Town of Londonderry Planning Board
268B Mammoth Road - Moose Hill Conference
Agenda
February 4, 2026
7:00 p.m.

I. **Call to Order**

II. **Administrative Board Work**

A. Approval of Minutes

B. Regional Impact Determinations

C. Discussions with Town Staff

III. **Old Business**

IV. **New Plans/Conceptual Plans**

A. Public hearing for an application for formal review of a site plan for forty (40) residential units and a conditional use permit for 1,023 square feet of buffer impacts, including associated site improvements in the Commercial II (C-II) Zone. 225 Rockingham Road, Tax Map 15, Lot 126, Genex Construction Group, LLC (Owner/Applicant).

Documents:

--24_503-22_Site Plans_STAMPED_12-31-25.pdf
--04_503-22_Cond Use Permit_08-06-25.pdf
--02_503-22_Formal Application_01-06-26.pdf

B. Public hearing on an application for formal review of a subdivision of a 9.624-acre lot into two (2) lots, consisting of one 1.226-acre lot and one 8.398-acre lot, with associated site improvements, in the Commercial 1 (C-I) District. The property is located at 222 Rockingham Road, Tax Map 15, Lot 150-1. Dark Horse Investments, LLC, (Owner/Applicant)

Documents:

222 Rockingham Road - Formal Subdivision Application and Supporting Docs.pdf
222 Rockingham Road-Drainage Report-2026.1.15.pdf
222 Rockingham Road-Subdivision Plan Set-2026.1.15.pdf

C. Public hearing for an application for formal review of a site plan for a 48-unit multi-family residential development and a conditional use permit for 2,808 square feet of wetland impacts and 2,357 square feet of buffer impacts, including associated site improvements in the Commercial 1 (C-I) District. 222 Rockingham Road, Tax Map 15, Lot 150-1, Dark Horse Investments, LLC (Owner/Applicant).

Documents:

222 Rockingham Road - Formal Site Plan Application and Supporting Docs.pdf

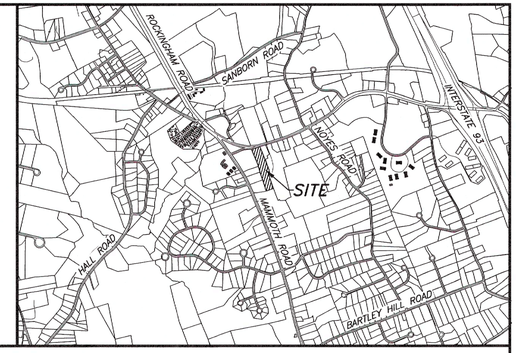
V. Other Business

A. Master Plan Overview

VI. Adjournment

ROCKPOINT COMMONS
SITE PLAN
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PLAN INDEX	SHEET NO
COVER SHEET	1
EXISTING CONDITIONS PLANS	2–3
SITE PLANS	4–5
GRADING PLANS	6–8
UTILITY PLANS	9–11
DRIVEWAY PROFILE	12
SANITARY SEWER PROFILE	13
NHDOT CURBCUT PLAN	14
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STORMWATER MAINTENANCE	20–21
CONSTRUCTION DETAILS	22–28
CONSTRUCTION CENTERLINE	29
ARCHITECTURAL PLANS	30–33



VICINITY MAP
SCALE: 1"=2500'

NOTES

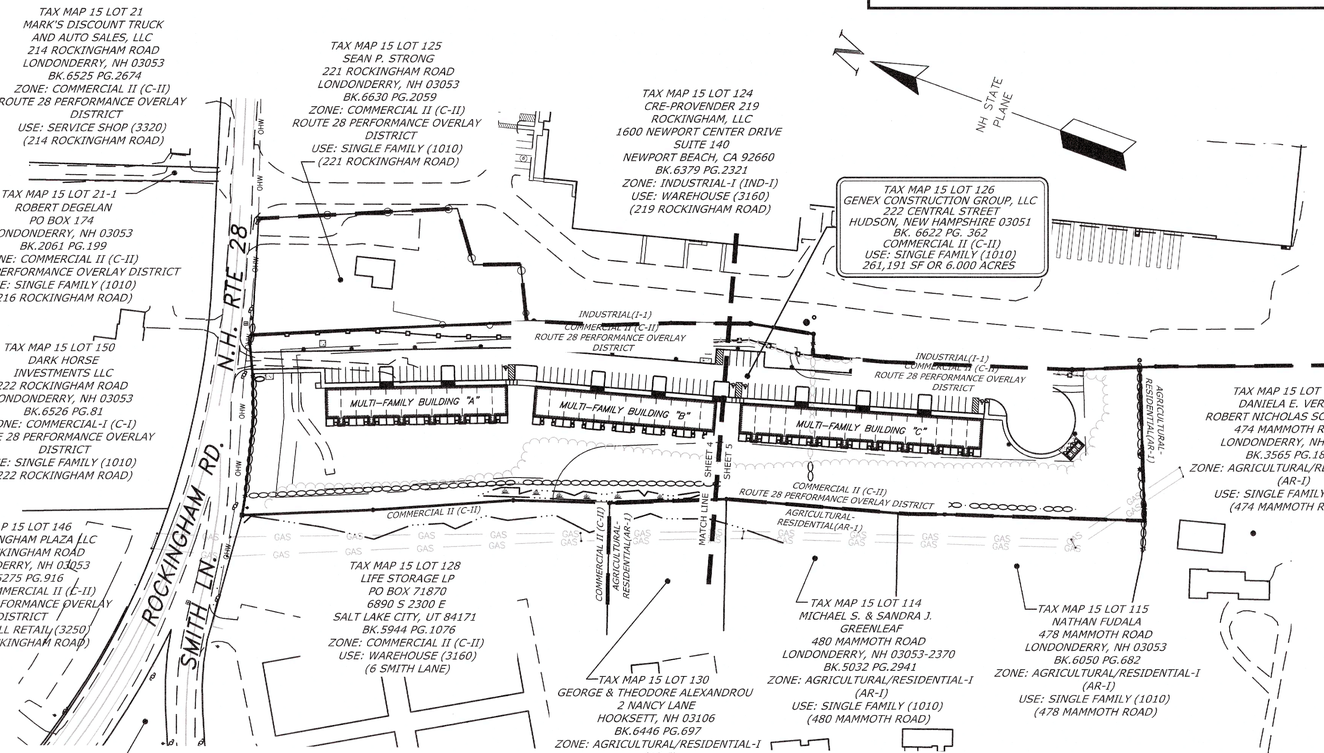
1. THE PURPOSE OF THIS PLAN IS TO SHOW THE CONSTRUCTION OF FORTY (40) TWO-STORY RESIDENTIAL RENTAL UNITS IN THREE (3) BUILDINGS AND ASSOCIATED FACILITIES ON TAX MAP 15 LOT 126 FOR A TOTAL OF 64,000 SF (GROSS).
2. OWNER OF RECORD:
   TAX MAP 15 LOT 126
   GENEX CONSTRUCTION GROUP, LLC
   222 CENTRAL STREET
   HUDSON, NH 03051
   BOOK 6622 PAGE 362
3. LOT AREA: PARCEL AREA: 261,191 S.F. OR 6.000 AC.
4. THE PARCEL IS IN THE COMMERCIAL II (C-II) ZONING DISTRICT AND ROUTE 28 PERFORMANCE OVERLAY DISTRICT.
5. DIMENSIONAL REQUIREMENTS

DIMENSIONAL REQUIREMENTS	C-II REQ.	PROPOSED
MINIMUM LOT AREA:	1 ACRE	6 ACRES
MINIMUM LOT FRONTAGE:	150'	227.63'
MINIMUM FRONT SETBACK:	60'	95'
MINIMUM SIDE SETBACK:	30'	66'
MINIMUM REAR SETBACK:	30'	209'
MAXIMUM BUILDING HEIGHT:	45'	43'
MAXIMUM BUILDING COVERAGE:	25%	12.7%
MINIMUM GREEN SPACE AREA:	33%	67.6%
MAXIMUM IMPERVIOUS COVERAGE:	66%	32.4%
GREEN SPACE BUFFER (ENCLOSED PERIMETER)	15'	15'
GREEN SPACE BUFFER (ABUTTING PUBLIC R.O.W.)	30'	30'

6. THE LOT IS CURRENTLY A SINGLE FAMILY RESIDENCE.
7. PARKING REQUIREMENTS: (Sec 3.09)
   40 UNIT RESIDENTIAL @ 2 SP/UNIT (STATE LAW 1.5 SPACES PER UNIT)
   80 SPACES REQUIRED, 81 SPACES PROVIDED (2.02/UNIT) (INCLUDING 4 HANDICAP SPACES)
8. THE SITE IS SERVICED BY MANCHESTER WATER WORKS AND TOWN OF LONDONDERRY SEWER.
9. ZBA CASES: NO ZBA CASES WERE FOUND.
10. HORIZONTAL DATUM IS BASED ON STATE PLANE AND VERTICAL DATUM IS NAVD 1988 DERIVED FROM STATIS GPS OBSERVATIONS REDUCED BY OPUS. TOPOGRAPHIC INFORMATION IS BASED ON LIDAR DATA OBTAINED FROM LIDAR.UNH.EDU.
11. EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM), COMMUNITY NO. 330150 0317E, EFFECTIVE DATE MAY 17, 2005, INDICATES THE SUBJECT PREMISES IS LOCATED WITHIN ZONE X, NOT A DESIGNATED FLOOD HAZARD AREA.
12. TAX MAP 15 LOT 126 IS SUBJECT TO THE FOLLOWING EASEMENT RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS:
    A. GAS TRANSMISSION LINE EASEMENT: BOOK 1237 PAGE 237.
       NO WIDTH OR LOCATION GIVEN.
       GAS LINE SHOWN IS APPROXIMATE BASED ON MARKERS.
13. THE FOLLOWING PERMITS ARE REQUIRED FOR THIS PROJECT:

NHDES SEWER CONNECTION PERMIT:	SC2025-1003, ISSUED 10-14-25
NHDES ALTERATION OF TERRAIN PERMIT:	AoT-2935, ISSUED 10-24-25
LONDONDERRY STORMWATER PERMIT:	PENDING
LONDONDERRY SEWER PERMIT:	ISSUED OCTOBER 29, 2025
NHDOT CURBCUT PERMIT	DOT-DRI-003236, ISSUED 10-29-25

14. THE FOLLOWING WAIVERS ARE REQUIRED BY THE PLANNING BOARD.
    – SECTION (4.12.C.19.viii) LOCATE ALL TREES GREATER THAN 15" DIAMETER
15. THE PLANNING BOARD REQUIRES APPROVAL OF A CONDITIONAL USE PERMIT FOR 900 S.F. WETLAND BUFFER IMPACT.
16. "IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT THE DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE TOWN."
17. "IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE TOWN."
18. "ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE TOWN OF LONDONDERRY SITE PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION."
19. "IN ACCORDANCE WITH SECTION 6.01 OF THE LONDONDERRY SITE PLAN REGULATIONS AND RSA §676:13, ALL IMPROVEMENTS SPECIFIED ON THESE SITE PLANS SHALL BE CONSTRUCTED, COMPLETED, AND INSPECTED AND APPROVED BY THE TOWN OF LONDONDERRY PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY."
20. "IN ACCORDANCE WITH SECTION 6.01 OF THE LONDONDERRY SITE PLAN REGULATIONS AND RSA §676:12, ALL OFF-SITE IMPROVEMENTS SPECIFIED ON THESE SITE PLANS SHALL BE CONSTRUCTED, COMPLETED, AND INSPECTED AND APPROVED BY THE TOWN OF LONDONDERRY (AND/OR THE NHDOT, IF APPLICABLE) PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY."
21. SITE IMPROVEMENTS DEPICTED ON THE PLAN SHALL CONFORM WITH TITLE III OF THE AMERICANS WITH DISABILITIES ACT WITH REGARD TO DIMENSION AND GRADES.
22. TRASH PICK UP SHALL BE BY TOWN OF LONDONDERRY.
23. HOURS OF CONSTRUCTION 7:00 A.M. TO 6:00 P.M. MONDAY THROUGH SATURDAY.
24. PLOWED SNOW FROM THE RESIDENTIAL DRIVEWAYS SHALL BE STORED IN THE DESIGNATED AREA SHOWN IN THIS PLAN SET. WHEN SNOW STORAGE AREAS ARE AT CAPACITY, SUBSEQUENT SNOW SHALL BE HAULED OFF SITE AND DISPOSED OF IN AN ENVIRONMENTALLY SOUND FASHION AND IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS. PRIOR TO THE START OF ANY CONSTRUCTION, THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROXIMATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS BEFORE DIGGING.
26. THIS PLAN SET CONTAINS 33 SHEETS ALL ON FILE AT THE LONDONDERRY PLANNING DEPARTMENT.
27. THE EDGE OF THE CONSERVATION OVERLAY DISTRICT AND NON DISTURBANCE ZONES SHALL BE APPROPRIATELY DELINEATED IN THE FIELD PRIOR TO CONSTRUCTION.
28. COPIES OF THE STORMWATER MAINTENANCE DOCUMENTS TO BE SUBMITTED TO THE DEPARTMENT OF ENGINEERING AND ENVIRONMENTAL SERVICES ON A YEARLY BASIS AS REQUIRED BY THE STORMWATER MAINTENANCE PLAN.
29. PROJECT PHASING: PROJECT SHALL BE CONSTRUCTED IN ONE PHASE.
30. NO OUTSIDE STORAGE IS ALLOWED EXCEPT AS NOTED ON THE PLAN



OVERVIEW PLAN
SCALE: =100'

GRAPHIC SCALE (100 0 50 100 200 400)

NEW HAMPSHIRE FISH AND GAME AOT PERMIT CONDITIONS RELATED TO THREATENED AND ENDANGERED SPECIES:

ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: DCT25-2169, 225 ROCKINGHAM ROAD, LONDONDERRY, WILDLIFE SPECIES OBSERVATION.

- PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHF&G IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION AS FEASIBLE.
- IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL NOT BE DISTURBED, HANDLED, OR HARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHF&G AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHF&G, IF ANY, TO ASSURE THE PROJECT DOES NOT APPRECIABLY JEOPARDIZE THE CONTINUED EXISTENCE OF THREATENED AND ENDANGERED SPECIES AS DEFINED IN FIS 1002.04.
- THE NHF&G, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

WETLAND CERTIFICATION

THOMAS SOKOLOSKI, CERTIFIED WETLAND SCIENTIST #127, OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. OF BOW, NH, PERFORMED THE WETLAND IDENTIFICATION AND DELINEATION ON DECEMBER 12, 2024 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

STATE OF NEW HAMPSHIRE — THOMAS E. SOKOLOSKI — No. 127 — CERTIFIED WETLAND SCIENTIST — 7/10/2025

OWNER'S SIGNATURE — 8/4/25 DATE

Approved by the Londonderry, NH Planning Board for Phase
on Date:

Certified By:

BENCHMARK DATA

THIS PLAN AND TOPOGRAPHIC INFORMATION WAS BASED ON SURVEY FIELD WORK PERFORMED ON MARCH 5 AND MAY 21, 2025 UTILIZING CARLSON BRX-7 GPS RECEIVERS AND CARLSON CRX-5 ROBOTIC TOTAL STATION. COORDINATE SYSTEM IS NEW HAMPSHIRE STATE PLANE BASED ON A STATIC OBSERVATION REDUCED UTILIZING OPUS. ELEVATIONS ARE NAVD 1988.

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR — No. 858 — RAYMOND T. CRITCH — SIGNATURE — 11/17/25

SURVEYOR CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS AN ERROR OF CLOSURE OF GREATER ACCURACY THAN ONE PART IN TEN THOUSAND (1:10,000)."

LICENSED LAND SURVEYOR — 11/17/25 DATE

STATE OF NEW HAMPSHIRE — GREGORY A. CROCKETT — No. 15125 — LICENSED LAND SURVEYOR — 12-31-25

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC – STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

COVER SHEET
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 100'	JUNE 12, 2025	SHEET 1 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503–22
JST	JST	GAC	692	28	

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ENGINEERS, SURVEYORS & LANDSCAPE ARCHITECTS
603-622-5533 • 592 HARVEY ROAD MANCHESTER, NH 03103 • www.BedfordDesign.com

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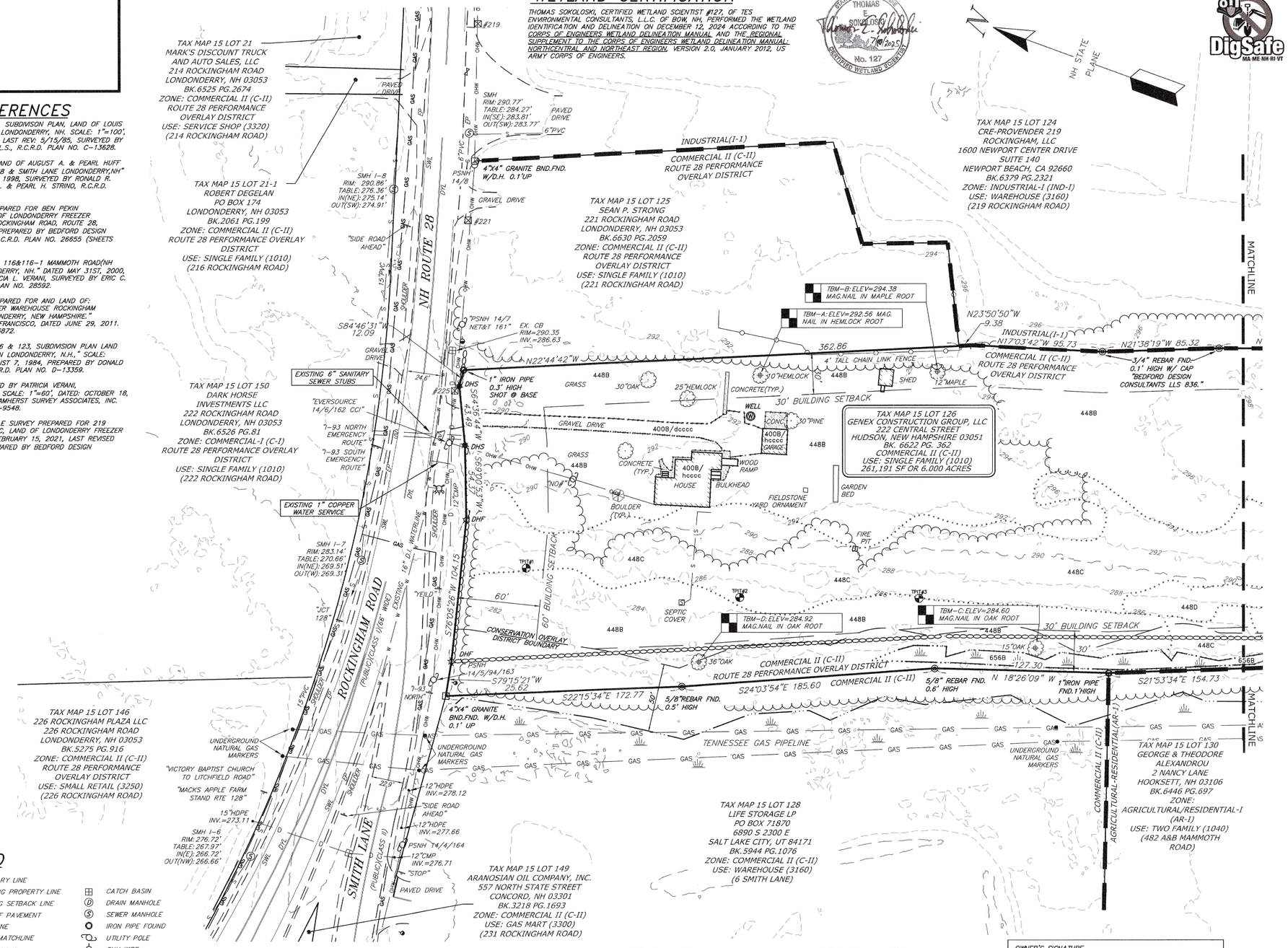
WETLAND CERTIFICATION

THOMAS SOKOLOSKI, CERTIFIED WETLAND SCIENTIST #127, OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. OF BOW, NH, PERFORMED THE WETLAND IDENTIFICATION AND DELINEATION ON DECEMBER 12, 2024 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

STATE OF NEW HAMPSHIRE — THOMAS E. SOKOLOSKI — No. 127 — CERTIFIED WETLAND SCIENTIST — 7/10/2025

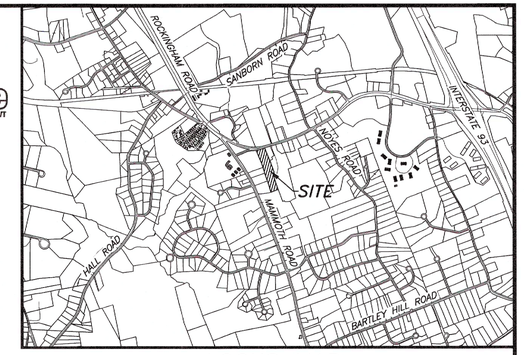
PLAN REFERENCES

1. "MAP 15 PARCEL 126, SUBDIVISON PLAN, LAND OF LOUIS & JANE KUSZEK," IN LONDONDERRY, NH. SCALE: 1"=100', DATED: MAY 1, 1985, LAST REV: 5/15/85, SURVEYED BY DONALD C. JENKS, L.L.S., R.C.R.D. PLAN NO. C-13628.
2. "BOUNDARY PLAN OFLAND OF AUGUST A. & PEARL HUFF STRINO NH ROUTE 128 & SMITH LANE LONDONDERRY,NH" DATED FEBRUARY 17, 1998, SURVEYED BY RONALD R. BURD, FOR AUGUST A. & PEARL H. STRINO, R.C.R.D. PLAN NO. 26257.
3. "BOUNDARY PLAN PREPARED FOR BEN PEKIN CORPORATION, LAND OF LONDONDERRY FREEZER WAREHOUSE, L.L.C. ROCKINGHAM ROAD, ROUTE 28, LONDONDERRY, NH." PREPARED BY BEDFORD DESIGN CONSULTANTS, INC. R.C.R.D. PLAN NO. 26655 (SHEETS 1&2).
4. "TAX MAP 15 – LOTS 116&116-1 MAMMOTH ROAD(NH ROUTE 128) LONDONDERRY, NH." DATED MAY 31ST, 2000, PREPARED FOR PATRICIA L. VERANI, SURVEYED BY ERIC C. MITCHELL, R.C.R.D. PLAN NO. 28592.
5. "BOUNDARY PLAN PREPARED FOR AND LAND OF: LONDONDERRY FREEZER WAREHOUSE ROCKINGHAM ROAD,(RTE.28) LONDONDERRY, NEW HAMPSHIRE." SURVEYED BY CRAIG FRANCISCO, DATED JUNE 29, 2011. R.C.R.D. PLAN NO. 36872.
6. "MAP 15 PARCELS 116 & 123, SUBDIVISION PLAN LAND OF PATRICIA VERANI IN LONDONDERRY, N.H.," SCALE: 1"=100', DATED: AUGUST 7, 1984, PREPARED BY DONALD C. JENKS, L.L.S. R.C.R.D. PLAN NO. D-13359.
7. "PLAN OF LAND OWNED BY PATRICIA VERANI, LONDONDERRY, N.H.," SCALE: 1"=60', DATED: OCTOBER 18, 1975, PREPARED BY AMHERST SURVEY ASSOCIATES, INC. R.C.R.D. PLAN NO. D-9548.
8. "ALTA/NSPS LAND TITLE SURVEY PREPARED FOR 219 ROCKINGHAM MZL, LLC, LAND OF LONDONDERRY FREEZER WAREHOUSE", DATA FEBRUARY 15, 2021, LAST REVISED 04/01/21, AND PREPARED BY BEDFORD DESIGN CONSULTANTS, INC.



LOCUS MAP

(SCALE: 1"=2500')



NOTES

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS PRESENT ON TAX MAP 15 LOT 126, LOCATED AT 225 ROCKINGHAM ROAD IN LONDONDERRY, NH.
2. OWNER OF RECORD:
   TAX MAP 15 LOT 126
   GENEX CONSTRUCTION GROUP, LLC
   222 CENTRAL STREET
   HUDSON, NH 03051
   BOOK 6622 PAGE 362
3. LOT AREA: PARCEL AREA: 261,191 S.F. OR 6.000 AC.
4. THE PARCEL IS IN THE COMMERCIAL II (C–II) ZONING DISTRICT AND ROUTE 28 PERFORMANCE OVERLAY DISTRICT. DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS:

MINIMUM LOT AREA:	1 ACRE
MINIMUM LOT FRONTAGE:	150'
MINIMUM FRONT SETBACK:	60'
MINIMUM SIDE SETBACK:	30'
MINIMUM REAR SETBACK:	30'
MAXIMUM BUILDING HEIGHT:	45'
MAXIMUM BUILDING COVERAGE:	25%
MINIMUM GREEN SPACE AREA:	33%
MAXIMUM IMPERVIOUS COVERAGE:	66%
GREEN SPACE BUFFER (ENCLOSED PERIMETER)	15'
GREEN SPACE BUFFER (ABUTTING PUBLIC R.O.W.)	30'

5. THE SITE IS CURRENTLY SERVICED BY MANCHESTER WATER WORKS AND TOWN SEWER SYSTEMS.
6. FIELD SURVEY PERFORMED ON MARCH 5 & MAY 21, 2025.
7. HORIZONTAL DATUM IS BASED ON STATE PLANE AND VERTICAL DATUM IS NAVD 1988 DERIVED FROM STATIS GPS OBSERVATIONS REDUCED BY OPUS. TOPOGRAPHIC INFORMATION IS BASED ON LIDAR DATA OBTAINED FROM LIDAR.UNH.EDU.
8. EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM), COMMUNITY NO. 330150C317E, EFFECTIVE DATE MAY 17, 2005, INDICATES THE SUBJECT PREMISES IS LOCATED WITHIN ZONE X, NOT A DESIGNATED FLOOD HAZARD AREA.
9. TAX MAP 15 LOT 126 IS SUBJECT TO THE FOLLOWING EASEMENT RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS:
   A. GAS TRANSMISSION LINE EASEMENT: BOOK 1237 PAGE 237.
      NO WIDTH OR LOCATION GIVEN.
      GAS LINE SHOWN IS APPROXIMATE BASED ON MARKERS.
10. REFER TO SHEET 3 FOR TEST PIT INFORMATION.

SURVEYOR CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS AN ERROR OF CLOSURE OF GREATER ACCURACY THAN ONE PART IN TEN THOUSAND (1:10,000)."

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR — No. 858 — RAYMOND T. CRITCH — SIGNATURE — 11/17/25

LICENSED LAND SURVEYOR — 11/17/25 DATE

LEGEND

- BOUNDARY LINE
- ABUTTING PROPERTY LINE
- BUILDING SETBACK LINE
- EDGE OF PAVEMENT
- ZONE LINE
- SHEET MATCHLINE
- 290 — 10' CONTOUR
- 288 — 2' CONTOUR
- TREE LINE
- CHAIN LINK FENCE
- STONEWALL
- W — WATER LINE
- S — SEWER LINE
- OHW — OVERHEAD WIRES
- D — DRAINAGE LINE
- EDGE OF WETLANDS
- WETLAND BUFFER
- BUILDING
- ROADWAY MARKINGS
- SITE SPECIFIC SOIL LINE
- 448C — SITE SPECIFIC SOIL TYPE
- CATCH BASIN
- DRAIN MANHOLE
- SEWER MANHOLE
- IRON PIPE FOUND
- UTILITY POLE
- GUY WIRE
- GRANITE BOUND FOUND
- REBAR FOUND
- DRILL HOLE SET
- DRILL HOLE FOUND
- BENCHMARK
- MAILBOX
- WATER GATE VALVE
- TREES
- WATER SHUTOFF
- FIRE HYDRANT
- WETLAND SYMBOL
- SIGN

SOIL LEGEND

THIS DETAILED SITE-SPECIFIC SOIL MAP, PREPARED ON DECEMBER 12, 2024 BY THOMAS E. SOKOLOSKI, CERTIFIED SOIL SCIENTIST #063 OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. IN BOW, NEW HAMPSHIRE, CONFORMS TO THE STANDARDS OF SSSNNE PUBLICATION NO. 3, VERSION 7.0, "SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT", MARCH 2021. THIS MAP HAS BEEN PREPARED TO COMPLY WITH SOIL MAPPING REQUIREMENTS OF RSA 485 A: 17 AND NHDES ENV-WQ 1500, ALTERATION OF TERRAIN. SEE ACCOMPANYING REPORT FOR METHODOLOGY, MAP SYMBOL LEGEND, AND INTERPRETATIONS. USE OF THE MAP SYMBOL DENOMINATORS FOR DISTURBED OR ALTERED SOILS, WHERE GIVEN, IS AT THE DISCRETION OF THE CERTIFIED SOIL SCIENTIST.

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR USE IN SUPPORT OF A NEW HAMPSHIRE ALTERATION OF TERRAIN PERMIT APPLICATION. IT WAS PRODUCED BY A CERTIFIED SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP.

STATE OF NEW HAMPSHIRE — THOMAS E. SOKOLOSKI — No. 063 — CERTIFIED SOIL SCIENTIST — 7/10/2025

SSSM SYM.*	MAP UNIT	DRAINAGE CLASS	HIS**
89B	CHATFIELD FINE SANDY LOAM	WELL	C
89C	CHATFIELD FINE SANDY LOAM	WELL	C
89D	CHATFIELD FINE SANDY LOAM	WELL	C
400B/dcccc	UDORTHENTS, SANDY	MODERATELY WELL	C
400B/hcccc	UDORTHENTS, SANDY	UNDETERMINABLE	C
448B	SCITUATE FINE SANDY LOAM	MODERATELY WELL	C
448C	SCITUATE FINE SANDY LOAM	MODERATELY WELL	C
448D	SCITUATE FINE SANDY LOAM	MODERATELY WELL	C
656B	RIDGEBURY FINE SANDY LOAM	POORLY	D

* REFER TO ACCOMPANYING REPORT FOR 5-UNIT SUPPLEMENTAL SYMBOL EXPLANATION.
** SSSNNE RECENTLY RECOMMENDED USING HYDROLOGIC SOIL INDEX INSTEAD OF NRCS HYDROLOGIC SOIL GROUP.

SLOPE PHASE:
0-8% B 8-15% C 15-25% D 25%+ E

OWNER'S SIGNATURE
NAME _____ DATE 8/4/25

SCALE: 1"=40'

40 0 20 40 80 160
GRAPHIC SCALE

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC – STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

EXISTING CONDITIONS PLAN
ROCKPOINT COMMONS

LOCATED AT:
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 40'	JUNE 12, 2025	SHEET 2 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
T.N.B.	T.N.B.	R.T.C.	692	28	

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PLAN REFERENCES

1. "MAP 15 PARCEL 126, SUBDIVISON PLAN, LAND OF LOUIS & JANE KUSZEK," IN LONDONDERRY, NH. SCALE: 1"=100', DATED: MAY 1, 1985, LAST REV: 5/15/85, SURVEYED BY DONALD C. JENKS, L.L.S., R.C.R.D. PLAN NO. C-13628.
2. "BOUNDARY PLAN OFLAND OF AUGUST A. & PEARL HUFF STRINO NH ROUTE 128 & SMITH LANE LONDONDERRY,NH" DATED FEBRUARY 17, 1998, SURVEYED BY RONALD R. BURD, FOR AUGUST A. & PEARL H. STRINO, R.C.R.D. PLAN NO. 26257.
3. "BOUNDARY PLAN PREPARED FOR BEN PEKIN CORPORATION, LAND OF LONDONDERRY FREEZER WAREHOUSE, L.L.C. ROCKINGHAM ROAD, ROUTE 28, LONDONDERRY, NH." PREPARED BY BEDFORD DESIGN CONSULTANTS, INC. R.C.R.D. PLAN NO. 26655 (SHEETS 1&2).
4. "TAX MAP 15 – LOTS 116&116-1 MAMMOTH ROAD(NH ROUTE 128) LONDONDERRY, NH." DATED MAY 31ST, 2000, PREPARED FOR PATRICIA L. VERANI, SURVEYED BY ERIC C. MITCHELL, R.C.R.D. PLAN NO. 28592.
5. "BOUNDARY PLAN PREPARED FOR AND LAND OF: LONDONDERRY FREEZER WAREHOUSE ROCKINGHAM ROAD,(RTE.28) LONDONDERRY, NEW HAMPSHIRE." SURVEYED BY CRAIG FRANCISCO, DATED JUNE 29, 2011. R.C.R.D. PLAN NO. 36872.
6. "MAP 15 PARCELS 116 & 123, SUBDIVISION PLAN LAND OF PATRICIA VERANI IN LONDONDERRY, N.H.," SCALE: 1"=100', DATED: AUGUST 7, 1984, PREPARED BY DONALD C. JENKS, L.L.S. R.C.R.D. PLAN NO. D-13359.
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8. "ALTA/NSPS LAND TITLE SURVEY PREPARED FOR 219 ROCKINGHAM MZL, LLC, LAND OF LONDONDERRY FREEZER WAREHOUSE", DATA FEBRUARY 15, 2021, LAST REVISED 04/01/21, AND PREPARED BY BEDFORD DESIGN CONSULTANTS, INC.

WETLAND CERTIFICATION

THOMAS SOKOLOSKI, CERTIFIED WETLAND SCIENTIST #127, OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. OF BOW, NH, PERFORMED THE WETLAND IDENTIFICATION AND DELINEATION ON DECEMBER 12, 2024 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

STATE OF NEW HAMPSHIRE — THOMAS E. SOKOLOSKI — No. 127 — CERTIFIED WETLAND SCIENTIST — 7/01/2025

SOIL LEGEND

THIS DETAILED SITE-SPECIFIC SOIL MAP, PREPARED ON DECEMBER 12, 2024 BY THOMAS E. SOKOLOSKI, CERTIFIED SOIL SCIENTIST #063 OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. IN BOW, NEW HAMPSHIRE, CONFORMS TO THE STANDARDS OF SSSNNE PUBLICATION NO. 3, VERSION 7.0, "SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT"; MARCH 2021. THIS MAP HAS BEEN PREPARED TO COMPLY WITH SOIL MAPPING REQUIREMENTS OF RSA 485 A: 17 AND NHDES ENV-WQ 1500, ALTERATION OF TERRAIN. SEE ACCOMPANYING REPORT FOR METHODOLOGY, MAP SYMBOL LEGEND, AND INTERPRETATIONS. USE OF THE MAP SYMBOL DENOMINATORS FOR DISTURBED OR ALTERED SOILS, WHERE GIVEN, IS AT THE DISCRETION OF THE CERTIFIED SOIL SCIENTIST.

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR USE IN SUPPORT OF A NEW HAMPSHIRE ALTERATION OF TERRAIN PERMIT APPLICATION. IT WAS PRODUCED BY A CERTIFIED SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP.

STATE OF NEW HAMPSHIRE — THOMAS E. SOKOLOSKI — No. 063 — CERTIFIED SOIL SCIENTIST — 7/01/2025

SSSM SYM.*	MAP UNIT	DRAINAGE CLASS	HIS**
89B	CHATFIELD FINE SANDY LOAM	WELL	C
89C	CHATFIELD FINE SANDY LOAM	WELL	C
89D	CHATFIELD FINE SANDY LOAM	WELL	C
400B/dcccc	UDORTHENTS, SANDY	MODERATELY WELL	C
400B/hcccc	UDORTHENTS, SANDY	UNDETERMINABLE	C
448B	SCITUATE FINE SANDY LOAM	MODERATELY WELL	C
448C	SCITUATE FINE SANDY LOAM	MODERATELY WELL	C
448D	SCITUATE FINE SANDY LOAM	MODERATELY WELL	C
656B	RIDGEBURY FINE SANDY LOAM	POORLY	D

* REFER TO ACCOMPANYING REPORT FOR 5-UNIT SUPPLEMENTAL SYMBOL EXPLANATION.
** SSSNNE RECENTLY RECOMMENDED USING HYDROLOGIC SOIL INDEX INSTEAD OF NRCS HYDROLOGIC SOIL GROUP.

SLOPE PHASE:
0-8% B 8-15% C 15-25% D 25%+ E

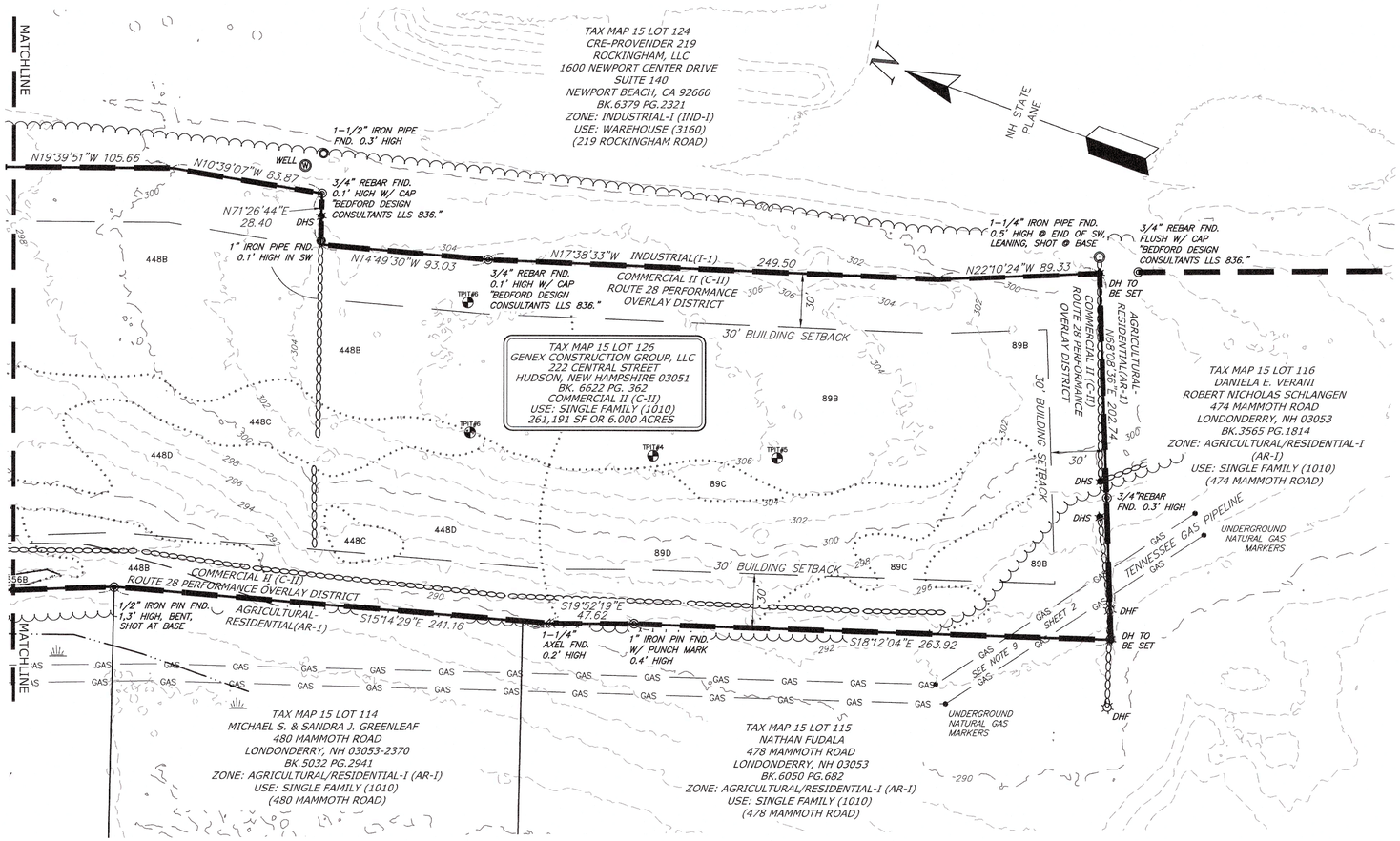


LOCUS MAP

(SCALE: 1"=2500')

LEGEND

- BOUNDARY LINE
- ABUTTING PROPERTY LINE
- BUILDING SETBACK LINE
- EDGE OF PAVEMENT
- ZONE LINE
- SHEET MATCHLINE
- 290 — 10' CONTOUR
- 288 — 2' CONTOUR
- TREE LINE
- CHAIN LINK FENCE
- STONEWALL
- W — WATER LINE
- S — SEWER LINE
- OHW — OVERHEAD WIRES
- D — DRAINAGE LINE
- EDGE OF WETLANDS
- WETLAND BUFFER
- BUILDING
- ROADWAY MARKINGS
- SITE SPECIFIC SOIL LINE
- 448C — SITE SPECIFIC SOIL TYPE
- CATCH BASIN
- DRAIN MANHOLE
- SEWER MANHOLE
- IRON PIPE FOUND
- UTILITY POLE
- GUY WIRE
- GRANITE BOUND FOUND
- REBAR FOUND
- DRILL HOLE SET
- DRILL HOLE FOUND
- BENCHMARK
- MAILBOX
- WATER GATE VALVE
- TREES
- WATER SHUTOFF
- FIRE HYDRANT
- WETLAND SYMBOL
- SIGN



TEST PITS

TEST PITS OBSERVED BY THOMAS E. SOKOLOSKI, CERTIFIED NH SOIL SCIENTIST #063 OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. IN BOW, NEW HAMPSHIRE ON APRIL 24, 2025.

TEST PIT NO. 1

0-6	2.5Y 3/3	SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
6-29	10YR 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
29-86	2.5Y 6/3	GRAVELLY LOAMY SAND, MASSIVE, FIRM, COMMON FINE ROOTS, 7.5YR5/8 CONCENTRATIONS AT 30"

ESHWT AT 30", ROOTS TO 36", OBSERVED WATER AT 76", NO LEDGE, RESTRICTIVE LAYER AT 29"

TEST PIT NO. 2

0-14	10YR 3/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
14-34	10YR 5/4	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
34-74	2.5Y 6/3	GRAVELLY LOAMY SAND, MASSIVE, FIRM, FEW FINE ROOTS, 7.5YR5/8 CONCENTRATIONS AT 37"

ESHWT AT 37", ROOTS TO 40", OBSERVED WATER AT 65", NO LEDGE, RESTRICTIVE LAYER AT 34"

TEST PIT NO. 3

0-14	10YR 2/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
14-30	2.5Y 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
30-74	2.5Y 5/4	GRAVELLY LOAMY SAND, MASSIVE, FIRM, FEW FINE ROOTS, 7.5YR4/6 CONCENTRATIONS AT 33"

ESHWT AT 33", ROOTS TO 38", OBSERVED WATER AT 62", NO LEDGE, RESTRICTIVE LAYER AT 30"

TEST PIT NO. 4

0-4	10YR 2/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
4-20	10YR 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
20-22	2.5Y 5/2	SANDY LOAM, BLOCKY FRIABLE, COMMON FINE ROOTS

NO ESHWT AT 22", ROOTS TO 22", NO WATER AT 22", LEDGE AT 22", NO RESTRICTIVE LAYER

TEST PIT NO. 5

0-7	10YR 2/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
7-19	10YR 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
19-23	2.5Y 5/2	SANDY LOAM, BLOCKY FRIABLE, COMMON FINE ROOTS

NO ESHWT AT 23", ROOTS TO 23", NO WATER AT 23", LEDGE AT 23", NO RESTRICTIVE LAYER

TEST PIT NO. 6

0-8	10YR 2/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
8-21	10YR 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
21-56	2.5Y 6/2	GRAVELLY LOAMY SAND, MASSIVE, FIRM, FEW FINE ROOTS

NO ESHWT AT 56", ROOTS TO 34", NO WATER AT 56", NO LEDGE AT 56", RESTRICTIVE LAYER AT 21"

TEST PIT NO. 7

0-8	10YR 3/3	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
8-33	2.5Y 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
33-60	2.5Y 6/3	LOAMY SAND, MASSIVE, FIRM, FEW FINE ROOTS

NO ESHWT AT 60", ROOTS TO 42", NO WATER AT 60", NO LEDGE AT 60", RESTRICTIVE LAYER AT 33"

OWNER'S SIGNATURE
NAME Mark Stiles DATE 8/4/25

SCALE: 1"=40'

40 0 20 40 80 160
GRAPHIC SCALE

SURVEYOR CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS AN ERROR OF CLOSURE OF GREATER ACCURACY THAN ONE PART IN TEN THOUSAND (1:10,000)."

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR — No. 858 — RAYMOND T. CRITCH — SIGNATURE — 11/17/25

LICENSED LAND SURVEYOR 11/17/25 DATE

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC – STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

EXISTING CONDITIONS PLAN
ROCKPOINT COMMONS

LOCATED AT:
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 40'	JUNE 12, 2025	SHEET 3 OF 33

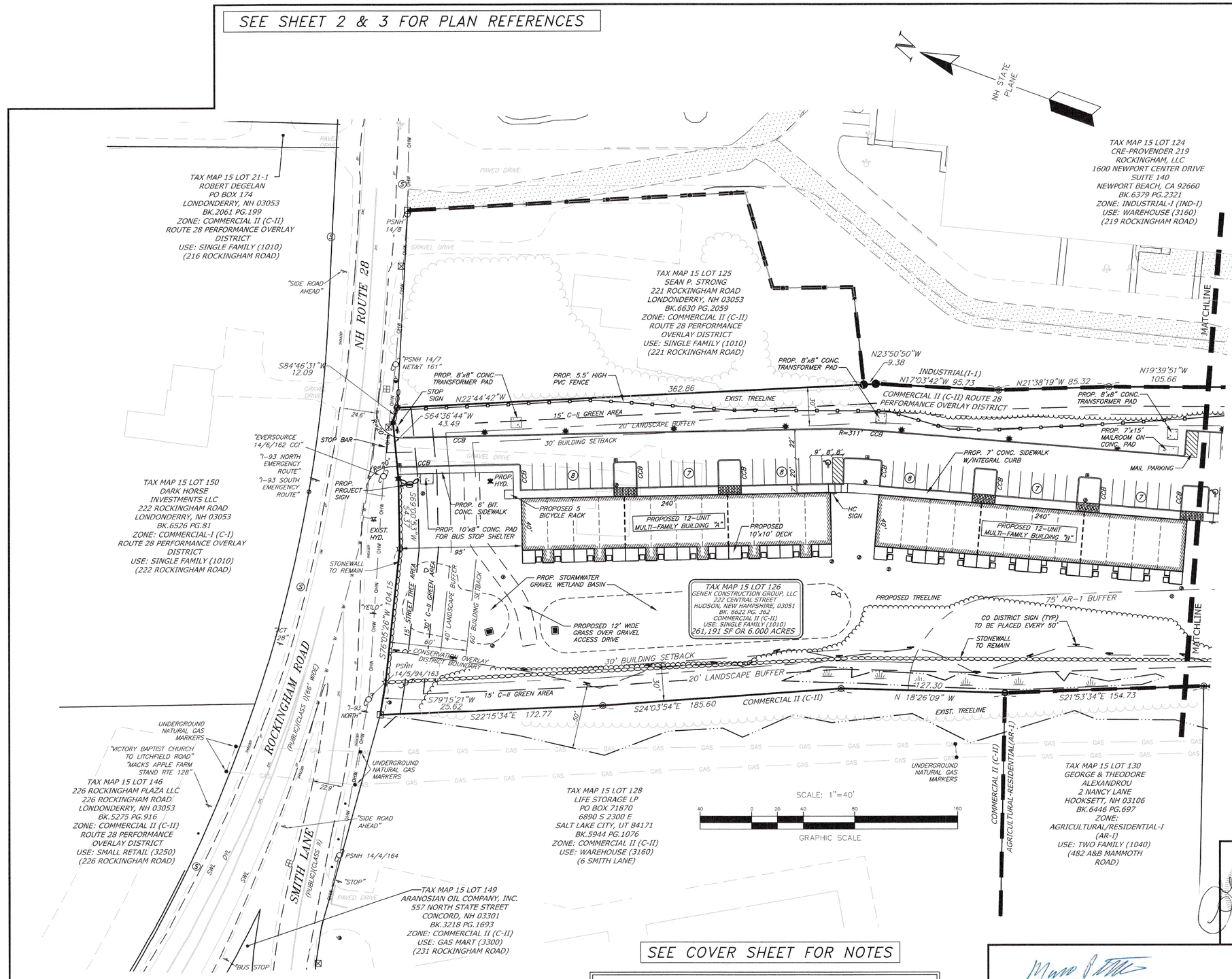
DESIGN:	DRAWN:	CHECKED:	FB:	PG:	
J.S.T.	T.N.B.	R.T.C.	692	28	503-22

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SEE SHEET 2 & 3 FOR PLAN REFERENCES





VICINITY MAP
(SCALE: 1"=2500')

LEGEND

- BOUNDARY/PROPERTY LINE
- ABUTTING PROPERTY LINE
- SETBACK LINE
- EDGE OF JURISDICTIONAL WETLANDS
- ZONE LINE
- SHEET MATCHLINE
- WETLAND SYMBOL
- WETLAND BUFFER
- EXISTING WATERWAY
- PROPOSED TREE LINE
- EXISTING TREE LINE
- EXISTING ROADWAY
- PROPOSED ROADWAY
- PROPOSED CURBING
- EXISTING CURBING
- EXISTING STOCKADE FENCE
- PROPOSED PVC FENCE
- EXISTING CHAINLINK FENCE
- OHW — EXISTING OVERHEAD UTILITIES
- EXISTING GUARDRAIL
- PROPOSED BUILDING
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- REBAR FOUND
- STONE BOUND FOUND
- REBAR TO BE SET
- GRANITE BOUND TO BE SET
- IRON PIPE FOUND
- BENCHMARK SET
- EXISTING LIGHT POLE
- PROPOSED LIGHT POLE
- SEWER MANHOLE
- DRAIN MANHOLE
- (3) #OF PARKING SPACES
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- EXISTING HYDRANT
- PROPOSED HYDRANT

BENCHMARK DATA

THIS PLAN AND TOPOGRAPHIC INFORMATION WAS BASED ON SURVEY FIELD WORK PERFORMED ON MARCH 5 AND MAY 21, 2025 UTILIZING CARLSON BRX-7 GPS RECEIVERS AND CARLSON CRX-5 ROBOTIC TOTAL STATION. COORDINATE SYSTEM IS NEW HAMPSHIRE STATE PLANE BASED ON A STATIC OBSERVATION REDUCED UTILIZING OPUS. ELEVATIONS ARE NAVD 1988.

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR — No. 858 — RAYMOND T. CRITCH — SIGNATURE — 11/17/25

SURVEYOR CERTIFICATION

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LICENSED LAND SURVEYOR — 11/17/25 DATE

WETLAND CERTIFICATION

THOMAS SOKOLOSKI, CERTIFIED WETLAND SCIENTIST #127, OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. OF BOW, NH, PERFORMED THE WETLAND IDENTIFICATION AND DELINEATION ON DECEMBER 12, 2024 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH/CENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

STATE OF NEW HAMPSHIRE — THOMAS E SOKOLOSKI — No. 127 — 7/9/2025 — CERTIFIED WETLAND SCIENTIST

SEE COVER SHEET FOR NOTES

Approved by the Londonderry, NH Planning Board for Phase _____
on Date: _____

Certified By:

_____

_____

_____
OWNER'S SIGNATURE

8/4/25
DATE

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

STATE OF NEW HAMPSHIRE — JAMES S. VOLK — No. 15815 — LICENSED PROFESSIONAL ENGINEER — 12-31-25

TAX MAP 15 LOT 126

SITE PLAN
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 40'	JUNE 12, 2025	SHEET 4 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	
JST	JST	GAC	692	28	503-22

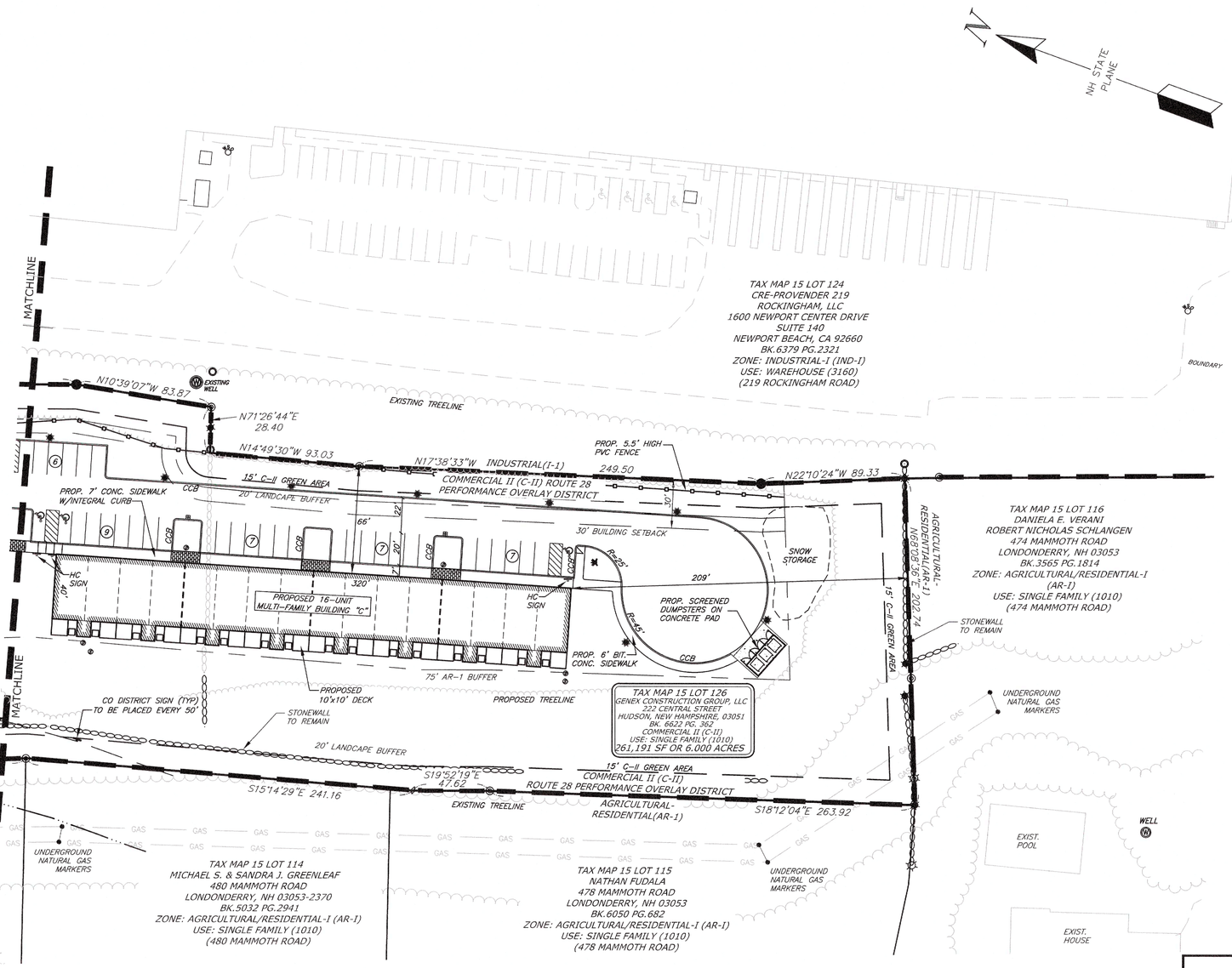
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5. "BOUNDARY PLAN PREPARED FOR AND LAND OF: LONDONDERRY FREEZER WAREHOUSE ROCKINGHAM ROAD,(RTE.28) LONDONDERRY, NEW HAMPSHIRE." SURVEYED BY CRAIG FRANCISCO, DATED JUNE 29, 2011. R.C.R.D. PLAN NO. 36872.
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SCALE: 1"=40'

GRAPHIC SCALE (40 0 20 40 80 160)



VICINITY MAP

(SCALE: 1"=2500')

LEGEND

- BOUNDARY/PROPERTY LINE
- ABUTTING PROPERTY LINE
- SETBACK LINE
- EDGE OF JURISDICTIONAL WETLANDS
- ZONE LINE
- SHEET MATCHLINE
- WETLAND SYMBOL
- WETLAND BUFFER
- EXISTING WATERWAY
- PROPOSED TREE LINE
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- PROPOSED CURBING
- EXISTING CURBING
- EXISTING STOCKADE FENCE
- PROPOSED PVC FENCE
- EXISTING CHAINLINK FENCE
- OHW — EXISTING OVERHEAD UTILITIES
- EXISTING GUARDRAIL
- PROPOSED BUILDING
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- REBAR FOUND
- STONE BOUND FOUND
- REBAR TO BE SET
- GRANITE BOUND TO BE SET
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- BENCHMARK SET
- EXISTING LIGHT POLE
- PROPOSED LIGHT POLE
- SEWER MANHOLE
- DRAIN MANHOLE
- # OF PARKING SPACES
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- EXISTING HYDRANT
- PROPOSED HYDRANT

BENCHMARK DATA

THIS PLAN AND TOPOGRAPHIC INFORMATION WAS BASED ON SURVEY FIELD WORK PERFORMED ON MARCH 5 AND MAY 21, 2025 UTILIZING CARLSON BRX-7 GPS RECEIVERS AND CARLSON CRX-5 ROBOTIC TOTAL STATION. COORDINATE SYSTEM IS NEW HAMPSHIRE STATE PLANE BASED ON A STATIC OBSERVATION REDUCED UTILIZING OPUS. ELEVATIONS ARE NAVD 1988.

SURVEYOR CERTIFICATION

STATE OF NEW HAMPSHIRE — No. 858 — RAYMOND T. CRITCH — LICENSED LAND SURVEYOR — SIGNATURE — 11/17/25

"I HEREBY CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS AN ERROR OF CLOSURE OF GREATER ACCURACY THAN ONE PART IN TEN THOUSAND (1:10,000)."

Raymond T. Critch — 11/17/25

LICENSED LAND SURVEYOR — DATE

WETLAND CERTIFICATION

STATE OF NEW HAMPSHIRE — THOMAS E SOKOLOSKI — No. 127 — CERTIFIED WETLAND SCIENTIST — 7/8/2025

THOMAS SOKOLOSKI, CERTIFIED WETLAND SCIENTIST #127, OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. OF BOW, NH, PERFORMED THE WETLAND IDENTIFICATION AND DELINEATION ON DECEMBER 12, 2024 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

SEE COVER SHEET FOR NOTES

Approved by the Londonderry, NH Planning Board for Phase _____
on Date: _____

Certified By:

_____

_____

STATE OF NEW HAMPSHIRE — GREGORY A. CUNNINGHAM JR. — No. 8818 — LICENSED PROFESSIONAL ENGINEER — 8/7/25

_____ 8/4/25
OWNER'S SIGNATURE — DATE

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

SITE PLAN

ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 40'	JUNE 12, 2025				SHEET 5 OF 33
DESIGN: JST	DRAWN: JST	CHECKED: GAC	FB: 692	PG: 28	503-22

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REFER TO SHEET 7 FOR GRADING NOTES

811 DigSafe MA-ME-NH-RI-VT

LEGEND

- PROPOSED CONTOUR
- EXISTING CONTOUR
- PROPOSED SPOT GRADE
- EXISTING SPOT GRADE
- STATION NUMBERING FOR DRIVEWAY PROFILE
- DRAINAGE FLOW ARROW
- TEST PIT
- PROPOSED SILT FENCE
- PROPOSED RIP RAP
- PROPOSED GAS LINE
- EXISTING GAS LINE
- PROPOSED WATER LINE
- EXISTING WATER LINE
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD UTILITIES
- PROPOSED DRAIN LINE
- EXISTING DRAIN LINE
- PROPOSED ROOF DRAIN
- PROPOSED SEWER LINE
- EXISTING SEWER LINE
- EXISTING WATER SHUTOFF
- PROPOSED WATER SHUTOFF
- EXISTING HYDRANT
- PROPOSED HYDRANT
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- SEWER MANHOLE
- DRAIN MANHOLE
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- EXISTING LIGHT POLE
- PROPOSED LIGHT POLE
- EXISTING STOCKADE FENCE
- PROPOSED PVC FENCE
- EXISTING CHAINLINK FENCE
- EXISTING GUARDRAIL
- EDGE OF JURISDICTIONAL WETLANDS
- WETLAND SYMBOL
- WETLAND BUFFER
- PROPOSED TREE LINE
- EXISTING TREE LINE
- ZONE LINE
- SHEET MATCHLINE

SCALE: 1"=20'

GRAPHIC SCALE

TEST PITS

TEST PIT NO. 1

0–6	2.5Y 3/3	SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS	
6–29	10YR 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS	
29–86	2.5Y 6/3	GRAVELLY LOAMY SAND, MASSIVE, FIRM, COMMON FINE ROOTS, 7.5YR5/8 CONCENTRATIONS AT 30"	

ESHWT AT 30", ROOTS TO 36", OBSERVED WATER AT 76", NO LEDGE, RESTRICTIVE LAYER AT 29"

TEST PIT NO. 2

0–14	10YR 3/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS	
14–34	10YR 5/4	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS	
34–74	2.5Y 6/3	GRAVELLY LOAMY SAND, MASSIVE, FIRM, FEW FINE ROOTS, 7.5YR5/6 CONCENTRATIONS AT 37"	

ESHWT AT 37", ROOTS TO 40", OBSERVED WATER AT 65", NO LEDGE, RESTRICTIVE LAYER AT 34"

TEST PIT NO. 3

0–14	10YR 2/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS	
14–30	2.5Y 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS	
30–74	2.5Y 5/4	GRAVELLY LOAMY SAND, MASSIVE, FIRM, FEW FINE ROOTS, 7.5YR4/6 CONCENTRATIONS AT 33"	

ESHWT AT 33", ROOTS TO 38", OBSERVED WATER AT 62", NO LEDGE, RESTRICTIVE LAYER AT 30"

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC – STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

STATE OF NEW HAMPSHIRE — BRIAN J. LEVESQUE JR. — 15815 — LICENSED PROFESSIONAL ENGINEER

12-31-25

TAX MAP 15 LOT 126

GRADING PLAN
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 20'	JUNE 12, 2025	SHEET 6 OF 33

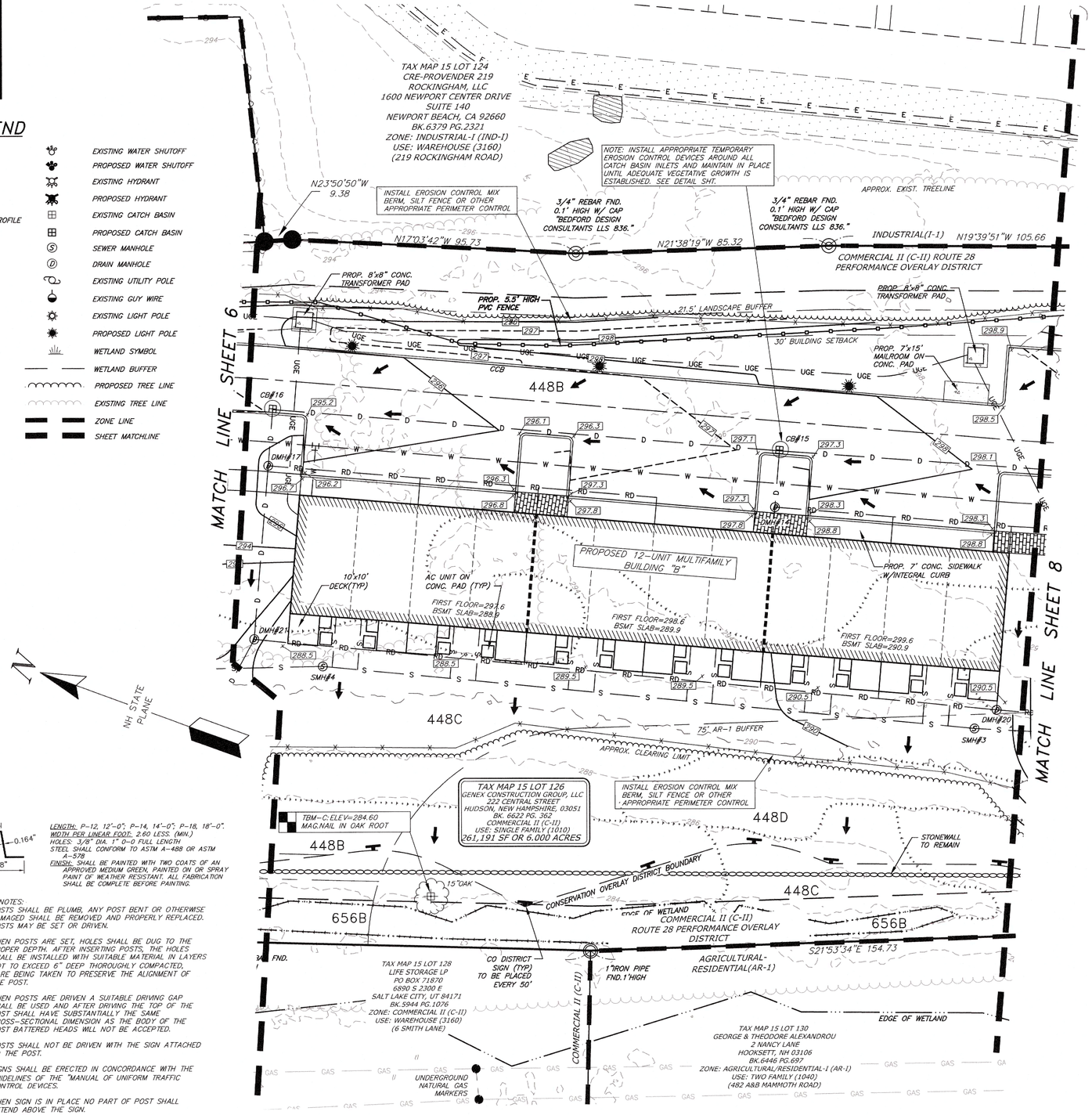
DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503–22
JST	JST	GAC	692	28	

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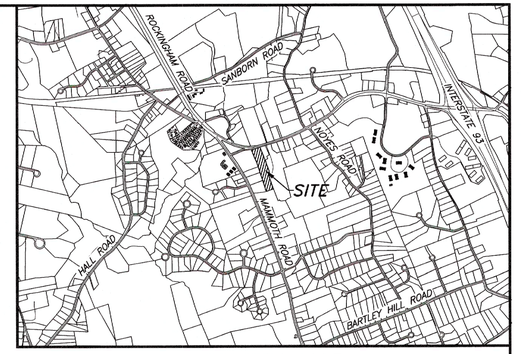
LEGEND

- PROPOSED CONTOUR (290)
- EXISTING CONTOUR (290)
- PROPOSED SPOT GRADE (430.3)
- EXISTING SPOT GRADE (282.6x)
- STATION NUMBERING FOR DRIVEWAY PROFILE (2+00)
- DRAINAGE FLOW ARROW
- TEST PIT (TP#19)
- PROPOSED SILT FENCE
- PROPOSED RIP RAP
- PROPOSED GAS LINE (GAS)
- EXISTING GAS LINE (GAS)
- PROPOSED WATER LINE (W)
- EXISTING WATER LINE (W)
- PROPOSED UNDERGROUND ELECTRIC (UGE)
- EXISTING UNDERGROUND ELECTRIC (E)
- EXISTING OVERHEAD UTILITIES (OHW)
- PROPOSED DRAIN LINE (D)
- EXISTING DRAIN LINE (D)
- PROPOSED ROOF DRAIN (RD)
- PROPOSED SEWER LINE (S)
- EXISTING SEWER LINE (S)
- EXISTING STOCKADE FENCE
- PROPOSED PVC FENCE
- EXISTING CHAINLINK FENCE
- EXISTING GUARDRAIL
- EDGE OF JURISDICTIONAL WETLANDS
- EXISTING WATER SHUTOFF
- PROPOSED WATER SHUTOFF
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- PROPOSED HYDRANT
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- SEWER MANHOLE (S)
- DRAIN MANHOLE (D)
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- EXISTING LIGHT POLE
- PROPOSED LIGHT POLE
- WETLAND SYMBOL
- WETLAND BUFFER
- PROPOSED TREE LINE
- EXISTING TREE LINE
- ZONE LINE
- SHEET MATCHLINE



SCALE: 1"=20'

GRAPHIC SCALE (20 0 10 20 40 80)



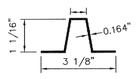
VICINITY MAP

SCALE: 1"=2500'

GRADING NOTES:

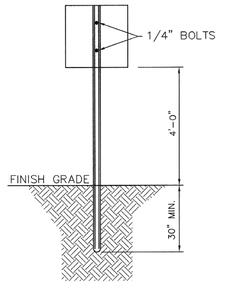
1. THE PURPOSE OF THIS PLAN IS TO SHOW THE GRADING, DRAINAGE, AND UTILITY IMPROVEMENTS ASSOCIATED WITH THE PROPOSED SITE PLAN
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF LONDONDERRY AND SHALL BE BUILT IN A WORKMAN LIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, LATEST EDITION, ARE HEREBY INCORPORATED BY REFERENCE.
3. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURERS INSTALLATION INSTRUCTIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS. PRIOR TO THE START OF ANY CONSTRUCTION, THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROXIMATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 1-800-344-7233 AT LEAST 72 HOURS BEFORE DIGGING.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION AND/OR PROTECTION OF ALL UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE WITH THE OWNER OF SAID UTILITIES,
6. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS CONSTRUCTION WORK AT ALL TIMES.
7. THE CONTRACTOR SHALL THOROUGHLY SECURE ALL EXCAVATIONS ON A DAILY BASIS AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
8. CONTRACTOR SHALL VERIFY T.B.M. ELEVATION PRIOR TO THE START OF CONSTRUCTION.
9. ALL PROPOSED AND EXISTING CATCH BASINS WHICH MAY RECEIVE STORMWATER RUNOFF FROM THE DEVELOPMENT DURING CONSTRUCTION, SHALL BE OUTFITTED WITH INLET PROTECTION.
10. THE CONTRACTOR SHALL DISPOSE OF ANY UNSUITABLE MATERIAL FOUND ON-SITE (I.E. TRASH, STUMPS, ETC.) IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL REGULATIONS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL DEVISES AS SHOWN IN THE PLAN SET THROUGHOUT THE DURATION OF THE PROJECT IN ACCORDANCE WITH APPLICABLE N.H.D.E.S. STANDARDS. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE CONTRACTOR SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY/TOWN.
12. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THIS PLAN SET, PREPARED BY BEDFORD DESIGN CONSULTANTS, INC., DO NOT EXTEND TO OR INCLUDE METHODS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR AND/OR ENGINEER AS INCLUDED IN THE PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE AND/OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REQUIREMENTS.
13. ALL TRAFFIC CONTROL AND TEMPORARY CONSTRUCTION SIGNAGE ARRANGEMENTS, ACCEPTABLE TO N.H.D.O.T., LOCAL CITY/TOWN POLICE DEPARTMENT, AND DEPARTMENT OF PUBLIC WORKS SHALL BE EMPLOYED FOR ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
14. THE SITE SHALL BE GRADED SO ALL FINISHED PAVEMENT HAS POSITIVE DRAINAGE. DRIVEWAYS SHALL BE GRADED AWAY FROM GARAGES TO PREVENT SURFACE RUNOFF FROM ENTERING THE GARAGE. ALL FRONT, SIDE AND REAR LAWN AREAS SHALL BE GRADED TO DIRECT SURFACE RUNOFF AWAY FROM THE PROPOSED BUILDINGS.
15. CONTRACTOR TO PROVIDE FINISHED PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING AND GARAGE ENTRANCES.
16. THE PROPERTY OWNERS OR ASSIGNED QUALIFIED PROFESSIONAL WILL CONDUCT THE OPERATION AND MAINTENANCE PROGRAM SET FORTH IN THE LONG TERM MAINTENANCE PLAN INSPECTION & MAINTENANCE (I&M) MANUAL FOR STORMWATER BEST MANAGEMENT PRACTICES. PROPERTY OWNERS WILL ENSURE THAT INSPECTIONS AND RECORD KEEPING ARE TIMELY AND ACCURATE, AND THAT CLEANING AND MAINTENANCE ARE PERFORMED AT LEAST ON A BI-ANNUAL BASIS. INSPECTION & MAINTENANCE LOG FORMS SHALL INCLUDE THE DATE AND THE AMOUNT OF THE LAST SIGNIFICANT STORM EVENT IN EXCESS OF 2.5" OF RAIN IN A 24-HOUR PERIOD, PHYSICAL CONDITIONS OF THE STRUCTURES, DEPTH OF SEDIMENT IN STRUCTURES, EVIDENCE OF OVERTOPPING OR DEBRIS BLOCKAGE AND MAINTENANCE REQUIRED OF EACH STRUCTURE. RECORDS OF MAINTENANCE AND APPROPRIATE INSPECTION & MAINTENANCE LOG SHEETS SHALL BE KEPT BY THE OWNER INDICATING ALL WORK AND INSPECTIONS. THESE REPORTS WILL BE SENT TO THE LONDONDERRY ENGINEERING OFFICE ON A YEARLY BASIS. ALL STORMWATER MANAGEMENT STRUCTURES WILL BE INSPECTED TWO TIMES PER YEAR, WITH CLEANING TYPICALLY OCCURRING IN APRIL AND OCTOBER AND POSSIBLY MORE OFTEN, AS SITE CONDITIONS WARRANT. CONCURRENT WITH INSPECTION AND CLEANING, ALL LITTER SHALL BE PICKED UP AND REMOVED FROM THE PARKING AREAS, LAWN, LANDSCAPED AND WOODED AREAS.

PROTECTED CONSERVATION AREA
DO NOT DISTURB SOILS OR VEGETATION
VIOLATORS WILL BE PROSECUTED
FOR INFORMATION OR TO REPORT A VIOLATION CALL THE CODE ENFORCEMENT OFFICER AT 432-1100 EXT 125



LENGTH: P-12, 12'-0"; P-14, 14'-0"; P-18, 18'-0".
WIDTH PER LINEAR FOOT: 2.60 LESS. (MIN.)
HOLES: 3/8" DIA. 1"O-O FULL LENGTH
STEEL SHALL CONFORM TO ASTM A-488 OR ASTM A-578
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN, PAINTED ON OR SPRAY PAINT OF WEATHER RESISTANT. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

POST NOTES:
1. POSTS SHALL BE PLUMB, ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND PROPERLY REPLACED. POSTS MAY BE SET OR DRIVEN.
2. WHEN POSTS ARE SET, HOLES SHALL BE DUG TO THE PROPER DEPTH. AFTER INSERTING POSTS, THE HOLES SHALL BE INSTALLED WITH SUITABLE MATERIAL IN LAYERS NOT TO EXCEED 6" DEEP THOROUGHLY COMPACTED, CARE BEING TAKEN TO PRESERVE THE ALIGNMENT OF THE POST.
3. WHEN POSTS ARE DRIVEN A SUITABLE DRIVING CAP SHALL BE USED AND AFTER DRIVING THE TOP OF THE POST SHALL HAVE SUBSTANTIALLY THE SAME CROSS-SECTIONAL DIMENSION AS THE BODY OF THE POST BATTERED HEADS WILL NOT BE ACCEPTED.
4. POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
5. SIGNS SHALL BE ERECTED IN CONCORDANCE WITH THE GUIDELINES OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
6. WHEN SIGN IS IN PLACE NO PART OF POST SHALL EXTEND ABOVE THE SIGN.
7. DIMENSIONS SHOWN ARE NOMINAL.
8. ALTERNATE SECTIONS MUST BE APPROVED PRIOR TO USE.



CONSERVATION AREA SIGN DETAIL

NOT TO SCALE

12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A
DATE	DESCRIPTION	BY	REV.

12-31-25

STATE OF NEW HAMPSHIRE GREGORY A. CUM JR. No. 9515 LICENSED PROFESSIONAL ENGINEER

TAX MAP 15 LOT 126

GRADING PLAN

ROCKPOINT COMMONS

225 ROCKINGHAM ROAD

LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 20'	JUNE 12, 2025	SHEET 7 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	
JST	JST	GAC	692	28	503-22

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REFER TO SHEET 7 FOR GRADING NOTES

NH STATE PLANE

MATCH LINE SHEET 7

TAX MAP 15 LOT 124
CRE-PROVENDER 219 ROCKINGHAM, LLC
1600 NEWPORT CENTER DRIVE
SUITE 140
NEWPORT BEACH, CA 92660
BK.6379 PG.2321
ZONE: INDUSTRIAL-I (IND-1)
USE: WAREHOUSE (3160)
(219 ROCKINGHAM ROAD)

1-1/2" IRON PIPE FND. 0.3' HIGH

EXISTING WELL

PROP. 5.5' HIGH PVC FENCE

N10°39'07"W 83.87

3/4" REBAR FND. 0.1' HIGH W/ CAP "BEDFORD DESIGN CONSULTANTS LLS 836."

DHS

N71°26'44"E 28.40

1" IRON PIPE FND. 0.1' HIGH IN SW

INSTALL EROSION CONTROL MIX BERM, SILT FENCE OR OTHER APPROPRIATE PERIMETER CONTROL

NOTE: INSTALL APPROPRIATE TEMPORARY EROSION CONTROL DEVICES AROUND ALL CATCH BASIN INLETS AND MAINTAIN IN PLACE UNTIL ADEQUATE VEGETATIVE GROWTH IS ESTABLISHED. SEE DETAIL SHT.

3/4" REBAR FND. 0.1' HIGH W/ CAP "BEDFORD DESIGN CONSULTANTS LLS 836."

N14°49'30"W 93.03

PROP. 5.5' HIGH PVC FENCE

N17°38'33"W 249.50

APPROX. EXIST. TREELINE

1-1/4" IRON PIPE FND. 0.5' HIGH @ END OF SW, LEANING, SHOT @ BASE

INDUSTRIAL(I-1)

N22°10'24"W 89.33

DRILL HOLE TO BE SET

3/4" REBAR FND. FLUSH W/ CAP "BEDFORD DESIGN CONSULTANTS LLS 836."

COMMERCIAL II (C-II) ROUTE 28 PERFORMANCE OVERLAY DISTRICT

AGRICULTURAL-RESIDENTIAL(AR-1)

21.5' LANDSCAPE BUFFER

30' BUILDING SETBACK

448B

448C

448D

89B

89C

89D

CB#13

CB#11

DMH#12

DMH#10

DMH#18

SMH#2

SMH#1

STONEWALL TBR

PROPOSED 16-UNIT MULTIFAMILY BUILDING "C"

FIRST FLOOR=301.2
BSMT SLAB=292.5

FIRST FLOOR=302.2
BSMT SLAB=293.5

FIRST FLOOR=303.2
BSMT SLAB=294.5

FIRST FLOOR=304.2
BSMT SLAB=295.5

PROP. 7' CONC. SIDEWALK W/INTEGRAL CURB

AC UNIT ON CONC. PAD (TYP)

10'x10' DECK(TYP)

PROP. HYD.

TEMP. TOPSOIL STORAGE AREA

PROP. 6' BIT. CONC. SIDEWALK

75' AR-1 BUFFER

PROP. SCREENED DUMPSTERS ON CONCRSTE PAD

STONEWALL TO REMAIN

INSTALL EROSION CONTROL MIX BERM, SILT FENCE OR OTHER APPROPRIATE PERIMETER CONTROL

TAX MAP 15 LOT 126
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, NEW HAMPSHIRE, 03051
BK. 6622 PG. 362
COMMERCIAL II (C-II)
USE: SINGLE FAMILY (1010)
261,191 SF OR 6.000 ACRES

TAX MAP 15 LOT 116
DANIELA E. VERANI
ROBERT NICHOLAS SCHLANGEN
474 MAMMOTH ROAD
LONDONDERRY, NH 03053
BK.3565 PG.1814
ZONE: AGRICULTURAL/RESIDENTIAL-I (AR-1)
USE: SINGLE FAMILY (1010)
(474 MAMMOTH ROAD)

N68°08'36"E 202.74

DRILL HOLE TO BE SET

3/4"REBAR FND. 0.3' HIGH

UNDERGROUND NATURAL GAS MARKERS

APPROX. EXIST. TREELINE

CONSERVATION OVERLAY DISTRICT BOUNDARY

1/2" IRON PIN FND. 1.3' HIGH, BENT, SHOT AT BASE

S15°14'29"E 241.16

1-1/4" AXEL FND. 0.2' HIGH

S19°52'19"E 47.62

1" IRON PIN FND. W/ PUNCH MARK 0.4' HIGH

S18°12'04"E 263.92

TAX MAP 15 LOT 114
MICHAEL S. & SANDRA J. GREENLEAF
480 MAMMOTH ROAD
LONDONDERRY, NH 03053-2370
BK.5032 PG.2941
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: SINGLE FAMILY (1010)
(480 MAMMOTH ROAD)

TAX MAP 15 LOT 115
NATHAN FUDALA
478 MAMMOTH ROAD
LONDONDERRY, NH 03053
BK.6050 PG.682
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: SINGLE FAMILY (1010)
(478 MAMMOTH ROAD)

UNDERGROUND NATURAL GAS MARKERS

EDGE OF WETLAND

TEST PITS

TEST PIT NO. 4

0–4	10YR 2/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
4–20	10YR 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
20–22	2.5Y 5/2	SANDY LOAM, BLOCKY FRIABLE, COMMON FINE ROOTS

NO ESHWT AT 22", ROOTS TO 22", NO WATER AT 22", LEDGE AT 22", NO RESTRICTIVE LAYER

TEST PIT NO. 5

0–7	10YR 2/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
7–19	10YR 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
19–23	2.5Y 5/2	SANDY LOAM, BLOCKY FRIABLE, COMMON FINE ROOTS

NO ESHWT AT 23", ROOTS TO 23", NO WATER AT 23", LEDGE AT 23", NO RESTRICTIVE LAYER

TEST PIT NO. 6

0–8	10YR 2/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
8–21	10YR 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
21–56	2.5Y 6/2	GRAVELLY LOAMY SAND, MASSIVE, FIRM, FEW FINE ROOTS

NO ESHWT AT 56", ROOTS TO 34", NO WATER AT 56", NO LEDGE AT 56", RESTRICTIVE LAYER AT 21"

TEST PIT NO. 7

0–8	10YR 3/3	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
8–33	2.5Y 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
33–60	2.5Y 6/3	LOAMY SAND, MASSIVE, FIRM, FEW FINE ROOTS

NO ESHWT AT 60", ROOTS TO 42", NO WATER AT 60", NO LEDGE AT 60", RESTRICTIVE LAYER AT 33"

SCALE: 1"=20'

GRAPHIC SCALE

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DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC – STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

12-31-25

STATE OF NEW HAMPSHIRE GEORGE A. CHAMPOUX JR. NO. 15115 LICENSED PROFESSIONAL ENGINEER

TAX MAP 15 LOT 126

GRADING PLAN

ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 20'	JUNE 12, 2025	SHEET 8 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503–22
JST	JST	GAC	692	28	

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REFER TO SHEET 10 FOR UTILITY NOTES

TAX MAP 15 LOT 125
SEAN P. STRONG
221 ROCKINGHAM ROAD
LONDONDERRY, NH 03053
BK.6630 PG.2059
ZONE: COMMERCIAL II (C-II)
ROUTE 28 PERFORMANCE OVERLAY DISTRICT
USE: SINGLE FAMILY (1010)
(221 ROCKINGHAM ROAD)

TEMPORARY SEWER BYPASS NOTE:

SEWER MANHOLE #7 SHALL BE A NEW STRUCTURE SET INLINE ON EXISTING SEWER MAIN. CONTRACTOR SHALL PROVIDE A TEMPORARY SEWER BYPASS PLAN FROM EXISTING SMH 1–8 TO EXISTING SMH 1–7 TO THE TOWN OF LONDONDERRY DEPARTMENT OF ENGINEERING & ENVIRONMENTAL SERVICES FOR APPROVAL PRIOR TO CONSTRUCTION.

PROP. 16"x8" TAPPING SLEEVE PER MANCHESTER WATER WORKS SPECS.

SAW CUT LIMITS FOR WATERLINE REMOVAL

EXISTING SANITARY SEWER STUBS TO BE ABANDONED IN PLACE.

EXISTING 1" COPPER WATER SERVICE TO BE CUT AND CAPPED AT THE MAIN. TURN OFF THE CORPORATION, DISCONNECT AND CAP THE CORPORATION.

TAX MAP 15 LOT 150
DARK HORSE INVESTMENTS LLC
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053
BK.6526 PG.81
ZONE: COMMERCIAL-I (C-I)
ROUTE 28 PERFORMANCE OVERLAY DISTRICT
USE: SINGLE FAMILY (1010)
(222 ROCKINGHAM ROAD)

TAX MAP 15 LOT 146
226 ROCKINGHAM PLAZA LLC
226 ROCKINGHAM ROAD
LONDONDERRY, NH 03053
BK.5275 PG.916
ZONE: COMMERCIAL II (C-II)
ROUTE 28 PERFORMANCE OVERLAY DISTRICT
USE: SMALL RETAIL (3250)
(226 ROCKINGHAM ROAD)

TAX MAP 15 LOT 128
LIFE STORAGE LP
PO BOX 71870
6890 S 2300 E
SALT LAKE CITY, UT 84171
BK.5944 PG.1076
ZONE: COMMERCIAL II (C-II)
USE: WAREHOUSE (3160)
(6 SMITH LANE)

TAX MAP 15 LOT 126
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, NEW HAMPSHIRE, 03051
BK. 6622 PG. 362
COMMERCIAL II (C-II)
USE: SINGLE FAMILY (1010)
261,191 SF OR 6.000 ACRES

PROPOSED 12–UNIT MULTIFAMILY BUILDING "A"

FIRST FLOOR=294.3
BSMT SLAB=285.6

FIRST FLOOR=295.3
BSMT SLAB=286.6

FIRST FLOOR=296.3
BSMT SLAB=287.6

PROP. 5.5' HIGH PVC FENCE

PROP. 8'x8" CONC. TRANSFORMER PAD

PROP. 6' BIT. CONC. SIDEWALK

PROP. 10'x8' CONC. PAD FOR BUS STOP SHELTER

PROP. PROJECT SIGN

PROP. 8" D.I. WATERLINE

8"x8"x6" TEE WITH THRUST BLOCK

8" 45° BEND W/ THRUST BLOCK

8" 11.25° BEND W/ THRUST BLOCK

PROP. SMH#7 (6'DIA)
INSIDE DROP
RIM=286.5
INV. IN=271.10(15")
INV. IN=277.85(8")
INV. OUT=271.00(15")

8" SDR 35 PVC SAN. SEWER
88 LF, S=0.007

SMH#6
RIM=290.0
INV. IN=278.57
INV. OUT=278.47

PROPOSED 12' WIDE GRAVEL ACCESS DRIVE

PROPOSED 5 BICYCLE RACK

6" D.I. FIRE SERVICE W/ 2" DOMESTIC LINE (SEE DETAIL SHT. 10)

8" HDP ROOF DRAIN 74 LF, S=0.005

8" HDP ROOF DRAIN 165 LF, S=0.005

8" HDP ROOF DRAIN 240 LF, S=0.005

15" HDP STORM DRAIN 168 LF, S=0.018

8" HDP ROOF DRAIN 19 LF, S=0.010

15" HDP STORM DRAIN 82 LF, S=0.008

8" SDR 35 PVC SANITARY SEWER 90 LF, S=0.007

8" SDR 35 PVC SANITARY SEWER 300 LF, S=0.007

8" INV=288.0

SMH#5
RIM=287.9
INV. IN=279.30
INV. OUT=279.20

DMH#30
STA 2+88 (29'RT)
RIM=293.5
INV. IN=289.30(8"S)
INV. IN=288.30(8"N)
INV. OUT=288.05(8"E)

DMH#23
RIM=290.50
INV. IN=286.00(8")
INV. IN=286.00(8")
INV. OUT=285.75(8")

4" PVC SERVICE (TYP.)

DMH#21 TO ES#22
24" HDP STORM DRAIN
31 LF, S=0.010

ES#24
INV. OUT=284.00

ES#22
INV. OUT=284.19

CB#31
STA 2+88 (10'RT)
RIM=292.59
INV. IN=287.86(8")
INV. OUT=287.00(15")

CB#32
STA 1+20 (10'RT)
RIM=288.46
INV. IN=283.96
INV. OUT=283.71

DMH#36 TO ES#37
18" HDP STORM DRAIN
28 LF, S=0.005

DMH#36
RIM=285.00
INV. IN=280.36(18")
INV. OUT=280.26(18")

ES#37
INV. OUT=280.00

OS#26 TO DMH#36
18" HDP STORM DRAIN
47 LF, S=0.003

OS#26
RIM=284.50
INV. OUT=280.50

OS#24 TO DMH#36
18" HDP STORM DRAIN
8 LF, S=0.017

OS#35
RIM=284.50
INV. OUT=280.50

ES#33
INV. OUT=283.00

SEDIMENT FOREBAY

PROPOSED GRAVEL WETLAND STORMWATER BASIN NO. 34

PROPOSED GRAVEL WETLAND STORMWATER BASIN NO. 25

STONE BERM

SEDIMENT FOREBAY

STONEWALL TO REMAIN

STONEWALL TO REMAIN

CONSERVATION OVERLAY DISTRICT BOUNDARY

EDGE OF WETLAND

EDGE OF WETLAND

5/8"REBAR FND. 0.5' HIGH

5/8" REBAR 0.6' HIGH

4"X4" GRANITE BND.FND. W/D.H. 0.1' UP

EXISTING 15" PIPE TO REMAIN IN SERVICE

SOLID COUPLING, FERNCO OR OTHER FLEXIBLE COUPLINGS SHALL NOT BE PERMITTED.

NEW 6' DIA. INSIDE DROP MANHOLE

NEW 8" SERVICE DROP CONNECTION

EXISTING 15" PIPE TO REMAIN IN SERVICE

PROP. SMH #7
CUT IN SMH DETAIL
NOT TO SCALE

NOTES:

1. CONTRACTOR SHALL EXCAVATE TEST PIT AT LOCATION OF NEW MANHOLE TO DETERMINE EXACT LOCATION, ELEVATION AND SLOPE OF EXISTING 15" SANITARY SEWER PRIOR TO BEGINNING CONSTRUCTION.
2. THE EXISTING PIPE SHALL BE TEMPORARILY PLUGGED PRIOR TO CUT IN MANHOLE WORK.
3. THE CONTRACTOR SHALL PROVIDE BY–PASS PUMPING DURING MANHOLE WORK AS NEEDED.
4. UPON COMPLETEION, TESTING, AND ACCEPTANCE OF ALL NEW GRAVITY SEWER, THE CONTRACTOR SHALL CONSTRUCT THE NEW INVERT AND REDIRECT FLOW INTO THE NEW SEWER.

SMH 1–7
RIM: 283.14'
TABLE: 270.66'
IN(NE): 269.51'
OUT(W): 269.31'

12"CMP INV.=284.14

12"HDPE INV.=278.12

"ICT 128"

"FELD"

"SIDE ROAD AHEAD"

PSNH 14/5/94/163

7–93 NORTH"

"PSNH 14/7 NET&T 161"

EX. CB RIM=290.35 INV.=286.63

GRAVEL DRIVE

EXIST. 15" PVC SANITARY SEWER 266 LF, S=0.020

EXIST. 6" PVC SANITARY SEWER

"EVERSOURCE 14/6/162 CCI"

(2) 6" SERVICE CONN.

"7–93 NORTH EMERGENCY ROUTE"

"7–93 SOUTH EMERGENCY ROUTE"

EXIST. HYD.

PROP. HYD.

6" DI TO HYD.

DHS

DHF

N. H. ROUTE 28

ROCKINGHAM ROAD (PUBLIC/CLASS VI 66' WIDE)

SMITH LANE (PUBLIC/CLASS II)

UNDERGROUND NATURAL GAS MARKERS

UNDERGROUND NATURAL GAS MARKERS

N22°44'42"W 362.86

S54°46'31"W 12.09

S76°05'26"W 104.45

S79°15'21"W 25.62

S22°15'34"E 172.77

S24°03'54"E 185.60

S69°00'55"W 447.39

N 1+00 2+00 3+00 4+00

MATCH LINE SHEET 10

NH STATE PLANE

SCALE: 1"=20'

GRAPHIC SCALE

LEGEND

- PROPOSED CONTOUR
- EXISTING CONTOUR
- STATION NUMBERING FOR DRIVEWAY PROFILE
- TEST PIT
- PROPOSED SILT FENCE
- PROPOSED RIP RAP
- PROPOSED GAS LINE
- EXISTING GAS LINE
- PROPOSED WATER LINE
- EXISTING WATER LINE
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD UTILITIES
- PROPOSED DRAIN LINE
- EXISTING DRAIN LINE
- PROPOSED ROOF DRAIN
- PROPOSED SEWER LINE
- EXISTING SEWER LINE
- EXISTING WATER SHUTOFF
- PROPOSED WATER SHUTOFF
- EXISTING HYDRANT
- PROPOSED HYDRANT
- EXISTING GATE VALVE
- PROPOSED GATE VALVE
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- SEWER MANHOLE
- DRAIN MANHOLE
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- EXISTING LIGHT POLE
- PROPOSED LIGHT POLE
- EXISTING STOCKADE FENCE
- PROPOSED PVC FENCE
- EXISTING CHAINLINK FENCE
- EXISTING GUARDRAIL
- EDGE OF JURISDICTIONAL WETLANDS
- WETLAND SYMBOL
- WETLAND BUFFER
- PROPOSED TREE LINE
- EXISTING TREE LINE
- ZONE LINE
- SHEET MATCHLINE

SANITARY SEWER FLOW CALCULATIONS

DAILY FLOW

PROPOSED THREE BEDROOM RESIDENTIAL UNITS
40 UNITS @ 450 GPD/UNIT = 18,000 GPD FLOW

SEWER LINE INFILTRATION = 300 GALLONS / INCH DIAMETER OF PIPE/ MILE/ DAY
= 8" PIPE X 1,058 FT X 300 GALLONS/IN/5,280 FT / DAY
= 481 GPD

SEWER MANHOLE INFILTRATION = 1 GALLON / VERTICAL FOOT / DAY
67 VERTICAL FEET = 67 GPD

TOTAL DAILY FLOW

18,000 + 481 + 67 = 18,548 GPD

PEAK FLOW = 18,548 GPD X 6 = 111,288 GPD

DATE	DESCRIPTION	BY	REV.
12–31–25	PER DRC – STANTEC REVIEW #2	BJL	E
11–12–25	PER DRC PLAN REVIEW	JST	D
10–8–25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9–24–25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8–20–25	PER TOWN SEWER DEPT. REVIEW	JST	A

GEORGE A. CHADWICK JR. 13515 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

12/31/25

TAX MAP 15 LOT 126

UTILITY PLAN

ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

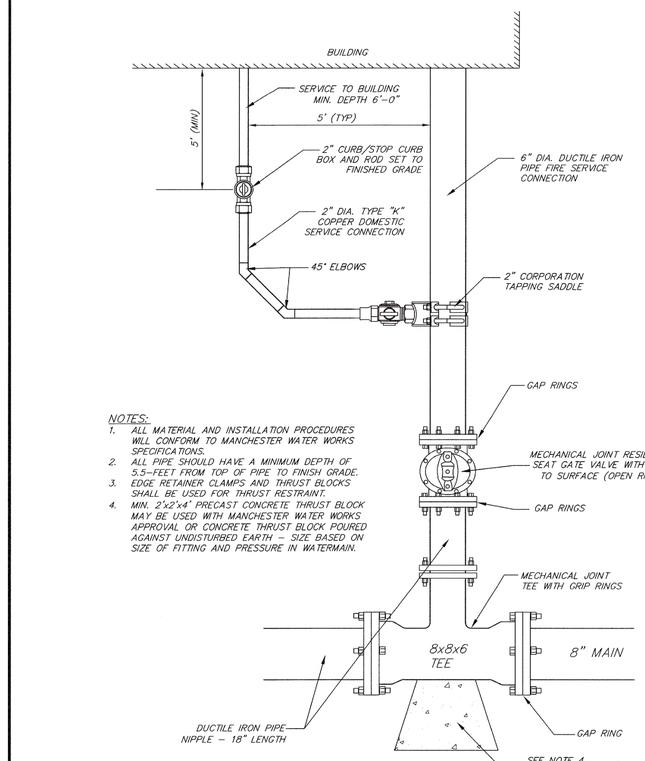
PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 20'	JUNE 12, 2025	SHEET 9 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503–22
JST	JST	GAC	692	28	

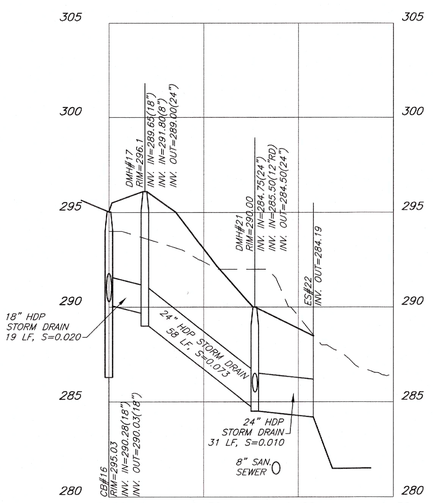
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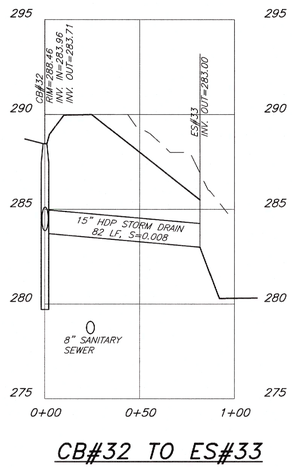


NOTES:
1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO MANCHESTER WATER WORKS SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5.5-FEET FROM TOP OF PIPE TO FINISH GRADE.
3. EDGE RETAINER CLAMPS AND THRUST BLOCKS SHALL BE USED FOR THRUST RESTRAINT.
4. MIN. 2'x2'x4' PRECAST CONCRETE THRUST BLOCK MAY BE USED WITH MANCHESTER WATER WORKS APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH - SIZE BASED ON SIZE OF FITTING AND PRESSURE IN WATERMAIN.

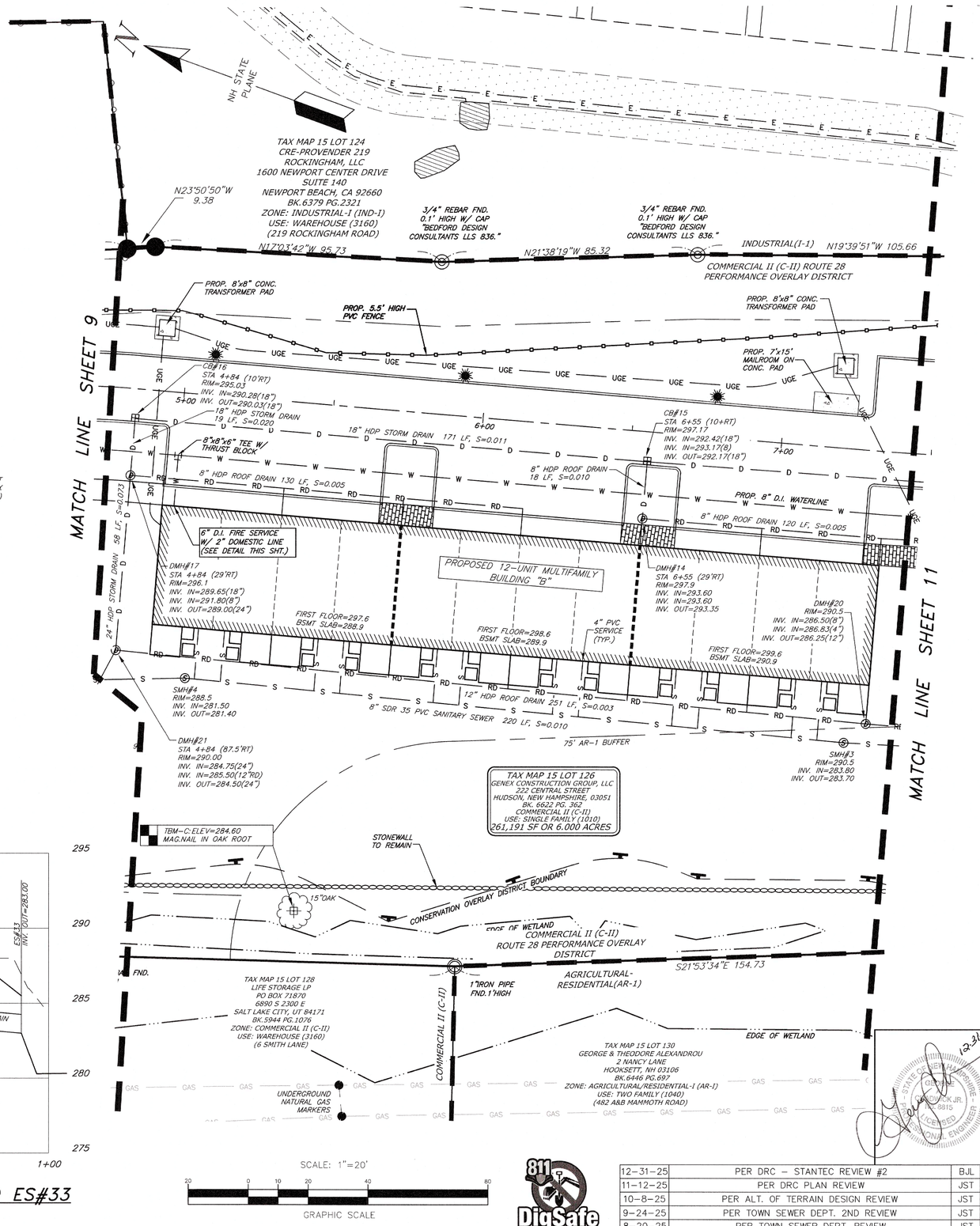
TYPICAL BUILDING DOMESTIC/FIRE SERVICE
NOT TO SCALE



CB#16 TO ES#22



CB#32 TO ES#33



UTILITY NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE UTILITY IMPROVEMENTS ASSOCIATED WITH THE PROPOSED SITE PLAN
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF LONDONDERRY AND SHALL BE BUILT IN A WORKMAN LIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION APPROVED AND ADOPTED 2016 ARE HEREBY INCORPORATED BY REFERENCE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS. PRIOR TO THE START OF ANY CONSTRUCTION, THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROXIMATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS BEFORE DIGGING.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION AND/OR PROTECTION OF ALL UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE WITH THE OWNER OF SAID UTILITIES.
5. ALL DRAINAGE PIPE SHALL BE NON-PERFORATED ADS N-12 HIGH-DENSITY POLYETHYLENE PIPE SMOOTH INTERIOR (OR APPROVED EQUAL), OR RCP CLASS IV, UNLESS NOTED ON THE PLANS. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURERS INSTALLATION INSTRUCTIONS.
6. ALL CATCH BASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN PAVED.
7. ALL ROOF DRAINS FROM BUILDING SHALL BE CONSTRUCTED TO WITHIN 5' OF THE OUTSIDE THE BUILDING LIMITS AS SHOWN ON THE PLANS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT THE END.
8. ALL DRAINAGE AND SANITARY SEWER STRUCTURE INTERIOR DIAMETERS (4' MIN.) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS. CATCH BASINS SHALL HAVE 4' DEEP SUMPS WITH HOODS, UNLESS OTHERWISE NOTED.
9. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY H-29 LOADING AND SHALL BE INSTALLED ACCORDINGLY.
10. NO FOUNDATION DRAINS, ROOF DRAINS, FLOOR DRAINS SHALL BE CONNECTED TO THE MUNICIPAL SEWER.
11. OPERATION AND MAINTENANCE OF THE SEWER SERVICE SHALL BE THE RESPONSIBILITY OF THE APPLICANT.
12. THE MINIMUM SEWER TRENCH WIDTH SHALL BE AT LEAST 2 TIMES OUTER DIAMETER OF THE PIPE.
13. THE SEWER CONNECTIONS SHALL BE INSPECTED BY AUTHORIZED TOWN OF LONDONDERRY PUBLIC WORKS AND ENGINEERING DEPARTMENT PERSONNEL BEFORE ANY BACKFILLING. INSPECTION HOURS ARE BETWEEN 9 A.M. AND 4:30 P.M., MONDAY - FRIDAY, WITH AT LEAST 2 DAYS OF ADVANCED NOTICE.
14. THE SEWER SERVICE MANHOLES SHALL BE VACUUM TESTED AND THE PVC PIPING PRESSURE TESTED WITH AUTHORIZED TOWN OF LONDONDERRY PUBLIC WORKS AND/OR ENGINEERING DEPARTMENT PERSONNEL PRESENT ON SITE AS A WITNESS.
15. SEWER MAINS TO BE 8" SDR 35 PVC MEETING ASTM D3034 OR APPROVED EQUIVALENT. ALL SEWER CONSTRUCTION SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE STANDARD SEWER CONSTRUCTION SPECIFICATIONS AND THE TOWN OF LONDONDERRY DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS.
16. A MANDATORY PRECONSTRUCTION MEETING SHALL BE HELD WITH THE TOWN, CONTRACTOR, OWNER, AND ALL UTILITY REPRESENTATIVES PRIOR TO CONSTRUCTION. NO WORK SHALL BEGIN UNTIL APPROVAL BY THE DEPARTMENT OF PUBLIC WORKS HAS BEEN OBTAINED.
17. WATER MAINS TO BE 8" DUCTILE IRON PIPE CLASS 52 DOUBLE CEMENT LINED AND WRAPPED IN 8 MIL POLYETHYLENE CONFORMING TO ANSI A.21.51 (AWWA C-151) AND ANSI A.21.4. SEAL COATING SHALL BE APPLIED INSIDE AND OUT. ALL PIPE SHALL BE PUSH ON TYPE JOINT, IN ACCORDANCE WITH ANSI A.21.11. WATERLINE MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANCHESTER WATER WORKS SPECIFICATIONS.
18. LOCATION OF PROPOSED GAS SERVICES ARE SCHEMATIC IN NATURE FOR COORDINATION PURPOSES ONLY. FINAL DESIGN BY OTHERS IN COORDINATION WITH UTILITY PROVIDING SERVICE. GAS LINE CONSTRUCTION SHALL BE IN CONFORMANCE WITH APPLICABLE UTILITY COMPANY SPECIFICATIONS.
19. ANY FIELD UTILITY ADJUSTMENTS SHALL BE APPROVED BY THE LOCAL AUTHORITIES AND THE OWNER PRIOR TO INSTALLATION.
20. LOCATION OF PROPOSED ELECTRICAL/COMMUNICATION SERVICES ARE SCHEMATIC IN NATURE FOR COORDINATION PURPOSES ONLY. FINAL DESIGN BY OTHERS IN COORDINATION WITH UTILITY PROVIDING SERVICE. ALL ELECTRIC, TELEPHONE AND CABLE TV LINES ARE TO BE INSTALLED IN CONFORMANCE WITH APPLICABLE UTILITY COMPANY SPECIFICATIONS.
21. POWER FEEDS AND INTERCONNECTIONS FOR THE SITE LIGHTING TO BE COORDINATED WITH THE ELECTRICAL ENGINEER.
22. ANY UTILITIES TO BE TAKEN OUT OF SERVICE SHALL BE DISCONNECTED AS DIRECTED BY THE SPECIFIC UTILITY COMPANY AND THE LOCAL DEPARTMENT OF PUBLIC WORKS.
23. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL PROPOSED BUILDING UTILITY CONNECTIONS WITH THE ARCHITECTURAL PLANS.

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

UTILITY PLAN
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 20' | JUNE 12, 2025 | SHEET 10 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	
JST	JST	GAC	692	28	503-22

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12-31-25

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REFER TO SHEET 10 FOR UTILITY NOTES

"SHIPPING AND RECEIVING"

TAX MAP 15 LOT 124
CRE-PROVENDER 219 ROCKINGHAM, LLC
1600 NEWPORT CENTER DRIVE
SUITE 140
NEWPORT BEACH, CA 92660
BK.6379 PG.2321
ZONE: INDUSTRIAL-1 (IND-1)
USE: WAREHOUSE (3160)
(219 ROCKINGHAM ROAD)

1-1/2" IRON PIPE FND. 0.3' HIGH

NH STATE PLANE

EXISTING WELL

N10°39'07"W 83.87

PROP. 5.5' HIGH PVC FENCE

3/4" REBAR FND. 0.1' HIGH W/ CAP "BEDFORD DESIGN CONSULTANTS LLS 836."

DHS

N71°26'44"E 28.40

1" IRON PIPE FND. 0.1' HIGH IN SW

N14°49'30"W 93.03

3/4" REBAR FND. 0.1' HIGH W/ CAP "BEDFORD DESIGN CONSULTANTS LLS 836."

N17°38'33"W 249.50

PROP. 5.5' HIGH PVC FENCE

1-1/4" IRON PIPE FND. 0.5' HIGH @ END OF SW, LEANING, SHOT @ BASE

N22°10'24"W 89.33

INDUSTRIAL(I-1)

COMMERCIAL II (C-II) ROUTE 28 PERFORMANCE OVERLAY DISTRICT

DRILL HOLE TO BE SET

3/4" REBAR FND. FLUSH W/ CAP "BEDFORD DESIGN CONSULTANTS LLS 836."

AGRICULTURAL-RESIDENTIAL(AR-1)

STONEWALL TBR

STONEWALL TO REMAIN

MATCH LINE SHEET 10

8+00

9+00

10+00

11+00

12+00

12+76.65

21.5' LANDSCAPE BUFFER

75' AR-1 BUFFER

18" HDP STORM DRAIN 191 LF, S=0.013

8"x8"x6" TEE WITH THRUST BLOCK

8" HDP ROOF DRAIN

CB#13
STA 8+47 (10+RT)
RIM=299.57
INV. IN=295.07(15")
INV. IN=295.57(8")
INV. OUT=294.82(18")

15" HDP STORM DRAIN 160 LF, S=0.011

8" HDP ROOF DRAIN 18 LF, S=0.010

8" HDP ROOF DRAIN 120 LF, S=0.005

PROP. 8" D.I. WATERLINE

CB#11
STA 10+07 (10+RT)
RIM=301.57
INV. IN=297.07
INV. OUT=296.82

8" HDP ROOF DRAIN 18 LF, S=0.010

8" HDP ROOF DRAIN 80 LF, S=0.005

8"x6" REDUCER

6" DI TO HYD.

G.V.

PROP. HYD.

6" D.I. FIRE SERVICE W/ 2" DOMESTIC LINE (SEE DETAIL SHT. 10)

DMH#12
STA 8+47 (29'RT)
RIM=300.3
INV. IN=296.00
INV. IN=296.00
INV. OUT=295.75

PROPOSED 16-UNIT MULTIFAMILY BUILDING "C"

DMH#10
STA 10+07 (29'RT)
RIM=302.5
INV. IN=297.50
INV. OUT=297.25

ROOF DRAIN (TYP.)

RESTRAINT JOINTS REQUIRED WITHIN 30' OF HYDRANT

8" HDP ROOF DRAIN 53 LF, S=0.088

FIRST FLOOR=301.2
BSMT SLAB=292.5

4" PVC SERVICE (TYP.)

FIRST FLOOR=302.2
BSMT SLAB=293.5

FIRST FLOOR=303.2
BSMT SLAB=294.5

FIRST FLOOR=304.2
BSMT SLAB=295.5

8" SDR 35 PVC SANITARY SEWER 65 LF, S=0.090

DMH#19
RIM=300.4
INV. IN=296.40(8")
INV. OUT=291.17(8")

SMH#2 (6' DIA)
INSIDE DROP
RIM=300.2
INV. IN=293.75
INV. OUT=289.55

8" HDP ROOF DRAIN 300 LF, S=0.010

8" SDR 35 PVC SANITARY SEWER 295 LF, S=0.010

DMH#18
RIM=303.4
INV. IN=299.73(4")
INV. OUT=299.40(8")

SMH#1
RIM=303.4
INV. OUT=296.70

PROP. SCREENED DUMPSTERS ON CONCRETE PAD

TAX MAP 15 LOT 116
DANIELA E. VERANI
ROBERT NICHOLAS SCHLANGEN
474 MAMMOTH ROAD
LONDONDERRY, NH 03053
BK.3565 PG.1814
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: SINGLE FAMILY (1010)
(474 MAMMOTH ROAD)

N68°08'36"E 202.74

DHS

3/4"REBAR FND. 0.3' HIGH

DHS

UNDERGROUND NATURAL GAS MARKERS

DHF

DRILL HOLE TO BE SET

TAX MAP 15 LOT 126
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, NEW HAMPSHIRE, 03051
BK. 6622 PG. 362
COMMERCIAL II (C-II)
USE: SINGLE FAMILY (1010)
261,191 SF OR 6.000 ACRES

CONSERVATION OVERLAY DISTRICT BOUNDARY

COMMERCIAL II (C-II) ROUTE 28 PERFORMANCE OVERLAY DISTRICT

AGRICULTURAL-RESIDENTIAL(AR-1)

1/2" IRON PIN FND. 1,3' HIGH, BENT, SHOT AT BASE

S15°14'29"E 241.16

S19°52'19"E 47.62

1-1/4" AXEL FND. 0.2' HIGH

1" IRON PIN FND. W/ PUNCH MARK 0.4' HIGH

S18°12'04"E 263.92

TAX MAP 15 LOT 114
MICHAEL S. & SANDRA J. GREENLEAF
480 MAMMOTH ROAD
LONDONDERRY, NH 03053-2370
BK.5032 PG.2941
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: SINGLE FAMILY (1010)
(480 MAMMOTH ROAD)

TAX MAP 15 LOT 115
NATHAN FUDALA
478 MAMMOTH ROAD
LONDONDERRY, NH 03053
BK.6050 PG.682
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: SINGLE FAMILY (1010)
(478 MAMMOTH ROAD)

UNDERGROUND NATURAL GAS MARKERS

EDGE OF WETLAND

GAS

SCALE: 1"=20'

20 0 10 20 40 80

GRAPHIC SCALE

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

12/31/25

STATE OF NEW HAMPSHIRE - GREGORY A. GOLDWASSER JR. 15915 LICENSED PROFESSIONAL ENGINEER

TAX MAP 15 LOT 126

UTILITY PLAN
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 20' | JUNE 12, 2025 | SHEET 11 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
JST	JST	GAC	692	28	

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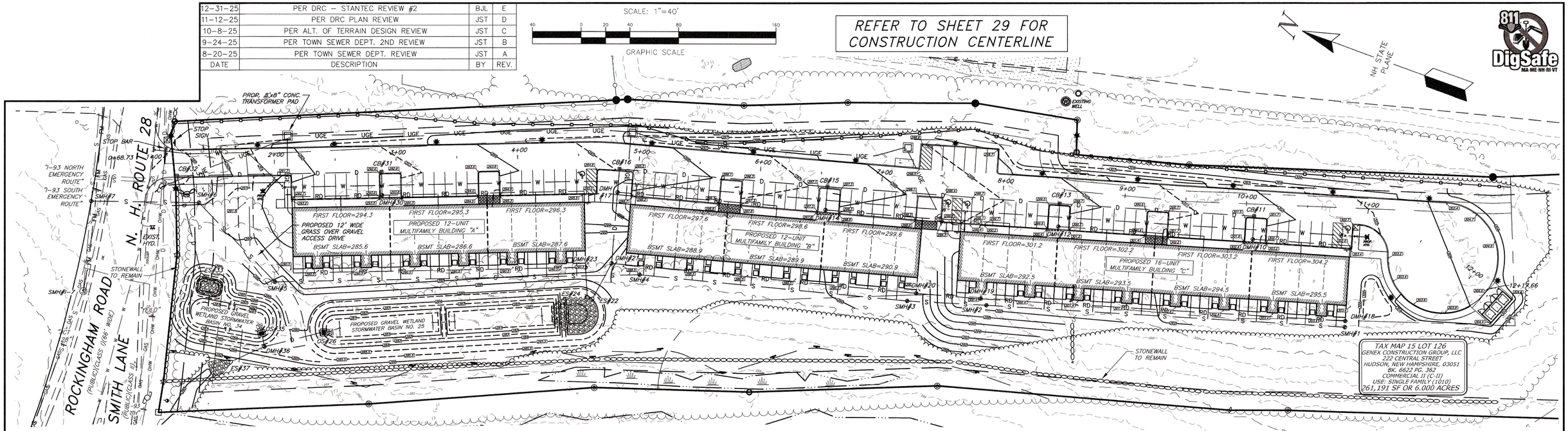
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DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

SCALE: 1"=40'

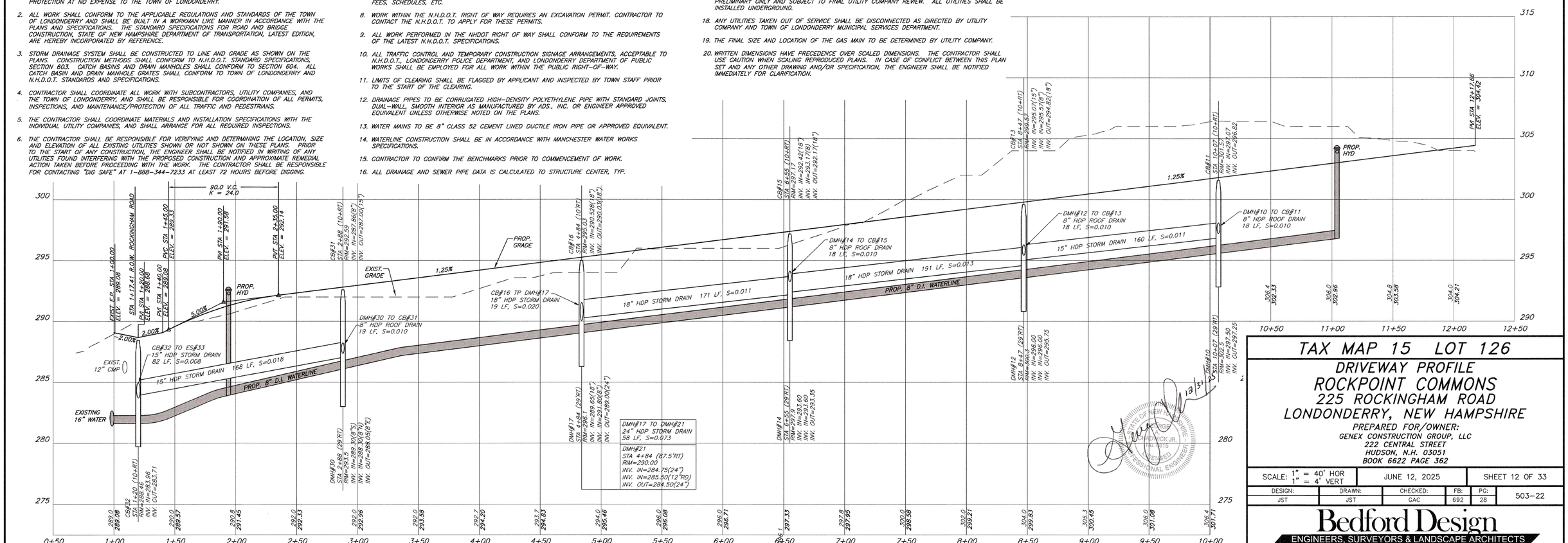
GRAPHIC SCALE

REFER TO SHEET 29 FOR CONSTRUCTION CENTERLINE



NOTES:

1. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE TOWN OF LONDONDERRY.
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF LONDONDERRY AND SHALL BE BUILT IN A WORKMAN LIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, LATEST EDITION, ARE HEREBY INCORPORATED BY REFERENCE.
3. STORM DRAINAGE SYSTEM SHALL BE CONSTRUCTED TO LINE AND GRADE AS SHOWN ON THE PLANS. CONSTRUCTION METHODS SHALL CONFORM TO N.H.D.O.T. STANDARD SPECIFICATIONS, SECTION 603. CATCH BASINS AND DRAIN MANHOLES SHALL CONFORM TO SECTION 604. ALL CATCH BASIN AND DRAIN MANHOLE GRATES SHALL CONFORM TO TOWN OF LONDONDERRY AND N.H.D.O.T. STANDARDS AND SPECIFICATIONS.
4. CONTRACTOR SHALL COORDINATE ALL WORK WITH SUBCONTRACTORS, UTILITY COMPANIES, AND THE TOWN OF LONDONDERRY, AND SHALL BE RESPONSIBLE FOR COORDINATION OF ALL PERMITS, INSPECTIONS, AND MAINTENANCE/PROTECTION OF ALL TRAFFIC AND PEDESTRIANS.
5. THE CONTRACTOR SHALL COORDINATE MATERIALS AND INSTALLATION SPECIFICATIONS WITH THE INDIVIDUAL UTILITY COMPANIES, AND SHALL ARRANGE FOR ALL REQUIRED INSPECTIONS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS. PRIOR TO THE START OF ANY CONSTRUCTION, THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROXIMATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS BEFORE DIGGING.
7. THE APPLICANT/CONTRACTOR WILL NEED TO SCHEDULE A MANDATORY PRECONSTRUCTION MEETING WITH LONDONDERRY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION TO DISCUSS INSPECTION FEES, SCHEDULES, ETC.
8. WORK WITHIN THE N.H.D.O.T. RIGHT OF WAY REQUIRES AN EXCAVATION PERMIT. CONTRACTOR TO CONTACT THE N.H.D.O.T. TO APPLY FOR THESE PERMITS.
9. ALL WORK PERFORMED IN THE NHDOT RIGHT OF WAY SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST N.H.D.O.T. SPECIFICATIONS.
10. ALL TRAFFIC CONTROL AND TEMPORARY CONSTRUCTION SIGNAGE ARRANGEMENTS, ACCEPTABLE TO N.H.D.O.T., LONDONDERRY POLICE DEPARTMENT, AND LONDONDERRY DEPARTMENT OF PUBLIC WORKS SHALL BE EMPLOYED FOR ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
11. LIMITS OF CLEARING SHALL BE FLAGGED BY APPLICANT AND INSPECTED BY TOWN STAFF PRIOR TO THE START OF THE CLEARING.
12. DRAINAGE PIPES TO BE CORRUGATED HIGH-DENSITY POLYETHYLENE PIPE WITH STANDARD JOINTS, DUAL-WALL, SMOOTH INTERIOR AS MANUFACTURED BY ADS., INC. OR ENGINEER APPROVED EQUIVALENT UNLESS OTHERWISE NOTED ON THE PLANS.
13. WATER MAINS TO BE 8" CLASS 52 CEMENT LINED DUCTILE IRON PIPE OR APPROVED EQUIVALENT.
14. WATERLINE CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANCHESTER WATER WORKS SPECIFICATIONS.
15. CONTRACTOR TO CONFIRM THE BENCHMARKS PRIOR TO COMMENCEMENT OF WORK.
16. ALL DRAINAGE AND SEWER PIPE DATA IS CALCULATED TO STRUCTURE CENTER, TYP.
17. ALL ELECTRIC, TELEPHONE, AND CABLE TV LINES ARE TO BE INSTALLED IN CONFORMANCE WITH APPLICABLE UTILITY CO. SPECIFICATIONS. THE LOCATION SHOWN ON THESE PLANS IS PRELIMINARY ONLY AND SUBJECT TO FINAL UTILITY COMPANY REVIEW. ALL UTILITIES SHALL BE INSTALLED UNDERGROUND.
18. ANY UTILITIES TAKEN OUT OF SERVICE SHALL BE DISCONNECTED AS DIRECTED BY UTILITY COMPANY AND TOWN OF LONDONDERRY MUNICIPAL SERVICES DEPARTMENT.
19. THE FINAL SIZE AND LOCATION OF THE GAS MAIN TO BE DETERMINED BY UTILITY COMPANY.
20. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.



TAX MAP 15 LOT 126

DRIVEWAY PROFILE
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

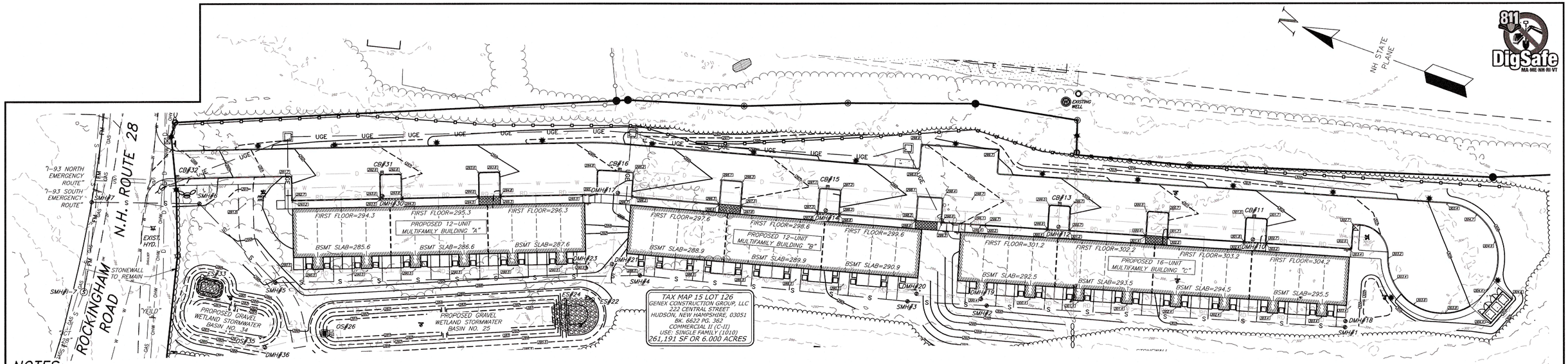
STATE OF NEW HAMPSHIRE — CHRISTOPHER R. BRUCE, JR. — NO. 15815 — LICENSED PROFESSIONAL ENGINEER

SCALE: 1" = 40' HOR 1" = 4' VERT	JUNE 12, 2025			SHEET 12 OF 33
DESIGN:	DRAWN:	CHECKED:	FB:	PG:
JST	JST	GAC	692	28

503-22

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TAX MAP 15 LOT 126
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, NEW HAMPSHIRE, 03051
BK. 6622 PG. 362
COMMERCIAL II (C-II)
USE: SINGLE FAMILY (1010)
261,191 SF OR 6.000 ACRES

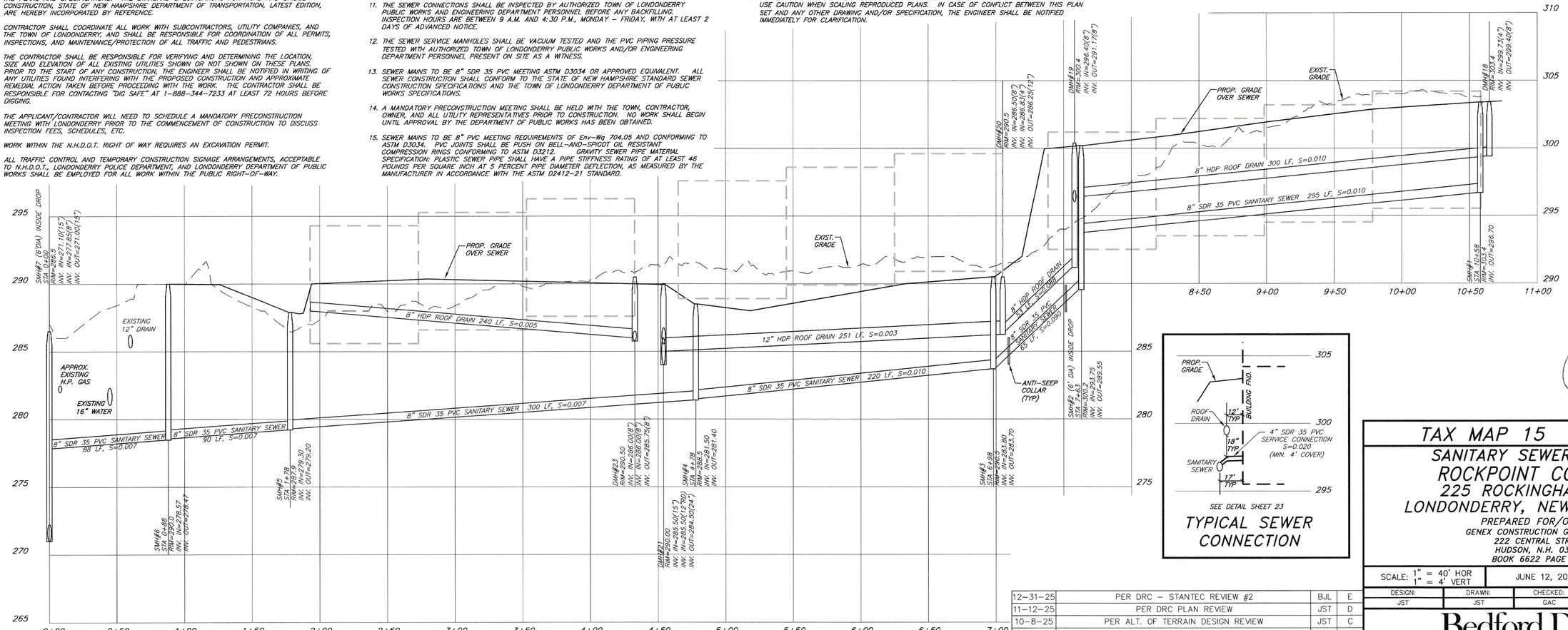
NOTES:

1. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE TOWN OF LONDONDERRY.
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF LONDONDERRY AND SHALL BE BUILT IN A WORKMAN LIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, LATEST EDITION, ARE HEREBY INCORPORATED BY REFERENCE.
3. CONTRACTOR SHALL COORDINATE ALL WORK WITH SUBCONTRACTORS, UTILITY COMPANIES, AND THE TOWN OF LONDONDERRY, AND SHALL BE RESPONSIBLE FOR COORDINATION OF ALL PERMITS, INSPECTIONS, AND MAINTENANCE/PROTECTION OF ALL TRAFFIC AND PEDESTRIANS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS. PRIOR TO THE START OF ANY CONSTRUCTION, THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROXIMATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS BEFORE DIGGING.
5. THE APPLICANT/CONTRACTOR WILL NEED TO SCHEDULE A MANDATORY PRECONSTRUCTION MEETING WITH LONDONDERRY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION TO DISCUSS INSPECTION FEES, SCHEDULES, ETC.
6. WORK WITHIN THE N.H.D.O.T. RIGHT OF WAY REQUIRES AN EXCAVATION PERMIT.
7. ALL TRAFFIC CONTROL AND TEMPORARY CONSTRUCTION SIGNAGE ARRANGEMENTS, ACCEPTABLE TO N.H.D.O.T., LONDONDERRY POLICE DEPARTMENT, AND LONDONDERRY DEPARTMENT OF PUBLIC WORKS SHALL BE EMPLOYED FOR ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
8. LIMITS OF CLEARING SHALL BE FLAGGED BY APPLICANT AND INSPECTED BY TOWN STAFF PRIOR TO THE START OF THE CLEARING.
9. EQUIVALENT UNLESS OTHERWISE NOTED ON THE PLANS.
10. THE MINIMUM SEWER TRENCH WIDTH SHALL BE AT LEAST 2 TIMES OUTER DIAMETER OF THE PIPE.
11. THE SEWER CONNECTIONS SHALL BE INSPECTED BY AUTHORIZED TOWN OF LONDONDERRY PUBLIC WORKS AND ENGINEERING DEPARTMENT PERSONNEL BEFORE ANY BACKFILLING. INSPECTION HOURS ARE BETWEEN 9 A.M. AND 4:30 P.M., MONDAY - FRIDAY, WITH AT LEAST 2 DAYS OF ADVANCED NOTICE.
12. THE SEWER SERVICE MANHOLES SHALL BE VACUUM TESTED AND THE PVC PIPING PRESSURE TESTED WITH AUTHORIZED TOWN OF LONDONDERRY PUBLIC WORKS AND/OR ENGINEERING DEPARTMENT PERSONNEL PRESENT ON SITE AS A WITNESS.
13. SEWER MAINS TO BE 8" SDR 35 PVC MEETING ASTM D3034 OR APPROVED EQUIVALENT. ALL SEWER CONSTRUCTION SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE STANDARD SEWER CONSTRUCTION SPECIFICATIONS AND THE TOWN OF LONDONDERRY DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS.
14. A MANDATORY PRECONSTRUCTION MEETING SHALL BE HELD WITH THE TOWN, CONTRACTOR, OWNER, AND ALL UTILITY REPRESENTATIVES PRIOR TO CONSTRUCTION. NO WORK SHALL BEGIN UNTIL APPROVAL BY THE DEPARTMENT OF PUBLIC WORKS HAS BEEN OBTAINED.
15. SEWER MAINS TO BE 8" PVC MEETING REQUIREMENTS OF Env-Wq 704.05 AND CONFORMING TO ASTM D3034. PVC JOINTS SHALL BE PUSH ON BELL-AND-SPIGOT OIL RESISTANT COMPRESSION RINGS CONFORMING TO ASTM D3212. GRAVITY SEWER PIPE MATERIAL SPECIFICATION: PLASTIC SEWER PIPE SHALL HAVE A PIPE STIFFNESS RATING OF AT LEAST 46 POUNDS PER SQUARE INCH AT 5 PERCENT PIPE DIAMETER DEFLECTION, AS MEASURED BY THE MANUFACTURER IN ACCORDANCE WITH THE ASTM D2412-21 STANDARD.
10. CONTRACTOR TO CONFIRM THE BENCHMARKS PRIOR TO COMMENCEMENT OF WORK.
11. ALL DRAINAGE AND SEWER PIPE DATA IS CALCULATED TO STRUCTURE CENTER, TYP.
12. ANY UTILITIES TAKEN OUT OF SERVICE SHALL BE DISCONNECTED AS DIRECTED BY UTILITY COMPANY AND TOWN OF LONDONDERRY MUNICIPAL SERVICES DEPARTMENT.
13. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.

SCALE: 1"=20'

20 0 10 20 40 80

GRAPHIC SCALE



SEE DETAIL SHEET 23

TYPICAL SEWER CONNECTION

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

12/31/25

STATE OF NEW HAMPSHIRE · GEORGE J. SCHNEIDER JR. · 9815 · LICENSED PROFESSIONAL ENGINEER

TAX MAP 15 LOT 126

SANITARY SEWER PROFILE
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

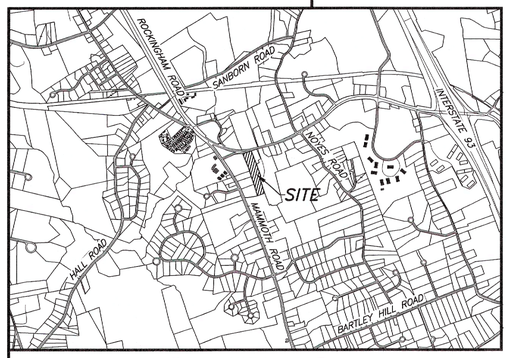
PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 40' HOR, 1" = 4' VERT	JUNE 12, 2025	SHEET 13 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
JST	JST	GAC	692	28	

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VICINITY MAP

(SCALE: 1"=2500')

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE CONSTRUCTION OF FORTY (40) RESIDENTIAL RENTAL UNITS IN THREE (3) BUILDINGS AND ASSOCIATED FACILITIES ON TAX MAP 15 LOT 126.
2. OWNER OF RECORD:
   TAX MAP 15 LOT 126
   GENEX CONSTRUCTION GROUP, LLC
   222 CENTRAL STREET
   HUDSON, NH 03051
   BOOK 6662 PAGE 362
3. LOT AREA: PARCEL AREA: 261,191 S.F. OR 6.000 AC.
4. THE PARCEL IS IN THE COMMERCIAL II (C-II) ZONING DISTRICT.
5. THE LOT IS CURRENTLY A SINGLE FAMILY RESIDENCE.
6. PARKING REQUIREMENTS: (Sec 3.09)
   40 UNIT RESIDENTIAL @ 2 SP/UNIT (STATE LAW 1.5 SPACES PER UNIT)
   80 SPACES REQUIRED, 81 SPACES PROVIDED (2.02/UNIT) (INCLUDING 6 HANDICAP SPACES)
7. THE SITE IS SERVICED BY MANCHESTER WATER WORKS AND TOWN OF LONDONDERRY SEWER.
8. HORIZONTAL DATUM IS BASED ON STATE PLANE AND VERTICAL DATUM IS NAVD 1988 DERIVED FROM STATIS GPS OBSERVATIONS REDUCED BY OPUS. TOPOGRAPHIC INFORMATION IS BASED ON LIDAR DATA OBTAINED FROM LIDAR.UNH.EDU.
9. EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM), COMMUNITY NO. 330150C0317E, EFFECTIVE DATE MAY 17, 2005, INDICATES THE SUBJECT PREMISES IS LOCATED WITHIN ZONE X, NOT A DESIGNATED FLOOD HAZARD AREA.

TAX MAP 15 LOT 21
MARK'S DISCOUNT TRUCK AND AUTO SALES, LLC
214 ROCKINGHAM ROAD
LONDONDERRY, NH 03053
BK.6525 PG.2674
ZONE: COMMERCIAL II (C-II)
ROUTE 28 PERFORMANCE OVERLAY DISTRICT
USE: SERVICE SHOP (3320)
(214 ROCKINGHAM ROAD)

TAX MAP 15 LOT 21-1
ROBERT DEGELAN
PO BOX 174
LONDONDERRY, NH 03053
BK.2061 PG.199
ZONE: COMMERCIAL II (C-II)
ROUTE 28 PERFORMANCE OVERLAY DISTRICT
USE: SINGLE FAMILY (1010)
(216 ROCKINGHAM ROAD)

TAX MAP 15 LOT 125
SEAN P. STRONG
221 ROCKINGHAM ROAD
LONDONDERRY, NH 03053
BK.6630 PG.2059
ZONE: COMMERCIAL II (C-II)
ROUTE 28 PERFORMANCE OVERLAY DISTRICT
USE: SINGLE FAMILY (1010)
(221 ROCKINGHAM ROAD)

TAX MAP 15 LOT 150
DARK HORSE INVESTMENTS LLC
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053
BK.6526 PG.81
ZONE: COMMERCIAL-1 (C-1)
ROUTE 28 PERFORMANCE OVERLAY DISTRICT
USE: SINGLE FAMILY (1010)
(222 ROCKINGHAM ROAD)

TAX MAP 15 LOT 146
226 ROCKINGHAM PLAZA LLC
226 ROCKINGHAM ROAD
LONDONDERRY, NH 03053
BK.5275 PG.916
ZONE: COMMERCIAL II (C-II)
ROUTE 28 PERFORMANCE OVERLAY DISTRICT
USE: SMALL RETAIL (3250)
(226 ROCKINGHAM ROAD)

TAX MAP 15 LOT 149
ARANOSIAN OIL COMPANY, INC.
557 NORTH STATE STREET
CONCORD, NH 03301
BK.3218 PG.1693
ZONE: COMMERCIAL II (C-II)
USE: GAS MART (3300)
(231 ROCKINGHAM ROAD)

TAX MAP 15 LOT 128
LIFE STORAGE LP
PO BOX 71870
6890 S 2300 E
SALT LAKE CITY, UT 84171
BK.5944 PG.1076
ZONE: COMMERCIAL II (C-II)
USE: WAREHOUSE (3160)
(6 SMITH LANE)

TAX MAP 15 LOT 126
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, NEW HAMPSHIRE, 03051
BK. 6622 PG. 362
COMMERCIAL II (C-II)
USE: SINGLE FAMILY (1010)
261,191 SF OR 6.000 ACRES

NH ROUTE 28 · ROCKINGHAM ROAD (PUBLIC)(CLASS II)(66' WIDE) · SMITH LANE (PUBLIC)(CLASS II)

"NET&T/159/PSNH/14/9" · "EVERSOURCE 14/9" · NH STATE PLANE

PAVED DRIVE · GRAVEL DRIVE · "SIDE ROAD AHEAD" · PSNH 14/8 · PSNH 14/5/94/163

"PSI EX. CB NET-RIM=290.35 INV.=286.63" · PROP. 8'x8" CONC. TRANSFORMER PAD · STOP SIGN · STOP BAR

S84°46'31"W 12.09 · N22°44'42"W 362.86 · S64°36'44"W 43.49 · 4' TA

"EVERSOURCE 14/6/162 CCI" · "I-93 NORTH EMERGENCY ROUTE" · "I-93 SOUTH EMERGENCY ROUTE" · PROP. PROJECT SIGN · EXIST. HYD. · 12"CMP

PROP. HYD. · PROP. 6' BIT. CONC. SIDEWALK · PROP. 10'x8" CONC. PAD FOR BUS STOP SHELTER · PROPOSED 5 BICYCLE RACK · PROPOSED 12-UNIT MULTIFAMILY BUILDING "A" · 240' · 50'

STONEWALL TO REMAIN · 12"CMP INV.=284.14 · "FEILD" · 2"CT 28"

PROP. STORMWATER GRAVEL WETLAND BASIN · CONSERVATION OVERLAY DISTRICT BOUNDARY · PROPOSED 12' WIDE GRASS OVER GRAVEL ACCESS DRIVE

S76°05'26"W 25.62 · S79°15'21"W 172.77 · S24°03'54"E 185.60 · 50'

I-93 NORTH

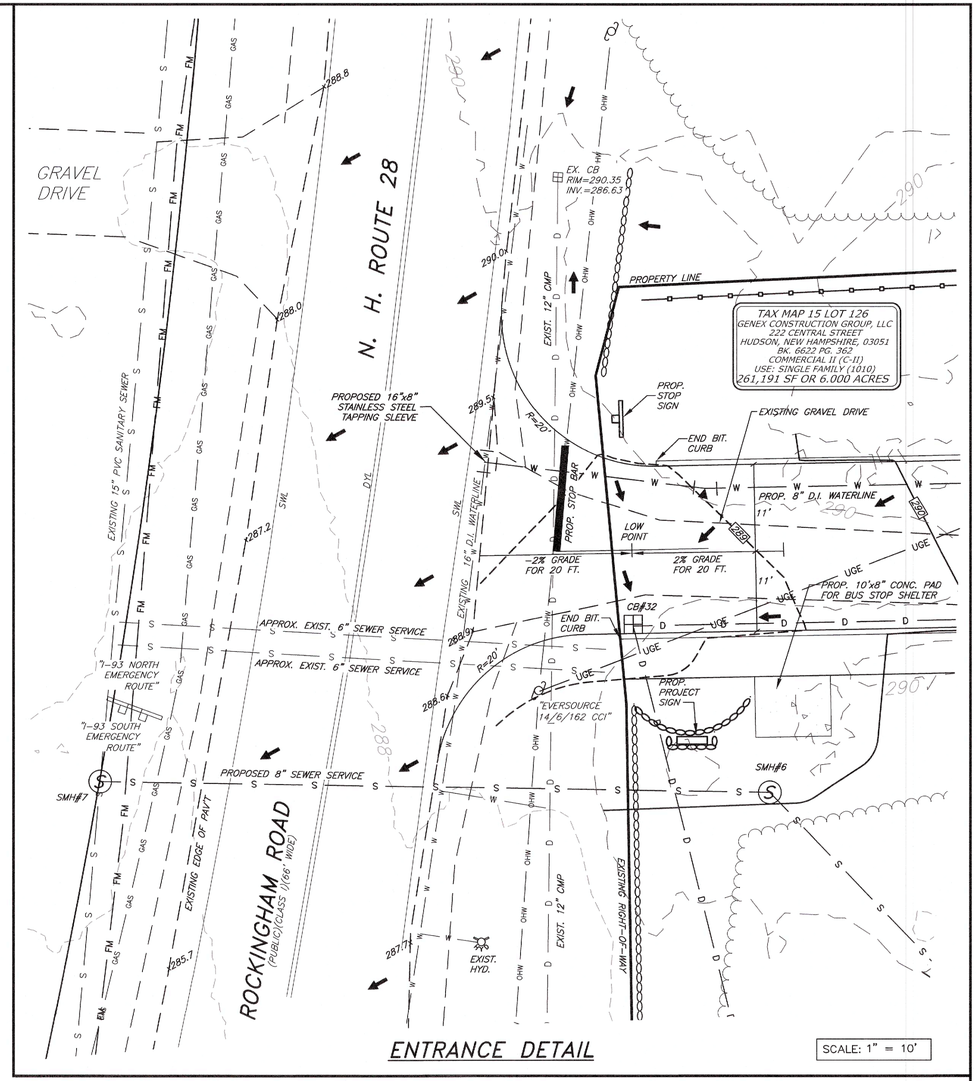
UNDERGROUND NATURAL GAS MARKERS · "VICTORY BAPTIST CHURCH TO LITCHFIELD ROAD" "MACKS APPLE FARM STAND RTE 128" · 15"HDPE INV.=273.11 · EX. CB RIM=278.70

12"HDPE INV.=278.12 "SIDE ROAD AHEAD" · 12"HDPE INV.=277.66 · PSNH 14/4/164 · 12"HDPE INV.=276.71 "STOP" · PAVED DRIVE

SCALE: 1"=40'

40 0 20 40 80 160

GRAPHIC SCALE



ENTRANCE DETAIL

SCALE: 1" = 10'

NHDOT DRIVEWAY PERMIT
#DOT-DRI-003236

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

NHDOT CURBCUT PLAN
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 40'	JUNE 12, 2025	SHEET 14 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
JST	JST	GAC	692	28	

DigSafe 811 MA-ME-NH-RI-VT

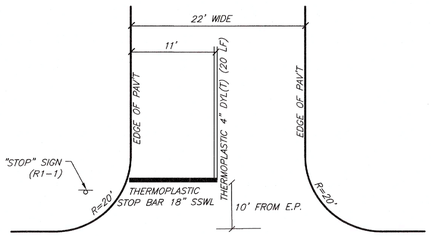
12/31/25

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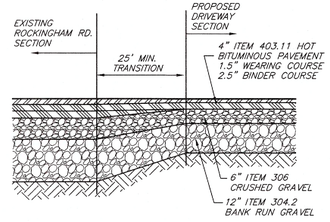
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NOTES

1. THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED RECONSTRUCTED DRIVEWAY ACCESS FOR FORTY (40) RESIDENTIAL UNITS IN THREE (3) BUILDINGS AND ASSOCIATED FACILITIES. ON MAP 15/LOT 126.
2. PROPOSED DRIVEWAY TO BE 22 FEET WIDE.

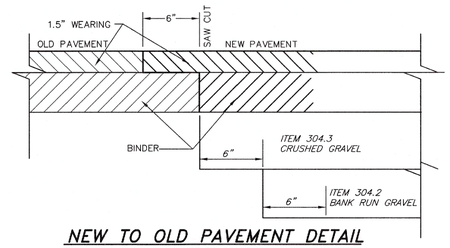


DRIVEWAY ENTRANCE DETAIL
NOT TO SCALE

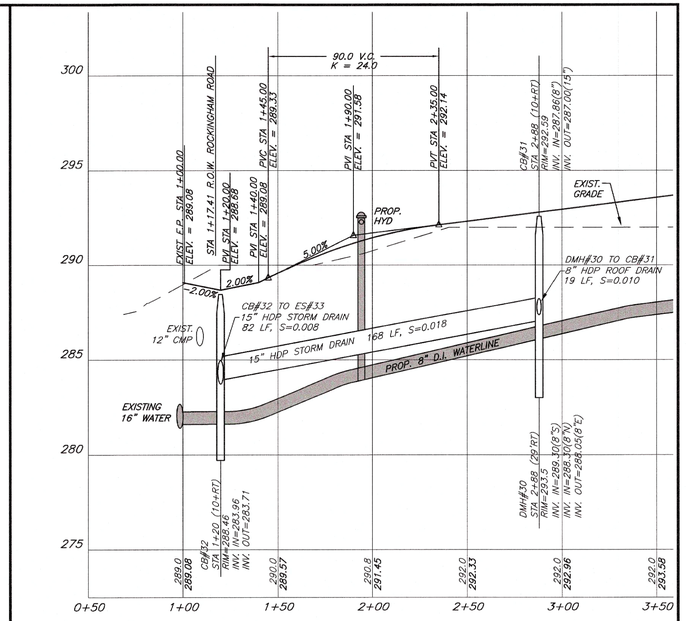


NOTE: CONTRACTOR SHALL CONFIRM PAVEMENT SECTION WITHIN ROCKINGHAM ROAD. TRANSITION FROM ROCKINGHAM ROAD TO BE PROVIDED TO SITE ACCORDINGLY OVER 25-FOOT MIN. DISTANCE.

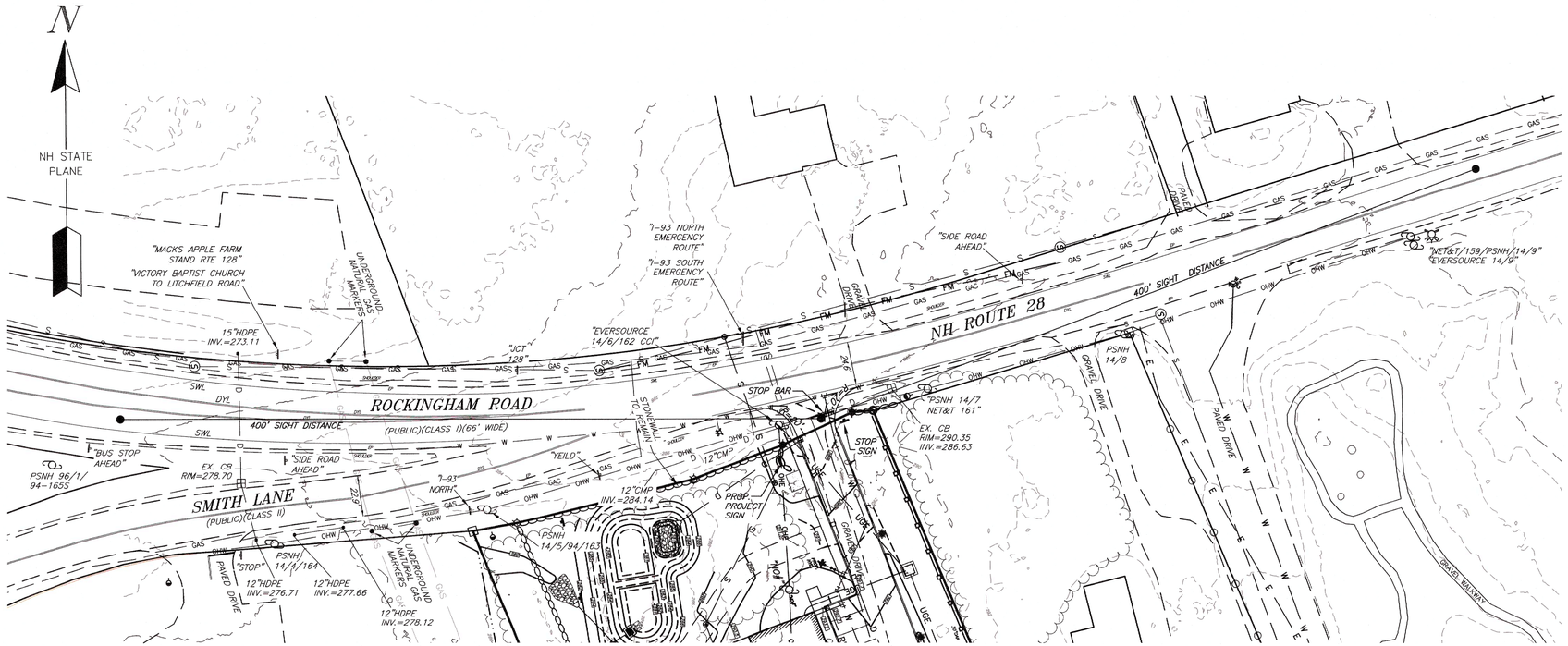
PAVEMENT SECTION TRANSITION
ROCKINGHAM ROAD/ ENTRANCE DRIVE
NOT TO SCALE

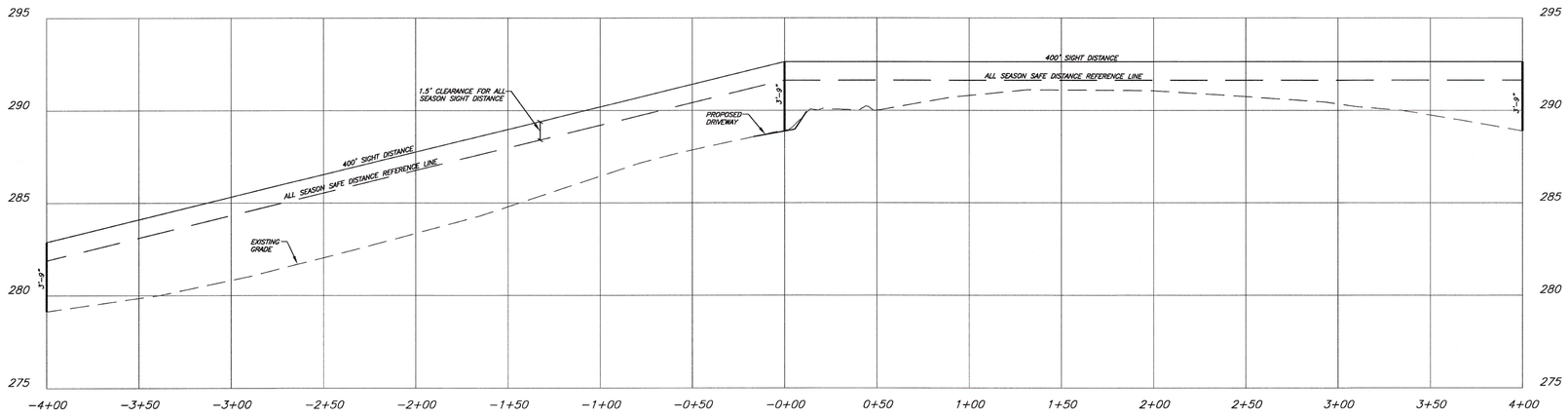


NEW TO OLD PAVEMENT DETAIL
NOT TO SCALE



DRIVEWAY PROFILE
SCALE: 1" = 40' HOR
1" = 4' VERT





DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

NHDOT SIGHT DISTANCE PLAN
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

DigSafe 811 MA ME NH RI VT

12/31/25

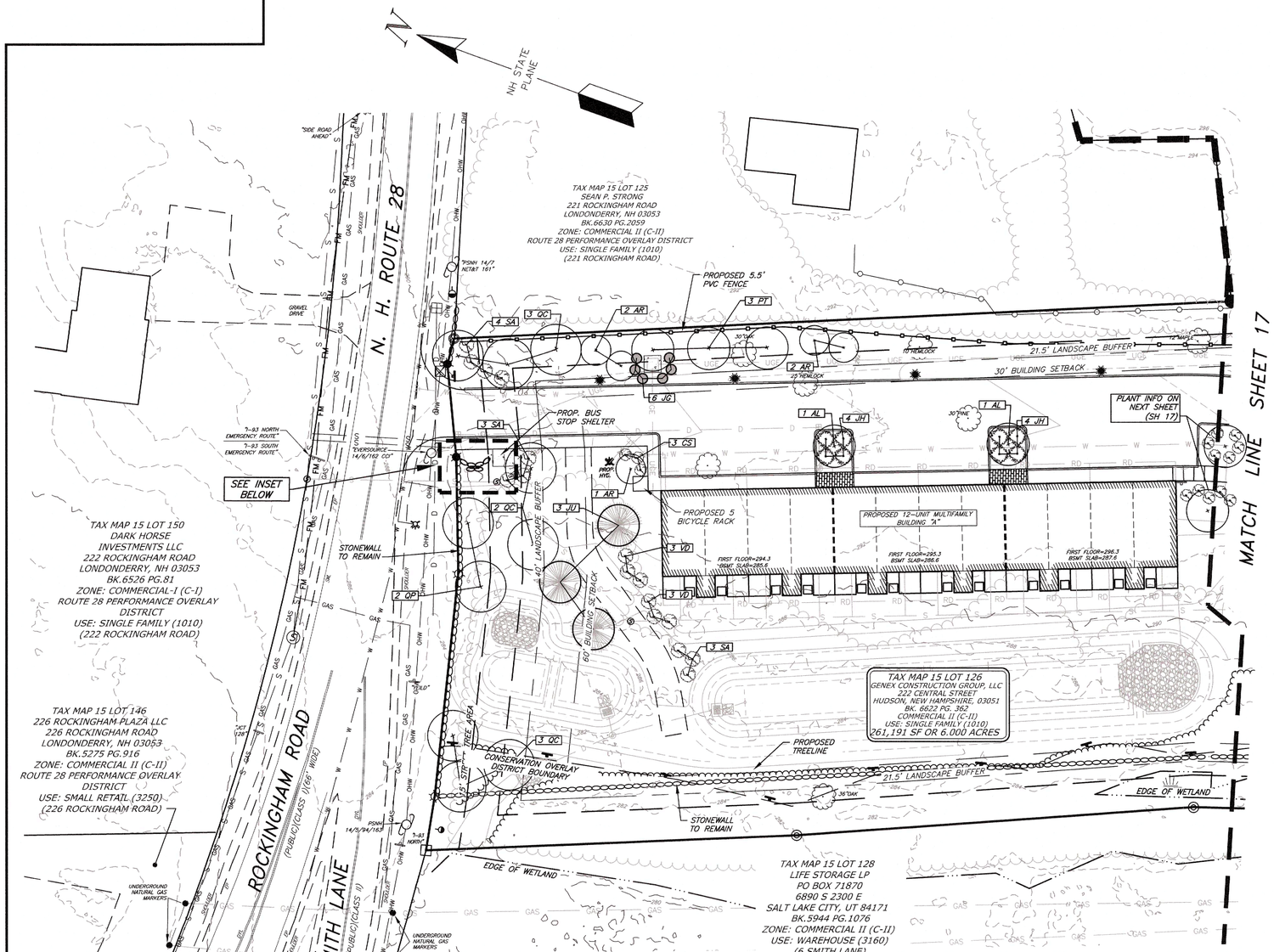
STATE OF NEW HAMPSHIRE BRIAN J. LEMAY JR. No. 19815 LICENSED PROFESSIONAL ENGINEER

SCALE: 1" = 40'	JUNE 12, 2025	SHEET 15 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
JST	JST	GAC	692	28	

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G:\PROJECT\0503022 GENEX ROCKINGHAM ROAD\DWG\0503022C101.DWG



PLANT SCHEDULE

QUANTITY	KEY	BOTANICAL NAME	COMMON NAME	MATURE SIZE	PURCHASE SIZE
DECIDUOUS TREES					
5	AL	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	20'-30' H&W	2.5" CALIPER
5	AR	ACER RUBRUM 'BOWHALL'	BOWHALL RED MAPLE	40'-60'H x 10'-15'W	2.5" CALIPER
2	CC	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	20'-30' H&W	2.5" CALIPER
3	CF	CORNUS (BENTHAMIDIA) FLORIDA 'APPALACHIAN BLUSH'	APPALACHIAN BLUSH DOGWOOD	10'x15'H x 10'-15'W	2" CALIPER
3	GT	GLEDITSIA T.I. 'IMPERIAL'	IMPERIAL HONEYLOCUST	20'-30' H&W	2.5" CALIPER
12	PT	POPULUS TREMULOIDES	QUAKING ASPEN	40'-60'H x 20'-30'W	2.5" CALIPER
11	QC	QUERCUS COCCINEA	SCARLET OAK	60'+H x 30'-40'W	2.5" CALIPER
2	QP	QUERCUS PALUSTRIS	PIN OAK	60'+H x 30'-40'W	2.5" CALIPER
EVERGREENS					
13	IG	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	4-5' H&W	#3
20	JH	JUNIPERUS HORIZONTALIS 'PLUMOSA COMPACTA'	ANDORRA JUNIPER	12-24"H X 6-8'W	#3
7	JU	JUNIPERUS VIRGINIANA	EAST RED CEDAR	30-40'H x 10'-15'W	6-7' B&B
19	JG	JUNIPERUS VIGINIANA 'GREY OWL'	GREY OWL EASTERN RED CEDAR	2-3'H x 6-8'W	#3
10	KL	KALMIA LATIFOLIA 'BULLSEYE'	BULLSEYE MOUNTAIN LUREL	4-5' H&W	#5
8	PG	PICEA GLAUCA	WHITE SPRUCE	40-60'H x 15-20'W	5-6' B&B
8	TO	THUJA OCCIDENTALIS 'HOLMSTRUP'	HOLMSTRUP ARBORVITAE	10-15'H x 4-5'W	5-6' B&B
SHRUBS					
8	CK	CORNUS (SWIDA) SERICEA 'KELSEYI'	KELSEYI RED-OSIER DOGWOOD	2-3' H&W	#3
2	CL	CLETHRA ALNIFOLIA 'RUBY SPICE'	RUBY SPICE SUMMERSWEET	5-6'H x 4-5'W	#3
3	CS	CORNUS (SWIDA) SERICEA 'FLAVIRAMEA'	YELLOW-TWIGGED DOGWOOD	6-8'H & 6-8'W	#6
6	IV	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	3-4'H & 3-4' W	#3
6	VD	VIBURNUM DENTATUM 'BLUE MUFFIN'	BLUE MUFFIN ARROWWOOD VIBURNUM	6-8'H & 4-5'W	#3
10	SA	SYRINGA VULGARIS 'ALBA'	COMMON WHITE LILAC	10-15' H&W	#3
PERENNIALS					
6	AS	ASTER (SYMPHYOTRICHUM) 'WOOD'S BLUE'	WOODS BLUE ASTER	18"	#1
9	AU	ARCTOSTAPHYLOS UVA-URSI	BEARBERRY	6"H x 4.5'W	#1
3	ES	ERAGROSTIS SPECTABILIS	PURPLE LONG GRASS	18"	#1

LANDSCAPE REQUIREMENTS

C–II LANDSCAPE REGULATIONS
4.3.3(B)(1) REQUIRES 33% GRASSED/LANDSCAPED AREA
15' SIDE AND REAR GREEN AREA PROVIDED
30' FRONT GREEN AREA PROVIDED

RTE 28 OVERLAY REGULATIONS
4.6.7.7(D) LANDSCAPE PERFORMANCE STANDARDS

40' FRONT BUFFER AREA TO IMPERVIOUS SURFACE FACING ROW
REQUIRES 2 TREES / 30' OF BUILDING FACADE FACING ROW
40'/30' = 1.33 x 2 = 2.66 TREES, 3 TREES PROVIDED
TREES SHALL BE 1/2 THE PROPOSED BUILDING HEIGHT AT 21.5'

SIDE AND REAR BUFFERS SHALL BE 1/2 THE PROPOSED BUILDING HEIGHT AT A MINIMUM OF 20' WITH 4 SEASON VISUAL SCREENING
43'/2 = 21.5' WIDE BUFFERS

PERFORMANCE ZONE REGULATIONS
4.6.6.7(D) LANDSCAPE PERFORMANCE STANDARDS

15' STREET TREE AREA ALONG ROW WITH 1 SHADE TREE PER 50' FRONTAGE
227'/50 = 4.54 TREES, 5 TREES PROVIDED

SITE PLAN
3.10(g) MITIGATING THE IMPACT OF PARKING LOTS

SIDE PARKING = 31,300 S.F., 8% INTERIOR PARKING LANDSCAPING IS 2,504 S.F. WITH 3,230 S.F. PROPOSED

(3) I SHADE TREE PER 15 PARKING SPACES = 81 SPACES/15 = 5.4 TREES REQ. = 6 PROVIDED

(5) I SHADE TREE PER 20' OF THE PERIMETER OF THE PARKING LOT = 682'/20 = 34.1 TREES REQ. = 34 PROVIDED

OFFSTREET PARKING LOCATED AT FRONT OR SIDE SHALL PROVIDE 50% OPACITY AT 3.5' HIGH ONE YEAR FROM PLANTING.

LANDSCAPE NOTES

1. *PLANTS CAN BE FOUND AT MILLICAN NURSERIES IN CHICHESTER, NH.*
2. *PLANT STOCK SHALL MEET THE AMERICAN NURSERY STANDARDS AND SHALL BE PLANTED IN ACCORDANCE WITH THEIR GUIDELINES AS WELL AS THE TOWN OF LONDONDERRY'S REGULATIONS.*
3. *ANY CHANGES TO THE APPROVED PLANTING PLAN MUST BE APPROVED BY THE LANDSCAPE ARCHITECT IN WRITING.*
4. *FOR PLANT DETAILS SEE THE DETAIL SHEETS.*
5. *ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED WITH 4" OF LOAM AND THE SPECIFIED SEED MIX IN THE CONSTRUCTION DETAIL NOTES.*
6. *THE TOWN REQUIRES THE FOLLOWING PLANT SIZES AT PLANTING:*
   DECIDUOUS TREES = 2.5" CALIPER
   DECIDUOUS ORNAMENTAL TREES = 1.5" CALIPER
   EVERGREEN TREES = 5–6' B&B
7. *PLANTING LOCATIONS SHALL NOT CONFLICT WITH SIGHT DISTANCE, SNOW STORAGE AREAS, UNDERGROUND UTILITIES, AND LIGHT FIXTURES.*

STATE OF NEW HAMPSHIRE GEORGE A. MICHAEL JR. NH 8815 LICENSED PROFESSIONAL ENGINEER

SCALE: 1"=30'

30 0 15 30 60 120
GRAPHIC SCALE

DATE	DESCRIPTION	BY	REV.
12–31–25	PER DRC – STANTEC REVIEW #2	BJL	E
11–12–25	PER DRC PLAN REVIEW	JST	D
10–8–25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9–24–25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8–20–25	PER TOWN SEWER DEPT. REVIEW	JST	A

OWNER'S SIGNATURE — 8/4/25 DATE

Approved by the Londonderry, NH Planning Board on Date: _____ for Phase _____

Certified By: _____

_____

TAX MAP 15 LOT 126

LANDSCAPE PLAN
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 30' | JUNE 12, 2025 | SHEET 16 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503–22
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OWNER'S SIGNATURE — DATE 8/4/25

Approved by the Londonderry, NH Planning Board for Phase
on Date: _____

Certified By:

_____

_____

811 DigSafe MA-ME-NH-RI-VT

NH STATE PLANE

END CAPE COD BERM

END CAPE COD BERM

"SHIPPING AND RECEIVING"

TAX MAP 15 LOT 124
CRE-PROVENDER 219 ROCKINGHAM, LLC
1600 NEWPORT CENTER DRIVE
SUITE 140
NEWPORT BEACH, CA 92660
BK.6379 PG.2321
ZONE: INDUSTRIAL-1 (IND-1)
USE: WAREHOUSE (3160)
(219 ROCKINGHAM ROAD)

INDUSTRIAL(I-1)
COMMERCIAL II (C-II) ROUTE 28 PERFORMANCE OVERLAY DISTRICT

EXISTING WELL

PROPOSED TREELINE

PROPOSED 5.5' PVC FENCE

21.5' LANDSCAPE BUFFER

30' BUILDING SETBACK

EXISTING TREELINE

PROPOSED 12-UNIT MULTIFAMILY BUILDING "B"

FIRST FLOOR=297.6 BSMT SLAB=288.9
FIRST FLOOR=298.6 BSMT SLAB=289.3
FIRST FLOOR=299.6 BSMT SLAB=290.9

PROPOSED 16-UNIT MULTIFAMILY BUILDING "C"

FIRST FLOOR=301.2 BSMT SLAB=292.2
FIRST FLOOR=302.2 BSMT SLAB=293.5
FIRST FLOOR=303.2 BSMT SLAB=294.5
FIRST FLOOR=304.2 BSMT SLAB=295.5

6 JG
2 AU
1 GT
6 IV
5 KL
1 CC
5 IG
1 CF
9 PT
7 JG
3 IG
1 AL
4 JH
3 AU
2 GT
1 QC
4 TO
2 QC
3 PG
2 JU
2 PG
5 KL

SNOW STORAGE

STONEWALL TO REMAIN

75' AR-1 BUFFER

TAX MAP 15 LOT 116
DANIELA E. VERANI
ROBERT NICHOLAS SCHLANGEN
474 MAMMOTH ROAD
LONDONDERRY, NH 03053
BK.3565 PG.1814
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: SINGLE FAMILY (1010)
(474 MAMMOTH ROAD)

AGRICULTURAL-RESIDENTIAL(AR-1)

TAX MAP 15 LOT 126
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, NEW HAMPSHIRE, 03051
BK. 6622 PG. 362
COMMERCIAL II (C-II)
USE: SINGLE FAMILY (1010)
261,191 SF OR 6.000 ACRES

MATCH LINE SHEET 16

15" OAK

CONSERVATION OVERLAY DISTRICT BOUNDARY

EDGE OF WETLAND

COMMERCIAL II (C-II) ROUTE 28 PERFORMANCE OVERLAY DISTRICT

AGRICULTURAL-RESIDENTIAL(AR-1)

TAX MAP 15 LOT 128
LIFE STORAGE LP
PO BOX 71870
6890 S 2300 E
SALT LAKE CITY, UT 84171
BK.5944 PG.1076
ZONE: COMMERCIAL II (C-II)
USE: WAREHOUSE (3160)
(6 SMITH LANE)

TAX MAP 15 LOT 130
GEORGE & THEODORE ALEXANDROU
2 NANCY LANE
HOOKSETT, NH 03106
BK.6446 PG.697
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: TWO FAMILY (1040)
(482 A&B MAMMOTH ROAD)

TAX MAP 15 LOT 114
MICHAEL S. & SANDRA J. GREENLEAF
480 MAMMOTH ROAD
LONDONDERRY, NH 03053-2370
BK.5032 PG.2941
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: SINGLE FAMILY (1010)
(480 MAMMOTH ROAD)

TAX MAP 15 LOT 115
NATHAN FUDALA
478 MAMMOTH ROAD
LONDONDERRY, NH 03053
BK.6050 PG.682
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: SINGLE FAMILY (1010)
(478 MAMMOTH ROAD)

SCALE: 1"=30'

30 0 15 30 60 120

GRAPHIC SCALE

DECIDUOUS TREE PLANTING

NOT TO SCALE

FOR ALL FALL PLANTING, WRAP WITH 3" WIDE BLACK SPUN BOND POLYPROPYLENE SPECIFICALLY MANUFACTURED FOR TREE WRAPPING AND TO RESIST INSECT INFESTATION. WRAP TRUNK TO 2ND LOWEST BRANCH. REMOVE WRAP DURING THE FOLLOWING SPRING SEASON.

TREE SHALL BE PLANTED 2" ABOVE SURROUNDING GRADE. TREE SHALL BE PLUMB AFTER SETTLEMENT.

ROLL BURLAP BACK FROM TOP 1/3 OF ROOTBALL BEFORE BACKFILLING. UNTIE ROPE FROM TRUNK. REMOVE TOP 8-16" OF WIRE BASKET ONCE THE ROOTBALL IS STABLE IN THE PLANTING HOLE.

UNDISTURBED SUBGRADE

ADD AGRIFORM FERTILIZER TABLETS PER MANUFACTURER'S SPECIFICATIONS

3" SHREDDED, UNTREATED PINE BARK MULCH (HOLD MULCH OFF ROOT FLARE)

MIXTURE OF TILLED NATIVE SOIL WITH TOPSOIL

4" HIGH LOAM SAUCER AROUND TREE PIT.

SURROUNDING LAWN/SEEDED AREA (FINISH GRADE)

TAMP SOIL FIRMLY AT ROOTBALL BASE TO PREVENT ROOTBALL MOVEMENT

ROOTBALL TO SIT DIRECTLY ON UNCOMPRESSED/UNDISTURBED SOIL

1 : 3

PLANTING HOLE

MIN 3X WIDER THAN ROOT BALL ALL SIDES

CONIFEROUS TREE PLANTING DETAIL

NOT TO SCALE

INSTALL 3 GUYS PER TREE EQUALLY SPACED AROUND ROOTBALL. GUY WIRE TO BE NEW PLIABLE ANNEALED GALVANIZED SOFT STEEL WIRE NO. 12 GAUGE SIZE. ATTACH AT 2/3 HT. OF TREE IN TWO-PLY, BLACK REINFORCED RUBBER GARDEN HOSE. TIGHTLY CONNECT, HOWEVER ALLOW FOR SLIGHT NATURAL LOOSENING TO OCCUR. REMOVE GUYS AFTER 9 MONTHS.

TREE SHALL BE PLANTED 2" ABOVE SURROUNDING GRADE. TREE SHALL BE PLUMB AFTER SETTLEMENT.

4" HIGH LOAM SAUCER AROUND TREE PIT.

SURROUNDING LAWN/SEEDED AREA (FINISH GRADE)

BACKFILL WITH TOPSOIL MIXTURE

TAMP SOIL FIRMLY AT ROOTBALL BASE TO PREVENT ROOTBALL MOVEMENT

UNDISTURBED SUBGRADE

ADD AGRIFORM FERTILIZER TABLETS PER MANUFACTURER'S SPECIFICATIONS

(3) 2" X 3" X 4' HARDWOOD STAKES SET ANGLE OF POST AND GUY TO ENTER GROUND AT THE LIMIT OF THE SPREAD OF THE BOTTOM BRANCHES

3" SHREDDED, UNTREATED PINE BARK MULCH (HOLD MULCH OFF ROOT FLARE)

ROLL BURLAP BACK FROM TOP 1/3 OF ROOTBALL BEFORE BACKFILLING. UNTIE ROPE FROM TRUNK. REMOVE TOP 8-16" OF WIRE BASKET ONCE THE ROOTBALL IS STABLE IN THE PLANTING HOLE.

1 : 3

25°

PLANTING HOLE

MIN 3X WIDER THAN ROOT BALL ALL SIDES

ROOTBALL TO SIT DIRECTLY ON UNCOMPRESSED/UNDISTURBED SOIL

SHRUB PLANTING DETAIL

NOT TO SCALE

TOP OF BALL – 2" BELOW GRADE

4" MULCH – AS SPEC.

REMOVE TOP 1/3 OF BURLAP

PREPARED PLANTING SOIL

ELEVATE ROOTBALL SO THAT IT IS LEVEL WITH EXISTING GRADE

UNDISTURBED SOIL

3 TO 5 TIMES WIDTH OF ROOTBALL

10/31/25

STATE OF NEW HAMPSHIRE GEORGE A. JACKSON JR. No. 8515 LICENSED PROFESSIONAL ENGINEER

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC – STANTEC REVIEW #2	BJL	E
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9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

LANDSCAPE PLAN

ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

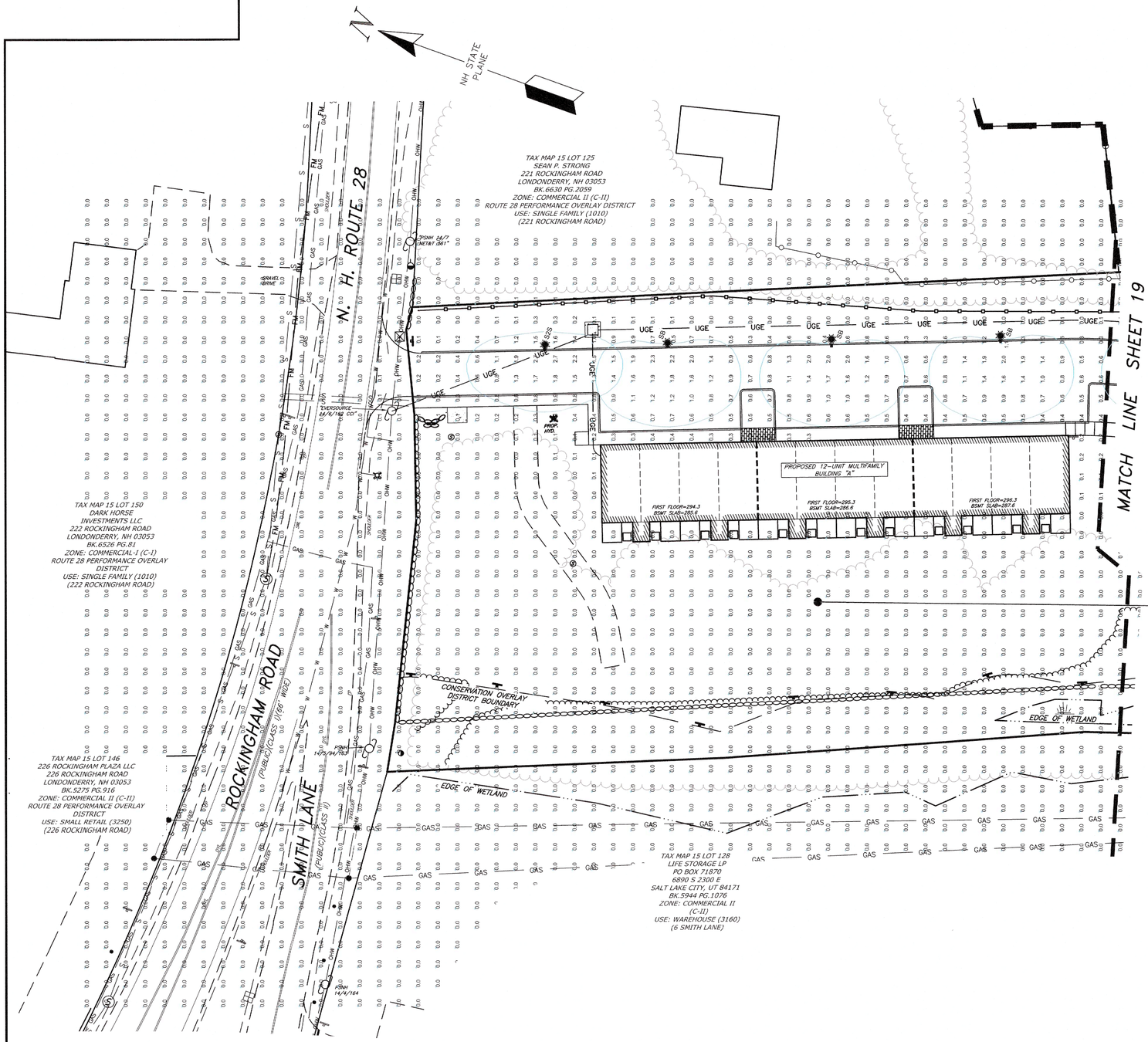
SCALE: 1" = 30'	JUNE 12, 2025	SHEET 17 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
JST	JST	GAC	692	28	

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ALL LIGHTING FIXTURES SHALL BE FULL CUT-OFF TYPE FIXTURES AS REQUIRED





GARDCO OPF-S-A01-730

SCALE: 1"=30'

30 0 15 30 60 120

GRAPHIC SCALE

APEX
LIGHTING SOLUTIONS
20-30 BEAVER ROAD, WETHERSFIELD, CT 06109
TELEPHONE 860.632.8766 / WWW.APEXLTG.COM

GENERAL DISCLAIMER:
Calculations have been performed according to IES standards and good practice Some differences between measured values and calculated results may occur due to tolerances in calculation methods, testing procedures, component performance, measurement techniques and field conditions such as voltage and temperature variations. Input data used to generate the attached calculations such as room dimensions, reflectances, furniture and architectural elements significantly affect the lighting calculations. If the real environment conditions do not match the input data, differences will occur between measured values and calculated values.

* LLF Determined Using Current Published Lamp Data

NOTE TO REVIEWER:
Total Light Loss Factor (LLF) applied at time of design is determined by applying the Lamp Lumen Depreciation (LLD) from current lamp manufacturer's catalog, a Luminaire Dirt Depreciation Factor (LDD) based on IES recommended values and a Ballast Factor (BF) from current ballast specification sheets. Application of an incorrect Light Loss Factor (LLF) will result in forecasts of performance that will not accurately depict actual results.
For proper comparison of photometric layouts, it is essential that you insist all designers use correct Light Loss Factors.

JOB NAME: GENEX - ROCKINGHAM RD - LONDONDERRY, NH
APEX LIGHTING SOLUTIONS
WORKPLANE/CALC PLANE: AT FINISH GRADE
MOUNTING HEIGHT: SEE LUMINAIRE SCHEDULE
APPS: LED
SALES: CR
SPECIFIER: BEDFORD DESIGN CONSULTANTS

Luminaire Schedule

Qty	Label	Arrangement	Lumens	Input Watts	LLF	BUG Rating	Description
1	S2S	Single	5354	41.88	0.900	B1-U0-G1	GARDCO OPF-S-A01-730-T2M-AR1-UNV-FINISH-OPF-S-HIS-1 / MOUNTED TO SSS-CB-4-11-20-D1-DT5-FINISH
1	S4S	Single	5468	41.88	0.900	B1-U0-G2	GARDCO OPF-S-A01-730-T4M-AR1-UNV-FINISH-OPF-S-HIS-T4-1 / MOUNTED TO SSS-CB-4-11-20-D1-DT5-FINISH
13	SB	Single	4875	41.88	0.900	B0-U0-G2	GARDCO OPF-S-A01-730-BLC-AR1-UNV-FINISH / MOUNTED TO SSS-CB-4-11-20-D1-DT5-FINISH

Calculation Summary

Label	Grid Height	Avg	Max	Min	Avg/Min	Max/Min
OVERALL SITE	0	0.11	2.7	0.0	N.A.	N.A.
PARKING & DRIVE LANES	0	1.07	2.7	0.0	N.A.	N.A.

12/31/25

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8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

LIGHTING PLAN
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

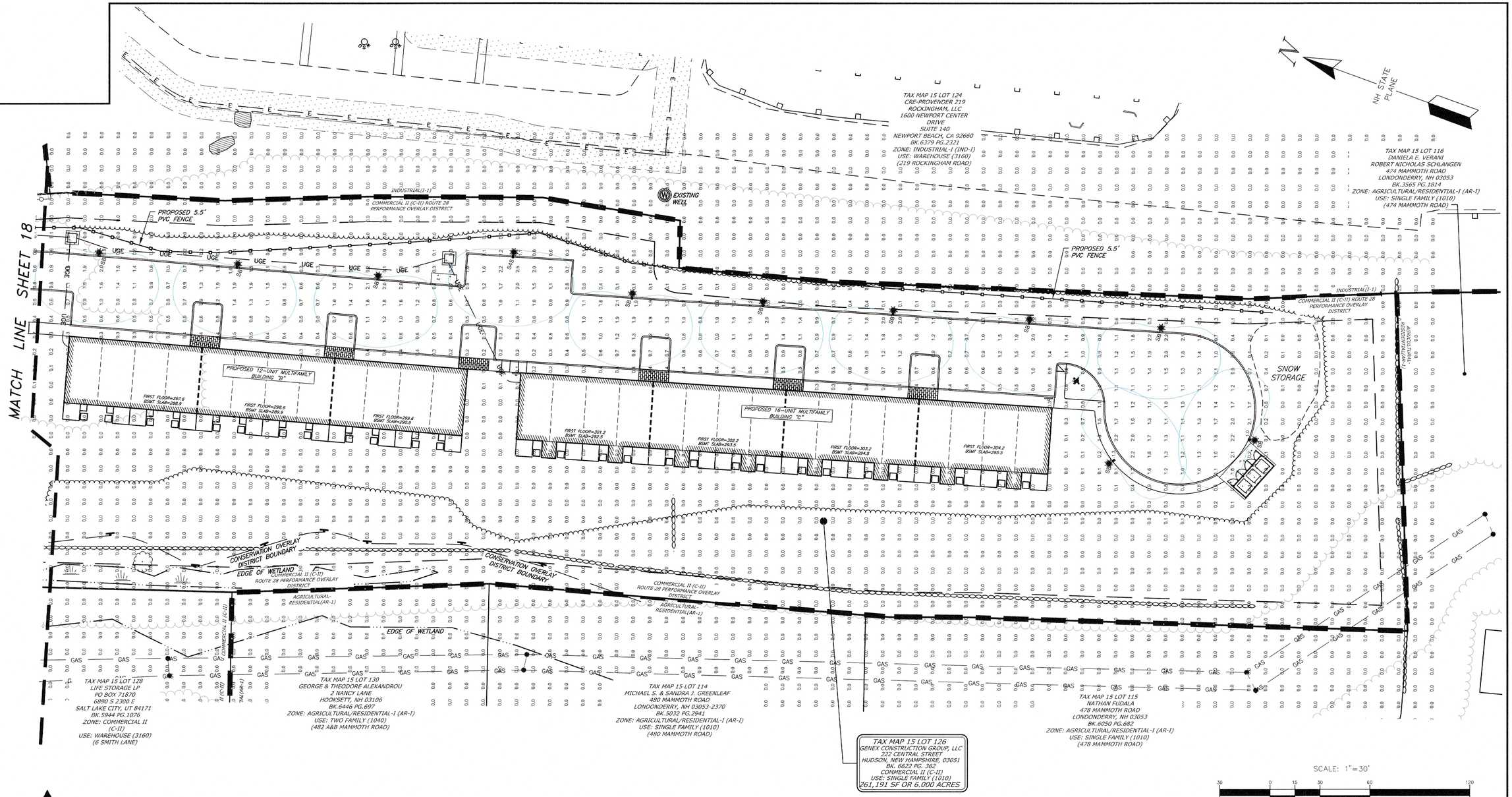
PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 30' | JUNE 12, 2025 | SHEET 18 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
JST	JST	GAC	692	28	

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LIGHTING SOLUTIONS
20-30 BEAVER ROAD, WETHERSFIELD, CT 06109
TELEPHONE 860.632.8766 / WWW.APEXLTG.COM

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For proper comparison of photometric layouts, it is essential that you insist all designers use correct Light Loss Factors.

JOB NAME: GENEX - ROCKINGHAM RD - LONDONDERRY, NH
APEX LIGHTING SOLUTIONS
WORKPLANE/CALC PLANE: AT FINISH GRADE
MOUNTING HEIGHT: SEE LUMINAIRE SCHEDULE
APPS: LED
SALES: CR
SPECIFIER: BEDFORD DESIGN CONSULTANTS

ALL LIGHTING FIXTURES SHALL BE FULL CUT-OFF TYPE FIXTURES AS REQUIRED

Luminaire Schedule

Qty	Label	Arrangement	Lumens	Input Watts	LLF	BUG Rating	Description
1	S2S	Single	5354	41.88	0.900	B1-U0-G1	GARDCO OPF-S-A01-730-T2M-AR1-UNV-FINISH-OPF-S-HIS-1 / MOUNTED TO SSS-CB-4-11-20-D1-DT5-FINISH
1	S4S	Single	5468	41.88	0.900	B1-U0-G2	GARDCO OPF-S-A01-730-T4M-AR1-UNV-FINISH-OPF-S-HIS-T4-1 / MOUNTED TO SSS-CB-4-11-20-D1-DT5-FINISH
13	SB	Single	4875	41.88	0.900	B0-U0-G2	GARDCO OPF-S-A01-730-BLC-AR1-UNV-FINISH / MOUNTED TO SSS-CB-4-11-20-D1-DT5-FINISH

Calculation Summary

Label	Grid Height	Avg	Max	Min	Avg/Min	Max/Min
OVERALL SITE	0	0.11	2.7	0.0	N.A.	N.A.
PARKING & DRIVE LANES	0	1.07	2.7	0.0	N.A.	N.A.


GARDCO OPF-S-A01-730



DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

LIGHTING PLAN

ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 30' | JUNE 12, 2025 | SHEET 19 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	
JST	JST	GAC	692	28	503-22

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Long Term Maintenance Plan
Inspection & Maintenance (I&M) Manual for Stormwater Best Management Practices

ROCKPOINT COMMONS

225 Rockingham Road

Londonderry, New Hampshire

November 11, 2025

This long-term Stormwater Inspection and Maintenance (I&M) Plan shall be implemented at Rockpoint Commons, Londonderry, N.H. to ensure that the stormwater management system functions as designed and in accordance with NHDES Env-Wq 1500 Alteration of Terrain Regulations and the Town of Londonderry Stormwater Regulations. This Inspection and Maintenance Plan is intended to cover all on-site drainage structures.

The purpose of this Inspection & Maintenance manual is to assist the responsible parties in maintaining and understanding the functions of the stormwater best management practices installed at the subject facility.

Party Responsible for Reporting, Inspection & Maintenance after Construction:

Genex Construction Group, LLC – Marco Plante, 603-235-8066 m.plante@genexconstgroup.com
222 Central Street
Hudson, N.H. 03051

Genex Construction Group possesses the primary responsibility for overseeing and implementing the I&M Plan and designating a person who will be responsible for the proper operation and maintenance of the stormwater structures. In case of transfer of property ownership, future property owners shall be notified of the presence of the stormwater management system and the requirements for proper implementation of the I&M Plan.

Party Responsible for Reporting, Inspection & Maintenance during Construction:

Genex Construction Group, LLC – Marco Plante, 603-235-8066 m.plante@genexconstgroup.com
222 Central Street
Hudson, N.H. 03051

Components of the Inspection and Maintenance Plan include:

- Removal of all trash and litter debris from entire site, particularly parking areas, service areas, landscaped areas, wooded areas, drainage basin areas;
- Pavement sweeping of driveways, parking areas and service areas;
- Removal of sediment and pollutants trapped in swales and basins;
- Prohibition on high-phosphorous content fertilizers.

Stormwater Runoff Quality
The stormwater management system protects and enhances the stormwater runoff water quality through the removal of sediment and pollutants, and source control significantly reduces the amount of pollutants entering the system. Preventive maintenance of the system will include a comprehensive source reduction program of regular sweeping and litter removal, prohibitions on the use of pesticides, and maintenance of trash areas. These measures are described below.

Drainage System
Stormwater runoff is directed to off-line deep sump catch basins within the new private driveway and parking areas. This closed drainage system collects stormwater and directs it to stormwater gravel wetland basins for further treatment prior to release into an existing drainage system along Rockingham Road.

The deep sump catch basins provide water quality treatment by removing large sediment particulate and floating contaminants from runoff. The stormwater gravel wetland basins will further treat runoff prior to discharge the areas adjacent to wetlands on-site. Maintenance and cleaning of the stormwater gravel wetland basins, riprap outlets, and deep sump catch basins will assure adequate performance and treatment prior to discharge off-site.

Maintenance Program
The Property Manager and maintenance staff will conduct the operation and maintenance program set forth in this document. The Manager will ensure that inspections and record keeping are timely and accurate, and that cleaning and maintenance are performed at least on a bi-annual basis. Inspection & Maintenance Log Forms (attached) shall include the date and the amount of the last significant storm event in excess of 1" of rain in a 24-hour period, physical conditions of the structures, depth of sediment in structures, evidence of overtopping or debris blockage and maintenance required of each structure. Photographs of each practice that is subject to the I&M requirement at each inspection of that practice shall be attached to the Inspection & Maintenance Log Forms. *Copies of maintenance will be kept on file at the Property Manager's office and copies of Inspection & Maintenance Log sheets indicating all work and inspections will be sent to the Town of Londonderry Department of Engineering and Environmental Services and made available to the New Hampshire Department of Environmental Services upon request.*

All stormwater management structures will be inspected two times per year, with cleaning typically occurring in April and October and possibly more often, as site conditions warrant. Concurrent with inspection and cleaning, all litter shall be picked up and removed from the parking areas, service areas, grass, landscaped and wooded areas.

Quarterly Inspections

1. Inspect sediment forebay inlet's and remove any debris monthly or as determined to be reasonable based on experience with the installed systems to ensure that the forebays are working in their intended fashion and that they are free of debris; quarterly, inspect catch basin sumps and bottom of drain manholes; if depth of sediment in sumps exceeds 50% capacity, sediment must be removed. Excessive sediment shall be removed and properly disposed by a licensed drainage cleaning company;
2. Inspect catch basin sumps; if depth of sediment in sumps exceeds 50% capacity, sediment must be removed. Excessive sediment shall be removed and properly disposed by a licensed drainage cleaning company;
3. Photographs of all areas inspected shall be taken at time of inspection. Additional photographs shall be taken post cleaning/maintenance as required.

Bi-Annual Inspections (performed in April and October)

1. Inspect grassed swales and stormwater gravel wetland basins and remove wind-blown trash and debris. Inspect vegetation twice per year during both the growing and non-growing seasons. Remove accumulated sediment once every ten years or more often as necessary;
2. Inspect Flared End Sections and Headwalls and remove any litter, sediment or debris;
3. Inspect all vegetated areas and remove litter and debris as necessary. Inspect slopes and embankments early in the growing season to identify active or potential erosion problems Remove any invasive species present in the swales or basins. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows;
4. Inspection of trash and recycling enclosures for spillage and scattered litter must be performed on a regular basis to prevent the spread of pollutants into the stormwater management system.
5. Photographs of all areas inspected shall be taken at time of inspection. Additional photographs shall be taken post cleaning/maintenance as required.

Pavement Sweeping Program

Long-term management practices include quarterly sweeping of driveways and non-pervious pavement parking areas. The sweeping program will remove sand and contaminants directly from paved surfaces before they become mobilized during rain events and transported to the drainage system. Pavement sweeping is a highly effective source control measure for reducing pollutant loading in stormwater. All sweepings will be disposed of in a legal manner.

Fertilizer Use

Only slow-release organic low-phosphorous fertilizers will be used in any landscaped areas in order to limit the amount of nutrients that could enter the stormwater system.

Removal of Non-Native Invasive Plants

During maintenance activities, check for the presence of invasive plants. Non-native invasive plants crowd out natives in natural and managed landscapes. Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed. Remove and dispose of all invasive plant materials in accordance with "Methods for Disposing Non-Native Invasive Plants" published by the University of New Hampshire Cooperative Extension.
http://extension.unh.edu/resources/files/resource000988_rep1720.pdf

Snow Disposal and Plowing

The purpose for the snow and snowmelt management plan is to provide guidelines regarding snow disposal site selection, site preparation and maintenance that are acceptable to the Department of Environmental Protection. For the areas that require snow removal, snow storage onsite will largely be accomplished by utilizing pervious upland areas along the shoulder of the roadways and parking areas as windrowed by plows. No snow shall be pushed into the buffers or wetlands. Any excess snow shall be trucked off site and disposed of in a legal manor. Ensure that drainage structures are not blocked by ice, snow, debris or trash during winter months. Sand shall be the primary agent used for driveway and parking lot safety during ice and snow conditions. No deicing materials shall be stored on site.

- All operators shall be "green SnowPro" certified.
- Avoid dumping of snow into any water body, including streams, ponds, or wetlands, as this could lead to water quality impacts and flooding.
- Avoid disposing of snow on top of storm drain catch basins or in stormwater basins. Snow combined with sand and debris may block the storm drainage system, causing localized flooding. A high volume of sand, sediment, and litter released from melting snow also may quickly be transported through the system into the surface water.
- During winter conditions sand use site-wide shall be applied to the minimum extent possible to maintain safe conditions.
- The usage of Sodium Chloride for snow and ice removal is prohibited.
- The amount of salt usage shall be reported yearly to NHDES

Stormwater BMP's on-site: (see attached map for locations)

Pre-Treatment Areas:
Sediment Forebays

Treatment Areas:
Stormwater Gravel Wetland

Recommended Maintenance for Specific BMP's:

Sediment Forebays

- Forebays help reduce the sediment load to downstream BMPs, and will therefore require more frequent cleaning;
- Inspect sediment forebays quarterly;
- Conduct periodic mowing of embankments (generally two times per year) to control growth of woody vegetation on embankments. Set mower blades no lower than 3 to 4 inches;
- Remove debris from outlet structures at least once per year:
- Check for signs of rilling or gullying and repair areas as needed;
- Remove and dispose of accumulated sediment based on inspection;
- After removing sediment, replace any vegetation damaged during the clean-out by either reseeding or resodding. When reseeding, incorporate practices such as hydroseeding with a tackifier, blanket, or similar practice to ensure that no scour occurs in the forebay while the seeds germinate;
- Install and maintain a staff gage or other measuring device, to indicate depth of sediment accumulation and level at which clean-out is required.

Deep Sump Catch Basins

- Catch basins may require frequent maintenance. Depending on the location, this may require several cleanings of the sumps per year. At a minimum, Inspection of outlet structure and appurtenances at least twice annually once after snow melt and once after leaf drop and following any rainfall event exceeding 2.5 inches in a 24-hour period, with maintenance or rehabilitation conducted as warranted by such inspection;
- Removal of surface debris from inlet grate and outlet structures twice annually and following any rainfall event exceeding 2.5 inches in a 24-hour period;
- Removal of accumulated sediment and debris when it approaches half the depth of the sump;
- If floating hydrocarbons are observed during an inspection, the material should be removed immediately by skimming, absorbent materials, or other method and disposed in conformance with applicable State and Federal regulations;
- Cleaning may require a Vacuum truck instead of a "clam-shell" to avoid damage to the hood;
- Damaged hoods should be replaced when noted by inspection.

Grassed Swales/Landscaped Areas

- Removal of debris from inlet and outlet structures twice annually and following any rainfall event exceeding 2.5 inches in a 24-hour period;
- Removal of accumulated sediment and debris annually or as necessary following inspection;
- Inspection at least twice annually (and following any rainfall event exceeding 2.5 inches in a 24-hour period) for erosion, sediment accumulation, vegetation loss, and presence of invasive species with maintenance or rehabilitation conducted as warranted by such inspection;
- Perform periodic mowing of embankments; do not cut shorter than 4" depth required for water quality flow;
- Repair eroded areas, remove invasive plant species and dead vegetation, and reseed areas with applicable grass mix as warranted by inspection;

Stormwater Gravel Wetland

- Removal of debris from inlet and outlet structures whenever observed by inspection;
- Removal of accumulated sediment and debris when it significantly affects the basin capacity and function;
- Inspection of pretreatment measures at least twice annually, and removal of accumulated sediment as warranted by inspection, but no less than twice annually;
- Inspection of inlet and outlet structures, energy dissipation structures or practices, and other structural appurtenances at least twice annually by a qualified professional and following any rainfall event exceeding 2.5 inches in a 24-hour period, with corrective action implemented (maintenance, repairs, or rehabilitation) conducted as warranted by such inspection;
- Basin embankments should be inspected at least annually by a qualified professional for settlement, erosion, seepage, animal borrows, woody vegetation, and other conditions that could degrade the embankment and reduce its ability to impound water. Immediate corrective actions should be implemented if any such conditions are found. Vegetation should be maintained in a healthy condition, including pruning, removal and replacement of dead or diseased vegetation, and removal of invasive plant species.

Outlet Protection:

- Inspect the riprap outlet protection twice annually for damage and deterioration. Repair/Replace materials as necessary to provide proper outlet protection and prevent soil erosion and transport.

Maintenance Schedule

The following is a general maintenance schedule that can be used as a reference by the Property Manager. This schedule includes the maintenance action to be taken and when the action is to occur.

Site Component	Action to be Taken	Timeline for Completion
Pavement Areas	Sweeping of standard pavement areas, disposal of sweepings in a legal manner; removal of trash and litter from pavement	Monthly
Swales, Forebays, Gravel Wetland Basins & Landscape Areas	Removal of wind-blown trash and litter from entire property. Removal and proper disposal of invasive plants	April October
Swales, Gravel Wetland Basins	Inspect for accumulated sediment	April October
Swales, Gravel Wetland Basins	Inspect for standing water for periods in excess of 72 hours and for accumulated sediment	After each storm greater than 2.5" for 3 months after construction. Then biannually in April and October
Drainage Flared End Outlets & Headwalls	Removal of trash and sediment from drainage outlets	April October
Catch Basins	Inspection and Clean, removal of sediments, oils, and floatables	Monthly Inspection, Quarterly Cleaning

ROCKPOINT COMMONS

225 Rockingham Road
Londonderry, New Hampshire

Stormwater Drainage Inspection and Maintenance Log (sheet 1 of 2)
(Make additional copies for each inspection)
(All inspection checklists to be kept in a log book in date order from oldest to newest inspection and sent to the Town of Londonderry Department of Engineering and Environmental Services on an Annual basis)

Site Maintenance Supervisor: _____ Date: _____
☐ Routine ☐ Response to Rainfall Event ____in ☐ Other _____

Best Management Practice	Minimum Frequency	Date Performed	Comments	Cleaning/ Repair Required	Date of Cleaning /Repair	Performed By
Lawn Areas & Landscaping	Twice Annually			Yes/No		
DMH no. 10	After 2.5" Storm or Twice Annually			Yes/No		
CB no. 11	After 2.5" Storm or Twice Annually			Yes/No		
DMH no. 12	After 2.5" Storm or Twice Annually			Yes/No		
CB no. 13	After 2.5" Storm or Twice Annually			Yes/No		
DMH no. 14	After 2.5" Storm or Twice Annually			Yes/No		
CB no. 15	After 2.5" Storm or Twice Annually			Yes/No		
CB no. 16	After 2.5" Storm or Twice Annually			Yes/No		
DMH no. 17	After 2.5" Storm or Twice Annually			Yes/No		
DMH no. 18	After 2.5" Storm or Twice Annually			Yes/No		
DMH no. 19	After 2.5" Storm or Twice Annually			Yes/No		
DMH no. 20	After 2.5" Storm or Twice Annually			Yes/No		
DMH no. 21	After 2.5" Storm or Twice Annually			Yes/No		

Best Management Practice	Minimum Frequency	Date Performed	Comments	Cleaning/ Repair Required	Date of Cleaning /Repair	Performed By
DMH no. 23	After 2.5" Storm or Twice Annually			Yes/No		
DMH no. 30	After 2.5" Storm or Twice Annually			Yes/No		
CB no. 31	After 2.5" Storm or Twice Annually			Yes/No		
CB no. 32	After 2.5" Storm or Twice Annually			Yes/No		
DMH no. 36	After 2.5" Storm or Twice Annually			Yes/No		
Sediment Forebay no. 25	After 2.5" Storm or Twice Annually			Yes/No		
Gravel Wetland no. 25	After 2.5" Storm or Twice Annually			Yes/No		
Outlet Structure no. 26	After 2.5" Storm or Twice Annually			Yes/No		
Sediment Forebay no. 34	After 2.5" Storm or Twice Annually			Yes/No		
Gravel Wetland no. 34	After 2.5" Storm or Twice Annually			Yes/No		
Outlet Structure no. 35	After 2.5" Storm or Twice Annually			Yes/No		
End Section no. 22	After 2.5" Storm or Annually			Yes/No		
End Section no. 24	After 2.5" Storm or Twice Annually			Yes/No		
End Section no. 33	After 2.5" Storm or Twice Annually			Yes/No		
End Section no. 37	After 2.5" Storm or Twice Annually			Yes/No		

ROCKPOINT COMMONS

225 Rockingham Road
Londonderry, New Hampshire

Stormwater Drainage Inspection and Maintenance Log (sheet 2 of 2)

ROCKPOINT COMMONS

225 Rockingham Road

Londonderry, New Hampshire

Deicing Inspection and Maintenance Log
(Make additional copies for each inspection)
(All inspection checklists to be kept in a log book in date order from oldest to newest inspection)
The amount of salt usage shall be reported yearly to NHDES

Site Maintenance Supervisor: _____ Date: _____
☐ Routine ☐ Response to Snowfall Event ____in ☐ Other _____

Location	Date Performed	Comments, materials applied	Performed By
Entrance Drive			
Walkways			

INSPECTION OF STORMWATER GRAVEL WETLANDS

Years 0-3 of Operation

Inspections should be conducted bi-annually, and during and after 2.5" rainfall events.

General Information

BMP Description	Stormwater Wetland No.		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for invasive species and remove if present	Monthly	Yes ☐ No ☐	
Replace all media and vegetation	As Needed	Yes ☐ No ☐	

In addition, the following information should be recorded and mapped at least once per year:

- Types and distribution of dominant wetland plants
- Presence and distribution of planted wetland species
- Presence and distribution of invasive species
- Indications other species are replacing planted wetland species
- Percent of standing water that is not vegetated
- Replace all media and vegetation
- Stability of original depth zones and micro-topographic features
- Accumulation of sediment in the forebay and micropool and survival rate of plants

INSPECTION OF STORMWATER GRAVEL WETLANDS

Year 4 - Lifetime of Operation

Inspections should be conducted bi-annually, and during and after 2.5" rainfall events.

General Information

BMP Description	Stormwater Wetland No.		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for invasive species and remove if present	Bi-Annually	Yes ☐ No ☐	
Clean forebays	Annually	Yes ☐ No ☐	
Clean sediment in basin/wetland system	Once every 10 years	Yes ☐ No ☐	
Mulch void areas	Annually	Yes ☐ No ☐	
Remove dead vegetation	Bi-Annually	Yes ☐ No ☐	
Replace dead vegetation	Annually	Yes ☐ No ☐	
Prune	Annually	Yes ☐ No ☐	
Replace all media and vegetation	As Needed	Yes ☐ No ☐	

CATCH BASIN INSPECTION FORM
Inspections should be conducted bi-annually, and during and after 2.5" rainfall events.
Inspector: _____ **Date:** _____

Catch Basin I.D.		**Final Discharge from Structure?** Yes ☐ No ☐ **If Yes, Discharge to Outfall No:** _____	
Catch Basin Label:	**Stencil** ☐ **Ground Inset** ☐ **Sign** ☐ **None** ☐ **Other:** _____		
Basin Material:	Concrete ☐ HDPE ☐ Stone ☐ Other: _____	**Catch Basin Condition:**	Good ☐ Poor ☐ Fair ☐ Crumbling ☐
Pipe Material:	Concrete ☐ HDPE ☐ PVC ☐ Other: _____	**Pipe Measurements:**	Inlet Dia. (in): d= ____ Outlet Dia. (in): D= ____

Required Maintenance/ Problems (check all that apply):
☐ Tree Work Required ☐ Cannot Remove Cover
☐ New Grate is Required ☐ Ditch Work
☐ Pipe is Blocked ☐ Corrosion at Structure
☐ Frame Maintenance is Required ☐ Erosion Around Structure
☐ Remove Accumulated Sediment ☐ Remove Trash & Debris
☐ Pipe Maintenance is Required ☐ Need Cement Around Grate
☐ Basin Undermined or Bypassed **Other:** _____

Catch Basin Grate Type:	**Sediment Buildup Depth:**	**More than 50% full?**	**Description of Flow:**	**Street Name/ Structure Location:**
Bar: ☐ Cascade: ☐ Other: _____	0-6 (in): ____ 6-12(in): ____ 12-18 (in): ____ 18-24 (in): ____ 24 + (in): ____	Yes ☐ No ☐	Heavy ☐ Moderate ☐ Slight ☐ Trickling ☐	
Properly Aligned Yes ☐ No ☐				

***If the outlet is submerged check yes and indicate approximate height of water above the outlet invert.** Is above invert (in)____ Yes ☐ No ☐

☐ **Flow** ☐ **Standing Water** **(check one or both)**	**Observations:** Color: Odor:	**Circle those present:** Foam, Oil Sheen, Sanitary Waste, Excessive Growth, Orange Staining, Floatables, Excessive sediment, Pet Waste, Other: _____, Optical Enhancers
Weather Conditions:	Dry > 24 hours ☐ Wet ☐	
Sample of Screenings Collected for Analysis? Yes ☐ No ☐ **Amount of sediment removed:**		
Comments:		

INSPECTION OF GRASSED SWALE

Inspections should be conducted bi-annually, and during and after 2.5" rainfall events.

General Information

BMP Description			
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for soil erosion and repair	Monthly	Yes ☐ No ☐	
Inspect for invasive species and remove if present	Bi-Annually	Yes ☐ No ☐	
Remove trash and debris	Bi-Annually	Yes ☐ No ☐	
Remove dead vegetation	Bi-Annually	Yes ☐ No ☐	
		Yes ☐ No ☐	
		Yes ☐ No ☐	



DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC – STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

STORMWATER MAINTENANCE PLAN
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: NONE | JUNE 12, 2025 | SHEET 20 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
JST	JST	GAC	692	28	

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G:\PROJECT\0503022 GENEX Rockingham Road\DWG\0503022c-v01.dwg

NH STATE PLANE

TAX MAP 15 LOT 21-1
ROBERT DEGELAN
PO BOX 174
LONDONDERRY, NH 03053
BK.2061 PG.199
ZONE: COMMERCIAL II (C-II)
ROUTE 28 PERFORMANCE OVERLAY DISTRICT
USE: SINGLE FAMILY (1010)
(216 ROCKINGHAM ROAD)

TAX MAP 15 LOT 124
CRE-PROVENDER 219 ROCKINGHAM, LLC
1600 NEWPORT CENTER DRIVE
SUITE 140
NEWPORT BEACH, CA 92660
BK.6379 PG.2321
ZONE: INDUSTRIAL-I (IND-I)
USE: WAREHOUSE (3160)
(219 ROCKINGHAM ROAD)

TAX MAP 15 LOT 125
SEAN P. STRONG
221 ROCKINGHAM ROAD
LONDONDERRY, NH 03053
BK.6630 PG.2059
ZONE: COMMERCIAL II (C-II)
ROUTE 28 PERFORMANCE OVERLAY DISTRICT
USE: SINGLE FAMILY (1010)
(221 ROCKINGHAM ROAD)

TAX MAP 15 LOT 124
CRE-PROVENDER 219 ROCKINGHAM, LLC
1600 NEWPORT CENTER DRIVE
SUITE 140
NEWPORT BEACH, CA 92660
BK.6379 PG.2321
ZONE: INDUSTRIAL-I (IND-I)
USE: WAREHOUSE (3160)
(219 ROCKINGHAM ROAD)

NH ROUTE 28

PROP. 10'x8" CONC. PAD FOR BUS STOP SHELTER

PROP. 5.5' HIGH PVC FENCE

PROP. 8'x8" CONC. TRANSFORMER PAD

4' TALL CHAIN LINK FENCE

PROP. 8'x8" CONC. TRANSFORMER PAD

PROP. 7' CONC. SIDEWALK W/INTEGRAL CURB

PROP. 7'x15' MAILROOM ON CONC. PAD

EXISTING WELL

CB #32

CB#31

CB#16

CB#15

CB#13

CB#11

DMH#30

DMH#17

DMH#14

DMH#12

DMH#10

PROP. HYD.

PROPOSED 12-UNIT MULTIFAMILY BUILDING "A"

PROPOSED 12-UNIT MULTIFAMILY BUILDING "B"

PROPOSED 16-UNIT MULTIFAMILY BUILDING "C"

ROCKPOINT LANE (PRIVATE DRIVE)

SNOW STORAGE

BOTTOM SWALE (TYP.)

SMH#7

SMH#6

SMH#5

SMH#4

SMH#3

SMH#2

SMH#1

DMH#36

DMH#23

DMH#21

DMH#20

DMH#19

DMH#18

ES#24

ES#22

ES#37

OS#35

OS#26

PROPOSED GRAVEL WETLAND STORMWATER BASIN NO. 34

PROPOSED GRAVEL WETLAND STORMWATER BASIN NO. 25

STONEWALL TO REMAIN

CONSERVATION OVERLAY DISTRICT BOUNDARY

EDGE OF WETLAND

PROP. SCREENED DUMPSTERS ON CONCRETE PAD

TAX MAP 15 LOT 116
DANIELA E. VERANI
ROBERT NICHOLAS SCHLANGEN
474 MAMMOTH ROAD
LONDONDERRY, NH 03053
BK.3565 PG.1814
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: SINGLE FAMILY (1010)
(474 MAMMOTH ROAD)

TAX MAP 15 LOT 150
DARK HORSE INVESTMENTS LLC
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053
BK.6526 PG.81
ZONE: COMMERCIAL-I (C-1)
ROUTE 28 PERFORMANCE OVERLAY DISTRICT
USE: SINGLE FAMILY (1010)
(222 ROCKINGHAM ROAD)

TAX MAP 15 LOT 146
226 ROCKINGHAM PLAZA LLC
226 ROCKINGHAM ROAD
LONDONDERRY, NH 03053
BK.5275 PG.916
ZONE: COMMERCIAL II (C-II)
ROUTE 28 PERFORMANCE OVERLAY DISTRICT
USE: SMALL RETAIL (3250)
(226 ROCKINGHAM ROAD)

TAX MAP 15 LOT 128
LIFE STORAGE LP
PO BOX 71870
6890 S 2300 E
SALT LAKE CITY, UT 84171
BK.5944 PG.1076
ZONE: COMMERCIAL II (C-II)
USE: WAREHOUSE (3160)
(6 SMITH LANE)

TAX MAP 15 LOT 130
GEORGE & THEODORE ALEXANDROU
2 NANCY LANE
HOOKSETT, NH 03106
BK.6446 PG.697
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: TWO FAMILY (1040)
(482 A&B MAMMOTH ROAD)

TAX MAP 15 LOT 114
MICHAEL S. & SANDRA J. GREENLEAF
480 MAMMOTH ROAD
LONDONDERRY, NH 03053-2370
BK.5032 PG.2941
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: SINGLE FAMILY (1010)
(480 MAMMOTH ROAD)

TAX MAP 15 LOT 115
NATHAN FUDALA
478 MAMMOTH ROAD
LONDONDERRY, NH 03053
BK.6050 PG.682
ZONE: AGRICULTURAL/RESIDENTIAL-1 (AR-1)
USE: SINGLE FAMILY (1010)
(478 MAMMOTH ROAD)

TAX MAP 15 LOT 149
ARANOSIAN OIL COMPANY, INC.
557 NORTH STATE STREET
CONCORD, NH 03301
BK.3218 PG.1693
ZONE: COMMERCIAL II (C-II)
USE: GAS MART (3300)
(231 ROCKINGHAM ROAD)

ROCKINGHAM ROAD (PUBLIC/CIRCUMFERENTIAL HIGHWAY)

SMITH LANE (PUBLIC/LOCAL ROAD)

UNDERGROUND NATURAL GAS MARKERS

WELL

SCALE: 1"=50'

GRAPHIC SCALE (50 0 25 50 100 200)

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

STORMWATER MAINTENANCE PLAN
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 50'	JUNE 12, 2025	SHEET 21 OF 33

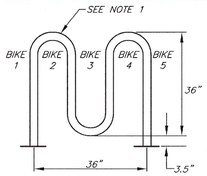
DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
JST	JST	GAC	692	28	

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STATE OF NEW HAMPSHIRE GEORGE A. CHMIELEWSKI JR. 14-9915 LICENSED PROFESSIONAL ENGINEER 12/31/25

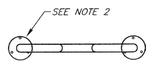
811 DigSafe MA-ME-NH-RI-VT

G:\PROJECT\05033022 GENEX Rockingham Road\DWG\05033022cv01.dwg

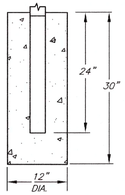


FRONT VIEW

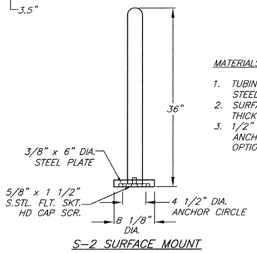
BICYCLE RACKS TO BE SUPPLIED BY "DUMOR, INC. P.O. BOX 112 MIFFLINTOWN, PA (http://dumor.com)", OR APPROVED EQUAL



TOP VIEW



S-1 EMBEDMENT



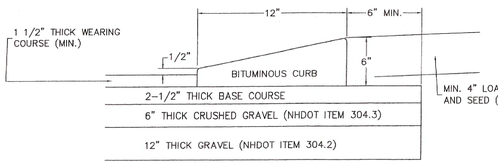
S-2 SURFACE MOUNT

MATERIALS LIST:

1. TUBING – 2 1/2" DIA. SCH 40 STEEL TUBING.
2. SURFACE PLATE – 6" DIA. x 3/8" THICK STEEL.
3. 1/2" DIA. x 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED FOR OPTION S-2.

SERPENTINE BICYCLE RACK DETAIL

NOT TO SCALE



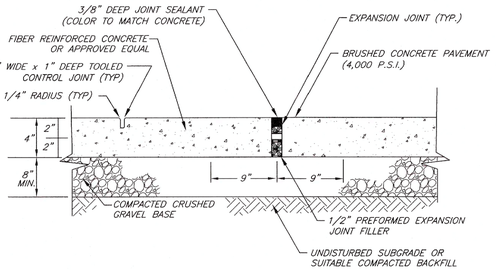
NOTES:

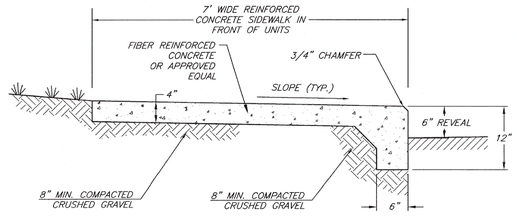
1. APPLY TACK COAT PRIOR TO PLACEMENT OF CURB
2. BITUMINOUS CURB MATERIAL SHALL MEET THE REQUIREMENTS OF NHDOT SECTION 609.
3. CAPE COD BERM DIMENSIONS SHALL MATCH THOSE GIVEN IN THIS DETAIL.

TYPICAL CAPE COD BERM

NOT TO SCALE

EXHIBIT R104



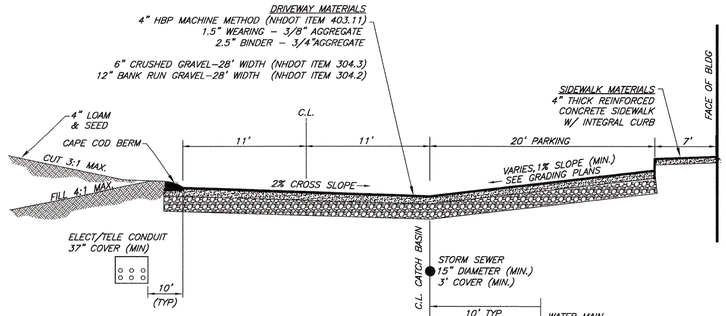


NOTES:

1. CROSS SLOPE OF SIDEWALK TO BE AS SPECIFIED ON THE PLAN.
2. MAINTAIN 2" CLEARANCE (TYP) BETWEEN ALL CONCRETE EDGES AND WIRE FABRIC OR DOWEL.
3. CONTROL JOINTS TO BE LOCATED 5-FEET ON CENTER.
4. EXPANSION JOINTS TO BE LOCATED 25-FEET ON CENTER.
5. WELDED WIRE FABRIC SHALL BE LAPSED A MINIMUM OF 2 WIRE SPACES.
6. ALL CONCRETE TO BE 4,000 PSI NHDOT CLASS AA.

REINFORCED CONCRETE SIDEWALK DETAIL

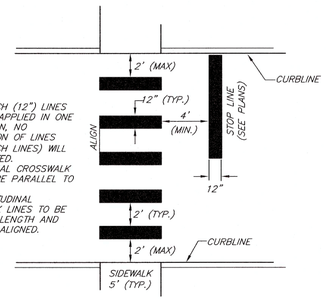
NOT TO SCALE



1. ALL ROADWAY MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE LATEST N.H.D.O.T. SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, INCLUDING SUBSEQUENT AMENDMENTS AND EDITIONS.
2. PROVIDE 4" (MIN) COMPACTED LOAM AND SEED ON ALL SIDE SLOPES AND DRAINAGE SWALES UNLESS OTHERWISE NOTED.

TYPICAL DRIVEWAY CROSS SECTION

NOT TO SCALE

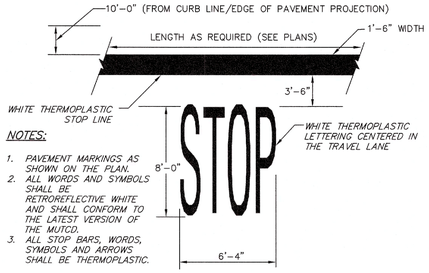


NOTES:

1. TWELVE INCH (12") LINES SHALL BE APPLIED IN ONE APPLICATION. NO COMBINATION OF LINES (TWO 6 INCH LINES) WILL BE ACCEPTED.
2. LONGITUDINAL CROSSWALK LINES TO BE PARALLEL TO CURBLINE.
3. ALL LONGITUDINAL CROSSWALK LINES TO BE THE SAME LENGTH AND PROPERLY ALIGNED.

CROSSWALK DETAIL

NOT TO SCALE

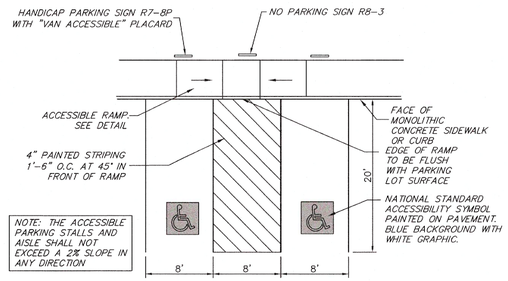


NOTES:

1. PAVEMENT MARKINGS AS SHOWN ON THE PLAN.
2. ALL WORDS AND SYMBOLS SHALL BE RETROREFLECTIVE WHITE AND SHALL CONFORM TO THE LATEST VERSION OF THE MUTCD.
3. ALL STOP BARS, WORDS, SYMBOLS AND ARROWS SHALL BE THERMOPLASTIC.

STOP BAR DETAIL

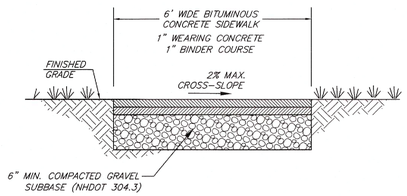
NOT TO SCALE



STRIPE PARKING AREAS AND DRIVES AS SHOWN INCLUDE PARKING SPACES, HANDICAP SYMBOLS AND PAINTED ISLES. ALL MARKINGS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AS3910 M248 TYPE F.

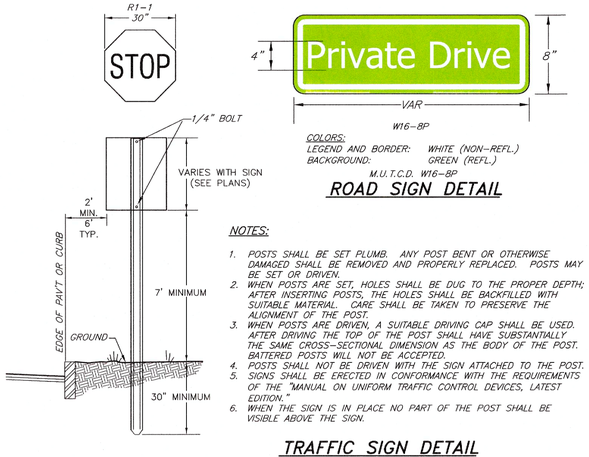
ACCESSIBLE PARKING SPACES

NOT TO SCALE



BITUMINOUS SIDEWALK DETAIL

NOT TO SCALE



COLORS:
LEGEND AND BORDER: WHITE (NON–REFL.)
BACKGROUND: GREEN (REFL.)
M.U.T.C.D. W16–8P

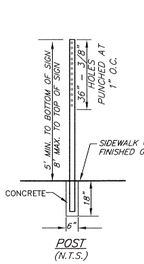
ROAD SIGN DETAIL

NOTES:

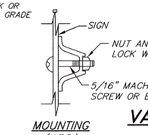
1. POSTS SHALL BE SET PLUMB. ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND PROPERLY REPLACED. POSTS MAY BE SET OR DRIVEN.
2. WHEN POSTS ARE SET, HOLES SHALL BE DUG TO THE PROPER DEPTH; AFTER INSERTING POSTS, THE HOLES SHALL BE BACKFILLED WITH SUITABLE MATERIAL. CARE SHALL BE TAKEN TO PRESERVE THE ALIGNMENT OF THE POST.
3. WHEN POSTS ARE DRIVEN, A SUITABLE DRIVING CAP SHALL BE USED. AFTER DRIVING THE TOP OF THE POST SHALL HAVE SUBSTANTIALLY THE SAME CROSS–SECTIONAL DIMENSION AS THE BODY OF THE POST. BATTERED POSTS WILL NOT BE ACCEPTED.
4. POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
5. SIGNS SHALL BE ERECTED IN CONFORMANCE WITH THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION."
6. WHEN THE SIGN IS IN PLACE NO PART OF THE POST SHALL BE VISIBLE ABOVE THE SIGN.

TRAFFIC SIGN DETAIL

NOT TO SCALE

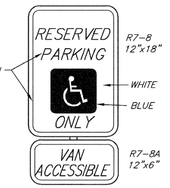


POST (N.T.S.)



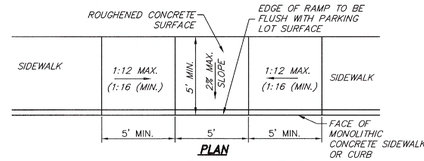
MOUNTING (N.T.S.)

POST SECTION (N.T.S.)



VAN ACCESSIBLE HANDICAP PARKING SIGN DETAIL

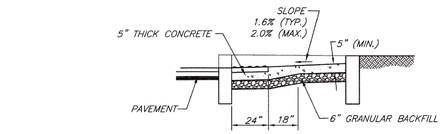
NOT TO SCALE



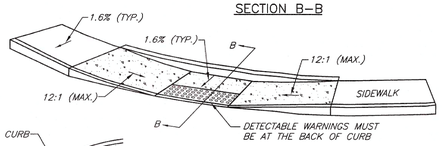
PLAN

ACCESSIBLE PARKING RAMP

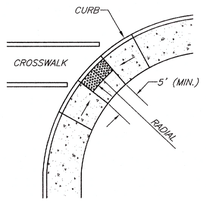
NOT TO SCALE



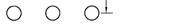
SECTION B–B



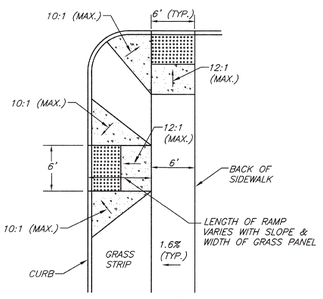
PARALLEL CURB RAMP



CORNER PARALLEL CURB RAMP



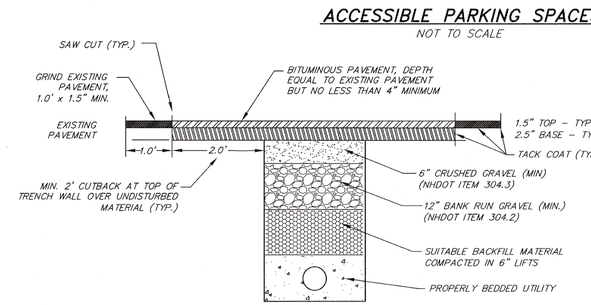
TRIANGULAR PATTERN
(FOR USE WITH RAMPS ON CURVES)



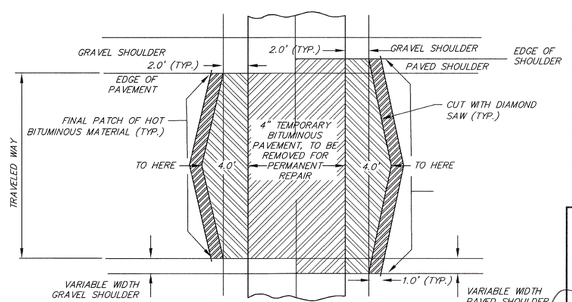
CORNER PARALLEL CURB RAMP

CURB RAMP DETAILS

NOT TO SCALE



ELEVATION



PLAN

TYPICAL PERMANENT PAVEMENT REPAIR

NOT TO SCALE

811 DigSafe MA ME NH RI VT

DATE	DESCRIPTION	BY	REV.
12–31–25	PER DRC – STANTEC REVIEW #2	BJL	E
11–12–25	PER DRC PLAN REVIEW	JST	D
10–8–25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9–24–25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8–20–25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

CONSTRUCTION DETAILS
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

STATE OF NEW HAMPSHIRE GEORGE A. CHAMBERLAIN JR. NO. 15415 LICENSED PROFESSIONAL ENGINEER

12/31/25

SCALE: AS SHOWN | JUNE 12, 2025 | SHEET 22 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503–22
JST	JST	GAC	692	28	

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MANHOLE TESTING PER Env-Wq 704.17

(A) MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST IN ACCORDANCE WITH THE ASTM C1244/C1244M-20 STANDARD IN EFFECT WHEN THE TESTING IS PERFORMED, AVAILABLE AS NOTED IN APPENDIX D. A MANHOLE MAY BE BACKFILLED PRIOR TO PERFORMING A VACUUM TEST, BUT IF THE MANHOLE FAILS THE VACUUM TEST, BACKFILL SHALL BE REMOVED SO REPAIRS TO THE MANHOLE CAN BE MADE FROM THE OUTSIDE OF THE MANHOLE PRIOR TO RETESTING.

(B) THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:
- (1) THE INITIAL VACUUM GAUGE TEST PRESSURE SHALL BE 10 INCHES HG; AND
- (2) THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR A 1-INCH HG PRESSURE DROP TO 9 INCHES HG SHALL BE:
  - A. NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FEET DEEP IN DEPTH;
  - B. NOT LESS THAN 2.5 MINUTES FOR MANHOLES 10 TO 15 FEET DEEP; AND
  - C. NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FEET DEEP;

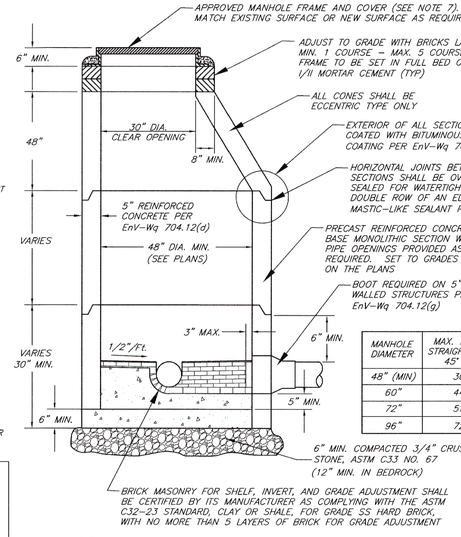
(C) THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIMES FAIL TO ACHIEVE THE ACCEPTANCE LIMITS SPECIFIED IN (B), ABOVE.

(D) INVERTS AND SHELVES SHALL NOT BE INSTALLED UNTIL AFTER SUCCESSFUL TESTING IS COMPLETED.

(E) IMMEDIATELY FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON THE TOP OF THE MANHOLE OR SOME OTHER MEANS USED TO PREVENT ACCIDENTAL ENTRY BY UNAUTHORIZED PERSONS, CHILDREN, OR ANIMALS, UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENT TO GRADE.

THE SEWER CONNECTIONS SHALL BE INSPECTED BY AUTHORIZED TOWN OF LONDONDERRY PUBLIC WORKS AND ENGINEERING DEPARTMENT PERSONNEL BEFORE ANY BACKFILLING. INSPECTION HOURS ARE BETWEEN 9 A.M. AND 4:30 P.M., MONDAY - FRIDAY, WITH AT LEAST 2 DAYS OF ADVANCED NOTICE.

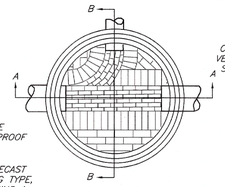
THE SEWER SERVICE MANHOLES SHALL BE VACUUM TESTED AND THE PVC PIPING PRESSURE TESTED WITH AUTHORIZED TOWN OF LONDONDERRY PUBLIC WORKS AND/OR ENGINEERING DEPARTMENT PERSONNEL PRESENT ON SITE AS A WITNESS



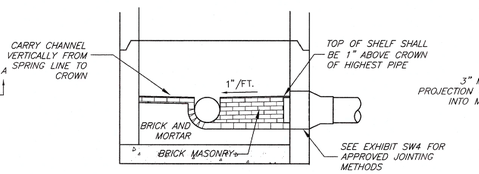
MANHOLE DIAMETER	MAX. PIPE DIAMETER STRAIGHT THROUGH TO 45° DEFLECTION	"T" (WALL THICKNESS)
48" (MIN)	30" OD MAX.	5" (MIN.)
60"	44" OD MAX.	6"
72"	51" OD MAX.	7"
96"	72" OD MAX	9"

PRE-CAST SANITARY SEWER MANHOLE

NOT TO SCALE



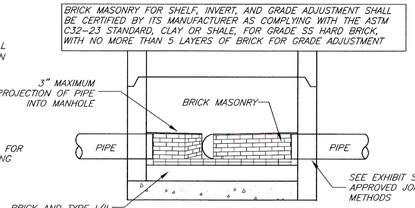
PLAN VIEW



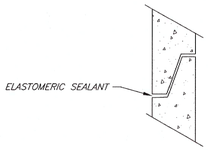
SECTION "B-B"

NOTES:

1. IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWINGS. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT AND ADEQUATE JOINTING. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND HS-20-44 LOADING INCLUDING THE FRAME AND COVER.
2. SEWER MANHOLE DIAMETER SHALL BE AS INDICATED ON THE PLANS.
3. LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH ALL LOCAL AND NHDES REQUIREMENTS. INVERT AND SHELF TO BE PLACED AFTER PASSAGE OF LEAKAGE TEST.
4. CARE TO BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE. BASE SECTION SHALL BE FULL.
5. MANHOLE CHANNELS REQUIRING CHANGE IN ALIGNMENT ARE TO BE BUILT AS A SMOOTH RADIUS.
6. IN CROSS COUNTRY AREAS BEYOND ROADWAY RIGHT-OF-WAYS, THE MANHOLE FRAME ELEVATION SHALL BE SET A MINIMUM OF 6" ABOVE FINISHED GRADE. GRADE TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE MANHOLE.
7. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN (H20 LOADING) AND PROVIDE A 30-INCH CLEAR OPENING. 3-INCH (MINIMUM HEIGHT) LETTERS WITH THE WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH MANHOLE COVER.
8. PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO THE ASTM C478 STANDARD IN EFFECT AT THE TIME THE BARREL SECTIONS, CONES, AND BASES ARE MANUFACTURED; ALL SECTIONS TO BE H-20 LOAD RATED.
9. THE CASTINGS SHALL BE OF EVEN-GRAINED CAST IRON, SMOOTH, AND FREE FROM SCALE, LUMPS, BLISTERS, SAND HOLES, AND DEFECTS;
10. CONTACT SURFACES OF COVERS AND FRAMES SHALL BE MACHINED AT THE FOUNDRY TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION;
11. CASTINGS SHALL BE EQUAL TO CLASS 30 AND CERTIFIED BY THEIR MANUFACTURER AS CONFORMING TO THE ASTM A48/48M STANDARD IN EFFECT AT THE TIME THE CASTINGS WERE MANUFACTURED;
12. MORTAR SHALL BE COMPOSED OF TYPE I/II MORTAR CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION PER Env-Wq 704.13(c)



SECTION "A-A"

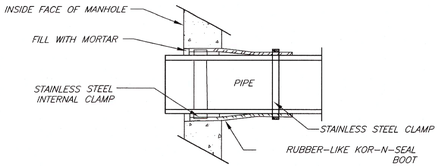


ELASTOMERIC SEALANT

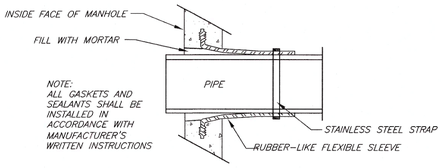
DETAIL "B"

HORIZONTAL JOINTS

ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS



KOR-N-SEAL JOINT SLEEVE (OR APPROVED EQUAL)

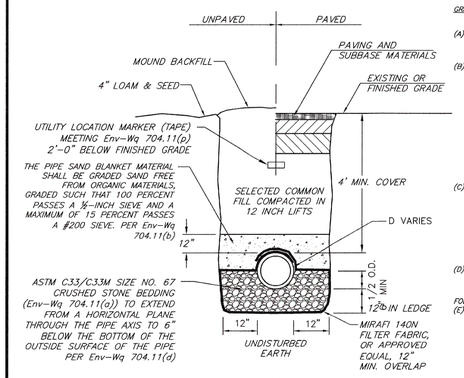


NOTE:
ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS

LOCK-JOINT FLEXIBLE MANHOLE SLEEVE (OR APPROVED EQUAL)

PIPE TO SEWER MANHOLE JOINTS

EXHIBIT SW4



GRAVITY SEWER PIPE TESTING PER Env-Wq 704.06

(A) ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF LOW-PRESSURE AIR TESTS.

(B) LOW-PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH THE FOLLOWING TESTING STANDARDS IN EFFECT AT THE TIME THE TEST IS CONDUCTED:
- (1) ASTM F1417 "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW-PRESSURE AIR"; AVAILABLE AS NOTED IN APPENDIX D, OR
- (2) UNI-BELL PVC PIPE ASSOCIATION UNI-B-6, "LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE"; AVAILABLE AS NOTED IN APPENDIX D.

(C) ALL NEW GRAVITY SEWERS SHALL BE:
- (1) CLEANED AND VISUALLY INSPECTED USING A LAMP TEST AND BY INTRODUCING WATER TO DETERMINE THAT THERE IS NO STANDING WATER IN THE SEWER; AND
- (2) TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE.

(D) ALL PLASTIC SEWER PIPE SHALL BE VISUALLY INSPECTED AND DEFLECTION TESTED NOT LESS THAN 30 DAYS NOR MORE THAN 90 DAYS FOLLOWING INSTALLATION.

(E) THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5% PERCENT OF AVERAGE INSIDE DIAMETER. A RIGID BALL OR MANDREL WITH A DIAMETER OF AT LEAST 95% OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED FOR TESTING PIPE DEFLECTION. THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES.

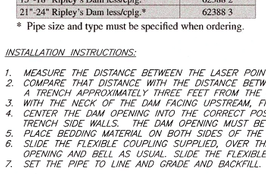
(F) PVC JOINTS SEALS SHALL CONFORM WITH ASTM D3212

NOTES:

1. MIN. TRENCH WIDTH SHALL BE THE INSIDE PIPE DIAMETER + 24 INCHES. 2. INSTALL 2" RIGID POLYSTYRENE THERMAL INSULATION WITH A MINIMUM "R" VALUE OF 10 AND EXTEND 4' EACH SIDE OF PIPE IF MINIMUM COVER CAN NOT BE ACHIEVED:
   - 4' FOR CROSS COUNTRY SANITARY SEWER PIPE
   - 6' FOR SANITARY SEWER PIPE UNDER PAVED AREAS
2. INSTALL TRENCH DAMS TO PREVENT GROUNDWATER FLOW ALONG PIPE AS SUBSURFACE CONDITIONS WARRANT.

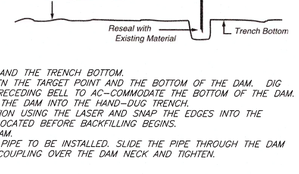
SEWER MAIN TRENCH DETAIL

NOT TO SCALE



DESCRIPTION	PRODUCT NUMBER
4"-8" Ripley's Dam less/cplg.*	62388
10"-12" Ripley's Dam less/cplg.*	62388 1
15"-18" Ripley's Dam less/cplg.*	62388 2
21"-24" Ripley's Dam less/cplg.*	62388 3

* Pipe size and type must be specified when ordering.



INSTALLATION INSTRUCTIONS:

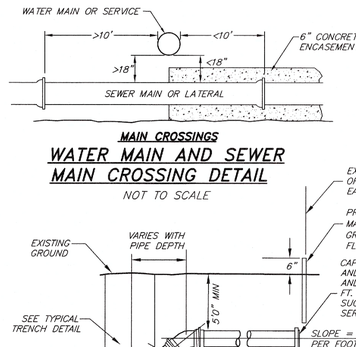
1. MEASURE THE DISTANCE BETWEEN THE LASER POINT AND THE TRENCH BOTTOM.
2. COMPARE THAT DISTANCE WITH THE DISTANCE BETWEEN THE TARGET POINT AND THE BOTTOM OF THE DAM. DIG A TRENCH APPROXIMATELY THREE FEET FROM THE PRECEDING BELL TO AC-COMMODATE THE BOTTOM OF THE DAM.
3. WITH THE NECK OF THE DAM FACING UPSTREAM, FIT THE DAM INTO THE HAND-DUG TRENCH.
4. CENTER THE DAM OPENING INTO THE CORRECT POSITION USING THE LASER AND SNAP THE EDGES INTO THE TRENCH SIDE WALLS. THE DAM OPENING MUST BE LOCATED BEFORE BACKFILLING BEGINS.
5. PLACE BEDDING MATERIAL ON BOTH SIDES OF THE DAM.
6. SLIDE THE FLEXIBLE COUPLING SUPPLIED, OVER THE PIPE TO BE INSTALLED. SLIDE THE PIPE THROUGH THE DAM OPENING AND BELL AS USUAL. SLIDE THE FLEXIBLE COUPLING OVER THE DAM NECK AND TIGHTEN.
7. SET THE PIPE TO LINE AND GRADE AND BACKFILL.

NOTES:

1. COLLARS TO BE INSTALLED EQUIDISTANT FROM ENDS OF PIPE AND SPACED 20 FEET APART.
2. COLLARS SHALL BE WATERPROOF AND HAVE A FLEXIBLE WATERPROOF CONNECTION AROUND THE PIPE AT ALL SPLICES.

ANTI-SEEP COLLAR DETAIL

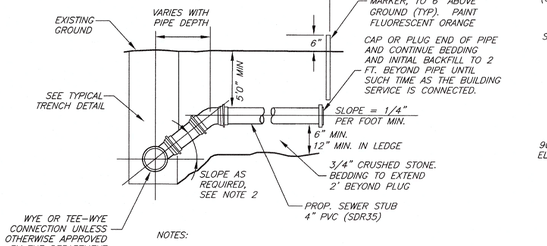
NOT TO SCALE



MAIN CROSSINGS

WATER MAIN AND SEWER MAIN CROSSING DETAIL

NOT TO SCALE

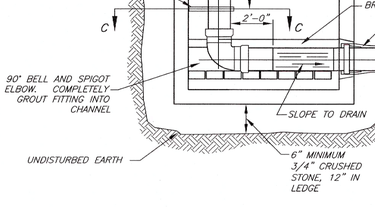


NOTES:

1. ALL SERVICE CONNECTIONS TO BE 4" MINIMUM DIAMETER UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
2. USE TOWN OF LONDONDERRY CHIMNEY DETAIL (EXHIBIT SW6) WHERE SERVICE CONNECTION ENTERS SEWER AT GREATER THAN 60° TO THE HORIZONTAL.

TYPICAL SEWER SERVICE CONNECTION

EXHIBIT SW5



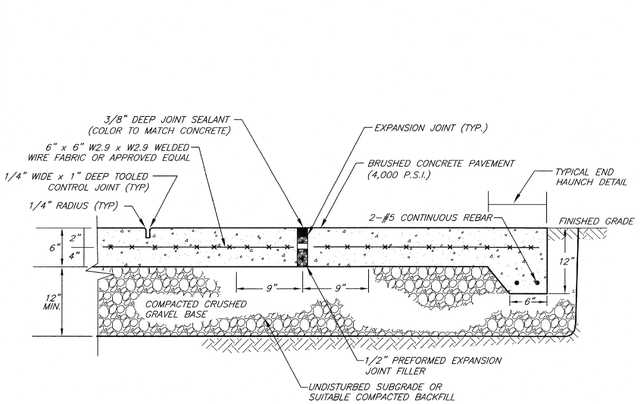
SECTION C-C

NOTES:

1. MINIMUM 5'-0" DIAMETER MANHOLES SHALL BE USED AT ALL INTERNAL DROP MANHOLE CONNECTIONS. SEE PLANS FOR MANHOLE DIAMETER.
2. INTERNAL DROP SEWER MANHOLE CONNECTIONS TO BE USED WHERE THE DIFFERENCE BETWEEN INVERT IN AND INVERT OUT IS GREATER THAN 2'-0".

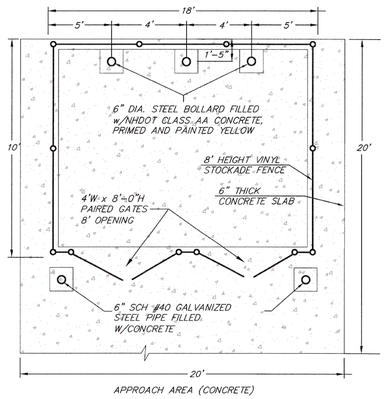
INTERNAL DROP SANITARY SEWER MANHOLE:

EXHIBIT SW3



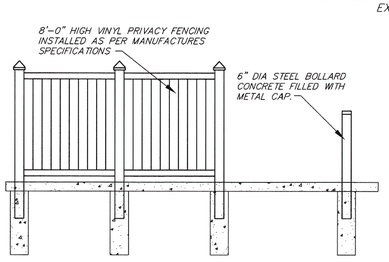
REINFORCED CONCRETE PAD DETAIL

NOT TO SCALE



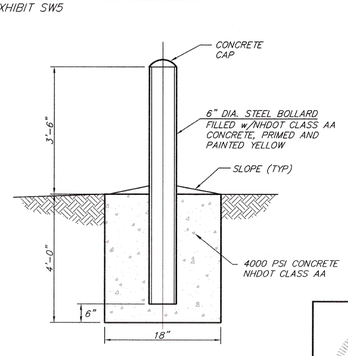
DOUBLE DUMPSTER ENCLOSURE DETAIL

NOT TO SCALE



NOTES:

1. CROSS SLOPE OF CONCRETE PAD TO BE AS SPECIFIED ON THE PLAN.
2. MAINTAIN 2" CLEARANCE (TYP.) BETWEEN ALL CONCRETE EDGES AND WIRE FABRIC OR DOWEL.
3. CONTROL JOINTS TO BE LOCATED 5-FEET ON CENTER OR AS SHOWN ON ARCHITECTURAL PLANS.
4. EXPANSION JOINTS TO BE LOCATED 25-FEET ON CENTER.
5. WELDED WIRE FABRIC SHALL BE LAPSED A MINIMUM OF 2 WIRE SPACES.
6. ALL CONCRETE TO BE 4,000 PSI NHDOT CLASS AA.



TYPICAL BOLLARD DETAIL FOR DUMPSTER PAD

NOT TO SCALE

811 DigSafe MA-ME-NH-RI-VT

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

CONSTRUCTION DETAILS
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

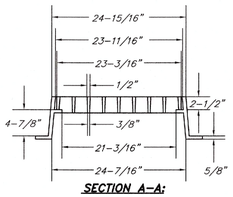
PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: AS SHOWN	JUNE 12, 2025	SHEET 23 OF 33

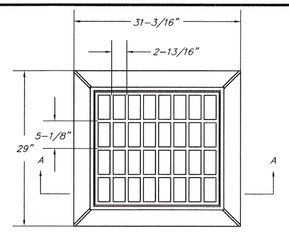
DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
JST	JST	GAC	692	28	

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SECTION A-A:



PLAN VIEW:

NOTES:

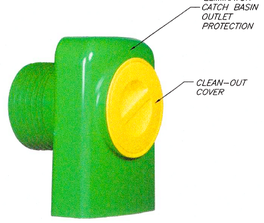
- ALL DIMENSIONS ARE NOMINAL.
- 8" HEIGHT
- FREE OPEN AREA = 2.55 SQ. FT.
- USE 3-FLANGE FRAME IF INSTALLED ADJACENT TO GRANITE CURB.
- ALL DIMENSIONS SHOWN ARE IN INCHES UNLESS OTHERWISE NOTED.

TYPE "B" FRAME & GRATE DETAIL

NOT TO SCALE

POLYETHYLENE LINER NOTES:

1. ALL CATCH BASINS SHALL BE OUTFITTED WITH A POLYETHYLENE LINER' DOWNSPOUT AND MEET H20 LOADING RATE.
2. POLYETHYLENE LINER (NHDOT ITEM 604.0007) SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.
3. PLACE A CONTINUOUS BEAD OF AN APPROVED SILICONE SEALANT BETWEEN FRAME AND POLYETHYLENE SHEET.
4. PLACE CLASS AA CONCRETE TO 2" BELOW THE TOP OF GRATE ELEVATION (SUBSIDIARY TO DRAINAGE STRUCTURE).
5. TRIM POLYETHYLENE SHEET A MAXIMUM OF 4" OUTSIDE THE FLANGE ON THE FRAME FOR THE CATCH BASIN BEFORE PLACING CONCRETE (EXCEPT AS SHOWN WHEN USED WITH CURB).
6. THE CENTER OF THE GRATE & FRAME MAY BE SHIFTED A MAXIMUM OF 3" FROM THE CENTER OF THE DOWNSPOUT IN ANY DIRECTION.

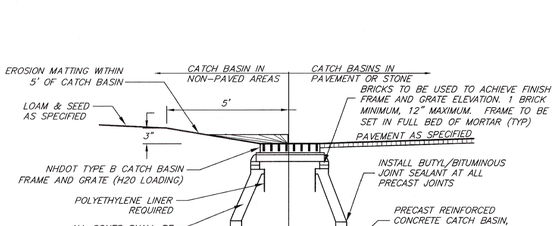


NOTES:

1. HOOD SHALL BE "THE ELIMINATOR" OIL & FLOATING DEBRIS TRAP AS MANUFACTURED BY GROUND WATER RESCUE, INC., QUINCY, MA., TEL. 617-773-1128, ON THE WEB @ WWW.KLEANSTREAM.COM
2. HOODS AVAILABLE TO FIT 12", 15" AND 18" DIAMETER OUTLETS.
3. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

CATCH BASIN HOOD (ELIMINATOR)

NOT TO SCALE

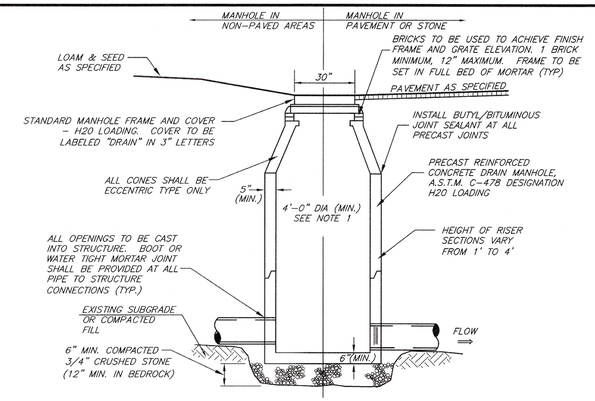


CATCH BASIN NOTES:

1. WHERE DEPTH EXCEEDS 12 FT., USE 5'-0" DIAMETER (MIN.) MAXIMUM DEPTH = 18 FEET.
2. MINIMUM PIPE DROP (INLET TO OUTLET SHALL BE 3" UNLESS OTHERWISE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING.
3. ALL BOOTS, GASKETS, AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

CATCH BASIN DETAIL

NOT TO SCALE

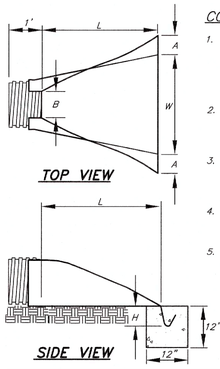


DRAIN MANHOLE NOTES:

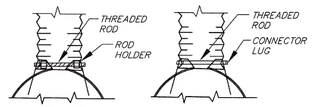
1. WHERE DEPTH EXCEEDS 12 FT., USE 5'-0" DIAMETER (MIN.) MAXIMUM DEPTH = 18 FEET.
2. MINIMUM PIPE DROP (INLET TO OUTLET SHALL BE 3" UNLESS OTHERWISE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING.
3. ALL BOOTS, GASKETS, AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

DRAINAGE MANHOLE DETAIL

NOT TO SCALE



PIPE DIA.	PART NO.	A 1" TOL	B MAX.	H 1" TOL	L 0.5" TOL	W 2" TOL.
15"	1210 NP	6.5"	10"	6.5"	25"	29"
18"	1810 NP	7.5"	15"	6.5"	32"	35"
24"	2410 NP	7.5"	18"	6.5"	36"	45"
30"	3010 NP	10.5"	NA	7"	53"	68"
36"	3610 NP	10.5"	NA	7"	53"	68"

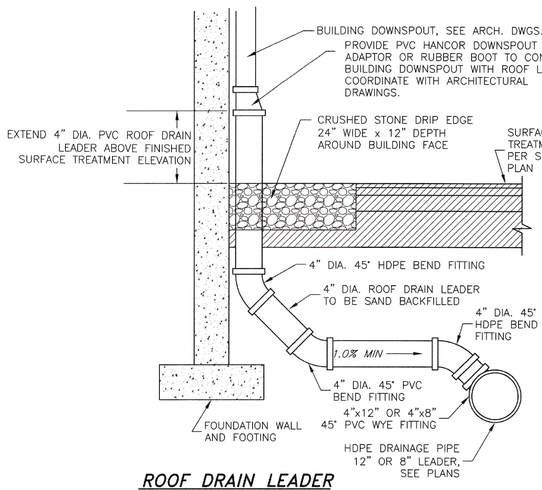


END SECTION FOR HDPE PIPE

NOT TO SCALE

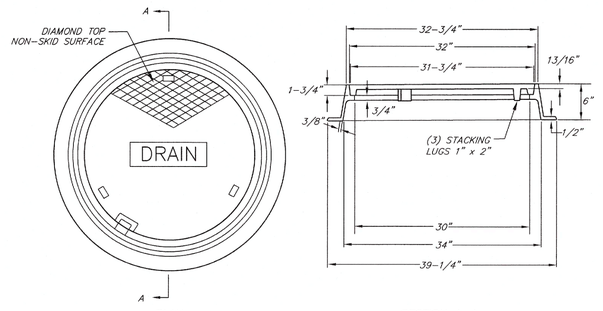
CONSTRUCTION SPECIFICATIONS:

1. PREPARE BEDDING - BACKFILL MATERIAL AROUND THE END SECTION MAY BE THE SAME AS THE MATERIAL AROUND THE PIPE. PLACE A FEW INCHES OF BACKFILL MATERIAL IN THE TRENCH WHERE THE END SECTION WILL BE PLACED. COMPACT AND CONTOUR THIS BEDDING MATERIAL TO GENERALLY MATCH THE END SECTION. EXCAVATE AN AREA IN THE BEDDING WHERE TOE TROUGH WILL SEAT SO THAT THE END SECTION WILL BE LEVEL WITH THE BOTTOM OF THE TRENCH IN THE FINISHED INSTALLATION.
2. PLACE END SECTION OF PIPE - OPEN THE END SECTION COLLAR AND SEAT IT OVER THE TWO PIPE CONNECTIONS. ONCE THE END SECTION IS POSITIONED, CHECK TO MAKE SURE THAT THE INVERT OF THE END SECTION MATCHES THE INVERT OF THE PIPE AND THAT THE END SECTION IS LEVEL WITH THE TRENCH.
3. SECURE END SECTION - SLIP THE STAINLESS STEEL ROD THROUGH THE PRE-DRILLED HOLES AT THE TOP OF THE COLLAR. THE ROD SHOULD BE BETWEEN THE CROWNS OF THE TWO PIPE CONNECTIONS. PLACE A WASHER ON EITHER END OF THE ROD. PLACE A NUT ON EITHER END OF THE ROD AND TIGHTEN WITH A WRENCH.
4. SECURE THE TOE TROUGH - TO PREVENT WASHOUTS FROM HIGH VELOCITY FLOW, IT IS RECOMMENDED THAT THE TROUGH BE SECURED WITH CONCRETE. POUR CONCRETE IN THE TROUGH UP TO THE LEVEL OF THE TRENCH AND ALONG THE ENTIRE LENGTH OF THE TROUGH.
5. FINISH BACKFILL - SHOVEL BACKFILL AROUND THE END SECTION IN 6 TO 9 INCH LAYERS EQUALLY ON BOTH SIDES, KNIFING IT TO ELIMINATE VOIDS. TAMP WITH A SMALL-FACED COMPACTOR OR OTHER EQUIPMENT SUITABLE FOR SMALL AREAS. CONTINUE PLACING, KNIFING, AND COMPACTING BACKFILL LAYERS TO THE TOP OF THE END SECTION TO SEAT IT WELL INTO THE BACKFILL.



ROOF DRAIN LEADER

NOT TO SCALE

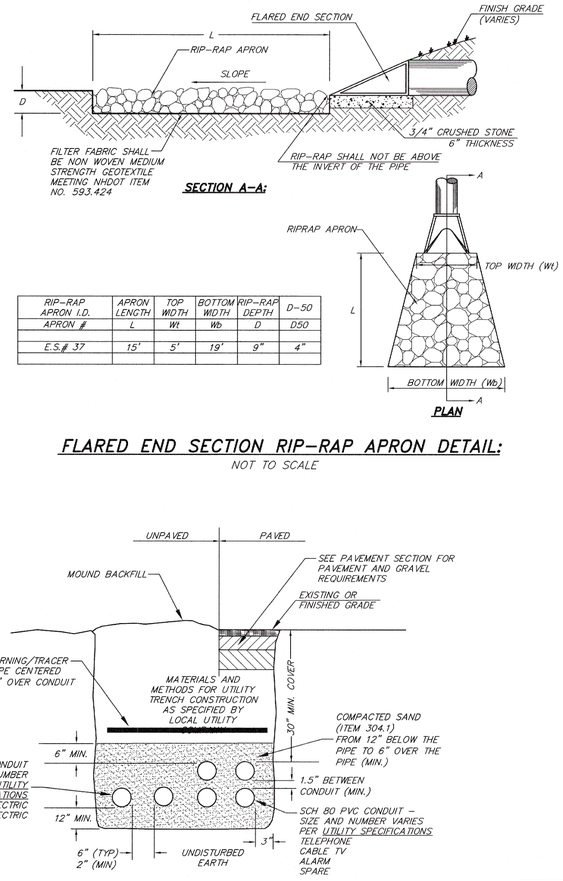


NOTES:

1. ALL DIMENSIONS ARE NOMINAL.
2. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   a. THE FRAMES MUST MEET H20 LOADING RATE.
   b. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMIDATIONS.
   c. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
3. LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN THE CENTER OF THE COVER.
4. LABEL SHALL IDENTIFY UTILITY IN ACCORDANCE WITH CITY/TOWN STANDARDS.

MANHOLE FRAME AND COVER

NOT TO SCALE



RIP-RAP APRON I.D.	APRON LENGTH L	TOP WIDTH Wt	BOTTOM WIDTH Wb	RIP-RAP DEPTH D	D-50 D50
APRON #					
E.S.# 37	15'	5'	19'	9"	4"

FLARED END SECTION RIP-RAP APRON DETAIL:

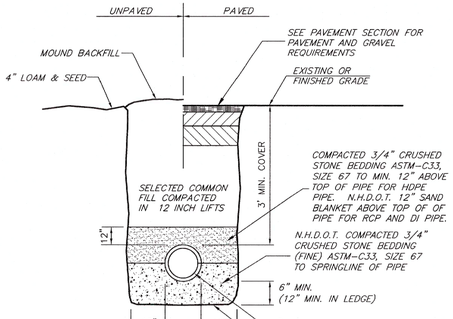
NOT TO SCALE

NOTES:

1. NO CONDUIT RUN SHALL EXCEED 360 DEGRESS IN TOTAL BENDS
2. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, SHALL BE INSTALLED IN THE COUNDUIT PRIOR TO INSTALLING THE CONDUIT. THE STRING SHALL BE BLOWN INTO THE COUNDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
3. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE, THE NATIONAL ELECTRIC CODES.
4. CONTRACTOR SHALL CONFIRM SIZE OF ELECTRICAL CONDUIT MEETS THE MINIMUM SIZE CRITERIA REQUIRED BASED ON THE NATIONAL ELECTRIC CODE FOR THE SIZE OF THE CONDUCTOR WITHIN EACH CONDUIT.

ELECTRICAL/LIGHTING/COMMUNICATIONS UTILITY TRENCH DETAIL

NOT TO SCALE



NOTES:

1. PLASTIC DRAIN PIPE (HDPE) SHALL BE ADS N-12 (CORREGATED EXTERIOR/SMOOTH INTERIOR) OR APPROVED EQUAL MEETING AASHTO M-252 AND H20 LOADING.
2. D.I. PIPE SHALL BE CLASS 50.
3. REINFORCED CONCRETE PIPE SHALL BE CLASS III, UNLESS OTHERWISE NOTED.

DRAINAGE TRENCH DETAIL

NOT TO SCALE

RIP-RAP APRON MAINTENANCE & CONSTRUCTION NOTES

MAINTENANCE NOTES:

ROCK RIP-RAP SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. THE IMMEDIATE AREA DOWNSTREAM FROM THE RIP-RAP SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. IF THE RIP-RAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY BEFORE FURTHER DAMAGE CAN TAKE PLACE. WOODY VEGETATION SHOULD BE REMOVED FROM THE ROCK RIP-RAP ANNUALLY BECAUSE TREE ROOTS WILL EVENTUALLY DISLODGE THE ROCK RIP-RAP. IF THE RIP-RAP IS ON A CHANNEL BANK, THE STREAM SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT BARS THAT MAY CHANGE FLOW PATTERNS WHICH COULD DAMAGE OR DISPLACE THE RIP-RAP. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE RIP-RAP.

CONSTRUCTION SPECIFICATIONS:

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC OR RIP-RAP SHALL BE CLEARED AND GRUBBED TO REMOVE ALL ROOTS, VEGETATION, AND DEBRIS AND PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK AND/OR GRAVEL USED FOR FILTER AND RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING PLACEMENT OF THE ROCK RIP-RAP BY PLACING A CUSHION OF SAND AND GRAVEL OVER THE FABRIC. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 IN.
4. STONE FOR THE RIP-RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT DISPLACEMENT OF THE UNDERLYING MATERIALS. HAND PLACEMENT MAY BE REQUIRED TO PREVENT DAMAGE TO ANY PERMANENT STRUCTURES.
5. STONES FOR RIP-RAP SHALL BE ANGULAR OR SUBANGULAR. THE STONES SHOULD BE SHAPED SO THAT THE LEAST DIMENSION OF THE STONE FRAGMENT SHALL BE NOT LESS THAN ONE-THIRD OF THE GREATEST DIMENSION OF THE FRAGMENT. FLAT ROCKS SHALL NOT BE USED FOR RIP-RAP.
6. VOIDS IN THE ROCK RIP-RAP SHOULD BE FILLED WITH SPALLS AND SMALLER ROCKS.

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

CONSTRUCTION DETAILS
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: AS SHOWN	JUNE 12, 2025	SHEET 24 OF 33

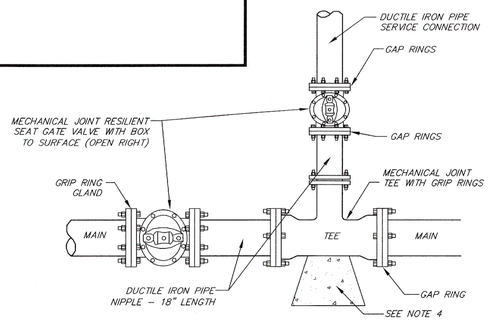
DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
JST	JST	GAC	692	28	

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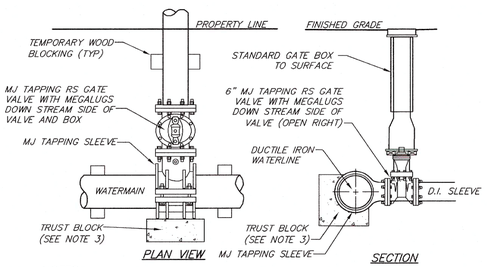
STATE OF NEW HAMPSHIRE - GREGORY A. CZUNAK JR. NO. 8915 - LICENSED PROFESSIONAL ENGINEER

G:\PROJECT\0503022 GENEX ROCKINGHAM ROAD\DWG\0503022CV01.DWG



NOTES:
1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO MANCHESTER WATER WORKS SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5.5–FEET FROM TOP OF PIPE TO FINISH GRADE.
3. EDGE RETAINER CLAMPS AND THRUST BLOCKS SHALL BE USED FOR THRUST RESTRAINT.
4. MIN. 2'x2'x4' PRECAST CONCRETE THRUST BLOCK MAY BE USED WITH MANCHESTER WATER WORKS APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH – SIZE BASED ON SIZE OF FITTING AND PRESSURE IN WATERMAIN.

WATER TEE INSTALLATION
NOT TO SCALE

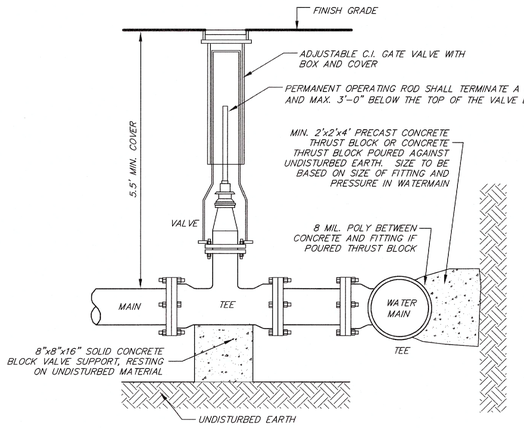


PLAN VIEW SECTION

NOTES:
1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO MANCHESTER WATER WORKS SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5–FEET FROM TOP OF PIPE TO FINISH GRADE.
3. MIN. 2'x2'x4' PRECAST CONCRETE THRUST BLOCK MAY BE USED WITH MANCHESTER WATER WORKS APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH – SIZE BASED ON SIZE OF FITTING AND PRESSURE IN WATERMAIN.

WET TAP TEE INSTALLATION
NOT TO SCALE

DUCTILE IRON PIPE –
1. THE DUCTILE IRON PIPE SHALL BE CLASS 52 AND SHALL CONFORM TO ANSI A.21.51 (AWWA C–151) FOR "PIPE CENTRIFUGALLY CAST IN METAL MOLDS OR SAND LINED MOLDS FOR WATER".
2. CEMENT LININGS SHALL BE DOUBLE THE STANDARD THICKNESS AND SHALL CONFORM TO ANSI A.21.4
3. SEAL COATING SHALL BE APPLIED INSIDE AND OUT.
4. ALL PIPE SHALL BE PUSH–ON TYPE JOINT, IN ACCORDANCE WITH ANSI A.21.11.
5. ALL PIPE SHALL BE CAST in U.S.A.



GATE VALVES 4"–12" – GATE VALVES SHALL BE 200 PSI WORKING PRESSURE, VERTICAL, PLAIN NON–RISING STEM, NUT OPERATED, OPEN RIGHT WITH MECHANICAL JOINT END CONNECTIONS.

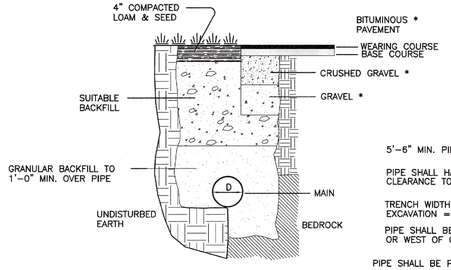
VALVES SHALL COMPLY WITH AWWA C500 OR C509. VALVES SHALL BE RESILIENT SEATED (RS). RS VALVES SHALL MEET THE FOLLOWING REQUIREMENTS: VALVE BODY AND BONNET SHALL BE OF CAST OR DUCTILE IRON COATED ON ALL EXTERIOR AND INTERIOR SURFACES WITH A FUSION BONDED EPOXY CONFORMING TO AWWA STANDARD C–550, LATEST REVISION, APPLIED WITH A MINIMUM THICKNESS OF EIGHT (8) MILS. THE MANUFACTURER SHALL CERTIFY THAT THE COATING IS SUITABLE FOR USE IN A POTABLE WATER SYSTEM, AND THE INTERIOR COATING CERTIFIED TO BE HOLIDAY–FREE. THE GATE SHALL BE COMPLETELY COVERED WITH RUBBER OVER ALL FERROUS SURFACES. THE RUBBER SHALL BE SECURELY BONDED TO THE GATE BODY.

THE "O" RING STEM SEAL SHALL BE REPLACEABLE WITH THE VALVE UNDER PRESSURE IN THE FULL OPEN POSITION.

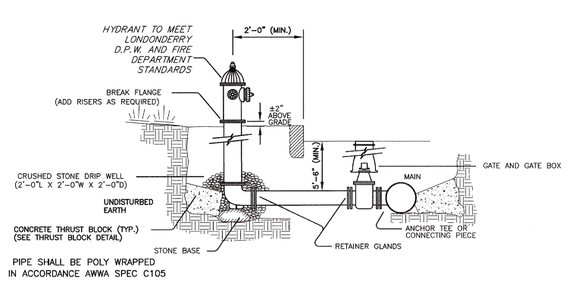
ALL EXTERIOR FASTENERS SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL.

VALVES SHALL BE FULL PORT OPENING. TAPPING VALVES SHALL HAVE ENLARGED PORTS.

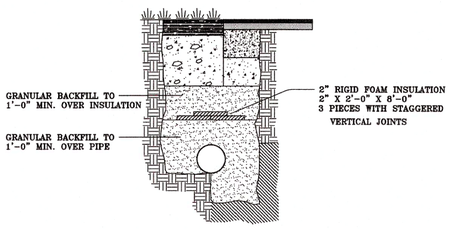
STANDARD GATE VALVE
NOT TO SCALE



TYPICAL TRENCH DETAIL
NOT TO SCALE



TYPICAL HYDRANT INSTALLATION
NOT TO SCALE



MAIN INSTALLATIONS OF LESS THAN 5'–6" OF COVER SHALL BE ALLOWED ONLY AT THE DISCRETION OF THE ENGINEER. ALL INSTALLATIONS OF LESS 5'–6" OF COVER SHALL BE INSULATED AS SHOWN.

INSULATED MAIN
NOT TO SCALE

MECHANICAL JOINT FITTINGS – THE MECHANICAL JOINT FITTINGS SHALL CONFORM TO AWWA C104/ANSI A21.4, C111/A21.11 OR C153/A21.53, CLASS 350 MINIMUM, DUCTILE IRON COMPACT FITTING, WITH DOUBLE CEMENT–LINING THICKNESS AND SEAL COATED INSIDE AND OUT. FITTINGS SHALL BE COMPLETE WITH ACCESSORIES – TEE BOLTS SHALL BE EITHER DUCTILE IRON OR CORTEN. ALL M.J. FITTINGS SHALL BE CAST IN U.S.A.

BOLTED SLEEVE–TYPE COUPLINGS – THE COUPLING SHALL CONFORM TO AWWA 219–11. THE BODY AND RINGS SHALL BE CARBON STEEL WITH A FUSION BONDED EPOXY COATING. THE BOLTS AND NUTS SHALL BE 304 STAINLESS STEEL WITH THE BOLTS COATED WITH AN ANTI–SEIZE COMPOUND. THE GASKET SHALL BE MADE IN TWO LAYERS WITH A REMOVABLE INNER LAYER THAT ALLOWS FOR DIAMETER RANGE EXPANSION.

BUTTERFLY VALVES 16"– 24" – ALL 16", 20" AND 24" BUTTERFLY VALVES SHALL BE OPEN RIGHT WITH MECHANICAL JOINT END CONNECTIONS, COMPLETE WITH ACCESSORIES FOR BURIED SERVICE.

VALVES SHALL BE OF THE TIGHT CLOSING RUBBER SEAT TYPE WITH SEAT BONDED OR MECHANICALLY RETAINED INTO THE DISC OR VALVE BODY. VALVES SHALL HAVE A FULL UNINTERRUPTED 360 DEGREE SEALING SURFACE AND SHALL BE BUBBLE TIGHT AT RATED PRESSURES IN BOTH DIRECTIONS. VALVES SHALL BE DESIGNED FOR USE IN EITHER THROTTLING APPLICATION OR FOR VERY INFREQUENT OPERATION AFTER EXTENDED PERIODS OF INACTIVITY. VALVES SHALL BE IN FULL COMPLIANCE WITH AWWA SPECIFICATION C–504, WITH THE FOLLOWING EXCEPTIONS:

VALVE BODIES – ALL VALVE BODIES SHALL BE OF CAST IRON CONFORMING TO ASTM A–126, CLASS B WITH INTEGRAL CAST ENDS AND SHALL MEET THE FOLLOWING REQUIREMENTS: VALVE BODY AND BONNET SHALL BE OF CAST OR DUCTILE IRON, COATED ON ALL EXTERIOR AND INTERIOR SURFACES WITH EPOXY CONFORMING TO AWWA STANDARD C–550, LATEST REVISION, APPLIED WITH A MINIMUM THICKNESS OF EIGHT (8) MILS. THE MANUFACTURER SHALL CERTIFY THAT THE COATING IS SUITABLE FOR USE IN A POTABLE WATER SYSTEM, AND THE INTERIOR COATING CERTIFIED TO BE HOLIDAY–FREE. ALL EXTERIOR FASTENERS SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL.

VALVE DISCS – ALL VALVE DISCS SHALL BE STREAMLINED AND PRESENT THE SMALLEST PROFILE POSSIBLE CONSISTENT WITH THE STRUCTURAL REQUIREMENTS OF THE PRESSURE CLASS. THEY SHALL BE OF OFFSET OR FLOW THROUGH DESIGN AND MATERIAL COMPOSITION OF CAST OR DUCTILE IRON. DISC SEALING EDGE SHALL HAVE A CONTINUOUS UNINTERRUPTED 360 DEGREE SEALING SURFACE OF 18–8 STAINLESS STEEL.

VALVE SHAFTS – VALVE SHAFTS SHALL BE OF 18–8 TYPE 304 STAINLESS STEEL OR CARBON STEEL WITH STAINLESS STEEL JOURNALS. SHAFT DESIGN SHALL BE OF THRU OR STUB TYPE CONSTRUCTION WITH AT LEAST 1" SHAFT DIAMETER ENGAGEMENT INTO THE DISC. SHAFT TO DISC CONNECTION SHALL BE OF A RIGID, NON–SLIP TYPE CONNECTION.

VALVE SEATS – VALVE SEATS SHALL BE A RUBBER MATERIAL BONDED OR MECHANICALLY RETAINED.

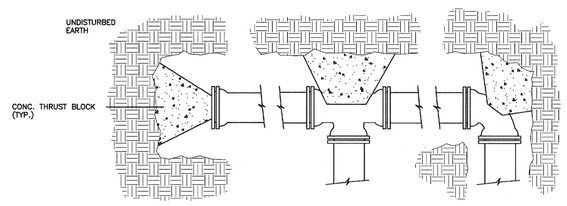
VALVE BEARINGS – VALVE BEARINGS SHALL BE SELF–LUBRICATING AND NON–CORROSIVE AND SHALL HAVE A SIGNIFICANT DIFFERENCE IN HARDNESS FROM THE VALVE SHAFT.

VALVE ACTUATORS–GENERAL – ALL VALVE ACTUATORS SHALL BE DESIGNED AS AN INTEGRAL PART OF THE VALVE AND SHALL MEET OR EXCEED ALL THE REQUIREMENTS OF AWWA C–504. ACTUATORS SHALL BE OF RACK AND PINION, LINK AND LEVER OR TRAVELING DESIGN.

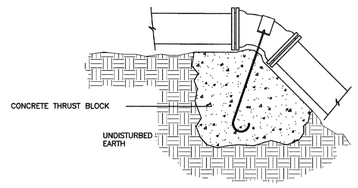
ALL MOVING PARTS PENETRATING INTO THE ACTUATOR, AND EXTERIOR FASTENERS SHALL BE 316 STAINLESS STEEL. ALL ACTUATOR TYPES, IN A GIVEN SIZE, TO BE INTERCHANGEABLE AND FASTENED TO VALVES WITH READILY ACCESSIBLE EXTERNAL BOLTS. ALL ACTUATORS MUST FIT ON THE VALVES THEY ARE DESIGNED TO OPERATE IN ANY MOUNTED POSITION OR ROTATIONAL DIRECTION WITHOUT ANY SPECIAL PRIOR PREPARATION TO EITHER THE VALVE OR THE ACTUATOR.

RETAINER GLANDS – RETAINER GLANDS SHALL BE HEAVYWEIGHT, DUCTILE IRON, WEDGE–TYPE, DESIGNED FOR 70 FT–LBS OF TORQUE.

VALVE BOXES – VALVE BOXES SHALL BE SLIDE TYPE CAST OR DUCTILE IRON STANDARD 5'–0" BURY WITH THE FOLLOWING THREE (3) COMPONENTS:
1. GATE BOX COVERS SHALL FIT PROPERLY AND SEAT FLUSH IN THE GATE VALVE BOX TOP SECTIONS.
2. THE TOP SECTION SHALL BE A MINIMUM OF 26" IN LENGTH WITH TOP FLANGE.
3. THE BELLED DESIGN BASE SECTION SHALL BE A MINIMUM OF 36" IN LENGTH.
4. THE COVER SHALL BE MARKED "WATER". THE BOXES SHALL BE 5 1/4" INSIDE DIAMETER.



PLAN – HORIZONTAL BENDS, TEES AND PLUGS



ELEVATION – VERTICAL BENDS

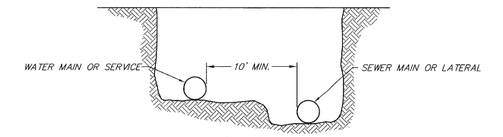
THRUST BLOCK DIMENSIONS TO BE DETERMINED IN FIELD BY ENGINEER BASED ON PIPE SIZE, WATER PRESSURE AND SOIL TYPE.

STONE BACKING MAY BE SUBSTITUTED FOR CONCRETE THRUST BLOCKS PROVIDED THE STONE(S) ARE OF EQUAL SIZE AND BEAR ON UNDISTURBED EARTH.

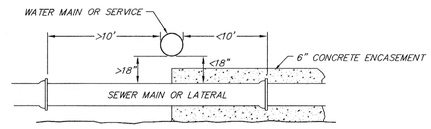
USE OF JOINT RESTRAINT SYSTEMS SHALL NOT ELIMINATE THRUST BLOCK REQUIREMENTS (WHERE POSSIBLE).

PIPE SHALL BE POLY WRAPPED IN ACCORDANCE AWWA SPEC C105

TYPICAL THRUST BLOCKS
NOT TO SCALE

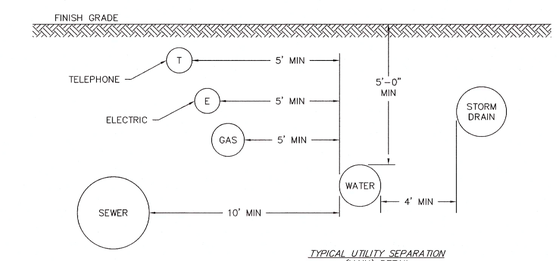


PARALLEL INSTALLATION



MAIN CROSSINGS

WATER MAIN AND SEWER MAIN SEPARATION DETAIL
NOT TO SCALE



TYPICAL UTILITY SEPARATION (MAIN) DETAIL

DATE	DESCRIPTION	BY	REV.
12–31–25	PER DRC – STANTEC REVIEW #2	BJL	E
11–12–25	PER DRC PLAN REVIEW	JST	D
10–8–25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9–24–25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8–20–25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

CONSTRUCTION DETAILS
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

811 DigSafe MA ME NH RI VT

12/31/25

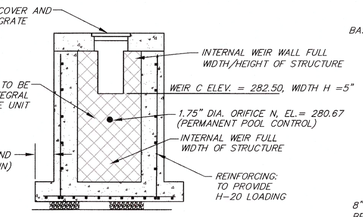
STATE OF NEW HAMPSHIRE – GEORGE C. CHADWICK, JR. – No. 8615 – LICENSED PROFESSIONAL ENGINEER

SCALE: AS SHOWN | JUNE 12, 2025 | SHEET 25 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503–22
JST	JST	GAC	692	28	

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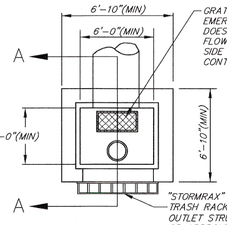
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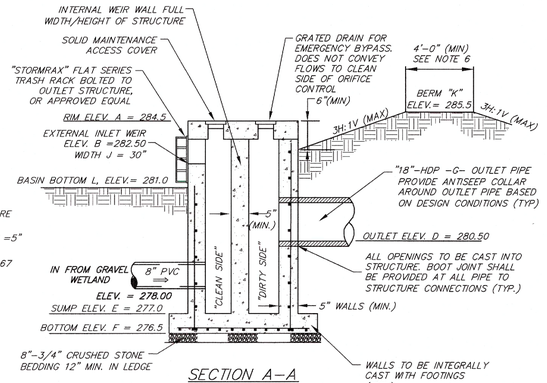
ELEVATION
INTERIOR WEIR WALL

NOTES:

1. ALL CEMENT CONCRETE TO BE 4000 PSI(MIN).
2. GALVANIZED STEEL GRATE SHALL BE BOLTED TO TOP OF STRUCTURE WITH 1/2" STAINLESS STEEL BOLTS AND THREADED INSERTS.
3. OUTLET PIPE SHALL NOT BE LESS THAN 15" DIAMETER AND SHALL BE SIZED FOR A 50-YEAR STORM.
4. ALL OPENINGS SHALL BE CAST IN AS REQUIRED. MINIMUM CONCRETE WEIR WIDTH SHALL BE 2 INCHES.
5. PRECAST REINFORCED CONCRETE STRUCTURE TO MEET ASTM C-478 DESIGNATION AND H-20 LOADING.
6. CONTROL WEIR SHALL BE SIZED TO MITIGATE DESIGN STORM AS REQUIRED BY THE REGULATIONS AND IN ACCORDANCE WITH THE APPROVED DRAINAGE CALCULATIONS. STAINLESS STEEL PLATE SHALL BE USED FOR CONTROL WEIRS LESS THAN 2 INCHES WIDE.
7. ALL STAINLESS STEEL SHALL BE GRADE 316.
8. MINIMUM EMBANKMENT ELEVATION TO BE 12" ABOVE 50-YEAR STORM ELEVATION.



PLAN VIEW

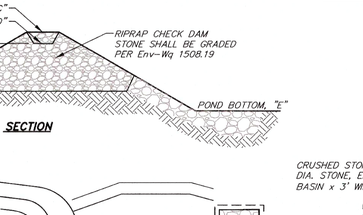


SECTION A–A

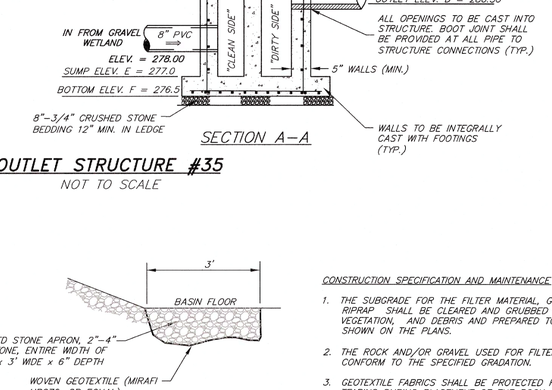
OUTLET STRUCTURE #26

NOT TO SCALE

OUTLET STRUCTURE	ELEVATIONS/DIMENSIONS												
	A	B	C	D	E	F	G	H	J	K	L	M	N
OS#26	284.50	282.50	282.50	280.50	277.00	276.50	18"	5"	30"	285.50	281.00	N.A.	280.67
OS#35	284.50	282.50	282.50	280.50	277.00	276.50	18"	3.5"	30"	285.00	281.00	N.A.	280.67



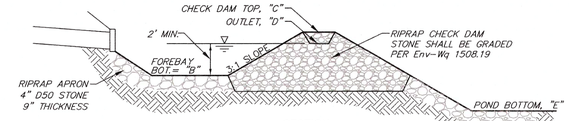
ELEVATION
INTERIOR WEIR WALL



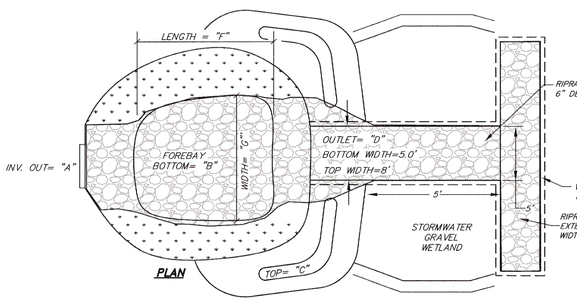
SECTION A–A

OUTLET STRUCTURE #35

NOT TO SCALE



SECTION

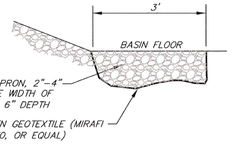


PLAN

E.S.#	"A"	"B"	"C"	"D"	"E"	"F"	"G"
22	284.19	282.0	284.5	284.0	281.0	15'	15'
33	283.00	281.0	283.5	283.0	281.0	15'	9'

SEDIMENT FOREBAY DETAIL

NOT TO SCALE



RIPRAP APRON SPILLWAY EXTENSION

% OF PASSING BY WEIGHT	SIEVE SIZE
100	12 INCH
84–100	6 INCH
68–83	3 INCH
42–55	1 INCH
8–12	NO. 4

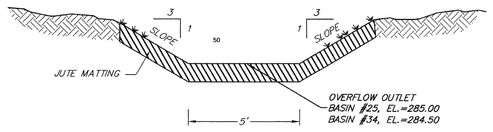
CHECK DAM STONE GRADATION TABLE:

DESIGN SIZE	RIP-RAP SIZE	% OF WEIGHT (SMALLER THAN GIVEN SIZE)	SIZE OF STONE	THICKNESS (D)
Dso	4"	100	6" TO 8"	9"
		85	5.2" TO 7.2"	
		50	4" TO 6"	
		15	1.2" TO 2"	

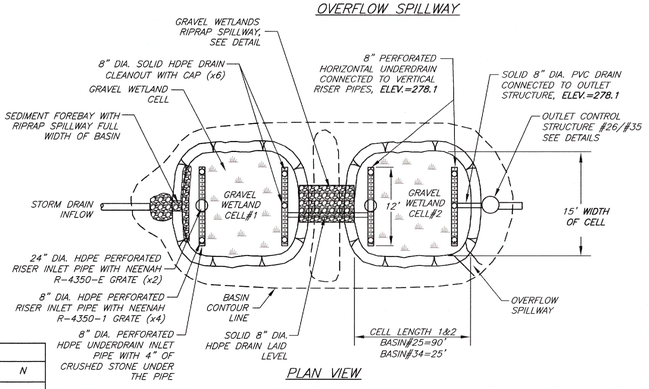
FOREBAY BOTTOM STONE GRADATION TABLE:

CONSTRUCTION SPECIFICATION AND MAINTENANCE

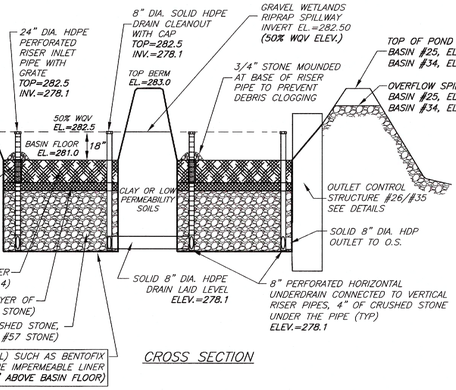
1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC OR RIPRAP SHALL BE CLEARED AND GRUBBED TO REMOVE ALL ROOTS, VEGETATION, AND DEBRIS AND PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK AND/OR GRAVEL USED FOR FILTER AND RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING PLACEMENT OF THE ROCK RIPRAP BY PLACING A CUSHION OF SAND AND GRAVEL OVER THE FABRIC. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 IN.
4. STONE FOR THE RIPRAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT DISPLACEMENT OF THE UNDERLYING MATERIALS. HAND PLACEMENT MAY BE REQUIRED TO PREVENT DAMAGE TO ANY PERMANENT STRUCTURES.
5. STONES FOR RIPRAP SHALL BE ANGULAR OR SUBANGULAR. THE STONES SHOULD BE SHAPED SO THAT THE LEAST DIMENSION OF THE STONE FRAGMENT SHALL BE NOT LESS THAN ONE-THIRD OF THE GREATEST DIMENSION OF THE FRAGMENT. FLAT ROCKS SHALL NOT BE USED FOR RIPRAP.
6. VOIDS IN THE ROCK RIPRAP SHOULD BE FILLED WITH SPALLS AND SMALLER ROCKS.
7. ROCK RIPRAP SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY BEFORE FURTHER DAMAGE CAN TAKE PLACE. WOODY VEGETATION SHOULD BE REMOVED FROM THE ROCK RIPRAP ANNUALLY BECAUSE TREE ROOTS WILL EVENTUALLY DISLODGE THE ROCK RIPRAP. IF THE RIPRAP IS ON A CHANNEL BANK, THE STREAM SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT BARS THAT MAY CHANGE FLOW PATTERNS WHICH COULD DAMAGE OR DISPLACE THE RIPRAP. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE RIPRAP.



OVERFLOW SPILLWAY



PLAN VIEW



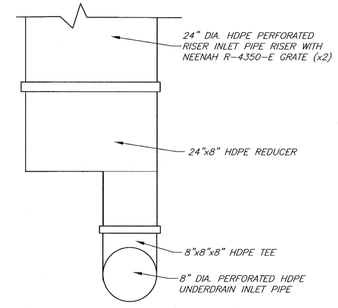
CROSS SECTION

GENERAL NOTES:

1. SOIL SPECIFICATIONS PER JUNE 2016 UNIVERSITY OF NEW HAMPSHIRE STORMWATER CENTER SUBSURFACE GRAVEL WETLAND DESIGN SPECIFICATIONS. GEO-TECHNICAL ENGINEER MAY RECOMMEND ALTERNATE SOIL MIXTURES.
2. GEOSYNTHETIC CLAY LINER: A GEOSYNTHETIC CLAY LINER (GCL) SUCH AS BENTOFIX SRNWL, OR EQUIVALENT, SHALL BE USED TO LINE THE BOTTOM OF EACH SUBMERGED GRAVEL WETLAND. THE GCL SHALL CONSIST OF TWO LAYERS: A TOP LAYER OF NON-WOVEN GEOTEXTILE, AND A BOTTOM LAYER OF SCRIM-REINFORCED NON-WOVEN GEOTEXTILE WITH A CORE OF NATURAL SODIUM BENTONITE CLAY.

STORMWATER GRAVEL WETLAND

NOT TO SCALE



8" TO 24" ADAPTOR DETAIL

NOT TO SCALE

BASIN PLAN:

THE FOLLOWING CRITERIA APPLY TO ALL GRAVEL WETLANDS:

1. SIDE SLOPES: ALL SIDE SLOPES TO THE FOREBAY AND THE TREATMENT CELLS SHOULD BE 3:1 OR FLATTER FOR MAINTENANCE ACCESS.
2. GEOTEXTILE FABRIC: A GEOTEXTILE FABRIC SHOULD BE PLACED BETWEEN THE GRAVEL LAYER AND ADJACENT SOIL. THE FABRIC WILL PREVENT THE SURROUNDING SOIL FROM MIGRATING INTO THE TRENCH AND CLOGGING THE OUTLET. USE AN APPROPRIATE MESH SIZE THAT IS COMPATIBLE WITH THE SURROUNDING SOIL. OVERLAP SEAMS SHOULD BE A MINIMUM OF 12 INCHES.
3. IMPERMEABLE MEMBRANE: A LOW PERMEABILITY LINER OR SOIL MAY BE NECESSARY TO CONTAIN THE SYSTEM AND PREVENT INFILTRATION OR LOSS OF MOISTURE, PRESERVE HORIZONTAL FLOW WITHIN THE TREATMENT LAYER AND SUSTAIN THE WETLAND PLANTS. IF GEOTECHNICAL TESTING CONFIRMS THE NEED FOR A LINER, AN IMPERMEABLE LINER SUCH AS A GEOSYNTHETIC CLAY LINER (GCL) SUCH AS BENTOFIX SRNWL OR 30 MIL HDPE LINER OR EQUAL WILL BE NECESSARY. IF THE UNDISTURBED NATIVE SOILS WHERE THE GRAVEL WETLAND WILL BE LOCATED HAVE A LOW HYDRAULIC CONDUCTIVITY (SUCH AS A SOIL TYPE D) OR THE WATER TABLE IS NEAR THE TOP OF THE BASIN, A LINER WILL NOT BE NECESSARY.
4. WETLAND SOIL: THE WETLAND SOIL SHOULD HAVE A THICKNESS OF 8 INCHES MINIMUM AND SHOULD HAVE A LOW HYDRAULIC CONDUCTIVITY (0.1–0.01 FT/DAY). THIS SOIL CAN BE MANUFACTURED, USING COMPOST, SAND AND FINE SOILS, INTO A BLEND WITH MORE THAN 15% ORGANIC MATTER. IT SHOULD CONTAIN MORE THAN 15% SILT (PASSING THE #200 SIEVE); BUT WITH A CLAY SIZE PORTION THAT IS LESS THAN 2%.
5. INTERMEDIATE LAYER: AN INTERMEDIATE LAYER (6 INCHES THICK) OF AGGREGATE FILTER (PEA GRAVEL) IS NEEDED TO PREVENT THE WETLAND SOIL FROM MIGRATING INTO THE CRUSHED-STONE (GRAVEL) SATURATED DRAINAGE LAYER. DO NOT USE A GEOTEXTILE FABRIC AS IT WILL RESTRICT ROOT GROWTH.
6. SATURATED DRAINAGE LAYER: BELOW THE WETLAND SOIL AND INTERMEDIATE LAYER IS A CRUSHED STONE (OR VERY COARSE GRAVEL) DRAINAGE LAYER WITH A 24-INCH MINIMUM THICKNESS. ANGULAR 3/4" CRUSHED STONE, IS RECOMMENDED AS LARGE ANGULAR PARTICLES ARE NEEDED TO MAINTAIN THE PERMEABILITY OF THE SYSTEM. THE PIPE UNDERDRAINS SHOULD HAVE AT LEAST 1-FOOT OF GRAVEL COVER AND FOUR INCHES BELOW THE PIPE.
7. UNDERDRAINS: HORIZONTAL UNDERDRAINS AND RISERS DISTRIBUTE THE INFLOW THROUGH THE GRAVEL LAYER WITHIN EACH OF THE CELLS; AND AT THE DOWNSTREAM, AN OUTFLOW UNDERDRAIN RECOLLECTS THE WATER TO DISTRIBUTE IT TO THE NEXT CELL OR FOR DISCHARGE.
8. TREATMENT LENGTH: THE FLOW PATH BETWEEN THE INFLOW AND THE OUTFLOW SUBDRAINS WITHIN EACH CELL'S SATURATED DRAINAGE LAYER SHOULD BE 15 FEET AT A MINIMUM.

OUTLETS:

THE CHANNEL PROTECTION VOLUME MUST BE DISCHARGED SOLELY THROUGH THE UNDERDRAINED GRAVEL OUTLET HAVING A WEIR OR A SINGLE ELBOWED PIPE OUTLET PLACED AT THE ELEVATION OF THE WETLAND BASIN TO FORCE A NEAR-SURFACE GROUNDWATER CONDITION (WITH AS AN INVERT 4 INCHES BELOW THE WETLAND GROUND SURFACE). THE OUTLET NEEDS TO BE SIZED TO PROVIDE THE SLOW DISCHARGE (24–48 HOURS) OF THE WATER QUALITY VOLUME.

1. RISERS: IN BOTH WETLAND CELLS, VERTICAL PERFORATED OR SLOTTED RISERS DELIVER THE OUTFLOW TO THE HORIZONTAL AND PERPENDICULAR SUB-DRAINS IMBEDDED IN THE GRAVEL DRAINAGE LAYER. THE PERFORATED/SLOTTED RISER SHOULD EXTEND 18 INCHES ABOVE THE SURFACE OF THE WETLAND SOIL. A RISER SHOULD BE PROVIDED FOR EVERY 10 FEET OF LINEAR INFLOW SUB-DRAIN.
2. UNDERDRAIN PIPE: THE UNDERDRAIN PIPING SHOULD BE 6-INCH DIAMETER WITH SLOTTED, RIGID SCHEDULE 40 PVC OR SDR35 PIPE.
3. OVERFLOW SPILLWAY: AN ARMORED SPILLWAY SHOULD BE PROVIDED BETWEEN THE CELLS FOR LARGER STORMS TO FLOW THROUGH WITHOUT CAUSING EROSION. THE SPILLWAY SHOULD BE 18 INCHES ABOVE THE WETLAND SURFACE.
4. EMERGENCY SPILLWAYS: EMERGENCY SPILLWAYS SHOULD BE DESIGNED TO INDEPENDENTLY CONVEY THE ROUTED RUNOFF FROM LARGER STORMS (2, 10 AND 25-YEAR, 24-HOUR STORM) WHILE MAINTAINING AT LEAST ONE FOOT OF FREEBOARD; AND TO SAFELY CONVEY THE 100-YEAR STORM WITHOUT OVERTOPPING THE EMBANKMENT. OVERFLOW MUST DISCHARGE TO A STABLE CHANNEL OR VEGETATED AREA. THE EMERGENCY SPILLWAYS SHOULD BE LOCATED ON UNDISTURBED, NON-FILL SOIL WHEREVER POSSIBLE. IF THE SPILLWAY MUST BE LOCATED ON FILL SOILS, THEN IT MUST BE HORIZONTALLY OFFSET AT LEAST 20 FEET FROM THE PRINCIPAL OUTLET AND APPROPRIATELY STABILIZED.
5. CLEANING PORTS: A CLEAN-OUT PORT SHOULD BE PROVIDED FOR EACH OF THE HORIZONTAL UNDERDRAIN PIPE STRUCTURE IN BOTH BASINS.

VEGETATION:

APPROPRIATE WETLAND SPECIES SHOULD BE CAREFULLY SELECTED TO STABILIZE THE SIDES AND BOTTOM OF THE BASINS. THE CREATION OF A MARSH ENVIRONMENT AT THE POND INLET WILL HELP TO TRAP SEDIMENT. FERTILIZER SHOULD NOT BE USED UNLESS NECESSARY TO ESTABLISH NEW VEGETATION, ALLOWING FOR THE NATURAL INVASION OF NATIVE SPECIES MAY ENCOURAGE HIGHER GROWTH THAN PLANTING SPECIES NOT ALREADY FOUND ON SITE.

1. WETLAND PLANTS: WETLAND PLANTS FUNCTION IN TWO IMPORTANT WAYS: THE STEMS AND LEAVES PROVIDE A LARGE SURFACE AREA FOR THE ATTACHMENT OF MICROBIAL POPULATIONS; AND THE PLANTS TRANSPORT OXYGEN TO THE ROOT ZONE. THE BY-PRODUCTS PRODUCED BY THE AEROBIC MICROBES ARE THEN EASILY UTILIZED BY THE ANAEROBIC MICROBES IN THE SATURATED LAYER. LEAVES AND STALKS PROVIDE A CANOPY OF SHADE, WHICH LIMIT SUNLIGHT PENETRATION AND ALGA GROWTH (THE ALGAE CAN DETER THE OXYGEN TRANSFER AND CREATES A TOXIC ENVIRONMENT FOR THE PLANTS). THE MOST APPROPRIATE WETLAND PLANTS ARE THE FOLLOWING:
   a. REEDS (JUNCUS EFFUSUS) ARE THE 'WORKER PLANTS' IN A GRAVEL WETLAND. THEIR ROOTS GO DOWN QUICKLY AND DEEPLY. THEY SPREAD ACROSS THE MEDIA AND THEY ARE PEST RESISTANT AND WINTER HARDY.
   b. CATTAILS (TYPHA LATIFOLIA) ARE THE PLANTS MOST OFTEN ASSOCIATED WITH WETLANDS. THEY WORK WELL AND HAVE A POSITIVE IMPACT ON TREATMENT. THE LARGER, NATIVE VARIETIES, HOWEVER, CAN BE DOMINANT AND TAKE OVER A SMALL FILTER IF NOT REMOVED IN LATER YEARS.
   c. BULRUSH (SCIRPUS) CAN PRODUCE DENSE STANDS OF VEGETATION. IT CAN SURVIVE UNFAVORABLE CONDITIONS LIKE PROLONGED FLOODING, OR DROUGHT AS BURIED SEEDS.
   d. PHRAGMITES (REED) IS VERY INVASIVE AND IS NOT RECOMMENDED.

CONSTRUCTION:

THE SUBAREA DRAINING TO A CREATED WETLAND MUST BE COMPLETELY STABLE BEFORE RUNOFF IS DIRECTED TO THE BASIN TO PREVENT SEDIMENTATION OF THE DRAINAGE LAYER; OR ALL RUNOFF SHOULD BE RE-DIRECTED UNTIL CONSTRUCTION IS FINALIZED. THE VEGETATION WITHIN THE STRUCTURE IS EQUALLY IMPORTANT AND MUST BE WELL ESTABLISHED BEFORE IT CAN ACCEPT ANY RUNOFF. CONSTRUCTION SHOULD BE STARTED NO LATER THAN SEPTEMBER 1 OR EARLIER THAN JUNE 1; AND IF VEGETATION CANNOT BE ESTABLISHED BY THE END OF THE GROWING SEASON, CONSTRUCTION SHOULD BE DELAYED TO THE FOLLOWING YEAR. SEEDING OR STABILIZATION MUST OCCUR BY SEPTEMBER 15 IN PREPARATION FOR THE WINTER SEASON.

1. OVERSIGHT: A GRAVEL WETLAND SHOULD ONLY BE CONSTRUCTED UNDER THE SUPERVISION FROM THE DESIGN ENGINEER.

MAINTENANCE:

OPERATION AND MAINTENANCE REQUIREMENTS SIMILAR TO THOSE FOR UNDERDRAINED FILTER BASINS SHOULD BE EXPECTED. THE PLANT BIOMASS SHOULD BE HARVESTED ANNUALLY, AND ACCUMULATED SEDIMENT REMOVED AT INTERVALS OF 5–10 YEARS. THESE ACTIVITIES MAY DISRUPT THE WETLANDS SYSTEM AND MAY REQUIRE SOME VEGETATION RE-ESTABLISHMENT. THE RISER PIPES MAY CLOG AND WILL REQUIRE ANNUAL CLEAN-OUT (IT SHOULD BE DONE IN THE WINTER TIME WHEN ONE CAN WALK ON THE WETLAND).

1. FIRST YEAR POST-CONSTRUCTION: INSPECTION FREQUENCY SHOULD OCCUR AFTER EVERY MAJOR STORM IN THE FIRST YEAR FOLLOWING CONSTRUCTION.
   a. INSPECT THAT THE SYSTEM DRAINS WITHIN 24–48 HOURS.
   b. THE PLANTS MAY NEED WATERING IF NECESSARY DURING THE FIRST GROWING SEASON. REVEGETATE IF THE VEGETATION IS POORLY ESTABLISHING.
   c. IDENTIFY AREAS OF EROSION AND MAKE TIMELY REPAIRS.
   d. CHECK ALL INLETS, OUTLETS AND SUBDRAINS FOR PROPER FUNCTIONING. RISERS MAY NEED TO BE CLEANED.
2. POST-CONSTRUCTION: INSPECTION FREQUENCY SHOULD OCCUR AT LEAST EVERY 6 MONTHS AND AFTER EVERY MAJOR STORM. ACTIVITIES ARE EXPECTED TO INCLUDE:
   a. CHECK THE BASIN FOR A DENSE ROOT MAT ESTABLISHMENT OF WETLAND VEGETATION.
   b. CHECK AND CLEAN THE RISERS IF THERE IS EVIDENCE OF STANDING WATER, DISCOLORED WATER OR ACCUMULATED SEDIMENTS IN THE CELLS.
   c. CHECK AND CLEAN THE FOREBAY FOR SEDIMENTS, TRASH AND DEBRIS. WHEN SEDIMENTS HAVE ACCUMULATED TO A DEPTH OF 12 INCHES, STANDING WATER IS PERSISTENT OR WETLAND VEGETATION BECOME ESTABLISHED, THE FOREBAY WILL NEED TO BE EXCAVATED AND REFORMED.
   d. VERIFY THAT THE CELLS DRAIN WITHIN 24–48 HOURS. SEDIMENT WILL NEED TO BE REMOVED WHEN AN ACCUMULATION OF 4 INCHES IS EVIDENT OVER THE WETLAND SURFACE.
   e. CHECK AND CLEAN ALL OUTLETS AND OVERFLOW SPILLWAY IF BLOCKED OR THERE IS EVIDENCE OF STRUCTURAL DAMAGE OR EROSION.
   f. REMOVE DECAYING VEGETATION, LITTER AND DEBRIS.
   g. CHECK FOR FOREIGN SPECIES. PARTICULAR CARE MUST BE USED TO AVOID THE UNINTENDED INTRODUCTION OF INVASIVE SPECIES SUCH AS PURPLE LOOSESTRIFE (LYTHRUM SALICARIA) AND COMMON REED (PHRAGMITES AUSTRALIS). IT IS RECOMMENDED THAT A QUALIFIED WETLAND BIOLOGIST BE CONSULTED WHEN THESE ARE FOUND IN THE AREA OF THE GRAVEL WETLAND.

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC – STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

CONSTRUCTION DETAILS
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

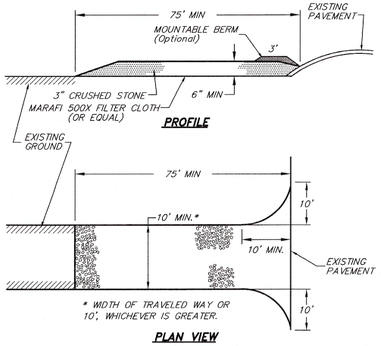
811 DigSafe MA ME NH RI VT

12/31/25

SCALE: AS SHOWN	JUNE 12, 2025			SHEET 26 OF 33
DESIGN:	DRAWN:	CHECKED:	FB:	PG: 503-22
JST	JST	GAC	692	28

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STABILIZED CONSTRUCTION EXIT

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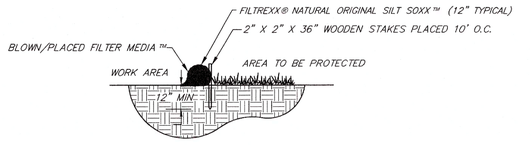
MAINTENANCE NOTES:

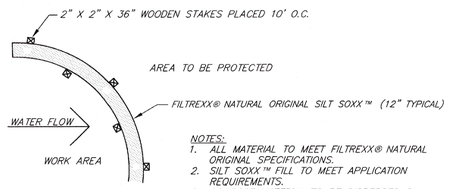
MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE GRAVEL AND THE EFFECTIVENESS OF THE GRAVEL PAD WILL NOT BE SATISFACTORY. WHEN THIS OCCURS, THE PAD SHOULD BE TOPDRESSED WITH NEW STONE. COMPLETE REPLACEMENT OF THE PAD MAY BE NECESSARY WHEN THE PAD BECOMES COMPLETELY CLOGGED.

IF WASHING FACILITIES ARE USED, THE SEDIMENT TRAPS SHOULD BE CLEANED OUT AS OFTEN AS NECESSARY TO ASSURE THAT ADEQUATE TRAPPING EFFICIENCY AND STORAGE VOLUME IS AVAILABLE. VEGETATIVE FILTER STRIPS SHOULD BE MAINTAINED TO INSURE A VIGOROUS STAND OF VEGETATION AT ALL TIMES.

CONSTRUCTION SPECIFICATION

(A) THE MINIMUM STONE USED SHALL BE 3–INCH CRUSHED STONE;
(B) THE MINIMUM LENGTH OF THE PAD SHALL BE 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3–INCH TO 6–INCH HIGH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE;
(C) THE PAD SHALL EXTEND THE FULL WIDTH OF THE CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER;
(D) THE PAD SHALL SLOPE AWAY FROM THE EXISTING ROADWAY;
(E) THE PAD SHALL BE AT LEAST 6 INCHES THICK;
(F) A GEOTEXTILE FILTER FABRIC SHALL BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE BELOW THE PAD; AND
(G) THE PAD SHALL BE MAINTAINED OR REPLACED WHEN MUD AND SOIL PARTICLES CLOG THE VOIDS IN THE STONE SUCH THAT MUD AND SOIL PARTICLES ARE TRACKED OFF–SITE. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT INTO PUBLIC RIGHTS–OF–WAY. THIS MAY MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT– OF–WAY MUST BE REMOVED PROMPTLY.
(H) ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.

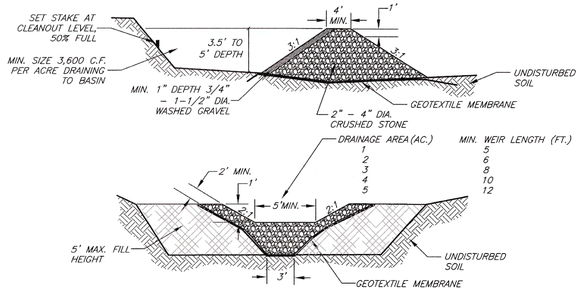




NOTES:
1. ALL MATERIAL TO MEET FILTREXX® NATURAL ORIGINAL SPECIFICATIONS.
2. SILT SOXX™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

FILTREXX NATURAL ORIGINAL SILT SOXX DETAIL

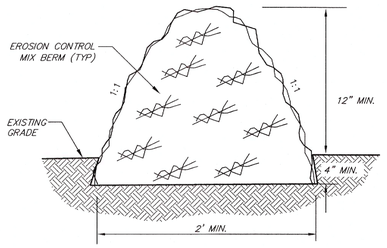
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NOTES:
1. WHEN NECESSARY TO MINIMIZE THE RELEASE OF SEDIMENT–LADEN RUNOFF PRIOR TO STABILIZATION OF THE SITE AND THE PERMANENT STORMWATER MANAGEMENT SYSTEM AND COMPONENTS, SEDIMENT–LADEN WATER SHALL BE DIVERTED AND STORED IN TEMPORARY SEDIMENT TRAPS.
2. TEMPORARY DIVERSION CHANNELS SHALL BE CONSTRUCTED TO DIRECT RUNOFF TO THE SEDIMENT TRAPS. DIVERSION CHANNELS WITH A SLOPE OF 2 PERCENT OR GREATER SHALL BE STABILIZED PRIOR TO USE. CHANNELS WITH A SLOPE OF LESS THAN 2 PERCENT SHALL BE STABILIZED ONLY IF EROSION IS OBSERVED.
3. APPROPRIATE ENERGY DISSIPATION METHODS SHALL BE IMPLEMENTED WITHIN DIVERSION CHANNELS TO CONTROL RUNOFF VELOCITY.
4. TEMPORARY SEDIMENT TRAPS MAY BE FORMED BY BERM OR BY PARTIAL OR COMPLETE EXCAVATION.
5. CONTRACTOR TO DETERMINE LOCATIONS OF TEMPORARY SEDIMENT TRAPS IN THE FIELD AS REQUIRED.
6. TEMPORARY SEDIMENT TRAPS SHALL BE LOCATED AS CLOSE TO THE DISTURBED AREA OR SOURCE OF SEDIMENT AS POSSIBLE.
7. ALL MATERIALS REMOVED FROM THE TEMPORARY SEDIMENT TRAPS AND DIVERSION CHANNELS SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. TEMPORARY SEDIMENT TRAP SHALL DISCHARGE INTO A STABILIZED AREA.

TEMPORARY SEDIMENT TRAP DETAIL

NOT TO SCALE



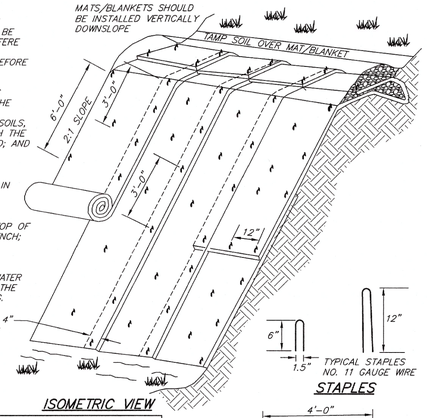
A. EROSION CONTROL MIX BERMS SHALL BE USED ONLY AS FOLLOWS:

1. USED ONLY IN AREAS WHERE EROSION WILL OCCUR IN THE FORM OF SHEET EROSION ONLY AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR OTHER DRAINAGE WAY ABOVE THE BERM;
2. THE BERMS SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE;
3. THE BERMS SHALL BE USED ONLY IF THE AREA UPSLOPE OF THE BERM HAS A SLOPE OF LESS THAN 5%;
4. THE BERMS SHALL BE AT LEAST 12 INCHES HIGH AND AT LEAST 2 FEET WIDE;
5. THE MIX SHALL HAVE AN ORGANIC PORTION BETWEEN 25% AND 65% DRY WEIGHT BASIS THAT IS:
   a. FIBROUS AND ELONGATED SUCH AS FROM SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR EQUIVALENT MANUFACTURED PRODUCTS; AND
   b. NOT COMPRISED OF WOOD CHIPS, BARK CHIPS, GROUND CONSTRUCTION DEBRIS, OR REPROCESSED WOOD PRODUCTS;
6. THE MIX SHALL NOT CONTAIN SILTS, CLAYS, OR FINE SANDS;
7. THE MIX SHALL HAVE A PARTICLE SIZE BY WEIGHT OF 100% PASSING A 3–INCH SCREEN, 90% TO 100% PASSING A 1–INCH SCREEN, 70% TO 100% PASSING A 0.75–INCH SCREEN, AND 30% TO 75% PASSING A 0.25–INCH SCREEN; AND
8. THE MIX SHALL HAVE A PH BETWEEN 5.0 AND 8.0.
9. **WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR PROCESSED WOOD PRODUCTS SHALL NOT BE USED AS THE ORGANIC MATERIAL.**

EROSION CONTROL MIX BERM

NOT TO SCALE

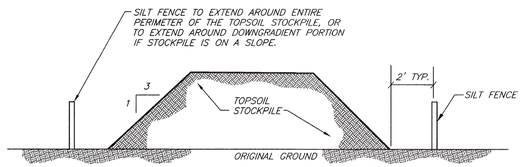
NOTES:
A. STONES AND TRASH SHALL BE REMOVED FROM THE AREA TO BE SEEDED SO AS NOT TO INTERFERE WITH SEEDING; AND
B. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS; AND
C. BLANKETS SHALL BE:
   1. PLACED WITHIN 24 HOURS AFTER SOWING SEED IN THE AREA BEING COVERED;
   2. LAID LOOSELY OVER THE SOILS, MAINTAINING CONTACT WITH THE SOIL, AND NOT STRETCHED; AND
   3. INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND THE FOLLOWING, EVEN IF NOT IN THE MANUFACTURER'S INSTRUCTIONS:
      a. BLANKETS SHALL BE ANCHORED AT THE TOP OF THE SLOPE IN A TRENCH; AND
      b. BLANKETS SHALL BE UNROLLED IN THE DIRECTION OF THE WATER FLOW, OVERLAPPING THE EDGES AND STAPLING.



a. THERE SHALL BE NO PLASTIC, OR MULTI–FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8 INCHES MATERIAL UTILIZED, (NOT APPLICABLE TO TURF REINFORCEMENT MATS).
b. TURF REINFORCEMENT MATS SHALL BE COVERED WITH SOIL TO PREVENT EXPOSURE OF THE MATS TO THE SURFACE.

EROSION CONTROL BLANKETS SHALL BE NORTH AMERICAN GREEN BIONET SC150BN, OR APPROVED WILDLIFE FRIENDLY MATERIAL

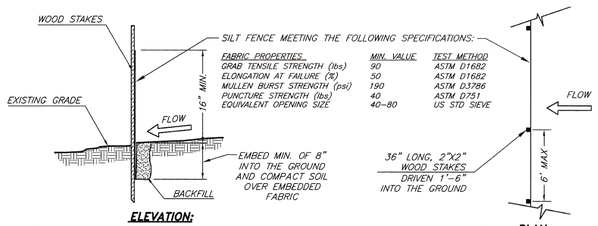
EROSION CONTROL BLANKETS SLOPE INSTALLATION



NOTES:
1. AN ON–SITE DRAINAGE SWALE SHALL BE LOCATED BETWEEN THE TOPSOIL STOCKPILE AND OFF–SITE PROPERTY.
2. REFERENCE IS MADE TO SILT FENCE DETAIL FOR MATERIALS AND INSTALLATION METHODS.
3. IF THE STOCKPILE IS TO REMAIN FOR MORE THAN 14 DAYS, IT SHALL BE STABILIZED WITH EROSION CONTROL MATTING OR SEEDED WITHIN 7 DAYS OF COMPLETION TO MINIMIZE EROSION.
4. INSPECTION OF SILT FENCES SHALL BE AT LEAST ONCE PER WEEK AND AFTER RAINFALL EVENTS IN EXCESS OF 0.5 INCHES. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. SEDIMENT TRAPPED BY THE FENCES SHALL BE REMOVED AND PROPERLY DISPOSED OF WHENEVER SIGNIFICANT ACCUMULATION OCCURS.
6. SILT FENCES SHALL BE MAINTAINED IN PLACE UNTIL TOPSOIL STOCKPILE HAS BEEN ELIMINATED AND SHALL BE REMOVED ONLY WHEN DIRECTED BY THE TOWN.

TEMPORARY STOCKPILE DETAIL

NOT TO SCALE

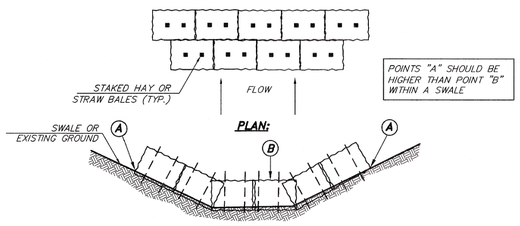


CONSTRUCTION NOTES:

A. FENCES SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR OTHER DRAINAGE WAY ABOVE THE FENCE;
B. THE MAXIMUM CONTRIBUTING DRAINAGE AREA ABOVE THE FENCE SHALL BE LESS THAN 1/4–ACRE PER 100 LINEAR FEET OF FENCE;
C. THE MAXIMUM LENGTH OF THE SLOPE ABOVE THE FENCE SHALL BE 100 FEET;
D. THE MAXIMUM SLOPE OF THE AREA ABOVE THE FENCE SHALL BE 2:1;
E. FENCES SHALL BE INSTALLED AS FOLLOWS:
   1. FENCES SHALL FOLLOW THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE;
   2. THE ENDS OF THE FENCE SHALL BE FLARED UP–SLOPE;
   3. THE BASE OF THE FENCE SHALL BE:
      a. FOLDED SUCH THAT NOT LESS THAN 4 INCHES OF THE FENCE IS PLACED ALONG THE BOTTOM OF A TRENCH THAT IS EXCAVATED AT LEAST 4 INCHES DEEP INTO THE GROUND, WITH THE SOIL COMPACTED OVER THE EMBEDDED FABRIC; OR
      b. IF SITE CONDITIONS INCLUDE FROZEN GROUND, LEDGE, OR THE PRESENCE OF HEAVY ROOTS, EMBEDDED IN A MINIMUM THICKNESS OF 8 INCHES OF ¼–INCH STONE;
   4. SUPPORT POSTS SHALL BE SIZED AND ANCHORED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS; AND
   5. ADJOINING SECTIONS OF THE FENCE SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED TO A SUPPORT POST;
F. FENCES SHALL BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL; ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY; AND
G. SEDIMENT THAT ACCUMULATES AT THE FENCE SHALL BE REMOVED WITH SUFFICIENT FREQUENCY TO PREVENT THE DEPTH OF THE SEDIMENT FROM REACHING ONE–THIRD THE HEIGHT OF THE FENCE.
H. INSTALL FENCE PER MANUFACTURES SPECIFICATIONS.
I. IF THE FABRIC ON THE SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE LIFE OF THE FENCE, THE FABRIC SHALL BE PROMPTLY REPLACED.
J. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE BARRIER HAS BEEN DISMANTLED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED USING THE APPROPRIATE VEGETATIVE BMP.

SILT FENCE DETAIL

NOT TO SCALE

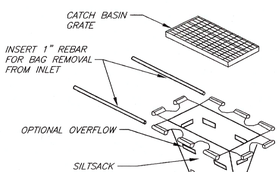


STRAW BALE BARRIERS. STRAW BALE BARRIERS SHALL BE USED ONLY AS FOLLOWS:

A. THE BARRIERS SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR OTHER DRAINAGE WAY ABOVE THE BARRIER;
B. THE MAXIMUM CONTRIBUTING DRAINAGE AREA ABOVE THE BARRIER SHALL BE LESS THAN 0.25 ACRE PER 100 LINEAR FEET OF BARRIER;
C. THE MAXIMUM LENGTH OF THE SLOPE ABOVE THE BARRIER SHALL BE 100 FEET;
D. THE MAXIMUM SLOPE OF THE AREA ABOVE THE BARRIER SHALL BE 2:1;
E. THE BARRIERS SHALL BE INSTALLED AS FOLLOWS:
   1. THE BARRIERS SHALL FOLLOW THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE;
   2. THE ENDS OF THE BARRIER SHALL BE FLARED UP SLOPE;
   3. THE BALE ENDS SHALL BE TIGHTLY ADJOINED;
   4. EACH BALE SHALL BE EMBEDDED AT LEAST 4 INCHES INTO THE GROUND; AND
   5. A MINIMUM OF 2 ANCHORING STAKES PER BALE SHALL BE USED, WITH ALL STAKES PENETRATING AT LEAST 20 TO 24 INCHES INTO THE GROUND;
F. THE BARRIERS SHALL BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAIN EVENT AND AT LEAST DAILY DURING PROLONGED RAIN EVENTS; AND
G. SEDIMENT THAT ACCUMULATES AT THE BARRIERS SHALL BE REMOVED WITH SUFFICIENT FREQUENCY TO PREVENT THE DEPTH OF THE SEDIMENT FROM REACHING ONE–THIRD THE HEIGHT OF THE BARRIER

STRAW BALE CHECK DAM

NOT TO SCALE



NOTES:
1. INLET BASKETS SHALL BE USED ON ALL CATCH BASINS DURING CONSTRUCTION. INLET BASKETS SHALL BE "SILTSACK" OR APPROVED EQUAL.
2. THE FILTER FABRIC SHALL BE A WOVEN POLYPROPYLENE GEO–TECTILE FABRIC MEETING THE FOLLOWING SPECIFICATIONS:
   GRAB TENSILE STRENGTH: 300 LBS. MINIMUM (ASTM D–4632)
   GRAB ELONGATION: 20% MINIMUM (ASTM D–4632)
   PUNCTURE: 120 LBS. MINIMUM (ASTM D–4833)
   TRAPEZOID TEAR STRENGTH: 120 LBS. MINIMUM (ASTM D–4533)
   MULLEN BURST STRENGTH: MINIMUM 800 PSI (ASTM D–3786)
3. THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 40 U.S. STANDARD SIEVE AND MINIMUM PERMEABILITY OF 40 GPM/SQ. FT.
4. THE INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM ENTERING THE DRAINAGE PIPING SYSTEM AND/OR CAUSING SURFACE FLOODING.
5. INLET BASKET SHALL BE MAINTAINED IN PLACE UNTIL ALL PAVING IS COMPLETED AND ALL UNPAVED AREAS HAVE BEEN STABILIZED WITH VEGETATION.

INSTALLATION AND MAINTENANCE NOTES:

TO INSTALL THE SILTSACK® IN THE CATCH BASIN, REMOVE THE GRATE AND PLACE THE SACK IN THE OPENING. HOLD APPROXIMATELY SIX INCHES OF THE SACK OUTSIDE THE FRAME. THIS IS THE AREA OF THE LIFTING STRAPS. REPLACE THE GRATE TO HOLD THE SACK IN PLACE.

THE SILTSACK® IS FULL AND SHOULD BE EMPTIED WHEN THE YELLOW RESTRAINT CORD IS NO LONGER VISIBLE.

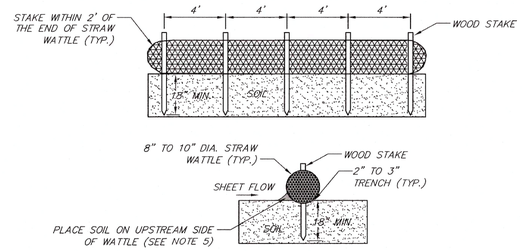
TO REMOVE THE SILTSACK®, TAKE TWO PIECES OF 1" DIAMETER REBAR AND PLACE THROUGH THE LIFTING LOOPS ON EACH SIDE OF THE SACK TO FACILITATE THE LIFTING OF THE SILTSACK®.

TO EMPTY THE SILTSACK®, PLACE IT WHERE THE CONTENTS WILL BE COLLECTED. PLACE THE REBAR THROUGH THE LIFT STRAPS (CONNECTED TO THE BOTTOM OF THE SACK) AND LIFT. THIS WILL TURN THE SILTSACK® INSIDE OUT AND EMPTY THE CONTENTS. CLEAN OUT AND RINSE. RETURN THE SILTSACK® TO ITS ORIGINAL SHAPE AND PLACE BACK IN THE BASIN.

THE SILTSACK® IS REUSABLE. ONCE THE CONSTRUCTION CYCLE IS COMPLETE, REMOVE THE SILTSACK® FROM THE BASIN AND CLEAN. THE SILTSACK® SHOULD BE STORED OUT OF THE SUNLIGHT WHEN NOT IN USE.

INLET SEDIMENT FILTER BASKET

NOT TO SCALE



INSTALLATION NOTES:

1. LAYOUT A CONTOUR LINE ON THE SLOPE WITH A HAND LEVEL AND WIRE FLAGS.
2. DIG A SHALLOW DEPRESSION (ABOUT 2 TO 3 INCHES DEEP) AND LAY THE WATTLE INTO IT.
3. DRIVE A WOODEN STAKE THROUGH THE CENTER OF THE WATTLE AT LEAST 18 INCHES INTO THE GROUND, STOPPING ABOUT TWO INCHES ABOVE THE WATTLE.
4. PUT 5 STAKES IN EACH WATTLE, INSTALLING THEM END TO END IN THE TRENCH.
5. SEAT THE WATTLE WITH FOOT TAMPED BACKFILL ON THE UPSTREAM SIDE SUCH THAT WATER FLOWING DOWN THE SLOPE WILL NOT RUN UNDER IT.

NOTES:

1. ENDS OF WATTLES SHALL BE TURNED SLIGHTLY UP.
2. RECOMMENDED STAKES ARE 1 1/8" WIDE x 1 1/8" THICK x 30" LONG.
3. STAKES SHALL NOT EXTEND MORE THAN 2" ABOVE STRAW WATTLE.

STRAW WATTLE DETAIL

NOT TO SCALE

DATE	DESCRIPTION	BY	REV.
12–31–25	PER DRC – STANTEC REVIEW #2	BJL	E
11–12–25	PER DRC PLAN REVIEW	JST	D
10–8–25	PER ALT. OF TERRAIN PLAN REVIEW	JST	C
9–24–25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8–20–25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

CONSTRUCTION DETAILS
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: AS SHOWN	JUNE 12, 2025	SHEET 27 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503–22
JST	JST	GAC	692	28	

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STATE OF NEW HAMPSHIRE GEORGE A. CHEEK JR. 13315 LICENSED PROFESSIONAL ENGINEER
12/31/25

G:\PROJECT\0503022 GENEX ROCKINGHAM ROAD\DWG\0503022CV01.DWG

GENERAL CONSTRUCTION NOTES:

1. BOTH THE CONTRACTOR AND OWNER NEED TO SUBMIT A SEPARATE "NOTICE OF INTENT" TO BE COVERED BY THE N.H.D.E.S. GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES.
2. A MANDATORY PRECONSTRUCTION MEETING SHALL BE HELD WITH THE TOWN, CONTRACTOR, OWNER, AND ALL UTILITY REPRESENTATIVES PRIOR TO CONSTRUCTION. NO WORK SHALL BEGIN UNTIL APPROVAL BY THE HIGHWAY DEPARTMENT HAS BEEN OBTAINED.
3. ALL CONSTRUCTION MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITION) AND LOCAL REGULATIONS.
4. ANY SUBSTITUTIONS OF MATERIALS SHALL BE APPROVED BY THE ENGINEER IN WRITING.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED LOCAL AND STATE CONSTRUCTION PERMITS PRIOR TO BEGINNING WORK.
6. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN THESE DRAWINGS AND ACTUAL FIELD CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
7. SHOULD GROUND WATER OR UNSUITABLE MATERIALS BE ENCOUNTERED DURING CONSTRUCTION, THE ENGINEER SHALL BE CONTACTED IMMEDIATELY FOR DETERMINATION OF POSSIBLE CONSTRUCTION DESIGN CHANGES SUCH AS (BUT NOT LIMITED TO) UNDERDRAINS OR ALIGNMENT AND GRADE CHANGES.
8. CLEARING THE SITE SHALL INCLUDE THE REMOVAL AND DISPOSAL OF DOWN TIMBER, RUBBISH AND DEBRIS FOUND EXISTING WITHIN THE AREAS TO BE CLEARED. CLEARING SHALL NOT TAKE PLACE UNTIL THE CONTRACTOR HAS DETERMINED FROM THE OWNER WHICH TREES ARE TO BE SAVED WITHIN THE CLEARING LIMITS.
9. PAVEMENT OF THE ROADWAY SHALL CONSIST OF A HOT BITUMINOUS LAYER, A CRUSHED GRAVEL LAYER AND A GRAVEL SUBBASE LAYER.
   A. BITUMINOUS TYPE F WEARING AND TYPE B BASE COURSES SHALL BE CONSTRUCTED PER N.H.D.O.T. SPECIFICATION 401 CONSTRUCTION REQUIREMENTS.
   B. GRAVEL SHALL MEET THE REQUIREMENTS OF N.H.D.O.T. 304.2.
   C. THE CRUSHED GRAVEL SHALL MEET THE REQUIREMENTS OF N.H.D.O.T. 304.3.
   D. REFER TO THE TYPICAL ROAD CROSS SECTION DETAIL FOR DIMENSIONS.
10. COMPACTION OF BACKFILL:
    A. GRASSED AREAS:
       EMBANKMENT FILL AREAS SHALL CONSIST OF COMMON FILL PLACED IN 12 INCH LIFTS AND COMPACTED TO 90%
    B. ROADWAY:
       THE COMPACTION REQUIREMENTS FOR MATERIALS PLACED AS BACKFILL, SUBGRADE, BASE COURSE AND PAVEMENT SHALL BE AS SPECIFIED FOR EACH SEPARATE ITEM IN THE N.H.D.O.T. "STANDARD SPECIFICATIONS" FOR ROAD AND BRIDGE CONSTRUCTION.
11. CATCH BASINS AND MANHOLES SHALL BE PRE-CAST REINFORCED CONCRETE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF NEW HAMPSHIRE AND ABLE TO WITHSTAND LOADINGS OF 8 TONS (H-20 LOADING).
12. TRENCH CONSTRUCTION WILL CONFORM WITH SECTION 603.3.1. OF THE N.H.D.O.T. STANDARD SPECIFICATIONS (LATEST EDITION).
13. WOOD SHEETING OR A SUITABLE TRENCH BOX SHALL BE USED TO SUPPORT THE TRENCH AS NECESSARY. IF WOOD SHEETING IS USED, IT SHALL BE DRIVEN AT A DISTANCE OF ONE FOOT FROM THE OUTSIDE DIAMETER OF THE PIPE TO A DEPTH SIX INCHES BELOW THE INVERT OF THE PIPE. WOOD SHEETING SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE, BUT NOT GREATER THAN THREE FEET BELOW THE FINISHED GRADE.
14. TRENCH BEDDING SHALL CONFORM WITH SECTION 603.3.2. OF THE STANDARD SPECIFICATIONS (LATEST EDITION). FIRST CLASS BEDDING WILL BE REQUIRED FOR ALL PIPES 48" OR MORE IN DIAMETER OR SPAN.
15. BACKFILL MATERIAL FOR TRENCHES WILL CONFORM WITH SECTION 603.3.5. OF THE STANDARD SPECIFICATIONS (LATEST EDITION) AND IN ADDITION, SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTE, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL WHICH AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. BACKFILL SHALL NOT BE PLACED ON FROZEN MATERIAL.
16. COMPACTION OF TRENCH BACKFILL AND PIPE BEDDING SHALL BE SIX INCH LIFTS FOR BEDDING AND BACKFILL TO A PLANE ONE FOOT ABOVE THE PIPE AND IN 12 INCH LIFTS THEREAFTER BY AN APPROVED MECHANICAL COMPACTOR.
17. SHOULD FROZEN MATERIAL BE ENCOUNTERED, IT SHALL NOT BE PLACED IN THE BACKFILL NOR SHALL BACKFILL BE PLACED UPON FROZEN MATERIAL.
18. THE DISTURBED AREA SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 30 DAYS SHALL BE STABILIZED.
19. ALL SEEDED AREAS SHALL BE MULCHED WITHIN 24 HOURS AFTER SEEDING. A GOOD QUALITY OF STRAW MULCH SHOULD BE USED AND APPLIED AT THE RATE OF 2 TONS PER ACRE.
20. STORMWATER FLOWS SHALL NOT BE DIRECTED TO THE GRAVEL WETLAND BASINS, SWALES, OR DITCHES UNTIL ALL CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
21. ALL SLOPES GREATER THAN 3:1 MUST BE MATTED WITH NORTH AMERICAN GREEN S150BN EROSION CONTROL BLANKETING.
22. THE PROJECT SHALL BE MANAGED TO MEET THE REQUIREMENTS OF AND INTENT OF RSA 430:51-57 AND Agr 3800 RELATIVE TO INVASIVE SPECIES: AND FUGITIVE DUST IS TO BE CONTROLLED IN ACCORDANCE WITH Env-A 1000.
23. THE TOWN OF LONDONDERRY RESERVES THE RIGHT TO REQUIRE THAT ADDITIONAL EROSION CONTROL MEASURES BE INSTALLED DURING CONSTRUCTION BASED ON FIELD OBSERVATIONS/INSPECTIONS.

FUELING AND MAINTENANCE OF CONSTRUCTION EQUIPMENT

A. IF ANY CONSTRUCTION EQUIPMENT, INCLUDING BUT NOT LIMITED TO EARTHMOVING, EXCAVATION, AND BORING EQUIPMENT, WILL BE FUELED FROM A TANK TRUCK OR OTHER CONTAINER THAT IS MOVED AROUND THE SITE, THE FOLLOWING SHALL APPLY:
   1. PORTABLE CONTAINMENT EQUIPMENT THAT IS SIZED TO CONTAIN THE MOST LIKELY VOLUME OF FUEL TO BE SPILLED DURING A FUEL TRANSFER SHALL BE USED, WHERE THE MOST LIKELY VOLUME TO BE SPILLED IS DETERMINED BASED ON THE FUEL TRANSFER RATE, THE AMOUNT OF FUEL BEING TRANSFERRED, THE DISTANCE BETWEEN THE HOSE NOZZLE AND PUMP SHUT OFF SWITCH, AND THE RESPONSE TIME OF PERSONNEL AND EQUIPMENT AVAILABLE AT THE FACILITY;
   2. THE CONTAINMENT EQUIPMENT SHALL BE POSITIONED TO CATCH ANY FUEL SPILLS DUE TO OVERFILLING THE EQUIPMENT AND ANY OTHER SPILLS THAT MIGHT OCCUR AT OR NEAR THE FUEL FILLER PORT TO THAT EQUIPMENT;
   3. THE TYPE OF CONTAINMENT EQUIPMENT USED AND ITS POSITIONING AND USE SHALL ACCOUNT FOR ALL OF THE DRIP POINTS ASSOCIATED WITH THE FUEL FILLING PORT AND THE HOSE FROM THE FUEL DELIVERY TRUCK; AND
   4. PERSONNEL SHALL NOT LEAVE THE IMMEDIATE AREA WHILE FUEL IS BEING TRANSFERRED, TO ENSURE THAT ANY SPILLS WILL BE OF LIMITED VOLUME.

B. IF THE SITE WILL HAVE A FIXED LOCATION FOR FUELING CONSTRUCTION EQUIPMENT, THE FOLLOWING SHALL APPLY:
   1. ALL FUEL CONTAINERS, INCLUDING BUT NOT LIMITED TO SKID-MOUNTED TANKS, DRUMS, AND FIVE GALLON CANS, SHALL HAVE SECONDARY CONTAINMENT THAT:
      a. IS CAPABLE OF CONTAINING 110% OF THE VOLUME OF THE LARGEST FUEL STORAGE CONTAINER; AND
      b. HAS AN IMPERVIOUS FLOOR;
   2. SECONDARY CONTAINMENT FOR TANKS MAY COMPRISE A METAL, PLASTIC, POLYMER OR PRECAST CONCRETE VAULT PROVIDING 110 PERCENT OF THE VOLUME OF THE LARGEST FUEL STORAGE CONTAINER;
   3. FOR CONTAINERS, SECONDARY CONTAINMENT MAY COMPRISE CONTAINMENT PALLETS;
   4. THE AREA WHERE FUEL IS TRANSFERRED SHALL BE A FLAT, IMPERVIOUS AREA THAT:
      a. IS ADJACENT TO THE FUEL CONTAINER(S); AND
      b. EXTENDS BEYOND THE FULL REACH, OR LENGTH, OF THE FUEL HOSE; AND
   5. SECONDARY CONTAINMENT AREAS MAY BE IN THE FORM OF A BASIN THAT IS:
      a. SLOPED DOWN TO A CENTRAL LOW POINT OR BERMED ALONG THE PERIMETER;
      b. LINED WITH A CONTINUOUS SHEET OF 20 MIL OR THICKER POLYMER MATERIAL OR APPROPRIATE GEOMEMBRANE LINER; AND
      c. BACKFILLED WITH AT LEAST 6 INCHES OF SAND

GENERAL EROSION CONTROL NOTES:

1. PERIMETER CONTROLS MUST BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS;
2. STORMWATER TREATMENT PONDS AND DRAINAGE SWALES MUST BE INSTALLED BEFORE ROUGH GRADING THE SITE;
3. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMPS ARE STABILIZED;
4. BASINS, DITCHES AND SWALES MUST BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM;
5. ROADWAYS AND PARKING AREAS MUST BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE;
6. CUT AND FILL SLOPES MUST BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE;
7. ALL AREAS OF UNSTABILIZED SOIL MUST BE STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 45 DAYS OF INITIAL DISTURBANCE;
8. EROSION CONTROL PRACTICES MUST BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY RAIN EVENT OF 0.5 INCH OR MORE;
9. THE AREA OF DISTURBANCE MUST BE LIMITED TO 5 ACRES UNLESS ENV-WQ 1505.05 RELATIVE TO COLD WEATHER STABILIZATION APPLIES;
10. IN AREAS THAT WILL NOT BE PAVED, STABLE MEANS THAT:
    a. A MINIMUM OF 85% VEGETATIVE COVER HAS BEEN ESTABLISHED;
    b. A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
    c. EROSION CONTROL BLANKETS HAVE BEEN INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.03; AND
11. IN AREAS TO BE PAVED, STABLE MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.

CONSTRUCTION SEQUENCE:

1. A MANDATORY PRECONSTRUCTION MEETING SHALL BE HELD WITH THE TOWN, CONTRACTOR, OWNER, AND ALL UTILITY REPRESENTATIVES PRIOR TO CONSTRUCTION. NO WORK SHALL BEGIN UNTIL APPROVAL BY THE HIGHWAY DEPARTMENT HAS BEEN OBTAINED.
2. CLEAR AREA FOR CONSTRUCTION ENTRANCE AND INSTALL STABILIZED CONSTRUCTION ENTRANCES AS SHOWN ON THESE PLANS.
3. CUT AND CLEAR TREES IN ROADWAY CONSTRUCTION AREAS ONLY AS SHOWN ON THESE PLANS.
4. INSTALL SILT FENCE ALONG LIMIT OF CLEARING, AND AS SHOWN ON THESE PLANS.
5. REMOVE STUMPS FROM SITE FOR SITE GRADING (CUT AND/OR FILL) TO SUBGRADE. STABILIZE AREAS WITH BASE GRAVEL WITHIN SIX WEEKS OF REMOVING STUMPS.
6. THE MAXIMUM UNSTABILIZED AREA SHALL BE LIMITED TO THE MINIMUM AREA PRACTICABLE FOR SITE CONSTRUCTION (NOT TO EXCEED 5 ACRES). NO AREA SHALL BE LEFT UNSTABILIZED MORE THAN 6 WEEKS. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS HAPPENED:
   - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
   - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED; OR
   - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
7. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES AS PER THE NOTES IN THESE DRAWINGS. EROSION, SEDIMENT, AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATION.
   - SILT FENCE
   - RIP RAP LINED SWALES
   - RIP RAP APRONS AT CULVERT OUTLETS
   - TREATMENT SWALES
   - GRAVEL WETLAND BASINS
8. ALL DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
9. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION AND SEDIMENT CONTROL MEASURES.
10. STORMWATER FLOWS SHALL NOT BE DIRECTED TO THE GRAVEL WETLAND BASINS, SWALES, OR DITCHES UNTIL ALL CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
11. FINISH CLEARING AND GRUBBING.
12. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS, AS NECESSARY.
13. CONSTRUCT CONSTRUCTION ENTRANCE FOR ACCESS TO DESIRED CONSTRUCTION AREAS.
14. BEGIN CONSTRUCTION OF UTILITIES AND STORM DRAINAGE AS NECESSARY.
15. ROADWAY SHALL BE BROUGHT TO SUBGRADE ELEVATIONS (PRIOR TO PLACEMENT OF GRAVELS), CURBING INSTALLATION, SIDEWALK INSTALLATION, FINAL PAVING, SIGNS, AND PAVEMENT MARKINGS.
16. ALL GRAVELS THAT ARE SPREAD SHALL BE PROPERLY COMPACTED PRIOR TO BINDER PAVING.
17. MODIFY EROSION CONTROL MEASURES AS NECESSARY DURING CONSTRUCTION.
18. BEGIN PERMANENT AND TEMPORARY INSTALLATION OF SEED AND MULCH. ALL CUT AND FILL SLOPES SHALL BE STABILIZED DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAIN DITCHES, SILT FENCES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS NECESSARY. SPREAD ALL GRAVELS AND PAVE ROADWAY AREAS AS SPECIFIED ON THE PLAN.
19. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. ALL EROSION AND SEDIMENT CONTROLS NEED TO BE INSPECTED WEEKLY AND AFTER EVERY 0.5" OF RAINFALL.
20. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
21. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 72 HOURS OF FINISH GRADING. MAXIMUM EXPOSURE LENGTH FOR ALL DISTURBED AREAS IS 30 DAYS.
22. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDED AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETED.
23. LOT DISTURBANCE, OTHER THAN THAT SHOWN ON THE APPROVED PLANS, SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE

SITE MAINTENANCE AND INSPECTION PROGRAM

A. INSPECTIONS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE CONSTRUCTION PROJECT. MAINTENANCE PRACTICES SHALL INCLUDE, BUT ARE NOT LIMITED TO

1. CLEANING OF CATCH BASINS TWICE PER YEAR OR MORE FREQUENTLY AS DICTATED BY WEEKLY INSPECTIONS AND/OR AFTER 0.5" RAINFALL EVENTS.
2. CLEANING OF SEDIMENT OR DEBRIS FROM STORM WATER MANAGEMENT AREA INLETS TWICE PER YEAR OR MORE FREQUENTLY AS DICTATED BY WEEKLY INSPECTIONS AND/OR AFTER 0.5" RAINFALL EVENTS.
3. WEEKLY SITE INSPECTIONS TO DETERMINE/IMPLEMENT NECESSARY REPAIR AND MAINTENANCE ACTIVITIES.
4. REMOVAL OF SEDIMENT BUILDUP ALONG SILT FENCES, STRAW BALE BARRIERS, GRASS SWALES, AND TREATMENT BASIN INLETS. REMOVE SEDIMENT BUILDUP IN BOTTOM OF TREATMENT BASINS SUCH THAT ALL OUTLETS ARE KEPT FREE FROM SEDIMENT AND DEBRIS.
5. INSPECTION/RECONSTRUCTION OF THE STABILIZED CONSTRUCTION ENTRANCE.
6. TREATMENT OF NON-STORMWATER RELATED DISCHARGES SUCH AS WATER LINE INSTALLATION FLUSH WATER OR GROUNDWATER FROM DEWATERING ACTIVITIES. THESE FLOWS SHOULD BE DIRECTED TO A TEMPORARY SEDIMENTATION BASIN OR CONSTRUCTED STORM WATER MANAGEMENT AREA WITH WATER QUALITY SKIMMER OUTLETS.
7. SWEEP PAVED PARKING LOTS AND DRIVES REGULARLY TO MINIMIZE SEDIMENT ACCUMULATION.

B. GOOD HOUSEKEEPING PRACTICES

THE CONTRACTOR SHALL EMPLOY MEASURES AND PRACTICES TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS TO STORM WATER RUNOFF. THE CONTRACTOR SHALL USE CARE IN THE HANDLING, USE AND DISPOSAL OF MATERIALS SUCH AS PETROLEUM PRODUCTS, FERTILIZERS AND PAINTS TO ENSURE THAT THE RISK ASSOCIATED WITH THE USE OF THESE PRODUCTS IS MINIMIZED. THE FOLLOWING PRACTICES SHALL BE FOLLOWED DURING THE CONSTRUCTION OF THIS PROJECT:

1. AN EFFORT SHALL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED FOR THIS SPECIFIC SITE.
2. ALL MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER SUITABLE ENCLOSURE.
3. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THEIR ORIGINAL LABELS.
4. WHENEVER POSSIBLE, ALL OF THE PRODUCT SHALL BE USED BEFORE DISPOSING OF THE CONTAINER.
5. THE MANUFACTURERS RECOMMENDATIONS SHALL BE FOLLOWED IN REGARD TO THE PROPER USE AND DISPOSAL OF ALL PRODUCTS.
6. THE CONTRACTOR SHALL INSPECT DAILY TO ENSURE THE PROPER USE AND DISPOSAL OF ALL MATERIALS ON SITE;

C. SPILL PREVENTION AND CLEANUP PRACTICES

THE CONTRACTOR/OPERATOR SHALL BE RESPONSIBLE FOR THE SAFE HANDLING, USE AND DISPOSAL PROGRAM OF ALL HAZARDOUS MATERIALS FOR THE DURATION OF THIS PROJECT AND SHALL HAVE A SPECIFIC SPILL PREVENTION AND CLEANUP PROTOCOL FOR ALL HAZARDOUS MATERIALS, INCLUDING, BUT NOT LIMITED TO:

1. MANUFACTURERS RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THESE PROCEDURES AND THE LOCATION OF THE CLEANUP SUPPLIES.
2. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIAL WILL INCLUDE, BUT NOT BE LIMITED TO; BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC/METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
3. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
4. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
5. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
6. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING, AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

SEEDING/MULCHING OF DISTURBED AREAS

TEMPORARY AND PERMANENT MULCHING. MULCHING SHALL COMPLY WITH THE FOLLOWING:

(A. HAY AND STRAW MULCHES SHALL BE ANCHORED WITH MULCH NETTING OR TACKIFIER SO THAT THEY ARE NOT BLOWN AWAY BY WIND OR WASHED AWAY BY FLOWING WATER;
(B. MULCH MATERIALS SHALL BE SELECTED BASED UPON SOILS, SLOPE, FLOW CONDITIONS, AND TIME OF YEAR;
(C. HAY OR STRAW MULCH SHALL BE APPLIED AT A RATE OF 1.5 TO 2 TONS PER ACRE, EQUIVALENT TO 70 TO 90 POUNDS PER 1,000 SQUARE FEET;
(D. WOOD CHIPS OR GROUND BARK SHALL BE APPLIED AT 2 TO 6 INCHES DEEP AT A RATE OF 10 TO 20 TONS PER ACRE, EQUIVALENT TO 460 TO 920 POUNDS PER 1,000 SQUARE FEET;
(E. JUTE AND FIBROUS MATS AND WOOD EXCELSIOR SHALL BE INSTALLED ACCORDING TO THE APPLICABLE MANUFACTURER'S INSTRUCTIONS; AND
(F. EROSION CONTROL MIX SHALL:
(1) MEET THE CRITERIA OF ENV-WQ 1506.05(B); AND
(2) BE PLACED AT A THICKNESS OF 2 INCHES OR MORE.

VEGETATION. VEGETATING DISTURBED AREAS SHALL BE COMPLETED ONLY AS SPECIFIED BELOW:

A. ALL ESSENTIAL GRADING AND TEMPORARY STRUCTURES, SUCH AS DIVERSIONS, DAMS, DITCHES, AND DRAINS NEEDED TO PREVENT GULLYING AND REDUCE SILTATION, SHOULD BE COMPLETED PRIOR TO SEEDING.
B. STONES AND TRASH SHALL BE REMOVED FROM THE AREA TO BE SEEDED SO AS NOT TO INTERFERE WITH THE SEEDING;
C. TILL THE SOIL TO A DEPTH OF ABOUT FOUR (4) INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL
D. ON SLOPES 4:1 OR STEEPER, FINAL PREPARATION OF THE AREA TO BE SEEDED SHALL INCLUDE CREATING GROOVES IN THE SOIL PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF;
E. IF NEEDED TO ENSURE GROWTH, FERTILIZER OR OTHER ORGANIC SOIL AMENDMENTS SHALL BE APPLIED DURING THE GROWING SEASON;
F. FERTILIZER APPLIED TO ANY AREA WITHIN 100 FEET OF ANY RIVER, STREAM, POND, OR LAKE SHALL BE LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER ONLY;
G. FERTILIZER APPLIED TO ANY AREA THAT IS SUBJECT TO RSA 483-B, THE COMPREHENSIVE WATER QUALITY PROTECTION ACT (ACT), SHALL MEET OR BE MORE PROTECTIVE OF WATER QUALITY THAN THE MINIMUM STANDARDS OF THE ACT;
H. ALL SEEDED AREAS SHALL BE FERTILIZED, FERTILIZATION SHALL BE AT THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER.
I. ALL GRADED AREAS SHALL BE SEEDED WITH:

1.	TALL FESCUE:	20	POUNDS PER ACRE
2.	CREEPING RED FESCUE:	20	POUNDS PER ACRE
3.	BIRDSFOOT TREFOIL:	8	POUNDS PER ACRE
4.	TOTAL	48	POUNDS PER ACRE LIVE SEED

J. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH 0.25 IN. OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
K. RUNOFF SHALL BE DIVERTED FROM THE SEEDED AREA;
L. SUBJECT TO (N) BELOW, SEEDING SHALL OCCUR PRIOR TO SEPTEMBER 15TH OF THE YEAR IN WHICH THE AREA BEING SEEDED WAS DISTURBED;
M. AREAS SEEDED BETWEEN MAY 15TH TO AUGUST 15TH SHALL BE COVERED WITH HAY OR STRAW MULCH MEETING THE CRITERIA OF ENV-WQ 1506.01(A) THROUGH (C); AND
N. IF VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA IS NOT ACHIEVED PRIOR TO OCTOBER 15TH, ONE OR MORE ADDITIONAL EROSION CONTROL METHODS SHALL BE IMPLEMENTED.

TEMPORARY SEEDING/MULCHING

TEMPORARY SEEDING. SHALL COMPLY WITH THE FOLLOWING:

1. TEMPORARY VEGETATION CONSISTS OF THE ESTABLISHMENT OF A GRASS COVER ON EXPOSED SOILS FOR UP TO 12 MONTHS. THE PURPOSE IS TO REDUCE EROSION AND SEDIMENTATION BY STABILIZING DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A YEAR OR LESS AND TO REDUCE PROBLEMS ASSOCIATED WITH MUD AND DUST PRODUCTION FROM EXPOSED SOILS DURING CONSTRUCTION. ALL ESSENTIAL GRADING AND TEMPORARY STRUCTURES, SUCH AS DIVERSIONS, DAMS, DITCHES, AND DRAINS NEEDED TO PREVENT GULLYING AND REDUCE SILTATION, SHOULD BE COMPLETED PRIOR TO SEEDING.
2. SEEDBED PREPARATION

   REMOVE THE STONES AND TRASH THAT WILL INTERFERE WITH SEEDING OF THE AREA. WHERE FEASIBLE, TILL THE SOIL TO A DEPTH OF ABOUT FOUR (4) INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
3. FERTILIZERS

   FERTILIZER SHOULD BE UNIFORMLY SPREAD OVER THE AREA PRIOR TO BEING INCORPORATED INTO THE SOIL. A MINIMUM OF 300 POUNDS PER ACRE (7 POUNDS PER 1,000 SQUARE FEET) OF 10-10-10 FERTILIZER, OR ITS EQUIVALENT, SHOULD BE APPLIED.
4. SEED AND SEEDING

   SEED AND SEEDING RATES MAY BE SELECTED FROM THE TABLE BELOW. THE SELECTION WILL BE BASED ON THE TIME OF YEAR THE SEEDING IS TO BE MADE AND THE LENGTH OF TIME THE VEGETATION IS TO AFFORD THE PROTECTION. THE SEED SHOULD BE SPREAD UNIFORMLY OVER THE AREA. AFTER SEEDING, THE SOIL SHOULD BE FIRMED BY ROLLING OR PACKING. WHERE ROLLING OR PACKING IS NOT FEASIBLE, THE SEED SHOULD BE COVERED LIGHTLY BY RAKING, DISKING, OR DRAGGING.
5. MULCHING

   MULCH THE AREA WITH HAY OR STRAW AT 2 TONS/AC. (90 LBS/1000 S.F. OR 2 BALES/1000 S.F.). QUALITY OF HAY OR STRAW MULCH ALLOWABLE WILL BE DETERMINED BASED ON LONG TERM USE AND VISUAL CONCERNS. MULCH ANCHORING WILL BE REQUIRED WHERE WIND OR AREAS OF WATER ARE A CONCERN. WOOD FIBER HYDROMULCH OR OTHER SPRAYABLE PRODUCTS MAY BE USED IF APPLIED ACCORDING TO MANUFACTURERS SPECIFICATIONS.
6. PLANT SELECTION AND SEEDING RATES

SPECIES	PER ACRE	PER 1000 SQ. FT.	REMARKS
WINTER RYE	90 LBS.	2 LBS.	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPT. 5 FOR BEST COVER. SEED TO A DEPTH OF 1 IN.
ANNUAL RYEGRASS	20 LBS.	0.5 LB.	GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE IMPORTANT. SEED EARLY SPRING. COVER THE SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYEGRASS	20 LBS.	0.5 LBS.	GOOD COVER WHICH IS LONGER LASTING THAN ANNUAL RYEGRASS. SEED BETWEEN APRIL 1 AND JUNE 1 MULCHING WILL ALLOW SEEDING THROUGHOUT THE GROWING SEASON. SEED TO A DEPTH OF APPROXIMATELY 0.5 INCH.

7. ESTABLISHING A STAND

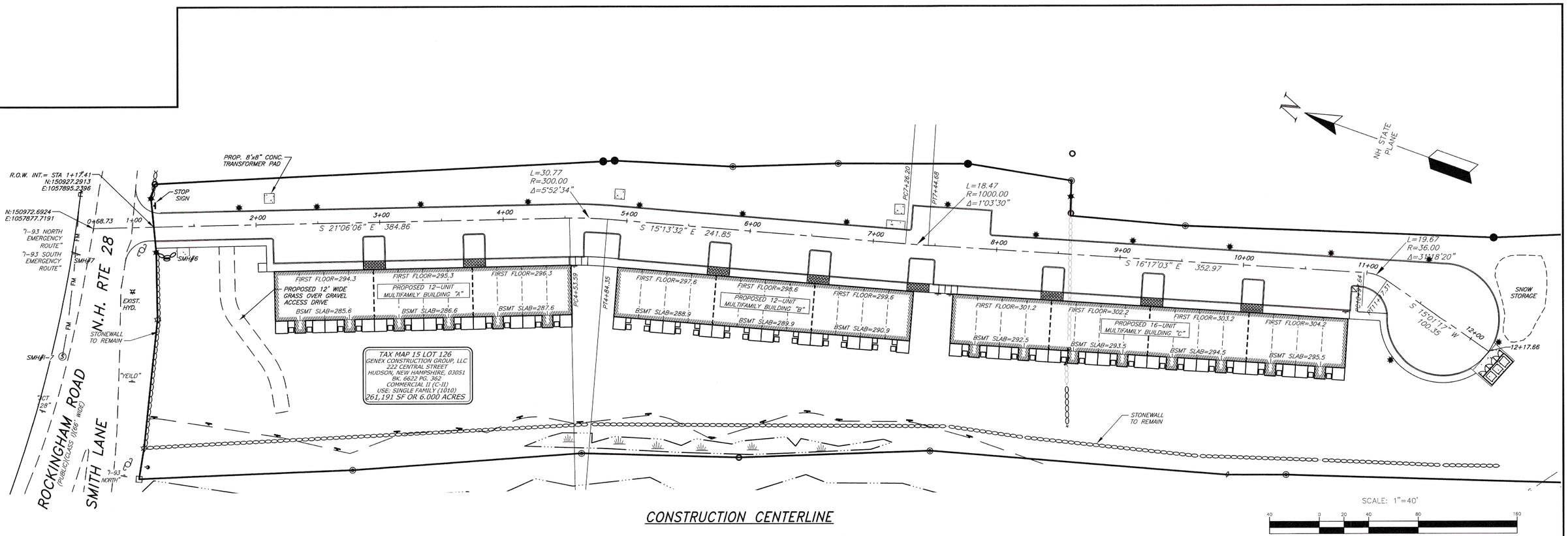
   SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.

BEST MANAGEMENT PRACTICES FOR BLASTING

ALL ACTIVITIES RELATING TO BLASTING SHALL FOLLOW BEST MANAGEMENT PRACTICES (BMP'S) TO PREVENT CONTAMINATION OF GROUNDWATER INCLUDING PREPARING, REVIEWING AND FOLLOWING AN APPROVED BLASTING PLAN; PROPER DRILLING, EXPLOSIVE HANDLING AND LOADING PROCEDURES; OBSERVING THE ENTIRE BLASTING PROCEDURES; EVALUATING BLASTING PERFORMANCE; AND HANDLING AND STORAGE OF BLASTED ROCK.

LOADING PRACTICES. THE FOLLOWING BLAST HOLE LOADING PRACTICES SHALL BE IMPLEMENTED:

A. THE DRILLER SHALL MAINTAIN DRILLING LOGS TO DOCUMENT:
   1. THE DEPTHS AND LENGTHS OF VOIDS, CAVITIES, AND FAULT ZONES OR OTHER WEAK ZONES ENCOUNTERED; AND
   2. GROUNDWATER CONDITIONS;
B. THE DRILLER SHALL COMMUNICATE THE CONTENTS OF THE DRILLING LOGS DIRECTLY TO THE BLASTER;
C. EXPLOSIVE PRODUCTS SHALL BE MANAGED ON-SITE SUCH THAT THEY ARE:
   1. USED IN THE BOREHOLE;
   2. RETURNED TO THE DELIVERY VEHICLE; OR
   3. PLACED IN SECURE CONTAINERS FOR OFF-SITE DISPOSAL;
D. SPILLAGE AROUND THE BOREHOLE SHALL BE:
   1. PLACED IN THE BOREHOLE; OR
   2. CLEANED UP AND RETURNED TO AN APPROPRIATE VEHICLE FOR HANDLING OR PLACEMENT IN SECUR



SCALE: 1"=40'

40 0 20 40 80 160

GRAPHIC SCALE

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC – STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

CONSTRUCTION CENTERLINE
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: AS SHOWN	JUNE 12, 2025	SHEET 29 OF 33

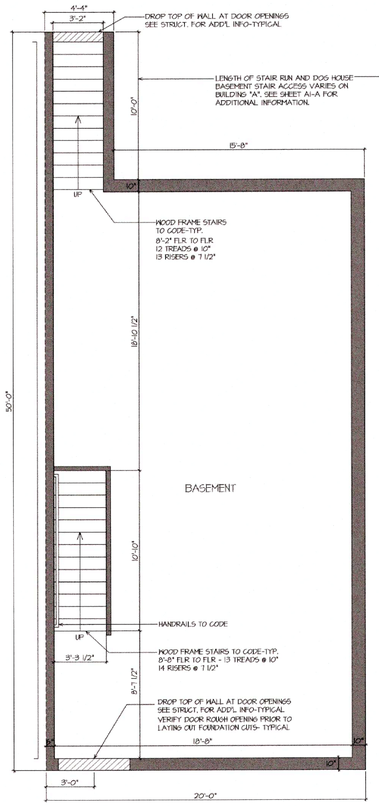
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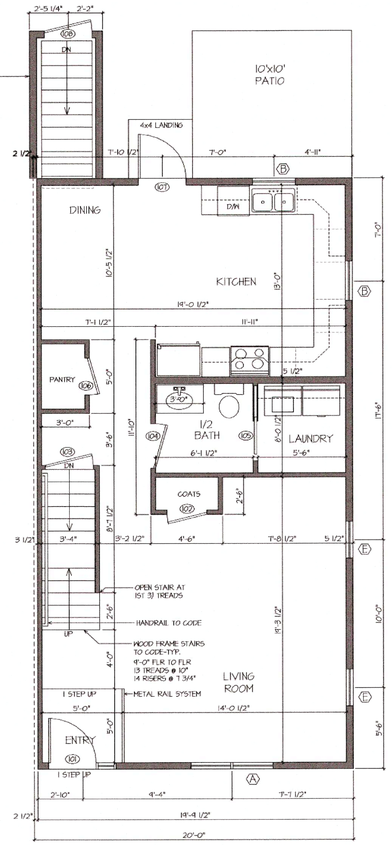
STATE OF NEW HAMPSHIRE GEORGE A. CHAMPAGNE JR. 13313 LICENSED PROFESSIONAL ENGINEER 12/31/25

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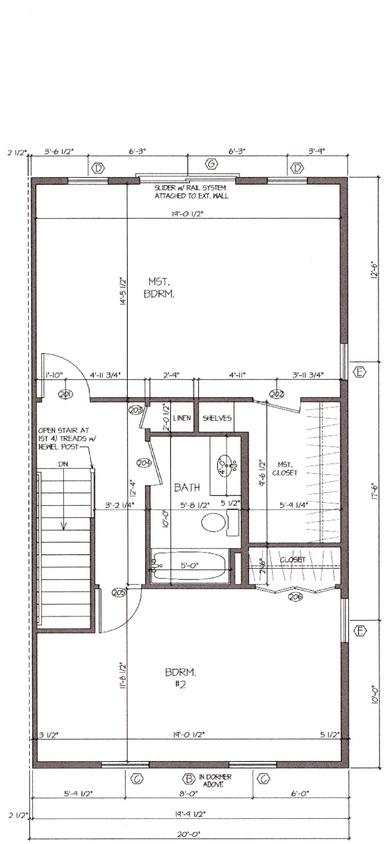
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1 A1.1b BASEMENT FLOOR PLAN
SCALE 3/8" = 1'-0"



2 A1.1b FIRST FLOOR PLAN
SCALE 3/8" = 1'-0"

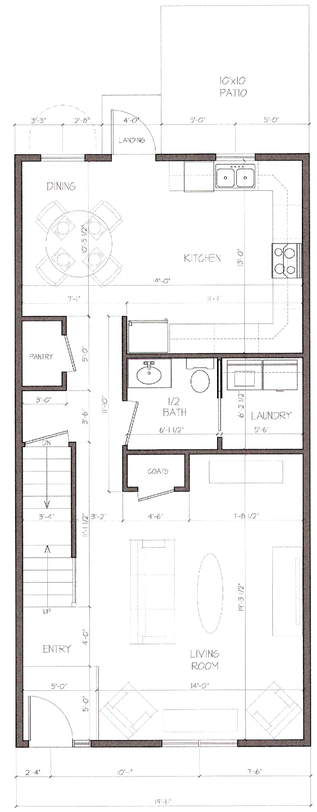


3 A1.1b SECOND FLOOR PLAN
SCALE 3/8" = 1'-0"

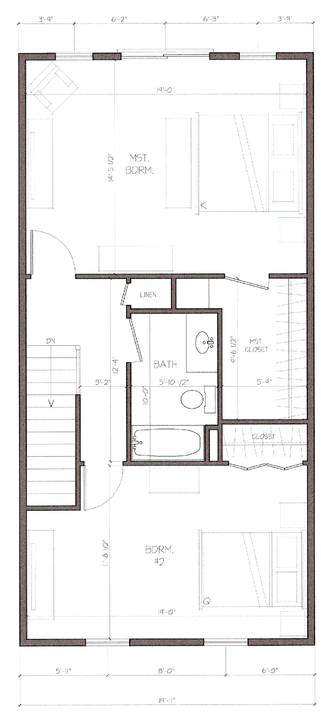
FLOOR PLANS
BUILDING A - END UNIT



1 50/2 BASEMENT FLOOR PLAN



2 50/2 FIRST FLOOR PLAN



3 50/2 SECOND FLOOR PLAN

FLOOR PLANS
UNIT TYPE "2"

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12/31/25

TAX MAP 15 LOT 126

FLOOR PLANS
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

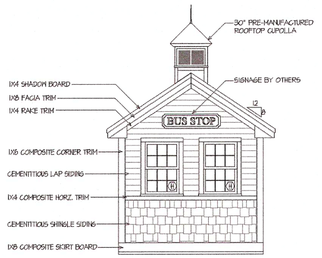
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BOOK 6622 PAGE 362

SCALE: AS SHOWN	JUNE 12, 2025	SHEET 30 OF 33

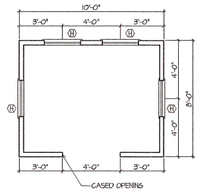
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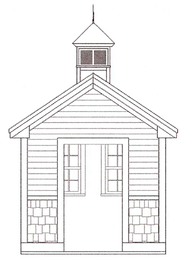
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3 / A6.1 FRONT ELEVATION



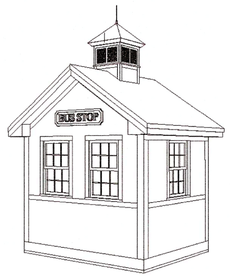
1 / A6.1 FLOOR PLAN

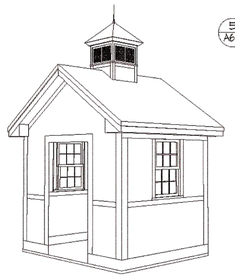


4 / A6.1 REAR ELEVATION



5 / A6.1 SIDE ELEVATION





6 / A6.1 ISOMETRIC VIEWS

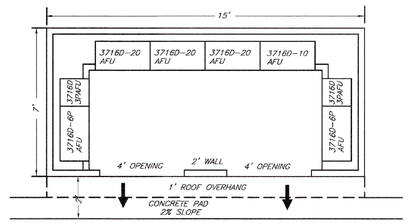
BUS STOP PLANS

NOT TO SCALE

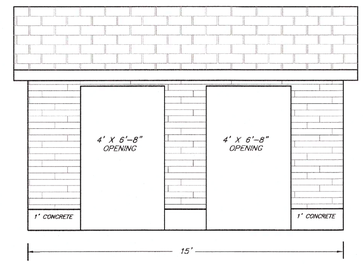


PROJECT SIGN

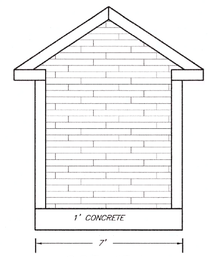
NOT TO SCALE



ACCESS DRIVE



FRONT VIEW



SIDE VIEW

MAILROOM PLANS

NOT TO SCALE

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STATE OF NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER

TAX MAP 15 LOT 126

BUS STOP/PROJECT SIGN/MAILROOM PLANS
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225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
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HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: AS SHOWN	JUNE 12, 2025				SHEET 31 OF 33
DESIGN: JST	DRAWN: JST	CHECKED: GAC	FB: 692	PG: 28	503-22

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FRONT ELEVATION PLAN
NOT TO SCALE



REAR ELEVATION PLAN
NOT TO SCALE

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BERARD MARTEL ARCHITECTURE, INC.
170 SOUTH RIVER ROAD; BEDFORD, NH 03110
603-626-7903; www.BerardMartel.com

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

811 DigSafe MA-ME-NH-RI-VT

12/31/25

STATE OF NEW HAMPSHIRE - GREGORY A. CUNNINGHAM JR. - 13015 - LICENSED PROFESSIONAL ENGINEER

TAX MAP 15 LOT 126

ELEVATION PLANS
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

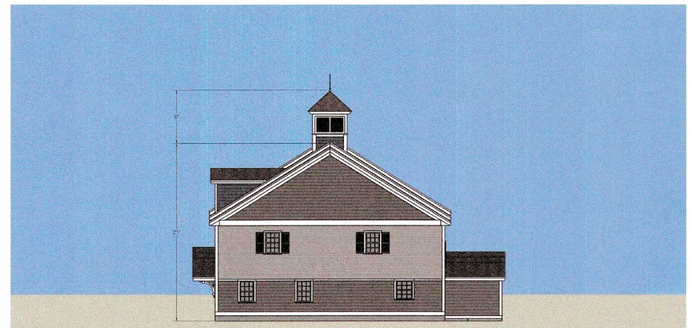
SCALE: AS SHOWN	JUNE 12, 2025	SHEET 32 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
JST	JST	GAC	692	28	

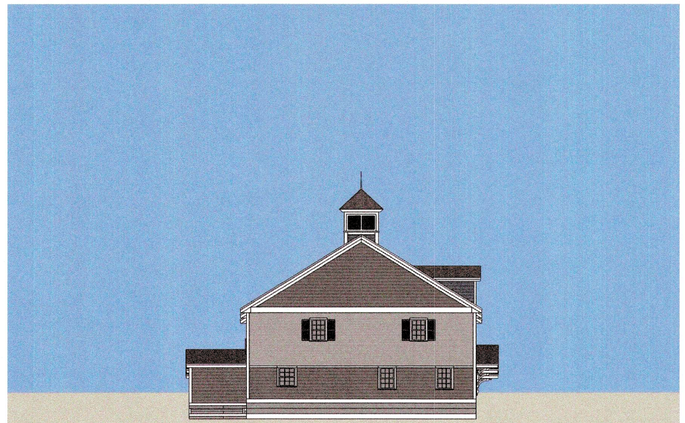
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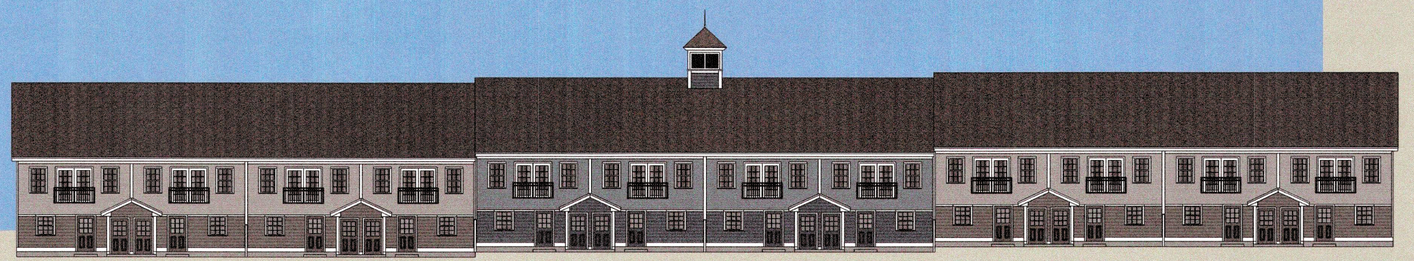
Front Elevation



Right Elevation



Left Elevation



Rear Elevation

ELEVATION PLANS

NOT TO SCALE

12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A
DATE	DESCRIPTION	BY	REV.

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I CERTIFY THAT THIS PLAN IS IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS AND IS APPROVED FOR RECORDING
GREGORY A. CASKIN, JR. NO. 9815 LICENSED PROFESSIONAL ENGINEER
12/31/25

TAX MAP 15 LOT 126

ELEVATION PLANS
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: AS SHOWN	JUNE 12, 2025	SHEET 33 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	
JST	JST	GAC	692	28	503-22

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August 6, 2025

Town of Londonderry Planning Board
268B Mammoth Road
Londonderry, NH 03053

RE: **Rockpoint Commons**
Conditional Use Permit
225 Rockingham Road
Londonderry, NH 03053
Tax Map 15 Lot 126

Dear Board:

On behalf of GENEX Construction Group, Bedford Design Consultants is pleased to submit a conditional use permit for Rockpoint Commons in Londonderry, NH. The project site consists of 6± acres of land located along the south side of Rockingham Road (NH Route 28) east of the intersection of Smith Lane, in Londonderry, NH. The proposed development will consist of the construction of three (3) multi-family buildings (40 total units) with associated parking and utilities.

The wetlands were mapped by Tom Sokoloski, CWS and a Site-Specific Soils mapping of the study area shows well drained Chatfield fine sandy loam (Group C), moderately well drained Scituate fine sandy loam (Group C), and Ridgebury fine sandy loam (Group D). See attached SSS Report.

There are no wetland impacts proposed for this project. Although the project requires 1,023 SF of new buffer impact. The small area of buffer impact will not affect the wetlands' ability to filter pollution, trap sediment and absorb nutrients. There are no rare species or plants per the NHB Data check for the project site and surrounding area.

The new residential multi-family buildings will be serviced by Town sewer and water which will be extended into the parcel from Rockingham Road. Access to the site will be provided by a new 22-foot wide paved driveway. The stormwater from the proposed driveway, building roofs, and parking areas will be directed to sediment forebays for pre-treatment prior to entering gravel wetland basins for attenuation and further treatment.

The flow summary table below shows compliance with Env-Wq 1507.06(b)(c) Peak Runoff Control Requirements.

Summary Table - Off-Site Flows toward wetland

	2-Yr Storm		10-Yr Storm		50-Yr Storm	
Location	**Ex** (cfs)	**Dev** (cfs)	**Ex** (cfs)	**Dev** (cfs)	**Ex** (cfs)	**Dev** (cfs)
Map 15 Lot 128 (128L)	1.76	**1.11**	4.11	**3.77**	8.22	**7.88**
Map 15 Lot 115 (115L)	0.70	**0.55**	1.84	**1.33**	3.89	**2.72**
Map 15 Lot 130 (130L)	0.44	**0.29**	1.13	**0.66**	2.38	**1.31**

We are looking forward to reviewing these plans with you and will be pleased to answer any questions that come up. Please feel to contact me at 603-622-5533 or at georgec@bedforddesign.com.

Sincerely,

Bedford Design Consultants, Inc.

George A. Chadwick, PE
Senior Project Manager

Cc: Owner/Applicant

Application for a Conservation Overlay District Conditional Use Permit
Form A - For a Use permitted by Conditional Use Permit

Conditional Use permit is as part of a: ■ Site Plan ❑ Subdivision

I. General Information:

A. Name of Project: Rockpoint Commons

B. Location of Project: 225 Rockingham Road (Street) 15 (Map #) 126 (Lot #)

C. Applicant:

Name: Genex Construction Group, LLC

Address: 222 Central Street
Hudson, NH 03051

Phone: 603-234-5891

Fax:

Signature:

II. Required Information:

- ■ Plans showing existing and proposed conditions.
- ■ Wetland delineation certified by a Certified Wetlands Scientist and mapped by a licensed land surveyor.
- ■ Areas on plans highlighted to show areas where conditional use permit is sought
- ■ Narrative description of project and conditional use permit request.
- ■ Criteria for conditional use permit described (see below).

III. Optional Information:

- ■ Aerial Photographs
- ❑ Site Photographs

IV. Conditional Use Permit Criteria

Address, in the provided boxes, the following criteria in accordance with Section 2.6.3 of the Zoning Ordinance:

1. The proposed construction is essential to the productive use of land not within the CO District.

The 1,023 SF of buffer impact is to allow the outlet of the proposed drainage system to be constructed.

2. Design and construction materials will be such as to minimize impact upon the wetlands and will include restoration of the site consistent with the permitted use.

The wetland adjacent to the wetland buffer impact will be protected via silt fence and the drainage outlet will be stabilized with rip rap.

3. There is no feasible alternative route on land controlled by the applicant that does not cross the CO District nor has less detrimental impact upon the wetlands. Nothing in this section shall limit the applicant from exploring alternatives with abutting property owners:

The minor buffer impact (1,023 SF) will not affect the wetlands abilty to filter pollution, trap sediment and absorb runoff from the project.

4. Economic advantage is not the sole reason for the proposed location of the construction:

The proposed location is necessary in order to obtain the necessary elevation to outlet the closed drainage system.

5. Square Footage of Wetland Impacts: 0

6. Square footage of Buffer Impacts: 1,023 SF


Stadium Dr
Parkway Rd
Parkway Dr
Cumberland Dr
400 ft

New Hampshire Department of Environmental Services
DataCheck Results Letter

To: Genex Construction Group, LLC
222 Central Street
Hudson, NH 03051

From: NHDES Ecological Reviews

Date: 7/23/2025 (This letter is valid through 7/23/2026)

Re: Review by NHDES Ecological Reviews of request dated 7/23/2025

Permit Types: Londonderry
Alteration of Terrain Permit

Project ID: DCT25-2169

Applicant: Genex Construction Group, LLC

Location: Londonderry
Tax Map: 15, Tax Lot: 126
Address: 225 Rockingham Road

Project Description: Construction of residential rental units in three buildings with associated parking and utilities.

The NHDES Ecological Review database has been checked for records of rare species and exemplary natural communities near the area mapped (see next page). The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. There are currently no recorded occurrences of sensitive species near this project area.

A negative result (no record in the database) does not mean that a sensitive species is not present. These data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to the NH Natural Heritage Bureau and/or the NH Fish and Game Department. However, many areas have never been surveyed or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

MAP OF PROJECT BOUNDARIES FOR: DCT25-2169



TES ENVIRONMENTAL CONSULTANTS, L.L.C.

Environmental Planning and Permitting
Soil and Wetlands Investigation

SITE-SPECIFIC SOIL SURVEY REPORT

performed at

Tax Map 15, Lot 126
225 Rockingham Road
Londonderry, New Hampshire

prepared for

MDP Development, LLC
9 Old Derry Road
Hudson, NH 03051

TES Project # 24-0041

1494 Route 3A, Unit 1
Bow, NH 03304
(603) 856-8925

tom@tesenviro.comcastbiz.net



July 1, 2025

Mr. Tony Marcotte, PE Realtor
Senior Project Manager
MDP Development, LLC
9 Old Derry Road
Hudson, NH 03051

RE: Site Specific Soil Map for Tax Map 15, Lot 126
225 Rockingham Road, Londonderry, New Hampshire

Dear Mr. Marcotte:

On December 12, 2024 I performed field work on the above-referenced property for a Site Specific Soil Survey as you requested. The soil mapping area consisted of the entire 6.00-acre parcel as shown on an existing conditions site plan provided by Bedford Design Consultants, LLC. The base map utilized for the soil mapping had a map scale of 1" = 40' and 2-foot contour intervals. This soil survey was prepared to support a New Hampshire Alteration of Terrain permit application for a planned residential condominium development on the site.

This Site Specific Soil Survey was completed utilizing SSSNNE Special Publication No. 3; Site Specific Soil Mapping Standards for New Hampshire and Vermont, Version 7.0, March 2021. The soil legend used for this soil map conforms to the New Hampshire State-Wide Numerical Soils Legend, Issue #10, January 2011 established and maintained by the Natural Resources Conservation Service.

Field work for this survey consisted of traversing the site and examining numerous soil profiles via hand-dug test pits and auger borings taken at intervals sufficient for the delineation of soil map units. On that same day, I delineated New Hampshire-jurisdictional wetlands across the site, finding one narrow wetland drainageway along the west-central property boundary. I also observed and describe the soil profiles within seven (7) soil test pits dug by backhoe across the site on April 24, 2025. Locational control for the soil mapping was accomplished using numerous site features including well-marked property boundaries, tree lines and individual trees, stone walls, a house and associated development features shown on the base plan.

The Soil Survey of Rockingham County, New Hampshire (USDA – Natural Resource Conservation Service) was reviewed (via Web Soil Survey) prior to site work for reference. This publication indicates that the large majority of the site has soil consisting of Chatfield-Hollis-Canton complex (140B and 140C), a mixture of soils that are shallow or moderately deep to bedrock (Hollis and Chatfield, respectively) and a well-drained, sandy soil formed in loose, sandy glacial till material (Canton). The northwestern corner of the parcel is depicted as having poorly drained soil formed in sandy glaciofluvial deposits (547B - Walpole). Soils observed during the field investigation, however, showed that most of the site had soils formed in dense sandy glacial till deposits, and the southern ¼ or so of the site was found to have moderately

deep bedrock (20-40 inches below the surface). The sole site wetland was located within the area depicted by NRCS mapping as having poorly-drained soil formed in glaciofluvial deposits, although field observations indicate that this soil too had formed in dense glacial till deposits. Relatively small areas of disturbed soils are located around a house in the northern end of the site. Overall, the NRCS soil mapping was generally pretty close to actual site soils, except for the difference in glacial till composition.

The following report includes a Site Specific Soil Map Key with accompanying Hydrologic Soil Groups as well as soil map unit descriptions. The general soil conditions on the site are generally consistent, with dense glacial till parent material present in the northern majority of the site and shallow bedrock in the southern portion of the site. The landform on the site could be described as a drumlin. Mature forests occupy most of the parcel excepting the lawn and landscaped areas around the house at the north end of the site.

If you have any questions regarding the soils on this site and the accompanying report, please contact our office.

Very truly yours,

Thomas E. Sokoloski
Certified NH Soil Scientist No. 063



SITE SPECIFIC SOIL MAP UNIT KEY

Symbol*	Map Unit	Slope Class	Drainage Class	HISS Symbol	Hydro. Soil Index**
89B	Chatfield fine sandy loam	0-8%	Well	227BH	C
89C	Chatfield fine sandy loam	8-15%	Well	227CH	C
89D	Chatfield fine sandy loam	15-25%	Well	227DH	C
400B/dcccc	Udorthents, sandy	0-8%	Moderately well	363BH	C
400B/hcccc	Udorthents, sandy	0-8%	Undeterminable	763BH	C
448B	Scituate fine sandy loam	0-8%	Moderately well	323BH	C
448C	Scituate fine sandy loam	8-15%	Moderately well	323CH	C
448D	Scituate fine sandy loam	15-25%	Moderately well	323DH	C
656B	Ridgebury fine sandy loam	0-8%	Poorly	523BH	D

* Refer to accompanying report for 5-unit supplemental symbol explanation.

** SSSNNE recently recommended using Hydrologic Soil Index instead of NRCS Hydrologic Soil Group.

This detailed Site-Specific Soil Map, prepared on December 12, 2024 by Thomas E. Sokoloski, Certified Soil Scientist #063 of TES Environmental Consultants, L.L.C. in Bow, New Hampshire, conforms to the standards of SSSNNE Publication No. 3, Version 7.0, "Site-Specific Soil Mapping Standards for New Hampshire and Vermont", March 2021. This map has been prepared to comply with soil mapping requirements of RSA 485 A: 17 and NHDES Env-Wq 1500, Alteration of Terrain. See accompanying report for methodology, map symbol legend, and interpretations. Use of the map symbol denominators for disturbed or altered soils, where given, is at the discretion of the Certified Soil Scientist.

This map product is within the technical standards of the National Cooperative Soil Survey. It is a special purpose product, intended for use in support of a New Hampshire Alteration Terrain permit application. It was produced by a certified Soil Scientist, and is not a product of the USDA Natural Resources Conservation Service. There is a narrative report that accompanies this map.

Supplemental Symbols

The five components of the Disturbed Soil Mapping Unit Supplement are as follows:

Symbol 1: Drainage Class
a-Excessively Well Drained
b-Somewhat Excessively Drained
c-Well Drained
d-Moderately Well Drained
e-Somewhat Poorly Drained
f-Poorly Drained
g-Very Poorly Drained
h-Not Determined

Symbol 2 -: Parent Material (of naturally formed soil only, if present)
a-No natural soil within 60"
b-Glaciofluvial Deposits (outwash/terraces of sand or sand and gravel)
c-Glacial Till Material (active ice)
d-Glaciolacustrine very fine sand and silt deposits (glacial lakes)
e-Loamy/sandy over silt/clay deposits
f-Marine Silt and clay deposits (ocean waters)
g-Alluvial Deposits (floodplains)
h-Organic Materials-Fresh water Bogs, etc
i- Organic Materials-Tidal Marsh

Symbol 3: Restrictive/Impervious Layers
a-None
b-Bouldery surface with more than 15% of the surface covered with boulders
c-Mineral restrictive layer(s) are present in the soil profile less than 40 inches below the soil surface such as hardpan, platy structure or clayey texture with consistence of at least firm, i.e. more than 20 newtons. For other examples of soil characteristics that qualify for restrictive layer, see "Soil Manual for Site evaluations in NH" 2nd Ed., page 3-17, figure 2-14
d-Bedrock in the soil profile 0-20 inches
e-Bedrock in the soil profile 20-60 inches
f-Areas where depth to bedrock is so variable that a single soil type cannot be applied, will be mapped as a complex of soil types
g-Subject to Flooding
h –man-made impervious surface including pavement, concrete, or built-up surfaces (i.e. buildings) with no morphological restrictive layer within control section

Symbol 4 Estimated Ksat* (most restrictive layer excluding symbol 3h above).
a- High
b-Moderate
c-Low
d-Not determined
*See "Guidelines for Ksat Class Placement" in Chapter 3 of the Soil Survey Manual, USDA

Symbol 5: Hydrologic Soil Group*
a-Group A
b-Group B
c-Group C
d-Group D
e-Not determined

*excluding man-made impervious/restrictive layers

SITE SPECIFIC SOIL MAP UNIT DESCRIPTIONS

Map Unit Symbol: 89

Map Unit Name: Chatfield fine sandy loam

Landscape Settings: Hilltops and higher slopes of glacial till uplands

Surface Features: Boulders, stones, possible exposed bedrock

Drainage Class: Well

Parent Material: Glacial till deposits with bedrock between 20 to 40 inches from surface

Complex: Yes ( ) No (X)

Nature of Dissimilar Inclusions, Locations and Estimated Percent:

Areas having bedrock deeper than 40 inches or less than 20 inches possible at unpredictable locations; estimated less than 20% of map unit.

Additional Notes: Typical observed soil profile description:

Depth	Horizon	Color	Texture	Structure	Consistency	Redox	Notes
0-7"	A	10YR 2/2	Fine sandy loam	Granular	Very friable	None	Little/no duff
7-19"	Bw	10YR 5/6	Sandy loam	Blocky	Friable	None	
19-23"	C	2.5Y 5/2	Sandy loam	Blocky	Friable	None	

Bedrock

Tax Map 15, Lot 126. Southern portion of parcel. 5% coarse fragments. SHWT not observed.

Thomas E. Sokoloski December 2024

SITE SPECIFIC SOIL MAP UNIT DESCRIPTIONS

Map Unit Symbol: 400B/dcccc

Map Unit Name: Udorthents, sandy

Landscape Settings: Altered (excavated, regraded or filled) soils

Surface Features: Sand and gravel fill material

Drainage Class: Moderately well

Parent Material: Sand and gravel material (fill) over sandy glacial till outwash with mineral restrictive features (hardpan)

Complex: Yes ( ) No (X)

Nature of Dissimilar Inclusions, Locations and Estimated Percent:

None.

Additional Notes: Typical observed soil profile description:

Depth	Horizon	Color	Texture	Structure	Consistency	Redox	Notes
0-6"	F	2.5Y 6/4	Grav. loamy sand	Single grain	Firm (compacted)	None	
6-24"	Bw	10YR 5/6	Sandy loam	Blocky	Friable	None	
24-40"	Cd	2.5YR 6/3	Sandy loam	Massive	Firm	7.5YR 4/6@36"	

Tax Map 15, Lot 126. Northern portion of parcel. 5% coarse fragments. SHWT 36".

Thomas E. Sokoloski December 2024

SITE SPECIFIC SOIL MAP UNIT DESCRIPTIONS

Map Unit Symbol: 400B/hcccc

Map Unit Name: Udorthents, sandy

Landscape Settings: Developed land

Surface Features: Impervious surfaces, - pavement, buildings

Drainage Class: Undeterminable (assumed to be moderately well drained as are adjacent soils)

Parent Material: Sandy glacial till deposits with mineral restrictive features (hardpan)

Complex: Yes ( ) No (X)

Nature of Dissimilar Inclusions, Locations and Estimated Percent:

None.

Additional Notes: Typical observed soil profile description:

Depth	Horizon	Color	Texture	Structure	Consistency	Redox	Notes

Not observed due to buildings or impervious pavement.

Tax Map 15, Lot 126. Northern portion of parcel. 5% coarse fragments. SHWT assumed to be similar to surrounding undisturbed soils (15-40").

Thomas E. Sokoloski December 2024

SITE SPECIFIC SOIL MAP UNIT DESCRIPTIONS

Map Unit Symbol: 448

Map Unit Name: Scituate fine sandy loam

Landscape Settings: Lower slopes of glacial till uplands

Surface Features: None

Drainage Class: Moderately well

Parent Material: Sandy glacial till deposits with mineral restrictive features (hardpan)

Complex: Yes ( ) No (X)

Nature of Dissimilar Inclusions, Locations and Estimated Percent:

Small areas of disturbed soils, in vicinity of existing house, less than 5% of soil map unit.

Additional Notes: Typical observed soil profile description:

Depth	Horizon	Color	Texture	Structure	Consistency	Redox	Notes
0-6"	A	10YR 3/2	Fine sandy loam	Granular	Very friable	None	
6-29"	Bw	10YR 5/6	Sandy loam	Blocky	Friable	None	
29-40"	Cd	2.5Y 6/3	Sandy loam	Massive	Firm	7.5YR 5/6 @29"	

Tax Map 15, Lot 126. Northern 3/4 of parcel. 5% coarse fragments. SHWT 15-40".

Thomas E. Sokoloski December 2024

SITE SPECIFIC SOIL MAP UNIT DESCRIPTIONS

Map Unit Symbol: 656

Map Unit Name: Ridgebury fine sandy loam

Landscape Settings: Low-lying areas on glacial till landscapes; wetlands

Surface Features: None

Drainage Class: Poorly

Parent Material: Sandy glacial till deposits with mineral restrictive features (hardpan)

Complex: Yes ( ) No (X)

Nature of Dissimilar Inclusions, Locations and Estimated Percent:

None.

Additional Notes: Typical observed soil profile description:

Depth	Horizon	Color	Texture	Structure	Consistency	Redox	Notes
0-2"	Oe	10YR 2/1	--	--	--	--	Mucky peat
2-8"	A	10YR 2/1	Sandy loam	Blocky	Friable	None	
8-14"	Bg	2.5Y 5/2	Sandy loam	Blocky	Friable	10YR 5/6	
14-28"	Cg	2.5Y 6/2	Loamy sand	Massive	Firm	10YR 5/8	

Tax Map 15, Lot 126. Northwestern portion of site, along western property line. 5% coarse fragments. SHWT within 12" of surface or above surface.

Thomas E. Sokoloski December 2024

TES

TES ENVIRONMENTAL CONSULTANTS, L.L.C.

TEST PIT LOG SHEET

Date: 4/24/2025	Project No: 24-0041	Lot: Map 15/Lot 126
CSS: Thomas E. Sokoloski	Project Name: MDP/Rockingham Road/Londonderry	Test Pit No: 1

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
A	0-6"	2.5Y 3/3	Sandy loam	Granular	Very friable	None	Many fine, medium and coarse roots.
Bw	6-29"	10YR 5/6	Sandy loam	Blocky	Friable	None	Many fine, medium and coarse roots.
Cd	29-86"	2.5Y 6/3	Gravelly loamy sand	Massive	Firm	Common, medium, prominent 7.5YR 5/8 concentrations @30"	Common fine roots.

ESHWT: 30"

ROOTS: 36"

OBSERVED WATER: 76"

LEDGE: N/O

RESTRICTIVE LAYER: 29"

NOTES: < 5% stones and boulders to 18" diameter throughout.



CSS STAMP

TES

TES ENVIRONMENTAL CONSULTANTS, L.L.C.

TEST PIT LOG SHEET

Date: 4/24/2025	Project No: 24-0041	Lot: Map 15/Lot 126
CSS: Thomas E. Sokoloski	Project Name: MDP/Rockingham Road/Londonderry	Test Pit No: 2

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
A	0-14"	10YR 3/2	Fine sandy loam	Granular	Very friable	None	Many fine, medium and coarse roots.
Bw	14-34"	10YR 5/4	Sandy loam	Blocky	Friable	None	Many fine, medium and coarse roots.
Cd	34-74"	2.5Y 6/3	Gravelly loamy sand	Massive	Firm	Common, medium, prominent 7.5YR 5/6 concentrations @37"	Few fine roots.

ESHWT: 37"

ROOTS: 40"

OBSERVED WATER: 65"

LEDGE: N/O

RESTRICTIVE LAYER: 34"

NOTES: 5% stones and boulders to 12" diameter, increasing with depth.



CSS STAMP

TES

TES ENVIRONMENTAL CONSULTANTS, L.L.C.

TEST PIT LOG SHEET

Date: 4/24/2025	Project No: 24-0041	Lot: Map 15/Lot 126
CSS: Thomas E. Sokoloski	Project Name: MDP/Rockingham Road/Londonderry	Test Pit No: 3

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
A	0-14"	10YR 2/2	Fine sandy loam	Granular	Very friable	None	Many fine, medium and coarse roots.
Bw	14-30"	2.5Y 5/6	Sandy loam	Blocky	Friable	None	Common fine and medium roots.
Cd	30-74"	2.5Y 5/4	Gravelly loamy sand	Massive	Firm	Common, medium, prominent 7.5YR 4/6 concentrations @33"	Few fine roots.

ESHWT: 33"

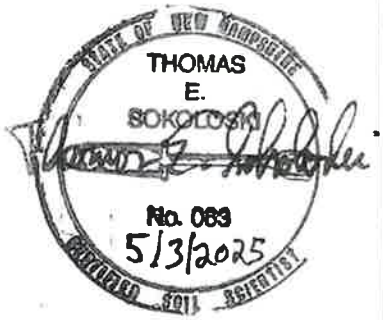
ROOTS: 38"

OBSERVED WATER: 62"

LEDGE: N/O

RESTRICTIVE LAYER: 30"

NOTES: 5% stones to 12" diameter.



CSS STAMP

TES

TES ENVIRONMENTAL CONSULTANTS, L.L.C.

TEST PIT LOG SHEET

Date: 4/24/2025	Project No: 24-0041	Lot: Map 15/Lot 126
CSS: Thomas E. Sokoloski	Project Name: MDP/Rockingham Road/Londonderry	Test Pit No: 4

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
A	0-4"	10YR 2/2	Fine sandy loam	Granular	Very friable	None	Many fine and medium roots.
Bw	4-20"	10YR 5/6	Sandy loam	Blocky	Friable	None	Common fine and medium roots.
C	20-22"	2.5Y 5/2	Sandy loam	Blocky	Friable	None	Common fine roots.
Bed rock							

ESHWT: N/O

ROOTS: 22"

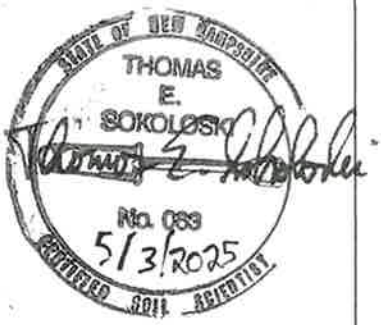
OBSERVED WATER: N/O

LEDGE: 22"

RESTRICTIVE LAYER: N/O

NOTES: 5% stones to 12" diameter.

Bedrock surface broken easily by excavator.



CSS STAMP

TES

TES ENVIRONMENTAL CONSULTANTS, L.L.C.

TEST PIT LOG SHEET

Date: 4/24/2025	Project No: 24-0041	Lot: Map 15/Lot 126
CSS: Thomas E. Sokoloski	Project Name: MDP/Rockingham Road/Londonderry	Test Pit No: 5

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
A	0-7"	10YR 2/2	Fine sandy loam	Granular	Very friable	None	Many fine, medium and coarse roots.
Bw	7-19"	10YR 5/6	Sandy loam	Blocky	Friable	None	Common fine, medium and coarse roots.
C	19-23"	2.5Y 5/2	Sandy loam	Blocky	Friable	None	Common fine and medium roots.
Bed rock							

ESHWT: N/O

ROOTS: 23"

OBSERVED WATER: N/O

LEDGE: 23"

RESTRICTIVE LAYER: N/O

NOTES: 5% stones to 12" diameter.

Bedrock surface broken easily by excavator.



CSS STAMP

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TES ENVIRONMENTAL CONSULTANTS, L.L.C.

TEST PIT LOG SHEET

Date: 4/24/2025	Project No: 24-0041	Lot: Map 15/Lot 126
CSS: Thomas E. Sokoloski	Project Name: MDP/Rockingham Road/Londonderry	Test Pit No: 6

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
A	0-8"	10YR 2/2	Fine sandy loam	Granular	Very friable	None	Many fine, medium and coarse roots.
Bw	8-21"	10YR 5/6	Sandy loam	Blocky	Friable	None	Many fine and medium roots.
Cd	21-56"	2.5Y 6/2	Gravelly loamy sand	Massive	Firm	None	Few fine roots.

ESHWT: N/O

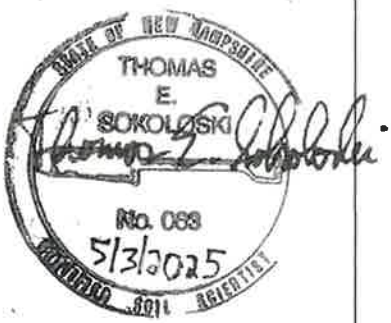
ROOTS: 34"

OBSERVED WATER: N/O

LEDGE: N/O

RESTRICTIVE LAYER: 21"

NOTES: <5% stones to 12" diameter.



CSS STAMP

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TES ENVIRONMENTAL CONSULTANTS, L.L.C.

TEST PIT LOG SHEET

Date: 4/24/2025 CSS: Thomas E. Sokoloski	Project No: 24-0041 Project Name: MDP/Rockingham Road/Londonderry	Lot: Map 15/Lot 126 Test Pit No: 7

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
A	0-8"	10YR 3/3	Fine sandy loam	Granular	Very friable	None	Many fine, medium and coarse roots.
Bw	8-33"	2.5Y 5/6	Sandy loam	Blocky	Friable	None	Many fine and medium roots.
Cd	33-60"	2.5Y 6/3	Loamy sand	Massive	Firm	None	Few fine roots.

ESHWT: N/O

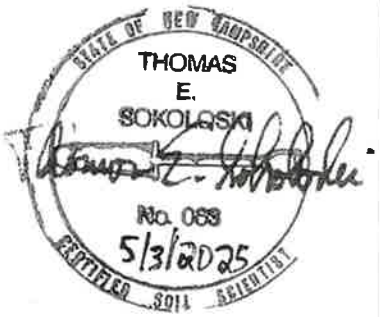
ROOTS: 42"

OBSERVED WATER: N/O

LEDGE: N/O

RESTRICTIVE LAYER: 33"

NOTES: 5% stones to 8" diameter throughout.



CSS STAMP

REFER TO SHEET 7 FOR GRADING NOTES

811 DigSafe

LEGEND

- PROPOSED CONTOUR
- EXISTING CONTOUR
- PROPOSED SPOT GRADE
- EXISTING SPOT GRADE
- STATION NUMBERING FOR DRIVEWAY PROFILE
- DRAINAGE FLOW ARROW
- TEST PIT
- PROPOSED SILT FENCE
- PROPOSED RIP RAP
- PROPOSED GAS LINE
- EXISTING GAS LINE
- PROPOSED WATER LINE
- EXISTING WATER LINE
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD UTILITIES
- PROPOSED DRAIN LINE
- EXISTING DRAIN LINE
- PROPOSED ROOF DRAIN
- PROPOSED SEWER LINE
- EXISTING SEWER LINE
- EXISTING WATER SHUTOFF
- PROPOSED WATER SHUTOFF
- EXISTING HYDRANT
- PROPOSED HYDRANT
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- SEWER MANHOLE
- DRAIN MANHOLE
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- EXISTING LIGHT POLE
- PROPOSED LIGHT POLE
- EXISTING STOCKADE FENCE
- PROPOSED PVC FENCE
- EXISTING CHAINLINK FENCE
- EXISTING GUARDRAIL
- EDGE OF JURISDICTIONAL WETLANDS
- WETLAND SYMBOL
- WETLAND BUFFER
- PROPOSED TREE LINE
- EXISTING TREE LINE
- ZONE LINE
- SHEET MATCHLINE

SCALE: 1" = 20'

GRAPHIC SCALE

TEST PITS

TEST PIT NO. 1

0–6	2.5Y 3/3	SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
6–29	10YR 5/8	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
29–86	2.5Y 6/3	GRAVELLY LOAMY SAND, MASSIVE, FIRM, COMMON FINE ROOTS, 7.5YR5/8 CONCENTRATIONS AT 30"

ESHWT AT 30", ROOTS TO 36", OBSERVED WATER AT 76", NO LEDGE, RESTRICTIVE LAYER AT 29"

TEST PIT NO. 2

0–14	10YR 3/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
14–34	10YR 5/4	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
34–74	2.5Y 6/3	GRAVELLY LOAMY SAND, MASSIVE, FIRM, FEW FINE ROOTS, 7.5YR5/6 CONCENTRATIONS AT 37"

ESHWT AT 37", ROOTS TO 40", OBSERVED WATER AT 65", NO LEDGE, RESTRICTIVE LAYER AT 34"

TEST PIT NO. 3

0–14	10YR 2/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
14–30	2.5Y 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
30–74	2.5Y 5/4	GRAVELLY LOAMY SAND, MASSIVE, FIRM, FEW FINE ROOTS, 7.5YR4/6 CONCENTRATIONS AT 33"

ESHWT AT 33", ROOTS TO 38", OBSERVED WATER AT 62", NO LEDGE, RESTRICTIVE LAYER AT 30"

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC – STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

GRADING PLAN
ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 20'	JUNE 12, 2025	SHEET 6 OF 33

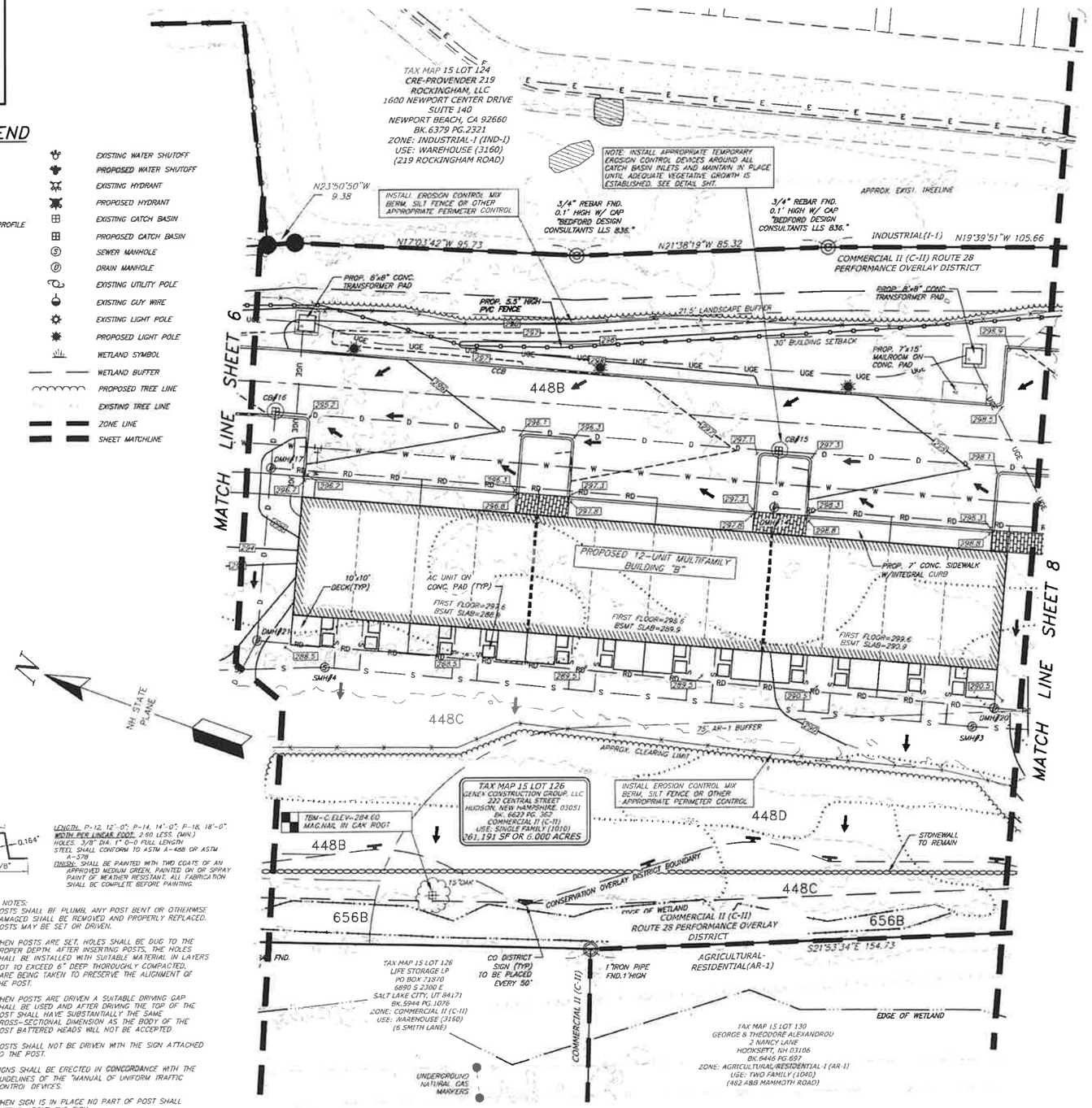
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JST	JST	GAC	692	28	

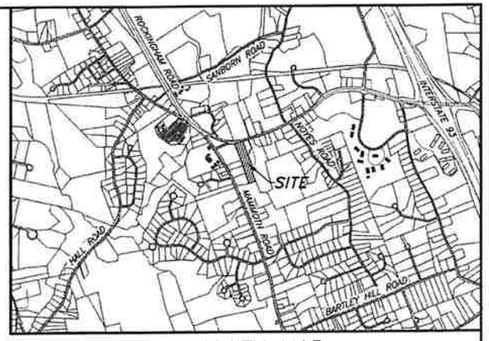
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LEGEND

- PROPOSED CONTOUR
- EXISTING CONTOUR
- PROPOSED SPOT GRADE
- EXISTING SPOT GRADE
- STATION NUMBERING FOR DRIVEWAY PROFILE
- DRAINAGE FLOW ARROW
- TEST PIT
- PROPOSED SILT FENCE
- PROPOSED RIP RAP
- PROPOSED GAS LINE
- EXISTING GAS LINE
- PROPOSED WATER LINE
- EXISTING WATER LINE
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD UTILITIES
- PROPOSED DRAIN LINE
- EXISTING DRAIN LINE
- PROPOSED ROOF DRAIN
- PROPOSED SEWER LINE
- EXISTING SEWER LINE
- EXISTING STOCKADE FENCE
- PROPOSED PVC FENCE
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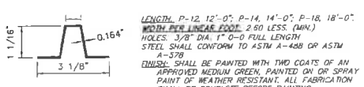
VICINITY MAP

SCALE: 1"=2500'

GRADING NOTES:

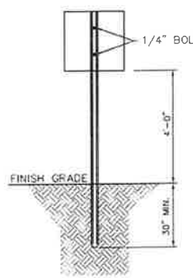
1. THE PURPOSE OF THIS PLAN IS TO SHOW THE GRADING, DRAINAGE, AND UTILITY IMPROVEMENTS ASSOCIATED WITH THE PROPOSED SITE PLAN
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF LONDONDERRY AND SHALL BE BUILT IN A WORKMAN LIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, LATEST EDITION, ARE HEREBY INCORPORATED BY REFERENCE.
3. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURERS INSTALLATION INSTRUCTIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS. PRIOR TO THE START OF ANY CONSTRUCTION, THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROXIMATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 1-800-344-7233 AT LEAST 72 HOURS BEFORE DIGGING.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION AND/OR PROTECTION OF ALL UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE WITH THE OWNER OF SAID UTILITIES.
6. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS CONSTRUCTION WORK AT ALL TIMES.
7. THE CONTRACTOR SHALL THOROUGHLY SECURE ALL EXCAVATIONS ON A DAILY BASIS AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
8. CONTRACTOR SHALL VERIFY T.B.M. ELEVATION PRIOR TO THE START OF CONSTRUCTION.
9. ALL PROPOSED AND EXISTING CATCH BASINS WHICH MAY RECEIVE STORMWATER RUNOFF FROM THE DEVELOPMENT DURING CONSTRUCTION, SHALL BE OUTFITTED WITH INLET PROTECTION.
10. THE CONTRACTOR SHALL DISPOSE OF ANY UNSUITABLE MATERIAL FOUND ON-SITE (I.E. TRASH, STUMPS, ETC.) IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL REGULATIONS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL DEVISES AS SHOWN IN THE PLAN SET THROUGHOUT THE DURATION OF THE PROJECT IN ACCORDANCE WITH APPLICABLE N.H.D.E.S. STANDARDS. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE CONTRACTOR SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY/TOWN.
12. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THIS PLAN SET, PREPARED BY BEDFORD DESIGN CONSULTANTS, INC., DO NOT EXTEND TO OR INCLUDE METHODS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR AND/OR ENGINEER AS INCLUDED IN THE PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE AND/OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REQUIREMENTS.
13. ALL TRAFFIC CONTROL AND TEMPORARY CONSTRUCTION SIGNAGE ARRANGEMENTS, ACCEPTABLE TO N.H.D.O.T., LOCAL CITY/TOWN POLICE DEPARTMENT, AND DEPARTMENT OF PUBLIC WORKS SHALL BE EMPLOYED FOR ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
14. THE SITE SHALL BE GRADED SO ALL FINISHED PAVEMENT HAS POSITIVE DRAINAGE. DRIVEWAYS SHALL BE GRADED AWAY FROM GARAGES TO PREVENT SURFACE RUNOFF FROM ENTERING THE GARAGE. ALL FRONT, SIDE AND REAR LAWN AREAS SHALL BE GRADED TO DIRECT SURFACE RUNOFF AWAY FROM THE PROPOSED BUILDINGS.
15. CONTRACTOR TO PROVIDE FINISHED PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING AND GARAGE ENTRANCES.
16. THE PROPERTY OWNERS OR ASSIGNED QUALIFIED PROFESSIONAL WILL CONDUCT THE OPERATION AND MAINTENANCE PROGRAM SET FORTH IN THE LONG TERM MAINTENANCE PLAN INSPECTION & MAINTENANCE (I&M) MANUAL FOR STORMWATER BEST MANAGEMENT PRACTICES. ROCKPOINT COMMONS, THE OWNERS WILL ENSURE THAT INSPECTIONS AND RECORD KEEPING ARE TIMELY AND ACCURATE, AND THAT CLEANING AND MAINTENANCE ARE PERFORMED AT LEAST ON A BI-ANNUAL BASIS. INSPECTION & MAINTENANCE LOG FORMS SHALL INCLUDE THE DATE AND THE AMOUNT OF THE LAST SIGNIFICANT STORM EVENT IN EXCESS OF 2.5 "OF RAIN IN A 24-HOUR PERIOD, PHYSICAL CONDITIONS OF THE STRUCTURES, DEPTH OF SEDIMENT IN STRUCTURES, EVIDENCE OF OVERTOPPING OR DEBRIS BLOCKAGE AND MAINTENANCE REQUIRED OF EACH STRUCTURE. RECORDS OF MAINTENANCE AND APPROPRIATE INSPECTION & MAINTENANCE LOG SHEETS SHALL BE KEPT BY THE OWNER INDICATING ALL WORK AND INSPECTIONS. THESE REPORTS WILL BE SENT TO THE LONDONDERRY ENGINEERING OFFICE ON A YEARLY BASIS. ALL STORMWATER MANAGEMENT STRUCTURES WILL BE INSPECTED TWO TIMES PER YEAR, WITH CLEANING TYPICALLY OCCURRING IN APRIL AND OCTOBER AND POSSIBLY MORE OFTEN, AS SITE CONDITIONS WARRANT. CONCURRENT WITH INSPECTION AND CLEANING, ALL LITTER SHALL BE PICKED UP AND REMOVED FROM THE PARKING AREAS, LAWN, LANDSCAPED AND WOODED AREAS.

PROTECTED CONSERVATION AREA
DO NOT DISTURB SOILS OR VEGETATION
VIOLATORS WILL BE PROSECUTED
FOR INFORMATION OR TO REPORT A VIOLATION CALL THE CODE ENFORCEMENT OFFICER AT 432-1100 EXT 125



LENGTH: P-12, 12'-0"; P-14, 14'-0"; P-18, 18'-0".
WIDTH PER LINEAR FOOT: 2.60 LESS. (MIN.)
HOLES: 3/8" DIA. 1" O-O FULL LENGTH
STEEL SHALL CONFORM TO ASTM A-446 OR ASTM A-378
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN, PAINTED ON OR SPRAY PAINT OF WEATHER RESISTANT. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

POST NOTES:
1. POSTS SHALL BE PLUMB, ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND PROPERLY REPLACED. POSTS MAY BE SET OR DRIVEN.
2. WHEN POSTS ARE SET, HOLES SHALL BE DUG TO THE PROPER DEPTH. AFTER INSERTING POSTS, THE HOLES SHALL BE INSTALLED WITH SUITABLE MATERIAL IN LAYERS NOT TO EXCEED 6" DEEP THOROUGHLY COMPACTED. CARE BEING TAKEN TO PRESERVE THE ALIGNMENT OF THE POST.
3. WHEN POSTS ARE DRIVEN A SUITABLE DRIVING CAP SHALL BE USED AND AFTER DRIVING THE TOP OF THE POST SHALL HAVE SUBSTANTIALLY THE SAME CROSS-SECTIONAL DIMENSION AS THE BODY OF THE POST BATTERED HEADS WILL NOT BE ACCEPTED.
4. POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
5. SIGNS SHALL BE ERECTED IN CONCORDANCE WITH THE GUIDELINES OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
6. WHEN SIGN IS IN PLACE NO PART OF POST SHALL EXTEND ABOVE THE SIGN
7. DIMENSIONS SHOWN ARE NOMINAL
8. ALTERNATE SECTIONS MUST BE APPROVED PRIOR TO USE.



CONSERVATION AREA SIGN DETAIL
NOT TO SCALE

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC - STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

TAX MAP 15 LOT 126

GRADING PLAN

ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

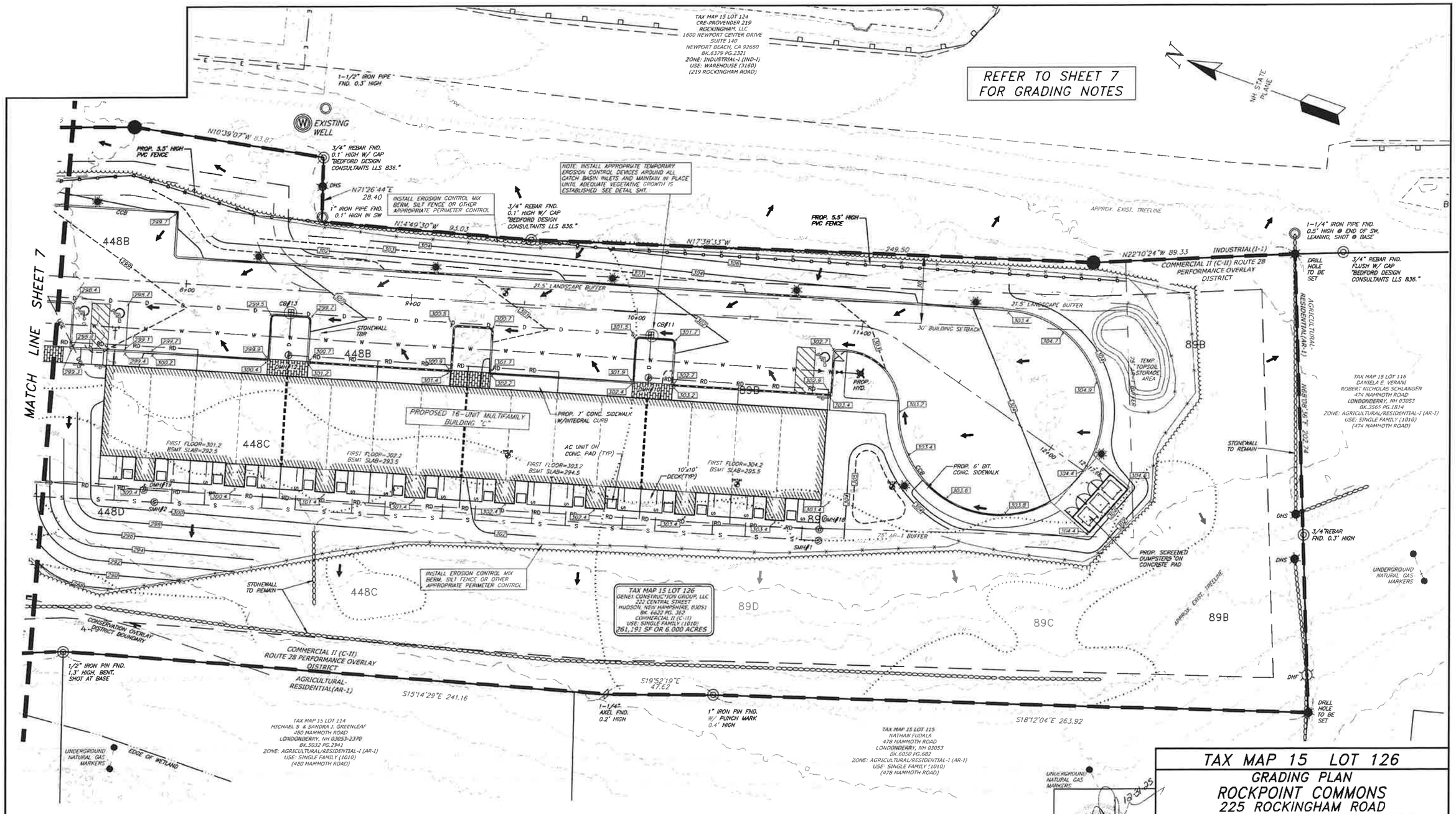
SCALE: 1" = 20'	JUNE 12, 2025	SHEET 7 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	503-22
JST	JST	GAC	692	28	

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TEST PITS

TEST PIT NO. 4

0–4	10YR 2/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
4–20	10YR 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
20–22	2.5Y 5/2	SANDY LOAM, BLOCKY FRIABLE, COMMON FINE ROOTS

NO ESHWT AT 22", ROOTS TO 22", NO WATER AT 22", LEDGE AT 22", NO RESTRICTIVE LAYER

TEST PIT NO. 5

0–7	10YR 2/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
7–19	10YR 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
19–23	2.5Y 5/2	SANDY LOAM, BLOCKY FRIABLE, COMMON FINE ROOTS

NO ESHWT AT 23", ROOTS TO 23", NO WATER AT 23", LEDGE AT 23", NO RESTRICTIVE LAYER

TEST PIT NO. 6

0–8	10YR 2/2	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
8–21	10YR 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
21–56	2.5Y 6/2	GRAVELLY LOAMY SAND, MASSIVE, FIRM, FEW FINE ROOTS

NO ESHWT AT 56", ROOTS TO 34", NO WATER AT 56", NO LEDGE AT 56", RESTRICTIVE LAYER AT 21"

TEST PIT NO. 7

0–8	10YR 3/3	FINE SANDY LOAM, GRANULAR, VERY FRIABLE, MANY FINE & MEDIUM ROOTS
8–33	2.5Y 5/6	SANDY LOAM, BLOCKY, FRIABLE, COMMON FINE & MEDIUM ROOTS
33–60	2.5Y 6/3	LOAMY SAND, MASSIVE, FIRM, FEW FINE ROOTS

NO ESHWT AT 60", ROOTS TO 42", NO WATER AT 60", NO LEDGE AT 60", RESTRICTIVE LAYER AT 33"

SCALE: 1"=20'

GRAPHIC SCALE

811 DigSafe DIAL BEE WEB DIG IT

DATE	DESCRIPTION	BY	REV.
12-31-25	PER DRC – STANTEC REVIEW #2	BJL	E
11-12-25	PER DRC PLAN REVIEW	JST	D
10-8-25	PER ALT. OF TERRAIN DESIGN REVIEW	JST	C
9-24-25	PER TOWN SEWER DEPT. 2ND REVIEW	JST	B
8-20-25	PER TOWN SEWER DEPT. REVIEW	JST	A

12-31-25

TAX MAP 15 LOT 126

GRADING PLAN

ROCKPOINT COMMONS
225 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE

PREPARED FOR/OWNER:
GENEX CONSTRUCTION GROUP, LLC
222 CENTRAL STREET
HUDSON, N.H. 03051
BOOK 6622 PAGE 362

SCALE: 1" = 20'	JUNE 12, 2025	SHEET 8 OF 33

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	
JST	JST	CAC	592	28	503-22

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LONDONDERRY PLANNING BOARD
SITE PLAN APPLICATION & CHECKLIST

Planning Department Date Stamp

Design Review ☒ **Formal Application**

All information provided and submitted with this Application Checklist shall conform to the Londonderry Site Plan Regulations. ***Please note that the Planning Board may not accept and consider the application complete if the required items as outlined in the checklist are missing from the submittal.***

☐ Site Plan Amendment

I. General Information:

A. Project Name: Rockpoint Commons — 15 (Map) 126 (Lot)

B. Project Location: 225 Rockingham Road — Zone: C-II

C. Primary Contact: George Chadwick, PE, Bedford Design Consultants, Inc. — Phone: (603) 622-5533

☐ Applicant ☐ Owner ☒ Engineer/Surveyor — E-Mail: georgec@bedforddesign.com

D. Applicant's Name: Genex Construction Group, LLC

Address: 222 Central Street City: Hudson State: NH Zip: 03051

Phone: (603) 235-8066 Fax: E-Mail: m.plante@genexconstgroup.com

Applicant Signature: Date: 8/4/25

E. Owner's Name: Genex Construction Group, LLC

Address: 222 Central Street City: Hudson State: NH Zip: 03051

Phone: (603) 235-8066 Fax: E-Mail: m.plante@genexconstgroup.com

Owner's Signature: Date: 8/4/25

F. Engineer/Surveyor (Firm Name): Bedford Design Consultants, Inc.

Address: 592 Harvey Road City: Manchester State: NH Zip: 03103

Phone: (603) 622-5533 Fax: E-Mail: georgec@bedforddesign.com

1) Name of Licensed Land Surveyor: Raymond Critch, LLS

Signature:

2) Name of Licensed Professional Engineer: George Chadwick, PE

Signature: PE

3) Name of Certified Soil Scientist: Thomas Sokoloski, CSS

4) Name of Certified Wetland Scientist: Thomas Sokoloski, CWS

5) Name of Licensed Traffic Engineer: Scott Thornton, PE & Derek Roach, PE

G. Lot Area (SF) 261,191 Existing Building Footprint (SF): 1,829 Proposed Addition (SF) _____

☐ Change or ☐ Additional Use(s): Existing buildings (house, garage, and shed) to be removed: (1,829 SF); Three multi-family residential buildings (33,213 SF), a bus shelter (80 SF), and mailroom building (105 SF) to be constructed - for a total of 33,398 SF.

Site Plan Application Checklist

Gravel driveway/concrete to be removed: 3,877± SF; Proposed new pavement/gravel surface: 52,751 SF±.

☐ Additional Pavement (SF): _____ ☐ Other Modification: _____

II. General Requirements (All Applications):

		Provided	N/A
1.	Executed Site Plan Application Form	☒	
2.	Complete Abutters list, 3 sets mailing labels	☒	
3.	Application Fees	☒	
4.	Four (4) sets of plans and electronic "PDF" plans (See #11)	☒	
5.	Copies of proposed easement deeds, protective covenants or other legal documents	☒	☐
6.	Waiver request(s) with justifications	☒	
7.	Technical reports and supporting documents (Drainage report, Traffic Study, etc.)	☒	☐
8.	Completed Site Plan Application Checklist	☒	
9..	Escrow Agreement and Fees	☒	☐
10..	Conditional Use Permit request(s) with justifications per Zoning	☒	☐
11.	Response Letter to DRC Review and 2 highlighted plans (Plans may substitute for 2 sets required in #4 above)	☒	☐

III. General Plan Information (All Plans):

		Provided	N/A
1.	Size and presentation of sheet(s) per requirements of the site plan regulations	☒	
2.	Title block information:		
	a. Drawing title	☒	
	b. Name of site plan	☒	
	c. Location of site plan	☒	
	d. Tax map & lot #s of subject parcel(s)	☒	
	e. Name & address of owner(s)	☒	
	f. Date of plan	☒	
	g. Scale of plan	☒	
	h. Sheet number	☒	
	i. Name, address, & telephone number of design firm	☒	
	j. Name and address of Applicant	☒	
3.	Revision block	☒	
4.	Planning Board approval block provided on appropriate sheets (Cover sheet, site plan, landscape plan only)	☒	
5.	Certification block (for engineer, surveyor, soil scientist, or wetland scientist)	☒	
6.	Match lines (if any)	☒	☐

	u.	For sites requiring off-site improvements, note the following: "In accordance with Section 6.01 of the Londonderry Site Plan Regulations and RSA § 676:12, all off-site improvements specified on these site plans shall be constructed, completed, and inspected and approved by the Town of Londonderry (and/or the NHDOT, if applicable) prior to the issuance of a certificate of occupancy."	☒	☐
2.		Vicinity plan (at a scale of 1"=2500')	☒	
3.		Plan index indicating all sheets	☒	☐

V. **Existing Conditions Plan:**

			Provided	N/A
1.		Surveyor's certification stamped and signed by LLS	☒	
2.		Boundary of entire property by metes and bounds	☒	☐
3.		Boundary monuments:		
	a.	Monuments found	☒	☐
	b.	Monuments to be set	☒	☐
4.		Map # and Lot #, name addresses, and zoning of all abutting land owners	☒	
5.		Existing streets:		
	a.	Name labeled	☒	☐
	b.	Status noted or labeled	☒	☐
	c.	Right-of-way dimensioned	☒	☐
	d.	Pavement width dimensioned	☒	☐
6.		Municipal boundaries (if any)	☐	☒
7.		Existing easements (identified by type)	☒	☐
8.		North arrow	☒	
9.		Locus map (at a scale of 1" = 2,500)	☒	
10.		Limits of wetlands & CO District Boundary	☒	☐
11.		Wetland delineation criteria & Certification	☒	☐
12.		SCS Soils (Boundary & Type)	☒	
13.		Owner(s) signature(s)	☒	
14.		All required setbacks (including any applicable buffers)	☒	
15.		Existing physical features:		
		Buildings	☒	☐
		Wells	☒	☐
		Septic systems	☒	☐
		Stone walls	☒	☐
		Paved drives	☒	☐
		Gravel drives	☒	☐
16.		Location & name (if any) of any streams or waterbodies	☐	☒
17.		Location & elevation(s) of 100-year flood zone per FEMA Flood Insurance Study or as determined by drainage study	☒	☐
18.		Location of existing overhead utility lines, poles, towers, etc.	☒	☐
19.		Plan and deed references	☒	☐
20.		Zoning District boundary lines (if any)	☒	☐

Site Plan Application Checklist

IV. **Master Site Plan Sheet**: (Applicant may provide separate Title Sheet)

			Provided	N/A
1.		The following notes shall be provided:		
	a.	Purpose of plan	☒	
	b.	Tax map and lot #s of all subject parcels	☒	
	c.	Area (existing & proposed) of subject parcel(s)	☒	
	d.	Zoning designation of subject parcel(s)	☒	
	e.	Min. lot area, frontages & setback dimensions	☒	
	f.	Existing and proposed uses	☒	
	g.	Parking calculations, as outlined in the Regulations	☒	
	h.	% green area, as outlined in the Zoning Ordinance	☒	
	i.	% building coverage, as outlined in the Zoning Ordinance	☒	
	j.	Sanitary sewer source (name of provider company if offsite)	☒	
	k.	Water supply source (name of provider company if offsite)	☒	
	l.	Zoning variances/special exceptions with conditions	☒	☐
	m.	List FEMA sheet(s) used to identify 100-year flood elevation. (Note if no flood zone present as applicable)	☒	
	n.	List of required permits and permit approval numbers	☒	☐
	o.	List of Planning Board waivers and Conditional Use Permits with Regulation or Ordinance section reference (if applicable)	☒	☐
	p.	Note identifying which plans are on file at the Town	☒	☐
	q.	Note the following: "If, during construction, it becomes apparent that deficiencies exist in the approved design drawings, the Owner shall be required to correct the deficiencies to meet the requirements of the regulations at no expense to the Town."	☒	☐
	r.	Note the following: "If, during construction, it becomes apparent that additional erosion control measures are required to stop any erosion on the construction site due to actual site conditions, the Owner shall be required to install the necessary erosion protection at no expense to the Town."	☒	☐
	s.	Note the following: "All materials and methods of construction shall conform to Town of Londonderry Site Plan Regulations and the latest edition of the New Hampshire Department of Transportation's Standard Specifications for Road & Bridge Construction."	☒	☐
	t.	Note the following: "In accordance with Section 6.01 of the Londonderry Site Plan Regulations and RSA § 676:13, all improvements specified on these site plans shall be constructed, completed, and inspected and approved by the Town of Londonderry prior to the issuance of a certificate of occupancy."	☒	☐

Site Plan Application Checklist

VI. **Improvement Plans (Grading Plan, Utility Plan, etc. and Stamped by Engineer Licensed in NH):**

		Provided	N/A
1.	**Grading and Drainage Plan:**		
a.	Existing topography (two-foot contour interval minimum)	☒	☐
b.	Proposed contours	☒	☐
c.	Existing spot elevations	☒	☐
d.	Proposed spot elevations	☒	☐
e.	Existing edge of pavement	☒	☐
f.	Proposed edge of pavement	☒	☐
g.	Existing curb line	☒	☐
h.	Proposed curb line	☒	☐
i.	Existing buildings and structures	☒	☐
j.	Proposed buildings and structures	☒	☐
k.	Existing retaining walls	☐	☒
l.	Proposed retaining walls	☐	☒
m.	Existing stone walls	☒	☐
n.	Proposed and reconstructed stone walls	☒	☐
o.	Wetland Mapping		
	1.) Wetland limits identified	☒	☐
	2.) Impact Area in square feet for each individual location	☐	☒
	3.) Mitigation areas (as may be required)	☐	☒
p.	Existing treeline	☒	☐
q.	Proposed treeline	☒	☐
r.	Benchmarks	☒	☐
s.	Existing drainage systems:		
	1) Pipes/culverts (each location):		
	i. Type	☒	☐
	ii. Size	☒	☐
	iii. Length and slope	☒	☐
	iv. Inverts	☒	☐
	v. End sections/Headwalls	☒	☐
	2) Structures (catch basins, drain manholes, special structures):		
	i. Location (station and off-set)	☒	☐
	ii. Type	☒	☐
	iii. Size	☒	☐
	iv. Rim Elevations	☒	☐
	v. Inverts	☒	☐
	3) Swales/Ditches/Waterways:		
	i. Flow arrows (direction of flow)	☐	☒
	ii. Topography	☐	☒
	iii. Spot elevations	☐	☒
t.	Proposed Drainage Systems:		
	1) Pipes/culverts (each location):		
	i. Type	☒	☐
	ii. Size	☒	☐
	iii. Length and slope	☒	☐
	iv. Inverts	☒	☐
	v. End sections/headwalls	☑	☐
	vi. Identify minimum cover and location	☒	☐
	vii. Outlet erosion protection	☒	☐

Site Plan Application Checklist

			Provided	N/A
2)	Structures (catchbasins, drain manholes, special structures):			
	i.	Location (sta. and off-set)	☒	☐
	ii.	Type	☒	☐
	iii.	Size	☒	☐
	iv.	Rim elevations	☒	☐
	v.	Inverts	☒	☐
3)	Swales/ditches/waterways:			
	i.	Flow arrows (direction of flow)	☐	☒
	ii.	Grading	☐	☒
	iii.	Spot elevations	☐	☒
	iv.	Erosion protection (riprap, matting, etc.)	☐	☒
u.	Temporary erosion protection during construction:			
1)	Silt fence, haybales, etc.		☒	☐
2)	Matting, mulch, etc.		☒	☐
v.	Tree protection for existing areas and/or individual trees 15" in diameter or greater		☒	☐
w.	Plan note stating that the edge of the Conservation Overlay District and Non-Distubance Zones shall be appropriately delineated in the field prior to construction		☒	☐

2. Utilities Plan:

			Provided	N/A
a.	Existing sanitary sewer system:			
1)	Pipes:			
	i.	Type	☒	☐
	ii.	Size	☒	☐
	iii.	Length and slope	☒	☐
2)	Structures:			
	i.	Location (sta. and off-set)	☒	☐
	ii.	Type	☒	☐
	iii.	Size	☒	☐
	iv.	Rim elevations	☒	☐
	v.	Inverts	☒	☐
b.	Proposed sanitary sewer system:			
1)	Pipes (gravity):			
	i.	Type	☒	☐
	ii.	Size	☒	☐
	iii.	Length and slope	☒	☐
	iv.	Separation (18" below water)	☒	☐
	v.	Identify minimum cover and locations	☒	☐
2)	Force Main:			
	i.	Type	☐	☒
	ii.	Size	☐	☒
	iii.	Direction of flow (flow arrows)	☐	☒
	iv.	Bends and thrust blocking	☐	☒
	v.	Air relief valves and structures	☐	☒
	vi.	Clean-out structures	☐	☒
	vii.	Identify minimum cover and locations	☐	☒
3)	Structures:			
	i.	Location (sta. and off-set)	☒	☐
	ii.	Type	☒	☐
	iii.	Size	☒	☐
	iv.	Rim elevations	☒	☐
	v.	Inverts	☒	☐
4)	Service laterals to each individual lot:			
	i.	Type	☒	☐

			Provided	N/A
	ii.	Size	☒	☐
	iii.	Length and slope	☒	☐
	iv.	Separation (18" below water)	☒	☐
	v.	Minimum cover and locations identified	☒	☐
	vi.	Location of connection	☒	☐
c.	Existing Water System:			
1)	Pipes:			
	i.	Type	☒	☐
	ii.	Size	☒	☐
2)	Hydrants		☒	☐
3)	Valves		☒	☐
4)	Bends and thrust blocks		☒	☐
5)	Tees		☒	☐
d.	Proposed Water System:			
1)	Pipes:			
	i.	Type	☒	☐
	ii.	Size	☒	☐
2)	Hydrants			
	i.	Locations approved by Fire Department	☒	☐
3)	Valves		☒	☐
4)	Bends and thrust blocks		☒	☐
5)	Tees		☒	☐
e.	Existing Gas Lines:			
1)	Pipes:			
	i.	Type	☒	☐
	ii.	Size	☒	☐
2)	Valves		☒	☐
f.	Proposed Gas Lines:			
1)	Pipes:			
	i.	Type	☒	☐
	ii.	Size	☒	☐
2)	Valves		☒	☐
3)	Services to each lot		☒	☐
g.	Telephone/Electrical/Cable:			
1)	U-poles		☒	☐
2)	Pedestals/transformers		☒	☐
3)	Overhead lines		☒	☐
4)	Underground lines		☒	☐
5)	Services to each lot		☒	☐

3. **Roadways:** If streets are to be built as part of a site plan (e.g., for a multi-family residential site plan), then the design of such streets shall comply with Section 3.09 of the Londonderry Subdivision Regulations, please see Subdivision Application Checklist.

VII. **Landscape Plan (Section 3.09):**

		Provided	N/A
1.	General Information		
a.	Native Plants as suggested by Appendix LS1	☒	☐
b.	No use of Invasive materials as listed in Appendix LS2	☒	☐
c.	Plant materials meet winter hardiness requirement	☒	☐

Site Plan Application Checklist

			Provided	N/A
	d.	Proposed materials are of proper caliper or height	☒	☐
	e.	Stone walls incorporated into Landscape Plan	☒	☐
	f.	Existing vegetation preservation (no-cut) areas described by metes and bounds and monumented	☐	☒
	g.	Landscaping Calculations	☒	☐
	h.	Plant Schedule	☒	☐
	I.	Landscaping Details	☒	☐
	j.	Tree Protection Detail	☒	☐
	k.	Note on Plan stating No Plant Conflicts with Snow Storage Areas, Light Fixtures, Underground Utilities	☒	☐
	l.	Note on Plan stating No Landscaping Conflicts with Sight Distance	☒	☐
	m.	Submit a Landscape Master Sheet for Review (Landscaping, site features, snow storage, light poles, detention basin edges, grading, utilities)	☒	☐
2.	Parking Lot Landscaping			
	a.	Interior landscaping percentage based on Section 3.11e	☒	☐
	b.	Interior shade trees @ 1 per 15 parking spaces	☒	☐
	c.	Perimeter shade trees @ 1 per 20 parking spaces OR 1 per 50 feet of perimeter with buffer required	☒	☐
	d.	Screening provides proper vertical opacity per Section 3.11e	☒	☐

VIII. Illumination Plan & Lighting Details (Section 3.13):

		Provided	N/A
1.	Full Cut-Off Fixtures with plan note stating all lights are full cut-off fixtures as required	☒	☐
2.	Shielded, downcast building/external signage lighting	☒	☐
3.	No direct light source at residential property lines	☒	☐
4.	Plan to scale with illumination levels shown in footcandles	☒	☐
5.	Specification (details) for all proposed lighting fixtures including photometric data, designation as IESNA "cut-off" fixtures, Color Rendering Index (CRI) of all lamps (bulbs), and other descriptive information about fixtures	☒	☐
6.	Proposed mounting height of all exterior lighting fixtures	☒	☐
7.	Illumination levels not to exceed 0.2 footcandles at any property line (Except at driveway intersections per Regulations)	☒	☐
8.	Gas Station Canopies to meet requirements of Appendix Light 2	☐	☒

IX. Building Design & Renderings (Section 3.12):

1.	Building Elevations/Renderings in compliance with Section 3.13	☒	☐
2.	Signage renderings/details	☒	☐
3.	Large Retail Establishments - Comply with Section 3.13H	☐	☒

Site Plan Application Checklist

X. Construction Detail Drawings:

Note: *Construction details to conform with NHDOT Standards & Specifications for Roads & Bridges, Town of Londonderry Department of Public Works requirements, and Subdivision & Site Plan Regulations*

		Provided	N/A
1.	Typical cross-section of pavement	☒	☐
2.	Typical driveway apron detail	☒	☐
3.	Curbing detail	☒	☐
4.	Guardrail detail	☒	☐
5.	Sidewalk detail	☒	☐
6.	Traffic signs and pavement markings	☒	☐
7.	Typical underdrain trench detail	☒	☐
8.	Drainage structure(s):		
	a. Catchbasin (including frame and grate)	☒	☐
	b. Manhole (including frame and cover)	☒	☐
	c. Outlet structure (detention basins)	☒	☐
	d. Headwalls	☒	☐
	e. Flared end sections	☒	☐
9.	Outlet protection riprap apron	☒	☐
10.	Level spreader	☐	☒
11.	Treatment swale	☐	☒
12.	Typical section at detention basin	☒	☐
13.	Typical pipe trench:		
	a. Drainage	☒	☐
	b. Sewer	☒	☐
	c. Water	☒	☐
	d. Utilities	☒	☐
14.	Sewer structures:		
	a. Manholes (including frame and cover, inverts)	☒	☐
	b. Drop manholes	☒	☐
	c. Special structures (pump stations, blowoffs, etc.)	☒	☐
	d. Pipe manhole joint details	☒	☐
15.	Typical sewer lateral service connection detail	☒	☐
16.	Project specific sewer details (sleeves, etc.)	☒	☐
17.	Typical sewer notes (per NHDES & Sewer Div. requirements)	☒	☐
18.	Hydrant detail	☒	☐
19.	Thrust block details	☒	☐
20.	Valve box detail	☒	☐
21.	Typical water connection service detail	☒	☐
22.	Erosion control details:		
	a. Haybale barriers at waterways	☐	☒
	b. Silt fence	☒	☐
	c. Stone check dam	☒	☐
	d. Stone construction entrance	☒	☐
	e. Inlet filter basket	☒	☐
	f. Haybale barrier at catchbasin	☒	☐

24.	Notes:			
	a.	General notes as required by the Department of Public Works	☒	☐
	b.	Construction sequence	☒	☐
	c.	Erosion control notes	☒	☐
	d.	Turf establishment notes	☒	☐
	e.	Sewer construction notes (as required by Sewer Ordinance)	☒	☐
	f.	Water system construction notes (as required by local water company)	☒	☐
25.	Tree protection details		☒	☐

XI. Supporting Documentation:

			Provided	N/A
1.	Traffic Impact Analysis:			
	a.	Traffic Impact analysis as required by Section 3.14	☒	☐
2.	Stormwater management report including the following:			
	a.	Table of contents	☒	☐
	b.	Narrative statement (including conclusions)	☒	☐
	c.	Summary table comparing existing and post-development conditions	☒	☐
	d.	Summary table of data for each pipe & piping system:		
		1.) Discharge	☒	☐
		2.) Depth of flow	☒	☐
		3.) Velocity	☒	☐
	e.	Summary table of data for each swale & channel:		
		1.) Discharge	☒	☐
		2.) Depth of flow	☒	☐
		3.) Velocity	☒	☐
	f.	Project location plan (on USGS quadrangle)	☒	☐
	g.	Watershed area plan for existing condition	☒	☐
	h.	Watershed area plan for post-development condition	☒	☐
	i.	Runoff calculations for existing & post-development conditions	☒	☐
	j.	Flood routing calculations for each detention basin	☒	☐
	k.	Design for water quality treatment facilities (level spreaders, treatment swales, etc.)	☒	☐
	l.	Riprap design calculations	☒	☐
	m.	Report stamped by licensed professional engineer in NH	☒	☐
3.	Fiscal impact study provided (if required)		☐	☒
4.	Off-site improvements:			
	a.	Design plans included in the project drawings	☒	☐
	b.	Arrangements and agreements	☒	☐
	c.	Easements	☒	☐
5.	Utility clearance letters (as applicable):			
	a.	Electric	☑	☐
	b.	Telephone	☑	☐
	c.	Cable television	☑	☐
	d.	Gas	☑	☐
	e.	Water	☑	☐
	f.	Sewer	☒	☐
6.	Other project-specific information as required by the Design Review Committee (DRC)		☑	☐

Site Plan Application Checklist

XII. Required Project Permits (as applicable to applications):

		Provided	N/A	App Submitted
1.	NHDES site-specific approval	☒	☐	
2.	NHDES wetlands permit	☐	☒	☐
3.	NHDES sewer discharge permit	☑	☐	
4.	NHDES water supply permit	☐	☒	☐
5.	NHDES dam permit	☐	☒	☐
6.	NHDOT driveway permit	☒	☐	
7.	Londonderry ZBA variance(s)/special exception(s)	☐	☒	☐
8.	Londonderry sewer discharge permit	☑	☐	
9.	Army Corps of Engineers	☐	☒	☐
10.	Federal Aviation Administration	☐	☒	☐
11.	Other federal, state or local permits (if applicable) for project	☐	☒	☐

XIII. Acknowledgment and Signature:

The undersigned acknowledges he/she has read and understands all of the Town's current zoning, subdivision, site plan, and health regulations and requirements for obtaining all required local, state, and federal permits.

PE

(Signature of person preparing plans)

George Chadwick, PE of Bedford Design Consultants, Inc.

(Name)

Senior Project Manager

(Title)

1-6-26

(Date)

EXHIBIT 2
SUBDIVISION FORMAL APPLICATION REQUEST FORM

A. Name of Subdivision: 222 Rockingham Road Subdivision

B. Location of Subdivision: 222 Rockingham Road Map 15 Lot 150
(Street) (Map #) (Lot #)

Number of Lots: 2

Total Acreage: 9.62

Zoning: C-I

C. Owner:

Name: Dark Horse Investments, LLC

Address: 222 Rockingham Road Londonderry, NH 03053

Phone: 1-978-866-6188

Fax:

E-Mail: johnjnorton1@gmail.com

Signature:

D. Applicant:

Name: Same as Owner

Address:

Phone:

Fax:

E-Mail:

Signature:

E. . Design Firm:

Name: The Dubay Group, Inc.

Address: 136 Harvey Road Bldg B101 Londonderry, NH 03053

Phone: 603-458-6462

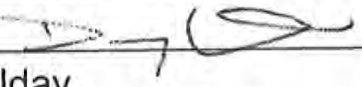
Fax: (Same as Email)

E-Mail: Doug@thedubaygroup.com

F. Name of Licensed Land Surveyor: Joel Connolly, LLS
(in responsible charge)

Signature:

G. Name of Licensed Professional Engineer: Doug MacGuire, PE
(in responsible charge)

Signature: 

H. Name of Certified Soil Scientist: Bruce Gilday

I. Name of Certified Wetland Scientist: Bruce Gilday

J. Date of Submittal to Planning Department: _____

Application Fee Attached:	☐
Escrow for Review Cost Attached:	☐
Subdivision Plans Attached:	☑
Abutters List Attached:	☐
Subdivision Application Checklist Attached:	☑
Required Documents Attached (As outlined in Subdivision Application Checklist)	☑

For Planning Department Use Only (Date Received Stamp)

EXHIBIT 5

LONDONDERRY PLANNING BOARD
SUBDIVISION APPLICATION & CHECKLIST

❑ **Design Review** ❑ **Formal Application**

All information provided and submitted with this Application Checklist shall conform to the Londonderry Site Plan Regulations. **Please note that the Planning Board may not accept and consider the application complete if the required items as outlined in the checklist are missing from the submittal.**

I. General Information:

A. Name of Project: 222 Rockingham Road Subdivision

B. Location of Project: 222 Rockingham Road (street) 15 (Map) 150 (lot)

C-1 (zoning)

C. Owner:

Name: Dark Horse Investments, LLC
Address: 222 Rockingham Road
Londonderry, NH 03053
Phone: 1-978-866-6188
Fax:
E-Mail: johnjnorton1@gmail.com
Signature:

D. Applicant:

Name: Same as Owner
Address:

Phone:
Fax:
E-Mail:
Signature:

E. Design Firm:
Name: The Dubay Group, Inc

Address: 136 Harvey road, Bldg B101, Londonderry , NH 03053

Phone: 603-458-6462

Fax:

E-Mail: doug@thedubaygroup.com

F. Name of Licensed Land Surveyor: Joel Connonlly, LLS
(in responsible charge)
Signature:

G. Name of Licensed Professional Engineer: Doug MacGuire, PE
(in responsible charge)
Signature:

H. Name of Certified Soil Scientist: Bruce Gilday

I. Name of Certified Wetland Scientist: Bruce Gilday

J. Date of Submittal to Planning Department:

II. General Requirements (All Applications):

		Provided	N/A
1.	Executed Subdivision Formal Application Request Form (Exhibit 2)	■	☐
2.	Executed Subdivision Design Review Request Form (Exhibit 3)	☐	■
3.	Complete abutters list	☐	■
4.	All Required Fees	☐	■
5.	Four (4) sets of plans and electronic “PDF” plans (12 sets if electronic plans not possible) submitted with all required information in accordance with the site plan regulations and this checklist	■	☐
6.	Copies of any proposed easement deeds, protective Covenants or other legal documents	■	☐
7.	Any waiver request(s) submitted with justification in writing	☐	■
8.	Technical reports and supporting documents (see Sections X & XI of this checklist)	☐	■
9.	Completed Subdivision Application Checklist	■	☐

		Provided	N/A
10.	Letter explaining how DRC comments have been addressed and two (2) sets of highlighted, revised drawings (applicable if pre-application design review process was followed).	■	☐

III. General Plan Information (All Plans):

1.	Size and presentation of sheet(s) per requirements of the subdivision regulations	■	☐
2.	Title block information:		
	a. Drawing title	■	☐
	b. Name of site plan	■	☐
	c. Location of site plan	■	☐
	d. Tax map & lot #s of subject parcel(s)	■	☐
	e. Name & address of owner(s)	■	☐
	f. Date of plan	■	☐
	g. Scale of plan	■	☐
	h. Sheet number	■	☐
	i. Name, address, & telephone number of design firm	■	☐
	j. Name and address of Applicant	■	☐
3.	Revision block	■	☐
4.	Planning Board approval block provided on appropriate sheets (Cover sheet, boundary plans only)	■	☐
5.	Certification block (for engineer, surveyor, soil scientist, or wetland scientist)	■	☐
6.	Match lines (if any)	■	☐

IV. Title Sheet:
(may be consolidated with Boundary Plan)

1.	The following notes shall be provided:		
	a. Purpose of plan	■	☐
	b. Tax map and lot #s of all subject parcels	■	☐
	c. Area (existing & proposed) of subject parcel(s)	■	☐
	d. Zoning designation of subject parcel(s)	■	☐
	e. Min. lot area, frontages & setback dimensions	■	☐
	f. Existing and proposed use	■	☐
	g. Sanitary sewer source (name of provider (company) if offsite)	■	☐
	h. Water supply source (name of provider (company) if offsite)	■	☐
	i. Zoning variances/special exceptions with conditions	☐	■
	j. List FEMA sheet(s) used to identify 100-year flood elevation. (Note if no flood zone present as applicable)	■	☐
	k. List of required permits and permit approval numbers	■	☐
	l. List of Planning Board waivers (if applicable)	■	☐
	m. Note identifying # of bedrooms per dwelling for residential use	■	☐

			Provided	N/A
	n.	Phasing notes, as required, under Section 4.18i as applicable	■	☐
	o.	Note identifying which plans are to be recorded and which are on file at the town	■	☐
	p.	Note the following: "If, during construction, it becomes apparent that deficiencies exist in the approved design drawings, the Owner shall be required to correct the deficiencies to meet the requirements of the regulations at no expense to the Town."	■	☐
	q.	Note the following: "If, during construction, it becomes apparent that additional erosion control measures are required to stop any erosion on the construction site due to actual site conditions, the Owner shall be required to install the necessary erosion protection at no expense to the Town.	■	☐
	r.	Note the following: "All materials and methods of construction shall conform to Town of Londonderry Subdivision Regulations and the latest edition of the New Hampshire Department of Transportation's Standard Specifications for Road & Bridge Construction."	■	☐
2.		Tax map sketch plan (or detail) showing proposed lot configuration at a scale 1" = 400'	■	☐
3.		Vicinity plan (at a scale of 1"=2500')	■	☐
4.		Plan index indicating all sheets	■	☐
V.		**Boundary Plan (Subdivision, Consolidation and Lot Line Adjustment:**		
1.		Surveyor's certification stamped and signed by LLS	■	☐
2.		Boundary of entire property by metes and bounds	■	☐
3.		Proposed lot configuration defined by metes and bounds	■	☐
4.		Boundary monuments:		
	a.	Monuments found	■	☐
	b.	Monuments to be set	■	☐
5.		Map # and Lot #, name addresses, and zoning of all abutting land owners	■	☐
6.		Existing streets:		
	a.	Name labeled	■	☐
	b.	Status noted or labeled	■	☐
	c.	Right-of-way dimensioned	■	☐
	d.	Pavement width dimensioned	■	☐
7.		Municipal boundaries (if any)	☐	■
8.		Existing easements (identified by type)	■	☐

		Provided	N/A
9.	Proposed easements defined by metes & bounds. Check each type of proposed easement applicable to this application:		
	a. Drainage easement(s)	☐	■
	b. Slope easement(s)	☐	■
	c. Utility easement(s)	■	☐
	d. Temporary easement(s) (such as temporary turnaround)	☐	■
	e. No-cut zone(s), including those along streams & wetlands (as may be requested by the Conservation Commission)	☐	■
	f. Vehicular & pedestrian access easement(s)	■	☐
	g. Visibility easements	☐	■
	h. Fire pond/cistern easement(s)	☐	■
	i. Roadway widening easement(s)	☐	■
	j. Walking trail easement(s)	☐	■
	k. Other easement(s) _____ Note type(s) _____	☐	☐
10.	Designation of each proposed lot (by map & lot #s as provided by the assessor)	■	☐
11.	Area of each lot (in acres & square feet):		
	a. Existing lot(s)	■	☐
	b. Proposed lot(s)	■	☐
12.	North Arrow	■	☐
13.	Locus map (at a scale of 1" = 2,500)	■	☐
14.	Limits of wetlands & CO District Boundary	■	☐
15.	Wetland delineation:		
	a. Wetland delineation criteria & Certification	■	☐
16.	Owner(s) signature(s)	■	☐
17.	Proposed streets:		
	a. Name(s) labeled	■	☐
	b. Width of right-of-way dimensioned	☐	■
18.	All required setbacks (including any applicable buffers)	■	☐
19.	Physical features:		
	a. Existing features -- Buildings	■	☐
	Wells	☐	■
	Septic systems	☐	■
	Stonewalls	■	☐
	Paved drives	■	☐
	Gravel drives	■	☐
20.	Location & name (if any) of any streams or waterbodies	☐	■
21.	Location & elevation(s) of 100-year flood zone per FEMA Flood Insurance Study or as determined by drainage study	■	☐
22.	Location of existing overhead utility lines, poles, towers, etc.	■	☐

		Provided	N/A
23.	Plan and deed references	■	☐
24.	Zoning District boundary lines (if any)	■	☐
VI.	**Topographical/HISS Plan Requirements):**		
1.	Surveyor's stamp and signature by LLS	■	☐
2.	Boundary of entire property to be subdivided	■	☐
3.	Proposed lot configuration defined by metes and bounds	■	☐
4.	Boundary monuments:		
	a. Monuments found	■	☐
	b. Monuments to be set	■	☐
5.	Map # and lot #, name addresses, and zoning of all abutting land owners	■	☐
6.	Existing streets:		
	a. Name labeled	■	☐
	b. Status noted or labeled	■	☐
	c. Right-of-way dimensioned	■	☐
	d. Pavement width dimensioned	■	☐
7.	Municipal boundaries (if any)	☐	■
8.	Existing easements (identified by type)	■	☐
9.	Proposed easements defined by metes & bounds. Check each type of proposed easement applicable to this application:		
	a. Drainage easement(s)	☐	■
	b. Slope easement(s)	☐	■
	c. Utility easement(s)	■	☐
	d. Temporary easement(s) (such as temporary turnaround)	☐	■
	e. No-cut zone(s) along streams & wetlands (as may be requested by the Conservation Commission)	☐	■
	f. Vehicular & pedestrian access easement(s)	☐	■
	g. Visibility easements	■	☐
	h. Fire pond/cistern easement(s)	☐	■
	i. Roadway widening easement(s)	☐	■
	j. Walking trail easement(s)	☐	■
	k. Other easement(s) _____ Note type(s) _____	☐	☐
10.	Designation of each proposed lot (by map & lot #s as provided by the assessor)	■	☐
11.	Area of each lot (in acres & square feet):		
	a. Existing lot(s)	■	☐
	b. Proposed lot(s)	■	☐
12.	North arrow	■	☐

		Provided	N/A
13.	Locus map (at a scale of 1" = 2,500) shown	■	☐
14.	Limits of wetlands	■	☐
15.	Wetland delineation:		
	a. Wetland delineation criteria	■	☐
	b. Wetland scientist certification	■	☐
16.	Owner(s) signature(s)	■	☐
17.	Proposed streets:		
	a. Name(s) labeled	■	☐
	b. Width of right-of-way dimensioned	☐	■
	c. Pavement width dimensioned	☐	■
18.	All required setbacks (including any applicable buffers)	■	☐
19.	Physical features (Existing Features):		
	a. Buildings	■	☐
	b. Wells	☐	■
	c. Septic systems	☐	■
	d. Stone walls	■	☐
	e. Paved drives	■	☐
	f. Gravel drives	■	☐
20.	Location & name (if any) of any streams or waterbodies	☐	■
21.	Location & elevation(s) of 100-year flood zone per FEMA Flood Insurance Study or as determined by drainage study	■	☐
22.	Location of existing overhead utility lines, poles, towers, etc.	■	☐
23.	Plan and deed references	■	☐
24.	Two-foot contour interval topography shown over all subject parcels	■	☐
25.	Source and datum of topographic information (USGS required)	■	☐
26.	Show at least one benchmark per sheet (min.) and per 5 acres (min.) of total site area	■	☐
27.	USDA-SCS soil survey information (where municipal sewer is to be provided)	■	☐
28.	Location, type, size & inverts of the following (as applicable):		
	a. Existing water systems	■	☐
	b. Existing sewer systems	■	☐
	c. Existing drainage systems	☐	■
	d. Existing utilities	■	☐

		Provided	N/A
29.	4K Areas with test pits on all proposed lots (meeting NHDES & Town setback requirements)	☐	■
30.	Location of all water wells with protective radii as required by the NHDES (meeting Town and NHDES setback requirements)	☐	■
31.	Existing treelines	■	☐
32.	Existing ledge outcroppings & other significant natural features	■	☐
33.	HISS requirements:		
	a. Criteria for HISS delineation	☐	■
	b. Soil scientist certification on plan (if HISS required)	☐	■
	c. HISS mapping shown over all subject parcels (where no municipal sewer exists)	☐	■
34.	Plan as submitted to the NHDES	☐	■

VII. Improvement Plans (Stamped by Engineer Licensed in NH):

1.	Grading and Drainage:		
	a. Existing topography (two-foot contour interval minimum)	■	☐
	b. Proposed contours	■	☐
	c. Existing spot elevations	■	☐
	d. Proposed spot elevations	■	☐
	e. Existing edge of pavement	■	☐
	f. Proposed edge of pavement	■	☐
	g. Existing curb line	☐	■
	h. Proposed curb line	☐	■
	i. Existing buildings and structures	■	☐
	j. Proposed buildings and structures	☐	■
	k. Existing retaining walls	☐	■
	l. Proposed retaining walls	☐	■
	m. Existing stone walls	☐	■
	n. Reconstructed stone walls	☐	■
	o. Existing treeline	■	☐
	p. Proposed treeline	■	☐
	q. Benchmarks	■	☐
	r. Existing drainage systems:		
	1.) Pipes/culverts (each location):		
	i. Type	☐	■
	ii. Size	☐	■
	iii. Length and slope	☐	■
	iv. Inverts	☐	■
	v. End sections/Headwalls	☐	■
	2.) Structures (catchbasins, drain manholes, special structures):		
	i. Location (sta. and off-set)	☐	■
	ii. Type	☐	■
	iii. Size	☐	■
	iv. Rim Elevations	☐	■
	v. Inverts	☐	■

		Provided	N/A
3.)	Swales/Ditches/Waterways:		
i.	Flow arrows (direction of flow)	☐	■
ii.	Topography	☐	■
iii.	Spot elevations	☐	■
t.	Proposed Drainage Systems:		
1.)	Pipes/culverts (each location):		
i.	Type	☐	■
ii.	Size	☐	■
iii.	Length and slope	☐	■
iv.	Inverts	☐	■
v.	End sections/headwalls	☐	■
vi.	Identify minimum cover and location	☐	■
vii.	Outlet erosion protection	☐	■
2.)	Structures (catchbasins, drain manholes, special structures):		
i.	Location (sta. and off-set)	☐	■
ii.	Type	☐	■
iii.	Size	☐	■
iv.	Rim elevations	☐	■
v.	Inverts	☐	■
3.)	Swales/ditches/waterways:		
i.	Flow arrows (direction of flow)	☐	■
ii.	Grading	☐	■
iii.	Spot elevations	☐	■
iv.	Erosion protection (riprap, matting, etc.)	☐	■
u.	Temporary erosion protection during construction:		
1.)	Silt fence, haybales, etc.	☐	■
2.)	Matting, mulch, etc.	☐	■
2. Utilities:			
a.	Existing sanitary sewer system:		
1.)	Pipes:		
i.	Type	■	☐
ii.	Size	■	☐
iii.	Length and slope	☐	■
2.)	Structures:		
i.	Location (sta. and off-set)	☐	■
ii.	Type	■	☐
iii.	Size	■	☐
iv.	Rim elevations	■	☐
v.	Inverts	■	☐
b	Proposed sanitary sewer system:		
1.)	Pipes (gravity):		
i.	Type	■	☐
ii.	Size	■	☐
iii.	Length and slope	■	☐
iv.	Separation (18" below water)	■	☐
v.	Identify minimum cover and locations	☐	■

			Provided	N/A
2.)	Force Main:			
	i.	Type	☐	■
	ii.	Size	☐	■
	iii.	Direction of flow (flow arrows)	☐	■
	iv.	Bends and thrust blocking	☐	■
	v.	Air relief valves and structures	☐	■
	vi.	Clean-out structures	☐	■
	vii.	Identify minimum cover and locations	☐	■
3.)	Structures:			
	i.	Location (sta. and off-set)	☐	■
	ii.	Type	■	☐
	iii.	Size	■	☐
	iv.	Rim elevations	■	☐
	v.	Inverts	■	☐
4.)	Service laterals to each individual lot:			
	i.	Type	■	☐
	ii.	Size	■	☐
	iii.	Length and slope	■	☐
	iv.	Separation (18" below water)	■	☐
	v.	Minimum cover and locations identified	☐	■
	vi.	Location of connection	■	☐
c.	Existing Water System:			
1.)	Pipes:			
	i.	Type	■	☐
	ii.	Size	■	☐
2.)	Hydrants		☐	■
3.)	Valves		☐	■
4.)	Bends and thrust blocks		☐	■
5.)	Tees		☐	■
d.	Proposed Water System:			
1.)	Pipes:			
	i.	Type	■	☐
	ii.	Size	■	☐
2.)	Hydrants			
	i.	Locations approved by Fire Department	■	☐
3.)	Valves		■	☐
4.)	Bends and thrust blocks		■	☐
5.)	Tees		■	☐
e.	Existing Gas Lines:			
1.)	Pipes:			
	i.	Type	■	☐
	ii.	Size	■	☐
2.)	Valves		☐	■
f.	Proposed Gas Lines:			
1.)	Pipes:			
	i.	Type	■	☐
	ii.	Size	■	☐
2.)	Valves		☐	■

	Provided	N/A
3.) Services to each lot	☐	■
g. Telephone/Electrical/Cable:		
1.) U-poles	■	☐
2.) Pedestals/transformers	■	☐
3.) Overhead lines	☐	■
4.) Underground lines	■	☐
5.) Services to each lot	■	☐

3. Roadways:

a. Plan and profile drawings (stamped by engineer licensed in NH)	☐	■
1.) All items required above under a. Grading and Drainage	☐	■
2.) All items required above under b. Utilities	☐	■
3.) Profile grid (station and elevation) with horizontal To vertical scale (ratio = 10:1) and datum	☐	■
4.) Existing grade profile	☐	■
5.) Proposed profile:		
i. PVIs (station and elevation)	☐	■
ii. PVCs (station and elevation)	☐	■
iii. PVTs (station and elevation)	☐	■
iv. Length of vertical curve	☐	■
v. K-values	☐	■
vi. Tangent slopes	☐	■
vii. Drainage system	☐	■
viii. Sewer system	☐	■
ix. Water system	☐	■
x. Crest stations identified (stations and elevations)	☐	■
xi. Sag station identified (stations and elevations)	☐	■
xii. Existing and proposed grades at fifty (50) foot stations	☐	■
6.) Road intersection (equation of stations)	☐	■
7.) Label street name	☐	■
8.) Right-of-way lines	☐	■
9.) Easement lines:		
i. Drainage	☐	■
ii. Sewer	☐	■
iii. Visibility	☐	■
iv. Utility	☐	■
v. Access	☐	■
vi. Slope	☐	■
10.) Wetlands Mapping:		
i. Wetland limits identified	☐	■
ii. Impact area identified in square feet for each individual location	☐	■
11.) Driveway shown to each individual lot (with grading and culverts if required)	☐	■

		Provided	N/A
12.)	Centerline geometry including:		
	i. Bearings and distances labeled	☐	■
	ii. Tangents	☐	■
	iii. Curve data	☐	■
	iv. PC's	☐	■
	v. PT's	☐	■
13.)	Pavement:		
	i. Width	☐	■
	ii. Corner radius (edge of pavement)	☐	■
	iii. Curbing	☐	■
14.)	Existing and proposed lot lines	☐	■
15.)	Lot designations	☐	■
16.)	Underdrain location (beginning and end stations)	☐	■
17.)	Guardrail Location (beginning and end stations, off-set)	☐	■
18.)	Traffic control signs (stop, street, etc.)	☐	■
19.)	Pavement markings	☐	■

VIII. Construction Detail Drawings:

Note: Construction details to conform with NHDOT Standards & Specifications for Roads & Bridges, Town of Londonderry Department of Public Works requirements, and Subdivision Regulations

1.	Typical cross-section of pavement	■	■
2.	Typical driveway apron detail	☐	■
3.	Curbing detail	☐	■
4.	Guardrail detail	☐	■
5.	Sidewalk detail	☐	■
6.	Traffic signs and pavement markings	☐	■
7.	Typical underdrain trench detail	☐	■
8.	Drainage structure(s):		
	a. Catchbasin (including frame and grate)	☐	■
	b. Manhole (including frame and cover)	☐	■
	c. Outlet structure (detention basins)	☐	■
	d. Headwalls	☐	■
	e. Flared end sections	☐	■
9.	Outlet protection riprap apron	☐	■
10.	Level spreader	☐	■
11.	Treatment swale	☐	■
12.	Typical section at detention basin	☐	■

		Provided	N/A
13.	Typical pipe trench:		
	a. Drainage	☐	■
	b. Sewer	☐	■
	c. Water	☐	■
	d. Utilities	☐	■
14.	Sewer structures:		
	a. Manholes (including frame and cover, inverts)	■	☐
	b. Drop manholes	☐	■
	c. Special structures (pump stations, blowoffs, etc.)	☐	■
	d. Pipe manhole joint details	■	☐
15.	Typical sewer lateral service connection detail	■	■
16.	Typical chimney detail	☐	■
17.	Project specific sewer details (sleeves, etc.)	☐	■
18.	Typical sewer notes (as per NHDES and Sewer Division requirements)	■	☐
19.	Hydrant detail	☐	■
20.	Thrust block details	☐	■
21.	Valve box detail	■	☐
22.	Typical water connection service detail	☐	■
23.	Erosion control details:		
	a. Haybale barriers at waterways	☐	■
	b. Silt fence	☐	■
	c. Stone check dam	☐	■
	d. Stone construction entrance	☐	■
	e. Inlet filter basket	☐	■
	f. Haybale barrier at catchbasin	☐	■
24.	Notes:		
	a. General notes as required by the Department of Public Works	☐	■
	b. Construction sequence	☐	■
	c. Erosion control notes	☐	■
	d. Turf establishment notes	☐	■
	e. Sewer construction notes (as required by Sewer Ordinance)	☐	■
	f. Water system construction notes (as required by local water company)	☐	■

IX. Cross-Sections:

1.	Roadway cross sections at 50-foot intervals	☐	■
2.	Roadway cross sections at culvert locations (inlet/outlet)	☐	■

		Provided	N/A
3.	Scale of sections at 1" = 5' H & V	☐	■
4.	Existing & finish centerline grades	☐	■
5.	Proposed pavement, crushed gravel and bank run gravel limits	☐	■
6.	Right-of-way and easement limits	☐	■
7.	Roadway & shoulder cross slopes	☐	■
8.	Embankment slopes	☐	■
9.	Underdrains	☐	■
10.	Drainage piping and structures	☐	■
11.	Sewer piping and structures	☐	■
12. Utilities:			
	a. Water lines	☐	■
	b. Gas lines	☐	■
	c. Telephone/electric/cable	☐	■
13.	Guardrail	☐	■

X. Supporting Documentation:

1.	Lot sizing calculations	☐	■
2.	Test pit/perc.test data	☐	■
3.	Stormwater management report including the following:		
	a. Table of contents	☐	■
	b. Narrative statement (including conclusions)	☐	■
	c. Summary table comparing existing and post-development conditions	☐	■
	d. Summary table of data for each pipe & piping system:		
	1.) Discharge	☐	■
	2.) Depth of flow	☐	■
	3.) Velocity	☐	■
	e. Summary table of data for each swale & channel:		
	1.) Discharge	☐	■
	2.) Depth of flow	☐	■
	3.) Velocity	☐	■
	f. Project location plan (on USGS quadrangle)	☐	■
	g. Watershed area plan for existing condition	☐	■
	h. Watershed area plan for post-development condition	☐	■
	i. Runoff calculations for existing & post-development conditions	☐	■
	j. Flood routing calculations for each detention basin	☐	■

			Provided	N/A
	k.	Design for water quality treatment facilities (level spreaders, treatment swales, etc.)	☐	■
	l.	Riprap design calculations	☐	■
	m.	Report stamped by licensed professional engineer in NH	☐	■
4.	Traffic Impact Analysis:			
	a.	Traffic Impact analysis as required by Section 3.14	■	☐
5.	Fiscal impact study provided (if required)		☐	■
6.	Off-site improvements:			
	a.	Design plans included in the project drawings	☐	■
	b.	Arrangements and agreements	☐	■
	c.	Easements	■	☐
7.	Utility clearance letters (as applicable):			
	a.	Electric	■	☐
	b.	Telephone	■	☐
	c.	Cable television	■	☐
	d.	Gas	■	☐
	e.	Water	■	☐
	f.	Sewer	☐	☐
8.	Other project-specific information as required by the Design Review Committee (DRC)		☐	■

XI. Required Project Permits (as applicable to applications):

		Provided	N/A	App Submitted
1.	NHDES subdivision approval	☐	■	☐
2.	NHDES site-specific approval	☐	■	☐
3.	NHDES wetlands permit	■	☐	☐
4.	NHDES sewer discharge permit	☐	☐	■
5.	NHDES water supply permit	☐	■	☐
6.	NHDES dam permit	☐	■	☐
7.	NHDOT driveway permit	■	☐	☐
8.	Londonderry ZBA variance(s)/special exception(s)	☐	■	☐
9.	Londonderry sewer discharge permit	☐	☐	☐
10.	Army Corps of Engineers	☐	■	☐
11.	Federal Aviation Administration	☐	■	☐
12.	Other federal, state or local permits (if applicable) for project	■	☐	☐

XII. Acknowledgment and Signature:

The undersigned acknowledges he/she has read and understands all of the Town's current zoning, subdivision, site plan, and health regulations and requirements for obtaining all required local, state, and federal permits.

_____
(Signature of person preparing plans)

Jake Doerfler, PE
(Name)

Project Engineer
(Title)

1/15/2026
(Date)

The Dubay Group, Inc.
136 Harvey Road Bldg B101
Londonderry, NH 03053
(603) 458-6462

January 15, 2026

Ms. Kellie Caron
Community Development Department
268 Mammoth Road
Londonderry, NH 03053

RE: Proposed Subdivision
Tax Map 15 Lot 150
222 Rockingham Road

Dear Ms. Caron:

We have reviewed your latest comment letter dated December 10, 2025, for the above referenced project. Based on that review, we offer the following revised plan and responses to comments.

General Comments:

1. The submission information indicates a proposed common driveway to be shared by the two new lots and sheet 5 indicates the improvements for the common driveway and the associated impacts in the updated submission. However, the revised subdivision submission does not include a stormwater analysis/report per section 3.08 of the Subdivision Regulations and item X.3 of the Subdivision Application & Checklist for the indicated improvements to demonstrate the proposed improvements comply with section 3.08.A of no increase in runoff. We recommend the Applicant prepare and provide a stormwater analysis/report that addresses all the proposed development which demonstrates compliance with the Subdivision Regulations in accordance with section 3.08 and also demonstrates compliance with the Town's Stormwater Ordinance and Regulations under this application. The Applicant has noted a waiver has been requested in the response letter, but the request was absent from the submission.

   TDG Response: *A waiver has been requested for the stormwater analysis/report.*

2. The Applicant has provided a NHDOT Driveway permit for the new shared driveway under this development, but the driveway permit does not include the indicated utility connects in the roadway and a separate NHDOT permit is required. In addition, the proposed new driveway and indicated utilities will require a Town of Londonderry Sewer Permit and a Town of Londonderry Stormwater Permit. At this time, it is unknown if the Applicant has submitted for these project permits. The Applicant should submit for and obtain all project permits and indicate the permit approval numbers on the cover sheet and provide copies of all permits for the Planning Department files per sections 4.14 and 4.18.E of the Subdivision Regulations and Item XI of the Subdivision Application & Checklist.

   TDG Response: *Comment noted. As a Right of Way Activity Permit is a construction related items that will be obtained during construction. The Londonderry Sewer Permit and the Stormwater permit will be obtained as part of the Site plan application.*

3. The Applicant has not provided utility clearance letters for water or sewer service for the new lot under this application per sections 3.06, 3.07, and 4.18.B of the Subdivision Regulation and items X.7.e, and f of the checklist. We recommend the Applicant provide utility clearance letters in accordance with the regulations.

   TDG Response: *Utility clearance letter has been obtained from Manchester Water Works. Communication with the Town of Londonderry Sewer Division and The Dubay Group is on-going. As explained to The Dubay Group by Mr. Kerry of the Town of Londonderry, the sewer clearance letter will be in the form of the Londonderry Sewer Connection Permit, which cannot be provided until the NHDES Sewer Connection Permit is obtained.*

4. The updated subdivision plan includes an easement along Rockingham Road for the existing sewer located within the existing lot. We recommend the Applicant arrange a meeting with the Department of Environmental Services and Sewer Division to discuss the sewer easement under this application. Please update as acceptable to the Department of Environmental Services and Sewer Division.

   TDG Response: *Communication with the Town of Londonderry Sewer Division and The Dubay Group is on-going. The sewer design is being reviewed by the sewer department. Details acceptable to the sewer department will be added to the details.*

5. The Applicant did not provide copies of any proposed easement deeds, protective covenants, or other legal documents as required by section 4.18. C & D of the regulations and item II.6 of the Checklist. We recommend the Applicant provide draft copies for review by the Town in the next project submission.

   TDG Response: *The client is working with his Attorney to provide draft Legal documents for review.*

6. We recommend the Applicant address the following on the **Subdivision Plan and Existing Conditions (Topographic) Plan:**
   a) Please update the tax map on the cover sheet to properly indicate the proposed subdivision per section 4.15 of the regulations and item IV.2 of the checklist.
   b) Please remove the Planning Board signature block from the existing conditions plan – sheet 2 and topographic plan – sheet 4 - per section 4.03 of the regulations.
   c) Please provide proper monuments along the new property lines and along the property boundary that are missing per sections 3.02.A & B and 4.12.C.4.ii of the regulations and item V.4.b of the checklist. Please update all sheets accordingly.
   d) Please confirm the proposed lot number designations and addresses with the Assessor per section 4.12.C.10 of the regulations and item V.10 of the checklist. Please update all plans accordingly.
   e) Please update the notes on the cover sheet to clarify/address the Proposed use for each lot per section 4.11 of the regulations and item IV of the checklist

   TDG Response: *The plans have been updated accordingly. Communication with the Assessing Department is included in the resubmission.*

7. We recommend the Applicant verify the DRC comments for the project are adequately addressed as applicable:
    a) Please verify the comments of Planning Department have been adequately addressed with the Planning Department.
    b) Please verify the comments of Assessing Department have been adequately addressed with the Assessing Department.
    c) Please verify the comments of Conservation Commission have been adequately addressed with the Commission.
    d) Please verify the comments of Fire Department have been adequately addressed with the Department.
    e) Please verify the comments of Police Department have been adequately addressed with the Department.
    f) Please verify the comments of Tax Department have been adequately addressed with the Department.
    g) Please verify the comments of Sewer Division have been adequately addressed with the Division.

    TDG Response: *The latest DRC comment letter from the Planning Department illustrates that these departments are satisfied. The only remaining DRC comments are to provide all utility clearance letters (addressed in comment 3 above) and to provide draft easements and other legal documents (see response for comment 5 above).*

Please let me know if there are any further questions or comments.

The Dubay Group, Inc.

Jake Doerfler, PE. CPESC
Staff Engineer

The Dubay Group, Inc.
136 Harvey Road, Bldg B101
Londonderry, NH 03053
603-458-6462 thedubaygroup.com

MEMORANDUM

To:	Londonderry Planning Board	Date:	January 15, 2026
From:	Doug MacGuire, PE	Re:	222 Rockingham Road Subdivision Waiver Requests

Waiver of Section 3.08 of the Subdivision Regulations

The applicant respectfully requests a waiver from Section 3.08 to allow for a subdivision application to be submitted without a drainage analysis as the regulations require. In this circumstance, the subdivision application is being submitted in conjunction with a detailed site plan application. The site plan application does include a drainage analysis that has been reviewed and approved by the NHDES Alteration of Terrian Bureau and has been reviewed by the Town of Londonderry. A separate drainage analysis specific to the subdivision application would be redundant.

E # 24000202 01/03/2024 09:13:51 AM
Book 6526 Page 81 Page 1 of 2
Register of Deeds, Rockingham County

Return To:
Dark Horse Investments, LLC
222 Rockingham Road
Londonderry, NH 03053

LCHIP	ROA667570	25.00
TRANSFER TAX	RO127352	7,500.00
RECORDING		14.00
SURCHARGE		2.00

Transfer Tax: $____7500_____

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS, That, **Heather T. Lennon**, a single person, with a mailing address of 222 Rockingham Road, Londonderry, NH 03053, for consideration paid grant(s) to **Dark Horse Investments, LLC**, a New Hampshire Limited Liability Company, a mailing address of 152 Turnpike Road, Unit 6, Chelmsford, MA 01824, with WARRANTY COVENANTS:

A certain parcel of land, with any buildings thereon, situated in Londonderry, County of Rockingham and State of New Hampshire, bounded and described as follows, viz:

Beginning on the northerly side of the highway leading from the John Morrison house to the Mammoth Road on the westerly line of said Morrison land; thence North 10° West, sixty-six (66) rods and nineteen (19) links; thence South 79° West, thirty-eight (38) rods and seventeen (17) links; thence South 10° East two (2) rods and twelve (12) links; thence same course by an old wall and across a mud hole or pond, and by an old wall to corner of wall at the northeast corner of land of Robert Smith; thence South 10° East to the northerly side of the above mentioned highway; thence northeasterly on the northerly side of said highway to the point of beginning.

Excepting and reserving the following parcels of land, bounded and described as follows:

Beginning on the northerly side of Rockingham Road at land now or formerly of DeGelan; thence North 3° 48' East, one thousand thirty-four and fifty one-hundredths (1,034.50) feet to a stone wall at land now or formerly of LeDaux; thence South 88° 15' East two hundred thirty-five (235) feet along stone wall to an intersection of walls; thence South 3° 3' West, one thousand fifty-five and fifty-eight one-hundredths (1,055.58) feet partially along a stone wall to a point on a northerly side of Rockingham Road; thence in a general westerly direction along

the northerly side of Rockingham Road, two hundred thirty (230) feet to the point of beginning. Containing 5.5 acres, more or less, as shown on Plan #C-2223.

This conveyance is subject to any easements granted to the Northeastern Gas Transmission Company by Agreement dated February 6, 1952.

Meaning and intending to describe and convey the same premises as conveyed to Heather T. Lennon by virtue of a deed dated August 13, 2020 recorded in the Rockingham County Registry of Deeds at Book 6157, Page 232. Joyce M. Tuden retained a life estate in the premises in said deed. Joyce M. Tuden died on February 17, 2023. See Death Certificate recorded near or even date herewith.

The grantor(s) hereby release all rights of homestead in the above-described property.

Executed this 2nd day of January, 2024.

Heather T. Lennon

State of New Hampshire
County of Hillsborough

Personally appeared the above named Heather T. Lennon , before me this 2nd day of January, 2024, known to be the person(s) whose name(s) are subscribed to the foregoing instrument and acknowledged that she executed the same for the purposes therein contained.

KERRY W. MACDONALD
NOTARY PUBLIC
STATE OF NEW HAMPSHIRE
-MY-
COMMISSION EXPIRES
JUNE 10, 2025

Notary Public/Justice of the Peace
My Commission Expires:

NHDES ALTERATION OF TERRAIN PERMIT APPLICATION & DRAINAGE ANALYSIS

222 Rockingham Road

Map 15 Lot 150-1
222 Rockingham Road
Londonderry, NH 03053

PREPARED FOR:

Dark Horse Investments, LLC
222 Rockingham Road
Londonderry, NH 03053

PREPARED BY:

The Dubay Group, Inc.
136 Harvey Road Bldg B101
Londonderry, NH 03053
P: 603-458-6462
www.TheDubayGroup.com

Date: May 19, 2025

Revised October 7, 2025

Revised January 15, 2026

Engineers **Planners** **Surveyors**

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A. Copy of Signed Application
B. Copy of Check
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D. Copy of Proof of Delivery to Municipality
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B. Existing Site Conditions
C. Proposed Site Conditions
D. Stormwater Treatment
E. Groundwater Recharge

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B. Northeast Regional Climate Center Extreme Precipitation Tables
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C. Post-Development Drainage Area Plan

NHDES Alteration of Terrain

I. APPLICATION

A. Copy of Signed Application

B. Copy of Check

C. USGS Map

D. Copy of Proof of Delivery to Municipality

E. Application Checklist

ALTERATION OF TERRAIN PERMIT APPLICATION

Water Division / Land Resources Management

Check the status of your application

RSA / Rule: RSA 485-A:17, Env-Wq 1500

Administrative Use Only	Administrative Use Only	Administrative Use Only	File Number:
			Check No.
			Amount:
			Initials:

1. APPLICANT INFORMATION (INTENDED PERMIT HOLDER)			
Applicant Name: Dark Horse Investments, LLC		Contact Name: John Norton	
Email: johnjnorton1@googlemail.com		Daytime Telephone: 978-866-6188	
Mailing Address: 222 Rockingham Road			
Town/City: Londonderry		State: NH	ZIP Code: 03053
2. APPLICANT'S AGENT INFORMATION If none, check here: ■			
Agent's Name:		Contact Name:	
Email:		Daytime Telephone:	
Address:			
Town/City:		State:	ZIP Code:
3. PROPERTY OWNER INFORMATION (IF DIFFERENT FROM APPLICANT) Check here if more than one property owner, and attach additional sheets as necessary: ☐			
Owner's Name:		Contact Name:	
Email:		Daytime Telephone:	
Mailing Address:			
Town/City:		State:	ZIP Code:
4. PROPERTY OWNER'S AGENT INFORMATION If none, check here: ■			
Business Name:		Contact Name:	
Email:		Daytime Telephone:	
Address:			
Town/City:		State:	ZIP Code:
5. CONSULTANT INFORMATION If none, check here: ☐			
Engineering Firm: The Dubay Group, Inc		Contact Name: Doug MacGuire, PE	
Email: doug@thedubaygroup.com		Daytime Telephone: 603-458-6462	
Address: 136 Harvey Road, Bldg B101			
Town/City: Londonderry		State: NH	ZIP Code: 03053

6. PROJECT TYPE

☐ Excavation Only ■ Residential ☐ Commercial ☐ Golf Course ☐ School ☐ Municipal
☐ Agricultural ☐ Land Conversion ☐ Other:

7. PROJECT LOCATION INFORMATION

Project Name: Tax Map 15 Lot 150-1: 222 Rockingham Road

Street/Road Address: 222 Rockingham Road

Town/City: Londonderry	County: Merrimack

Tax Map: 15	Block:	Lot Number: 150	Unit:

Post-development, will the proposed project withdraw from or directly discharge to any of the following? If yes, identify the purpose.

1. Stream or Wetland Purpose: Unnamed wetland	■ Yes ☐ No	☐ Withdrawal	■ Discharge
2. Artificial pond created by impounding a stream or wetland Purpose:	☐ Yes ■ No	☐ Withdrawal	☐ Discharge
3. Unlined pond dug into the water table Purpose:	☐ Yes ■ No	☐ Withdrawal	☐ Discharge

Post-development, will the proposed project discharge to:

- Within one-quarter mile of a surface water impaired for phosphorus and/or nitrogen? ■ No ☐ **Yes**
- Within one-quarter mile of a Class A surface water or within the watershed area of an Outstanding Resource Water?
  ■ No ☐ **Yes**
- Within one-quarter mile of a lake or pond not covered previously? ■ No ☐ **Yes**

Is the project a High Load area? ☐ Yes ■ No
If yes, specify the type of high load land use or activity:

Is the project within a Water Supply Intake Protection Area (WSIPA)? ☐ Yes ■ No
Is the project within a Groundwater Protection Area (GPA)? ☐ Yes ■ No
Will the well setbacks identified in Env-Wq 1508.02 be met? ■ Yes ☐ No
For more details on the restrictions in these areas, read Chapter 3.1 in Volume 2 of the NH Stormwater Manual.

Is any part of the property within the 100-year floodplain? ■ Yes ☐ No
If yes: Cut volume: cubic feet within the 100-year floodplain. 1,015 cu.ft.
Fill volume: cubic feet within the 100-year floodplain. 322 cu.ft

☐ Project *is* within **¼ mile of a designated river** Name of River:
■ Project *is not* within ¼ mile of a designated river.

☐ Project *is* within a Coastal/Great Bay Region community.
■ Project *is not* within a Coastal/Great Bay Region community.

8. BRIEF PROJECT DESCRIPTION (PLEASE DO NOT REPLY "SEE ATTACHED")

The project consist of 48- 2 bedroom units in 4 buildings and supporting infrastructure on proposed parcel, Map 15 Lot 150-1. Most of the stormwater runoff is directed to a closed drainage system that is directed to a wet pond where runoff is treated. The site has access from Londonderry Turnpike.

A 2-lot subdivision of Map 15 Lot 150 is also proposed and is being permitted concurrently with the 18 unit multi-family.

lrm@des.nh.gov or (603) 271-2147
PO Box 95, Concord, NH 03303-0095
des.nh.gov

9. IF APPLICABLE, DESCRIBE ANY WORK STARTED PRIOR TO RECEIVING PERMIT.

10. ADDITIONAL REQUIRED INFORMATION

A. Date a copy of the application was sent to the municipality, as required by Env-Wq 1503.05(e) (Env-Wq 1503.05(c)(6), requires proof that a completed application form, checklist, plans and specifications, and all other supporting materials have been sent or delivered to the governing body of each municipality in which the project is proposed): 5/19/2025

(Attach proof of delivery)

B. Date a copy of the application was sent to the local river advisory committee, if required by Env-Wq 1503.05(e) (Env-Wq 1503.05(c)(6), requires proof that a completed application form, checklist, plans and specifications, and all other supporting materials have been sent or delivered to the Local River Advisory Committee, if the project is within ¼ mile of a designated river): N/A

(Attach proof of delivery)

C. Type of plan required: ☐ Land Conversion ■ Detailed Development ☐ Excavation, Grading and Reclamation ☐ Steep Slope

D. Additional plans required: ■ Stormwater Drainage and Hydrologic Soil Groups ☐ Source Control ☐ Chloride Management

E. Total area of disturbance, in square feet 168,700 sq.ft.

F. Additional impervious cover as a result of the project, in square feet (use "-"to indicate a net reduction in impervious coverage).

Total final impervious cover, in square feet 100,935 sq.ft.

G. Total undisturbed cover, in square feet 250,521 sq.ft.

H. Number of lots proposed: 1

I. Total length of roadway, in linear feet: 0 ft

J. Name(s) of receiving water(s): unnamed wetland

K. Identify all other NHDES permits required for the project. For each, indicate whether an application has been filed and is pending. If the required approval has been issued, provide the permit number, registration date, or approval letter number, as applicable.

Type of Approval	Application Filed?	Pending?	If Issued
1. Water Supply Approval	☐ Yes ■ No ☐ N/A	☐	Permit number:
2. Wetlands Permit	■ Yes ☐ No ☐ N/A	☐	Permit number:
3. Shoreland Permit	☐ Yes ■ No ☐ N/A	☐	Registration date:
4. UIC Registration	☐ Yes ■ No ☐ N/A	☐	Approval letter date:
5. Large/Small Community Well Approval	☐ Yes ■ No ☐ N/A	☐	Permit number:
6. Large Groundwater Withdrawal Permit	☐ Yes ■ No ☐ N/A	☐	Permit number:
7. Other:	☐ Yes ☐ No		

L. List all species identified by the Natural Heritage Bureau as threatened or endangered or of concern:

none

M. Using the NHDES OneStop Data Mapper with the Surface Water Impairment layer turned on, list the impairments identified for each receiving water. If no pollutants are listed, enter "N/A."

none

N. Did the applicant or applicant's agent have a pre-application meeting with Alteration of Terrain Bureau staff?

☐ Yes ■ No If yes, name of staff member:

O. Will blasting of bedrock be required? ☐ Yes ■ No If yes, estimated quantity of blast rock in cubic yards:
If yes, standard blasting Best Management Practices notes must be placed on the plans.

NOTE: If greater than 5,000 cubic yards of blast rock will be generated, a groundwater monitoring program must be developed and submitted to NHDES. Contact Alteration of Terrain Bureau staff for additional detail.

lrm@des.nh.gov or (603) 271-2147
PO Box 95, Concord, NH 03303-0095
des.nh.gov

11. CHECK ALL APPLICATION ATTACHMENTS THAT APPLY (SUBMIT WITH APPLICATION IN THE ORDER LISTED BELOW)

LOOSE:

- ■ Signed application form, with attached proof(s) of delivery.
- ■ Check for the application fee, calculated using the fee schedule available on the NHDES Land Development page.
- ■ Color copy of a USGS map with the property boundaries outlined (1" = 2,000' scale).
- ☐ If the applicant is not the property owner, proof that the applicant will have a legal right to undertake the project on the property if a permit is issued to the applicant.

BOUND, IN A REPORT, IN THE FOLLOWING ORDER:

- ■ Copy of the signed application form and application checklist.
- ■ Copy of the check.
- ■ Copy of the USGS map with the property boundaries outlined (1" = 2,000' scale).
- ■ Narrative of the project with a summary table of the peak discharge rate for the off-site discharge points.
- ■ Printout of NHDES OneStop Mapper with "Surface Water Impairments" layer turned on.
- ■ Printout of NHDES OneStop Mapper with Alteration of Terrain screening layers turned on.
- ■ Printout of Natural Heritage Bureau DataCheck Tool letter and any relevant correspondence with New Hampshire Fish and Game.
- ■ USDA Web Soil Survey Map with project's watershed outlined.
- ■ Aerial photograph (1" = 2,000' scale with the site boundaries outlined).
- ■ Photographs representative of the site.
- ■ Groundwater recharge volume calculations (include one Best Management Practices worksheet per permit application).
- ■ Drainage analysis, stamped by a professional engineer (see "Application Checklist" at the end of this document).
- ■ Riprap apron or other energy dissipation or stability calculations.
- ■ Site Specific Soil Survey report, stamped and with a certification note prepared by the soil scientist that the survey was done in accordance with the Site Specific Soil Mapping standards of the Society of Soil Scientists of Northern New England.
- ☐ Infiltration Feasibility Report (example online) [Env-Wq 1503.08(f)(3)].
- ☐ Registration and Notification Form for Stormwater Infiltration to Groundwater (UIC Registration-for underground systems only, including drywells and trenches).
- ■ Inspection and maintenance manual with, if applicable, long term maintenance agreements [Env-Wq 1503.08(g)].
- ☐ Source control plan.

PLANS:

- ■ One set of design plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details).
- ■ Pre- and post-development color-coded soil plans on 11" x 17" (see Application Checklist for details).
- ■ Pre- and post-construction drainage area plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details).

100-YEAR FLOODPLAIN REPORT:

- ☐ All information required in Env-Wq 1503.09, submitted as a separate report.

ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE

- ☐ See Application Checklist (Attachment A) for details.

- ■ **REVIEW APPLICATION FOR COMPLETENESS. CONFIRM INFORMATION LISTED ON THE APPLICATION IS INCLUDED WITH SUBMITTAL.**

lrm@des.nh.gov or (603) 271-2147
PO Box 95, Concord, NH 03303-0095
des.nh.gov

12. REQUIRED SIGNATURES

By signing below, I certify that:

- The information contained in or otherwise submitted with this application is true, complete, and not misleading to the best of my knowledge and belief;
- I understand that the submission of false, incomplete, or misleading information constitutes grounds for the department to deny the application, revoke any permit that is granted based on the information, and/or refer the matter to the board of professional engineers established by RSA 310-A:3 if I am a professional engineer; and
- I understand that I am subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641:3.

☐ **APPLICANT** ☐ **APPLICANT'S AGENT:**

Signature: _____ Date:

Name (print or type): Title:

☐ PROPERTY OWNER ☐ PROPERTY OWNER'S AGENT:

Signature: John J. Norton Date: 6/30/25

Name (print or type): John J. Norton Title: Manager

lrm@des.nh.gov or (603) 271-2147
PO Box 95, Concord, NH 03303-0095
des.nh.gov



THIS DOCUMENT HAS A TRUE WATERMARK. THE FRONT OF THE DOCUMENT HAS A MICRO-PRINT SIGNATURE LINE. ABSENCE OF THESE FEATURES WILL INDICATE A COPY.

104722 / M 8371932-F

TREASURER'S CHECK

Enterprise Bank

222 Merrimack Street, Lowell, MA 01852

0113

4470590985

06/30/2025

49-55
1031

$3,125.00

PAY TO THE ORDER OF Treasurer State of NH

$

Three Thousand One Hundred Twenty Five and 00/100**********

DOLLARS

MP

AUTHORIZED SIGNATURE

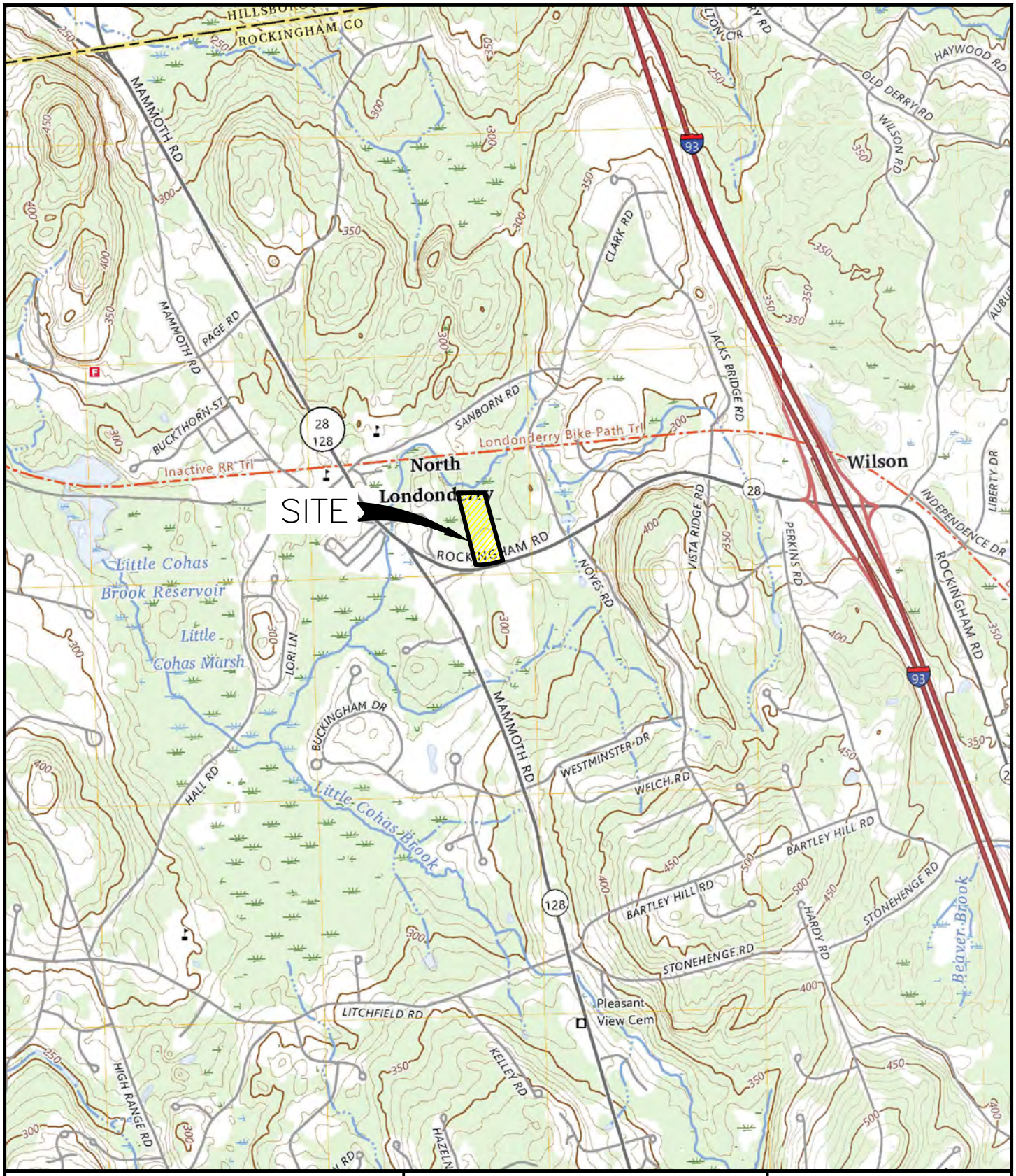
Br27

MEMBER FDIC

FOR

PAYABLE THROUGH BOKF, NA, EUFAULA, OK

⑆103100551⑆00447 059098531⑈



N:\=PROJECTS\640-Norton-222 Rockingham Rd\DWG\NHAOT\640-USGSLOCMAP.dwg

The Dubay Group, Inc.
136 Harvey Road Bldg B101
Londonderry, NH 03053
www.TheDubayGroup.com
603-458-6462

2000 0 1000 2000
1 inch = 2000 ft.

222 ROCKINGHAM ROAD
LONDONDERRY, NH

TAX MAP 15 LOT 150-1
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053

MANCHESTER SOUTH & DERRY
2024 QUADRANGLE NEW HAMPSHIRE
7.5 MINUTE SERIES (TOPOGRAPHIC)

TITLE:	USGS LOCATION MAP
DATE:	5/14/2025
SCALE:	1"=2000'
SHEET:	1 OF 1

The Dubay Group, Inc.
136 Harvey Road Bldg B101
Londonderry, NH 03053
603-458-6462 thedubaygroup.com

MEMORANDUM

To:	Alteration of Terrain Bureau	Date:	June 30, 2025
From:	Doug MacGuire, PE	Re:	222 Rockingham Road Local Submission

This memorandum is intended to certify that the Town of Londonderry Planning Board has received a full copy of the plans and NHDES Drainage Analysis on May 19, 2025, as part of the local Design Review submission.

ALTERATION OF TERRAIN PERMIT ATTACHMENT A: APPLICATION CHECKLIST

Check each box to indicate the item has been provided, or indicate why it does not apply.

DESIGN PLANS

- ☒ Plans printed on 34 - 36" by 22 - 24" white paper.
- ☒ Professional Engineer stamp.
- ☒ Wetland delineation.
- ☒ Temporary erosion control measures.
- ☒ Treatment for all stormwater runoff from impervious surfaces such as roadways (including gravel roadways), parking areas, and nonresidential roof runoff. Guidance on treatment BMPs can be found in Volume 2, Chapter 4 of the New Hampshire Stormwater Management Manual.
- ☒ Pre-existing 2-foot contours.
- ☒ Proposed 2-foot contours.
- ☒ Drainage easements protecting the drainage/treatment structures.
- ☒ Compliance with state statute governing fill and dredge in wetlands, RSA 482- A. Note that artificial detention in wetlands is prohibited.
- ☐ Compliance with the New Hampshire Shoreland Protection Act, RSA 483-B.
- ☐ Benching – needed if you have more than 20 feet change in elevation on a 2:1 slope, 30 feet change in elevation on a 3:1 slope, 40 feet change in elevation on a 4:1 slope.
- ☒ Check to see if any proposed ponds require state dam permits.

DETAILS

- ☒ Typical roadway cross-section.
- ☒ Detention basin with inverts noted on the outlet structure.
- ☒ Stone berm level spreader.
- ☒ Outlet protection – riprap aprons.
- ☒ A general installation detail for an erosion control blanket.
- ☒ Silt fences or mulch berm.
- ☒ Storm drain inlet protection. Note that since hay bales must be embedded 4 inches into the ground, they are not to be used on hard surfaces such as pavement.
- ☒ Hay bale barriers.
- ☒ Stone check dams.
- ☒ Gravel construction exit.
- ☒ Temporary sediment trap.
- ☒ The treatment BMPs proposed.
- ☐ Any innovative BMPs proposed.

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CONSTRUCTION SEQUENCE / EROSION CONTROL

☐ Note that the project must be managed to meet the requirements and intent of RSA 430:53 and Agr 3800 relative to invasive species.

☐ Note that perimeter controls shall be installed prior to earth moving operations.

☐ Note that temporary water diversion (swales, basins, etc.) must be used as necessary until areas are stabilized.

☐ Note that ponds and swales shall be installed early on in the construction sequence (before rough grading the site).

☐ Note that all ditches and swales shall be stabilized prior to directing runoff to them.

☐ Note that all roadways and parking lots shall be stabilized within 72 hours of achieving finished grade.

☐ Note that all cut and fill slopes shall be seeded or loamed within 72 hours of achieving finished grade

☐ Note that all erosion controls shall be inspected weekly AND after every half-inch of rainfall.

☐ Note the limits on the open area allowed, see Env-Wq 1505.02 for detailed information.

Example note: The smallest practical area shall be disturbed during construction, but in no case shall exceed 5 acres at any one time before disturbed areas are stabilized.

☐ Note the definition of the word “stable.”

Example note: An area shall be considered stable if one of the following has occurred:

- Base course gravels have been installed in areas to be paved.
- A minimum of 85 percent vegetated growth has been established.
- A minimum of 3 inches of non-erosive material such stone or riprap has been installed.
- Or, erosion control blankets have been properly installed.

☐ Note the limit of time an area may be exposed.

Example note: All areas shall be stabilized within 45 days of initial disturbance.

☐ Provide temporary and permanent seeding specifications. Note that although reed canary grass is listed in the Green Book; it is a problematic species according to the Wetlands Bureau and therefore should not be specified.

☐ Provide winter construction notes that meet or exceed our standards.

Standard Winter Notes:

- All proposed vegetated areas that do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting, elsewhere. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events.
- All ditches or swales which do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions.
- After October 15, incomplete road or parking surfaces where work has stopped for the winter season shall be protected with a minimum of 3 inches of crushed gravel per NHDOT item 304.3.

☐ Note at the end of the construction sequence that “Lot disturbance, other than that shown on the approved plans, shall not commence until after the roadway has the base course to design elevation and the associated drainage is complete and stable.” – This note is applicable to single/duplex family subdivisions, when lot development is not part of the permit.

DRAINAGE ANALYSES

Please provide double-side 8 ½" × 11" sheets where possible but, **do not** reduce the text such that more than one page fits on one side.

☐ Professional Engineer stamp.

☐ Rainfall amount obtained from the Northeast Regional Climate Center. Include extreme precipitation table as obtained from this source.

☐ Drainage analyses, in the following order:

- Pre-development analysis: Drainage diagram.
- Pre-development analysis: Area Listing and Soil Listing.
- Pre-development analysis: Node listing 1-year (if applicable), 2-year, 10-year and 50-year.
- Pre-development analysis: Full summary of the 10-year storm.
- Post-development analysis: Drainage diagram.
- Post-development analysis: Area Listing and Soil Listing.
- Post-development analysis: Node listing for the 2-year, 10-year and 50-year.
- Post-development analysis: Full summary of the 10-year storm.

☐ Review the Area Listing and Soil Listing reports

- Hydrologic Soil Groups (HSG) match the HSGs on the soil maps provided.
- There is the same or less HSG A soil area after development (check for each HSG).
- There is the same or less "woods" cover in the post-development.
- Undeveloped land was assumed to be in "good" condition.
- The amount of impervious cover in the analyses is correct.

Note: A good check is to subtract the total impervious area used in the pre-analysis from the total impervious area used in the post-analysis. For residential projects without demolition occurring, a good check is to take this change in impervious area, subtract out the roadway and divide the remaining by the number of houses or units proposed. Do these numbers make sense?

☐ Check the storage input used to model the ponds.

☐ Check to see if the artificial berms pass the 50-year storm, i.e., make sure the constructed berms on ponds are not overtopped.

☐ Check the outlet structure proposed and make sure it matches that modeled.

☐ Check to see if the total areas in the pre and post analyses are same.

☐ Confirm the correct NRCS storm type was modeled (Coos, Carroll and Grafton counties are Type II, all others Type III).

PRE- AND POST-CONSTRUCTION DRAINAGE AREA PLANS

☐ Plans printed on 34 - 36" by 22 - 24" on white paper.

☐ Submit these plans separate from the soil plans.

☐ A north arrow.

☐ A scale.

☐ Labeled subcatchments, reaches and ponds.

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- [x] Tc lines.
- [x] A clear delineation of the subcatchment boundaries.
- [ ] Roadway station numbers.
- [x] Culverts and other conveyance structures.

PRE- AND POST-CONSTRUCTION COLOR-CODED SOIL PLANS

- [x] 11" × 17" sheets suitable, as long as it is readable.
- [x] Submit these plans separate from the drainage area plans.
- [x] A north arrow.
- [x] A scale.
- [x] Name of the soil scientist who performed the survey and date the soil survey took place.
- [x] 2-foot contours (5-foot contours if application is for a gravel pit) as well as other surveyed features.
- [x] Delineation of the soil boundaries and wetland boundaries.
- [x] Delineation of the subcatchment boundaries.
- [x] Soil series symbols (e.g., 26).
- [x] A key or legend identifying each soil series symbol and its associated soil series name (for example: 26 = Windsor).
- [x] The hydrologic soil group color coding (A = Green, B = yellow, C= orange, D=red, Water=blue, and Impervious = gray).

Please note that excavation projects (including gravel pits) have similar requirements to those above, with the following common exceptions or additions:

- [ ] Drainage report is not needed if site does not have off-site flow.
- [ ] 5-foot contours are allowed rather than 2-foot.
- [ ] No Professional Engineer stamp is needed on the plans.
- [ ] Add a note to the plans that the applicant must provide NHDES a written update of the project and revised plans documenting the project status every five years from the date of the Alteration of Terrain permit.
- [ ] Add reclamation notes.
- [ ] A description of the subsurface conditions to the planned depth of excavation, including the elevation of the location of the Seasonal High Water Table (SHWT), as observed and described by a certified soil scientist, or an individual holding a valid permit as a permitted designer as issued by the department's Subsurface Systems Bureau.

For more resources, refer to the Natural Resources Conservation Service's Vegetating New Hampshire Sand and Gravel Pits publication.

NHDES Alteration of Terrain

II. STORMWATER MANAGEMENT REPORT NARRATIVE

A. Executive Summary

B. Existing Site Conditions

C. Proposed Site Conditions

D. Stormwater Treatment

E. Groundwater Recharge

II. STORMWATER MANAGEMENT REPORT NARRATIVE

A. Executive Summary

The purpose of this project is to construct four (4) 12-unit multi-family buildings with supporting infrastructure with access off Rockingham Road. The parcel is located at 222 Rockingham Road in Londonderry, NH. Preceding this development is a 2-lot subdivision of Map 15 Lot 150. The proposed project is labeled as Map 15 Lot 150-1. The proposed lot has a total land area of 8.398 acres and is located within the Commercial-I (C-I) zone in Londonderry. The property is also located within Route 28 Overlay District. The site-specific soils on site are a mix soil group "C" and "D".

The proposed drainage system has been designed to match post-development drainage flows with pre-development conditions while also providing stormwater treatment. This design utilizes a wet pond to collect and treat runoff. This practice will promote detention to allow for the settling of particles and the metering of discharge. The pond will then meter the flow to the existing wetland which will convey the runoff off-site. The runoff rates show no increase when comparing peak runoff rates in the post-development condition to the pre-development condition.

B. Existing Site Conditions

The proposed project is located on Rockingham Road (Route 28) in Londonderry, NH. The site is undeveloped and wooded. The existing drainage flows towards the on-site wetlands where it eventually makes its way west.

Site location is detailed in *Section III. Supplemental Site Review Criteria* and consists of aerial photography, scs soil mapping, etc.

Design points for a site are usually a wetland, swale, existing drainage structure, culvert, or simple area of natural sheet flow where a subject site discharges runoff onto an abutting property or right-of-way. These design points remain the same in the pre- and post-development conditions to provide a point of comparison in analyzing the peak runoff or volume change on a site. The design points evaluated in this report are summarized below:

Design Point #1: This design point is the wetland along the southwestern property line.

Design Point #2: This design point is the wetland along the northwestern property line.

Design Point #3: This design point is the abutting property to the east.

Design Point #4: This design point is the abutting property, Lot 150.

C. Proposed Site Conditions

The proposed project is to construct (4) 12-unit multi-family buildings with supporting infrastructure. The site drainage is mostly collected into a closed drainage system and directed towards an on-site wet pond. The Post-Development Plan is included in section 7 of this drainage report. The pond mitigates peak flows associated with large storm events. The systems have been designed to fully mitigate the 50-year design storm (and other storms as required) for peak flow, as required by the Town of Londonderry Stormwater Regulations and NHDES AOT Regulations.

The pre- and post-development runoff rates based on the design storm are tabulated below. All design points/abutting properties remain unchanged or exhibit a reduction of flows during post-development

conditions as per Section 3.08.B of the Town of Londonderry Subdivision Regulations. A full summary of each off-site abutter drainage impact can be found in Section IV of the Stormwater Management Report.

NHDES Env-Wq 1507.06 - Peak Runoff Control, requires no increase in the peak flow rate of the site during the 2-year, 10-year, 25-year, and 50-year, 24-hour design storms for all design points on-site. Using the proposed infiltration practices and with the ability to store the excess runoff, the peak flows have been mitigated as required. The data provided demonstrates comparison of the pre- and post-development peak runoff flows.

Table 1- Pre vs. Post Runoff Analysis

Design Storm	**Existing Conditions** *Peak Flow Runoff Rate*	**Developed Conditions** *Peak Flow Runoff Rate*	**Change**
	DESIGN POINT #1		
	Node Label - L1	Node Label - L1	
2-Year	3.9	3.8	-0.1
10-Year	9.8	9.5	-0.3
25-Year	15.1	14.9	-0.2
50-Year	20.3	20.0	-0.3
	DESIGN POINT #2		
	Node Label – L2	Node Label – L2	
2-Year	1.8	1.8	0.0
10-Year	4.5	4.5	-0.1
25-Year	6.9	6.9	-0.3
50-Year	9.2	9.2	-0.4
	DESIGN POINT #3		
	Node Label – L3	Node Label – L3	
2-Year	0.1	0.1	0.0
10-Year	0.3	0.3	0.0
25-Year	0.5	0.5	0.0
50-Year	0.6	0.6	0.0
	DESIGN POINT #4		
	Node Label – L4	Node Label – L4	
2-Year	0.9	0.5	-0.4
10-Year	2.3	1.1	-1.2
25-Year	3.5	1.7	-1.8
50-Year	4.7	2.3	-2.4

NHDES Env-Wq 1507.05 – Channel Protection, requires mitigation to minimize the impact to downstream receiving waters and wetlands due to development. One acceptable approach is to show no increase in peak flow rate during the 2-year design storm and have no more than 2 CFS discharged from developed areas to existing waterbodies. Table 1 shows a reduction in peak flow rate at all design points and design points 2-4 meet the less than 2 CFS channel protection requirement.

Design Point 1 does have a 2-year post-development peak flow rate greater than 2 cfs, however it has less than 2 cfs discharged from the developed portion of the site equating to 1.0 cfs, meeting the intent of the channel protection requirements. Table 2 below summarizes the 2-year peak flow rates from each BMP showing all are significantly under the 2 CFS channel protection requirement.

Table 2 – Channel Protection Contributing BMPs

Contributing BMPs	**Developed Conditions** *Peak Flow Runoff Rate*
Link 1: Existing wetland & Lot 150-146	
Wet Pond P1	1.0 cfs
Total	***1.0 cfs***

D. Stormwater Treatment

In the design of the subject site, utilizing approved Best Management Practices (BMP's) is critical in minimizing pollutant discharge to the various discharge points. This site has been designed in accordance with NHDES Env-Wq 1500 to meet the requirements for stormwater treatment. There are many acceptable methods to provide adequate treatment. This site utilizes a wet pond to provide treatment for the stormwater runoff. The wet pond is designed to maintain a permanent pool of water below the outlet to provide treatment by allowing particles to settle and metering discharge to the design point(s). Pollutants are removed through absorption of into soil particles and biological/chemical uptake or decomposition to meet treatment requirements. NHDES BMP worksheet is provided for the treatment practice within *Section IVf the Stormwater Analysis* of the report.

E. Groundwater Recharge

NHDES requires a calculated volume of water from a developed site to be recharged. However, per Env-Wq 1508.07(a), *Infiltration practices shall be prohibited in the following areas in addition to those identified in Env-Wq 1507.02:*

(1) Into soils where the infiltration rate, prior to adding a factor of safety, is less than 0.5 inches per hour, as calculated per Env-Wq 1504.14;

The native soil on site is classified as Montauk, which is Hydrologic Soil Group C and has a K-Sat value of 0.06 (prior to factor of safety) within the c horizon, therefore; infiltration and groundwater recharge are not allowed.

NHDES Alteration of Terrain

III. SUPPLEMENTAL SITE REVIEW CRITERIA

A. Web GIS Printout - AoT Screening Layers & Surface Water Impairment

B. Northeast Regional Climate Center Extreme Precipitation Tables

C. Web Soil Survey Map

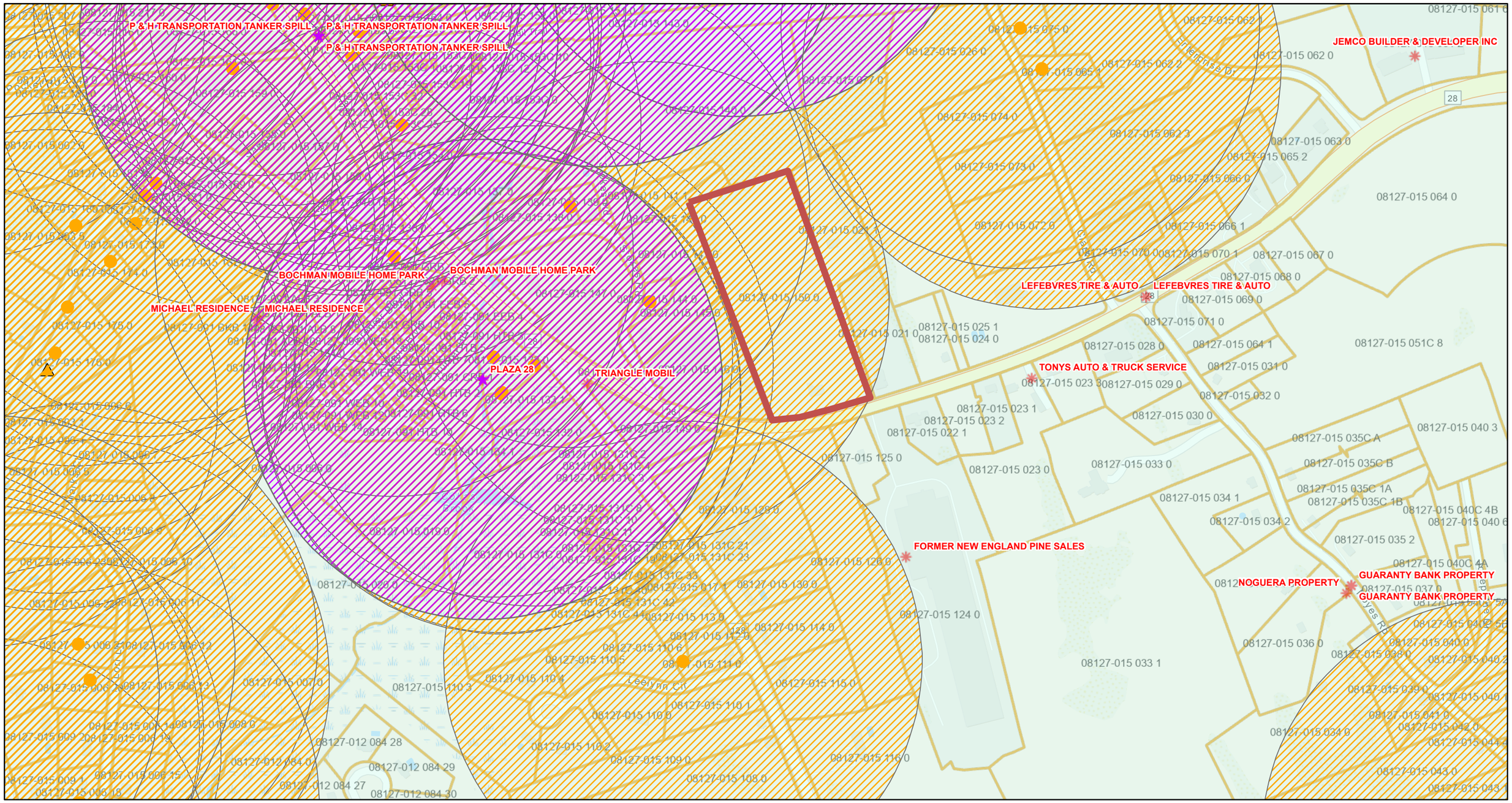
D. NHB DataCheck

E. Aerial Photograph

F. Site Photographs

G. Outlet Protection Calculation

222 ROCKINGHAM ROAD LONDONDERRY Map by NH DES OneStop Data Mapper



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Site with PFAS > AGQS 2016

EMD PFAS Groundwater Station Samples with 1000ft Buffer

PFAS > MCL (2020) Groundwater Stations

EMD PFAS Other Station Samples with 1000ft Buffer

PFAS > MCL (2020) Other Stations

EMD PFAS Surface Water Samples with 1000ft Buffer

PFAS > MCL (2020) Surface Water Stations

Remediation Sites

Watersheds with Chloride Impairments

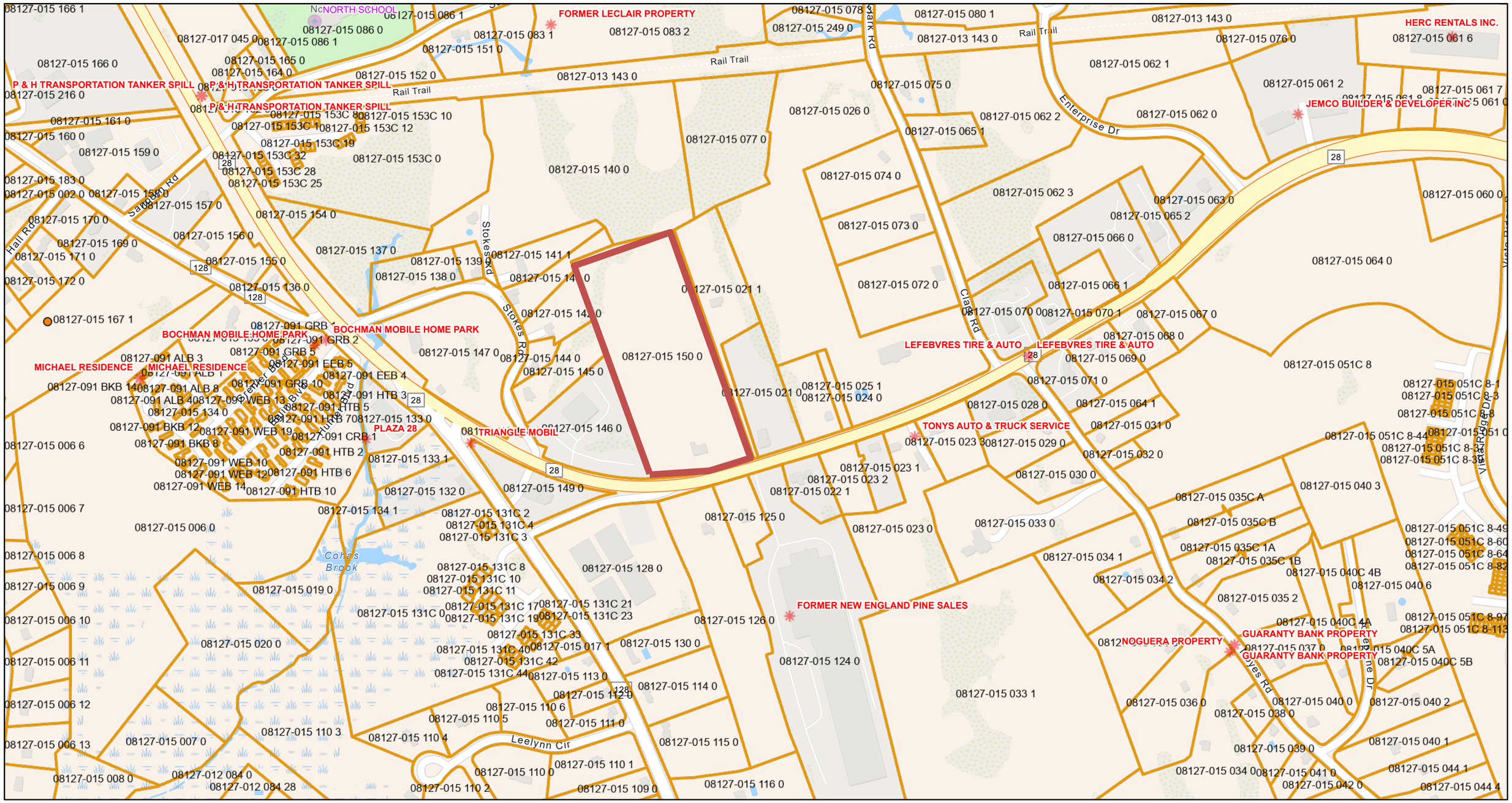
Parcels

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, NHDRA, Axiomatic, Inc.

NH DES OneStop Data Mapper-SURFACE WATER IMPAIRMENTS



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- Remediation Sites
- Public Water Supply Wells
- Parcels

1:6,528

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, NHDRA, Axiomatic, Inc.

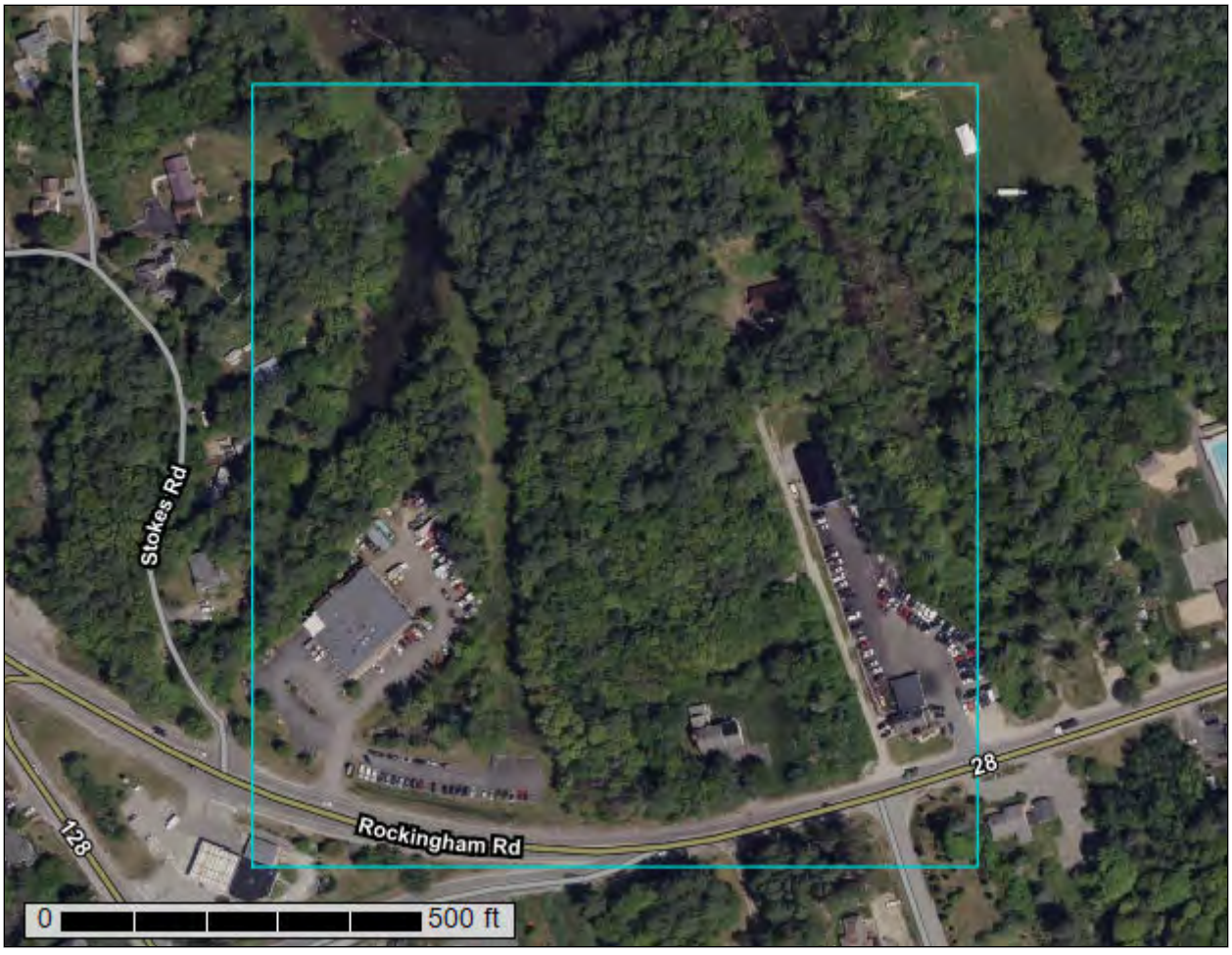
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Rockingham County, New Hampshire



March 20, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:2,380 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
140B	Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky	17.1	68.0%
395	Swansea mucky peat, 0 to 2 percent slopes	4.4	17.3%
547B	Walpole very fine sandy loam, 3 to 8 percent slopes, very stony	3.7	14.7%
Totals for Area of Interest		**25.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Rockingham County, New Hampshire

140B—Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2w82m
Elevation: 380 to 1,070 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Chatfield, very stony, and similar soils: 35 percent
Canton, very stony, and similar soils: 25 percent
Hollis, very stony, and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chatfield, Very Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 2 inches: fine sandy loam
Bw - 2 to 30 inches: gravelly fine sandy loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 41 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Description of Canton, Very Stony

Setting

Landform: Moraines, hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Hollis, Very Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 7 inches: gravelly fine sandy loam
Bw - 7 to 16 inches: gravelly fine sandy loam

2R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 8 to 23 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Minor Components

Freetown

Percent of map unit: 5 percent
Landform: Marshes, depressions, bogs, kettles, swamps
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Newfields, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills, moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Walpole, very stony

Percent of map unit: 3 percent
Landform: Deltas, depressions, outwash plains, depressions, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Rock outcrop

Percent of map unit: 2 percent
Landform: Ridges, hills
Hydric soil rating: Unranked

395—Swansea mucky peat, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2w68x
Elevation: 0 to 950 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Swansea and similar soils: 83 percent
Minor components: 17 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Swansea

Setting

Landform: Marshes, depressions, kettles, bogs, swamps
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Moderately decomposed organic material over sandy and gravelly glaciofluvial deposits

Typical profile

Oe1 - 0 to 12 inches: mucky peat
Oe2 - 12 to 25 inches: mucky peat
Cg - 25 to 79 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: High (about 11.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: B/D
Ecological site: F144AY043MA - Acidic Organic Wetlands
Hydric soil rating: Yes

Minor Components

Freetown

Percent of map unit: 7 percent
Landform: Depressions, kettles, marshes, bogs, swamps
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Walpole

Percent of map unit: 5 percent
Landform: Depressions, outwash terraces, drainageways, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Scarboro

Percent of map unit: 5 percent
Landform: Outwash deltas, depressions, outwash terraces, drainageways
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

547B—Walpole very fine sandy loam, 3 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 9cpd
Elevation: 0 to 2,100 feet
Mean annual precipitation: 28 to 48 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Walpole and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Walpole

Setting

Landform: Depressions

Typical profile

H1 - 0 to 7 inches: very fine sandy loam
H2 - 7 to 16 inches: sandy loam
H3 - 16 to 60 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 0.1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A/D
Ecological site: F144AY028MA - Wet Outwash
Hydric soil rating: Yes

Minor Components

Scarboro

Percent of map unit: 10 percent
Landform: Depressions
Hydric soil rating: Yes

Newfields

Percent of map unit: 5 percent
Hydric soil rating: No

Squamscott

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

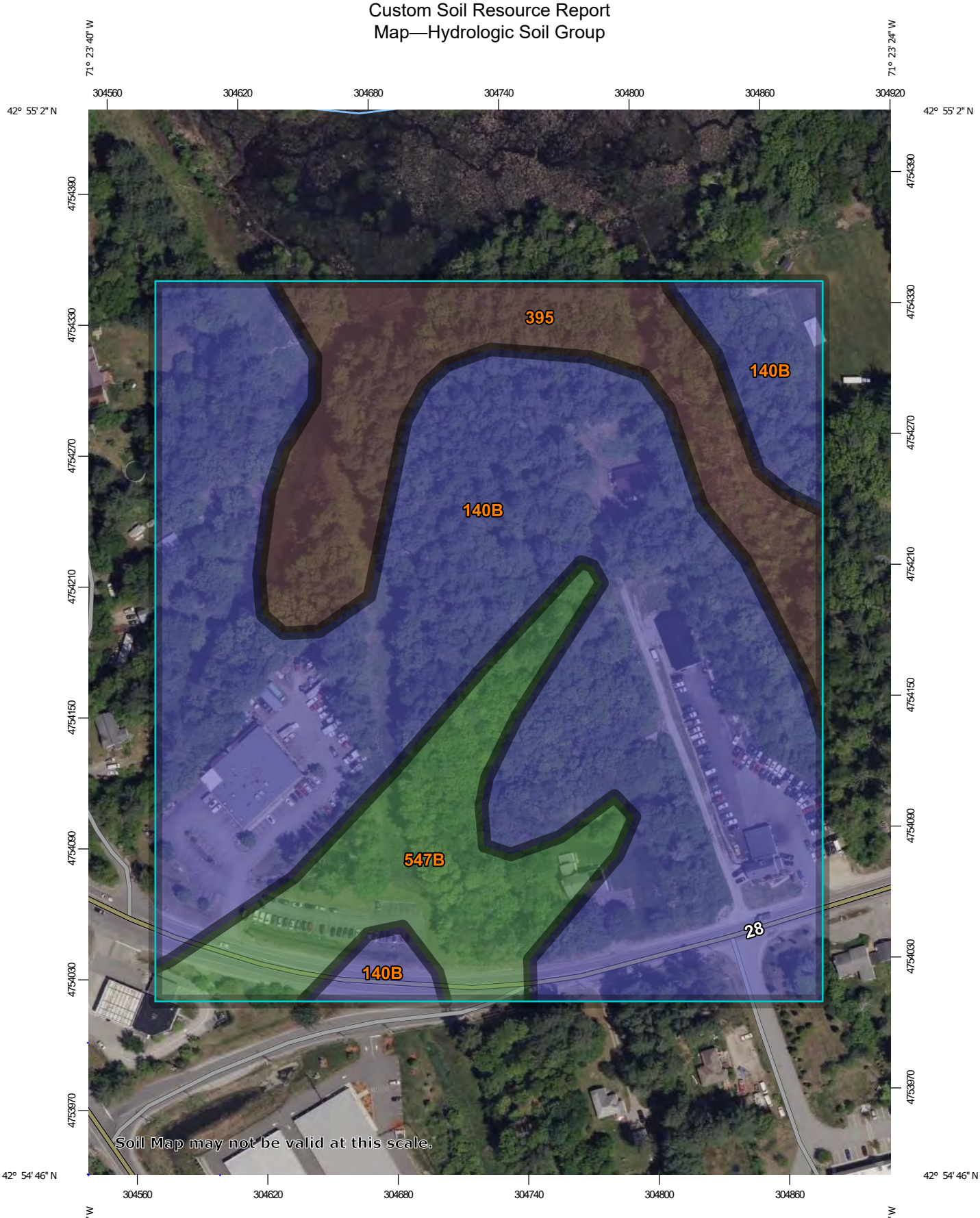
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



Map Scale: 1:2,380 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 35 70 140 210

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 27, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 22, 2022—Jun 5, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
140B	Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky	B	17.1	68.0%
395	Swansea mucky peat, 0 to 2 percent slopes	B/D	4.4	17.3%
547B	Walpole very fine sandy loam, 3 to 8 percent slopes, very stony	A/D	3.7	14.7%
Totals for Area of Interest			**25.1**	**100.0%**

Rating Options—Hydrologic Soil Group

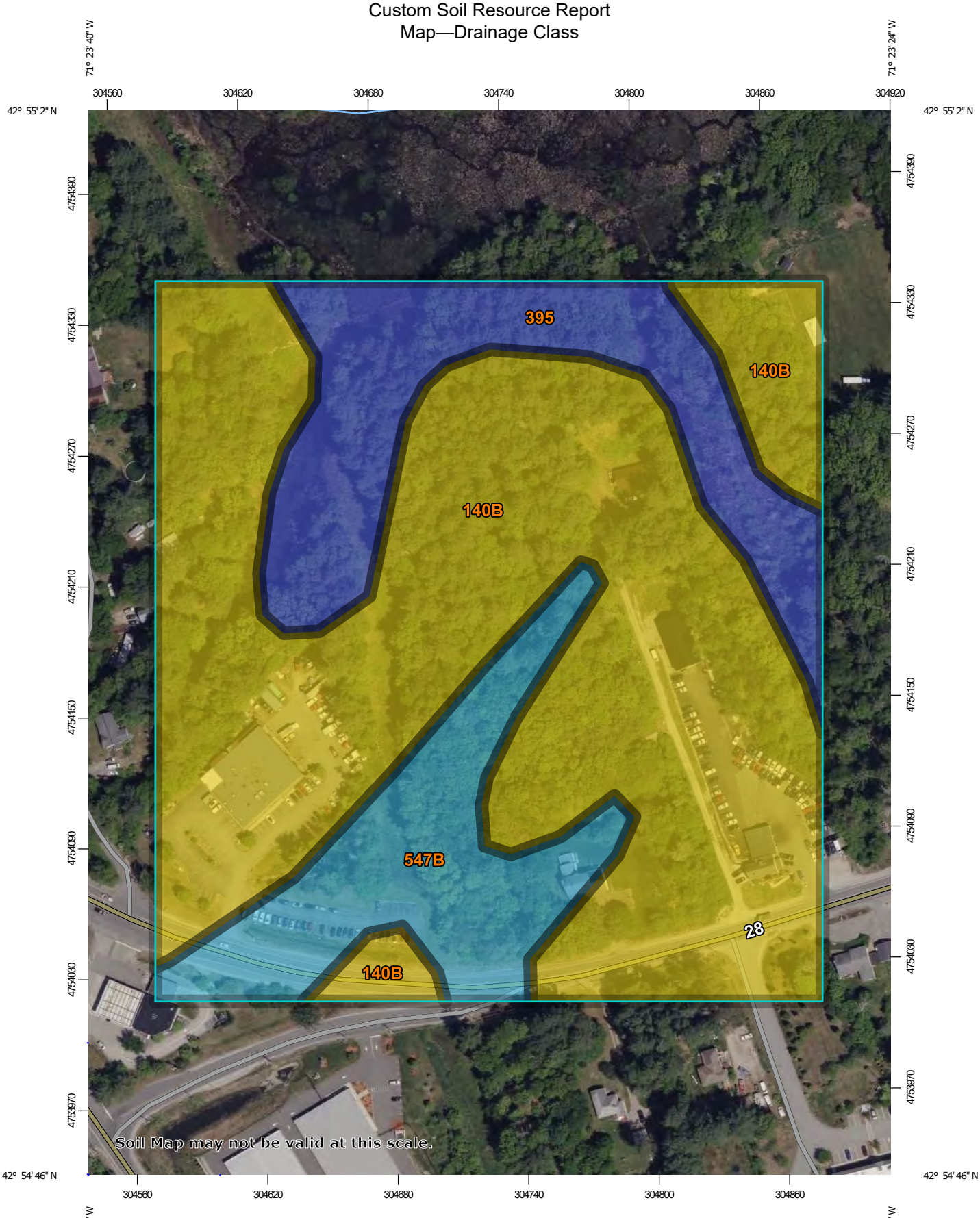
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Drainage Class

"Drainage class (natural)" refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized-excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."



Map Scale: 1:2,380 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 35 70 140 210

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Subaqueous
- Not rated or not available

Soil Rating Lines

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Subaqueous
- Not rated or not available

Soil Rating Points

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Subaqueous
- Not rated or not available

Water Features

Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 27, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 22, 2022—Jun 5, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Drainage Class

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
140B	Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky	Well drained	17.1	68.0%
395	Swansea mucky peat, 0 to 2 percent slopes	Very poorly drained	4.4	17.3%
547B	Walpole very fine sandy loam, 3 to 8 percent slopes, very stony	Poorly drained	3.7	14.7%
Totals for Area of Interest			**25.1**	**100.0%**

Rating Options—Drainage Class

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point

Smoothing	Yes
State	New Hampshire
Location	New Hampshire, United States
Latitude	42.916 degrees North
Longitude	71.392 degrees West
Elevation	80 feet
Date/Time	Wed Apr 02 2025 09:07:15 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.27	0.41	0.51	0.67	0.83	1.05	1yr	0.72	1.00	1.21	1.53	1.93	2.44	2.67	1yr	2.16	2.57	2.97	3.64	4.24	1yr
2yr	0.32	0.50	0.62	0.82	1.03	1.30	2yr	0.89	1.19	1.50	1.87	2.33	2.91	3.23	2yr	2.58	3.11	3.60	4.30	4.89	2yr
5yr	0.38	0.60	0.75	1.01	1.29	1.63	5yr	1.11	1.48	1.89	2.37	2.96	3.68	4.12	5yr	3.25	3.96	4.58	5.41	6.10	5yr
10yr	0.43	0.68	0.86	1.17	1.52	1.95	10yr	1.31	1.76	2.27	2.85	3.54	4.39	4.95	10yr	3.89	4.76	5.49	6.42	7.21	10yr
25yr	0.51	0.81	1.04	1.43	1.89	2.45	25yr	1.64	2.20	2.86	3.60	4.49	5.56	6.32	25yr	4.92	6.08	6.99	8.08	8.99	25yr
50yr	0.57	0.92	1.18	1.66	2.25	2.93	50yr	1.94	2.60	3.44	4.34	5.40	6.64	7.61	50yr	5.88	7.32	8.40	9.61	10.63	50yr
100yr	0.66	1.07	1.38	1.95	2.66	3.49	100yr	2.30	3.08	4.11	5.18	6.45	7.94	9.17	100yr	7.03	8.82	10.09	11.44	12.58	100yr
200yr	0.76	1.24	1.60	2.29	3.15	4.17	200yr	2.72	3.66	4.91	6.20	7.72	9.50	11.05	200yr	8.41	10.63	12.13	13.62	14.90	200yr
500yr	0.91	1.50	1.95	2.83	3.95	5.26	500yr	3.41	4.59	6.22	7.88	9.80	12.05	14.15	500yr	10.66	13.61	15.48	17.17	18.63	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.22	0.34	0.42	0.56	0.69	0.84	1yr	0.60	0.83	1.07	1.34	1.64	2.25	2.53	1yr	1.99	2.43	2.73	3.25	3.76	1yr
2yr	0.31	0.48	0.59	0.80	0.98	1.18	2yr	0.85	1.15	1.34	1.76	2.25	2.81	3.12	2yr	2.49	3.00	3.48	4.16	4.75	2yr
5yr	0.35	0.55	0.68	0.93	1.18	1.40	5yr	1.02	1.37	1.59	2.06	2.63	3.40	3.76	5yr	3.01	3.61	4.20	4.99	5.65	5yr
10yr	0.39	0.60	0.74	1.04	1.34	1.59	10yr	1.16	1.55	1.80	2.32	2.95	3.91	4.31	10yr	3.46	4.15	4.83	5.73	6.41	10yr
25yr	0.45	0.68	0.84	1.20	1.58	1.85	25yr	1.37	1.81	2.12	2.71	3.43	4.68	5.16	25yr	4.14	4.96	5.80	6.88	7.53	25yr
50yr	0.49	0.74	0.92	1.33	1.79	2.10	50yr	1.54	2.05	2.40	3.06	3.85	5.37	5.92	50yr	4.75	5.69	6.66	7.89	8.49	50yr
100yr	0.54	0.82	1.03	1.48	2.03	2.37	100yr	1.75	2.32	2.73	3.46	4.32	5.86	6.77	100yr	5.18	6.51	7.64	9.07	9.55	100yr
200yr	0.60	0.90	1.14	1.65	2.31	2.67	200yr	1.99	2.61	3.08	3.92	4.87	6.63	7.76	200yr	5.87	7.46	8.77	10.43	10.72	200yr
500yr	0.69	1.03	1.32	1.92	2.73	3.14	500yr	2.35	3.07	3.65	4.63	5.72	7.79	9.28	500yr	6.90	8.92	10.50	12.55	12.47	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.30	0.46	0.57	0.76	0.94	1.10	1yr	0.81	1.07	1.23	1.62	2.06	2.64	2.82	1yr	2.33	2.71	3.31	4.11	4.65	1yr
2yr	0.34	0.52	0.64	0.87	1.08	1.28	2yr	0.93	1.25	1.44	1.88	2.41	3.04	3.38	2yr	2.69	3.25	3.75	4.45	5.10	2yr
5yr	0.42	0.65	0.81	1.11	1.41	1.62	5yr	1.22	1.59	1.85	2.38	3.00	4.00	4.52	5yr	3.54	4.35	4.96	5.84	6.59	5yr
10yr	0.51	0.78	0.97	1.35	1.75	1.97	10yr	1.51	1.93	2.23	2.84	3.57	4.96	5.66	10yr	4.39	5.44	6.16	7.19	8.03	10yr
25yr	0.66	1.00	1.24	1.77	2.33	2.56	25yr	2.01	2.50	2.88	3.59	4.47	6.63	7.62	25yr	5.86	7.33	8.22	9.44	10.50	25yr
50yr	0.79	1.20	1.49	2.15	2.89	3.12	50yr	2.50	3.05	3.49	4.30	5.31	8.24	9.57	50yr	7.30	9.20	10.21	11.62	12.86	50yr
100yr	0.96	1.45	1.82	2.63	3.60	3.80	100yr	3.11	3.72	4.24	5.15	6.31	10.53	12.00	100yr	9.32	11.54	12.69	14.30	15.79	100yr
200yr	1.16	1.75	2.22	3.21	4.48	4.64	200yr	3.87	4.53	5.14	6.16	7.51	13.18	15.10	200yr	11.67	14.52	15.80	17.62	19.41	200yr
500yr	1.51	2.25	2.90	4.21	5.99	6.03	500yr	5.17	5.90	6.64	7.82	9.45	17.76	20.44	500yr	15.71	19.65	21.10	23.21	25.54	500yr

Powered by ACIS

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

To: Jacob Doerfler
136 Harvey Rd
Bldg B101
Londonderry, NH 03053

From: NH Natural Heritage Bureau

Date: 1/2/2025 (This letter is valid through 1/2/2026)

Re: Review by NH Natural Heritage Bureau of request dated 1/2/2025

Permit Types: Londonderry
Standard Dredge & Fill - Minor
Alteration of Terrain Permit

NHB ID: NHB25-0006

Applicant: Jacob Doerfler

Location: Londonderry
Tax Map: 15, Tax Lot: 150
Address: 222 Rockingham Road

Proj. Description: Proposed multi-unit condominium with access road and supporting infrastructure.
Previous NHB23-2235

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

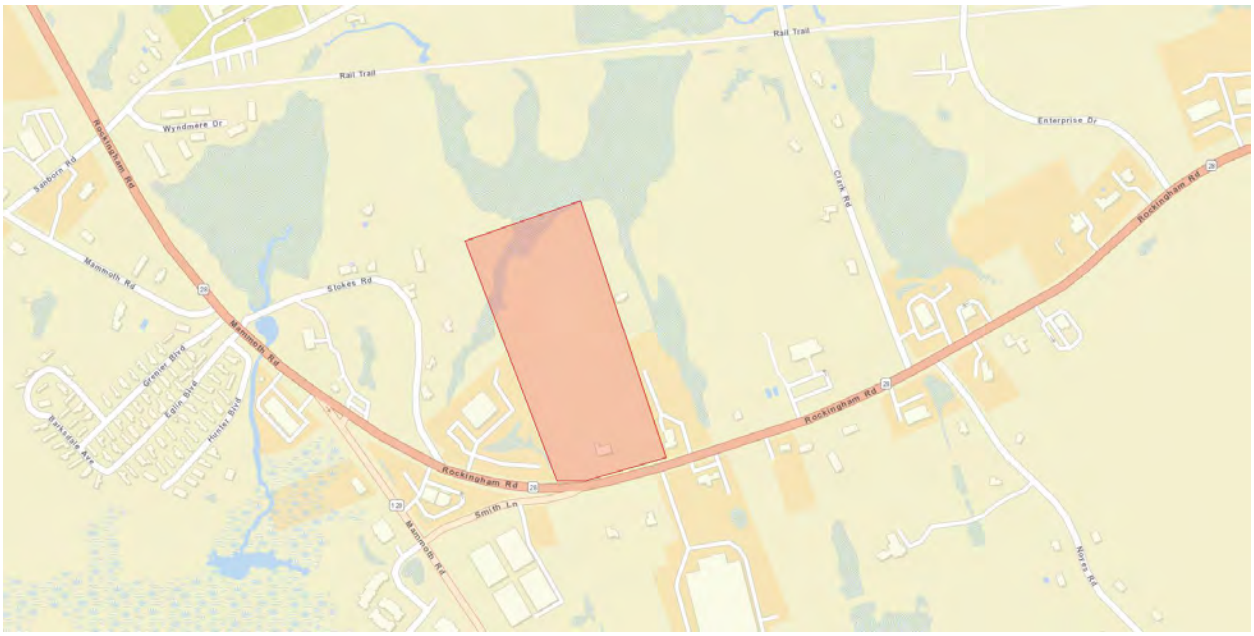
A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord NH 03301

MAP OF PROJECT BOUNDARIES FOR: NHB25-0006



Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord NH 03301



The Dubay Group, Inc.
136 Harvey Road Bldg B101
Londonderry, NH 03053
www.TheDubayGroup.com
603-458-6462

500 0 250 500

1 inch = 500 ft.

222 ROCKINGHAM ROAD
LONDONDERRY, NH
TAX MAP 15 LOT 150-1
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053

TITLE:	AERIAL LOCATION MAP
DATE:	5/14/2025
SCALE:	1"=500'
SHEET:	1 OF 1

N:\=PROJECTS\640-Norton-222 Rockingham Rd\DWG\NHAOT\640-USGSLOCMAP.dwg



Photo from Google Earth looking at the future site entrance.



Aerial view of the site. The site entrance is proposed to be constructed to the east (right of house).

RIP RAP OUTLET PROTECTION CALCULATIONS

222 ROCKINGHAM ROAD
TDG PROJECT #640

The purpose of this spreadsheet is to calculate the dimensions of rip rap required to help prevent soil loss for the 25-year storm event

Input values required are:

Q = peak flow, CFS
Do = diameter of outlet or width of channel, ft
Tw = tailwater at end of apron, ft

Depending on the tailwater conditions, one of the following formulas is used:

	Tw < 1/2Do	**OR**	**Tw ≥ 1/2Do**
Length of Apron (La):	$La = 1.8Q/(Do)^{1.5}+7Do$		$La = 3.0Q/(Do)^{1.5}+7Do$
Width of Apron:	W1=3*Do W2 = 3Do + La		W1=3*Do W2=3Do+0.4*La

If defined channel, use channel width for W1 and W2

$d50 = (0.02*Q^{1.3})/(Tw*Do)$

		Input Values			Calculated Output						Riprap Gradation Envelope				Riprap Depth
Structure & Description		Q (cfs)	Do (ft)	Tw (ft)	La	W1	W2	d50, ft	d50, in	Use d50 in.	d100 in.	d85 in.	d50 in.	d15 in.	in.
FES-3	From Wet Pond P1	4.50	1.50	1.25	18	5	12	0.1	0.90	6	9	8	6	3	15

Notes:

IV. STORMWATER ANALYSIS

A. Town of Londonderry Supplemental Review Material
   i. On-Site Drainage Summary Tabulation
   ii. Swale and Channel Summary Table (N/A)
   iii. Off-Site Abutter Drainage Evaluation

B. Best Management Practice Worksheets
   i. GRV Worksheet - N/A
   ii. Wet Pond P1-BMP Worksheet
      i. P1-Stage Storage Table
      ii. Forebay FB1 - Worksheet

C. NHDES Drainage Analysis
   i. Pre-Development Drainage Diagram
   ii. Pre-Development Area Listing and Soil Listing
   iii. HydroCAD Output, Existing Node Lists (2, 10, 50 Year Storms)
   iv. HydroCAD Output, Existing Full Summary (10 Year Storm)
   v. Post-Development Drainage Diagram
   vi. Post-Development Area Listing and Soil Listing
   vii. HydroCAD Output, Proposed Node Lists (2, 10, 50 Year Storms)
   viii. HydroCAD Output, Proposed Full Summary (10 Year Storm)

D. Town Drainage Analysis
   i. HydroCAD Output, Existing 25-Year Storm, Node List & Full Summary
   ii. HydroCAD Output, Existing 50-Year Storm, Full Summary
   iii. HydroCAD Output, Proposed 25-Year Storm, Node List & Full Summary
   iv. HydroCAD Output, Proposed 50-Year Storm, Node List & Full Summary

222 Rockingham Road
TDG Project: 640
5/19/2025
revised 1/15/2026

On-Site Drainage Summary Tabulation

Project Location	Pipe Characteristics for 25-Year Design Storm								
	Size	Type	Length	Slope	Manning's "n" Value	Peak Discharge	Depth of Flow	Peak Velocity	HGL Elevation
CB#1→CB#2	15"	HDPE	71'	0.0239 ft/ft	0.012	1.5 cfs	0.59'	2.60fps	282.04'
CB#2→CB#3	18"	HDPE	55'	0.0087 ft/ft	0.012	3.5 cfs	1.23'	3.19 fps	281.17'
CB#3→CB#4	18"	HDPE	230'	0.005 ft/ft	0.012	6.0 cfs	1.36'	4.52 fps	280.78'
CB#4→DMH#1	24"	HDPE	93'	0.005 ft/ft	0.012	8.1 cfs	1.87'	3.40 fps	279.64'
DMH#1→FES#1	24"	HDPE	101'	0.005 ft/ft	0.012	8.1 cfs	*2.42'	2.56 fps	279.62'
CB#5→CB#6	15"	HDPE	52'	0.005 ft/ft	0.012	2.4 cfs	*1.39'	2.31 fps	279.64'
CB#6→FES#2	15"	HDPE	76'	0.005 ft/ft	0.012	3.8 cfs	*1.75'	3.10 fps	279.63'
OCS-1→FES-1	18"	HDPE	28'	0.005 ft/ft	0.012	4.5 cfs	0.54'	7.82 fps	279.60'

* THE PIPES ARE TEMPORARILY SURCHARGED DUE TO THE POND ELEVATION

222 Rockingham Road
TDG Project: 640
5/19/2025
Revised 1/15/2026

Off-Site Abutters Drainage Evaluation

25-YR Design Storm

Map#	Lot #	Pre-Development Conditions (cfs)	Post-Development Conditions (cfs)	Difference (cfs)
15 (Drainage Link 1)	146	15.1	14.9	0.2
15 (Drainage Link 2)	145&142	6.9	6.9	0.0
15 (Drainage Link 4)	150	3.5	1.7	1.8
15	141	0.0	0.0	0.0
15	140	0.0	0.0	0.0
15 (Drainage Link 3)	21-1	0.5	0.5	0.0
15	21	0.0	0.0	0.0
Rockingham Road (Subcat D)	/	1.7	1.6	0.1

STORMWATER POND DESIGN CRITERIA
Env-Wq 1508.03

Type/Node Name: **WET POND - P1**

Enter the type of stormwater pond (e.g., Wet Pond) and the node name in the drainage analysis, if applicable.

2.86	ac	A = Area draining to the practice	
1.89	ac	A_I = Impervious area draining to the practice	
0.66	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.64	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
1.84	ac-in	WQV= 1" x Rv x A	
6,694	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
669	cf	10% x WQV (check calc for sediment forebay)	
3,347	cf	50% x WQV (check calc for extended detention volume)	
994	cf	V_{SED} = Sediment forebay volume	**≥ 10%WQV**
8,112	cf	V_{PP} = Permanent pool volume (volume below the lowest invert of the outlet structure) Attach stage-storage table.	
no	cf	Extended Detention?[1]	**≤ 50% WQV**
-		V_{ED} = Volume of extended detention (if "yes" is given in box above)	
		E_{ED} = Elevation of WQV if "yes" is given in box above[2]	
-	cfs	$2Q_{avg}$ = 2* V_{ED} / 24 hrs * (1hr / 3600 sec) (used to check against Q_{EDmax} below)	
-	cfs	Q_{EDmax} = Discharge at the E_{ED} (attach stage-discharge table)	**< $2Q_{avg}$**
-	hours	T_{ED} = Drawdown time of extended detention = $2V_{ED}/Q_{EDmax}$	**≥ 24-hrs**
3.00	:1	Pond side slopes	**≥3:1**
276.50	ft	Elevation of seasonal high water table	
276.00	ft	Elevation of lowest pond outlet	
271.00	ft	Max floor = Maximum elevation of pond bottom (ft)	
268.00	ft	Minimum floor (to maintain depth at less than 8')	**≤ 8 ft**
270.00	ft	Elevation of pond floor[3]	**≤ Max floor and > Min floor**
130.00	ft	Length of the flow path between the inlet and outlet at mid-depth	
40.00	ft	Average width ([average of the top width + average bottom width]/2)	
3.25	:1	Length to average width ratio	**≥ 3:1**
yes	Yes/No	Is the perimeter curvilinear.	**← Yes**
yes	Yes/No	Are the inlet and outlet located as far apart as possible.	**← Yes**
No	Yes/No	Is there a manually-controlled drain to dewater the pond over a 24hr period?	
If no state why:			
Trash Rack		What mechanism is proposed to prevent the outlet structure from clogging (applicable for orifices/weirs with a dimension of <6")?	
279.87	ft	Peak elevation of the 50-year storm event	
281.00	ft	Berm elevation of the pond	
YES		50 peak elevation ≤ the berm elevation?	**←yes**

1. If the entire WQV is stored in the permanent pool, there is no extended detention, and the following five lines do not apply.

2. This is the elevation of WQV **if** the hydrologic analysis is set up to include the permanent pool storage in the node description.

3. If the pond floor elevation is above the maximum floor elevation, a hydrologic budget must be submitted to demonstrate that a minimum depth of 3 feet can be maintained. (First check whether a revised "lowest pond outlet" elevation will resolve the issue.)

Designer's Notes:

Stage-Area-Storage for Pond P1: WET POND-P1 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
273.18	1,316	2,272	274.77	2,150	5,003
273.21	1,330	2,311	274.80	2,167	5,068
273.24	1,344	2,351	274.83	2,185	5,134
273.27	1,358	2,392	274.86	2,202	5,199
273.30	1,373	2,433	274.89	2,220	5,266
273.33	1,387	2,474	274.92	2,238	5,333
273.36	1,401	2,516	274.95	2,256	5,400
273.39	1,416	2,558	274.98	2,274	5,468
273.42	1,430	2,601	275.01	2,292	5,536
273.45	1,445	2,644	275.04	2,310	5,605
273.48	1,459	2,688	275.07	2,328	5,675
273.51	1,474	2,732	275.10	2,346	5,745
273.54	1,489	2,776	275.13	2,364	5,816
273.57	1,504	2,821	275.16	2,383	5,887
273.60	1,519	2,866	275.19	2,401	5,959
273.63	1,534	2,912	275.22	2,420	6,031
273.66	1,549	2,958	275.25	2,438	6,104
273.69	1,564	3,005	275.28	2,457	6,177
273.72	1,579	3,052	275.31	2,475	6,251
273.75	1,595	3,100	275.34	2,494	6,326
273.78	1,610	3,148	275.37	2,513	6,401
273.81	1,625	3,196	275.40	2,532	6,477
273.84	1,641	3,245	275.43	2,551	6,553
273.87	1,657	3,295	275.46	2,570	6,630
273.90	1,672	3,345	275.49	2,589	6,707
273.93	1,688	3,395	275.52	2,608	6,785
273.96	1,704	3,446	275.55	2,628	6,864
273.99	1,720	3,498	275.58	2,647	6,943
274.02	1,735	3,549	275.61	2,666	7,022
274.05	1,751	3,602	275.64	2,686	7,103
274.08	1,767	3,654	275.67	2,705	7,183
274.11	1,783	3,708	275.70	2,725	7,265
274.14	1,799	3,761	275.73	2,745	7,347
274.17	1,815	3,816	275.76	2,764	7,430
274.20	1,831	3,870	275.79	2,784	7,513
274.23	1,847	3,925	275.82	2,804	7,597
274.26	1,863	3,981	275.85	2,824	7,681
274.29	1,879	4,037	275.88	2,844	7,766
274.32	1,896	4,094	275.91	2,864	7,852
274.35	1,912	4,151	275.94	2,884	7,938
274.38	1,929	4,209	275.97	2,905	8,025
274.41	1,945	4,267	276.00	2,925	8,112
274.44	1,962	4,325	276.03	2,955	8,200
274.47	1,979	4,384	276.06	2,986	8,290
274.50	1,995	4,444	276.09	3,017	8,380
274.53	2,012	4,504	276.12	3,048	8,471
274.56	2,029	4,565	276.15	3,079	8,562
274.59	2,046	4,626	276.18	3,110	8,655
274.62	2,063	4,688	276.21	3,141	8,749
274.65	2,080	4,750	276.24	3,173	8,844
274.68	2,098	4,812	276.27	3,205	8,939
274.71	2,115	4,876	276.30	3,237	9,036
274.74	2,132	4,939	276.33	3,269	9,134

STORMWATER POND DESIGN CRITERIA
Env-Wq 1508.03

Type/Node Name: **FOREBAY**

Enter the type of stormwater pond (e.g., Wet Pond) and the node name in the drainage analysis, if applicable.

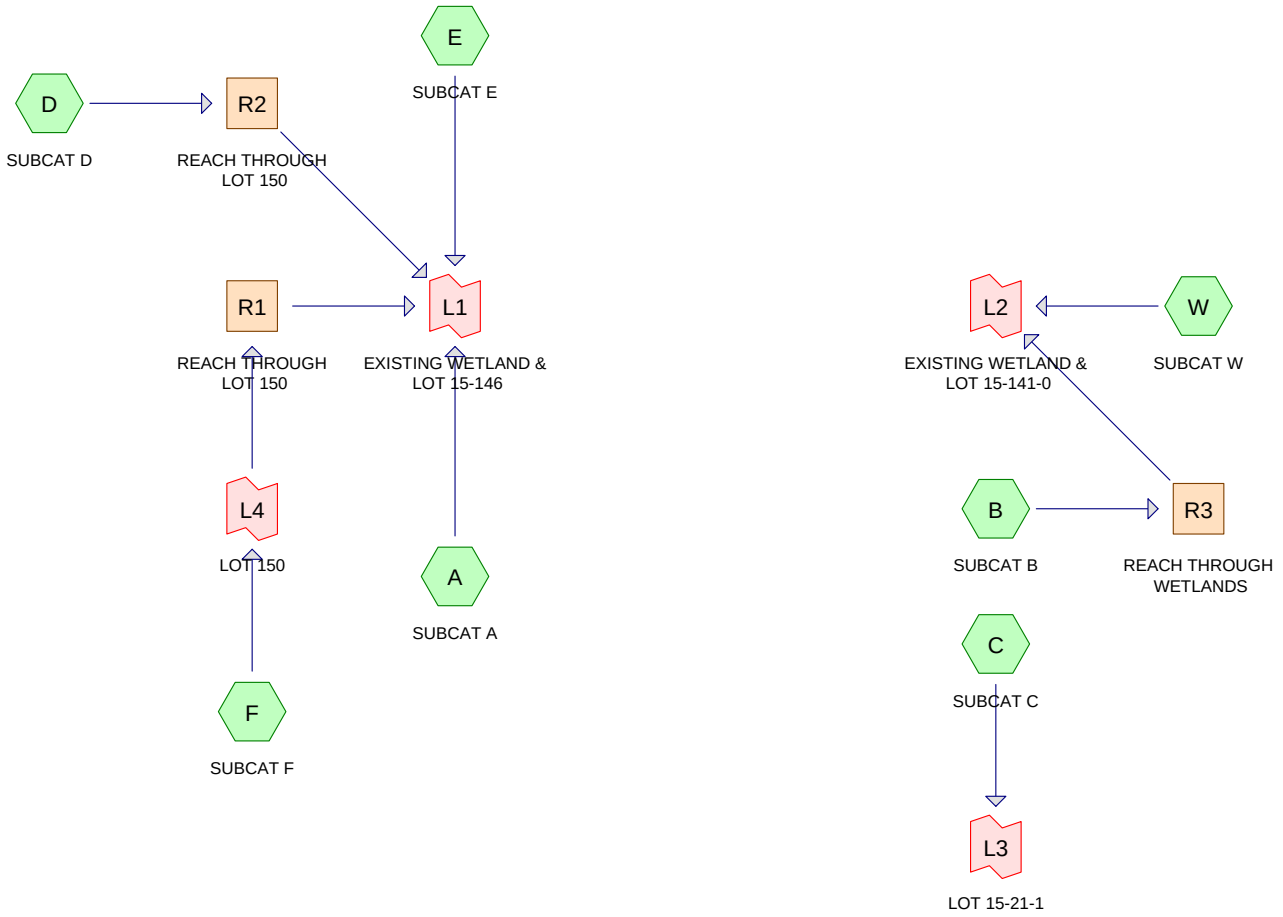
2.43	ac	A = Area draining to the practice	
1.77	ac	A_I = Impervious area draining to the practice	
0.73	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.71	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
1.71	ac-in	WQV= 1" x Rv x A	
6,224	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
622	cf	10% x WQV (check calc for sediment forebay)	
3,112	cf	50% x WQV (check calc for extended detention volume)	
994	cf	V_{SED} = Sediment forebay volume	**≥ 10%WQV**
	cf	V_{PP} = Permanent pool volume (volume below the lowest invert of the outlet structure) Attach stage-storage table.	
yes	cf	Extended Detention?[1]	**≤ 50% WQV**
6,224		V_{ED} = Volume of extended detention (if "yes" is given in box above)	
		E_{ED} = Elevation of WQV if "yes" is given in box above[2]	
0.14	cfs	$2Q_{avg}$ = 2* V_{ED} / 24 hrs * (1hr / 3600 sec) (used to check against Q_{EDmax} below)	
	cfs	Q_{EDmax} = Discharge at the E_{ED} (attach stage-discharge table)	**< $2Q_{avg}$**
-	hours	T_{ED} = Drawdown time of extended detention = $2V_{ED}/Q_{EDmax}$	**≥ 24-hrs**
	:1	Pond side slopes	**≥3:1**
	ft	Elevation of seasonal high water table	
	ft	Elevation of lowest pond outlet	
-5.00	ft	Max floor = Maximum elevation of pond bottom (ft)	
-8.00	ft	Minimum floor (to maintain depth at less than 8')	**≤ 8 ft**
	ft	Elevation of pond floor[3]	**≤ Max floor and > Min floor**
	ft	Length of the flow path between the inlet and outlet at mid-depth	
	ft	Average width ([average of the top width + average bottom width]/2)	
-	:1	Length to average width ratio	**≥ 3:1**
	Yes/No	Is the perimeter curvilinear.	**← Yes**
	Yes/No	Are the inlet and outlet located as far apart as possible.	**← Yes**
	Yes/No	Is there a manually-controlled drain to dewater the pond over a 24hr period?	
If no state why:			
		What mechanism is proposed to prevent the outlet structure from clogging (applicable for orifices/weirs with a dimension of <6")?	
	ft	Peak elevation of the 50-year storm event	
	ft	Berm elevation of the pond	
-		50 peak elevation ≤ the berm elevation?	**←yes**

1. If the entire WQV is stored in the permanent pool, there is no extended detention, and the following five lines do not apply.

2. This is the elevation of WQV **if** the hydrologic analysis is set up to include the permanent pool storage in the node description.

3. If the pond floor elevation is above the maximum floor elevation, a hydrologic budget must be submitted to demonstrate that a minimum depth of 3 feet can be maintained. (First check whether a revised "lowest pond outlet" elevation will resolve the issue.)

Designer's Notes:



Subcat Reach Pond Link

Routing Diagram for 640-PRE DEVELOPMENT
Prepared by The Dubay Group, Inc., Printed 1/14/2026
HydroCAD® 10.00-26 s/n 07602 © 2020 HydroCAD Software Solutions LLC

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: SUBCAT A Runoff Area=190,543 sf 0.00% Impervious Runoff Depth>0.66"
Flow Length=620' Tc=17.9 min CN=70 Runoff=2.0 cfs 10,502 cf

Subcatchment B: SUBCAT B Runoff Area=62,123 sf 0.00% Impervious Runoff Depth>0.71"
Flow Length=110' Slope=0.0450 '/' Tc=10.2 min CN=71 Runoff=0.9 cfs 3,662 cf

Subcatchment C: SUBCAT C Runoff Area=7,312 sf 0.00% Impervious Runoff Depth>0.66"
Tc=6.0 min CN=70 Runoff=0.1 cfs 405 cf

Subcatchment D: SUBCAT D Runoff Area=16,952 sf 44.13% Impervious Runoff Depth>1.44"
Tc=6.0 min CN=84 Runoff=0.6 cfs 2,036 cf

Subcatchment E: SUBCAT E Runoff Area=45,511 sf 18.64% Impervious Runoff Depth>0.95"
Flow Length=341' Tc=6.0 min CN=76 Runoff=1.1 cfs 3,617 cf

Subcatchment F: SUBCAT F Runoff Area=62,940 sf 2.28% Impervious Runoff Depth>0.75"
Flow Length=325' Tc=13.2 min CN=72 Runoff=0.9 cfs 3,947 cf

Subcatchment W: SUBCAT W Runoff Area=54,817 sf 0.00% Impervious Runoff Depth>1.12"
Flow Length=470' Slope=0.0010 '/' Tc=6.2 min CN=79 Runoff=1.6 cfs 5,125 cf

Reach R1: REACH THROUGH LOT 150 Avg. Flow Depth=0.05' Max Vel=0.90 fps Inflow=0.9 cfs 3,947 cf
n=0.022 L=195.0' S=0.0103 '/' Capacity=143.8 cfs Outflow=0.9 cfs 3,933 cf

Reach R2: REACH THROUGH LOT 150 Avg. Flow Depth=0.03' Max Vel=1.00 fps Inflow=0.6 cfs 2,036 cf
n=0.022 L=165.0' S=0.0242 '/' Capacity=221.1 cfs Outflow=0.6 cfs 2,033 cf

Reach R3: REACH THROUGH WETLANDS Avg. Flow Depth=0.05' Max Vel=0.61 fps Inflow=0.9 cfs 3,662 cf
n=0.022 L=470.0' S=0.0043 '/' Capacity=92.6 cfs Outflow=0.6 cfs 3,611 cf

Link L1: EXISTING WETLAND & LOT 15-146 Inflow=3.9 cfs 20,086 cf
Primary=3.9 cfs 20,086 cf

Link L2: EXISTING WETLAND & LOT 15-141-0 Inflow=1.8 cfs 8,736 cf
Primary=1.8 cfs 8,736 cf

Link L3: LOT 15-21-1 Inflow=0.1 cfs 405 cf
Primary=0.1 cfs 405 cf

Link L4: LOT 150 Inflow=0.9 cfs 3,947 cf
Primary=0.9 cfs 3,947 cf

Total Runoff Area = 440,198 sf Runoff Volume = 29,293 cf Average Runoff Depth = 0.80"
96.05% Pervious = 422,797 sf 3.95% Impervious = 17,401 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: SUBCAT A Runoff Area=190,543 sf 0.00% Impervious Runoff Depth>1.59"
Flow Length=620' Tc=17.9 min CN=70 Runoff=5.5 cfs 25,241 cf

Subcatchment B: SUBCAT B Runoff Area=62,123 sf 0.00% Impervious Runoff Depth>1.66"
Flow Length=110' Slope=0.0450 '/' Tc=10.2 min CN=71 Runoff=2.3 cfs 8,613 cf

Subcatchment C: SUBCAT C Runoff Area=7,312 sf 0.00% Impervious Runoff Depth>1.59"
Tc=6.0 min CN=70 Runoff=0.3 cfs 972 cf

Subcatchment D: SUBCAT D Runoff Area=16,952 sf 44.13% Impervious Runoff Depth>2.72"
Tc=6.0 min CN=84 Runoff=1.2 cfs 3,836 cf

Subcatchment E: SUBCAT E Runoff Area=45,511 sf 18.64% Impervious Runoff Depth>2.04"
Flow Length=341' Tc=6.0 min CN=76 Runoff=2.4 cfs 7,738 cf

Subcatchment F: SUBCAT F Runoff Area=62,940 sf 2.28% Impervious Runoff Depth>1.73"
Flow Length=325' Tc=13.2 min CN=72 Runoff=2.3 cfs 9,098 cf

Subcatchment W: SUBCAT W Runoff Area=54,817 sf 0.00% Impervious Runoff Depth>2.28"
Flow Length=470' Slope=0.0010 '/' Tc=6.2 min CN=79 Runoff=3.3 cfs 10,425 cf

Reach R1: REACH THROUGH LOT 150 Avg. Flow Depth=0.08' Max Vel=1.30 fps Inflow=2.3 cfs 9,098 cf
n=0.022 L=195.0' S=0.0103 '/' Capacity=143.8 cfs Outflow=2.2 cfs 9,072 cf

Reach R2: REACH THROUGH LOT 150 Avg. Flow Depth=0.04' Max Vel=1.31 fps Inflow=1.2 cfs 3,836 cf
n=0.022 L=165.0' S=0.0242 '/' Capacity=221.1 cfs Outflow=1.2 cfs 3,832 cf

Reach R3: REACH THROUGH WETLANDS Avg. Flow Depth=0.10' Max Vel=0.94 fps Inflow=2.3 cfs 8,613 cf
n=0.022 L=470.0' S=0.0043 '/' Capacity=92.6 cfs Outflow=1.9 cfs 8,519 cf

Link L1: EXISTING WETLAND & LOT 15-146 Inflow=9.8 cfs 45,883 cf
Primary=9.8 cfs 45,883 cf

Link L2: EXISTING WETLAND & LOT 15-141-0 Inflow=4.5 cfs 18,944 cf
Primary=4.5 cfs 18,944 cf

Link L3: LOT 15-21-1 Inflow=0.3 cfs 972 cf
Primary=0.3 cfs 972 cf

Link L4: LOT 150 Inflow=2.3 cfs 9,098 cf
Primary=2.3 cfs 9,098 cf

Total Runoff Area = 440,198 sf Runoff Volume = 65,923 cf Average Runoff Depth = 1.80"
96.05% Pervious = 422,797 sf 3.95% Impervious = 17,401 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: SUBCAT A Runoff Area=190,543 sf 0.00% Impervious Runoff Depth>3.31"
Flow Length=620' Tc=17.9 min CN=70 Runoff=11.9 cfs 52,550 cf

Subcatchment B: SUBCAT B Runoff Area=62,123 sf 0.00% Impervious Runoff Depth>3.42"
Flow Length=110' Slope=0.0450 '/' Tc=10.2 min CN=71 Runoff=4.9 cfs 17,685 cf

Subcatchment C: SUBCAT C Runoff Area=7,312 sf 0.00% Impervious Runoff Depth>3.32"
Tc=6.0 min CN=70 Runoff=0.6 cfs 2,022 cf

Subcatchment D: SUBCAT D Runoff Area=16,952 sf 44.13% Impervious Runoff Depth>4.80"
Tc=6.0 min CN=84 Runoff=2.1 cfs 6,774 cf

Subcatchment E: SUBCAT E Runoff Area=45,511 sf 18.64% Impervious Runoff Depth>3.94"
Flow Length=341' Tc=6.0 min CN=76 Runoff=4.7 cfs 14,924 cf

Subcatchment F: SUBCAT F Runoff Area=62,940 sf 2.28% Impervious Runoff Depth>3.52"
Flow Length=325' Tc=13.2 min CN=72 Runoff=4.7 cfs 18,440 cf

Subcatchment W: SUBCAT W Runoff Area=54,817 sf 0.00% Impervious Runoff Depth>4.25"
Flow Length=470' Slope=0.0010 '/' Tc=6.2 min CN=79 Runoff=6.1 cfs 19,426 cf

Reach R1: REACH THROUGH LOT 150 Avg. Flow Depth=0.13' Max Vel=1.74 fps Inflow=4.7 cfs 18,440 cf
n=0.022 L=195.0' S=0.0103 '/' Capacity=143.8 cfs Outflow=4.7 cfs 18,398 cf

Reach R2: REACH THROUGH LOT 150 Avg. Flow Depth=0.06' Max Vel=1.64 fps Inflow=2.1 cfs 6,774 cf
n=0.022 L=165.0' S=0.0242 '/' Capacity=221.1 cfs Outflow=2.1 cfs 6,767 cf

Reach R3: REACH THROUGH Avg. Flow Depth=0.16' Max Vel=1.30 fps Inflow=4.9 cfs 17,685 cf
n=0.022 L=470.0' S=0.0043 '/' Capacity=92.6 cfs Outflow=4.4 cfs 17,559 cf

Link L1: EXISTING WETLAND & LOT 15-146 Inflow=20.3 cfs 92,639 cf
Primary=20.3 cfs 92,639 cf

Link L2: EXISTING WETLAND & LOT 15-141-0 Inflow=9.2 cfs 36,985 cf
Primary=9.2 cfs 36,985 cf

Link L3: LOT 15-21-1 Inflow=0.6 cfs 2,022 cf
Primary=0.6 cfs 2,022 cf

Link L4: LOT 150 Inflow=4.7 cfs 18,440 cf
Primary=4.7 cfs 18,440 cf

Total Runoff Area = 440,198 sf Runoff Volume = 131,821 cf Average Runoff Depth = 3.59"
96.05% Pervious = 422,797 sf 3.95% Impervious = 17,401 sf

Summary for Subcatchment A: SUBCAT A

Runoff = 5.5 cfs @ 12.26 hrs, Volume= 25,241 cf, Depth> 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	6,801	74	>75% Grass cover, Good, HSG C
*	5,891	74	Wetland->75% Grass cover, Good, HSG C
	159,477	70	Woods, Good, HSG C
*	18,374	70	Wetland-Woods, Good, HSG C
*	0	98	Ex. Pavement
*	0	98	Ex. Building
	190,543	70	Weighted Average
	190,543		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
3.7	225	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	345	0.0100	4.53	104.12	**Trap/Vee/Rect Channel Flow,** Bot.W=20.00' D=1.00' Z= 3.0 '/' Top.W=26.00' n= 0.030 Stream, clean & straight
17.9	620	Total			

Summary for Subcatchment B: SUBCAT B

Runoff = 2.3 cfs @ 12.15 hrs, Volume= 8,613 cf, Depth> 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	8,869	74	>75% Grass cover, Good, HSG C
	53,254	70	Woods, Good, HSG C
*	0	98	Ex. Pavement
*	0	98	Ex. Building
	62,123	71	Weighted Average
	62,123		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
0.9	60	0.0450	1.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.2	110	Total			

Summary for Subcatchment C: SUBCAT C

Runoff = 0.3 cfs @ 12.10 hrs, Volume= 972 cf, Depth> 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
	7,312	70	Woods, Good, HSG C
*	0	98	Ex. Wetland
	7,312	70	Weighted Average
	7,312		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D: SUBCAT D

Runoff = 1.2 cfs @ 12.09 hrs, Volume= 3,836 cf, Depth> 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	6,360	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	3,111	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	7,481	98	Ex. Pavement
*	0	98	Ex. Building
	16,952	84	Weighted Average
	9,471		55.87% Pervious Area
	7,481		44.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment E: SUBCAT E

Runoff = 2.4 cfs @ 12.10 hrs, Volume= 7,738 cf, Depth> 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	7,200	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	14,086	70	Woods, Good, HSG C
*	15,742	70	Wetland-Woods, Good, HSG C
*	5,858	98	Ex. Pavement
*	2,625	98	Ex. Building
	45,511	76	Weighted Average
	37,028		81.36% Pervious Area
	8,483		18.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.6	42	0.0470	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.97"
0.5	39	0.0340	1.36		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.97"
0.5	35	0.0280	1.17		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	61	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	164	0.0200	8.73	200.79	**Trap/Vee/Rect Channel Flow,** Bot.W=20.00' D=1.00' Z= 3.0 '/' Top.W=26.00' n= 0.022 Earth, clean & straight
5.5	341	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment F: SUBCAT F

Runoff = 2.3 cfs @ 12.19 hrs, Volume= 9,098 cf, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	16,539	74	>75% Grass cover, Good, HSG C
*	1,007	74	Wetland->75% Grass cover, Good, HSG C
	40,849	70	Woods, Good, HSG C
*	3,108	70	Wetland-Woods, Good, HSG C
*	739	98	Ex. Pavement
*	698	98	Ex. Building
	62,940	72	Weighted Average
	61,503		97.72% Pervious Area
	1,437		2.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
0.7	35	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.8	240	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.2	325	Total			

Summary for Subcatchment W: SUBCAT W

Runoff = 3.3 cfs @ 12.10 hrs, Volume= 10,425 cf, Depth> 2.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	29,890	80	>75% Grass cover, Good, HSG D
	24,927	77	Woods, Good, HSG D
*	0	98	Ex. Pavement
*	0	98	Ex. Building
	54,817	79	Weighted Average
	54,817		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	470	0.0010	1.26	41.56	**Trap/Vee/Rect Channel Flow,** Bot.W=30.00' D=1.00' Z= 3.0 '/' Top.W=36.00' n= 0.035 Earth, dense weeds

Summary for Reach R1: REACH THROUGH LOT 150

Inflow Area = 62,940 sf, 2.28% Impervious, Inflow Depth > 1.73" for 10 YR event
Inflow = 2.3 cfs @ 12.19 hrs, Volume= 9,098 cf
Outflow = 2.2 cfs @ 12.22 hrs, Volume= 9,072 cf, Atten= 1%, Lag= 1.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.30 fps, Min. Travel Time= 2.5 min
Avg. Velocity = 0.43 fps, Avg. Travel Time= 7.6 min

Peak Storage= 333 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 143.8 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 195.0' Slope= 0.0103 '/'
Inlet Invert= 280.00', Outlet Invert= 278.00'



‡

Summary for Reach R2: REACH THROUGH LOT 150

Inflow Area = 16,952 sf, 44.13% Impervious, Inflow Depth > 2.72" for 10 YR event
Inflow = 1.2 cfs @ 12.09 hrs, Volume= 3,836 cf
Outflow = 1.2 cfs @ 12.11 hrs, Volume= 3,832 cf, Atten= 3%, Lag= 1.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.31 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 0.52 fps, Avg. Travel Time= 5.3 min

Peak Storage= 147 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 221.1 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 165.0' Slope= 0.0242 '/'
Inlet Invert= 282.00', Outlet Invert= 278.00'



‡

Summary for Reach R3: REACH THROUGH WETLANDS

Inflow Area = 62,123 sf, 0.00% Impervious, Inflow Depth > 1.66" for 10 YR event
Inflow = 2.3 cfs @ 12.15 hrs, Volume= 8,613 cf
Outflow = 1.9 cfs @ 12.24 hrs, Volume= 8,519 cf, Atten= 18%, Lag= 5.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.94 fps, Min. Travel Time= 8.3 min
Avg. Velocity = 0.32 fps, Avg. Travel Time= 24.8 min

Peak Storage= 956 cf @ 12.24 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 92.6 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 470.0' Slope= 0.0043 '/'
Inlet Invert= 272.00', Outlet Invert= 270.00'



‡

Summary for Link L1: EXISTING WETLAND & LOT 15-146

Inflow Area = 315,946 sf, 5.51% Impervious, Inflow Depth > 1.74" for 10 YR event
Inflow = 9.8 cfs @ 12.22 hrs, Volume= 45,883 cf
Primary = 9.8 cfs @ 12.22 hrs, Volume= 45,883 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L2: EXISTING WETLAND & LOT 15-141-0

Inflow Area = 116,940 sf, 0.00% Impervious, Inflow Depth > 1.94" for 10 YR event
Inflow = 4.5 cfs @ 12.12 hrs, Volume= 18,944 cf
Primary = 4.5 cfs @ 12.12 hrs, Volume= 18,944 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L3: LOT 15-21-1

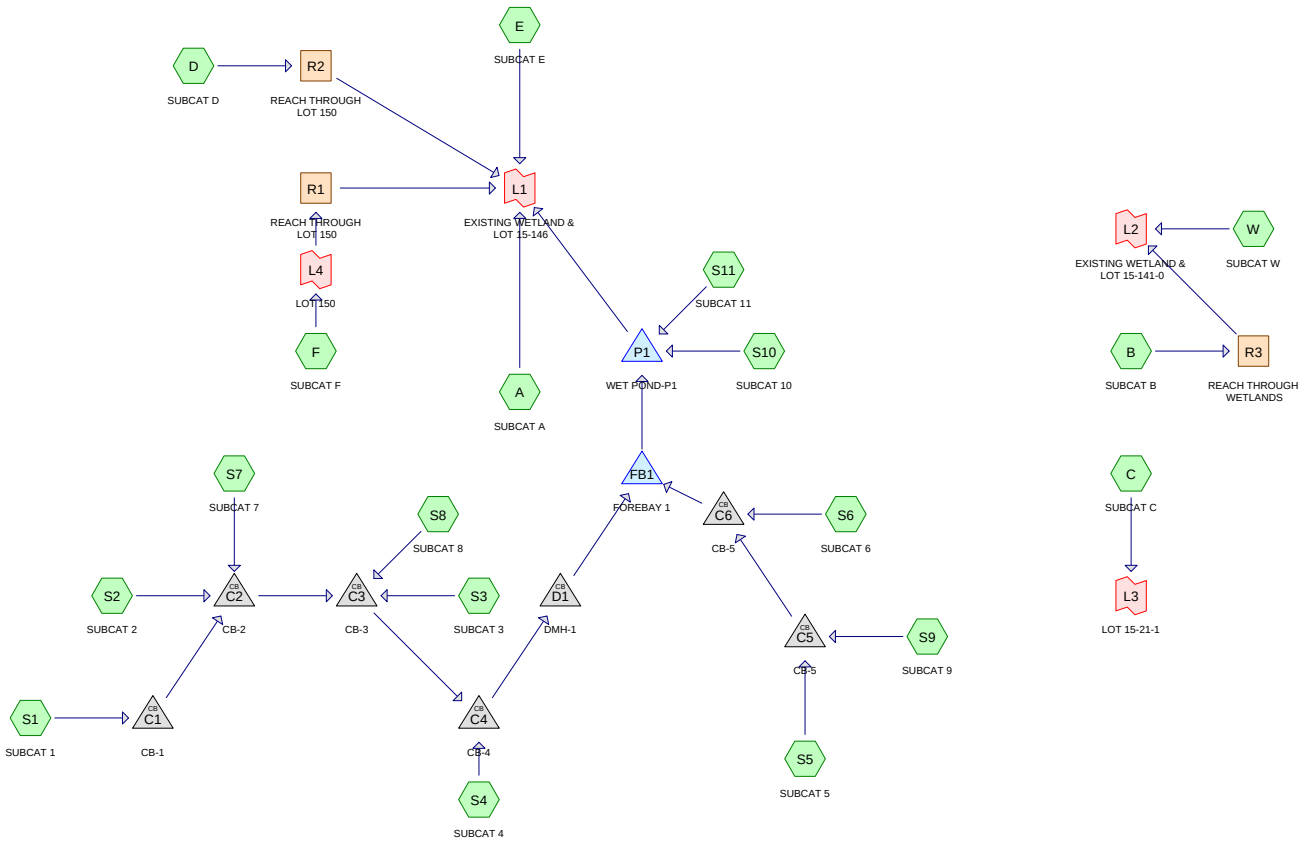
Inflow Area = 7,312 sf, 0.00% Impervious, Inflow Depth > 1.59" for 10 YR event
Inflow = 0.3 cfs @ 12.10 hrs, Volume= 972 cf
Primary = 0.3 cfs @ 12.10 hrs, Volume= 972 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L4: LOT 150

Inflow Area = 62,940 sf, 2.28% Impervious, Inflow Depth > 1.73" for 10 YR event
Inflow = 2.3 cfs @ 12.19 hrs, Volume= 9,098 cf
Primary = 2.3 cfs @ 12.19 hrs, Volume= 9,098 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs



Subcat Reach Pond Link

Routing Diagram for 640-POST DEVELOPMENT

Prepared by The Dubay Group, Inc., Printed 1/15/2026

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
96,364	74	>75% Grass cover, Good, HSG C (A, B, C, D, E, F, S1, S11, S2, S3, S4, S5, S6)
29,890	80	>75% Grass cover, Good, HSG D (W)
2,913	98	Ex. Building (E, F)
11,181	98	Ex. Pavement (D, E, F)
27,075	71	Naturalized slope:Meadow, non-grazed, HSG C (A, B, S1, S2, S3, S4)
21,268	98	PROPOSED BUILDING (S10, S2, S7, S8, S9)
65,547	98	PROPOSED PAVEMENT (D, E, S1, S2, S3, S4, S5, S6)
2,403	74	RipRap slope with evergreens, Good, HSG C (C)
2,923	98	Water Surface, HSG C (S11)
7,099	74	Wetland->75% Grass cover, Good, HSG C (A, F)
34,312	70	Wetland-Woods, Good, HSG C (A, E, F)
114,296	70	Woods, Good, HSG C (A, B, C, D, E, F, S1, S2, S3, S4)
24,927	77	Woods, Good, HSG D (W)
440,198	**79**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
284,472	HSG C	A, B, C, D, E, F, S1, S11, S2, S3, S4, S5, S6
54,817	HSG D	W
100,909	Other	D, E, F, S1, S10, S2, S3, S4, S5, S6, S7, S8, S9
440,198		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: SUBCAT A Runoff Area=104,841 sf 0.00% Impervious Runoff Depth>0.71"
Flow Length=395' Tc=14.1 min CN=71 Runoff=1.3 cfs 6,172 cf

Subcatchment B: SUBCAT B Runoff Area=61,759 sf 0.00% Impervious Runoff Depth>0.71"
Flow Length=110' Slope=0.0450 '/' Tc=10.2 min CN=71 Runoff=0.9 cfs 3,640 cf

Subcatchment C: SUBCAT C Runoff Area=6,266 sf 0.00% Impervious Runoff Depth>0.85"
Tc=6.0 min CN=74 Runoff=0.1 cfs 444 cf

Subcatchment D: SUBCAT D Runoff Area=15,416 sf 52.63% Impervious Runoff Depth>1.66"
Tc=6.0 min CN=87 Runoff=0.7 cfs 2,132 cf

Subcatchment E: SUBCAT E Runoff Area=47,836 sf 20.33% Impervious Runoff Depth>0.95"
Flow Length=336' Tc=6.0 min CN=76 Runoff=1.1 cfs 3,802 cf

Subcatchment F: SUBCAT F Runoff Area=24,982 sf 1.73% Impervious Runoff Depth>0.80"
Flow Length=232' Tc=7.5 min CN=73 Runoff=0.5 cfs 1,668 cf

Subcatchment S1: SUBCAT 1 Runoff Area=15,910 sf 39.31% Impervious Runoff Depth>1.31"
Tc=6.0 min CN=82 Runoff=0.5 cfs 1,733 cf

Subcatchment S10: SUBCAT 10 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>2.68"
Tc=6.0 min CN=98 Runoff=0.3 cfs 1,170 cf

Subcatchment S11: SUBCAT 11 Runoff Area=13,341 sf 21.91% Impervious Runoff Depth>1.12"
Tc=6.0 min CN=79 Runoff=0.4 cfs 1,247 cf

Subcatchment S2: SUBCAT 2 Runoff Area=11,769 sf 72.72% Impervious Runoff Depth>1.99"
Tc=6.0 min CN=91 Runoff=0.6 cfs 1,948 cf

Subcatchment S3: SUBCAT 3 Runoff Area=17,194 sf 63.21% Impervious Runoff Depth>1.82"
Tc=6.0 min CN=89 Runoff=0.8 cfs 2,604 cf

Subcatchment S4: SUBCAT 4 Runoff Area=19,039 sf 66.60% Impervious Runoff Depth>1.82"
Tc=6.0 min CN=89 Runoff=0.9 cfs 2,883 cf

Subcatchment S5: SUBCAT 5 Runoff Area=14,647 sf 89.89% Impervious Runoff Depth>2.46"
Tc=6.0 min CN=96 Runoff=0.9 cfs 3,005 cf

Subcatchment S6: SUBCAT 6 Runoff Area=11,401 sf 88.86% Impervious Runoff Depth>2.36"
Tc=6.0 min CN=95 Runoff=0.7 cfs 2,242 cf

Subcatchment S7: SUBCAT 7 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>2.68"
Tc=6.0 min CN=98 Runoff=0.3 cfs 1,170 cf

Subcatchment S8: SUBCAT 8 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>2.68"
Tc=6.0 min CN=98 Runoff=0.3 cfs 1,170 cf

Subcatchment S9: SUBCAT 9 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>2.68"
Tc=6.0 min CN=98 Runoff=0.3 cfs 1,170 cf

Subcatchment W: SUBCAT W Runoff Area=54,817 sf 0.00% Impervious Runoff Depth>1.12"
Flow Length=470' Slope=0.0010 '/' Tc=6.2 min CN=79 Runoff=1.6 cfs 5,125 cf

Reach R1: REACH THROUGH LOT 150 Avg. Flow Depth=0.03' Max Vel=0.66 fps Inflow=0.5 cfs 1,668 cf
n=0.022 L=195.0' S=0.0103 '/' Capacity=143.8 cfs Outflow=0.4 cfs 1,662 cf

Reach R2: REACH THROUGH LOT 150 Avg. Flow Depth=0.03' Max Vel=1.02 fps Inflow=0.7 cfs 2,132 cf
n=0.022 L=165.0' S=0.0242 '/' Capacity=221.1 cfs Outflow=0.6 cfs 2,129 cf

Reach R3: REACH THROUGH WETLANDS Avg. Flow Depth=0.05' Max Vel=0.60 fps Inflow=0.9 cfs 3,640 cf
n=0.022 L=470.0' S=0.0043 '/' Capacity=92.6 cfs Outflow=0.6 cfs 3,590 cf

Pond C1: CB-1 Peak Elev=281.79' Inflow=0.5 cfs 1,733 cf
15.0" Round Culvert n=0.012 L=71.0' S=0.0199 '/' Outflow=0.5 cfs 1,733 cf

Pond C2: CB-2 Peak Elev=280.62' Inflow=1.5 cfs 4,851 cf
15.0" Round Culvert n=0.012 L=55.0' S=0.0049 '/' Outflow=1.5 cfs 4,851 cf

Pond C3: CB-3 Peak Elev=280.24' Inflow=2.6 cfs 8,625 cf
18.0" Round Culvert n=0.012 L=230.0' S=0.0050 '/' Outflow=2.6 cfs 8,625 cf

Pond C4: CB-4 Peak Elev=278.68' Inflow=3.5 cfs 11,508 cf
24.0" Round Culvert n=0.012 L=93.0' S=0.0051 '/' Outflow=3.5 cfs 11,508 cf

Pond C5: CB-5 Peak Elev=278.92' Inflow=1.2 cfs 4,175 cf
15.0" Round Culvert n=0.012 L=52.0' S=0.0050 '/' Outflow=1.2 cfs 4,175 cf

Pond C6: CB-5 Peak Elev=278.65' Inflow=1.9 cfs 6,417 cf
15.0" Round Culvert n=0.012 L=76.0' S=0.0050 '/' Outflow=1.9 cfs 6,417 cf

Pond D1: DMH-1 Peak Elev=278.21' Inflow=3.5 cfs 11,508 cf
24.0" Round Culvert n=0.012 L=101.0' S=0.0050 '/' Outflow=3.5 cfs 11,508 cf

Pond FB1: FOREBAY 1 Peak Elev=278.20' Storage=994 cf Inflow=5.4 cfs 17,925 cf
Outflow=5.5 cfs 16,814 cf

Pond P1: WET POND-P1 Peak Elev=278.20' Storage=17,312 cf Inflow=6.2 cfs 19,232 cf
Outflow=1.0 cfs 17,436 cf

Link L1: EXISTING WETLAND & LOT 15-146 Inflow=3.8 cfs 31,202 cf
Primary=3.8 cfs 31,202 cf

Link L2: EXISTING WETLAND & LOT 15-141-0 Inflow=1.8 cfs 8,715 cf
Primary=1.8 cfs 8,715 cf

Link L3: LOT 15-21-1 Inflow=0.1 cfs 444 cf
Primary=0.1 cfs 444 cf

Link L4: LOT 150 Inflow=0.5 cfs 1,668 cf
Primary=0.5 cfs 1,668 cf

Total Runoff Area = 440,198 sf Runoff Volume = 43,325 cf Average Runoff Depth = 1.18"
76.41% Pervious = 336,366 sf 23.59% Impervious = 103,832 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: SUBCAT A Runoff Area=104,841 sf 0.00% Impervious Runoff Depth>1.66"
Flow Length=395' Tc=14.1 min CN=71 Runoff=3.5 cfs 14,520 cf

Subcatchment B: SUBCAT B Runoff Area=61,759 sf 0.00% Impervious Runoff Depth>1.66"
Flow Length=110' Slope=0.0450 '/' Tc=10.2 min CN=71 Runoff=2.3 cfs 8,562 cf

Subcatchment C: SUBCAT C Runoff Area=6,266 sf 0.00% Impervious Runoff Depth>1.89"
Tc=6.0 min CN=74 Runoff=0.3 cfs 985 cf

Subcatchment D: SUBCAT D Runoff Area=15,416 sf 52.63% Impervious Runoff Depth>2.99"
Tc=6.0 min CN=87 Runoff=1.2 cfs 3,847 cf

Subcatchment E: SUBCAT E Runoff Area=47,836 sf 20.33% Impervious Runoff Depth>2.04"
Flow Length=336' Tc=6.0 min CN=76 Runoff=2.6 cfs 8,134 cf

Subcatchment F: SUBCAT F Runoff Area=24,982 sf 1.73% Impervious Runoff Depth>1.81"
Flow Length=232' Tc=7.5 min CN=73 Runoff=1.1 cfs 3,769 cf

Subcatchment S1: SUBCAT 1 Runoff Area=15,910 sf 39.31% Impervious Runoff Depth>2.54"
Tc=6.0 min CN=82 Runoff=1.1 cfs 3,364 cf

Subcatchment S10: SUBCAT 10 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>4.15"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,815 cf

Subcatchment S11: SUBCAT 11 Runoff Area=13,341 sf 21.91% Impervious Runoff Depth>2.28"
Tc=6.0 min CN=79 Runoff=0.8 cfs 2,537 cf

Subcatchment S2: SUBCAT 2 Runoff Area=11,769 sf 72.72% Impervious Runoff Depth>3.39"
Tc=6.0 min CN=91 Runoff=1.0 cfs 3,324 cf

Subcatchment S3: SUBCAT 3 Runoff Area=17,194 sf 63.21% Impervious Runoff Depth>3.19"
Tc=6.0 min CN=89 Runoff=1.4 cfs 4,569 cf

Subcatchment S4: SUBCAT 4 Runoff Area=19,039 sf 66.60% Impervious Runoff Depth>3.19"
Tc=6.0 min CN=89 Runoff=1.6 cfs 5,059 cf

Subcatchment S5: SUBCAT 5 Runoff Area=14,647 sf 89.89% Impervious Runoff Depth>3.92"
Tc=6.0 min CN=96 Runoff=1.4 cfs 4,790 cf

Subcatchment S6: SUBCAT 6 Runoff Area=11,401 sf 88.86% Impervious Runoff Depth>3.81"
Tc=6.0 min CN=95 Runoff=1.1 cfs 3,623 cf

Subcatchment S7: SUBCAT 7 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>4.15"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,815 cf

Subcatchment S8: SUBCAT 8 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>4.15"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,815 cf

Subcatchment S9: SUBCAT 9 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>4.15"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,815 cf

Subcatchment W: SUBCAT W Runoff Area=54,817 sf 0.00% Impervious Runoff Depth>2.28"
Flow Length=470' Slope=0.0010 '/' Tc=6.2 min CN=79 Runoff=3.3 cfs 10,425 cf

Reach R1: REACH THROUGH LOT 150 Avg. Flow Depth=0.05' Max Vel=0.97 fps Inflow=1.1 cfs 3,769 cf
n=0.022 L=195.0' S=0.0103 '/' Capacity=143.8 cfs Outflow=1.1 cfs 3,759 cf

Reach R2: REACH THROUGH LOT 150 Avg. Flow Depth=0.04' Max Vel=1.31 fps Inflow=1.2 cfs 3,847 cf
n=0.022 L=165.0' S=0.0242 '/' Capacity=221.1 cfs Outflow=1.2 cfs 3,842 cf

Reach R3: REACH THROUGH WETLANDS Avg. Flow Depth=0.10' Max Vel=0.94 fps Inflow=2.3 cfs 8,562 cf
n=0.022 L=470.0' S=0.0043 '/' Capacity=92.6 cfs Outflow=1.9 cfs 8,469 cf

Pond C1: CB-1 Peak Elev=281.94' Inflow=1.1 cfs 3,364 cf
15.0" Round Culvert n=0.012 L=71.0' S=0.0199 '/' Outflow=1.1 cfs 3,364 cf

Pond C2: CB-2 Peak Elev=280.93' Inflow=2.6 cfs 8,503 cf
15.0" Round Culvert n=0.012 L=55.0' S=0.0049 '/' Outflow=2.6 cfs 8,503 cf

Pond C3: CB-3 Peak Elev=280.54' Inflow=4.5 cfs 14,887 cf
18.0" Round Culvert n=0.012 L=230.0' S=0.0050 '/' Outflow=4.5 cfs 14,887 cf

Pond C4: CB-4 Peak Elev=279.09' Inflow=6.1 cfs 19,945 cf
24.0" Round Culvert n=0.012 L=93.0' S=0.0051 '/' Outflow=6.1 cfs 19,945 cf

Pond C5: CB-5 Peak Elev=279.14' Inflow=1.9 cfs 6,604 cf
15.0" Round Culvert n=0.012 L=52.0' S=0.0050 '/' Outflow=1.9 cfs 6,604 cf

Pond C6: CB-5 Peak Elev=279.07' Inflow=2.9 cfs 10,228 cf
15.0" Round Culvert n=0.012 L=76.0' S=0.0050 '/' Outflow=2.9 cfs 10,228 cf

Pond D1: DMH-1 Peak Elev=279.07' Inflow=6.1 cfs 19,945 cf
24.0" Round Culvert n=0.012 L=101.0' S=0.0050 '/' Outflow=6.1 cfs 19,945 cf

Pond FB1: FOREBAY 1 Peak Elev=279.06' Storage=994 cf Inflow=9.0 cfs 30,173 cf
Outflow=9.0 cfs 29,106 cf

Pond P1: WET POND-P1 Peak Elev=279.06' Storage=22,360 cf Inflow=10.3 cfs 33,458 cf
Outflow=2.9 cfs 31,055 cf

Link L1: EXISTING WETLAND & LOT 15-146 Inflow=9.5 cfs 61,311 cf
Primary=9.5 cfs 61,311 cf

Link L2: EXISTING WETLAND & LOT 15-141-0 Inflow=4.5 cfs 18,894 cf
Primary=4.5 cfs 18,894 cf

Link L3: LOT 15-21-1 Inflow=0.3 cfs 985 cf
Primary=0.3 cfs 985 cf

Link L4: LOT 150 Inflow=1.1 cfs 3,769 cf
Primary=1.1 cfs 3,769 cf

Total Runoff Area = 440,198 sf Runoff Volume = 84,768 cf Average Runoff Depth = 2.31"
76.41% Pervious = 336,366 sf 23.59% Impervious = 103,832 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: SUBCAT A Runoff Area=104,841 sf 0.00% Impervious Runoff Depth>3.41"
Flow Length=395' Tc=14.1 min CN=71 Runoff=7.4 cfs 29,821 cf

Subcatchment B: SUBCAT B Runoff Area=61,759 sf 0.00% Impervious Runoff Depth>3.42"
Flow Length=110' Slope=0.0450 '/' Tc=10.2 min CN=71 Runoff=4.9 cfs 17,582 cf

Subcatchment C: SUBCAT C Runoff Area=6,266 sf 0.00% Impervious Runoff Depth>3.73"
Tc=6.0 min CN=74 Runoff=0.6 cfs 1,946 cf

Subcatchment D: SUBCAT D Runoff Area=15,416 sf 52.63% Impervious Runoff Depth>5.13"
Tc=6.0 min CN=87 Runoff=2.0 cfs 6,588 cf

Subcatchment E: SUBCAT E Runoff Area=47,836 sf 20.33% Impervious Runoff Depth>3.94"
Flow Length=336' Tc=6.0 min CN=76 Runoff=5.0 cfs 15,686 cf

Subcatchment F: SUBCAT F Runoff Area=24,982 sf 1.73% Impervious Runoff Depth>3.62"
Flow Length=232' Tc=7.5 min CN=73 Runoff=2.3 cfs 7,541 cf

Subcatchment S1: SUBCAT 1 Runoff Area=15,910 sf 39.31% Impervious Runoff Depth>4.58"
Tc=6.0 min CN=82 Runoff=1.9 cfs 6,067 cf

Subcatchment S10: SUBCAT 10 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>6.40"
Tc=6.0 min CN=98 Runoff=0.8 cfs 2,796 cf

Subcatchment S11: SUBCAT 11 Runoff Area=13,341 sf 21.91% Impervious Runoff Depth>4.25"
Tc=6.0 min CN=79 Runoff=1.5 cfs 4,728 cf

Subcatchment S2: SUBCAT 2 Runoff Area=11,769 sf 72.72% Impervious Runoff Depth>5.58"
Tc=6.0 min CN=91 Runoff=1.6 cfs 5,474 cf

Subcatchment S3: SUBCAT 3 Runoff Area=17,194 sf 63.21% Impervious Runoff Depth>5.35"
Tc=6.0 min CN=89 Runoff=2.3 cfs 7,670 cf

Subcatchment S4: SUBCAT 4 Runoff Area=19,039 sf 66.60% Impervious Runoff Depth>5.35"
Tc=6.0 min CN=89 Runoff=2.6 cfs 8,494 cf

Subcatchment S5: SUBCAT 5 Runoff Area=14,647 sf 89.89% Impervious Runoff Depth>6.16"
Tc=6.0 min CN=96 Runoff=2.1 cfs 7,520 cf

Subcatchment S6: SUBCAT 6 Runoff Area=11,401 sf 88.86% Impervious Runoff Depth>6.04"
Tc=6.0 min CN=95 Runoff=1.6 cfs 5,742 cf

Subcatchment S7: SUBCAT 7 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>6.40"
Tc=6.0 min CN=98 Runoff=0.8 cfs 2,796 cf

Subcatchment S8: SUBCAT 8 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>6.40"
Tc=6.0 min CN=98 Runoff=0.8 cfs 2,796 cf

Subcatchment S9: SUBCAT 9 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>6.40"
Tc=6.0 min CN=98 Runoff=0.8 cfs 2,796 cf

Subcatchment W: SUBCAT W Runoff Area=54,817 sf 0.00% Impervious Runoff Depth>4.25"
Flow Length=470' Slope=0.0010 '/' Tc=6.2 min CN=79 Runoff=6.1 cfs 19,426 cf

Reach R1: REACH THROUGH LOT 150 Avg. Flow Depth=0.08' Max Vel=1.29 fps Inflow=2.3 cfs 7,541 cf
n=0.022 L=195.0' S=0.0103 '/' Capacity=143.8 cfs Outflow=2.2 cfs 7,524 cf

Reach R2: REACH THROUGH LOT 150 Avg. Flow Depth=0.06' Max Vel=1.61 fps Inflow=2.0 cfs 6,588 cf
n=0.022 L=165.0' S=0.0242 '/' Capacity=221.1 cfs Outflow=2.0 cfs 6,581 cf

Reach R3: REACH THROUGH Avg. Flow Depth=0.16' Max Vel=1.29 fps Inflow=4.9 cfs 17,582 cf
n=0.022 L=470.0' S=0.0043 '/' Capacity=92.6 cfs Outflow=4.3 cfs 17,456 cf

Pond C1: CB-1 Peak Elev=282.12' Inflow=1.9 cfs 6,067 cf
15.0" Round Culvert n=0.012 L=71.0' S=0.0199 '/' Outflow=1.9 cfs 6,067 cf

Pond C2: CB-2 Peak Elev=281.44' Inflow=4.3 cfs 14,337 cf
15.0" Round Culvert n=0.012 L=55.0' S=0.0049 '/' Outflow=4.3 cfs 14,337 cf

Pond C3: CB-3 Peak Elev=281.02' Inflow=7.4 cfs 24,804 cf
18.0" Round Culvert n=0.012 L=230.0' S=0.0050 '/' Outflow=7.4 cfs 24,804 cf

Pond C4: CB-4 Peak Elev=280.10' Inflow=9.9 cfs 33,297 cf
24.0" Round Culvert n=0.012 L=93.0' S=0.0051 '/' Outflow=9.9 cfs 33,297 cf

Pond C5: CB-5 Peak Elev=280.11' Inflow=2.9 cfs 10,316 cf
15.0" Round Culvert n=0.012 L=52.0' S=0.0050 '/' Outflow=2.9 cfs 10,316 cf

Pond C6: CB-5 Peak Elev=280.09' Inflow=4.5 cfs 16,058 cf
15.0" Round Culvert n=0.012 L=76.0' S=0.0050 '/' Outflow=4.5 cfs 16,058 cf

Pond D1: DMH-1 Peak Elev=280.07' Inflow=9.9 cfs 33,297 cf
24.0" Round Culvert n=0.012 L=101.0' S=0.0050 '/' Outflow=9.9 cfs 33,297 cf

Pond FB1: FOREBAY 1 Peak Elev=280.03' Storage=994 cf Inflow=14.4 cfs 49,356 cf
Outflow=14.4 cfs 48,114 cf

Pond P1: WET POND-P1 Peak Elev=280.03' Storage=28,967 cf Inflow=16.7 cfs 55,638 cf
Outflow=6.4 cfs 52,491 cf

Link L1: EXISTING WETLAND & LOT 15-146 Inflow=20.0 cfs 112,104 cf
Primary=20.0 cfs 112,104 cf

Link L2: EXISTING WETLAND & LOT 15-141-0 Inflow=9.2 cfs 36,882 cf
Primary=9.2 cfs 36,882 cf

Link L3: LOT 15-21-1 Inflow=0.6 cfs 1,946 cf
Primary=0.6 cfs 1,946 cf

Link L4: LOT 150 Inflow=2.3 cfs 7,541 cf
Primary=2.3 cfs 7,541 cf

Total Runoff Area = 440,198 sf Runoff Volume = 155,470 cf Average Runoff Depth = 4.24"
76.41% Pervious = 336,366 sf 23.59% Impervious = 103,832 sf

Summary for Subcatchment A: SUBCAT A

Runoff = 3.5 cfs @ 12.21 hrs, Volume= 14,520 cf, Depth> 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	17,549	74	>75% Grass cover, Good, HSG C
*	5,890	74	Wetland->75% Grass cover, Good, HSG C
	52,454	70	Woods, Good, HSG C
*	18,373	70	Wetland-Woods, Good, HSG C
*	0	98	Ex. Pavement
*	0	98	Ex. Building
*	0	98	PROPOSED PAVEMENT
	10,575	71	Naturalized slope:Meadow, non-grazed, HSG C
	104,841	71	Weighted Average
	104,841		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
1.3	345	0.0100	4.53	104.12	**Trap/Vee/Rect Channel Flow,** Bot.W=20.00' D=1.00' Z= 3.0 '/' Top.W=26.00' n= 0.030 Stream, clean & straight
14.1	395	Total			

Summary for Subcatchment B: SUBCAT B

Runoff = 2.3 cfs @ 12.15 hrs, Volume= 8,562 cf, Depth> 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	17,914	74	>75% Grass cover, Good, HSG C
	34,065	70	Woods, Good, HSG C
*	9,780	71	Naturalized slope:Meadow, non-grazed, HSG C
	61,759	71	Weighted Average
	61,759		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
0.9	60	0.0450	1.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.2	110	Total			

Summary for Subcatchment C: SUBCAT C

Runoff = 0.3 cfs @ 12.10 hrs, Volume= 985 cf, Depth> 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	3,463	74	>75% Grass cover, Good, HSG C
	400	70	Woods, Good, HSG C
*	0	98	Ex. Wetland
*	2,403	74	RipRap slope with evergreens, Good, HSG C
	6,266	74	Weighted Average
	6,266		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D: SUBCAT D

Runoff = 1.2 cfs @ 12.09 hrs, Volume= 3,847 cf, Depth> 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	6,799	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	503	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	6,961	98	Ex. Pavement
*	0	98	Ex. Building
*	1,153	98	PROPOSED PAVEMENT
	15,416	87	Weighted Average
	7,302		47.37% Pervious Area
	8,114		52.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment E: SUBCAT E

Runoff = 2.6 cfs @ 12.10 hrs, Volume= 8,134 cf, Depth> 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	8,834	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	13,536	70	Woods, Good, HSG C
*	15,742	70	Wetland-Woods, Good, HSG C
*	4,076	98	Ex. Pavement
*	2,625	98	Ex. Building
*	3,023	98	PROPOSED PAVEMENT
	47,836	76	Weighted Average
	38,112		79.67% Pervious Area
	9,724		20.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	38	0.0280	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.97"
0.4	28	0.0350	1.29		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.97"
0.5	45	0.0400	1.40		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	61	0.1100	1.66		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	164	0.0200	8.73	200.79	**Trap/Vee/Rect Channel Flow,** Bot.W=20.00' D=1.00' Z= 3.0 '/' Top.W=26.00' n= 0.022 Earth, clean & straight
5.9	336	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment F: SUBCAT F

Runoff = 1.1 cfs @ 12.11 hrs, Volume= 3,769 cf, Depth> 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	16,707	74	>75% Grass cover, Good, HSG C
*	1,209	74	Wetland->75% Grass cover, Good, HSG C
	6,437	70	Woods, Good, HSG C
*	197	70	Wetland-Woods, Good, HSG C
*	144	98	Ex. Pavement
*	288	98	Ex. Building
	24,982	73	Weighted Average
	24,550		98.27% Pervious Area
	432		1.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.0400	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.97"
3.1	182	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.5	232	Total			

Summary for Subcatchment S1: SUBCAT 1

Runoff = 1.1 cfs @ 12.09 hrs, Volume= 3,364 cf, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	4,231	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	3,110	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	6,254	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	2,315	71	Naturalized slope:Meadow, non-grazed, HSG C
	15,910	82	Weighted Average
	9,656		60.69% Pervious Area
	6,254		39.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S10: SUBCAT 10

Runoff = 0.5 cfs @ 12.09 hrs, Volume= 1,815 cf, Depth> 4.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	5,245	98	PROPOSED BUILDING
	5,245	98	Weighted Average
	5,245		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S11: SUBCAT 11

Runoff = 0.8 cfs @ 12.09 hrs, Volume= 2,537 cf, Depth> 2.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	10,418	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	2,923	98	Water Surface, HSG C
	13,341	79	Weighted Average
	10,418		78.09% Pervious Area
	2,923		21.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S2: SUBCAT 2

Runoff = 1.0 cfs @ 12.09 hrs, Volume= 3,324 cf, Depth> 3.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	2,190	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	600	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	8,271	98	PROPOSED PAVEMENT
*	288	98	PROPOSED BUILDING
	420	71	Naturalized slope:Meadow, non-grazed, HSG C
	11,769	91	Weighted Average
	3,210		27.28% Pervious Area
	8,559		72.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S3: SUBCAT 3

Runoff = 1.4 cfs @ 12.09 hrs, Volume= 4,569 cf, Depth> 3.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	3,501	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	1,474	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	10,869	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	1,350	71	Naturalized slope:Meadow, non-grazed, HSG C
	17,194	89	Weighted Average
	6,325		36.79% Pervious Area
	10,869		63.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S4: SUBCAT 4

Runoff = 1.6 cfs @ 12.09 hrs, Volume= 5,059 cf, Depth> 3.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	2,007	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	1,717	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	12,680	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	2,635	71	Naturalized slope:Meadow, non-grazed, HSG C
	19,039	89	Weighted Average
	6,359		33.40% Pervious Area
	12,680		66.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S5: SUBCAT 5

Runoff = 1.4 cfs @ 12.09 hrs, Volume= 4,790 cf, Depth> 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	1,481	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	13,166	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	14,647	96	Weighted Average
	1,481		10.11% Pervious Area
	13,166		89.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S6: SUBCAT 6

Runoff = 1.1 cfs @ 12.09 hrs, Volume= 3,623 cf, Depth> 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	1,270	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	10,131	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	11,401	95	Weighted Average
	1,270		11.14% Pervious Area
	10,131		88.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S7: SUBCAT 7

Runoff = 0.5 cfs @ 12.09 hrs, Volume= 1,815 cf, Depth> 4.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	5,245	98	PROPOSED BUILDING
	5,245	98	Weighted Average
	5,245		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S8: SUBCAT 8

Runoff = 0.5 cfs @ 12.09 hrs, Volume= 1,815 cf, Depth> 4.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	5,245	98	PROPOSED BUILDING
	5,245	98	Weighted Average
	5,245		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S9: SUBCAT 9

Runoff = 0.5 cfs @ 12.09 hrs, Volume= 1,815 cf, Depth> 4.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	5,245	98	PROPOSED BUILDING
	5,245	98	Weighted Average
	5,245		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment W: SUBCAT W

Runoff = 3.3 cfs @ 12.10 hrs, Volume= 10,425 cf, Depth> 2.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.39"

	Area (sf)	CN	Description
	29,890	80	>75% Grass cover, Good, HSG D
	24,927	77	Woods, Good, HSG D
*	0	98	Ex. Pavement
*	0	98	Ex. Building
	54,817	79	Weighted Average
	54,817		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	470	0.0010	1.26	41.56	**Trap/Vee/Rect Channel Flow,** Bot.W=30.00' D=1.00' Z= 3.0 '/' Top.W=36.00' n= 0.035 Earth, dense weeds

Summary for Reach R1: REACH THROUGH LOT 150

Inflow Area = 24,982 sf, 1.73% Impervious, Inflow Depth > 1.81" for 10 YR event
Inflow = 1.1 cfs @ 12.11 hrs, Volume= 3,769 cf
Outflow = 1.1 cfs @ 12.15 hrs, Volume= 3,759 cf, Atten= 6%, Lag= 2.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.97 fps, Min. Travel Time= 3.3 min
Avg. Velocity = 0.36 fps, Avg. Travel Time= 9.1 min

Peak Storage= 211 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.05'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 143.8 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 195.0' Slope= 0.0103 '/'
Inlet Invert= 280.00', Outlet Invert= 278.00'



‡

Summary for Reach R2: REACH THROUGH LOT 150

Inflow Area = 15,416 sf, 52.63% Impervious, Inflow Depth > 2.99" for 10 YR event
Inflow = 1.2 cfs @ 12.09 hrs, Volume= 3,847 cf
Outflow = 1.2 cfs @ 12.11 hrs, Volume= 3,842 cf, Atten= 3%, Lag= 1.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.31 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 0.51 fps, Avg. Travel Time= 5.4 min

Peak Storage= 147 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 221.1 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 165.0' Slope= 0.0242 '/'
Inlet Invert= 282.00', Outlet Invert= 278.00'



‡

Summary for Reach R3: REACH THROUGH WETLANDS

Inflow Area = 61,759 sf, 0.00% Impervious, Inflow Depth > 1.66" for 10 YR event
Inflow = 2.3 cfs @ 12.15 hrs, Volume= 8,562 cf
Outflow = 1.9 cfs @ 12.24 hrs, Volume= 8,469 cf, Atten= 18%, Lag= 5.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.94 fps, Min. Travel Time= 8.4 min
Avg. Velocity = 0.32 fps, Avg. Travel Time= 24.8 min

Peak Storage= 953 cf @ 12.24 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 92.6 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 470.0' Slope= 0.0043 '/'
Inlet Invert= 272.00', Outlet Invert= 270.00'



‡

Summary for Pond C1: CB-1

Inflow Area = 15,910 sf, 39.31% Impervious, Inflow Depth > 2.54" for 10 YR event
Inflow = 1.1 cfs @ 12.09 hrs, Volume= 3,364 cf
Outflow = 1.1 cfs @ 12.09 hrs, Volume= 3,364 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.09 hrs, Volume= 3,364 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 281.94' @ 12.09 hrs
Flood Elev= 285.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	281.45'	**15.0" Round Culvert** L= 71.0' Ke= 0.500 Inlet / Outlet Invert= 281.45' / 280.04' S= 0.0199 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=1.0 cfs @ 12.09 hrs HW=281.94' TW=280.91' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.0 cfs @ 2.37 fps)

Summary for Pond C2: CB-2

Inflow Area = 32,924 sf, 60.92% Impervious, Inflow Depth > 3.10" for 10 YR event
Inflow = 2.6 cfs @ 12.09 hrs, Volume= 8,503 cf
Outflow = 2.6 cfs @ 12.09 hrs, Volume= 8,503 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.6 cfs @ 12.09 hrs, Volume= 8,503 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 280.93' @ 12.11 hrs
Flood Elev= 284.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	279.94'	**15.0" Round Culvert** L= 55.0' Ke= 0.500 Inlet / Outlet Invert= 279.94' / 279.67' S= 0.0049 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=2.3 cfs @ 12.09 hrs HW=280.91' TW=280.53' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 2.3 cfs @ 3.13 fps)

Summary for Pond C3: CB-3

Inflow Area = 55,363 sf, 65.34% Impervious, Inflow Depth > 3.23" for 10 YR event
Inflow = 4.5 cfs @ 12.09 hrs, Volume= 14,887 cf
Outflow = 4.5 cfs @ 12.09 hrs, Volume= 14,887 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.5 cfs @ 12.09 hrs, Volume= 14,887 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 280.54' @ 12.09 hrs
Flood Elev= 283.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	279.42'	**18.0" Round Culvert** L= 230.0' Ke= 0.500 Inlet / Outlet Invert= 279.42' / 278.27' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=4.4 cfs @ 12.09 hrs HW=280.53' TW=279.03' (Dynamic Tailwater)
1=Culvert (Barrel Controls 4.4 cfs @ 4.37 fps)

Summary for Pond C4: CB-4

Inflow Area = 74,402 sf, 65.66% Impervious, Inflow Depth > 3.22" for 10 YR event
Inflow = 6.1 cfs @ 12.09 hrs, Volume= 19,945 cf
Outflow = 6.1 cfs @ 12.09 hrs, Volume= 19,945 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.1 cfs @ 12.09 hrs, Volume= 19,945 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 279.09' @ 12.54 hrs
Flood Elev= 282.29'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.77'	**24.0" Round Culvert** L= 93.0' Ke= 0.500 Inlet / Outlet Invert= 277.77' / 277.30' S= 0.0051 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=5.3 cfs @ 12.09 hrs HW=279.03' TW=278.52' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.3 cfs @ 3.61 fps)

Summary for Pond C5: CB-5

Inflow Area = 19,892 sf, 92.55% Impervious, Inflow Depth > 3.98" for 10 YR event
Inflow = 1.9 cfs @ 12.09 hrs, Volume= 6,604 cf
Outflow = 1.9 cfs @ 12.09 hrs, Volume= 6,604 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.9 cfs @ 12.09 hrs, Volume= 6,604 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 279.14' @ 12.11 hrs
Flood Elev= 282.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.25'	**15.0" Round Culvert** L= 52.0' Ke= 0.500

Inlet / Outlet Invert= 278.25' / 277.99' S= 0.0050 '/' Cc= 0.900
n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=1.6 cfs @ 12.09 hrs HW=279.11' TW=278.87' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.6 cfs @ 2.50 fps)

Summary for Pond C6: CB-5

Inflow Area = 31,293 sf, 91.21% Impervious, Inflow Depth > 3.92" for 10 YR event
Inflow = 2.9 cfs @ 12.09 hrs, Volume= 10,228 cf
Outflow = 2.9 cfs @ 12.09 hrs, Volume= 10,228 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.9 cfs @ 12.09 hrs, Volume= 10,228 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 279.07' @ 12.51 hrs
Flood Elev= 282.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.88'	**15.0" Round Culvert** L= 76.0' Ke= 0.500 Inlet / Outlet Invert= 277.88' / 277.50' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=2.9 cfs @ 12.09 hrs HW=278.87' TW=278.14' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.9 cfs @ 3.78 fps)

Summary for Pond D1: DMH-1

[80] Warning: Exceeded Pond C4 by 0.20' @ 14.20 hrs (0.6 cfs 321 cf)

Inflow Area = 74,402 sf, 65.66% Impervious, Inflow Depth > 3.22" for 10 YR event
Inflow = 6.1 cfs @ 12.09 hrs, Volume= 19,945 cf
Outflow = 6.1 cfs @ 12.09 hrs, Volume= 19,945 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.1 cfs @ 12.09 hrs, Volume= 19,945 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 279.07' @ 12.52 hrs
Flood Elev= 283.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.20'	**24.0" Round Culvert** L= 101.0' Ke= 0.500 Inlet / Outlet Invert= 277.20' / 276.70' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=4.7 cfs @ 12.09 hrs HW=278.52' TW=278.15' (Dynamic Tailwater)
1=Culvert (Outlet Controls 4.7 cfs @ 3.02 fps)

Summary for Pond FB1: FOREBAY 1

[93] Warning: Storage range exceeded by 2.56'
[58] Hint: Peaked 0.06' above defined flood level
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=118)
[80] Warning: Exceeded Pond C6 by 0.15' @ 14.15 hrs (0.2 cfs 92 cf)
[80] Warning: Exceeded Pond D1 by 0.77' @ 14.15 hrs (4.6 cfs 9,308 cf)

Inflow Area = 105,695 sf, 73.22% Impervious, Inflow Depth > 3.43" for 10 YR event
Inflow = 9.0 cfs @ 12.09 hrs, Volume= 30,173 cf
Outflow = 9.0 cfs @ 12.09 hrs, Volume= 29,106 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.0 cfs @ 12.09 hrs, Volume= 29,106 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 279.06' @ 12.49 hrs Surf.Area= 725 sf Storage= 994 cf
Flood Elev= 279.00' Surf.Area= 725 sf Storage= 994 cf

Plug-Flow detention time= 33.3 min calculated for 29,045 cf (96% of inflow)
Center-of-Mass det. time= 13.0 min (795.9 - 782.8)

Volume	Invert	Avail.Storage	Storage Description
#1	274.00'	994 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
274.00	125	0	0
276.00	550	675	675
276.50	725	319	994

Device	Routing	Invert	Outlet Devices
#1	Primary	276.00'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.0 cfs @ 12.09 hrs HW=278.14' TW=278.41' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Summary for Pond P1: WET POND-P1

[80] Warning: Exceeded Pond FB1 by 2.00' @ 0.95 hrs (0.0 cfs 400,836 cf)

Inflow Area = 124,281 sf, 68.85% Impervious, Inflow Depth > 3.23" for 10 YR event
Inflow = 10.3 cfs @ 12.09 hrs, Volume= 33,458 cf
Outflow = 2.9 cfs @ 12.44 hrs, Volume= 31,055 cf, Atten= 72%, Lag= 21.1 min
Primary = 2.9 cfs @ 12.44 hrs, Volume= 31,055 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Starting Elev= 276.00' Surf.Area= 2,925 sf Storage= 8,112 cf
Peak Elev= 279.06' @ 12.44 hrs Surf.Area= 6,296 sf Storage= 22,360 cf (14,248 cf above start)
Flood Elev= 281.10' Surf.Area= 8,325 sf Storage= 36,501 cf (28,389 cf above start)

Plug-Flow detention time= 263.9 min calculated for 22,943 cf (69% of inflow)
Center-of-Mass det. time= 106.4 min (902.3 - 796.0)

Volume	Invert	Avail.Storage	Storage Description
#1	270.00'	36,501 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
270.00	250	0	0	250
272.00	825	1,019	1,019	846
274.00	1,725	2,495	3,515	1,780
276.00	2,925	4,597	8,112	3,027
278.00	5,300	8,108	16,220	5,444
280.00	7,250	12,499	28,720	7,473
281.00	8,325	7,781	36,501	8,593

Device	Routing	Invert	Outlet Devices
#1	Primary	276.00'	**18.0" Round Culvert** L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 276.00' / 275.86' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	276.00'	**1.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	278.00'	**6.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	280.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.9 cfs @ 12.44 hrs HW=279.06' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.9 cfs of 12.9 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.1 cfs @ 6.84 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 1.7 cfs @ 3.30 fps)
  └─**4=Orifice/Grate** (Controls 0.0 cfs)

Summary for Link L1: EXISTING WETLAND & LOT 15-146

Inflow Area = 317,356 sf, 32.72% Impervious, Inflow Depth > 2.32" for 10 YR event
Inflow = 9.5 cfs @ 12.17 hrs, Volume= 61,311 cf
Primary = 9.5 cfs @ 12.17 hrs, Volume= 61,311 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L2: EXISTING WETLAND & LOT 15-141-0

Inflow Area = 116,576 sf, 0.00% Impervious, Inflow Depth > 1.94" for 10 YR event
Inflow = 4.5 cfs @ 12.12 hrs, Volume= 18,894 cf
Primary = 4.5 cfs @ 12.12 hrs, Volume= 18,894 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L3: LOT 15-21-1

Inflow Area = 6,266 sf, 0.00% Impervious, Inflow Depth > 1.89" for 10 YR event
Inflow = 0.3 cfs @ 12.10 hrs, Volume= 985 cf
Primary = 0.3 cfs @ 12.10 hrs, Volume= 985 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L4: LOT 150

Inflow Area = 24,982 sf, 1.73% Impervious, Inflow Depth > 1.81" for 10 YR event
Inflow = 1.1 cfs @ 12.11 hrs, Volume= 3,769 cf
Primary = 1.1 cfs @ 12.11 hrs, Volume= 3,769 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: SUBCAT A Runoff Area=190,543 sf 0.00% Impervious Runoff Depth>2.45"
Flow Length=620' Tc=17.9 min CN=70 Runoff=8.8 cfs 38,921 cf

Subcatchment B: SUBCAT B Runoff Area=62,123 sf 0.00% Impervious Runoff Depth>2.54"
Flow Length=110' Slope=0.0450 '/' Tc=10.2 min CN=71 Runoff=3.6 cfs 13,167 cf

Subcatchment C: SUBCAT C Runoff Area=7,312 sf 0.00% Impervious Runoff Depth>2.46"
Tc=6.0 min CN=70 Runoff=0.5 cfs 1,498 cf

Subcatchment D: SUBCAT D Runoff Area=16,952 sf 44.13% Impervious Runoff Depth>3.78"
Tc=6.0 min CN=84 Runoff=1.7 cfs 5,345 cf

Subcatchment E: SUBCAT E Runoff Area=45,511 sf 18.64% Impervious Runoff Depth>3.00"
Flow Length=341' Tc=6.0 min CN=76 Runoff=3.6 cfs 11,382 cf

Subcatchment F: SUBCAT F Runoff Area=62,940 sf 2.28% Impervious Runoff Depth>2.63"
Flow Length=325' Tc=13.2 min CN=72 Runoff=3.5 cfs 13,797 cf

Subcatchment W: SUBCAT W Runoff Area=54,817 sf 0.00% Impervious Runoff Depth>3.29"
Flow Length=470' Slope=0.0010 '/' Tc=6.2 min CN=79 Runoff=4.7 cfs 15,013 cf

Reach R1: REACH THROUGH LOT 150 Avg. Flow Depth=0.11' Max Vel=1.55 fps Inflow=3.5 cfs 13,797 cf
n=0.022 L=195.0' S=0.0103 '/' Capacity=143.8 cfs Outflow=3.5 cfs 13,762 cf

Reach R2: REACH THROUGH LOT 150 Avg. Flow Depth=0.05' Max Vel=1.50 fps Inflow=1.7 cfs 5,345 cf
n=0.022 L=165.0' S=0.0242 '/' Capacity=221.1 cfs Outflow=1.6 cfs 5,339 cf

Reach R3: REACH THROUGH Avg. Flow Depth=0.13' Max Vel=1.14 fps Inflow=3.6 cfs 13,167 cf
n=0.022 L=470.0' S=0.0043 '/' Capacity=92.6 cfs Outflow=3.1 cfs 13,057 cf

Link L1: EXISTING WETLAND & LOT 15-146 Inflow=15.1 cfs 69,404 cf
Primary=15.1 cfs 69,404 cf

Link L2: EXISTING WETLAND & LOT 15-141-0 Inflow=6.9 cfs 28,070 cf
Primary=6.9 cfs 28,070 cf

Link L3: LOT 15-21-1 Inflow=0.5 cfs 1,498 cf
Primary=0.5 cfs 1,498 cf

Link L4: LOT 150 Inflow=3.5 cfs 13,797 cf
Primary=3.5 cfs 13,797 cf

Total Runoff Area = 440,198 sf Runoff Volume = 99,123 cf Average Runoff Depth = 2.70"
96.05% Pervious = 422,797 sf 3.95% Impervious = 17,401 sf

Summary for Subcatchment A: SUBCAT A

Runoff = 8.8 cfs @ 12.26 hrs, Volume= 38,921 cf, Depth> 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	6,801	74	>75% Grass cover, Good, HSG C
*	5,891	74	Wetland->75% Grass cover, Good, HSG C
	159,477	70	Woods, Good, HSG C
*	18,374	70	Wetland-Woods, Good, HSG C
*	0	98	Ex. Pavement
*	0	98	Ex. Building
	190,543	70	Weighted Average
	190,543		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
3.7	225	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	345	0.0100	4.53	104.12	**Trap/Vee/Rect Channel Flow,** Bot.W=20.00' D=1.00' Z= 3.0 '/' Top.W=26.00' n= 0.030 Stream, clean & straight
17.9	620	Total			

Summary for Subcatchment B: SUBCAT B

Runoff = 3.6 cfs @ 12.15 hrs, Volume= 13,167 cf, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	8,869	74	>75% Grass cover, Good, HSG C
	53,254	70	Woods, Good, HSG C
*	0	98	Ex. Pavement
*	0	98	Ex. Building
	62,123	71	Weighted Average
	62,123		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
0.9	60	0.0450	1.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.2	110	Total			

Summary for Subcatchment C: SUBCAT C

Runoff = 0.5 cfs @ 12.10 hrs, Volume= 1,498 cf, Depth> 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
	7,312	70	Woods, Good, HSG C
*	0	98	Ex. Wetland
	7,312	70	Weighted Average
	7,312		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D: SUBCAT D

Runoff = 1.7 cfs @ 12.09 hrs, Volume= 5,345 cf, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	6,360	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	3,111	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	7,481	98	Ex. Pavement
*	0	98	Ex. Building
	16,952	84	Weighted Average
	9,471		55.87% Pervious Area
	7,481		44.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment E: SUBCAT E

Runoff = 3.6 cfs @ 12.09 hrs, Volume= 11,382 cf, Depth> 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	7,200	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	14,086	70	Woods, Good, HSG C
*	15,742	70	Wetland-Woods, Good, HSG C
*	5,858	98	Ex. Pavement
*	2,625	98	Ex. Building
	45,511	76	Weighted Average
	37,028		81.36% Pervious Area
	8,483		18.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.6	42	0.0470	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.97"
0.5	39	0.0340	1.36		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.97"
0.5	35	0.0280	1.17		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	61	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	164	0.0200	8.73	200.79	**Trap/Vee/Rect Channel Flow,** Bot.W=20.00' D=1.00' Z= 3.0 '/' Top.W=26.00' n= 0.022 Earth, clean & straight
5.5	341	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment F: SUBCAT F

Runoff = 3.5 cfs @ 12.19 hrs, Volume= 13,797 cf, Depth> 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	16,539	74	>75% Grass cover, Good, HSG C
*	1,007	74	Wetland->75% Grass cover, Good, HSG C
	40,849	70	Woods, Good, HSG C
*	3,108	70	Wetland-Woods, Good, HSG C
*	739	98	Ex. Pavement
*	698	98	Ex. Building
	62,940	72	Weighted Average
	61,503		97.72% Pervious Area
	1,437		2.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
0.7	35	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.8	240	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.2	325	Total			

Summary for Subcatchment W: SUBCAT W

Runoff = 4.7 cfs @ 12.09 hrs, Volume= 15,013 cf, Depth> 3.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	29,890	80	>75% Grass cover, Good, HSG D
	24,927	77	Woods, Good, HSG D
*	0	98	Ex. Pavement
*	0	98	Ex. Building
	54,817	79	Weighted Average
	54,817		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	470	0.0010	1.26	41.56	**Trap/Vee/Rect Channel Flow,** Bot.W=30.00' D=1.00' Z= 3.0 '/' Top.W=36.00' n= 0.035 Earth, dense weeds

Summary for Reach R1: REACH THROUGH LOT 150

Inflow Area = 62,940 sf, 2.28% Impervious, Inflow Depth > 2.63" for 25 YR event
Inflow = 3.5 cfs @ 12.19 hrs, Volume= 13,797 cf
Outflow = 3.5 cfs @ 12.21 hrs, Volume= 13,762 cf, Atten= 1%, Lag= 1.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.55 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 0.48 fps, Avg. Travel Time= 6.8 min

Peak Storage= 435 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 143.8 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 195.0' Slope= 0.0103 '/'
Inlet Invert= 280.00', Outlet Invert= 278.00'



‡

Summary for Reach R2: REACH THROUGH LOT 150

Inflow Area = 16,952 sf, 44.13% Impervious, Inflow Depth > 3.78" for 25 YR event
Inflow = 1.7 cfs @ 12.09 hrs, Volume= 5,345 cf
Outflow = 1.6 cfs @ 12.11 hrs, Volume= 5,339 cf, Atten= 2%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.50 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.53 fps, Avg. Travel Time= 5.2 min

Peak Storage= 180 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.05'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 221.1 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 165.0' Slope= 0.0242 '/'
Inlet Invert= 282.00', Outlet Invert= 278.00'



‡

Summary for Reach R3: REACH THROUGH WETLANDS

Inflow Area = 62,123 sf, 0.00% Impervious, Inflow Depth > 2.54" for 25 YR event
Inflow = 3.6 cfs @ 12.15 hrs, Volume= 13,167 cf
Outflow = 3.1 cfs @ 12.22 hrs, Volume= 13,057 cf, Atten= 13%, Lag= 4.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.14 fps, Min. Travel Time= 6.9 min
Avg. Velocity = 0.36 fps, Avg. Travel Time= 21.8 min

Peak Storage= 1,294 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 92.6 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 470.0' Slope= 0.0043 '/'
Inlet Invert= 272.00', Outlet Invert= 270.00'



‡

Summary for Link L1: EXISTING WETLAND & LOT 15-146

Inflow Area = 315,946 sf, 5.51% Impervious, Inflow Depth > 2.64" for 25 YR event
Inflow = 15.1 cfs @ 12.21 hrs, Volume= 69,404 cf
Primary = 15.1 cfs @ 12.21 hrs, Volume= 69,404 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L2: EXISTING WETLAND & LOT 15-141-0

Inflow Area = 116,940 sf, 0.00% Impervious, Inflow Depth > 2.88" for 25 YR event
Inflow = 6.9 cfs @ 12.12 hrs, Volume= 28,070 cf
Primary = 6.9 cfs @ 12.12 hrs, Volume= 28,070 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L3: LOT 15-21-1

Inflow Area = 7,312 sf, 0.00% Impervious, Inflow Depth > 2.46" for 25 YR event
Inflow = 0.5 cfs @ 12.10 hrs, Volume= 1,498 cf
Primary = 0.5 cfs @ 12.10 hrs, Volume= 1,498 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L4: LOT 150

Inflow Area = 62,940 sf, 2.28% Impervious, Inflow Depth > 2.63" for 25 YR event
Inflow = 3.5 cfs @ 12.19 hrs, Volume= 13,797 cf
Primary = 3.5 cfs @ 12.19 hrs, Volume= 13,797 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Subcatchment A: SUBCAT A

Runoff = 11.9 cfs @ 12.25 hrs, Volume= 52,550 cf, Depth> 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	6,801	74	>75% Grass cover, Good, HSG C
*	5,891	74	Wetland->75% Grass cover, Good, HSG C
	159,477	70	Woods, Good, HSG C
*	18,374	70	Wetland-Woods, Good, HSG C
*	0	98	Ex. Pavement
*	0	98	Ex. Building
	190,543	70	Weighted Average
	190,543		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
3.7	225	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	345	0.0100	4.53	104.12	**Trap/Vee/Rect Channel Flow,** Bot.W=20.00' D=1.00' Z= 3.0 '/' Top.W=26.00' n= 0.030 Stream, clean & straight
17.9	620	Total			

Summary for Subcatchment B: SUBCAT B

Runoff = 4.9 cfs @ 12.15 hrs, Volume= 17,685 cf, Depth> 3.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	8,869	74	>75% Grass cover, Good, HSG C
	53,254	70	Woods, Good, HSG C
*	0	98	Ex. Pavement
*	0	98	Ex. Building
	62,123	71	Weighted Average
	62,123		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
0.9	60	0.0450	1.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.2	110	Total			

Summary for Subcatchment C: SUBCAT C

Runoff = 0.6 cfs @ 12.09 hrs, Volume= 2,022 cf, Depth> 3.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
	7,312	70	Woods, Good, HSG C
*	0	98	Ex. Wetland
	7,312	70	Weighted Average
	7,312		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D: SUBCAT D

Runoff = 2.1 cfs @ 12.09 hrs, Volume= 6,774 cf, Depth> 4.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	6,360	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	3,111	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	7,481	98	Ex. Pavement
*	0	98	Ex. Building
	16,952	84	Weighted Average
	9,471		55.87% Pervious Area
	7,481		44.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment E: SUBCAT E

Runoff = 4.7 cfs @ 12.09 hrs, Volume= 14,924 cf, Depth> 3.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	7,200	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	14,086	70	Woods, Good, HSG C
*	15,742	70	Wetland-Woods, Good, HSG C
*	5,858	98	Ex. Pavement
*	2,625	98	Ex. Building
	45,511	76	Weighted Average
	37,028		81.36% Pervious Area
	8,483		18.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.6	42	0.0470	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.97"
0.5	39	0.0340	1.36		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.97"
0.5	35	0.0280	1.17		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	61	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	164	0.0200	8.73	200.79	**Trap/Vee/Rect Channel Flow,** Bot.W=20.00' D=1.00' Z= 3.0 '/' Top.W=26.00' n= 0.022 Earth, clean & straight
5.5	341	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment F: SUBCAT F

Runoff = 4.7 cfs @ 12.19 hrs, Volume= 18,440 cf, Depth> 3.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	16,539	74	>75% Grass cover, Good, HSG C
*	1,007	74	Wetland->75% Grass cover, Good, HSG C
	40,849	70	Woods, Good, HSG C
*	3,108	70	Wetland-Woods, Good, HSG C
*	739	98	Ex. Pavement
*	698	98	Ex. Building
	62,940	72	Weighted Average
	61,503		97.72% Pervious Area
	1,437		2.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
0.7	35	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.8	240	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.2	325	Total			

Summary for Subcatchment W: SUBCAT W

Runoff = 6.1 cfs @ 12.09 hrs, Volume= 19,426 cf, Depth> 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	29,890	80	>75% Grass cover, Good, HSG D
	24,927	77	Woods, Good, HSG D
*	0	98	Ex. Pavement
*	0	98	Ex. Building
	54,817	79	Weighted Average
	54,817		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	470	0.0010	1.26	41.56	**Trap/Vee/Rect Channel Flow,** Bot.W=30.00' D=1.00' Z= 3.0 '/' Top.W=36.00' n= 0.035 Earth, dense weeds

Summary for Reach R1: REACH THROUGH LOT 150

Inflow Area = 62,940 sf, 2.28% Impervious, Inflow Depth > 3.52" for 50 YR event
Inflow = 4.7 cfs @ 12.19 hrs, Volume= 18,440 cf
Outflow = 4.7 cfs @ 12.21 hrs, Volume= 18,398 cf, Atten= 1%, Lag= 1.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.74 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 0.52 fps, Avg. Travel Time= 6.2 min

Peak Storage= 522 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 143.8 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 195.0' Slope= 0.0103 '/'
Inlet Invert= 280.00', Outlet Invert= 278.00'



‡

Summary for Reach R2: REACH THROUGH LOT 150

Inflow Area = 16,952 sf, 44.13% Impervious, Inflow Depth > 4.80" for 50 YR event
Inflow = 2.1 cfs @ 12.09 hrs, Volume= 6,774 cf
Outflow = 2.1 cfs @ 12.11 hrs, Volume= 6,767 cf, Atten= 2%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.64 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.54 fps, Avg. Travel Time= 5.1 min

Peak Storage= 207 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 221.1 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 165.0' Slope= 0.0242 '/'
Inlet Invert= 282.00', Outlet Invert= 278.00'



‡

Summary for Reach R3: REACH THROUGH WETLANDS

Inflow Area = 62,123 sf, 0.00% Impervious, Inflow Depth > 3.42" for 50 YR event
Inflow = 4.9 cfs @ 12.15 hrs, Volume= 17,685 cf
Outflow = 4.4 cfs @ 12.21 hrs, Volume= 17,559 cf, Atten= 11%, Lag= 3.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.30 fps, Min. Travel Time= 6.0 min
Avg. Velocity = 0.39 fps, Avg. Travel Time= 20.1 min

Peak Storage= 1,579 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 92.6 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 470.0' Slope= 0.0043 '/'
Inlet Invert= 272.00', Outlet Invert= 270.00'

‡



Summary for Link L1: EXISTING WETLAND & LOT 15-146

Inflow Area = 315,946 sf, 5.51% Impervious, Inflow Depth > 3.52" for 50 YR event
Inflow = 20.3 cfs @ 12.21 hrs, Volume= 92,639 cf
Primary = 20.3 cfs @ 12.21 hrs, Volume= 92,639 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L2: EXISTING WETLAND & LOT 15-141-0

Inflow Area = 116,940 sf, 0.00% Impervious, Inflow Depth > 3.80" for 50 YR event
Inflow = 9.2 cfs @ 12.12 hrs, Volume= 36,985 cf
Primary = 9.2 cfs @ 12.12 hrs, Volume= 36,985 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L3: LOT 15-21-1

Inflow Area = 7,312 sf, 0.00% Impervious, Inflow Depth > 3.32" for 50 YR event
Inflow = 0.6 cfs @ 12.09 hrs, Volume= 2,022 cf
Primary = 0.6 cfs @ 12.09 hrs, Volume= 2,022 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L4: LOT 150

Inflow Area = 62,940 sf, 2.28% Impervious, Inflow Depth > 3.52" for 50 YR event
Inflow = 4.7 cfs @ 12.19 hrs, Volume= 18,440 cf
Primary = 4.7 cfs @ 12.19 hrs, Volume= 18,440 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: SUBCAT A Runoff Area=104,841 sf 0.00% Impervious Runoff Depth>2.54"
Flow Length=395' Tc=14.1 min CN=71 Runoff=5.5 cfs 22,202 cf

Subcatchment B: SUBCAT B Runoff Area=61,759 sf 0.00% Impervious Runoff Depth>2.54"
Flow Length=110' Slope=0.0450 '/' Tc=10.2 min CN=71 Runoff=3.6 cfs 13,090 cf

Subcatchment C: SUBCAT C Runoff Area=6,266 sf 0.00% Impervious Runoff Depth>2.82"
Tc=6.0 min CN=74 Runoff=0.5 cfs 1,470 cf

Subcatchment D: SUBCAT D Runoff Area=15,416 sf 52.63% Impervious Runoff Depth>4.09"
Tc=6.0 min CN=87 Runoff=1.6 cfs 5,260 cf

Subcatchment E: SUBCAT E Runoff Area=47,836 sf 20.33% Impervious Runoff Depth>3.00"
Flow Length=336' Tc=6.0 min CN=76 Runoff=3.8 cfs 11,963 cf

Subcatchment F: SUBCAT F Runoff Area=24,982 sf 1.73% Impervious Runoff Depth>2.72"
Flow Length=232' Tc=7.5 min CN=73 Runoff=1.7 cfs 5,671 cf

Subcatchment S1: SUBCAT 1 Runoff Area=15,910 sf 39.31% Impervious Runoff Depth>3.58"
Tc=6.0 min CN=82 Runoff=1.5 cfs 4,749 cf

Subcatchment S10: SUBCAT 10 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>5.32"
Tc=6.0 min CN=98 Runoff=0.6 cfs 2,325 cf

Subcatchment S11: SUBCAT 11 Runoff Area=13,341 sf 21.91% Impervious Runoff Depth>3.29"
Tc=6.0 min CN=79 Runoff=1.2 cfs 3,654 cf

Subcatchment S2: SUBCAT 2 Runoff Area=11,769 sf 72.72% Impervious Runoff Depth>4.52"
Tc=6.0 min CN=91 Runoff=1.3 cfs 4,437 cf

Subcatchment S3: SUBCAT 3 Runoff Area=17,194 sf 63.21% Impervious Runoff Depth>4.31"
Tc=6.0 min CN=89 Runoff=1.9 cfs 6,171 cf

Subcatchment S4: SUBCAT 4 Runoff Area=19,039 sf 66.60% Impervious Runoff Depth>4.31"
Tc=6.0 min CN=89 Runoff=2.1 cfs 6,833 cf

Subcatchment S5: SUBCAT 5 Runoff Area=14,647 sf 89.89% Impervious Runoff Depth>5.09"
Tc=6.0 min CN=96 Runoff=1.8 cfs 6,208 cf

Subcatchment S6: SUBCAT 6 Runoff Area=11,401 sf 88.86% Impervious Runoff Depth>4.97"
Tc=6.0 min CN=95 Runoff=1.4 cfs 4,723 cf

Subcatchment S7: SUBCAT 7 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>5.32"
Tc=6.0 min CN=98 Runoff=0.6 cfs 2,325 cf

Subcatchment S8: SUBCAT 8 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>5.32"
Tc=6.0 min CN=98 Runoff=0.6 cfs 2,325 cf

Subcatchment S9: SUBCAT 9 Runoff Area=5,245 sf 100.00% Impervious Runoff Depth>5.32"
Tc=6.0 min CN=98 Runoff=0.6 cfs 2,325 cf

Subcatchment W: SUBCAT W Runoff Area=54,817 sf 0.00% Impervious Runoff Depth>3.29"
Flow Length=470' Slope=0.0010 '/' Tc=6.2 min CN=79 Runoff=4.7 cfs 15,013 cf

Reach R1: REACH THROUGH LOT 150 Avg. Flow Depth=0.07' Max Vel=1.15 fps Inflow=1.7 cfs 5,671 cf
n=0.022 L=195.0' S=0.0103 '/' Capacity=143.8 cfs Outflow=1.6 cfs 5,657 cf

Reach R2: REACH THROUGH LOT 150 Avg. Flow Depth=0.05' Max Vel=1.48 fps Inflow=1.6 cfs 5,260 cf
n=0.022 L=165.0' S=0.0242 '/' Capacity=221.1 cfs Outflow=1.6 cfs 5,254 cf

Reach R3: REACH THROUGH Avg. Flow Depth=0.13' Max Vel=1.14 fps Inflow=3.6 cfs 13,090 cf
n=0.022 L=470.0' S=0.0043 '/' Capacity=92.6 cfs Outflow=3.1 cfs 12,980 cf

Pond C1: CB-1 Peak Elev=282.04' Inflow=1.5 cfs 4,749 cf
15.0" Round Culvert n=0.012 L=71.0' S=0.0199 '/' Outflow=1.5 cfs 4,749 cf

Pond C2: CB-2 Peak Elev=281.17' Inflow=3.5 cfs 11,510 cf
15.0" Round Culvert n=0.012 L=55.0' S=0.0049 '/' Outflow=3.5 cfs 11,510 cf

Pond C3: CB-3 Peak Elev=280.78' Inflow=6.0 cfs 20,007 cf
18.0" Round Culvert n=0.012 L=230.0' S=0.0050 '/' Outflow=6.0 cfs 20,007 cf

Pond C4: CB-4 Peak Elev=279.64' Inflow=8.1 cfs 26,840 cf
24.0" Round Culvert n=0.012 L=93.0' S=0.0051 '/' Outflow=8.1 cfs 26,840 cf

Pond C5: CB-5 Peak Elev=279.64' Inflow=2.4 cfs 8,533 cf
15.0" Round Culvert n=0.012 L=52.0' S=0.0050 '/' Outflow=2.4 cfs 8,533 cf

Pond C6: CB-5 Peak Elev=279.63' Inflow=3.8 cfs 13,256 cf
15.0" Round Culvert n=0.012 L=76.0' S=0.0050 '/' Outflow=3.8 cfs 13,256 cf

Pond D1: DMH-1 Peak Elev=279.62' Inflow=8.1 cfs 26,840 cf
24.0" Round Culvert n=0.012 L=101.0' S=0.0050 '/' Outflow=8.1 cfs 26,840 cf

Pond FB1: FOREBAY 1 Peak Elev=279.60' Storage=994 cf Inflow=11.8 cfs 40,096 cf
Outflow=11.8 cfs 38,968 cf

Pond P1: WET POND-P1 Peak Elev=279.60' Storage=25,924 cf Inflow=13.6 cfs 44,947 cf
Outflow=4.5 cfs 42,158 cf

Link L1: EXISTING WETLAND & LOT 15-146 Inflow=14.9 cfs 87,234 cf
Primary=14.9 cfs 87,234 cf

Link L2: EXISTING WETLAND & LOT 15-141-0 Inflow=6.9 cfs 27,993 cf
Primary=6.9 cfs 27,993 cf

Link L3: LOT 15-21-1 Inflow=0.5 cfs 1,470 cf
Primary=0.5 cfs 1,470 cf

Link L4: LOT 150 Inflow=1.7 cfs 5,671 cf
Primary=1.7 cfs 5,671 cf

Total Runoff Area = 440,198 sf Runoff Volume = 120,744 cf Average Runoff Depth = 3.29"
76.41% Pervious = 336,366 sf 23.59% Impervious = 103,832 sf

Summary for Subcatchment A: SUBCAT A

Runoff = 5.5 cfs @ 12.20 hrs, Volume= 22,202 cf, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	17,549	74	>75% Grass cover, Good, HSG C
*	5,890	74	Wetland->75% Grass cover, Good, HSG C
	52,454	70	Woods, Good, HSG C
*	18,373	70	Wetland-Woods, Good, HSG C
*	0	98	Ex. Pavement
*	0	98	Ex. Building
*	0	98	PROPOSED PAVEMENT
	10,575	71	Naturalized slope:Meadow, non-grazed, HSG C
	104,841	71	Weighted Average
	104,841		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
1.3	345	0.0100	4.53	104.12	**Trap/Vee/Rect Channel Flow,** Bot.W=20.00' D=1.00' Z= 3.0 '/' Top.W=26.00' n= 0.030 Stream, clean & straight
14.1	395	Total			

Summary for Subcatchment B: SUBCAT B

Runoff = 3.6 cfs @ 12.15 hrs, Volume= 13,090 cf, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	17,914	74	>75% Grass cover, Good, HSG C
	34,065	70	Woods, Good, HSG C
*	9,780	71	Naturalized slope:Meadow, non-grazed, HSG C
	61,759	71	Weighted Average
	61,759		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
0.9	60	0.0450	1.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.2	110	Total			

Summary for Subcatchment C: SUBCAT C

Runoff = 0.5 cfs @ 12.09 hrs, Volume= 1,470 cf, Depth> 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	3,463	74	>75% Grass cover, Good, HSG C
	400	70	Woods, Good, HSG C
*	0	98	Ex. Wetland
*	2,403	74	RipRap slope with evergreens, Good, HSG C
	6,266	74	Weighted Average
	6,266		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D: SUBCAT D

Runoff = 1.6 cfs @ 12.09 hrs, Volume= 5,260 cf, Depth> 4.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	6,799	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	503	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	6,961	98	Ex. Pavement
*	0	98	Ex. Building
*	1,153	98	PROPOSED PAVEMENT
	15,416	87	Weighted Average
	7,302		47.37% Pervious Area
	8,114		52.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment E: SUBCAT E

Runoff = 3.8 cfs @ 12.09 hrs, Volume= 11,963 cf, Depth> 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	8,834	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	13,536	70	Woods, Good, HSG C
*	15,742	70	Wetland-Woods, Good, HSG C
*	4,076	98	Ex. Pavement
*	2,625	98	Ex. Building
*	3,023	98	PROPOSED PAVEMENT
	47,836	76	Weighted Average
	38,112		79.67% Pervious Area
	9,724		20.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	38	0.0280	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.97"
0.4	28	0.0350	1.29		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.97"
0.5	45	0.0400	1.40		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	61	0.1100	1.66		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	164	0.0200	8.73	200.79	**Trap/Vee/Rect Channel Flow,** Bot.W=20.00' D=1.00' Z= 3.0 '/' Top.W=26.00' n= 0.022 Earth, clean & straight
5.9	336	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment F: SUBCAT F

Runoff = 1.7 cfs @ 12.11 hrs, Volume= 5,671 cf, Depth> 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	16,707	74	>75% Grass cover, Good, HSG C
*	1,209	74	Wetland->75% Grass cover, Good, HSG C
	6,437	70	Woods, Good, HSG C
*	197	70	Wetland-Woods, Good, HSG C
*	144	98	Ex. Pavement
*	288	98	Ex. Building
	24,982	73	Weighted Average
	24,550		98.27% Pervious Area
	432		1.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.0400	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.97"
3.1	182	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.5	232	Total			

Summary for Subcatchment S1: SUBCAT 1

Runoff = 1.5 cfs @ 12.09 hrs, Volume= 4,749 cf, Depth> 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	4,231	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	3,110	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	6,254	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	2,315	71	Naturalized slope:Meadow, non-grazed, HSG C
	15,910	82	Weighted Average
	9,656		60.69% Pervious Area
	6,254		39.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S10: SUBCAT 10

Runoff = 0.6 cfs @ 12.09 hrs, Volume= 2,325 cf, Depth> 5.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	5,245	98	PROPOSED BUILDING
	5,245	98	Weighted Average
	5,245		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S11: SUBCAT 11

Runoff = 1.2 cfs @ 12.09 hrs, Volume= 3,654 cf, Depth> 3.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	10,418	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	2,923	98	Water Surface, HSG C
	13,341	79	Weighted Average
	10,418		78.09% Pervious Area
	2,923		21.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S2: SUBCAT 2

Runoff = 1.3 cfs @ 12.09 hrs, Volume= 4,437 cf, Depth> 4.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	2,190	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	600	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	8,271	98	PROPOSED PAVEMENT
*	288	98	PROPOSED BUILDING
	420	71	Naturalized slope:Meadow, non-grazed, HSG C
	11,769	91	Weighted Average
	3,210		27.28% Pervious Area
	8,559		72.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S3: SUBCAT 3

Runoff = 1.9 cfs @ 12.09 hrs, Volume= 6,171 cf, Depth> 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	3,501	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	1,474	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	10,869	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	1,350	71	Naturalized slope:Meadow, non-grazed, HSG C
	17,194	89	Weighted Average
	6,325		36.79% Pervious Area
	10,869		63.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S4: SUBCAT 4

Runoff = 2.1 cfs @ 12.09 hrs, Volume= 6,833 cf, Depth> 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	2,007	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	1,717	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	12,680	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	2,635	71	Naturalized slope:Meadow, non-grazed, HSG C
	19,039	89	Weighted Average
	6,359		33.40% Pervious Area
	12,680		66.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S5: SUBCAT 5

Runoff = 1.8 cfs @ 12.09 hrs, Volume= 6,208 cf, Depth> 5.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	1,481	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	13,166	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	14,647	96	Weighted Average
	1,481		10.11% Pervious Area
	13,166		89.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S6: SUBCAT 6

Runoff = 1.4 cfs @ 12.09 hrs, Volume= 4,723 cf, Depth> 4.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	1,270	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	10,131	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	11,401	95	Weighted Average
	1,270		11.14% Pervious Area
	10,131		88.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S7: SUBCAT 7

Runoff = 0.6 cfs @ 12.09 hrs, Volume= 2,325 cf, Depth> 5.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	5,245	98	PROPOSED BUILDING
	5,245	98	Weighted Average
	5,245		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S8: SUBCAT 8

Runoff = 0.6 cfs @ 12.09 hrs, Volume= 2,325 cf, Depth> 5.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	5,245	98	PROPOSED BUILDING
	5,245	98	Weighted Average
	5,245		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S9: SUBCAT 9

Runoff = 0.6 cfs @ 12.09 hrs, Volume= 2,325 cf, Depth> 5.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	5,245	98	PROPOSED BUILDING
	5,245	98	Weighted Average
	5,245		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment W: SUBCAT W

Runoff = 4.7 cfs @ 12.09 hrs, Volume= 15,013 cf, Depth> 3.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.56"

	Area (sf)	CN	Description
	29,890	80	>75% Grass cover, Good, HSG D
	24,927	77	Woods, Good, HSG D
*	0	98	Ex. Pavement
*	0	98	Ex. Building
	54,817	79	Weighted Average
	54,817		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	470	0.0010	1.26	41.56	**Trap/Vee/Rect Channel Flow,** Bot.W=30.00' D=1.00' Z= 3.0 '/' Top.W=36.00' n= 0.035 Earth, dense weeds

Summary for Reach R1: REACH THROUGH LOT 150

Inflow Area = 24,982 sf, 1.73% Impervious, Inflow Depth > 2.72" for 25 YR event
Inflow = 1.7 cfs @ 12.11 hrs, Volume= 5,671 cf
Outflow = 1.6 cfs @ 12.15 hrs, Volume= 5,657 cf, Atten= 5%, Lag= 2.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.15 fps, Min. Travel Time= 2.8 min
Avg. Velocity = 0.38 fps, Avg. Travel Time= 8.6 min

Peak Storage= 275 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 143.8 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 195.0' Slope= 0.0103 '/'
Inlet Invert= 280.00', Outlet Invert= 278.00'



‡

Summary for Reach R2: REACH THROUGH LOT 150

Inflow Area = 15,416 sf, 52.63% Impervious, Inflow Depth > 4.09" for 25 YR event
Inflow = 1.6 cfs @ 12.09 hrs, Volume= 5,260 cf
Outflow = 1.6 cfs @ 12.11 hrs, Volume= 5,254 cf, Atten= 2%, Lag= 1.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.48 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 0.52 fps, Avg. Travel Time= 5.3 min

Peak Storage= 177 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.05'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 221.1 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 165.0' Slope= 0.0242 '/'
Inlet Invert= 282.00', Outlet Invert= 278.00'



‡

Summary for Reach R3: REACH THROUGH WETLANDS

Inflow Area = 61,759 sf, 0.00% Impervious, Inflow Depth > 2.54" for 25 YR event
Inflow = 3.6 cfs @ 12.15 hrs, Volume= 13,090 cf
Outflow = 3.1 cfs @ 12.22 hrs, Volume= 12,980 cf, Atten= 13%, Lag= 4.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.14 fps, Min. Travel Time= 6.9 min
Avg. Velocity = 0.36 fps, Avg. Travel Time= 21.9 min

Peak Storage= 1,289 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 92.6 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 470.0' Slope= 0.0043 '/'
Inlet Invert= 272.00', Outlet Invert= 270.00'



‡

Summary for Pond C1: CB-1

Inflow Area = 15,910 sf, 39.31% Impervious, Inflow Depth > 3.58" for 25 YR event
Inflow = 1.5 cfs @ 12.09 hrs, Volume= 4,749 cf
Outflow = 1.5 cfs @ 12.09 hrs, Volume= 4,749 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.5 cfs @ 12.09 hrs, Volume= 4,749 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 282.04' @ 12.09 hrs
Flood Elev= 285.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	281.45'	**15.0" Round Culvert** L= 71.0' Ke= 0.500 Inlet / Outlet Invert= 281.45' / 280.04' S= 0.0199 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=1.5 cfs @ 12.09 hrs HW=282.03' TW=281.14' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.5 cfs @ 2.60 fps)

Summary for Pond C2: CB-2

Inflow Area = 32,924 sf, 60.92% Impervious, Inflow Depth > 4.20" for 25 YR event
Inflow = 3.5 cfs @ 12.09 hrs, Volume= 11,510 cf
Outflow = 3.5 cfs @ 12.09 hrs, Volume= 11,510 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.5 cfs @ 12.09 hrs, Volume= 11,510 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 281.17' @ 12.11 hrs
Flood Elev= 284.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	279.94'	**15.0" Round Culvert** L= 55.0' Ke= 0.500 Inlet / Outlet Invert= 279.94' / 279.67' S= 0.0049 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=3.0 cfs @ 12.09 hrs HW=281.13' TW=280.76' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 3.0 cfs @ 3.19 fps)

Summary for Pond C3: CB-3

Inflow Area = 55,363 sf, 65.34% Impervious, Inflow Depth > 4.34" for 25 YR event
Inflow = 6.0 cfs @ 12.09 hrs, Volume= 20,007 cf
Outflow = 6.0 cfs @ 12.09 hrs, Volume= 20,007 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.0 cfs @ 12.09 hrs, Volume= 20,007 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 280.78' @ 12.09 hrs
Flood Elev= 283.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	279.42'	**18.0" Round Culvert** L= 230.0' Ke= 0.500 Inlet / Outlet Invert= 279.42' / 278.27' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=5.7 cfs @ 12.09 hrs HW=280.76' TW=279.35' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.7 cfs @ 4.52 fps)

Summary for Pond C4: CB-4

Inflow Area = 74,402 sf, 65.66% Impervious, Inflow Depth > 4.33" for 25 YR event
Inflow = 8.1 cfs @ 12.09 hrs, Volume= 26,840 cf
Outflow = 8.1 cfs @ 12.09 hrs, Volume= 26,840 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.1 cfs @ 12.09 hrs, Volume= 26,840 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 279.64' @ 12.49 hrs
Flood Elev= 282.29'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.77'	**24.0" Round Culvert** L= 93.0' Ke= 0.500 Inlet / Outlet Invert= 277.77' / 277.30' S= 0.0051 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=6.6 cfs @ 12.09 hrs HW=279.35' TW=278.93' (Dynamic Tailwater)
1=Culvert (Outlet Controls 6.6 cfs @ 3.40 fps)

Summary for Pond C5: CB-5

Inflow Area = 19,892 sf, 92.55% Impervious, Inflow Depth > 5.15" for 25 YR event
Inflow = 2.4 cfs @ 12.09 hrs, Volume= 8,533 cf
Outflow = 2.4 cfs @ 12.09 hrs, Volume= 8,533 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.4 cfs @ 12.09 hrs, Volume= 8,533 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 279.64' @ 12.49 hrs
Flood Elev= 282.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.25'	**15.0" Round Culvert** L= 52.0' Ke= 0.500

Inlet / Outlet Invert= 278.25' / 277.99' S= 0.0050 '/' Cc= 0.900
n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=1.8 cfs @ 12.09 hrs HW=279.27' TW=279.07' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.8 cfs @ 2.31 fps)

Summary for Pond C6: CB-5

[80] Warning: Exceeded Pond C5 by 0.10' @ 12.25 hrs (1.5 cfs 882 cf)

Inflow Area =	31,293 sf,	91.21% Impervious,	Inflow Depth >	5.08"	for 25 YR event
Inflow =	3.8 cfs @	12.09 hrs,	Volume=	13,256 cf	
Outflow =	3.8 cfs @	12.09 hrs,	Volume=	13,256 cf,	Atten= 0%, Lag= 0.0 min
Primary =	3.8 cfs @	12.09 hrs,	Volume=	13,256 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 279.63' @ 12.45 hrs
Flood Elev= 282.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.88'	**15.0" Round Culvert** L= 76.0' Ke= 0.500 Inlet / Outlet Invert= 277.88' / 277.50' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=2.9 cfs @ 12.09 hrs HW=279.08' TW=278.67' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 2.9 cfs @ 3.10 fps)

Summary for Pond D1: DMH-1

[80] Warning: Exceeded Pond C4 by 0.19' @ 14.70 hrs (0.6 cfs 1,547 cf)

Inflow Area =	74,402 sf,	65.66% Impervious,	Inflow Depth >	4.33"	for 25 YR event
Inflow =	8.1 cfs @	12.09 hrs,	Volume=	26,840 cf	
Outflow =	8.1 cfs @	12.09 hrs,	Volume=	26,840 cf,	Atten= 0%, Lag= 0.0 min
Primary =	8.1 cfs @	12.09 hrs,	Volume=	26,840 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 279.62' @ 12.46 hrs
Flood Elev= 283.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.20'	**24.0" Round Culvert** L= 101.0' Ke= 0.500 Inlet / Outlet Invert= 277.20' / 276.70' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=5.5 cfs @ 12.09 hrs HW=278.93' TW=278.68' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 5.5 cfs @ 2.56 fps)

Summary for Pond FB1: FOREBAY 1

[93] Warning: Storage range exceeded by 3.10'
[58] Hint: Peaked 0.60' above defined flood level
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=108)
[80] Warning: Exceeded Pond C6 by 0.14' @ 14.65 hrs (0.3 cfs 810 cf)
[80] Warning: Exceeded Pond D1 by 0.76' @ 14.65 hrs (4.7 cfs 12,517 cf)

Inflow Area = 105,695 sf, 73.22% Impervious, Inflow Depth > 4.55" for 25 YR event
Inflow = 11.8 cfs @ 12.09 hrs, Volume= 40,096 cf
Outflow = 11.8 cfs @ 12.09 hrs, Volume= 38,968 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.8 cfs @ 12.09 hrs, Volume= 38,968 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 279.60' @ 12.43 hrs Surf.Area= 725 sf Storage= 994 cf
Flood Elev= 279.00' Surf.Area= 725 sf Storage= 994 cf

Plug-Flow detention time= 26.9 min calculated for 38,968 cf (97% of inflow)
Center-of-Mass det. time= 10.1 min (786.6 - 776.5)

Volume	Invert	Avail.Storage	Storage Description
#1	274.00'	994 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
274.00	125	0	0
276.00	550	675	675
276.50	725	319	994

Device	Routing	Invert	Outlet Devices
#1	Primary	276.00'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.0 cfs @ 12.09 hrs HW=278.68' TW=278.97' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Summary for Pond P1: WET POND-P1

[80] Warning: Exceeded Pond FB1 by 2.00' @ 0.75 hrs (0.0 cfs 475,562 cf)

Inflow Area = 124,281 sf, 68.85% Impervious, Inflow Depth > 4.34" for 25 YR event
Inflow = 13.6 cfs @ 12.09 hrs, Volume= 44,947 cf
Outflow = 4.5 cfs @ 12.38 hrs, Volume= 42,158 cf, Atten= 67%, Lag= 17.6 min
Primary = 4.5 cfs @ 12.38 hrs, Volume= 42,158 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Starting Elev= 276.00' Surf.Area= 2,925 sf Storage= 8,112 cf
Peak Elev= 279.60' @ 12.38 hrs Surf.Area= 6,839 sf Storage= 25,924 cf (17,811 cf above start)
Flood Elev= 281.10' Surf.Area= 8,325 sf Storage= 36,501 cf (28,389 cf above start)

Plug-Flow detention time= 220.2 min calculated for 33,975 cf (76% of inflow)
Center-of-Mass det. time= 93.9 min (881.1 - 787.2)

Volume	Invert	Avail.Storage	Storage Description
#1	270.00'	36,501 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
270.00	250	0	0	250
272.00	825	1,019	1,019	846
274.00	1,725	2,495	3,515	1,780
276.00	2,925	4,597	8,112	3,027
278.00	5,300	8,108	16,220	5,444
280.00	7,250	12,499	28,720	7,473
281.00	8,325	7,781	36,501	8,593

Device	Routing	Invert	Outlet Devices
#1	Primary	276.00'	**18.0" Round Culvert** L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 276.00' / 275.86' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	276.00'	**1.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	278.00'	**6.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	280.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.5 cfs @ 12.38 hrs HW=279.60' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 4.5 cfs of 14.4 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.3 cfs @ 7.72 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 3.3 cfs @ 4.06 fps)
  └─**4=Orifice/Grate** (Controls 0.0 cfs)

Summary for Link L1: EXISTING WETLAND & LOT 15-146

Inflow Area = 317,356 sf, 32.72% Impervious, Inflow Depth > 3.30" for 25 YR event
Inflow = 14.9 cfs @ 12.16 hrs, Volume= 87,234 cf
Primary = 14.9 cfs @ 12.16 hrs, Volume= 87,234 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L2: EXISTING WETLAND & LOT 15-141-0

Inflow Area = 116,576 sf, 0.00% Impervious, Inflow Depth > 2.88" for 25 YR event
Inflow = 6.9 cfs @ 12.12 hrs, Volume= 27,993 cf
Primary = 6.9 cfs @ 12.12 hrs, Volume= 27,993 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L3: LOT 15-21-1

Inflow Area = 6,266 sf, 0.00% Impervious, Inflow Depth > 2.82" for 25 YR event
Inflow = 0.5 cfs @ 12.09 hrs, Volume= 1,470 cf
Primary = 0.5 cfs @ 12.09 hrs, Volume= 1,470 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L4: LOT 150

Inflow Area = 24,982 sf, 1.73% Impervious, Inflow Depth > 2.72" for 25 YR event
Inflow = 1.7 cfs @ 12.11 hrs, Volume= 5,671 cf
Primary = 1.7 cfs @ 12.11 hrs, Volume= 5,671 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Subcatchment A: SUBCAT A

Runoff = 7.4 cfs @ 12.20 hrs, Volume= 29,821 cf, Depth> 3.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	17,549	74	>75% Grass cover, Good, HSG C
*	5,890	74	Wetland->75% Grass cover, Good, HSG C
	52,454	70	Woods, Good, HSG C
*	18,373	70	Wetland-Woods, Good, HSG C
*	0	98	Ex. Pavement
*	0	98	Ex. Building
*	0	98	PROPOSED PAVEMENT
	10,575	71	Naturalized slope:Meadow, non-grazed, HSG C
	104,841	71	Weighted Average
	104,841		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
1.3	345	0.0100	4.53	104.12	**Trap/Vee/Rect Channel Flow,** Bot.W=20.00' D=1.00' Z= 3.0 '/' Top.W=26.00' n= 0.030 Stream, clean & straight
14.1	395	Total			

Summary for Subcatchment B: SUBCAT B

Runoff = 4.9 cfs @ 12.15 hrs, Volume= 17,582 cf, Depth> 3.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	17,914	74	>75% Grass cover, Good, HSG C
	34,065	70	Woods, Good, HSG C
*	9,780	71	Naturalized slope:Meadow, non-grazed, HSG C
	61,759	71	Weighted Average
	61,759		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.97"
0.9	60	0.0450	1.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.2	110	Total			

Summary for Subcatchment C: SUBCAT C

Runoff = 0.6 cfs @ 12.09 hrs, Volume= 1,946 cf, Depth> 3.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	3,463	74	>75% Grass cover, Good, HSG C
	400	70	Woods, Good, HSG C
*	0	98	Ex. Wetland
*	2,403	74	RipRap slope with evergreens, Good, HSG C
	6,266	74	Weighted Average
	6,266		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D: SUBCAT D

Runoff = 2.0 cfs @ 12.09 hrs, Volume= 6,588 cf, Depth> 5.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	6,799	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	503	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	6,961	98	Ex. Pavement
*	0	98	Ex. Building
*	1,153	98	PROPOSED PAVEMENT
	15,416	87	Weighted Average
	7,302		47.37% Pervious Area
	8,114		52.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment E: SUBCAT E

Runoff = 5.0 cfs @ 12.09 hrs, Volume= 15,686 cf, Depth> 3.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	8,834	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	13,536	70	Woods, Good, HSG C
*	15,742	70	Wetland-Woods, Good, HSG C
*	4,076	98	Ex. Pavement
*	2,625	98	Ex. Building
*	3,023	98	PROPOSED PAVEMENT
	47,836	76	Weighted Average
	38,112		79.67% Pervious Area
	9,724		20.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	38	0.0280	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.97"
0.4	28	0.0350	1.29		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.97"
0.5	45	0.0400	1.40		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	61	0.1100	1.66		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	164	0.0200	8.73	200.79	**Trap/Vee/Rect Channel Flow,** Bot.W=20.00' D=1.00' Z= 3.0 '/' Top.W=26.00' n= 0.022 Earth, clean & straight
5.9	336	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment F: SUBCAT F

Runoff = 2.3 cfs @ 12.11 hrs, Volume= 7,541 cf, Depth> 3.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	16,707	74	>75% Grass cover, Good, HSG C
*	1,209	74	Wetland->75% Grass cover, Good, HSG C
	6,437	70	Woods, Good, HSG C
*	197	70	Wetland-Woods, Good, HSG C
*	144	98	Ex. Pavement
*	288	98	Ex. Building
	24,982	73	Weighted Average
	24,550		98.27% Pervious Area
	432		1.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.0400	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.97"
3.1	182	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.5	232	Total			

Summary for Subcatchment S1: SUBCAT 1

Runoff = 1.9 cfs @ 12.09 hrs, Volume= 6,067 cf, Depth> 4.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	4,231	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	3,110	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	6,254	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	2,315	71	Naturalized slope:Meadow, non-grazed, HSG C
	15,910	82	Weighted Average
	9,656		60.69% Pervious Area
	6,254		39.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S10: SUBCAT 10

Runoff = 0.8 cfs @ 12.09 hrs, Volume= 2,796 cf, Depth> 6.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	5,245	98	PROPOSED BUILDING
	5,245	98	Weighted Average
	5,245		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S11: SUBCAT 11

Runoff = 1.5 cfs @ 12.09 hrs, Volume= 4,728 cf, Depth> 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	10,418	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	2,923	98	Water Surface, HSG C
	13,341	79	Weighted Average
	10,418		78.09% Pervious Area
	2,923		21.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S2: SUBCAT 2

Runoff = 1.6 cfs @ 12.09 hrs, Volume= 5,474 cf, Depth> 5.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	2,190	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	600	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	8,271	98	PROPOSED PAVEMENT
*	288	98	PROPOSED BUILDING
	420	71	Naturalized slope:Meadow, non-grazed, HSG C
	11,769	91	Weighted Average
	3,210		27.28% Pervious Area
	8,559		72.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S3: SUBCAT 3

Runoff = 2.3 cfs @ 12.09 hrs, Volume= 7,670 cf, Depth> 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	3,501	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	1,474	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	10,869	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	1,350	71	Naturalized slope:Meadow, non-grazed, HSG C
	17,194	89	Weighted Average
	6,325		36.79% Pervious Area
	10,869		63.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S4: SUBCAT 4

Runoff = 2.6 cfs @ 12.09 hrs, Volume= 8,494 cf, Depth> 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	2,007	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	1,717	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	12,680	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	2,635	71	Naturalized slope:Meadow, non-grazed, HSG C
	19,039	89	Weighted Average
	6,359		33.40% Pervious Area
	12,680		66.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S5: SUBCAT 5

Runoff = 2.1 cfs @ 12.09 hrs, Volume= 7,520 cf, Depth> 6.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	1,481	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	13,166	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	14,647	96	Weighted Average
	1,481		10.11% Pervious Area
	13,166		89.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S6: SUBCAT 6

Runoff = 1.6 cfs @ 12.09 hrs, Volume= 5,742 cf, Depth> 6.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	1,270	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	10,131	98	PROPOSED PAVEMENT
*	0	98	PROPOSED BUILDING
	11,401	95	Weighted Average
	1,270		11.14% Pervious Area
	10,131		88.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S7: SUBCAT 7

Runoff = 0.8 cfs @ 12.09 hrs, Volume= 2,796 cf, Depth> 6.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	5,245	98	PROPOSED BUILDING
	5,245	98	Weighted Average
	5,245		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S8: SUBCAT 8

Runoff = 0.8 cfs @ 12.09 hrs, Volume= 2,796 cf, Depth> 6.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	5,245	98	PROPOSED BUILDING
	5,245	98	Weighted Average
	5,245		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment S9: SUBCAT 9

Runoff = 0.8 cfs @ 12.09 hrs, Volume= 2,796 cf, Depth> 6.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	0	74	>75% Grass cover, Good, HSG C
*	0	74	Wetland->75% Grass cover, Good, HSG C
	0	70	Woods, Good, HSG C
*	0	70	Wetland-Woods, Good, HSG C
*	0	98	PROPOSED PAVEMENT
*	5,245	98	PROPOSED BUILDING
	5,245	98	Weighted Average
	5,245		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment W: SUBCAT W

Runoff = 6.1 cfs @ 12.09 hrs, Volume= 19,426 cf, Depth> 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=6.64"

	Area (sf)	CN	Description
	29,890	80	>75% Grass cover, Good, HSG D
	24,927	77	Woods, Good, HSG D
*	0	98	Ex. Pavement
*	0	98	Ex. Building
	54,817	79	Weighted Average
	54,817		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	470	0.0010	1.26	41.56	**Trap/Vee/Rect Channel Flow,** Bot.W=30.00' D=1.00' Z= 3.0 '/' Top.W=36.00' n= 0.035 Earth, dense weeds

Summary for Reach R1: REACH THROUGH LOT 150

Inflow Area = 24,982 sf, 1.73% Impervious, Inflow Depth > 3.62" for 50 YR event
Inflow = 2.3 cfs @ 12.11 hrs, Volume= 7,541 cf
Outflow = 2.2 cfs @ 12.14 hrs, Volume= 7,524 cf, Atten= 4%, Lag= 1.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.29 fps, Min. Travel Time= 2.5 min
Avg. Velocity = 0.39 fps, Avg. Travel Time= 8.3 min

Peak Storage= 329 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 143.8 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 195.0' Slope= 0.0103 '/'
Inlet Invert= 280.00', Outlet Invert= 278.00'



‡

Summary for Reach R2: REACH THROUGH LOT 150

Inflow Area = 15,416 sf, 52.63% Impervious, Inflow Depth > 5.13" for 50 YR event
Inflow = 2.0 cfs @ 12.09 hrs, Volume= 6,588 cf
Outflow = 2.0 cfs @ 12.11 hrs, Volume= 6,581 cf, Atten= 2%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.61 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.53 fps, Avg. Travel Time= 5.2 min

Peak Storage= 202 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 221.1 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 165.0' Slope= 0.0242 '/'
Inlet Invert= 282.00', Outlet Invert= 278.00'



‡

Summary for Reach R3: REACH THROUGH WETLANDS

Inflow Area = 61,759 sf, 0.00% Impervious, Inflow Depth > 3.42" for 50 YR event
Inflow = 4.9 cfs @ 12.15 hrs, Volume= 17,582 cf
Outflow = 4.3 cfs @ 12.21 hrs, Volume= 17,456 cf, Atten= 11%, Lag= 3.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.29 fps, Min. Travel Time= 6.1 min
Avg. Velocity = 0.39 fps, Avg. Travel Time= 20.1 min

Peak Storage= 1,573 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 1.00' Flow Area= 23.0 sf, Capacity= 92.6 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 470.0' Slope= 0.0043 '/'
Inlet Invert= 272.00', Outlet Invert= 270.00'



‡

Summary for Pond C1: CB-1

Inflow Area = 15,910 sf, 39.31% Impervious, Inflow Depth > 4.58" for 50 YR event
Inflow = 1.9 cfs @ 12.09 hrs, Volume= 6,067 cf
Outflow = 1.9 cfs @ 12.09 hrs, Volume= 6,067 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.9 cfs @ 12.09 hrs, Volume= 6,067 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 282.12' @ 12.10 hrs
Flood Elev= 285.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	281.45'	**15.0" Round Culvert** L= 71.0' Ke= 0.500 Inlet / Outlet Invert= 281.45' / 280.04' S= 0.0199 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=1.8 cfs @ 12.09 hrs HW=282.12' TW=281.38' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.8 cfs @ 3.83 fps)

Summary for Pond C2: CB-2

Inflow Area = 32,924 sf, 60.92% Impervious, Inflow Depth > 5.23" for 50 YR event
Inflow = 4.3 cfs @ 12.09 hrs, Volume= 14,337 cf
Outflow = 4.3 cfs @ 12.09 hrs, Volume= 14,337 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.3 cfs @ 12.09 hrs, Volume= 14,337 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 281.44' @ 12.11 hrs
Flood Elev= 284.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	279.94'	**15.0" Round Culvert** L= 55.0' Ke= 0.500 Inlet / Outlet Invert= 279.94' / 279.67' S= 0.0049 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=3.6 cfs @ 12.09 hrs HW=281.37' TW=281.00' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 3.6 cfs @ 3.21 fps)

Summary for Pond C3: CB-3

Inflow Area = 55,363 sf, 65.34% Impervious, Inflow Depth > 5.38" for 50 YR event
Inflow = 7.4 cfs @ 12.09 hrs, Volume= 24,804 cf
Outflow = 7.4 cfs @ 12.09 hrs, Volume= 24,804 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.4 cfs @ 12.09 hrs, Volume= 24,804 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 281.02' @ 12.10 hrs
Flood Elev= 283.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	279.42'	**18.0" Round Culvert** L= 230.0' Ke= 0.500 Inlet / Outlet Invert= 279.42' / 278.27' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=6.7 cfs @ 12.09 hrs HW=281.00' TW=279.67' (Dynamic Tailwater)
1=Culvert (Outlet Controls 6.7 cfs @ 4.48 fps)

Summary for Pond C4: CB-4

Inflow Area = 74,402 sf, 65.66% Impervious, Inflow Depth > 5.37" for 50 YR event
Inflow = 9.9 cfs @ 12.09 hrs, Volume= 33,297 cf
Outflow = 9.9 cfs @ 12.09 hrs, Volume= 33,297 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.9 cfs @ 12.09 hrs, Volume= 33,297 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 280.10' @ 12.44 hrs
Flood Elev= 282.29'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.77'	**24.0" Round Culvert** L= 93.0' Ke= 0.500 Inlet / Outlet Invert= 277.77' / 277.30' S= 0.0051 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=7.7 cfs @ 12.09 hrs HW=279.67' TW=279.30' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.7 cfs @ 3.20 fps)

Summary for Pond C5: CB-5

Inflow Area = 19,892 sf, 92.55% Impervious, Inflow Depth > 6.22" for 50 YR event
Inflow = 2.9 cfs @ 12.09 hrs, Volume= 10,316 cf
Outflow = 2.9 cfs @ 12.09 hrs, Volume= 10,316 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.9 cfs @ 12.09 hrs, Volume= 10,316 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 280.11' @ 12.44 hrs
Flood Elev= 282.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.25'	**15.0" Round Culvert** L= 52.0' Ke= 0.500

Inlet / Outlet Invert= 278.25' / 277.99' S= 0.0050 '/' Cc= 0.900
n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=1.4 cfs @ 12.09 hrs HW=279.49' TW=279.41' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.4 cfs @ 1.48 fps)

Summary for Pond C6: CB-5

[80] Warning: Exceeded Pond C5 by 0.42' @ 13.50 hrs (1.4 cfs 2,076 cf)

Inflow Area =	31,293 sf,	91.21% Impervious,	Inflow Depth >	6.16"	for 50 YR event
Inflow =	4.5 cfs @	12.09 hrs, Volume=	16,058 cf		
Outflow =	4.5 cfs @	12.09 hrs, Volume=	16,058 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	4.5 cfs @	12.09 hrs, Volume=	16,058 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 280.09' @ 12.40 hrs
Flood Elev= 282.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.88'	**15.0" Round Culvert** L= 76.0' Ke= 0.500 Inlet / Outlet Invert= 277.88' / 277.50' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=3.3 cfs @ 12.09 hrs HW=279.41' TW=279.09' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 3.3 cfs @ 2.77 fps)

Summary for Pond D1: DMH-1

[80] Warning: Exceeded Pond C4 by 0.76' @ 13.50 hrs (5.4 cfs 9,010 cf)

Inflow Area =	74,402 sf,	65.66% Impervious,	Inflow Depth >	5.37"	for 50 YR event
Inflow =	9.9 cfs @	12.09 hrs, Volume=	33,297 cf		
Outflow =	9.9 cfs @	12.09 hrs, Volume=	33,297 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	9.9 cfs @	12.09 hrs, Volume=	33,297 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 280.07' @ 12.41 hrs
Flood Elev= 283.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.20'	**24.0" Round Culvert** L= 101.0' Ke= 0.500 Inlet / Outlet Invert= 277.20' / 276.70' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=6.3 cfs @ 12.09 hrs HW=279.30' TW=279.10' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 6.3 cfs @ 2.38 fps)

Summary for Pond FB1: FOREBAY 1

[93] Warning: Storage range exceeded by 3.53'
[58] Hint: Peaked 1.03' above defined flood level
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=101)
[80] Warning: Exceeded Pond C6 by 0.73' @ 13.45 hrs (3.0 cfs 4,329 cf)
[80] Warning: Exceeded Pond D1 by 1.32' @ 13.45 hrs (10.5 cfs 33,617 cf)

Inflow Area = 105,695 sf, 73.22% Impervious, Inflow Depth > 5.60" for 50 YR event
Inflow = 14.4 cfs @ 12.09 hrs, Volume= 49,356 cf
Outflow = 14.4 cfs @ 12.09 hrs, Volume= 48,114 cf, Atten= 0%, Lag= 0.0 min
Primary = 14.4 cfs @ 12.09 hrs, Volume= 48,114 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 280.03' @ 12.38 hrs Surf.Area= 725 sf Storage= 994 cf
Flood Elev= 279.00' Surf.Area= 725 sf Storage= 994 cf

Plug-Flow detention time= 23.6 min calculated for 48,114 cf (97% of inflow)
Center-of-Mass det. time= 8.4 min (780.4 - 772.0)

Volume	Invert	Avail.Storage	Storage Description
#1	274.00'	994 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
274.00	125	0	0
276.00	550	675	675
276.50	725	319	994

Device	Routing	Invert	Outlet Devices
#1	Primary	276.00'	**10.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.0 cfs @ 12.09 hrs HW=279.09' TW=279.42' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Summary for Pond P1: WET POND-P1

[80] Warning: Exceeded Pond FB1 by 2.40' @ 13.40 hrs (130.9 cfs 838,142 cf)

Inflow Area = 124,281 sf, 68.85% Impervious, Inflow Depth > 5.37" for 50 YR event
Inflow = 16.7 cfs @ 12.09 hrs, Volume= 55,638 cf
Outflow = 6.4 cfs @ 12.33 hrs, Volume= 52,491 cf, Atten= 62%, Lag= 14.8 min
Primary = 6.4 cfs @ 12.33 hrs, Volume= 52,491 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Starting Elev= 276.00' Surf.Area= 2,925 sf Storage= 8,112 cf
Peak Elev= 280.03' @ 12.33 hrs Surf.Area= 7,285 sf Storage= 28,967 cf (20,855 cf above start)
Flood Elev= 281.10' Surf.Area= 8,325 sf Storage= 36,501 cf (28,389 cf above start)

Plug-Flow detention time= 196.1 min calculated for 44,287 cf (80% of inflow)
Center-of-Mass det. time= 85.7 min (866.9 - 781.2)

Volume	Invert	Avail.Storage	Storage Description
#1	270.00'	36,501 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
270.00	250	0	0	250
272.00	825	1,019	1,019	846
274.00	1,725	2,495	3,515	1,780
276.00	2,925	4,597	8,112	3,027
278.00	5,300	8,108	16,220	5,444
280.00	7,250	12,499	28,720	7,473
281.00	8,325	7,781	36,501	8,593

Device	Routing	Invert	Outlet Devices
#1	Primary	276.00'	**18.0" Round Culvert** L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 276.00' / 275.86' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	276.00'	**1.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	278.00'	**6.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	280.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.3 cfs @ 12.33 hrs HW=280.03' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 6.3 cfs of 15.4 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.4 cfs @ 8.35 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 4.6 cfs @ 4.64 fps)
  └─**4=Orifice/Grate** (Weir Controls 0.3 cfs @ 0.59 fps)

Summary for Link L1: EXISTING WETLAND & LOT 15-146

Inflow Area = 317,356 sf, 32.72% Impervious, Inflow Depth > 4.24" for 50 YR event
Inflow = 20.0 cfs @ 12.16 hrs, Volume= 112,104 cf
Primary = 20.0 cfs @ 12.16 hrs, Volume= 112,104 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L2: EXISTING WETLAND & LOT 15-141-0

Inflow Area = 116,576 sf, 0.00% Impervious, Inflow Depth > 3.80" for 50 YR event
Inflow = 9.2 cfs @ 12.12 hrs, Volume= 36,882 cf
Primary = 9.2 cfs @ 12.12 hrs, Volume= 36,882 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L3: LOT 15-21-1

Inflow Area = 6,266 sf, 0.00% Impervious, Inflow Depth > 3.73" for 50 YR event
Inflow = 0.6 cfs @ 12.09 hrs, Volume= 1,946 cf
Primary = 0.6 cfs @ 12.09 hrs, Volume= 1,946 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link L4: LOT 150

Inflow Area = 24,982 sf, 1.73% Impervious, Inflow Depth > 3.62" for 50 YR event
Inflow = 2.3 cfs @ 12.11 hrs, Volume= 7,541 cf
Primary = 2.3 cfs @ 12.11 hrs, Volume= 7,541 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

V. SITE SPECIFIC SOIL SURVEY REPORT

B A G

LAND CONSULTANTS

April 3, 2025

Jacob Doerfler, P.E.
The Dubay Group Inc.
136 Harvey Road – Bldg B101
Londonderry, NH 03053

RE: JJN Project [Map 15; Lot 150]
222 Rockingham Road, Londonderry, NH (9.6 Ac +/-)

Dear Jake:

Site Specific Soil Survey Technical Letter Report

At your request, we visited the above-referenced property to perform Site-Specific Soil Map (SSSM) services that will assist in the planning / design of a proposed land development project. Below is a summary report that details the standards utilized, mapped soil descriptions, and any limiting soil features encountered on the property.

Standards

The criteria under which the soil map was prepared is the *Site-specific Soil Mapping Standards for New Hampshire and Vermont*, Version 4.0, February 2011. The standards are based on a universally recognized taxonomic system of soil classification and are supported by national soil mapping standards established by the USDA National Cooperative Soil Survey. They allow for the development of multi-purpose soil map products that are carefully controlled and monitored through a state, regional and national quality assessment program. The SSSM's have been developed by the Society of Soil Scientists of Northern New England (SSSNNE) in cooperation with the USDA Natural Resources Conservation Service (NRCS). This map is a special product, intended for submission to NH DES Alteration of Terrain. This map is not a product of the USDA Natural Resource Conservation Service.

The Site-specific Soil Map Units identified on this property come from the *New Hampshire State-wide Numerical Soils Legend*, Issue 10, January 2011. This document represents the latest release of the permanent New Hampshire State-Wide Numerical Soils Legend since originally developed and adopted by the NRCS of NH in 1985.

Base Map

The soil map was developed on a base map of 1"= 30', contour intervals of two (2') feet, and ground control indicators provided with detail of existing wetland flag locations, existing stonewalls, established survey traverse stations and recently excavated test pit locations. Topographic & boundary survey information was compiled onto our base map by your office – The Dubay Group, Inc., Londonderry, NH.

Location

The study site has greater than 400' of road frontage on Rockingham Road (NH 28) in the Town of Londonderry, NH. There is one (1) existing single-family residence structure located near the

road frontage. The entire project study area is approximately 10.0 Ac.+/-. All proposed land improvements will be outside of any shoreland protection zone.

Legend
The following is the soil identification legend for the site-specific soil map units used in the preparation of the map.

SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	SOIL TAXONOMIC NAME	HSG CLASS	DRAINAGE CLASS
44	Montauk	C	Moderately-well Drained
546 /P	Walpole	C	Poorly Drained
395/VP	Chocorua	D	Very Poorly Drained

Slope

Slope Designation	Percent Slope
B	0 to 8%
C	8 to 15%

Limiting Soil Features
Most of the upland areas on this property are in natural undisturbed condition. Very little evidence of any prior earth moving excavations or timber clear cutting activities observed. The soils are capable of supporting residential developmental land improvements

The majority of soils mapped are **44** – Montauk a moderately-well drained glacial till with hardpan restrictive features 28 to 36" below the soil surface. These soils are fairly deep (>6') to ledge and they have a slow infiltration rate due to massive structure and firm consistence. These soils would fall into a hydrologic soil group 'C'.

In the slightly lower elevation areas near the southwest region of property we mapped a **546B**/P – Walpole soil series. These poorly drained soils have no restrictive features and still drain. They would have a slow infiltration rate when thoroughly wetted and fall into a HSG "C" category.

The wettest soils are located in the northeast corner of study area. They are mapped **395/VP** – Chocorua a very poorly drained, muck and peat (organic material depths to 3') and permanently inundated. The wetlands (poorly drained & very poorly drained) onsite are not vernal pools.

Sincerely,

Bruce A. Gilday

Bruce A. Gilday
Certified Soil Scientist



BAG:3627
Attachment

VI. MAINTENANCE AND INSPECTION

OPERATION AND MAINTENANCE PROCEDURES FOR STORMWATER MANAGEMENT SYSTEMS

222 Rockingham Road

Map 15 Lot 150-1
222 Rockingham Road
Londonderry, NH 03053

PREPARED FOR:

Dark Horse Investments, LLC
222 Rockingham Road
Londonderry, NH 03053

PREPARED BY:

The Dubay Group, Inc.
136 Harvey Road Bldg B101
Londonderry, NH 03053
P: 603-458-6462
www.TheDubayGroup.com

May 19, 2025

Revised: September 7, 2025

Engineers **Planners** **Surveyors**

Table of Contents:

POST CONSTRUCTION OPERATION AND MAINTENANCE PLAN

A. Maintenance Schedule
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C. Stoned Lined Outlet Protection Area
D. Snow & Ice Management
E. Wet Pond

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A. Inspection & Maintenance Plan
B. Site BMP Inspection Report
C. Inspection & Maintenance Log

SNOW & ICE MANAGEMENT SUPPLEMENTAL CRITERIA

A. Guidance for Salt-Use Minimization Efforts
B. Snow & Ice Maintenance Checklist
C. NHDES Anti-Icing BMP's
D. Green SnowPro Deicing Application Rates
E. Deicing Log

CONTROL OF INVASIVE SPECIES

A. Guide to Control Invasive Species

Post Construction Operation and Maintenance Plan

MAINTENANCE SCHEDULE		
Frequency	***Actions***	***Follow-up***
Weekly (or after rain event)	Erosion Inspection, Clean Trash Racks	Take corrective action(s) if required
Quarterly	Complete Stormwater Inspection Report Reviewing all structures and BMP's	File Stormwater Inspection Report and take any corrective actions as needed
Semi Annually	Perform sediment removal from all structures and pipes as needed	Note any problem areas and inspect as necessary

Property Owner:

Dark Horse Investments, LLC
222 Rockingham Road
Londonderry, NH 03053

Responsible Party:

Installation/Operation & Maintenance:

Dark Horse Investments, LLC
222 Rockingham Road
Londonderry, NH 03053

The owner shall be responsible for the installation of the drainage mitigation system and ongoing maintenance of the system(s). They shall include separate line items for the operation and maintenance of the systems in their yearly budget. Qualified personnel shall perform the required inspections. Photographs shall be taken of each BMP during each inspection. The responsible party will maintain records of all inspection reports and be accountable for implementation of any maintenance recommendations required by the inspector. All required maintenance shall be performed by a qualified contractor experienced with the particular BMP requiring the maintenance. All Stormwater-related items and the respective operation and maintenance requirements for each have been detailed in the subsequent sections of the plan. Copies of maintenance records are to be provided to the Town Public Works on an annual basis.

Proposed Site BMP's

a) Street Sweeping

Sweeping should be conducted a minimum of twice a year. Once in the early fall and then immediately following spring (March/April) snowmelt to remove sand and other debris. Sweeping shall be conducted by a high efficiency vacuum sweeper. Pavement surfaces may be swept at other times, basically for aesthetic reasons, such as in the fall after leaves have dropped to remove accumulated debris. Since contaminants typically accumulate within 12 inches of the curb line, street cleaning operations should concentrate in cleaning curb and gutter lines for maximum pollutant removal efficiency. Other areas can also be swept periodically, probably on a less regular basis.

b) Catch Basins/Outlet Control Structures

Catch basins and OCS's require frequent maintenance and are recommended to be inspected at least twice a year. Inspections should be performed in the spring after the snow melt and in the fall following the leaf drop. Inspections should note the level of accumulated sediment and condition of the structure. Corrective action shall be taken as necessary. Some basins may receive higher sediment loading than others and may require more frequent cleanings. Basins should be cleaned when sediment approaches half the sump depth. Cleaning shall be performed by a licensed vacuum truck company.

During inspections, if floating hydrocarbons are observed, the material should be removed immediately by skimming, absorbent materials, or other method and disposed of in accordance with state and federal regulations.

c) Wet Pond

The areas shall be inspected at least once per year to ensure that they are operating as intended. The outlet structure shall be inspected for evidence of clogging or outflow release velocities that are greater than design flow. Removal of debris and accumulation of sediment from outlet control structures shall be done immediately. Embankments shall be mowed periodically, and woody vegetation shall be removed.

Areas to be inspected shall include: erosion control systems; damage to the outlet control structure; sediment accumulation around the outlet; inadequacy of the inlet/outlet channel erosion control measures

d) Lawn Care/Landscape Maintenance

Inspect soil and repair eroded areas. Re-mulch void areas as needed. Remove litter and debris. Remove invasive species and treat diseased vegetation as needed. Perform periodic mowing of the lawn.

e) Snow & Ice Management

The proposed development will result in greater than one acre of pavement, therefor will require a snow and ice management plan. The contractor responsible for the snow and ice management is required to be Green Snow-Pro certified and for reporting the amount of salt usage to NHDES on an annual basis. Please refer to the Snow & Ice Management supplemental Criteria section for guidance.

Stormwater Inspection Report

Project Name

Location
Start/End

Date of Inspection
Inspector's Name(s)
Inspector's Title(s)
Inspector's Contact Info
Type of Inspection

☐ **Regular** ☐ **Pre-storm event** ☐ **During storm event** ☐ **Post-storm event**

Do you suspect that discharges may have occurred since the last inspection?
☐ Yes ☐ No

Are there any discharges at the time of inspection?
☐ Yes ☐ No

	BMP Description	BMP Installed and Operating Properly?	Corrective Action Needed	Date for corrective action/responsible person
a	Street Sweeping			
	• Evidence of oil grease			
b	Catch Basins			
	CB1			
	• Inlet and outlet clear of debris	☐ Yes ☐ No		
	• Evidence of oil grease	☐ Yes ☐ No		
	• Accumulated sediment	☐ Yes ☐ No		
	• Evidence of structural deterioration	☐ Yes ☐ No		
	• Evidence of spalling or cracking of structural parts	☐ Yes ☐ No		
	• Other (specify)	☐ Yes ☐ No		
	CB2			
	• Inlet and outlet clear of debris	☐ Yes ☐ No		
	• Evidence of oil grease	☐ Yes ☐ No		
	• Accumulated sediment	☐ Yes ☐ No		
	• Evidence of structural deterioration	☐ Yes ☐ No		
	• Evidence of spalling or cracking of structural parts	☐ Yes ☐ No		
	• Other (specify)	☐ Yes ☐ No		
	CB3			
	• Inlet and outlet clear of debris	☐ Yes ☐ No		
	• Evidence of oil grease	☐ Yes ☐ No		

BMP Description	BMP Installed and Operating Properly?	Corrective Action Needed	Date for corrective action/responsible person
• Accumulated sediment	☐ Yes ☐ No		
• Evidence of structural deterioration	☐ Yes ☐ No		
• Evidence of spalling or cracking of structural parts	☐ Yes ☐ No		
• Other (specify)	☐ Yes ☐ No		
CB4			
• Inlet and outlet clear of debris	☐ Yes ☐ No		
• Evidence of oil grease	☐ Yes ☐ No		
• Accumulated sediment	☐ Yes ☐ No		
• Evidence of structural deterioration	☐ Yes ☐ No		
• Evidence of spalling or cracking of structural parts	☐ Yes ☐ No		
• Other (specify)	☐ Yes ☐ No		
CB5			
• Inlet and outlet clear of debris	☐ Yes ☐ No		
• Evidence of oil grease	☐ Yes ☐ No		
• Accumulated sediment	☐ Yes ☐ No		
• Evidence of structural deterioration	☐ Yes ☐ No		
• Evidence of spalling or cracking of structural parts	☐ Yes ☐ No		
• Other (specify)	☐ Yes ☐ No		
CB6			
• Inlet and outlet clear of debris	☐ Yes ☐ No		
• Evidence of oil grease	☐ Yes ☐ No		
• Accumulated sediment	☐ Yes ☐ No		
• Evidence of structural deterioration	☐ Yes ☐ No		
• Evidence of spalling or cracking of structural parts	☐ Yes ☐ No		
• Other (specify)	☐ Yes ☐ No		
DMH1			
• Inlet and outlet clear of debris	☐ Yes ☐ No		
• Evidence of oil grease	☐ Yes ☐ No		
• Accumulated sediment	☐ Yes ☐ No		

	BMP Description	BMP Installed and Operating Properly?	Corrective Action Needed	Date for corrective action/responsible person
	• Evidence of structural deterioration	☐ Yes ☐ No		
	• Evidence of spalling or cracking of structural parts	☐ Yes ☐ No		
	• Other (specify)	☐ Yes ☐ No		
	OCS1			
	• Inlet and outlet clear of debris	☐ Yes ☐ No		
	• Evidence of oil grease	☐ Yes ☐ No		
	• Accumulated sediment	☐ Yes ☐ No		
	• Evidence of structural deterioration	☐ Yes ☐ No		
	• Evidence of spalling or cracking of structural parts	☐ Yes ☐ No		
	• Other (specify)	☐ Yes ☐ No		
	<u>Outlet Protection-FES3</u>	☐ Yes ☐ No		
	• Inlet/Inflow pipes clear of debris	☐ Yes ☐ No		
	• Outlet clear of debris	☐ Yes ☐ No		
	• Evidence subsidence	☐ Yes ☐ No		
	• Tree growth	☐ Yes ☐ No		
	• Other (specify)			
	<u>Forebay/FES 1 & 2</u>	☐ Yes ☐ No		
	• bottom or trench surface clear of debris	☐ Yes ☐ No		
	• Inlet/Inflow pipes clear of debris	☐ Yes ☐ No		
	• Overflow spillway clear of debris	☐ Yes ☐ No		
	• Accumulated sediment	☐ Yes ☐ No		
	• Embankment erosion	☐ Yes ☐ No		
	• Unauthorized planting	☐ Yes ☐ No		
	• Other (specify)	☐ Yes ☐ No		
c	<u>Wet Pond</u>	☐ Yes ☐ No		
	• Basin bottom or trench surface clear of debris	☐ Yes ☐ No		
	• Inlet/Inflow pipes clear of debris	☐ Yes ☐ No		
	• Overflow spillway clear of debris	☐ Yes ☐ No		
	• Outlet clear of debris	☐ Yes ☐ No		
	• Basin overtopping	☐ Yes ☐ No		
	• Accumulated sediment	☐ Yes ☐ No		

	BMP Description	BMP Installed and Operating Properly?	Corrective Action Needed	Date for corrective action/responsible person
	• Embankment erosion	☐ Yes ☐ No		
	• Unauthorized planting	☐ Yes ☐ No		
	• Other (specify)	☐ Yes ☐ No		
d	<u>Lawn Care/Landscape</u>	☐ Yes ☐ No		
	• Repair voided areas	☐ Yes ☐ No		
	• Clear debris	☐ Yes ☐ No		
	• Other (specify)	☐ Yes ☐ No		

Overall Site Issues

	BMP/activity	Implemented?	Maintained?	Corrective Action	Date for corrective action/responsible person
1	Is there evidence of sediment being tracked into the street?	☐ Yes ☐ No	☐ Yes ☐ No		
2	Is trash/litter collected and placed in covered dumpsters?	☐ Yes ☐ No	☐ Yes ☐ No		
3	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	☐ Yes ☐ No	☐ Yes ☐ No		
4	Are materials that are potential stormwater contaminants stored inside or under cover?	☐ Yes ☐ No	☐ Yes ☐ No		

Other Comments:

Inspection and Report prepared by:

Print name: _____

Signature: _____ Date: _____

Copies to:

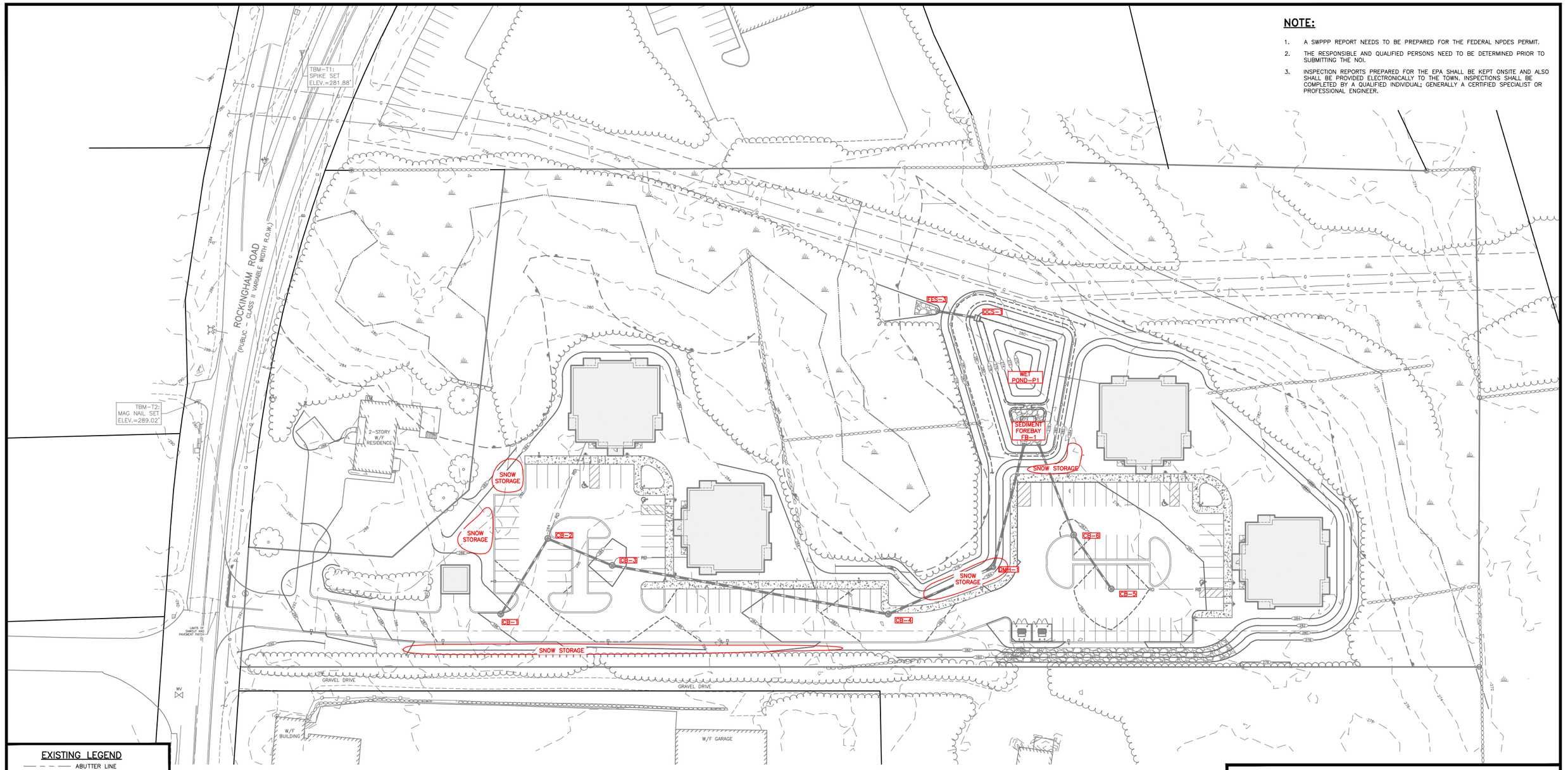
☐ Owner: _____

☐ City: _____

☐ State: _____

NOTE:

1. A SWPPP REPORT NEEDS TO BE PREPARED FOR THE FEDERAL NPDES PERMIT.
2. THE RESPONSIBLE AND QUALIFIED PERSONS NEED TO BE DETERMINED PRIOR TO SUBMITTING THE NOI.
3. INSPECTION REPORTS PREPARED FOR THE EPA SHALL BE KEPT ONSITE AND ALSO SHALL BE PROVIDED ELECTRONICALLY TO THE TOWN. INSPECTIONS SHALL BE COMPLETED BY A QUALIFIED INDIVIDUAL; GENERALLY A CERTIFIED SPECIALIST OR PROFESSIONAL ENGINEER.



EXISTING LEGEND

- ABUTTER LINE
- BUILDING SETBACK
- DSYL — DOUBLE SOLID YELLOW LINE
- SSWL — SINGLE SOLID WHITE LINE
- EDGE OF PAVEMENT
- EASEMENT
- DELINEATED WETLAND
- WETLAND SETBACK
- RAILROAD SPIKE BOUNDARY MARKER
- IRON PIPE BOUNDARY MARKER
- TREELINE

PROPOSED LEGEND

- PROPERTY LINE
- EDGE OF PAVEMENT
- CURB
- PAINT
- TREELINE
- CONCRETE
- SIGN
- PROPOSED GRANITE BOUND

I&M LEGEND

- CB — CATCH BASIN INSPECTION AREA
- DMH — DRAIN MANHOLE INSPECTION AREA
- FES — FLAIRED END SECTION/STONE OUTLET INSPECTION AREA
- POND — POND INSPECTION AREA
- FB — SEDIMENT FOREBAY INSPECTION AREA
- OCS — PRINCIPLE SPILLWAY OVERFLOW INSPECTION AREA

811 DigSafe
MA • ME • NH • RI • VT

BENCHMARK DATA:

TBM-T1:
SPIKE SET
ELEV.=281.88'

TBM-T2:
MAG NAIL SET
ELEV.=289.02'

STATE OF NEW HAMPSHIRE
DOUGLAS G. MacGUIRE
No. 13325
LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY

REVISIONS

1 INCH = 40 FEET

INSPECTION AND MAINTENANCE PLAN – B

TAX MAP 15 LOT 150-1
222 ROCKINGHAM ROAD
LONDONDERRY, NH
BOOK 6526 PAGE 081

OWNER/APPLICANT:
DARK HORSE INVESTMENTS, LLC
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053

SCALE: 1"=40'
DATE: MAY 2, 2025

The Dubay Group, Inc.
136 Harvey Road Bldg B101
Londonderry, NH 03053
603-458-6462 - www.thedubaygroup.com
Engineers | Planners | Surveyors

Drawn By:	JHD
Checked By:	DGM
Project:	640
File:	640-I&M

SHEET M2

N:_PROJECTS\640-Norton-222 Rockingham Rd\DWG\NH40T\640-I&M.dwg

Inspection & Maintenance Log

Area of I & M	Date of Inspection	Description of Maintenance Activity	Responsible Party for Performing Inspection/Maintenance

ENVIRONMENTAL Fact Sheet

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

29 Hazen Drive, Concord, New Hampshire 03301 • (603) 271-3503 • www.des.nh.gov

WD-WMB-26 2016

Best Management Practices and Salt-Use Minimization Efforts In Chloride-Impaired Watersheds of New Hampshire

A Guidance Document for Private Developers and Contractors

Scientific studies in the southern part of New Hampshire determined over 40 streams have elevated levels of chloride. The elevated levels were high enough to be harmful to aquatic life, such as fish. Elevated levels can also be a drinking water health concern for people and animals, can lead to plant death, particularly along roadsides, and can cause damage to infrastructure and automobiles. The primary source of these chlorides is salt used for winter snow and ice management. The New Hampshire Department of Environmental Services (NHDES) calculated that a reduction of 25 percent to 45 percent salt use was needed in order to meet water quality standards. The studies also revealed that up to 50 percent of the salt load was coming from parking lots, driveways and private roads from salt that is used for de-icing.

NHDES encourages private developers and contractors, particularly those working within chloride-impaired watersheds, to adopt best management practices (BMPs) and salt-use reduction methods that will help improve water quality. NHDES also encourages private developers and contractors to consider winter maintenance during project design. Salt-use reduction can lead to long-term cost-savings as a result of purchasing less salt and reduced impacts on vegetation (e.g., landscaping) and corrosion of infrastructure and vehicles. This guidance document is designed to help guide developers and contractors in ways to reduce the use of salt, plan for BMPs and salt reduction methods, include design considerations, and document their snow and ice management plans. Taken together, these are the basic elements of a Salt Minimization Plan.

A REDUCTION IN SALT-USE DOES NOT MEAN A REDUCTION IN SAFETY

Liability for damage or personal injury as a result of snow or ice is one of the main reasons that over-salting occurs and many contractors are reluctant to implement salt reduction practices for fear of increased liability. However, recent studies have found there are BMPs that can be used that optimize salt use, reduce the application frequency and amounts applied and, at the same time, achieve safe levels of service. In addition, as of November 2013, Commercial Salt Applicators certified by NHDES under RSA 489-C, and property owners or managers who hire them, are granted limited liability protection against damages arising from snow and ice conditions.

WHAT DOES ALL THIS MEAN FOR PRIVATE DEVELOPERS AND CONTRACTORS?

Implementation plans for chloride reduction have been developed for a number of places in New Hampshire. Some of these plans are required by permits or other regulatory requirements. The NHDOT, towns, and private contractors who maintain parking lots, sidewalks, and roadways will be required to follow the implementation plans through certain federal and state permits. In other places, watershed-wide implementation plans have not yet been developed. In those areas, especially places that drain to chloride impaired waters, requirements to minimize salt usage are likely to be required of many new commercial and residential developments. Even in places with implementation plans, the need to reduce salt may be so extreme that it will require the concerted efforts of the state, municipalities and private landowners to restore water quality.

HOW CAN PRIVATE DEVELOPERS AND CONTRACTORS MINIMIZE SALT LOADING IN THE WATERSHED?

One of the most effective ways for private developers and contractors to reduce their portion of salt loading in the watershed is to learn more about winter maintenance BMPs and ways to be more effective at winter maintenance activities and to apply what is learned to current practices and future projects. There are three important ways for that to happen.

- **GET TRAINED AS A GREEN SNOWPRO**
  The University of New Hampshire Technology Transfer Center (UNH T^2) offers a full day Green SnowPro Training course focused on efficient, more environmentally friendly winter maintenance practices that do not compromise road, parking lot and sidewalk safety. The course covers the basics of salt reduction methods including equipment calibration and rate applications, pre-treatment methods, effective plowing and planning, salt accounting management and environmental impacts of salting. The course is offered several times a year. For more information, visit the UNH T^2 webpage at: http://t2.unh.edu/green-snowpro-training-and-nhdes-certification.

- **BECOME A NEW HAMPSHIRE CERTIFIED SALT APPLICATOR**
  Individuals who attend the Green SnowPro Training and pass the exam are eligible to apply for voluntary NHDES Salt Applicator Certification. The NHDES Salt Applicator Certification program aims to improve efficiency in salt use and reduce the amount of salt used by commercial applicators. The NHDES salt applicator certificate carries the responsibility of annually reporting salt use to NHDES and attending a refresher training course every two years. The Salt Applicator Certificate has proven valuable to the private contractors as well as to their clients and their insurance carriers. To date, 800 individuals have become Certified Salt Applicators. For more information on how to become a NH Certified Salt Applicator or to find a list of Certified Salt Applicators refer to the NHDES webpage at: http://des.nh.gov/organization/divisions/water/wmb/was/salt-reduction-initiative/salt-applicator-certification.htm

THE ANNUAL NEW HAMPSHIRE SALT SYMPOSIUM

Every year the NHDES hosts an annual NH Salt Symposium. Attendees are updated with the latest snow industry technologies and BMPs. The event counts toward continuing education credits for the NH Certified Green SnowPro Certificate, the New Hampshire Salt Applicator Certificate and T2 Roads Scholar Program Contact Hours. People interested in attending can learn more about the event or register online at http://www.sima.org/new-hampshire-salt-symposium.

- **DEVELOP A SALT MINIMIZATION PLAN(s)**
  NHDES encourages developers and contractors to develop a Salt Minimization Plan as part of, or in addition to, their Winter Maintenance Plan or Winter Snow and Ice Control Policy to help reduce and manage the use of salt. Also referred to as Chloride Reduction Plans or Salt Reduction Plans, these plans vary from large, metropolitan city plans to single development plans. Where they exist, the plan should align with the objectives outlined in the town's or watershed's chloride reduction implementation plan. A general outline and description of what information goes into a Salt Minimization Plan is included as an attachment to this guidance document.

OTHER WAYS TO REDUCE SALT-LOADING IN THE WATERSHED
(See Attachment B for a checklist of smart salting practices.)

- Be aware. Find out what the salt loading reduction goals are within the watershed and town where work generally occurs or where the specific project is located.
- Re-evaluate current practices. Source reduction is identified as the most effective method for reducing chloride loading.
- Consider alternative de-icing materials such as calcium magnesium acetate (CMA) and limited use of abrasives (sand, sawdust, cat litter).
- Pre-wet salt with brine to reduce the loss of salt from bounce and scatter (up to a 30% reduction in loss) and increase melting times.
- Be proactive for storm events and anti-ice by applying a small amount of liquid chemical to pavements and overpasses *before* a storm to prevent ice from bonding with the surface.
- If applicable, keep pavement free of potholes and cracks which both minimize the ability for water to pond and/or infiltrate into the ground where ultimately they could end up in groundwater resources. In addition, pavement that is in good condition allows for snow and or ice to be mechanically removed.
- Consider future maintenance needs in project planning.
    - Include development amenities/features such as heated sidewalks or parking garages.
    - Limit the amount of impervious surfaces that require winter maintenance activities. Some options to achieve this are only including sidewalks on one side of the street, the use of porous paving materials and limited use of curb cuts.
    - Properly design parking lots or designated parking areas with appropriate winter maintenance and snow storage practices. This includes considering where plowed snow will be piled, avoiding melt drainage to flow back across cleared areas (freeze/thaw cycle).
    - Consider landscape vegetation that is more salt tolerant and that doesn't shade out sidewalks or parking areas from the sun during the winter.
- Share information with the town and other landowners in the watershed to help track where salt is being applied, what quantity, and how often or the level of service based on the winter management plan. Track what BMPs are being applied to help determine effectiveness.
- Spread the word and encourage co-workers and colleagues to become a New Hampshire Certified Green SnowPro. Educate clients about the benefits of hiring a New Hampshire Certified Green SnowPro. The NHDES has developed a flyer for businesses to share with their colleagues

or clients available on the NHDES website. A link for this flyer and other helpful information is included below.

- Attend the annual New Hampshire Salt Symposium. The event counts toward the continuing education requirement of the New Hampshire Salt Applicator Certificate and as T2 Road Scholar Program contact hours.

OTHER RESOURCES AND REFERENCES:

For the complete list of NHDES resources including links to training and certification application materials available, please visit our website.
http://des.nh.gov/organization/divisions/water/wmb/was/salt-reduction-initiative/index.htm

Assessing the Efficacy of Current Road Salt Management Programs, University of Waterloo (2010)
http://www.saltinstitute.org/wp-content/uploads/2014/01/Road-Using-Best-Road-Salt-Management-Practices-Waterloo-2010-1.pdf

Environment and Climate Change Canada – technical documents, BMPs and general information.
http://www.ec.gc.ca/sels-salts/default.asp?lang=En&n=DECEDD7C-1

Finding Outstanding Resource Waters & Impaired Surface Waters with a 1-Mile Buffer for Development Projects, Quick Reference Guide, NHDES (2008)
http://des.nh.gov/organization/divisions/water/wmb/tmdl/documents/onestop_gis_wgc_ref_guide.pdf

Green SnowPro Business Flyer, NHDES
http://des.nh.gov/organization/divisions/water/wmb/was/salt-reduction-initiative/documents/green-snowpro-business-flyer.pdf

Pre-wetting and Anti-icing – Techniques for Winter Road Maintenance, a Wisconsin Transportation Bulletin - No. 22.
http://epdfiles.engr.wisc.edu/pdf_web_files/tic/bulletins/Bltn_022_prewetting_antiicing.pdf

Salt Reduction Best Management Practices (several Fact Sheet links available)
http://des.nh.gov/organization/divisions/water/wmb/was/salt-reduction-initiative/tech-assist-bmp-practices.htm

Snow and Ice Removal for the Business Owner – Clean Water and Safe Parking Lots, NHDES (2014)
http://des.nh.gov/organization/commissioner/pip/factsheets/wmb/documents/wmb-24.pdf

Snow Disposal Guidelines, NHDES (2015)
http://des.nh.gov/organization/commissioner/pip/factsheets/wmb/documents/wmb-3.pdf

Road Salt and Water Quality, NHDES (2016)
http://des.nh.gov/organization/commissioner/pip/factsheets/wmb/documents/wmb-4.pdf

Sensible Salting Strategy of Parking Lots and Sidewalks, The Salt Institute (2015)
http://www.saltinstitute.org/research/sensible-salting-strategy-of-parking-lots-and-sidewalks/

Winter Parking Lot and Sidewalk Maintenance Manual, Minnesota Pollution Control Agency (2015)
https://www.pca.state.mn.us/sites/default/files/p-tr1-10.pdf

ATTACHMENT A - DEVELOPING A SALT MINIMIZATION PLAN

Developing a Salt Minimization Plan will go a long way towards reducing salt-use, i.e., salt loading within the watershed. The development of this plan will help private developers and contractors to hone in on how much salt is needed, when it should be applied, where it needs to be applied, etc. with the ultimate goal of reducing salt-use without compromising safety. Salt-use reduction also leads to long-term cost-savings as a result of purchasing less salt and reduced impacts on vegetation (e.g., landscaping) and corrosion of infrastructure and vehicles, and a reduction in well replacements. Reduction in the use of salt does not mean a reduction in level of service or public safety; in fact many contractors who complete the Green SnowPro training course have been able to provide the same level of service while reducing their salt use by 30%.

It is important to anticipate that this will be a living document that will likely need to be updated at some point. Reduction goals may fluctuate from year to year due to improvements in technology and BMPs, a town's requirements, or state and federal permit conditions that result in private developers or contractors to alter practices, particularly as more development occurs. It is good practice to review and update the plan(s) annually, early in advance of the winter season so that there is time to make any necessary adjustments.

In general NHDES recommends that the plan include:

- **Introduction/Background** – Identify the purpose and need for the plan. This section should describe any current chloride impairments and salt reduction goals within the watershed and town. If there is a Winter Maintenance Plan or Winter Snow and Ice Control Policy already in place, this section should briefly describe how this salt minimization plan fits in with the more general winter maintenance approach and BMP practices. It may be that many of the items below are already adequately covered in the broader Winter Maintenance Plan.
- **Development or Project Area Description** – Describe the development. How many linear feet roadways or sidewalks are there? Discuss the main features and layout of the site including stormwater runoff /topography, as well as vegetation and shaded areas. Including a general map of the development that identifies these features is helpful.
- **Operational Guidelines** – Identify who the responsible party is for the maintenance activities and lists out contracting requirements and minimum specifications for de-icing, anti-icing and pretreatment practices and equipment. This guideline should describe the level of service required by the development which directly impacts maintenance operation plans.
    - **Winter Operator Certification Requirements** – This section outlines employed or contracted contractors training and certification requirements. (Green SnowPro Training is recommended).
    - **Weather Monitoring** – Outline where weather information will be gathered from and how it is used to ensure that winter operators are making informed decisions as to when and to what extent materials are applied to private roadways, sidewalks and parking lots. An important part of this will be developing a good communication plan that identified key personal responsible for weather monitoring.
    - **Equipment Calibration Requirements** – Outline all winter equipment calibration requirements. Typically a 25% reduction in salt use can be achieved simply by calibrating equipment, and is the single most important aspect to achieving salt use reductions.
    - **Mechanical Removal** – Describe mechanical removal practices such as where snow should be stored and how often plowing should occur as well as goals, such as

mechanical removal, that minimize snow- and ice-pack that reduce the need for abrasives, salt and or brine applicants.

- **Salt Usage Evaluation and Monitoring** – Describe how salt usage will be documented and how salt use will be monitored and evaluated in conjunction with the town's salt reduction plan (if applicable). Monitoring salt usage as well as winter maintenance actions is key to determining what works, how much salt and other winter maintenance materials were used and estimating what is needed for the next winter season, and if salt minimization plan goals contributed to salt load reductions in the watershed. It is recommended that a report be developed annually shortly following the winter season, and provided to the town in which the development or work is occurring in for use in documenting private contractor use and allocations in the watershed. A schedule for how often the Salt Minimization Plan is updated should be included and tracked within this section as well.

Salt Evaluation and Monitoring Elements:
- ✓ Where the maintenance is occurring.
- ✓ What the activity being performed is and/or what equipment is being used.
- ✓ What the weather conditions are - include:
  - Event timing (pre-storm, during, post-weather event)
  - Air and ground temperatures
- ✓ Time of activity
- ✓ Application rates
- ✓ Results
- ✓ Other info – BMPs in practice for consideration, etc.

- **Analysis of Alternative De-icing Materials**, **Site Design Considerations and Watershed Offsets** – Describe alternative de-icing materials that could be used for winter maintenance activities, such as calcium magnesium acetate, and discuss what was considered, incorporated, and/or eliminated and why. Discuss what site design features or amenities were incorporated or considered, such as parking garages, heated sidewalks, vegetation, etc., to minimize salt use. Include a discussion on other options for offsets within the watershed such as educating others and applying good salt application strategies to other facilities.

Not all items above need to be included within the plan, generally the more complex the project, the more detailed the plan. In addition, some of these items may already be thoroughly covered in the broader Winter Maintenance Plan. NHDES staff are available to discuss and help identify what level of detail is necessary to achieve salt-minimization for any type or size of project.

ATTACHMENT B – SMART SALTING PRACTICES

A checklist for snow and ice maintenance contractors.

Recommended practice	Check which response applies to current practices and anticipated site maintenance activities for job site.				
	Already do	Will do	Might do	Will not do	If "will not do"….why not?
Use an application rate chart.					
Calibrate equipment each year.					
Learn about the deicer ingredients and use the appropriate one for the condition.					
Look for reasons if and why materials are leaking or spilling from vehicles and fix them (e.g. gaps, overfilling, etc).					
Develop a comprehensive winter maintenance policy. Follow your policy.					
Measure and use pavement temperatures.					
Use anti-icing appropriately prior to the storm.					
Plow before applying deicers.					
Use wet materials (pre-wet or pre-treated).					
Don't apply sodium chloride (road salt) for pavement temperatures below 15ºF.					
Don't apply deicers for pavement temps under -10º F. It's too cold.					
Separate salt and sand. Use salt for melting. Use sand for traction.					
Apply deicers in the center of the road or on the high side of the curve.					
Store the salt in a building or under secure cover.					
Store salt away from water flow and direct the water away from storage area.					
Store snow away from lakes, ponds and wetlands.					
Sweep up sand, dispose of properly.					
For each event, document what you did and how well it worked. Use this information to make improvements.					

Checklist is adapted from worksheet created by Fortin Consulting as a part of the Minnesota Pollution Control Agency Smart Salting Voluntary Certification Program.

Anti-Icing

NH Best Management Practices

GET OUT EARLY

Typically anti-icing is most effective if applied 1-2 hours before the precipitation begins however it can be applied up to 24 hours in advance.

TRY IT FIRST

Trying anti-icing for the first time? Make a 23.3% brine solution and before a storm spray pavement on your own property using a masonry/ plant sprayer. Use this experiment to determine how best to use it with your clients.

LEAVE SOME PAVEMENT BARE

It's always best to use stream nozzles instead of fan tip to avoid creating a slippery condition. If the anti-icing liquid freezes the bare pavement will still provide a traction surface.

USE A FILTER

Having a filter in your liquid dispensing system will reduce clogs in your nozzle. Automotive in line fuel filters work quiet well. If your liquid dispenser is not functioning properly be sure to check the filter first.

A Proactive Treatment

Anti-Icing before a storm is very similar to using a non-stick spray on a pan before cooking. Just like a non-stick spray prevents food from bonding to the pan, anti-icing prevents snow and ice from bonding to the pavement so that it can be plowed away. Anti-icing can save you money as it costs 50% less than reactive deicing.





Make Your Own Salt Brine

When making brine it is important to add enough salt to produce a 23.3% solution which freezes around 0°F. Roughly 2.5lb per gallon of water will produce a 23.3% solution. You can verify using a salometer (~$20) a 23.3% solution will have a specific gravity of 1.176, or 85% salinity. Consult the Brine Making BMP sheet for more info.

How Much Should I Use and When?

You can apply brine up to 24 hours in advance of the storm. Typical application rates range from 0.5 to 0.75 gallon per 1000 sq.ft. (10' x 100' area). Other chemicals such as magnesium are also available—consult your supplier for application rates. Anti-icing is not advised prior to freezing rain events.





Getting Started

Try making your own salt brine by putting 13 lb of salt in 5 gallons of water to get a 23.3% salt brine solution. Mix the brine until all of the salt is dissolved. Using a masonry sprayer apply the liquid several hours before a storm. Start by applying about 0.25—0.5 gallons to a 10' x 50' area. Adjust the application rates based on your experience. Being careful not to over apply and cause a slippery condition.

Produced in partnership with:

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

New Hampshire DOT

Technology Transfer Center
New Hampshire LTAP at UNH

Appendix C.
Deicing Application Rates and Documentation Form

Deicing Application Rate Guidelines

24' of pavement (typcial two-lane road)

These rates are not fixed values, but rather the middle of a range to be selected and adjusted by an agency according to its local conditions and experience.

			Pounds per two-lane mile			
Pavement Temp. (°F) and Trend (↑↓)	Weather Condition	Maintenance Actions	Salt Prewetted / Pretreated with Salt Brine	Salt Prewetted / Pretreated with Other Blends	Dry Salt*	Winter Sand (abrasives)
> 30° ↑	Snow	Plow, treat intersections only	80	70	100*	Not recommended
	Freezing Rain	Apply Chemical	80 - 160	70 - 140	100 - 200*	Not recommended
30° ↓	Snow	Plow and apply chemical	80 - 160	70 - 140	100 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↑	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↓	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↑	Snow or Freezing Rain	Plow and apply chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↓	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↑	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↓	Snow or Freezing Rain	Plow and apply chemical	240 - 320	210 - 280	300 - 400*	500 for freezing rain
0° - 15° ↑↓	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	300 - 400	Not recommended	500 - 750 spot treatment as needed
< 0°	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	400 - 600**	Not recommended	500 - 750 spot treatment as needed

* Dry salt is not recommended. It is likely to blow off the road before it melts ice.

** A blend of 6 - 8 gal/ton $MgCl_2$ or $CaCl_2$ added to NaCl can melt ice as low as -10°.

Anti-icing Route Data Form

Truck Station:

Date:

Air Temperature	Pavement Temperature	Relative Humidity	Dew Point	Sky

Reason for applying:

Route:

Chemical:

Application Time:

Application Amount:

Observation (first day):

Observation (after event):

Observation (before next application):

Name:

Deicing Log

Area of Treatment in Square Feet	Date of Treatment	Amount of Deicing Materials Applied	Type of Deicing Materials Applied	Responsible Party for Applying Materials

CONTROL OF INVASIVE PLANTS

During maintenance activities, check for the presence of invasive plants and remove in a safe manner as described on the following pages. They should be controlled as described on the following pages.

Background:

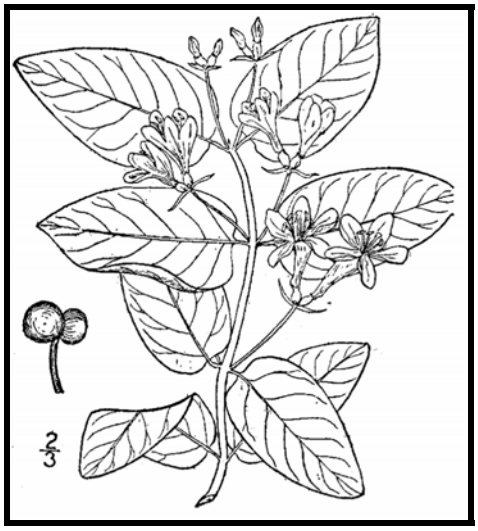
Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- becoming weedy and overgrown;
- killing established shade trees;
- obstructing pipes and drainage systems;
- forming dense beds in water;
- lowering water levels in lakes, streams, and wetlands;
- destroying natural communities;
- promoting erosion on stream banks and hillsides; and
- resisting control except by hazardous chemical.

UNIVERSITY of NEW HAMPSHIRE COOPERATIVE EXTENSION

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle
Lonicera tatarica
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

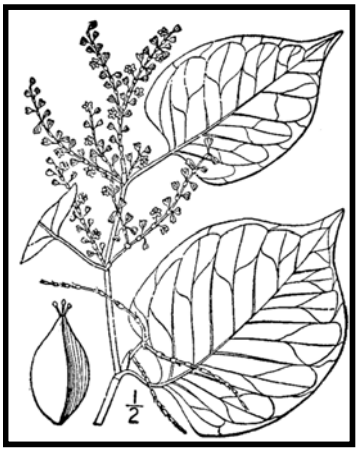
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag "head first" at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can't be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn't be burned as the seeds may disperse by the hot air created by the fire.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don't reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn't used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don't compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.

Be diligent looking for seedlings for *years* in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

<table>
<tr><th>Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">Norway maple
(Acer platanoides)
European barberry
(Berberis vulgaris)
Japanese barberry
(Berberis thunbergii)
autumn olive
(Elaeagnus umbellata)
burning bush
(Euonymus alatus)
Morrow's honeysuckle
(Lonicera morrowii)
Tatarian honeysuckle
(Lonicera tatarica)
showy bush honeysuckle
(Lonicera x bella)
common buckthorn
(Rhamnus cathartica)
glossy buckthorn
(Frangula alnus)</td><td rowspan="2">Fruit and Seeds</td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Use as firewood.
▪ Make a brush pile.
▪ Chip.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip once all fruit has dropped from branches.
▪ Leave resulting chips on site and monitor.</td></tr>
<tr><td rowspan="2">oriental bittersweet
(Celastrus orbiculatus)
multiflora rose
(Rosa multiflora)</td><td rowspan="2">Fruits, Seeds, Plant Fragments</td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Make a brush pile.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.</td></tr>
</table>

<table>
<tr><th>Non-Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">garlic mustard
(Alliaria petiolata)
spotted knapweed
(Centaurea maculosa)
▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling.
black swallow-wort
(Cynanchum nigrum)
▪ May cause skin rash. Wear gloves and long sleeves when handling.
pale swallow-wort
(Cynanchum rossicum)
giant hogweed
(Heracleum mantegazzianum)
▪ Can cause major skin rash. Wear gloves and long sleeves when handling.
dame’s rocket
(Hesperis matronalis)
perennial pepperweed
(Lepidium latifolium)
purple loosestrife
(Lythrum salicaria)
Japanese stilt grass
(Microstegium vimineum)
mile-a-minute weed
(Polygonum perfoliatum)</td><td rowspan="2">Fruits and Seeds
  </td><td>Prior to flowering
Depends on scale of infestation
Small infestation
▪ Pull or cut plant and leave on site with roots exposed.

Large infestation
▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting).
▪ Monitor. Remove any re-sprouting material.</td></tr>
<tr><td>During and following flowering
Do nothing until the following year or remove flowering heads and bag and let rot.

Small infestation
▪ Pull or cut plant and leave on site with roots exposed.

Large infestation
▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting).
▪ Monitor. Remove any re-sprouting material.</td></tr>
<tr><td>common reed
(Phragmites australis)
Japanese knotweed
(Polygonum cuspidatum)
Bohemian knotweed
(Polygonum x bohemicum)</td><td>Fruits, Seeds, Plant Fragments
Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn’t materially influence disposal activities.</td><td>Small infestation
▪ Bag all plant material and let rot.
▪ Never pile and use resulting material as compost.
▪ Burn.

Large infestation
▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile.
▪ Monitor and remove any sprouting material.
▪ Pile, let dry, and burn.</td></tr>
</table>

January 2010

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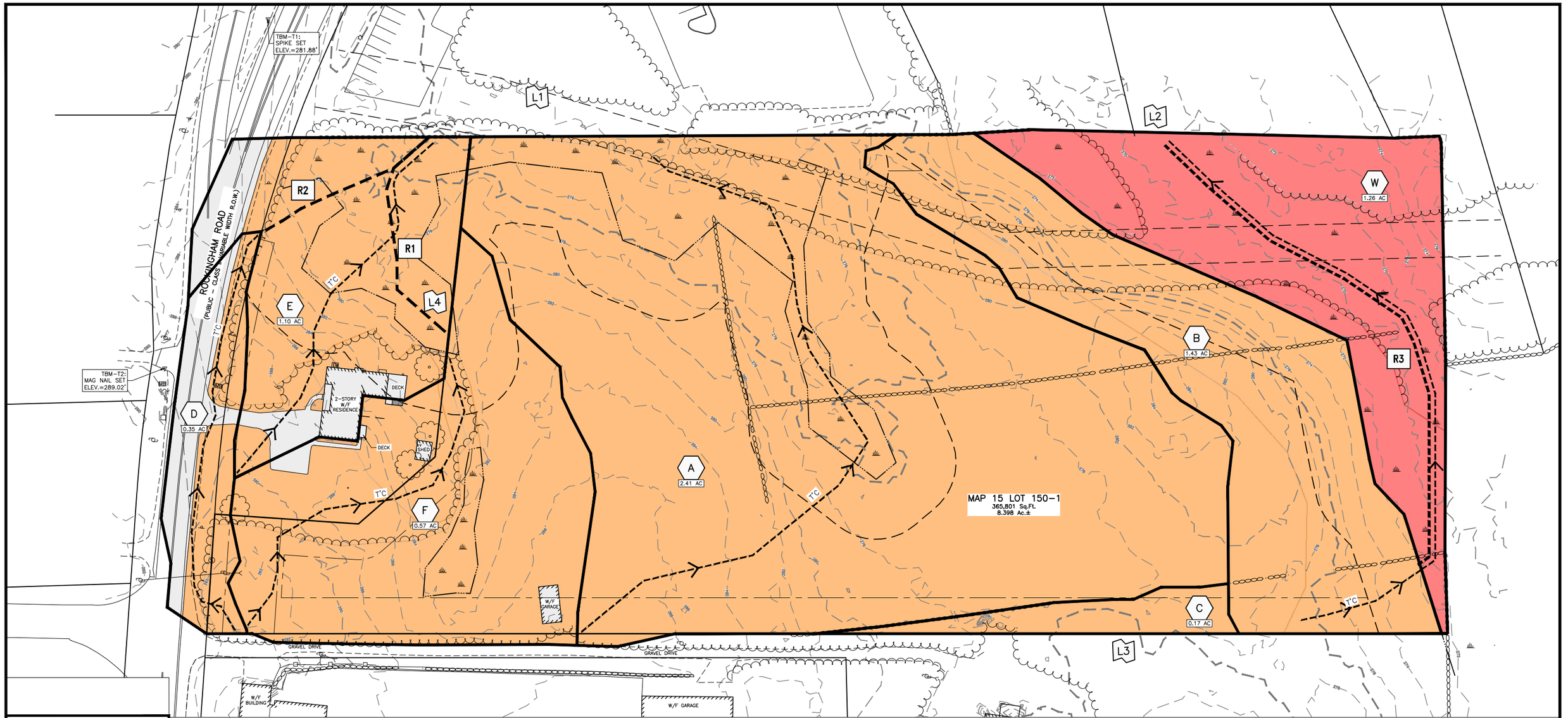
NHDES Alteration of Terrain

VIII. DRAINAGE AREA PLANS

A. Color Coded Soil Plan

B. Pre-Development Drainage Area Plan

C. Post-Development Drainage Area Plan



LEGEND

- DRILL HOLE
- IRON PIPE OR IRON ROD
- PROPERTY LINE
- ABUTTER LINE
- STONE WALL
- SIGN
- MAILBOX
- TREE
- TREELINE
- DELINEATED WETLAND
- EDGE OF PAVEMENT
- CONTOUR ELEVATION
- CATCH BASIN
- SEWER MANHOLE
- HYDRANT
- WATER SHUT OFF
- WATER VALVE
- WATER LINE
- SEWER LINE
- UTILITY POLE
- GUY WIRE
- OVERHEAD WIRES
- BUILDING SETBACK

SSSS COLOR CODING LEGEND

- HYDROLOGIC SOIL GROUP A SOILS
- HYDROLOGIC SOIL GROUP B SOILS
- HYDROLOGIC SOIL GROUP C SOILS
- HYDROLOGIC SOIL GROUP D SOILS
- IMPERVIOUS SURFACES
- OPEN WATER

SOIL LEGEND

B — SOIL TYPE DESIGNATION

---------- SOIL BOUNDARY

SITE–SPECIFIC SOIL MAPPING LEGEND			
NUMBER	SOIL MAP UNIT NAME	DRAINAGE CLASS	HSG
44	MONTAUK	MODERATELY–WELL DRAINED	C
546/P	WALPOLE	POORLY DRAINED	C
395/VP	CHOCORUA	VERY POORLY DRAINED	D

WATERSHED LEGEND:

(1) SUBCATCHMENT: A RELATIVELY HOMOGENEOUS AREA OF LAND THAT DRAINS INTO A SINGLE REACH OR POND. EACH SUBCATCHMENT GENERATES A RUNOFF HYDROGRAPH. (A SUBCATCHMENT MAY ALSO BE USED TO ACCOUNT FOR THE RAIN FALLING DIRECTLY ON THE SURFACE OF A POND.)

[1] REACH: A UNIFORM STREAM, CHANNEL, OR PIPE THAT CONVEYS WATER FROM ONE POINT TO ANOTHER REACH OR POND. THE OUTFLOW OF EACH REACH IS DETERMINED BY A HYDROGRAPH ROUTING CALCULATION.

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BENCHMARK DATA:

TBM–T1:
SPIKE SET
ELEV.=281.88'

TBM–T2:
MAG NAIL SET
ELEV.=289.02'

40 0 20 40
1 INCH = 40 FEET

NO.	DATE	DESCRIPTION	BY
2	10/7/2025	REVISED PER STATE & LOCAL REVIEW COMMENTS	JHD

REVISIONS

PRE–DEVELOPMENT COLOR–CODED SOIL PLAN

TAX MAP 15 LOT 150-1
220 ROCKINGHAM ROAD
LONDONDERRY, NH
BOOK 6526 PAGE 081

OWNER/APPLICANT:
DARK HORSE INVESTMENTS, LLC
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053

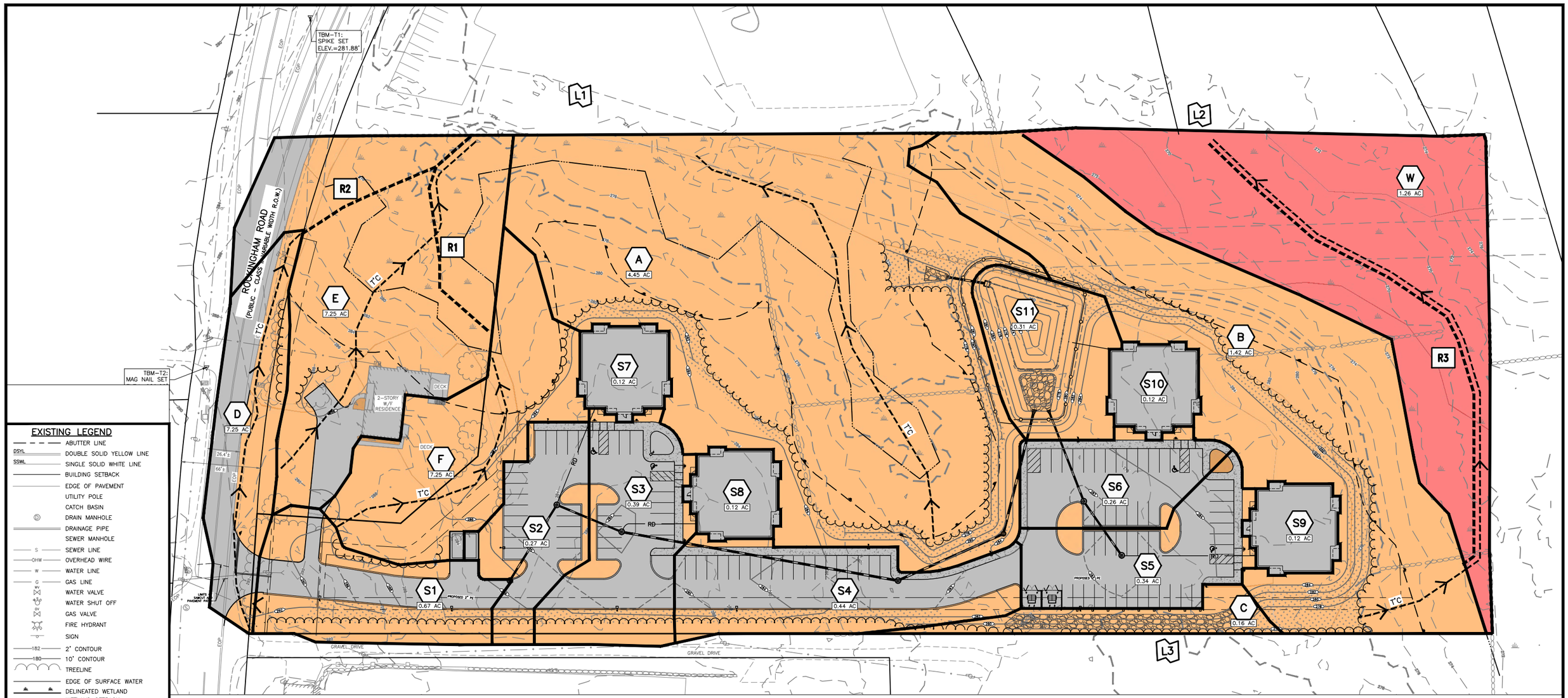
SCALE: 1"=20' DATE: MAY 2, 2025

The Dubay Group, Inc.
136 Harvey Road Bldg B101
Londonderry, NH 03053
603-458-6462 - www.thedubaygroup.com
Engineers | Planners | Surveyors

Drawn By: JHD
Checked By: DGM
Project: 640
File: 640–PRE–COLOR

SHEET 1 of 2

N:\=PROJECTS\640–Norton–222 Rockingham Rd\DWG\NH4OT\640–PRE–COLOR.dwg



EXISTING LEGEND

- ABUTTER LINE
- DSYL — DOUBLE SOLID YELLOW LINE
- SSWL — SINGLE SOLID WHITE LINE
- BUILDING SETBACK
- EDGE OF PAVEMENT
- UTILITY POLE
- CATCH BASIN
- DRAIN MANHOLE
- DRAINAGE PIPE
- SEWER MANHOLE
- S — SEWER LINE
- OHW — OVERHEAD WIRE
- W — WATER LINE
- G — GAS LINE
- WATER VALVE
- WATER SHUT OFF
- GAS VALVE
- FIRE HYDRANT
- SIGN
- 182 — 2' CONTOUR
- 180 — 10' CONTOUR
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- EDGE OF SURFACE WATER
- DELINEATED WETLAND
- WETLAND SETBACK
- RAILROAD SPIKE BOUNDARY MARKER
- IRON PIPE BOUNDARY MARKER
- ZONE BOUNDARY LINE

PROPOSED LEGEND

- PROPERTY LINE
- EDGE OF PAVEMENT
- CURB
- DRAIN LINE
- RD — ROOF DRAIN
- S — SEWER LINE
- W — WATER LINE
- CONCRETE
- UTILITY POLE
- CATCH BASIN
- DRAIN MANHOLE
- FIRE HYDRANT
- WATER VALVE
- WATER SHUT OFF
- GAS VALVE
- SIGN
- FINISH 2-FOOT CONTOUR
- FINISH 1-FOOT CONTOUR
- PROPOSED GRANITE BOUND
- PAINT
- PROPOSED LIGHT POLE

SSSS COLOR CODING LEGEND

- HYDROLOGIC SOIL GROUP A SOILS
- HYDROLOGIC SOIL GROUP B SOILS
- HYDROLOGIC SOIL GROUP C SOILS
- HYDROLOGIC SOIL GROUP D SOILS
- IMPERVIOUS SURFACES
- OPEN WATER

SOIL LEGEND

- SOIL TYPE DESIGNATION
- SOIL BOUNDARY

SITE-SPECIFIC SOIL MAPPING LEGEND			
NUMBER	SOIL MAP UNIT NAME	DRAINAGE CLASS	HSG
44	MONTAUK	MODERATELY-WELL DRAINED	C
546/P	WALPOLE	POORLY DRAINED	C
395/VP	CHOCORUA	VERY POORLY DRAINED	D

WATERSHED LEGEND:

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REVISIONS

POST-DEVELOPMENT COLOR-CODED SOIL PLAN

TAX MAP 15 LOT 150-1
220 ROCKINGHAM ROAD
LONDONDERRY, NH
BOOK 6526 PAGE 081

OWNER/APPLICANT:
DARK HORSE INVESTMENTS, LLC
222 ROCKINGHAM ROAD
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SCALE: 1"=40' DATE: MAY 2, 2025

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Drawn By: JHD
Checked By: DGM
Project: 640
File: 640-POST-COLOR

SHEET 2 of 2

N:\=PROJECTS\640-Norton-222 Rockingham Rd\DWG\NHAOT\640-POST-COLOR.dwg

MAP 15 LOT 128
N/F LIFE STORAGE LP
6467 MAIN STREET
WILLIAMSVILLE, NY 14221
BOOK 5944 PAGE 1076
ZONE: COMMERCIAL II
USE: WAREHOUSE

TBM-T1:
SPIKE SET
ELEV.=281.88'

MAP 15 LOT 146
N/F 226 ROCKINGHAM PLAZA LLC
226 ROCKINGHAM ROAD
LONDONDERRY, NH
BOOK 5275 PAGE 916
ZONE: COMMERCIAL II &
RTE 28 PERFORMANCE OVERLAY
USE: SMALL RETAIL

MAP 15 LOT 145
N/F DAVID D. MARTIN &
JANE MARTIN
4 STOKES ROAD
LONDONDERRY, NH 03053
BOOK 1916 PAGE 262
ZONE: AGRICULTURAL-RESIDENTIAL
USE: SINGLE FAMILY

MAP 15 LOT 142
N/F JOHN HANNAH
17 WILSHIRE DRIVE
LONDONDERRY, NH 03053
BOOK 6121 PAGE 689
ZONE: AGRICULTURAL-RESIDENTIAL
USE: SINGLE FAMILY

MAP 15 LOT 141
N/F MICHAEL E. SIBLEY &
ANGELA L. SIBLEY
LONDONDERRY, NH 03053
BOOK 5539 PAGE 2635
ZONE: AGRICULTURAL-RESIDENTIAL
USE: SINGLE FAMILY

L1

L2

W
1.26 AC

MAP 15 LOT 126
N/F JANE KUSZEK
PO BOX 94
LONDONDERRY, NH 03053
BOOK 896 PAGE 154
ZONE: COMMERCIAL II &
RTE 28 PERFORMANCE OVERLAY
USE: SINGLE FAMILY

ROCKINGHAM ROAD
(PUBLIC CLASS VARIABLE WIDTH R.O.W.)

R2

R1

MAP 15 LOT 150
N/F DARK HORSE INVESTMENTS
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053
BOOK 6526 PAGE 81
ZONE: COMMERCIAL II &
RTE 28 PERFORMANCE OVERLAY
USE: SINGLE FAMILY

L4

E
1.10 AC

B
1.43 AC

R3

TBM-T2:
MAG NAIL SET
ELEV.=289.02'

2-STORY
W/F
RESIDENCE

D
0.35 AC

SHED

A
2.41 AC

MAP 15 LOT 150-1
365,801 Sq.Ft.
8.398 Ac.±

MAP 15 LOT 140
N/F CHRISTOPHER HALLA &
JENNIFER HALLA
14 STOKES ROAD
LONDONDERRY, NH 03053
BOOK 6146 PAGE 1455
ZONE: AGRICULTURAL-RESIDENTIAL
USE: SINGLE FAMILY

MAP 15 LOT 125
N/F SEAN P. STRONG &
WENDY S. STRONG
2 HARRY BROOK DRIVE
GOFFSTOWN, NH 03045
BOOK 4338 PAGE 2897
ZONE: COMMERCIAL II &
RTE 28 PERFORMANCE OVERLAY
USE: SINGLE FAMILY

F
0.57 AC

W/F
GARAGE

C
0.17 AC

GRAVEL DRIVE

GRAVEL DRIVE

MAP 15 LOT 124
N/F CRE-PROVENDER
219 ROCKINGHAM, LLC
1600 NEWPORT CENTER DRIVE

MAP 15 LOT 21
N/F MARY P. MOORE & MARK T. MOORE, CO-TRUSTEES
MARK T. MOORE 2016 REVOCABLE TRUST
112 BROADSIDE DRIVE
WOLFEBORO, NH
BOOK 6081 PAGE 2233

L3

MAP 15 LOT 21-1
N/F ROBERT DEGELAN
P.O. BOX 174
LONDONDERRY, NH
BOOK 2061 PAGE 199
ZONE: COMMERCIAL II &
RTE 28 PERFORMANCE OVERLAY

LEGEND

- DRILL HOLE
- IRON PIPE OR IRON ROD
- PROPERTY LINE
- ABUTTER LINE
- STONE WALL
- SIGN
- MAILBOX
- TREE
- TREELINE
- DELINEATED WETLAND
- EOP — EDGE OF PAVEMENT
- 178 — CONTOUR ELEVATION
- CATCH BASIN
- SEWER MANHOLE
- HYDRANT
- WATER SHUT OFF
- WATER VALVE
- WATER LINE
- SEWER LINE
- UTILITY POLE
- GUY WIRE
- OVERHEAD WIRES
- BUILDING SETBACK

WATERSHED LEGEND:

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DOUGLAS G. MacGUIRE No. 13325
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
2	10/7/2025	REVISED PER STATE & LOCAL REVIEW COMMENTS	JHD

REVISIONS

PRE-DEVELOPMENT DRAINAGE PLAN

TAX MAP 15 LOT 150-1
222 ROCKINGHAM ROAD
LONDONDERRY, NH

BOOK 6526 PAGE 081

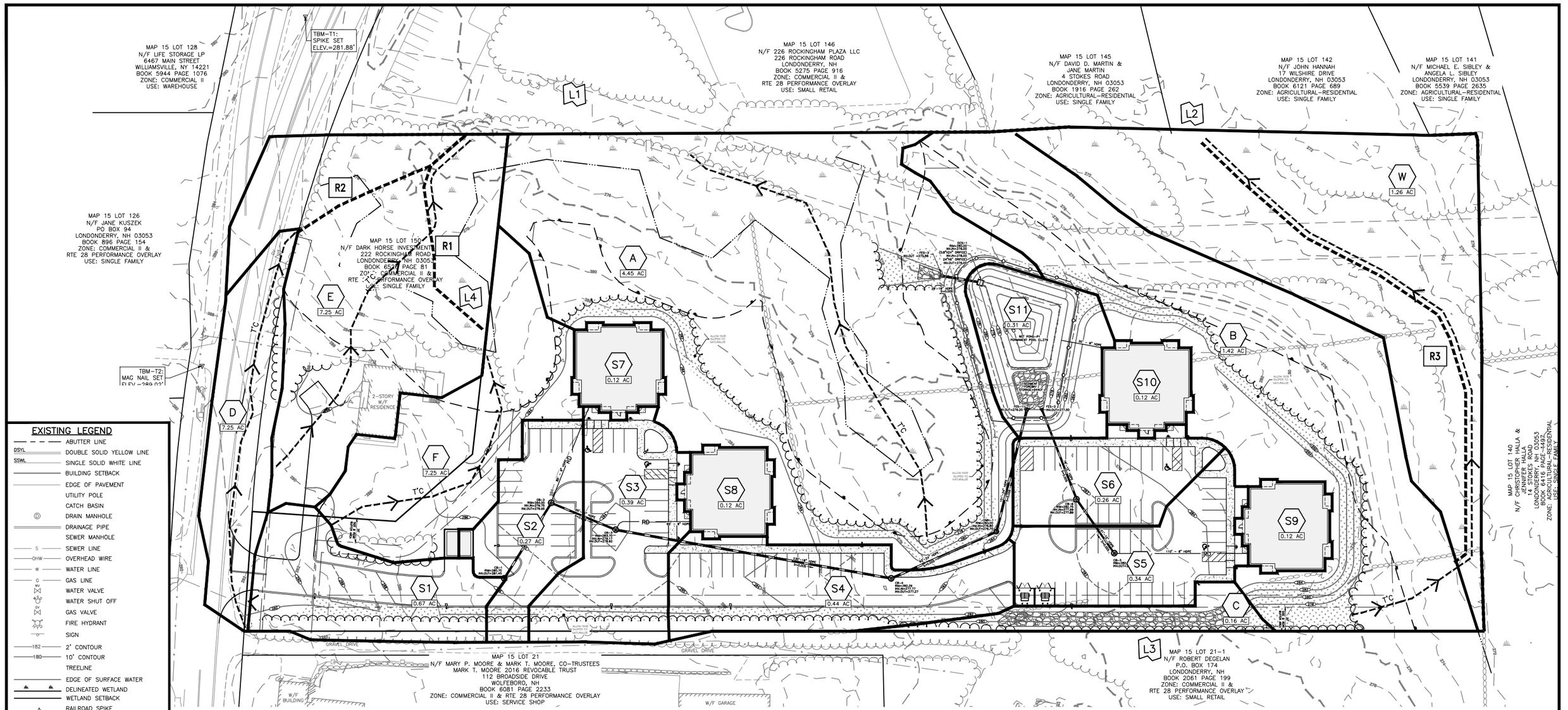
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Drawn By: JHD
Checked By: DGM
Project: 640
File:640-PRE-DEVELOP

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- SIGN
- 184 — FINISH 2-FOOT CONTOUR
- 183 — FINISH 1-FOOT CONTOUR
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- PAINT
- PROPOSED LIGHT POLE

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STATE OF NEW HAMPSHIRE
DOUGLAS G. MacGUIRE No. 13325
LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
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POST-DEVELOPMENT DRAINAGE PLAN

TAX MAP 15 LOT 150-1
222 ROCKINGHAM ROAD
LONDONDERRY, NH

BOOK 6526 PAGE 081

OWNER/APPLICANT:
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222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053

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Drawn By: JHD
Checked By: DGM
Project: 640
File: 640-POST-DEVELOP

N:\=PROJECTS\640-Norton-222 Rockingham Rd\DWG\CURRENT\640-POST-DEVELOP.dwg

RESIDENTIAL SUBDIVISION

222 ROCKINGHAM ROAD

TAX MAP 15 LOTS 150

LONDONDERRY, NH

Project Notes:

a. **Plan Purpose** - Subdivide Map 15 Lot 150 into two(2) parcels.

b. **Tax Map & Lot #** - Map 15 Lot 150

c. **Existing Parcel Area** - Map 15 Lot 150 = 419,213 SF = 9.624 Ac

Proposed Lot Areas:
Map 15 Lot 150 = 53,412 SF = 1.226 AC
Map 15 Lot 150-1 = 365,801 SF = 8.398 AC

d. **Zoning District**: C-I. (Commercial-I).
Route 28 Performance Overlay District

e. **Dimensional Requirements:** NH Route 28 Performance Overlay District Londonderry Zoning Ordinance

	Required
Lot Area	1.0 Ac. (min)
Frontage	100 LF (min)
Building Height	45 FT (max)
Setbacks:	
Front (0-10,000SF Bldg)	60 FT (min)
Side (½ Front Setback)	30 FT (min)
Rear (½ Front, 30min)	30 FT (min)

Buffer Requirements: NH Route 28 Performance Overlay District Londonderry Zoning Ordinance

	Required
Front Tree Strip	15 FT (min)
Front Buffer Area	40 FT (min)
Side & Rear Buffer Area	20 FT (min)
Rear Buffer Area	75 FT (min when abuts AR-1)

f. **Existing/Proposed Uses** -
Existing Lot 150: use is residential
Proposed Lots 150 & 150-1: use is residential

g. **Sanitary Sewer Source** - Existing municipal service in street provided by Municipal Sewer.

h. **Water Supply Source** - Existing municipal service in street provided by The City of Manchester.

i. **Zoning variances/special exceptions:** N/A

j. **FEMA -** Subject parcel is located within the 100 year flood plain per flood insurance rate map number 33015C0317E with an effective date of May 17, 2005.

k. **Permits & Approvals:** (See Permits and Approvals Block this sheet)

l. **Waivers & Conditional Use Permits**
Conditional Use Permits:
None
Waivers:
3.08 - Allow a Subdivision Submission without submitting a drainage analysis (Requested)

m. The existing home is a four (4) bedroom dwelling/

n. Project Phasing: N/A

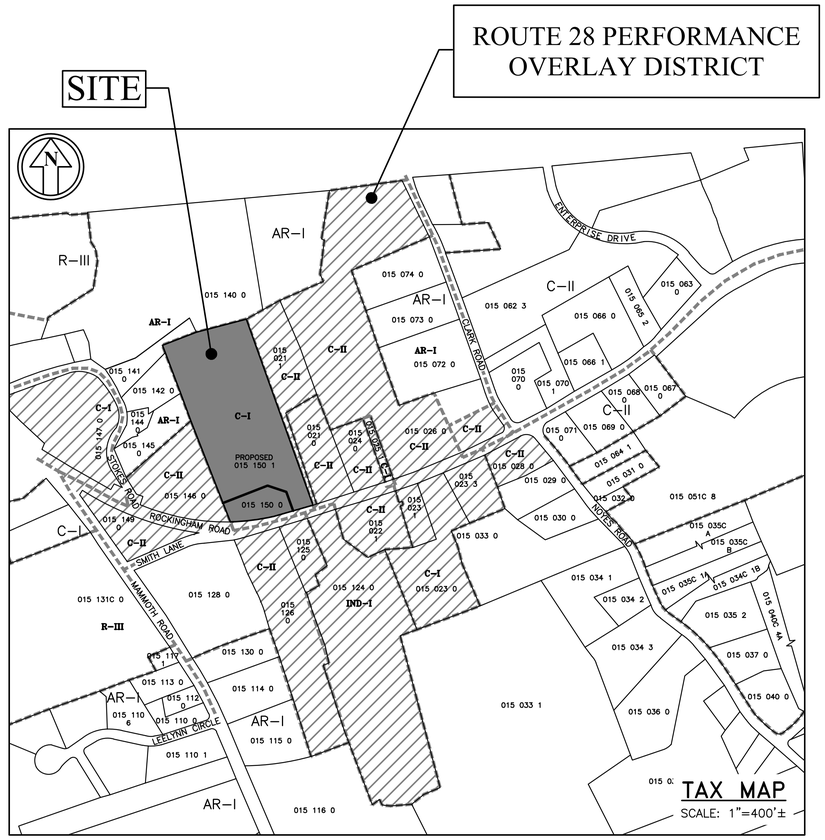
o. This plan set contains a total of 8 sheets. All sheets are on file at the Town of Londonderry. Sheet 3 will be required with the Rockingham County Registry of Deeds>

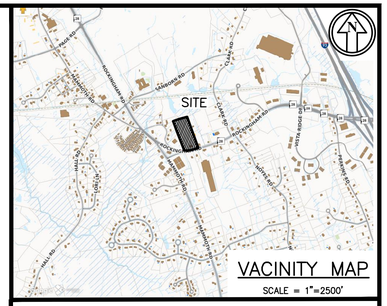
Required Notes:

p. If, during construction, it becomes apparent that deficiencies exist in the approved design drawings, the Owner shall be required to correct the deficiencies to meet the requirements of the regulations at no expense to the Town.

q. If, during construction, it becomes apparent that additional erosion control measures are required to stop any erosion on the construction site due to actual site conditions, the Owner shall be required to install the necessary erosion protection at no expense to the Town.

r. All materials and methods of construction shall conform to Town of Londonderry Subdivision Regulations and the latest edition of the New Hampshire Department of Transportation's Standard Specifications for Road & Bridge Construction.





PLAN REFERENCES:

1. FEDERAL AID PROJECT NO. 198–F (50698).
2. FEDERAL AID PROJECT NO. F–017–1(2), N.H. PROJECT NO. P–2979.
3. ROCKINGHAM COUNTY REGISTRY OF DEEDS (R.C.R.D.) PLAN C–2223.
4. R.C.R.D. PLAN D–12041.
5. R.C.R.D. PLAN D–18263.
6. R.C.R.D. PLAN D–24931.
7. R.C.R.D. PLAN D–25492.
8. SITE BOUNDARY PLAN, TAX MAP 15 LOT 21, LONDONDERRY, N.H.; PREPARED FOR ANDRE DOCOS; SCALE: 1"=50'; DATED: JUNE 18,1992; PREPARED BY BENCHMARK ENGINEERING, INC.

ABUTTERS LIST

MAP 15 LOT 140
HALLA, CHRISTOPHER + JENNIFER
14 STOKES RD
LONDONDERRY, NH 03053

MAP 15 LOT 141
SIBLEY MICHAEL E + ANGELA L
12 STOKES RD
LONDONDERRY, NH 03053

MAP 15 LOT 141-1
GONZALEZ RAFAEL A
12A STOKES RD
LONDONDERRY, NH 03053

MAP 25 LOT 142
HANNAH, JOHN
17 WILSHIRE DR
LONDONDERRY, NH 03053

MAP 15 LOT 145
MARTIN DAVID D + JANE
4 STOKES RD
LONDONDERRY, NH 03053-2315

MAP 15 LOT 146
226 ROCKINGHAM PLAZA LLC
226 ROCKINGHAM RD
LONDONDERRY, NH 03053

MAP 15 LOT 149
ARANOSIAN OIL COMPANY, INC
557 NO. STATE ST
CONCORD, NH 03301

MAP 15 LOT 21
MARK'S DISCOUNT TRUCK AND AUTO SALES, LLC
214 ROCKINGHAM RD
LONDONDERRY, NH 03053

MAP 15 LOT 21-1
DEGELAN ROBERT
PO BOX 174
LONDONDERRY, NH 03053

MAP 15 LOT 124
CRE-PROVENDER 219 ROCKINGHAM, LLC
1600 NEWPORT CENTER DR.
NEWPORT BEACH, CA 92660

MAP 15 LOT 125
STRONG SEAN P + WENDY S
2 HARRY BROOK DR
GOFFSTOWN, NH 03045-3008

MAP 25 LOT 126
KUSZEK JANE
73 CHASE RD
LONDONDERRY, NH 03053

MAP 15 LOT 128
LIFE STORAGE LP
PO BOX #71870

SHEET INDEX

1	TITLE SHEET
2	EXISTING CONDITIONS PLAN
3	SUBDIVISION PLAN
4	TOPOGRAPHICAL SUBDIVISION PLAN
5	GRADING AND UTILITY PLAN
6	DRIVEWAY SIGHT DISTANCE PLAN & PROFILE
7-8	DETAIL SHEETS

COVER SHEET

Permits & Approvals:

	Permit #	Date
Subdivision Approval		
NHDOT Driveway Permit	DOT–DRI–002981	9/25/2025
NHDES Sewer Connection Permit		
Londonderry Sewer Connection Permit		
Londonderry Stormwater Permit		

TAX MAP 15 LOT 150
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LONDONDERRY, NH
BOOK 6526 PAGE 081

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OWNER'S SIGNATURE

05/09/2025
DARK HORSE INVESTMENTS, LLC DATE

STATE OF NEW HAMPSHIRE – DOUGLAS G. MacGUIRE No. 13325 – LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/15/2026	REVISED PER TOWN REVIEW COMMENTS	JHD
REVISIONS			

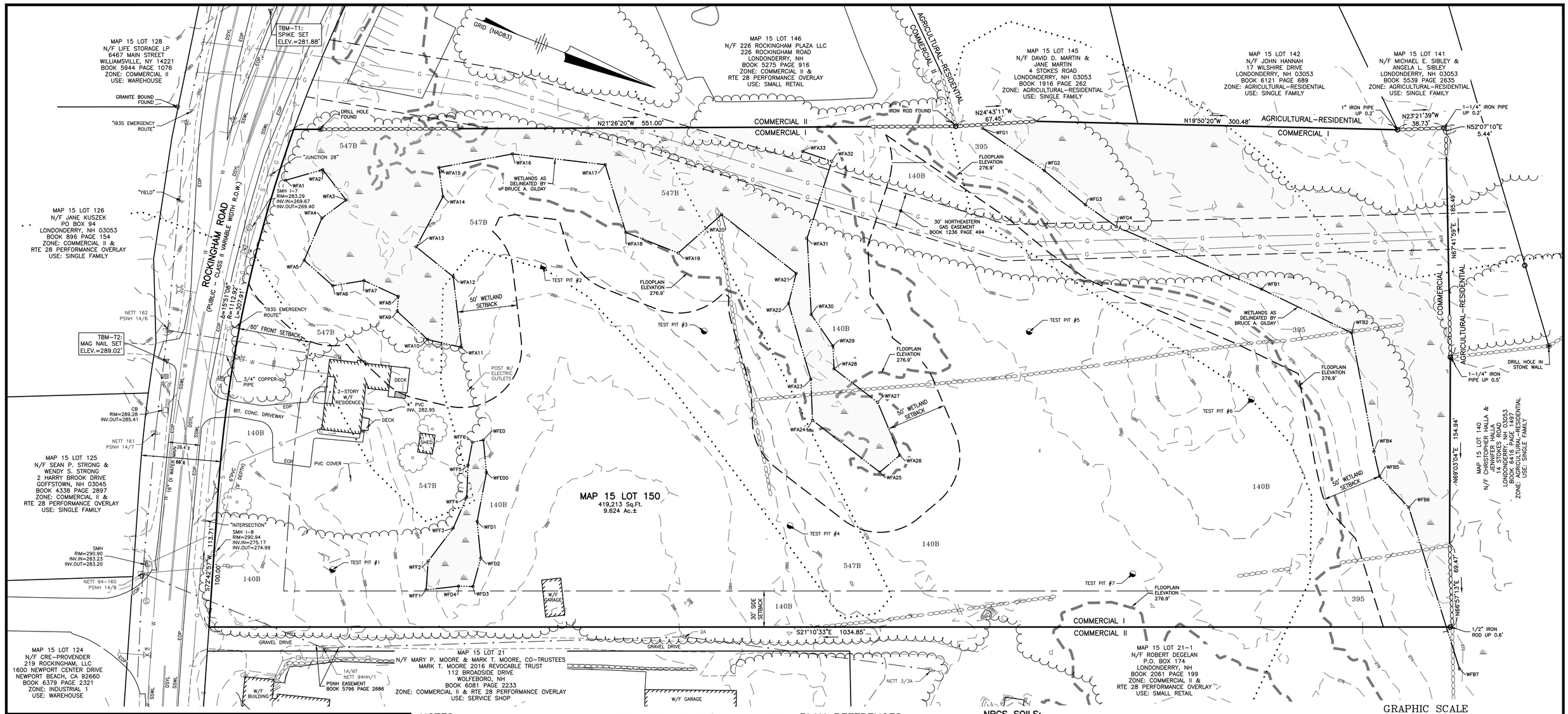
APPROVED BY THE LONDONDERRY, NH PLANNING BOARD for Phase _____
ON DATE _____
CERTIFIED BY:

The Dubay Group, Inc.
136 Harvey Road Bldg B101
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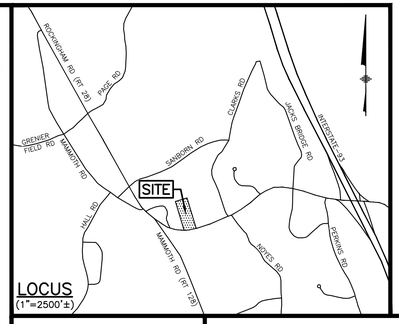
SHEET 1 of 8

N:\=PROJECTS\640–Norton–222 Rockingham Rd\DWG\CURRENT\640–SUB_COVER.dwg



LEGEND

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- PROPERTY LINE
- ABUTTER LINE
- STONE WALL
- SIGN
- MAILBOX
- TREE
- TREELINE
- DELINEATED WETLAND
- EDGE OF PAVEMENT
- CONTOUR ELEVATION
- CATCH BASIN
- SEWER MANHOLE
- HYDRANT
- WATER SHUT OFF
- WATER VALVE
- WATER LINE
- SEWER LINE
- UTILITY POLE
- GUY WIRE
- OVERHEAD WIRES
- BUILDING SETBACK
- SOIL DELINEATION



LOCUS
(1"=2500'±)

NOTES:

1. THE INTENT OF THIS IS TO SHOW THE EXISTING SITE CONDITIONS OF MAP 15 LOT 150 BASED ON A SURVEY PERFORMED BY THIS OFFICE BETWEEN JUNE 29 AND JULY 21, 2023.
2. THE BOUNDARY INFORMATION SHOWN HEREON IS BASED ON A SURVEY PERFORMED BY THIS OFFICE BETWEEN JUNE 29 AND JULY 21, 2023 AND PLAN REFERENCES LISTED HEREON.
3. HORIZONTAL DATUM IS NAD83 PER GPS OBSERVATIONS PERFORMED BY THIS OFFICE ON JULY 7, 2023.
4. VERTICAL DATUM IS NAVD88 PER GPS OBSERVATIONS PERFORMED BY THIS OFFICE ON JULY 7, 2023.
5. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON RECORD DESIGN PLANS, DIG SAFE FLAGGING, AND INFORMATION PROVIDED BY THE TOWN OF LONDONDERRY, NH, AND ABOVE GROUND FEATURES LOCATED BY THIS OFFICE. SAID UNDERGROUND UTILITIES ARE NOT WARRANTED TO BE EXACT OR INCLUSIVE OF ALL EXISTING UTILITIES.
6. A PORTION OF MAP 15 LOT 150 IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA (ZONE AE – 100 YEAR FLOOD) WITH A BASE FLOOD ELEVATION OF 276.9' PER FLOOD INSURANCE RATE MAP 33015C0317E, WITH AN EFFECTIVE DATE OF MAY 17, 2005.
7. MAP 15 LOT 150 IS ZONED COMMERCIAL I (C-I) AND ROUTE 28 PERFORMANCE OVERLAY DISTRICT PER THE TOWN OF LONDONDERRY ZONING MAP;

   NON-ARTERIAL ROADS OR ARTERIAL ROAD WHEN 'SHARED ACCESS' IS USED, AND WITH PUBLIC WATER AND SEWER

MIN. LOT SIZE:	1 ACRE
MIN. LOT FRONTAGE:	100 FT
MIN. FRONT YARD:	60 FT (BUILDING FOOTPRINT 0-10,000 SF)
MIN. SIDE YARD:	1/2 FRONT (30 FT MIN.)
MIN. REAR YARD:	1/3 FRONT (30 FT MIN.)

   REFER TO THE TOWN OF LONDONDERRY ZONING ORDINANCE FOR ADDITIONAL INFORMATION AND RESTRICTIONS.
8. MAP 15 LOT 150 AND MAP 15 LOT 150-1 ARE TO UTILIZE A SHARED ACCESS VIA THE PROPOSED ACCESS AND UTILITY EASEMENT SHOWN ON SHEET 2.

PLAN REFERENCES:

1. FEDERAL AID PROJECT NO. 198-F (50698).
2. FEDERAL AID PROJECT NO. F-017-1(2), N.H. PROJECT NO. P-2979.
3. ROCKINGHAM COUNTY REGISTRY OF DEEDS (R.C.R.D.) PLAN C-2223.
4. R.C.R.D. PLAN D-12041.
5. R.C.R.D. PLAN D-18263.
6. R.C.R.D. PLAN D-24931.
7. R.C.R.D. PLAN D-25492.

NRCS SOILS:

140B	HATFIELD-HOLLIS-CANTON COMPLEX, 0 TO 8% SLOPES, ROCKY
395	SWANSEA MUCKY PEAT 0-2%, SLOPES
547B	WALPOLE VERY FINE SANDY 3-8%, SLOPES, VERY STONY

BENCHMARK DATA:

TBM-T1:
SPIKE SET
ELEV.=281.88'

TBM-T2:
MAG NAIL SET
ELEV.=289.02'

CERTIFICATION:

I CERTIFY THAT THIS SURVEY AND PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT THIS PLAN IS THE RESULT OF AN ACTUAL SURVEY PERFORMED ON THE GROUND WITH AN ERROR OF CLOSURE OF NOT MORE THAN ONE PART IN TEN THOUSAND.

1/15/2026
JOEL A. CONNOLLY, LLS 997 — DATE

STATE OF NEW HAMPSHIRE — No. 997 JOEL A. CONNOLLY — LICENSED LAND SURVEYOR

OWNER'S SIGNATURE

05/09/2025
(NAME) — DATE

THIS IS TO CERTIFY THAT THE WETLANDS HAVE BEEN DELINEATED IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL (TECHNICAL REPORT Y-87-1)

WETLAND DELINEATION PREPARED BY:

5/6/2025
BRUCE A. GILDAY — DATE
CERTIFIED WETLAND SCIENTIST (#088)

STATE OF NEW HAMPSHIRE — BRUCE A. GILDAY — No. 088 — CERTIFIED WETLAND SCIENTIST

NO.	DATE	DESCRIPTION	BY
1	1/15/26	REVISED PER TOWN COMMENTS	DSJ

REVISIONS

EXISTING CONDITIONS PLAN

TAX MAP 15 LOT 150
222 ROCKINGHAM ROAD
LONDONDERRY, NH

BOOK 6526 PAGE 081

OWNER/APPLICANT:
DARK HORSE INVESTMENTS, LLC
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053

SCALE: 1"=40' — DATE: MAY 2, 2025

The Dubay Group, Inc.
136 Harvey Road Bldg B101
Londonderry, NH 03053
603-458-6462 - www.thedubaygroup.com
Engineers | Planners | Surveyors

Drawn By:	DSJ
Checked By:	JAC
Project:	640
File:	640-SUB

SHEET 2 of 8

N:\-PROJECTS\640-Norton-222 Rockingham Rd\Survey\640-SUB.dwg

MAP 15 LOT 128
N/F LIFE STORAGE LP
6467 MAIN STREET
WILLIAMSVILLE, NY 14221
BOOK 5944 PAGE 1076
ZONE: COMMERCIAL II
USE: WAREHOUSE

MAP 15 LOT 146
N/F 226 ROCKINGHAM PLAZA LLC
226 ROCKINGHAM ROAD
LONDONDERRY, NH
BOOK 5275 PAGE 916
ZONE: COMMERCIAL II &
RTE 28 PERFORMANCE OVERLAY
USE: SMALL RETAIL

MAP 15 LOT 145
N/F DAVID D. MARTIN &
JANE MARTIN
4 STOKES ROAD
LONDONDERRY, NH 03053
BOOK 1916 PAGE 262
ZONE: AGRICULTURAL–RESIDENTIAL
USE: SINGLE FAMILY

MAP 15 LOT 142
N/F JOHN HANNAH
17 WILSHIRE DRIVE
LONDONDERRY, NH 03053
BOOK 6121 PAGE 689
ZONE: AGRICULTURAL–RESIDENTIAL
USE: SINGLE FAMILY

MAP 15 LOT 141
N/F MICHAEL E. SIBLEY &
ANGELA L. SIBLEY
LONDONDERRY, NH 03053
BOOK 5539 PAGE 2635
ZONE: AGRICULTURAL–RESIDENTIAL
USE: SINGLE FAMILY

MAP 15 LOT 126
N/F JANE KUSZEK
PO BOX 94
LONDONDERRY, NH 03053
BOOK 896 PAGE 154
ZONE: COMMERCIAL II &
RTE 28 PERFORMANCE OVERLAY
USE: SINGLE FAMILY

MAP 15 LOT 125
N/F SEAN P. STRONG &
WENDY S. STRONG
2 HARRY BROOK DRIVE
GOFFSTOWN, NH 03045
BOOK 4338 PAGE 2897
ZONE: COMMERCIAL II &
RTE 28 PERFORMANCE OVERLAY
USE: SINGLE FAMILY

MAP 15 LOT 124
N/F CRE–PROVENDER
219 ROCKINGHAM, LLC
1600 NEWPORT CENTER DRIVE
NEWPORT BEACH, CA 92660
BOOK 6379 PAGE 2321
ZONE: INDUSTRIAL 1
USE: WAREHOUSE

MAP 15 LOT 21
N/F MARY P. MOORE & MARK T. MOORE, CO–TRUSTEES
MARK T. MOORE 2016 REVOCABLE TRUST
112 BROADSIDE DRIVE
WOLFEBORO, NH
BOOK 6081 PAGE 2233
ZONE: COMMERCIAL II & RTE 28 PERFORMANCE OVERLAY
USE: SERVICE SHOP

MAP 15 LOT 21–1
N/F ROBERT DEGELAN
P.O. BOX 174
LONDONDERRY, NH
BOOK 2061 PAGE 199
ZONE: COMMERCIAL II &
RTE 28 PERFORMANCE OVERLAY
USE: SMALL RETAIL

MAP 15 LOT 140
N/F CHRISTOPHER HALLA &
JENNIFER HALLA
14 STOKES ROAD
LONDONDERRY, NH 03053
BOOK 4645 PAGE 1407
ZONE: AGRICULTURAL–RESIDENTIAL
USE: SINGLE FAMILY

GRID (NADB3)

ROCKINGHAM ROAD
(PUBLIC – CLASS II VARIABLE WIDTH R.O.W.)

COMMERCIAL II / COMMERCIAL I

AGRICULTURAL–RESIDENTIAL / COMMERCIAL II

COMMERCIAL I / AGRICULTURAL–RESIDENTIAL

MAP 15 LOT 150
EXISTING= 419,213 Sq.Ft. (9.624 Ac.±)
PROPOSED= 53,412 Sq.Ft. (1.226 Ac.±)
(222 ROCKINGHAM ROAD)

PROPOSED MAP 15 LOT 150–1
365,801 Sq.Ft.
8.398 Ac.±
(220 ROCKINGHAM ROAD)

BOUND TO BE SET
DRILL HOLE FOUND
IRON ROD W/CAP TO BE SET
IRON ROD FOUND
GRANITE BOUND FOUND
"I93S EMERGENCY ROUTE"
"JUNCTION 28"
"YIELD"
"INTERSECTION"
N21°26'20"W 551.00'
149.85'
401.15'
N24°43'11"W 67.45'
N19°50'20"W 300.48'
1" IRON PIPE UP 0.2'
N23°21'39"W 38.73'
1–1/4" IRON PIPE UP 0.2'
N52°07'10"E 5.44'
N05°59'59"W 13.00'
S75°12'23"W 268.72'
N67°41'59"E 185.49'
N69°03'04"E 154.94'
N66°57'13"E 68.47'
S21°10'33"E 1034.85'
Δ=15°51'08"
R=1112.92'
L=307.97'
Δ=11°17'04"
R=1099.92'
L=219.19'
Δ=11°17'04"
R=1099.92'
L=216.63'
N17°17'03"W 120.00'
56.00'
N62°17'03"W 85.00'
13.71'
113.71'
96.19'
S72°42'57"W 100.00'
N72°42'57"E 112.63'
56.13'
13.03'
1–1/4" IRON PIPE UP 0.5'
1/2" IRON ROD UP 0.6'

WETLANDS AS DELINEATED BY BRUCE A. GILDAY

FLOODPLAIN ELEVATION 276.9'

30' NORTHEASTERN GAS EASEMENT BOOK 1236 PAGE 494

50' WETLAND SETBACK

60' FRONT SETBACK

30' REAR SETBACK

30' SIDE SETBACK

2–STORY W/F RESIDENCE

DECK

SHED TO BE REMOVED

BIT. CONC. DRIVEWAY

EXISTING ACCESS TO BE DISCONTINUED (SEE NOTE 9)

PROPOSED 13' WIDE SEWER EASEMENT TO THE TOWN OF LONDONDERRY, NH

PROPOSED ACCESS AND UTILITY EASEMENT TO MAP 15 LOT 150

W/F GARAGE TO BE REMOVED

W/F BUILDING

GRAVEL DRIVE

NETT 162 PSNH 14/6

NETT 161 PSNH 14/7

NETT 94–160 PSNH 14/8

NETT 3/3A

1A/6T NETT 94HH/1 PSNH EASEMENT BOOK 5796 PAGE 2686

2A

EOP

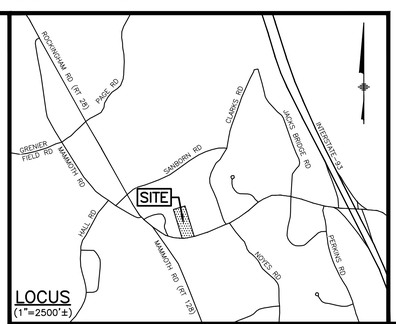
DSTL

SSWL

WASS

LEGEND

- DRILL HOLE
- IRON PIPE OR IRON ROD
- PROPERTY LINE
- ABUTTER LINE
- STONE WALL
- SIGN
- MAILBOX
- TREE
- TREELINE
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- OVERHEAD WIRES
- BUILDING SETBACK
- SOIL DELINEATION



LOCUS
(1"=2500'±)

NOTES:

1. THE INTENT OF THIS PLAN DEPICT A SUBDIVISION OF MAP 15 LOT 150 RESULTING IN TWO BUILDING LOTS.
2. THE EXISTING SITE CONDITIONS OF MAP 15 LOT 150 BASED ON A SURVEY PERFORMED BY THIS OFFICE BETWEEN JUNE 29 AND JULY 21, 2023.
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   NON–ARTERIAL ROADS OR ARTERIAL ROAD WHEN "SHARED ACCESS" IS USED, AND WITH PUBLIC WATER AND SEWER

   MIN. LOT SIZE: 1 ACRE
   MIN. LOT FRONTAGE: 100 FT
   MIN. FRONT YARD: 60 FT (BUILDING FOOTPRINT 0–10,000 SF)
   MIN. SIDE YARD: 1/2 FRONT (30 FT MIN.)
   MIN. REAR YARD: 1/3 FRONT (30 FT MIN.)

   REFER TO THE TOWN OF LONDONDERRY ZONING ORDINANCE FOR ADDITIONAL INFORMATION AND RESTRICTIONS.
9. MAP 15 LOT 150 AND MAP 15 LOT 150–1 ARE TO UTILIZE A SHARED ACCESS. VIA THE PROPOSED ACCESS AND UTILITY EASEMENT SHOWN HEREON.
10. LOT CORNERS ARE TO BE SET IN ACCORDANCE WITH SECTIONS 3.02.A AND B.2 OF THE SUBDIVISION REGULATIONS.

    10.1. STREET RIGHT–OF–WAY: SHALL BE MARKED BY A STONE OR CONCRETE MONUMENT 4"X4"X36" IN SIZE (MINIMUM); AND
    10.2. LOTS: AT LEAST ONE LOT CORNER AT THE RIGHT–OF–WAY LINE SHALL BE MARKED BY A STONE OR CONCRETE MONUMENT 4"X4"X36" (MINIMUM). ALL OTHER LOT CORNERS SHALL BE MARKED BY EITHER A ONE (1)INCH DIAMETER IRON PIPE OR FIVE–EIGHTHS (5/8)–INCH STEEL REBAR AT LEAST THIRTY (30) INCHES IN LENGTH OR A DRILL HOLE SET IN EXISTING STONE WALLS.

PLAN REFERENCES:

1. FEDERAL AID PROJECT NO. 198–F (50698).
2. FEDERAL AID PROJECT NO. F–017–1(2), N.H. PROJECT NO. P–2979.
3. ROCKINGHAM COUNTY REGISTRY OF DEEDS (R.C.R.D.) PLAN C–2223.
4. R.C.R.D. PLAN D–12041.
5. R.C.R.D. PLAN D–18263.
6. R.C.R.D. PLAN D–24931.
7. R.C.R.D. PLAN D–25492.

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

OWNER'S SIGNATURE

(NAME) 05/09/2025 DATE

STATE OF NEW HAMPSHIRE
BRUCE A. GILDAY
No. 088
CERTIFIED WETLAND SCIENTIST

THIS IS TO CERTIFY THAT THE WETLANDS HAVE BEEN DELINEATED IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL (TECHNICAL REPORT Y–87–1)

WETLAND DELINEATION PREPARED BY:

BRUCE A. GILDAY
CERTIFIED WETLAND SCIENTIST (#088)

5/6/2025 DATE

BENCHMARK DATA:

TBM–T1:
SPIKE SET
ELEV.=281.88'

TBM–T2:
MAG NAIL SET
ELEV.=289.02'

CERTIFICATION:

I CERTIFY THAT THIS SURVEY AND PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT THIS PLAN IS THE RESULT OF AN ACTUAL SURVEY PERFORMED ON THE GROUND WITH AN ERROR OF CLOSURE OF NOT MORE THAN ONE PART IN TEN THOUSAND.

1/15/2026
JOEL A. CONNOLLY, LLS 997 DATE

STATE OF NEW HAMPSHIRE
No. 997
JOEL A. CONNOLLY
LICENSED LAND SURVEYOR

NO.	DATE	DESCRIPTION	BY
1	1/15/26	TOWN COMMENTS	DSJ

REVISIONS

APPROVED BY THE LONDONDERRY, NH PLANNING BOARD for Phase _____

ON DATE _____

CERTIFIED BY:

_____

_____

SUBDIVISION PLAN

TAX MAP 15 LOT 150
222 ROCKINGHAM ROAD
LONDONDERRY, NH

BOOK 6526 PAGE 081

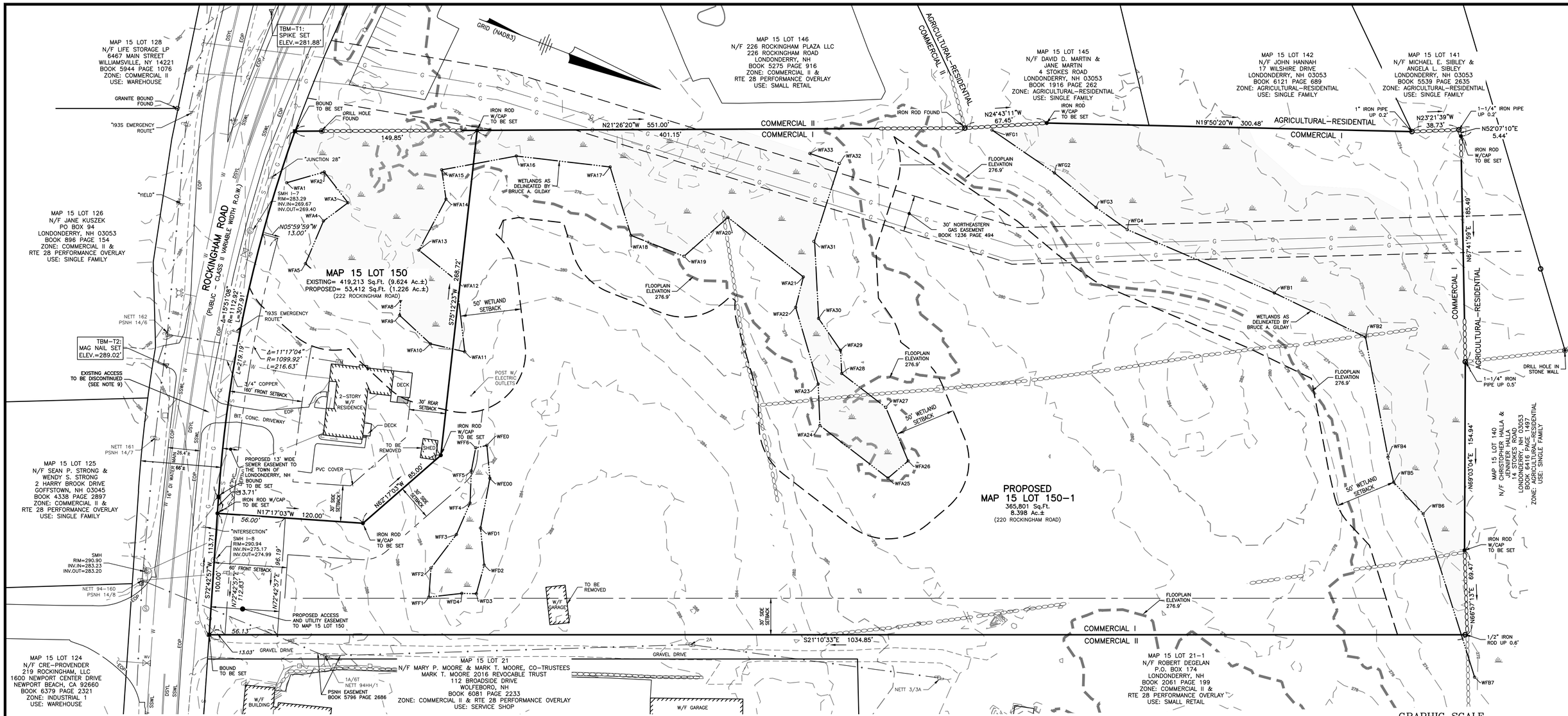
OWNER/APPLICANT:
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222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053

SCALE: 1"=40' DATE: MAY 2, 2025

The Dubay Group, Inc.
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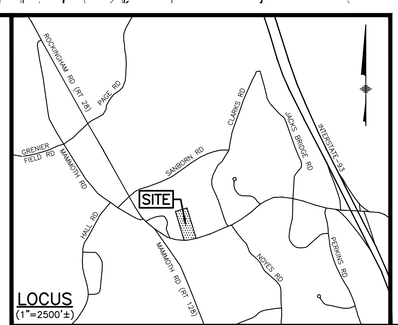
Drawn By: DSJ
Checked By: JAC
Project: 640
File: 640–SUB

N:\–PROJECTS\640–Norton–222 Rockingham Rd\Survey\640–SUB.dwg



LEGEND

- DRILL HOLE
- IRON PIPE OR IRON ROD
- PROPERTY LINE
- ABUTTER LINE
- STONE WALL
- SIGN
- MAILBOX
- TREE
- TREELINE
- DELINEATED WETLAND
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1/15/2026
JOEL A. CONNOLLY, LLS 997 — DATE

STATE OF NEW HAMPSHIRE — No. 997 — JOEL A. CONNOLLY — LICENSED LAND SURVEYOR

NO.	DATE	DESCRIPTION	BY
1	1/15/26	TOWN COMMENTS	DSJ

REVISIONS

STATE OF NEW HAMPSHIRE — BRUCE A. GILDAY — No. 088 — CERTIFIED WETLAND SCIENTIST

OWNER'S SIGNATURE

(NAME) — 05/09/2025 DATE

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WETLAND DELINEATION PREPARED BY:

BRUCE A. GILDAY
CERTIFIED WETLAND SCIENTIST (#088) — 5/6/2025 DATE

TOPOGRAPHIC SUBDIVISION PLAN

TAX MAP 15 LOT 150
222 ROCKINGHAM ROAD
LONDONDERRY, NH

BOOK 6526 PAGE 081

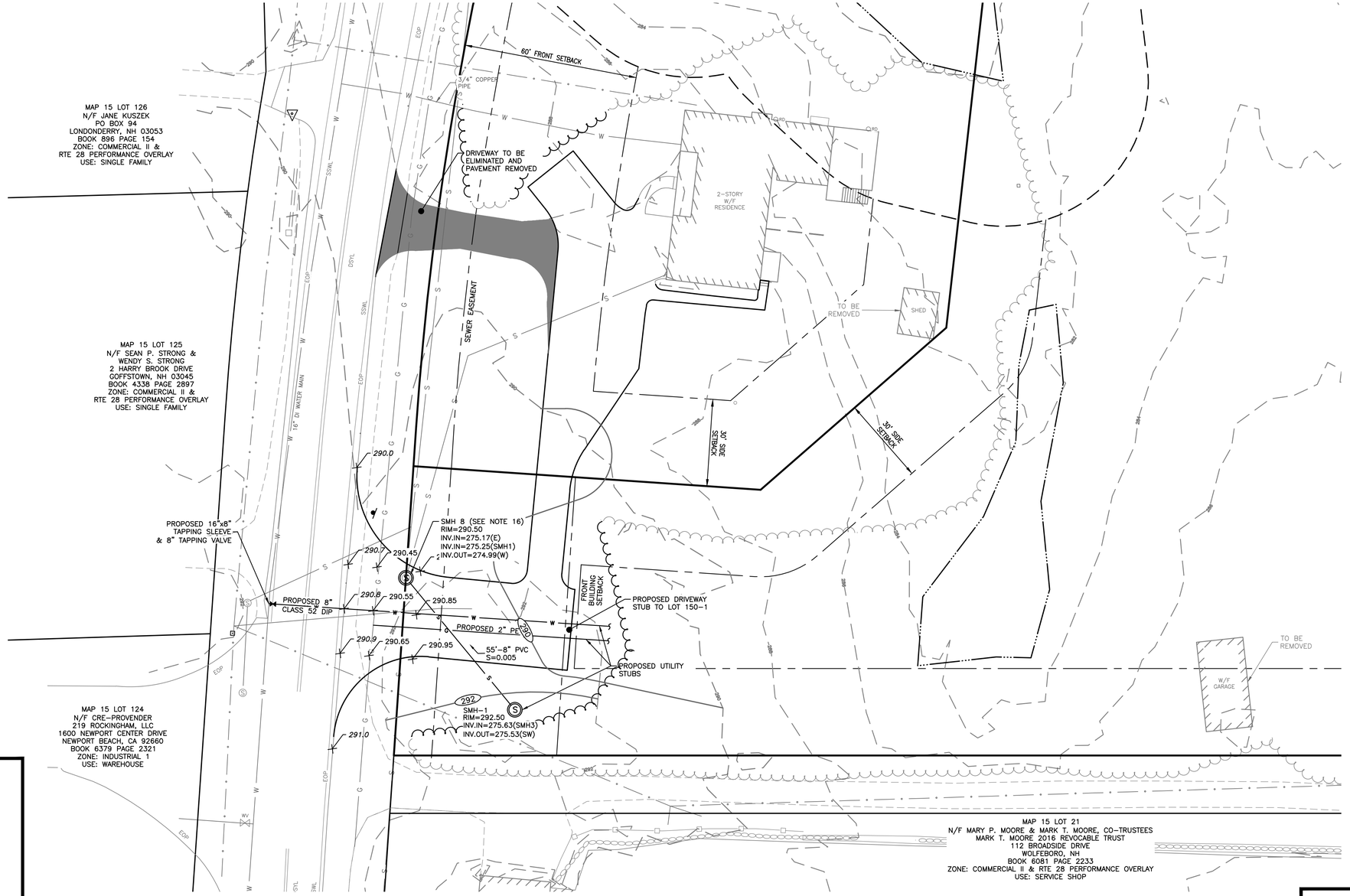
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SCALE: 1"=40' — DATE: MAY 2, 2025

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603-458-6462 - www.thedubaygroup.com
Engineers | Planners | Surveyors

Drawn By: DSJ
Checked By: JAC
Project: 640
File: 640–SUB

N:\–PROJECTS\640–Norton–222 Rockingham Rd\Survey\640–SUB.dwg



NOTES:

1. CONTRACTOR SHALL COORDINATE AND VERIFY AND ADJUST AS NECESSARY SEPARATION BETWEEN UTILITIES AS REQUIRED, AT NO ADDITIONAL COST TO OWNER.
2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A STATE RIGHT OF WAY ACTIVITY PERMIT PRIOR TO ANY OTHER UTILITY WORK WITH THE STATE ROW
3. ALL WATER SERVICE WORK SHALL COMPLY WITH THE TOWN OF LONDONDERRY OR MANCHESTER WATER WORKS; WHICHEVER IS MOST STRINGENT.
4. CONTRACTOR SHALL COORDINATE WATER SERVICE LINE CONNECTION WITH MANCHESTER WATER WORKS.
5. ANY UTILITY FIELD ADJUSTMENTS SHALL BE APPROVED BY THE LOCAL AUTHORITIES AND THE DEVELOPER PRIOR TO INSTALLATION.
6. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR IS TO VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES.
7. ALL CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE AND FEDERAL STANDARDS.
8. THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIG-SAFE (811) PRIOR TO COMMENCING ANY WORK.
9. ALL CONSTRUCTION SHALL CONFORM TO NHDOT AND NHDES SPECIFICATIONS.
10. ALL WORK SHALL BE LAID OUT AND AS-BUILT BY A LICENSED LAND SURVEYOR.
11. ALL ELECTRIC, TELEPHONE AND COMMUNICATION LINES ARE TO BE UNDERGROUND AND INSTALLED IN CONFORMANCE WITH APPLICABLE UTILITY CO. SPECIFICATIONS.
12. CONTRACTOR TO COORDINATE EXACT LOCATION OF UNDERGROUND SERVICES, AND SERVICE EQUIPMENT, PADS, ETC. WITH JURISDICTIONAL UTILITY COMPANIES.
13. ALL SAFETY AND TRAFFIC CONTROL AND TEMPORARY CONSTRUCTION SIGNAGE ARRANGEMENTS, ACCEPTABLE TO THE TOWN, SHALL BE PROVIDED FOR THIS PROJECT BY THE CONTRACTOR IN ASSOCIATION WITH THE TRAFFIC ENGINEER.
14. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY THE DUBAY GROUP, INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK, OR THE OWNER'S EMPLOYEES, CUSTOMERS, OR THE GENERAL PUBLIC. THE SEAL OF THE ENGINEER AS INCLUDED IN THE PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS OR METHODS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PROVIDE THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR OTHER REGULATIONS.
15. EXISTING SEWER MANHOLE SHALL BE REPLACED WITH A NEW PRECAST 5-FOOT DIAMETER STRUCTURE.
16. WHEN EXCAVATING WITHIN 25 FEET OF THE GAS PIPELINE, A REPRESENTATIVE FROM KINDER MORGAN/TENNESSEE GAS PIPELINE MUST BE ON-SITE.

EXISTING LEGEND

- ABUTTER LINE
- DSYL — DOUBLE SOLID YELLOW LINE
- SSWL — SINGLE SOLID WHITE LINE
- BUILDING SETBACK
- EDGE OF PAVEMENT
- DRAINAGE PIPE
- S — SEWER LINE
- W — WATER LINE
- G — GAS LINE
- WV — WATER VALVE
- WSO — WATER SHUT OFF
- GV — GAS VALVE
- FH — FIRE HYDRANT
- SIGN
- 182 — 2' CONTOUR
- 180 — 10' CONTOUR
- TREELINE
- EDGE OF SURFACE WATER
- DELINEATED WETLAND
- WETLAND SETBACK

PROPOSED LEGEND

- PROPERTY LINE
- EDGE OF PAVEMENT
- S — SEWER LINE
- W — WATER LINE
- WATER VALVE
- WATER SHUT OFF

BENCHMARK DATA:

TBM-T1:
SPIKE SET
ELEV.=281.88'

TBM-T2:
MAG NAIL SET
ELEV.=289.02'

20 0 10 20
1 INCH = 20 FEET

DOUGLAS G. MacGUIRE No. 13325 — STATE OF NEW HAMPSHIRE — LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/15/2026	REVISED PER TOWN REVIEW COMMENTS	JHD

REVISIONS

811 DigSafe MA•ME•NH•RI•VT

GRADING & UTILITY PLAN

TAX MAP 15 LOT 150
222 ROCKINGHAM ROAD
LONDONDERRY, NH

BOOK 6526 PAGE 081

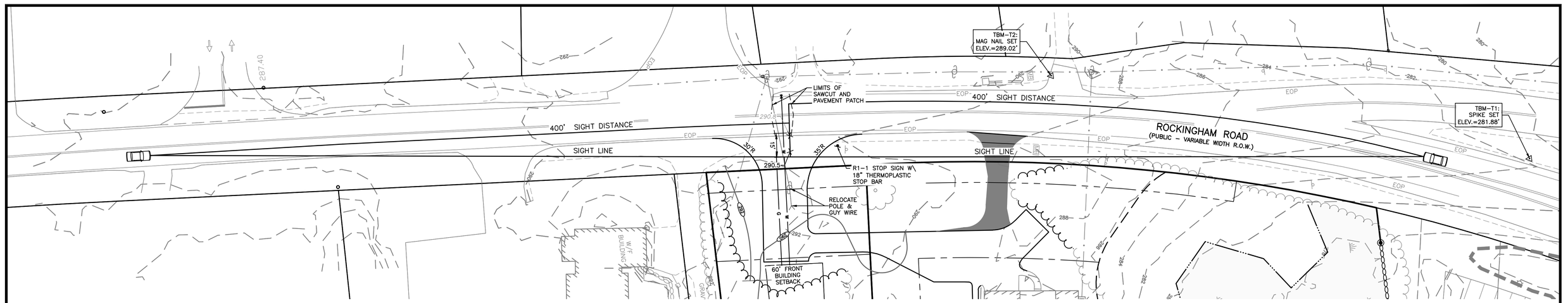
OWNER/APPLICANT:
DARK HORSE INVESTMENTS, LLC
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053

SCALE: 1"=20' DATE: MAY 2, 2025

The Dubay Group, Inc.
136 Harvey Road Bldg B101
Londonderry, NH 03053
603-458-6462 - www.thedubaygroup.com
Engineers | Planners | Surveyors

Drawn By: JHD
Checked By: DGM
Project: 640
File: 640-SUB_Design

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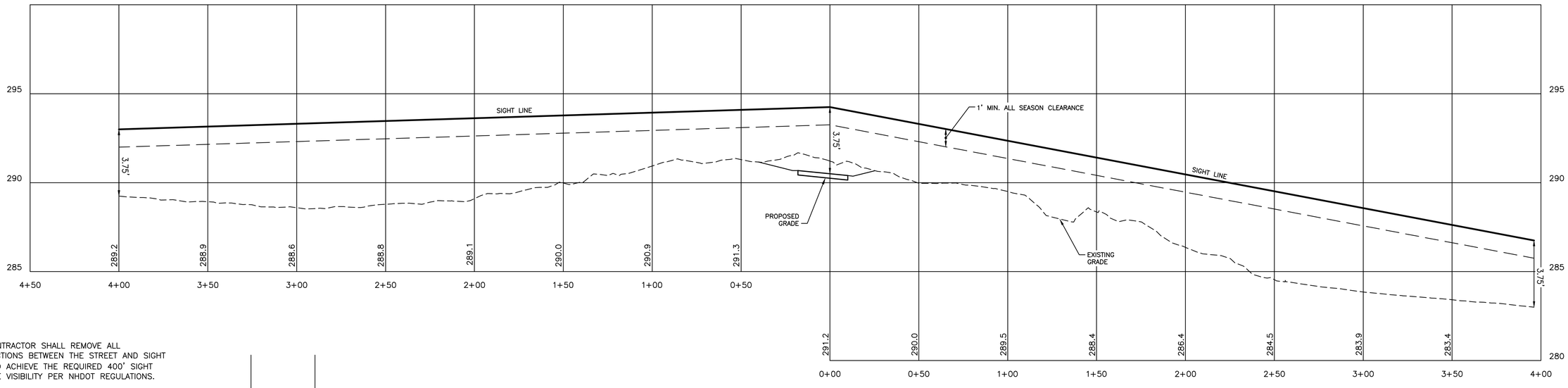


SIGHT DISTANCE PLAN

SCALE: 1"=30'

NOTES:

1. THE POSTED SPEED LIMIT FOR ROCKINGHAM ROAD IS 40 MPH.
2. NHDOT MINIMUM ALL SEASON SIGHT DISTANCE = 400 FEET.



SIGHT DISTANCE PROFILE

SCALE: 1"=30' HORIZ., 3' VERT.

NOTE:

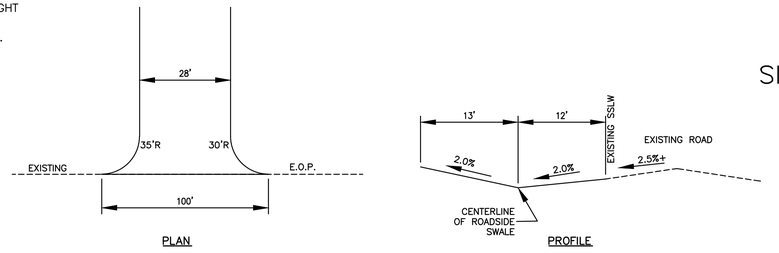
1. THE CONTRACTOR SHALL REMOVE ALL OBSTRUCTIONS BETWEEN THE STREET AND SIGHT LINES TO ACHIEVE THE REQUIRED 400' SIGHT DISTANCE VISIBILITY PER NHDOT REGULATIONS.

EXISTING LEGEND

- ABUTTER LINE
- DSYL — DOUBLE SOLID YELLOW LINE
- SSWL — SINGLE SOLID WHITE LINE
- EDGE OF PAVEMENT
- SIGN
- 182 — 2' CONTOUR
- 180 — 10' CONTOUR
- TREELINE
- RAILROAD SPIKE BOUNDARY MARKER
- IRON PIPE BOUNDARY MARKER

PROPOSED LEGEND

- PROPERTY LINE
- EDGE OF PAVEMENT
- CURB
- CONCRETE
- SIGN
- 180 — FINISH 2–FOOT CONTOUR
- 185 — FINISH 1–FOOT CONTOUR



DRIVEWAY PROFILE DETAIL
N.T.S.

BENCHMARK DATA:

TBM–T1:
SPIKE SET
ELEV.=281.88'

TBM–T2:
MAG NAIL SET
ELEV.=289.02'

STATE OF NEW HAMPSHIRE – DOUGLAS G. MacGUIRE No. 13325 – LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/15/2026	REVISED PER TOWN REVIEW COMMENTS	JHD

REVISIONS

811 DigSafe MA•ME•NH•RI•VT

SIGHT DISTANCE PLAN & PROFILE

TAX MAP 15 LOT 150
222 ROCKINGHAM ROAD
LONDONDERRY, NH
BOOK 6526 PAGE 081

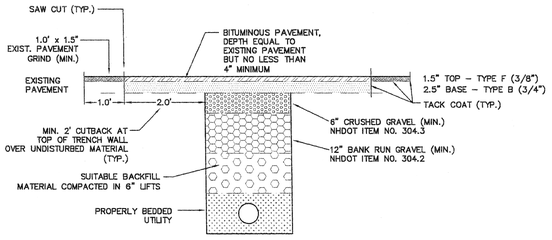
OWNER/APPLICANT:
DARK HORSE INVESTMENTS, LLC
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053

SCALE: 1"=30' DATE: MAY 2, 2025

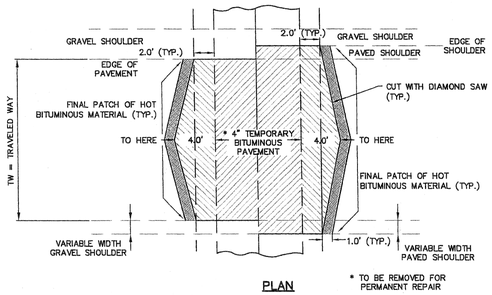
The Dubay Group, Inc.
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Drawn By: JHD
Checked By: DGM
Project: 640
File: 640–SIGHT DISTANCE

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ELEVATION



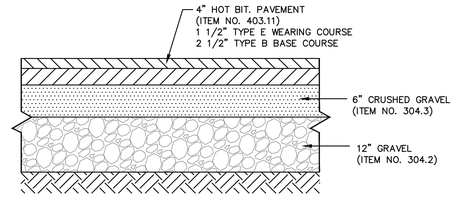
PLAN

* TO BE REMOVED FOR PERMANENT REPAIR

TYPICAL PERMANENT PAVEMENT REPAIR

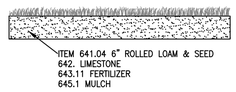
NOT TO SCALE

EXHIBIT R105



TYPICAL DRIVEWAY AND PARKING LOT SECTION

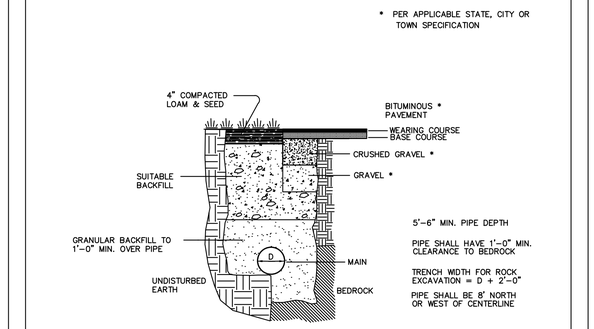
NOT TO SCALE



LOAM & SEED DETAIL

NOT TO SCALE

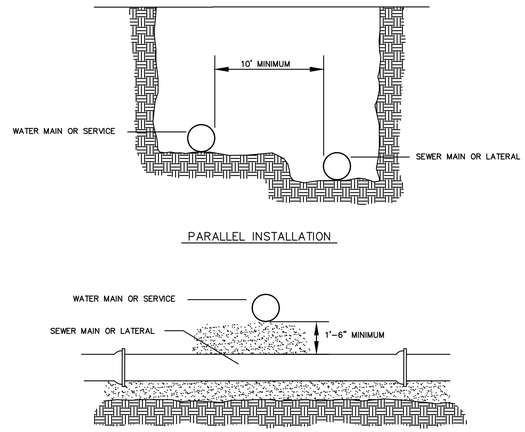
(FOR PERMANENT STABILIZATION OF AREAS, TYPICALLY LOCATED AROUND PERIMETER OF FINAL EXCAVATION WORK LIMITS.)



TYPICAL TRENCH DETAIL

NOT TO SCALE

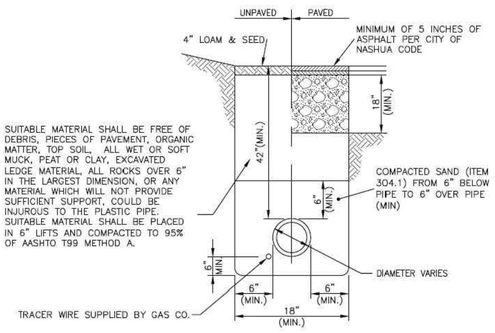
REVISED	MANCHESTER WATER WORKS MANCHESTER,NH	SD1
6-22-95	STANDARD DETAIL	



WATER MAIN/SEWER MAIN SEPARATION

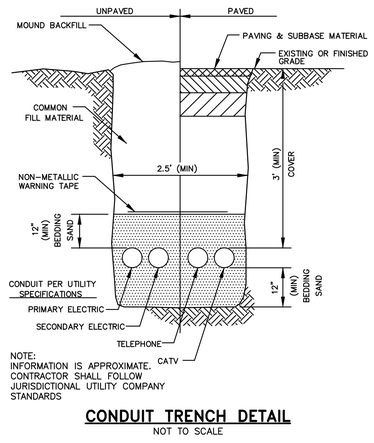
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REVISED	MANCHESTER WATER WORKS MANCHESTER,NH	SD6
6-22-95	STANDARD DETAIL	



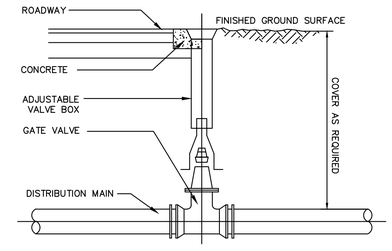
GAS LINE TRENCH DETAIL

NOT TO SCALE



CONDUIT TRENCH DETAIL

NOT TO SCALE



TYPICAL WATER GATE VALVE

NOT TO SCALE

DETAIL SHEET 1

TAX MAP 15 LOT 150
222 ROCKINGHAM ROAD
LONDONDERRY, NH
BOOK 6526 PAGE 081

OWNER/APPLICANT:
DARK HORSE INVESTMENTS, LLC
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053

SCALE: N.T.S

DATE: MAY 2, 2025

BENCHMARK DATA:

TBM-T1:
SPIKE SET
ELEV.=281.88'

TBM-T2:
MAG NAIL SET
ELEV.=289.02'

STATE OF NEW HAMPSHIRE - DOUGLAS G. MacGUIRE No. 13325 - LICENSED PROFESSIONAL ENGINEER

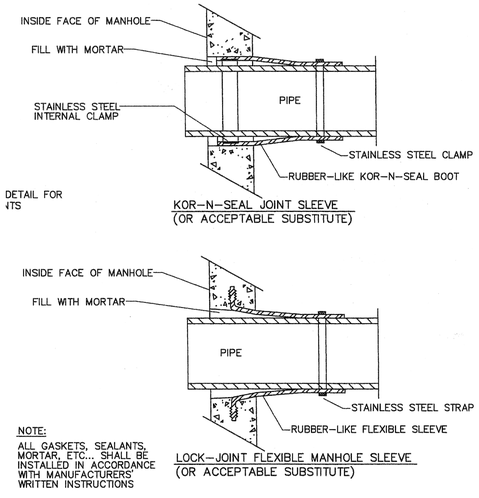
NO.	DATE	DESCRIPTION	BY

REVISIONS

The Dubay Group, Inc.
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Engineers | Planners | Surveyors

Drawn By: JHD
Checked By: DGM
Project: 640
File: 640-SUB_DETAILS

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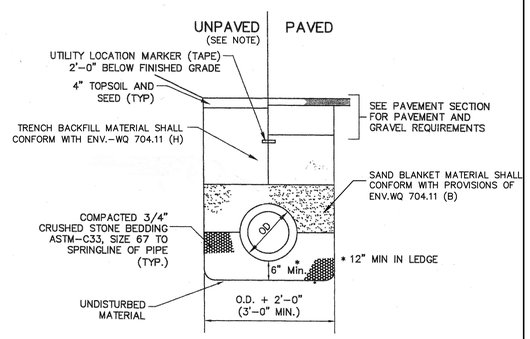
NOTE:

ALL GASKETS, SEALANTS, MORTAR, ETC... SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS

PIPE TO SEWER MANHOLE JOINTS

NOT TO SCALE

EXHIBIT SW4



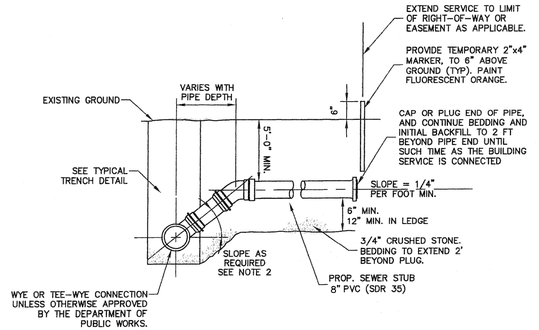
NOTE:

BACKFILL SHALL BE MOUNDED 6" ABOVE ORIGINAL GROUND IN CROSS COUNTRY LOCATIONS (ENV-WQ 704.05 (J))

TYPICAL SEWER PIPE TRENCH

NOT TO SCALE

EXHIBIT SW1



NOTES:

1. ALL SERVICE CONNECTIONS TO BE 6" MINIMUM UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
2. USE CHIMNEY DETAIL WHERE SERVICE CONNECTION ENTERS SEWER AT GREATER THAN 60° TO THE HORIZONTAL.

DETAIL FOR SEWER SERVICE CONNECTION

NOT TO SCALE

EXHIBIT SW5

NHDES GRAVITY SEWER PIPE MATERIAL SPECIFICATIONS (ENV-WQ 704.05)

1. PLASTIC GRAVITY SEWER PIPE AND FITTINGS SHALL BE CERTIFIED BY THE MANUFACTURER AS COMPLYING WITH ASTM D3034 FOR 8-INCH THROUGH 15-INCH SDR 35 PVC PIPE. PLASTIC SEWER PIPE SHALL HAVE A PIPE STIFFNESS RATING OF AT LEAST 46 POUNDS PER SQUARE INCH AT 5 PERCENT PIPE DIAMETER DEFLECTION, AS MEASURED BY THE MANUFACTURER IN ACCORDANCE WITH THE ASTM D2412 STANDARD IN EFFECT WHEN PIPE WAS MANUFACTURED. JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL AND CERTIFIED BY THE MANUFACTURER AS CONFORMING TO THE ASTM D3212 STANDARD IN EFFECT WHEN THE JOINT SEALS WERE MANUFACTURED, AND SHALL BE PUSH-ON, BELL-AND-SPIGOT TYPE.

NHDES GRAVITY SEWER PIPE TESTING REQUIREMENTS [ENV WQ 704.06]

1. ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF LOW-PRESSURE AIR TESTS.
2. LOW-PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH THE FOLLOWING TESTING STANDARDS IN EFFECT AT THE TIME THE TEST IS CONDUCTED:
   - 2.1. ASTM F1417 "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW-PRESSURE AIR", AVAILABLE AS NOTED IN APPENDIX D; OR
   - 2.2. UNI-BELL PVC PIPE ASSOCIATION UNI-B-6, "LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE", AVAILABLE AS NOTED IN APPENDIX D.
3. ALL NEW GRAVITY SEWERS SHALL BE:
   - 3.1. CLEANED AND VISUALLY INSPECTED USING A LAMP TEST AND BY INTRODUCING WATER TO DETERMINE THAT THERE IS NO STANDING WATER IN THE SEWER; AND
   - 3.2. TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE.
4. ALL PLASTIC SEWER PIPE SHALL BE VISUALLY INSPECTED AND DEFLECTION TESTED NOT LESS THAN 30 DAYS NOR MORE THAN 90 DAYS FOLLOWING INSTALLATION.
5. THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5% PERCENT OF AVERAGE INSIDE DIAMETER. A RIGID BALL OR MANDREL WITH A DIAMETER OF AT LEAST 95% OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED FOR TESTING PIPE DEFLECTION. THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES.

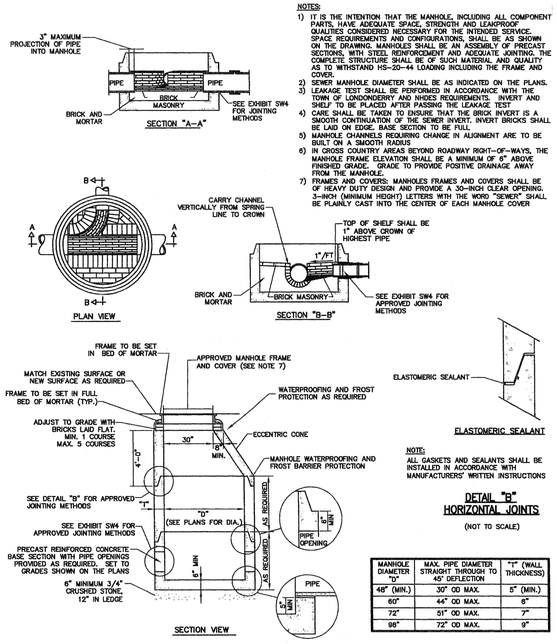
SEWER MANHOLE NOTES

1. BASE SECTION SHALL BE MONOLITHIC TO A POINT AT LEAST 6" ABOVE THE CROWN OF INCOMING PIPE PER ENV-WQ 704.12(E)
2. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANT.
3. ALL PRECAST SECTIONS AND BASES SHGALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP-PROOFING COATING.
4. BRICK MASONRY SHALL CONFORM WITH ASTM C32 PER ENV-WQ (A)(9)
5. PRECAST CONCRETE MANHOLES SHALL CONFORM WITH ASTM C478 (ENV-WQ 704.13 (A)(3)).
6. MANHOLE CASTINGS SHALL CONFORM WITH ASTM A48/48M ENV-WQ 704.13 (A)(8)).
7. BRICK MASONRY SHALL CONFORM WITH ASTM C32 (ENV-WQ 704.13 (A)(9)).
8. MORTAR USED FOR MANHOLE CONSTRUCTION SHALL CONFORM WITH ENV-WQ 704.13 (C).
9. THE TOWN OF LONDONDERRY PROHIBITS THE USE OF MANHOLE STEPS.

NHDES SEWER MANHOLE TESTING NOTES

MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST IN ACCORDANCE WITH ASTM C1244. A MANHOLE MAY BE BACKFILLED PRIOR TO PERFORMING A VACUUM TEST, BUT IF THE MANHOLE FAILS THE VACUUM TEST, BACKFILL SHALL BE REMOVED SO REPAIRS TO THE MANHOLE CAN BE MADE FROM THE OUTSIDE OF THE MANHOLE PRIOR TO RETESTING. THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:

1. THE INITIAL VACUUM GAUGE TEST PRESSURE SHALL BE 10 INCHES HG; AND
2. THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR A 1-INCH HG PRESSURE DROP TO 9 INCHES HG SHALL BE:
   - a. NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FEET DEEP IN DEPTH;
   - b. NOT LESS THAN 2.5 MINUTES FOR MANHOLES 10 TO 15 FEET DEEP; AND
   - c. NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FEET DEEP;
3. THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIMES FAIL TO ACHIEVE THE ACCEPTANCE LIMITS SPECIFIED.



MANHOLE DIAMETER "D"	MAX. PIPE DIAMETER STRAIGHT THROUGH TO 45° DEFLECTION	"T" (WALL THICKNESS)
48" (MIN.)	30" OD MAX.	5" (MIN.)
60"	44" OD MAX.	6"
72"	51" OD MAX.	7"
96"	72" OD MAX.	9"

NOTES:

1) IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT AND ADEQUATE JOINTING. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND HS-20-44 LOADING INCLUDING THE FRAME AND COVER.
2) SEWER MANHOLE DIAMETER SHALL BE AS INDICATED ON THE PLANS.
3) LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF LONDONDERRY AND NHDES REQUIREMENTS. INVERT AND SHELF TO BE PLACED AFTER PASSING THE LEAKAGE TEST
4) CARE SHALL BE TAKEN TO ENSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE. BASE SECTION TO BE FULL.
5) MANHOLE CHANNELS REQUIRING CHANGE IN ALIGNMENT ARE TO BE BUILT ON A SMOOTH RADIUS
6) IN CROSS COUNTRY AREAS BEYOND ROADWAY RIGHT-OF-WAYS, THE MANHOLE FRAME ELEVATION SHALL BE A MINIMUM OF 6" ABOVE FINISHED GRADE. GRADE TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE MANHOLE.
7) FRAMES AND COVERS: MANHOLES FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. 3-INCH (MINIMUM HEIGHT) LETTERS WITH THE WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH MANHOLE COVER

TYPICAL SEWER MANHOLE

NOT TO SCALE

EXHIBIT SW2

TOWN OF LONDONDERRY NOTES

A. THE SEWER CONNECTIONS SHALL BE INSPECTED BY AUTHORIZED TOWN OF LONDONDERRY ENGINEERING AND ENVIRONMENTAL SERVICES DEPARTMENT PERSONNEL BEFORE ANY BACKFILLING. INSPECTION HOURS ARE BETWEEN 9:00 AM AND 4:30 PM, MONDAY – FRIDAY, WITH AT LEAST 2 DAYS OF ADVANCE NOTICE.

B. ALL NEW SEWER SERVICE MANHOLES SHALL BE VACUUM TESTED, AND ALL NEW PVC PIPING SHALL BE PRESSURE TESTED WITH AUTHORIZED TOWN OF LONDONDERRY ENGINEERING AND ENVIRONMENTAL SERVICES DEPARTMENT PERSONNEL PRESENT ON SITE AS A WITNESS.

C. ALL SEWER CONSTRUCTION AND USE SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE STANDARD SEWER CONSTRUCTION SPECIFICATIONS AND THE TOWN OF LONDONDERRY SEWER USE ORDINANCE.

D. NO FOUNDATION DRAINS, ROOF DRAINS, FLOOR DRAINS, OR OTHER "NON-SANITARY DRAINS" SHALL BE CONNECTED TO THE MUNICIPAL SEWER.

E. THE TOWN DOES NOT APPROVE THE USE OF FLEXIBLE "FERNCO" STYLE FITTINGS.

BENCHMARK DATA:

TBM-T1:
SPIKE SET
ELEV.=281.88'

TBM-T2:
MAG NAIL SET
ELEV.=289.02'

STATE OF NEW HAMPSHIRE – DOUGLAS G. MacGUIRE No. 13325 – LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY

REVISIONS

DETAIL SHEET 2

TAX MAP 15 LOT 150
222 ROCKINGHAM ROAD
LONDONDERRY, NH
BOOK 6526 PAGE 081

OWNER/APPLICANT:
DARK HORSE INVESTMENTS, LLC
222 ROCKINGHAM ROAD
LONDONDERRY, NH 03053

SCALE: N.T.S DATE: MAY 2, 2025

The Dubay Group, Inc.
136 Harvey Road Bldg B101
Londonderry, NH 03053
603-458-6462 - www.thedubaygroup.com
Engineers | Planners | Surveyors

Drawn By: JHD
Checked By: DGM
Project: 640
File: 640-SUB_DETAILS

SHEET 8 of 8

N:\=PROJECTS\640-Norton-222 Rockingham Rd\DWG\CURRENT\640-SUB_DETAILS.dwg

LONDONDERRY PLANNING BOARD
SITE PLAN APPLICATION & CHECKLIST

Planning Department Date Stamp

☐ **Design review** ☑ **Formal Application**

All information provided and submitted with this Application Checklist shall conform to the Londonderry Site Plan Regulations. ***Please note that the Planning Board may not accept and consider the application complete if the required items as outlined in the checklist are missing from the submittal.***

❑ Site Plan Amendment

I. General Information:

A. Project Name: 222 Rockingham Road — 15 *(Map)* 150-1 *(Lot)*

B. Project Location: 222 Rockingham Road — Zone: C-I

C. Primary Contact: Doug MacGuire, PE — Phone: 603-458-6462

❑ Applicant ❑ Owner ☑ Engineer/Surveyor — E-Mail: Doug@thedubaygroup.com

D. Applicant's Name: Same as Owner

Address: _____ City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____ E-Mail: _____

Applicant Signature: _____ Date: _____

E. Owner's Name: Dark Horse Investments, LLC

Address: 222 Rockingham Road City: Londonderry State: NH Zip: 03053

Phone: 1-978-866-6188 Fax: _____ E-Mail: johnjnorton1@gmail.com

Owner's Signature: _____ Date: 1-15-2026

F. Engineer/Surveyor (Firm Name): The Dubay Group, Inc.

Address: 136 Harvey Road Bldg B101 City: Londonderry State: NH Zip: 03053

Phone: 603-458-6462 Fax: (Use Email) E-Mail: Doug@thedubaygroup.com

1) Name of Licensed Land Surveyor: Joel Connolly, LLS

Signature: _____

2) Name of Licensed Professional Engineer: Douglas MacGuire, PE

Signature: _____

3) Name of Certified Soil Scientist: Bruce Gilday

4) Name of Certified Wetland Scientist: Bruce Gilday

5) Name of Licensed Traffic Engineer: Rob Woodland

G. Lot Area (SF) 365,801 Existing Building Footprint (SF): N/A Proposed Addition (SF) N/A

☑ Change or ☐ Additional Use(s): Four 5,245 SF buildings containing 12 two-bedroom apartments & a 576 SF Utility She

Site Plan Application Checklist

☑ Additional Pavement (SF): 62,823 SF ☐ Other Modification: _____

II. General Requirements (All Applications):

		Provided	N/A
1.	Executed Site Plan Application Form	☑	
2.	Complete Abutters list, 3 sets mailing labels	☑	
3.	Application Fees	☑	
4.	Four (4) sets of plans and electronic "PDF" plans (See #11)	☑	
5.	Copies of proposed easement deeds, protective covenants or other legal documents	☑	❑
6.	Waiver request(s) with justifications	☑	❑
7.	Technical reports and supporting documents (Drainage report, Traffic Study, etc.)	☑	❑
8.	Completed Site Plan Application Checklist	☑	
9..	Escrow Agreement and Fees	☑	❑
10..	Conditional Use Permit request(s) with justifications per Zoning	☑	❑
11.	Response Letter to DRC Review and 2 highlighted plans (Plans may substitute for 2 sets required in #4 above)	☑	❑

III. General Plan Information (All Plans):

		Provided	N/A
1.	Size and presentation of sheet(s) per requirements of the site plan regulations	☑	
2.	Title block information:		
	a. Drawing title	☑	
	b. Name of site plan	☑	
	c. Location of site plan	☑	
	d. Tax map & lot #s of subject parcel(s)	☑	
	e. Name & address of owner(s)	☑	
	f. Date of plan	☑	
	g. Scale of plan	☑	
	h. Sheet number	☑	
	i. Name, address, & telephone number of design firm	☑	
	j. Name and address of Applicant	☑	
3.	Revision block	☑	
4.	Planning Board approval block provided on appropriate sheets (Cover sheet, site plan, landscape plan only)	☑	
5.	Certification block (for engineer, surveyor, soil scientist, or wetland scientist)	☑	
6.	Match lines (if any)	❑	☑

Site Plan Application Checklist

IV. **Master Site Plan Sheet**: (Applicant may provide separate Title Sheet)

			Provided	N/A
1.		The following notes shall be provided:		
	a.	Purpose of plan	☑	
	b.	Tax map and lot #s of all subject parcels	☑	
	c.	Area (existing & proposed) of subject parcel(s)	☑	
	d.	Zoning designation of subject parcel(s)	☑	
	e.	Min. lot area, frontages & setback dimensions	☑	
	f.	Existing and proposed uses	☑	
	g.	Parking calculations, as outlined in the Regulations	☑	
	h.	% green area, as outlined in the Zoning Ordinance	☑	
	i.	% building coverage, as outlined in the Zoning Ordinance	☑	
	j.	Sanitary sewer source (name of provider company if offsite)	☑	
	k.	Water supply source (name of provider company if offsite)	☑	
	l.	Zoning variances/special exceptions with conditions	☑	❑
	m.	List FEMA sheet(s) used to identify 100-year flood elevation. (Note if no flood zone present as applicable)	☑	
	n.	List of required permits and permit approval numbers	☑	❑
	o.	List of Planning Board waivers and Conditional Use Permits with Regulation or Ordinance section reference (if applicable)	☑	❑
	p.	Note identifying which plans are on file at the Town	☑	❑
	q.	Note the following: "If, during construction, it becomes apparent that deficiencies exist in the approved design drawings, the Owner shall be required to correct the deficiencies to meet the requirements of the regulations at no expense to the Town."	☑	❑
	r.	Note the following: "If, during construction, it becomes apparent that additional erosion control measures are required to stop any erosion on the construction site due to actual site conditions, the Owner shall be required to install the necessary erosion protection at no expense to the Town."	☑	❑
	s.	Note the following: "All materials and methods of construction shall conform to Town of Londonderry Site Plan Regulations and the latest edition of the New Hampshire Department of Transportation's Standard Specifications for Road & Bridge Construction."	☑	❑
	t.	Note the following: "In accordance with Section 6.01 of the Londonderry Site Plan Regulations and RSA § 676:13, all improvements specified on these site plans shall be constructed, completed, and inspected and approved by the Town of Londonderry prior to the issuance of a certificate of occupancy."	☑	❑

	u.	For sites requiring off-site improvements, note the following: "In accordance with Section 6.01 of the Londonderry Site Plan Regulations and RSA § 676:12, all off-site improvements specified on these site plans shall be constructed, completed, and inspected and approved by the Town of Londonderry (and/or the NHDOT, if applicable) prior to the issuance of a certificate of occupancy."	☑	❑
2.		Vicinity plan (at a scale of 1"=2500')	☑	
3.		Plan index indicating all sheets	☑	❑

V. **Existing Conditions Plan:**

			Provided	N/A
1.		Surveyor's certification stamped and signed by LLS	☑	
2.		Boundary of entire property by metes and bounds	☑	❑
3.		Boundary monuments:		
	a.	Monuments found	☑	❑
	b.	Monuments to be set	☑	❑
4.		Map # and Lot #, name addresses, and zoning of all abutting land owners	☑	
5.		Existing streets:		
	a.	Name labeled	☑	❑
	b.	Status noted or labeled	☑	❑
	c.	Right-of-way dimensioned	❑	❑
	d.	Pavement width dimensioned	☑	❑
6.		Municipal boundaries (if any)	❑	☑
7.		Existing easements (identified by type)	☑	❑
8.		North arrow	☑	
9.		Locus map (at a scale of 1" = 2,500)	☑	
10.		Limits of wetlands & CO District Boundary	☑	❑
11.		Wetland delineation criteria & Certification	☑	❑
12.		SCS Soils (Boundary & Type)	☑	
13.		Owner(s) signature(s)	☑	
14.		All required setbacks (including any applicable buffers)	☑	
15.		Existing physical features:		
		Buildings	☑	❑
		Wells	❑	☑
		Septic systems	❑	☑
		Stone walls	☑	❑
		Paved drives	☑	❑
		Gravel drives	☑	❑
16.		Location & name (if any) of any streams or waterbodies	❑	☑
17.		Location & elevation(s) of 100-year flood zone per FEMA Flood Insurance Study or as determined by drainage study	☑	❑
18.		Location of existing overhead utility lines, poles, towers, etc.	☑	❑
19.		Plan and deed references	☑	❑
20.		Zoning District boundary lines (if any)	☑	❑

Site Plan Application Checklist

VI. **Improvement Plans (Grading Plan, Utility Plan, etc. and Stamped by Engineer Licensed in NH):**

			Provided	N/A
1.	**Grading and Drainage Plan:**			
	a.	Existing topography (two-foot contour interval minimum)	☑	☐
	b.	Proposed contours	☑	☐
	c.	Existing spot elevations	☑	☐
	d.	Proposed spot elevations	☑	☐
	e.	Existing edge of pavement	☑	☐
	f.	Proposed edge of pavement	☑	☐
	g.	Existing curb line	☐	☑
	h.	Proposed curb line	☑	☐
	i.	Existing buildings and structures	☑	☐
	j.	Proposed buildings and structures	☑	☐
	k.	Existing retaining walls	☐	☑
	l.	Proposed retaining walls	☐	☑
	m.	Existing stone walls	☑	☐
	n.	Proposed and reconstructed stone walls	☐	☑
	o.	Wetland Mapping		
		1.) Wetland limits identified	☑	☐
		2.) Impact Area in square feet for each individual location	☑	☐
		3.) Mitigation areas (as may be required)	☑	☐
	p.	Existing treeline	☑	☐
	q.	Proposed treeline	☑	☐
	r.	Benchmarks	☑	☐
	s.	Existing drainage systems:		
		1) Pipes/culverts (each location):		
		i. Type	☐	☑
		ii. Size	☐	☑
		iii. Length and slope	☐	☑
		iv. Inverts	☐	☑
		v. End sections/Headwalls	☐	☑
		2) Structures (catch basins, drain manholes, special structures):		
		i. Location (station and off-set)	☐	☑
		ii. Type	☐	☑
		iii. Size	☐	☑
		iv. Rim Elevations	☑	☐
		v. Inverts	☑	☐
		3) Swales/Ditches/Waterways:		
		i. Flow arrows (direction of flow)	☐	☑
		ii. Topography	☐	☑
		iii. Spot elevations	☐	☑
	t.	Proposed Drainage Systems:		
		1) Pipes/culverts (each location):		
		i. Type	☑	☐
		ii. Size	☑	☐
		iii. Length and slope	☑	☐
		iv. Inverts	☑	☐
		v. End sections/headwalls	☑	☐
		vi. Identify minimum cover and location	☐	☑
		vii. Outlet erosion protection	☑	☐

Site Plan Application Checklist

			Provided	N/A
2)	Structures (catchbasins, drain manholes, special structures):			
	i.	Location (sta. and off-set)	❑	☑
	ii.	Type	☑	❑
	iii.	Size	☑	❑
	iv.	Rim elevations	☑	❑
	v.	Inverts	☑	❑
3)	Swales/ditches/waterways:			
	i.	Flow arrows (direction of flow)	❑	☑
	ii.	Grading	❑	☑
	iii.	Spot elevations	❑	☑
	iv.	Erosion protection (riprap, matting, etc.)	❑	☑
u.	Temporary erosion protection during construction:			
1)	Silt fence, haybales, etc.		☑	❑
2)	Matting, mulch, etc.		☑	❑
v.	Tree protection for existing areas and/or individual trees 15” in diameter or greater		☑	❑
w.	Plan note stating that the edge of the Conservation Overlay District and Non-Distubance Zones shall be appropriately delineated in the field prior to construction		☑	❑

2. Utilities Plan:

			Provided	N/A
a.	Existing sanitary sewer system:			
1)	Pipes:			
	i.	Type	☑	❑
	ii.	Size	☑	❑
	iii.	Length and slope	❑	☑
2)	Structures:			
	i.	Location (sta. and off-set)	❑	☑
	ii.	Type	☑	❑
	iii.	Size	☑	❑
	iv.	Rim elevations	☑	❑
	v.	Inverts	☑	❑
b.	Proposed sanitary sewer system:			
1)	Pipes (gravity):			
	i.	Type	☑	❑
	ii.	Size	☑	❑
	iii.	Length and slope	☑	❑
	iv.	Separation (18" below water)	☑	❑
	v.	Identify minimum cover and locations	❑	☑
2)	Force Main:			
	i.	Type	❑	☑
	ii.	Size	❑	☑
	iii.	Direction of flow (flow arrows)	❑	☑
	iv.	Bends and thrust blocking	❑	☑
	v.	Air relief valves and structures	❑	☑
	vi.	Clean-out structures	❑	☑
	vii.	Identify minimum cover and locations	❑	☑
3)	Structures:			
	i.	Location (sta. and off-set)	❑	☑
	ii.	Type	☑	❑
	iii.	Size	☑	❑
	iv.	Rim elevations	☑	❑
	v.	Inverts	☑	❑
4)	Service laterals to each individual lot:			
	i.	Type	☑	❑

			Provided	N/A
	ii.	Size	☑	❑
	iii.	Length and slope	☑	❑
	iv.	Separation (18" below water)	☑	❑
	v.	Minimum cover and locations identified	❑	☑
	vi.	Location of connection	☑	❑
c.	Existing Water System:			
1)	Pipes:			
	i.	Type	☑	❑
	ii.	Size	☑	❑
2)	Hydrants		☑	❑
3)	Valves		☑	❑
4)	Bends and thrust blocks		❑	☑
5)	Tees		☑	❑
d.	Proposed Water System:			
1)	Pipes:			
	i.	Type	☑	❑
	ii.	Size	☑	❑
2)	Hydrants			
	i.	Locations approved by Fire Department	☑	❑
3)	Valves		☑	❑
4)	Bends and thrust blocks		☑	❑
5)	Tees		☑	❑
e.	Existing Gas Lines:			
1)	Pipes:			
	i.	Type	☑	❑
	ii.	Size	☑	❑
2)	Valves		❑	❑
f.	Proposed Gas Lines:			
1)	Pipes:			
	i.	Type	☑	❑
	ii.	Size	☑	❑
2)	Valves		❑	☑
3)	Services to each lot		❑	☑
g.	Telephone/Electrical/Cable:			
1)	U-poles		☑	❑
2)	Pedestals/transformers		☑	❑
3)	Overhead lines		☑	❑
4)	Underground lines		☑	❑
5)	Services to each lot		☑	❑

3. **Roadways:** If streets are to be built as part of a site plan (e.g., for a multi-family residential site plan), then the design of such streets shall comply with Section 3.09 of the Londonderry Subdivision Regulations, please see Subdivision Application Checklist.

VII. **Landscape Plan (Section 3.09):**

			Provided	N/A
1.	General Information			
a.	Native Plants as suggested by Appendix LS1		☑	❑
b.	No use of Invasive materials as listed in Appendix LS2		☑	❑
c.	Plant materials meet winter hardiness requirement		☑	❑

Site Plan Application Checklist

			Provided	N/A
	d.	Proposed materials are of proper caliper or height	☑	❑
	e.	Stone walls incorporated into Landscape Plan	❑	☑
	f.	Existing vegetation preservation (no-cut) areas described by metes and bounds and monumented	❑	❑
	g.	Landscaping Calculations	☑	❑
	h.	Plant Schedule	☑	❑
	I.	Landscaping Details	☑	❑
	j.	Tree Protection Detail	❑	☑
	k.	Note on Plan stating No Plant Conflicts with Snow Storage Areas, Light Fixtures, Underground Utilities	☑	❑
	l.	Note on Plan stating No Landscaping Conflicts with Sight Distance	☑	❑
	m.	Submit a Landscape Master Sheet for Review (Landscaping, site features, snow storage, light poles, detention basin edges, grading, utilities)	☑	❑
2.	Parking Lot Landscaping			
	a.	Interior landscaping percentage based on Section 3.11e	☑	❑
	b.	Interior shade trees @ 1 per 15 parking spaces	☑	❑
	c.	Perimeter shade trees @ 1 per 20 parking spaces OR 1 per 50 feet of perimeter with buffer required	☑	❑
	d.	Screening provides proper vertical opacity per Section 3.11e	☑	❑

VIII. Illumination Plan & Lighting Details (Section 3.13):

		Provided	N/A
1.	Full Cut-Off Fixtures with plan note stating all lights are full cut-off fixtures as required	☑	❑
2.	Shielded, downcast building/external signage lighting	❑	☑
3.	No direct light source at residential property lines	☑	❑
4.	Plan to scale with illumination levels shown in footcandles	☑	❑
5.	Specification (details) for all proposed lighting fixtures including photometric data, designation as IESNA “cut-off” fixtures, Color Rendering Index (CRI) of all lamps (bulbs), and other descriptive information about fixtures	☑	❑
6.	Proposed mounting height of all exterior lighting fixtures	☑	❑
7.	Illumination levels not to exceed 0.2 footcandles at any property line (Except at driveway intersections per Regulations)	☑	❑
8.	Gas Station Canopies to meet requirements of Appendix Light 2	❑	☑

IX. Building Design & Renderings (Section 3.12):

1.	Building Elevations/Renderings in compliance with Section 3.13	☑	❑
2.	Signage renderings/details	❑	☑
3.	Large Retail Establishments - Comply with Section 3.13H	❑	☑

Site Plan Application Checklist

X. Construction Detail Drawings:

Note: *Construction details to conform with NHDOT Standards & Specifications for Roads & Bridges, Town of Londonderry Department of Public Works requirements, and Subdivision & Site Plan Regulations*

		Provided	N/A
1.	Typical cross-section of pavement	☑	❑
2.	Typical driveway apron detail	☑	❑
3.	Curbing detail	☑	❑
4.	Guardrail detail	☑	❑
5.	Sidewalk detail	☑	❑
6.	Traffic signs and pavement markings	☑	❑
7.	Typical underdrain trench detail	❑	☑
8.	Drainage structure(s):		
	a. Catchbasin (including frame and grate)	☑	❑
	b. Manhole (including frame and cover)	☑	❑
	c. Outlet structure (detention basins)	☑	❑
	d. Headwalls	☑	❑
	e. Flared end sections	☑	❑
9.	Outlet protection riprap apron	☑	❑
10.	Level spreader	❑	☑
11.	Treatment swale	❑	☑
12.	Typical section at detention basin	☑	❑
13.	Typical pipe trench:		
	a. Drainage	☑	❑
	b. Sewer	☑	❑
	c. Water	☑	❑
	d. Utilities	☑	❑
14.	Sewer structures:		
	a. Manholes (including frame and cover, inverts)	☑	❑
	b. Drop manholes	❑	☑
	c. Special structures (pump stations, blowoffs, etc.)	❑	☑
	d. Pipe manhole joint details	☑	❑
15.	Typical sewer lateral service connection detail	☑	❑
16.	Project specific sewer details (sleeves, etc.)	❑	☑
17.	Typical sewer notes (per NHDES & Sewer Div. requirements)	☑	❑
18.	Hydrant detail	☑	❑
19.	Thrust block details	☑	❑
20.	Valve box detail	❑	☑
21.	Typical water connection service detail	☑	❑
22.	Erosion control details:		
	a. Haybale barriers at waterways	❑	☑
	b. Silt fence	☑	❑
	c. Stone check dam	☑	❑
	d. Stone construction entrance	☑	❑
	e. Inlet filter basket	☑	❑
	f. Haybale barrier at catchbasin	❑	☑

24.	Notes:			
	a.	General notes as required by the Department of Public Works	☑	❑
	b.	Construction sequence	☑	❑
	c.	Erosion control notes	☑	❑
	d.	Turf establishment notes	☑	❑
	e.	Sewer construction notes (as required by Sewer Ordinance)	☑	❑
	f.	Water system construction notes (as required by local water company)	☑	❑
25.	Tree protection details		❑	☑

XI. Supporting Documentation:

			Provided	**N/A**
1.	Traffic Impact Analysis:			
	a.	Traffic Impact analysis as required by Section 3.14	☑	❑
2.	Stormwater management report including the following:			
	a.	Table of contents	☑	❑
	b.	Narrative statement (including conclusions)	☑	❑
	c.	Summary table comparing existing and post-development conditions	☑	❑
	d.	Summary table of data for each pipe & piping system:		
		1.) Discharge	☑	❑
		2.) Depth of flow	☑	❑
		3.) Velocity	☑	❑
	e.	Summary table of data for each swale & channel:		
		1.) Discharge	❑	☑
		2.) Depth of flow	❑	☑
		3.) Velocity	❑	☑
	f.	Project location plan (on USGS quadrangle)	☑	❑
	g.	Watershed area plan for existing condition	☑	❑
	h.	Watershed area plan for post-development condition	☑	❑
	i.	Runoff calculations for existing & post-development conditions	☑	❑
	j.	Flood routing calculations for each detention basin	☑	❑
	k.	Design for water quality treatment facilities (level spreaders, treatment swales, etc.)	☑	❑
	l.	Riprap design calculations	☑	❑
	m.	Report stamped by licensed professional engineer in NH	☑	❑
3.	Fiscal impact study provided (if required)		❑	☑
4.	Off-site improvements:			
	a.	Design plans included in the project drawings	❑	☑
	b.	Arrangements and agreements	❑	☑
	c.	Easements	❑	☑
5.	Utility clearance letters (as applicable):			
	a.	Electric	☑	❑
	b.	Telephone	☑	❑
	c.	Cable television	☑	❑
	d.	Gas	☑	❑
	e.	Water	☑	❑
	f.	Sewer	❑	❑
6.	Other project-specific information as required by the Design Review Committee (DRC)		☑	❑

Site Plan Application Checklist

XII. Required Project Permits (as applicable to applications):

		Provided	N/A	App Submitted
1.	NHDES site-specific approval	❑	☑	❑
2.	NHDES wetlands permit	☑	❑	❑
3.	NHDES sewer discharge permit	❑	❑	☑
4.	NHDES water supply permit	❑	☑	❑
5.	NHDES dam permit	❑	☑	❑
6.	NHDOT driveway permit	☑	❑	❑
7.	Londonderry ZBA variance(s)/special exception(s)	❑	☑	❑
8.	Londonderry sewer discharge permit	❑	❑	☑
9.	Army Corps of Engineers	❑	☑	❑
10.	Federal Aviation Administration	❑	☑	❑
11.	Other federal, state or local permits (if applicable) for project NHDES Alteration of Terrain	☑	❑	❑

XIII. Acknowledgment and Signature:

The undersigned acknowledges he/she has read and understands all of the Town's current zoning, subdivision, site plan, and health regulations and requirements for obtaining all required local, state, and federal permits. .

Jake Doerfler

(Signature of person preparing plans)

Jake Doerfler, PE

(Name)

Project Engineer

(Title)

1/15/2026

(Date)

The Dubay Group, Inc.
136 Harvey Road, Bldg B101
Londonderry, NH 03053
603-458-6462 thedubaygroup.com

MEMORANDUM

To:	Londonderry Planning Board	Date:	January 15, 2026
From:	Doug MacGuire, PE	Re:	222 Rockingham Road Site Plan Waiver Requests

Waiver of Section 3.07.c.1 of the Site Plan Regulations

The applicant respectfully requests a waiver from Section 3.07.c.1 to allow for temporary surcharge of pipes during the 25-year storm. The surcharge is caused by the pond backing up to treat and meter the flow to the wetland. All pipes drain fully within 24 hours and surcharge only occurs during this large infrequent storm event. No surcharge occurs during 2-yr and 10-yr design storms and cleansing velocity is met in all pipes.

Waiver of Section 3.07.g.3 of the Site Plan Regulations

The applicant respectfully requests a waiver from Section 3.07.g.3 to allow for cover that is less than 36" for two pipes. The pipes with reduced cover are proposed to be class v reinforced concrete pipe. The upgraded material meets the regulation design objective which is to avoid damage to the pipe system due to traffic loads. Minimum pipe cover is required to successfully discharge to the proposed wet pond.

Application for a Conservation Overlay District Conditional Use Permit
Form A - For a Use permitted by Conditional Use Permit

Conditional Use permit is as part of a: ■ Site Plan ☐ Subdivision

I. General Information:

A. Name of Project: 222 Rockingham Road - Residential Site Plan

B. Location of Project: 222 Rockingham Road (Street) | 15 (Map #) | 150-1 (Lot #)

C. Applicant:

Name: Dark Horse Investments, LLC

Address: 222 Rockingham Road
Londonderry, NH 03053

Phone: 1-978-866-6188

Fax:

Signature:

II. Required Information:

- ■ Plans showing existing and proposed conditions.
- ■ Wetland delineation certified by a Certified Wetlands Scientist and mapped by a licensed land surveyor.
- ■ Areas on plans highlighted to show areas where conditional use permit is sought
- ■ Narrative description of project and conditional use permit request.
- ■ Criteria for conditional use permit described (see below).

III. Optional Information:

- ☐ Aerial Photographs
- ☐ Site Photographs

IV. Conditional Use Permit Criteria

Address, in the provided boxes, the following criteria in accordance with Section 2.6.3 of the Zoning Ordinance:

1. The proposed construction is essential to the productive use of land not within the CO District.

The site is currently undeveloped and wooded. Wetland fingers protrude through the site requiring a minor wetland impact to access to viable uplands. The proposed buffer impacts are necessary for slope grading related to the access drive and to provide an outfall for the treatment pond system. These impacts will be allowed to naturalize.

2. Design and construction materials will be such as to minimize impact upon the wetlands and will include restoration of the site consistent with the permitted use.

The proposed impacts are related to site grading. The side slopes adjacent to wetlands will be allowed to naturalize. Conservation signs are proposed to be installed along the buffer post construction.

3. There is no feasible alternative route on land controlled by the applicant that does not cross the CO District nor has less detrimental impact upon the wetlands. Nothing in this section shall limit the applicant from exploring alternatives with abutting property owners:

The proposed wetland impact is necessary to access the large upland areas to the rear of the property. This minor wetland impact would be to an isolated, drainage related wetland finger which is not directly connected to the larger wetland systems. Buffers to the other wetland systems are maintained subject to some very minor grading impacts.

4. Economic advantage is not the sole reason for the proposed location of the construction:

The buffer impacts for slope grading are required to access the rear, developable, piece of the property. The grading within the buffer is necessary, as the proposal is for a wet pond which requires the hydrology and elevation being adjacent to the existing wetlands to operate properly and discharge as required.

5. Square Footage of Wetland Impacts: 2,808 sq.ft.

6. Square footage of Buffer Impacts: 2,357 sq.ft.

The Dubay Group, Inc.
136 Harvey Road, Bldg B101
Londonderry, NH 03053
603-458-6462 thedubaygroup.com

MEMORANDUM

To:	Planning Board	Date:	May 20, 2025
From:	Doug MacGuire, PE The Dubay Group, Inc.	Re:	Conditional Use Permit Criteria Residential Use in C1 District

The applicant is respectfully requesting the planning board grant a conditional use permit to allow a multi-family residential use on the property. The conditional use permit is requested from **Section 4.6.6.5 – Uses Permitted in Performance Overlay District** of the Town of Londonderry Zoning Ordinance. The proposal consists of four (4) three-story buildings each with 12 residential units for a total of 48 units. The CUP criteria for Londonderry Zoning Ordinances Sections 6.2 and 6.3.11.E are detailed below.

Zoning Ordinance Section 6.2

A. *Granting of the application would meet some public need or convenience:*

It is widely documented that the state of New Hampshire and the Nation are currently in a housing shortage crisis. That said, additional affordable housing would meet the public's need for housing.

B. *Granting of the application is in the public interest:*

Satisfying the need for additional housing in the State is in the public's interest. This proposal brings a unique and affordable housing option to Town with a unit style which isn't currently available. This will give the public additional options when young professionals or downsizers are looking for suitable housing and wish to stay in Town.

C. *The property in question is reasonably suited for the use requested:*

The property is reasonably suited for multi-family units. The site can be developed meeting all applicable building and parking setbacks, green space requirements, and supporting infrastructure. The location is also a good transitional use with close proximity to the highway and amenities. Additionally, the back half of the property abuts existing residential uses and the existing wetlands on site limit visibility to the street which is a positive for residential and a potential negative for other commercial uses.

D. *The use requested would not have a substantial adverse effect on the rights of the owners of surrounding properties:*

The property is designed with all appropriate setbacks to surrounding properties. There are no proposed encroachments. All surrounding property owners remain free to maintain their properties and/or permit new developments as they deem fit.

E. *The traffic generated by the proposed use is consistent with the identified function, capacity, and level of service of transportation facilities serving the community:*

The traffic generated from a residential use would be less than that of a commercial use. Route 28 (Rockingham Road) is a direct access road to the highway system and would not negatively affect the level of service of transportation facilities that serve the community.

F. *There must be appropriate provisions for access facilities adequate for the estimated traffic from public streets and sidewalks, so as to assure public safety and to avoid traffic congestion:*

The proposed driveway exceeds Town sight distance requirements, and a traffic impact assessment was completed which evaluated the driveway intersection. The assessment concluded the existing roadway system would have no issue providing for the proposed use.

Zoning Ordinance Section 6.3.11E

1. *All performance criteria outlined in Section 4.6.7.7, as applicable to the application have been met:*

All applicable performance criteria outlined in Section 4.6.7.7 has been met with the design of this project. A site plan has been included which shows the applicable setbacks and buffers.

2. *The proposed use is consistent with the purpose and intent of the performance overlay district, Section 4.6.7.2:*

The purpose and intent of the Route 28 Overlay District is to minimize the overall impacts to the surrounding area and environment. The proposed project is expected to have little impact to the Route 28 corridor and surrounding local roads. This site has been designed to meet and exceed all the Londonderry runoff drainage and treatment standards, as well as provide a robust landscape design to increase aesthetics and buffers to neighboring parcels. The site has been designed to conform to the performance criteria set forth in the Ordinance.

3. *Granting of the application would meet some public need or convenience:*

   See Section A above.

4. *Granting of the application is in the public interest*:

   See Section B above.

5. *The property in question is reasonably suited for the use requested, and the design of the site represents to the extent practicable preservation of natural resources, open space, and does not create a hazard to surface or underground water resources:*

   The proposed plans meet all applicable building and parking setbacks as well as green space requirements supporting the proposal is appropriate for the subject site. Water resources are protected by proposed treatment systems meeting Local and State requirements. Buildings are situated on site working with existing topography, existing wetlands on site and their associated buffers.

The Dubay Group, Inc.
136 Harvey Road Bldg B101
Londonderry, NH 03053
(603) 458-6462

January 15, 2026

Ms. Kellie Caron
Community Development Department
268 Mammoth Road
Londonderry, NH 03053

RE: Proposed Site Plan
Tax Map 15 Lot 150
222 Rockingham Road

Dear Ms. Caron:

We have reviewed your latest comment letter dated December 9, 2025, for the above referenced project. Based on that review, we offer the following revised plan and responses to comments.

General Comments:

1. The Applicant has updated the cover sheet to include the recently approved NHDES wetland Permit and NHDOT driveway permit. We note the NHDES Alteration of Terrain, NHDES Sewer Discharge Permit, Londonderry Sewer Discharge Permit and Londonderry Stormwater Permit are listed and needed for the proposed development. The Applicant should submit for and obtain all project permits, indicate the permit approval numbers in the Permits & Approvals table on sheet 1 and provide copies of all permits for the Planning Department files per sections 4.13 and 4.18.e of the Site Plan Regulations and Item XII of the Site Plan Application & Checklist.

   TDG Response: *Alteration of Terrain, NHDES & Londonderry Sewer Connections Permits have been added to the cover. The Londonderry Stormwater Permit will be pursued with the town engineer once conditional approval has been granted by the Planning Board.*

2. The Applicant has not provided utility clearance letters for water or sewer service for the new lot under this application per sections 3.05, 3.06, and 4.18.B of the Site Plan Regulation and items XI.5.e and f of the checklist. We recommend the Applicant provide utility clearance letters in accordance with the regulations.

   TDG Response: *Utility clearance letter has been obtained from Manchester Water Works. Communication with the Town of Londonderry Sewer Division and The Dubay Group is on-going. As explained to The Dubay Group by Mr. Kerry of the Town of Londonderry, the sewer clearance letter will be in the form of the Londonderry Sewer Connection Permit, which cannot be provided until the NHDES Sewer Connection Permit is obtained.*

3. The Applicant has noted that additional information has been submitted to the Sewer Division in the response letter. It is our understanding that the requirements of the Londonderry Sewer permit will be reviewed further by the Londonderry Sewer Division.

TDG Response: *Communication with the Town of Londonderry Sewer Division and The Dubay Group is on-going. The sewer design is being reviewed by the sewer department. Details acceptable to the sewer department will be added to the details.*

4. The proposed project indicates impacts to the Conservation Overlay District (COD) will occur, and the Applicant has noted that a meeting with the Conservation Commission occurred in the response letter. We recommend the Applicant obtain recommendations for the CUP from the Conservation Commission for Planning board consideration.

   TDG Response: *The Conservation Commission recommended approval during the June 10th, 2025, meeting. Meeting Minutes are included in the resubmission.*

5. The Applicant has submitted a memorandum relative to the conditional use permit criteria for the proposed residential use under this application, but the submitted information does not address the density, design, and dimensional standards to demonstrate the allowed number of units per the requirements of Section 4.2.2.3.B.1 of the Zoning Ordinance is appropriate for this application. It is unknown how the number of dwelling units (48) indicated with this application was determined. It is unknown if the project would comply with Section 4.2.2.3.B.1 of the Ordinance under the CUP request for the project located in a Commercial I zone. We recommend the Applicant arrange a meeting with the Planning Department and Zoning Officer to discuss and confirm the CUP requirements for the project and update the design and application as applicable.

   TDG Response: *The question of density has been addressed. See email communication included in the resubmission.*

6. The Applicant's updated design includes filling within the indicated AE portion of the FEMA 100-year floodplain (loss of flood storage) and impacts to the Floodplain Overlay District of Section 4.6.3 of the Zoning Ordinance that are now identified. We note the revised plans included alterations to compensate for the flood storage losses, but a summary of the losses and gains was absent from the revised submission. We recommend a summary be provided on the plans for Planning Board consideration. We note that under section 4.6.3.4 of the Ordinance, a permit is required. We recommend the Applicant arrange a meeting with the Planning Department and Zoning Officer to discuss and confirm the Floodplain Overlay District impacts, the permit required for the project, and update the design and application as applicable.

   TDG Response: *A table has been added to Sheet 8 summarizing the floodplain impacts.*

7. The Applicant's updated submission did not provide copies of any proposed easement deeds, protective covenants, or other legal documents as required by section 4.18. C & D of the regulations and item II.6 of the Checklist. We recommend the Applicant provide draft copies for review by the Town in the next project submission.

   TDG Response: *The client is working with his Attorney to provide draft Legal documents for review and will be provided prior to the hearing.*

8. The submitted building renderings do not provide a proper title block location or complete title block information per section 4.02. of the regulations and item III.2 of the checklist. Please update the plans accordingly including a revision block.

   TDG Response: *The building rendering plans have been updated with the proper title block.*

9. We recommend the Applicant clarify/address the following on the **Cover Sheet and Existing Conditions Plan:**

   a. Please provide proper monuments along the new property lines and along the property boundary that are missing per sections 3.02.A & B and 4.12.c.4.ii of the regulations and item V.3.b of the checklist. Please update all sheets accordingly.

   b. Please provide a CWS endorsement (stamp) on the plans for the noted wetland delineation.

      TDG Response: *The Existing Conditions Plan has been updated accordingly.*

10. We recommend the Applicant clarify/address the following on the **Site Plan, Grading and Drainage Plan, Utility Plan, and Erosion Control Plan:**

    a. We recommend the Applicant note the type of anticipated delivery vehicle for the project on the site plan as typically requested by the Town.

       TDG Response: *The expected delivery vehicle type has been noted in note 16 on sheet 5.*

    b. Please label and dimension the 12’ access drive at the detention basin on the grading plan.

       TDG Response: *The 12’ access drive has been labeled.*

    c. Please label the height and number of stories for the proposed buildings on the site plan as typically requested by the Town.

       TDG Response: *Note 3 on Sheet 5 has been expanded to include the number of stories.*

    d. We recommend the Applicant verify the fire service location to the building with the Londonderry Fire Department per item VI.1.2.d.2 of the checklist. Please update the plans acceptable to the Fire Department.

       TDG Response: *The Fire Department has reviewed and commented on the plans. The Latest DRC comment letter does not indicate any remaining comments from the Fire Department.*

    e. The Applicant’s proposed access drive from Rockingham Road is dimensioned at 28 feet and does not comply with section 3.08.b.6 of the regulations (24-foot maximum). We note the driveway does taper to 24 feet within the site. We understand the Planning Board can grant an exception up to 36 feet.

       TDG Response: *Comment noted.*

f. The proposed grading along the easterly side of the driveway and parking lot shown on sheet 8 does not provide a proper 3H:1V embankment as typically requested by the Town. The revised design has noted the 2H:1V embankment slope as riprap. We recommend the design in this 2H:1V area include a guardrail along the parking area to NHDOT standards as typically requested by the Town. Please revise the design as acceptable to the Department of Engineering and Environmental Services.

TDG Response: *A steel beam guardrail has been added along the parking area. A NHDOT guardrail detail has been added to the plans.*

g. We recommend note 26 on sheet 10 (utility plan) be copied and provided on the grading plan – sheet 8 since the proposed detention basin grading is located within 5 feet of the existing gas line easement on the subject parcel. In addition, we recommend the Applicant provide documentation from the gas line Owner that they are aware of the proposed work in close proximity to the existing gas main under this project, as noted in the response letter, for inclusion in the Planning Board's project file.

TDG Response: *Note 26 has been added to the grading plan. Email communication between Kinder Morgan and the client has been included in the resubmission.*

h. Please verify the location and number of hydrants is acceptable to the Fire Department per section 4.14.b.4.ii of the regulations and item VI2.d.2.19 of the checklist.

TDG Response: *The Fire Department has reviewed and commented on the plans. The Latest DRC comment letter does not indicate any remaining comments from the Fire Department.*

i. Please label the inverts for the roof drains at CB2, CB3, and CB5 at the detention basin for the roof drain from Building C and the building inverts for the roof drains for proper construction.

TDG Response: *Roof drain inverts have been added.*

j. The revised sewer design included replacement of the existing sewer manhole at the site entrance that will require bypass pumping during removal and replacement. Please update the plans and details to address this necessary work as acceptable to the Sewer Division.

TDG Response: *Communication with the Town of Londonderry Sewer Division and The Dubay Group is on-going. The sewer design is being reviewed by the sewer department. Details acceptable to the sewer department will be added to the details.*

k. Please review and update the sheet numbers for the sight distance plan and profile.

TDG Response: *The sight distance plan and profile sheet number has been updated.*

l. Please remove the Planning Board signature block from the Landscape details - sheet 13 - per section 4.03 of the regulations.

TDG Response: *The landscape detail sheet has been updated.*

11. We recommend the Applicant address the following relative to the **Project Drainage Analysis**:

    a. The existing conditions in the revised report includes new subcatchment 2S that is not indicated on the existing conditions drainage area plan or the post development plan. In addition, the post development calculations do not include this subcatchment. Please clarify/ explain this new subcatchment, update the plans, and update the post development analysis accordingly to demonstrate compliance with the regulations.

    TDG Response: *The subcatchment 2S was an error in the model and has been removed.*

    b. Please update the off-site abutters drainage evaluation spreadsheet to indicate the 25-year design storm event results (versus 10- year) as required by section 3.07.e.4 the regulations.

    TDG Response: *The offsite abutter table has been updated.*

    c. The revised pipe summary table indicates the 25-year velocity for DMH#1 to FES#1 being less than 2 fps and does not comply with section 3.07.g.2 of the Site Plan Regulations. Please revise the design in compliance with the regulations.

    TDG Response: *All pipes have been adjusted to meet the 2-fps required velocity for pipe cleansing.*

    d. The revised 25-year pond analysis calculations at the wetland pond detention basin – Pond P1 - indicates a peak pond elevation of 279.60 that would completely submerge the entire 15" pipe from FES2 to CB6 by more than 4-inches. In addition, the entire pipe from CB6 to CB5 (invert out at CB5 = 278.25) would be completely submerged and proposed stormwater system design does not convey the runoff entirely through the system to the detention basin as required by section 3.07.c.1 of the regulations. We recommend the design be revised to eliminate the submergence of the pipe during the 25-year design storm as typically required by the Town. Please update the design acceptable to the Department of Engineering and Environmental Services.

    TDG Response: *The temporary pipe surcharge is caused by the stormwater pond backing up to treat and meter the flow to the wetland. The pipes have been verified to ensure they have been sized appropriately. A waiver is requested to allow the pipes to temporarily surcharge during the 25-year storm.*

    e. The revised 25-year pond analysis calculations at the wetland pond detention basin – Pond P1 - indicates a peak pond elevation of 279.60 that would completely submerge the entire 24" pipe from FES1 to DMH 1 by more than 9 inches and completely submerge the 24" pipe from DMH1 to CB4 (invert out at CB4 = 277.27 by more than 3 inches indicating the proposed stormwater system design does not convey the runoff entirely through the system to the detention basin as required by section 3.07.c.1 of the regulations. In addition, the 18" stormwater system upstream of CB 4 would be completely submerged at CB4 and partially submerged at CB2 (invert out at CB 2=278.92). We recommend the design be revised to eliminate the submergence of the pipe during the 25-year design storm as typically required by the Town. Please update the design acceptable to the Department of Engineering and Environmental Services.

TDG Response: *The temporary pipe surcharge is caused by the stormwater pond backing up to treat and meter the flow to the wetland. The pipes have been verified to ensure they have been sized appropriately. A waiver is requested to allow the pipes to temporarily surcharge during the 25-year storm.*

f. The proposed detention pond embankment elevation is noted at 281.00, but the revised 50-year pond analysis calculations indicate a peak pond elevation of 280.03, which does not provide the minimum 12-inches of freeboard above the 50-year pond elevation to the top of bank as required by section 3.07.b.10 of the Site Plan Regulations. Please update the design in compliance with the regulations.

TDG Response: *The detention pond berm has been updated to be 280.1' to achieve the full 1' of freeboard.*

12. We recommend the Applicant verify the DRC comments for the project are adequately addressed as applicable:
    a. Please verify the comments of Planning Department have been adequately addressed with the Planning Department.
    b. Please verify the comments of Assessing Department have been adequately addressed with the Assessing Department.
    c. Please verify the comments of Conservation Commission have been adequately addressed with the Commission.
    d. Please verify the comments of Fire Department have been adequately addressed with the Department.
    e. Please verify the comments of Police Department have been adequately addressed with the Department.
    f. Please verify the comments of Tax Department have been adequately addressed with the Department.
    g. Please verify the comments of Sewer Division have been adequately addressed with the Division.

TDG Response: *The latest DRC comment letter from the Planning Department illustrates that these departments are satisfied. The only remaining DRC comments are to provide all utility clearance letters (see response for comment 2 above and to provide draft easements and other legal documents (see response for comment 6 above).*

Please let me know if there are any further questions or comments.

The Dubay Group, Inc.

Jake Doerfler, PE. CPESC
Staff Engineer

From: Laura Keeley
To: Jacob Doerfler
Subject: Re: New lot numbering & addressing - 222 Rockingham Road
Date: Tuesday, October 21, 2025 2:13:27 PM

You're welcome, Jake. I'm sorry it was such a long process!

Laura Keeley
Assistant Assessor
Assessing Department
Town of Londonderry
(603) 432-1100 X117
lkeeley@londonderrynh.gov

From: Jacob Doerfler <jake@thedubaygroup.com>
Sent: Tuesday, October 21, 2025 12:55 PM
To: Laura Keeley <lkeeley@londonderrynh.gov>
Subject: RE: New lot numbering & addressing - 222 Rockingham Road

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.
Thank you Laura for facilitating this.

Jake Doerfler, PE, CPESC
Project Engineer

The Dubay Group Inc.
Engineers | Planners | Surveyors
136 Harvey Road Bldg B101
Londonderry, NH 03053
P- 603.458.6462 C- 603.540.8846
www.TheDubayGroup.com

From: Laura Keeley <lkeeley@londonderrynh.gov>
Sent: Tuesday, October 21, 2025 12:47 PM
To: Jacob Doerfler <jake@thedubaygroup.com>
Subject: Re: New lot numbering & addressing - 222 Rockingham Road

Hi Jake,

The Addressing Committee is ok with Norton Way, Lane, or Rd!

Let me know if you need anything else.

Laura

Laura Keeley
Assistant Assessor
Assessing Department
Town of Londonderry
(603) 432-1100 X117
lkeeley@londonderrynh.gov

From: Jacob Doerfler <jake@thedubaygroup.com>
Sent: Monday, October 20, 2025 3:30 PM
To: Laura Keeley <lkeeley@londonderrynh.gov>
Subject: RE: New lot numbering & addressing - 222 Rockingham Road

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Good afternoon Laura,

Let hope this is the last go around. I think we can use Norton Way or Norton Road. A version of that seam to be available on the GIS. For private developments, I am not sure if the committee prefers a Road, Way, Circle, etc.

Thank you

Jake Doerfler, PE, CPESC
Project Engineer

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P- 603.458.6462 C- 603.540.8846
www.TheDubayGroup.com

From: Laura Keeley <lkeeley@londonderrynh.gov>
Sent: Thursday, October 9, 2025 4:19 PM
To: Jacob Doerfler <jake@thedubaygroup.com>
Subject: Re: New lot numbering & addressing - 222 Rockingham Road

Hi Jake,

I just heard back from the Addressing Committee. Unfortunately, all of the names your client suggested are too similar to ones we already have in town. For 911 purposes, we prefer something more original.

From: Laura Keeley
To: Jacob Doerfler; Amy Furlong
Cc: Doug MacGuire; John Norton
Subject: Re: New lot numbering & addressing - 222 Rockingham Road
Date: Thursday, September 25, 2025 4:07:54 PM

Hi Jake,

Londonderry already has a Lilac Circle, Granite St., Whispering Pines Mobile Home Park, and a few roads with White or Pine. I'll forward your suggestions to the addressing committee to see what they think but be prepared to have the client choose a few more.

Yes, the new lot will be 15-150-1.

I'll get back to you as soon as the committee responds.

Laura

Laura Keeley
Assistant Assessor
Assessing Department
Town of Londonderry
(603) 432-1100 X117
lkeeley@londonderrynh.gov

From: Jacob Doerfler <jake@thedubaygroup.com>
Sent: Thursday, September 25, 2025 10:40 AM
To: Laura Keeley <lkeeley@londonderrynh.gov>; Amy Furlong <afurlong@londonderrynh.gov>
Cc: Doug MacGuire <doug@thedubaygroup.com>; John Norton <johnjnorton1@googlemail.com>
Subject: New lot numbering & addressing - 222 Rockingham Road

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Laura,

I wanted to start the process with you and the addressing committee for this subdivision project in town. It is located at 222 Rockingham Road. The existing parcel Map 15 Lot 150. First, I would like to confirm that the new lot would be Map 15 Lot 150-1. The fire department has already given us the building numbers; 5, 7, 11, & 13. Ideally there will be a mailbox for

each building located inside but the client is checking with the Postmaster.

I have attached the subdivision plan and site plans for your reference.

The new lot will be served by a private road. below are some of the options the client has chosen.

Lilac Lane
Granite Lane/Drive/Way
White Pine Way
Whispering Pines Drive

Please let me know if you have any questions or need any additional information.

Thank you,

Jake Doerfler, PE, CPESC
Project Engineer

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Engineers | Planners | Surveyors
136 Harvey Road Bldg B101
Londonderry, NH 03053
P- 603.458.6462 C- 603.540.8846
www.TheDubayGroup.com

From:	Kristan Farr
To:	Doug MacGuire
Cc:	Jacob Doerfler; John Norton; Kellie Caron
Subject:	RE: 222 Rockingham Road
Date:	Friday, January 9, 2026 4:32:45 PM

Doug,

Please disregard the DRC comments related to the density calculations.

You may proceed with filing for formal review whenever you're ready.

Kristan Farr | Town Planner | Town of Londonderry | 268B Mammoth Road | Londonderry, NH 03053 | (603) 432-1100 x123 | kfarr@londonderrynh.gov

From: Doug MacGuire <doug@thedubaygroup.com>
Sent: Tuesday, January 6, 2026 12:14 PM
To: Kellie Caron <kcaron@londonderrynh.gov>
Cc: Kristan Farr <kfarr@londonderrynh.gov>; Jacob Doerfler <jake@thedubaygroup.com>; John Norton <johnjnorton1@googlemail.com>
Subject: RE: 222 Rockingham Road

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Kellie,

Happy New Year! Hope you enjoyed the holidays. I am following up on my email below.

We have the remaining Stantec comments complete and are prepared to submit final to the Planning Board.

Thanks!

Doug MacGuire, P.E.
Vice President
The Dubay Group Inc.
Engineers | Planners | Surveyors

From: Doug MacGuire
Sent: Wednesday, December 17, 2025 2:26 PM
To: Kellie Caron <kcaron@londonderrynh.gov>
Cc: Kristan Farr <kfarr@londonderrynh.gov>; Jacob Doerfler <jake@thedubaygroup.com>; John Norton <johnjnorton1@googlemail.com>
Subject: RE: 222 Rockingham Road

Jacob Doerfler

From: John Norton <johnjnorton1@googlemail.com>
Sent: Wednesday, October 8, 2025 11:35 AM
To: Jacob Doerfler
Subject: Fwd: [EXTERNAL] 222 Rockingham Road Project

Hi Jake - here's the email response from the Postmaster for our files.

Thanks,
John

---------- Forwarded message ---------
From: **Hogan, Thomas - Londonderry, NH** <Thomas.W.Hogan@usps.gov>
Date: Wed, Oct 8, 2025 at 11:34 AM
Subject: RE: [EXTERNAL] 222 Rockingham Road Project
To: John Norton <johnjnorton1@googlemail.com>
Cc: Bell, James - Londonderry, NH <James.C.Bell@usps.gov>

John,

This all sounds good to me. I really appreciate you working with us to ensure that we can deliver the mail and package in the safest way possible.

Thank you,

Tom Hogan

Postmaster

Londonderry NH 03053



From: John Norton <johnjnorton1@googlemail.com>
Sent: Wednesday, October 8, 2025 11:30 AM
To: Hogan, Thomas - Londonderry, NH <Thomas.W.Hogan@usps.gov>
Subject: [EXTERNAL] 222 Rockingham Road Project

CAUTION: This email originated from outside USPS. **STOP and CONSIDER** before responding, clicking on links, or opening attachments.

Hi Tom,

Nice meeting you in person the other week. Just wanted to follow-up and summarize our meeting about mailbox location/access for the new project at 222 Rockingham Road, Londonderry.

Each building will have a dedicated parking spot located near each building entrance for mail and deliveries. The front entrance vestibule of each building will house USPS approved mailboxes. During our discussion, you stated that we will need to provide a USPS approved Key Keeper Box on the exterior of each building near the front door, which we are happy to do.

Could you kindly please respond to this email confirming?

Thanks,

John

978.866.6188

From:	John Norton
To:	Jacob Doerfler
Subject:	Fwd: 222 Rockingham Road Londonderry Nh.
Date:	Wednesday, September 24, 2025 3:14:37 PM
Attachments:	KM_Developer_Handbook.pdf

---------- Forwarded message ---------
From: **Buckley, Peter J** <Peter_Buckley@kindermorgan.com>
Date: Mon, Jul 31, 2023 at 2:29 PM
Subject: 222 Rockingham Road Londonderry Nh.
To: JOHNJNORTON1@GOOGLEMAIL.COM <JOHNJNORTON1@googlemail.com>
Cc: Buckley, Peter J <Peter_Buckley@kindermorgan.com>, L'Ecuyer, Richard <Richard_Lecuyer@kindermorgan.com>

John,

Following up on our conversation earlier today Kinder Morgan/Tennessee Gas Pipeline has two high pressure Gas Pipelines that run through the area of 222 Rockingham road Londonderry Nh. We require a KMTGP representative onsite

for any excavation within 25 feet of KMTGP facilities. We can meet the contractor onsite on the 9th or 10th to review the location of the pipelines. I've attached a Developers Handbook with some guidelines for working near KMTGP facilities.

Thanks,

Peter Buckley

Kinder Morgan

Damage Prevention

Peter_Buckley@Kindermorgan.com

508-294-7065

Londonderry Conservation Commission
Tuesday, June 10, 2025
Draft Minutes

Present: Marge Badois, Chair; Gene Harrington, Vice Chair; Deb Lievens, member; Bob Maxwell, member; Elkel Bickford, member; Leo Lee, member (joined at 7:45); Michael Speltz, alternate member; Susan Malouin, alternate member

Absent: Tiffani Macarelli, member; David Heafey, member

Also present: Michael Bazegian, GIS Manager/Comprehensive Planner

Call to Order

M. Badois called the meeting to order at 7:30 p.m. She appointed Susan Malouin to vote for Leo Lee until his arrival, and Michael Speltz for David Heafey.

CUP - 17 Delta Drive – Map 14 Lot 21-12 - Warehouse

Earle Blatchford of Hayner/Swanson and Shawn Smith of RJ Kelly appeared before the Commission representing the applicant. At the last meeting, the Commission posed a question about the setbacks related to the Little Cohas Marsh. E. Blatchford contacted Brenden Quigley of Gove Environmental Services, who flagged the original wetland delineations in December 2023, and asked for additional flagging. This was done and a report submitted to the Town.

E. Blatchford presented additional exhibits to the Commission regarding the wetlands. He recalculated the buffer impacts based on the new information and will adjust the CUP accordingly. He described an old excavation site adjacent to the property and noted the ability of that area to absorb the outflow. As the buffer areas has increased, the encroachment has increased. Approximately 90% of the buffer area will be revegetated.

The Commission questioned whether the conservation easement granted to DOT is being encroached upon. E. Blatchford said the intent was not to encroach, and he will ensure the graphics are correct. He verified the signage for the conservation overlay district and easement will be installed. The Commission recommended consulting the easement management plan when designing this project. New Hampshire Fish & Game comments were forwarded to the Planning Board and a mitigation fee will be paid, if necessary.

Shawn Smith explained the intended client for the warehouse is a fastener distributor, not a manufacturer. The Commission suggested asking the Planning Board to add that the best stormwater management practices should be required as opposed to recommended, as a condition of approval. E. Blatchford agreed to change the language to mandating rather than recommending. The Commission recommended approval of the CUP.

Londonderry Conservation Commission
Tuesday, June 10, 2025
Draft Minutes

Conservation Commission Comments: Signs to mark the conservation easement and overlay district be installed; consult the easement documents for the management requirements; have the minimum requirement listed in the best management practices; confirm that the disturbance on the north side of the stormwater basin does not encroach on the state's conservation easement.

CUP – 222 Rockingham Road – Map 15 Lot 150

Doug MacGuire of The Dubay Group and property owner John Norton appeared before the Commission representing Dark Horse Investments LLC. They presented plans for a development of four buildings with 48 residential units total, describing the wetland and temporary buffer impacts.

The Commission asked clarifying questions about the property. The buffer will have conservation signs installed. They discussed the landscape bonding and management, which will be handled by the owner. They discussed garbage and recycling plans. They also discussed a net zero incursion into the flood plain. The Commission recommended approval of the CUP.

Conservation Commission Comments: Ensure that a recycling facility is provided for the residents.

CUP – 295 Rockingham Road – Map 17 – Lot 25

Paul Chisholm with Keach-Nordstrom Associates and Deane Navaroli of Page Rock LLC appeared before the Commission. P. Chisholm presented plans for a 12 three-bedroom unit townhouse development and described the wetlands on the property. He outlined the wetland buffer impact. The Commission noted the proximity of the patios to the buffer and the inability to plant turf in the buffer. They expressed concern about potential problems with property owners. P. Chisholm agreed to revisit the layout of the buildings to lessen the buffer impact and bring revised plans back to the Commission.

CUP – 3 Page Road – Map 15 Lot 235

Paul Chisholm with Keach-Nordstrom Associates and Deane Navaroli of Page Rock LLC appeared before the Commission. P. Chisholm presented plans for a 12 three-bedroom unit townhouse development and described the temporary buffer impacts. The stormwater pond outlet is the only permanent impact on the buffer.

The Commission discussed how to ensure the property will be maintained by the homeowners. P. Chisholm explained condominium documents will be prepared, with provisions for maintenance of the property. The Commission recommended approval of the CUP.

Public Comment

There were no members of the public present.

Old Business

The trail angels have been removing blowdowns from the trails.

Londonderry Conservation Commission
Tuesday, June 10, 2025
Draft Minutes

New Business

CIP Projects

The Commission had no CIP projects to suggest at this time.

Maintenance Projects

The Commission discussed drainage issues on the gravel road near the new parking lot at the Musquash, and moving the kiosk.

Lithia Springs Causeway

M. Speltz has been communicating with DES regarding the Lithia Springs causeway. Coordination between DES Historical Division and the Army Corps is not complete, after two years. He noted there is an issue with cost, as $26,000 was budgeted but the cost will probably be in excess of that. They also discussed construction of a trail and parking lot.

Tick Research

A professor at Revere is studying how environmental variables influence the microbial communities of black-legged ticks and asked permission to do research in the Musquash. He will share the results of this research upon completion.

Approval of Minutes

B. Maxwell moved to approve the minutes of the May 27, 2025, meeting as presented. D. Lievens seconded the motion. The motion carried unanimously.

B. Maxwell moved to approve the minutes of the May 27, 2025, non-public meeting as presented. M. Speltz seconded the motion. The motion carried unanimously.

Adjournment

G. Harrington moved to adjourn the meeting. D. Lievens seconded the motion. The motion carried unanimously.

The meeting was adjourned at 9:15 p.m.

Respectfully submitted,
Beth Hanggeli, Recording Secretary

The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Robert R. Scott, Commissioner

December 22, 2025

Dark Horse Investments, LLC
Attn: John Norton
222 Rockingham Road
Londonderry, New Hampshire 03053

Permit: AoT-2969
Reissued: corrected plan date typo in condition 1

RE: 222 Rockingham Road Residential Subdivision
Tax Map 15, Lot 150-1, Londonderry

Dear Permittee:

Based upon the plans and application, approved on December 22, 2025, we are hereby issuing RSA 485-A:17 Alteration of Terrain Permit AoT-2969.

The permit is subject to the following conditions:

PROJECT SPECIFIC CONDITIONS:

1. The plans titled *222 Rockingham Road,* by The Dubay Group, Inc., last revision date October 7, 2025, are a part of this approval. The project must be constructed as shown on the approved plans.

2. This permit expires on **December 22, 2030**. No earth moving activities shall occur on the project after this expiration date unless the permit has been extended by the Department. If requesting an extension, the request must be received by the department before the permit expires. The Amendment Request form is available at: https://www.des.nh.gov/land/land-development.

3. Blasting activity is not approved for this project. If blasting is necessary, the permittee must contact the department prior to any blasting in order to assess if further permit modifications are necessary.

4. Pursuant to Env-Wq 1504.17, the Permittee shall comply with wildlife protection notes that are incorporated into the project plans.

GENERAL CONDITIONS:

5. Activities shall not cause or contribute to any violations of the surface water quality standards established in Administrative Rule Env-Wq 1700.

6. You must submit revised plans for permit amendment prior to any changes in construction details or sequences. You must notify the Department in writing within ten days of a change in ownership.

7. You must notify the Department in writing prior to the start of construction and upon completion of construction. Forms can be submitted electronically at: https://www.des.nh.gov/land/land-development. Paper forms are available at that same web page.

8. **All stormwater practices shall be inspected and maintained in accordance with Env-Wq 1507.07 and the project Inspection and Maintenance (I&M) Manual.** All record keeping required by the I&M Manual shall be maintained by the identified responsible party and be made available to the department upon request. Photographs of the site and BMPs must accompany the I&M submittals.

9. This permit does not relieve the applicant from the obligation to obtain other local, state, or federal permits that may be required (e.g., from US EPA, US Army Corps of Engineers, etc.). Projects disturbing over 1 acre may require a federal stormwater permit from EPA. Information regarding this permitting process can be obtained at: https://www.epa.gov/npdes/2022-construction-general-permit-cgp.

10. In accordance with Env-Wq 1503.21 (c)(1), a written notice signed by the permit holder and a qualified engineer shall be submitted to DES stating that the project was completed in accordance with the approved plans and specifications. If deviations were made, the permit holder shall review the requirements in Env-Wq 1503.21(c)(2).

11. If applicable, no activity shall occur in wetland areas until a Wetlands Permit is obtained from the Department. Issuance of this permit does not obligate the Department to approve a Wetlands Permit for this project.

12. This project has been screened for potential impact to known occurrences of protected species and exemplary natural communities in the immediate area. Since many areas have never been surveyed, or have not been surveyed in detail, unidentified sensitive species or communities may be present. This permit does not absolve the permittee from due diligence in regard to state, local or federal laws regarding such communities or species. This permit does not authorize in any way the take of threatened or endangered species, as defined by RSA 212-A:2, or of any protected species or exemplary natural communities, as defined in RSA 217-A:3.

Sincerely,

Amy C. Clark

Amy C. Clark, PE
Alteration of Terrain Bureau

ec: Doug MacGuire, PE, The Dubay Group, Inc.
Londonderry Planning Board

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

DRIVEWAY PERMIT

To Landowner:
John Norton
Dark Horse Investements, LLC
222 Rockingham Road
Londonderry, NH 03053

City/Town: Londonderry
Route/Road: NH 28 (S0000028__)
Patrol Section: 512
Tax Map: 15
Lot: 150
Development: Residential (Greater than 3 units)

Permit#: DOT-DRI-002981
District: 05
Permit Date: 09/25/2025

Permission is hereby granted to construct (alter) a driveway, entrance, exit or approach adjoining NH 28 (S0000028__), pursuant to the location and specifications as described below. Failure to adhere to the standards and engineering drawings previously approved shall render this instrument null and void. Failure to start or complete construction of said facility within one calendar year of the date of this permit shall require application for permit extension or renewal in accordance with the Driveway Access Rules. Facilities constructed in violation of the permit specifications or the rules, shall be corrected immediately upon notification by a Department representative. Any cost by the State to correct deficiencies shall be fully borne by the landowner. The landowner shall defend, indemnify and hold harmless the Department and its duly appointed agents and employees against any action for personal injury and/or property damage sustained by reason of the exercise of this permit. All supporting documentation for this permit, on file in the State of New Hampshire Permit Portal for the respective application, is considered part of the final permit and all parties are responsible for complying with these documents.

Drive 1

Location: Approximately .06 miles East of Smith Lane on the North side of NH 28 (S0000028__).

GPS: 42.914023, -71.391258

Land Use: 221 Multifamily Housing (Mid-Rise)

Specifications: This permit authorizes a Paved access for the land use stated above. Any change in use, increase in use or reconstruction of the driveway requires reapplication.

The right-of-way line is located (See Referenced Plan).

The driveway shall not exceed (See Referenced Plan) feet in width. The entrance of the drive may be flared; typically the flare radius is one half the driveway width.

Other Conditions:

No structures, including buildings, permanent or portable signs, lights, displays, fences, walls, etc. shall be permitted on, over or under the Highway Right of Way.

No parking, catering or servicing shall be conducted within the Highway Right of Way.

The applicant shall comply with all applicable ordinances and regulations of the municipality or other State Agencies.

The Department has relied on the title and subdivision information provided by the landowner. The Department has not

performed additional title research and makes no warranty or representation concerning landowner's legal right to access. In the event of a dispute about the landowner's legal right to the access provided herein, the landowner will defend and indemnify the Department.

All excavated topsoil, or in the absence of topsoil the top 6 inches of soil, within the limits of state ROW shall be properly re-used within the limits of the state ROW. All temporary stockpiles of the re-use material shall be located within the state ROW, or as otherwise approved by the District Engineer.

The Contractor shall be solely responsible for the handling, transport and disposal of any surplus material generated by their project and shall comply with all federal, state and local laws, ordinances and rules in doing so.

I/We, the contractor/Owner, certify that the property will not have any illicit unauthorized drainage connections to the NHDOT storm water drainage system. An illicit discharge is any direct or Indirect discharge to the NHDOT drainage system that is not composed entirely of storm water. Illicit discharges include, without limitation, sewage, process wastewater, or wash water and any connections from floor drains, sinks, or toilets.

Highway and driveway modifications are to be constructed as shown on plans entitled "Residential Site Plan" prepared by The Dubay Group Inc. for Dark Horse Investments, LLC date last revised August 20, 2025, on file in the District Five Office.

No work in the State right-of-way shall be performed between November 15 and April 15, or during periods of inclement weather, unless otherwise directed or authorized by the District Engineer.

No additional surface drainage will enter upon the highway.

This permit to act relates solely to the use of the State right-of-way and is not determinative of any rights of flowage between private landowners.

A copy of this permit shall be present at the site during construction of the drive(s).

All work is to be done by the applicant at no cost to the State of New Hampshire.

This permit does not include or approve the location or installation of underground utilities. All utility work located within the State Right-Of-Way, will require a NHDOT Right-Of-Way Activities Permit.

Drive(s) shall approach the highway at or about 90 degrees.

All materials and structures shall conform to the current version of the NHDOT Standard Specifications for Road and Bridge Construction, as amended.

Notify the District 5 Office at (603) 666-3336, forty-eight (48) hours prior to construction in the State right-of-way.

During construction within the highway right-of-way, traffic shall be maintained in accordance with MUTCD standards and as directed by the District Engineer.

Approved by

Zachery Roller

Assistant District Engineer

For Director of Administration

Copies:

Bureau, Owner, Patrolman

IA-0000003006

The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

WETLANDS PERMIT 2025-02263
NOTE CONDITIONS

PERMITTEE:	**DARK HORSE INVESTMENTS LLC** **JOHN NORTON** **152 TURNPIKE RD UNIT 6** **CHELMSFORD MA 01824**
PROJECT LOCATION:	**222 ROCKINGHAM RD, LONDONDERRY** **Tax Map/Block/Lot(s): 15/no block/150**
WATERBODY:	**NONE**
APPROVAL DATE:	**OCTOBER 10, 2025** **EXPIRATION DATE: OCTOBER 10, 2030**

The New Hampshire Department of Environmental Services' (NHDES) review of permit application 2025-02263 has found that it is consistent with RSA 482-A. NHDES hereby issues this Wetlands Permit authorizing the impacts described provided the Conditions imposed are met. To validate this Permit, the Permittee and the Principal Contractor are required to sign below.

PERMIT DESCRIPTION:
Dredge and fill 2,808 square feet of a palustrine forested wetland to construct a multi-family clustered residential unit with a safe access road and supporting infrastructure.

THIS PERMIT IS SUBJECT TO THE FOLLOWING PROJECT-SPECIFIC CONDITIONS:
1. In accordance with Env-Wt 307.16, all work shall be done in accordance with the approved plans by The Dubay Group, Inc., dated May 2, 2025, as received by the NH Department of Environmental Services (NHDES) on August 21, 2025.
2. In accordance with Env-Wt 524.05(a), the permittee shall submit a construction notice with the department at least 48 hours prior to commencing work.
3. In accordance with Env-Wt 307.11(a), fill shall be clean sand, gravel, rock, or other material that meets the project's specifications for its use; and does not contain any material that could contaminate surface or groundwater or otherwise adversely affect the ecosystem in which it is used.
4. In accordance with Env-Wt 307.05(e), to prevent the use of soil or seed stock containing nuisance or invasive species, the contractor responsible for work shall follow Best Management Practices for the Control of Invasive and Noxious Plant Species (Invasive Plant BMPs).
5. In accordance with Env-Wt 307.03(c)(3), water quality control measures shall be installed prior to start of work and in accordance with the manufacturer's recommended specifications.
6. In accordance with Env-Wt 307.03(c)(5), water quality control measures shall be maintained so as to ensure continued effectiveness in minimizing erosion and retaining sediment on-site during and after construction.
7. In accordance with Env-Wt 307.03(c)(6), water quality control measures shall remain in place until all disturbed surfaces are stabilized to a condition in which soils on the site will not experience accelerated or unnatural erosion by achieving and maintaining a minimum of 85% vegetative cover using an erosion control seed mix, whether applied in a blanket or otherwise, that is certified by its manufacturer as not containing any invasive species; or placing and maintaining a minimum of 3 inches of non-erosive material such as stone.
8. In accordance with Env-Wt 307.03(e), all exposed soils and other fills shall be permanently stabilized within 3 days following final grading.

9. Slopes shall be immediately stabilized to prevent erosion into adjacent wetlands or surface waters, per Env-Wt 307.11(c).
10. The person in charge of construction equipment shall inspect such equipment for leaking fuel, oil, and hydraulic fluid each day prior to entering surface waters or wetlands or operating in an area where such fluids could reach groundwater, surface waters, or wetlands in accordance with Env-Wt 07.03(g)(1).
11. Equipment shall be staged and refueled outside of jurisdictional areas per Env-Wt 307.15 and Env-Wt 307.03(h).

ANY INDIVIDUAL CONDUCTING WORK UNDER THIS PERMIT IS ADVISED OF THE FOLLOWING:

1. This permit does not preclude the need to meet any other applicable state, federal, or municipal legal requirements.
2. The permit holder is responsible for reading, and ensuring compliance with, the applicable general conditions established in Env-Wt 307.
3. This permit does not in any way authorize the take of threatened or endangered species, as defined by RSA 212-A:2, or of any protected species or exemplary natural communities, as defined in RSA 217-A:3.
4. This approval does not convey any property right. The permittee is responsible for ensuring that they have the legal authority to access the subject lands and conduct the impacts described.

APPROVED:



Emmanuel UWIZEYE
Wetlands Specialist, Wetlands Bureau
Land Resources Management, Water Division

THE SIGNATURES BELOW ARE REQUIRED TO VALIDATE THIS PERMIT (Env-Wt 314.01).

_____ _____

PERMITTEE SIGNATURE (required) PRINCIPAL CONTRACTOR SIGNATURE (required)

Liberty | Business & Community Development
130 Elm Street
Manchester, NH 03031
T 800-833-4200
libertyutilities.com

8.4.2025

The Dubay Group Inc.

Jake Doerfler

136 Harvey Road Bldg B101

Londonderry, New Hampshire 03053

RE: Gas Availability/Utility Clearance

Proposed Residential Site Plan – 222 Rockingham Road, Londonderry, NH

Map 15, Lots 150-1

Mr. Doerfler,

Liberty has received a request for gas availability/utility clearance for a proposed project on Rockingham Road in Londonderry, New Hampshire, Tax Map 15, Lots 150-1. Liberty has received a Dubay Group plan dated May 2, 2025 as part of the request for gas availability/utility clearance.

Currently, Liberty has a 12" high pressure gas main located in Rockingham Road right of way that may be used to provide natural gas service based on a successful full review performed by Liberty. Proposed finalized gas load information for the new project will need to be provided to Liberty in a formal gas load letter form to perform a full review in accordance with our current tariff and to determine scope of work required to provide natural gas service.

A final commitment to serve and agreement will be provided once full engineering review and financial analysis according to our current tariff is completed by Liberty.

If you need any additional information for this project, please feel free to call or email me at your convenience.

Respectfully,

Andy Morgan

Andrew Morgan | Liberty (New Hampshire) **|**

Manager III-GAS, Business and Community Development

P: 603-782-2321 | C: 603-327-5357 | E: Andrew.Morgan@libertyutilities.com

EVERSOURCE ENERGY

Field Engineering & Design Box 330
370 Amherst St
Nashua, NH 03063

8/26/25

Re: **222 Rockingham Rd Londonderry, NH**

To whom it may concern:

Eversource Energy agrees to provide electric service to the above site in accordance with the Tariff for Electric Service on file with the New Hampshire Public Utilities Commission (NHPUC), subject to the applicable NHPUC rules and regulations, as well as Eversource's "Requirements for Electric Service Connections".

Please keep in mind that all requirements for providing electric service, such as, but not limited to, contracts, licenses, fees, payments, easements, and inspections must be provided to Eversource prior to the construction of the electric facilities.

This letter does not constitute you having an approved electric layout, just that we provide electric service in the Town of Londonderry. There are 3 Ph distribution facilities on 222 Rockingham Rd, but may need to be extended to this property. When you have approved plans, please work with our field representative and they will provide you with a layout.

Should you have any questions or concerns, please call us at 1-800-362-7764

Sincerely,

Marco Martinelli

Marco Martinelli
Field Supervisor Electric Design

8-21-2025

Jacob Doerfler
222 Rockingham Rd
Londonderry, NH

RE: “Will Serve Letter for {“222 Rockingham Rd-Londonderry”

Dear Jacob

Consolidated Communications of Northern New England Company, LLC has agreed to provide communications service to this property subject to the Tariffs and terms of NHPUC.

Please note that a payment may be required from the customer requesting service as described in NH PUC Tariff.

You may review these documents at: (copy & paste link into browser)
http://www.tariffs.net/tariffs/100115qwzx/temp2018%2010%2017%20NH%20Catalog%20for%20WDUTP%20of%20FairPoint%20Service.pdf

Subsequent to the customer responsibilities being satisfied, Consolidated will proceed with construction of the services requested.

Should you have any questions, please feel free to contact me at [Your Contact Number].

Michael Mullen
Network Engineeer II
Consolidated Communications

August 5, 2025

Jake Doerfler
The Dubay Group INC.
136 Harvey Rd
Londonderry NH 03053

RE: Utility Serviceability Letter
222 Rockingham Rd
Londonderry NH 03053
Tax Map 15, Lot 150-1

To Whom It May Concern,

This letter is to notify the proposed Structures to be built at 222 Rockingham Rd is serviceable by Comcast. Please note that there may be a cost associated with this buildout in accordance with the franchise agreement with the City of Londonderry NH.

Please notify me of any utility meetings related to the site so I can obtain any site plans to be used for planning, design, and cost purposes.

Sincerely,

Tim Wagner
Project Coordinator
New England Region
Comcast Cable
115 Epping Rd
Exeter NH 03833
Mobile 617-823-0268
Tim_Wagner@cable.comcast.com

MANCHESTER WATER WORKS

281 LINCOLN STREET · MANCHESTER, NEW HAMPSHIRE 03103 · (603) 624-6494

BOARD OF
WATER COMMISSIONERS

GARY HAMER
President

GARRY HAWORTH
Clerk

Ex Officio
HON. JAY P. RUAIS
Mayor

PHILIP W. CROASDALE
Director

Date: 12-22-2025

N.H. Dept. of Environmental Services
Hazen Drive
P.O. Box 95
Concord, N.H. 03301

RE: PROPERTY AT 222 Rockingham Rd. Londonderry, NH

To Whom It May Concern:

The Manchester Water Works can provide water service to:
Tax Map 15 Lot150-1

owned by Dark Horse Investmants, LLC

The supplying of water is subject to the approval of the Board of Water Commissioners of the City of Manchester, N.H. in compliance with the Rules and Regulations of the Manchester Water Works and any other municipal ordinances of the City of Manchester, N.H.

Sincerely,

Mark Bourque
Deputy Director - Distribution

Subject to the following conditions:

(X) Site Plan has been reviewed by Manchester Water Works.
( ) Site Plan has not been reviewed by Manchester Water Works.
(X) Approved by Board of Water Commissioners or Staff.
( ) Not Approved.

( ) Requires main extension approval from Board of Water Commissioners.

wtnelease-ot

LIST OF ABUTTERS

The following is a list of all abutting property owners concerned in this appeal. An abutter is any person whose property is located in New Hampshire and adjoins or is directly across the street or stream from the land under consideration. The Planning Department can assist you in determining your abutters, but **YOU ARE RESPONSIBLE FOR OBTAINING THE CORRECT LIST OF ABUTTERS INCLUDING THE OWNER'S NAME AND MAILING ADDRESS FOR THIS LIST FROM THE ASSESSOR'S OFFICE.** When verifying the correct owner and mailing information, you are required to use the assessing information not the Patriot Properties' information or the property record card as those items may not be up to date. **You are ultimately responsible for your own list of abutters.** This information is necessary to properly notify all interested parties with certified notices. Failure to provide complete information on abutters will result in the application being returned and may delay the scheduling of your hearing.

PARCEL ID NO.	OWNER'S NAME	MAILING ADDRESS
015-124-0	Celsius Londonderry Property Owner, LLC	1600 Newport Center Dr, suite 140 Newport Beach, CA 92660
015-125-0	Sean P. Strong	221 Rockingham Road, Londonderry NH 03053
015-126-0	Genex Construction Group, LLC	222 Central St, Hudson, NH 03051
015-128-0	Life Storage LP	PO Box #71870, Salt Lake City, UT 84171
015-140-0	Chrisopher & Jennifer Halla	14 Stokes Rd, Londonderry, NH 03053
015-141-0	Michael E. & Angela L. Sibley	12 Stokes Rd, Londonderry, NH 03053
015-141-1	Rafael A. Gonzalez	12A Stokes Rd, Londonderry, NH 03053
015-142-0	John Hannah	17 Wilshire Dr, Londondery, NH 03053
015-145-0	David D. & Jane Martin	4 Stokes Rd, Londonderry, NH 03053
015-146-0	226 Rockingham Plaza LLC	226 Rockingham Rd, Londonderry, NH 03053
015-149-0	Aranosian Oil Company, Inc	557 No State St, Concord, NH 03301
015-021-0	Mark's Discount Truck and Auto Sales, LLC	214 Rockingham Rd, Londonderry, NH 03053
015-021-1	Robert Delegan	PO Box 174, Londonderry, NH 03053
Owner	Dark Horse Investments, LLC	222 Rockingham Rd, Londonderry, NH 03053
Engineer/Surveyor	Doug MacGuire, PE & Joel Connolly, LLS	136 Harvey Road Bldg B101 Londonderry, NH 03053