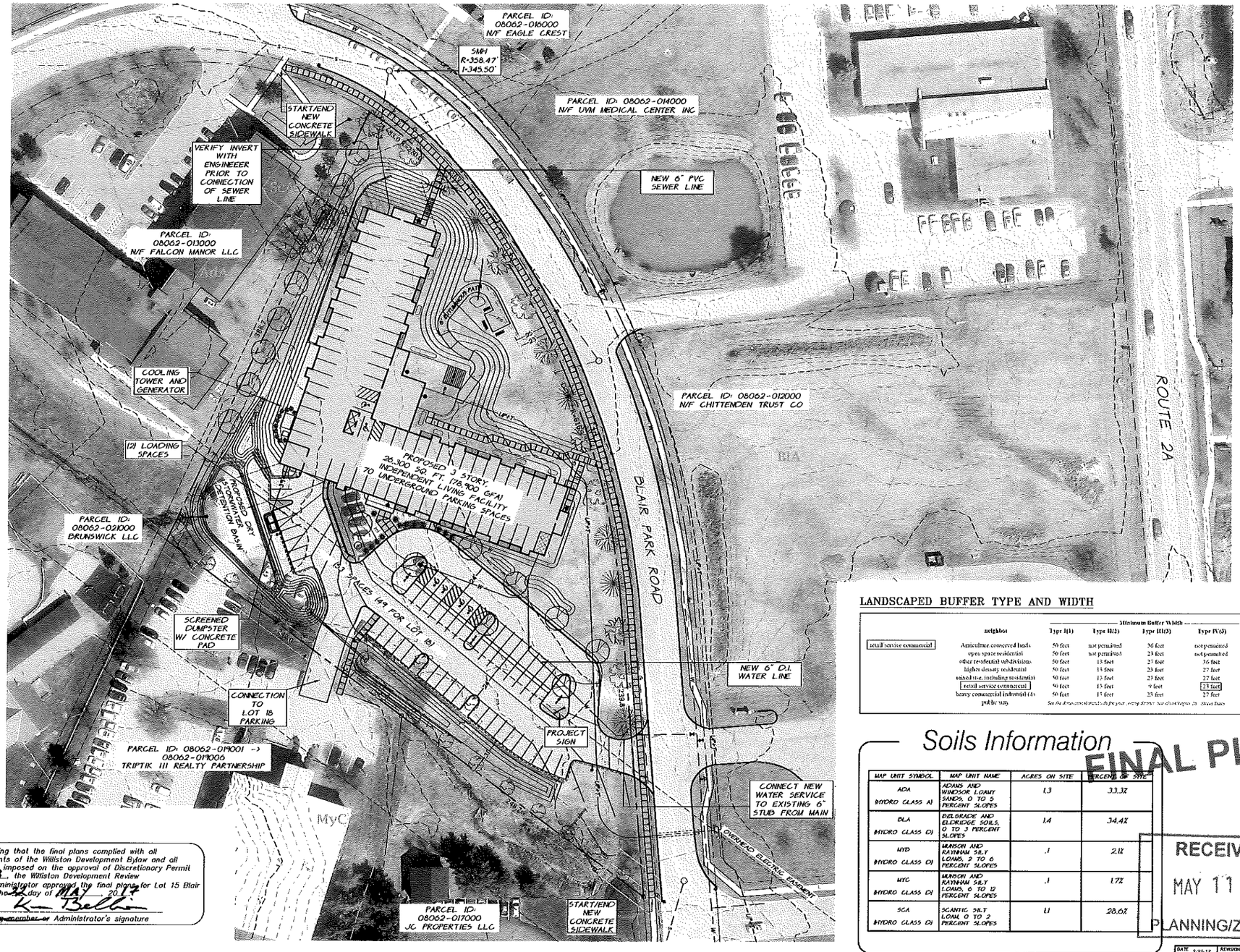
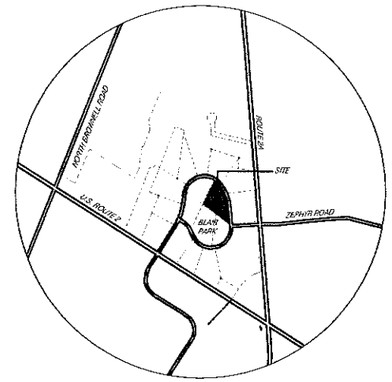




Location Map

Scale: 1" = 1000

Legend

- PROJECT BOUNDARY
- OTHER PROPERTY LINE
- SETBACK
- SIDELINE OF EASEMENT
- CONTOUR LINE (USGS, DATUM)
- 509 PROPOSED FINISH GRADE CONTOUR
- EDGE OF WOODED AREA
- S EXISTING SEWERLINE
- W EXISTING WATERLINE
- G EXISTING NATURAL GASLINE
- EXISTING/PROPOSED HYDRANT
- SOIL TYPE + BOUNDARY
- PROPOSED LIGHTS
- RETAINING WALL
- FLAG POLE
- UNDERDRAIN

(NOTE - PROPOSED UTILITIES ARE SHOWN AS A SOLID LINE)

LANDSCAPED BUFFER TYPE AND WIDTH

		Minimum Buffer Width			
	neighbor	Type I(1)	Type II(2)	Type III(3)	Type IV(3)
retail service commercial	Agriculture conserved lands	50 feet	not permitted	36 feet	not permitted
	open space residential	50 feet	not permitted	23 feet	not permitted
	other residential subdivisions	50 feet	18 feet	27 feet	36 feet
	higher density residential	50 feet	14 feet	23 feet	27 feet
	mixed use, including residential	50 feet	13 feet	23 feet	27 feet
	retail service commercial	50 feet	13 feet	9 feet	23 feet
	heavy commercial industrial (At public way	50 feet	14 feet	23 feet	27 feet

See the development standards for your zoning district. See also Chapter 20, Street Trees.

Soils Information

MAP UNIT SYMBOL	MAP UNIT NAME	ACRES ON SITE	PERCENT OF SITE
ADA (HYDRO CLASS A)	ADAMS AND WINDSOR LOAMY SANDS, 0 TO 3 PERCENT SLOPES	1.3	33.3%
BLA (HYDRO CLASS D)	BELGRADE AND ELDRIDGE SOILS, 0 TO 3 PERCENT SLOPES	1.4	34.4%
MYD (HYDRO CLASS D)	MUNSON AND RAYNHAM SILT LOAMS, 3 TO 8 PERCENT SLOPES	.1	2.1%
MYC (HYDRO CLASS D)	MUNSON AND RAYNHAM SILT LOAMS, 8 TO 12 PERCENT SLOPES	.1	1.7%
SCA (HYDRO CLASS D)	SCANTIC SILT LOAM, 0 TO 2 PERCENT SLOPES	1.1	28.6%

Zoning Information

PARCEL INFO: LOT #15 BLAIR PARK (2.95 ACRES)
PARCEL #: 08062-015000
BUSINESS PARK ZONING DISTRICT (BPZD)

COVERAGE:
TOTAL LOT AREA: 2.95 ACRES
PROPOSED BUILDING COVERAGE: 2101 (0.62 ACRES)
PROPOSED TOTAL COVERAGE: 44.61 (1.32 ACRES)

PARKING REQUIREMENTS:

	Column A	Column B	Column C
	Off-Street Motor Vehicle Spaces	Total Bicycle Parking Spaces	Long Term Bicycle Parking Spaces
Residential (independent living)	1.00 per dwelling	5% of vehicular	1 per 8 units

VEHICULAR REQUIREMENT: 1.0 SPACES PER DWELLING
OF DWELLINGS IN PROPOSED BUILDING: 72

VEHICULAR SPACES: 72 X 1.0 = 72 SPACES
BICYCLE SPACES (5% OF REQUIRED SPACES):
72 X .05 = 3.6 SPACE
LONG TERM BICYCLE SPACES (1 SPACE PER 8 UNITS):
72 / 8 X 1 = 9 SPACES

SPACES REQUIRED:
72 SPACES + 49 SPACES PERMITTED FOR LOT 18 = 121 SPACES

VEHICLE SPACES PROPOSED:
126 SPACES (73 UNDERGROUND, 53 SURFACE)

BICYCLE SPACES PROPOSED: 1 BIKE RACK

LONG TERM BICYCLE SPACES PROPOSED: INDOOR STORAGE FOR MINIMUM 9 BICYCLES (1 PER 8 UNITS)

FINAL PLANS

RECEIVED
MAY 11 2017
PLANNING/ZONING

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 16-13, the Williston Development Review Board/Administrator approved the final plans for Lot 15 Blair Park on the 22 day of MAY, 2017

~~Presiding member or~~ Administrator's signature

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

Owner

THREE FRIENDS REALTY
CITORIK, KELLEY, KIDDER + POWELL INC.
9 RUSTIC WALK
SWANTON, VT 05488

Applicant

DOUSEVICZ, INC.
21 CARMICHAEL STREET, SUITE 201
ESSEX, VT 05452

DP 16-13

PARCEL ID: 08062-015000

NOTE: THIS SKETCH PLAN IS CONCEPTUAL ONLY AND SHOULD NOT BE USED FOR PROPERTY CONVEYANCE PURPOSES.

DATE	REVISION	BY
3-21-17	LABELED WATER AND SEWER SERVICES MATERIAL AND SIZE	GRT
1-27-17	ADDED PROPERTY LINE DIMENSIONS	GRT
10-13-16	ADDED APPROVAL SIGNATURE BLOCK AND MADE EDITS FOR FINAL PLAN SUBMITTAL	GRT
9-6-16	REVISED GRADING / LANDSCAPING / STORMWATER PER HVAC AND PUBLIC WORKS COMMENTS	GRT

SURVEY: OBCA
DESIGN: OBCA
DRAWN: GRT
CHECKED:
SCALE: 1"=40'

☐ RECORD DRAWING ☐ DISCRETIONARY
■ FINAL ☐ SKETCH/CONCEPT

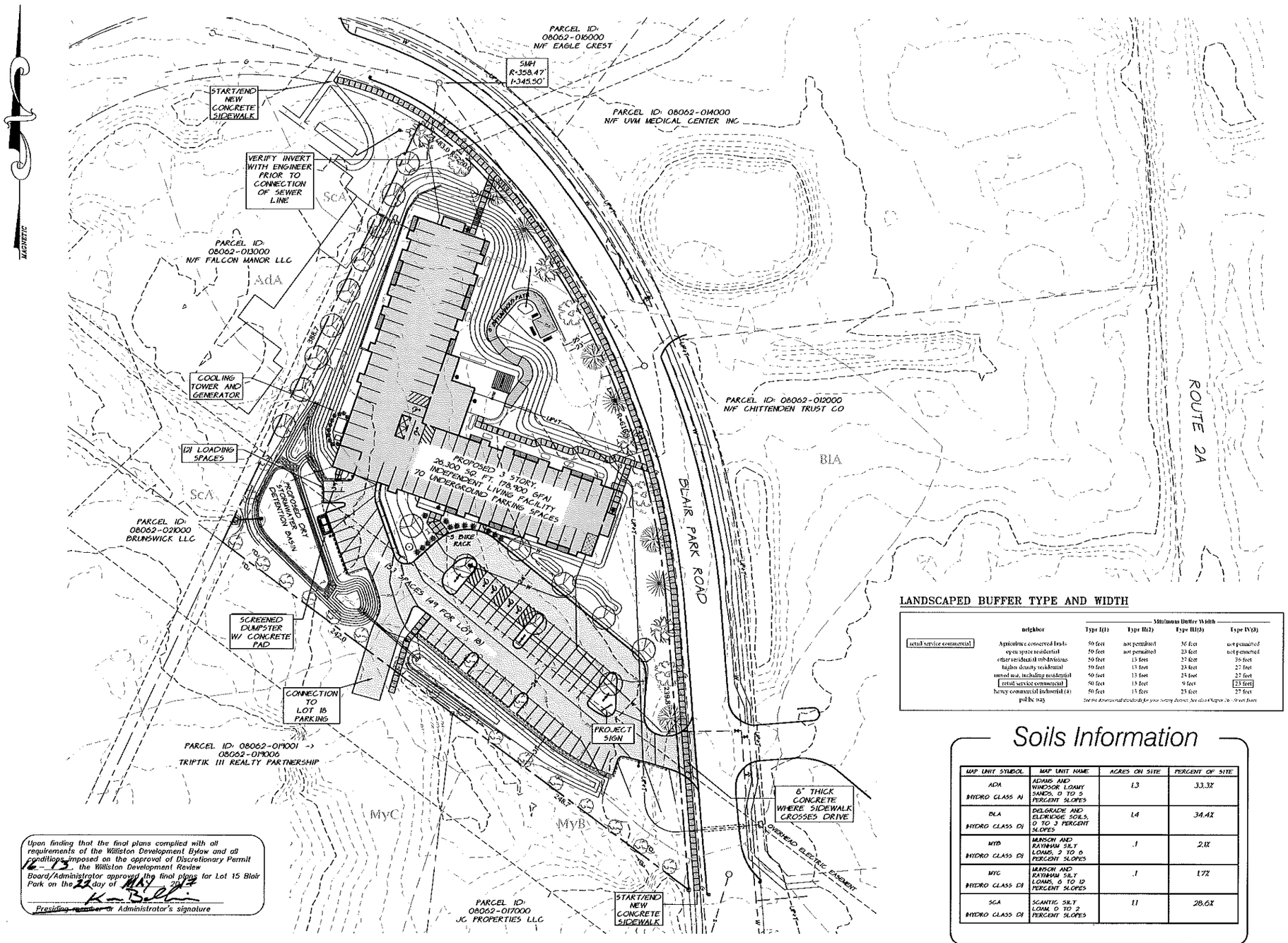
O'LEARY-BURKE CIVIL ASSOCIATES, PLC
1 CORPORATE DRIVE, SUITE #1
ESSEX, VT
PHONE: 878-6900
FAX: 878-6950
E-MAIL: www.obcivil.com

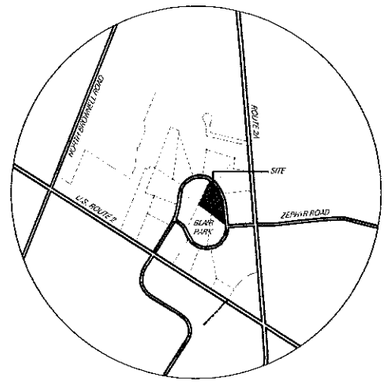
15 BLAIR PARK
Williston Vermont

40-Scale Site Plan

DATE: 12-30-15
JOB #: 2015-41
FILE: 2015-41-S01
PLAN SHEET #: 1

DP 16-13





Location Map

Scale: 1" = 1000

Legend

- PROJECT BOUNDARY
- OTHER PROPERTY LINE
- SETBACK
- SIDELINE OF EASEMENT
- CONTOUR LINE (U.S.G.S. DATUM)
- PROPOSED FINISH GRADE CONTOUR
- EDGE OF WOODED AREA
- EXISTING SEWERLINE
- EXISTING WATERLINE
- EXISTING NATURAL GASLINE
- EXISTING/PROPOSED HYDRANT
- SOIL TYPE + BOUNDARY
- PROPOSED LIGHTS
- RETAINING WALL
- FLAG POLE
- UNDERDRAIN

(NOTE : PROPOSED UTILITIES ARE SHOWN AS A SOLID LINE)

LANDSCAPED BUFFER TYPE AND WIDTH

neighbor	Minimum Buffer Width Type I(1)	Type II(2)	Type III(3)	Type IV(3)
Agriculture conserved lands	50 feet	not permitted	36 feet	not permitted
open space residential	50 feet	not permitted	23 feet	not permitted
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higher density residential	50 feet	13 feet	24 feet	27 feet
mixed use, including residential	50 feet	13 feet	25 feet	27 feet
retail service commercial	50 feet	13 feet	9 feet	23 feet
heavy commercial industrial (4) public use	50 feet	13 feet	23 feet	27 feet

retail service commercial

See the Recreational Residential Zoning District Standards Chapter 26 - Street Trees

Soils Information

MAP UNIT SYMBOL	MAP UNIT NAME	ACRES ON SITE	PERCENT OF SITE
AdA HYDRO CLASS N	ADAMS AND WINDSOR LOAMY SANDS, 0 TO 5 PERCENT SLOPES	1.3	33.3%
BtA HYDRO CLASS D	BELGRADE AND ELDRIDGE SOILS, 0 TO 3 PERCENT SLOPES	1.4	34.4%
MyB HYDRO CLASS D	MUNSON AND RAYHAM SILT LOAMS, 2 TO 8 PERCENT SLOPES	.1	2.1%
MyC HYDRO CLASS D	MUNSON AND RAYHAM SILT LOAM, 8 TO 12 PERCENT SLOPES	.1	1.7%
ScA HYDRO CLASS D	SCANTIC SILT LOAM, 0 TO 2 PERCENT SLOPES	1.1	28.6%

Zoning Information

PARCEL INFO: LOT #15 BLAIR PARK (2.95 ACRES)
PARCEL #: 08062-015000
BUSINESS PARK ZONING DISTRICT (BPZD)

COVERAGE:
TOTAL LOT AREA: 2.95 ACRES
PROPOSED BUILDING COVERAGE: 21.0% (0.62 ACRES)
PROPOSED TOTAL COVERAGE: 44.6% (1.32 ACRES)

PARKING REQUIREMENTS:

	Column A: Off-Street Motor Vehicle Spaces	Column B: Total Bicycle Parking Spaces	Column C: Long Term Bicycle Parking Spaces
Senior Housing (Independent living)	1.00 per dwelling	5% of column A	1 per 8 units

VEHICULAR REQUIREMENT: 1.0 SPACES PER DWELLING
OF DWELLINGS IN PROPOSED BUILDING: 72
VEHICULAR SPACES: 72 X 1.0 = 72 SPACES

BICYCLE SPACES (5% OF REQUIRED SPACES):
72 X .05 = 3.6 SPACE
LONG TERM BICYCLE SPACES (1 SPACE PER 8 UNITS):
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SPACES REQUIRED:
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VEHICLE SPACES PROPOSED:
126 SPACES (73 UNDERGROUND, 53 SURFACE)

BICYCLE SPACES PROPOSED: 1 BIKE RACK

LONG TERM BICYCLE SPACES PROPOSED: INDOOR STORAGE FOR MINIMUM 9 BICYCLES (1 PER 8 UNITS)

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 16-13, the Williston Development Review Board/Administrator approved the final plans for Lot 15 Blair Park on the 22 day of MAY 2017.

Presiding member or Administrator's signature

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

Owner
THREE FRIENDS REALTY
CITORIK, KELLEY, KIDDER + POWELL INC.
9 RUSTIC WALK
SWANTON, VT 05488

Applicant
DOUSEVICZ, INC.
21 CARMICHAEL STREET, SUITE 201
ESSEX, VT 05452

DP 16-13
PARCEL ID: 08062-015000

NOTE: THIS SKETCH PLAN IS CONCEPTUAL ONLY AND SHOULD NOT BE USED FOR PROPERTY CONVEYANCE PURPOSES.

PAUL J. O'LEARY JR. No. 5477 REGISTERED PROFESSIONAL ENGINEER

DATE	REVISION	BY
1-27-17	ADDED PROPERTY LINE DIMENSIONS	GRT
10-13-16	ADDED APPROVAL SIGNATURE BLOCK AND MADE EDITS FOR FINAL PLAN SUBMITTAL	GRT
8-6-16	REVISED GRADING / LANDSCAPING / STORMWATER PER HVAC AND PUBLIC WORKS COMMENTS	GRT

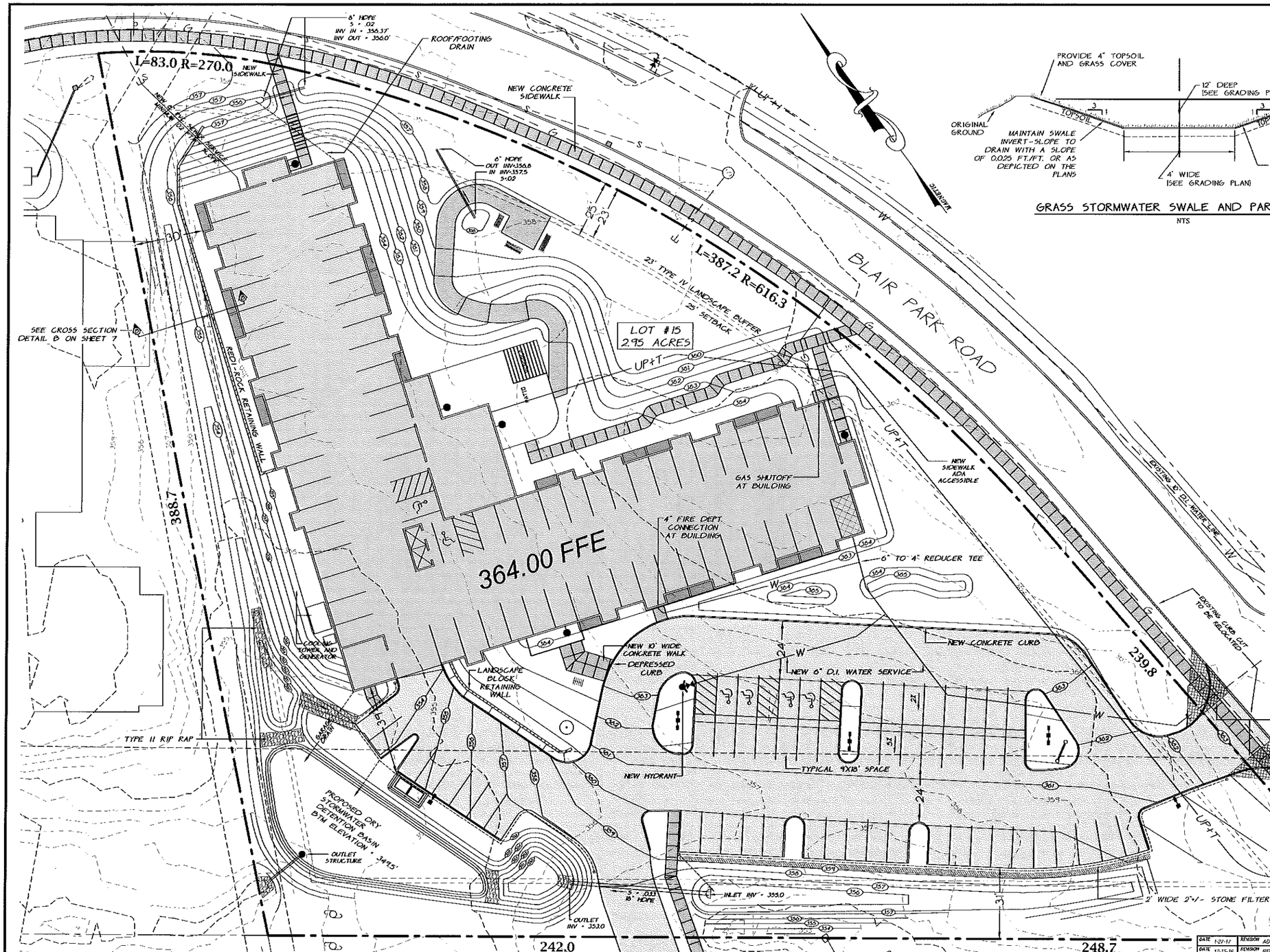
SURVEY: OBCA
DESIGN: OBCA
DRAWN: GRT
CHECKED:
SCALE: 1"=40'
☐ RECORD DRAWING ■ FINAL ☐ DISCRETIONARY ☐ SKETCH/CONCEPT

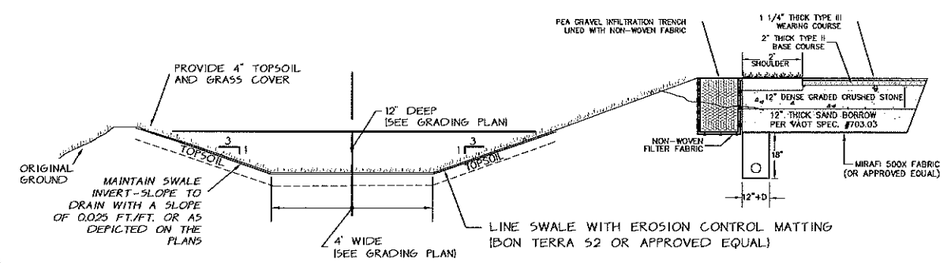
DATE: 12-30-15
JOB#: 2015-41
FILE: 2015-41-S6
PLAN SHEET #: 2

15 BLAIR PARK
WILLISTON — Vermont

O'LEARY-BURKE CIVIL ASSOCIATES, PLC
1 CORPORATE DRIVE, SUITE #1
ESSEX JCT., VT
PHONE: 878-0000
FAX: 878-0001
E-MAIL: obca@together.net

40-Scale Site Plan
No Ortho





GRASS STORMWATER SWALE AND PARKING LOT

NTS

Legend

- PROJECT BOUNDARY
- OTHER PROPERTY LINE
- SETBACK
- SIDELINE OF EASEMENT
- CONTOUR LINE (U.S.G.S. DATUM)
- PROPOSED FINISH GRADE CONTOUR
- EDGE OF WOODED AREA
- EXISTING SEWERLINE
- EXISTING WATERLINE
- EXISTING NATURAL GASLINE
- EXISTING/PROPOSED HYDRANT
- SOIL TYPE + BOUNDARY
- PROPOSED LIGHTS
- RETAINING WALL
- FLAG POLE
- UNDERDRAIN

(NOTE : PROPOSED UTILITIES ARE SHOWN AS A SOLID LINE)

DP 16-13

PARCEL ID: 08062-015000

NOTE: THIS SKETCH PLAN IS CONCEPTUAL ONLY AND SHOULD NOT BE USED FOR PROPERTY CONVEYANCE PURPOSES.

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

Owner

THREE FRIENDS PARTNERSHIP
CITORIK, KELLEY, KIDDER + POWELL INC.
9 RUSTIC WALK
SWANTON, VT 05488

Applicant

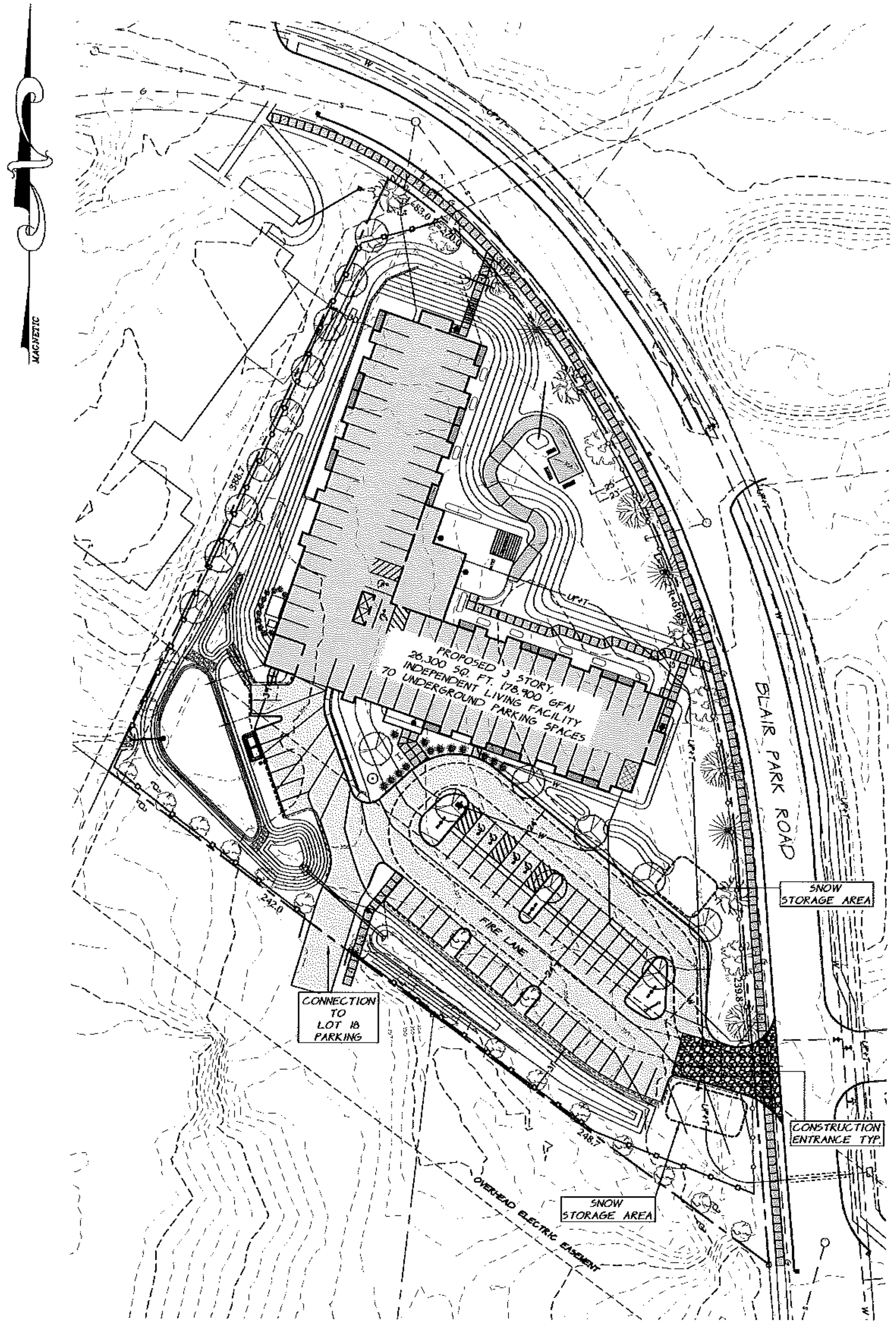
DOUSEVICZ, INC.
21 CARMICHAEL STREET, SUITE 201
ESSEX, VT 05452

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 16-13, the Williston Development Review Board/Administrator approved the final plans for Lot 15 Blair Park on the 22 day of MAY, 2017

Presiding member or Administrator's signature

PAUL J. O'LEARY JR. No. 5477 REGISTERED PROFESSIONAL ENGINEER

DATE 1-27-17	REVISION ADDED PROPERTY LINE DIMENSIONS		BY GRT
DATE 12-15-16	REVISION RELOCATED DUMPSTER, ADDED PAVED AREAS FOR GAS AND FDC AT BUILDING PER FIRE CHIEF COMMENTS		BY GRT
DATE 10-13-16	REVISION ADDED APPROVAL SIGNATURE BLOCK AND MADE EDITS FOR FINAL PLAN SUBMITTAL		BY GRT
DATE 9-6-16	REVISION REVISED GRADING / LANDSCAPING / STORMWATER PER HAAC AND PUBLIC WORKS COMMENTS		BY GRT
SURVEY OBCA	☐ RECORD DRAWING ■ FINAL	☐ DISCRETIONARY ☐ SKETCH/CONCEPT	DATE 12-30-15
DESIGN OBCA			JOB# 2015-41
DRAWN GRT	O'LEARY-BURKE CIVIL ASSOCIATES, PLC	15 BLAIR PARK	FILE 2015-41-56
CHECKED	1 CORPORATE DRIVE, SUITE #1 ESSEX, VT 05452 PHONE: 878-0990 FAX: 878-0992 E-MAIL: OBCA@OBCA-PLC.COM	Williston Vermont	PLAN SHEET #
SCALE 1"=20'		20-Scale Grading Plan	3



NOTE: THIS SKETCH PLAN IS CONCEPTUAL ONLY AND SHOULD NOT BE USED FOR PROPERTY CONVEYANCE PURPOSES.

Legend

- PROJECT BOUNDARY
- OTHER PROPERTY LINE
- SETBACK
- SIDELINE OF EASEMENT
- CONTOUR LINE (U.S.G.S. DATUM)
- PROPOSED FINISH GRADE CONTOUR
- EDGE OF WOODED AREA
- SILT FENCE
- CONSTRUCTION FENCE
- EXISTING SEWERLINE
- EXISTING WATERLINE
- EXISTING NATURAL GASLINE
- EXISTING/PROPOSED HYDRANT
- PROPOSED LIGHTS
- RETAINING WALL
- FLAG POLE

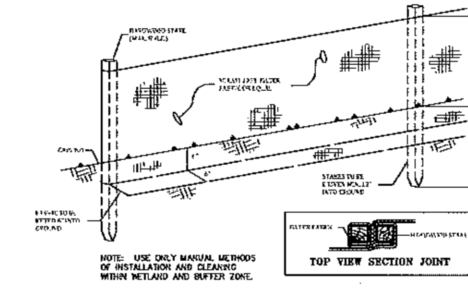
(NOTE : PROPOSED UTILITIES ARE SHOWN AS A SOLID LINE)

GENERAL CONSTRUCTION SPECIFICATIONS

1. ALL WORK AND MATERIALS SHALL BE APPROVED BY AND IN ACCORDANCE WITH THE LATEST VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE TOWN SPECIFICATIONS AND REQUIREMENTS, THE WRITTEN TECHNICAL SPECIFICATIONS, AND THESE PLANS.
2. THE CONTRACTOR SHALL CONTACT ALL UTILITIES BEFORE EXCAVATION TO VERIFY THE LOCATION OF ANY UNDERGROUND LINES. THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-344-7233 AND THE TOWN OF WILLISTON PUBLIC WORKS DEPARMENT PRIOR TO ANY EXCAVATION.
3. UTILITIES INFORMATION SHOWN HEREON WERE OBTAINED FROM BEST AVAILABLE SOURCE AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN HEREON. CONTRACTOR SHALL CONNECT OR RECONNECT ALL UTILITIES TO THE NEAREST SOURCE THROUGH COORDINATION WITH UTILITY OWNER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND REMOVAL OF ALL EXISTING VEGETATION, PAVEMENT AND STRUCTURES NECESSARY TO CONSTRUCT THIS PROJECT UNLESS OTHERWISE NOTED ON THESE PLANS. THE CONTRACTOR SHALL REMOVE ALL EXCESS MATERIAL, DEBRIS AND TRASH FROM THE SITE UPON COMPLETION OF CONSTRUCTION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OWN EXPENSE FOR ENSURING THAT THE DUST CREATED AS A RESULT OF CONSTRUCTION DOES NOT CREATE A NUISANCE OR A SAFETY HAZARD. WHERE AND WHEN DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL BE REQUIRED TO WET SECTIONS OF THE CONSTRUCTION AREA WITH WATER, APPLY CALCIUM CHLORIDE OR SWEEP ASPHALT ROADS WITH A POWER BROOM AS DUST CONTROL.
6. ANY SURFACES, LINES, OR STRUCTURES WHICH HAVE BEEN DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THE CONDITION AT LEAST EQUAL TO THAT IN WHICH THEY WERE FOUND IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS.
7. THE DESIGN ON THESE PLANS SHALL BE INSPECTED BY O'LEARY-BURKE CIVIL ASSOCIATES, ESSEX JUNCTION, VERMONT, TO ENSURE COMPLIANCE WITH THE PLANS AND REQUIREMENTS. O'LEARY- BURKE WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT MAY ARISE FROM THE FAILURE OF THE CONTRACTOR TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THAT THE PLANS CONVEY, AND FROM FAILURE TO HAVE BEEN NOTIFIED TO INSPECT THE WORKS AND TESTS IN PROGRESS.
8. FOR ANY WORK WITHIN THE HIGHWAY RIGHT-OF-WAY A MINIMUM OF ONE-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. CONTINUOUS TWO-WAY TRAFFIC WILL BE REQUIRED AT NIGHT, DURING PEAK-HOURS, AND WHENEVER POSSIBLE DURING ACTUAL CONSTRUCTION ACTIVITIES. UNIFORMED TRAFFIC CONTROL OFFICERS SHALL DIRECT TRAFFIC DURING PEAK HOURS WHEN THERE IS ONE-WAY TRAFFIC OR WHEN DEEMED NECESSARY BY THE TOWN OR STATE. TEMPORARY CONSTRUCTION SIGNS AND TRAFFIC CONTROL SIGNS SHALL BE ERECTED BY THE CONTRACTOR IN ACCORDANCE WITH STATE AND TOWN STANDARDS.
9. TO ENSURE COMPLIANCE WITH THE PLAN(S), THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE TOWN OF WILLISTON PUBLIC WORKS DEPARMENT 24 HOURS IN ADVANCE OF STARTING ANY WORK, CUTTING THE PAVEMENT, BEGINNING THE INSTALLATION OF ANY UTILITIES, BRINGING IN ANY NEW GRAVEL FOR THE NEW BASE, PAVING, AND FINAL INSPECTION.
10. THE HORIZONTAL AND VERTICAL SEPARATION FOR SEWER AND WATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE "TEN STATE STANDARDS - RECOMMENDED STANDARDS FOR WATER."
11. TOPSOIL SHALL BE STOCKPILED, SEEDED, AND MULCHED UNTIL REUSED. SILT FENCES SHALL BE PLACED AND STAKED CONTINUOUSLY AROUND THE BOTTOM OF THE TOPSOIL PILES.
12. HEALTHY EXISTING TREES ON AND ADJACENT TO THE SITE SHALL BE SAVED AND PROTECTED AS ORDERED BY THE ENGINEER.
13. OPEN CUT AREAS SHALL BE MULCHED OUTSIDE OF ACTUAL WORK AREAS, AND BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED TO CONFINE SHEET WASH AND RUNOFF TO THE IMMEDIATE OPEN AREA AS ORDERED BY THE ENGINEER. THE CONTRACTOR SHALL REFERENCE ALL STORMWATER BMP'S PROVIDED BY THE STATE OF VERMONT
14. AT COMPLETION OF GRADING, SLOPES, DITCHES, AND ALL DISTURBED AREAS SHALL BE SMOOTH AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.
15. FINISH SLOPES, DITCHES AND DISTURBED AREAS SHALL RECEIVE A MINIMUM OF 4 INCHES OF TOPSOIL AND BE FERTILIZED, SEEDED, LIMED, AND MULCHED. TURF ESTABLISHMENT SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 OF THE VERMONT HIGHWAY DEPARTMENT SPECIFICATIONS AND THE SPECIFICATIONS INCLUDED ON THESE PLANS.
16. ALL FILL SHALL BE PLACED IN 6 INCH LIFTS AND THOROUGHLY COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698 STANDARD PROCTOR, UNLESS OTHERWISE SPECIFIED.
17. DRAINAGE COURSES AND STREAMS SHALL BE CONTROLLED IN DISTURBED CONSTRUCTION AREAS BY THE FOLLOWING METHODS:
    A) PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE;
    B) AVOIDING UNECESSARY DISTURBANCE OF SOILS;
    C) EARLY INSTALLATION OF STORM PIPES AND DITCHES;
    D) SEEDING AND MULCHING DIRECTLY UPON COMPLETION OF CONSTRUCTION;
    E) CONSTRUCTION OF EROSION CONTROL DEVICES AS DIRECTED BY THE ENGINEER.
18. THE SILT FENCES, DITCHES, AND OTHER EROSION CONTROL DEVICES, SHALL BE INSPECTED, MAINTAINED AND REPAIRED BY THE CONTRACTOR AFTER EVERY RAINFALL OR AS ORDERED BY THE ENGINEER UNTIL ALL DISTURBED AREAS HAVE BEEN GRASSED AND APPROVED BY THE ENGINEER. THE MAINTENANCE OF THE EROSION CONTROL DEVICES WILL INCLUDE REMOVAL OF ANY ACCUMULATED SEDIMENTATION.
19. PRIOR TO CONSTRUCTION, ALL MATERIALS SHALL BE APPROVED BY THE ENGINEER. ALL MATERIALS TO BE TAKEN OVER BY THE TOWN SHALL BE APPROVED BY THE PUBLIC WORKS DEPARMENT.
20. ALL WORK INCLUDING BUT NOT LIMITED TO SHALL CONFORM TO THE WILLISTON PUBLIC WORKS STANDARD SPECIFICATIONS

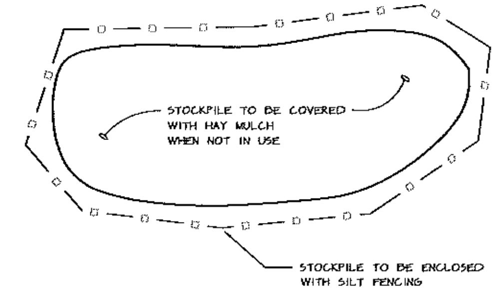
EROSION CONTROL SPECIFICATIONS

1. SEE OTHER DRAWINGS OF THESE PLANS FOR ADDITIONAL STORMWATER AND EROSION CONTROL SPECIFICATIONS AND DETAILS.
2. THE ROADWAY AND YARD FINISH GRADE SLOPES SHALL NOT BE STEEPER THAN 3 ON 1. THE FINISHED GRADE SLOPES SHALL BE IMMEDIATELY GRADED AND MULCHED.
3. ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEEDING AND MULCHING PRIOR TO NOVEMBER 1 OF EACH YEAR. ANY DISTURBED AREAS OUTSIDE OF THE ROADWAY SHALL BE IMMEDIATELY SEEDED AND MULCHED WITHIN 15 DAYS.
4. THE EROSION CONTROL METHODS USED DURING CONSTRUCTION OF THE DEVELOPMENT SHALL PROCEED IN THE FOLLOWING SEQUENCE:
    A) THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY SWALES, SILT FENCES, AND OTHER EROSION CONTROL MEASURES, IF REQUIRED, AS ORDERED BY THE ENGINEER. THE EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AFTER EVERY RAINFALL UNTIL THE NEW IMPROVEMENTS ARE PAVED AND ALL DISTURBED AREAS HAVE BEEN GRASSED. THE REPAIR OF THE EROSION CONTROL MEASURES WILL INCLUDE REMOVING ANY SEDIMENTATION. THE SEDIMENT MAY BE PLACED AS FILL IN THE LOW AREAS, IF APPROVED BY THE ENGINEER.
    B) THE TOPSOIL SHALL BE REMOVED FROM THE AREAS TO BE GRADED AND STOCKPILED. A SILT FENCE SHALL BE PLACED CONTINUOUSLY AROUND THE BOTTOM OF THE PILE.
    C) IN AREAS NEAR THE NEW CONSTRUCTION, THE CONTRACTOR SHALL ENCLOSE THE TRUNKS OF TREES TO BE SAVED WITH WOODEN SNOW FENCING ALONG THE DRIPLINE TO PROTECT THE FROM INJURY.
    D) THE SITE GRADING WILL THEN BE DONE, AND THE PIPELINES WILL BE INSTALLED IMMEDIATELY FOLLOWING GRADING. THE CONTRACTOR WILL INSTALL AND MAINTAIN INLET PROTECTION AROUND THE CATCH BASINS UNTIL THE ROADWAY HAS BEEN PAVED AND GRASS HAS BEEN ESTABLISHED ON THE SLOPES.
    E) THE CONTRACTOR WILL TOPSOIL, SEED, AND MULCH THE DISTURBED AREAS AS SOON AS POSSIBLE FOLLOWING COMPLETION OF ADJACENT CONSTRUCTION.
    F) OPEN CUT AREAS SHALL BE MULCHED OUTSIDE OF ACTUAL WORK AREAS, AND HAY BALES SHALL BE EMPLOYED TO CONFINE SHEET WASH AND RUNOFF TO THE IMMEDIATE OPEN AREA AS ORDERED BY THE ENGINEER.
5. DURING CONSTRUCTION, THE PROJECT SHALL BE IN COMPLIANCE WITH THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL.



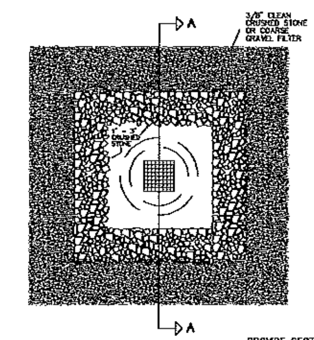
TEMPORARY SILT FENCE

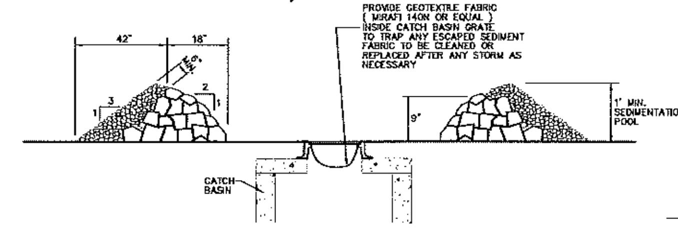
NTS



TEMPORARY FILL MATERIAL STOCKPILE

NTS





SECTION A - A

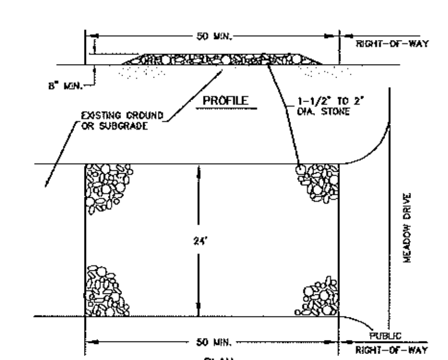
INLET PROTECTION DETAIL

NTS

MULCHING SPECIFICATIONS

DISTURBED AREAS ARE TO BE MULCHED WITHIN A WEEK OF DISTURBANCE. HAY MULCH SHALL BE SPREAD UNIFORMLY OVER THE AREA AT A RATE OF TWO TONS PER ACRE OR AT A RATE THAT IS SUFFICIENT TO PROVIDE ADEQUATE COVERAGE.

WHERE FINISH GRADE AND TOPSOILED, SEEDING AND MULCHING IS TO BE APPLIED WITHIN 48 HOURS.



NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT TRACKED, SPILLED, OR WASHED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY BY CONTRACTOR.
2. THE USE OF CALCIUM CHLORIDE OR WATER MAY BE NECSSARY TO CONTROL DUST DURING THE SUMMER.
3. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC RIGHT-OF-WAY.

STABILIZED CONSTRUCTION ENTRANCE

NTS

DP 16-13

PARCEL ID: 08062-015000

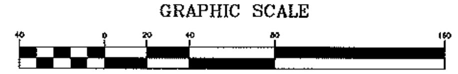
Owner

THREE FRIENDS PARTNERSHIP
CITORIK, KELLEY, KIDDER + POWELL INC.
9 RUSTIC WALK
SWANTON, VT 05488

Applicant

DOUSEVICZ, INC.
21 CARMICHAEL STREET, SUITE 201
ESSEX, VT 05452

GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 16-13, the Williston Development Review Board/Administrator approved the final plans for Lot 15 Blair Park on the 12 day of MAY, 2017

K-Belli

~~Presiding Member or~~ Administrator's signature

STATE OF VERMONT — PAUL J. O'LEARY JR. — No. 5477 — REGISTERED PROFESSIONAL ENGINEER

DATE	REVISION	BY
4-11-17	EDITED EROSION CONTROL SPECIFICATIONS	GRT
1-27-17	ADDED PROPERTY LINE DIMENSIONS	GRT
10-13-16	ADDED APPROVAL SIGNATURE BLOCK AND MADE EDITS FOR FINAL PLAN SUBMITTAL	GRT
9-6-16	REVISED GRADING / LANDSCAPING / STORMWATER PER HAAC AND PUBLIC WORKS COMMENTS	GRT

SURVEY: OBCA
DESIGN: OBCA
DRAWN: GRT
CHECKED: -
SCALE: 1"=40

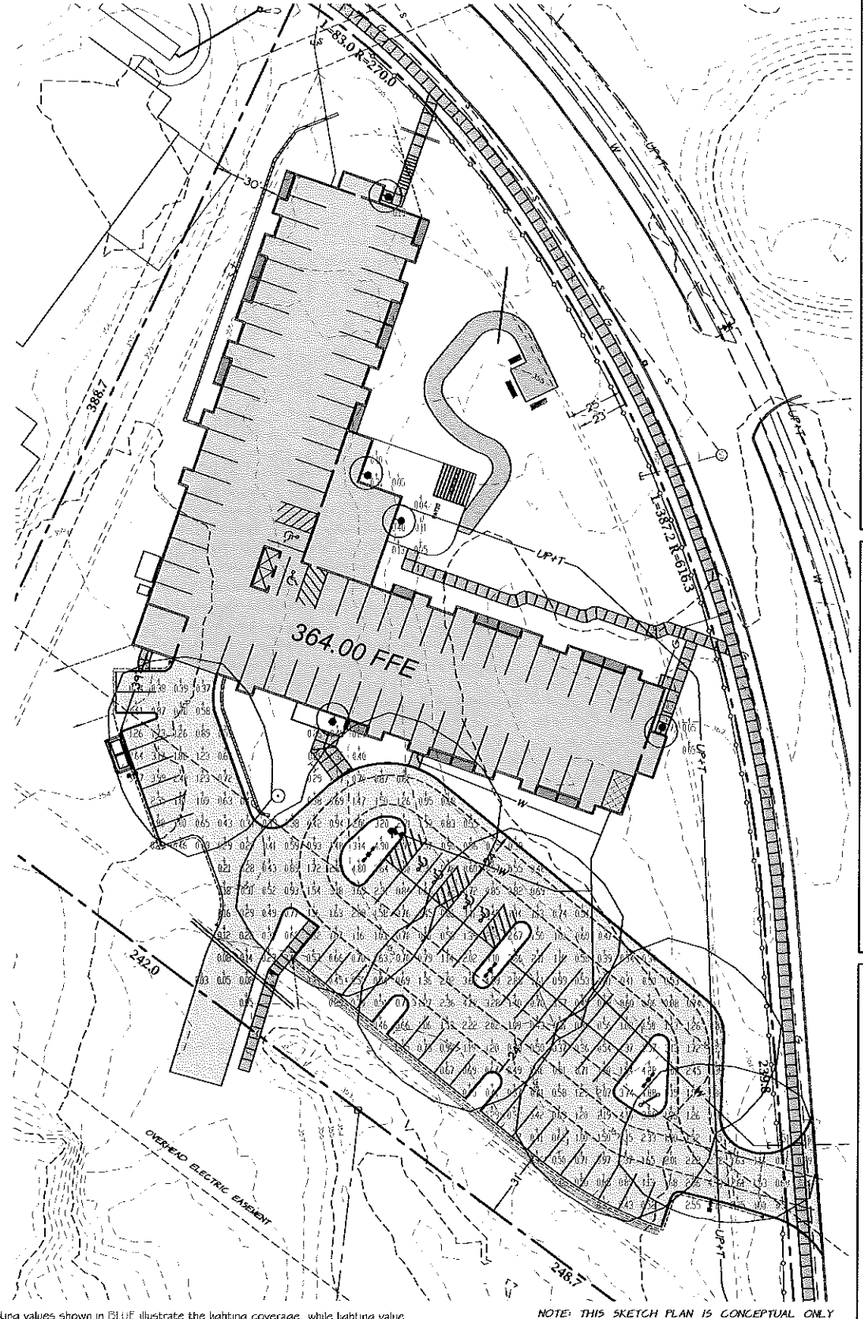
☐ RECORD DRAWING ☐ DISCRETIONARY
■ FINAL ☐ SKETCH/CONCEPT

O'LEARY-BURKE CIVIL ASSOCIATES, PLC
1 CORPORATE DRIVE SUITE #1
ESSEX JCT., VT
PHONE 878-9990
FAX 878-9989
E-MAIL office@olearyburke.com

15 BLAIR PARK
Williston — Vermont

40-Scale Maintenance and Erosion Plan

DATE: 12-30-15
JOB# 2015-41
FILE 2015-41-S6
PLAN SHEET # 4



*Note: Lighting values shown in BLUE illustrate the lighting coverage, while lighting value shown in RED have been used to calculate the uniformity ratio (max./min.)

NOTE: THIS SKETCH PLAN IS CONCEPTUAL ONLY AND SHOULD NOT BE USED FOR PROPERTY CONVEYANCE PURPOSES.

Owner

THREE FRIENDS PARTNERSHIP
CITORIK, KELLEY, KIDDER + POWELL INC.
9 RUSTIC WAY
SWANTON, VT 05488

Applicant

DOUSEVICZ, INC.
21 CARMICHAEL STREET, SUITE 201
ESSEX, VT 05452

DP 16-13

PARCEL ID: 08062-015000

ALED4T78N (A) RAB LIGHTING

Project: Type:

Prepared By: Date:

Technical Specifications

Listings
UL Listing
ISSUA LM-79 & ISSNA LF-03 Testing
DLC Listed
Optics
Lumen Maintenance
Replacement
ENEC Rating
Construction
IES Classification
Effective Projected Area

Ambient Temperature
Cold Weather Starting
Thermal Management
Housing
IP Rating
Reflector
Gaskets
Finish
Green Technology

For use on LEED Buildings

LEED Characteristics
LEDs:
Color Consistency:
Color Stability:
Color Uniformity:
Electrical
Driver:
THD
Surge Protection

ALED4T78N (A) RAB LIGHTING

Technical Specifications (continued)

Electrical
Surge Protection:
Other
California Title 24
Warranty:
Patents

Dimensions

Features

Ordering Matrix

Family	Distribution	Watts	Mount	Color Temp	Finish	Voltage	Photocell	Dimming	Bollard
ALED	4T	78		Y					

18745 BILEVEL SENSOR FOR D10 RAB LIGHTING

Thank you for buying RAB lighting fixtures. Our goal is to design the highest quality products and the highest level of light. We'd like to know your comments. Call the Marketing Department at RAB. We welcome your feedback and look forward to hearing from you.

IMPORTANT
READ CAREFULLY BEFORE INSTALLING FIXTURE. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE
FSP-211 is used with a 120-277VAC dimmable driver and is shipped with the Factory Settings (refer to Specifications and Operation below for details). If settings other than factory presets are desired, the consumer must purchase FSR-100 (RAB CAT# 0115251) wireless commissioning tool/remote to re-program sensor settings.
CAUTION: To avoid damage, for proper weatherproof function gasket must be properly seated.

SPECIFICATIONS
Sensor is Bluetooth® Switching for Wet locations as factory-installed
MAX Load: 8.5A @ 120V, 10A @ 208V, 16A @ 277V
Operating Temperature: -50°C to +75°C (-40°F to +167°F)
Relay Rating: 200,000 cycles
Factory Settings:
- High Mode: 1% (100% lumen output)
- Low Mode: 1% (10% lumen output)
- Time Delay: 5 minutes
- Cutoff: 1 hour
- Setpoint: 4fc
- Sensitivity: Max
- Ramp-up Time: none
- Fade-down Time: none

OPERATION (DIMMABLE DRIVER)
- Ambient light above the setpoint causes sensor to keep fixture light off, despite detected motion
- High Mode activated with initial motion detection
- After High Mode activation, no motion detected for duration of Time Delay, activates Low Mode
- After Low Mode activation, no motion detected for duration of Cut-off turns off light fixture

PROGRESS LIGHTING (B)

DISTRICT LED — Wall mounted - Wet location rated — PROGRESS LED

Specifications:

P5623-2030K9

Description:

Images:

Construction:

Performance:

Dimensions:

Catalog number:

Base	Finish	Color Temp	CRI
P5623	30 - Antique Bronze	30K - 3000K	9 - 90 CRI

Note

ALL OUTDOOR PARKING AREA LIGHTING FIXTURES SHALL HAVE THE RAB 18745 BILEVEL SENSOR INSTALLED. THE SENSOR CAN BE PROGRAMMED TO DIM LIGHTS TO 10% (ADJUSTABLE) OUTPUT AT NIGHT. WHEN THE SENSOR DETECTS MOTION, LIGHTING FIXTURES WILL RETURN TO 100% OUTPUT. IF NO MOTION IS DETECTED FOR A TIME PERIOD OF FIVE MINUTES, LIGHT FIXTURES WILL DIM AGAIN TO 10% OUTPUT. THE SENSOR'S "CUT-OFF" FEATURE TURNS LIGHTS OFF COMPLETELY IN THE ABSENCE OF MOTION DETECTION. THIS FEATURE WILL BE DISABLED ENSURING THAT PARKING AREA LIGHTS REMAIN AT A MINIMUM OF 10% OUTPUT THROUGHOUT THE NIGHT.

Legend

- PROJECT BOUNDARY
- OTHER PROPERTY LINE
- SETBACK
- SIDELINE OF EASEMENT
- CONTOUR LINE (U.S.G.S. DATUM)
- 305 PROPOSED FINISH GRADE CONTOUR
- EDGE OF WOODED AREA
- PROPOSED SWALE
- S EXISTING SEWERLINE
- W EXISTING WATERLINE
- G EXISTING NATURAL GASLINE
- EXISTING/PROPOSED HYDRANT
- SOIL TYPE + BOUNDARY
- PROPOSED LIGHTS
- RETAINING WALL
- FLAG POLE

(NOTE: PROPOSED UTILITIES ARE SHOWN AS A SOLID LINE)

Lot 15 Lighting Calculations

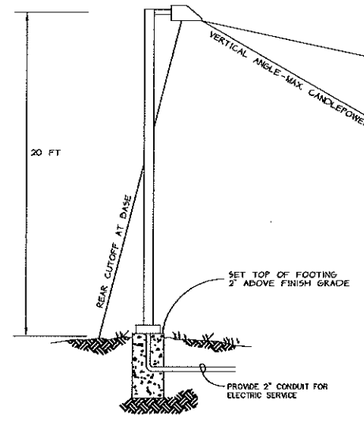
DIALux file created by: LitePro 2837 on 7/14/2015 10:59:30 AM

CALCULATION SUMMARY

ASLA NAME	PERFORMANCE	GRID / TYPE	H (FT)	SPACING	GROUP	AVG	MAX	MIN	MAX/MIN	AVG/MIN
Main Parking	CALCULATED AT 0.0 FT	Parking / H-H	22.5	16.00	(x)	1.24	4.50	0.05	88.00	4.76
Patio	CALCULATED AT 0.0 FT	Rec Grid / H-H	10	16.00	(x)	0.15	0.40	0.04	9.29	3.48
East Ent	CALCULATED AT 0.0 FT	Rec Grid / H-H	14	16.00	(x)	0.10	0.27	0.03	7.89	2.96

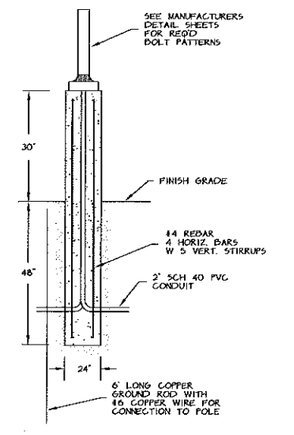
Blair Park Lot 15 CATS-4D LUMINAIRE SCHEDULE

TYP	SYMBOL	DESCRIPTION	LAMP	LUMENS	MOUNTING/BALLAST	LLF	QTY
A1		RAB LIGHTING, 1 Luminaire 25ft (1) "A" ALED4T78N	(6)	6632		0.89	2
A2		RAB LIGHTING, 1 2 Luminaire 25ft (2) "A" ALED4T78N	(12)	6632		0.89	3
B1		ARCHITECTURAL, A P5623 Similar (1) "B" UCS-FLR-70HI-F00	(1) MDR70/U/MED/D-GE	623		0.88	5



LUMINARE DETAIL

NTS



TYPICAL LIGHT POLE FOUNDATION (NO CURB)

NTS

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit DP 16-13, the Williston Development Review Board/Administrator approved this final plans for Lot 15 Blair Park on the 12th day of May, 2015

Presiding member of Administrator's signature

DATE	REVISION	BY
1-27-17	ADDED PROPERTY LINE DIMENSIONS	GRT
10-13-16	ADDED APPROVAL SIGNATURE BLOCK AND MADE EDITS FOR FINAL PLAN SUBMITTAL	GRT
9-6-16	REVISED GRADING / LANDSCAPING / STORMWATER PER MAC AND PUBLIC WORKS COMMENTS	GRT

SURVEY: OBCA
DESIGN: OBCA
DRAWN: GRT
CHECKED: -
SCALE: 1"=40'

☐ RECORD DRAWING ☐ PRELIMINARY ■ FINAL ☐ SKETCH/CONCEPT

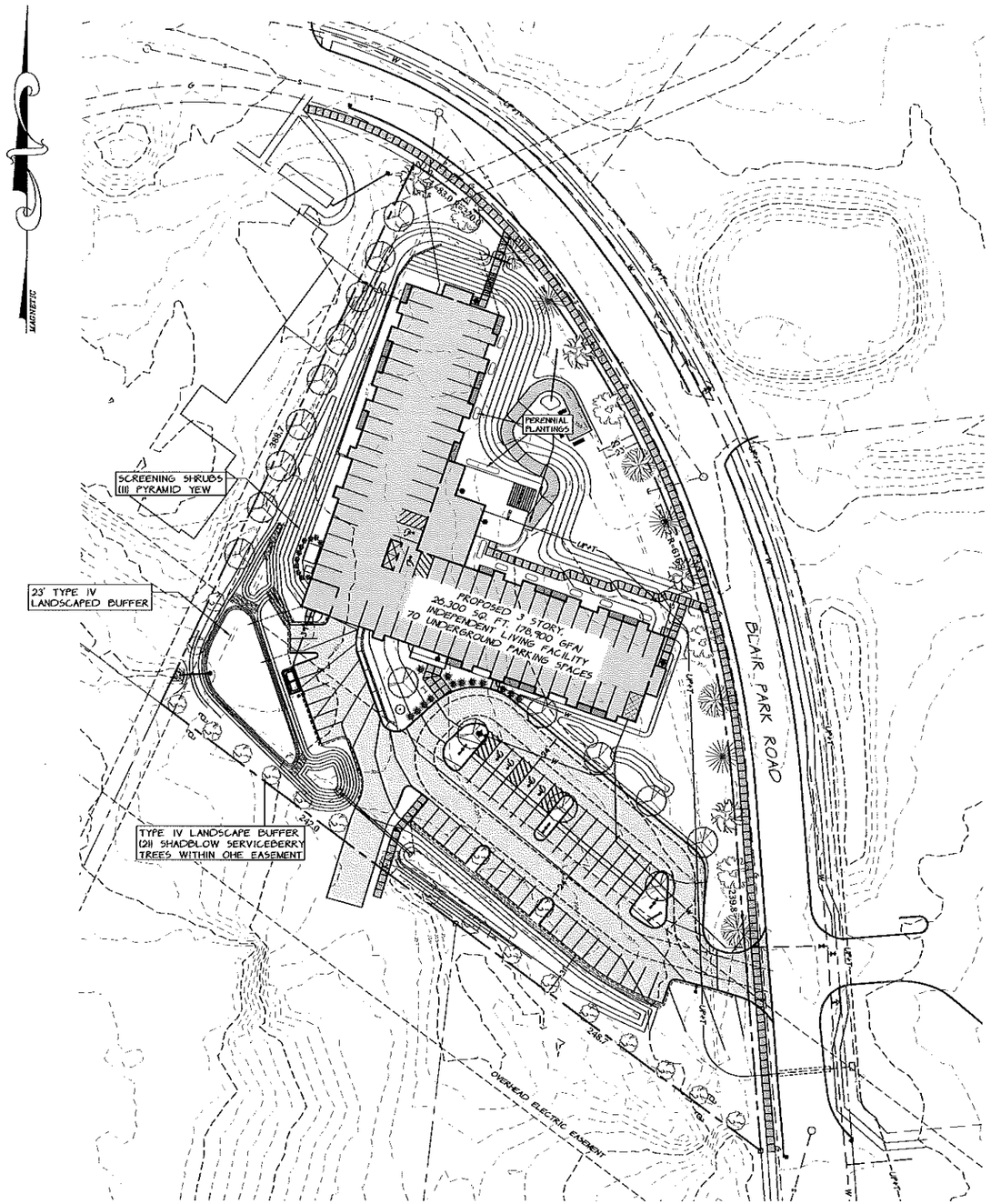
DATE: 12-30-15
JOB: 2015-41
FILE: 2015-41-S6
PLAN SHEET #: 5

O'LEARY-BURKE CIVIL ASSOCIATES, PLC
1 CORPORATE DRIVE, SUITE #1
ESSEX JCT., VT
PHONE: 878-0800
FAX: 878-0832
E-MAIL: OBCA@OBCAVT.COM

15 BLAIR PARK
Williston — Vermont

40-Scale Lighting Plan

PAUL J. O'LEARY No. 5472 REGISTERED ENGINEER



LANDSCAPING SPECIFICATIONS

ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEEDING AND MULCHING PRIOR TO OCTOBER 1 OF EACH YEAR. ANY COMPLETED DISTURBED AREAS OUTSIDE THE IMMEDIATE WORK AREA SHALL BE IMMEDIATELY SEEDED AND MULCHED WITHIN 15 DAYS. ANY WORK PERFORMED AFTER OCTOBER 1 OF EACH YEAR SHALL BE STABILIZED WITH MULCH AND NETTING SUFFICIENT TO PREVENT EROSION AND SHALL BE IMMEDIATELY SEEDED AND REMULCHED AS SOON AS WEATHER PERMITS IN THE SPRING. THESE DISTURBED AREAS SHALL RECEIVE A MINIMUM OF 4" OF TOPSOIL AND BE SEEDED, FERTILIZED, LIMED, AND MULCHED IN ACCORDANCE WITH THE FOLLOWING:

1. SEED MIXTURE IN AREAS OUTSIDE OF THE STREET LIMITS SHALL BE CONSERVATION MIX CONFORMING TO THE TABLE SHOWN BELOW. SEED MIXTURE IN AREAS WITHIN THE STREET LIMITS AND HOUSE LAWNS SHALL BE URBAN MIX CONFORMING TO THE TABLE SHOWN BELOW. FOR SEEDING BETWEEN SEPTEMBER 1 AND OCTOBER 1, WINTER RYE SHALL BE USED AT APPLICATION RATE OF 100 POUNDS PER ACRE.
2. FERTILIZER SHALL BE STANDARD COMMERCIAL GRADE CONFORMING TO THE STATE FERTILIZER LAW AND TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. DRY FERTILIZER, IF USED, SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. LIQUID FERTILIZER, IF USED, SHALL BE APPLIED IN A 1-2-1 RATIO WITH THE MINIMUM RATE TO INCLUDE 100 POUNDS OF NITROGEN, 200 POUNDS OF PHOSPHATE, AND 100 POUNDS OF POTASH PER ACRE.
3. LIMESTONE SHALL CONFORM TO ALL STATE AND FEDERAL REGULATIONS AND TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. THE LIMESTONE SHALL BE APPLIED AT A RATE OF TWO TONS PER ACRE AS DIRECTED.
4. WITHIN 24 HOURS OF APPLICATION OF FERTILIZER, LIME, AND SEED, THE SURFACE SHALL BE MULCHED WITH A HAY MULCH. MULCH SHALL BE SPREAD UNIFORMLY OVER THE AREA AT A RATE OF TWO TONS PER ACRE OR AS ORDERED BY THE ENGINEER.

TREE PLANTING SPECIFICATIONS

1. ALL TREEES WILL BE SINGLE STEMMED AND TREE FORM PRUNED. PRUNE INJURED OR MASHED ROOTS.
2. REMOVE BURLAP OR ROOT PROTECTION FROM TOP 1/3 OF BALL.
3. TREE ROOT COLLAR SHALL BEAR SAME RELATIONSHIP TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE AT NURSERY. DO NOT OVER-EXCAVATE PIT.
4. EXCAVATE 4' WIDE TREE PIT. BACKFILL WITH EXISTING SOIL UNLESS SOIL STRUCTURE IS POOR. SOIL SHALL BE COMPACTED BENEATH THE TREE BALL. FILL TREE PIT WITH SOIL MIX OF TWO PARTS TOPSOIL, ONE PART PEAT MOSS, ONE PART MANURE AND SIX OUNCES OF "MAGAMP" (7.40.60)
5. ALL REFILLED PITS WILL BE MULCHED WITH FOUR INCHES (4") OF COMPOSTED BARK MULCH AND WATERED IMMEDIATELY AFTER PLANTING.
6. ALL BOLES WILL BE WRAPPED WITH TREE WRAP FROM GROUND LINE TO BASE OF LIVE CROWN.
7. STAKE TREE USING STEEL OR HARDWOOD 2" X 4' STAKES. SECURE TREE WITH WIDE BELT-TYPE STRAPPING. DO NOT USE WIRE.
8. FERTILIZE AND WATER AS NECESSARY.

URBAN MIX GRASS SEED		
% BY WEIGHT	LBS. LIVE SEED PER ACRE	TYPE OF SEED
37.5	45	CREEPING RED FESCUE
37.25	37.5	KENTUCKY BLUEGRASS
31.25	37.5	WINTER HARDY, PERENNIAL RYE
100	120 # LIVE SEED PER ACRE	

PROPOSED LANDSCAPING SCHEDULE

SYMBOL	QUANTITY	COMMON NAME	BOTANIC NAME	SIZE
	4	ACCOLADE ELM	Ulmus Accolade	2.5"-3" Cal. B&B
	4	RED OAK	Quercus Alba	2.5"-3" Cal. B&B
	4	FREEMAN MAPLE	Acer xfreemanii	2.5"-3" Cal. B&B
	3	SWAMP WHITE OAK	Quercus Rubra	2.5"-3" Cal. B&B
	17	HONEYLOCUST	Gleditsia triacanthos 'Imperial'	2.5"-3" Cal. B&B
	20	SHADBLOW SERVICEBERRY	Amelanchier canadensis	12' HGT.
	25	PYRAMID YEW	Taxus cuspidata	5'-6' HGT.

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 16-13, the Williston Development Review Board/Administrator approved the final plans for Lot 15 Blair Park on the 22 day of MAY, 2017

K. Bell
~~Presiding member~~ or Administrator's signature

DP 16-13

PARCEL ID: 08062-015000

NOTE: THIS SKETCH PLAN IS CONCEPTUAL ONLY AND SHOULD NOT BE USED FOR PROPERTY CONVEYANCE PURPOSES.

GRAPHIC SCALE

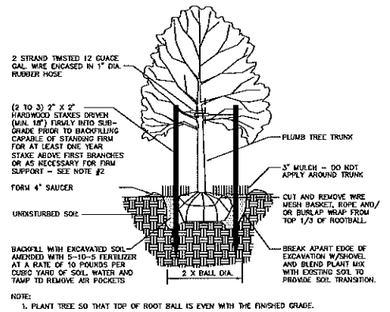
40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

Legend

- PROJECT BOUNDARY
- OTHER PROPERTY LINE
- SETBACK
- SIDELINE OF EASEMENT
- CONTOUR LINE (U.S.G.S. DATUM)
- PROPOSED FINISH GRADE CONTOUR
- EDGE OF WOODED AREA
- PROPOSED SWALE
- EXISTING SEWERLINE
- EXISTING WATERLINE
- EXISTING NATURAL GASLINE
- EXISTING/PROPOSED HYDRANT
- SOIL TYPE & BOUNDARY
- PROPOSED LIGHTS
- RETAINING WALL
- FLAG POLE

(NOTE : PROPOSED UTILITIES ARE SHOWN AS A SOLID LINE)



NOTE:
1. PLANT TREE SO THAT TOP OF ROOT BALL IS EVEN WITH THE FINISHED GRADE.
2. STAKING AS REQUIRED ONLY IN SITUATIONS WHERE TREES WILL BE SUBJECTED TO WINDY CONDITIONS AS DETERMINED BY THE PROJECT LANDSCAPE ARCHITECT.
3. TREES SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS AFTER PLANTING.
4. EXAMINE ENTIRE TREE AND REMOVE ALL NURSERY TAAGS, ROPE, STRING AND SURVEYORS TAPE PRIOR TO PLANTING TO PREVENT GIRDLING.

TREE PLANTING

NTS

LANDSCAPED BUFFER TYPE AND WIDTH

	neighbor	Minimum Buffer Width Type I(1)	Type II(2)	Type III(3)	Type IV(3)
retail service commercial	Agriculture conserved lands	50 feet	not permitted	36 feet	not permitted
	open space residential	50 feet	not permitted	23 feet	not permitted
	other residential subdivisions	50 feet	13 feet	27 feet	36 feet
	higher density residential	50 feet	13 feet	23 feet	27 feet
	mixed use, including residential	50 feet	13 feet	23 feet	27 feet
	retail service commercial	50 feet	13 feet	9 feet	23 feet
	heavy commercial/industrial (4)	50 feet	13 feet	23 feet	27 feet
	public way	See the dimensional standards for your zoning district, see also Chapter 26 - Street Trees			

Owner

THREE FRIENDS PARTNERSHIP
CITORIK, KELLEY, KIDDER + POWELL INC.
9 RUSTIC WALK
SWANTON, VT 05488

Applicant

DOUSEVICZ, INC.
21 CARMICHAEL STREET, SUITE 201
ESSEX, VT 05452

DATE	REVISION	BY
1-27-17	ADDED PROPERTY LINE DIMENSIONS	GRT
10-13-16	ADDED APPROVAL SIGNATURE BLOCK AND MADE EDITS FOR FINAL PLAN SUBMITTAL	GRT
9-6-16	REVISED GRADING / LANDSCAPING / STORMWATER PER MAC AND PUBLIC WORKS COMMENTS	GRT

SURVEY: OBCA
DESIGN: OBCA
DRAWN: GRT
CHECKED:
SCALE: 1"=40'
DATE: 12-20-15
JOB #: 2015-41
FILE: 2015-41-S6
PLAN SHEET #: 6

☐ RECORD DRAWING ☐ PRELIMINARY
■ FINAL ☐ SKETCH/CONCEPT

15 BLAIR PARK
Williston — VERMONT

40-Scale Landscaping Plan

O'LEARY-BURKE CIVIL ASSOCIATES, PLC
1 CORPORATE DRIVE SUITE #1
ESSEX JCT, VT
PHONE: 878-6976
FAX: 878-2953
E-MAIL: OBCA@GMAVT.NET

STORM SYSTEM MAINTENANCE

MAINTENANCE PLAN

SYSTEM MAINTENANCE IS IMPORTANT FOR TREATMENT AND CONTROL OF STORM RUNOFF FROM THE IMPERVIOUS SURFACES ROAD, PARKING, AND WALKWAY. THE FOLLOWING ELEMENTS FORM THE MINIMUM REQUIREMENTS:

1. THE OWNER (OR REPRESENTATIVE) SHALL PERFORM INSPECTIONS BI-ANNUALLY AND FOLLOWING SIGNIFICANT (LARGE) STORM EVENTS. THE FOLLOWING ITEMS SHALL BE REVIEWED: CONDITION OF THE VEGETATION, CONDITION OF THE DITCH SURFACES, DEPTH OF ACCUMULATED SEDIMENT (IF ANY), THE PRESENCE OF EROSION (IF ANY), CONDITION OF THE STORM PIPES, AND THE CONDITION OF THE PIPE INLETS AND OUTLETS. ANY OBSERVABLE DEGRADATION OF THE STORM SYSTEM SHALL BE NOTED.

2. THE OWNER (OR REPRESENTATIVE) SHALL COMPLETE REPAIR OF ANY ITEMS, AS REQUIRED TO MAINTAIN OPTIMAL SYSTEM OPERATION. AT A MINIMUM, THE FOLLOWING ITEMS SHALL BE INCLUDED:

A. ANY EROSION GULLIES 6 INCHES OR DEEPER SHALL BE FILLED AND VEGETATION ESTABLISHED IN THE DISTURBED AREA.

B. SEDIMENT ACCUMULATED TO A DEPTH OF MORE THAN 6 INCHES IN THE ROAD DITCHES SHALL BE REMOVED AND DISPOSED OF IN AN UPLAND AREA THAT IS NOT WITHIN 100 FEET OF WATERS OF THE STATE. VEGETATION SHALL BE ESTABLISHED IN ALL DISTURBED AREAS.

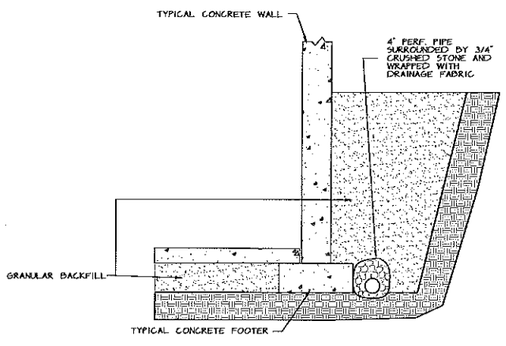
C. VEGETATION SHALL BE ESTABLISHED AS NEEDED, IN AREAS OF BARE SOIL. THIS IS PARTICULARLY IMPORTANT IN FLOW AREAS WHERE VEGETATION PROVIDES SEDIMENT REMOVAL.

D. SILT FENCES SHALL BE USED IF NEEDED TO PREVENT EROSION AND AID IN THE ESTABLISHMENT OF VEGETATION. THESE TEMPORARY MEASURES SHALL BE REMOVED AFTER THE SITE IS STABILIZED AND THE RISK OF EROSION IS REDUCED.

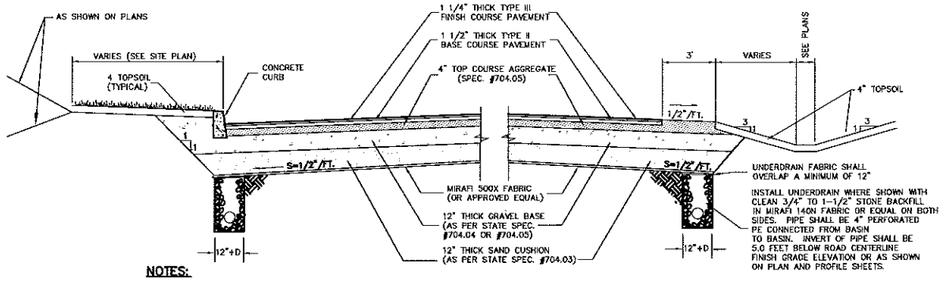
E. THE GRASSED AREAS SHALL BE MOWED AS NEEDED TO PREVENT THE ESTABLISHMENT OF WOODY VEGETATION.

WINTER CONSTRUCTION REQUIREMENTS

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL.
2. PROVIDE ENLARGED ACCESS POINTS, STABILIZED TO PROVIDE FOR SNOW STOCKPILING.
3. A MINIMUM 25 FT BUFFER SHALL BE MAINTAINED FROM PERIMETER CONTROLS SUCH AS SILT FENCE.
4. DRAINAGE STRUCTURES MUST BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.
5. SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED AHEAD OF FROM GROUND.
6. MULCH USED FOR TEMPORARY STABILIZATION MUST BE APPLIED AT DOUBLE THE STANDARD RATE, OR A MINIMUM OF 3 INCHES WITH AN 80-90% COVER.
7. TO ENSURE COVER OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
   - IF NO PRECIPITATION WITHIN 24 HOURS IS FORECAST AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.
   - DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS HOUSE FOUNDATIONS OR OPEN UTILITY TRENCHES.
8. PRIOR TO STABILIZATION, SNOW OR ICE MUST BE REMOVED TO LESS THAN 1 INCH THICKNESS.
9. USE STONE TO STABILIZE AREAS SUCH AS THE PERIMETER OF BUILDINGS UNDER CONSTRUCTION OR WHERE CONSTRUCTION VEHICLE TRAFFIC IS ANTICIPATED. STONE PATHS SHOULD BE 10-20 FEET WIDE TO ACCOMMODATE VEHICULAR TRAFFIC.
10. IN AREAS OF DISTURBANCE THAT DRAIN TO A WATER BODY WITHIN 100 FEET, TWO ROWS OF SILT FENCE MUST BE INSTALLED ALONG THE CONTOUR.



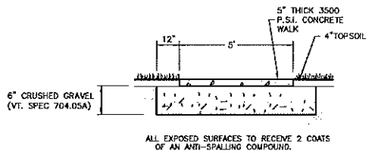
FOOTING DRAIN DETAIL
NTS



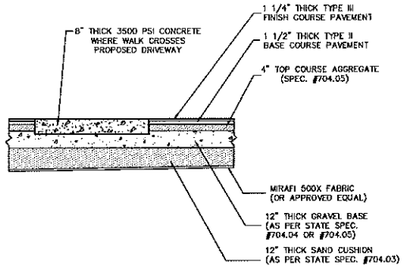
NOTES:

1. THE CONTRACTOR SHALL CLEAR, GRUB & EXCAVATE FOR THE DRIVES/PARKING AREAS AND UTILITIES IN ACCORDANCE WITH DIVISION 200 - EARTHWORK OF THE VERMONT DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS.
2. EMULSION SHALL BE PLACED ON THE FACE OF THE CURB WHERE IT WILL BE IN CONTACT WITH THE PAVEMENT.
3. EMULSION WILL BE PLACED BETWEEN THE BASE AND FINISH COATS OF PAVEMENT WHEN THE FINISHED COURSE IS NOT PLACED WITHIN A REASONABLE AMOUNT OF TIME OF THE BASE COURSE PLACEMENT.
4. UNDERDRAINS SHALL BE INSTALLED BY THE CONTRACTOR AS REQUESTED BY THE PROJECT ENGINEER FOLLOWING ROUGH GRADING OF THE SUBBASE SOILS AND THE ENGINEERING SOIL ANALYSIS.

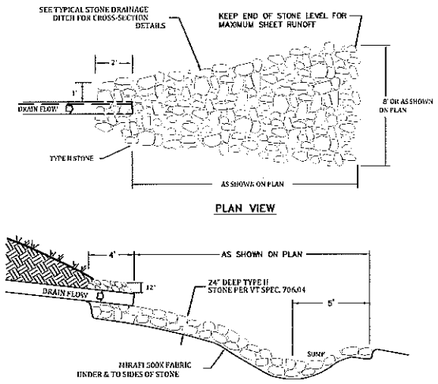
TYPICAL ROAD + PARKING AREA CROSS-SECTIONS



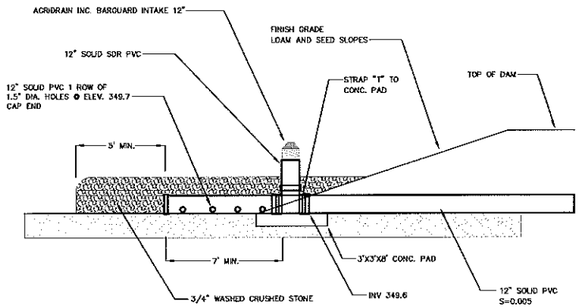
TYPICAL SIDEWALK SECTION
NTS



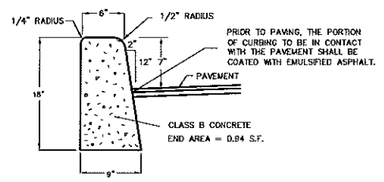
SIDEWALK SECTION AT DRIVE
NTS



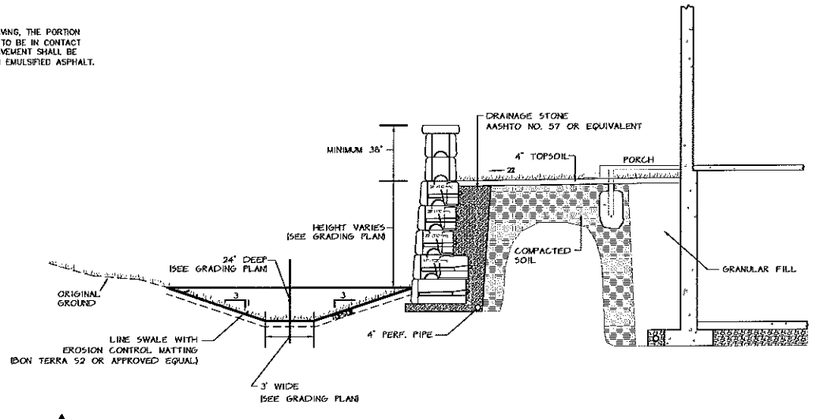
STORM OUTFALL DETAIL
NTS



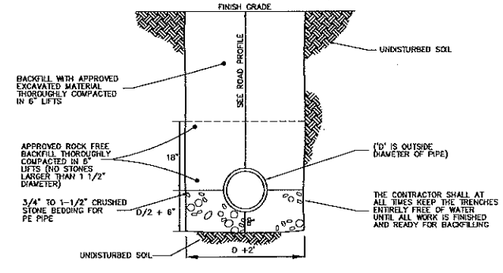
DETENTION POND OUTLET DETAIL
NTS



CONCRETE CURB
NTS



B SWALE AND REDI-ROCK WALL CROSS SECTION
NTS



STORM DRAIN TRENCH
NTS

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 16-13, the Williston Development Review Board/Administrator approved the final plans for Lot 15 Blair Park on the 22nd day of MAY, 20 17

~~Presiding member~~ or Administrator's signature

Owner

THREE FRIENDS PARTNERSHIP
CITORIK, KELLEY, KIDDER + POWELL INC.
9 RUSTIC WALK
SWANTON, VT 05488

Applicant

DOUSEVICZ, INC.
21 CARMICHAEL STREET, SUITE 201
ESSEX, VT 05452

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

DP 16-13
PARCEL ID: 08062-015000

NOTE: THIS SKETCH PLAN IS CONCEPTUAL ONLY AND SHOULD NOT BE USED FOR PROPERTY CONVEYANCE PURPOSES.

PAUL J. O'LEARY No. 5477 REGISTERED PROFESSIONAL ENGINEER

DATE 1-27-17	REVISION ADDED PROPERTY LINE DIMENSIONS	BY GRT
DATE 10-13-16	REVISION ADDED APPROVAL SIGNATURE BLOCK AND MADE EDITS FOR FINAL PLAN SUBMITTAL	BY GRT
DATE 9-6-16	REVISION REVISED GRADING/LANDSCAPING/STORMWATER PER HAAC AND PUBLIC WORKS COMMENTS	BY GRT
SURVEY OBCA	☐ RECORD DRAWING ☐ DISCRETIONARY ■ FINAL ☐ SKETCH/CONCEPT	DATE 7-14-16
DESIGN OBCA	15 BLAIR PARK	JOB 2015-41
DRAWN GRT	O'LEARY-BURKE CIVIL ASSOCIATES, PLC	FILE 2015-41-S6
CHECKED -	1 CORPORATE DRIVE, SUITE #1 ESSEX JCT., VT PHONE: 878-6900 FAX: 878-6946 E-MAIL: OBCA@OBCA-SURVEY.COM	PLAN SHEET # 7
SCALE 1"=40'	Williston Vermont	PROJECT DETAILS AND SPECIFICATIONS

WATER SPECIFICATIONS

1.1 GENERAL:

This item shall consist of the labor, equipment, and material required for the complete construction of the watermains and services which shall include excavation, backfilling, pipe, valves, tees, hydrants, elbows, reducers, and all other appurtenances necessary for a complete watermain system as indicated on the accepted drawings. All materials and installations shall be approved by the local municipal water authority.

1.2 WATER PIPE MATERIALS:

DUCTILE IRON PIPE

Pipe shall be a minimum diameter of eight inches (8") and conform to current AWWA C110 or ANSI Specification A21.10. Push-on joint pipe shall be minimum thickness Class 52. Push-on joint accessories shall conform to applicable requirements of AWWA C111 or ANSI Specification A21.11.

Pipe shall be cement mortar-lined on the inside in accordance with AWWA C104 or ANSI Specification A21.4 except that the cement-lining thickness shall not be less than three- sixteenths inch (3/16"). A plus tolerance of one-eighths inch (1/8") will be permitted.

1.3 FITTINGS:

Ductile iron fittings shall be cement-lined, have 350 pounds working pressure, and be in accordance with AWWA C-104, C-111, and C-110 or C-153 for compact fittings. Mechanical joint nuts and bolts shall be high strength, low alloy steel per ANSI A-21.11. Ductile iron fittings larger than twelve inches (12") shall have a standard body length equal to Class 250 cast iron fittings. Cast iron Class 250 fittings will be allowed in lieu of ductile iron fittings in sizes larger than twelve inches (12"). All water fittings shall be lead free.

Megalug retainer glands or an approved equal shall be used on all vertical bend and as shown on the plans.

1.4 GATE VALVE RESILIENT SEAT:

VALVES SHALL BE MANUFACTURED IN NORTH AMERICA TO MEET ALL REQUIREMENTS OF AWWA SPECIFICATIONS C-509. VALVES TWELVE INCHES (12") AND SMALLER SHALL BE BUBBLE-TIGHT, ZERO LEAKAGE AT 250 PSI WORKING PRESSURE. VALVES SHALL HAVE NON-RISING STEMS, OPEN COUNTERCLOCKWISE, ADN BE PROVIDED WITH A TWO INCH (2") SQUARE OPERATING NUT WITH ARROW CAST IN METAL TO INDICATE DIRECTION OF OPENING.

Each valve shall have maker's name, pressure rating, and year in which manufactured cast on the body. Prior to shipment from the factory, each valve shall be tested by hydrostatic pressure equal to twice the specified working pressure. Buried valves shall be installed with a valve box.

1.5 VALVE BOXES:

Cast iron three-piece slide-type; five and one-fourths inch (5 1/4") shaft; six foot (6') trench depth.

Cast iron cover marked "WATER" and indicating direction of opening.

1.6 FIRE HYDRANTS:

All hydrants are to be 3-way, 5" minimum diameter and limited to the following make: Kennedy Guardian K-81A.

Main Valve Opening:	5 1/4 inches
Nozzle Arrangement:	Two 2 1/2 inch hose nozzles with (6) threads per inch. One 4 1/2 inch pumper nozzle with (4) threads per inch. 5" Storz connection
Inlet Connection:	6 inch mechanical joint
Operating Nut:	Standard 1 inch pentagon
Direction of Opening:	Counterclockwise
Color:	Enameled hydrant yellow body, top color as determined by Town.
Depth of Bury:	Hydrant shall be installed to the manufacturer's instructions with nozzles about 18" above finish grade.

1.7 HYDRANT BRANCHES:

Hydrant assemblies shall consist of a six inch (6") mechanical joint gate valve conforming to AWWA C-509; a four foot (4') length of six inch (6") Class 52 ductile iron pipe with a cement-lining; and the fire hydrant.

The hydrant shall have (18"-21") clearance between the center of the steamer cap and the ground. For single-family house subdivisions, there will be at least one hydrant at each intersection and a maximum of 500 feet (500') between hydrants with a minimum water flow of 500 gallons per minute with a 20 psi residual pressure from each hydrant.

1.8 WATER SERVICE CONNECTION:

A. GENERAL REQUIREMENTS

The Contractor shall install six inch (6") ductile iron water services as indicated on the Contract Drawings or as directed by the Engineer. Each service shall include a 6 inch (6") gate valve located at the property line.

1.9 CONSTRUCTION METHODS

A. INSPECTION AND TESTING

All pipe and fittings shall be inspected and tested in accordance with the manufacturer's specifications and the aforementioned AWWA Specifications. The Contractor shall furnish for approval certification from the pipe manufacturer that all tests have been performed with satisfactory results. Pipe shall not be installed without the Engineer's or Water Authority's approval.

B. INSTALLATION

Pipes, fittings, and accessories shall be carefully handled to avoid damage. Prior to the date of acceptance of the project work by the Owner, the Contractor shall replace any new pipe or accessory found to be defective at any time, including after installation, at no expense to the Owner. All installation and testing shall be done in accordance with AWWA Standard C-600 and ANSI Specification A21.11.

All pipes showing cracks shall be rejected. If cracks occur in the pipe, the Contractor may, at his own expense and with the approval of the Engineer, cut off the cracked portions at a point at least twelve inches (12") from the visible limits of the crack and use the sound portion of the pipe. All pipes and fittings shall be cleared of all foreign matter and debris prior to installation and shall be kept clean until the time of acceptance by the Owner.

At all times, when the pipe laying is not actually in progress, the open ends of the pipe shall be closed by temporary watertight plugs or by other approved means. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe has passed. The pipe shall be installed in trenches and at the line and grade shown on the Contract Drawings.

Any deflection joints shall be within the limits specified by the manufacturer. All piping and appurtenances connected to the equipment shall be supported so that no strain will be imposed on the equipment. If the equipment manufacturer's specifications include that piping loads are not to be transferred, the Contractor shall submit certification of compliance.

Concrete thrust blocks shall be installed on all plugs, tees, and bends deflecting 11 1/4 degrees or more. Care shall be taken to ensure that concrete will not come in contact with flanges, joints, or bolts. The required area of thrust blocks are indicated on the plans or shall be as approved by the Engineer.

Whenever sewers cross under watermains, the watermain shall be laid at such an elevation that the bottom of the watermain is at least 18 inches above the top of the sewer. This vertical separation shall be maintained for that portion of the watermain located within ten feet (10') horizontally of any sewer it crosses.

There shall be no physical connection between the distribution system and any pipes, pumps, hydrants, or tanks which are supplied or may be supplied with a water that is, or may be, contaminated. In instances where the use of different types of pipe require joining, the Contractor shall furnish and install all necessary adapters.

All trenching safety standards shall be in conformance with all applicable State and Federal Guidelines and as specified on the Plans.

The Contractor shall, at all times, keep the trenches entirely free of water until all work is finished and ready for backfilling. After the various pipelines have been installed, the trenches and other areas to be filled shall be backfilled to subgrade with, wherever possible, material excavated from the trench. No backfilling will be allowed until any concrete masonry has set sufficiently, as determined by the Engineer.

All material for backfilling shall be free of roots, stumps, and frost. Materials used for backfilling trenches shall be free of stones weighing over 30 pounds. No stones measuring over one and one-half inches (1 1/2") in the longest dimension shall be placed within one foot (1') of the pipeline being backfilled.

Backfill for all pipelines shall be placed in six inch (6") layers, each layer being thoroughly compacted to not less than 95 percent of maximum dry density as determined by the AASHTO-T-99 Standard Proctor. Particular precautions shall be taken in the placement and compaction of the backfill material in order not to damage the pipe or structure. The backfill shall be brought up evenly. All watermains shall be installed with a minimum cover depth of six (6').

Surplus excavated materials not used for backfill shall be disposed of in a manner satisfactory to the Engineer. All surplus material or spoil shall be removed promptly and disposed of so as not to be objectionable to abutters or to the general public.

Valve boxes are to be installed on all buried valves. The boxes shall be cast iron with a minimum five and one-fourths inch (5 1/4") diameter and long enough to extend from the valve to finished grade. The boxes shall enclose the operating nut and stuffing box of the valve. Valve boxes shall not transfer loads into the valve. Covers shall be close fitting and dirt-tight with the top of the cover flush with the top of the box rim. Covers shall be marked "Water" with an arrow indicating the direction of opening. Valve boxes shall be three piece slip-type.

The contractor shall provide a stable, temporary PVC marker approved by the Engineer at all gate valves, curb stops, and at the end of waterlines to a point six inches (6") above finish grade. The marker shall be seated securely into the ground.

C. FIELD TESTING

Except as otherwise directed, all pipelines shall be tested. Pipelines laid in excavation or bedded in concrete shall be tested prior to backfilling or the placing of concrete, and any exposed piping shall be tested prior to field painting. The Contractor shall furnish all gauges, testing plugs, caps, and all other necessary equipment and labor to perform leakage and pressure test in sections of an approved length. Each valved section or a maximum of one thousand feet (1,000') of the pipe shall be tested. All water required for testing shall be potabe. All testing shall be conducted in the presence of the Engineer.

For the pressure test, the Contractor shall develop and maintain 200 pounds per square inch for two hours. Failure to hold the designated pressure for the two-hour period constitutes a failure of the section tested. The leakage test shall be performed concurrently with the pressure test. During the test, the Contractor shall measure the quantity of water required to maintain the test pressure. Leakage shall not exceed the quantity given by:

$$L = SD\,(\text{Square root of } P) / 148{,}000$$

where:
- L = Leakage in gallons/hour
- S = Length of pipeline tested
- D = Diameter of pipe in inches
- P = Average test pressure in psi

All testing shall be conducted in accordance with AWWA C-600 latest revision. Should any section of the pipe fail either the pressure or leakage tests, the Contractor shall do everything necessary to locate and repair or replace the defective pipe, fittings, or joints at no expense to the Owner.

D. DISINFECTION:

Chlorination of the watermain shall be conducted only after the main has been flushed and a clear stream is obtained as determined by the Engineer.

The Contractor shall furnish all labor, equipment, materials, and tools necessary to disinfect the pipe and appurtenances in accordance with the AWWA Standard for Disinfecting Watermains, C-651, with the exception of the tablet method.

The method of disinfection shall be by the continuous feed method unless otherwise approved by the Engineer. After filling, flushing, and the addition of chlorine solution, the free chlorine concentration within the pipe shall be at least 25 mg/l. The chlorinated water shall remain in the main for a period of at least 24 hours. At the end of this period, the treated water in all portions of the main shall not have a residual of less than 10 mg/l of free chlorine. All disinfection shall be performed under the supervision of the Engineer. The disinfection process shall be deemed acceptable only after (2) samples of water from the flushed, disinfected main taken by the Engineer and tested at an approved laboratory show no evidence of bacteriological contamination. Disinfection shall conform to the latest AWWA C-651 revision.

The pipeline and appurtenances shall be maintained in an uncontaminated condition until final acceptance. Disinfection shall be repeated when and where required at no expense to the Owner until final acceptance by the Owner.

E. FROST PROTECTION OF SHALLOW WATERLINES

Waterlines with less than six feet six inches (6'6") of cover over the crown, or where indicated on the plans, shall be protected against freezing by installation of four inch (4") thick Styrofoam SM insulating sheets with a total width of four feet (4') or twice the pipe diameter, whichever is greater. The sheets shall be placed six inches (6") above the crown of the main after compaction of the six inch (6") lift immediately above the crown. Care shall be exercised by the Contractor during backfill and compaction over the styrofoam sheets to prevent damage to the sheets. Styrofoam SM sheets shall meet the compressive strength requirements of ASTM D1621-73 and shall be as manufactured by Dow Chemical Company, Midland, Michigan, or equivalent. In no case shall the waterlines have less than five feet (5') of cover over the top of the pipe, as approved by the Town of Essex.

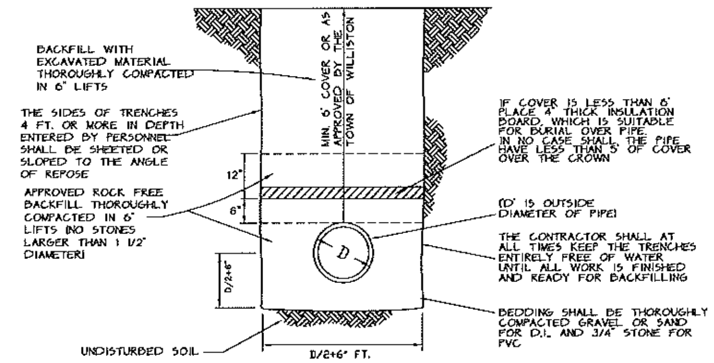
F. INSTALLATION OF WATER SERVICE LINES AND METERS

Upon receipt of the certification of the water system and concurrence by the Town, as well as receiving all necessary permits, the contractor may begin to install water service lines and schedule installation of water meters along the approved section of the water main.

A meter location should be chosen by the contractor which is easily accessible. To avoid unnecessary damage to new siding, the houses should be pre-wired from the proposed meter location to the outside reader. The Town will provide the wire.

Additional information on the procedures for installation of water meters is contained in the water use ordinance.

The contractor is to install all water meters 1.5" and larger. The town will install all water meters smaller than 1.5".



TYPICAL WATER TRENCH

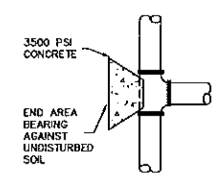
NTS

SOIL TYPE – SAND

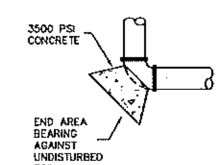
FITTING \ SIZE	6"	8"	12"
11¼ & 22½	2	2	5
45°	2	4	9
90°	4	8	17
TEES OR END CAPS	3	6	12
VALVES	2	2	2

SQ FT BEARING AREA

BASED ON 100 PSI WORKING PRESSURE PLUS 100 PSI SURGE ALLOWANCE AND BEARING CAPACITY OF 2000 LBS/SQ FT



TYPICAL TEES-DEADENDS-CAPS

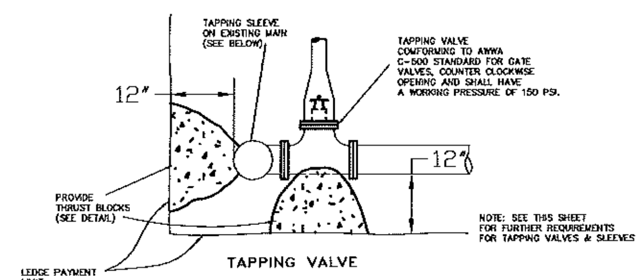


TYPICAL BENDS

NOTE: PLACE 4 mil POLYETHYLENE BETWEEN FITTING AND THRUST BLOCK

THRUST BLOCK END AREA

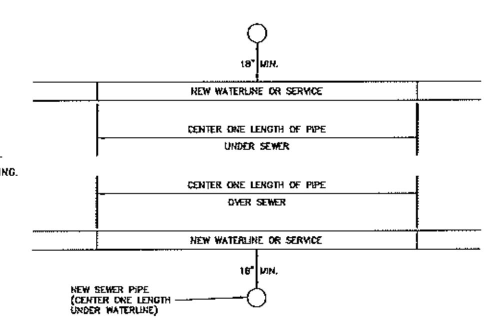
NTS



TAPPING VALVE

NOTES

IF 18" OF VERTICAL SEPARATION CAN NOT BE MAINTAINED, THE SEWER LINE SHALL BE CONSTRUCTED TO WATERLINE STANDARDS, A MINIMUM OF 20 FEET BEYOND EACH SIDE OF 20 FEET BEYOND EACH SIDE OF THE CROSSING.



SEWER / WATER SEPARATION DETAIL FOR CROSSINGS

NTS

NOTE: WATER LINE SEPARATION

SEWER AND STORM LINES SHALL BE LAID AT LEAST 10' HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN AS MEASURED EDGE TO EDGE.

WHEREVER IMPOSSIBLE TO MAINTAIN THE 18" VERTICAL SEPARATION, THE SEWER/STORM LINE SHALL BE CONSTRUCTED TO NORMAL WATER LINE STANDARDS AND PRESSURE TESTED TO AWWA WATERLINE STANDARDS PRIOR TO BACKFILLING OR THE SEWER/STORM LINE SHALL BE SLEEVED.

NOTE: WATER LINE CROSSINGS

SEWER AND STORM LINES CROSSING WATER MAINS SHALL BE LAID BENEATH THE WATERMAIN WITH AT LEAST 18" OF VERTICAL CLEARANCE BETWEEN THE OUTSIDE OF THE WATER LINE AND THE OUTSIDE OF THE SEWER/STORM. WHEN IT IS IMPOSSIBLE TO MAINTAIN THE 18" VERTICAL SEPARATION: 1) THE CROSSING SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER/STORM IS CENTERED ABOVE OR BELOW THE WATER LINE WITH THE SEWER/STORM JOINTS AS FAR AS POSSIBLE FROM THE WATER JOINTS; 2) THE SEWER/STORM PIPE MUST BE CONSTRUCTED TO WATER LINE STANDARDS FOR A MINIMUM DISTANCE OF 20 FEET EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICHEVER IS GREATER; 3) THE SECTION CONSTRUCTED TO WATER MAIN STANDARDS MUST BE PRESSURE TESTED TO MAINTAIN 50 PSI FOR 15 MINUTES WITH NO LEAKAGE PRIOR TO BACKFILLING BEYOND ONE FOOT ABOVE THE PIPE TO ASSURE WATER TIGHTNESS; 4) WHERE A WATER MAIN CROSSES UNDER A SEWER/STORM, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER/STORM TO PREVENT DAMAGE TO THE WATER MAIN.

DP 16-13

PARCEL ID: 08062-015000

NOTE: THIS SKETCH PLAN IS CONCEPTUAL ONLY AND SHOULD NOT BE USED FOR PROPERTY CONVEYANCE PURPOSES.

Owner

THREE FRIENDS PARTNERSHIP
CITORIK, KELLEY, KIDDER + POWELL INC.
9 RUSTIC WALK
SWANTON, VT 05488

Applicant

DOUSEVICZ, INC.
21 CARMICHAEL STREET, SUITE 201
ESSEX, VT 05452

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 16-13, the Williston Development Review Board/Administrator approved the final plans for Lot 15 Blair Park on the 22 day of MAY 2017

~~Presiding member~~ or Administrator's signature

STATE OF VERMONT — PAUL J. O'LEARY, JR. — No. 5477 — REGISTERED PROFESSIONAL ENGINEER

DATE	REVISION	BY
1-27-17	ADDED PROPERTY LINE DIMENSIONS	GRT
10-13-16	ADDED APPROVAL SIGNATURE BLOCK AND MADE EDITS FOR FINAL PLAN SUBMITTAL	GRT
9-6-16	REVISED GRADING / LANDSCAPING / STORMWATER PER HAAC AND PUBLIC WORKS COMMENTS	GRT

SURVEY: OBCA
DESIGN: OBCA
DRAWN: GRT
CHECKED:
SCALE: 1"=40

☐ RECORD DRAWING ☐ DISCRETIONARY
■ FINAL ☐ SKETCH/CONCEPT

O'LEARY-BURKE CIVIL ASSOCIATES, PLC
1 CORPORATE DRIVE, SUITE #1
ESSEX JCT., VT
PHONE 878-9990
FAX 878-9989
E-MAIL oba@olearyburke.com

15 BLAIR PARK
Williston — Vermont

WATER DETAILS AND SPECIFICATIONS

DATE: 7-14-16
JOB #: 2015-41
FILE: 2015-41-S6
PLAN SHEET #: 8

GENERAL SEWER SPECIFICATIONS

GENERAL:

THIS ITEM SHALL CONSIST OF THE EXCAVATION AND BACKFILLING REQUIRED FOR THE COMPLETE CONSTRUCTION OF GRAVITY SANITARY SEWERS, FORCE MAINS, AND ALL APPURTENANT CONSTRUCTION RELATED THERETO, INCLUDING CHIMNEYS, SERVICE CONNECTIONS, THRUST BLOCKS, AND OTHER ITEMS NECESSARY FOR A COMPLETE SANITARY SEWER SYSTEM AS INDICATED ON THE DRAWINGS.

MATERIALS:

A. TYPES OF PIPE

TYPES OF PIPE WHICH SHALL BE USED FOR THE VARIOUS PARTS OF WORK ARE AS FOLLOWS:
GRAVITY SEWERS SHALL BE PVC SOLID WALL PIPE MEETING ASTM SPECIFICATIONS D-3034 OR F679.

B. PVC SEWER PIPE

PVC SEWER PIPE SHALL CONFORM IN ALL RESPECTS TO THE LATEST REVISION OF ASTM SPECIFICATIONS D-3034 OR F679, TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, SDR35. WALL THICKNESS OF ALL PVC SHALL MEET ASTM SPECIFICATIONS FOR SDR35 PIPE. ALL PIPE AND FITTINGS SHALL BE CLEARLY MARKED AS FOLLOWS:

MANUFACTURER'S NAME AND TRADEMARK
NOMINAL PIPE SIZE
MATERIAL DESIGNATION 12454C PVC
LEGEND "TYPE PSM SDR35 PVC SEWER PIPE" OR
"PS 46 PVC SEWER PIPE"
DESIGNATION ASTM D-3034 OR F679

JOINTS SHALL BE PUSH-ON TYPE USING ELASTOMERIC GASKETS AND SHALL CONFORM TO ASTM D-3212. THE GASKETS SHALL BE FACTORY INSTALLED.

THE PIPE SHALL BE FURNISHED IN NOMINAL 13 FOOT LENGTHS. SUFFICIENT NUMBERS OF SHORT LENGTHS AND FULL MACHINE FITTINGS SHALL BE PROVIDED FOR USE AT MANHOLES, CHIMNEYS, AND CONNECTIONS. ALL CONNECTIONS WILL REQUIRE THE USE OF MANUFACTURED FITTINGS. FIELD FABRICATED, SADDLE-TYPE CONNECTIONS WILL NOT BE CONSIDERED ACCEPTABLE.

ANY PIPE OR FITTING HAVING A CRACK OR OTHER DEFECT OR WHICH HAS RECEIVED A SEVERE BLOW SHALL BE MARKED REJECTED AND REMOVED AT ONCE FROM THE WORK SITE. ALL FIELD CUTS ARE TO BE MADE WITH SAW AND 90 DEGREE MITRE BOX. BEVEL THE CUT END TO THE SAME AS THE FACTORY BEVEL AND REMOVE ALL INTERIOR BURRS. MEASURE AND PLACE A HOMING MARK ON THE PIPE BEFORE ASSEMBLING.

THE PIPE INSTALLED UNDER THIS SPECIFICATION SHALL BE INSTALLED SO THAT THE INITIAL DEFLECTION, MEASURED AS DESCRIBED BELOW, SHALL BE LESS THAN FIVE PERCENT (5%).

DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE AFTER THE FINAL BACKFILL HAS BEEN IN PLACE FOR AT LEAST 30 DAYS. THE DEFLECTION TEST SHALL BE RUN USING A RIGID BALL OR MANDREL HAVING A DIAMETER EQUAL TO 95 PERCENT OF THE INSIDE DIAMETER OF THE PIPE. NO MECHANICAL PULLING DEVICES SHALL BE USED DURING THE DEFLECTION TESTS. ALL PIPE NOT MEETING THE DEFLECTION TEST SHALL BE REEXCAVATED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

THE MANHOLE WATER STOP GASKET AND STAINLESS STEEL CLAMP ASSEMBLY MUST BE APPROVED BY THE ENGINEER PRIOR TO THE INSTALLATION OF ANY PIPE.

THE CONTRACTOR WILL SUBMIT CERTIFICATION THAT THE MATERIALS OF CONSTRUCTION HAVE BEEN SAMPLED, TESTED, AND INSPECTED, AND THAT THEY MEET ALL THE REQUIREMENTS--INCLUDING WALL THICKNESS--IN ACCORDANCE WITH ASTM C-3034 OR ASTM F679 FOR ALL PIPE AND FITTINGS TO BE INCLUDED IN THE PROJECT WORK.

PVC PIPE SHALL NOT BE INSTALLED WHEN THE TEMPERATURE DROPS BELOW 32 DEGREES FAHRENHEIT OR GOES ABOVE 100 DEGREES FAHRENHEIT. DURING COLD WEATHER, THE FLEXIBILITY AND IMPACT RESISTANCE OF PVC PIPE IS REDUCED.

EXTRA CARE IS REQUIRED WHEN HANDLING PVC PIPE DURING COLD WEATHER. PVC PIPE SHALL NOT BE STORED OUTSIDE AND EXPOSED TO PROLONGED PERIODS OF SUNLIGHT AS PIPE DISCOLORATION AND REDUCTION IN PIPE IMPACT STRENGTH WILL OCCUR. CANVAS OR OTHER OPAQUE MATERIAL SHALL BE USED TO COVER PVC PIPE STORED ONSITE.

E. MANHOLES

THE CONTRACTOR SHALL CONSTRUCT REINFORCED CONCRETE MANHOLES AND DROP MANHOLES TO THE DIMENSIONS AT THE LOCATIONS SHOWN ON THE CONTRACT DRAWINGS. ALL PRECAST REINFORCED CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST VERSION OF THE ASTM SPECIFICATIONS C478. THE EXTERIOR OF THE MANHOLE SHALL BE COATED WITH A WATERPROOF SEALANT.

THE FOOTING SHALL BE CLASS B PRECAST CONCRETE AND SHALL CONFORM TO THE DIMENSIONS INDICATED ON THE PLANS.

SHELVES SHALL BE CONSTRUCTED WITH HARDENED RED SEWER BRICK. ALL BRICK SHALL BE TYPE SS MEETING THE STANDARDS IN ASTM C32. INVERTS FOR SEWER MANHOLES SHALL BE AS SHOWN ON THE PLANS AND DETAILS.

INVERTS SHALL HAVE THE EXACT SHAPE OF THE SEWER TO WHICH THEY ARE CONNECTED, AND ANY CHANGE IN SIZE OR DIRECTION SHALL BE GRADUAL AND EVEN.

ALL CONSTRUCTION OF SEWER MANHOLES MUST BE CARRIED OUT TO ENSURE WATERTIGHT WORK. ANY LEAKS IN MANHOLES SHALL BE CAULKED AND COMPLETELY REPAIRED TO THE SATISFACTION OF THE ENGINEER OR THE ENTIRE STRUCTURE SHALL BE REMOVED AND REBUILT. REPAIRS SHALL ONLY BE ALLOWED TO THE EXTERIOR OF THE MANHOLE.

ALL MANHOLES ARE TO BE PROVIDED WITH COPOLYMER POLYPROPYLENE PLASTIC RUNGS WITH STEEL REINFORCEMENT TWELVE INCHES (12") ON CENTER. ALL MANHOLES SHALL BE PROVIDED WITH TOUGH, GRAY, CAST IRON MANHOLE FRAMES AND COVERS. ALL IRON CASTINGS SHALL BE THOROUGHLY CLEANED AND THEN COATED WITH HOT TAR BEFORE BEING DELIVERED. FRAMES AND COVERS SHALL BE LEBARON LC 266 TYPE C, OR AN APPROVED EQUAL, AND HAVE A MINIMUM WEIGHT OF 400 POUNDS. MANHOLE COVERS SHALL HAVE THE WORD SEWER PRINTED ON THEM.

PRECAST RISERS AND BASES FOR MANHOLES SHALL CONFORM TO ASTM SPECIFICATIONS C-361. THE PIPE OPENING IN THE PRECAST MANHOLE RISER SHALL HAVE A CAST-IN-PLACE FLEXIBLE GASKET OR AN EQUIVALENT SYSTEM FOR PIPE INSTALLATION AS APPROVED BY THE ENGINEER. JOINTS BETWEEN MANHOLE RISERS SHALL BE RUBBER "O" RING SEALS OR SOFT BUTYL JOINT SEALER (ROPE FORM).

THE MANHOLE COVER FRAMES SHALL BE SET TO FINAL GRADE ONLY AFTER THE BASE COURSE PAVING HAS BEEN COMPLETED. MANHOLES SHALL BE CONSTRUCTED TO GRADE WITH AT LEAST TWO, AND NOT MORE THAN FIVE, COURSES OF BRICK. WITH THE EXCEPTION OF INVERTS, ALL SURFACES OF MANHOLE BRICKWORK SHALL BE PLASTERED WITH CEMENT MORTAR, THE PLASTER BEING CARRIED UP AS THE BRICKWORK PROGRESSES, AND ALL MANHOLE LIFT HOLES SHALL BE GROUTED INSIDE AND OUT WITH EXPANDABLE GROUT.

MANHOLES SHALL BE PLACED AT ALL CHANGES IN SLOPE, SIZE, ALIGNMENT OF PIPE, AT THE ENDS OF EACH LINE, AND AT LEAST EVERY 300 FEET.

F. MASONRY

EACH BRICK SHALL BE WETTED AND COMPLETELY BEDDED IN MORTAR AT ITS BOTTOM, SIDES, AND ENDS IN ONE OPERATION WITH CARE BEING TAKEN TO FILL EVERY JOINT. BRICKWORK SHALL BE WELL-BONDED, AND JOINTS SHALL BE AS CLOSE AS PRACTICABLE. NO BRICK MASONRY SHALL BE LAID IN WATER NOR SHALL ANY WATER BE ALLOWED TO RISE ON OR AROUND ANY BRICK MASONRY UNTIL IT HAS SET AT LEAST 24 HOURS. NO MASONRY SHALL BE LAID IN FREEZING WEATHER.

THE BRICK FOR ORDINARY BRICKWORK SHALL BE COMMON HARD-BURNED CLAY BRICK. ALL BRICK SHALL BE REGULAR AND UNIFORM IN SHAPE AND SIZE WITH PLANE, PARALLEL BEDS, AND FACES. ORDINARY BRICK SHALL CONFORM TO ASTM SPECIFICATION C-32, LATEST VERSION, AND SHALL BE GRADE SS.

BRICK MASONRY SHALL BE LAID IN PORTLAND CEMENT MORTAR COMPOSED OF ONE PART PORTLAND CEMENT AND TWO PARTS OF SAND, MEASURED BY VOLUME, TO WHICH NOT MORE THAN 10 POUNDS OF LIME SHALL BE ADDED FOR EACH BAG OF CEMENT. WATER FOR MORTAR SHALL BE CLEAN AND ONLY AN AMOUNT SUFFICIENT TO PRODUCE A WORKABLE MORTAR SHALL BE USED. MORTAR SHALL BE USED WITHIN ONE HOUR FROM THE TIME THE CEMENT WAS ADDED TO THE MIX.

THE SAND FOR MORTAR FOR BRICK MASONRY SHALL BE UNIFORMLY GRADED, CLEAN, SHARP, AND CONTAIN NO GRADES LARGER THAN WILL PASS A ONE-EIGHTH INCH (1/8") MESH SCREEN.

CONSTRUCTION METHODS:

A. EXCAVATION:

EXCAVATIONS SHALL BE MADE TO A POINT AT LEAST SIX INCHES (6") BELOW THE PIPE INVERT TO ACCOMMODATE THE BEDDING MATERIAL. ALL EXCAVATIONS ARE TO BE KEPT DRY WHILE PIPE IS BEING LAID AND UNTIL EACH JOINT AND PIPE HAS BEEN INSPECTED BY THE ENGINEER AND APPROVAL GIVEN TO COMMENCE BACKFILLING OPERATIONS.

B. LAYING SEWER PIPE:

THE BELL END OF THE PIPE SHALL FACE UPGRADE AT ALL TIMES AND BE PLACED IN SUCH A POSITION AS TO MAKE THE INVERT EVEN WHEN THE SUCCEEDING SECTION IS INSERTED. WHERE REQUIRED BY ADVERSE GRADING CONDITIONS, THE CONTRACTOR SHALL FILL ANY GULLY TO MAKE A SUITABLE BEDDING FOR THE SEWER PIPE. THE FILL SHALL BE PNEUMATICALLY COMPACTED TO A 95 PERCENT DRY DENSITY BY THE AASHTO-T-99, METHOD A (STANDARD PROCTOR) TEST, UPON WHICH THE SIX INCHES (6") OF BEDDING MATERIAL SHALL BE PLACED.

ANY PIPE WHICH IS NOT LAID TO GRADE AND ALIGNMENT SHALL BE RELAID TO THE SATISFACTION OF THE ENGINEER. THE BEDDING MATERIAL SHALL BE PLACED AND COMPACTED ON EACH SIDE OF THE PIPE TO A HEIGHT EQUAL TO ONE-HALF THE PIPE DIAMETER AND FOR THE FULL WIDTH OF THE EXCAVATED TRENCH AND AS SHOWN ON THE ACCEPTED PLANS.

C. BACKFILL:

BACKFILL SHALL CONSIST OF APPROVED MATERIAL PLACED IN SIX INCH (6") LAYERS WITH EACH LAYER BEING THOROUGHLY COMPACTED TO NOT LESS THAN 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO-T-99 STANDARD PROCTOR BY MEANS APPROVED BY THE ENGINEER.

THE BACKFILL SHALL BE BROUGHT UP EVENLY ON BOTH SIDES OF THE PIPE FOR ITS FULL LENGTH. WALKING OR WORKING ON THE COMPLETED PIPELINE, EXCEPT AS MAY BE NECESSARY IN TAMPING OR BACKFILLING, SHALL NOT BE PERMITTED UNTIL THE TRENCH HAS BEEN BACKFILLED TO A HEIGHT OF AT LEAST TWO FEET (2') ON THE TOP OF THE PIPES. DURING CONSTRUCTION, ALL OPENINGS TO THE PIPELINES SHALL BE PROTECTED FROM THE ENTERING OF EARTH OR OTHER MATERIALS.

D. CONCRETE CRADLE AND ENCASEMENT FOR PIPE:

WHERE REQUIRED ON THE PLANS OR AS DIRECTED BY THE ENGINEER, A CONCRETE CRADLE SHALL BE USED TO BOLSTER AND STRENGTHEN PIPE. WHERE REQUIRED ON THE PLANS OR AS DIRECTED BY THE ENGINEER, CONCRETE ENCASEMENT OR SEWER WILL BE MADE TO PROTECT NEARBY WELLS OR WATERLINES FOR STREAM CROSSINGS OR FOR SIMILAR PURPOSES. ALL CONCRETE WILL BE CLASS B AS DEFINED IN THE VERMONT STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 501, AND WILL MEET THE REQUIREMENTS OF THAT SECTION.

E. FROST PROTECTION FOR SHALLOW SEWERS:

SEWERS WITH LESS THAN FIVE AND ONE-HALF FEET (5 1/2') OF COVER OVER THE CROWN OR WHERE INDICATED ON THE PLANS SHALL BE PROTECTED AGAINST FREEZING BY INSTALLATION OF TWO, 2" THICK (4" TOTAL) STYROFOAM SM INSULATING SHEETS WITH A TOTAL WIDTH OF FOUR FEET (4') OR TWICE THE PIPE DIAMETER, WHICHEVER IS GREATER. THE SHEETS SHALL BE PLACED SIX INCHES (6") ABOVE THE CROWN OF THE SEWER AFTER COMPACTION OF THE SIX INCH LIFT IMMEDIATELY ABOVE THE CROWN. CARE SHALL BE EXERCISED BY THE CONTRACTOR DURING BACKFILL, AND COMPACTION OVER THE STYROFOAM SM SHEETS SHALL MEET THE COMPRESSIVE STRENGTH REQUIREMENTS OF ASTM D1621-73 AND SHALL BE AS MANUFACTURED BY DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN, OR EQUAL. IN NO CASE SHALL THE SEWER LINES HAVE LESS THAN FOUR (4') FEET OF COVER OVER THE TOP OF THE PIPE.

F. LEAKAGE TESTS AND ALLOWANCES FOR GRAVITY SEWERS:

THE LOW PRESSURE AIR TEST WILL BE USED TO SIMULATE INFILTRATION OR EXFILTRATION RATES INTO OR OUT OF ALL GRAVITY SEWERS. THE CONTRACTOR WILL FURNISH ALL FACILITIES AND PERSONNEL FOR CONDUCTING THE TEST.

FINAL ACCEPTANCE OF THE SEWER SHALL DEPEND UPON THE SATISFACTORY PERFORMANCE OF THE SEWER UNDER TEST CONDITIONS. THE TEST SHALL BE PERFORMED ON PIPE BETWEEN ADJACENT MANHOLES AFTER BACKFILLING HAS BEEN COMPLETED AND COMPACTED.

ALL WYES, TEES, LATERALS, OR END-OF-SIDE SEWER STUBS SHALL BE PLUGGED WITH FLEXIBLE-JOINT CAPS, OR AN ACCEPTABLE ALTERNATE, SECURELY FASTENED TO WITHSTAND THE INTERNAL TEST PRESSURE. SUCH PLUGS OR CAPS SHALL BE READILY REMOVABLE, AND THEIR REMOVAL SHALL PROVIDE A SOCKET SUITABLE FOR MAKING A FLEXIBLE-JOINTED LATERAL CONNECTION OR EXTENSION.

PRIOR TO TESTING FOR ACCEPTANCE, THE PIPE SHOULD BE CLEANED BY PASSING THROUGH THE PIPE A FULL GAUGE SQUEEGEE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THE PIPE CLEANED. IMMEDIATELY FOLLOWING THE PIPE CLEANING, THE PIPE INSTALLATION SHALL BE TESTED WITH LOW-PRESSURE AIR.

AIR SHALL BE SLOWLY SUPPLIED TO THE PLUGGED AIR INSTALLATION UNTIL THE INTERNAL AIR PRESSURE REACHES FOUR POUNDS PER SQUARE INCH (4.0 PSI) GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY SUBMERGE THE PIPE. AT LEAST TWO MINUTES SHALL BE ALLOWED FOR TEMPERATURE STABILIZATION BEFORE PROCEEDING FURTHER.

THE PIPELINE SHALL BE CONSIDERED ACCEPTABLE WHEN TESTED AT AN AVERAGE PRESSURE OF THREE POUNDS PER SQUARE INCH (3.0 PSI) GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY SUBMERGE THE PIPE IF:

1. THE TOTAL RATE OF AIR LOSS FROM ANY SECTION TESTED IN ITS ENTIRETY BETWEEN MANHOLE AND CLEANOUT STRUCTURES DOES NOT EXCEED 2.0 CUBIC FEET PER MINUTE; OR

2. THE SECTION UNDER TEST DOES NOT LOSE AIR AT A RATE GREATER THAN 0.0030 CUBIC FEET PER MINUTE PER SQUARE FOOT OF INTERNAL PIPE SURFACE.

THE REQUIREMENTS OF THIS SPECIFICATION SHALL BE CONSIDERED SATISFIED IF THE TIME REQUIRED IN SECONDS FOR THE PRESSURE TO DECREASE FROM 3.5 OR 2.5 PSI GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY SUBMERGE THE PIPE IS NOT LESS THAN THAT COMPUTED ACCORDING TO THE FOLLOWING TABLE:

MINIMUM TEST TIME FOR VARIOUS PIPE SIZES

DIAMETER (INCHES)	TIME (SEC./100 FT.)
3	10
4	18
6	40
8	70
10	110
12	158
15	248
18	356
21	485
24	634
27	765
30	851
33	935
36	1,020
39	1,105
42	1,190

THE TABLE GIVES THE REQUIRED TEST TIME IN SECONDS PER 100 FOOT LENGTHS OF PIPE FOR A GIVEN DIAMETER. IF THERE IS MORE THAN ONE PIPE SIZE IN THE SECTION OF LINE BEING TESTED, COMPUTE THE TIME FOR EACH DIAMETER, AND SUM THE TIMES TO FIND THE TOTAL REQUIRED TEST TIME.

IF THE PIPE INSTALLATION FAILS TO MEET THESE REQUIREMENTS, THE CONTRACTOR SHALL DETERMINE AT HIS OR HER OWN EXPENSE THE SOURCE OR SOURCES OF LEAKAGE AND SHALL REPAIR (IF THE EXTENT AND TYPE OF REPAIRS PROPOSED BY THE CONTRACTOR APPEAR REASONABLE TO THE ENGINEER) OR REPLACE ALL DEFECTIVE MATERIALS OR WORKMANSHIP. THE COMPLETED PIPE INSTALLATION SHALL MEET THE REQUIREMENTS OF THIS TEST BEFORE BEING CONSIDERED ACCEPTABLE.

SINCE THIS TEST DOES NOT DETERMINE THE TIGHTNESS OF MANHOLES, THEY SHALL BE TESTED SEPARATELY. THE EXFILTRATION LEAKAGE ALLOWANCE OUT OF MANHOLES SHALL BE NO GREATER THAN ONE GALLON PER DAY PER VERTICAL FOOT TO DEPTH. THE MANHOLE SHALL BE FILLED WITH WATER TO A POINT ONE FOOT (1') ABOVE THE HIGHEST POINT BETWEEN MANHOLE SECTIONS. IN AREAS OF HIGH GROUNDWATER, THERE SHALL BE NO VISIBLE LEAKAGE DUE TO INFILTRATION. IF A VACUUM TEST IS DESIRED, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED: (THIS PREFERRED METHOD OF TESTING MANHOLES FOR LEAKAGE INVOLVES THE USE OF A DEVICE FOR SEALING THE TOP OF THE MANHOLE CONE SECTION AND PUMPING AIR OUT OF THE MANHOLE, CREATING A VACUUM AND HOLDING THIS VACUUM FOR A PRESCRIBED PERIOD OF TIME.)

1. ALL LIFTING HOLES AND EXTERIOR JOINTS SHALL BE FILLED AND POINTED WITH AN APPROVED NON-SHRINKING MORTAR. THE COMPLETED MANHOLE SHALL NOT BE BACKFILLED PRIOR TO TESTING. MANHOLES WHICH HAVE BEEN BACKFILLED SHALL BE EXCAVATED TO EXPOSE THE ENTIRE EXTERIOR PRIOR TO VACUUM TESTING OR THE MANHOLE SHALL BE TESTED FOR LEAKAGE BY MEANS OF A HYDROSTATIC TEST. REPAIRS SHALL ONLY BE MADE TO THE EXTERIOR OF THE MANHOLE.

2. ALL PIPE AND OTHER OPENINGS INTO THE MANHOLE SHALL BE SUITABLY PLUGGED IN A MANNER TO PREVENT DISPLACEMENT.

3. A PLATE WITH AN INFLATABLE RUBBER RING THE SIZE OF THE TOP OF THE MANHOLE SHALL BE INSTALLED BY INFLATING THE RING WITH AIR TO PRESSURE ADEQUATE TO PREVENT LEAKAGE OF AIR BETWEEN THE RUBBER RING AND MANHOLE WALL.

4. AIR SHALL THEN BE PUMPED OUT OF THE MANHOLE THROUGH AN OPENING IN THE PLATE UNTIL A VACUUM IS CREATED INSIDE OF THE MANHOLE EQUAL TO TEN INCHES (10") OF MERCURY ON AN APPROVED VACUUM GAUGE. THE REMOVAL OF AIR SHALL THEN BE STOPPED AND THE TEST TIME BEGUN.

5. THE VACUUM MUST NOT DROP TO BELOW NINE INCHES (9") OF MERCURY WITH A TWO MINUTE TEST PERIOD. IF MORE THAN A ONE INCH (1") DROP IN VACUUM OCCURS WITHIN THE TWO MINUTE TEST PERIOD, THE MANHOLE HAS FAILED AND SHALL BE REPAIRED OR RECONSTRUCTED AND THEN RETESTED.

6. FOLLOWING SATISFACTORY TEST RESULTS, THE MANHOLE MAY BE BACKFILLED.

IT IS NOTED THAT ALL EXISTING SANITARY SEWERS SHALL BE KEPT OPERATIONAL UNTIL NEW WORK HAS BEEN TESTED AND APPROVED BY THE ENGINEER. AT SUCH TIME, EXISTING SEWERS AND SEWER SERVICES SHALL BE CONNECTED TO THE NEW SEWERS.

G. LEAKAGE AND PRESSURE TESTING FOR FORCE MAIN

ALL PIPELINES SHALL BE TESTED IN ACCORDANCE WITH THE VERMONT DEPARTMENT OF WATER RESOURCES ENVIRONMENTAL PROTECTION RULES, LATEST EDITION. A LEAKAGE AND PRESSURE TEST SHALL BE PERFORMED CONCURRENTLY.

THE HYDROSTATIC TEST PRESSURE SHALL BE A MINIMUM OF 50 PSI AT THE HIGHEST POINT ALONG THE TEST SECTION AND SHALL NOT VARY BY MORE THAN FIVE PSI DURING THE ENTIRE TWO HOUR TEST. IF AND WHEN DURING THE TEST THE PRESSURE DROPS BY FIVE PSI, THE QUANTITY OF WATER REQUIRED TO RESTORE THE TEST PRESSURE SHALL BE MEASURED.

AT THE END OF THE TWO HOUR TEST, THE PRESSURE SHALL BE RETURNED TO THE TEST PRESSURE AND THE ADDITIONAL VOLUME OF WATER MEASURED. THE TOTAL AMOUNT OF WATER USED DURING AND AT THE END OF THE TEST SHALL CONSTITUTE THE ACTUAL LEAKAGE. THE MAXIMUM ALLOWABLE LEAKAGE SHALL BE DETERMINED BY THE FOLLOWING FORMULA:

$$L = SD(P)^{5} / 133,200$$

WHERE:
L = LEAKAGE IN GALLONS PER HOUR
D = DIAMETER OF PIPE IN INCHES
P = AVERAGE TEST PRESSURE IN PSI
S = LENGTH OF PIPE BEING TESTED

H. CLEANING PIPELINES AND APPURTENANCES:

UPON COMPLETION OF CONSTRUCTION, ALL DIRT AND OTHER FOREIGN MATERIAL SHALL BE REMOVED FROM PIPELINES AND THEIR APPURTENANT CONSTRUCTIONS. NO MATERIALS SHALL BE LEFT IN THE PIPELINES TO IMPEDE NORMAL FLOW THROUGH THEM.

I. SEWER SERVICE CONNECTIONS:

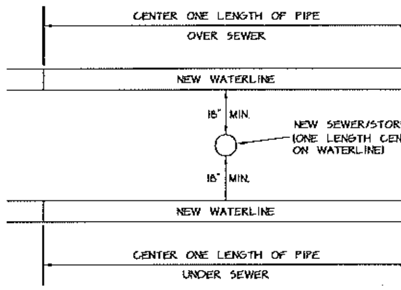
WHERE REQUIRED ON THE PLANS, SEWER SERVICE CONNECTIONS FOR ONE HOUSE SHALL BE CONSTRUCTED OF SIX INCH (6") PIPE UNLESS OTHERWISE NOTED ON THE PLANS OF THE TYPE MATERIAL SPECIFIED UNDER THIS SECTION. THE PIPE SHALL BE LAID AND ITS JOINTS MADE AS REQUIRED FOR SEWER CONSTRUCTION IN THIS SPECIFICATION.

OPEN ENDS OF PIPES SHALL BE PROPERLY SEALED TO PREVENT DAMAGE AND INTRUSION OF FOREIGN MATTER WHERE HOOKUP TO THE BUILDING SEWER IS NOT COINCIDENT WITH SEWER MAIN CONSTRUCTION. ADDITIONALLY, THE CONTRACTOR WILL PROVIDE A PVC PIPE TEMPORARY MARKER APPROVED BY THE ENGINEER FROM THE SEWER SERVICE INVERT UP TO TWENTY-FOUR INCHES (24") ABOVE THE FINISHED GRADE. THE MARKER SHALL BE SEATED SECURELY INTO THE GROUND FOR EASE IN RELOCATING THE END OF SEWER SERVICE CONNECTION FOR HOOKING UP THE BUILDING SEWER.

IN THE CASE OF RECONNECTION OF EXISTING SERVICES, SUCH RECONNECTIONS WILL BE MADE ONLY AFTER THE NEW SEWER MAIN HAS BEEN COMPLETED, TESTED, AND ACCEPTED. THE EXCAVATION, BEDDING MATERIAL, INSTALLATION, AND BACKFILL FOR SERVICE CONNECTIONS SHALL BE THE SAME AS FOR SEWER MAINS.

J. CLEANOUTS FOR SEWERS:

CLEANOUTS FOR GRAVITY SEWERS AND FORCE MAINS SHALL BE PROVIDED EVERY 100 FT OR WHERE THE SUM OF BENDS = 45 DEGREES. CLEANOUT FRAMES AND COVERS SHALL BE OF TOUGH GRAY CAST IRON. CASTINGS SHALL BE TRUE TO PATTERN AND FREE FROM FLAWS. THE BEARING SURFACE OF CLEANOUT FRAMES AND COVERS AGAINST EACH OTHER SHALL BE MACHINED TO GIVE CONTINUOUS CONTACT THROUGHOUT THEIR CIRCUMFERENCE. ALL IRON CASTINGS SHALL BE THOROUGHLY CLEANED AND THEN COATED WITH HOT COAL TAR BEFORE BEING DELIVERED.



WHERE SEWER/STORM MUST BE LAID ABOVE WATER MAIN:

A) SEWER/STORM PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MIN. DISTANCE OF 20 FEET EITHER SIDE OF CROSSING.

B) SEWER/STORM PIPE SECTION CONSTRUCTED TO WATER MAIN STANDARDS MUST BE PRESSURE TESTED TO AWWA WATER MAIN STANDARDS OR THE SEWER LINE SHALL BE SLEEVED.

C) ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER/STORM TO PREVENT DAMAGE TO THE WATER MAIN.

SEWER, STORM / WATER SEPARATION DETAIL FOR CROSSINGS

NTS

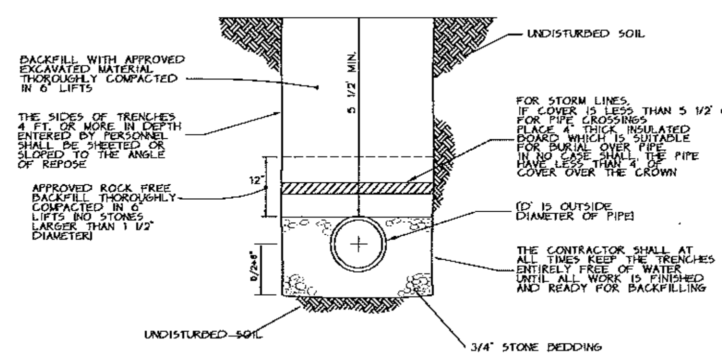
NOTE: WATER LINE SEPARATION

SEWER AND STORM LINES SHALL BE LAID AT LEAST 10' HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN AS MEASURED EDGE TO EDGE.

WHEREVER IMPOSSIBLE TO MAINTAIN THE 18" VERTICAL SEPARATION, THE SEWER/STORM LINE SHALL BE CONSTRUCTED TO NORMAL WATER LINE STANDARDS AND PRESSURE TESTED TO AWWA WATERLINE STANDARDS PRIOR TO BACKFILLING OR THE SEWER/STORM LINE SHALL BE SLEEVED.

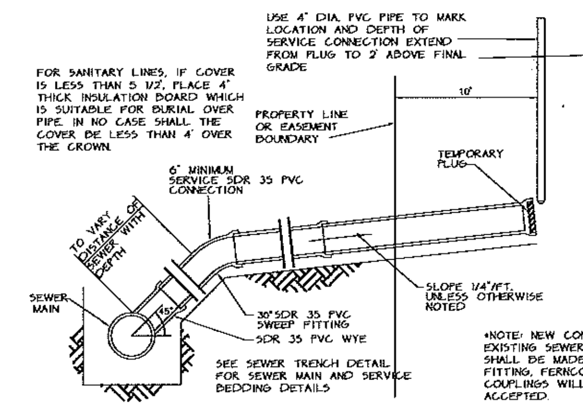
NOTE: WATER LINE CROSSINGS

SEWER AND STORM LINES CROSSING WATER MAINS SHALL BE LAID BENEATH THE WATERMAIN WITH AT LEAST 18" OF VERTICAL CLEARANCE BETWEEN THE OUTSIDE OF THE WATER LINE AND THE OUTSIDE OF THE SEWER/STORM. WHEN IT IS IMPOSSIBLE TO MAINTAIN THE 18" VERTICAL SEPARATION: 1) THE CROSSING SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER/STORM IS CENTERED ABOVE OR BELOW THE WATER LINE WITH THE SEWER/STORM JOINTS AS FAR AS POSSIBLE FROM THE WATER JOINTS; 2) THE SEWER/STORM PIPE MUST BE CONSTRUCTED TO WATER LINE STANDARDS FOR A MINIMUM DISTANCE OF 20 FEET EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICHEVER IS GREATER; 3) THE SECTION CONSTRUCTED TO WATER MAIN STANDARDS MUST BE PRESSURE TESTED TO MAINTAIN 50 PSI FOR 15 MINUTES WITH NO LEAKAGE PRIOR TO BACKFILLING BEYOND ONE FOOT ABOVE THE PIPE TO ASSURE WATER TIGHTNESS; 4) WHERE A WATER MAIN CROSSES UNDER A SEWER/STORM, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER/STORM TO PREVENT DAMAGE TO THE WATER MAIN.



TYPICAL SANITARY + STORM TRENCH

NTS



*NOTE: NEW CONNECTION TO EXISTING SEWER SERVICE STUB SHALL BE MADE USING A PVC FITTING, FERNCO STYLE COUPLINGS WILL NOT BE ACCEPTED.

SANITARY SEWER SERVICE CONNECTION

NTS

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 16 13 the Williston Development Review Board/Administrator approved the final plans for Lot 15 Blair Park on the 22 day of MAY 2017

~~Presiding member~~ *or Administrator's signature*

DP 16-13

PARCEL ID: 08062-015000

Owner

THREE FRIENDS PARTNERSHIP
CITORIK, KELLEY, KIDDER + POWELL INC.
9 RUSTIC WALK
SWANTON, VT 05488

Applicant

DOUSEVICZ, INC.
21 CARMICHAEL STREET, SUITE 201
ESSEX, VT 05452

DATE	REVISION	BY
1-27-17	ADDED PROPERTY LINE DIMENSIONS	GRT
10-13-16	ADDED APPROVAL SIGNATURE BLOCK AND MADE EDITS FOR FINAL PLAN SUBMITTAL	GRT
9-6-16	REVISED GRADING / LANDSCAPING / STORMWATER PER HAAC AND PUBLIC WORKS COMMENTS	GRT

SURVEY: DRCA
DESIGN: DBCA
DRAWN: GRT
CHECKED: -
SCALE: 1"=40

☐ RECORD DRAWING ☐ DISCRETIONARY
■ FINAL ☐ SKETCH/CONCEPT

O'LEARY-BURKE CIVIL ASSOCIATES, PLC
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15 BLAIR PARK
Williston — Vermont

SEWER DETAILS AND SPECIFICATIONS

DATE: 7-14-16
JOB #: 2015-41
FILE: 2015-41-S6
PLAN SHEET #: 9