOOD LANE
BOURNE, MA

1292 SITEPLAN 05-05-2022
PROJECT NO. 1292
DATE: 06/13/22
SHEET NO. 1 OF 12



GENERAL NOTES:
REFER TO SHEET 1

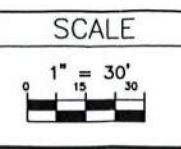
SETBACKS

SEPTIC SETBACKS (MIN.)	
LEACHING TRENCHES	
PROPERTY LINES	10'
BUILDINGS	20'
SEPTIC TANKS	
PROPERTY LINES	10'
BUILDINGS	10'

**LOT 61
BEDROOM COUNT SUMMARY
(16 UNITS)**

BUILDINGS	UNITS (2 BEDRM/UNIT)	BEDROOMS
1-6	2 EACH	24
7	4	8

Existing Grade Inc.
Surveyors & Civil Engineers
62 RIEDELL RD
DOUGLASS, MA 01516
508-694-6501 Ph/Fax

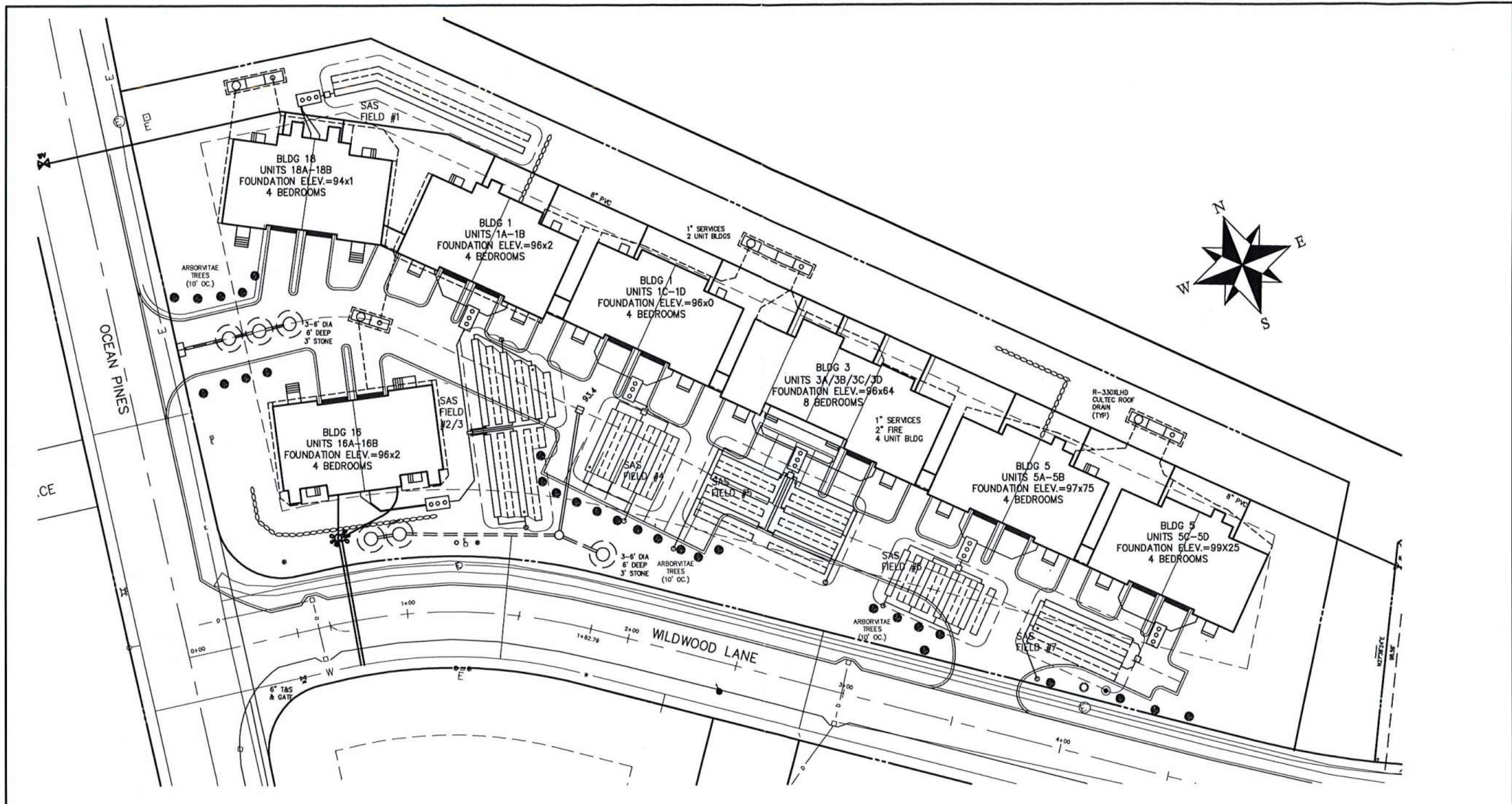


NO.	DATE	REVISIONS
1	7/26/22	RENUMBER UNITS

CLIENT
EASTERN SKY LLC
NEWTOWN ROAD
LITTLETON, MASSACHUSETTS

PROPOSED
SEPTIC/GRADING LAYOUT PLAN
61 WILDWOOD LANE
BOURNE, MA

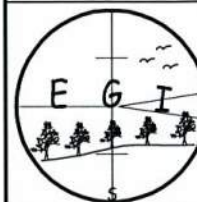
PROJECT NO.
1292
DATE: 06/13/22
SHEET NO.
2 OF 12



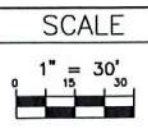
SETBACKS

BUILDING SETBACKS (MIN.)	
FRONT YARD	30'
SIDE & REAR YARD	28'/50'
INCREASE TO TWICE BLDG HEIGHT WHEN ABUTTING BOUNDARY OF OVERALL DEVELOPMENT	

GENERAL NOTES:
REFER TO SHEET 1



Existing Grade Inc.
Surveyors & Civil Engineers
62 RIEDELL RD
DOUGLASS, MA 01516
508-694-6501 Ph/Fax



NO.	DATE	REVISIONS
1	7/26/22	RENUMBER UNITS

CLIENT
EASTERN SKY LLC
NEWTOWN ROAD
LITTLETON, MASSACHUSETTS

PROPOSED
UTILITY LAYOUT
61 WILDWOOD LANE
BOURNE, MA

PROJECT NO.
1292
DATE: 06/13/22
SHEET NO.
3 OF 12

DESIGN FORMULA: (2 MIN/IN SOILS)
PIPE & TRENCH FIELD BLDG 18

SYSTEM	REQUIRED	PROVIDED
DAILY FLOW: BLDG 1 4 BEDROOMS @ 110 GPD/BEDROOM TOTAL (4 BEDROOMS)	440 GPD 440 GPD	440 GPD
1-SEPTIC TANK FOR 440 GAL: 440 GPD x 200% (BLDG 1)	880 GAL	2,000 GAL 2 COMPARTMENT

LEACHING AREA:

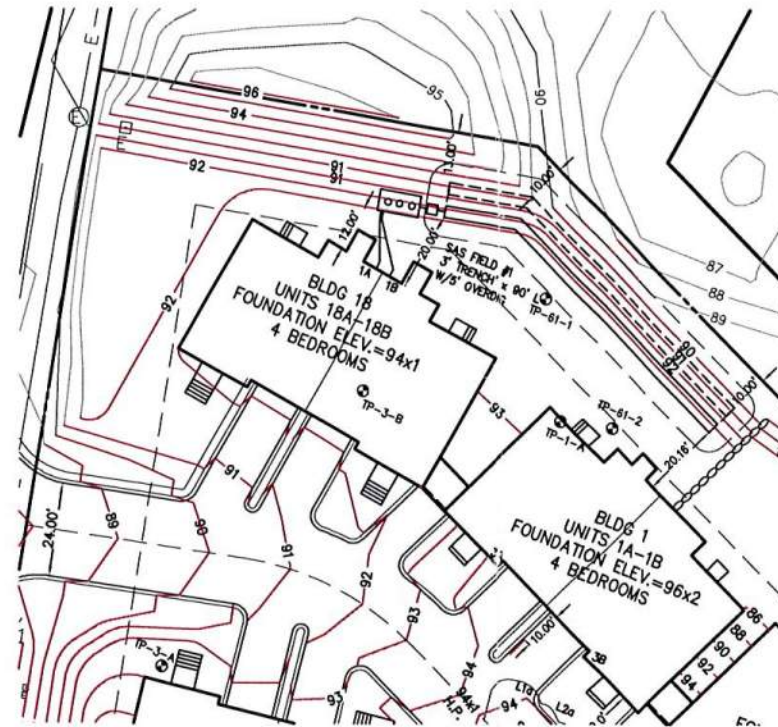
440 GAL / 0.74 GAL/s.f. =
 594.6 s.f. TOTAL AREA
 3' w x 2' h TRECHES
 BOTTOM AREA = 3 s.f. x 1 s.f. = (3 s.f.) +
 SIDEWALL AREA = 4 s.f. x 1 s.f. = (4 s.f.)
 TOTAL AREA PER RUNNING FOOT = 7 s.f.
 594.6 s.f. / 7.0 s.f./L.F. = 84.9 L.F. (REQUIRED)

1 ROWS @ 90' = 90 LF PROVIDED

DESIGN IS CONSERVATIVE AS NO CREDIT
 TAKEN FOR END WALL AREAS

NOTE: ROWS ARE 9' APART TO ALLOW RESERVE AREA
 BETWEEN ROWS.

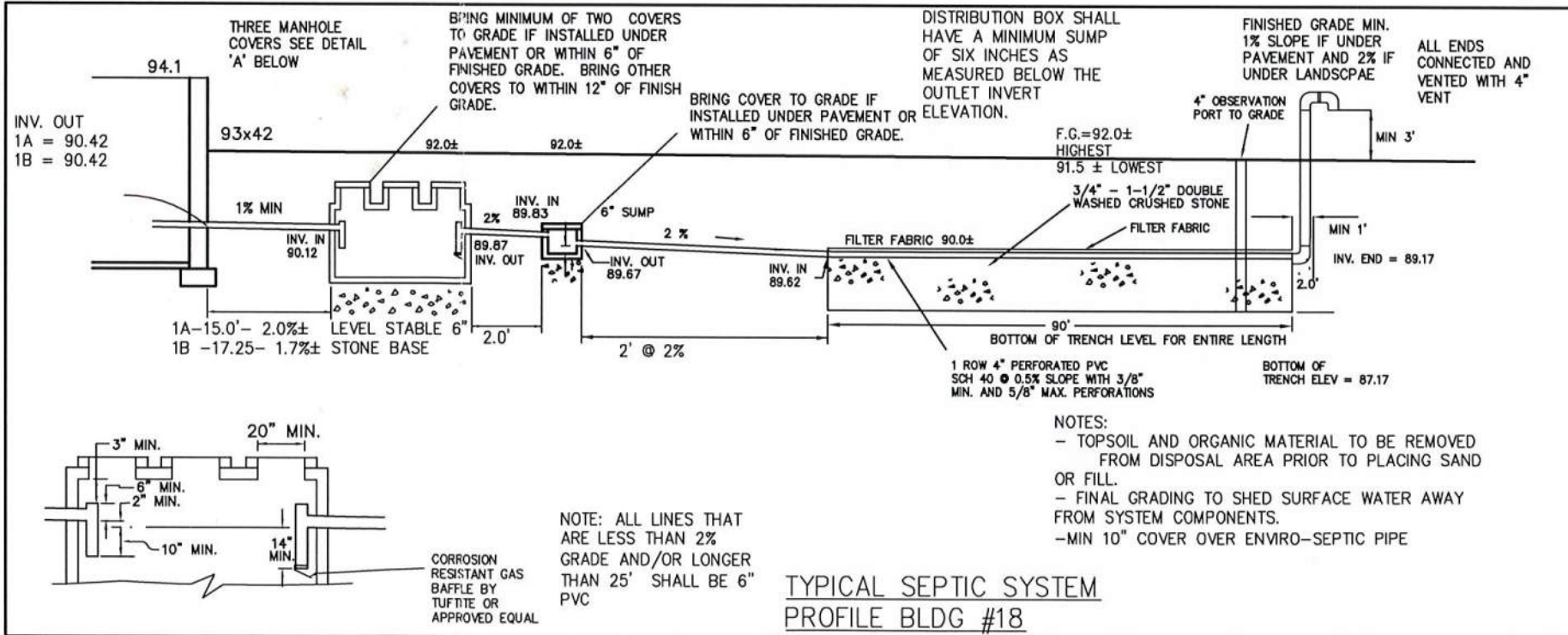
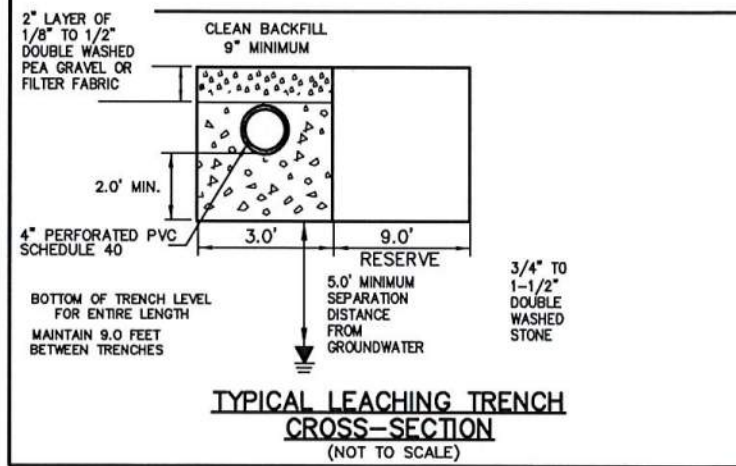
TEST PIT 61-1
 2 MIN/IN



BLDG 18 SEPTIC SYSTEM

NOTES:

- ALL SYSTEM COMPONENTS SHALL BE INSTALLED IN COMPLIANCE WITH THE STATE SANITARY CODE TITLE V AND THE TOWN OF BOURNE BOARD OF HEALTH REQUIREMENTS.
- ANY CHANGE TO THIS PLAN MUST BE APPROVED BY THE BOARD OF HEALTH AND DESIGN ENGINEER.
- BEFORE BACKFILLING THE SYSTEM, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER AND BOARD OF HEALTH.
- TIGHT JOINT (T.J.) PIPING SHALL CONSIST OF POLYVINYL CHLORIDE (PVC) PIPE, SCHEDULE 40. ALL PIPES TO BE LAID ON FIRM BASE AND TO BE WATERTIGHT. ALL CONNECTIONS AND JOINTS SHALL BE MECHANICALLY SOUND AND TIGHT.
- DISTRIBUTION BOX SHALL BE WATER TESTED FOR LEVELNESS AND BE H20 RATED, OUTLET PIPES SHALL BE LEVEL FOR FIRST 2'.
- NO GARBAGE GRINDER IS ALLOWED.
- DISTRIBUTION BOX SHALL HAVE AN INLET TEE EXTENDING TO ONE INCH ABOVE THE OUTLET INVERT ELEVATION.
- CONTRACTOR SHALL COORDINATE WITH THE BOARD OF HEALTH TO OBSERVE THE EXCAVATION OF UNSUITABLE SOILS UNDER THE AREA OF THE PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) IF ENCOUNTERED
- SEPTIC TANK SHALL BE EMBOSSED WITH SEAL STATING CONFORMANCE WITH ASTM C 1227-94.
- ALL SEPTIC SYSTEM COMPONENTS SHALL BE DESIGNED TO WITHSTAND H-20 LOADINGS.
- SEPTIC TANKS SHALL BE PROVIDED WITH AT LEAST THREE 20" DIAMETER MANHOLES WITH READILY REMOVABLE IMPERMEABLE COVERS OF DURABLE MATERIAL.
- ALL UNSUITABLE SOIL MATERIAL IN AREA OF AND BELOW PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) SHALL BE REMOVED AND REPLACED WITH CLEAN, COARSE SAND WITH A PERCOLATION RATE OF 2 MIN/INCH.
- AREA 5 FEET BEYOND LIMIT OF SOL. ABSORPTION SYSTEM (S.A.S.) SHALL BE EXCAVATED OF UNSUITABLE MATERIAL TO TOP OF C1 LAYER PER TEST PIT 61-1.



Existing Grade Inc.
 Surveyors & Civil Engineers
 62 RIEDELL RD
 DOUGLASS, MA 01516
 508-694-6501 Ph/Fax



SCALE

1" = 30'

NO	DATE	BY	REVISIONS
1	7/26/22		RENUMBER UNITS

CLIENT
 EASTERN SKY LLC
 NEWTOWN ROAD
 LITTLETON, MASSACHUSETTS

PROPOSED
 BLDG 18 SEPTIC PLAN
 18 OCEAN PINES
 BOURNE, MA

PROJECT NO. 1292
DATE: 06/13/22
SHEET NO. 4 OF 12

DESIGN FORMULA: (2 MIN/IN SOILS)
PIPE & TRENCH FIELD BLDG 16 & 1

SYSTEM	REQUIRED	PROVIDED
DAILY FLOW: BLDG 2 & 3 4 BEDROOMS EACH @ 110 GPD/BEDROOM TOTAL (8 BEDROOMS)	440 GPD/ BLDG 880 GPD	880 GPD
1-SEPTIC TANK/BLDG 440 GAL: 440 GPD x 200% (BLDG 2 & 3 EACH)	880 GAL	2,000 GAL 2 COMPARTMENT

LEACHING AREA:

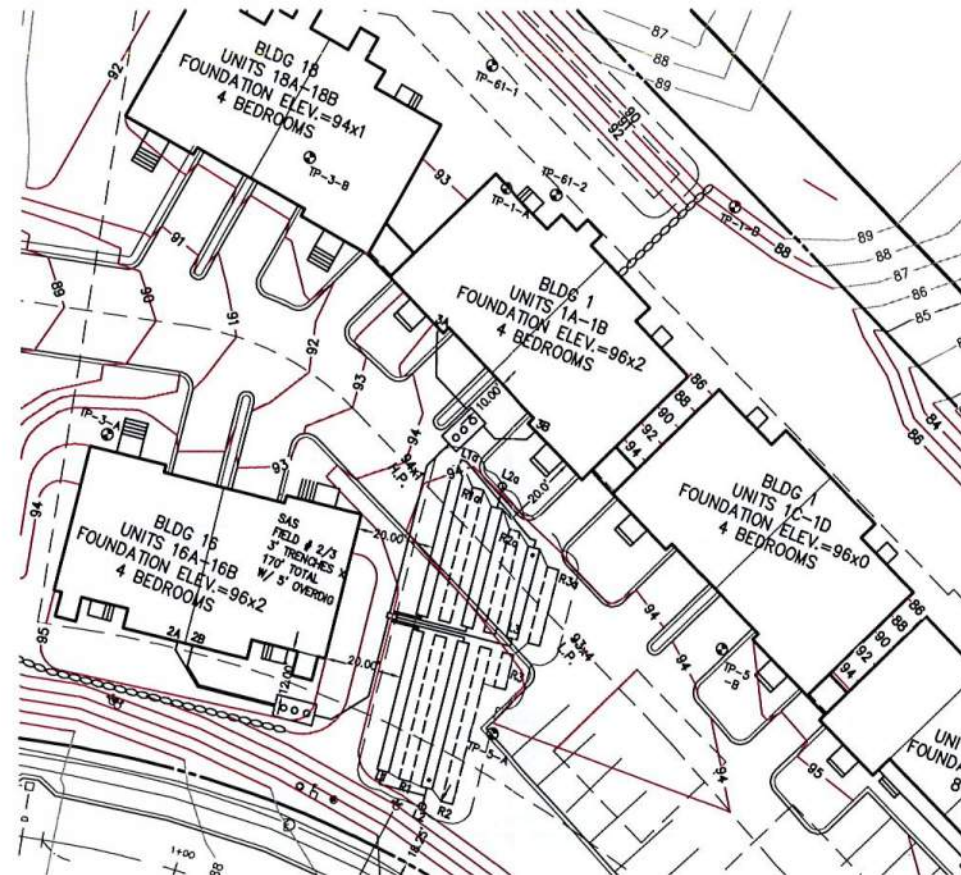
880 GAL / 0.74 GAL/s.f. =
 1,189.2 s.f. TOTAL AREA
 3' w x 2' h TRENCHES
 BOTTOM AREA = 3 s.f. x 1s.f. = (3 s.f.) +
 SIDEWALL AREA = 4 s.f. x 1 sf = (4 s.f.)
 TOTAL AREA PER RUNNING FOOT = 7 s.f.
 1,189.2 s.f. / 7.0 s.f./L.F. = 169.8 L.F. (REQUIRED)

ROWS
 L1 = 37' L1a = 39' RESERVE R1 = 38' R1a = 35'
 L2 = 38.5' L2a = 31.5' RESERVE R2 = 41' R2a = 27'
 L3 = 24' RESERVE R3 = 20' R3a = 9'
 TOTALS 170' 170'

DESIGN IS CONSERVATIVE AS NO CREDIT
 TAKEN FOR END WALL AREAS

NOTE: ROWS ARE 9' APART TO ALLOW RESERVE AREA
 BETWEEN ROWS.

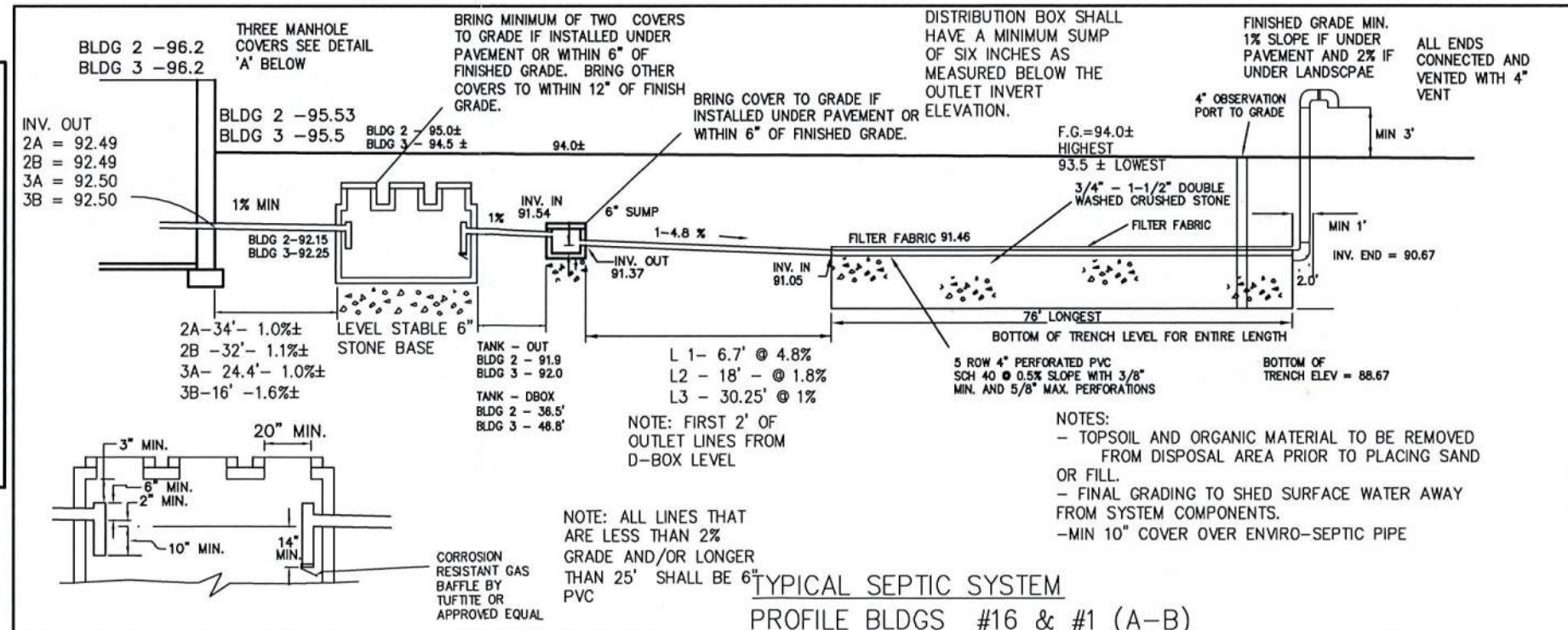
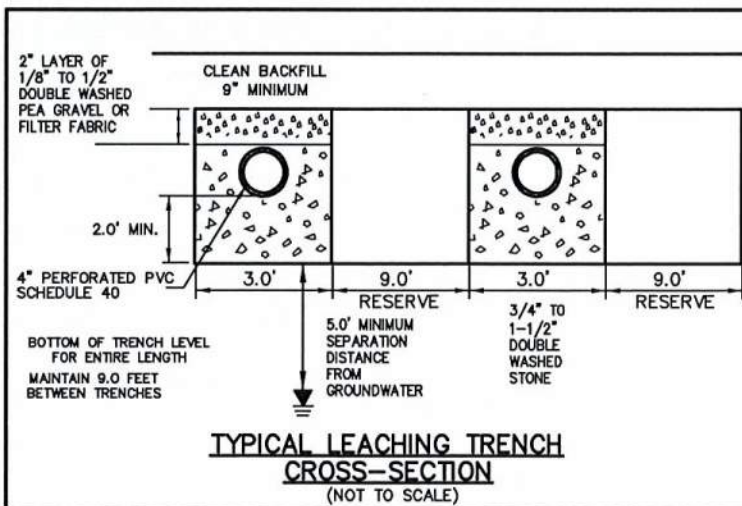
TEST PIT 5A
 2 MIN/IN



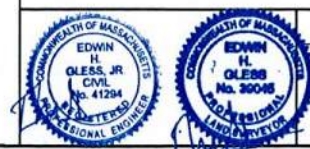
BLDGS 16 & 1 (A-B) SEPTIC SYSTEM

NOTES:

- ALL SYSTEM COMPONENTS SHALL BE INSTALLED IN COMPLIANCE WITH THE STATE SANITARY CODE TITLE V AND THE TOWN OF BOURNE BOARD OF HEALTH REQUIREMENTS.
- ANY CHANGE TO THIS PLAN MUST BE APPROVED BY THE BOARD OF HEALTH AND DESIGN ENGINEER.
- BEFORE BACKFILLING THE SYSTEM, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER AND BOARD OF HEALTH.
- TIGHT JOINT (T.J.) PIPING SHALL CONSIST OF POLYVINYL CHLORIDE (PVC) PIPE, SCHEDULE 40. ALL PIPES TO BE LAID ON FIRM BASE AND TO BE WATERTIGHT. ALL CONNECTIONS AND JOINTS SHALL BE MECHANICALLY SOUND AND TIGHT.
- DISTRIBUTION BOX SHALL BE WATER TESTED FOR LEVELNESS AND BE H20 RATED, OUTLET PIPE SHALL BE LEVEL FOR FIRST 2'.
- NO GARBAGE GRINDER IS ALLOWED.
- DISTRIBUTION BOX SHALL HAVE AN INLET TEE EXTENDING TO ONE INCH ABOVE THE OUTLET INVERT ELEVATION.
- CONTRACTOR SHALL COORDINATE WITH THE BOARD OF HEALTH TO OBSERVE THE EXCAVATION OF UNSUITABLE SOILS UNDER THE AREA OF THE PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) IF ENCOUNTERED
- SEPTIC TANK SHALL BE EMBOSSED WITH SEAL STATING CONFORMANCE WITH ASTM C 1227-94.
- ALL SEPTIC SYSTEM COMPONENTS SHALL BE DESIGNED TO WITHSTAND H-20 LOADINGS.
- SEPTIC TANKS SHALL BE PROVIDED WITH AT LEAST THREE 20" DIAMETER MANHOLES WITH READILY REMOVABLE IMPERMEABLE COVERS OF DURABLE MATERIAL.
- ALL UNSUITABLE SOIL MATERIAL IN AREA OF AND BELOW PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) SHALL BE REMOVED AND REPLACED WITH CLEAN, COARSE SAND WITH A PERCOLATION RATE OF 2 MIN/INCH.
- AREA 5 FEET BEYOND LIMIT OF SOL ABSORPTION SYSTEM (SAS) SHALL BE EXCAVATED OF UNSUITABLE MATERIAL TO TOP OF C1 LAYER PER TEST PIT 5-A.



Existing Grade Inc.
 Surveyors & Civil Engineers
 62 RIEDELL RD
 DOUGLASS, MA 01516
 508-694-6501 Ph/Fax



SCALE
 1" = 30'

NO.	DATE	BY	REVISIONS
1	7/26/22		RENUMBER UNITS

CLIENT
 EASTERN SKY LLC
 NEWTOWN ROAD
 LITTLETON, MASSACHUSETTS

PROPOSED SEPTIC PLAN
 BLDG 16, 16 OCEAN PINES
 & BLDG 1 (A,B)
 61 WILDWOOD LANE, BOURNE, MA

PROJECT NO.
 1292
 DATE: 06/13/22
 SHEET NO.
 5 OF 12

**DESIGN FORMULA: (2 MIN/IN SOILS)
PIPE & TRENCH FIELD BLDG 1 (C-D)**

SYSTEM	REQUIRED	PROVIDED
DAILY FLOW: BLDG 6 4 BEDROOMS @ 110 GPD/BEDROOM TOTAL (4 BEDROOMS)	440 GPD 440 GPD	440 GPD
1-SEPTIC TANK FOR 440 GAL: 440 GPD x 200% (BLDG 6)	880 GAL	2,000 GAL 2 COMPARTMENT

LEACHING AREA:

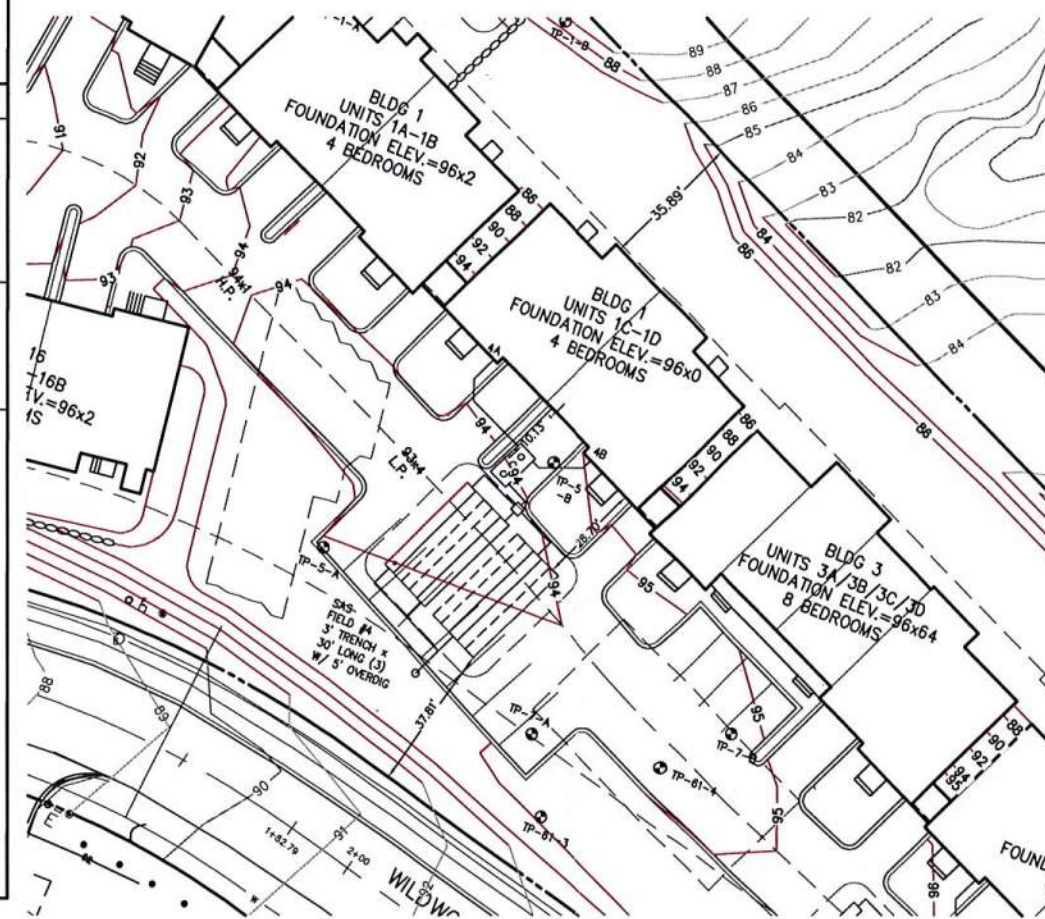
440 GAL / 0.74 GAL/s.f. =
594.6 s.f. TOTAL AREA
3' w x 2' h TRECHES
BOTTOM AREA = 3 s.f. x 1 s.f. = (3 s.f.) +
SIDEWALL AREA = 4 s.f. x 1 s.f. = (4 s.f.)
TOTAL AREA PER RUNNING FOOT = 7 s.f.
594.6 s.f. / 7.0 s.f./L.F. = 84.9 L.F. (REQUIRED)

3 ROWS @ 30' = 90 LF PROVIDED

DESIGN IS CONSERVATIVE AS NO CREDIT
TAKEN FOR END WALL AREAS

NOTE: ROWS ARE 9' APART TO ALLOW RESERVE AREA
BETWEEN ROWS.

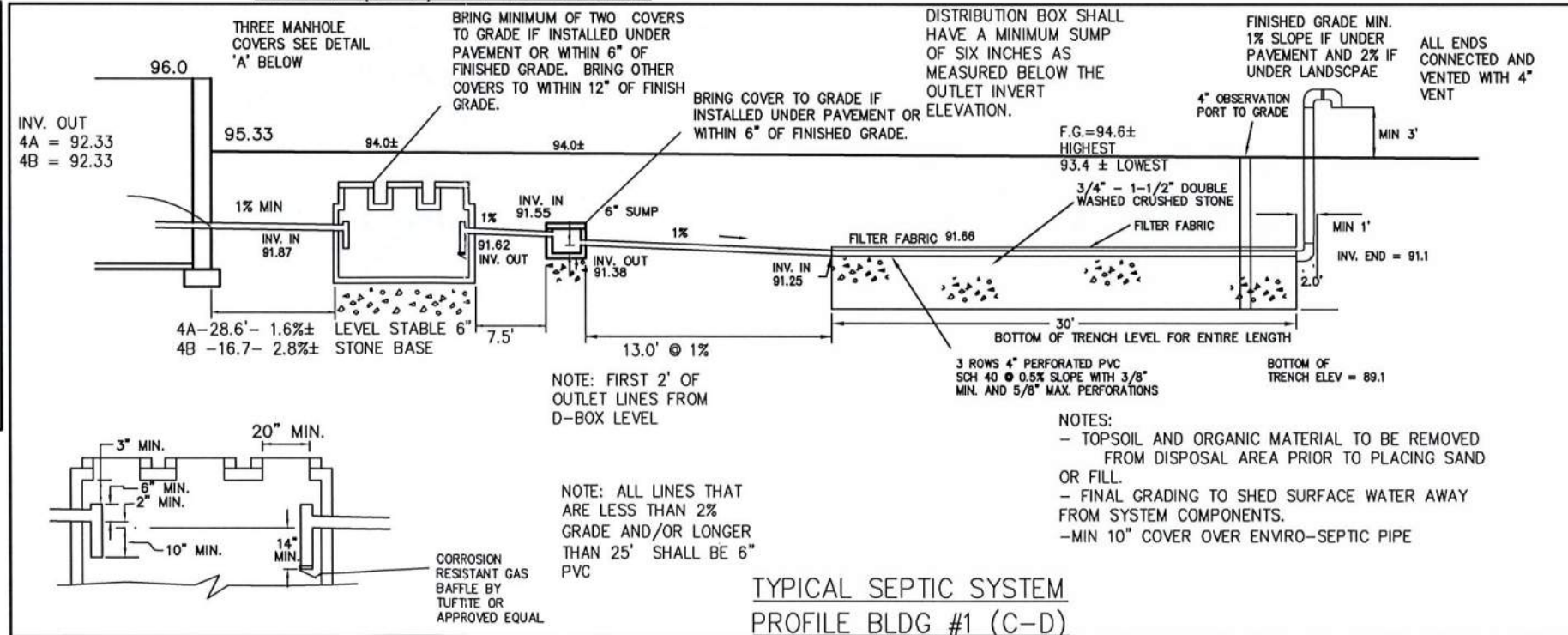
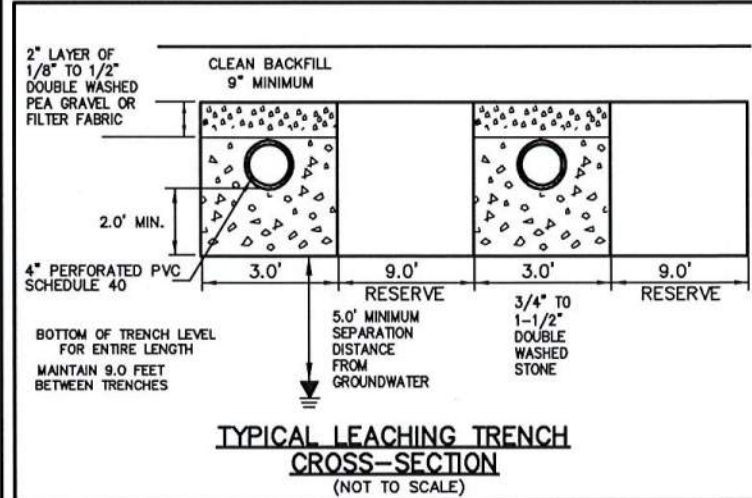
TEST PIT 5A/5B/7A
2 MIN/IN



BLDG 1 (C-D) SEPTIC SYSTEM

NOTES:

- ALL SYSTEM COMPONENTS SHALL BE INSTALLED IN COMPLIANCE WITH THE STATE SANITARY CODE TITLE V AND THE TOWN OF BOURNE BOARD OF HEALTH REQUIREMENTS.
- ANY CHANGE TO THIS PLAN MUST BE APPROVED BY THE BOARD OF HEALTH AND DESIGN ENGINEER.
- BEFORE BACKFILLING THE SYSTEM, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER AND BOARD OF HEALTH.
- TIGHT JOINT (T.J.) PIPING SHALL CONSIST OF POLYVINYL CHLORIDE (PVC) PIPE, SCHEDULE 40. ALL PIPES TO BE LAID ON FIRM BASE AND TO BE WATERTIGHT. ALL CONNECTIONS AND JOINTS SHALL BE MECHANICALLY SOUND AND TIGHT.
- DISTRIBUTION BOX SHALL BE WATER TESTED FOR LEVELNESS AND BE H20 RATED, OUTLET PIPE SHALL BE LEVEL FOR FIRST 2'.
- NO GARBAGE GRINDER IS ALLOWED.
- DISTRIBUTION BOX SHALL HAVE AN INLET TEE EXTENDING TO ONE INCH ABOVE THE OUTLET INVERT ELEVATION.
- CONTRACTOR SHALL COORDINATE WITH THE BOARD OF HEALTH TO OBSERVE THE EXCAVATION OF UNSUITABLE SOILS UNDER THE AREA OF THE PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) IF ENCOUNTERED
- SEPTIC TANK SHALL BE EMBOSSED WITH SEAL STATING CONFORMANCE WITH ASTM C 1227-94.
- ALL SEPTIC SYSTEM COMPONENTS SHALL BE DESIGNED TO WITHSTAND H-20 LOADINGS.
- SEPTIC TANKS SHALL BE PROVIDED WITH AT LEAST THREE 20" DIAMETER MANHOLES WITH READILY REMOVABLE IMPERMEABLE COVERS OF DURABLE MATERIAL.
- ALL UNSUITABLE SOIL MATERIAL IN AREA OF AND BELOW PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) SHALL BE REMOVED AND REPLACED WITH CLEAN, COARSE SAND WITH A PERCOLATION RATE OF 2 MIN/INCH.
- AREA 5 FEET BEYOND LIMIT OF SOL. ABSORPTION SYSTEM (SAS) SHALL BE EXCAVATED OF UNSUITABLE MATERIAL TO TOP OF C1 LAYER PER TEST PIT 5-A.



Existing Grade Inc.
Surveyors & Civil Engineers
62 RIEDELL RD
DOUGLASS, MA 01516
508-694-6501 Ph/Fax



SCALE
1" = 30'

NO.	DATE	BY	REVISIONS
1	7/26/22		RENUMBER UNITS

CLIENT
EASTERN SKY LLC
NEWTOWN ROAD
LITTLETON, MASSACHUSETTS

PROPOSED
BLDG 1 (C-D) SEPTIC PLAN
61 WILDWOOD LANE
BOURNE, MA

PROJECT NO.
1292
DATE: 06/13/22
SHEET NO.
6 OF 12

DESIGN FORMULA: (2 MIN/IN SOILS)

PIPE & TRENCH FIELD BLDG 3

SYSTEM	REQUIRED	PROVIDED
DAILY FLOW: BLDG 5- 8 BEDROOMS @ 110 GPD/BEDROOM	880 GPD	
TOTAL (8 BEDROOMS)	880 GPD	660 GPD
1-SEPTIC TANK FOR 660 GAL: 880 GPD x 200% (BLDG 5)	1,760 GAL	2,000 GAL 2 COMPARTMENT

LEACHING AREA:

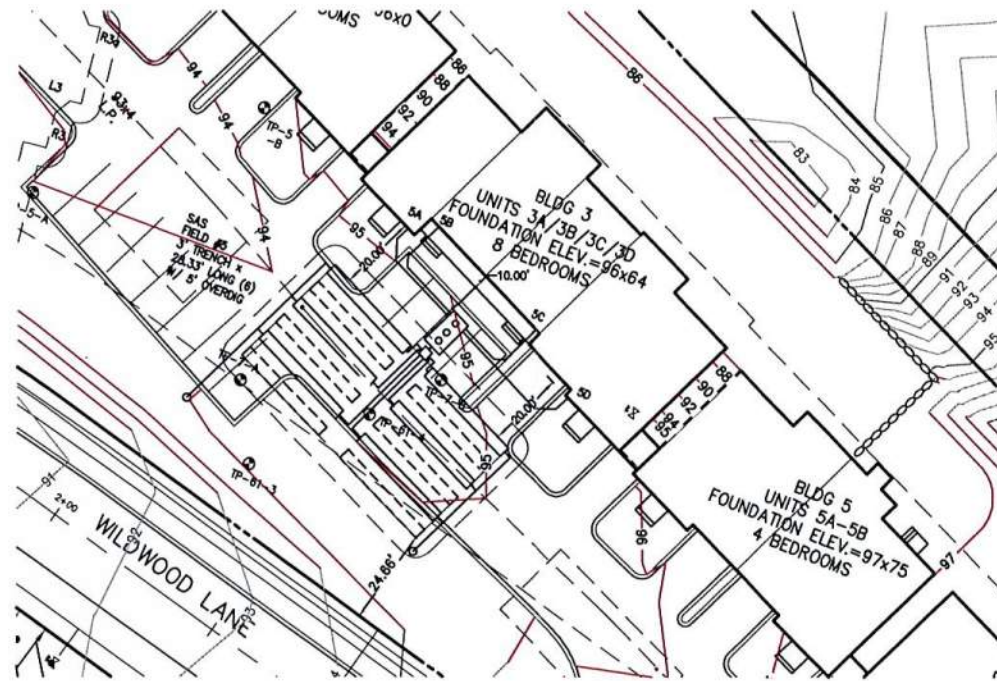
880 GAL / 0.74 GAL/s.f. =
1,189.2 s.f. TOTAL AREA
3' w x 2' h TRECHES
BOTTOM AREA = 3 s.f. x 1s.f. = (3 s.f.) +
SIDEWALL AREA = 4 s.f. x 1 sf = (4 s.f.)
TOTAL AREA PER RUNNING FOOT = 7 s.f.
1,189.2 s.f./ 7.0 s.f./L.F. = 168.9 L.F. (REQUIRED)

6 ROWS @ 28.33' = 170 LF PROVIDED

DESIGN IS CONSERVATIVE AS NO CREDIT TAKEN FOR END WALL AREAS

NOTE: ROWS ARE 9' APART TO ALLOW RESERVE AREA BETWEEN ROWS.

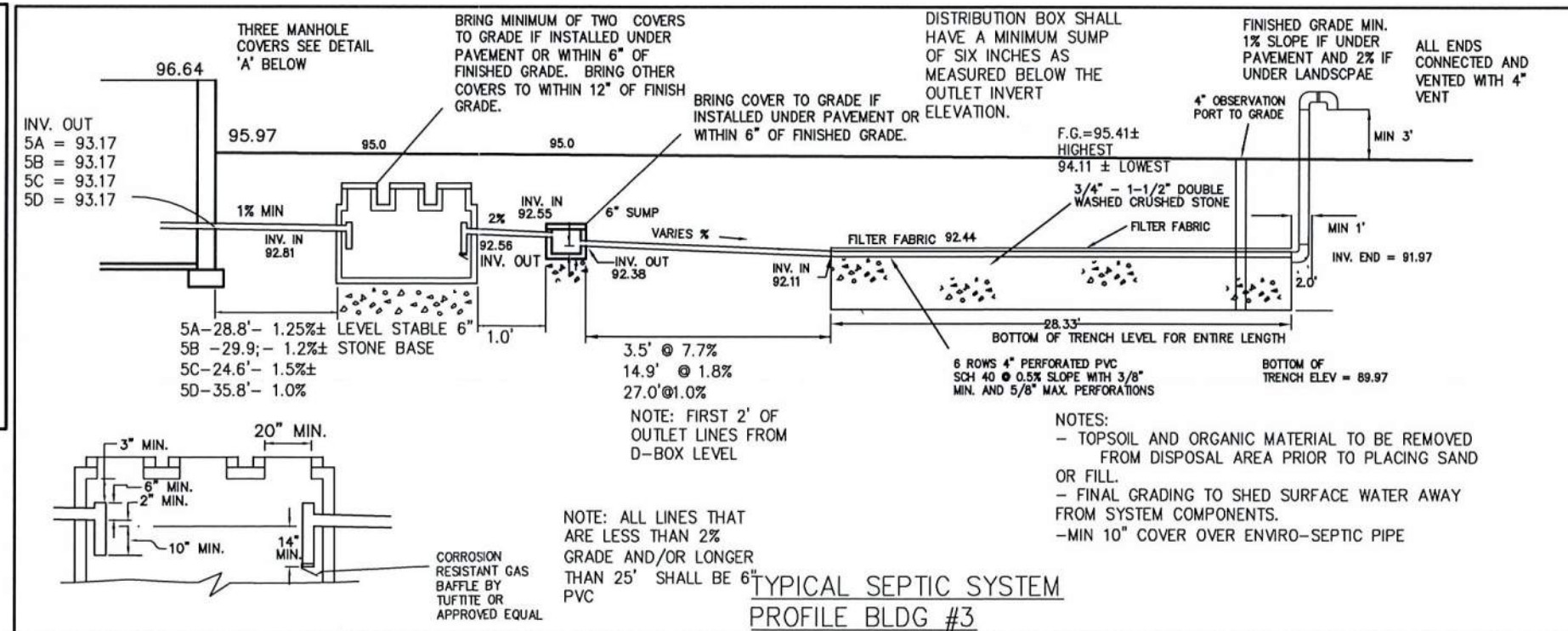
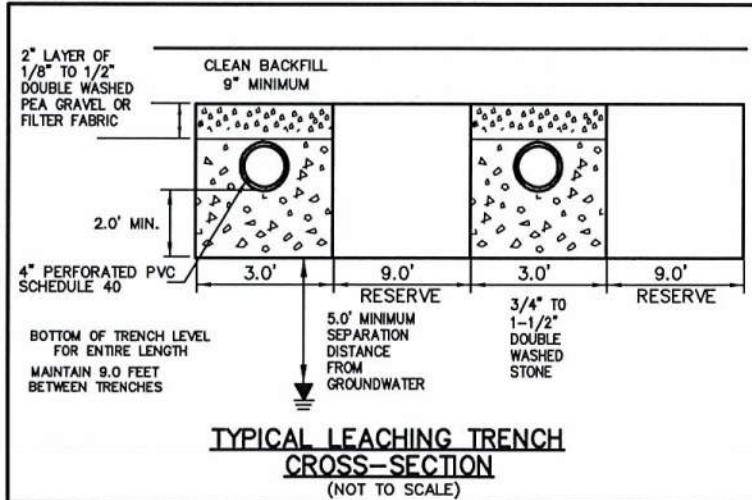
TEST PIT 61-4, 7A,7B
2 MIN/IN



BLDG 3 SEPTIC SYSTEM

NOTES:

- ALL SYSTEM COMPONENTS SHALL BE INSTALLED IN COMPLIANCE WITH THE STATE SANITARY CODE TITLE V AND THE TOWN OF BOURNE BOARD OF HEALTH REQUIREMENTS.
- ANY CHANGE TO THIS PLAN MUST BE APPROVED BY THE BOARD OF HEALTH AND DESIGN ENGINEER.
- BEFORE BACKFILLING THE SYSTEM, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER AND BOARD OF HEALTH.
- TIGHT JOINT (T.J.) PIPING SHALL CONSIST OF POLYVINYL CHLORIDE (PVC) PIPE, SCHEDULE 40. ALL PIPES TO BE LAID ON FIRM BASE AND TO BE WATERTIGHT. ALL CONNECTIONS AND JOINTS SHALL BE MECHANICALLY SOUND AND TIGHT.
- DISTRIBUTION BOX SHALL BE WATER TESTED FOR LEVELNESS AND BE H20 RATED, OUTLET PIPE SHALL BE LEVEL FOR FIRST 2'.
- NO GARBAGE GRINDER IS ALLOWED.
- DISTRIBUTION BOX SHALL HAVE AN INLET TEE EXTENDING TO ONE INCH ABOVE THE OUTLET INVERT ELEVATION.
- CONTRACTOR SHALL COORDINATE WITH THE BOARD OF HEALTH TO OBSERVE THE EXCAVATION OF UNSUITABLE SOILS UNDER THE AREA OF THE PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) IF ENCOUNTERED
- SEPTIC TANK SHALL BE EMBOSSED WITH SEAL STATING CONFORMANCE WITH ASTM C 1227-94.
- ALL SEPTIC SYSTEM COMPONENTS SHALL BE DESIGNED TO WITHSTAND H-20 LOADINGS.
- SEPTIC TANKS SHALL BE PROVIDED WITH AT LEAST THREE 20" DIAMETER MANHOLES WITH READILY REMOVABLE IMPERMEABLE COVERS OF DURABLE MATERIAL.
- ALL UNSUITABLE SOIL MATERIAL IN AREA OF AND BELOW PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) SHALL BE REMOVED AND REPLACED WITH CLEAN, COARSE SAND WITH A PERCOLATION RATE OF 2 MIN/INCH.
- AREA 5 FEET BEYOND LIMIT OF SOL ABSORPTION SYSTEM (SAS) SHALL BE EXCAVATED OF UNSUITABLE MATERIAL TO TOP OF C2 LAYER PER TEST PIT 61-4.



Existing Grade Inc.
Surveyors & Civil Engineers
62 RIEDELL RD
DOUGLASS, MA 01516
508-694-6501 Ph/Fax



SCALE
1" = 30'

NO.	DATE	BY	REVISIONS
1	7/26/22		RENUMBER UNITS

CLIENT
EASTERN SKY LLC
NEWTOWN ROAD
LITTLETON, MASSACHUSETTS

PROPOSED
BLDG 3 SEPTIC PLAN
61 WILDWOOD LANE
BOURNE, MA

PROJECT NO.
1292
DATE: 06/13/22
SHEET NO.
7 OF 12

**DESIGN FORMULA: (2 MIN/IN SOILS)
PIPE & TRENCH FIELD BLDG 5 (A-B)**

SYSTEM	REQUIRED	PROVIDED
DAILY FLOW: BLDG 6 4 BEDROOMS @ 110 GPD/BEDROOM TOTAL (4 BEDROOMS)	440 GPD 440 GPD	440 GPD
1-SEPTIC TANK FOR 440 GAL: 440 GPD x 200% (BLDG 6)	880 GAL	2,000 GAL 2 COMPARTMENT

LEACHING AREA:

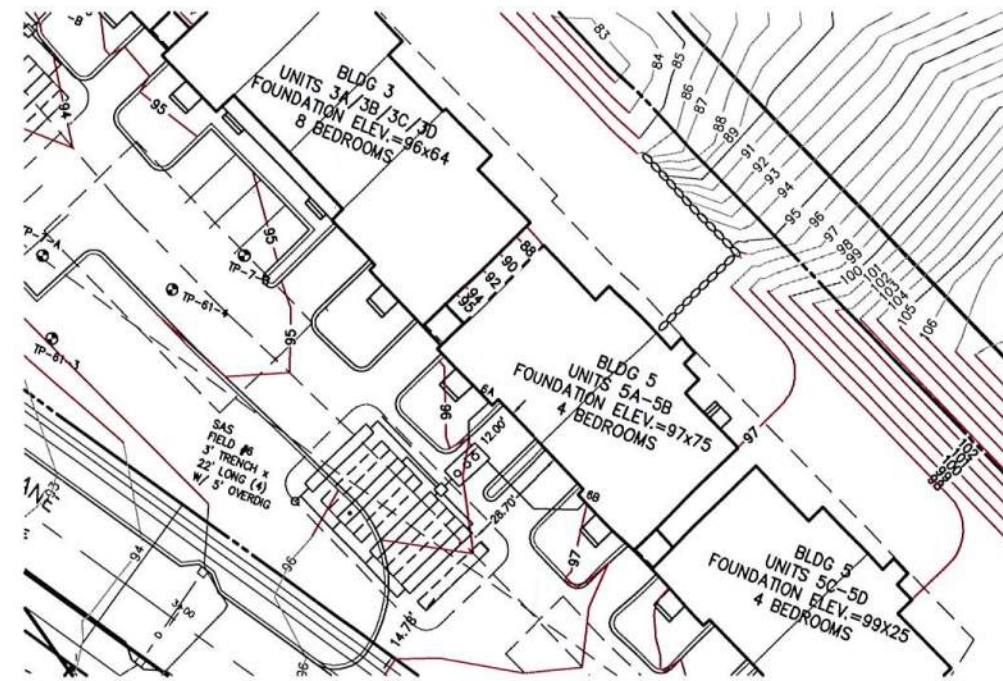
440 GAL / 0.74 GAL/s.f. =
594.6 s.f. TOTAL AREA
3' w x 2' h TRECHES
BOTTOM AREA = 3 s.f. x 1s.f. = (3 s.f.) +
SIDEWALL AREA = 4 s.f. x 1 sf = (4 s.f.)
TOTAL AREA PER RUNNING FOOT = 7 s.f.
594.6 s.f. / 7.0 s.f./L.F. = 84.9 L.F. (REQUIRED)

4 ROWS @ 22' = 88 LF PROVIDED

DESIGN IS CONSERVATIVE AS NO CREDIT
TAKEN FOR END WALL AREAS

NOTE: ROWS ARE 9' APART TO ALLOW RESERVE AREA
BETWEEN ROWS.

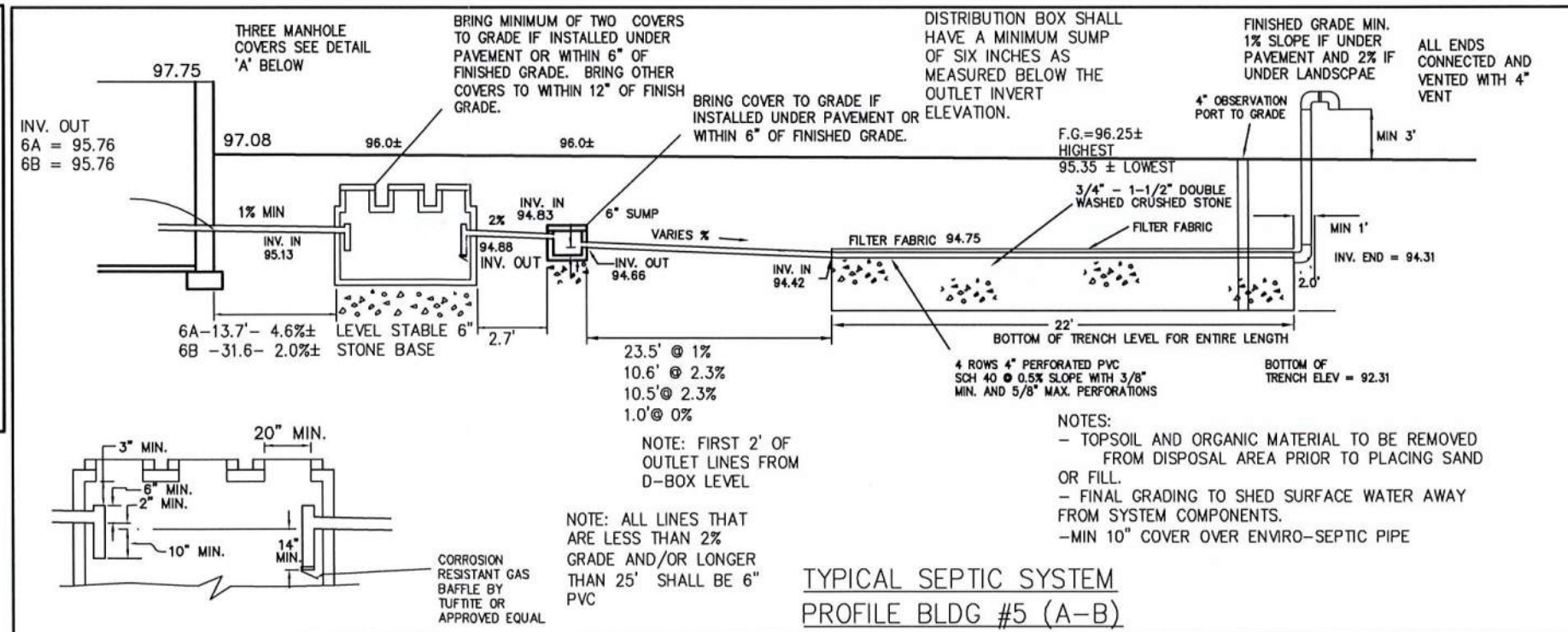
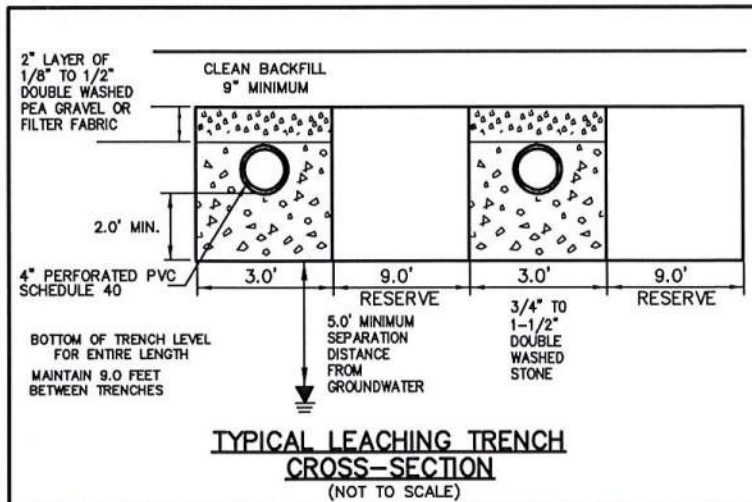
TEST PIT 61-3, 61-4
2 MIN/IN



BLDG 5 (A-B) SEPTIC SYSTEM

NOTES:

- ALL SYSTEM COMPONENTS SHALL BE INSTALLED IN COMPLIANCE WITH THE STATE SANITARY CODE TITLE V AND THE TOWN OF BOURNE BOARD OF HEALTH REQUIREMENTS.
- ANY CHANGE TO THIS PLAN MUST BE APPROVED BY THE BOARD OF HEALTH AND DESIGN ENGINEER.
- BEFORE BACKFILLING THE SYSTEM, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER AND BOARD OF HEALTH.
- TIGHT JOINT (T.J.) PIPING SHALL CONSIST OF POLYVINYL CHLORIDE (PVC) PIPE, SCHEDULE 40. ALL PIPES TO BE LAID ON FIRM BASE AND TO BE WATERTIGHT. ALL CONNECTIONS AND JOINTS SHALL BE MECHANICALLY SOUND AND TIGHT.
- DISTRIBUTION BOX SHALL BE WATER TESTED FOR LEVELNESS AND BE H20 RATED, OUTLET LINES SHALL BE LEVEL FOR FIRST 2'.
- NO GARBAGE GRINDER IS ALLOWED.
- DISTRIBUTION BOX SHALL HAVE AN INLET TEE EXTENDING TO ONE INCH ABOVE THE OUTLET INVERT ELEVATION.
- CONTRACTOR SHALL COORDINATE WITH THE BOARD OF HEALTH TO OBSERVE THE EXCAVATION OF UNSUITABLE SOILS UNDER THE AREA OF THE PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) IF ENCOUNTERED
- SEPTIC TANK SHALL BE EMBOSSED WITH SEAL STATING CONFORMANCE WITH ASTM C 1227-94.
- ALL SEPTIC SYSTEM COMPONENTS SHALL BE DESIGNED TO WITHSTAND H-20 LOADINGS.
- SEPTIC TANKS SHALL BE PROVIDED WITH AT LEAST THREE 20" DIAMETER MANHOLES WITH READILY REMOVABLE IMPERMEABLE COVERS OF DURABLE MATERIAL.
- ALL UNSUITABLE SOIL MATERIAL IN AREA OF AND BELOW PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) SHALL BE REMOVED AND REPLACED WITH CLEAN, COARSE SAND WITH A PERCOLATION RATE OF 2 MIN/INCH.
- AREA 5 FEET BEYOND LIMIT OF SOL ABSORPTION SYSTEM (SAS) SHALL BE EXCAVATED OF UNSUITABLE MATERIAL TO TOP OF C2 LAYER PER TEST PIT 61-4.



Existing Grade Inc.
Surveyors & Civil Engineers
62 RIEDELL RD
DOUGLASS, MA 01516
508-694-6501 Ph/Fax



SCALE
1" = 30'

NO.	DATE	BY	REVISIONS
1	7/26/22		RENUMBER UNITS

CLIENT
EASTERN SKY LLC
NEWTOWN ROAD
LITTLETON, MASSACHUSETTS

PROPOSED
BLDG 5 (A-B) SEPTIC PLAN
61 WILDWOOD LANE
BOURNE, MA

PROJECT NO.
1292
DATE: 06/13/22
SHEET NO.
8 OF 12

**DESIGN FORMULA: (2 MIN/IN SOILS)
PIPE & TRENCH FIELD BLDG 5 (C-D)**

SYSTEM	REQUIRED	PROVIDED
DAILY FLOW: BLDG 6 4 BEDROOMS @ 110 GPD/BEDROOM TOTAL (4 BEDROOMS)	440 GPD 440 GPD	440 GPD
1-SEPTIC TANK FOR 440 GAL: 440 GPD x 200% (BLDG 6)	880 GAL	2,000 GAL 2 COMPARTMENT

LEACHING AREA:

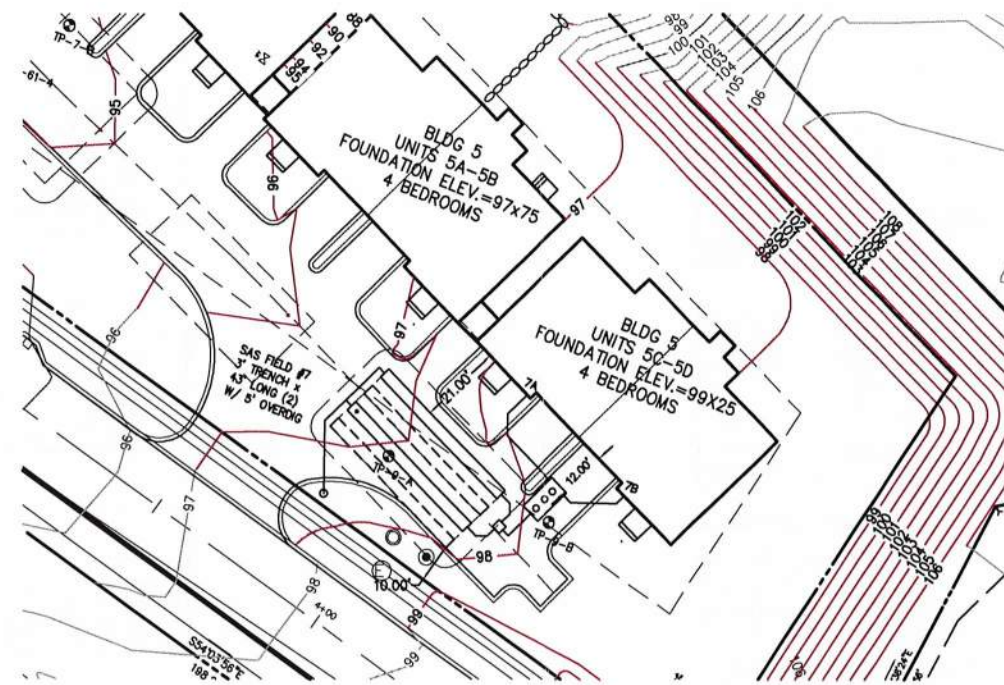
440 GAL / 0.74 GAL/s.f. =
594.6 s.f. TOTAL AREA
3' w x 2' h TRECHES
BOTTOM AREA = 3 s.f. x 1s.f. = (3 s.f.) +
SIDEWALL AREA = 4 s.f. x 1 sf = (4 s.f.)
TOTAL AREA PER RUNNING FOOT = 7 s.f.
594.6 s.f./ 7.0 s.f./L.F. = 84.9 L.F. (REQUIRED)

2 ROWS @ 43' = 86 LF PROVIDED

DESIGN IS CONSERVATIVE AS NO CREDIT
TAKEN FOR END WALL AREAS

NOTE: ROWS ARE 9' APART TO ALLOW RESERVE AREA
BETWEEN ROWS.

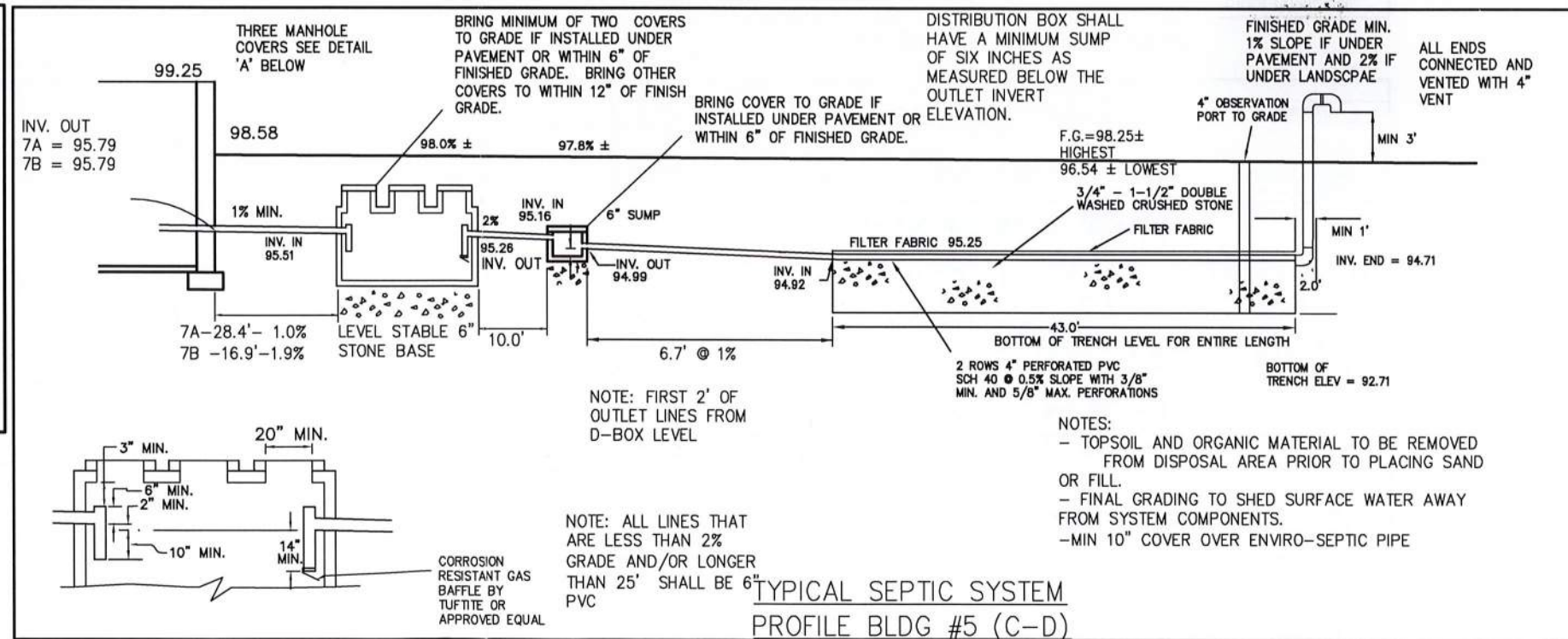
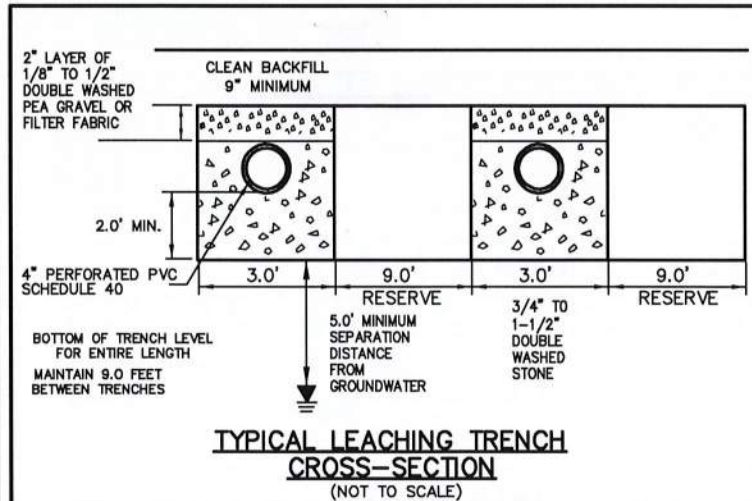
TEST PIT 9-A
2 MIN/IN



BLDG 5 (C-D) SEPTIC SYSTEM

NOTES:

- ALL SYSTEM COMPONENTS SHALL BE INSTALLED IN COMPLIANCE WITH THE STATE SANITARY CODE TITLE V AND THE TOWN OF BOURNE BOARD OF HEALTH REQUIREMENTS.
- ANY CHANGE TO THIS PLAN MUST BE APPROVED BY THE BOARD OF HEALTH AND DESIGN ENGINEER.
- BEFORE BACKFILLING THE SYSTEM, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER AND BOARD OF HEALTH.
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- DISTRIBUTION BOX SHALL BE WATER TESTED FOR LEVELNESS AND BE H20 RATED, OUTLET PIPES SHALL BE LEVEL FOR FIRST 2'.
- NO GARBAGE GRINDER IS ALLOWED.
- DISTRIBUTION BOX SHALL HAVE AN INLET TEE EXTENDING TO ONE INCH ABOVE THE OUTLET INVERT ELEVATION.
- CONTRACTOR SHALL COORDINATE WITH THE BOARD OF HEALTH TO OBSERVE THE EXCAVATION OF UNSUITABLE SOILS UNDER THE AREA OF THE PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) IF ENCOUNTERED
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- SEPTIC TANKS SHALL BE PROVIDED WITH AT LEAST THREE 20" DIAMETER MANHOLES WITH READILY REMOVABLE IMPERMEABLE COVERS OF DURABLE MATERIAL.
- ALL UNSUITABLE SOIL MATERIAL IN AREA OF AND BELOW PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) SHALL BE REMOVED AND REPLACED WITH CLEAN, COARSE SAND WITH A PERCOLATION RATE OF 2 MIN/INCH.
- AREA 5 FEET BEYOND LIMIT OF SOL ABSORPTION SYSTEM (SAS) SHALL BE EXCAVATED OF UNSUITABLE MATERIAL TO TOP OF C1 LAYER IF ENCOUNTERED.



Existing Grade Inc.
Surveyors & Civil Engineers
62 RIEDELL RD
DOUGLASS, MA 01516
508-694-6501 Ph/Fax

EDWIN H. GLESS, JR.
CIVIL ENGINEER
No. 41264
EDWIN H. GLESS
No. 30045
LAND SURVEYOR

SCALE

1" = 30'

NO.	DATE	BY	REVISIONS
1	7/26/22	RENUMBER UNITS	

CLIENT
EASTERN SKY LLC
NEWTOWN ROAD
LITTLETON, MASSACHUSETTS

PROPOSED
BLDG 5 (C-D) SEPTIC PLAN
61 WILDWOOD LANE
BOURNE, MA

PROJECT NO.
1292
DATE: 06/13/22
SHEET NO.
9 OF 12

SOIL LOG TEST HOLE 61-1 (EL.=91.0')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-9"	90.25	A	LOAMY SAND	10 YR 3/1	N/A	
9"-43"	87.42	B	LOAMY SANDY	10 YR 5/6	N/A	
43"-120"	81.0	C	MED SAND	2.5 Y 7/3	N/A	

SOIL LOG TEST HOLE 61-2 (EL.=90.0')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-10"	89.17	A	LOAMY SAND	10 YR 3/1		
10"-40"	86.67	B	LOAMY SANDY	10 YR 5/6	N/A	
40"-130"	79.17	C	MED SAND	2.5 Y 7/3	N/A	

SOIL LOG TEST HOLE 61-3 (EL.=92.75')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-11"	91.83	A	LOAMY SAND	10 YR 3/1		
11"-36"	89.75	B	LOAMY SANDY	10 YR 5/6	N/A	
36"-84"	85.75	C1	MED SAND	2.5 Y 6/2	N/A	SOME COURSE SAND
84"-132"	81.75	C2	MED SAND	2.5 Y 7/3	N/A	

SOIL LOG TEST HOLE 61-4 (EL.=90.75')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-6"	90.25	A	LOAMY SAND	10 YR 3/1		
6"-24"	88.75	B	LOAMY SANDY	10 YR 5/6	N/A	
24"-44"	93.83	C1	LOAMY SANDY	2.5 Y 6/2	N/A	
44"-120"	80.75	C2	MED SAND	2.5 Y 7/3	N/A	

TEST PITS 61-1 TO 61-4
 SOIL EVALUATION BY: SCOTT MCGANN
 WITNESSED BY: BOURNE BOH
 DATE: 06/2017
 PERC RATE: 2 MIN/IN TP-62-3 EL=86.75

NO GROUNDWATER ENCOUNTERED:

SOIL LOG TEST HOLE 1-A (EL.=90.0')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-6"	89.5	O/A	LOAMY SAND	10 YR 2/1		
6"-24"	88.0	B	LOAMY SANDY	10 YR 5/6	N/A	
24"-120"	80.0	C	SAND/GRAVEL	10 YR 6/6	N/A	

SOIL LOG TEST HOLE 1-B (EL.=89.25')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-10"	88.42	O/A	LOAMY SAND	10 YR 2/1		
10"-28"	86.92	B	LOAMY SANDY	10 YR 5/6	N/A	
28"-132"	78.25	C	SAND/GRAVEL	10 YR 6/6	N/A	

SOIL LOG TEST HOLE 3-A (EL.=85.5')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-9"	84.75	O/A	LOAMY SAND	10 YR 2/1		MASSIVE/FRIABLE
9"-26"	83.33	B	SANDY LOAM	10 YR 2/1	N/A	SILT LOAM
26"-120"	75.5	C1	FINE SAND	10 YR 6/6	N/A	GRAVEL
120"-144"	73.5	C2	LOAMY FINE SAND	10 YR 6/6	N/A	MASSIVE/FRIABLE
144"-192"	69.5	C3	FINE SAND	10 YR 6/6	N/A	

SOIL LOG TEST HOLE 3-B (EL.=94.5')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-2"	94.67	O/A	WOOD LOAM			ORGANICS
2"-6"	94.0	A	LOAMY SAND	10 YR 2/1	N/A	MASSIVE/FRIABLE
6"-18"	93.0	B	LOAMY SAND	10 YR 2/1	N/A	MASSIVE/FRIABLE
18"-120"	84.5	C	FINE SAND	10 YR 6/6	N/A	STRATIFIED SAND/GRAVEL

SOIL LOG TEST HOLE 5-A (EL.=90.0')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-6"	89.5	O/A	LOAMY SAND	10 YR 2/1		
6"-30"	87.5	B	SANDY LOAM	10 YR 5/6	N/A	MASSIVE/FRIABLE
30"-144"	78.0	C	FINE SAND	10 YR 5/6	N/A	STRATIFIED SAND/GRAVEL

SOIL LOG TEST HOLE 5-B (EL.=85.75')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-6"	85.25	O/A	LOAMY SAND	10 YR 2/1		
6"-30"	83.25	B	SANDY LOAM	10 YR 5/6	N/A	MASSIVE/FRIABLE
30"-144"	73.75	C	FINE SAND	10 YR 5/6	N/A	STRATIFIED SAND/GRAVEL

SOIL LOG TEST HOLE 9-A (EL.=103.25')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-6"	102.75	O/A	LOAMY SAND			ORGANICS
6"-36"	100.25	B	SANDY LOAM	10 YR 5/6	N/A	MASSIVE/FRIABLE
36"-138"	91.75	C	FINE SAND	10 YR 6/6	N/A	

SOIL LOG TEST HOLE 9-B (EL.=106.25')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-6"	105.75	O/A	LOAMY SAND	10 YR 2/1		
6"-36"	103.25	B	LOAMY SAND	10 YR 5/6	N/A	
36"-144"	94.25	C	FINE SAND	10 YR 6/1	N/A	

TEST PITS 1A, 1B, 3A, 3B 5A, 5B, 9A, 9B
 SOIL EVALUATION BY: DANIEL SMITH
 WITNESSED BY: BOURNE BOH
 DATE: 04/14/99
 PERC RATE: ASSUMED 2 MIN/IN

NO GROUNDWATER ENCOUNTERED:

SOIL LOG TEST HOLE 7-A (EL.=92.5')

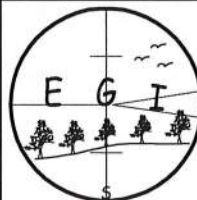
DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-6"	92.0	O/A	LOAMY SAND	10 YR 2/1		
6"-30"	90.0	B	LOAMY SAND	10 YR 5/6	N/A	
36"-72"	86.5	C1	FINE SAND	10 YR 6/6	N/A	GRAVELY
72"-120"	82.5	C2	FINE SAND	10 YR 6/6	N/A	SINGLE GRAIN/LOOSE

SOIL LOG TEST HOLE 7-B (EL.=88.25')

DEPTH FROM SURFACE (INCHES)	ELEVATION (FEET)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES,BOULDERS, CONSISTENCY, % GRAVEL)
0"-6"	87.75	O/A	LOAMY SAND	10 YR 2/1		
6"-36"	85.25	B	LOAMY SAND	10 YR 5/6	N/A	
30"-132"	77.25	C	FINE SAND	10 YR 6/1	N/A	

TEST PITS 7A, 7B
 SOIL EVALUATION BY: DANIEL SMITH
 WITNESSED BY: BOURNE BOH
 DATE: 04/07/99
 PERC RATE: ASSUMED 2 MIN/IN

NO GROUNDWATER ENCOUNTERED:



Existing Grade Inc.
 Surveyors & Civil Engineers
 62 RIEDELL RD
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 508-694-6501 Ph/Fax



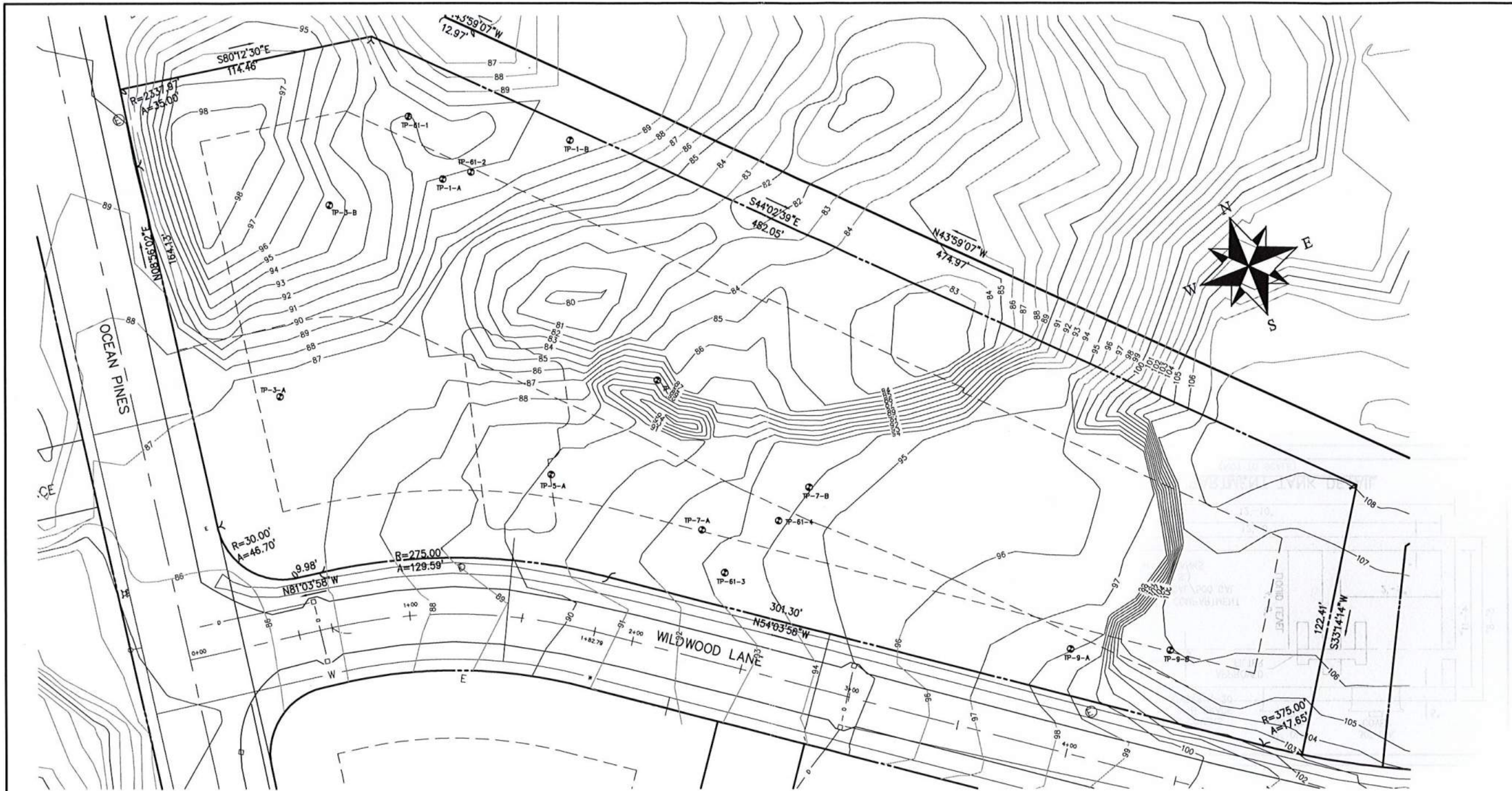
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1	7/26/22		RENUMBER UNITS

CLIENT
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 NEWTOWN ROAD
 LITTLETON, MASSACHUSETTS

TEST PITS
 SEPTIC PLAN
 61 WILDWOOD LANE
 BOURNE, MA

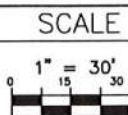
PROJECT NO.
 1292
 DATE: 06/13/22
 SHEET NO.
 10 OF 12



GENERAL NOTES:
REFER TO SHEET 1



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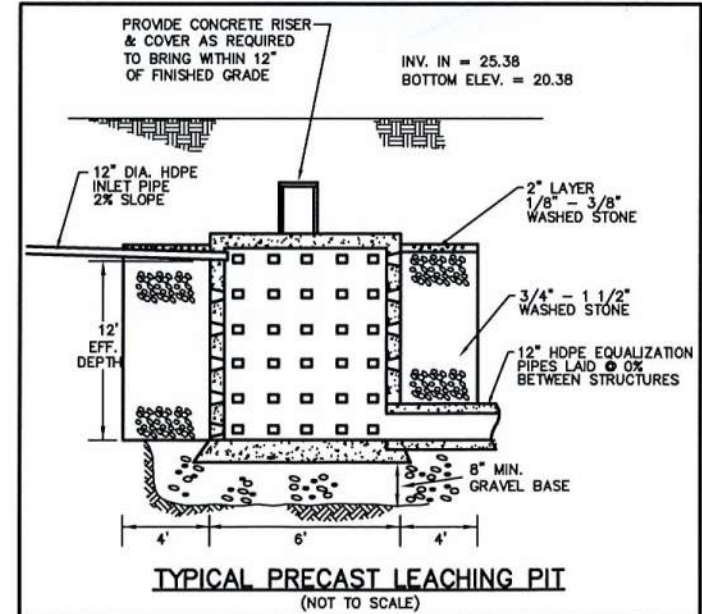
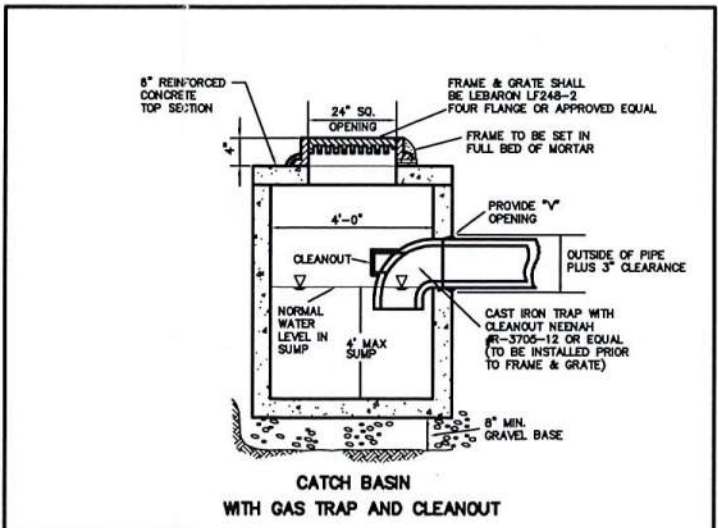
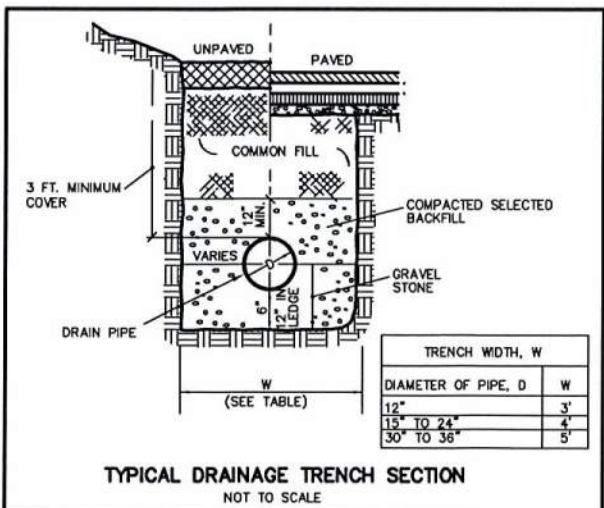
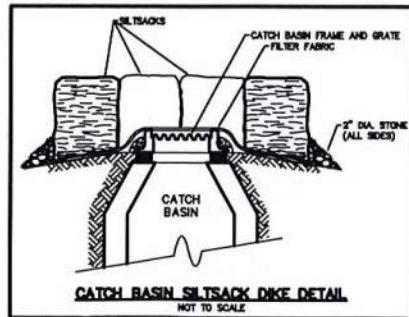
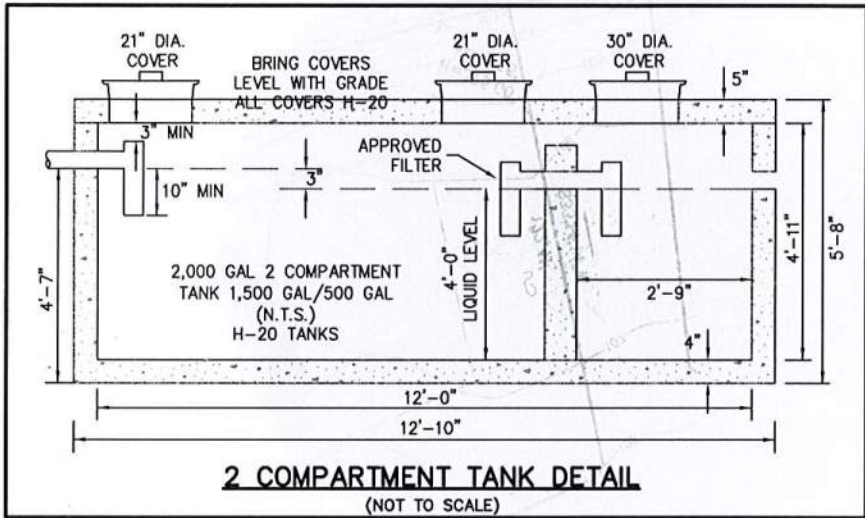
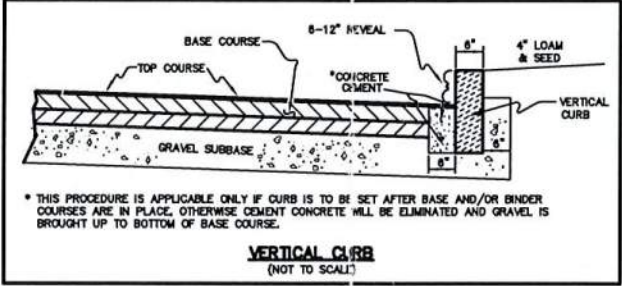
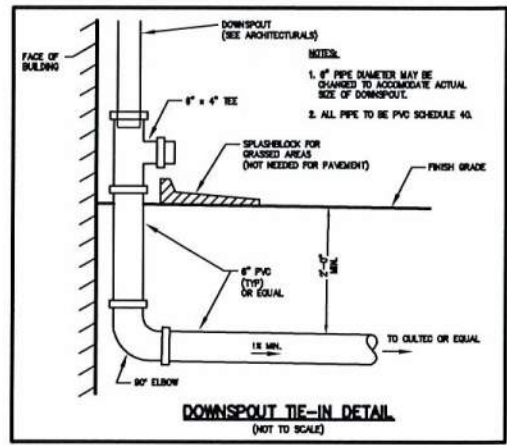
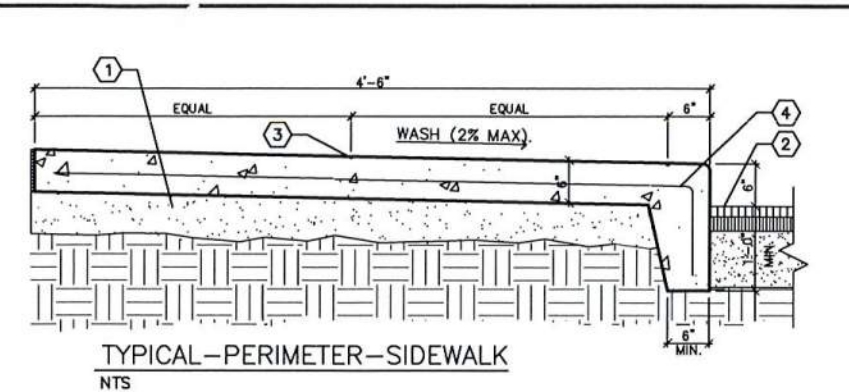
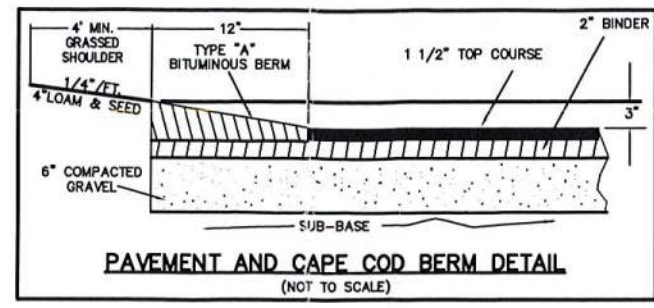
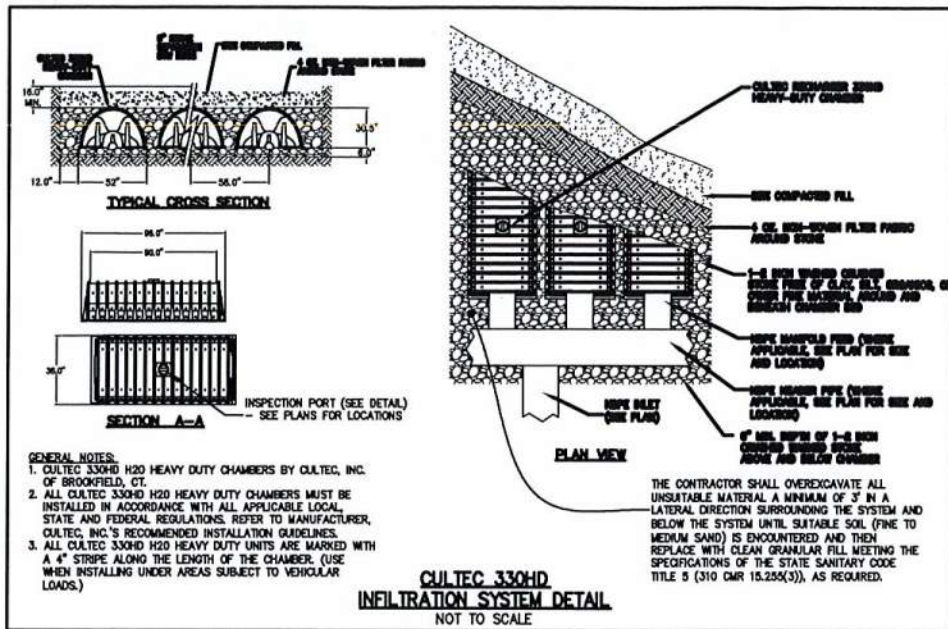


NO	DATE	REVISIONS
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EXISTING CONDITIONS
PLAN
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PROJECT NO.
1292
DATE: 06/13/22
SHEET NO.
11 OF 12



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PROPOSED
DETAILS
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PROJECT NO.
1292
DATE: 06/13/22
SHEET NO.
12 OF 12