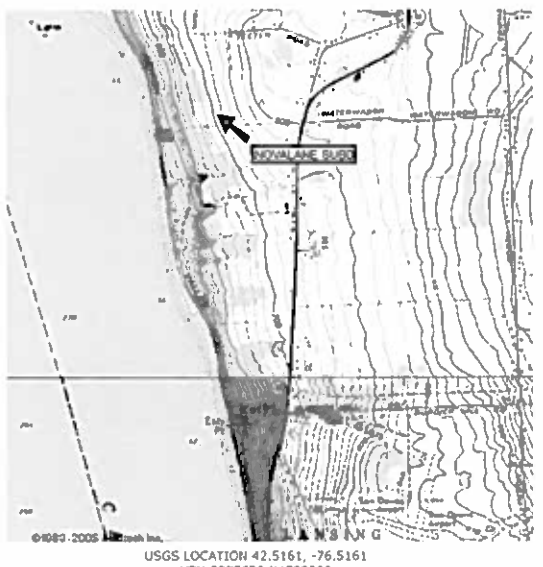
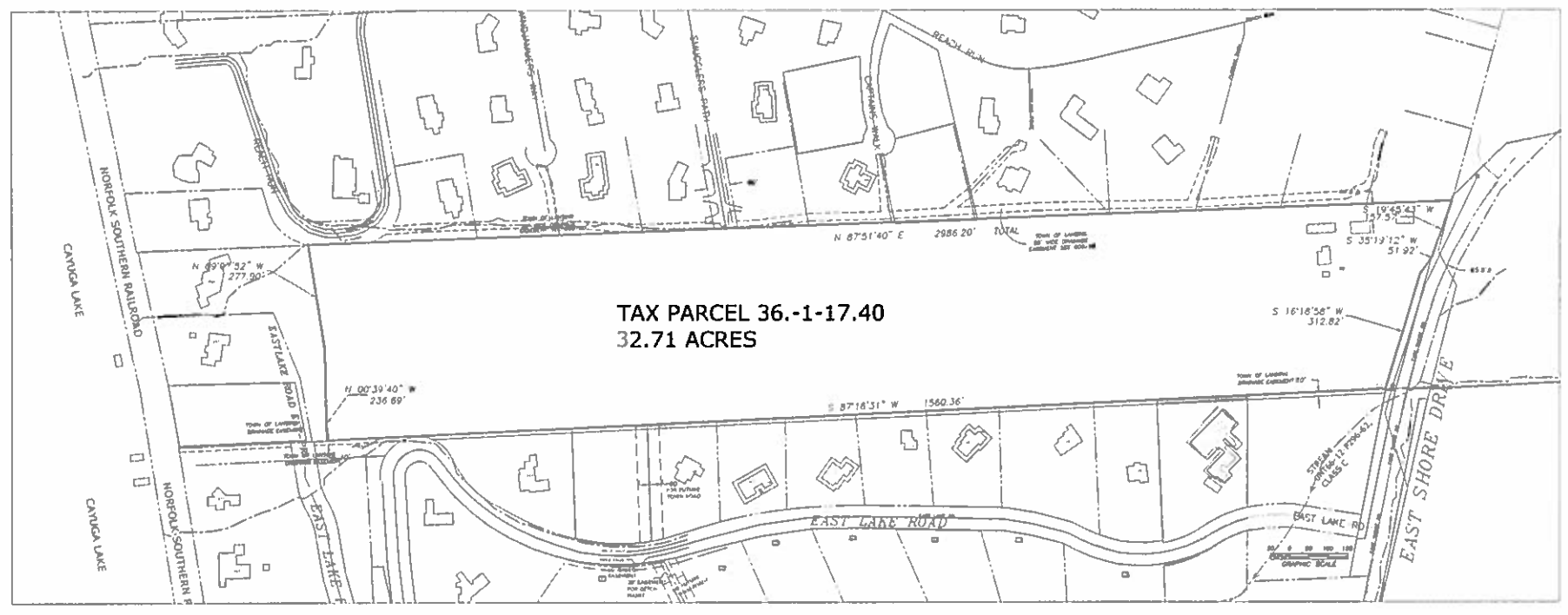
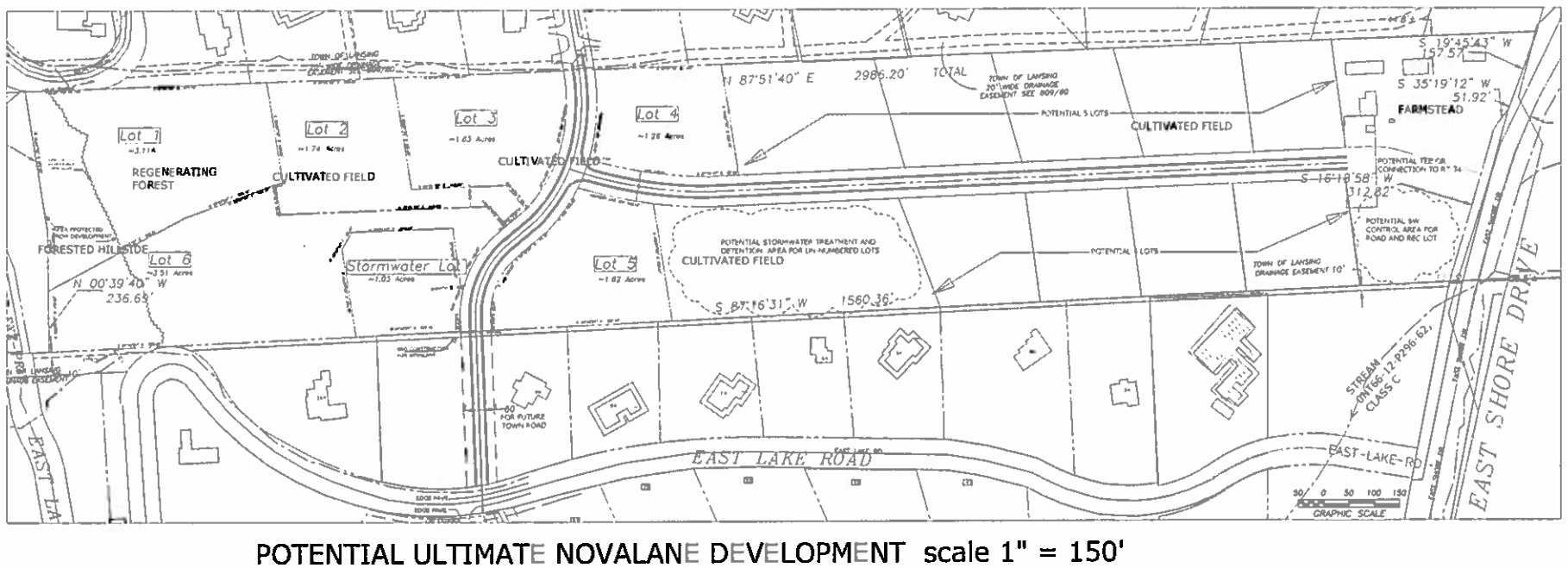
NOVALANE SUBDIVISION LOTS 1-6

PORTION OF TAX PARCEL 36.-1-17.40
1714 EAST SHORE DRIVE
TOWN OF LANSING COUNTY OF TOMPKINS
FOR
JOHN YOUNG, et al.
410 TRIPHAMMER ROAD, ITHACA, NY



USGS LOCATION 42.5161, -76.5161
UTM E375653 N4708200



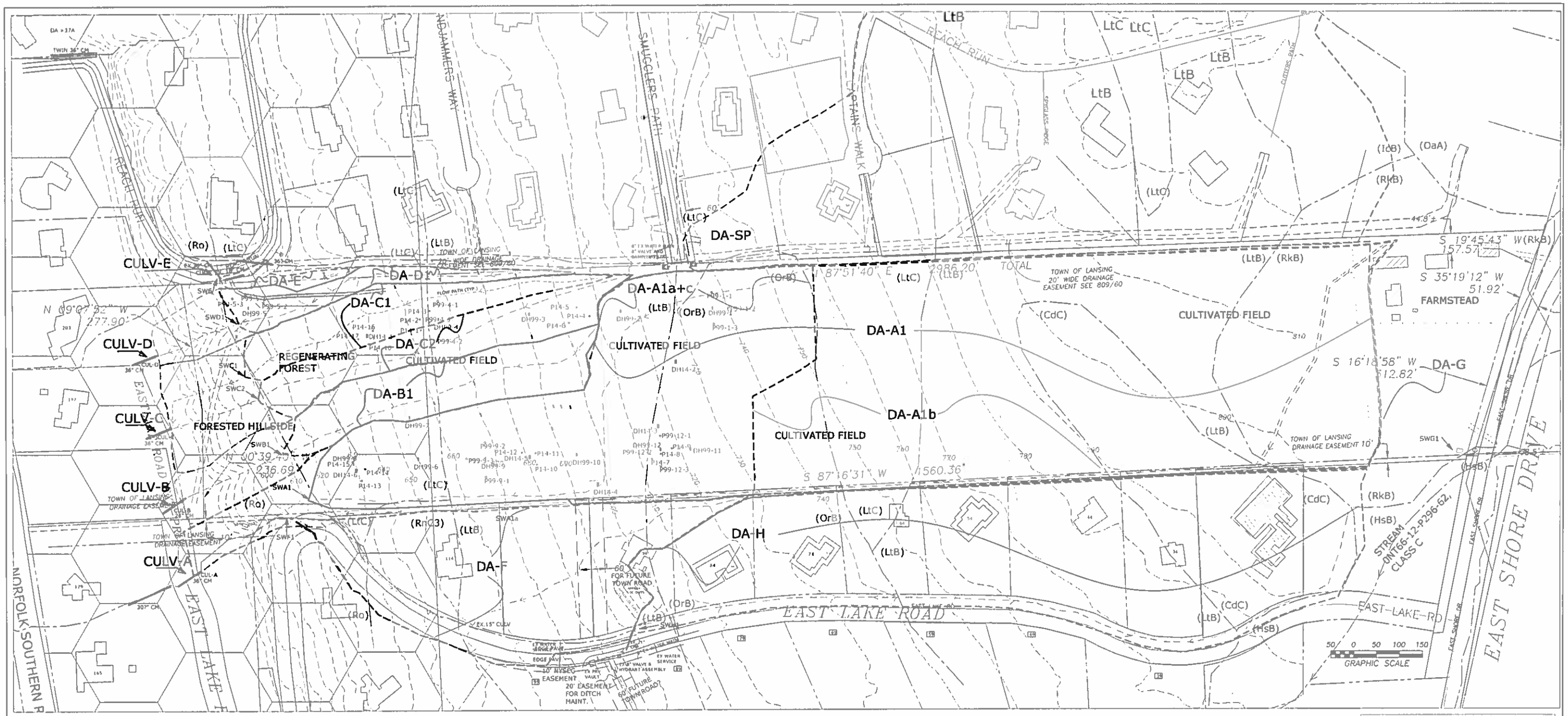


POTENTIAL ULTIMATE NOVALANE DEVELOPMENT scale 1" = 150'

LIST OF ENGINEERING DRAWINGS:
SHEET 1: COVER SHEET AND LOCATION
SHEET 2: EXISTING CONDITIONS
SHEET 3: PROPOSED PLAT OF LOTS
SHEET 4: DEVELOPMENT PLAN
SHEET 5: STORM WATER CONTROLS-PERMANENT
SHEET 6: STORM WATER CONTROLS- EROSION & SEDIMENT
SHEET 7: SMUGGLERS PATH AND WATER MAIN PROFILE
SHEET 8: OWTS DETAILS
SHEET 9: STORM WATER DETAILS
SHEET 10: WATER SYSTEM DETAILS

PRELIMINARY

NOVALANE SUBDIVISION LOTS 1-6 tax parcel 36.-1-17.40 Town of Lansing, County of Tompkins	Project A14 - 101
John H. Andersson, P. E. NYSPE #015610 1 Woodland Road Ithaca, NY 14850 Voice & Fax 607-539-7096 Cell 607-229-6100 J.AnderssonPE@yahoo.com	WARNING: It is a violation of Section 7209 of the New York State Education Law for any person to alter an item on or in this document in any way except an engineer who shall affix to the altered item (her)(his) seal and the notation "altered by" followed by (her)(his) signature and the date of such alteration, and a specific description of the alteration.
Scale 1" = 200' or as noted	Date: July 15, 2016
Sheet Title: Cover Sheet and Location	Sheet No. 1 of 10



SOILS INFORMATION from USGS Web Soil Survey and Soil Survey-Tompkins County: from the east to west the soils in the area proposed for lots 1-6 are mapped 21% OrB, 32% LtB, 33% LtC and 14% Ro (at the extreme west)

OrB is *Ovid and Rhinebeck* 2-6% slope, moderately deep silt loams, somewhat poorly drained, top 1' may be moderately permeable, 6-18" to water table. *Ovid* is in hydrologic soil group (HSG)C/D; typical profile is 0-14" silt loam; 14-24" silty clay loam; 24-30" gravelly loam; 30-34" weathered bedrock. *Rhinebeck* is in HSG D; typical profile (TP) 0-12" silt loam;12-30" silty clay loam; 30-34" weathered bedrock.

LtB is *Lordstown, Tuller and Ovid*, 0-15% slope, shallow channery silt loams, top 1-2' may be moderately permeable; all HSG D, *Ovid and Tuller* 6-18" to water table and somewhat poorly drained, *Lordstown* 20" or more to water table and somewhat excessively drained. *Ovid* TP is 0-14" silt loam, 14-15" channery silt loam; 15-19" weathered bedrock. *Lordstown and Tuller* TP is 0-15" channery silt loam; 15-19" unweathered bedrock.

LtC is the same as LtB but slope 15-35%.

Ro is *Red Outcrop*, slope 0-25%, 0-10" to lithic bedrock.

Soil Profile (Deep) Holes DH99-1 through DH99-12 observed December 1, 1999 by the Tompkins County Health Department. DH99-1 through 4, 6-7 and 9-12 in grassed field, DH99-5 and 8 in woods. Freezing nights and thawing days; Nov 1 had 2" snow; Dec 1 no precipitation but 1" snow on ground. DH14-1 through -6 observed May 14, 2014 by Andersson, P.E., Breezy, high F70's.

Hole #	Lot #	Total Depth (to Rock)	Mottling	Notes
DH99-1	4	2' 7"	none	0-12" brown loam top soil; 12"-bottom brown clayey loam. No mottling. Maybe more dense below 15". Water on top of rock. Roots to 3'. Good surface drainage, saturated below 2'.
DH99-2	3	1' 10"	none	0-11" loam top soil, 11"-bottom brown silty clayey loam. No mottling. Maybe more dense below 12". Water on top of rock. Good surface drainage, saturated below 2'.
DH99-3	3	2' 7"	12"	0-10" dark silty loam top soil; 10"-bottom silty clay, dense, smearing. No water. Good surface drainage; moist full depth.
DH99-4	2	3' 8"	8"	0-8" dark top soil, 8"-bottom clayey silty, dense. No water. Gray and orange mottling to bottom. Good surface drainage; moist full depth.
DH99-5	1	2' 8"	none	0-9" fine textured black top soil; 9"-bottom loam with some smearing. No water. Roots to bottom. Good surface drainage, moist full depth.
DH99-6	6	1' 6"	no notes	0-8" OK top soil; 8"-bottom clayey silty loam. Appears poorly permeable.
DH99-7	6	1' 9"	8"	0-8" OK top soil; 8"-bottom clayey silty loam.
DH99-8	6	3'	none	0-9" top soil, 9"-2'8" brown silty channery loam. No water. Roots to 3'. Fractured shale begins 2'8". Good surface drainage; moist full depth.
DH99-9	SW	2' 7"	7"	0-7" clayey top soil; 7" heavy mottling. 7"-bottom very dense clayey silt. Water coming in slowly at 12". Roots to 12". Good surface drainage (but water is standing 15' from hole); wet full depth.
DH99-10	SW	2' 3"	7"	0-7" OK top soil; 7"-bottom heavily mottled silty clayey soil. No water. Very few roots to 2'. Good surface drainage; wet full depth.
DH99-11	5	3' 2"	none	0-14" nice loam top soil; then rock. No water. Roots to 14". Good surface drainage, moist full depth.
DH99-12	5	1' 8"	none	0-8" nice loam top soil; then denser soil to rock. No water or mottling. Roots to 14". Good surface drainage, moist full depth.
DH14-1	1	2' 6"	none	0-9" dark brown loam top soil;9-18" brown silty loam; 18-24" silty loam with broken shale; 24-30" easily dug fractured shale. No water. Roots to 24". Good surface drainage; moist full depth.
DH14-2	*	1' 8"	none	0-9" dark brown loam top soil;9-20" brown gravelly silt loam, 20" shale. No water. Roots to 20". Good surface drainage; moist full depth.
DH14-3	5*	1' 8"	none	0-10" dark brown loam top soil;10-20" brown gravelly silt loam; 20" shale. No water. Roots to 12". Good surface drainage; moist full depth.
DH14-4	*	1' 4"	none	0-6" dark brown loam top soil,6-16" gravelly silt loam, 16" shale. No water. Roots to 16". Good surface drainage; moist full depth
DH14-5	SW	1' 2"	none	0-6" dark brown loam top soil;6-16" gravelly silt loam, 14" shale. No water. Roots to 14". Good surface drainage; moist full depth.
DH14-6	6	2'	none	0-6" dark brown loam top soil;6-18" brown silty loam, 18-24" broken shale in silt loam, 24" shale. No water. Roots to 24". Moderate surface drainage; moist full depth.

None of the deep hole areas are suitable for standard absorption systems due to shallow permeable soil. *In or near proposed road r o w.

NOTE: Site plan based on: property survey by T. G. Miller, PC, and Tompkins County GIS. 10' contours shown for clarity. Proposed OWTS, storm water controls and related information by John H. Andersson, P.E., 2014.

Percolation Tests P99-X observed by the Tompkins County Health Department; dug and pre-soaked December 6-7, 1999; ran December 8, 1999. 0.14" rain and 55F December 7; trace rain and 34F December 8.
All holes 12" diameter and run with 6" of water in the hole, timing the drop to 5", filling back up to 6" and repeating, unless noted otherwise.

Perk Hole	Lot #	Depth	Depth to pre-soak water	Rates, minutes per inch (mpi)	Final Perk Rate, mpi (per Table 6B)	Comments
P99-1-1	4	15"	none	3, 5, 6	6-7	
P99-1-2	4	14"	none	5, 5, 6	6-7	
P99-1-3	4	16"	none	4, 4, 4	1-5	
P99-4-1	2	15"	13"	1/8" in 60 = 480	NG; >8 hrs; not stable	
P99-4-2	2	15"	none	negligible in 60 min	NG; no movement	
P99-4-3	2	14"	12.5"	negligible in 60 min	NG; no movement	
P99-5-1	1	14"	none	negligible in 60 min	NG; no movement	
P99-5-2	1	14"	none	did not run - broken shale at 10"	NG	
P99-5-3	1	16"	14"	negligible in 60 min	NG; no movement	
P99-9-1	SW	14"	8"	negligible in 60 min	NG; no movement	
P99-9-2	SW	15"	8.5"	3/4" in 60 min	NG, >8 hrs, not stable	
P99-9-3	SW	14"	2"	did not run; pre-soak too high	NG	
P99-12-1	5	16"	none	1/4" in 40 = 160	NG; >80 mins; not stable	
P99-12-2	5	13"	none	2, 5, 6	6-7	large rock or bedrock at bottom
P99-12-3	5	16"	3"	did not run; pre soak too high	NG	

Insufficient depth of permeable soil for standard, shallow or raised system with possible exception of area of Lot 4. Additional percolation measurements at 6" depth are needed to confirm suitability for sand filters.
REFERENCE FOR OWTS DESIGN: NEW YORK STATE DEPARTMENT OF HEALTH, BUREAU OF WATER SUPPLY PROTECTION "RESIDENTIAL ONSITE WASTEWATER TREATMENT SYSTEMS DESIGN HANDBOOK", 2012

All Tests P14-X observed by Andersson, P.E. 14-1 to 14-6 dug and pre-soaked May 13 and run May 14, 2014, sunny and breezy in F60s; 1" storms previous evening. 14-7 to 14-12 dug and run May 20, 2014, sunny F50's, heavy rain May 18. 14-13 to 14-18 dug and run May 29, 2014; cloudy, F50's
Holes 14-10 to 14-18 all very moist when dug; allowed first 2-4" to drain without timing
All holes 12" diameter and run with 6" of water in the hole, timing the drop to 5", filling back up to 6" and repeating, unless noted otherwise.

Perk Hole	Lot #	Depth	Depth to pre-soak water	Rates, minutes per inch (mpi)	Final Perk Rate, mpi (per Table 6B)
P14-1	2	9"	none	20, 31, 37	31-45
P14-2	2	9"	none	17, 18	16-20
P14-3	2	9"	none	34, 56, 60	46-60
P14-4	3	9"	none	28 37, 39	31-45
P14-5	3	9"	none	11, 12	11-15
P14-6	3	8"	none	9, 18, (added to 5.5" (ran out of water)); 0.5" in 20=40)	46-60 (est.)
P14-7	5	9"	N.A.	7, 9, 9	8-10
P14-8	5	9"	N.A.	11, 10	11-15
P14-9	5	9"	N.A.	3, 3, 3	1-5
P14-10	SW	8"	N.A.	17, 18	16-20
P14-11	SW	9"	N.A.	10, 13, 12	11-15
P14-12	SW	9"	N.A.	13, 11, 11	11-15
P14-13	6	9"	N.A.	6, 6, 6	6-7
P14-14	6	8"	N.A.	5, 6, 5	6-7
P14-15	6	9"	N.A.	5, 5, 5	1-5
P14-16	1	8"	N.A.	5, 5, 5	1-5
P14-17	1	9"	N.A.	2, 3, 3, 3	1-5
P14-18	1	8"	N.A.	2, 2, 3, 3	1-5

All holes heated faster than 60 mpi at 8-9" depth, acceptable for sand filter with DMAT.
REFERENCE FOR OWTS DESIGN: NEW YORK STATE DEPARTMENT OF HEALTH, BUREAU OF WATER SUPPLY PROTECTION "RESIDENTIAL ONSITE WASTEWATER TREATMENT SYSTEMS DESIGN HANDBOOK", 2012

EXISTING DRAINAGE AREAS

NOVALANE DRAINAGE AREA	AREA, ACRES	DISCHARGE POINT	DISCHARGES TO	EXISTING CULVERT	NOTES
DA-A1a+c	6.9	SWA1	CAYUGA LAKE via CUL-A	(A) 36" DIAMETER under EASTLAKE RD	Culvert adequate for 50-yr storm
DA-Ab	15.3				NO WORK is proposed in this drainage area
DA-B1	1.73	SWB1	CAYUGA LAKE via CUL-B	(B) 24" DIAMETER under EASTLAKE RD EXT	Culvert adequate for 100-yr storm
DA-C1	1.42	SWC1	CAYUGA LAKE via CUL-C	(C) 36" DIAMETER under EASTLAKE RD EXT	Culvert adequate for 100-yr storm
DA-C2	1.53	SWC2			
DA-D1	0.74	SWD1	CAYUGA LAKE via CUL-D	(D) 36" DIAMETER under EASTLAKE RD EXT	Culvert adequate for 100-yr storm
DA-E	0.21	SWE	CAYUGA LAKE VIA REACH RUN	(E) 18" at DRIVE to 36" DIAMETER under REACH RUN	18" Culvert adequate for 100-yr storm
DA-G	3.1	SWG1	CAYUGA LAKE VIA STREAM ONT-66-12-P296-62	LARGE DIAMETER under EASTLAKE ROAD NEAR EAST SHORE DRIVE	NO WORK is proposed in this drainage area
DA-F NOT IN NOVALANE	4.75	SWF1	CAYUGA LAKE via CUL-A	(A) 36" DIAMETER under EASTLAKE ROAD	Proposed Paper Street construction by Town of Lansing is in this drainage area
DA-H NOT IN NOVALANE	10.2	SWH1	CAYUGA LAKE	21" DIAMETER under EASTLAKE ROAD NEAR #94	NO WORK is proposed in this drainage area

N

LEGEND:

- EXISTING MONUMENT AS SHOWN
- UTILITY POLE
- O/H OVERHEAD UTILITIES
- U/G UNDERGROUND UTILITIES
- APPROXIMATE BOUNDARY LINE
- SWALE
- 1125 CONTOUR (EXIST)
- 1125 CONTOUR (PROPOSED)
- DH2 DEEP SOIL TEST HOLE
- P2 PERCOLATION HOLE
- SOIL TYPE (RhB) & BOUNDARY
- DRAINAGE FLOW PATH EXIST
- DRAINAGE AREA (DA-A) & BOUNDARY
- TOMPKINS COUNTY UNIQUE NATURAL AREA UNA-84 (LAKE CLIFFS SOUTH OF PORTLAND)
- SWD1 STORM WATER DISCHARGE POINT
- DECIDUOUS TREE
- COMPERTOUS TREE

PRELIMINARY

STATE OF NEW YORK · JOHN H. ANDERSSON · 091819 · LICENSED PROFESSIONAL ENGINEER

NOVALANE SUBDIVISION LOTS 1-6
tax parcel 36.-1-17.40 Town of Lansing, County of Tompkins

Project A14 - 101

John H. Andersson, P. E.
NYSPE #015610
1 Woodland Road
Ithaca, NY 14850
Voice & Fax 607-539-7096
Cell 607-229-6100
J.AnderssonPE@yahoo.com

WARNING: It is a violation of Section 7209 of the New York State Education Law for any person to alter an item on or in this document in any way except an engineer who shall affix to the altered item (her)(his) seal and the notation "altered by" followed by (her)(his) signature and the date of such alteration, and a specific description of the alteration.

Scale 1" = 100' or as noted

Date: July 15, 2016

Sheet Title: Existing Conditions

Sheet No. 2 of 10

NOTE:
10' CONTOURS ARE SHOWN FOR CLARITY

FINAL SUBDIVISION PLAT TO BE PREPARED BY LICENSED PROFESSIONAL LAND SURVEYOR
THIS PLAT BASED ON PRELIMINARY PLAN BY LEE DRESSER, PLS, T. G. MILLER, P.C.

LOT AREAS		
LOT NUMBER	AREA, SQUARE FEET APPROX.	AREA, ACRES, APPROX.
L1	135700	3.11
L2	75,600	1.74
L3	71,000	1.63
L4	55,000	1.26
L5	70,500	1.62
L6	152,700	3.51
STORMWATER	44,700	1.03
TOTAL		13.90

SAMPLE DESCRIPTION OF STORMWATER RIGHTS TO TOWN OF LANSING (FINAL WORDING TO BE DETERMINED)
John Young, et al (the Owner) agrees to comply with the Town of Lansing Local Law Number 6 of 2009 "**Stormwater Management** and **Erosion and Sediment Control**" and *Condition - of Town of Lansing Planning Board Final Plat Aproval of - -, 2015.* Approval is subject to an easement and right-of-way to the Town of Lansing for stormwater purposes, including the maintenance, management and improvement of facilities and appurtances installed, wherever now or in the future located, and including the conveyance of rights to said town to *inspect, maintain and repair stormwater practices including, but not limited to individual bioretention and stormwater detention areas, together with the rights of free ingress and egress -in, over, upon and under the described areas of the said permanent easement and right-of-way.*

N

LEGEND:

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- UTILITY POLE
- O/H OVERHEAD UTILITIES
- U/G UNDERGROUND UTILITIES
- APPROXIMATE BOUNDARY LINE
- SWALE
- 1125 CONTOUR (EXIST)
- 1125P CONTOUR (PROPOSED)
- DH2 DEEP SOIL TEST HOLE
- P2 PERCOLATION HOLE
- SOIL TYPE (RhB) & BOUNDARY
- DRAINAGE FLOW PATH
- VEGETATED DRAINAGE SWALE/DITCH
- RIP-RAP LINED WATERWAY
- CULVERT OUTLET PROTECTION
- SWD1 STORMWATER TREATMENT DRAINAGE POINT
- STORMWATER TREATMENT DRAINAGE BOUNDARY
- DECIDUOUS TREE
- CONIFEROUS TREE

PRELIMINARY

STATE OF NEW YORK · JOHN M. ANDERSSON · 015610 · LICENSED PROFESSIONAL ENGINEER

NOVALANE SUBDIVISION LOTS 1-6 tax parcel 34.-1-17.40 Town of Lansing, County of Tompkins		Project A14 - 101
John M. Andersson, P. E. NYSPE #015610 1 Woodland Road Ithaca, NY 14850 Voice & Fax 607-539-7096 Cell 607-229-6100 J.AnderssonPE@yahoo.com	WARNING: It is a violation of Section 7209 of the New York State Education Law for any person to alter an item on or in this document in any way except an engineer who shall affix to the altered item (her)(his) seal and the notation "altered by" followed by (her)(his) signature and the date of such alteration, and a specific description of the alteration.	
Scale: 1" = 50' or as noted		Date: JULY 15, 2016
Sheet Title: S3-Proposed Plat of Lots		Sheet No. 3 of 10

N

LEGEND:

- EXISTING MONUMENT AS SHOWN
- UTILITY POLE
- D/H OVERHEAD UTILITIES
- U/G UNDERGROUND UTILITIES
- APPROXIMATE BOUNDARY LINE
- SWALE
- 1125 CONTOUR (EXIST)
- 1125P CONTOUR (PROPOSED)
- DH2 DEEP SOIL TEST HOLE
- P2 PERCOLATION HOLE
- SOIL TYPE (PLB) & BOUNDARY
- DRAINAGE FLOW PATH
- VEGETATED DRAINAGE SWALE/DITCH
- RIP-RAP LINED WATERWAY
- CULVERT OUTLET PROTECTION
- SWD1 STORMWATER TREATMENT DRAINAGE POINT
- STORMWATER TREATMENT DRAINAGE BOUNDARY
- DECIDUOUS TREE
- CONIFEROUS TREE

NOTE:
FOR CLARITY, NOT ALL THE CONTOURS LINES ARE SHOWN. USE CAUTION WHEN INTERPRETING CONTOURS.

OWTS Construction Notes:

1. Prior to beginning house or OWTS construction, ensure that a Tompkins County Health Department On-Site Wastewater Treatment System (OWTS) Construction Permit is in effect.
2. The OWTS must be located and constructed as shown. If conditions in the field are different than anticipated, contact the Engineer.
3. Soil from the area of the OWTS must not be removed or filled except as shown on these plans or in the OWTS Construction Permit.
4. Fence the area of the absorption system and replacement area prior to site construction. Keep heavy equipment outside the area to avoid compaction of the soil. Work when the natural soil is dry so it is not compacted or rutted during site clearing or during construction.
5. Maintain horizontal and vertical separations between the OWTS and other features as shown.
6. No parking areas, roads, driveways, structures or impermeable surfaces shall be placed over an OWTS' soil absorption or fill area.
7. All sanitary liquid waste must be disposed to the OWTS. The OWTS must be used only for disposal of liquid sanitary wastes. No hazardous material, storm water or groundwater shall be discharged to the system. All floor drains in the building that could receive oil, paint, or other non-sanitary waste must be plugged with concrete.
8. Establish a grass cover and/or mulch all disturbed soil immediately after construction to control erosion.
9. Contact the Engineer for construction certification when construction begins and again as it nears completion.
10. Follow State law and call Dig Safely New York at 811 or 1-800-962-7962 at least 2 full working days prior to starting any type of excavation or construction work.

See http://www.digsafelynewyork.com

SCHEDULE OF OWTS (6 BEDROOM SYSTEMS SHOWN ON SITE PLAN)

# BEDROOMS	OWTS DESIGN FLOW GPD	SEPTIC TANK(S) GALLONS (1)(2)(3)	SAND FILTER (4)	DMAT (5)	DMAT FOOTPRINT (APPROX)
2	220	1250	220 SF; 12' BY 18'	2 TRENCHES 45'	28' BY 63'
3	330	1250	330 SF; 12' BY 28'	2 TRENCHES 62' or 3 AT 42'	28' BY 80'; 36' BY 60'
4	440	1500	440 SF; 12' BY 37'	3 TRENCHES 55' or 4 AT 42'	36' BY 63; 44' BY 73'
5	550	1750	550 SF; 12' BY 48' or 18' BY 31'	4 TRENCHES 51'	44' BY 69'
6	660	2000	660 SF; 12' BY 55' or 18' BY 37'	4 TRENCHES 62' or 5 AT 50'	44' BY 80'; 52' BY 68'

NOTE FOR LOT 1: IF 50" HORIZONTAL SEPARATION BETWEEN HOME AND 6 BEDROOM DMAT CAN'T BE MET, CONSTRUCT TWO 3-BDRM SAND FILTERS (AT THE SAME ELEVATION) AND DMATS WITH THE EFFLUENT PUMP DISCHARGING TO BOTH SAND FILTERS VIA A T.

(1) USE TWO COMPARTMENT TANK OR 2 TANKS IN SERIES. 65-74% REQUIRED CAPACITY IN FIRST TANK.
(2) ASSUMES GARBAGE GRINDER INSTALLED
(3) IF A WHIRLPOOL BATH OR SPA (CONNECTED TO HOUSE PLUMBING) IS ANTICIPATED, USE NEXT LARGER SIZE SEPTIC TANK.
(4) OR EQUIVALENT AREA
(5) SEE TABLE BELOW AND DETAILS ON ADDITIONAL SHEET
REFERENCE FOR OWTS DESIGN: NEW YORK STATE DEPARTMENT OF HEALTH, BUREAU OF WATER SUPPLY PROTECTION "RESIDENTIAL ONSITE WASTEWATER TREATMENT SYSTEMS DESIGN HANDBOOK", 2012

LOT AREAS

LOT NUMBER	TOTAL AREA, ACRES, APPROX.	USABLE AREA, ACRES, APPROX.	DIAMETER OF CIRCLE FITTING IN USABLE AREA, FT, APPROX.
L1	3.11	1.5	220
L2	1.74	1.3	240
L3	1.83	1.6	220
L4	1.20	1.0	200
L5	1.62	1.3	220
L6	3.51	1.6	240
STORMWATER	1.03	NA	NA

USABLE AREA EXCLUDES STORMWATER AND UTILITY EASEMENTS, PROTECTED WOODS AREA, AND AREAS FOR STORMWATER VOLUME CONTROL

WATER SUPPLY:
EXTEND EXISTING 8" MAIN FROM END OF EXISTING SMUGGLERS PATH TO EASTLAKE ROAD WITH 8" DI INSTALLED WITHIN EXTENDED SMUGGLERS PATH R-O-W.
EACH LOT 2-5 TO BE PROVIDED SERVICE FROM THE NEW MAIN. LOTS 2 AND 6 WILL HAVE METER PITS INSTALLED NEAR SMUGGLERS PATH. INDIVIDUAL PRVS REQUIRED. 1" SERVICE LINES RECOMMENDED TO METERS AND 1" FROM METER PITS TO HOUSES.
LOT 1 WATER SERVICE TO BE PROVIDED FROM EXISTING 8" MAIN IN REACH RUN.

SCHEDULE OF DMATS (DOWNSTREAM MODIFIED ABSORPTION TRENCHES)

OWTS DESIGN FLOW GPD	DMAT DESIGN FLOW GPD (1)	DMAT AREA AT 1.2 GPD/SF	LENGTH OF 2' WIDE TRENCH REQUIRED	# TRENCHES EACH L' LONG
220	198	165	83	2 TRENCHES 45'L
330	297	248	124	2 TRENCHES 62'L or 3 TRENCHES 42'L
440	396	330	165	3 TRENCHES 55'L or 4 TRENCHES 42'L
550	495	412	206	4 TRENCHES 51'L
660	594	495	248	4 TRENCHES 62'L or 5 TRENCHES 50' L

(1) BASED ON 90% OF OWTS DESIGN FLOW.

MAXIMUM DEPTH BELOW EXISTING GRADE FOR SAND FILTERS AND DMATS. (MAY BE MODIFIED IF SOIL PROFILE OBSERVED BY ENGINEER OR TCHD BEFORE OWTS CONSTRUCTION)

LOT	SAND FILTER	DMAT	NOTES
1	0' 6"	0' 6"	
2	1' 8"	0' 9"	
3	1' 0"	0' 9"	
4	0' 6"	1' 0"	
5	ON 1' 0" FILL	0' 9"	
6	ON GRADE	0' 6"	

BASED ON REPORT OF ROCK IN SOIL PROFILE HOLES (SEE SHEET 2)

REQUIRED MINIMUM SEPARATION DISTANCES (EXAMPLES)

Sewage System Component	Private Water System Well	Water Service Line or Water Main	Dwelling	Property line	Impermeable Area (uphill or side of AS)	Impermeable Area (downhill of AS)	Watercourse	Drainage Swale, Rain Garden or Bioretention Area
Septic Tank	50'	10'	10'	10'	N.A.	N.A.	50'	10'
Distribution Box	100'	10'	10'	10'	N.A.	N.A.	50'	20'
Sand Filter and Absorption System Area	100'	10'	20' (50' if dwelling is immediately downslope)	10'	10'	20'	100'	20'

PRELIMINARY

PRELIMINARY

STATE OF NEW YORK · JOHN M. ANDERSSON · 091610 · LICENSED PROFESSIONAL ENGINEER

NOVALANE SUBDIVISION LOTS 1-6 tax parcel 36.-1-17.40 Town of Lansing, County of Tompkins	Project A14 - 101
John M. Andersson, P. E. NYSPE #015610 1 Woodland Road Ithaca, NY 14850 Voice & Fax 607-539-7096 Cell 607-229-6100 J.AnderssonPE@yahoo.com	WARNING: it is a violation of Section 7209 of the New York State Education Law for any person to alter an item on or in this document in any way except an engineer who shall affix to the altered item (her)(his) seal and the notation "altered by" followed by (her)(his) signature and the date of such alteration, and a specific description of the alteration.
Scale 1" = 50' or as noted	Date: July 15, 2016
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