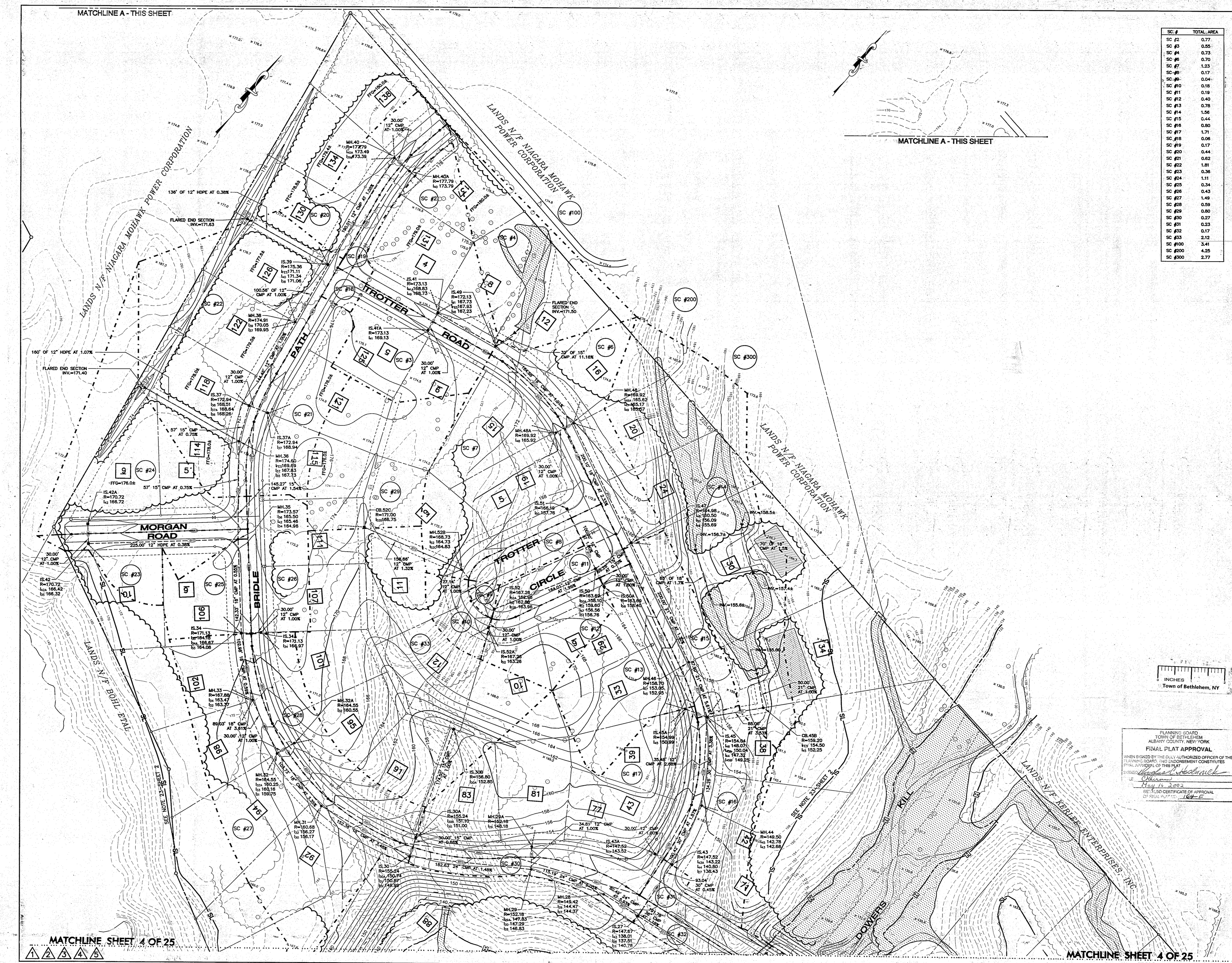

SC #:	TOTAL AREA
SC #2	0.77
SC #3	0.55
SC #4	0.73
SC #6	0.70
SC #7	1.23
SC #8	0.17
SC #9	0.04
SC #10	0.18
SC #11	0.19
SC #12	0.40
SC #13	0.78
SC #14	1.56
SC #15	0.44
SC #16	0.80
SC #17	1.71
SC #18	0.06
SC #19	0.17
SC #20	0.44
SC #21	0.62
SC #22	1.81
SC #23	0.36
SC #24	1.11
SC #25	0.34
SC #26	0.43
SC #27	1.49
SC #28	0.59
SC #29	0.80
SC #30	0.27
SC #31	0.23
SC #32	0.17
SC #33	2.12
SC #100	3.41
SC #200	4.25
SC #300	2.77

GENERAL NOTES

LEGEND

- PROPOSED MANHOLE
- PROPOSED INLET
- EROSION CONTROL AT CATCH BASIN
- WATER VALVE
- FIRE HYDRANT
- PROPERTY LINE
- WATER MAIN
- SANITARY SEWER
- STORM SEWER
- PROPOSED END SECTION
- SEWER DISTRICT
- WATER DISTRICT
- ZONING DISTRICT
- LIMIT OF 100 YEAR FLOOD PLAIN
- 15% SLOPE LINE-SEE NOTE 23
- DIVERSION SWALE/BERM
- DRAINAGE LIMITS
- SILT FENCE
- 167x5 PROPOSED ELEVATION
- FFG=200.0 PROPOSED FINISHED FLOOR GARAGE
- HAY BALE DIKE
- PROPOSED INLET WITH FOOTING DRAIN
- PROPOSED MANHOLE WITH FOOTING DRAIN
- FENCING
- EASEMENT LINE
- SETBACK LINE
- STREAM
- TREE LINE
- CLEARING LIMIT
- 150 CONTOUR (PRO)
- 150 CONTOUR LINE
- x158.7 SPOT ELEVATION
- TREE (DECIDUOUS)
- 2 LOT NUMBER
- SC #19 SUBCATCHMENT
- PRESERVED FEDERAL WETLANDS
- APPROXIMATE LOCATION BUILDING ENVELOPE
- TEMPORARY STORM INLET TRAP

GEOTECHNICAL CRITERIA

1. Where regrading of the slopes within the Dowers Kill ravine is not planned, site vegetation should not be cleared from slopes or within about 20 feet of the crest of these slopes. Shallow erosion rivulets exist upon the Dowers Kill ravine slopes. These erosion rivulets may be stripped of vegetation and filled in the controlled manner to establish the final grades shown on the plans provided to us. The fill may consist of borrowed sand or excavated site soils which are stepped into the desired slope and compacted as recommended subsequently.

2. Where fills are constructed upon existing ravine slopes, they should be benched into the slope in steps no greater than three (3) feet in height which extend at least five (5) feet into the slope. A crest swale should be incorporated into the design which collects runoff and prevents it from traversing the slope. All slopes should be vegetated or otherwise protected against erosion.

3. Excavated site soils may be reused as a source of fill to raise general site grades and infill shallow erosion ravines where their moisture content is maintained or brought to within two (2) percent of optimum. These soils should be placed in uniform loose layers no more than 12 inches thick with each compacted to not less than 95 percent of the soil's maximum dry density established through the Standard Proctor Compaction Test, ASTM D-698. It must be understood the indigenous soils are composed of a mixture of fine sand, silt and clay and, as such, moisture control, placement and compaction of these materials may be difficult, particularly during periods of wet weather. A synthetic fabric, such as Mirafi 500X should be employed as necessary to reinforce unstable subgrades. The fabric should be lapped in accord with the manufacturer's recommendations.

4. If site grades about buildings are to be increased by filling to thicknesses greater than about five (5) feet, the lots should be filled and allowed to sit for a period of about eight (8) weeks to allow the underlying slope to compress prior to construction. Specific settlement evaluations were not performed for the planned fill areas.

5. Fills constructed using the excavated silt and clay soils which exceed about five (5) feet in thickness should also be allowed to stand for a period of at least eight (8) weeks before construction of completed spec homes. Extending the building period is to allow the silt and clay fills themselves to compress over time.

6. Fill should not be placed within about 50 feet of the crest of any slope, except within the side slope fills currently shown on the plans, which will generally infill shallow erosion ravines.

7. Basement levels may be incorporated and thus render the structure presence as load neutral or as load relieving to the overall slope stratigraphy.

8. Saturated granular seams and seasonal perched groundwater levels may be encountered or rise, through seasonal variations, within the excavation depths planned across the site. French-Type drains should be constructed as required to intercept seepage exfiltrating from cut slope faces and divert the water to the site swales or other site drainage features. Footing drains and roof leader drain systems should encircle the planned buildings to enhance the developing of the site. Foundation and french drains should not be outlet to the slopes and runoff should not be allowed to traverse slopes.

9. Permanent excavated slopes in the indigenous silt and clay soils at this site should be no steeper than one (1) vertical on three (3) horizontal where the excavated slope face is dry and no seepage is occurring. Where seepage is observed from the excavated slope faces, groundwater control measures, such as French-type drains, should be incorporated into the design to prevent the silt and clay soils from becoming saturated and unstable. These drains should channel the seepage and direct it to a toe swale or other site drainage feature. The slopes should be vegetated or otherwise protected against erosion and a crest swale provided to divert runoff away from the slope face.

10. Permanent fill slopes composed of imported granular soil may be as steep as 1 vertical on 2-1/2 horizontal while fill slopes composed of the excavated silty clay site soils should be no steeper than about 1 vertical on 3 horizontal. Drainage should be provided beneath the planned adential fills at their interface with the more permeable strata, as necessary, furnish a means of escape for excess water to prevent it from becoming trapped. A drainage blanket constructed using coarse aggregate wrapped in filter fabric and a perforated pipe and filter fabric may be used to collect the seepage and outlet the water to a toe swale or other site drainage feature.

11. Granular fill soils used for constructing slopes should consist of an imported, well-graded sand and gravel soil which contains no cobbles and boulders greater than four (4) inches in size and less than 15 percent by weight finer than a U.S. Std. No. 200 sieve size. All slopes should also be protected against erosion.

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW

REVISIONS

DATE	BY	DESCRIPTION	SYMBOL
6/99	CHJ	FINAL PLAN REVISIONS	1
10/99	CHJ	FINAL PLAN REVISIONS	2
5/00	CHJ	FINAL PLAN REVISIONS	3
12/00	CHJ	FINAL PLAN REVISIONS	4
1/26/01	CHJ	FINAL PLAN REVISIONS	5

EDWARD W. BOUTELLE AND SON
CIVIL ENGINEERS AND SURVEYORS
423 KENWOOD AVENUE
DELMAR, NEW YORK
TEL.(518) 439-9981 FAX.(518) 439-9982
A DIVISION OF J. KENNETH FRASER AND ASSOCIATES, PE, LS, LA, P.C.

INCHES
Town of Bethlehem, NY

PLANNING BOARD
TOWN OF BETHLEHEM
ALBANY COUNTY, NEW YORK
FINAL PLAT APPROVAL
WHEN SIGNED BY THE DULY AUTHORIZED OFFICER OF THE PLANNING BOARD, THIS ENDORSEMENT CONSTITUTES FINAL APPROVAL OF THIS PLAT
SIGNED: Douglas P. Hoblarick
TITLE: Chairman
DATE: May 14 2002
REF: §.50 CERTIFICATE OF APPROVAL
OF FINAL PLAT NO. 169-F

FINAL PLAN

CARRIAGE HILL SUBDIVISION

MAP OF LANDS OF

CARRIAGE HILL DEVELOPMENT CORP. OF ALBANY

TOWN OF BETHLEHEM — COUNTY OF ALBANY
STATE OF NEW YORK

SCALE: 1" = 50'

STATE OF NEW YORK — JOHN KENNETH FRASER — LICENSED PROFESSIONAL ENGINEER

PROJ. SURVEYOR: CHJ
DRAWN BY: TWK
ASSEMBLED BY: TWK
CHECKED BY: CHJ

PROJECT NO.: 99-020
CAD FILE NAME: 4103-005

SHEET TITLE:
GRADING PLAN

DATE: NOVEMBER 14, 1995 | SHEET 5 OF 26

COPYRIGHT 1999 J. KENNETH FRASER AND ASSOCIATES, P.C.