SAFRAN INFILL PARKING

85 INNOVATION DRIVE · ROCHESTER · NEW HAMPSHIRE

SITE PLANS

SEPTEMBER 16, 2018

PREPARED FOR

SAFRAN AEROSPACE COMPOSITES, INC.
85 INNOVATION DRIVE
ROCHESTER, NH 03867

PREPARED BY

FUSS & O'NEILL
UPPER SQUARE BUSINESS CENTER
5 FLETCHER STREET, SUITE 1
KENNEBUNK, MAINE 04043
207.363.0669
www.fando.com

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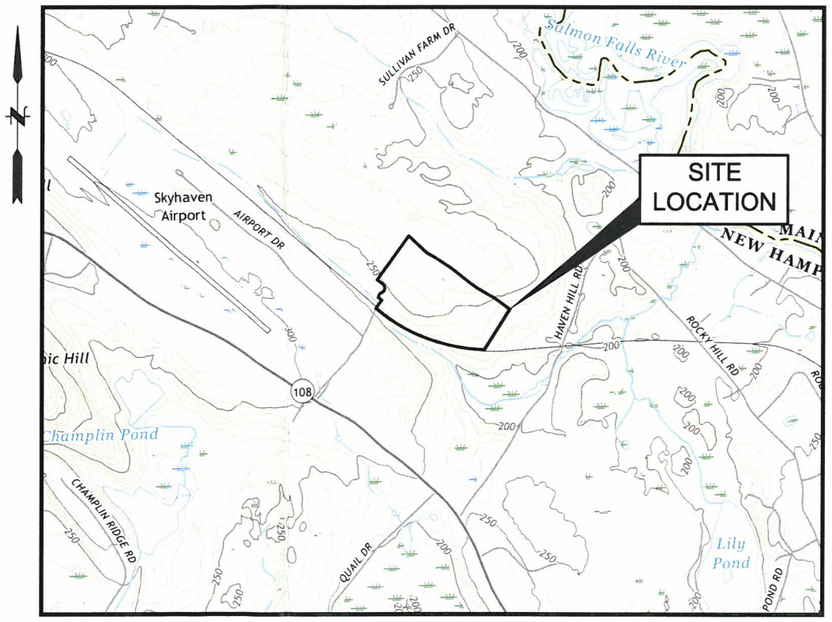
OWNER

TAX MAP 242 LOT 6
HOUSING AUTHORITY
OF ROCHESTER
BUSINESS FINANCE
AUTHORITY OF NH
2 PILLSBURY STREET
SUITE 101
CONCORD, NH 03301
603.415.0190

PROJECT TEAM

WETLAND SCIENTIST
BARRY KEITH, CWS
B.H. KEITH ASSOCIATES
11 ELM STREET
PO BOX 326
FREEDOM, NH 03836
603.539.8343



LOCATION MAP
SCALE: 1" = 1200'

RECEIVED
SEP 18 2019
By

STATE OF NEW HAMPSHIRE
RICHARD R. LUNDBORN
No. 10943
LICENSED
PROFESSIONAL ENGINEER

DIG SAFE
ME NH VT
1-888-DIG-SAFE

CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION

THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. FUSS & O'NEILL INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. 72 HOURS PRIOR TO ANY EXCAVATION ON SITE, THE CONTRACTOR SHALL CONTACT DIG-SAFE AT 1-888-DIG-SAFE.

FINAL APPROVAL BY ROCHESTER PLANNING BOARD

CERTIFIED BY _____ DATE 2/10/20

PROJ. No.: 20180581.A10
DATE: 12/11/2018

GI-001

SHEET 1 OF 13

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EXISTING FEATURES LEGEND

- EXISTING GRANITE OR CONCRETE BOUND
- EXISTING IRON PIN, PIPE OR STAKE
- WETLAND
- EXISTING SIGN
- EXISTING GAS VALVE
- EXISTING WATER GATE VALVE
- EXISTING WATER SHUTOFF
- EXISTING FIRE HYDRANT
- EXISTING SEWER MANHOLE
- EXISTING DRAIN MANHOLE
- EXISTING CATCH BASIN
- EXISTING TELEPHONE MANHOLE
- PROPOSED SEWER GATE VALVE
- EXISTING ELECTRIC MANHOLE
- SINGLE DOUBLE — EXISTING LIGHT POLES
- EXISTING LAMP POST
- EXISTING UTILITY POLE
- BEARING / DISTANCE — EXISTING PROPERTY LINE
- EXISTING EASEMENT LINE
- SETBACK LINE
- EDGE OF WETLAND
- EXISTING TREE LINE
- EGC — EXISTING GRANITE CURB
- EGSC — EXISTING GRANITE SLOPED CURB
- EBC — EXISTING BITUMINOUS CURB
- ECC — EXISTING CONCRETE CURB
- E SSL (W) — EXISTING SINGLE SOLID WHITE LINE
- E SBL (W) — EXISTING SINGLE BROKEN WHITE LINE
- E SSL (Y) — EXISTING SINGLE SOLID YELLOW LINE
- E SBL (Y) — EXISTING SINGLE BROKEN YELLOW LINE
- E DSL (Y) — EXISTING DOUBLE SOLID YELLOW LINE
- G — EXISTING GAS LINE
- W — EXISTING WATER LINE
- S — EXISTING SEWER LINE
- EXISTING DRAIN LINE
- T — EXISTING UNDERGROUND TELEPHONE
- UGE — EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND UTILITIES
- OHW — EXISTING OVERHEAD WIRES
- EXISTING FENCE
- EXISTING ACCESSIBLE PARKING SPACE
- EXISTING PAINTED ISLAND
- 10 — EXISTING PARKING SPACE COUNT
- 100 — EXISTING CONTOURS
- 100.50 X — EXISTING SPOT GRADE
- SOIL TYPE BOUNDARY
- TP #1 — TEST PIT LOCATION
- PT — PERCOLATION TEST LOCATION
- MON. WELL MW-1 — MONITORING WELL LOCATION
- B-1 — BORING LOCATION

PROPOSED ITEMS LEGEND

- PROPOSED MONUMENT
- PROPOSED SIGN
- PROPOSED GAS VALVE
- PROPOSED WATER GATE VALVE
- PROPOSED WATER SHUTOFF
- PROPOSED FIRE HYDRANT
- PROPOSED THRUST BLOCK
- PROPOSED SEWER MANHOLE
- PROPOSED DRAIN MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED CATCH BASIN (D-FRAME, SEE DETAIL)
- PROPOSED CATCH BASIN (ROUND-FRAME)
- PROPOSED FLARED END SECTION (FES)
- PROPOSED HEADWALL
- PROPOSED TELEPHONE MANHOLE
- SINGLE DOUBLE — PROPOSED LIGHT POLES
- PROPOSED LAMP POST
- PROPOSED UTILITY POLE
- BEARING / DISTANCE — PROPOSED PROPERTY LINE
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- P DSL (Y) — PROPOSED DOUBLE SOLID YELLOW LINE
- G — PROPOSED GAS LINE
- W — PROPOSED WATER LINE
- S — PROPOSED SEWER LINE
- FM — PROPOSED SEWER FORCE MAIN
- PROPOSED DRAIN LINE
- T — PROPOSED UNDERGROUND TELEPHONE
- UGE — PROPOSED UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND UTILITIES
- OHW — PROPOSED OVERHEAD WIRES
- PROPOSED FENCE
- PROPOSED ACCESSIBLE PARKING SPACE
- PROPOSED PAINTED ISLAND
- 10 — PROPOSED PARKING SPACE COUNT SIZE=9-FT X 18-FT
- 100 — PROPOSED CONTOURS
- 100.50 X — PROPOSED SPOT GRADE
- PROPOSED HAY BALES
- PROPOSED STONE CHECK DAM
- PROPOSED INLET PROTECTION
- PROPOSED INLET PROTECTION
- SF — PROPOSED SILT FENCE
- X — PROPOSED ORANGE CONSTRUCTION FENCE

GENERAL SITE PLAN NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT PROPOSED INFILL PARKING FOR THE SAFRAN AEROSPACE COMPOSITES MANUFACTURING FACILITY LOCATED AT 85 INNOVATION DRIVE, ROCHESTER, NEW HAMPSHIRE 03867.
2. TOTAL PARCEL AREA: MAP 242, LOT 6 49.3 ACRES.
3. PARCEL IS ZONED GENERAL INDUSTRIAL.
4. ALL EXISTING UTILITIES LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATION PRIOR TO ANY WORK BEING PERFORMED.
5. THESE PLANS SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF SURVEY. THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THESE PLANS, BUT IN EXISTENCE, IS NOT INTENDED OR IMPLIED.
6. PLEASE REFER TO RECORD DRAWINGS FOR UTILITIES INFORMATION.
7. DIMENSIONAL REGULATIONS PER ZONING ORDINANCE:

   GENERAL INDUSTRIAL ZONE:
   MINIMUM LOT SIZE = 20,000 SF. (WITH WATER AND SEWER)
   MINIMUM LOT FRONTAGE = 100 FEET
   MINIMUM YARD SETBACK:
   FRONT YARD = 25 FEET
   SIDE = 20 FEET
   REAR = 25 FEET
   MAXIMUM LOT COVERAGE = 75%
   MAXIMUM BLDG HEIGHT = 55 FEET

8. PARCEL IS NOT LOCATED WITHIN ZONE A (100 YR FLOOD) AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY MAP, COMMUNITY PANEL #3301750216D AND #3301C0218E.
9. A VARIANCE WAS GRANTED BY THE ROCHESTER ZBA ON APRIL 11, 2012 TO ALLOW THE ACCESS ROAD IN THE AGRICULTURAL ZONE.
10. A VARIANCE WAS GRANTED BY THE ROCHESTER ZBA ON APRIL 11, 2012 TO ALLOW AN 8-FOOT HIGH FENCE WHERE ONLY 6-FEET HIGH IS ALLOWED.
11. ORIENTATION: HORIZONTAL AND VERTICAL DATUMS - CITY OF ROCHESTER GIS.
12. SOILS INFORMATION PROVIDED BY A SITE SPECIFIC SOIL SURVEY COMPLETED BY DAVID J. ALLAIN, CSS.
13. FOR MORE INFORMATION ABOUT THIS SITE PLAN, CONTACT THE CITY OF ROCHESTER PLANNING DEPARTMENT, 31 WAKEFIELD ST., ROCHESTER, NH 03867. (603) 335-1338.
14. WETLANDS WERE DELINEATED BY B.H. KEITH, CWS IN ACCORDANCE WITH THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATIONS MANUAL, TECHNICAL REPORT Y-87-1.
15. PARKING REQUIREMENTS (ZONING REGS. SECTION 42.9(b)(9):

    MANUFACTURING:
    1 SPACE PER 600 SF. OF GROSS FLOOR AREA (GFA); OR, 1 SPACE PER 1.5 EMPLOYEES IN THE MAXIMUM SHIFT; WHICHEVER IS GREATER:

SPACES	TOTAL
343,412 SF GFA X 1 SPACE / 600 SF GFA =	573 SPACES
OR;	
217 EMPLOYEES @ 1 SPACE /1.5 EMPLOYEES =	145 SPACES

*VARIANCE GRANTED BY THE ROCHESTER ZONING BOARD OF ADJUSTMENT ON APRIL 11, 2012 TO ALLOW 369 PARKING SPACES WHERE 573 ARE REQUIRED.

AN ADDITIONAL 109 INFILL PARKING SPACES ARE PROPOSED TO ALLEVIATE PARKING CONGESTION DURING SHIFT CHANGE. TOTAL PARKING SPACES PROVIDED SHALL BE 369 EXISTING SPACES + 109 PROPOSED SPACES = 478 PARKING SPACES.

ACCESSIBLE PARKING (PER FEDERAL REGULATIONS):
THE SPACES ARE PART OF THE TOTAL ABOVE.

ACCESSIBLE PARKING SPACES = 401 TO 500 =	9 SPACES
TOTAL PROVIDED ACCESSIBLE SPACES =	16 SPACES

16. ALL CONSTRUCTION ACTIVITY RELATED TO THE DEVELOPMENT OF THIS SITE IS NOT RESTRICTED.
17. LOAM STOCKPILES SHALL BE SEEDED IN ACCORDANCE WITH THE SEEDING NOTES ON SHEET CD-502, IF STORED MORE THAN 30 DAYS. SILT FENCE SHALL BE INSTALLED AT THE DOWN GRADIENT SIDE OF THE LOAM STOCKPILE AS SHOWN IN THE PLAN VIEW AROUND AT LEAST ONE HALF THE CIRCUMFERENCE OF THE PILE.
18. DURING ALL PHASES OF CONSTRUCTION DUST SHALL BE PREVENTED FROM BECOMING A SAFETY OR HEALTH HAZARD BY THE IMPLEMENTATION OF ACCEPTED CONTROL METHODS SUCH AS WATERING.
19. THE CITY RESERVES THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES IF ANY OFFSITE IMPACTS ARE FOUND DURING CONSTRUCTION.
20. ALL UTILITIES MUST BE UNDERGROUND, INCLUDING UTILITIES EXTENDED ONTO THE SITE FROM EXISTING POLES NEAR THE SITE.
21. ACCESS INTO THE SITE FOR FIRE APPARATUS MUST BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PROCESS. THIS IS THE SOLE RESPONSIBILITY OF THE APPLICANT/DEVELOPER TO MAINTAIN THIS ACCESS. PLEASE CONTACT THE FIRE DEPARTMENT AT 330-7182 WITH ANY QUESTIONS ABOUT THE ACCESS REQUIREMENTS.
22. THIS DEVELOPMENT MUST BE IN COMPLIANCE WITH ALL APPLICABLE LAW - INCLUDING ALL PERTINENT PROVISIONS OF THE CITY OF ROCHESTER SITE PLAN REGULATIONS - UNLESS OTHERWISE WAIVED.
23. FINAL SIGN APPLICATIONS MUST BE SUBMITTED TO THE CODE ENFORCEMENT OFFICER TO ENSURE COMPLIANCE WITH ALL APPLICABLE CODES, INDEPENDENT FROM THIS SITE PLAN REVIEW. IF ANY SIGNIFICANT CHANGES OR EXPANSION IS PROPOSED TO THE DESIGN OF THE APPROVED FREESTANDING SIGN OR TO THE OVERALL ADVERTISING SIGNAGE FOR THIS SITE, THE PROPOSED SIGN MUST BE PRESENTED TO THE PLANNING BOARD FOR REVIEW PRIOR TO ISSUANCE OF THOSE PERMITS.
24. A KNOX BOX SHALL BE PROVIDED AS SPECIFIED BY THE ROCHESTER FIRE DEPARTMENT.
25. THIS SITE IS DESIGNED TO BE COMPLIANT WITH AMERICAN DISABILITY ACT FOR ACCESS TO THE PROPOSED BUILDING FROM THE PARKING AND UNLOADING ZONES.
26. ALL ELEMENTS SHOWN ON THE APPROVED SITE PLANS MUST BE PROPERLY COMPLETED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY, UNLESS APPROPRIATE SURETY IS PLACED WITH THE PLANNING DEPARTMENT.
27. IF THE PROJECT PROPOSES TO DISTURB OVER ONE ACRE OF EXISTING GROUND COVER AND MEETS OTHER SPECIFIC REQUIREMENTS RELATED TO PERMIT CRITERIA FOR EPA NPDES COMPLIANCE, THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), SUBMISSION OF A NOTICE OF INTENT (NOI) TO EPA, INSPECTIONS, AND MAINTENANCE OF SEDIMENT CONTROL MEASURES, DOCUMENTATION OF MAINTENANCE ACTIVITIES, AND SUBMISSION OF A NOTICE OF TERMINATION (NOT) TO EPA. THE CONTRACTOR IS ALSO RESPONSIBLE TO COMPLY WITH ANY OR ALL OTHER ASPECTS OF THE CURRENT FEDERAL, STATE AND LOCAL STORM WATER OR NPDES REGULATIONS OR REQUIREMENTS.
28. THE APPLICANT SHALL OBTAIN A STORMWATER MANAGEMENT PERMIT FROM THE PUBLIC WORKS DEPARTMENT (UNLESS DETERMINED TO BE UNNECESSARY BY THE CITY ENGINEER) AND FOLLOW THE REQUIREMENT OF CITY ORDINANCE CHAPTER 50. THE PERMITTEE SHALL PREPARE A WRITTEN PLAN FOR MANAGING STORMWATER THAT ENTERS THE CONSTRUCTION SITE AND SHALL PRESENT IT TO THE INSPECTION ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE PERMITTEE SHALL FOLLOW BEST MANAGEMENT PRACTICES TO PREVENT EROSION IN AREAS WHERE THE SOIL HAS BEEN DISTURBED.
29. NOTE THAT THIS APPROVAL IS FOR THE SITE PLAN ONLY.
30. AN ORANGE CONSTRUCTION FENCE MUST BE PLACED ALONGSIDE THE WETLAND BUFFER PRIOR TO THE START OF CONSTRUCTION (THIS IS NOT REQUIRED IF THE SILT FENCE IS ORANGE).

STATE OF NEW HAMPSHIRE PERMIT NUMBERS:

NHDES ALTERATION OF TERRAIN:	AOT-1666
NHDES WETLANDS PERMIT:	2011-02858 AND 2019-00289
NHDES DAM PERMIT:	NOT REQUIRED
NHDES SUBDIVISION PERMIT:	NOT REQUIRED
NHDES SUBSURFACE SYSTEMS PERMIT:	NOT REQUIRED
NHDES SEWER CONNECTION PERMIT:	NOT REQUIRED
NHDOT DRIVEWAY/ENTRANCE PERMIT:	NOT REQUIRED

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES):
NPDES PERMITS ARE ONLY REQUIRED FOR PROJECTS MEETING THE DISTURBED AREA CRITERIA BELOW AND HAVING A POINT SOURCE STORMWATER DISCHARGE FROM THE SITE TO AN ADJACENT WETLAND OR WATER BODY (I.E. CULVERT, SWALE, ETC. OUTLETING TO A WETLAND, CREEK, STREAM OR RIVER).

NPDES PERMIT: PENDING

NPDES PERMITS CONSIST OF A NOTICE OF INTENT (NOI) FILED WITH THE ENVIRONMENTAL PROTECTION AGENCY AT LEAST 48 HOURS PRIOR TO CONSTRUCTION COMMENCING AND A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) BEING PREPARED, KEPT ON SITE AND FOLLOWED BY THE CONTRACTOR.

FOR STATUS OF THIS PERMIT CONTACT THE PROJECT GENERAL CONTRACTOR.

FINAL APPROVAL BY ROCHESTER PLANNING BOARD

CERTIFIED BY_____ DATE_____

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	9/16/2019	PLANNING BOARD REVISIONS	JVA	RRL
3.	08/15/2019	AOT REVISIONS - SWALE 6:2 SLOPE	JVA	RRL
2.	07/23/2019	AOT COMMENT RESPONSE	JVA	RRL
1.	06/10/2019	ADDRESS A.O.T. COMMENTS	JVA	RRL

STATE OF NEW HAMPSHIRE - RICHARD R. LINDBORN No. 10943 - LICENSED PROFESSIONAL ENGINEER

SCALE:
HORZ.:
VERT.:
DATUM:
HORZ.:
VERT.:
0
GRAPHIC SCALE

FUSS & O'NEILL
UPPER SQUARE BUSINESS CENTER
5 FLETCHER STREET, SUITE 1
KENNEBUNK, ME 04043
207-363-0669
www.fando.com

SAFRAN AEROSPACE COMPOSITES
GENERAL NOTES & LEGEND
85 INNOVATION DRIVE
ROCHESTER NEW HAMPSHIRE

PROJ. No.: 20180581.A10
DATE: 09/16/2019

GI-002

SHEET 2 OF 13

File Path: F:\P2018\0581\A10\DWG\20180581A10_COV01.dwg Layout: GI-002 Plotted: Mon, September 16, 2019 - 12:27 PM User: jandretta
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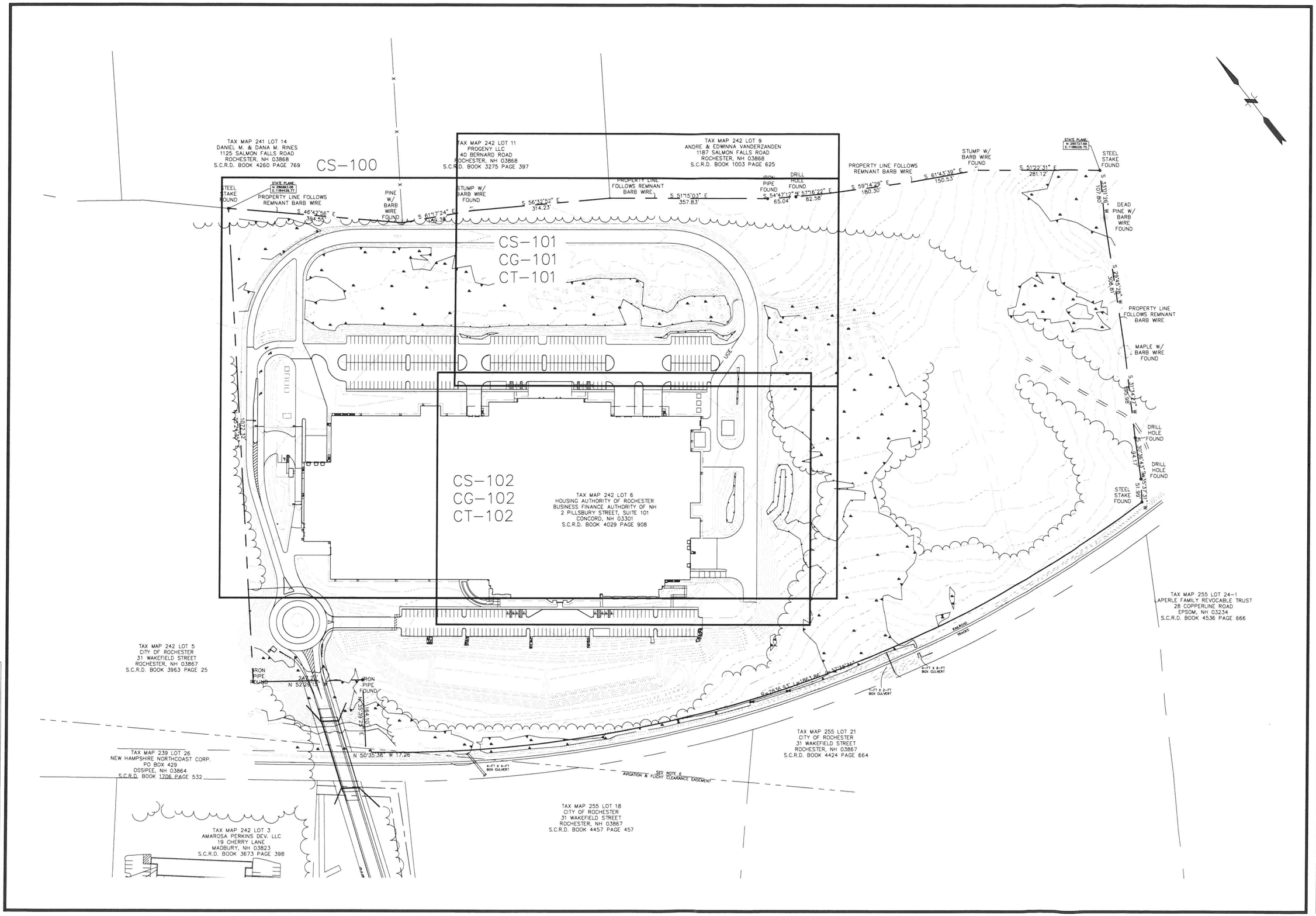

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STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 – LICENSED PROFESSIONAL ENGINEER

SCALE: HORZ.: 1"=100' VERT.:

DATUM: HORZ.: NAD83 VERT.: NAVD88

GRAPHIC SCALE 100 50 0 100

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KENNEBUNK, ME 04043
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SAFRAN AEROSPACE COMPOSITES

INDEX PLAN

85 INNOVATION DRIVE

ROCHESTER NEW HAMPSHIRE

PROJ. No.: 20180581.A10
DATE: 09/16/2019

GI-100

SHEET 3 OF 13

File Path: F:\P2018\0581\A10\DWG\20180581.A10_STP01.dwg Layout: GI-100 Plotted: Mon, September 16, 2019 - 12:27 PM User: jandretta
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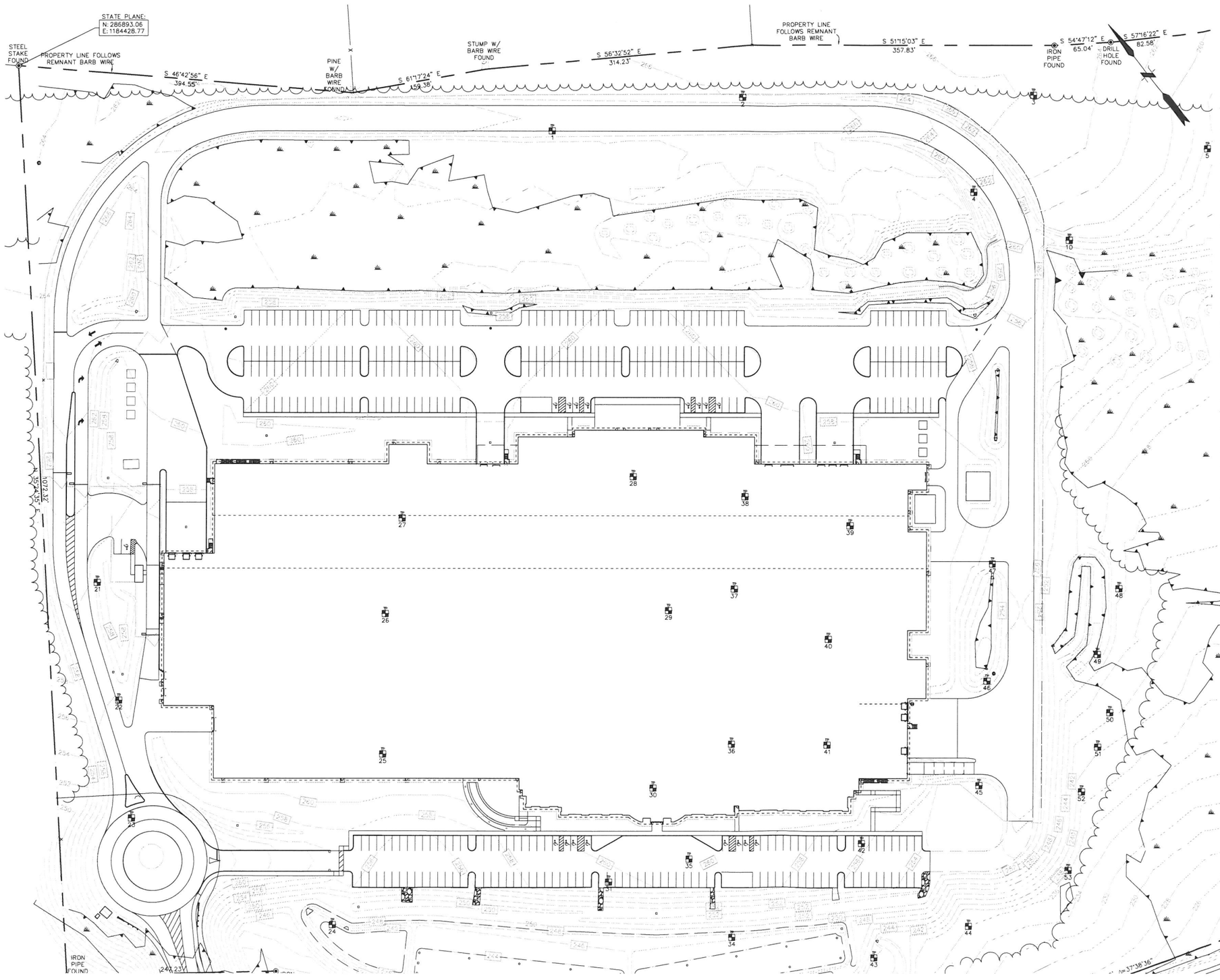

PLAN NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW EXISTING CONDITIONS OF THE SUBJECT PARCEL LOCATED ON TAX MAP 242 LOT 6 WITH AN ADDRESS OF 85 INNOVATION DRIVE, ROCHESTER, NH 03867.
2. THE OWNER OF RECORD IS THE HOUSING AUTHORITY OF ROCHESTER, CO-OWNER BUSINESS FINANCE AUTHORITY OF NH, 2 PILLSBURY STREET, SUITE 101, CONCORD, NH 03301. DEED REFERENCE IS BOOK 4029 PAGE 908.
3. PROPERTY LINE INFORMATION (BEARINGS AND DISTANCES) FOR THIS PARCEL WAS CREATED USING REFERENCE PLAN #1 ONLY. NO REPRESENTATION FOR WARRANTY IS MADE AS TO LOCATION OF BOUNDARIES OR OTHER POINTS OF REFERENCE BY FUSS & O'NEILL.
4. SEE SHEET GI-002 FOR ADDITIONAL PROJECT NOTES.

WETLAND NOTES:

STATE AND FEDERAL JURISDICTIONAL WETLANDS WERE DELINEATED BY N.H. CERTIFIED WETLAND SCIENTIST, BARRY H. KEITH, ON SEPTEMBER 14 AND 25, 2018. WETLANDS MAPPING WAS DONE BY N.H. LICENSED LAND SURVEYORS, FUSS & O'NEILL, INC. USING TOTAL STATION SURVEY METHODS AND IN ACCORDANCE WITH THE FOLLOWING GUIDANCE DOCUMENTS:

1. N.H. CODE OF ADMINISTRATIVE RULES (ENV-WT 301.01) WITH THE TECHNIQUES OUTLINED IN THE 1987 U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT Y-87-1."
2. U.S. ARMY CORPS OF ENGINEERS. 2009. "REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION. U.S. ARMY CORPS OF ENGINEERS RESEARCH AND DEVELOPMENT CENTER, ENVIRONMENTAL LABORATORY ERDC/EL TR-09-19."
3. U.S. ARMY CORPS OF ENGINEERS. 2012. "NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST REGION, U.S. ARMY CORPS OF ENGINEERS RESEARCH AND DEVELOPMENT CENTER, ENVIRONMENTAL LABORATORY.
4. N.H. CODE OF ADMINISTRATIVE RULES (ENV-WT 301.02) WITH THE U.S. FISH AND WILDLIFE SERVICE MANUAL FWS/OBS-79/31 ENTITLED "CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES, COWARDIN ET AL, 1979."
5. NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2004. 3RD/ ED., "FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND." NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
6. U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE. 2010. "FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0."L.M. VASILAS, G.W. HURT, AND C.V. NOBLE (EDS.). USDA, NRCS, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.

REFERENCE PLAN:

1. EXISTING FEATURES SITE PLAN FOR SAFRAN AEROSPACE COMPOSITES, INNOVATION DRIVE, ROCHESTER, NEW HAMPSHIRE, BY ARTHUR H. NICKLESS, JR., LLS, NORWAY PLAINS ASSOCIATES, INC., DATED 6/8/2012. THE PLAN CLOSURE EXCEEDS 1:10,000.

WETLAND LEGEND

PFO1E – PALUSTRINE BROAD-LEAVED DECIDUOUS FORESTED, SEASONALLY FLOODED/SATURATED

PSS1E– PALUSTRINE BROAD-LEAVED DECIDUOUS SCRUB-SHRUB, SEASONALLY FLOODED/SATURATED

PEM1E – PALUSTRINE PERSISTENT EMERGENT, SEASONALLY FLOODED/SATURATED

SPECIAL MODIFIERS

X – EXCAVATED
D – DITCHED

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	9/16/2019	PLANNING BOARD REVISIONS	JVA	RRL
3.	08/15/2019	AOT REVISIONS- SWALE & 2 SLOPE	JVA	RRL
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1.	06/10/2019	ADDRESS A.O.T. COMMENTS	JVA	RRL

STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 – LICENSED PROFESSIONAL ENGINEER

SCALE: HORZ.: 1"=60' VERT.:
DATUM: HORZ.: NAD83 VERT.: NAVD88
60 30 0 60 GRAPHIC SCALE

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SAFRAN AEROSPACE COMPOSITES
EXISTING CONDITIONS PLAN
85 INNOVATION DRIVE
ROCHESTER NEW HAMPSHIRE

PROJ. No.: 20180581.A10
DATE: 09/16/2019

CS-100

SHEET 4 OF 13

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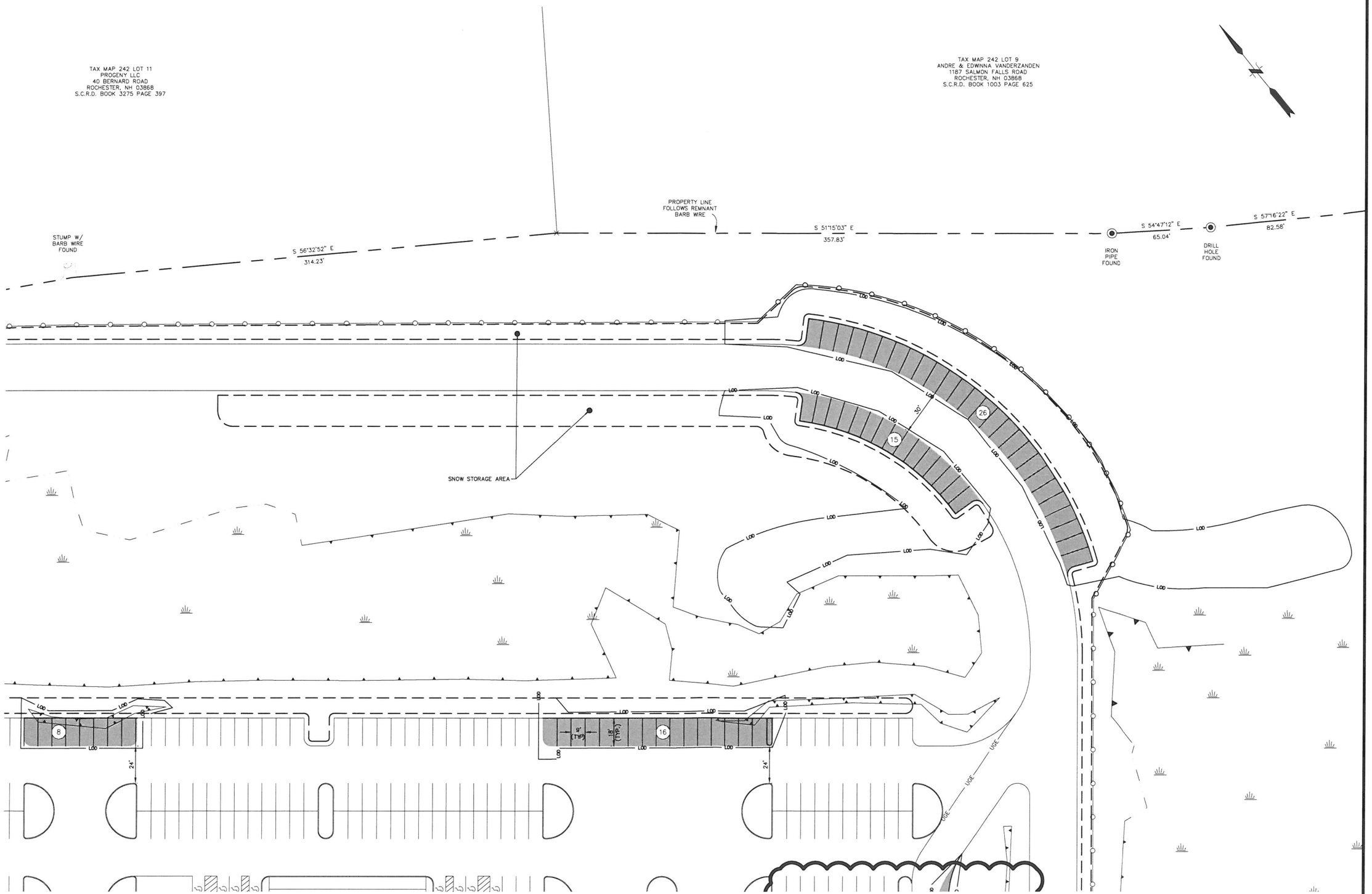

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STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 – LICENSED PROFESSIONAL ENGINEER

SCALE: HORZ.: 1"=30' VERT.:

DATUM: HORZ.: NAD83 VERT.: NAVD88

30 15 0 30 GRAPHIC SCALE

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SAFRAN AEROSPACE COMPOSITES

SITE PLAN

85 INNOVATION DRIVE

ROCHESTER NEW HAMPSHIRE

PROJ. No.: 20180581.A10
DATE: 09/16/2019

CS-101

SHEET 5 OF 13

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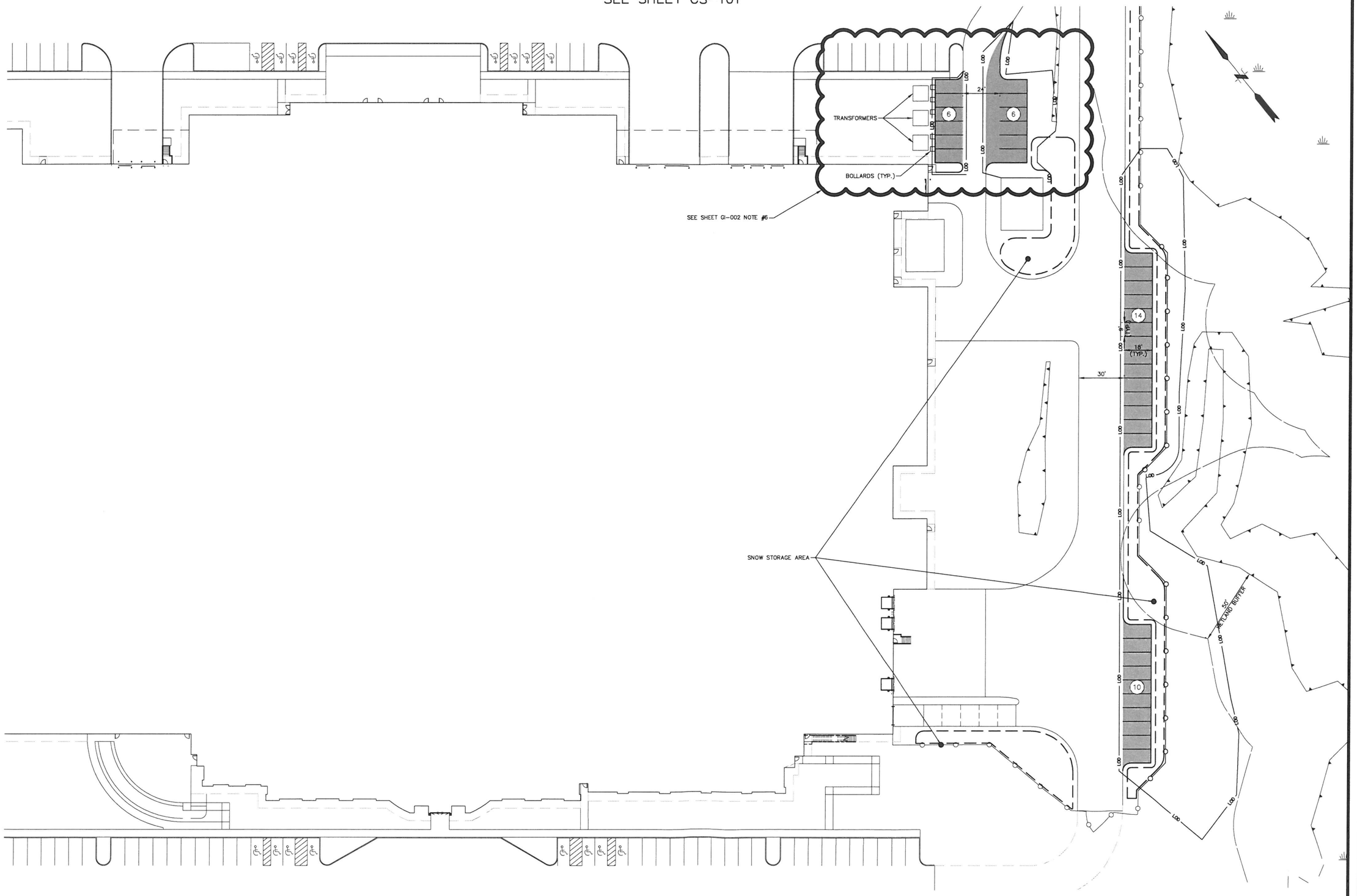

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	9/16/2019	PLANNING BOARD REVISIONS	JVA	RRL
3.	08/15/2019	AOT REVISIONS- SWALE & 2 SLOPE	JVA	RRL
2.	07/23/2019	AOT COMMENT RESPONSE	JVA	RRL
1.	06/10/2019	ADDRESS A.O.T. COMMENTS	JVA	RRL

STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

SCALE:
HORZ.: 1"=30'
VERT.:
DATUM:
HORZ.: NAD83
VERT.: NAVD88
30 15 0 30
GRAPHIC SCALE

FUSS & O'NEILL
UPPER SQUARE BUSINESS CENTER
5 FLETCHER STREET, SUITE 1
KENNEBUNK, ME 04043
207.363.0669
www.fando.com

SAFRAN AEROSPACE COMPOSITES
SITE PLAN
85 INNOVATION DRIVE
ROCHESTER NEW HAMPSHIRE

PROJ. No.: 20180581.A10
DATE: 09/16/2019

CS-102

SHEET 6 OF 13

File Path: F:\P2018\0581\A10\DWG\20180581.A10_STP01.dwg Layout: CS-102 Plotted: Mon, September 16, 2019 - 12:27 PM User: jandreita
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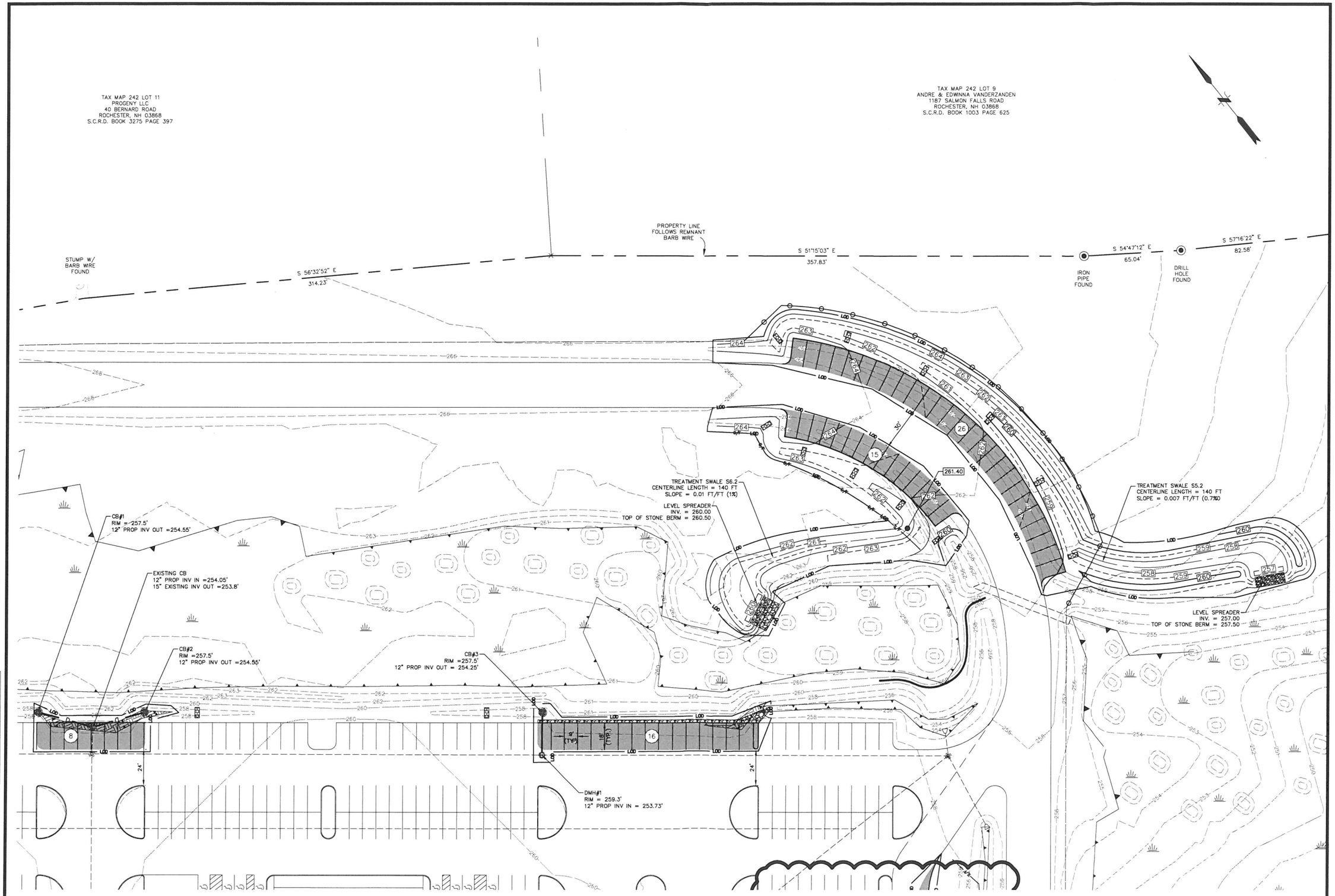

SEE SHEET CG-102

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	9/16/2019	PLANNING BOARD REVISIONS	JVA	RRL
3.	08/15/2019	AOT REVISIONS-- SWALE 6.2 SLOPE	JVA	RRL
2.	07/23/2019	AOT COMMENT RESPONSE	JVA	RRL
1	06/10/2019	ADDRESS A.O.T. COMMENTS	JVA	RRL

STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

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SAFRAN AEROSPACE COMPOSITES
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85 INNOVATION DRIVE
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PROJ. No.: 20180581.A10
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SHEET 7 OF 13

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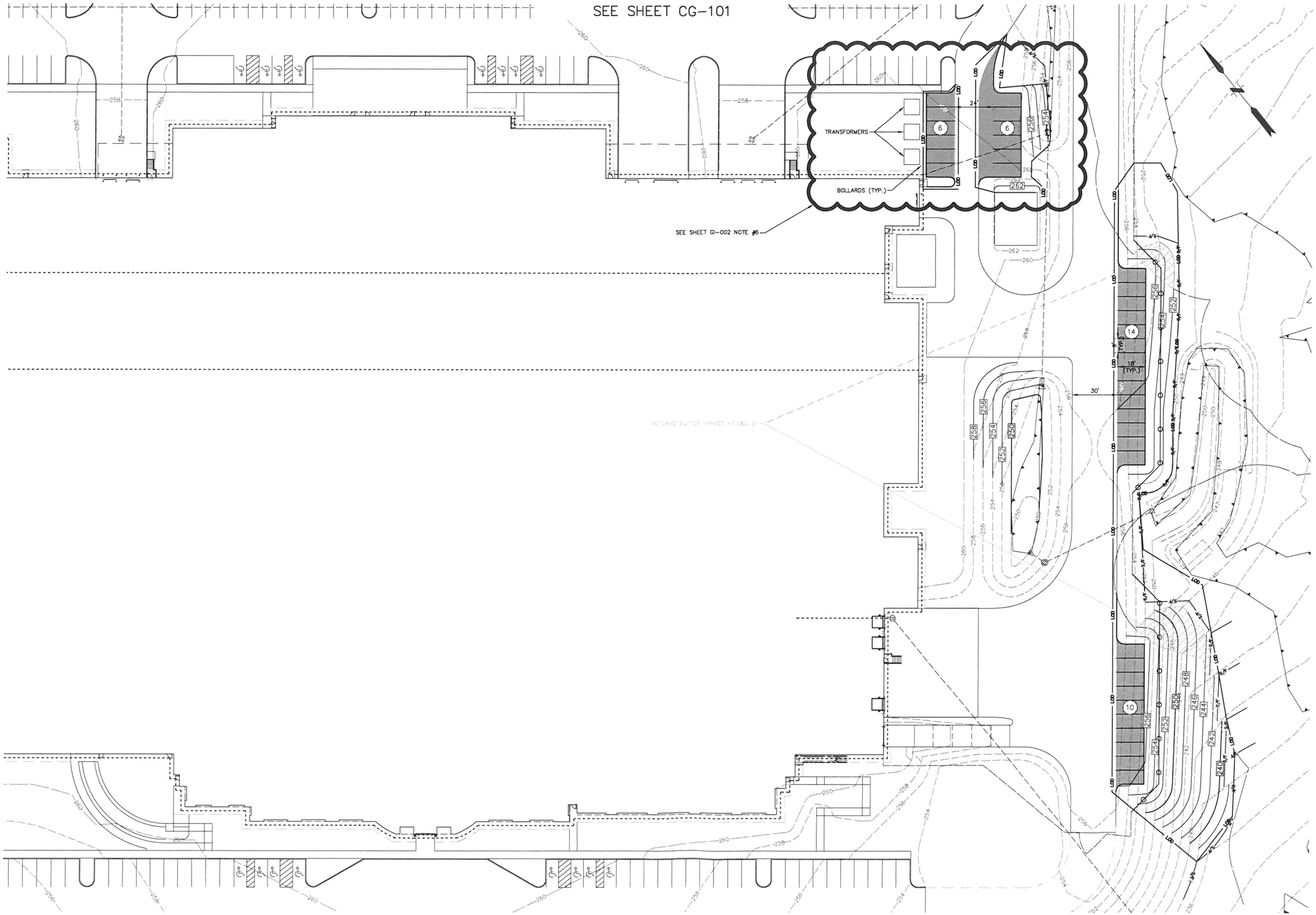

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STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 – PROFESSIONAL ENGINEER – LICENSED

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SHEET 8 OF 13

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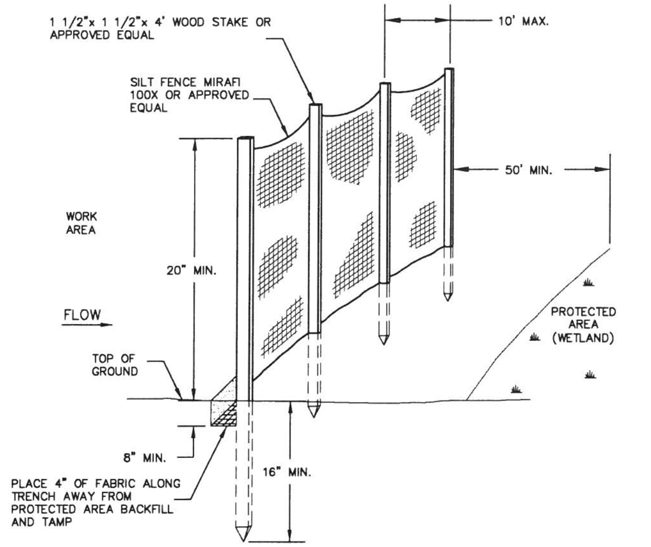


MAINTENANCE REQUIREMENTS:

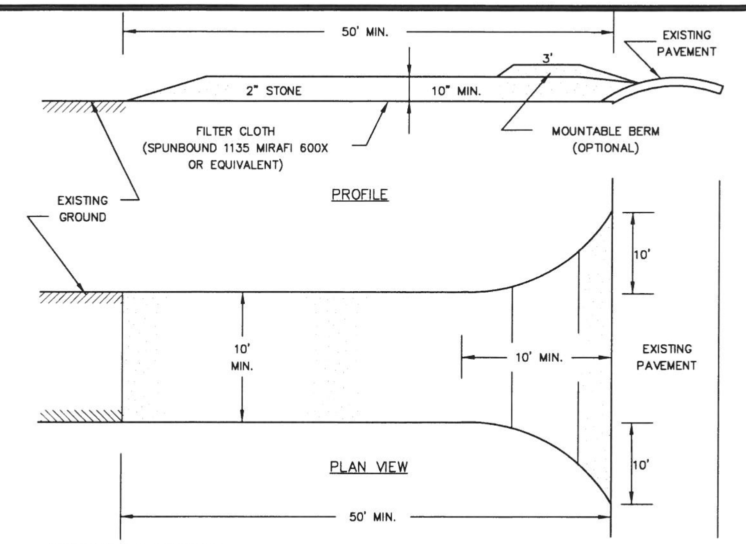
1. FENCES SHOULD BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALLS;
2. SEDIMENT DEPOSITION SHOULD BE REMOVED, AT A MINIMUM, WHEN DEPOSITION ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FENCE, AND MOVED TO AN APPROPRIATE LOCATION SO THE SEDIMENT IS NOT READILY TRANSPORTED BACK TOWARD THE SILT FENCE.
3. SILT FENCES SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHOULD BE REPLACED WITH A TEMPORARY CHECK DAM.
4. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY; THE FABRIC SHOULD BE REPLACED PROMPTLY.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE PREPARED AND SEEDED.
6. IF THERE IS EVIDENCE OF END FLOW ON PROPERLY INSTALLED BARRIERS, EXTEND BARRIERS UPHILL OR CONSIDER REPLACING THEM WITH OTHER MEASURES, SUCH AS TEMPORARY DIVERSIONS AND SEDIMENT TRAPS.
7. SILT FENCES HAVE A USEFUL LIFE OF ONE SEASON. ON LONGER CONSTRUCTION PROJECTS, SILT FENCE SHOULD BE REPAIRED PERIODICALLY AS REQUIRED TO MAINTAIN EFFECTIVENESS.

CONSTRUCTION SPECIFICATIONS:

1. FENCES SHOULD 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 DRAINAGE WAY ABOVE THE FENCE. SEDIMENT BARRIERS SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.
2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA ABOVE THE FENCE SHOULD BE LESS THAN 1A ACRE PER 100 LINEAR FEET OF FENCE;
3. THE MAXIMUM LENGTH OF SLOPE ABOVE THE FENCE SHOULD BE 100 FEET;
4. THE MAXIMUM SLOPE ABOVE THE FENCE SHOULD BE 2:1;
5. FENCES SHOULD BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE, AND
   A. THE ENDS OF THE FENCE SHOULD BE FLARED UPSLOPE;
   B. THE FABRIC SHOULD BE EMBEDDED A MINIMUM OF 8 INCHES IN DEPTH AND 4 INCHES IN WIDTH IN A TRENCH EXCAVATED INTO THE GROUND, OR IF SITE CONDITIONS INCLUDE FROZEN GROUND, LEDGE, OR THE PRESENCE OF HEAVY ROOTS, THE BASE OF THE FABRIC SHOULD BE EMBEDDED WITH A MINIMUM THICKNESS OF 8 INCHES OF 3/4-INCH STONE;
   C. THE SOIL SHOULD BE COMPACTED OVER THE EMBEDDED FABRIC;
   D. SUPPORT POSTS SHOULD BE SIZED AND ANCHORED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS WITH MAXIMUM POST SPACING OF 6 FEET;
   E. ADJOINING SECTIONS OF THE FENCE SHOULD BE OVERLAPPED BY A MINIMUM OF 6 INCHES (24 INCHES IS PREFERRED), FOLDED AND STAPLED TO A SUPPORT POST. IF METAL POSTS ARE USED, FABRIC SHOULD BE WIRE-TIED DIRECTLY TO THE POSTS WITH THREE DIAGONAL TIES.
6. SILT FENCING SHOULD NOT BE STAPLED OR NAILED TO TREES.
7. THE FILTER FABRIC SHOULD BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHOULD BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER.
8. THE FILTER FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 DEGREES FAHRENHEIT TO 120 DEGREES FAHRENHEIT.
9. POSTS FOR SILT FENCES SHOULD BE EITHER 4-INCH DIAMETER WOOD OR 1.33 POUNDS PER LINEAR FOOT STEEL WITH A MINIMUM LENGTH OF 5 FEET. STEEL POSTS SHOULD HAVE, PROJECTIONS FOR FASTENING WIRE TO THEM. POSTS SHOULD BE PLACED ON THE DOWN SLOPE SIDE OF THE FABRIC.
10. THE HEIGHT OF A SILT FENCE SHOULD NOT EXCEED 36 INCHES AS HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.
11. THE FILTER FABRIC SHOULD BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY; FILTER CLOTH SHOULD BE SPLICED TOGETHER ONLY AT SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED.
12. A MANUFACTURED SILT FENCE SYSTEM WITH INTEGRAL POSTS MAY BE USED.
13. POST SPACING SHOULD NOT EXCEED 6 FEET.
14. A TRENCH SHOULD BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS AND UP GRADIENT FROM THE BARRIER.
15. THE STANDARD STRENGTH OF FILTER FABRIC SHOULD BE STAPLED OR WIRED TO THE POST, AND 8 INCHES OF THE FABRIC SHOULD BE EXTENDED INTO THE TRENCH. THE FABRIC SHOULD NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
16. THE TRENCH SHOULD BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
17. SILT FENCE MAY BE INSTALLED BY "SLICING" USING MECHANICAL EQUIPMENT SPECIFICALLY DESIGNED FOR THIS PROCEDURE. THE SLICING METHOD USES AN IMPLEMENT TOWED BEHIND A TRACTOR TO "PLOW" OR SLICE THE SILT FENCE MATERIAL INTO THE SOIL. THE SLICING METHOD MINIMALLY DISRUPTS THE SOIL UPWARD AND SLIGHTLY DISPLACES THE SOIL, MAINTAINING THE SOIL'S PROFILE AND CREATING AN OPTIMAL CONDITION FOR SUBSEQUENT MECHANICAL COMPACTION.
18. SILT FENCES SHOULD BE INSTALLED WITH "SMILES" OR "J-HOOKS" TO REDUCE THE DRAINAGE AREA THAT ANY SEGMENT WILL IMPOUND.
19. THE ENDS OF THE FENCE SHOULD BE TURNED UPHILL.
20. SILT FENCES PLACED AT THE TOE OF A SLOPE SHOULD BE SET AT LEAST 6 FEET FROM THE TOE M ALLOW SPACE FOR SHALLOW PONDING AND TO ALLOW FOR MAINTENANCE ACCESS WITHOUT DISTURBING THE SLOPE.
21. SILT FENCES SHOULD BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

SILT FENCE BARRIER

NOT TO SCALE



MAINTENANCE REQUIREMENTS:

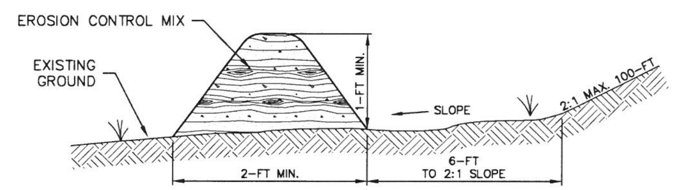
1. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHOULD BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL, REGRADED ON SITE, AND STABILIZED. THE ENTRANCE SHOULD TEN BE RECONSTRUCTED.
2. THE CONTRACTOR SHOULD SWEEP THE PAVEMENT AT EXITS WHENEVER SOIL MATERIALS ARE TRACKED ONTO THE ADJACENT PAVEMENT OR TRAVELED WAY.
3. WHEN WHEEL WASHING IS REQUIRED, IT SHOULD BE CONDUCTED ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT-TRAPPING DEVICE. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

CONSTRUCTION SPECIFICATIONS:

1. THE MINIMUM STONE USED SHOULD BE 3-INCH CRUSHED STONE.
2. THE MINIMUM LENGTH OF THE PAD SHOULD BE 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE.
3. THE PAD SHOULD BE THE FULL WIDTH OF CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER.
4. THE PAD SHOULD SLOPE AWAY FROM THE EXISTING ROADWAY.
5. THE PAD SHOULD BE AT LEAST 6 INCHES THICK.
6. THE GEOTEXTILE FILTER FABRIC SHOULD BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE BELOW THE PAD.
7. THE PAD SHOULD 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.
8. NATURAL DRAINAGE THAT CROSSES THE LOCATION OF THE STONE PAD SHOULD BE INTERCEPTED AND PIPED BENEATH THE PAD, AS NECESSARY, WITH SUITABLE OUTLET PROTECTION.

USDA-SCS STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



EROSION CONTROL MIX BERM CROSS SECTION

NOT TO SCALE

MAINTENANCE REQUIREMENTS:

1. EROSION CONTROL MIX BERMS SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
2. EROSION CONTROL MIX BERMS SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM.
3. IF THERE ARE SIGNS OF BREACHING OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, THE EROSION CONTROL MIX BERMS SHOULD BE REPLACED WITH OTHER MEASURES TO INTERCEPT AND TRAP SEDIMENT (SUCH AS A DIVERSION BERM DIRECTING RUNOFF TO A SEDIMENT TRAP OR BASIN).
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT.
5. SEDIMENT DEPOSITS MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE THIRD (1/3) OF THE HEIGHT OF THE BARRIER.
6. EROSION CONTROL MIX BERMS SHOULD BE RESHAPED OR REAPPLIED AS NEEDED.
7. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

CONSTRUCTION SPECIFICATIONS:

1. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF OF THE PROJECT SITE.
2. EROSION CONTROL MIX MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS.
3. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
4. COMPOSITION OF THE EROSION CONTROL MIX SHOULD BE AS FOLLOWS:
   A. EROSION CONTROL MIX SHALL BE A WELL GRADED MIXTURE OF PARTICLE SIZES FREE OF REFUSE, PHYSICAL CONTAMINANTS, MATERIAL TOXIC TO PLANT GROWTH AND MAY NOT CONTAIN ROCKS LESS THAN 4-INCHES IN DIAMETER;
   B. ORGANIC MATTER = 25-65% DRY WEIGHT BASIS
   C. PARTICLES PASSING BY WEIGHT:

SCREEN:	PASSING BY WEIGHT:
3-INCH	100%
1-INCH	90-100%
3/4-INCH	70-100%
1/4-INCH	30-75%

   D. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
   E. THE MIX SHOULD CONTAIN NO SILTS, CLAYS OR FINE SANDS.
   F. SOLUBLE SALTS CONTENT < 4.0 mmhos/cm
   G. pH OF THE MIX SHOULD BE BETWEEN 5.0 AND 8.0
5. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR.
6. IT MAY BE NECESSARY TO CUT TALL GRASSES AND WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES IN THE BARRIER THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
7. THE BARRIER MUST BE A MINIMUM OF 12-INCHES TALL AS MEASURED ON THE UPHILL SIDE OF THE BARRIER.
8. THE BARRIER MUST BE A MINIMUM OF 2-FT WIDE.

CONTINUOUS CONTAINED BERM (ALTERNATIVE):

1. AN ALTERNATIVE PRODUCT, THE CONTINUOUS CONTAINED BERM (OR "FILTER SOCK") CAN BE AN EFFECTIVE SEDIMENT BARRIER AS IT ADDS CONTAINMENT AND STABILITY TO A BERM OF EROSION CONTROL MIX.
2. IN THE EVENT THAT USE OF CONTINUOUS CONTAINED BERM IS DESIRED, THE PRODUCT SELECTED SHOULD BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER.
3. INSTALLATION OF CONTINUOUS CONTAINED BERMS SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE MANUFACTURER.

EROSION CONTROL MIX BERM DETAIL

WINTER STABILIZATION & CONSTRUCTION PRACTICES:

MAINTENANCE REQUIREMENTS:

1. MAINTENANCE MEASURES SHOULD BE PERFORMED THROUGHOUT CONSTRUCTION, INCLUDING OVER THE WINTER PERIOD. AFTER EACH RAINFALL, SNOWSTORM, OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHOULD CONDUCT INSPECTION OF ALL INSTALLED EROSION CONTROL PRACTICES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUED FUNCTION.
2. FOR ANY AREA STABILIZED BY TEMPORARY OR PERMANENT SEEDING PRIOR TO THE ONSET OF THE WINTER SEASON, THE CONTRACTOR SHOULD CONDUCT AN INSPECTION IN THE SPRING TO ASCERTAIN THE CONDITION OF THE VEGETATION AND REPAIR ANY DAMAGED AREAS OR BARE SPOTS AND RESEED AS REQUIRED TO ACHIEVE AN ESTABLISHED VEGETATIVE COVER (AT LEAST 85% OF AREA VEGETATED WITH HEALTHY, VIGOROUS GROWTH.)

SPECIFICATIONS:

THE FOLLOWING STABILIZATION TECHNIQUES SHOULD BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 15.

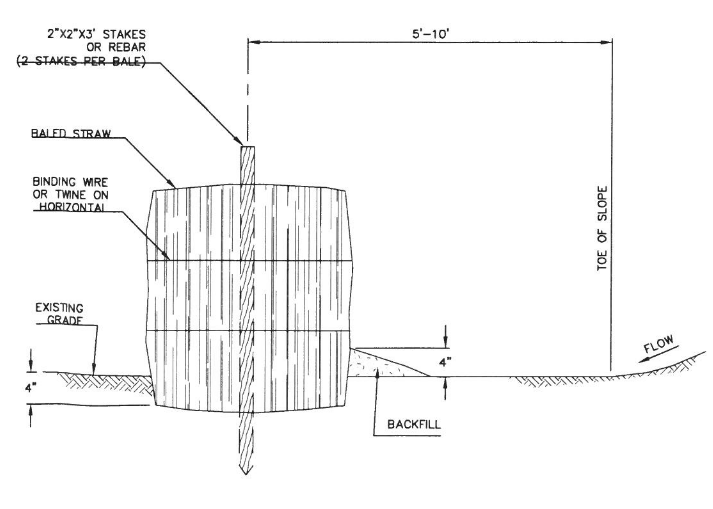
1. THE AREA OF EXPOSED, UNSTABILIZED SOIL SHOULD BE LIMITED TO 1-ACRE AND SHOULD BE PROTECTED AGAINST EROSION BY THE METHODS DISCUSSED IN NHSMM, VOL. 3 AND ELSEWHERE IN THIS PLAN SET, PRIOR TO ANY THAW OR SPRING MELT EVENT. STABILIZATION AS FOLLOWS SHOULD BE COMPLETED WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS:
2. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15, SHOULD BE SEEDED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING, OR 2 INCHES OF EROSION CONTROL MIX (REFER TO NHSMM, VOL. 3 FOR SPECIFICATION).
3. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15 SHOULD BE SEEDED AND COVERED WITH A PROPERLY INSTALLED EROSION CONTROL BLANKET OR WITH A MINIMUM OF 4 INCHES OF EROSION CONTROL MIX, UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. NOTE THAT COMPOST BLANKETS SHOULD NOT EXCEED 2 INCHES IN THICKNESS OR THEY MAY OVERHEAT.
4. ALL STONE COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY OCTOBER 15.
5. INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX SHOULD NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.
6. ALL MULCH APPLIED DURING WINTER SHOULD BE ANCHORED (I.E. BY NETTING, TRACKING, WOOD CELLULOSE FIBER).
7. WITHIN 24 HOURS OF STOCKPILING SOIL MATERIALS SHOULD BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A 4 INCH LAYER OF EROSION CONTROL MIX. MULCH SHOULD BE RE-ESTABLISHED PRIOR TO ANY RAIN OR SNOWFALL. NO SOIL STOCKPILE SHOULD BE PLACED (EVEN COVERED WITH MULCH) WITHIN 100-FT OF ANY WETLAND OR OTHER WATER RESOURCE AREA.
8. FROZEN MATERIAL (I.E. FROST LAYER REMOVED DURING WINTER CONSTRUCTION) SHOULD BE STOCKPILED SEPARATELY AND IN A LOCATION AWAY FROM ANY AREA NEEDING PROTECTION. FROZEN MATERIAL STOCKPILES CAN MELT IN SPRING AND BECOME UNWORKABLE AND DIFFICULT TO TRANSPORT DUE TO HIGH SOIL MOISTURE CONTENT.
9. INSTALLATION OF EROSION CONTROL BLANKETS SHOULD NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH OR ON FROZEN GROUND.
10. ALL GRASS-LINED DITCHES AND CHANNELS SHOULD BE CONSTRUCTED BY SEPTEMBER 1. ALL DITCHES AND SWALES WHICH DO NOT EXHIBIT 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15, SHOULD BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS AS DETERMINED BY A PROFESSIONAL ENGINEER. IF STONE LINING IS NECESSARY, THE CONTRACTOR MAY NEED TO RE-GRADE THE DITCH AS REQUIRED TO PROVIDE ADEQUATE CROSS-SECTION AFTER ALLOWING FOR PLACEMENT OF THE STONE.
11. ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY OCTOBER 15.
12. AFTER NOVEMBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION HAS STOPPED FOR THE WINTER SHOULD BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF SAND AND GRAVEL WITH A GRADATION THAT IS LESS THAN 12% OF THE SAND PORTION, OR MATERIAL PASSING THE NUMBER 4 SIEVE, BY WEIGHT, PASSES THE NUMBER 200 SIEVE.
13. SEDIMENT BARRIERS THAT ARE INSTALLED DURING FROZEN CONDITIONS SHOULD CONSIST OF EROSION CONTROL MIX BERMS, OR CONTINUOUS CONTAINED BERMS. SILT FENCES AND HAY BALES SHOULD NOT BE INSTALLED WHEN FROZEN CONDITIONS PREVENT PROPER EMBEDMENT OF THESE BARRIERS.

DUST CONTROL PRACTICES:

1. APPLY DUST CONTROL MEASURES AS NECESSARY TO MAINTAIN CONTROL OF DUST ON SITE.
2. WATER APPLICATION:
   A) MOISTEN EXPOSED SOIL SURFACES PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.
   B) AVOID EXCESSIVE APPLICATION OF WATER THAT WOULD RESULT IN MOBILIZING SEDIMENT AND SUBSEQUENT DEPOSITION IN NATURAL WATERBODIES.
3. STONE APPLICATION:
   A) COVER SURFACE WITH CRUSHED OR COARSE GRAVEL.
   B) IN AREAS NEAR WATERWAYS USE ONLY CHEMICALLY STABILIZED OR WASHED AGGREGATE.
4. REFER TO "NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3 CONSTRUCTION PHASE EROSION AND SEDIMENT CONTROLS, DECEMBER 2008" FOR OTHER ALLOWABLE DUST CONTROL PRACTICES (I.E. COMMERCIAL TACKIFIERS OR CHEMICAL TREATMENTS SUCH AS CALCIUM CHLORIDE, ETC.)

INVASIVE SPECIES NOTE:

THE CONTRACTOR SHALL TAKE STEPS TO PREVENT THE SPREAD OF INVASIVE PLANT, INSECT, AND FUNGAL SPECIES BY MEETING THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES. http://gencourt.state.nh.us/rules/state_agencies/agr3800.html



TOE OF SLOPE STRAW BALE BARRIER

NOT TO SCALE

GENERAL CONSTRUCTION PHASING:

1. STABILIZATION:
   A SITE IS DEEMED STABILIZED WHEN IT IS IN A CONDITION IN WHICH THE SOIL ON SITE WILL NOT EXPERIENCE ACCELERATED OR UNNATURAL EROSION UNDER THE CONDITIONS OF A 10-YEAR STORM EVENT, SUCH AS BUT NOT LIMITED TO:

A) IN AREAS THAT WILL NOT BE PAVED:
   i) A MINIMUM OF 85% VEGETATIVE COVER HAS BEEN ESTABLISHED;
   ii) A MINIMUM OF 3-INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR A CERTIFIED COMPOST BLANKET HAS BEEN INSTALLED, OR;
   iii) EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.

B) IN AREAS TO BE PAVED:
   i) BASE COURSE GRAVELS HAVE BEEN INSTALLED.

2. TEMPORARY STABILIZATION:
   ALL AREAS OF EXPOSED OR DISTURBED SOIL SHOULD BE TEMPORARILY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 45 DAYS FROM THE TIME OF INITIAL DISTURBANCE, UNLESS A SHORTER TIME IS SPECIFIED BY LOCAL AUTHORITIES, THE CONSTRUCTION SEQUENCE APPROVED AS PART OF THE ISSUED PERMIT OR AN INDEPENDENT MONITOR.
3. PERMANENT STABILIZATION:
   ALL AREAS OF EXPOSED OR DISTURBED SOIL SHOULD BE PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 3 DAYS FOLLOWING FINAL GRADING.
4. MAXIMUM AREA OF DISTURBANCE:
   THE AREA OF UNSTABILIZED SOIL SHOULD NOT EXCEED 5 ACRES AT ANY TIME.
5. ONLY DISTURB, CLEAR, OR GRADE AREAS NECESSARY FOR CONSTRUCTION.
   A) FLAG OR OTHERWISE DELINEATE AREAS NOT TO BE DISTURBED.
   B) EXCLUDE VEHICLES AND CONSTRUCTION EQUIPMENT FROM THESE AREAS TO PRESERVE NATURAL VEGETATION.
6. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHOULD BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED ON SHEET CG-101.
7. ALL EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES SHOULD BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED ON SHEET CG-101.
8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHOULD BE STOCKPILED IN THE AMOUNT NECESSARY TO COMPLETE FINISHED GRADING AND BE PROTECTED FROM EROSION.
9. STOCKPILES, BORROW AREAS AND SPOILS SHALL BE STABILIZED AS DESCRIBED UNDER "SOIL STOCKPILE PRACTICES".
10. SLOPES SHOULD NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTIES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED DAMAGE.
11. AREAS TO BE FILLED SHOULD BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND/OR OTHER OBJECTIONABLE MATERIALS.
12. AREAS SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 3-INCHES PRIOR TO PLACEMENT OF TOPSOIL. TOPSOIL SHOULD BE PLACED WITHOUT SIGNIFICANT COMPACTION TO PROVIDE A LOOSE BEDDING FOR PLACEMENT OF SEED.
13. ALL FILLS SHOULD BE COMPACTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, SITE UTILITIES, CONDUITS AND OTHER FACILITIES, SHOULD BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
14. IN GENERAL, FILLS SHOULD BE COMPACTED IN LAYERS RANGING FROM 6 TO 24 INCHES IN THICKNESS. THE CONTRACTOR SHOULD REVIEW THE PROJECT GEOTECHNICAL REPORT AND/OR THE "PROJECT SPECIFIC PHASING NOTES" FOR SPECIFIC GUIDANCE.
15. ANY AND ALL FILL MATERIAL SHOULD BE FREE OF BRUSH, RUBBISH, ROCKS (LARGER THAN 3/4 THE DEPTH OF THE LIFT BEING INSTALLED), LOGS, STUMPS, BUILDING DEBRIS, FROZEN MATERIAL AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS.
16. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE (I.E. CLAY, SILT) MATERIALS ARE SUSCEPTIBLE TO ACCELERATED SETTLEMENT AND POTENTIAL ACCELERATED EROSION. WORK IN AREAS OF THESE MATERIALS SHOULD BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER.
17. THE OUTER FACE OF THE FILL SLOPE SHOULD BE ALLOWED TO STAY LOOSE, NOT ROLLED OR COMPACTED, OR BLADE SMOOTHED. A BULLDOZER MAY RUN UP AND DOWN THE FILL SLOPE SO THE DOZER TREADS (CLEAT TRACKS) CREATE GROOVES PERPENDICULAR TO THE SLOPE. IF THE SOIL IS NOT TOO MOIST, EXCESSIVE COMPACTION WILL NOT OCCUR. SEE "SURFACE ROUGHENING" IN THE NHSMM, VOL.3.
18. ROUGHEN THE SURFACE OF ALL SLOPES DURING THE CONSTRUCTION OPERATION TO RETAIN WATER, INCREASE INFILTRATION AND FACILITATE VEGETATION ESTABLISHMENT.
19. USE SLOPE BREAKS, SUCH AS DIVERSIONS, BENCHES, OR CONTOUR FURROWS AS APPROPRIATE TO REDUCE THE LENGTH OF CUT-FILL SLOPES TO LIMIT SHEET AND RILL EROSION AND PREVENT GULLY EROSION. ALL BENCHES SHOULD BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.
20. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHOULD BE EVALUATED BY A PROFESSIONAL ENGINEER (PREFERABLY THE DESIGN ENGINEER) TO DETERMINE IF THE PROPOSED DESIGN SHOULD BE REVISED TO PROPERLY MANAGE THE CONDITION.
21. STABILIZE ALL GRADED AREAS (AS ABOVE) WITH VEGETATION, CRUSHED STONE, COMPOST BLANKET, OR OTHER GROUND COVER AS SOON AS GRADING IS COMPLETE OR IF WORK IS INTERRUPTED FOR 21 WORKING DAYS OR MORE. USE MULCH OR OTHER APPROVED METHODS TO STABILIZE AREAS TEMPORARILY WHERE FINAL GRADING MUST BE DELAYED.
22. ALL GRADED AREAS SHOULD BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

ABOVE NOTES EXCERPTED, ADAPTED AND REFERENCED FROM "NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3 CONSTRUCTION PHASE EROSION AND SEDIMENT CONTROLS, DECEMBER 2008" (NHSMM, VOL. 3)

SOIL STOCKPILE PRACTICES:

1. LOCATE STOCKPILES A MINIMUM OF 50-FT. AWAY FROM CONCENTRATED FLOWS OF STORMWATER, DRAINAGE COURSES OR INLETS.
2. PROTECT ALL STOCKPILES FROM STORMWATER RUN-ON USING TEMPORARY PERIMETER MEASURES SUCH AS DIVERSIONS, BERMS, SANDBAGS OR OTHER APPROVED PRACTICES.
3. STOCKPILES SHOULD BE SURROUNDED BY SEDIMENT BARRIERS AS DESCRIBED ON THE PLANS AND IN NHSMM VOL. 3. TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILE.
4. IMPLEMENT WIND EROSION CONTROL PRACTICES AS APPROPRIATE ON ALL STOCKPILED MATERIAL.
5. PLACE BAGGED MATERIALS ON PALLETS OR UNDERCOVER.

PROTECTION OF INACTIVE STOCKPILES:

6. INACTIVE SOIL STOCKPILES SHOULD BE COVERED WITH ANCHORED TARPS OR PROTECTED WITH SOIL STABILIZATION MEASURES (TEMPORARY SEED AND MULCH OR OTHER TEMPORARY STABILIZATION PRACTICE) AND TEMPORARY PERIMETER SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) AT ALL TIMES.
7. INACTIVE STOCKPILES OF CONCRETE RUBBLE, ASPHALT CONCRETE RUBBLE, AGGREGATE MATERIALS, AND SIMILAR MATERIALS SHOULD BE PROTECTED WITH TEMPORARY SEDIMENT PERIMETER BARRIERS (I.E. SILT FENCE, ETC.) AT ALL TIMES. IF THE MATERIALS ARE A SOURCE OF DUST, THEY SHOULD ALSO BE COVERED.

PROTECTION OF ACTIVE STOCKPILES:

8. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY LINEAR SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) PRIOR TO THE ONSET OF PRECIPITATION. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIAL FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
9. WHEN A STORM IS PREDICTED, STOCKPILES SHOULD BE PROTECTED WITH AN ANCHORED PROTECTIVE COVERING.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	9/16/2019	PLANNING BOARD REVISIONS	JVA	RRL
3.	08/15/2019	AOT REVISIONS- SWALE 6.2 SLOPE	JVA	RRL
2.	07/23/2019	AOT COMMENT RESPONSE	JVA	RRL
1	06/10/2019	ADDRESS A.O.T. COMMENTS	JVA	RRL

STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 – LICENSED PROFESSIONAL ENGINEER

SCALE: HORZ.: NONE VERT.:
DATUM: HORZ.: VERT.:
GRAPHIC SCALE 0

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PROJ. No.: 20180581.A10
DATE: 09/16/2019

CD-501

SHEET 9 OF 13

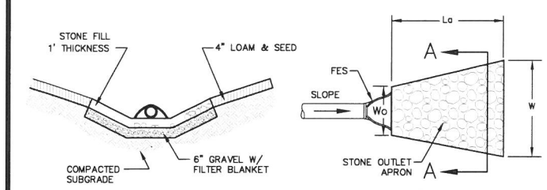
D10=10"

RIP-RAP GRADATION

% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)		
100	15	TO	20
85	13	TO	18
50	10	TO	15
15	3	TO	5

APRON DIMENSION TABLE

PIPE OUTLET	Wo	W	Lo	T	d50
12" HDPE OUTLET	3.0'	11'	8'	12"	3"
6" HDPE OUTLET	2.0'	11'	8'	12"	3"



SECTION A–A PLAN VIEW

STONE: D50 = 6"
WELL GRADED WITH SUFFICIENT SAND
AND GRAVEL TO FILL THE VOIDS

THE HEIGHT OF THE STRUCTURAL LINING ALONG THE CHANNEL SIDES SHALL BEGIN AT THE ELEVATION EQUAL TO THE TOP OF THE CONDUIT AND TAPER DOWN TO THE CHANNEL BOTTOM THROUGH THE LENGTH OF THE APRON.

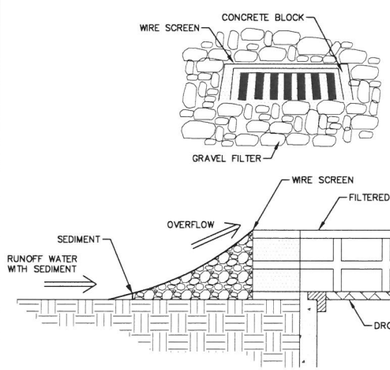
NOTES:
1. ALL PIPE CULVERTS SHALL HAVE END SECTIONS OR HEADWALLS. END SECTION MATERIAL AND MANUFACTURER SHALL MATCH THAT OF THE PIPE CULVERT.
2. THE LARGEST RIP-RAP SIZE DETERMINED DURING HYDROLOGIC ANALYSIS HAS BEEN USED FOR ALL OUTLETS FOR ECONOMY AND SIMPLICITY.
3. APRON LENGTHS, WIDTHS AND THICKNESSES HAVE BEEN ROUNDED UP TO WHOLE NUMBERS FOR EASE OF CONSTRUCTION.

CONSTRUCTION SPECIFICATIONS:
1. PREPARE THE SUB-GRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP-RAP TO THE GRADES SHOWN ON THE PLANS.
2. MINIMUM 6" SAND/GRAVEL BEDDING OR GEOTEXTILE FABRIC REQUIRED UNDER ALL ROCK RIP-RAP.
3. THE ROCK OR GRAVEL USED FOR FILTER OR RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
4. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF ROCK RIP-RAP. 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 (2) PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
5. 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 SEGREGATION OF THE STONE SIZES.
6. RIP-RAP SIZE CHOSEN FOR THE WORST CASE OF ALL OUTLETS. ALL RIP-RAP USED FOR PIPE OUTLET PROTECTION WILL HAVE THE SAME GRADATION AND THICKNESS.

MAINTENANCE NOTES:
1. OUTLETS SHALL BE INSPECTED AND CLEANED ANNUALLY AND AFTER ANY MAJOR STORM EVENT. ANY EROSION OR DAMAGE TO THE RIP-RAP SHALL BE REPAIRED IMMEDIATELY.
2. THE CHANNEL IMMEDIATELY DOWNSTREAM FROM THE OUTLET SHOULD BE CHECKED TO SEE THAT NO EROSION IS OCCURRING.
3. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

RIP RAP APRON OUTLET PROTECTION

NOT TO SCALE



BLOCK AND GRAVEL INLET SEDIMENT FILTER

NOT TO SCALE

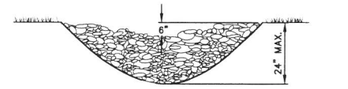
CONSTRUCTION SPECIFICATIONS:
1. PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDE IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, WITH THE ENDS OF ADJACENT BLOCKS ABUTTING. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING COMBINATIONS OF 4-INCH, 8-INCH AND 12-INCH WIDE BLOCKS. THE BARRIER OF BLOCKS SHALL BE AT LEAST 12 INCHES HIGH AND NO GREATER THAN 24 INCHES HIGH
2. WIRE MESH SHALL BE PLACED OVER THE OUTSIDE VERTICAL FACE (WEBBING) OF THE CONCRETE BLOCKS TO PREVENT STONE FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED.
3. STONE SHALL BE PILED AGAINST THE WIRE TO THE TOP OF THE BLOCK BARRIER, AS SHOWN ABOVE. STONE GRADATION SHALL BE WELL GRADED WITH THE MAXIMUM STONE SIZE OF 6 INCHES AND MINIMUM STONE SIZE OF 1 INCH.
4. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE BLOCKS, CLEANED AND REPLACED.

MAINTENANCE NOTES:
1. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
2. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

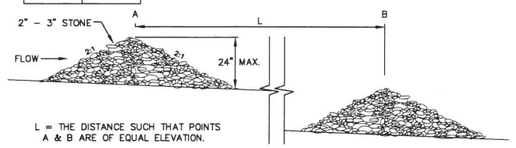
SEDIMENTATION CONTROL AT CATCH BASINS

NOT TO SCALE

SPACING BETWEEN CHECK DAMS	
SLOPE (FT/FT)	LENGTH (FT)
0.020	75
0.030	50
0.040	37
0.050	30
0.080	19
0.100	15
0.120	13
0.150	10



DRAINAGEWAY CROSS-SECTION



L = THE DISTANCE SUCH THAT POINTS A & B ARE OF EQUAL ELEVATION.

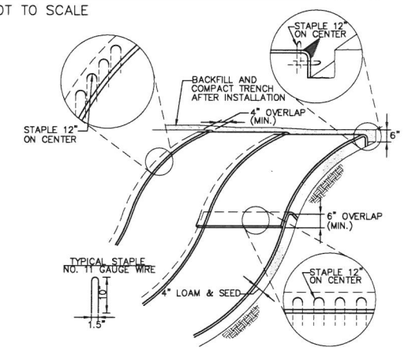
SPACING BETWEEN STONE CHECK DAMS

CONSTRUCTION SPECIFICATIONS:
1. STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS AT THE APPROPRIATE SPACING.
2. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION, AIR AND WATER POLLUTION WILL BE MINIMIZED.
3. STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.

MAINTENANCE NOTES:
1. TEMPORARY GRADE STABILIZATION STRUCTURES SHOULD BE INSPECTED AFTER EACH STORM AND DAILY DURING PROLONGED STORM EVENTS. ANY DAMAGE TO THE STRUCTURES SHALL BE REPAIRED IMMEDIATELY.
2. PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE.
3. WHEN REMOVING THE STRUCTURES, THE DISTURBED AREAS SHALL BE BROUGHT UP TO EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED AND MULCHED
4. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT REACHES 1/2 THE ORIGINAL HEIGHT OF THE STRUCTURE.

STONE CHECK DAM INSTALLATION DETAIL

NOT TO SCALE



SLOPE INSTALLATION

MAINTENANCE REQUIREMENTS:
1. ALL BLANKET AND MATS SHOULD BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING 1/2 INCH IN A 24-HOUR PERIOD.
2. ANY FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUT OF THE SLOPE, DISPLACEMENT OF THE MAT, OR DAMAGE TO THE MAT OCCURS, THE AFFECTED SLOPE SHALL BE REPAIRED AND RESEEDED, AND THE AFFECTED AREA OF MAT SHALL BE RE-INSTALLED.

CONSTRUCTION SPECIFICATIONS:
1. MANUFACTURE'S INSTALLATION INSTRUCTIONS:
   A. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
   NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
   B. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM)PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
   C. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
   D. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
   E. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
   NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.
2. SITE PREPARATION:
   A. PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.
   B. GRADE AND SHAPE AREA IF INSTALLATION.
   C. REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
   D. PREPARE SEEDBED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.
   E. INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE SEEDING PLAN.
3. SEEDING:
   A. SEED AREA BEFORE BLANKET INSTALLATION FOR EROSION CONTROL AND REVEGETATION. SEEDING AFTER MAT INSTALLATION IS OFTEN SPECIFIED FOR TURF REINFORCEMENT APPLICATIONS. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOTS AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE RESEEDED.
   B. WHEN SOIL FILLING IS SPECIFIED, SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL.

EROSION CONTROL – BLANKET SLOPE PROTECTION

NOT TO SCALE

PERMANENT VEGETATION:

SPECIFICATIONS:

SITE PREPARATION:
1. INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
2. GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
3. RUNOFF SHOULD BE DIVERTED FROM THE SEEDBED AREA.
4. ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHOULD INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR O THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:
1. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC. SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY AND SILT SOILS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.
2. REMOVE FROM THE SURFACE ALL STONES 2INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE CLODS, LUMPS, TRASH OR OTHER UNSUITABLE MATERIAL.
3. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED; THE AREA MUST BE TILLED AND FIRMED AS ABOVE.
4. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
5. IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHOULD BE APPLIED DURING THE GROWING SEASON.
6. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL FERTILIZER AND LIMESTONE MAY BE APPLIED AT THE FOLLOWING RATES:

   LIMESTONE APPLICATION RATE = 3 TONS/ACRE (138 LB./1,000-SF)*

   *EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

   FERTILIZER APPLICATION RATE = 600 LB./ACRE (13.8 LB./1,000-SF)*

   *LOW PHOSPHATE FERTILIZER (N-P205-K20) OR EQUIVALENT
7. FERTILIZER SHOULD BE RESTRICTED TO LOW PHOSPHATE. SLOW RELEASE NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 AND 250-FT FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25-FT OF A SURFACE WATER BODY. THESE ARE THE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

SEEDING:
1. INOCULATE ALL LEGUME SEED WITH THE CORRECT TYPE OF INOCULANT.
2. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE.
3. WHERE FEASIBLE EXCEPT WHERE EITHER CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A ROLLER, OR LIGHT DRAG.
4. SPRING SEEDING USUALLY GIVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHOULD BE COMPLETED 45 DAYS PRIOR TO FIRST KILLING FROST. WHEN CROWN VETCH IS SEEDED IN LATE SUMMER AT LEAST 35% OF THE SEED SHOULD BE HARD SEED (UNSCARIFIED). IF SEEDING CANNOT BE DONE WITHIN THE SPECIFIED SEEDING DATES, MULCH ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSSM, VOL 3. AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
5. AREAS SEEDED BETWEEN MAY 15 AND AUGUST 15 SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSSM, VOL 3.
6. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.

HYDROSEEDING:
1. WHEN HYDROSEEDING (HYDRAULIC APPLICATION), PREPARE THE SEEDBED AS SPECIFIED ABOVE OR BY HAND RAKING TO LOOSEN AND SMOOTH THE SOIL AND REMOVE SURFACE STONES LARGER THAN 2 INCHES IN DIAMETER.
2. SLOPES BUST BE NO STEEPER THAN 2:1 (2 FEET HORIZONTALLY BY 1 FOOT VERTICALLY.
3. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF FIBER MULCH ON CRITICAL AREAS IS NOT RECOMMENDED (UNLESS IT IS USED TO HOLD STRAW OR HAY). BETTER PROTECTION IS GAINED BY USING STRAW MULCH AND HOLDING IT WITH ADHESIVE MATERIALS OR 500 POUNDS PER ACRE OF WOOD FIBER MULCH.
4. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.

MAINTENANCE REQUIREMENTS:
1. PERMANENT SEEDED AREAS SHOULD BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTION, MAINTENANCE AND CORRECTIVE ACTIONS SHOULD CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.
2. SEEDED AREAS SHOULD BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION. MOWING HEIGHT AND FREQUENCY DEPEND OF TYPE OF GRASS COVER.
3. BASED ON INSPECTION, AREAS SHOULD BE RESEEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS.
4. AT A MINIMUM 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.
5. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD BE RESEEDED, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

PERMANENT VEGETATION SEEDING RECOMMENDATIONS

USE	MIXTURE	SPECIES	LBS./ACRE	LBS./ 1,000-SF
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	TALL FESCUE CREEPING RED FESCUE REDTOP TOTAL	20 20 2 42	0.45 0.45 0.05 0.95
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	TALL FESCUE CREEPING RED FESCUE REDTOP TOTAL	20 20 2 42	0.45 0.45 0.05 0.95
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY RECREATION SITES	A	TALL FESCUE CREEPING RED FESCUE REDTOP TOTAL	20 20 2 42	0.45 0.45 0.05 0.95
PLAY AREAS AND ATHLETIC FIELDS (TOPSOIL ESSENTIAL FOR GOOD TURF)	F	CREEPING RED FESCUE KENTUCKY BLUEGRASS TOTAL	50 50 100	1.15 1.15 2.30

SOURCES:
1. NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLES 4-2 AND 4-3
2. MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)

TEMPORARY VEGETATION:

SPECIFICATIONS:

SITE PREPARATION:
1. INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
2. GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
3. RUNOFF SHOULD BE DIVERTED FROM THE SEEDBED AREA.
4. ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHOULD INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR O THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:
1. STONES AND TRASH SHOULD BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.
2. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
3. IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHOULD BE APPLIED DURING THE GROWING SEASON.
4. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL FERTILIZER AND LIMESTONE MAY BE APPLIED AT THE FOLLOWING RATES:

   LIMESTONE APPLICATION RATE = 3 TONS/ACRE (138 LB./1,000-SF)*

   *EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

   FERTILIZER APPLICATION RATE = 600 LB./ACRE (13.8 LB./1,000-SF)*

   *LOW PHOSPHATE FERTILIZER (N-P205-K20) OR EQUIVALENT
5. FERTILIZER SHOULD BE RESTRICTED TO LOW PHOSPHATE. SLOW RELEASE NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 AND 250-FT FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25-FT OF A SURFACE WATER BODY. THESE ARE THE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

SEEDING:
1. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL CULTIPACKER TYPE SEEDER OR HYDRO SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
2. TEMPORARY SEED SHOULD TYPICALLY OCCUR PRIOR TO SEPTEMBER 15.
3. AREAS SEEDED BETWEEN MAY 15 AND AUGUST 15 SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSSM, VOL 3.
4. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.

MAINTENANCE REQUIREMENTS:
1. TEMPORARY SEEDING SHOULD BE INSPECTED WEEKLY AFTER ANY RAINFALL EXCEEDING 1/2 INCH IN 24 HOURS ON ACTIVE CONSTRUCTION SITES. TEMPORARY SEEDING SHOULD BE INSPECTED JUST PRIOR TO SEPTEMBER 15, TO ASCERTAIN WHETHER ADDITIONAL SEEDING IS REQUIRED TO PROVIDE STABILIZATION OVER THE WINTER PERIOD.
2. BASED ON INSPECTION, AREAS SHOULD BE RESEEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS. IF IT IS TOO LATE IN THE PLANTING SEASON TO APPLY ADDITIONAL SEED, THEN OTHER TEMPORARY STABILIZATION MEASURES SHOULD BE IMPLEMENTED.
3. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD BE RESEEDED, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

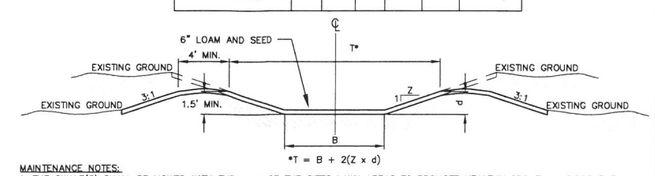
TEMPORARY VEGETATION SEEDING RECOMMENDATIONS

SPECIES	PER ACRE BUSHELS (BU) OR POUNDS (LBS.)	PER 1,000-SF	REMARKS
WINTER RYE	2.5 BU OR 112 LBS.	2.5 LBS.	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS	2.5 BU OR 80 LBS.	2.0 LBS.	BEST FOR SPRING SEEDING. SEED NO LATER THAN MAY 15 FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYEGRASS	40 LBS.	1.0 LB.	GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15 AND SEPTEMBER 15. COVER THE SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYEGRASS	30 LBS.	0.7 LBS.	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.

SOURCES:
1. NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLE 4-1
2. MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)

SWALE DIMENSION TABLE

LOCATION	B	d	Z	T	LENGTH	SLOPE
TREATMENT SWALE S6.2	4-FT	2-FT	3-FT	20-FT	140-FT	0.010 FT/FT
TREATMENT SWALE S5.2	5-FT	2-FT	3-FT	21-FT	140-FT	0.007 FT/FT



*T = B + 2(Z x d)

MAINTENANCE NOTES:
1. THE SWALE(S) SHALL BE MOWED WITH THE REST OF THE SITES LAWN AREAS TO PROMOTE HEALTHY GROWTH AND PREVENT THE ENCROACHMENT OF WEEDS AND WOODY VEGETATION. DO NOT MOW GRASS IN SWALE(S) TOO SHORT. THIS WILL REDUCE THE SWALES FILTERING ABILITY.
2. THE SWALE(S) SHOULD BE FERTILIZED ON AN AS NECESSARY BASIS, TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION COULD RESULT IN THE SWALE(S) BECOMING A SOURCE OF POLLUTION TO THE SURROUNDING WETLAND AREAS.
3. THE SWALE(S) SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND RE-VEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

TREATMENT SWALE DETAIL

NOT TO SCALE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	9/16/2019	PLANNING BOARD REVISIONS	JVA	RRL
3.	08/15/2019	AOT REVISIONS - SWALE 6.2 SLOPE	JVA	RRL
2.	07/23/2019	AOT COMMENT RESPONSE	JVA	RRL
1.	06/10/2019	ADDRESS A.O.T. COMMENTS	JVA	RRL

STATE OF NEW HAMPSHIRE – RICHARD LUNDBORN No. 10943 – LICENSED PROFESSIONAL ENGINEER

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ROCHESTER NEW HAMPSHIRE

PROJ. No.: 20180581.A10
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CD-502

SHEET 10 OF 13

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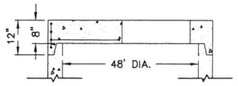

ALTERNATE H-20 TOP SLAB
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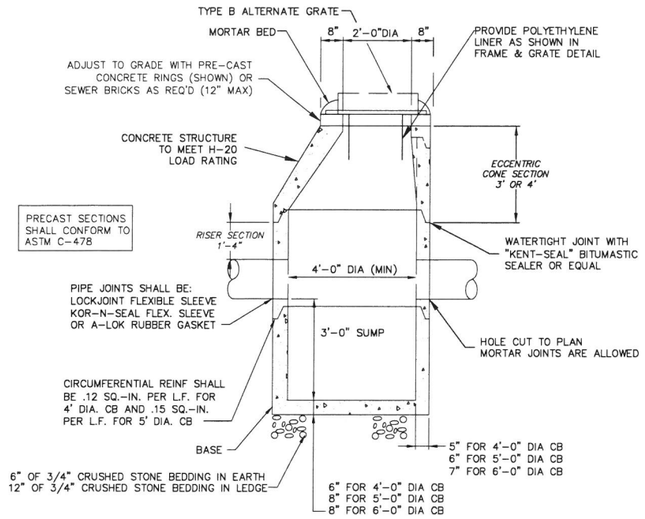
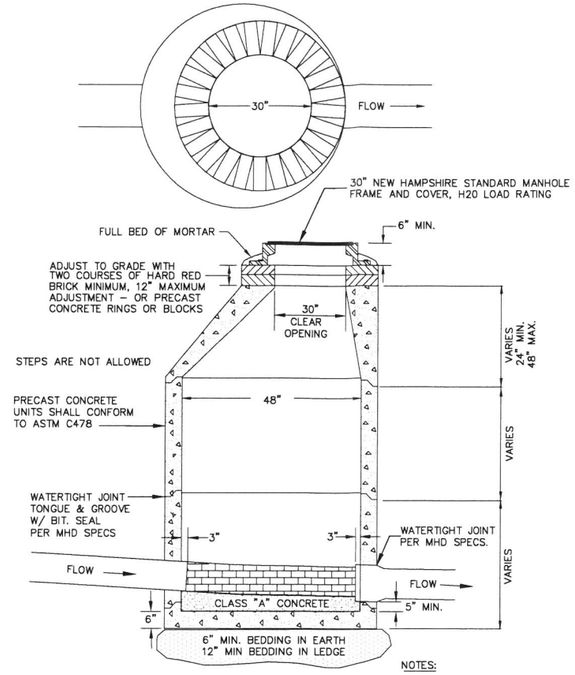


NOTES:
1. ALL SECTIONS SHALL BE CONCRETE, CLASS AA (4,000 PSI) CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER L.F. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
2. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.
3. RISERS OF 1'-4" MAY BE USED TO REACH THE DESIRED ELEVATION.
4. STEPS ARE NOT ALLOWED.

PRECAST REINFORCED CATCH BASIN

SCALE: NOT TO SCALE



TYPE OF PIPE	SIZE	MAX. DIST. TO FIRST JOINT
R.C.P. & C.I.	ALL	48"
C.I.P.	ALL	48"
P.V.C.	>15"	48"
V.C.P.	0-12"	18"
V.C.P.	>12"	36"

NOTES:

ALL SECTIONS SHALL BE CONCRETE, CLASS AA (4000 PSI). CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER L.F. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.

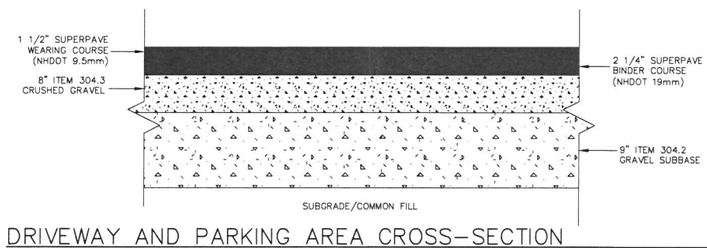
THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.

CONSTRUCTION NOTES:

1. INSTALL FIRST SECTION BELOW EXISTING PIPE.
2. CONSTRUCT BRICK SHELF AND ADD REMAINING SECTIONS
3. FORM WATER TIGHT JOINT USING "KENT-SEAL" BITUMASTIC SEAL.
4. CUT PIPE IN TWO LOCATIONS, 3" FROM MANHOLE INSIDE WALL

DRAIN MANHOLE DETAIL

SCALE: NOT TO SCALE



DRIVEWAY AND PARKING AREA CROSS-SECTION

SCALE: NOT TO SCALE

SUBBASE COURSE GRAVEL GRADING REQUIREMENTS:

SIEVE DESIGNATION:	PERCENTAGE BY WEIGHT SQUARE MESH SIEVE:
6 INCH	100%
NO. 4	25-70%
NO. 200	0-12%

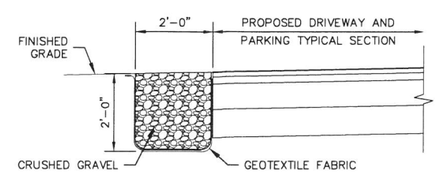
GRAVEL SHALL CONTAIN NO PARTICLES OF ROCK EXCEEDING SIX INCHES IN ANY DIMENSION.

BASE COURSE (CRUSHED GRAVEL) GRADING REQUIREMENTS:

SIEVE DESIGNATION:	PERCENTAGE BY WEIGHT SQUARE MESH SIEVE:
3 INCH	100%
2 INCH	95-100%
1 INCH	55-85%
NO. 4	27-52%
NO. 200	0-12%

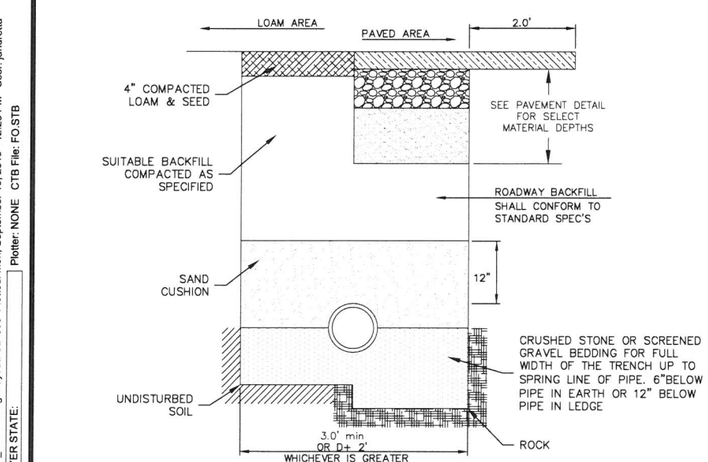
CRUSHED GRAVEL SHALL CONTAIN NO PARTICLES OF ROCK EXCEEDING THREE INCHES IN ANY DIMENSION.

PARKING LOT MATERIALS NOTES:
1. BANK RUN GRAVEL SHALL BE INSTALLED IN MAXIMUM 6 INCH LIFTS AND BE COMPACTED TO 95% MAXIMUM PROCTOR DENSITY TO A DEPTH OF 12 INCHES.
2. CRUSHED GRAVEL SHALL BE INSTALLED IN MAXIMUM 6 INCH LIFTS AND BE COMPACTED TO 95% MAXIMUM PROCTOR DENSITY TO FULL DEPTH.



GRAVEL PERIMETER DRAIN

SCALE: NOT TO SCALE



NOTES:
1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS. DEPTH FOR BITUMINOUS PAVEMENT SHALL BE AS SPECIFIED IN PAVEMENT DETAIL.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPECIFICATIONS.
3. IN LIEU OF THE 12" GRAVEL COURSE AND 9" CRUSHED GRAVEL, 18" OF CRUSHED GRAVEL OR RECLAIMED STABILIZED BASE MAY BE USED AS A BASE FOR THE PAVEMENT REPAIR.
4. MATERIAL SHALL BE REPLACED IN KIND WHENEVER POSSIBLE.
5. A MINIMUM 2' CUTBACK IS REQUIRED AT THE TOP OF THE TRENCH WALL OVER UNDISTURBED MATERIAL.

TYPICAL SEWER AND DRAINAGE TRENCH DETAIL

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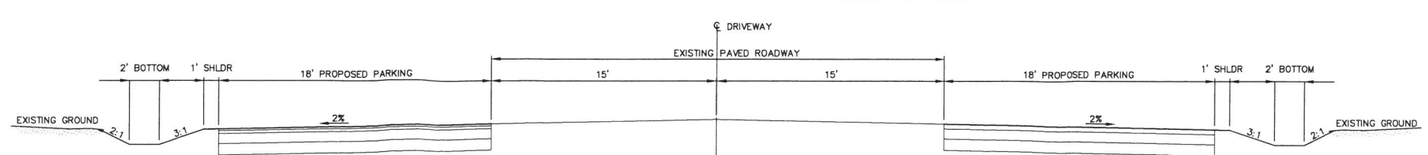

ROAD AND DRAINAGE SWALE CROSS-SECTION

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No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	9/16/2019	PLANNING BOARD REVISIONS	JVA	RRL
3.	08/15/2019	AOT REVISIONS- SWALE 6.2 SLOPE	JVA	RRL
2.	07/23/2019	AOT COMMENT RESPONSE	JVA	RRL
1.	06/10/2019	ADDRESS A.O.T. COMMENTS	JVA	RRL

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CD-503

SHEET 11 OF 13

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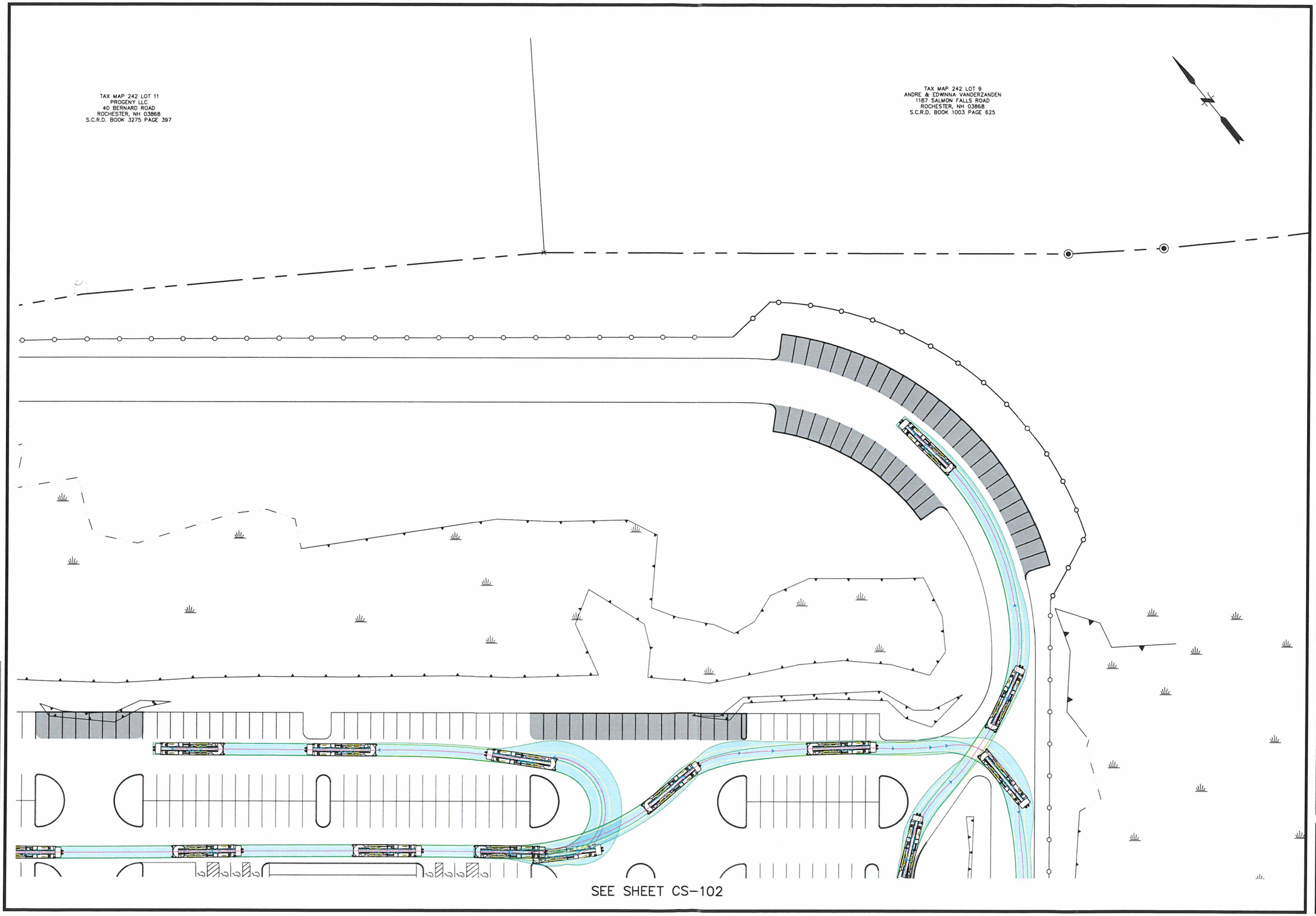

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4.	9/16/2019	PLANNING BOARD REVISIONS	JVA	RRL
3.	08/15/2019	AOT REVISIONS- SWALE 6.2 SLOPE	JVA	RRL
2.	07/23/2019	AOT COMMENT RESPONSE	JVA	RRL
1	06/10/2019	ADDRESS A.O.T. COMMENTS	JVA	RRL

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CT-101

SHEET 12 OF 13

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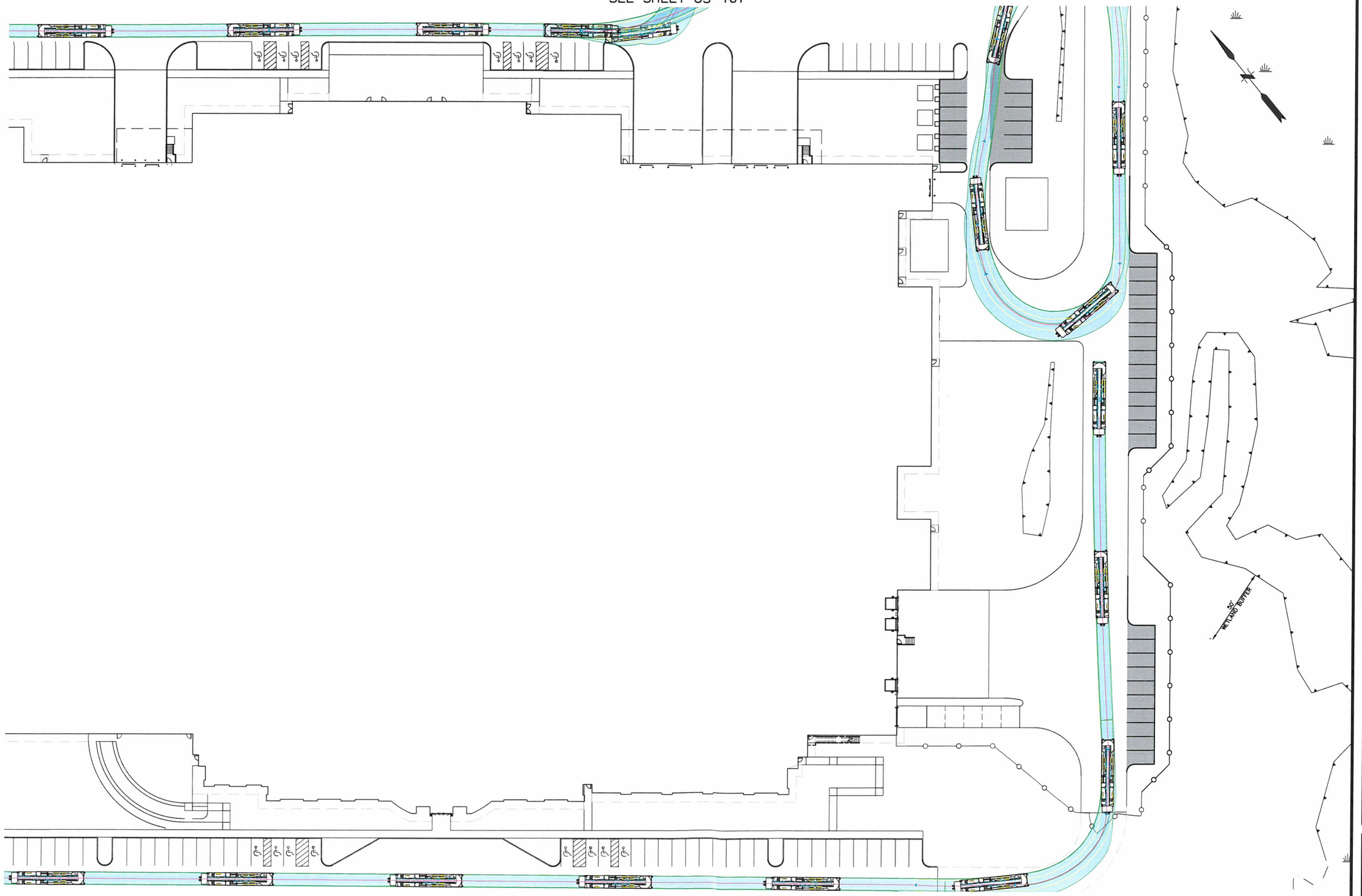

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	9/16/2019	PLANNING BOARD REVISIONS	JVA	RRL
3.	08/15/2019	AOT REVISIONS– SWALE & 2 SLOPE	JVA	RRL
2.	07/23/2019	AOT COMMENT RESPONSE	JVA	RRL
1	06/10/2019	ADDRESS A.O.T. COMMENTS	JVA	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LUNDBORN No. 10943 LICENSED

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CT-102

SHEET 13 OF 13

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