



PHASE II

Stone Quarry Drive
Durham, New Hampshire

WILDLIFE PROTECTION NOTES

1. SEE NOTES AND WILDLIFE FLYERS ON SHEET C-21.

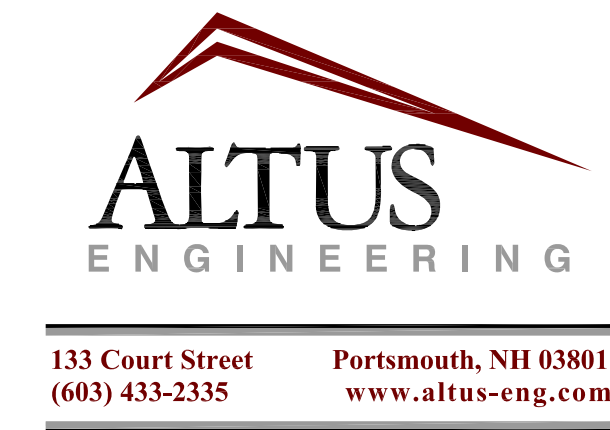
Owner/Applicant:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

Assessor's Parcel 209, Lot 33

ISSUED FOR REVIEW

Plan Issue Date:
July 23, 2025

Civil Engineer:



Surveyor:



Architect:



Wetland Scientist:
MICHAEL CUOMO, CWS
6 YORK POND ROAD
YORK, ME 03909

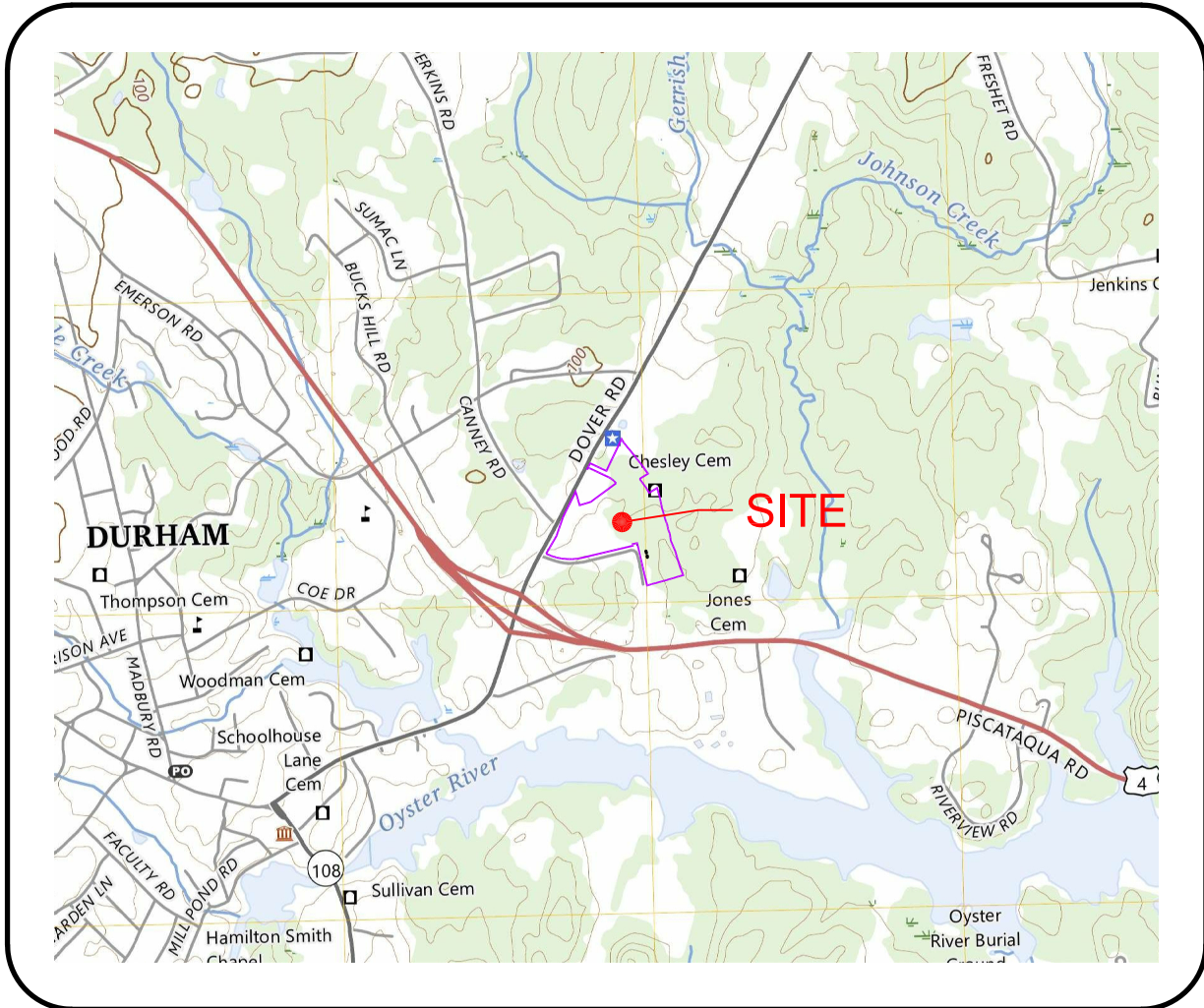
Landscape Architect:



Lighting Consultant:



Traffic Engineer:

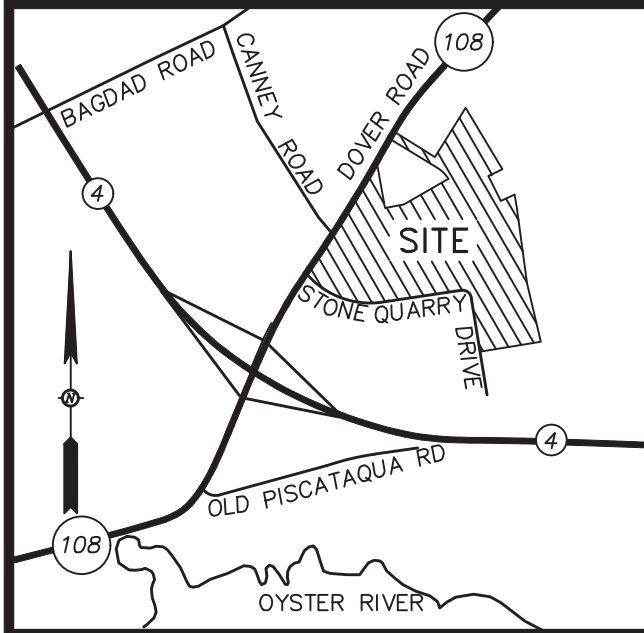


LOCUS

SCALE: 1"=2,000'

Sheet Index Title	Sheet No.:	Rev.	Date
Overall Plan	S-1	1	01/15/24
Existing Conditions Plan	S-2	1	01/15/24
Existing Conditions Plan	S-3	1	01/15/24
Existing Conditions Plan	S-4	1	01/15/24
Existing Conditions Plan	S-5	1	01/15/24
Existing Conditions Plan	S-6	1	01/15/24
Existing Conditions Plan	S-7	1	06/03/25
Topography and Soils Plan	C-1	0	07/23/25
Lot Line Adjustment Plan	C-2	0	07/23/25
Overall Site Plan	C-3	0	07/23/25
Site Plan	C-4	0	07/23/25
Roadway Realignment Plan	C-5.1	0	07/23/25
Stormwater Management Plan	C-5.2	0	07/23/25
Stormwater Management Plan	C-6.1	0	07/23/25
Erosion and Sediment Control Plan	C-6.2	0	07/23/25
Erosion and Sediment Control Plan	C-7.1	0	07/23/25
Utility Plan	C-7.2	0	07/23/25
Utility Plan	C-8.1	0	07/23/25
Sewer Plan and Profile	C-8.2	0	07/23/25
Sewer Plan and Profile	C-9.1	0	07/23/25
Lighting Plan	C-9.2	0	07/23/25
Lighting Plan	C-10	0	07/23/25
Wetland Buffer Conditional Use Permit Plan	C-11	0	07/23/25
Detail Sheet	C-12	0	07/23/25
Detail Sheet	C-13	0	07/23/25
Detail Sheet	C-14	0	07/23/25
Detail Sheet	C-15	0	07/23/25
Detail Sheet	C-16	0	07/23/25
Detail Sheet	C-17	0	07/23/25
Detail Sheet	C-18	0	07/23/25
Detail Sheet	C-19	0	07/23/25
Detail Sheet	C-20	0	07/23/25
Detail Sheet	C-21	0	07/23/25
Detail Sheet	C-22	0	07/23/25
Landscape Plan	L-1	0	07/21/25
Landscape Plan	L-2	0	07/21/25
1/8" Exterior Elevations - Hybrid Home 'A'	A500	0	02/12/25
1/8" Exterior Elevations - Hybrid Home 'B'	A501	0	02/12/25
1/8" Exterior Elevations - Community Center	A502	0	02/12/25
Maintenance Garage	A503	0	06/05/25

Permit Summary	Submitted	Received
Durham Zoning Approval	06/17/25	07/08/25
Durham Site Plan Approval	07/23/25	-
NHDES Alteration of Terrain	-	-
NHDES Sewer Connection Permit	-	-
EPA Notice of Intent	By Contractor 14 days prior to construction	



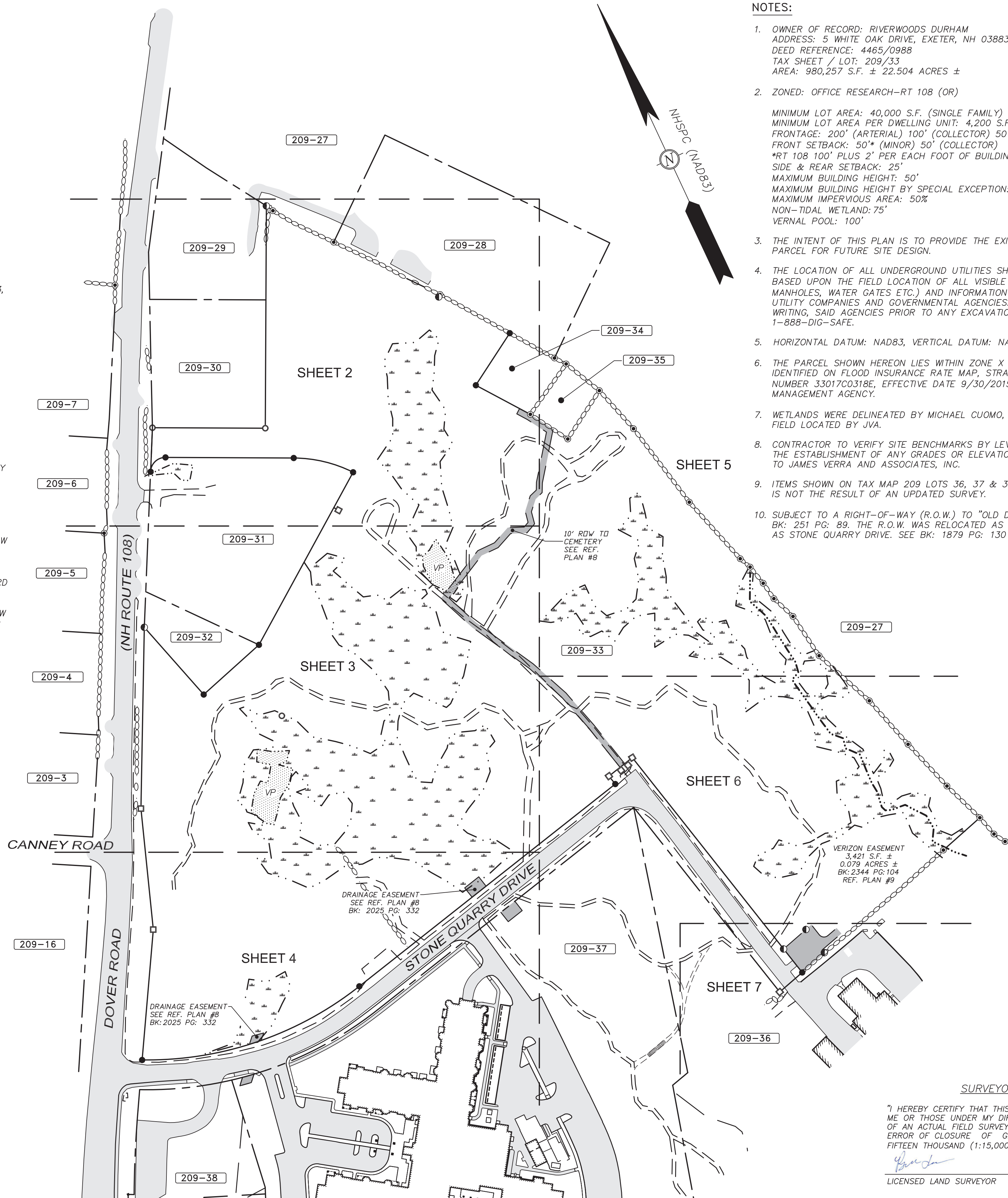
LOCUS (N.T.S.)

REFERENCE PLANS:

- "ALTA/NSPS LAND TITLE SURVEY, 14 & 20 STONE QUARRY DRIVE, & US ROUTE 4, DURHAM, NEW HAMPSHIRE, ASSESSOR'S PARCEL 11-8-1 FOR RIVERWOODS DURHAM." DATED OCTOBER 13, 2023. PREPARED BY AND ON FILE WITH THIS OFFICE. NOT RECORDED. JVA JOB #23867.
- "RECORD DRAWING, 14 & 20 STONE QUARRY DRIVE, 56 DOVER ROAD (RT 108) & US ROUTE 4, DURHAM, NEW HAMPSHIRE, ASSESSOR'S PARCELS 11-8-0 & 11-8-1 FOR RIVERWOODS DURHAM." DATED OCTOBER 13, 2020. PREPARED BY AND ON FILE WITH THIS OFFICE. NOT RECORDED. JVA JOB #23867.
- "PROPOSED EASEMENT PLAN PREPARED FOR THE RIVERWOODS GROUP LOCATED AT STONE QUARRY DR & RTE 108 DURHAM, NH." DATED APRIL 9, 2018 AND PREPARED BY ATLANTIC SURVEY COMPANY. SCRD PLAN #115-86.
- "RIGHT-OF-WAY RELOCATION PLAN FOR THE TOWN OF DURHAM N.H. ROUTE 4 DURHAM, NEW HAMPSHIRE." DATED JUNE 22, 1996 AND PREPARED BY DOUCET SURVEY INC., SCRD PLAN #48-43.
- "PLAN OF LAND PREPARED FOR ROCKINGHAM PROPERTIES I LIMITED PARTNERSHIP LOCATED AT ROUTE 108 & STONE QUARRY DRIVE, DURHAM, NH." DATED NOVEMBER 2019 AND PREPARED BY ATLANTIC SURVEY COMPANY. SCRD PLAN #12082 & 12083.
- "LOT LINE ADJUSTMENT PLAN TAX MAP 22 LOT 3-2 & 4-2 DOVER RD, DURHAM, NH." DATED MARCH 2, 2020 AND PREPARED ERIC C. MITCHELL & ASSOCIATES, INC. SCRD PLAN #12261.
- "BOUNDARY LINE ADJUSTMENT ROCKINGHAM PROPERTIES I LIMITED PARTNERSHIP DURHAM, STRAFFORD COUNTY NEW HAMPSHIRE." DATED SEPTEMBER 1995 AND PREPARED BY ORVIS/DREW LLC. SCRD PLAN #48-1 & 48-2.
- "SUBDIVISION PLAN, ROCKINGHAM PROPERTIES I, LIMITED PARTNERSHIP, DURHAM, STRAFFORD COUNTY, NEW HAMPSHIRE." LAST REVISED MAY 1998 AND PREPARED BY ORVIS/DREW LLC. SCRD PLAN #53-49.
- "EASEMENT PLAN OVER LAND OF ROCKINGHAM PROPERTIES STONE QUARRY DRIVE DURHAM, NEW HAMPSHIRE FOR VERIZON NEW ENGLAND, INC." DATED APRIL 20, 2001 AND PREPARED BY THIS OFFICE. SCRD PLAN #52-74.
- "LANDS OF EDWARD C. BATCHELDER AND WILFRED H. BATCHELDER, DURHAM, STRAFFORD COUNTY, NEW HAMPSHIRE." DATED AUGUST 9, 1953 AND PREPARED BY W.E. CLARK, E.C. AND W.H. BATCHELDER AND HAMES A. BRODIE. SCRD POCKET #2, FOLDER #16, PLAN #53.

LEGEND:

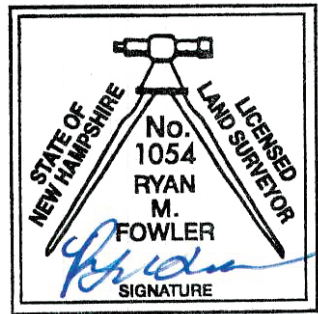
-BOUND (AS NOTED)
-IRON PIPE (AS NOTED)
-MONUMENT TO BE SET
- DHF.....DRILL HOLE FOUND
- DHS.....DRILL HOLE SET
-IRON ROD FOUND
- ×.....OLD ELECTRIC LIVESTOCK FENCING
-CHAINLINK FENCE
-STOCKADE FENCE
-BRICK
-CONCRETE
-PATIO
-UTILITY POLE
- ×.....UTILITY POLE W/TRANSFORMER
-GUY
-OVERHEAD WIRES
-UTILITY POLE WITH ARM & LIGHT
- SCRD.....STRAFFORD COUNTY REGISTRY OF DEEDS
- 101-03.....TAX SHEET / LOT NO.
- EOP.....EDGE OF PAVEMENT
-CATCH BASIN
-SEWER MANHOLE
-WATER SHUT OFF VALVE
-HYDRANT
-DECIDUOUS TREE
-CONIFEROUS TREE
-STONE WALL
-TEMPORARY BENCHMARK
-STUMP
-STRUB
-WETLAND HATCH
- VP.....VERNAL POOL
- S.A.C.....SLOPED ASPHALT CURBING



NOTES:

- OWNER OF RECORD: RIVERWOODS DURHAM
ADDRESS: 5 WHITE OAK DRIVE, EXETER, NH 03883
DEED REFERENCE: 4465/0988
TAX SHEET / LOT: 209/33
AREA: 980,257 S.F. ± 22.504 ACRES ±
- ZONED: OFFICE RESEARCH-RT 108 (OR)

MINIMUM LOT AREA: 40,000 S.F. (SINGLE FAMILY) 80,000 S.F. (MULTI UNIT, NON RES.)
MINIMUM LOT AREA PER DWELLING UNIT: 4,200 S.F.
FRONTAGE: 200' (ARTERIAL) 100' (COLLECTOR) 50' (MINOR)
FRONT SETBACK: 50' (MINOR) 50' (COLLECTOR) SEE BELOW (ARTERIAL)
*RT 108 100' PLUS 2' PER EACH FOOT OF BUILDING HEIGHT IN EXCESS OF 25'
SIDE & REAR SETBACK: 25'
MAXIMUM BUILDING HEIGHT: 50'
MAXIMUM BUILDING HEIGHT BY SPECIAL EXCEPTION: 75'
MAXIMUM IMPERVIOUS AREA: 50%
NON-TIDAL WETLAND: 75'
VERNAL POOL: 100'
- THE INTENT OF THIS PLAN IS TO PROVIDE THE EXISTING CONDITIONS OF THE SUBJECT PARCEL FOR FUTURE SITE DESIGN.
- THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (IE CATCH BASINS, MANHOLES, WATER GATES ETC.) AND INFORMATION COMPILED FROM PLANS PROVIDED BY UTILITY COMPANIES AND GOVERNMENTAL AGENCIES. ALL CONTRACTORS SHOULD NOTIFY, IN WRITING, SAID AGENCIES PRIOR TO ANY EXCAVATION WORK AND CALL DIG-SAFE @ 1-888-DIG-SAFE.
- HORIZONTAL DATUM: NAD83, VERTICAL DATUM: NAVD88. BASED ON REFERENCE PLAN #1.
- THE PARCEL SHOWN HEREON LIES WITHIN ZONE X (AREA OF MINIMAL FLOOD HAZARD) AS IDENTIFIED ON FLOOD INSURANCE RATE MAP, STRAFFORD COUNTY, NEW HAMPSHIRE, MAP NUMBER 33017C0318E, EFFECTIVE DATE 9/30/2015 BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- WETLANDS WERE DELINEATED BY MICHAEL CUOMO, CWS #4 ON 05/15/2023 AND WERE FIELD LOCATED BY JVA.
- CONTRACTOR TO VERIFY SITE BENCHMARKS BY LEVELING BETWEEN 2 BENCHMARKS PRIOR TO THE ESTABLISHMENT OF ANY GRADES OR ELEVATIONS. DISCREPANCIES ARE TO BE REPORTED TO JAMES VERRA AND ASSOCIATES, INC.
- ITEMS SHOWN ON TAX MAP 209 LOTS 36, 37 & 38 WERE TAKEN REFERENCE PLAN #1, AND IS NOT THE RESULT OF AN UPDATED SURVEY.
- SUBJECT TO A RIGHT-OF-WAY (R.O.W.) TO "OLD DOVER ROAD" REFERENCED IN SCRD BK: 251 PG: 89. THE R.O.W. WAS RELOCATED AS SHOWN ON REF. PLAN #4 TO BE KNOWN AS STONE QUARRY DRIVE. SEE BK: 1879 PG: 130 & PG: 135.



SURVEYOR'S CERTIFICATION

"I HEREBY CERTIFY THAT THIS SURVEY AND PLAT WERE PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND 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 FIFTEEN THOUSAND (1:15,000)."

Ryan M. Fowler
LICENSED LAND SURVEYOR

6/10/25
DATE

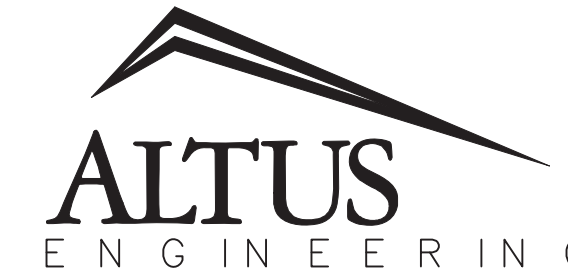
SURVEYOR:



101 SHATTUCK WAY, SUITE 8,
NEWINGTON, N.H., 03801-7876
603-436-3557

JOB NO: 23-2036

ENGINEER:



133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ISSUED FOR:

SUBMISSION

ISSUE DATE:

1/15/24

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	ADD DETAIL AND TOPO BY THE PUBLIC WORKS	BJM	6/3/25

DRAWN BY:

RMF

APPROVED BY:

RMF

DRAWING FILE:

23-2036_EXCON

SCALE:

22" x 34" - 1" = 100'
11" x 17" - 1" = 200'

APPLICANT:

RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

OWNER:

RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:

RIVERWOODS DURHAM
TAX MAP 209
LOT 33
STONE QUARRY
DRIVE
& DOVER ROAD
(NH RT 108)
DURHAM, NH

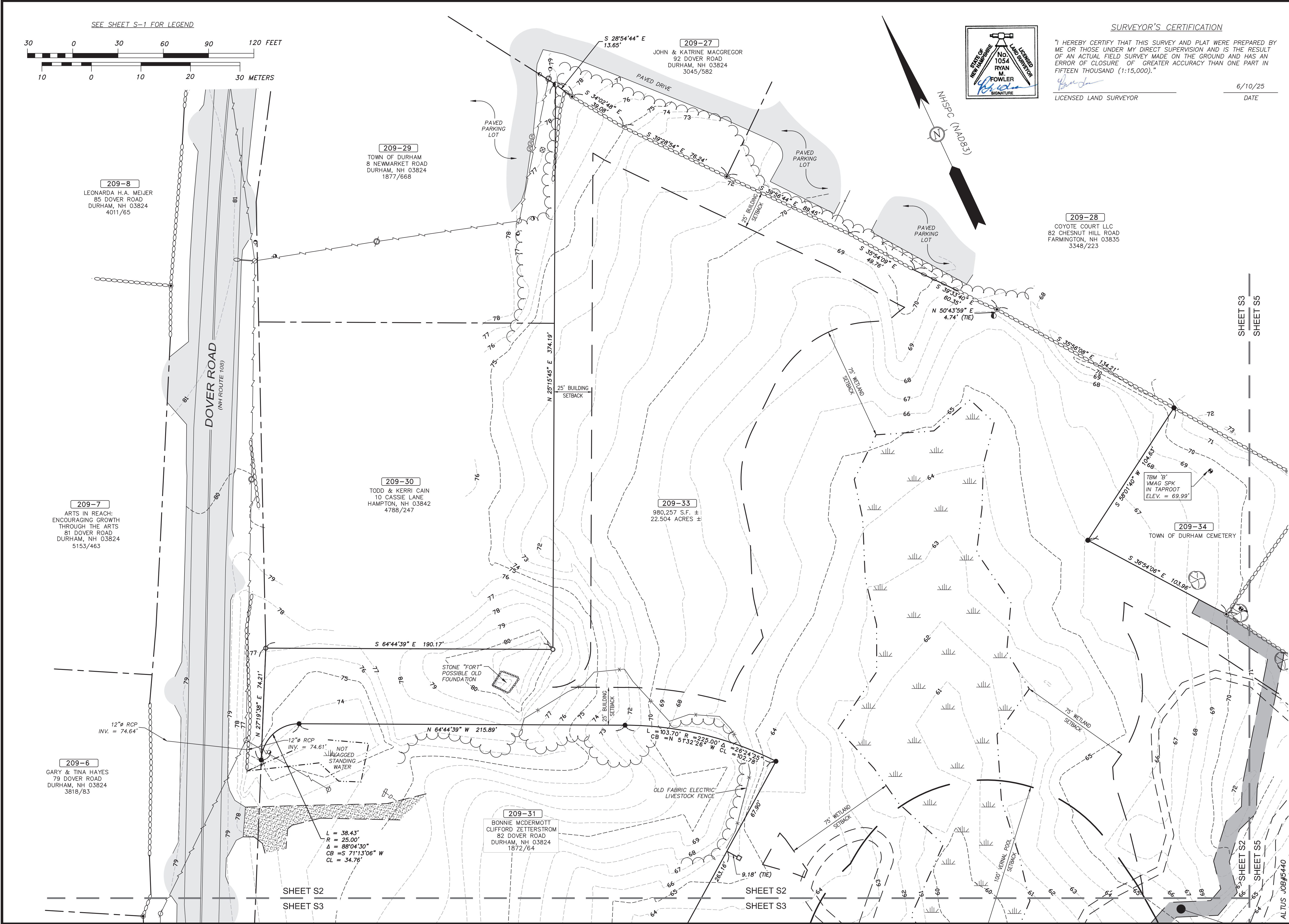
TITLE:

OVERALL PLAN


SHEET NUMBER:

S-1

ALTUS JOB#5440



SURVEYOR:

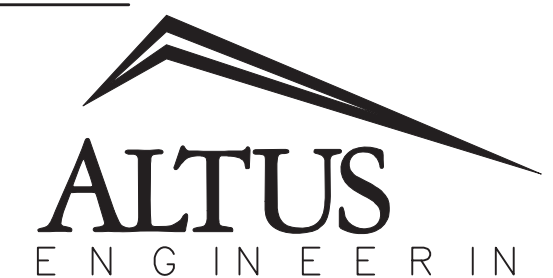


JVA
JAMES VERRA & ASSOCIATES, INC.

101 SHATTUCK WAY, SUITE 8,
NEWINGTON, N.H., 03801-7876
603-436-3557

JOB NO: 23-2036

ENGINEER:



ALTUS
ENGINEERING

133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ISSUED FOR: SUBMISSION

ISSUE DATE: 1/15/24

REVISIONS	NO.	DESCRIPTION	BY	DATE
1	ADD DETAIL AND TOPO BY THE PUBLIC WORKS	BJM	6/3/25	

DRAWN BY: RMF

APPROVED BY: RMF

DRAWING FILE: 23-2036_EXCON

SCALE:
22" x 34" - 1" = 30'
11" x 17" - 1" = 60'

APPLICANT:

RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

OWNER:

RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:

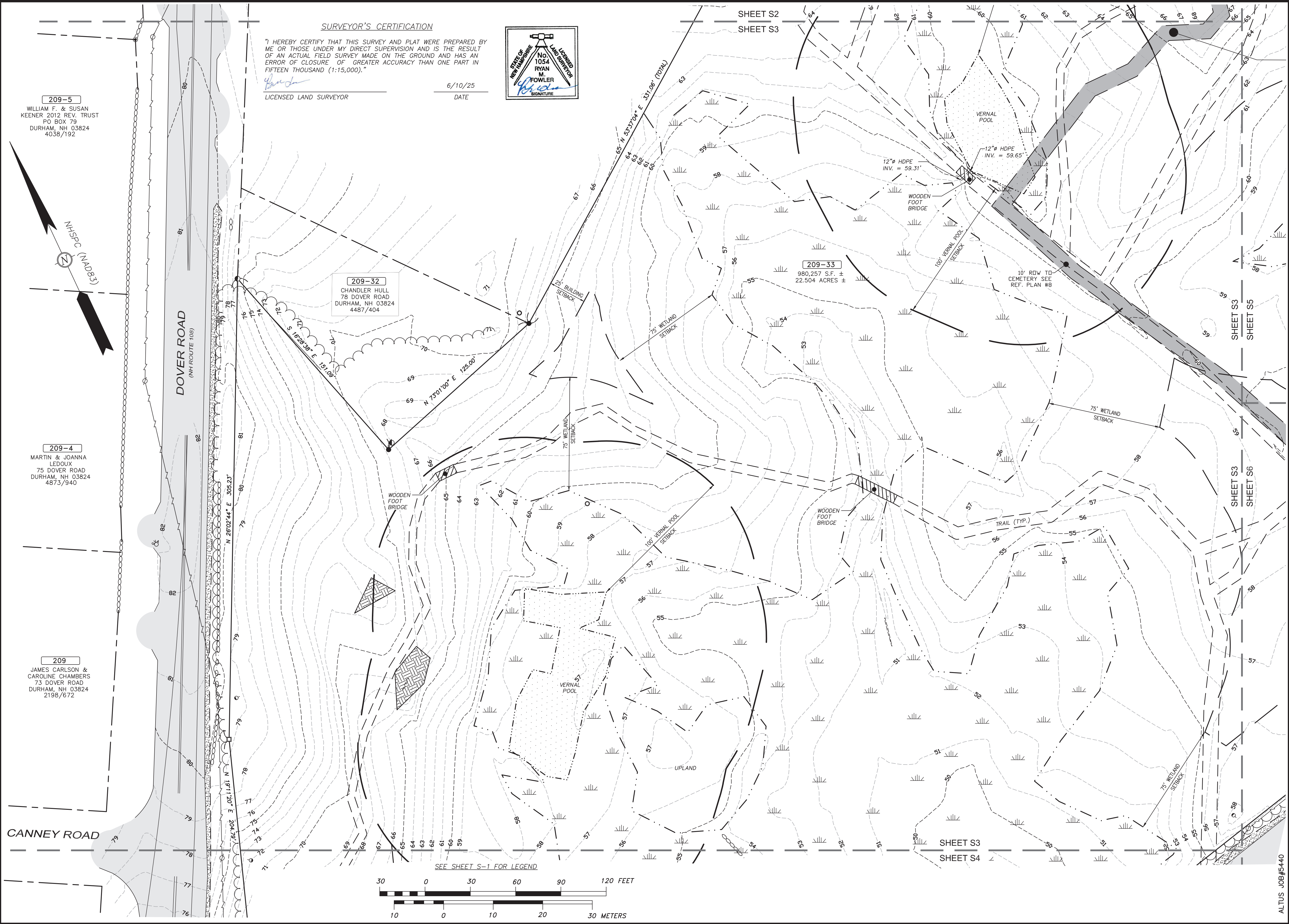
RIVERWOODS DURHAM
TAX MAP 209
LOT 33
STONE QUARRY DRIVE
& DOVER ROAD
(NH RT 108)
DURHAM, NH

TITLE:

EXISTING
CONDITIONS
PLAN

SHEET NUMBER:

S-2



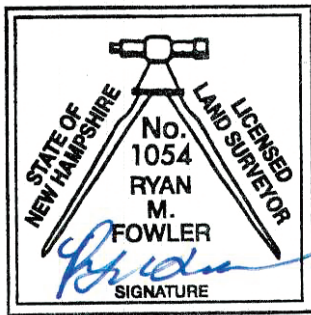
SURVEYOR'S CERTIFICATION

"I HEREBY CERTIFY THAT THIS SURVEY AND PLAT WERE PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND 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 FIFTEEN THOUSAND (1:15,000)."

[Signature]

LICENSED LAND SURVEYOR

DATE: 6/10/25



209-5
WILLIAM F. & SUSAN
KEENER, 2012 REV. TRUST
PO BOX 79
DURHAM, NH 03824
4038/192

209-4
MARTIN & JOANNA
LEDOUX
75 DOVER ROAD
DURHAM, NH 03824
4873/940

209
JAMES CARLSON &
CAROLINE CHAMBERS
73 DOVER ROAD
DURHAM, NH 03824
2198/672

209-32
CHANDLER HULL
78 DOVER ROAD
DURHAM, NH 03824
4487/404

209-33
980,257 S.F. ±
22.504 ACRES ±

SURVEYOR:

JVA
JAMES VERRA & ASSOCIATES, INC.
101 SHATTUCK WAY, SUITE 8,
NEWINGTON, N.H., 03801-7876
603-436-3557
JOB NO: 23-2036

ENGINEER:

ALTUS
ENGINEERING
133 Court Street
Portsmouth, NH 03801
(603) 433-2335
www.altus-eng.com

ISSUED FOR:
ENGINEERING REVIEW

ISSUE DATE:
1/15/24

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	ADD DETAIL AND TOPO BY THE PUBLIC WORKS	BJM	6/3/25

DRAWN BY: RMF

APPROVED BY: RMF

DRAWING FILE: 23-2036_EXCON

SCALE:
22" x 34" - 1" = 30'
11" x 17" - 1" = 60'

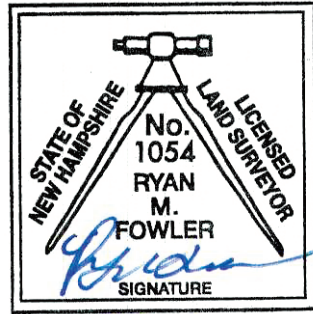
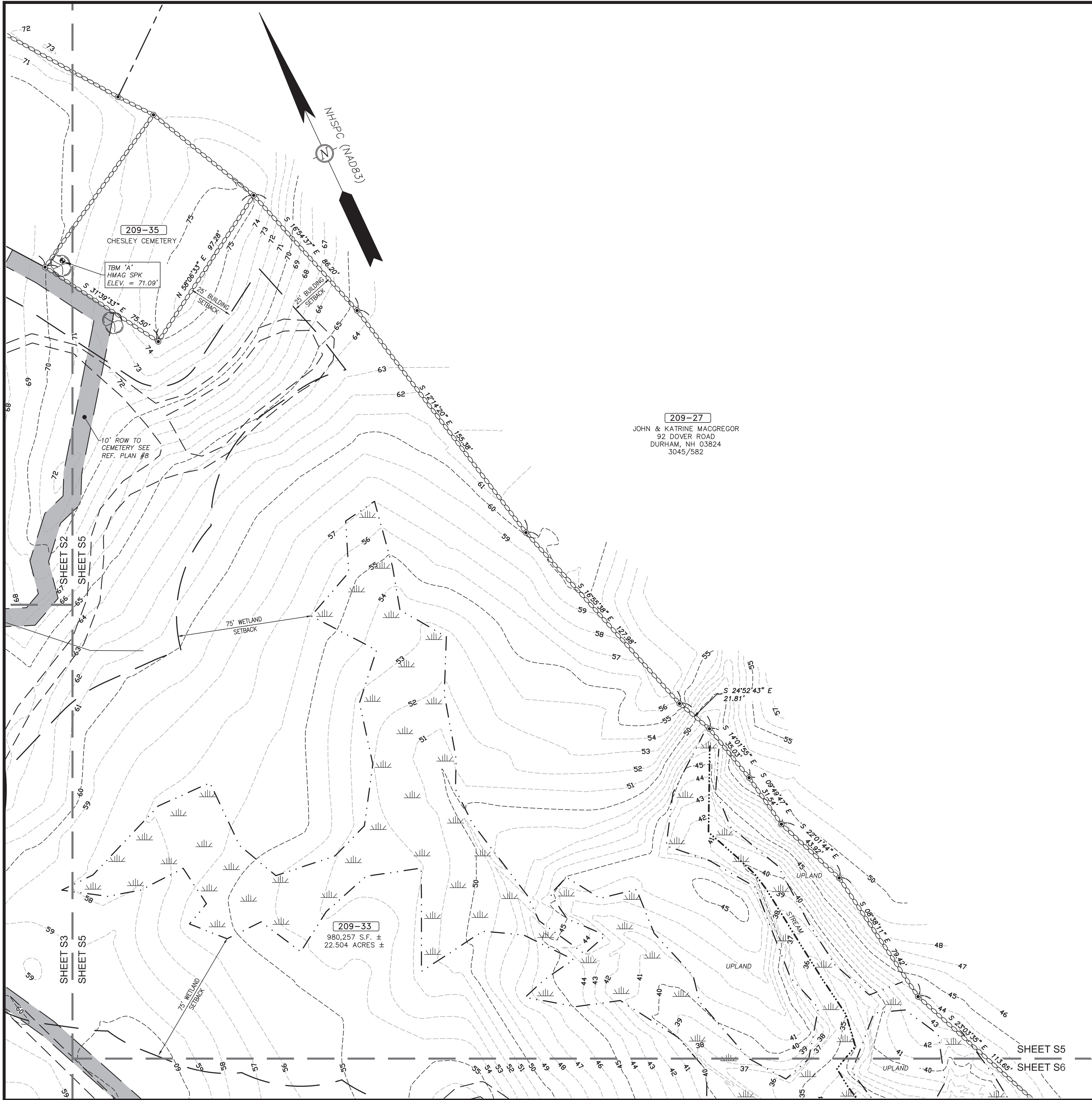
APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
RIVERWOODS DURHAM
TAX MAP 209
LOT 33
STONE QUARRY
DRIVE
& DOVER ROAD
(NH RT 108)
DURHAM, NH

TITLE:
**EXISTING
CONDITIONS
PLAN**

SHEET NUMBER:
S-3



SURVEYOR'S CERTIFICATION
"I HEREBY CERTIFY THAT THIS SURVEY AND PLAT WERE PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND 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 FIFTEEN THOUSAND (1:15,000)."
6/10/25
DATE
LICENSED LAND SURVEYOR

SURVEYOR:
JVA
JAMES VERRA & ASSOCIATES, INC.
101 SHATTUCK WAY, SUITE 8,
NEWINGTON, N.H., 03801-7876
603-436-3557
JOB NO: 23-2036

ENGINEER:
ALTUS
ENGINEERING
133 Court Street
(603) 433-2335
Portsmouth, NH 03801
www.altus-eng.com

ISSUED FOR:
SUBMISSION

ISSUE DATE:
1/15/24

<u>REVISIONS</u>				
NO.	DESCRIPTION	BY	DATE	
1	ADD DETAIL AND TOPO BY THE PUBLIC WORKS	BJM	6/3/25	

DRAWN BY: _____ RMF
APPROVED BY: _____ RMF
DRAWING FILE: 23-2036_EXCON

SCALE:
22" x 34" - 1" = 30'
11" x 17" - 1" = 60'

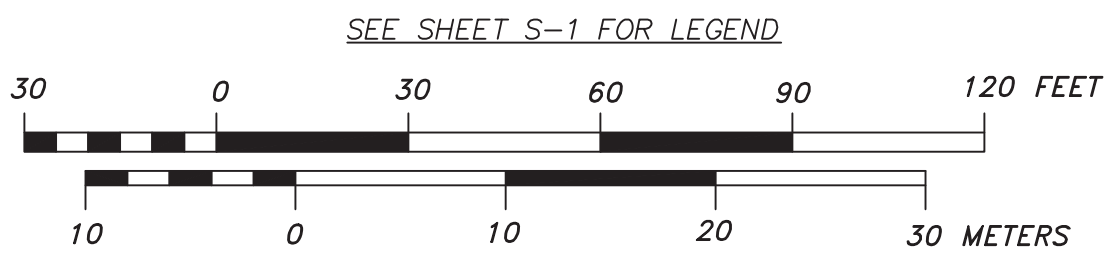
APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

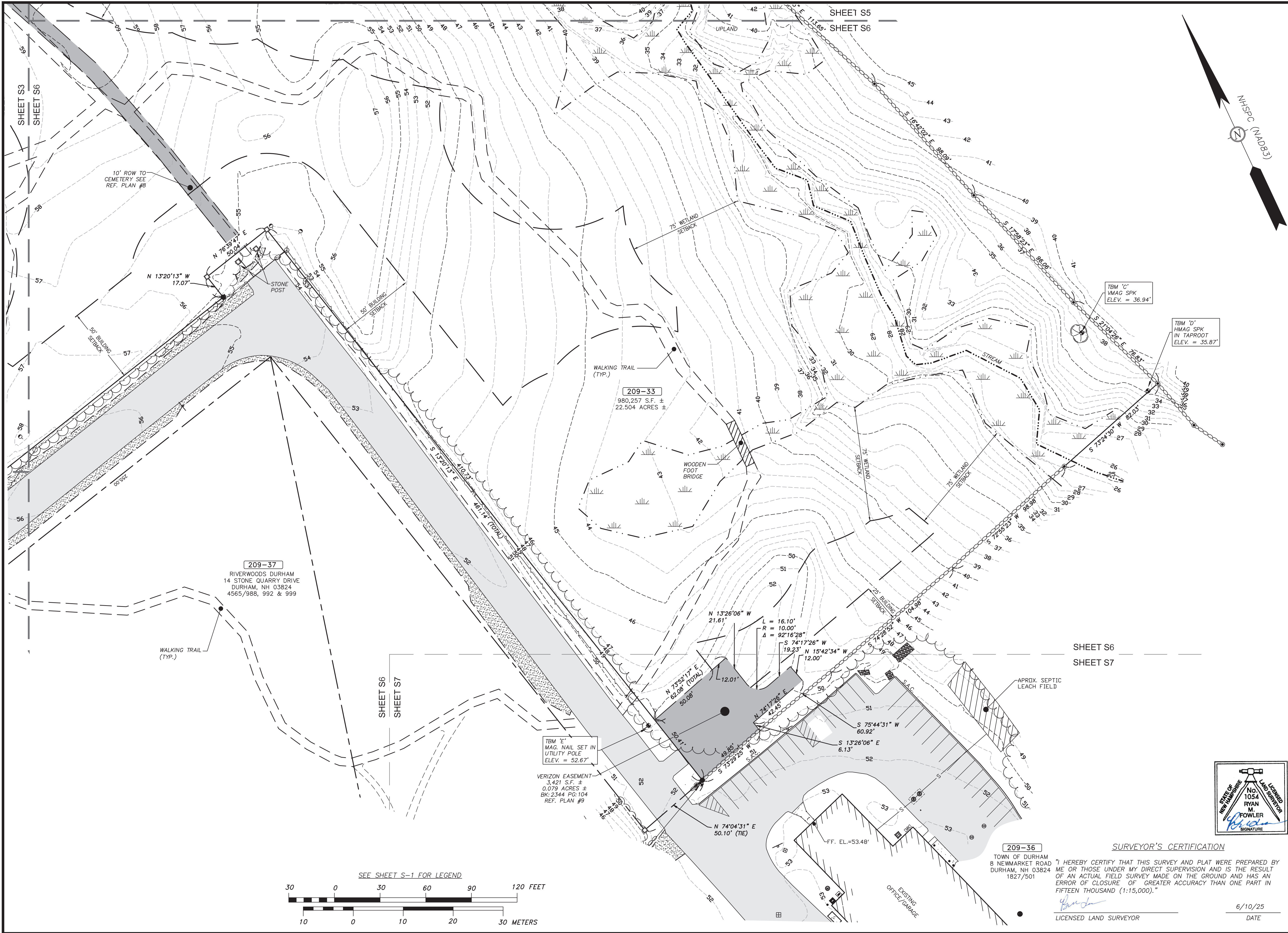
PROJECT:
RIVERWOODS DURHAM
TAX MAP 209
LOT 33
STONE QUARRY
DRIVE
& DOVER ROAD
(NH RT 108)
DURHAM, NH

TITLE:
EXISTING
CONDITIONS
PLAN

SHEET NUMBER:
S-5



ALTUS JOB#5440



SURVEYOR:
JVA
JAMES VERRA & ASSOCIATES, INC.
101 SHATTUCK WAY, SUITE 8,
NEWINGTON, N.H., 03801-7876
603-436-3557
JOB NO: 23-2036

ENGINEER:
ALTUS
ENGINEERING
133 Court Street
603) 433-2335
Portsmouth, NH 03801
www.altus-eng.com

ISSUED FOR: SUBMISSION

ISSUE DATE: 1/15/24

REVISIONS
NO. DESCRIPTION BY DATE
1 ADD DETAIL AND TOPO BY THE PUBLIC WORKS BJM 6/3/25

DRAWN BY: RMF
APPROVED BY: RMF
DRAWING FILE: 23-2036_EXCON

SCALE:
22" x 34" - 1" = 30'
11" x 17" - 1" = 60'

APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

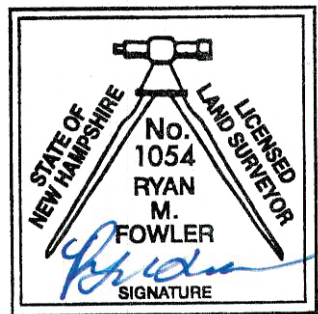
OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
RIVERWOODS DURHAM
TAX MAP 209
LOT 33
STONE QUARRY
DRIVE
& DOVER ROAD
(NH RT 108)
DURHAM, NH

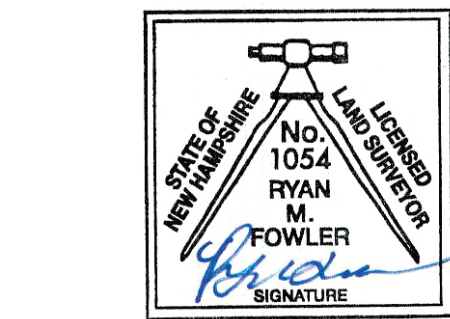
TITLE:
EXISTING
CONDITIONS
PLAN

SHEET NUMBER:
S-6


ALTUS JOB#5440



SURVEYOR'S CERTIFICATION
"I HEREBY CERTIFY THAT THIS SURVEY AND PLAT WERE PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND 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 FIFTEEN THOUSAND (1:15,000)."
6/10/25
DATE
LICENSED LAND SURVEYOR



S-7



LICENSED LAND SURVEYOR

SOIL NOTES

1. ON SITE WETLANDS WERE DELINEATED BY MICHAEL CUOMO, INC. IN MAY, 2023 IN ACCORDANCE WITH THE U.S. ARMY CORPS OF ENGINEERS (ACOE) WETLAND DELINEATION MANUAL (1987) AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, NORTH-CENTRAL AND NORTHEAST REGION (VERSION 2). HYDRIC SOIL DETERMINATIONS WERE CONDUCTED IN ACCORDANCE WITH THE U.S. DEPT. OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE'S FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES (VERSION 7.0, 2010) ALONG WITH THE MANUAL FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND (VERSION 3, APRIL 2004). PLANT SPECIES INDICATOR STATUS WAS BASED ON THE ACOE'S THE NATIONAL WETLAND PLANT LIST (2013).
2. OFF SITE WETLANDS WERE DELINEATED BY JAMES H. LONG OF GZA GEOENVIRONMENTAL, INC. IN APRIL, 2017 USING THE SAME CRITERIA AS ABOVE. THEY ARE SHOWN HERE FOR REFERENCE ONLY.
3. SEE SOIL REPORT FOR TEST PIT LOGS.

SITE SPECIFIC SOILS MAP LEGEND

MAP SYMBOL	SOIL NAME	HYDROLOGIC SOIL GROUP	DRAINAGE CLASS
29	WOODBRIDGE	C	MODERATELY WELL DRAINED
32	BOXFORD	B	MODERATELY WELL DRAINED
33	SOITICO	C	POORLY DRAINED
42	CANTON	B	WELL DRAINED
85	HOLLIS	D	SOMEWHAT EXCESSIVELY DRAINED
89	CHATFIELD	B	WELL DRAINED
134	MAYBID	D	VERY POORLY DRAINED
953	BOXFORD SPD	C	SOMEWHAT POORLY DRAINED

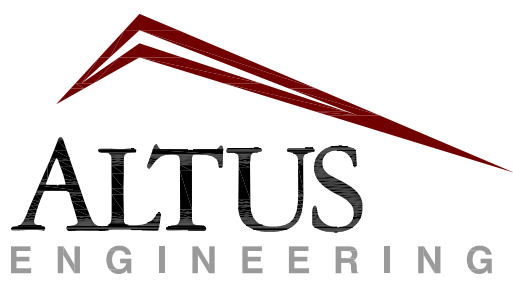
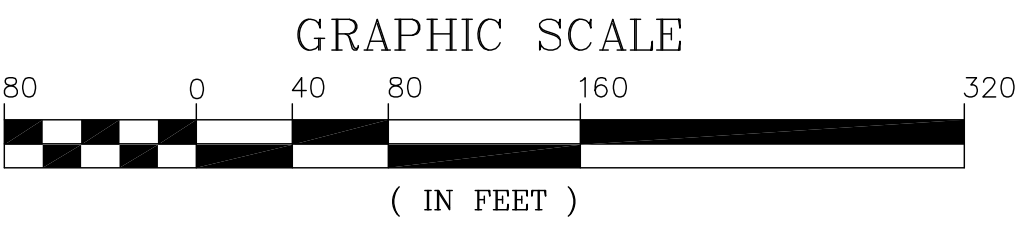
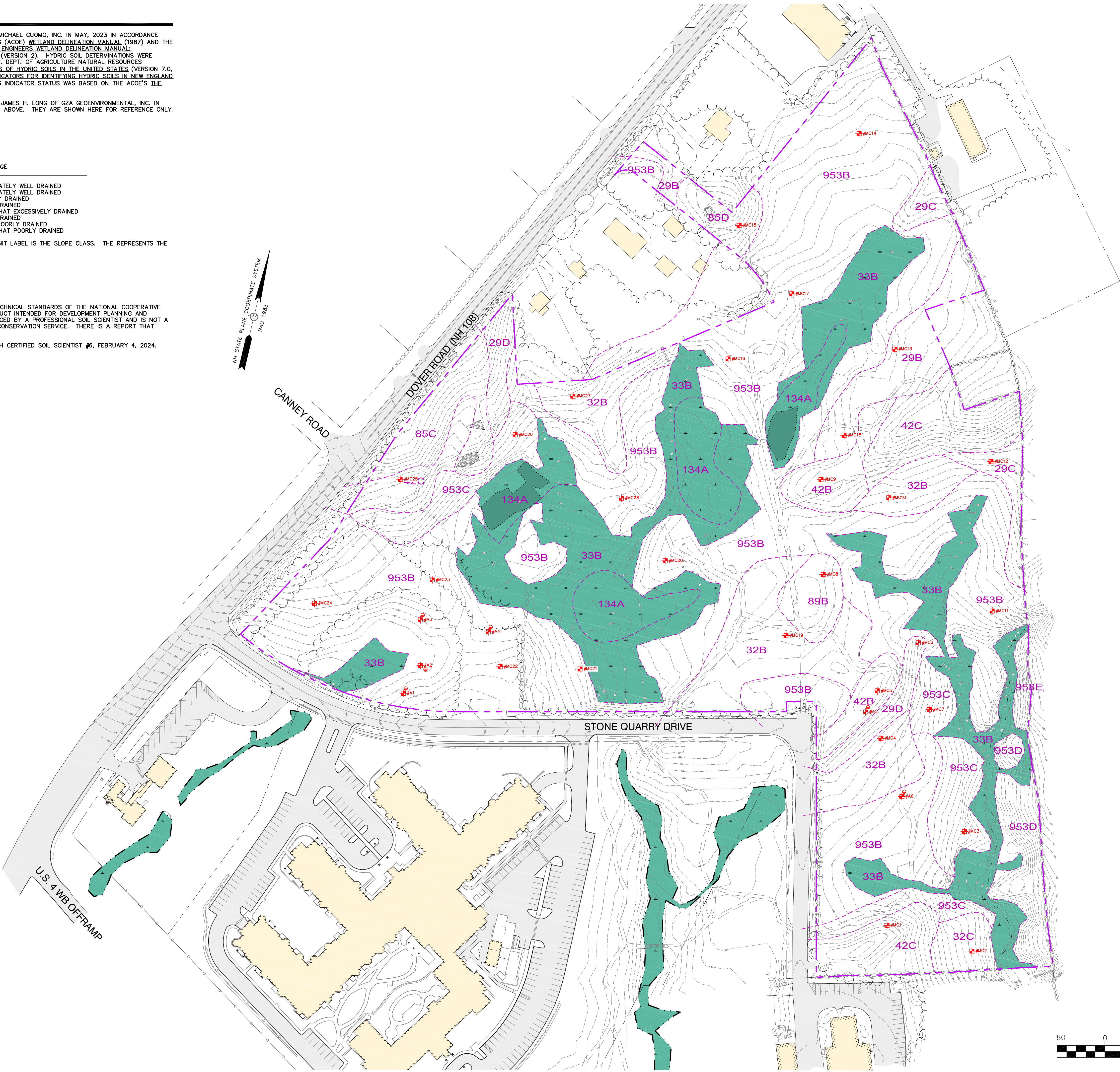
THE LETTER AT THE END OF THE SOILS MAP UNIT LABEL IS THE SLOPE CLASS. THE REPRESENTS THE PREDOMINANT SLOPE OF THE MAP UNIT.

SLOPE CLASS

- A 0-1%
- B 1-5%
- C 6-15%
- D 15-25%
- E >25%

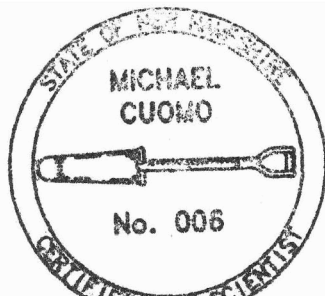
SOILS SHOWN ON THIS MAP ARE WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT INTENDED FOR DEVELOPMENT PLANNING AND ENGINEERING INTERPRETATIONS. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP.

SOIL SURVEY PREPARED BY MICHAEL CUOMO, NH CERTIFIED SOIL SCIENTIST #6, FEBRUARY 4, 2024.



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



Michael Cuomo
22 MAY 2025

NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = 80'
11" x 17" - 1" = NTS

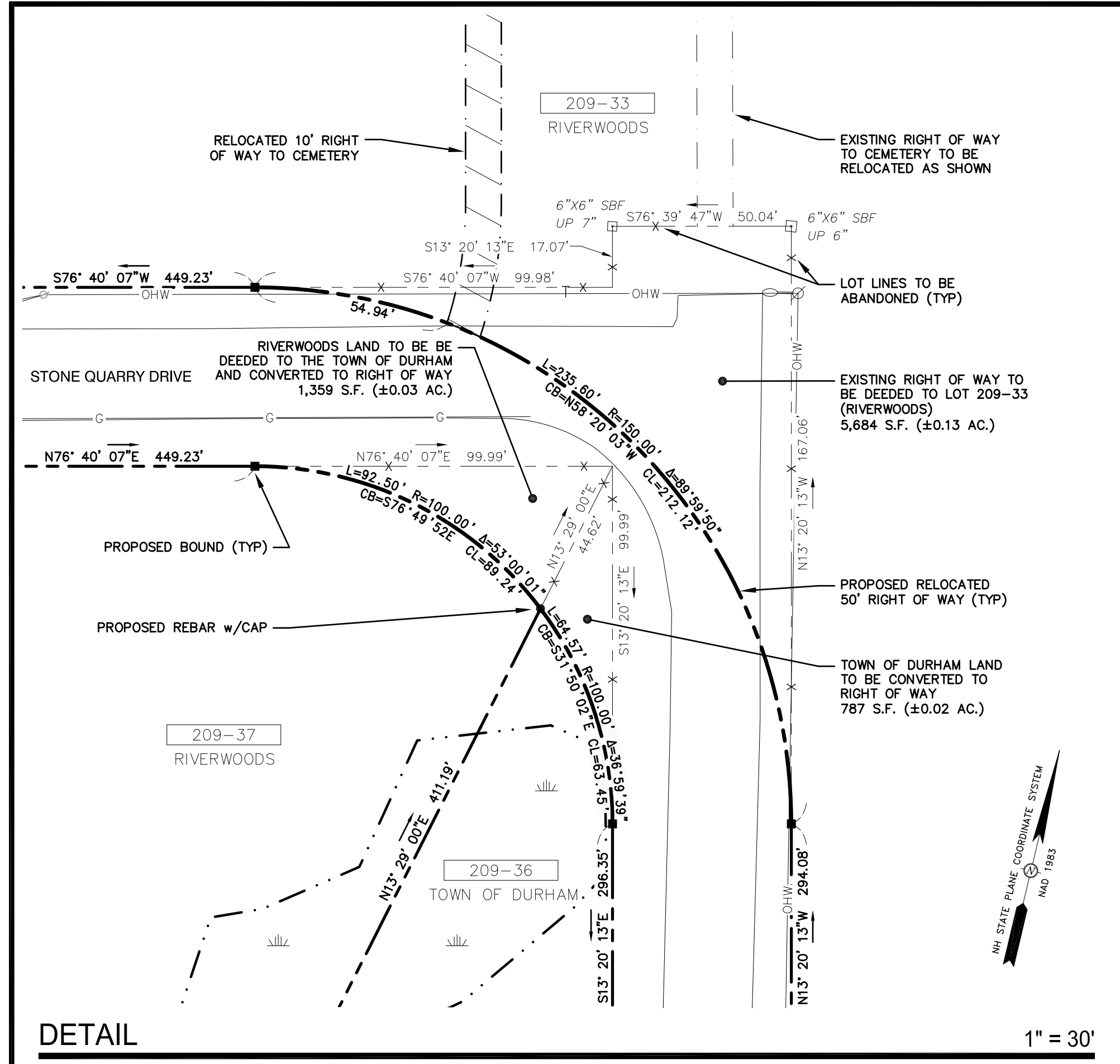
OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
RIVERWOODS
DURHAM PHASE II
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:
SOILS AND
TOPOGRAPHY PLAN

SHEET NUMBER:
C-1



SITE NOTES

- OWNER OF RECORD: RIVERWOODS DURHAM
ADDRESS: 14 STONE QUARRY DRIVE, DURHAM, NH 03824
DEED REFERENCE: SCRD 4465/988, 992 & 999
TAX SHEET / LOT: 209/33
AREA: ±980,257 S.F. (±22.50 AC.) EXIST. / ±985,941 S.F. (±22.63 AC.) PROP.
TAX SHEET / LOT: 209/37
AREA: ±492,308 S.F. (±11.30 ACRES) EXIST. / ±490,949 S.F. (±11.26 ACRES) PROP.
- OWNER OF RECORD: TOWN OF DURHAM
ADDRESS: 8 NEWMARKET ROAD, DURHAM, NH 03824
DEED REFERENCE: SCRD 1827/501
TAX SHEET / LOT: 209/36
AREA: ±10.10 ACRES EXIST. / ±10.08 ACRES PROP. (PER TAX MAP)
- PLAN INTENT: THIS PLAN IS INTENDED TO DEPICT THE RELOCATION OF THE STONE QUARRY DRIVE RIGHT OF WAY THROUGH THE TRANSFER ±0.13 ACRES FROM THE STONE QUARRY DRIVE RIGHT OF WAY TO LOT 209/33 (RIVERWOODS), THE TRANSFER ±0.03 ACRES FROM LOT 209/37 (RIVERWOODS) TO THE STONE QUARRY DRIVE RIGHT OF WAY, AND THE TRANSFER ±0.02 ACRES FROM LOT 209/36 (TOWN OF DURHAM) TO THE STONE QUARRY DRIVE RIGHT OF WAY.
- ZONED: OFFICE RESEARCH-RT 108 (OR)
MINIMUM LOT AREA: 40,000 S.F. (SINGLE FAMILY) 80,000 S.F. (MULTI-UNIT, NON RES.)
MINIMUM LOT AREA PER DWELLING UNIT: 4,200 S.F.
FRONTAGE: 200' (ARTERIAL) 100' (COLLECTOR) 50' (MINOR)
FRONT SETBACK: 50' (MINOR) 50' (COLLECTOR) SEE BELOW (ARTERIAL)
RT 108 100' PLUS 2' PER EACH FOOT OF BUILDING HEIGHT IN EXCESS OF 25'
SIDE & REAR SETBACK: 25'
MAXIMUM BUILDING HEIGHT: 50' (75' BY SPECIAL EXCEPTION)
MAXIMUM IMPERVIOUS AREA: 50%
NON-TOTAL WETLAND: 75'
VERNAL POOL: 100'
- HORIZONTAL DATUM: NAD83, VERTICAL DATUM: NAVD88, BASED ON REF. PLAN #1.
- THE PARCEL SHOWN HEREON LIES WITHIN ZONE X (AREA OF MINIMAL FLOOD HAZARD) AS IDENTIFIED ON FLOOD INSURANCE RATE MAP, STRAFFORD COUNTY, NEW HAMPSHIRE, MAP NUMBER 3301700318E, EFFECTIVE DATE 9/30/2015 BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- WETLANDS WERE DELINEATED BY MICHAEL CUOMO, CWS #4 ON 05/15/2023 AND WERE FIELD LOCATED BY JVA.
- ITEMS SHOWN ON TAX MAP 209 LOTS 36, 37 & 38 WERE TAKEN REFERENCE PLAN #1, AND IS NOT THE RESULT OF AN UPDATED SURVEY.
- SUBJECT TO A RIGHT-OF-WAY (R.O.W.) TO "OLD DOVER ROAD" REFERENCED IN SCRD BK: 251 PG: 89. THE R.O.W. WAS RELOCATED AS SHOWN ON REF. PLAN #4 TO BE KNOWN AS STONE QUARRY DRIVE. SEE BK: 1879 PG: 130 & PG: 135.3.
- SEE BK: 2367 PG: 310 FOR DEED TO TOWN FROM ROCKINGHAM PROPERTIES LIMITED I PARTNERSHIP.
- NO ENCROACHMENTS SHALL RESULT FROM THIS LOT LINE ADJUSTMENT.
- FOR MORE INFORMATION ABOUT THIS LOT LINE ADJUSTMENT CONTACT JAMES VERRA AND ASSOCIATES, INC.

REFERENCE PLANS:

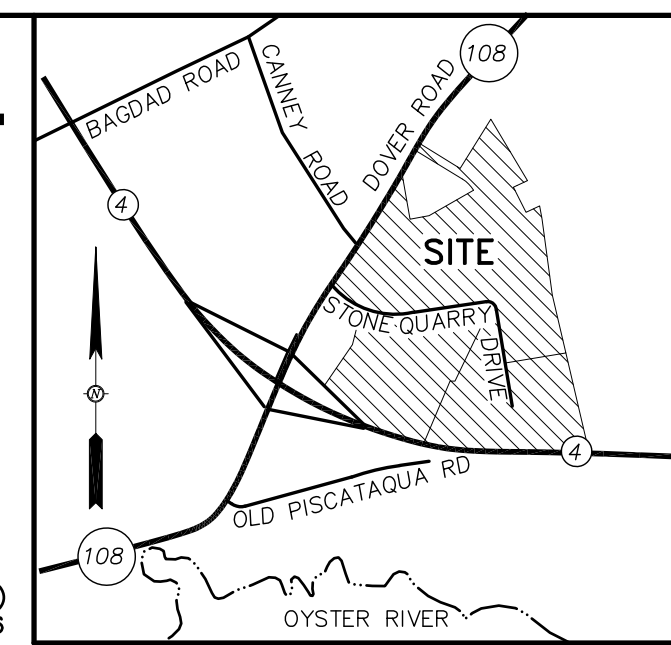
- PLAN SET CONSISTING OF SEVEN SHEETS ENTITLED "OVERALL PLAN" AND "EXISTING CONDITIONS PLAN" RIVERWOODS DURHAM TAX MAP 209 LOT 22 STONE QUARRY DRIVE & DOVER ROAD (NH RT 108), DURHAM, NH, DATED JUNE 6, 2025, PREPARED BY AND ON FILE WITH THIS OFFICE. NOT RECORDED. JVA JOB #23-2036.

APPROVED BY THE DURHAM PLANNING BOARD

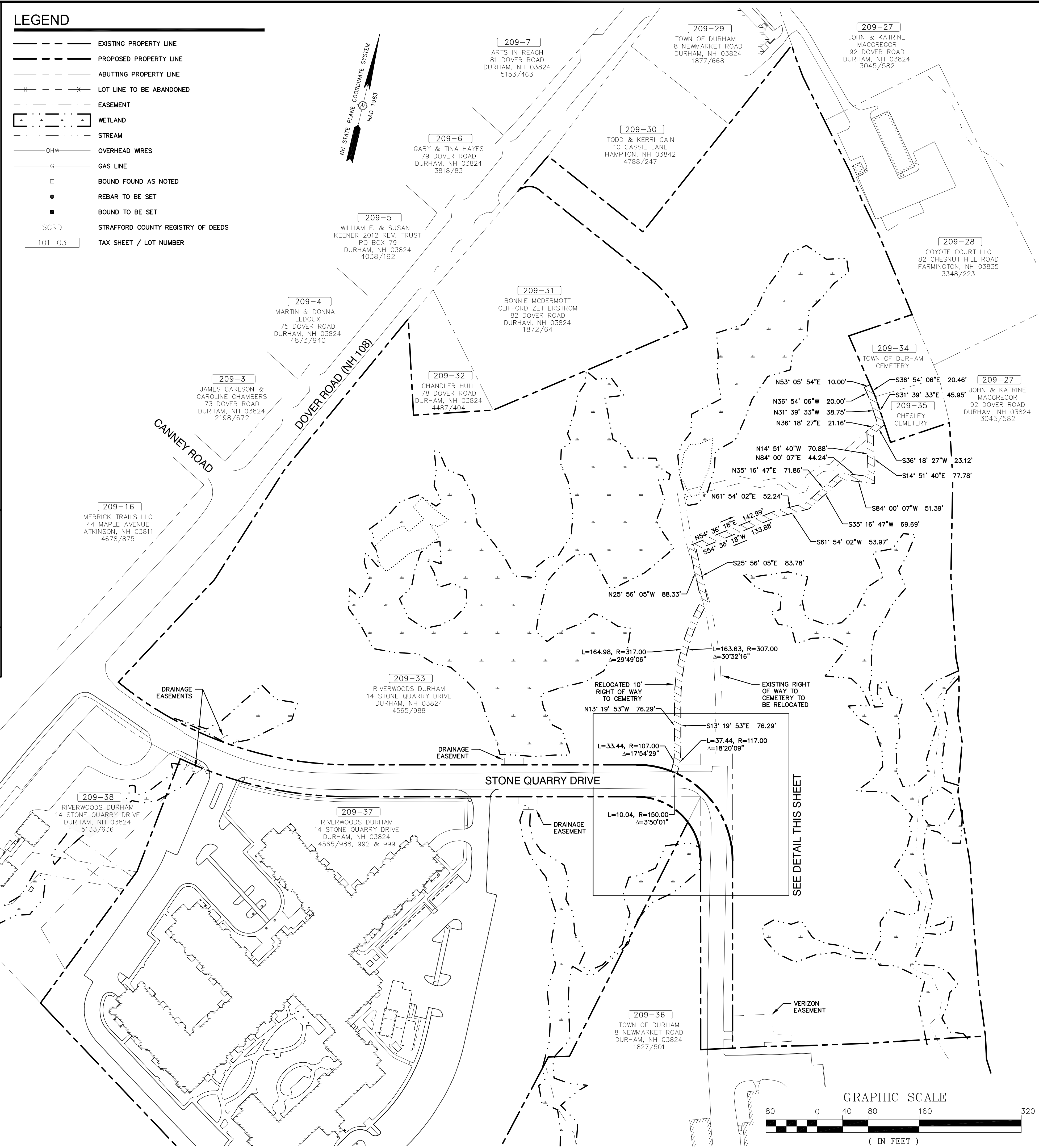
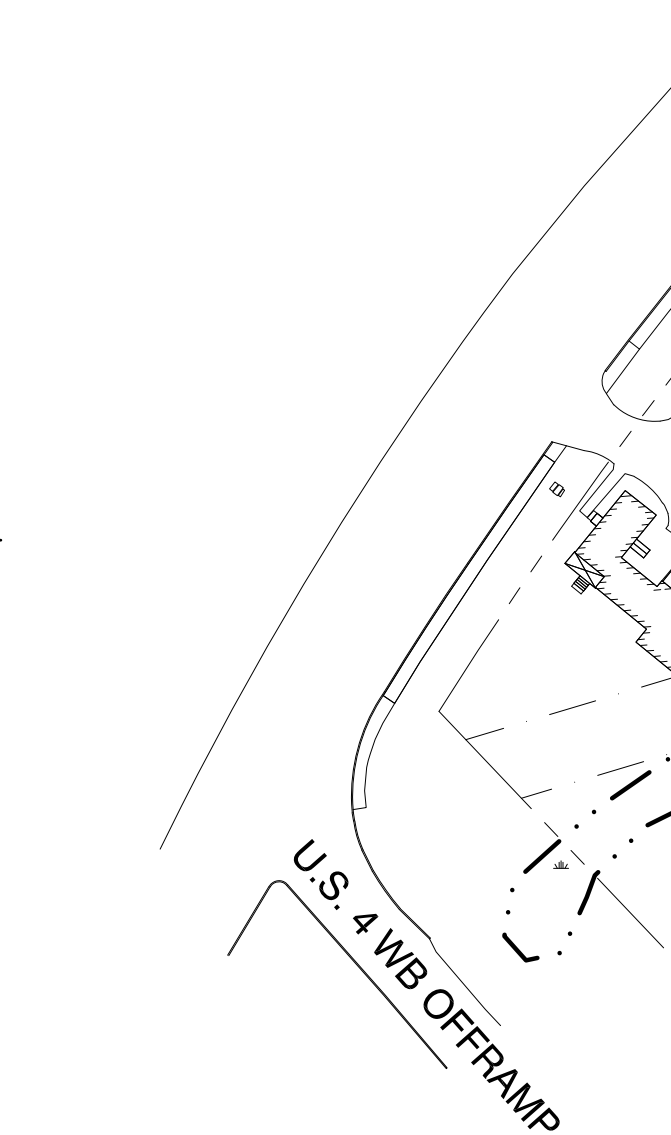
CHAIR DATE

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- ABUTTING PROPERTY LINE
- LOT LINE TO BE ABANDONED
- EASEMENT
- WETLAND
- STREAM
- OVERHEAD WIRES
- GAS LINE
- BOUND FOUND AS NOTED
- REBAR TO BE SET
- BOUND TO BE SET
- SCRD STRAFFORD COUNTY REGISTRY OF DEEDS
- 101-03 TAX SHEET / LOT NUMBER



LOCUS
(N.T.S.)



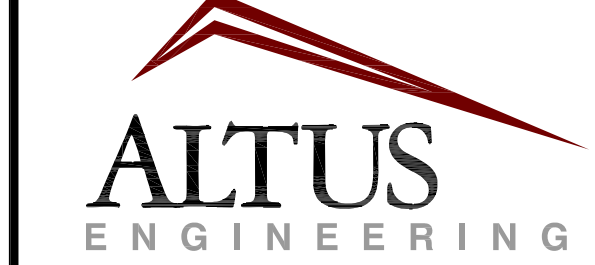
SURVEYOR:



101 SHATTUCK WAY, SUITE 8,
NEWINGTON, N.H., 03801-7876
603-436-3557

JOB NO: 23-2036

ENGINEER:



133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = 80'
11" x 17" - 1" = NTS

OWNERS:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

TOWN OF DURHAM
8 NEWMARKET ROAD
DURHAM, NH 03824

APPLICANTS:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

TOWN OF DURHAM
8 NEWMARKET ROAD
DURHAM, NH 03824

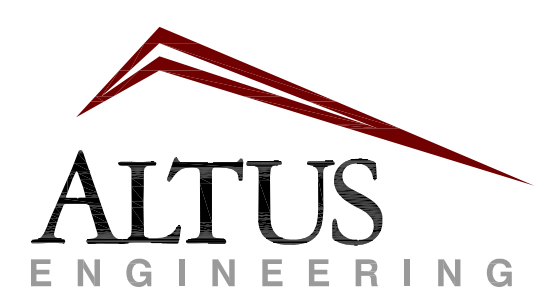
PROJECT:
RIVERWOODS
DURHAM PHASE II
TAX MAP 209 LOTS 33, 36 AND 37
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:

LOT LINE
ADJUSTMENT PLAN

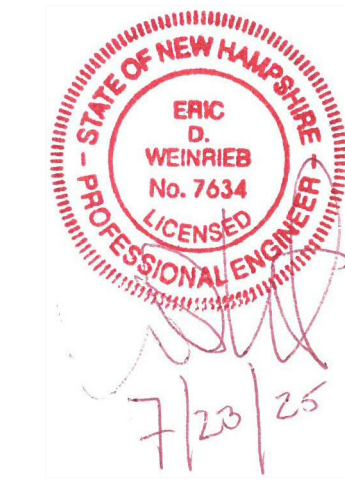
SHEET NUMBER:

C-2



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS		NO.	DESCRIPTION	BY	DATE
		0	REVIEW	EBS	06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = 80'
11" x 17" - 1" = NTS

OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

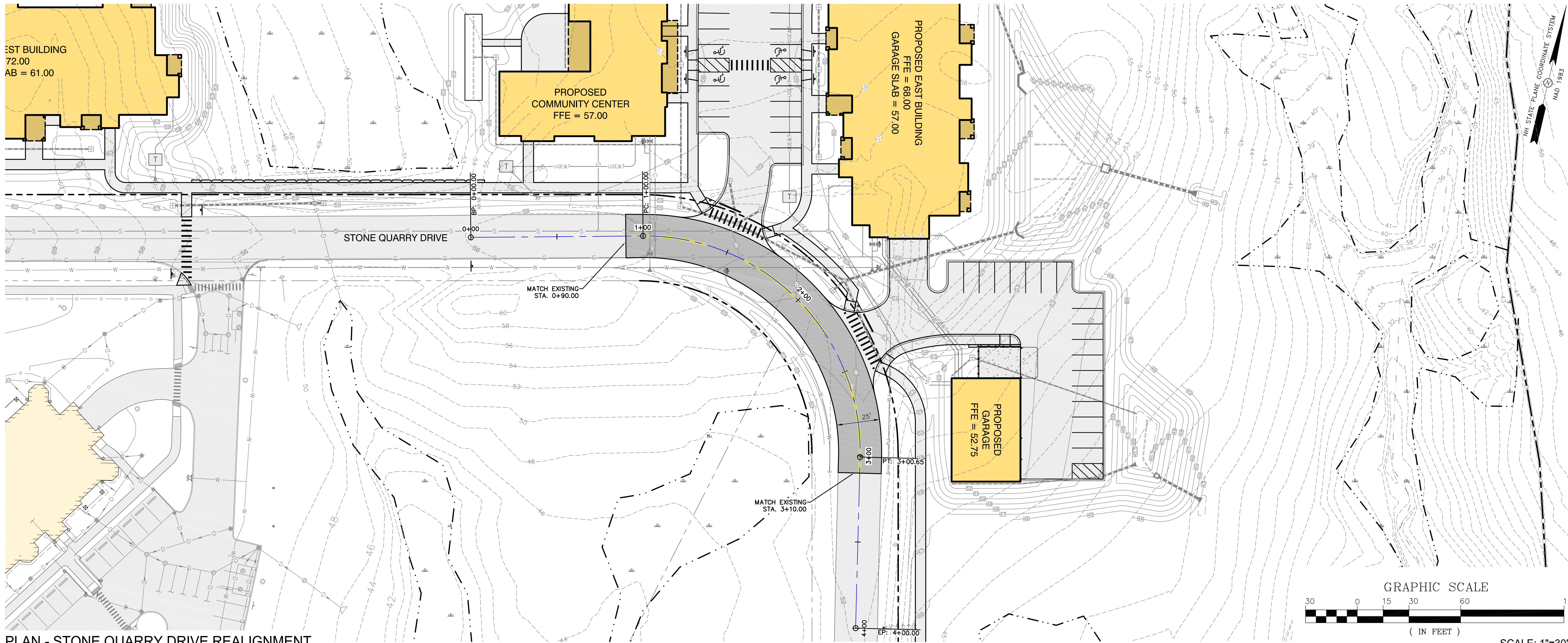
APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
**RIVERWOODS
DURHAM PHASE II**
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

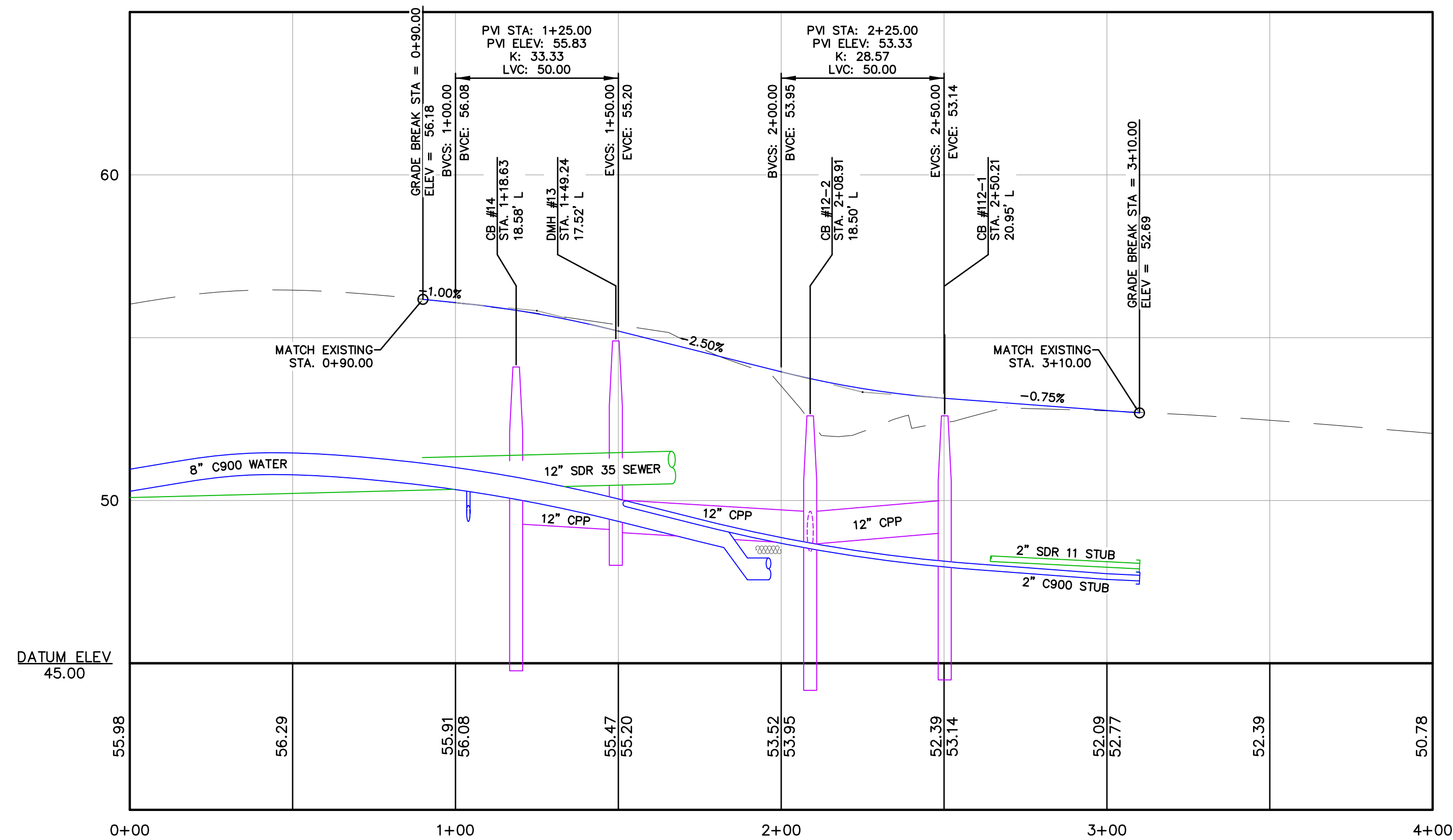
TITLE:
**OVERALL
SITE PLAN**

SHEET NUMBER:
C-3

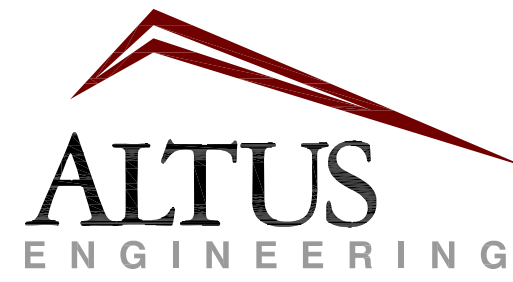
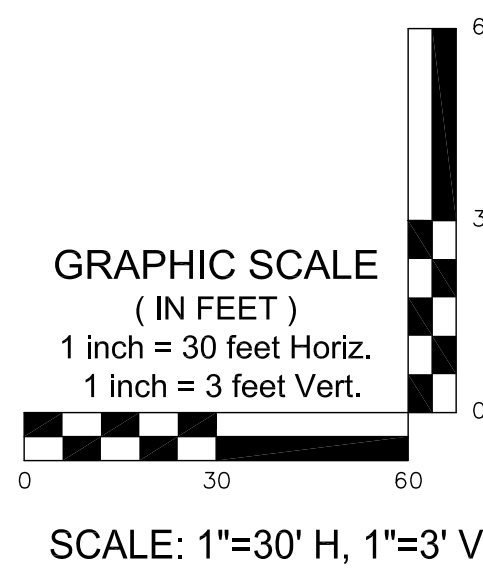
P5440



PLAN - STONE QUARRY DRIVE REALIGNMENT

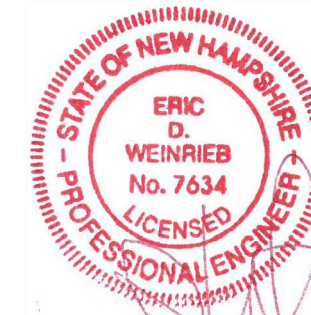


PROFILE - STONE QUARRY DRIVE REALIGNMENT



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



7/20/25

NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = 30'
11" x 17" - 1" = NTS

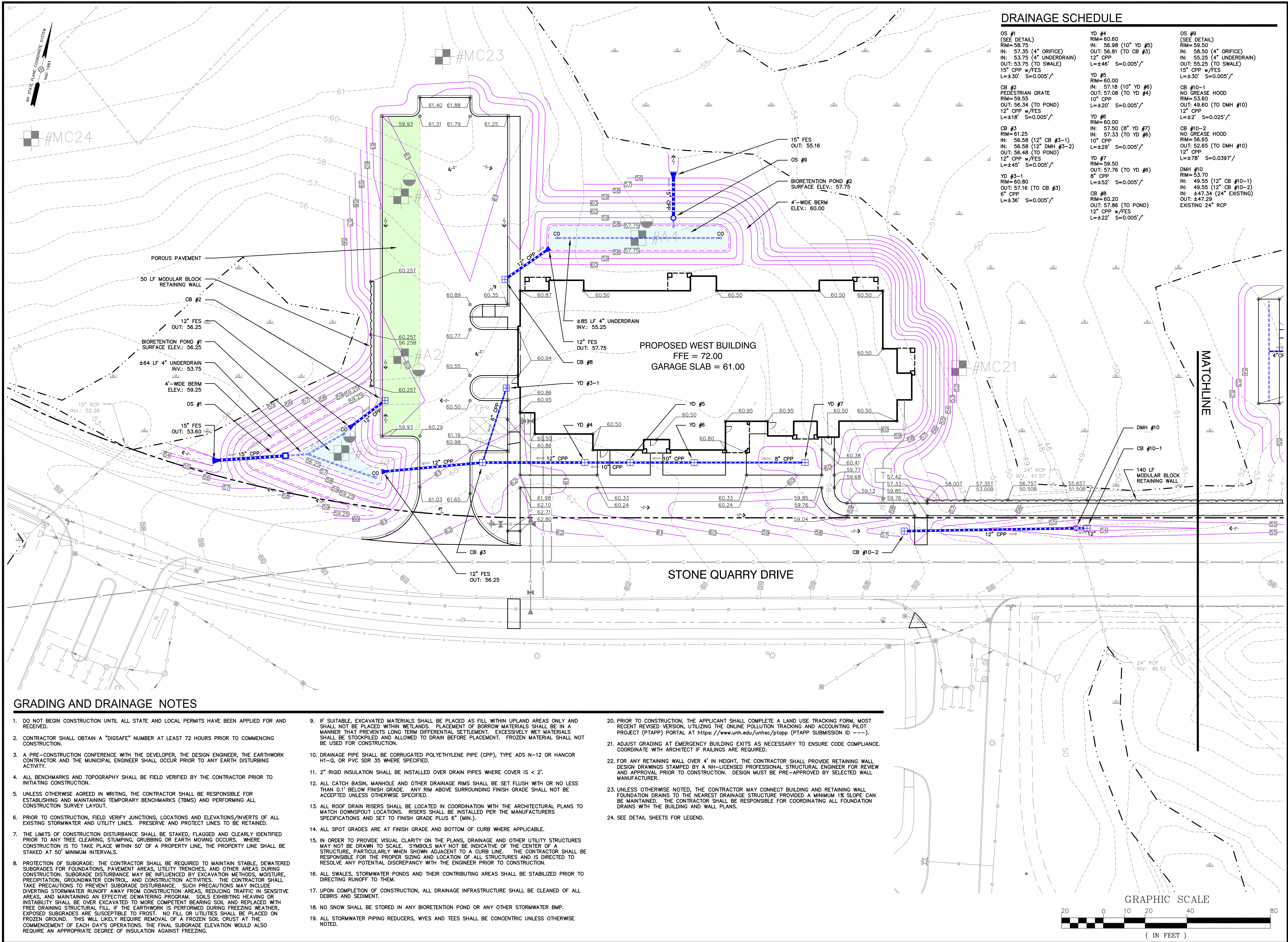
OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
RIVERWOODS
DURHAM PHASE II
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:
ROADWAY
REALIGNMENT
PLAN

SHEET NUMBER:
C-5

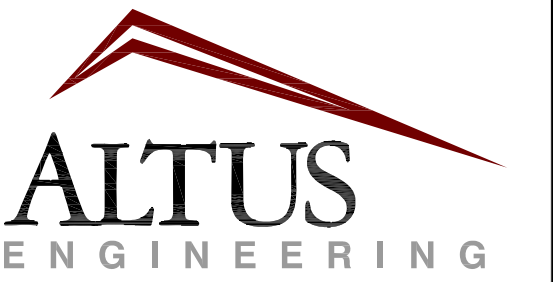
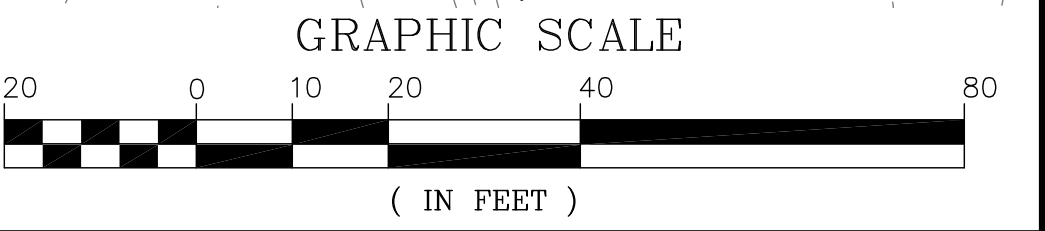


DRAINAGE SCHEDULE

OS #1 (SEE DETAIL) RIM=58.75 IN: 57.35 (4" ORIFICE) IN: 53.75 (4" UNDERDRAIN) OUT: 53.75 (TO SWALE) 15" CPP w/FES L=±30' S=0.005'/	YD #4 RIM=60.60 IN: 56.98 (10" YD #5) OUT: 56.81 (TO CB #3) 12" CPP L=±46' S=0.005'/	OS #9 (SEE DETAIL) RIM=59.50 IN: 58.50 (4" ORIFICE) IN: 55.25 (4" UNDERDRAIN) OUT: 55.25 (TO SWALE) 15" CPP w/FES L=±30' S=0.005'/
CB #2 PEDESTRIAN GRATE RIM=59.55 OUT: 56.34 (TO POND) 12" CPP w/FES L=±18' S=0.005'/	YD #5 RIM=60.00 IN: 57.18 (10" YD #6) OUT: 57.08 (TO YD #4) 10" CPP L=±20' S=0.005'/	CB #10-1 NO GREASE HOOD RIM=53.60 OUT: 49.60 (TO DMH #10) 12" CPP L=±2' S=0.025'/
YD #3-1 RIM=60.80 OUT: 57.16 (TO CB #3) 6" CPP L=±36' S=0.005'/	YD #6 RIM=60.00 IN: 57.50 (8" YD #7) IN: 57.33 (TO YD #4) 10" CPP L=±29' S=0.005'/	CB #10-2 NO GREASE HOOD RIM=56.65 OUT: 52.65 (TO DMH #10) 12" CPP L=±78' S=0.0397'/
YD #3-1 RIM=60.80 OUT: 57.16 (TO CB #3) 6" CPP L=±36' S=0.005'/	YD #7 RIM=59.50 OUT: 57.76 (TO YD #6) 8" CPP L=±52' S=0.005'/	DMH #10 RIM=53.70 IN: 49.55 (12" CB #10-1) IN: 49.55 (12" CB #10-2) IN: ±47.34 (24" EXISTING) OUT: ±47.29 EXISTING 24" RCP
	CB #8 RIM=60.20 OUT: 57.86 (TO POND) 12" CPP w/FES L=±22' S=0.005'/	

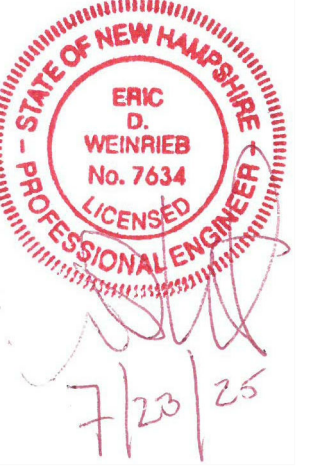
GRADING AND DRAINAGE NOTES

- DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
- CONTRACTOR SHALL OBTAIN A "DIGSAFE" NUMBER AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
- A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE MUNICIPAL ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.
- ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING CONSTRUCTION.
- UNLESS OTHERWISE AGREED IN WRITING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS (TBMS) AND PERFORMING ALL CONSTRUCTION SURVEY LAYOUT.
- PRIOR TO CONSTRUCTION, FIELD VERIFY JUNCTIONS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING STORMWATER AND UTILITY LINES. PRESERVE AND PROTECT LINES TO BE RETAINED.
- THE LIMITS OF CONSTRUCTION DISTURBANCE SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY TREE CLEARING, STUMPING, GRUBBING OR EARTH MOVING OCCURS. WHERE CONSTRUCTION IS TO TAKE PLACE WITHIN 50' OF A PROPERTY LINE, THE PROPERTY LINE SHALL BE STAKED AT 50' MINIMUM INTERVALS.
- PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT AREAS, UTILITY TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL. IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER, EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATIONS. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.
- IF SUITABLE, EXCAVATED MATERIALS SHALL BE PLACED AS FILL WITHIN UPLAND AREAS ONLY AND SHALL NOT BE PLACED WITHIN WETLANDS. PLACEMENT OF BORROW MATERIALS SHALL BE IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
- DRAINAGE PIPE SHALL BE CORRUGATED POLYETHYLENE PIPE (CPP), TYPE ADS N-12 OR HANCOR H1-Q, OR PVC SDR 35 WHERE SPECIFIED.
- 2" RIGID INSULATION SHALL BE INSTALLED OVER DRAIN PIPES WHERE COVER IS < 2'.
- ALL CATCH BASIN, MANHOLE AND OTHER DRAINAGE RIMS SHALL BE SET FLUSH WITH OR NO LESS THAN 0.1' BELOW FINISH GRADE. ANY RIM ABOVE SURROUNDING FINISH GRADE SHALL NOT BE ACCEPTED UNLESS OTHERWISE SPECIFIED.
- ALL ROOF DRAIN RISERS SHALL BE LOCATED IN COORDINATION WITH THE ARCHITECTURAL PLANS TO MATCH DOWNSPOUT LOCATIONS. RISERS SHALL BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS AND SET TO FINISH GRADE PLUS 6" (MIN.).
- ALL SPOT GRADES ARE AT FINISH GRADE AND BOTTOM OF CURB WHERE APPLICABLE.
- IN ORDER TO PROVIDE VISUAL CLARITY ON THE PLANS, DRAINAGE AND OTHER UTILITY STRUCTURES MAY NOT BE DRAWN TO SCALE. SYMBOLS MAY NOT BE INDICATIVE OF THE CENTER OF A STRUCTURE, PARTICULARLY WHEN SHOWN ADJACENT TO A CURB LINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND LOCATION OF ALL STRUCTURES AND IS DIRECTED TO RESOLVE ANY POTENTIAL DISCREPANCY WITH THE ENGINEER PRIOR TO CONSTRUCTION.
- UPON COMPLETION OF CONSTRUCTION, ALL DRAINAGE INFRASTRUCTURE SHALL BE CLEANED OF ALL DEBRIS AND SEDIMENT.
- NO SNOW SHALL BE STORED IN ANY BIORETENTION POND OR ANY OTHER STORMWATER BMP.
- ALL STORMWATER PIPING REDUCERS, WYES AND TEES SHALL BE CONCENTRIC UNLESS OTHERWISE NOTED.
- PRIOR TO CONSTRUCTION, THE APPLICANT SHALL COMPLETE A LAND USE TRACKING FORM, MOST RECENT REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL AT <https://www.unh.edu/unhsc/ptapp> (PTAPP SUBMISSION ID ---).
- ADJUST GRADING AT EMERGENCY BUILDING EXITS AS NECESSARY TO ENSURE CODE COMPLIANCE. COORDINATE WITH ARCHITECT IF RAILINGS ARE REQUIRED.
- FOR ANY RETAINING WALL OVER 4' IN HEIGHT, THE CONTRACTOR SHALL PROVIDE RETAINING WALL DESIGN DRAWINGS STAMPED BY A NH-LICENSED PROFESSIONAL STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. DESIGN MUST BE PRE-APPROVED BY SELECTED WALL MANUFACTURER.
- UNLESS OTHERWISE NOTED, THE CONTRACTOR MAY CONNECT BUILDING AND RETAINING WALL FOUNDATION DRAINS TO THE NEAREST DRAINAGE STRUCTURE PROVIDED A MINIMUM 1% SLOPE CAN BE MAINTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL FOUNDATION DRAINS WITH THE BUILDING AND WALL PLANS.
- SEE DETAIL SHEETS FOR LEGEND.



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS	NO.	DESCRIPTION	BY	DATE
0	REVIEW		EBS	06/23/25

DRAWN BY: EBS

APPROVED BY: EBS

DRAWING FILE: 5440-SITE.dwg

SCALE: 24" x 36" - 1" = 20'
11" x 17" - 1" = NTS

OWNER: RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

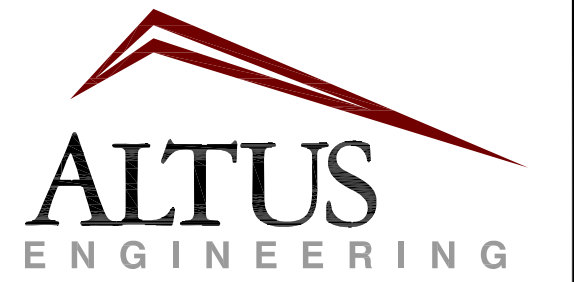
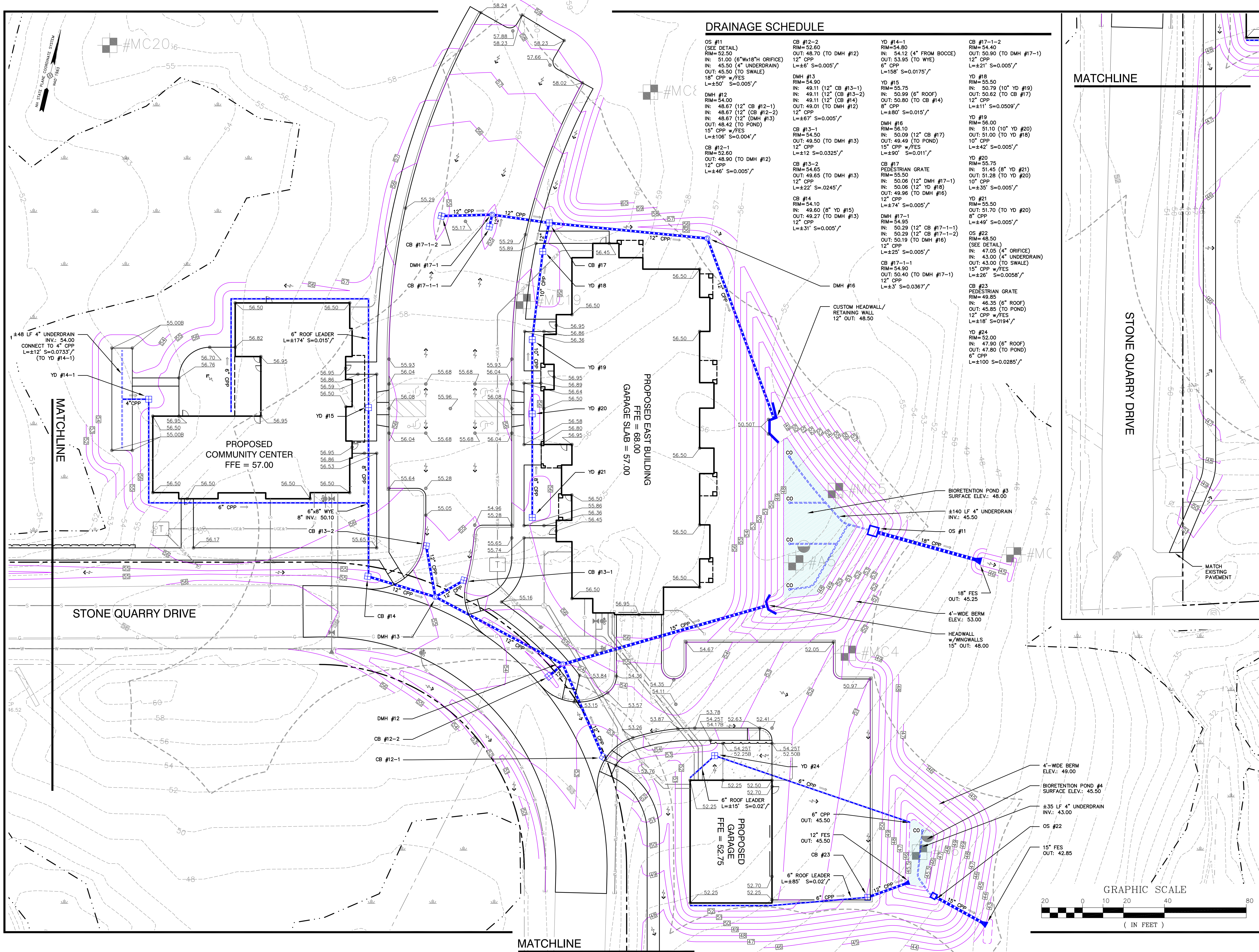
APPLICANT: RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT: RIVERWOODS
DURHAM PHASE II

TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

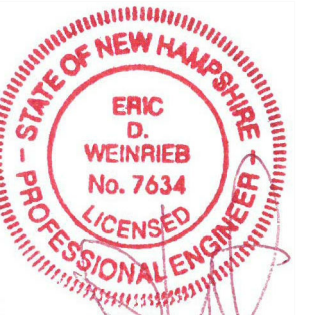
TITLE: STORMWATER
MANAGEMENT PLAN

SHEET NUMBER: C-6.1



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



7/20/25

NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = 20'
11" x 17" - 1" = NTS

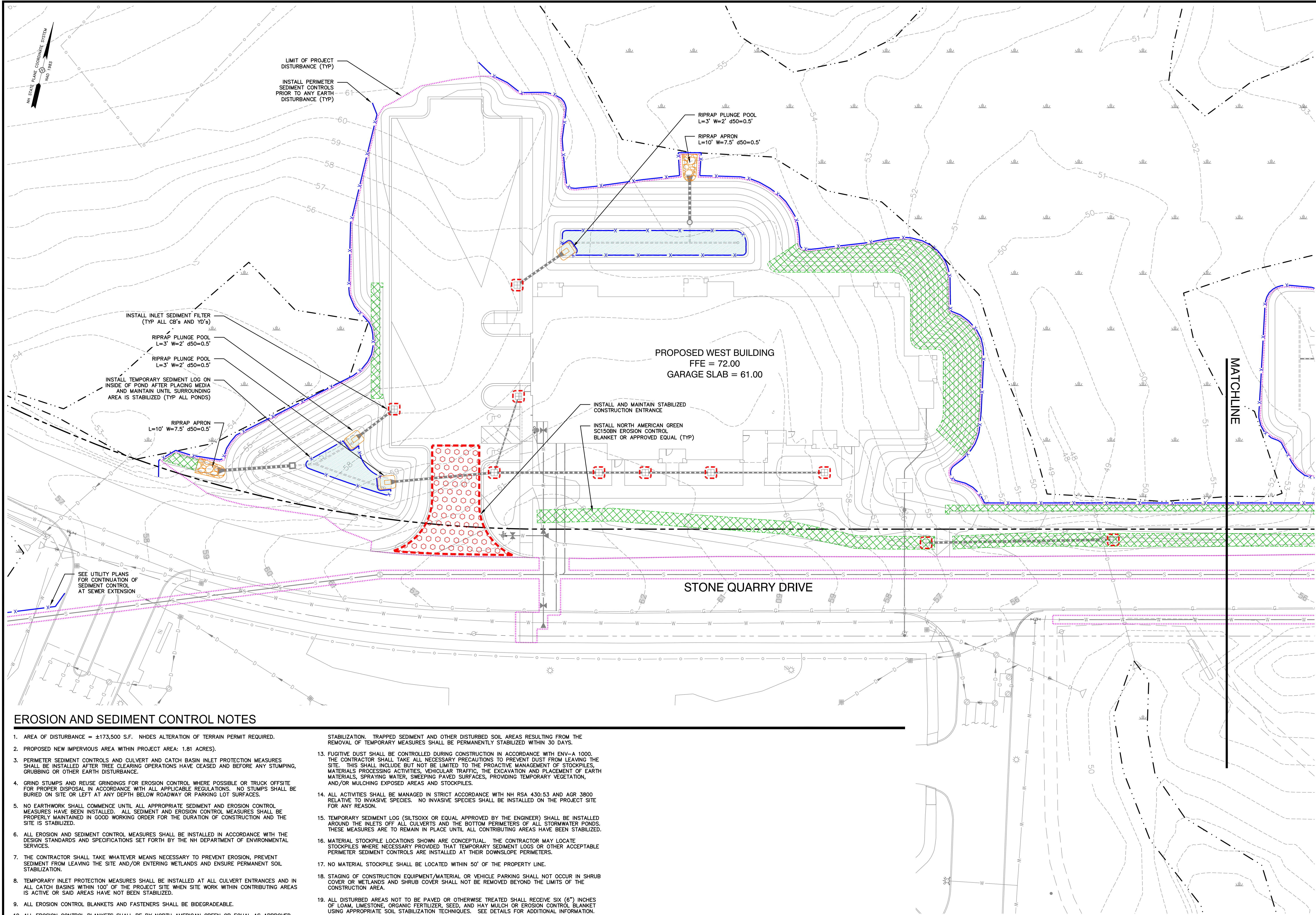
OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
RIVERWOODS DURHAM PHASE II
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

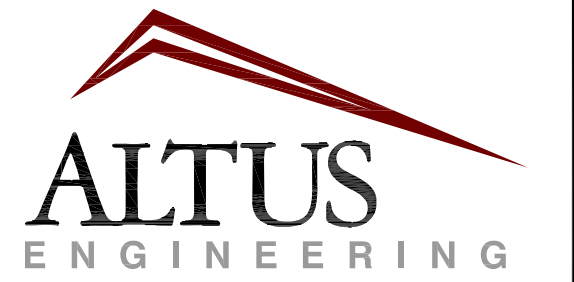
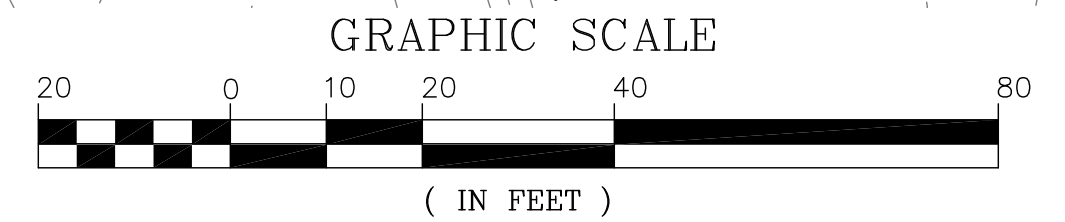
TITLE:
STORMWATER MANAGEMENT PLAN

SHEET NUMBER:
C-6.2



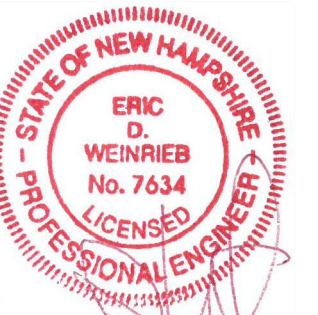
EROSION AND SEDIMENT CONTROL NOTES

1. AREA OF DISTURBANCE = ±173,500 S.F. NHDES ALTERATION OF TERRAIN PERMIT REQUIRED.
2. PROPOSED NEW IMPERVIOUS AREA WITHIN PROJECT AREA: 1.81 ACRES).
3. PERIMETER SEDIMENT CONTROLS AND CULVERT AND CATCH BASIN INLET PROTECTION MEASURES SHALL BE INSTALLED AFTER TREE CLEARING OPERATIONS HAVE CEASED AND BEFORE ANY STUMPING, GRUBBING OR OTHER EARTH DISTURBANCE.
4. GRIND STUMPS AND REUSE GRINDINGS FOR EROSION CONTROL WHERE POSSIBLE OR TRUCK OFFSITE FOR PROPER DISPOSAL IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS. NO STUMPS SHALL BE BURIED ON SITE OR LEFT AT ANY DEPTH BELOW ROADWAY OR PARKING LOT SURFACES.
5. NO EARTHWORK SHALL COMMENCE UNTIL ALL APPROPRIATE SEDIMENT AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED IN GOOD WORKING ORDER FOR THE DURATION OF CONSTRUCTION AND THE SITE IS STABILIZED.
6. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DESIGN STANDARDS AND SPECIFICATIONS SET FORTH BY THE NH DEPARTMENT OF ENVIRONMENTAL SERVICES.
7. THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PREVENT EROSION, PREVENT SEDIMENT FROM LEAVING THE SITE AND/OR ENTERING WETLANDS AND ENSURE PERMANENT SOIL STABILIZATION.
8. TEMPORARY INLET PROTECTION MEASURES SHALL BE INSTALLED AT ALL CULVERT ENTRANCES AND IN ALL CATCH BASINS WITHIN 100' OF THE PROJECT SITE WHEN SITE WORK WITHIN CONTRIBUTING AREAS IS ACTIVE OR SAID AREAS HAVE NOT BEEN STABILIZED.
9. ALL EROSION CONTROL BLANKETS AND FASTENERS SHALL BE BIDEGRADEABLE.
10. ALL EROSION CONTROL BLANKETS SHALL BE BY NORTH AMERICAN GREEN OR EQUAL AS APPROVED IN WRITING BY THE ENGINEER.
11. ALL SWALES, STORMWATER PONDS AND THEIR CONTRIBUTING AREAS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
12. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS.
13. FUGITIVE DUST SHALL BE CONTROLLED DURING CONSTRUCTION IN ACCORDANCE WITH ENV-A 1000. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DUST FROM LEAVING THE SITE. THIS SHALL INCLUDE BUT NOT BE LIMITED TO THE PROACTIVE MANAGEMENT OF STOCKPILES, MATERIALS PROCESSING ACTIVITIES, VEHICULAR TRAFFIC, THE EXCAVATION AND PLACEMENT OF EARTH MATERIALS, SPRAYING WATER, SWEEPING PAVED SURFACES, PROVIDING TEMPORARY VEGETATION, AND/OR MULCHING EXPOSED AREAS AND STOCKPILES.
14. ALL ACTIVITIES SHALL BE MANAGED IN STRICT ACCORDANCE WITH NH RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES. NO INVASIVE SPECIES SHALL BE INSTALLED ON THE PROJECT SITE FOR ANY REASON.
15. TEMPORARY SEDIMENT LOG (SILT/SOXX OR EQUAL APPROVED BY THE ENGINEER) SHALL BE INSTALLED AROUND THE INLETS OFF ALL CULVERTS AND THE BOTTOM PERIMETERS OF ALL STORMWATER PONDS. THESE MEASURES ARE TO REMAIN IN PLACE UNTIL ALL CONTRIBUTING AREAS HAVE BEEN STABILIZED.
16. MATERIAL STOCKPILE LOCATIONS SHOWN ARE CONCEPTUAL. THE CONTRACTOR MAY LOCATE STOCKPILES WHERE NECESSARY PROVIDED THAT TEMPORARY SEDIMENT LOGS OR OTHER ACCEPTABLE PERIMETER SEDIMENT CONTROLS ARE INSTALLED AT THEIR DOWNSLOPE PERIMETERS.
17. NO MATERIAL STOCKPILE SHALL BE LOCATED WITHIN 50' OF THE PROPERTY LINE.
18. STAGING OF CONSTRUCTION EQUIPMENT/MATERIAL OR VEHICLE PARKING SHALL NOT OCCUR IN SHRUB COVER OR WETLANDS AND SHRUB COVER SHALL NOT BE REMOVED BEYOND THE LIMITS OF THE CONSTRUCTION AREA.
19. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE SIX (6") INCHES OF LOAM, LIMESTONE, ORGANIC FERTILIZER, SEED, AND HAY MULCH OR EROSION CONTROL BLANKET USING APPROPRIATE SOIL STABILIZATION TECHNIQUES. SEE DETAILS FOR ADDITIONAL INFORMATION.
20. UPON COMPLETION OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED AND ANY AREAS DISTURBED BY THE REMOVAL SMOOTHED AND REVEGETATED.
21. SEE DETAIL SHEETS FOR ADDITIONAL SEDIMENT AND EROSION CONTROL NOTES AND DETAILS.
22. SEE DETAIL SHEETS FOR LEGEND.



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



7/20/25

NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = 20'
11" x 17" - 1" = NTS

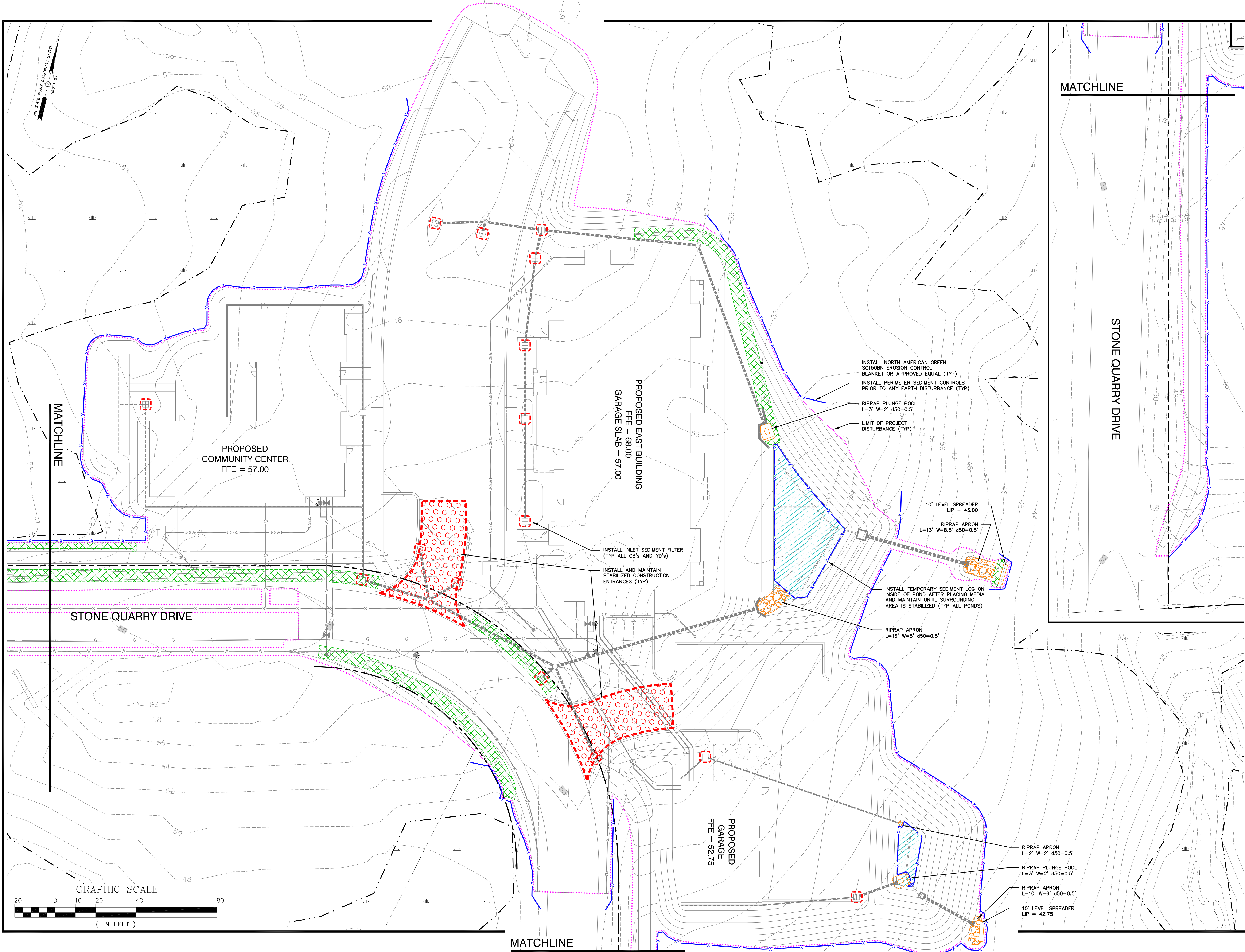
OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
RIVERWOODS
DURHAM PHASE II
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:
EROSION AND
SEDIMENT
CONTROL PLAN

SHEET NUMBER:
C-7.1



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com

7/20/25

NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS		BY	DATE
NO.	DESCRIPTION		
0	REVIEW	EBS	06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = 20'
11" x 17" - 1" = NTS

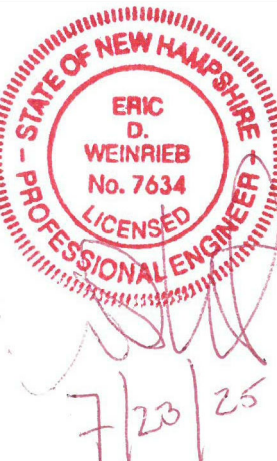
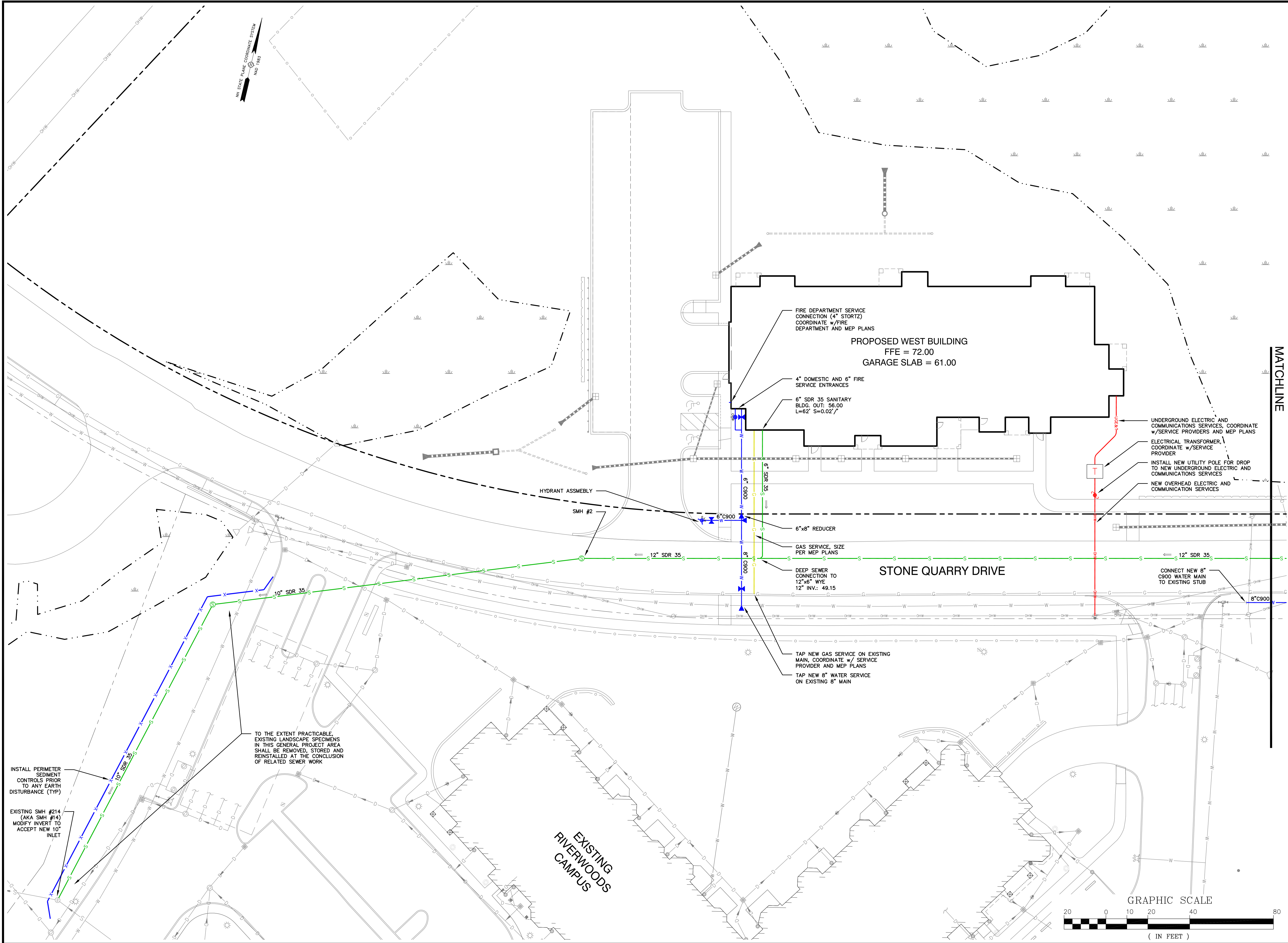
OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
RIVERWOODS
DURHAM PHASE II
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:
EROSION AND
SEDIMENT
COMNTROL PLAN

SHEET NUMBER:
C-7.2



NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = 20'
11" x 17" - 1" = NTS

OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

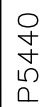
APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

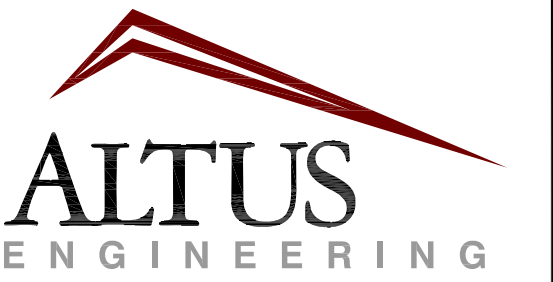
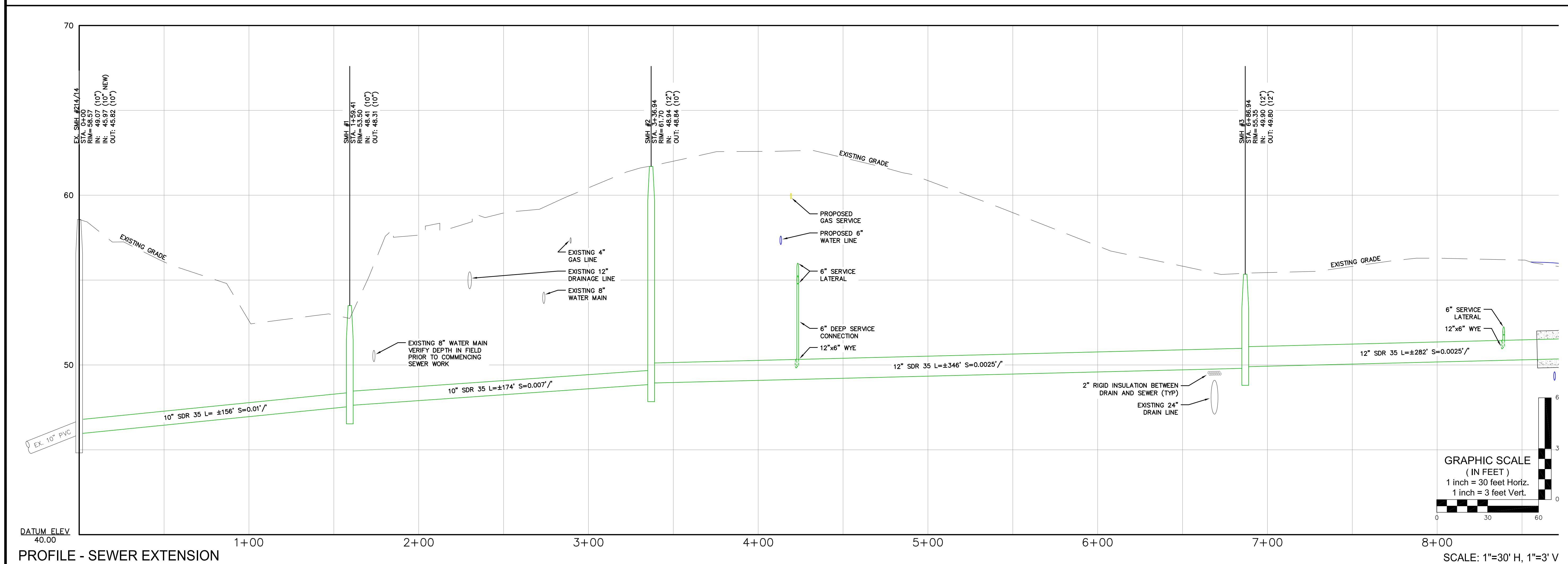
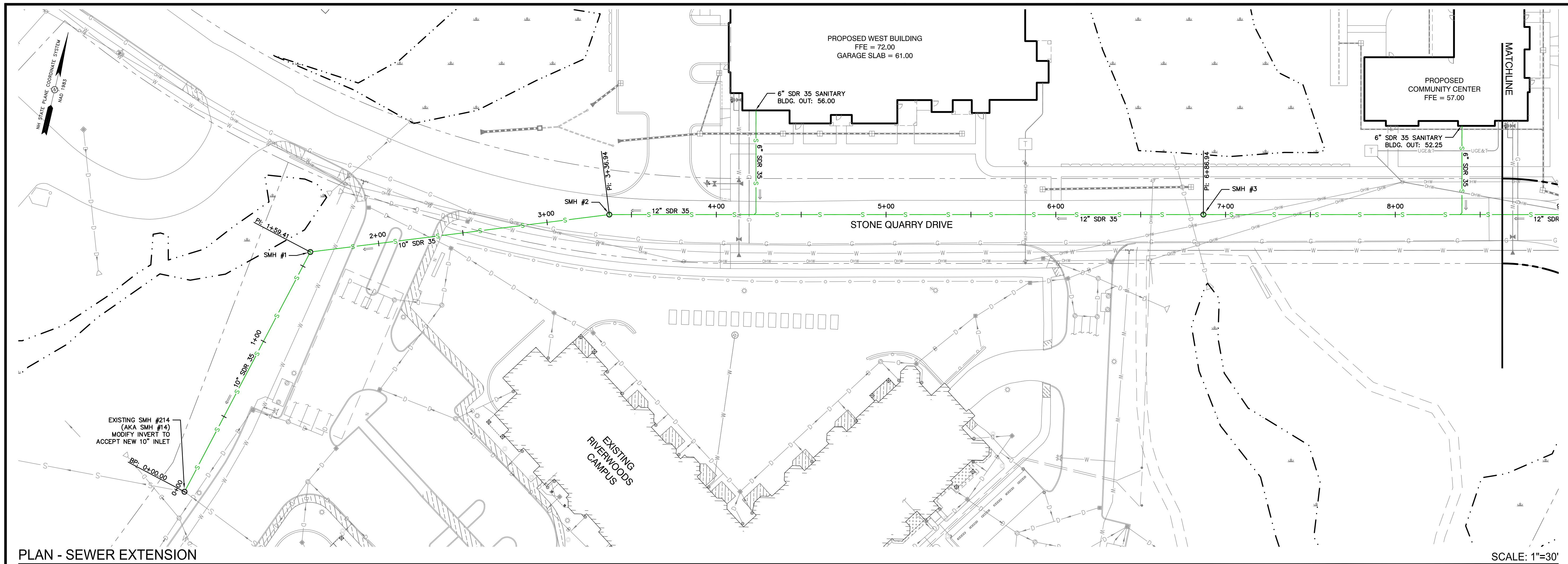
PROJECT:
**RIVERWOODS
DURHAM PHASE II**
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:

UTILITY PLAN

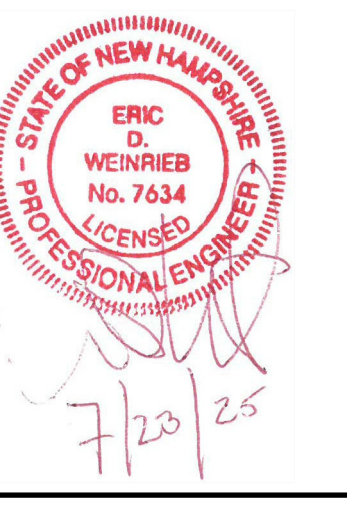
SHEET NUMBER:
C-8.1





133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = 30'
11" x 17" - 1" = NTS

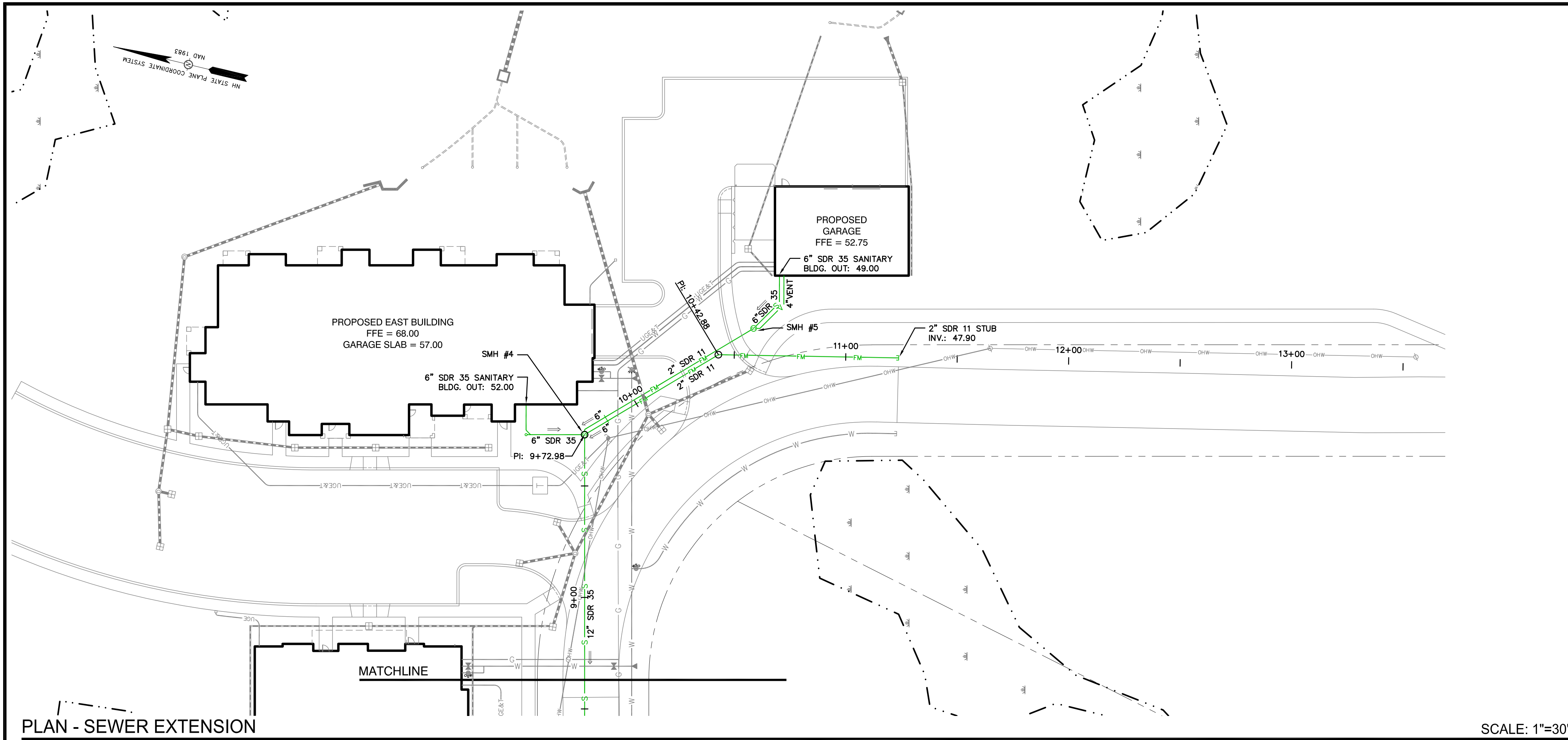
OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
**RIVERWOODS
DURHAM PHASE II**
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:
**SEWER PLAN
AND PROFILE**

SHEET NUMBER:
C-9.1



SEWER TESTING

FORCE MAINS AND PRESSURE SEWERS SHALL BE TESTED IN ACCORDANCE WITH NHDES ENV-WQ 704.09 AND SECTION 5 OF THE AWWA C600, "INSTALLATION OF CAST IRON WATER MAINS AND THEIR APPURTENANCES" STANDARD IN EFFECT WHEN THE TEST IS CONDUCTED AT A PRESSURE EQUAL TO THE GREATER OF 150 PERCENT OF THE DESIGN OPERATING TOTAL DYNAMIC HEAD OR AT LEAST 100 PSI.

SEWER SCHEDULE

EX. SMH #214/14 RIM=58.57 IN: 49.07 (10") OUT: 45.82 10" EXISTING	SMH #3 RIM=55.35 IN: 49.90 (12" SMH #4) OUT: 49.80 (TO SMH #2) 12" SDR 35* L=±346' S=0.0025'/'
SMH #1 RIM=53.50 IN: 47.53 (10" SMH #2) OUT: 47.63 (TO EXIST. SMH #214/14) 10" SDR 35 L=±156' S=0.01'/'	SMH #4 RIM=55.50 IN: 50.93 (6"x3 BLDG & FMx2) OUT: 50.60 (TO SMH #3) 12" SDR 35* L=±282' S=0.0025'/'
SMH #2 RIM=61.70 IN: 48.94 (12" SMH #3) OUT: 48.84 (TO SMH #1) 10" SDR 35 L=±174' S=0.007'/'	SMH #5 RIM=53.00 IN: 50.00 (4" VENT) IN: 48.46 (6" BLDG) OUT: 47.50 (TO SMH #4) 2" SDR 11 FM L=±74' S=-0.005'/' MIN. (SLOPE UP TO SMH #4)

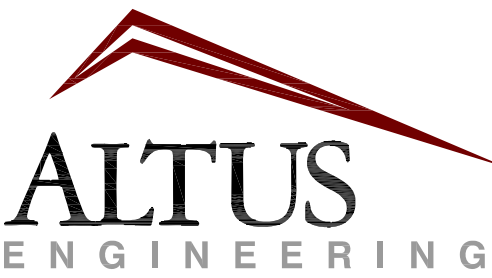
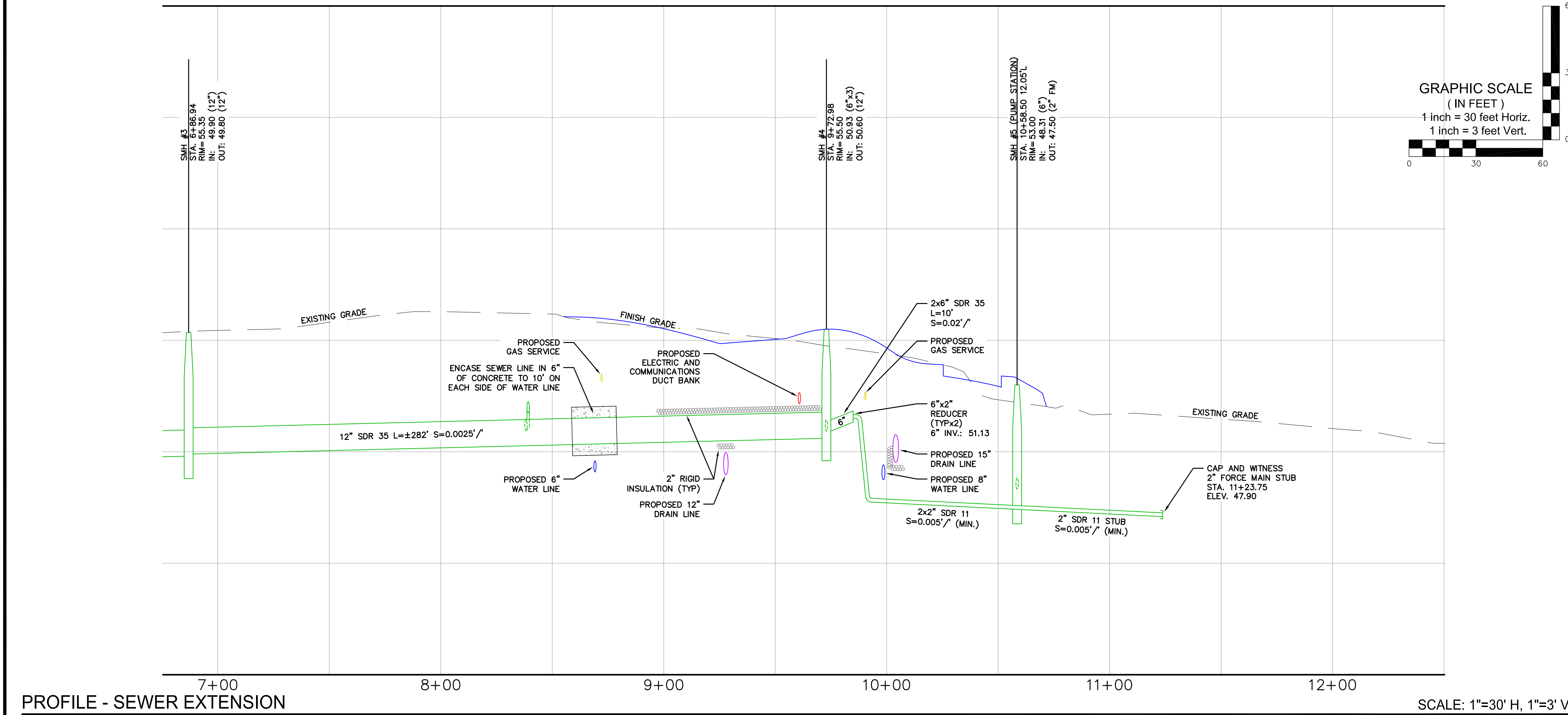
* 12" PIPES ARE ONLY USED TO MEET THE MINIMUM SLOPE REQUIRED BY THE TOWN OF DURHAM

SEWER FLOW CALCULATIONS

RESIDENTS:	110 x 59 GPD	= 6,490 GPD (BASED ON DOUBLE OCCUPANCY)
COMMUNITY CENTER:	52 x 25 GPD	= 1,300 GPD (BASED ON NUMBER OF SEATS)
COMMUNITY CENTER EMPLOYEES:	5 x 13 GPD/DAY	= 65 GPD
MAINTENANCE GARAGE EMPLOYEES:	17 x 10 GPD/DAY	= 170 GPD
TOTAL DAILY FLOW		= 8,070 GPD
ANNUAL FLOW		= 2,945,550 GAL.

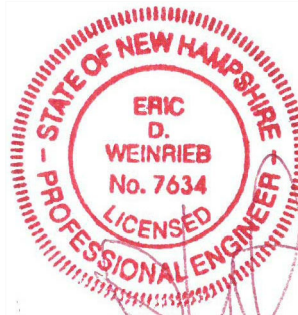
RESIDENT FLOW BASED ON PER CAPITA AVERAGE DAILY FLOW (ADF) FROM RIVERWOODS DURHAM CAMPUS BASED ON WATER USAGE. AVERAGE OF 59 GPD/RESIDENT MEASURED 12/30/22 - 01/02/25.

AVERAGE DAILY PER CAPITA FLOW FOR THE COMMUNITY CENTER, IT'S EMPLOYEES AND MAINTENANCE GARAGE EMPLOYEES WERE CALCULATED FROM METCALF & EDDY/AECOM "WASTEWATER ENGINEERING TREATMENT AND RESOURCE RECOVERY", 5TH EDITION, USING THE FOLLOWING CATEGORIES:
COMMUNITY CENTER: COUNTRY CLUB (25 GPD/SEAT)
MAINTENANCE GARAGE: INSTITUTIONS OTHER THAN HOSPITALS (10 GPD/EMPLOYEE)



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



7/20/25

NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = 30'
11" x 17" - 1" = NTS

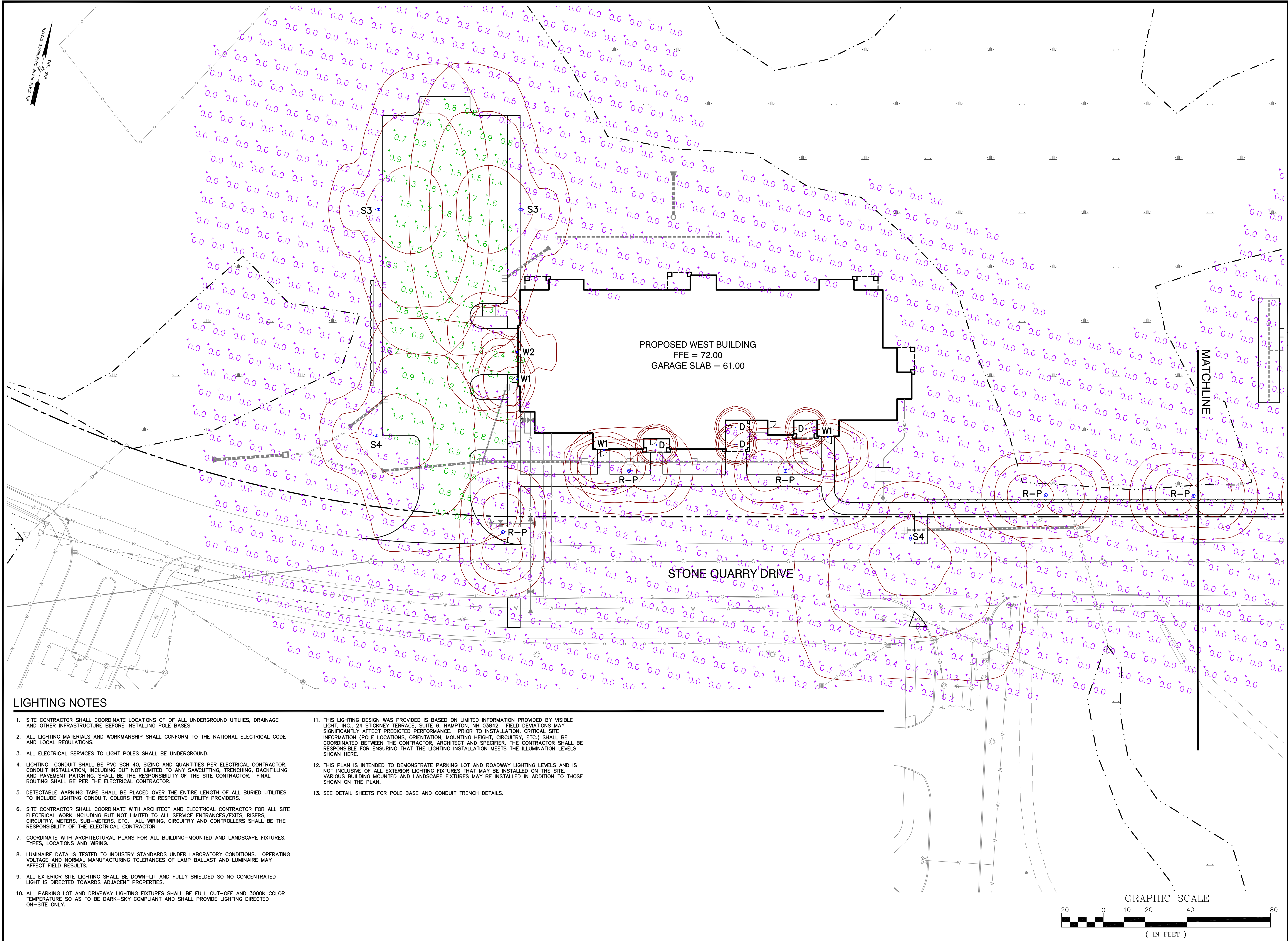
OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
**RIVERWOODS
DURHAM PHASE II**
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

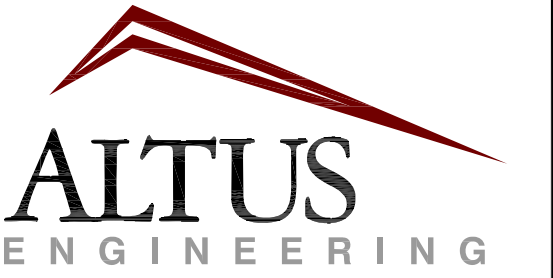
TITLE:
**SEWER PLAN
AND PROFILE**

SHEET NUMBER:
C-9.2



LIGHTING NOTES

1. SITE CONTRACTOR SHALL COORDINATE LOCATIONS OF ALL UNDERGROUND UTILITIES, DRAINAGE AND OTHER INFRASTRUCTURE BEFORE INSTALLING POLE BASES.
2. ALL LIGHTING MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE AND LOCAL REGULATIONS.
3. ALL ELECTRICAL SERVICES TO LIGHT POLES SHALL BE UNDERGROUND.
4. LIGHTING CONDUIT SHALL BE PVC SCH 40, SIZING AND QUANTITIES PER ELECTRICAL CONTRACTOR. CONDUIT INSTALLATION, INCLUDING BUT NOT LIMITED TO ANY SAWCUTTING, TRENCHING, BACKFILLING AND PAVEMENT PATCHING, SHALL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR. FINAL ROUTING SHALL BE PER THE ELECTRICAL CONTRACTOR.
5. DETECTABLE WARNING TAPE SHALL BE PLACED OVER THE ENTIRE LENGTH OF ALL BURIED UTILITIES TO INCLUDE LIGHTING CONDUIT, COLORS PER THE RESPECTIVE UTILITY PROVIDERS.
6. SITE CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND ELECTRICAL CONTRACTOR FOR ALL SITE ELECTRICAL WORK INCLUDING BUT NOT LIMITED TO ALL SERVICE ENTRANCES/EXITS, RISERS, CIRCUITRY, METERS, SUB-METERS, ETC. ALL WIRING, CIRCUITRY AND CONTROLLERS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
7. COORDINATE WITH ARCHITECTURAL PLANS FOR ALL BUILDING-MOUNTED AND LANDSCAPE FIXTURES, TYPES, LOCATIONS AND WIRING.
8. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP BALLAST AND LUMINAIRE MAY AFFECT FIELD RESULTS.
9. ALL EXTERIOR SITE LIGHTING SHALL BE DOWN-LIT AND FULLY SHIELDED SO NO CONCENTRATED LIGHT IS DIRECTED TOWARDS ADJACENT PROPERTIES.
10. ALL PARKING LOT AND DRIVEWAY LIGHTING FIXTURES SHALL BE FULL CUT-OFF AND 3000K COLOR TEMPERATURE SO AS TO BE DARK-SKY COMPLIANT AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
11. THIS LIGHTING DESIGN WAS PROVIDED IS BASED ON LIMITED INFORMATION PROVIDED BY VISIBLE LIGHT, INC., 24 STICKNEY TERRACE, SUITE 6, HAMPTON, NH 03842. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, CIRCUITRY, ETC.) SHALL BE COORDINATED BETWEEN THE CONTRACTOR, ARCHITECT AND SPECIFIER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE LIGHTING INSTALLATION MEETS THE ILLUMINATION LEVELS SHOWN HERE.
12. THIS PLAN IS INTENDED TO DEMONSTRATE PARKING LOT AND ROADWAY LIGHTING LEVELS AND IS NOT INCLUSIVE OF ALL EXTERIOR LIGHTING FIXTURES THAT MAY BE INSTALLED ON THE SITE. VARIOUS BUILDING MOUNTED AND LANDSCAPE FIXTURES MAY BE INSTALLED IN ADDITION TO THOSE SHOWN ON THE PLAN.
13. SEE DETAIL SHEETS FOR POLE BASE AND CONDUIT TRENCH DETAILS.



133 Court Street
(603) 433-2335
Portsmouth, NH 03801
www.altus-eng.com



VISIBLELIGHT

NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = 20'
11" x 17" - 1" = NTS

OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

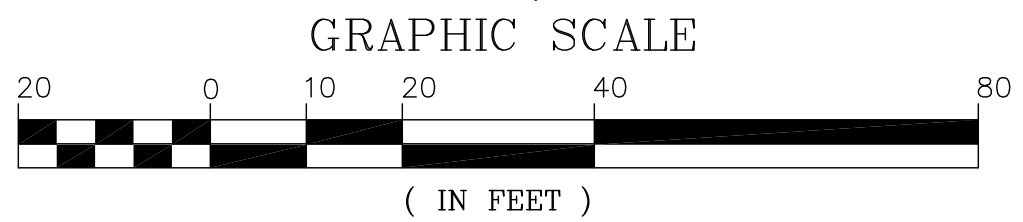
APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

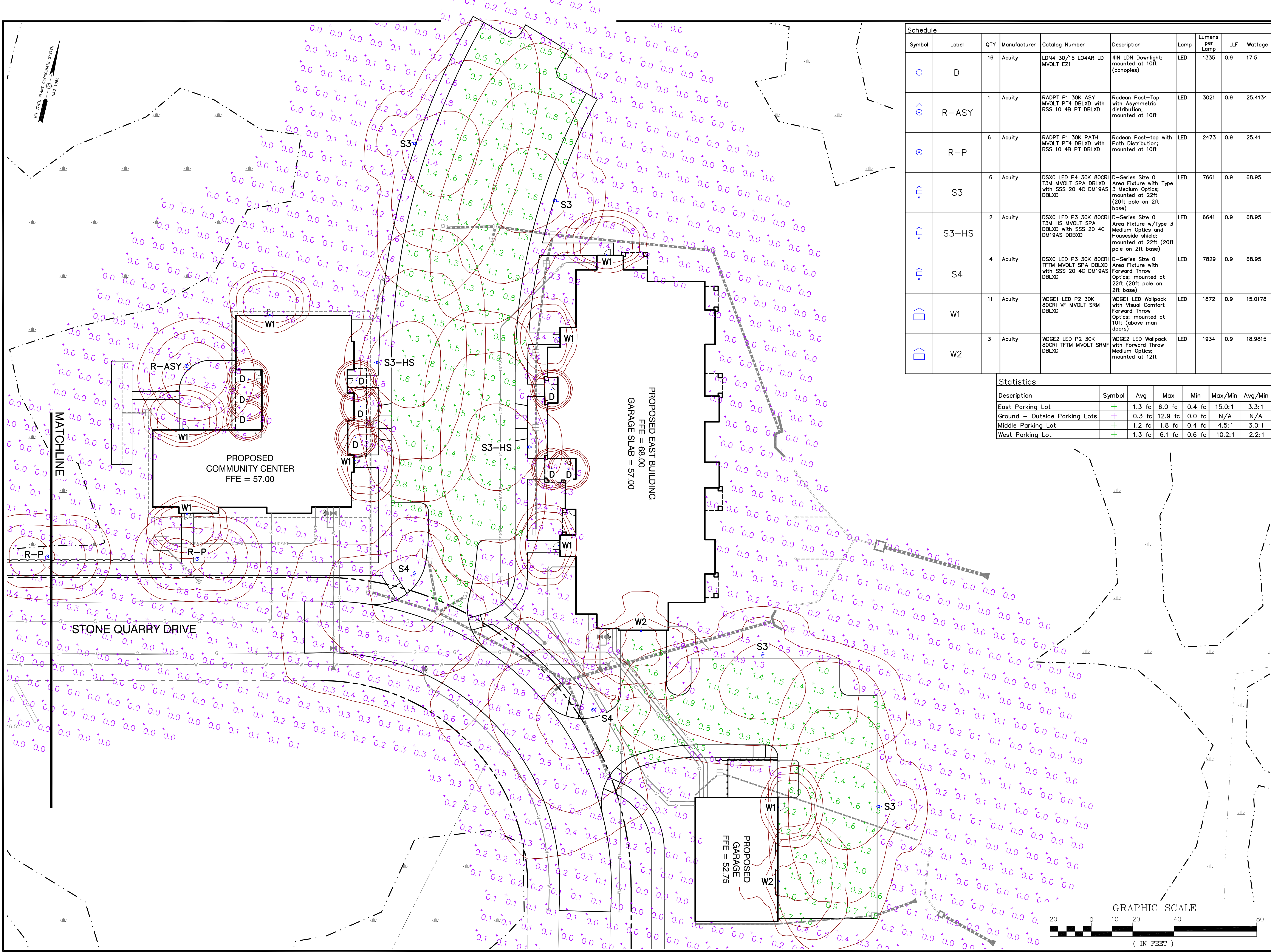
PROJECT:
**RIVERWOODS
DURHAM PHASE II**
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH









TITLE:

LIGHTING PLAN

SHEET NUMBER:
C-10.1





Schedule									
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Lumens per Lamp	LLF	Wattage
	D	16	Acuity	LDN4 30/15 L04AR LD MVOLT EZ1	4IN LDN Downlight; mounted at 10ft (canopies)	LED	1335	0.9	17.5
	R-ASY	1	Acuity	RADPT P1 30K ASY MVOLT PT4 DBLXD with RSS 10 4B PT DBLXD	Rodean Post-Top with Asymmetric distribution; mounted at 10ft	LED	3021	0.9	25.4134
	R-P	6	Acuity	RADPT P1 30K PATH MVOLT PT4 DBLXD with RSS 10 4B PT DBLXD	Rodean Post-top with Path Distribution; mounted at 10ft	LED	2473	0.9	25.41
	S3	6	Acuity	DSX0 LED P4 30K 80CRI T3M MVOLT SPA DBLXD with SSS 20 4C DM19AS DBLXD	D-Series Size 0 Area Fixture with Type 3 Medium Optics; mounted at 22ft (20ft pole on 2ft base)	LED	7661	0.9	68.95
	S3-HS	2	Acuity	DSX0 LED P3 30K 80CRI T3M HS MVOLT SPA DBLXD with SSS 20 4C DM19AS DBBXD	D-Series Size 0 Area Fixture w/Type 3 Medium Optics and Houseside shield; mounted at 22ft (20ft pole on 2ft base)	LED	6641	0.9	68.95
	S4	4	Acuity	DSX0 LED P3 30K 80CRI TFTM MVOLT SPA DBLXD with SSS 20 4C DM19AS DBLXD	D-Series Size 0 Area Fixture with Forward Throw Optics; mounted at 22ft (20ft pole on 2ft base)	LED	7829	0.9	68.95
	W1	11	Acuity	WDGE1 LED P2 30K 80CRI VF MVOLT SRM DBLXD	WDGE1 LED Wallpack with Visual Comfort Forward Throw Optics; mounted at 10ft (above man doors)	LED	1872	0.9	15.0178
	W2	3	Acuity	WDGE2 LED P2 30K 80CRI TFTM MVOLT SRMF DBLXD	WDGE2 LED Wallpack with Forward Throw Medium Optics; mounted at 12ft	LED	1934	0.9	18.9815

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
East Parking Lot	+	1.3 fc	6.0 fc	0.4 fc	15.0:1	3.3:1
Ground - Outside Parking Lots	+	0.3 fc	12.9 fc	0.0 fc	N/A	N/A
Middle Parking Lot	+	1.2 fc	1.8 fc	0.4 fc	4.5:1	3.0:1
West Parking Lot	+	1.3 fc	6.1 fc	0.6 fc	10.2:1	2.2:1

133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS		BY	DATE
NO.	DESCRIPTION		
0	REVIEW	EBS	06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE: 24" x 36" - 1" = 20'
11" x 17" - 1" = NTS

OWNER: RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT: RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

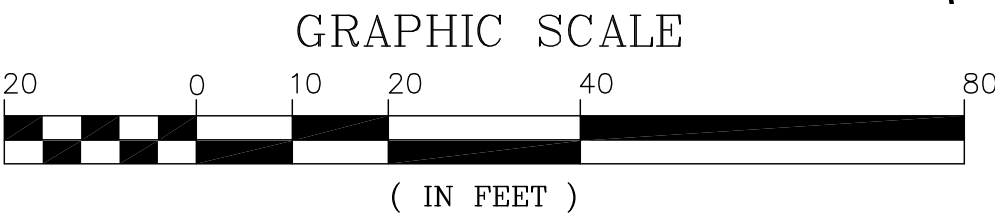
PROJECT: RIVERWOODS
DURHAM PHASE II
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

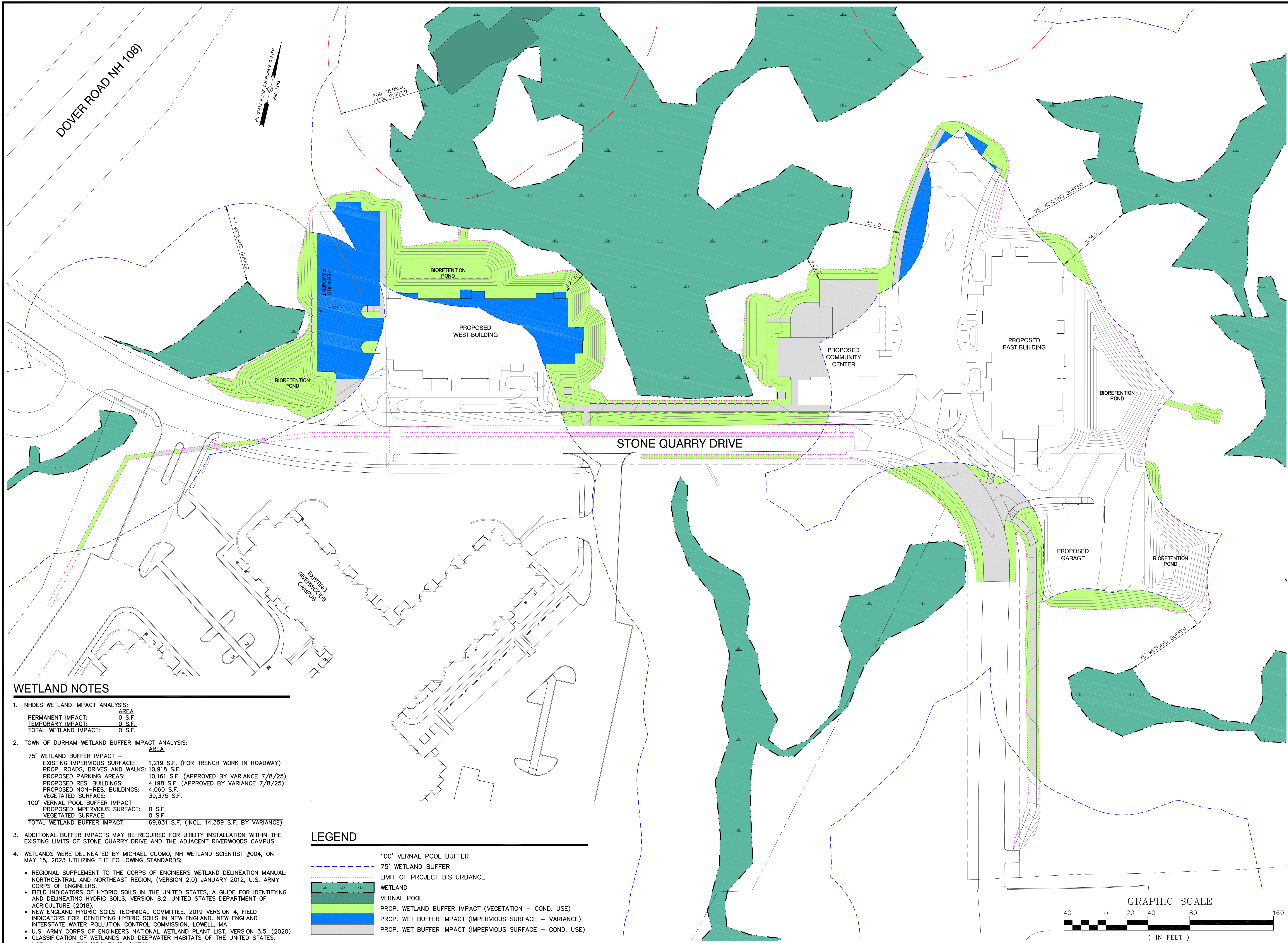
TITLE:

LIGHTING PLAN

SHEET NUMBER:

C-10.2



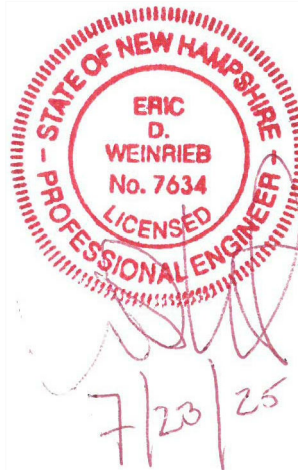


WETLAND NOTES

1. NHDES WETLAND IMPACT ANALYSIS:
- | | |
|-----------------------|--------|
| PERMANENT IMPACT: | AREA |
| TEMPORARY IMPACT: | 0 S.F. |
| TOTAL WETLAND IMPACT: | 0 S.F. |
2. TOWN OF DURHAM WETLAND BUFFER IMPACT ANALYSIS:
- | | |
|----------------------------------|---|
| 75' WETLAND BUFFER IMPACT - | AREA |
| EXISTING IMPERVIOUS SURFACE: | 1,219 S.F. (FOR TRENCH WORK IN ROADWAY) |
| PROP. ROADS, DRIVES AND WALKS: | 10,918 S.F. |
| PROPOSED PARKING AREAS: | 10,161 S.F. (APPROVED BY VARIANCE 7/8/25) |
| PROPOSED RES. BUILDINGS: | 4,198 S.F. (APPROVED BY VARIANCE 7/8/25) |
| PROPOSED NON-RES. BUILDINGS: | 4,060 S.F. |
| VEGETATED SURFACE: | 39,375 S.F. |
| 100' VERNAL POOL BUFFER IMPACT - | |
| PROPOSED IMPERVIOUS SURFACE: | 0 S.F. |
| VEGETATED SURFACE: | 0 S.F. |
| TOTAL WETLAND BUFFER IMPACT: | 69,931 S.F. (INCL. 14,359 S.F. BY VARIANCE) |
3. ADDITIONAL BUFFER IMPACTS MAY BE REQUIRED FOR UTILITY INSTALLATION WITHIN THE EXISTING LIMITS OF STONE QUARRY DRIVE AND THE ADJACENT RIVERWOODS CAMPUS.
4. WETLANDS WERE DELINEATED BY MICHAEL CUOMO, NH WETLAND SCIENTIST #004, ON MAY 15, 2023 UTILIZING THE FOLLOWING STANDARDS:
- REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
 - FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.2. UNITED STATES DEPARTMENT OF AGRICULTURE (2018).
 - NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2019 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
 - U.S. ARMY CORPS OF ENGINEERS NATIONAL WETLAND PLANT LIST, VERSION 3.5. (2020)
 - CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFWS MANUAL FWS/OBS-78/51 (1978).

LEGEND

- 100' VERNAL POOL BUFFER
- 75' WETLAND BUFFER
- LIMIT OF PROJECT DISTURBANCE
- WETLAND
- VERNAL POOL
- PROP. WETLAND BUFFER IMPACT (VEGETATION - COND. USE)
- PROP. WET BUFFER IMPACT (IMPERVIOUS SURFACE - VARIANCE)
- PROP. WET BUFFER IMPACT (IMPERVIOUS SURFACE - COND. USE)



NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JUNE 17, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/17/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = 40'
11" x 17" - 1" = NTS

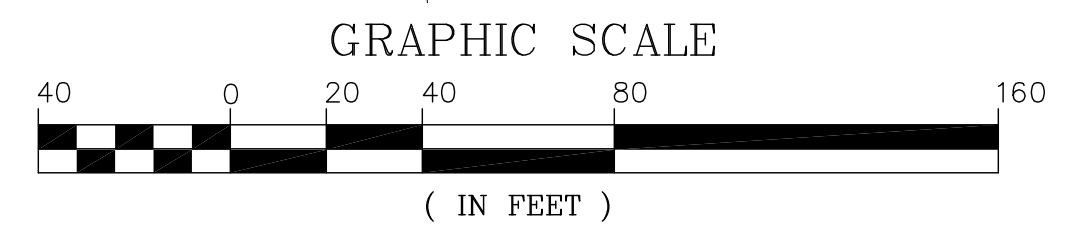
OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

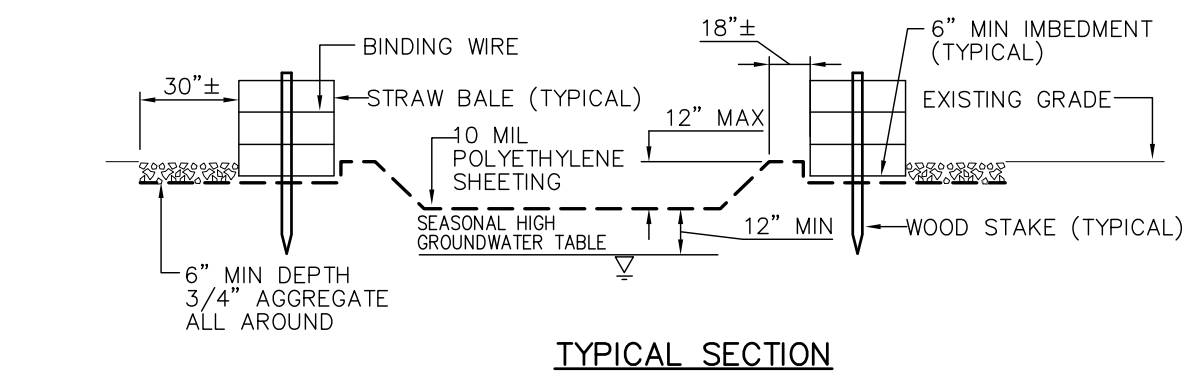
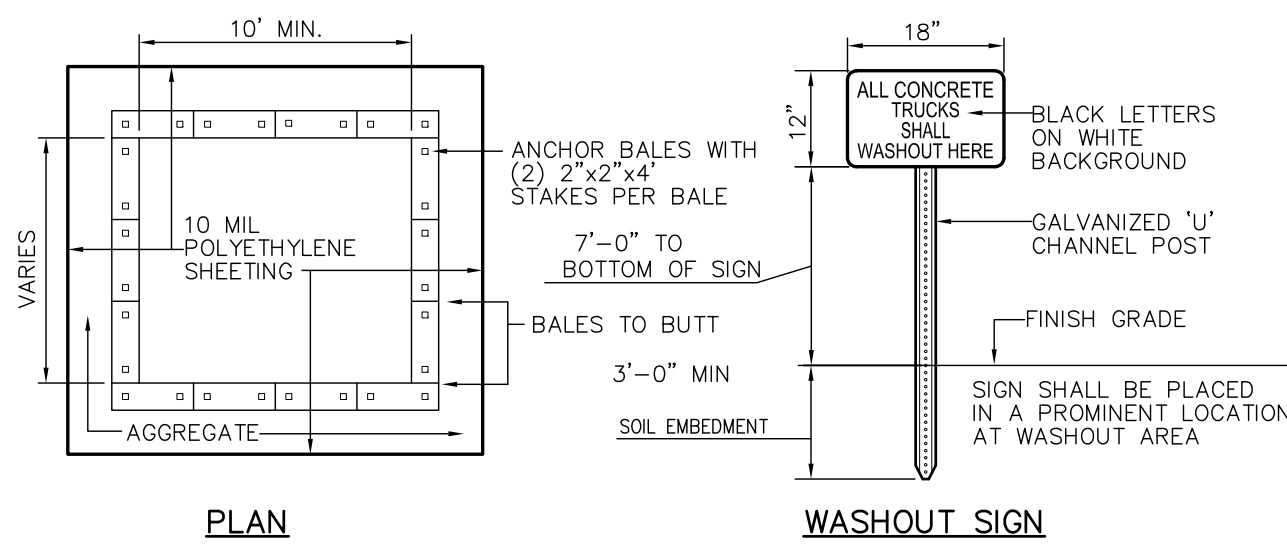
APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
RIVERWOODS
DURHAM PHASE II
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:
WETLAND BUFFER
CONDITIONAL USE
PERMIT PLAN

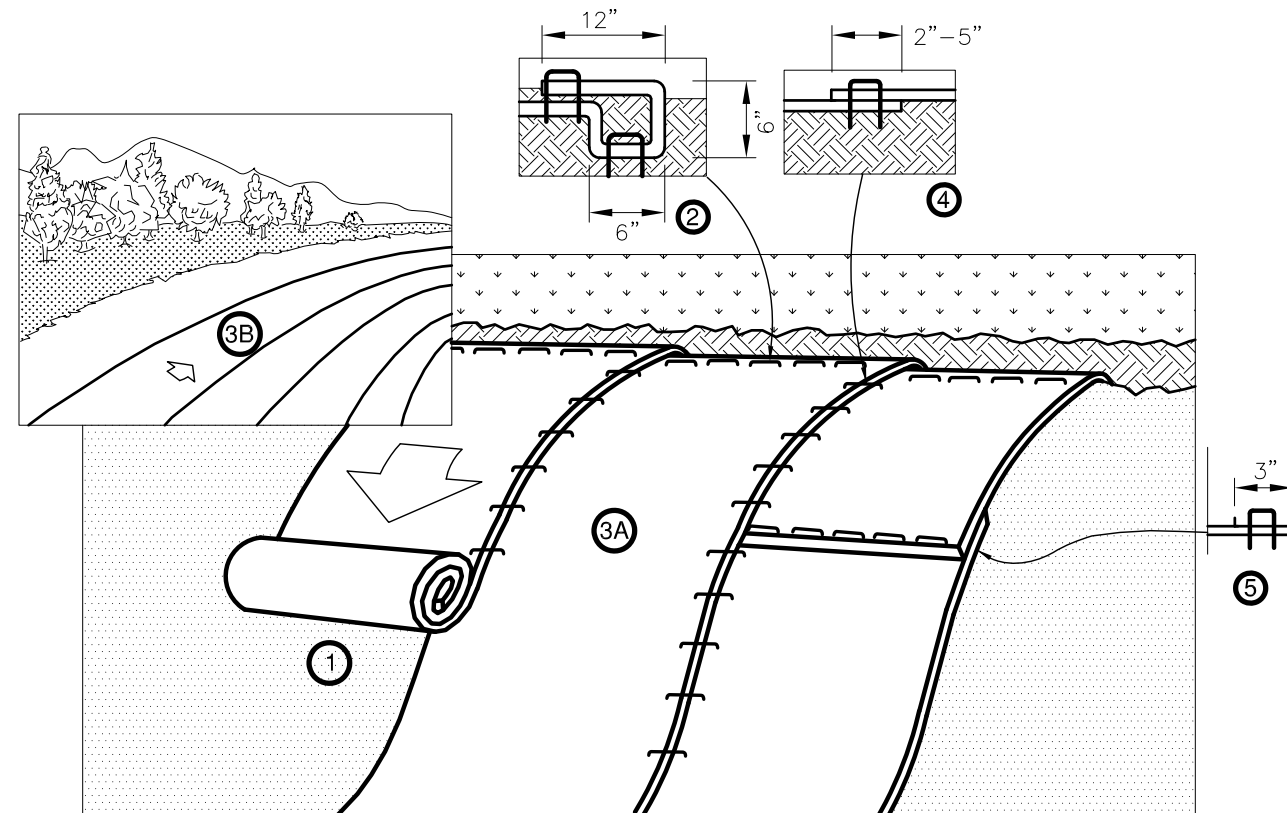
SHEET NUMBER:
C-11





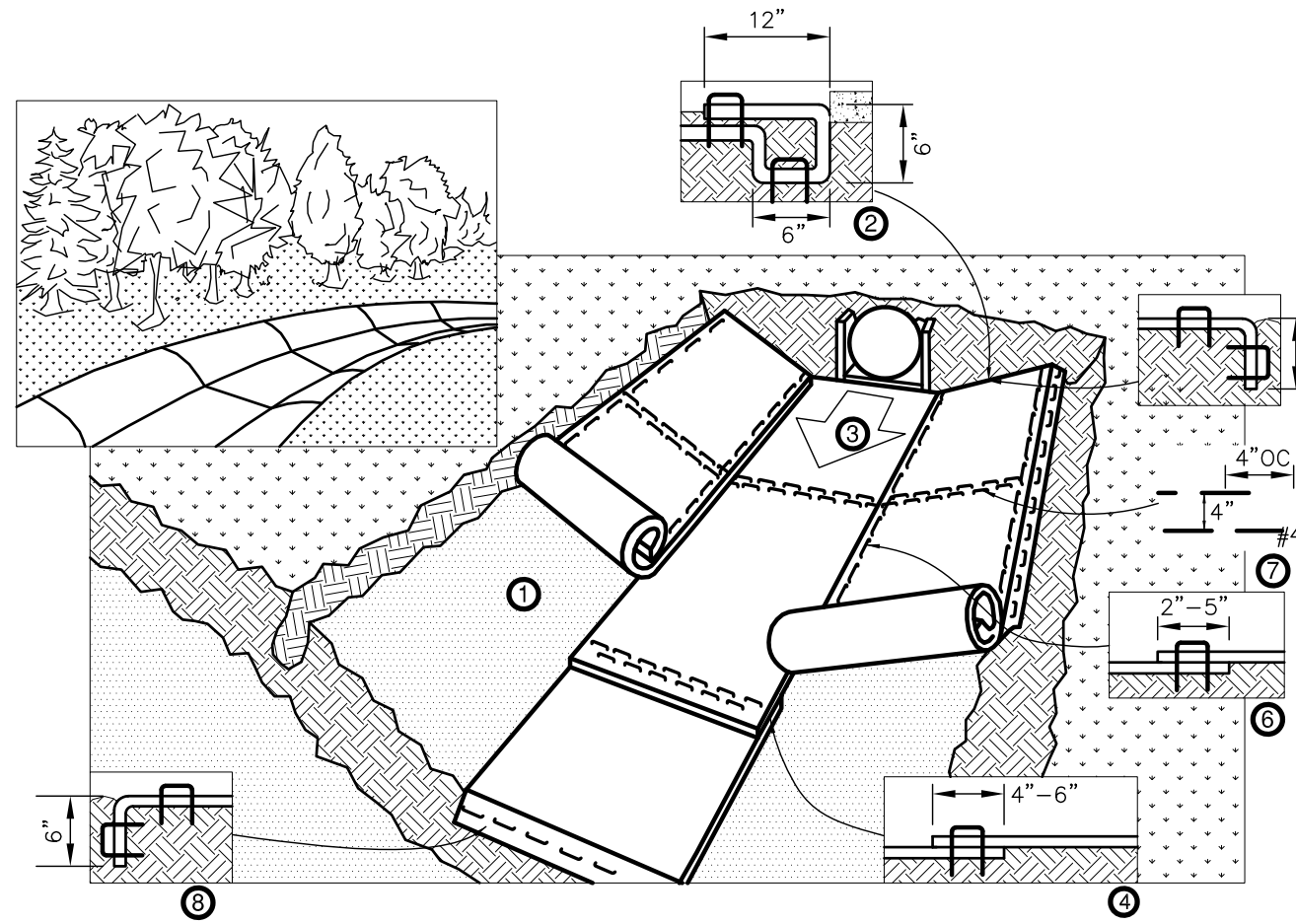
- NOTES**
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
 2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
 3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
 4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
 5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
 6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

CONCRETE WASHOUT NOT TO SCALE

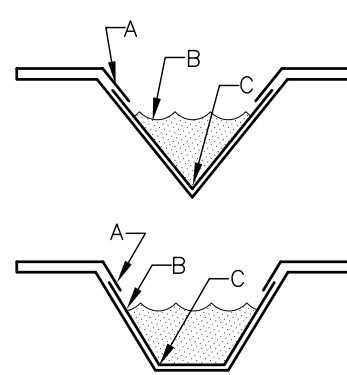


- NOTES**
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6\"/>
 3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2\"/>
 5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3\"/>

EROSION CONTROL BLANKET - SLOPE NOT TO SCALE

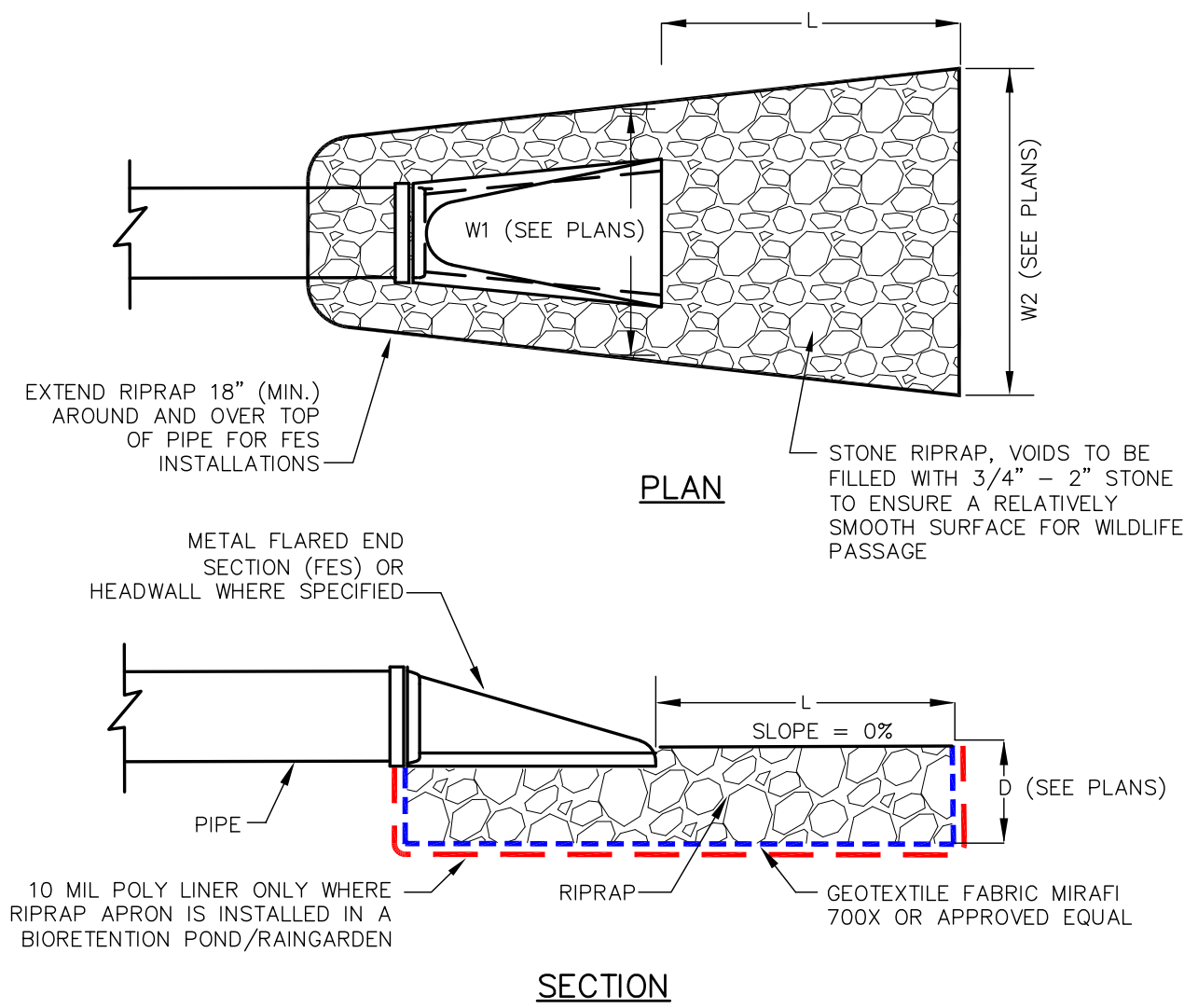


- NOTES**
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6\"/>
 3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
 4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4\"/>
 5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12\"/>
 6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2\"/>
 7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4\"/>
 8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12\"/>



- CRITICAL POINTS:**
- A. OVERLAPS AND SEAMS
 - B. PROJECTED WATER LINE
 - C. CHANNEL BOTTOM/SIDE SLOPE VERTICES
- NOTES:**
- * HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
 - ** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6\"/>

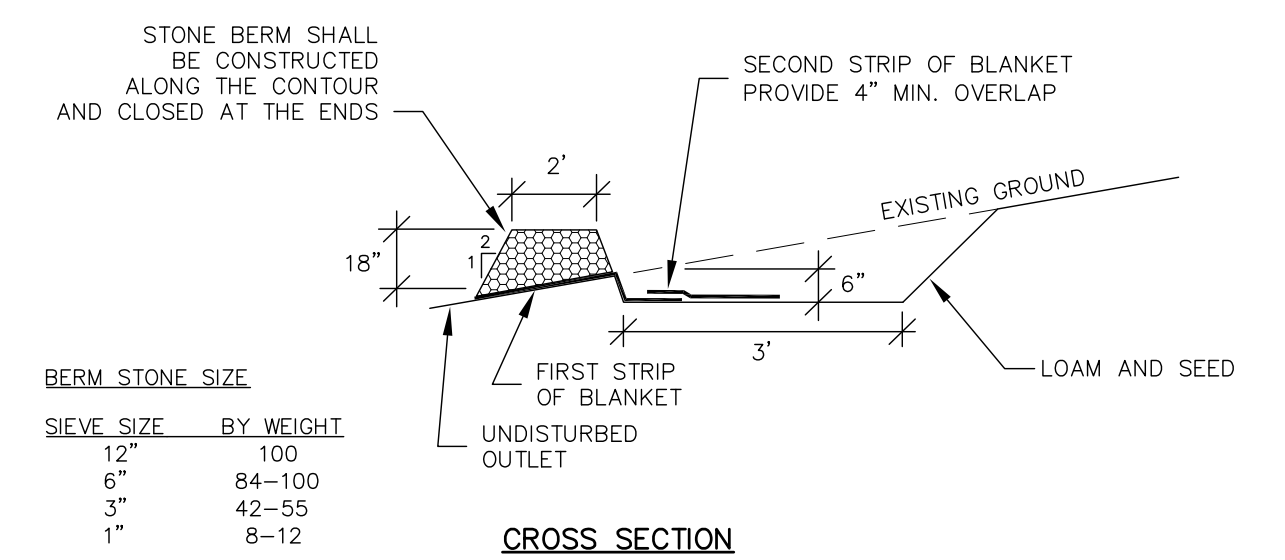
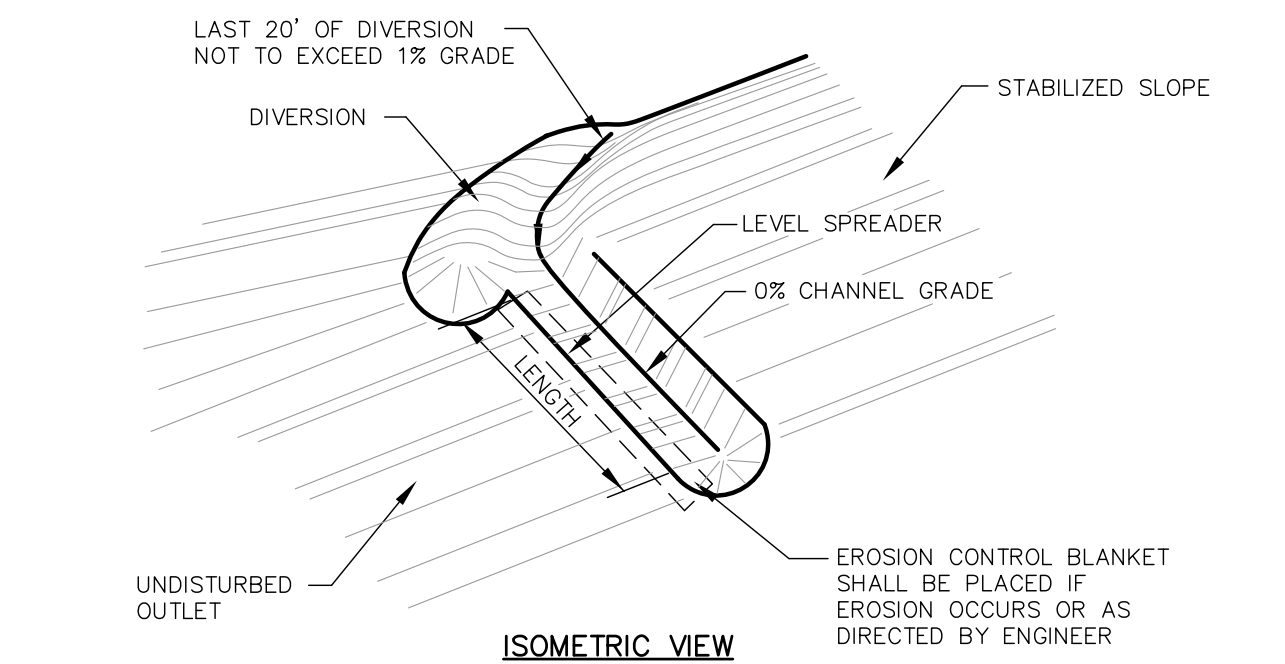
EROSION CONTROL BLANKET - SWALE NOT TO SCALE



- MAINTENANCE**
- THE OUTLET PROTECTION 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. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. 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.

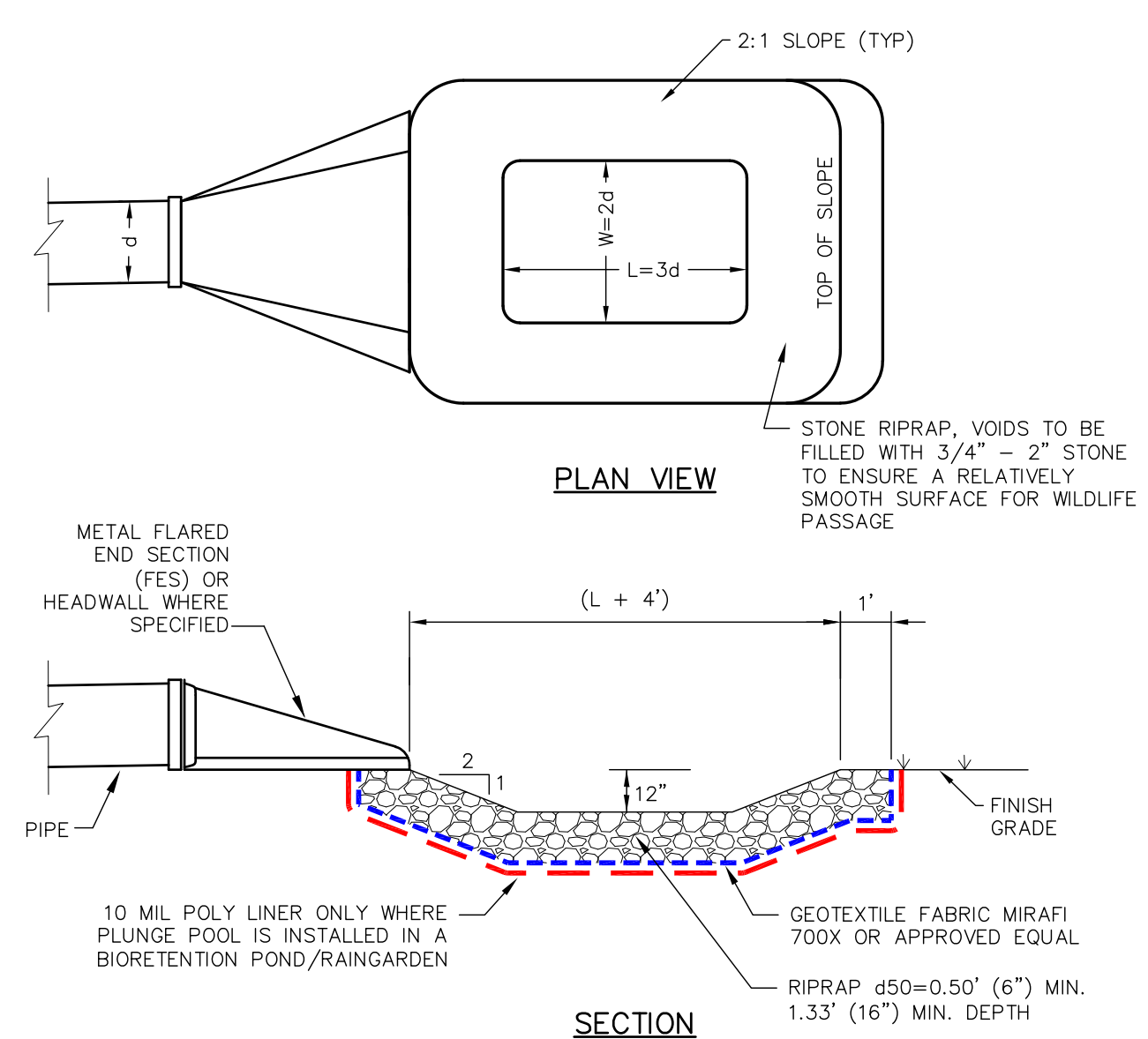
- CONSTRUCTION SPECIFICATIONS**
1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIPRAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
 2. THE ROCK OR GRAVEL USED FOR FILTER OR RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
 3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP. 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 JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
 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 SEGREGATION OF THE STONE SIZES.

RIPRAP OUTLET PROTECTION NOT TO SCALE



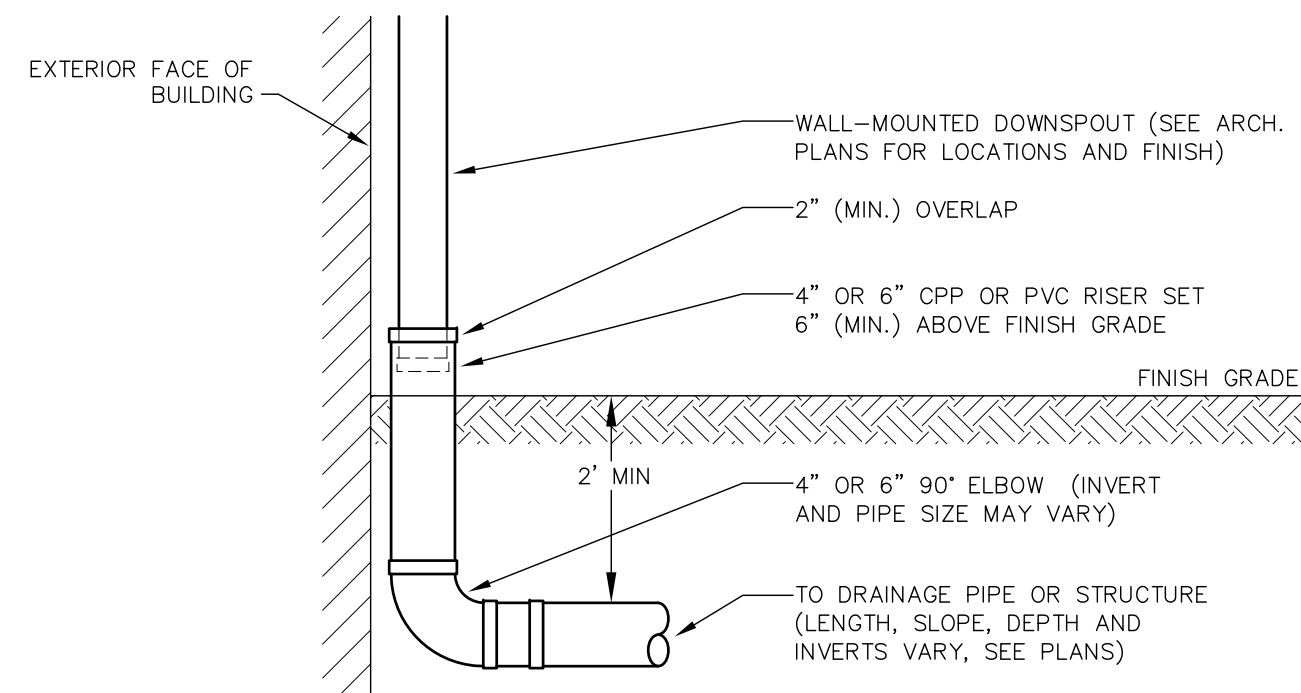
- NOTES**
1. LEVEL SPREADERS SHALL BE CONSTRUCTED PER STORMWATER MANAGEMENT FOR MAINE, "VOLUME III BMP'S TECHNICAL DESIGN MANUAL, CHAPTER 5.2.2, BUFFER WITH STONE BERMED LEVEL LIP SPREADER", LATEST EDITION.
 2. FOR EROSION CONTROL BLANKET STAPLE REQUIREMENTS SEE MANUFACTURER'S STANDARDS & SPECIFICATIONS FOR PROTECTIVE MATERIALS.
 3. AREAS BELOW LEVEL SPREADERS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

LEVEL SPREADER NOT TO SCALE

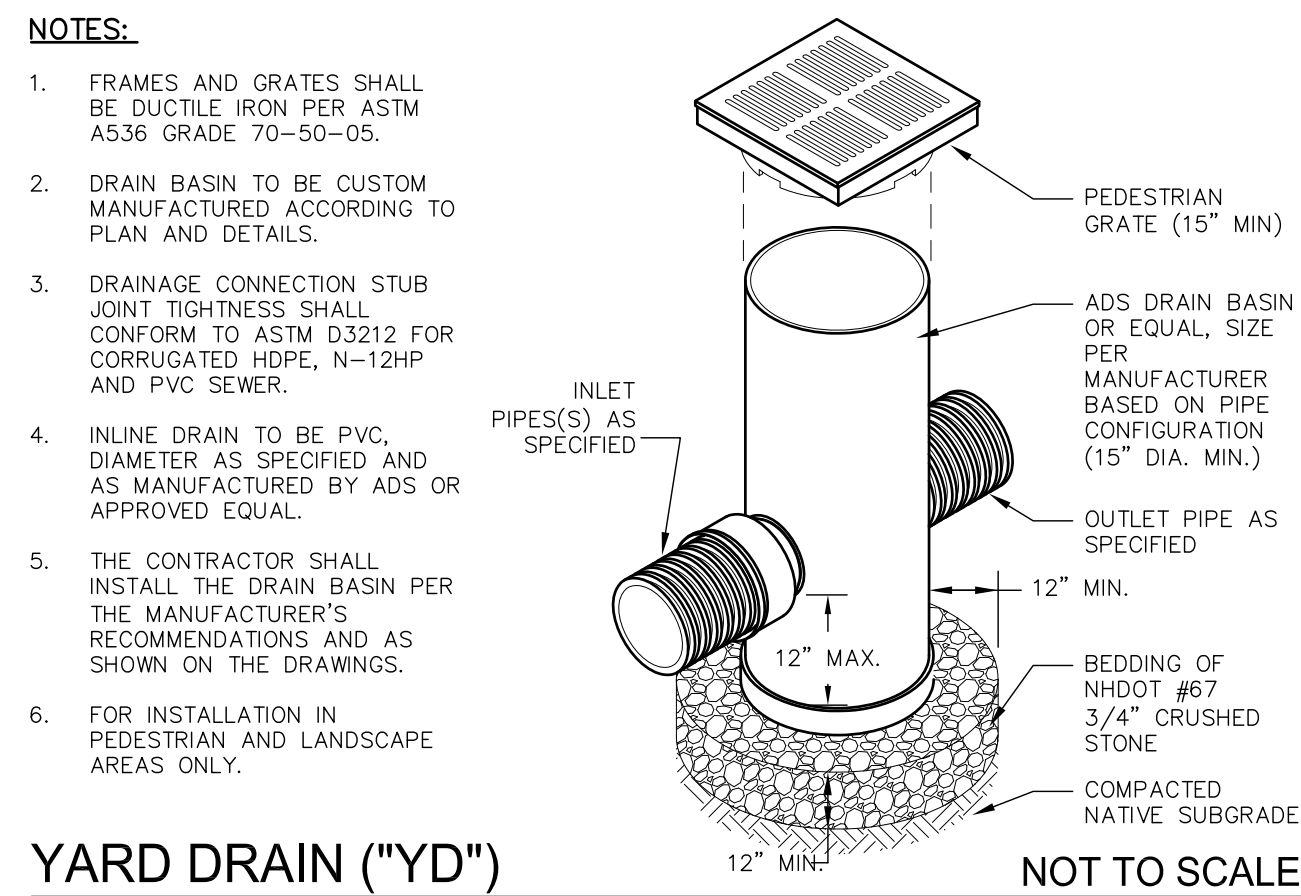


- NOTES**
1. CONSTRUCT PLUNGE POOL TO THE WIDTHS AND LENGTHS SHOWN ON THE PLAN.
 2. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIPRAP SHALL BE PREPARED TO ACCOUNT FOR THE DEPTH OF RIPRAP.
 3. EROSION STONE USED FOR THE PLUNGE POOL SHALL MEET THE FOLLOWING GRADATION:
- | SIZE | PERCENT PASSING BY WEIGHT |
|------|---------------------------|
| 18" | 100 |
| 12" | 90-100 |
| 4" | 0-15 |
4. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE EROSION STONE. 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 18".
 5. THE EROSION STONE 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.

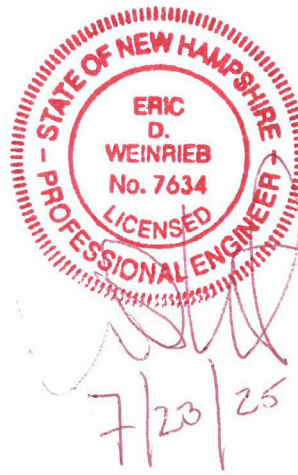
PLUNGE POOL NOT TO SCALE



EXTERIOR ROOF DRAIN CONNECTION NOT TO SCALE



- NOTES:**
1. FRAMES AND GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
 2. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN AND DETAILS.
 3. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE, N-12HP AND PVC SEWER.
 4. INLINE DRAIN TO BE PVC, DIAMETER AS SPECIFIED AND AS MANUFACTURED BY ADS OR APPROVED EQUAL.
 5. THE CONTRACTOR SHALL INSTALL THE DRAIN BASIN PER THE MANUFACTURER'S RECOMMENDATIONS AND AS SHOWN ON THE DRAWINGS.
 6. FOR INSTALLATION IN PEDESTRIAN AND LANDSCAPE AREAS ONLY.



NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = NTS
11" x 17" - 1" = NTS

OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

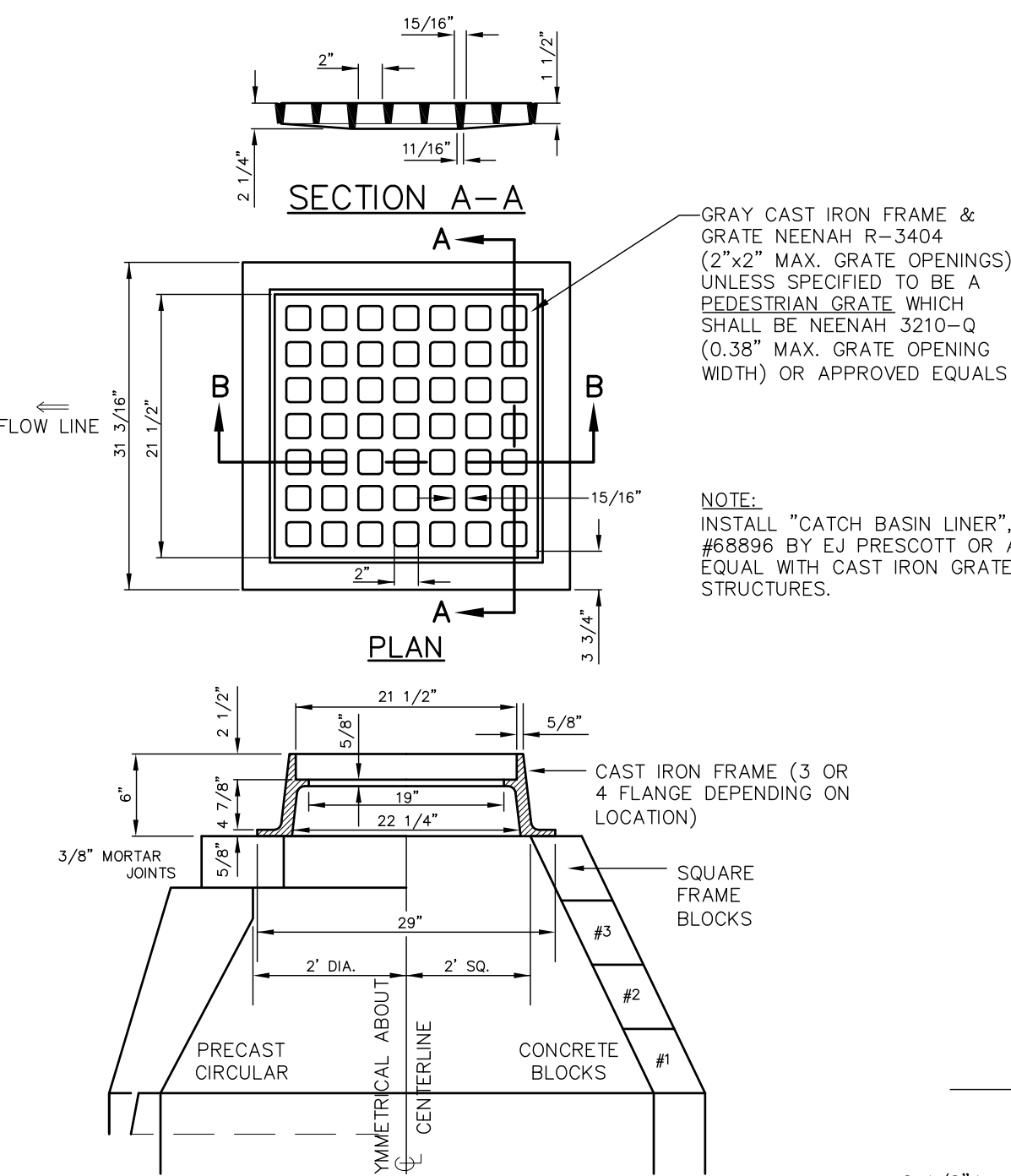
PROJECT:
**RIVERWOODS
DURHAM PHASE II**
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:

DETAIL SHEET

SHEET NUMBER:

C-13

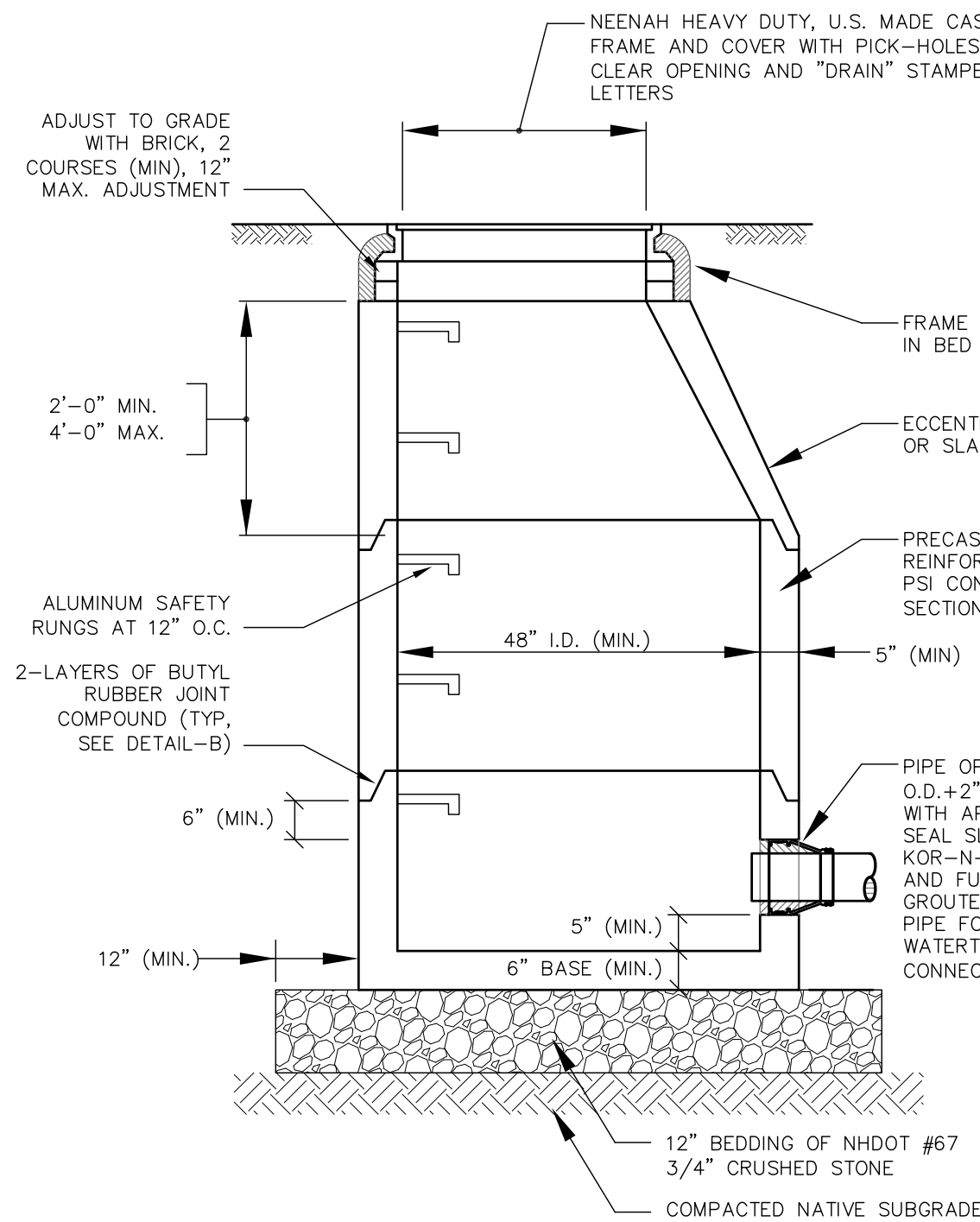


NOTES

1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 PSI).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. THE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.
6. USE H2O LOADING SLAB TOP SECTION IN LIEU OF ECCENTRIC TOP WHERE PIPE INVERT IS WITHIN 4' OF FINISH GRADE.
7. FRAME AND GRATE DIMENSIONS ARE TYPICAL BUT MAY VARY BASED ON PRODUCT SELECTED OR EQUIVALENT APPROVED BY THE ENGINEER.

DEEP SUMP CATCH BASIN (CB)

NOT TO SCALE

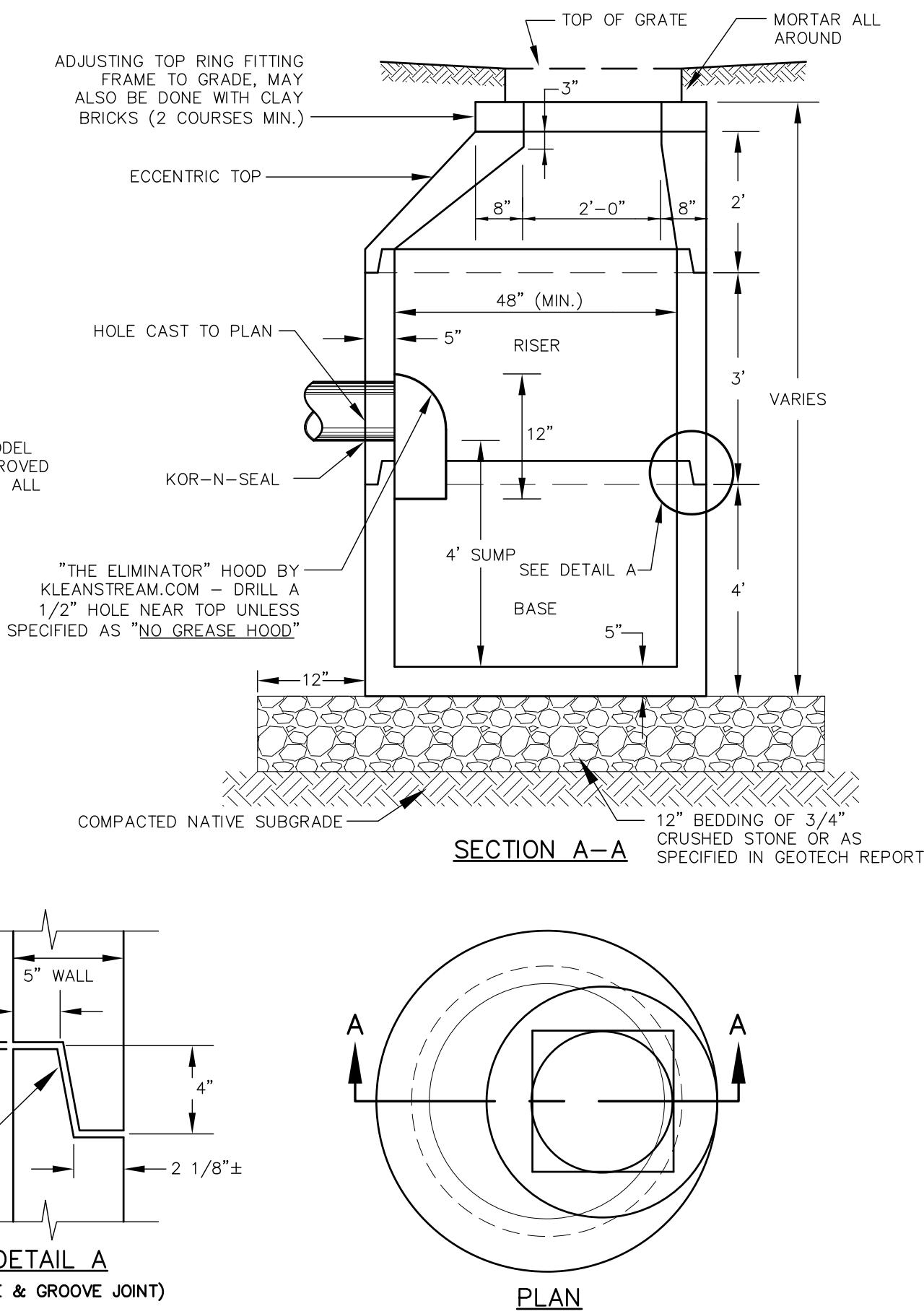


NOTES

1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. ALL MANHOLE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.
6. USE H-20 LOADING SLAB TOP SECTION IN LIEU OF ECCENTRIC TOP WHERE PIPE INVERT IS WITHIN 4' OF GRADE.
7. MANHOLE STEPS ARE REQUIRED PER THE CITY OF DOVER.

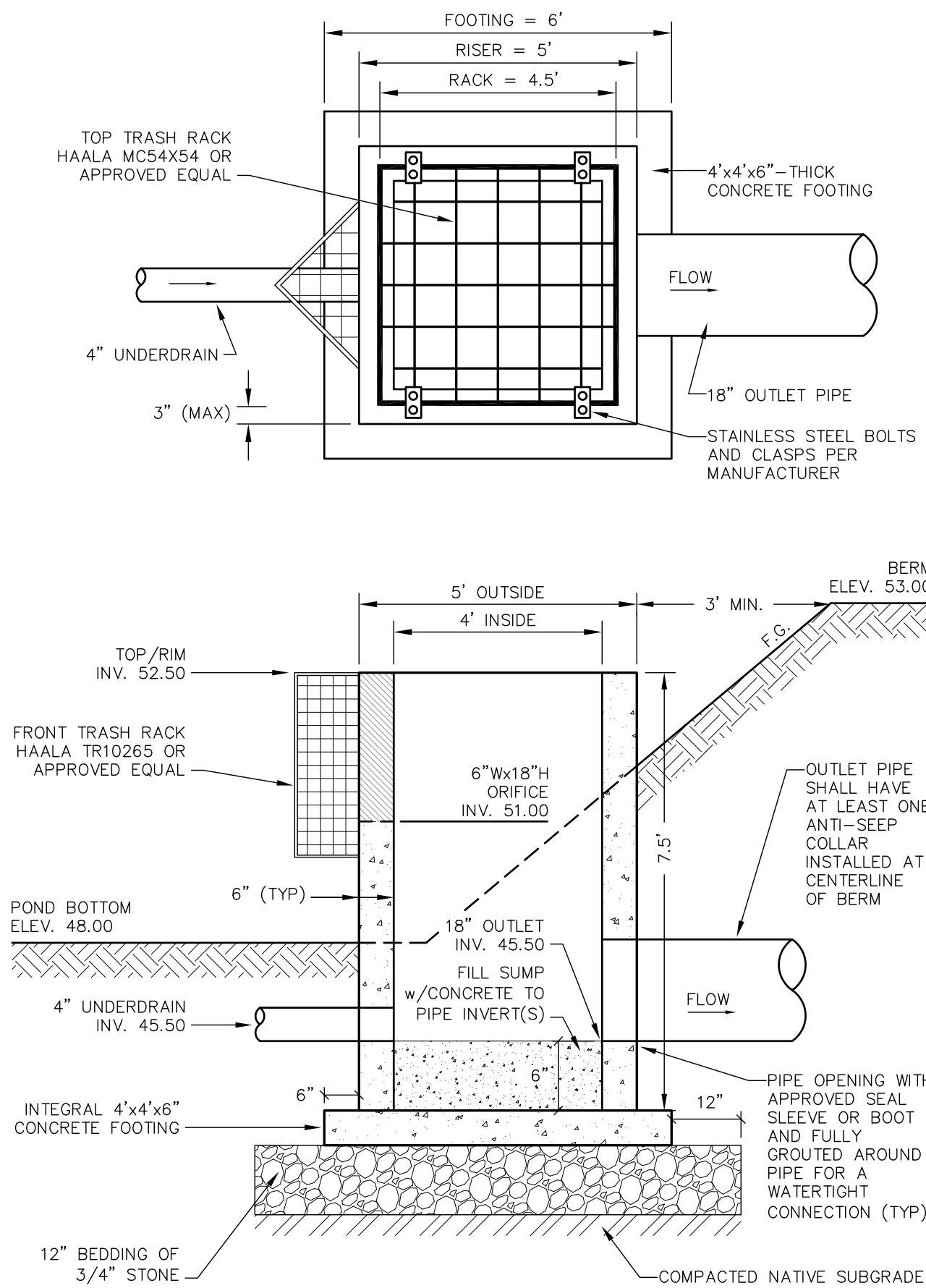
DRAIN MANHOLE ("DMH")

NOT TO SCALE



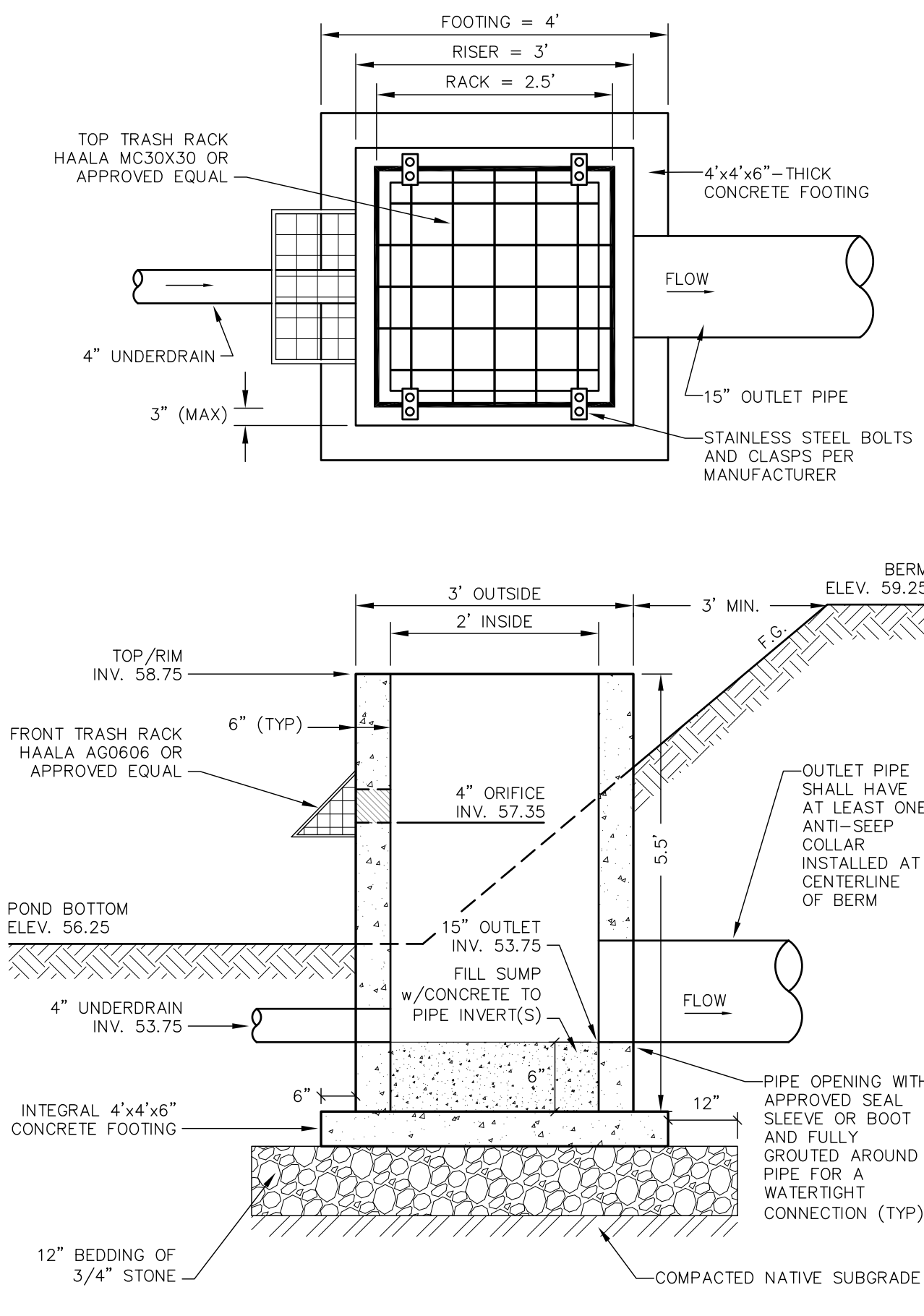
OUTLET STRUCTURE ("OS") #1

NOT TO SCALE



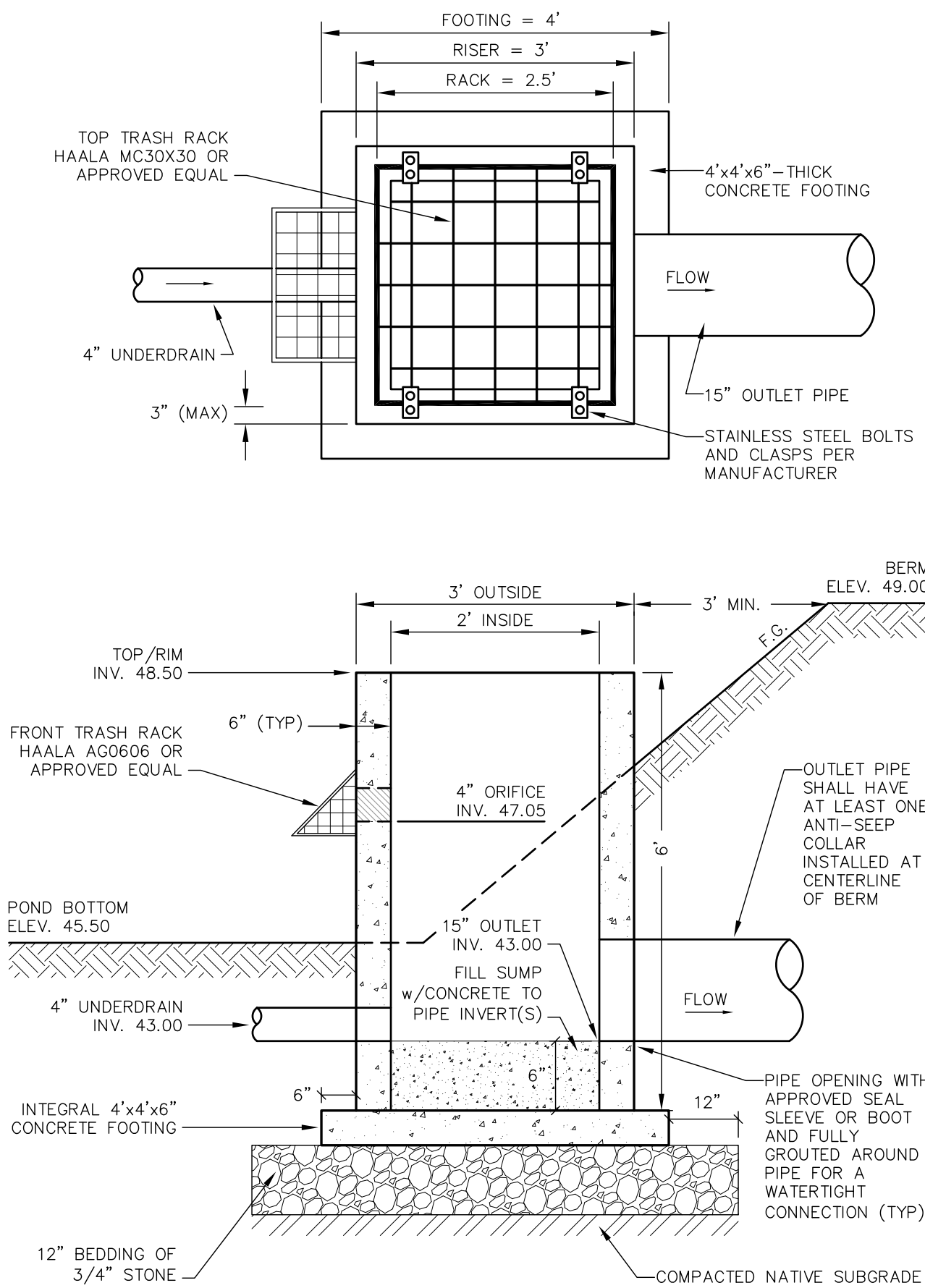
OUTLET STRUCTURE ("OS") #11

NOT TO SCALE



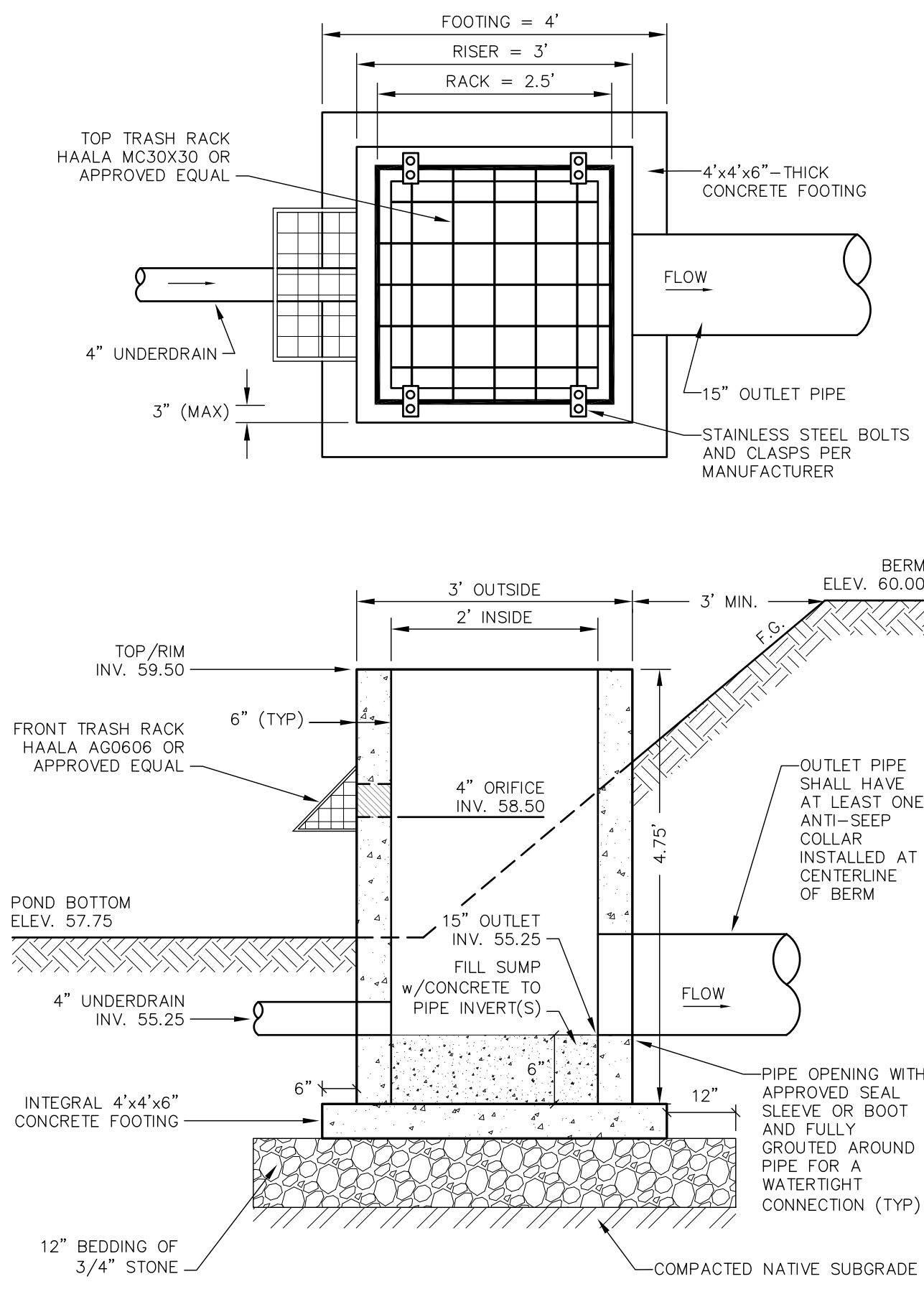
OUTLET STRUCTURE ("OS") #1

NOT TO SCALE



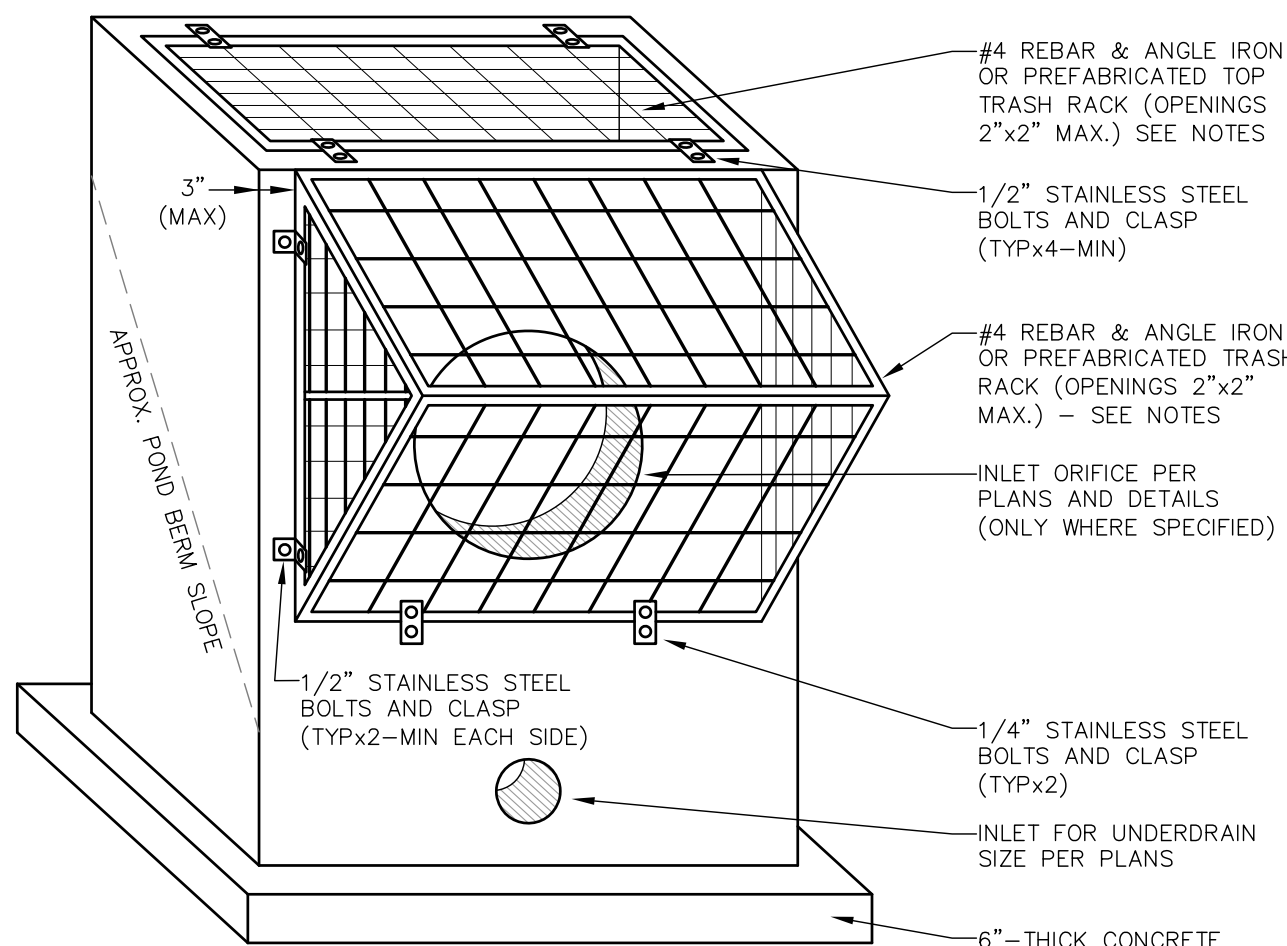
OUTLET STRUCTURE ("OS") #22

NOT TO SCALE



OUTLET STRUCTURE ("OS") #9

NOT TO SCALE

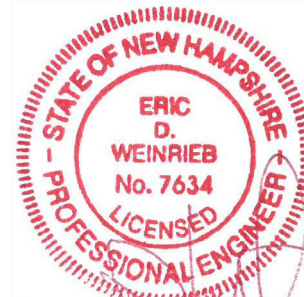


CONSTRUCTION SPECIFICATIONS

1. OUTLET STRUCTURE SHALL BE CONSTRUCTED OF STEEL REINFORCED CONCRETE FABRICATED ONSITE OR PRECAST TO EQUAL DIMENSIONS AND REINFORCING.
2. CONCRETE FOOTING TO BE CONSTRUCTED INTEGRAL WITH BASE. IF CONSTRUCTED SEPARATELY, FOOTING SHALL HAVE A CONTINUOUS KEYWAY INSTALLED AND REBAR CAST INTO IT THAT SHALL EXTEND ABOVE THE SLAB A MINIMUM OF 8" FOR CONNECTION TO THE BOX AND ANY REINFORCING.
3. ALL JOINTS AND PIPE OPENINGS SHALL BE SEALED WATERTIGHT WITH MORTAR.
4. ALL EXPOSED REBAR TO BE PAINTED WITH RUST-RESISTANT PAINT OR HOT-DIPPED GALVANIZED.
5. PRE-FABRICATED TRASH RACKS INSTALLED PER THE MANUFACTURERS RECOMMENDATIONS ARE ACCEPTABLE UPON WRITTEN ACCEPTANCE BY THE ENGINEER.
6. STRUCTURE IS TO BE BUILT TO WITHSTAND H10 LOADING.
7. NATIVE IN SITU SOILS UNDERLYING THE STRUCTURE'S STONE BASE PAD AND THE PAD ITSELF ARE TO BE COMPACTED PRIOR TO INSTALLING STRUCTURE.
8. ALL CONCRETE SHALL BE 4,000 PSI MINIMUM.
9. STAINLESS STEEL BOLTS FOR TRASH RACK TO BE INSTALLED WITH HILTI AND EPOXY OR CAST IN.
10. EXTERIOR TRASH RACK DIMENSIONS ARE APPROXIMATE BUT IN NO CASE SHALL OPENINGS BE GREATER THAN 2" IN ANY DIMENSION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TRASH RACKS THAT ALLOW FULL SCREENING PROTECTION TO EVERY INLET ORIFICE AND THE TOP OF THE STRUCTURE. THIS MAY REQUIRE CUSTOM FABRICATION AND/OR ALTERNATE METHODS TO CONNECT THE RACKS TO THE OUTLET STRUCTURE.

OUTLET STRUCTURE SPECIFICATIONS

NOT TO SCALE



7/20/25

NOT FOR CONSTRUCTION

ISSUED FOR:

REVIEW

ISSUE DATE:

JULY 23, 2025

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	REVIEW	EBS	06/23/25

DRAWN BY: EBS

APPROVED BY: EBS

DRAWING FILE: 5440-SITE.dwg

SCALE:

24" x 36" - 1" = NTS
11" x 17" - 1" = NTS

OWNER:

RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:

RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:

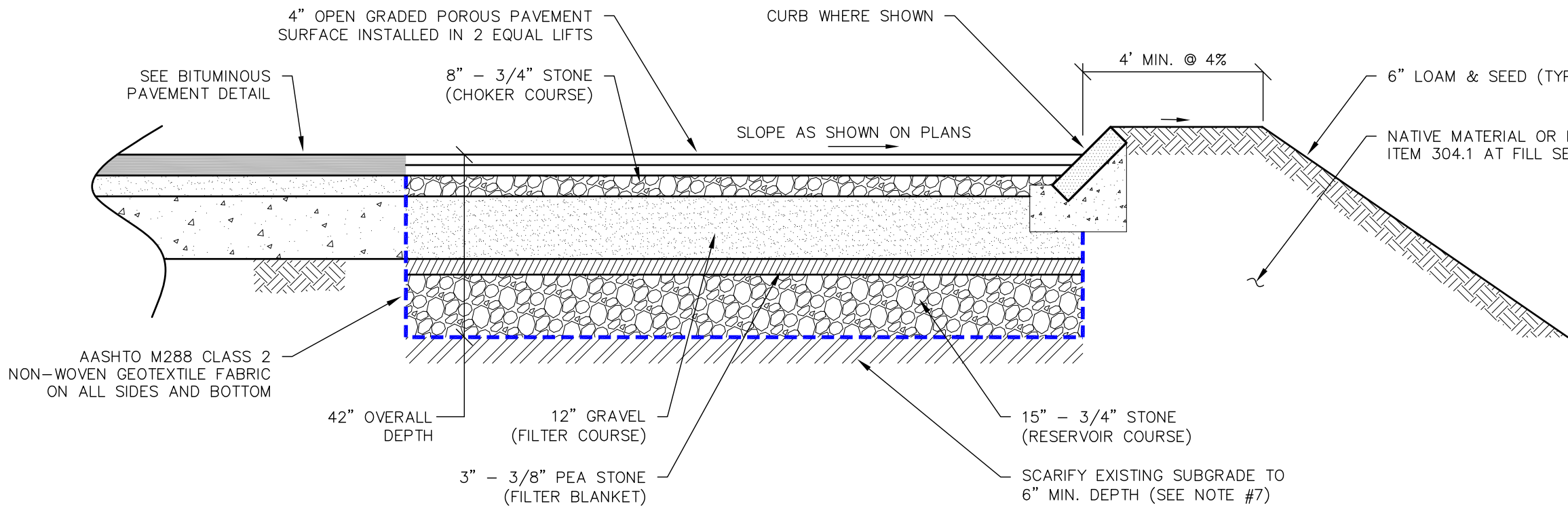
RIVERWOODS
DURHAM PHASE II
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:

DETAIL SHEET

SHEET NUMBER:

C-14



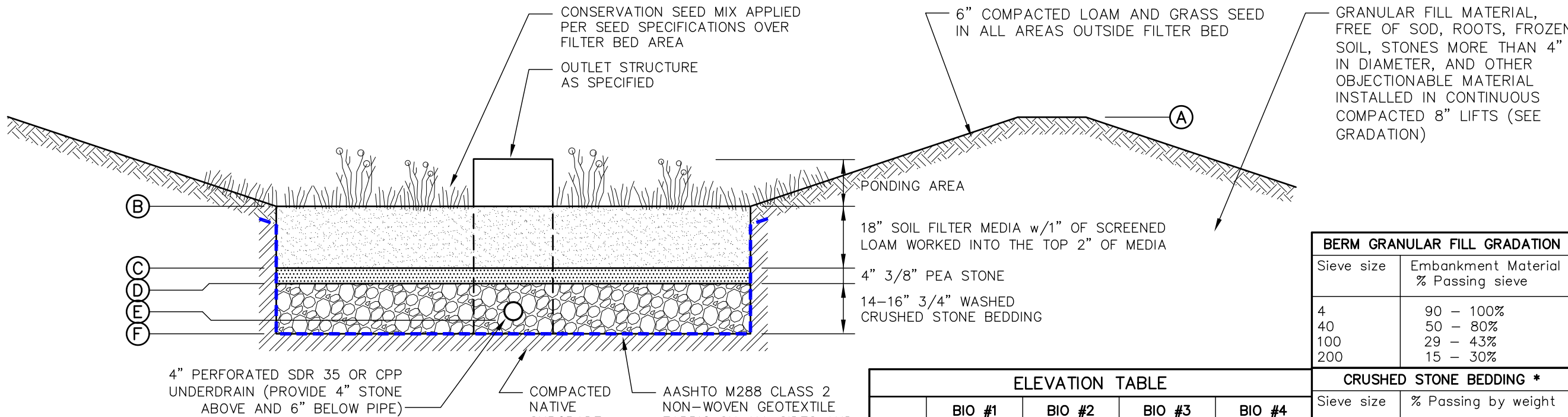
MATERIAL GRADATIONS							
3/4" STONE CHOKER COURSE *		GRAVEL FILTER COURSE **		3/8" PEA STONE FILTER BLANKET		3/4" STONE RESERVOIR COURSE ***	
Sieve size	% Passing by weight	Sieve size	% Passing by weight	Sieve size	% Passing by weight	Sieve size	% Passing by weight
1"	100%	3/8"	100%	1/2"	100%	1"	100%
3/4"	90 - 100%	#4	70 - 85%	3/8"	85 - 100%	3/4"	90 - 100%
3/8"	20 - 55%	#8	0 - 6%	#4	10 - 30%	#4	20 - 55%
#4	0 - 10%			#8	0 - 10%	#4	0 - 10%
#8	0 - 5%			#16	0 - 5%	#8	0 - 5%
* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 NHDOT STANDARD SPECIFICATIONS		** NHDOT ITEM 304.1 SAND MAY BE SUBSTITUTED UPON WRITTEN APPROVAL OF THE ENGINEER		*** EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 NHDOT STANDARD SPECIFICATIONS			

NOTES:

- DESIGN OF POROUS PAVEMENT SHALL BE IN ACCORDANCE WITH UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS.
- THE CONSTRUCTION OF THE POROUS PAVEMENT SHALL BE IN ACCORDANCE WITH THE UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS.
- CONTRACTOR SHALL PROVIDE SUBMITTALS FOR POROUS PAVEMENT AS NOTED IN THE SPECIFICATIONS A MINIMUM OF 14-DAYS PRIOR TO COMMENCING CONSTRUCTION.
- THE ENGINEER SHALL INSPECT SITE PREPARATION AND INSTALLATION OF POROUS PAVEMENT.
- CONTRACTOR SHALL NOTIFY ENGINEER A MINIMUM OF 7 DAYS IN ADVANCE OF WORK SO THAT THE ENGINEER CAN OBSERVE INSTALLATION OF POROUS PAVEMENT CROSS SECTION.
- CONTRACTOR TO REMOVE ANY EXISTING BURIED LAYERS OF LOAM OR UNSUITABLE MATERIAL ENCOUNTERED DURING THE EXCAVATION OF THE POROUS PAVEMENT AREA TO AT LEAST 18" BELOW THE BOTTOM OF THE POROUS PAVEMENT CROSS SECTION.
- PROOF ROLL THE EXISTING SUBGRADE PRIOR TO SCARIFYING ONLY AT AREAS REQUESTED BY THE ENGINEER.
- POROUS PAVEMENT BASE MATERIAL AND ASPHALT SHALL NOT BE INSTALLED UNTIL ALL OTHER SITE WORK AND BUILDING CONSTRUCTION IS SUBSTANTIALLY COMPLETE AND THE SURROUNDING AREA HAS BEEN STABILIZED. THIS SHALL INCLUDE THE INSTALLATION OF LANDSCAPING.
- THE TOP LAYER (WEARING COURSE) SHALL BE PRE-BLENDED PG 76-28 MODIFIED WITH SBS. THE BASE COURSE SHOULD BE, AT A MINIMUM, PG 64-28 WITH 5 POUNDS OF FIBER PER TON ASPHALT MIX. IF SUFFICIENT STAGING OR USE OF THE BASE COURSE SECTION WILL BE REQUIRED PRIOR TO THE APPLICATION OF THE WEARING COURSE, THE USE OF PRE-BLENDED PG 64V-28 MODIFIED WITH SBS ON BOTH COURSES MAY PERMITTED AT THE DISCRETION OF THE ENGINEER.
- AFTER INSTALLATION, THE MIXING OR RINSING OF CONCRETE, GYPSUM, PAINT OR ANY OTHER SIMILAR ACTIVITY SHALL BE STRICTLY PROHIBITED ON ANY SECTION OF POROUS PAVEMENT OR IN ANY UPHILL CONTRIBUTING AREA.

POROUS PAVEMENT CROSS SECTION

NOT TO SCALE



NOTES:

- WHEN CONTRACTOR EXCAVATES BIORETENTION POND AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
- SOIL FILTER MEDIA SHALL EITHER OPTION A OR OPTION B AT CONTRACTOR'S DISCRETION.
- DO NOT PLACE BIORETENTION POND INTO SERVICE UNTIL ITS SIDE SLOPES AND CONTRIBUTING AREAS HAVE BEEN STABILIZED.
- DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES TO THE BIORETENTION POND DURING ANY STAGE OF CONSTRUCTION.
- DO NOT TRAFFIC EXPOSED SURFACES OF BIORETENTION POND WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATION ACTIVITIES WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE BASIN.
- POND BERMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STORMWATER POND BERM DETAIL.

MAINTENANCE REQUIREMENTS

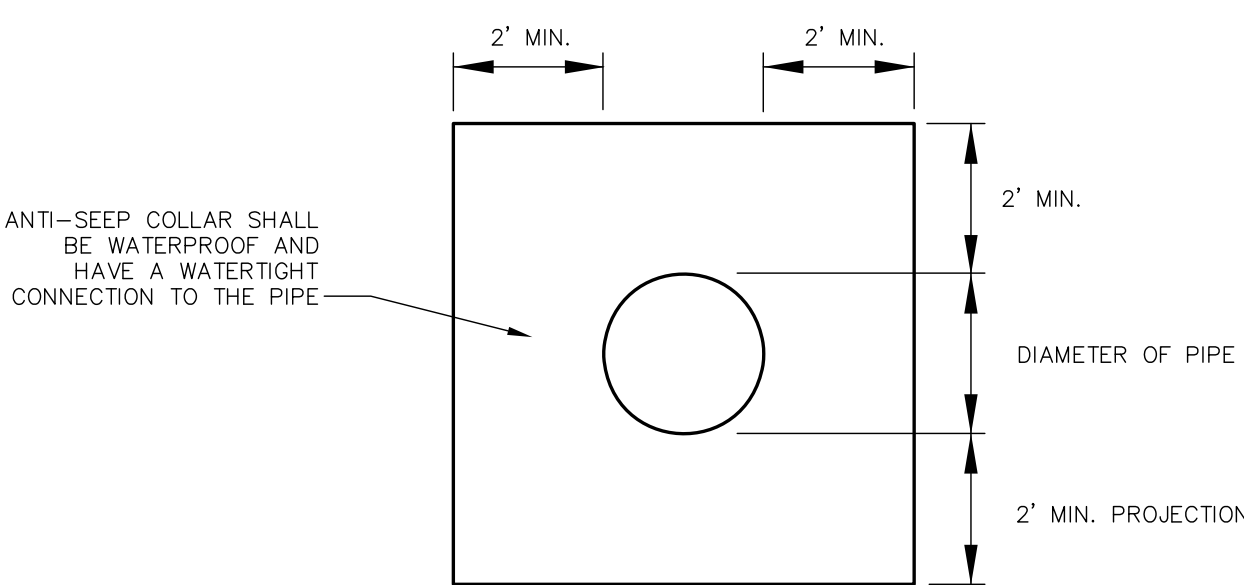
- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS A WARRANTED BY SUCH INSPECTION.
- PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
- AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
- VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING, WEED WHACKING, REMOVAL, AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES. BERM AREAS ARE TO BE MOWED TWICE ANNUALLY.

DESIGN REFERENCES

- UNH STORMWATER CENTER
- EPA (1999A)
- NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.

BIORETENTION POND (BIO #S 1, 2, 3 AND 4)

NOT TO SCALE

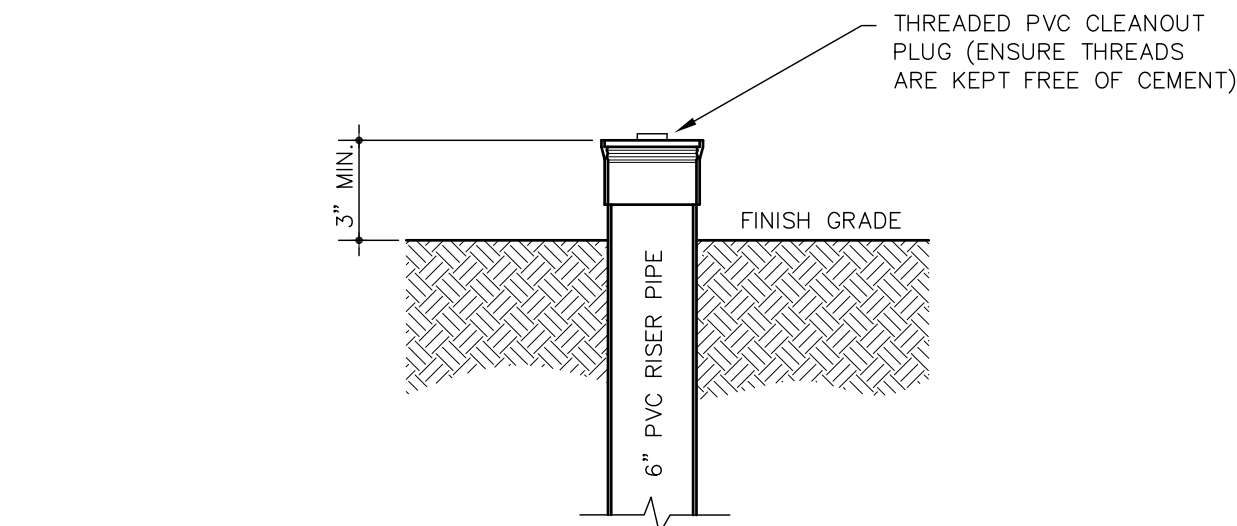


NOTES:

ANTI-SEEP COLLARS SHALL BE CLAY, CONCRETE, PLASTIC (AGRI-DRAIN), OR EQUAL APPROVED BY THE ENGINEER.

ANTI-SEEP COLLAR

NOT TO SCALE

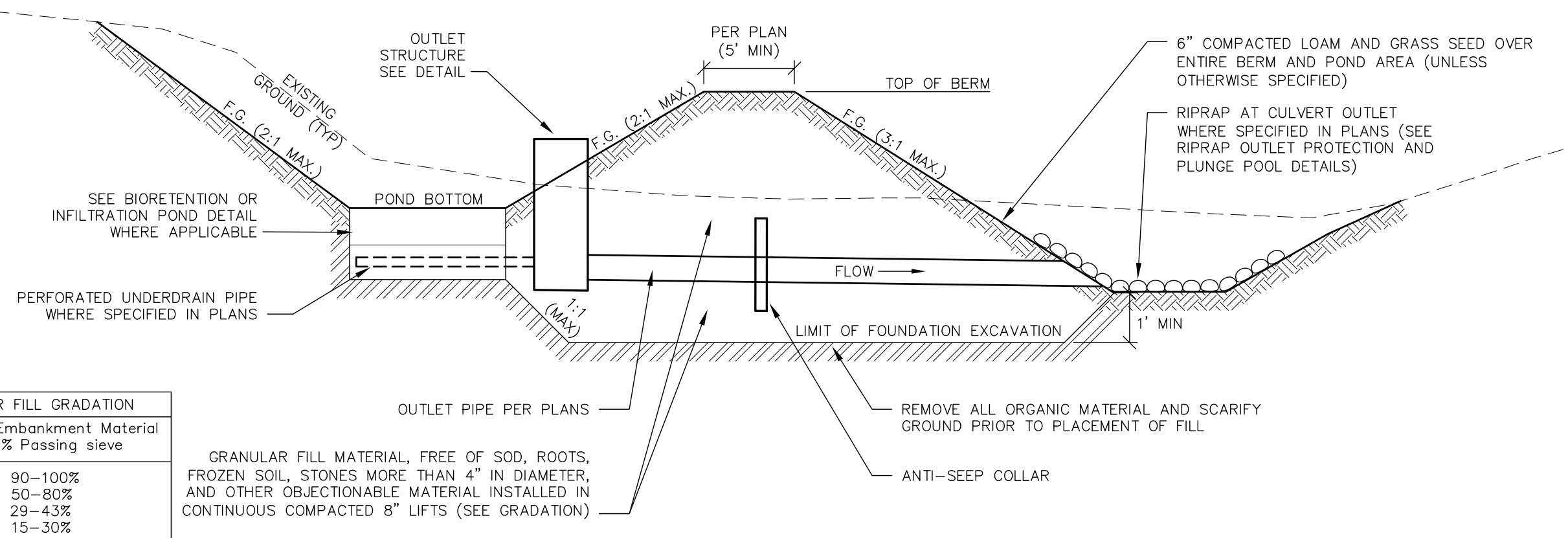


NOTES:

- THIS DETAIL IS INTENDED FOR USE WITH BIORETENTION POND UNDERDRAINS ONLY. SEE OTHER DETAILS FOR CLEANOUTS IN OTHER AREAS.
- CLEANOUT LOCATIONS ARE MARKED "CO" ON STORMWATER MANAGEMENT PLANS.
- CLEANOUTS MAY NOT BE SET TO FINISH GRADE WITHOUT APPROVAL FROM THE ENGINEER.

BIORETENTION U.D. CLEANOUT ("CO")

NOT TO SCALE



Construction Criteria

- Foundation Preparation** -- The foundation shall be cleared of trees, logs, stumps, roots, brush, boulders, sod, and rubbish. If suitable for reuse, the topsoil and sod shall be stockpiled and spread on the completed embankment and spillways. Foundation surfaces shall be sloped no steeper than 1:1. The foundation area shall be thoroughly scarified before placement of fill material. The surface shall have moisture added and/or it shall be compacted if necessary so that the first layer of fill can be bonded to the foundation.
The cutoff trench and any other required excavations shall be dug to the lines and grades shown on the plans or as staked in the field. If they are suitable, excavated materials shall be used in the permanent fill.
Existing stream channels in the foundation area shall be sloped no steeper than 1:1 and deepened and widened as necessary to remove all stones, gravel, sand, stumps, roots, and other objectionable material and to accommodate compaction equipment.
Foundation areas shall be kept free of standing water when fill is being placed on them.
- Granular Fill Placement** -- The material placed in the fill shall be free of sod, roots, frozen soil, stones more than 4 inches in diameter and other objectionable material.
Selected backfill material shall be placed around structures, pipe conduits, and drainage diaphragm at about the same rate on all sides to prevent damage from unequal loading.
The placing and spreading of fill material shall be started at the lowest point of the foundation and the fill brought up in horizontal layers of such thickness that the required compaction can be obtained. The fill shall be constructed in 8" continuous horizontal layers except where openings or sectionalized fills are required. In those cases, the slope of the bonding surfaces between the embankment in place and the embankment to be placed shall not be steeper than 3 horizontal to 1 vertical. The bonding surface shall be treated the same as that specified for the foundation so as to insure a good bond with the new fill.
The distribution and gradation of materials shall be such that no lenses, pockets, streaks, or layers of material differ substantially in texture or gradation from the surrounding material. If it is necessary to use materials of varying texture and gradation, the more impervious material shall be placed in the center and upstream parts of the fill. If zoned fills of substantially differing materials are specified, the zones shall be placed according to the lines and grades shown on the drawings. The complete work shall conform to the lines, grades, and elevations shown on the drawings or as staked in the field.
- Moisture Control** -- The moisture content of the fill material shall be adequate for obtaining the required compaction. Material that is too wet shall be dried to meet this requirement, and material that is too dry shall have water added and mixed until the requirement is met.
- Compaction** -- Construction equipment shall be operated over the areas of each layer of fill to insure that the required compaction is obtained. Special equipment shall be used if needed to obtain the required compaction.
Fill material shall be compacted to not less than 95% of AASHTO T99 Method C compaction method.
Fill adjacent to structures, pipe conduits, and drainage diaphragm shall be compacted to a density equivalent to that of the surrounding fill by means of hand tamping or manually directed power tamper or plate vibrators. Fill adjacent to concrete structures shall not be compacted until the concrete is strong enough to support the load.
- Protection** -- A protective cover of vegetation shall be established on all exposed surfaces of the embankment, spillway, and borrow area in accordance with the plans. If soil or climatic conditions preclude the use of vegetation and protection is needed, non-vegetative means, such as mulches or gravel, may be used. In some places, temporary vegetation may be used until conditions permit establishment of permanent vegetation.

Maintenance

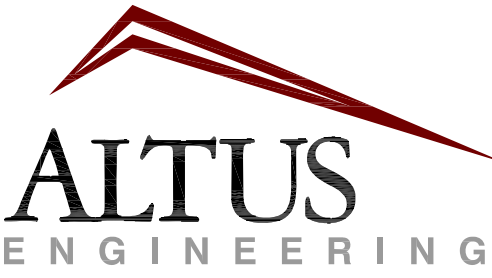
Maintenance is necessary if detention/retention basins are to continue to function as originally designed. A local government, a designated group such as a homeowners' association, or an individual must be assigned responsibility for maintaining the structures and the basin area. A maintenance plan should be developed that outlines the maintenance operations and a schedule for carrying out the procedures.

The following should be considered in formulating a maintenance plan:

- Embankment** -- The embankment should be inspected annually to determine if rodent burrows, wet areas, or erosion of the fill is taking place.
- Vegetation** -- The vegetated areas of the structure should be protected from damage by fire, grazing, traffic, and dense weed growth. Lime and fertilizer should be applied as necessary as determined by soil tests. Trees and shrubs should be kept off the embankment and emergency spillway areas.
- Inlets** -- Pipe inlets and spillway structures should be inspected annually and after every major storm. Accumulated debris and sediment should be removed.
- Outlets** -- Pipe outlets should be inspected annually and after every major storm. The condition of the pipes should be noted and repairs made as necessary. If erosion is taking place, then measures should be taken to stabilize and protect the affected area.
- Sediment** -- Sediment should be continually checked in the basin. When sediment accumulations reach the predetermined design elevation, then the sediment should be removed and properly disposed of.
- Safety Inspections** -- All permanent impoundments should be inspected by a qualified professional engineer on a periodic basis. If there is potential for significant damage or loss of life downstream, then the inspection should be carried out annually.

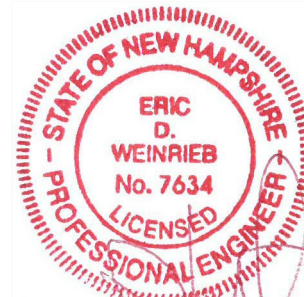
STORMWATER POND BERM DETAIL

NOT TO SCALE



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



7/20/25

NOT FOR CONSTRUCTION

ISSUED FOR:

REVIEW

ISSUE DATE:

JULY 23, 2025

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	REVIEW	EBS	06/23/25

DRAWN BY: EBS

APPROVED BY: EBS

DRAWING FILE: 5440-SITE.dwg

SCALE:

24" x 36" - 1" = NTS

11" x 17" - 1" = NTS

OWNER:

RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:

RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:

RIVERWOODS
DURHAM PHASE II

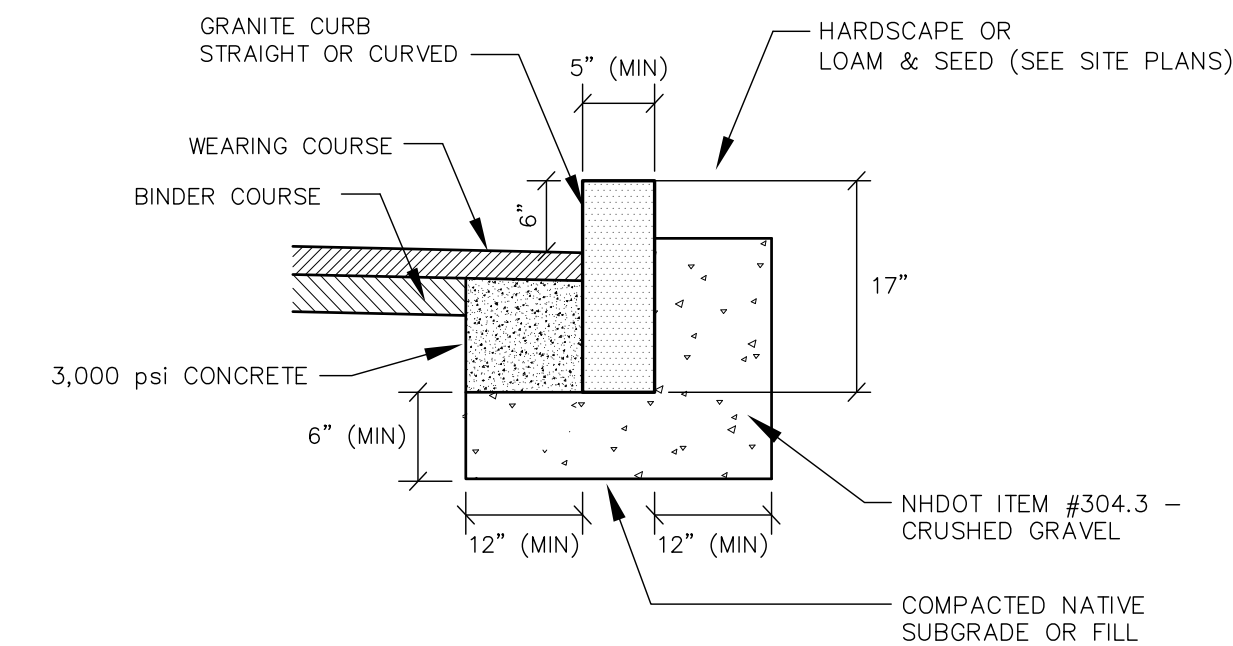
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:

DETAIL SHEET

SHEET NUMBER:

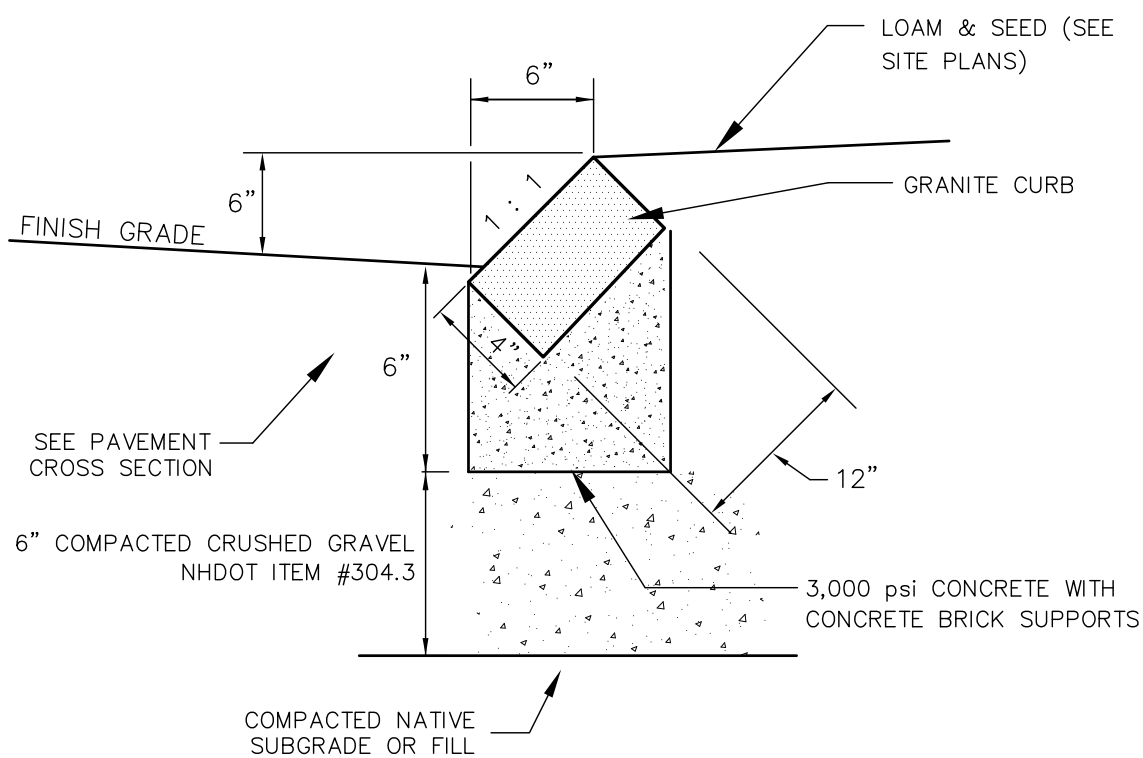
C-15



NOTES:

- SEE PLANS FOR CURB LOCATION.
- ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
- MINIMUM LENGTH OF CURB STONES = 3'
- MAXIMUM LENGTH OF CURB STONES = 10'
- MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART.
- CURB ENDS TO ROUNDED AND BATTERED FACES TO BE CUT WHEN CALLED FOR ON THE PLANS.

RADIUS	MAX. LENGTH
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
OVER 60'	10'



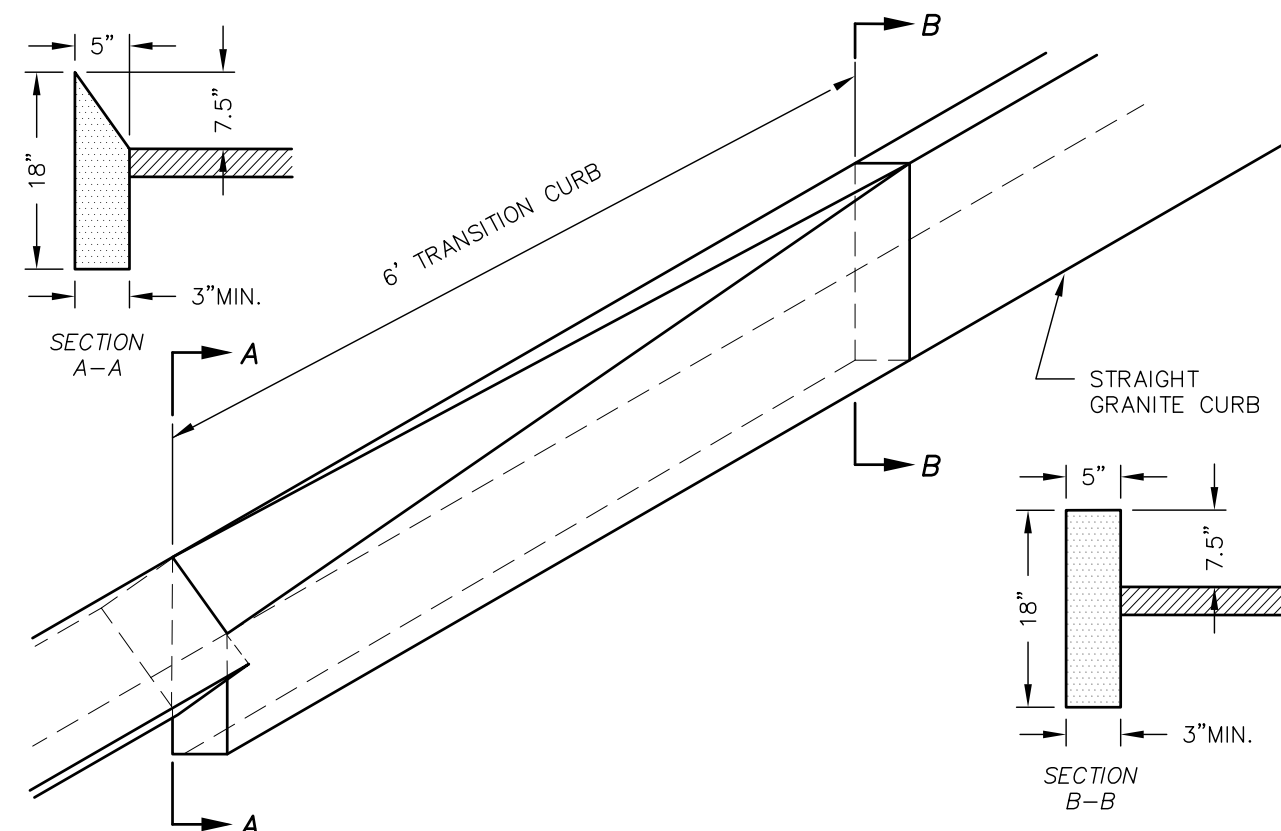
NOTES:

- SEE SITE PLAN FOR LIMITS OF CURBING
- ADJOINING STONES OF STRAIGHT CURB LAID ON CURVES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH
- MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
- MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
- MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART

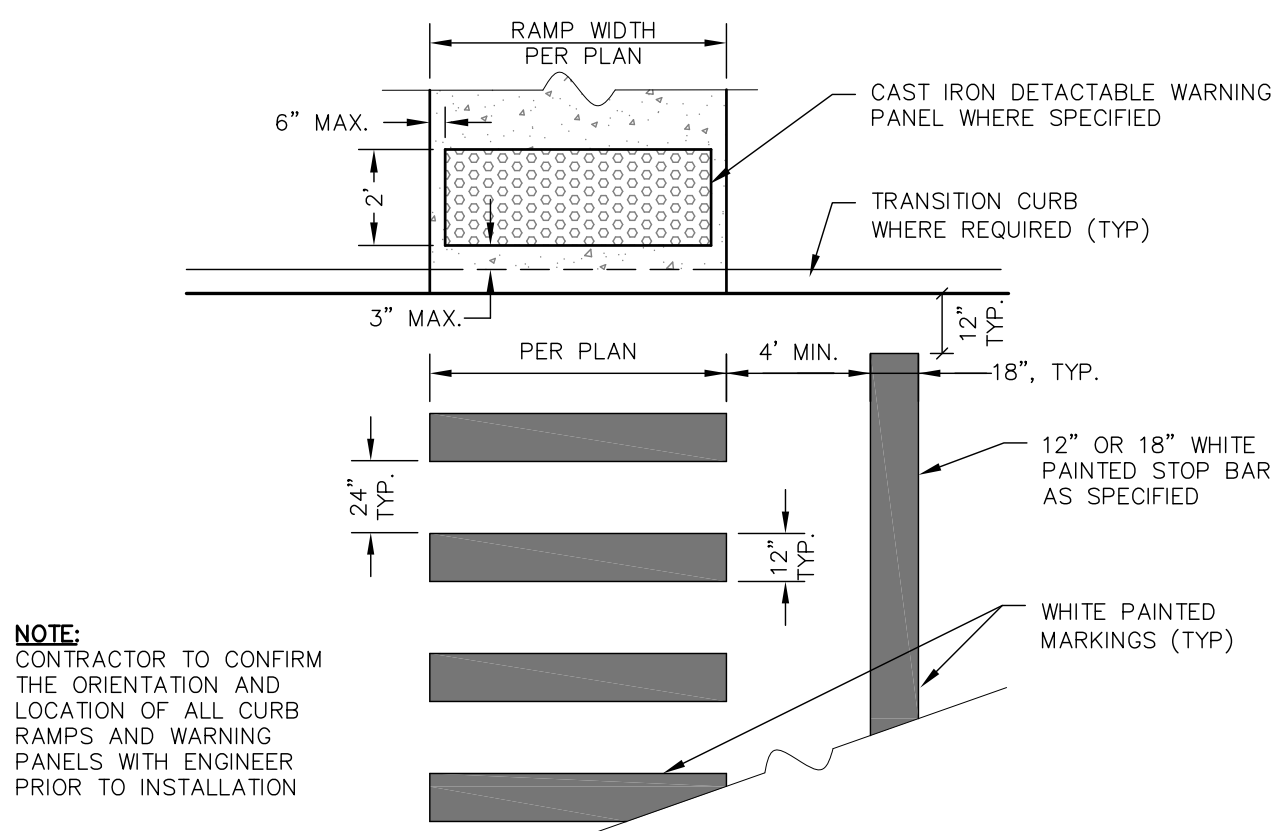
RADIUS FOR STONES WITH SQUARE JOINTS	MAXIMUM LENGTH
16'-28'	1'-6"
29'-41'	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
OVER 110'	8'

VERTICAL GRANITE CURB NOT TO SCALE

SLOPED GRANITE CURB NOT TO SCALE



STRAIGHT TO SLOPE CURB TRANSITION NOT TO SCALE

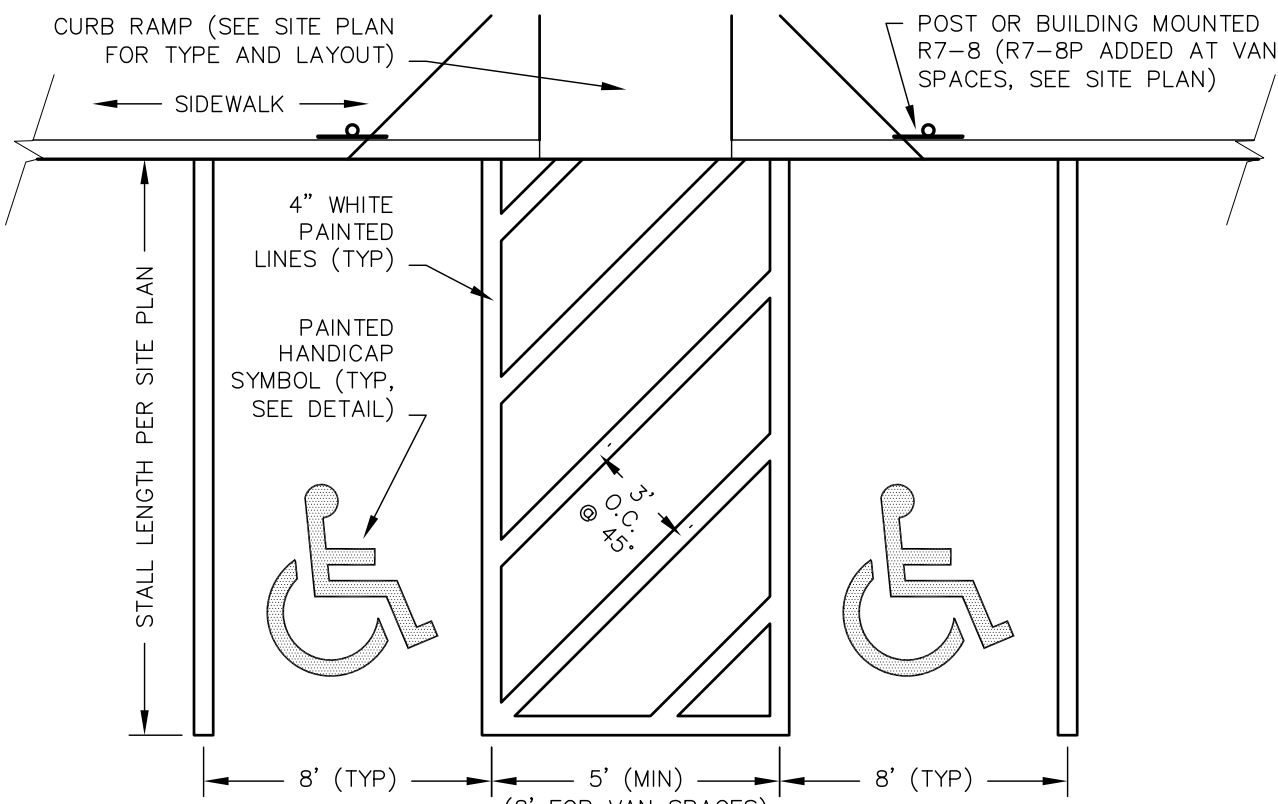
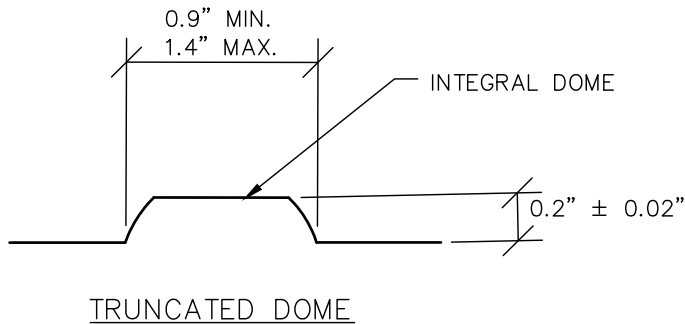


CROSSWALK NOT TO SCALE

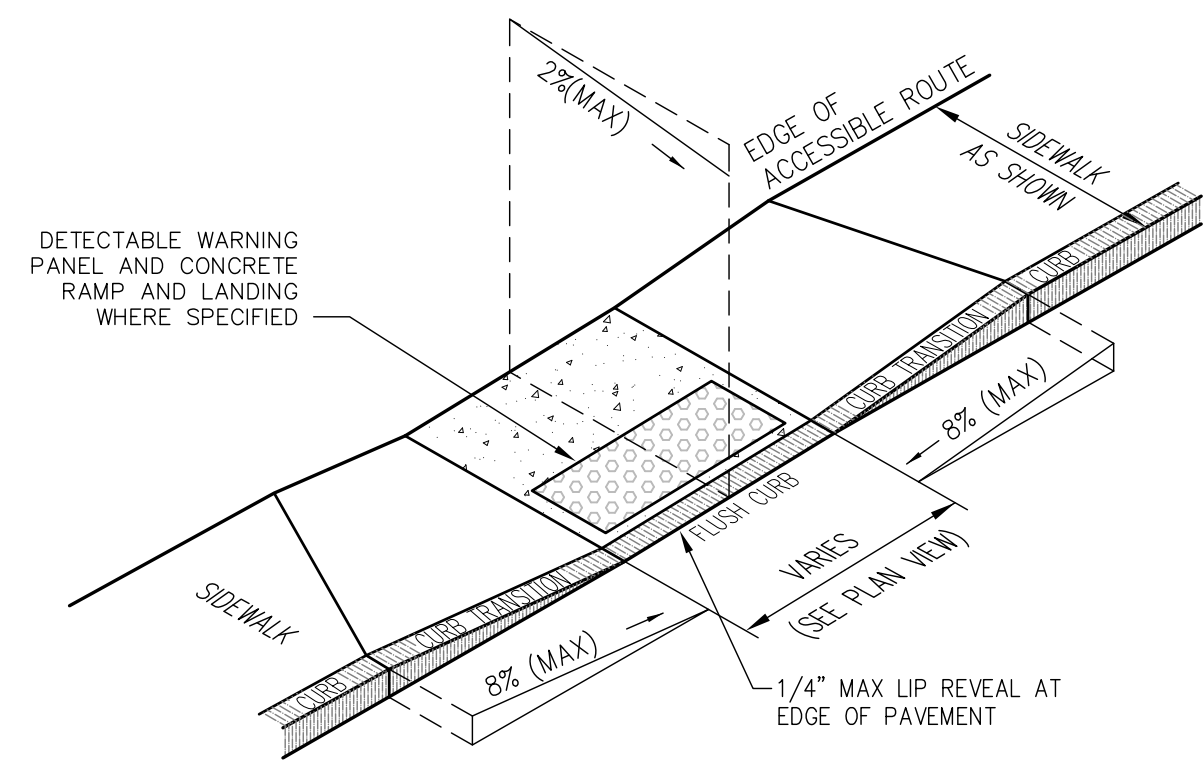
DETECTABLE WARNING PANEL NOT TO SCALE

NOTES:

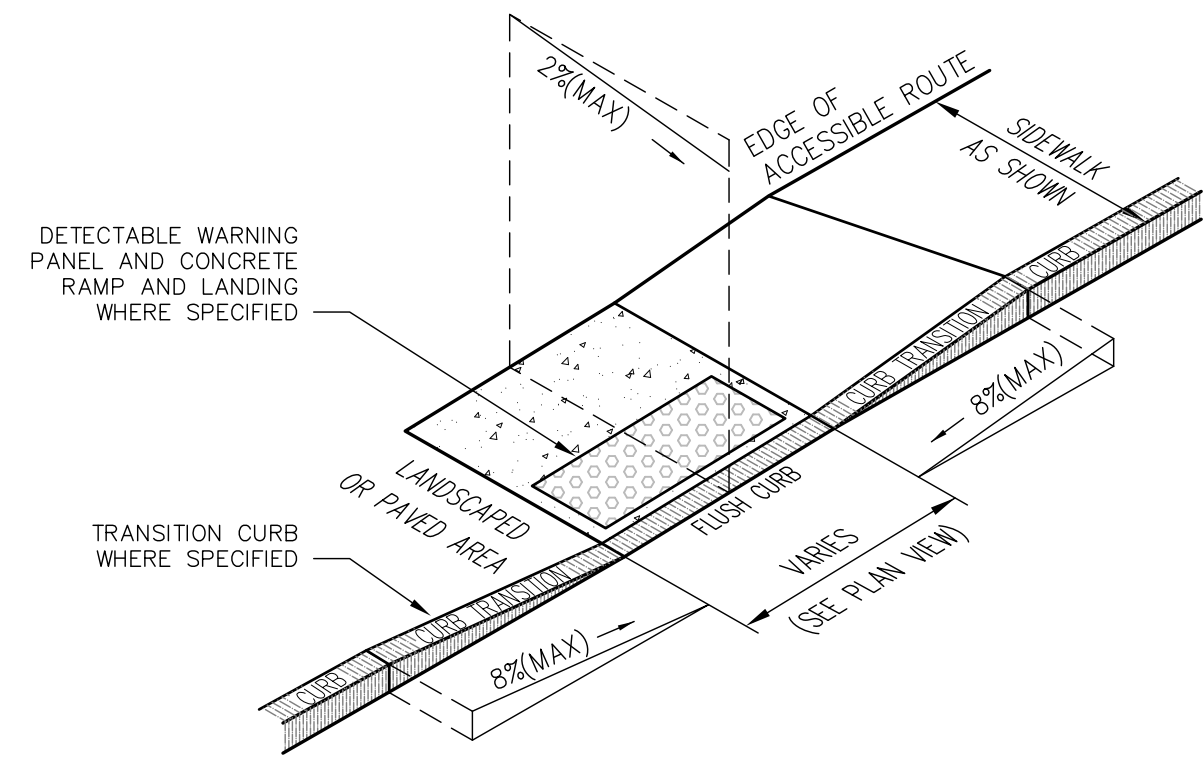
- BASE-TO-BASE SPACING SHALL BE 0.65" MINIMUM BETWEEN DOMES.
- WHERE SPECIFIED, SIDEWALK CURB RAMPS SHALL HAVE DETECTABLE WARNING SURFACES THAT EXTEND THE FULL WIDTH OF THE RAMP AND 2' DEPTH IN THE DIRECTION OF TRAVEL.
- THE TOP WIDTH OF THE DOME SHALL BE A MINIMUM OF 50% AND A MAXIMUM OF 65% OF THE BASE DIAMETER.
- WARNING PANELS TO BE CAST IRON "IRON DOME" OR EQUAL.
- PANEL SHALL BE INSTALLED SO THAT THE EDGE IS NO GREATER THAN 3" FROM THE CURB LINE OR GUTTER.



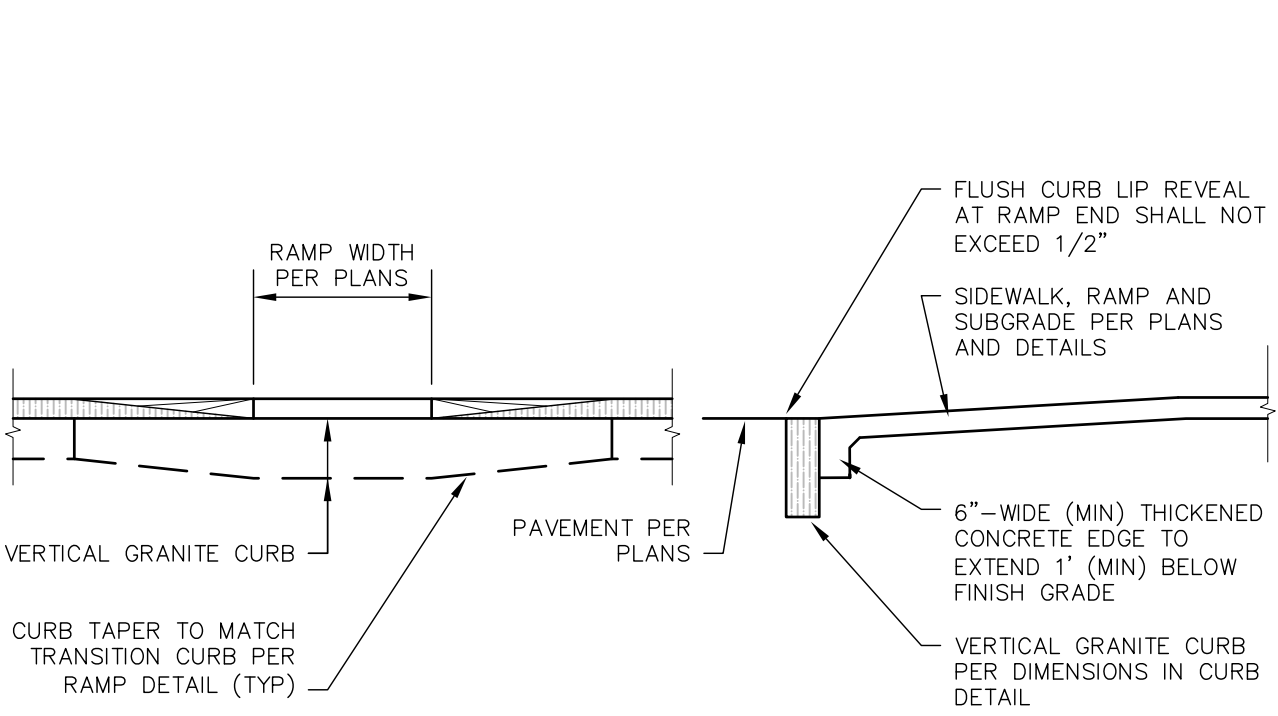
HANDICAP PARKING STALL LAYOUT NOT TO SCALE



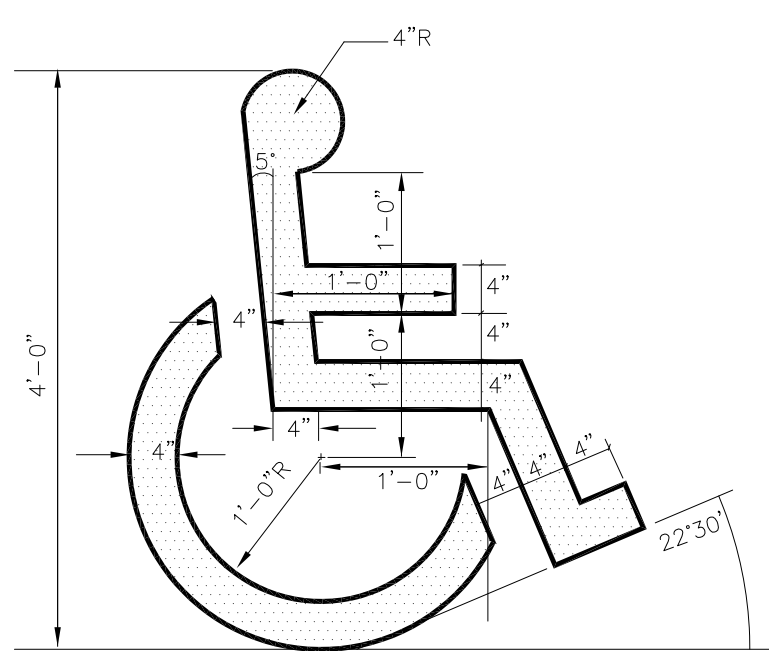
CURB RAMP (TYPE 'A') NOT TO SCALE



CURB RAMP (TYPE 'G') NOT TO SCALE



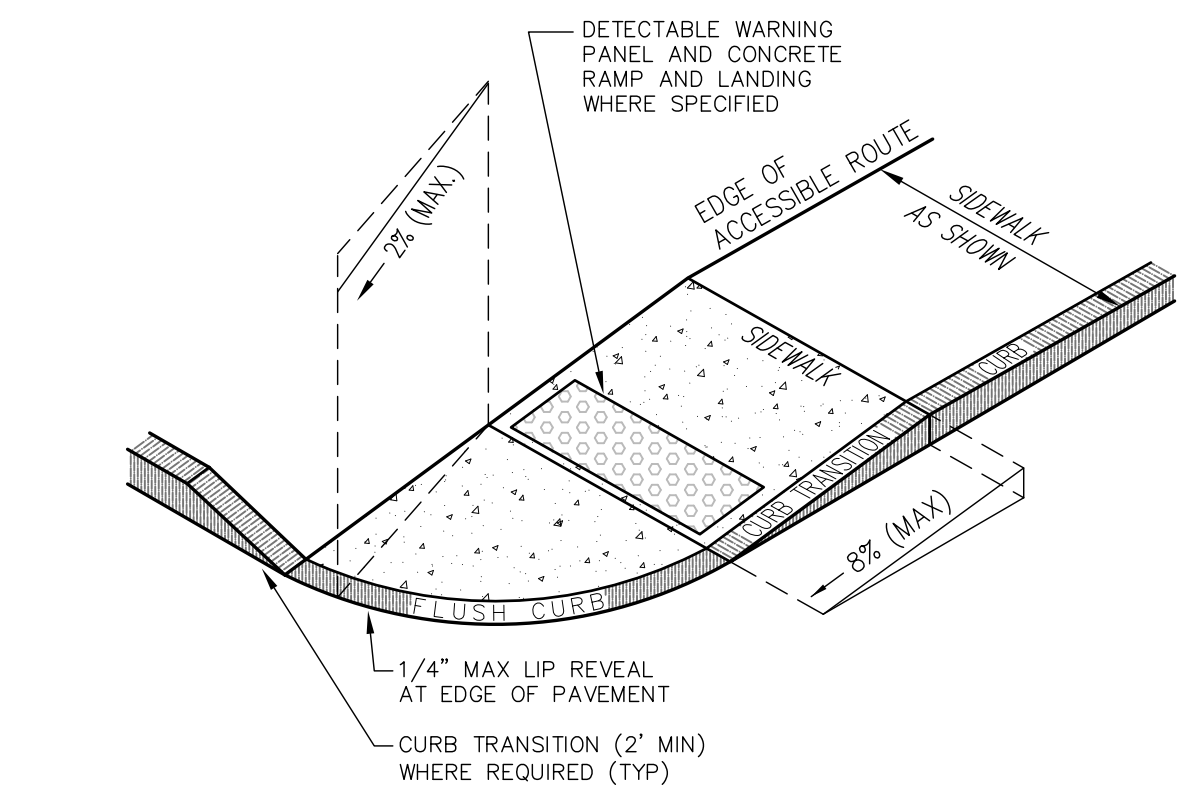
FLUSH CURB AT RAMP DETAIL NOT TO SCALE



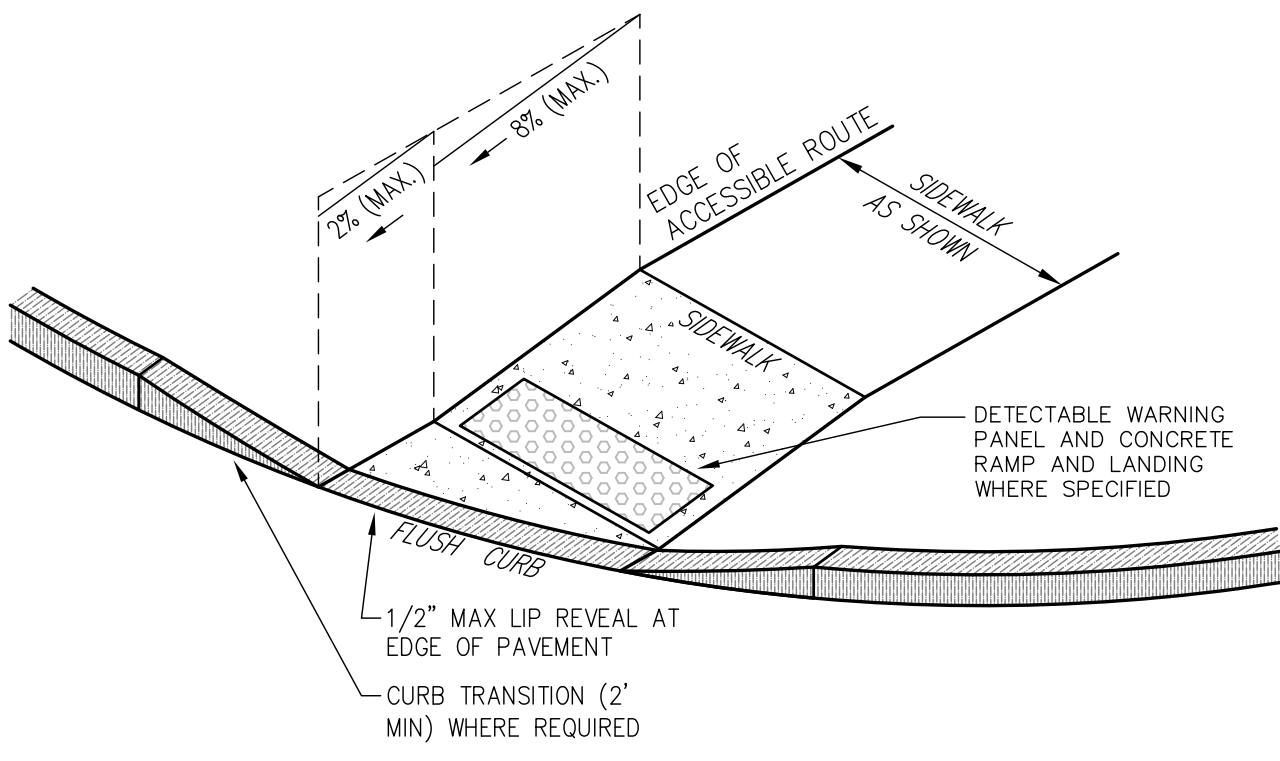
NOTES:

- SYMBOL TO BE PAINTED IN ALL HANDICAPPED ACCESSIBLE SPACES IN WHITE PAINT (BLUE-PAINTED SQUARE BACKGROUND AND WHITE BORDER OPTIONAL).

PAINTED HANDICAP SYMBOL NOT TO SCALE



CURB RAMP (TYPE 'B') NOT TO SCALE

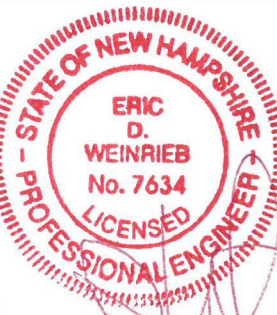


CURB RAMP (TYPE 'N') NOT TO SCALE

NOTES APPLICABLE TO ALL CURB RAMPS:

- THE MAXIMUM ALLOWABLE CROSS SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 2%.
- THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) EXCLUDING CURB RAMPS SHALL BE 5% WITHOUT HANDRAILS.
- THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) CURB RAMP SHALL BE 8.3% FOR A MAXIMUM ELEVATION CHANGE OF 6".
- CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
- BASE OF RAMP SHALL BE GRADED TO PREVENT THE PONDING OF WATER (2% MAX. SLOPE).
- SEE CONCRETE SIDEWALK SECTION FOR RAMP CONSTRUCTION.
- ALL CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AMERICANS WITH DISABILITIES ACT (ADA) AND ALL APPLICABLE CODES.
- FLUSH CURB SECTIONS SHALL HAVE A MAXIMUM LIP REVEAL OF 1/4" WITH A BEVEL AT THE EDGE OF PAVEMENT.
- EDGES OF CONCRETE SIDEWALK FOOTINGS ALONG FLUSH CURBS SHALL BE HAUNCHED SO AS TO EXTEND TO A MINIMUM DEPTH OF 1' BELOW FINISH GRADE.
- NO RAMP SHALL BE LESS THAN 4' IN WIDTH.
- CURB RAMPS SHALL HAVE A FLAT 2% MAX. LANDING AT THE TOP AND BOTTOM OF THE RAMPS WHEN THERE IS A CHANGE IN DIRECTION.

CURB RAMP NOTES NOT TO SCALE



7/20/25

NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS NO. DESCRIPTION BY DATE 0 REVIEW EBS 06/23/25

DRAWN BY: EBS APPROVED BY: EBS DRAWING FILE: 5440-SITE.dwg

SCALE: 24" x 36" - 1" = NTS 11" x 17" - 1" = NTS

OWNER: RIVERWOODS DURHAM 14 STONE QUARRY DRIVE DURHAM, NH 03824

APPLICANT: RIVERWOODS DURHAM 14 STONE QUARRY DRIVE DURHAM, NH 03824

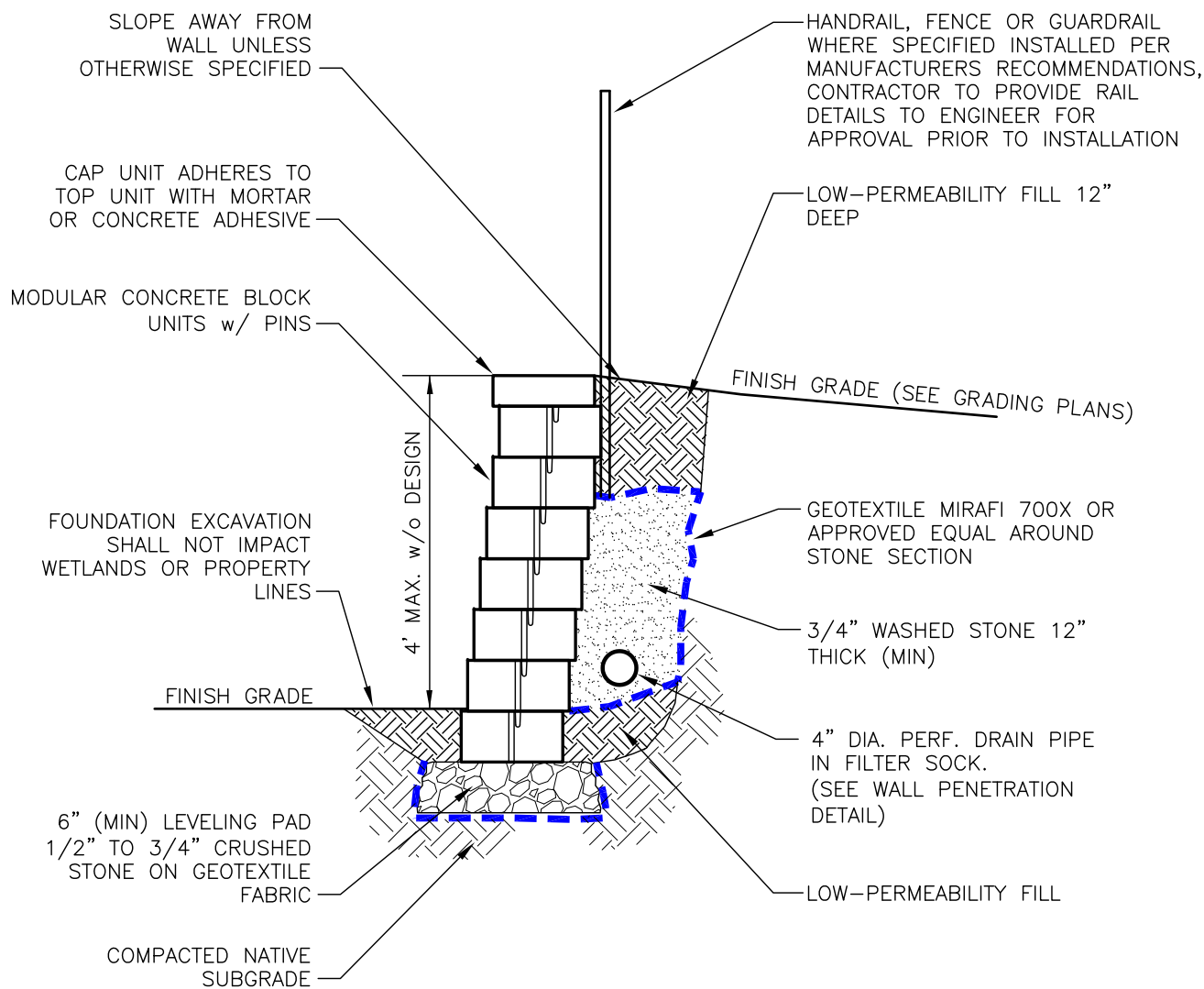
PROJECT: RIVERWOODS DURHAM PHASE II TAX MAP 209 LOT 33 STONE QUARRY DRIVE & DOVER ROAD (NH 108) DURHAM, NH

TITLE:

DETAIL SHEET

SHEET NUMBER:

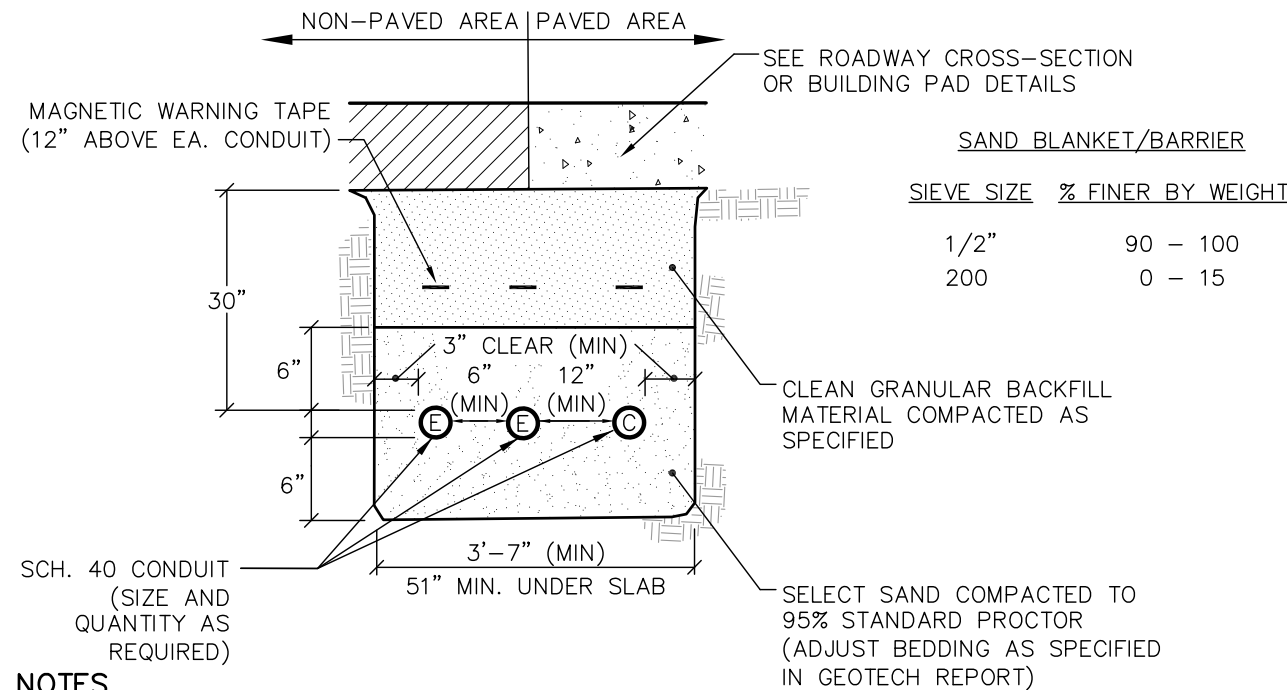
C-16



NOTES:

1. TYPICAL MODULAR BLOCK SHALL BE PRECAST CONCRETE MEASURING APPROXIMATELY 16"x12"x6". OTHER BLOCK SIZES MAY BE APPROVED BY THE ENGINEER UPON REQUEST. CAP UNITS SHALL BE PER THE STANDARDS OF THE SELECTED MANUFACTURER.
2. WALL SHALL BE INSTALLED PER THE REQUIREMENTS OF THE MANUFACTURER.
3. WALL HEIGHT SHALL NOT EXCEED 4' WITHOUT DESIGN DRAWINGS STAMPED BY A NEW HAMPSHIRE LICENSED PROFESSIONAL STRUCTURAL ENGINEER FAMILIAR WITH WALL DESIGN.
4. LOCKING PINS MAY OR MAY NOT BE REQUIRED BASED ON THE WALL MANUFACTURER APPROVED BY THE ENGINEER.
5. WALL SHALL BE EMBEDDED BELOW EXISTING GRADE THE DEPTH OF AT LEAST ONE BLOCK UNLESS OTHERWISE SPECIFIED BY THE WALL MANUFACTURER.
6. WALL BATTER SHALL BE PER THE MANUFACTURER'S SPECIFICATIONS.
7. BLOCK FINISH SHALL BE AT THE DISCRETION OF THE OWNER.
8. MODULAR BLOCK RETAINING WALL SHALL BE VERSA-LOK RETAINING WALL SYSTEMS (OR EQUAL APPROVED BY THE ENGINEER PRIOR TO INSTALLATION).

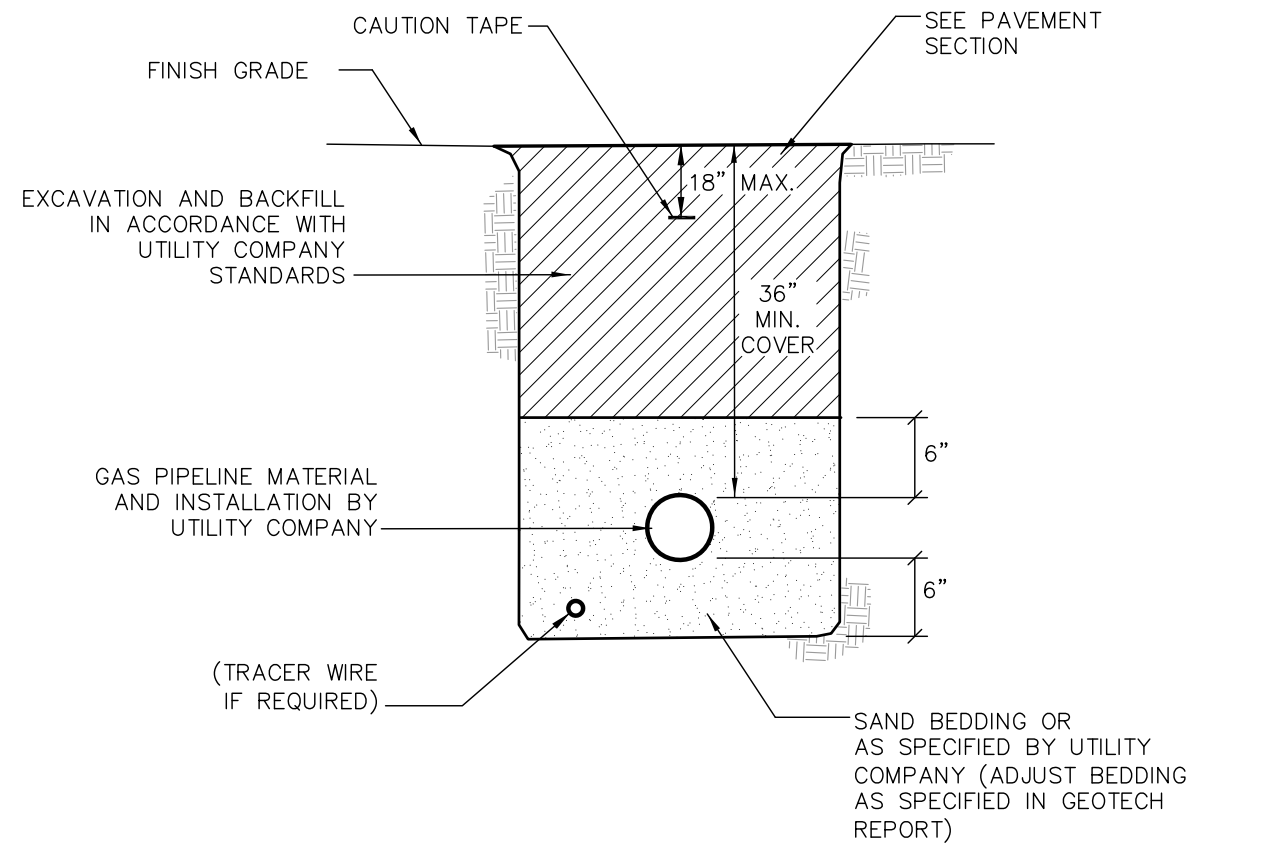
MODULAR BLOCK RETAINING WALL NOT TO SCALE



NOTES

1. ALL CONDUIT IS TO BE SCHEDULE 40 PVC, ELECTRICAL GRADE, GRAY IN COLOR AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. A 10-FOOT HORIZONTAL SECTION OF RIGID GALVANIZED STEEL CONDUIT WILL BE REQUIRED AT EACH SWEEP, UNLESS IN THE OPINION OF THE SERVICE PROVIDER DESIGNER, THE SWEEP-PVC JOINT IS NOT SUBJECT TO FAILURE DURING PULLING OF THE CABLE. ALL JOINTS ARE TO BE WATERTIGHT.
2. ALL 90 DEGREE SWEEPS WILL BE MADE WITH RIGID GALVANIZED STEEL WITH A MINIMUM RADIUS OF 36 INCHES FOR PRIMARY CABLES AND 24 INCHES FOR SECONDARY CABLES.
3. BACKFILL MAY BE MADE WITH EXCAVATED MATERIAL OR COMPARABLE, UNLESS MATERIAL IS DEEMED UNSUITABLE BY SERVICE PROVIDER. BACKFILL SHALL BE FREE OF FROZEN LUMPS, ROCKS, DEBRIS, AND RUBBISH. ORGANIC MATERIAL SHALL NOT BE USED AS BACKFILL. BACKFILL SHALL BE IN 6-INCH LAYERS AND THOROUGHLY COMPACTED.
4. A SUITABLE PULLING STRING, CAPABLE OF 300 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE SERVICE PROVIDER IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT. A MINIMUM OF TWENTY-FOUR (24") INCHES OF ROPE SLACK SHALL REMAIN AT THE END OF EACH DUCT. PULL ROPE SHALL BE INSTALLED IN ALL CONDUIT FOR FUTURE PULLS. PULL ROPE SHALL BE NYLON ROPE HAVING A MINIMUM TENSILE STRENGTH OF THREE HUNDRED (300#) LBS.
5. SERVICE PROVIDER SHALL BE GIVEN THE OPPORTUNITY TO INSPECT ALL CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD SERVICE PROVIDER BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. TYPICAL CONDUIT SIZES ARE 3-INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4-INCH FOR THREE PHASE SECONDARY, AND 5-INCH FOR THREE PHASE PRIMARY. HOWEVER, SERVICE PROVIDER MAY REQUIRE DIFFERENT NUMBERS, TYPES AND SIZES OF CONDUIT THAN THOSE SHOWN HERE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CONDUIT SIZES, TYPES AND NUMBERS WITH EACH SERVICE PROVIDER PRIOR TO ORDERING THEM.
7. ROUTING OF CONDUIT, LOCATION OF MANHOLES, TRANSFORMERS, CABINETS, HANDHOLES, ETC., SHALL BE DETERMINED BY SERVICE PROVIDER DESIGN PERSONNEL. THE CONTRACTOR SHALL COORDINATE WITH ALL SERVICE PROVIDERS PRIOR TO THE INSTALLATION OF ANY CONDUIT.
8. 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 CODE. WHERE REQUIRED BY UTILITY PROVIDER, CONDUIT SHALL BE SUPPORTED IN PLACE USING PIPE STANCHIONS PLACED EVERY FIVE (5') FEET ALONG THE CONDUIT RUN.
9. UNDER A BUILDING SLAB THE CONDUIT SHALL BE ENCASED IN 8" OF CONCRETE ON ALL SIDES.
10. ALL CONDUIT TERMINATIONS SHALL BE CAPPED TO PREVENT DEBRIS FROM ENTERING CONDUIT.

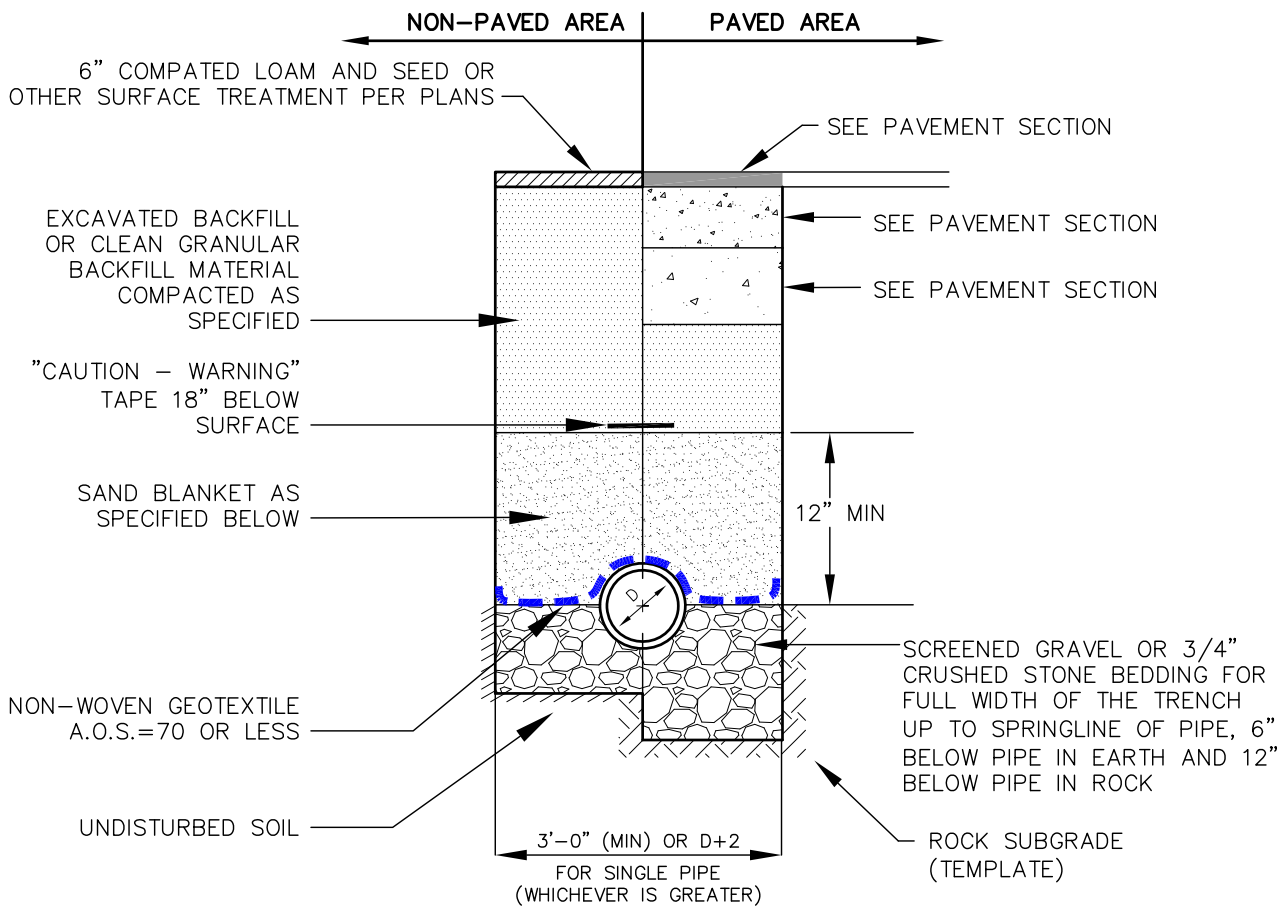
ELECTRIC / COMMUNICATION TRENCH NOT TO SCALE



NOTES

1. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY AND PROVIDE ALL EXCAVATION, COMPACTION AND BACKFILL REQUIRED FOR PIPE INSTALLATION.
2. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

GAS TRENCH NOT TO SCALE



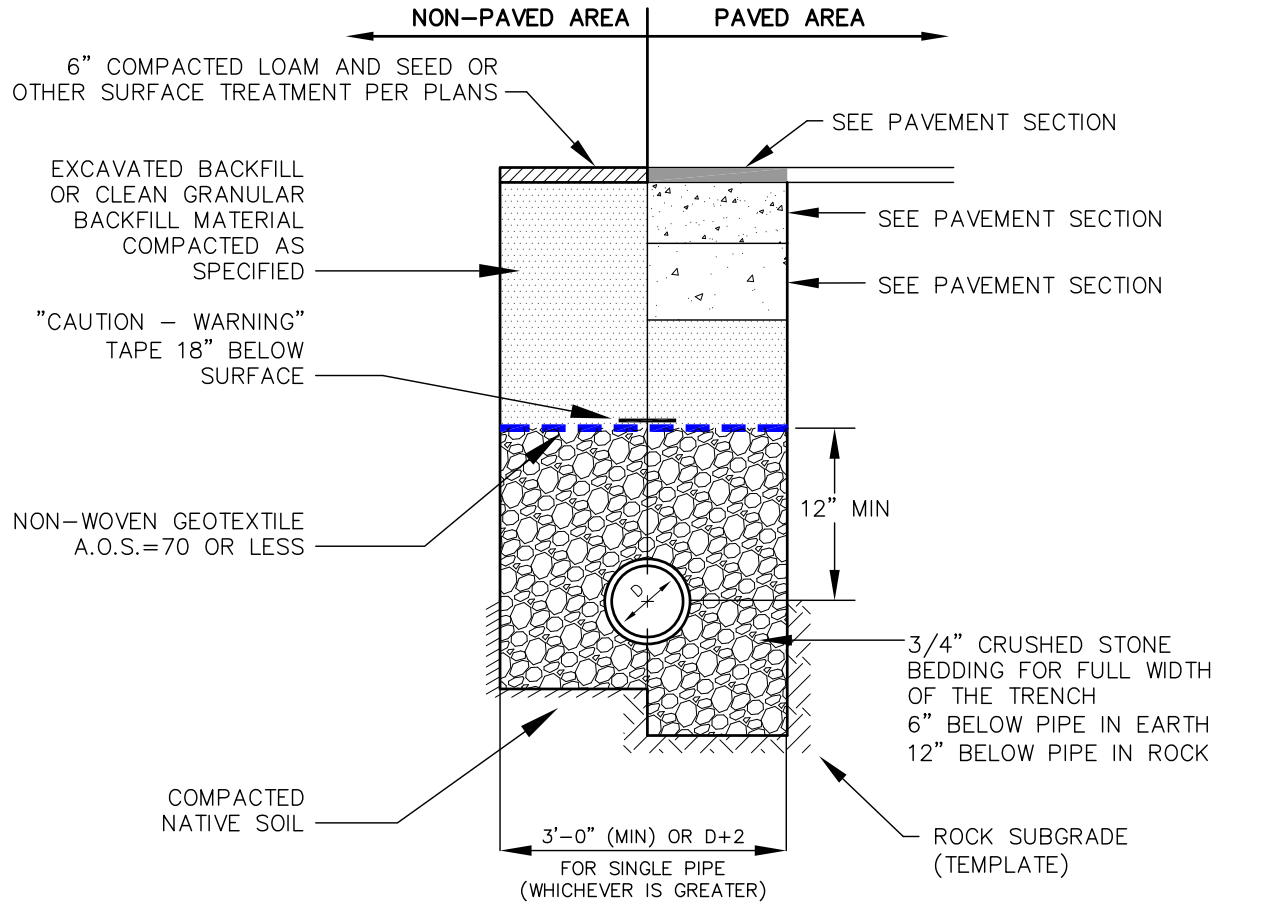
NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. INSULATE GRAVITY SEWER AND FORCEMAINS WHERE THERE IS LESS THAN 5'-0" OF COVER WITH 2" THICK CLOSED CELL RIGID BOARD INSULATION, 18" ON EACH SIDE OF PIPE.
3. MAINTAIN 12" MINIMUM HORIZONTAL SEPARATION AND WIDEN TRENCH ACCORDINGLY IF MULTIPLE PIPES ARE IN TRENCH.

SAND BLANKET/BARRIER		SCREENED GRAVEL OR CRUSHED STONE BEDDING*	
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	90 - 100	1"	100
200	0 - 15	3/4"	90 - 100
		3/8"	20 - 55
		# 4	0 - 10
		# 8	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

DRAINAGE TRENCH NOT TO SCALE



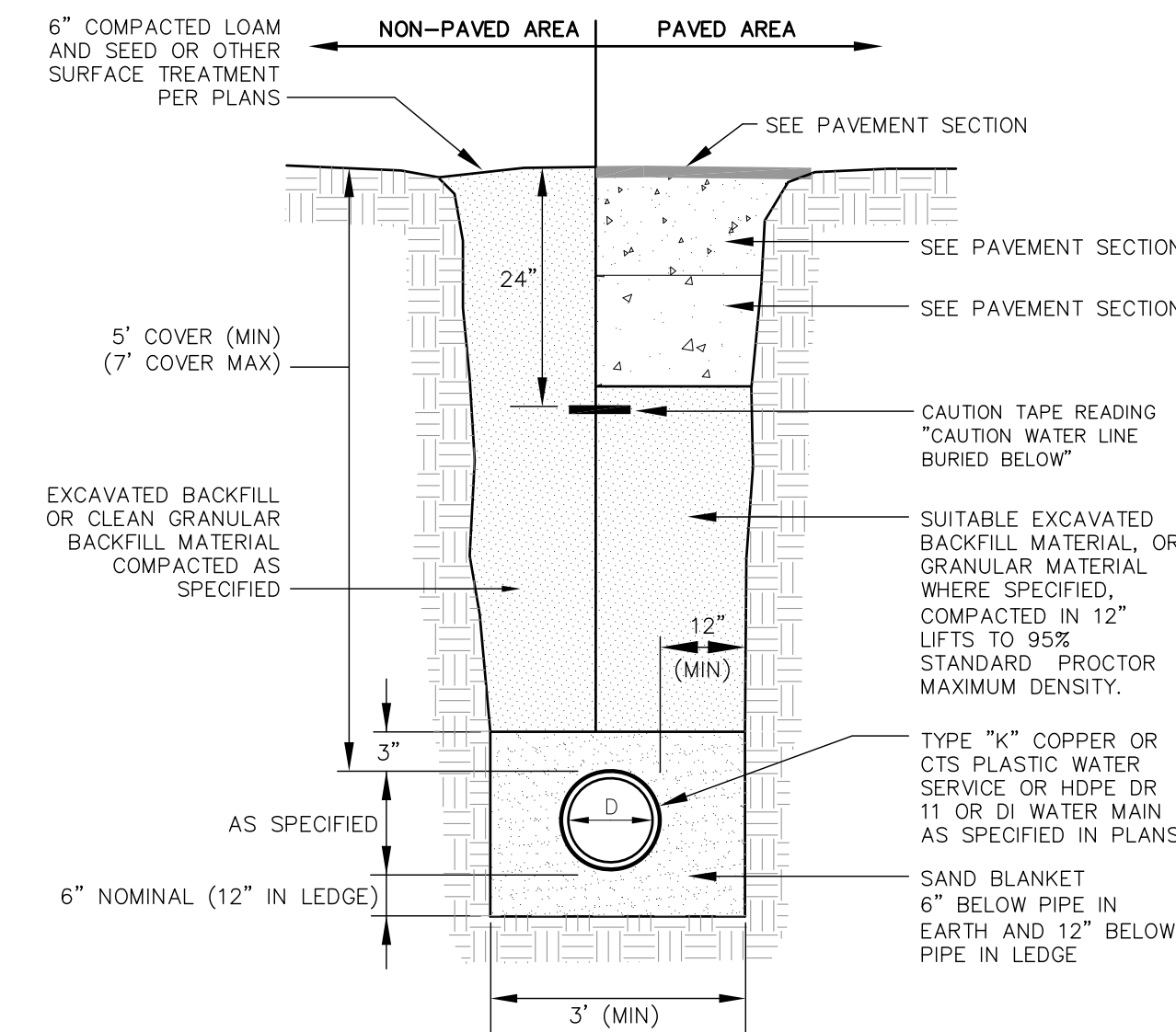
NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. INSULATE GRAVITY SEWER AND FORCEMAINS WHERE THERE IS LESS THAN 5'-0" OF COVER WITH 2" THICK CLOSED CELL RIGID BOARD INSULATION, 18" ON EACH SIDE OF PIPE.
3. MAINTAIN 12" MINIMUM HORIZONTAL SEPARATION AND WIDEN TRENCH ACCORDINGLY IF MULTIPLE PIPES ARE IN TRENCH.

SAND BLANKET/BARRIER		SCREENED GRAVEL OR CRUSHED STONE BEDDING*	
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	90 - 100	1"	100
200	0 - 15	3/4"	90 - 100
		3/8"	20 - 55
		# 4	0 - 10
		# 8	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

SEWER TRENCH



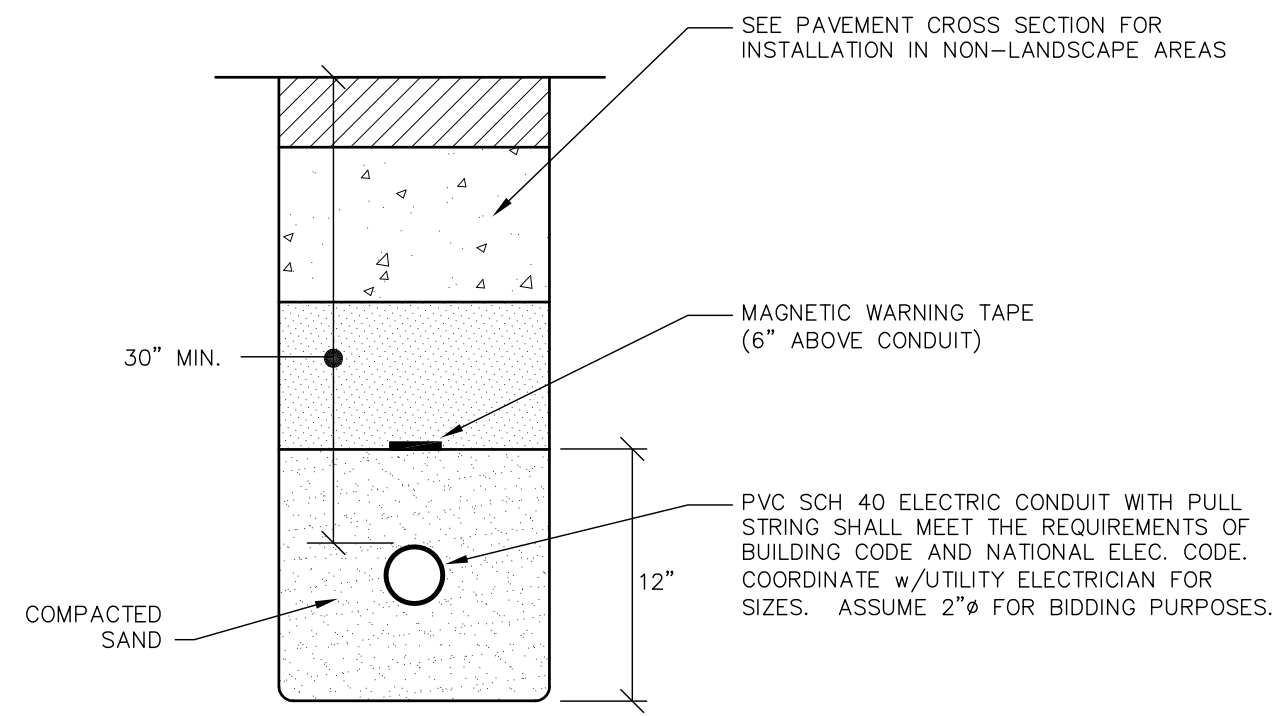
NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. ALL TRENCHING AND BACKFILL SHALL CONFORM WITH THE STANDARDS OF THE DURHAM DPW.

WATER MAIN TRENCH NOT TO SCALE

STANDARD TRENCH NOTES

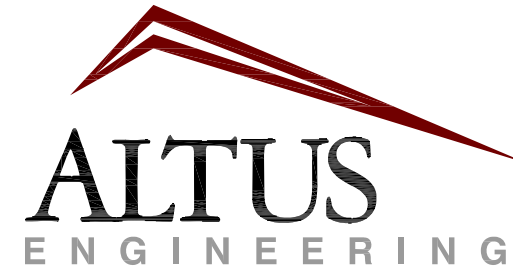
1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWING.
2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.
3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. BLANKET MAY BE REPLACED WITH BEDDING MATERIAL FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE AND THE GEOTEXTILE IS RELOCATED ACCORDINGLY.
4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT, OR CLAY, ALL EXCAVATED LEDGE MATERIAL, ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION, AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT ONLY IF SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLE RECONSTRUCTION WILL BE PRESERVED.
5. BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISIONS 300 AND 400 RESPECTIVELY.
6. W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.) ALSO, W SHALL BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
7. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL, FILL AND/OR LOAM SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
8. CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE NEW HAMPSHIRE DOT STANDARD SPECIFICATION REQUIREMENTS FOR CLASS A (3000#) CONCRETE AS FOLLOWS:
CEMENT: 6.0 BAGS PER CUBIC YARD
WATER: 5.75 GALLONS PER BAG
CEMENT MAXIMUM SIZE OF AGGREGATE: 1 INCH
CONCRETE ENCASEMENT IS NOT ALLOWED FOR PVC PIPE.
9. CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
10. NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE TEN FEET (10') SEPARATION BETWEEN WATER AND SEWER. REFER TO CITY STANDARD SPECIFICATIONS FOR METHODS OF PROTECTION IN AREAS THAT CANNOT MEET THESE REQUIREMENTS.
11. THE CONTRACTOR SHALL INSTALL TRENCH DAMS IN ACCORDANCE WITH NHDES REGULATIONS.
12. SEWER TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH NHDES STANDARDS OF DESIGN AND CONSTRUCTION FOR SEWAGE AND WASTEWATER FACILITIES, LATEST EDITION.
13. ALL GRAVITY SEWER INSTALLATIONS SHALL BE TESTED IN ACCORDANCE WITH NHDES ENV-WO 704.06.



NOTES

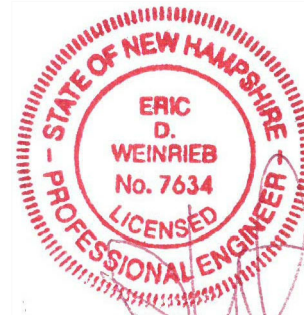
1. CONTRACTOR TO COORDINATE WITH MEP PLANS AND ELECTRICIAN AND PROVIDE ALL EXCAVATION, COMPACTION AND BACKFILL REQUIRED FOR CONDUIT INSTALLATION.
2. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL ALL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

LIGHTING TRENCH SECTION NOT TO SCALE



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



7/20/25

NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = NTS
11" x 17" - 1" = NTS

OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

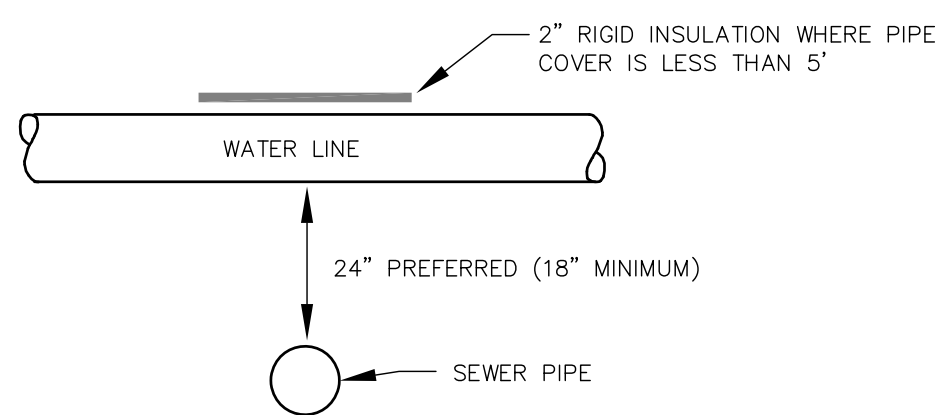
PROJECT:
RIVERWOODS
DURHAM PHASE II
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:

DETAIL SHEET

SHEET NUMBER:

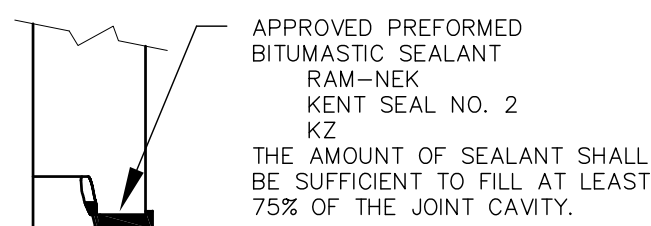
C-18



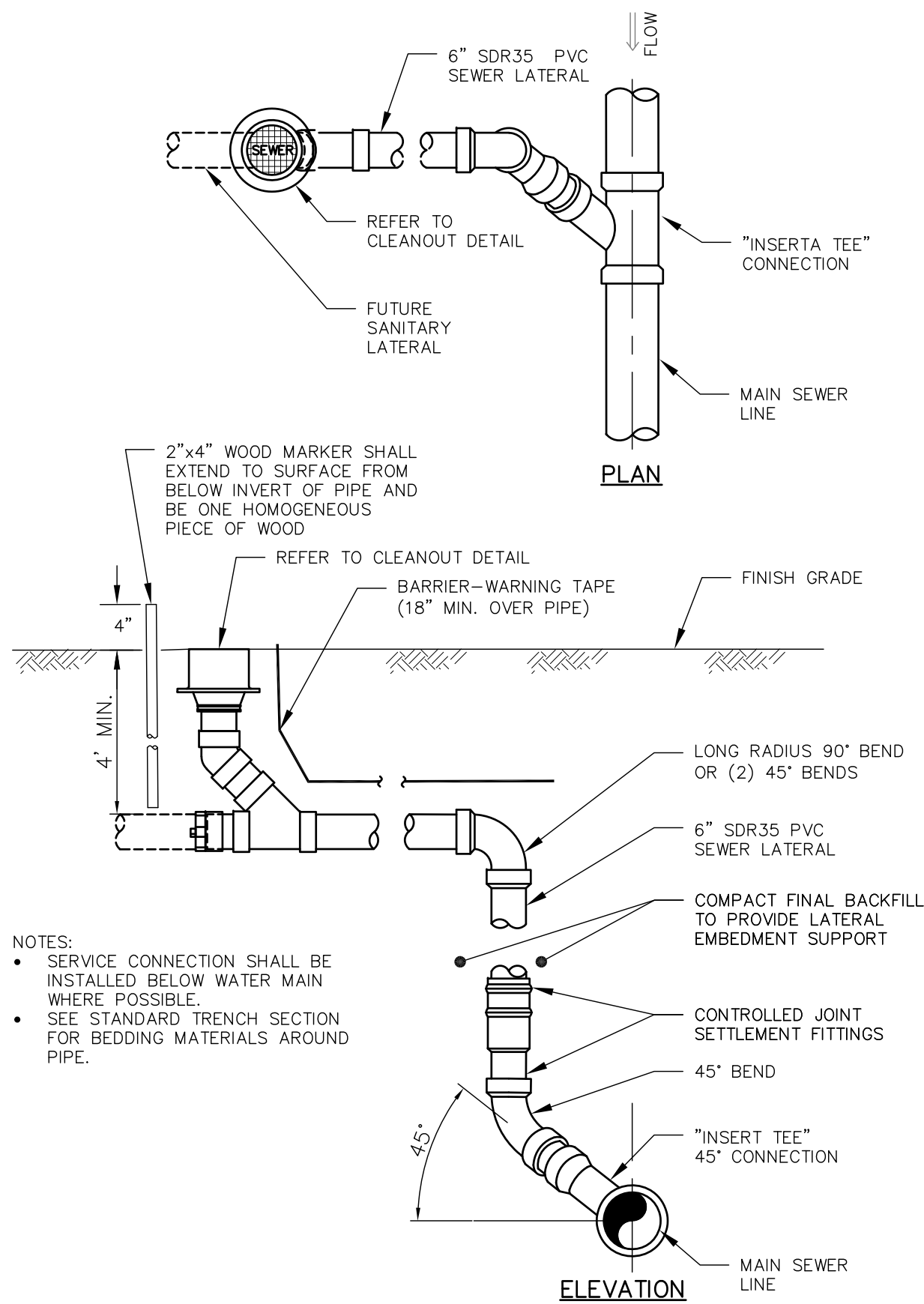
NOTES

1. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN WATER AND SEWER MAINS. A MINIMUM VERTICAL DISTANCE WITH WATER ABOVE SEWER SHALL BE MAINTAINED.
2. SEWER PIPE JOINTS SHALL BE LOCATED A MINIMUM OF 6 FEET HORIZONTALLY FROM WATER MAIN.
3. IF THE REQUIRED CONFIGURATION CANNOT BE MET, THE SEWER MAIN SHALL BE CONSTRUCTED TO MEET THE NHDES REQUIREMENTS FOR FORCE MAIN CONSTRUCTION.

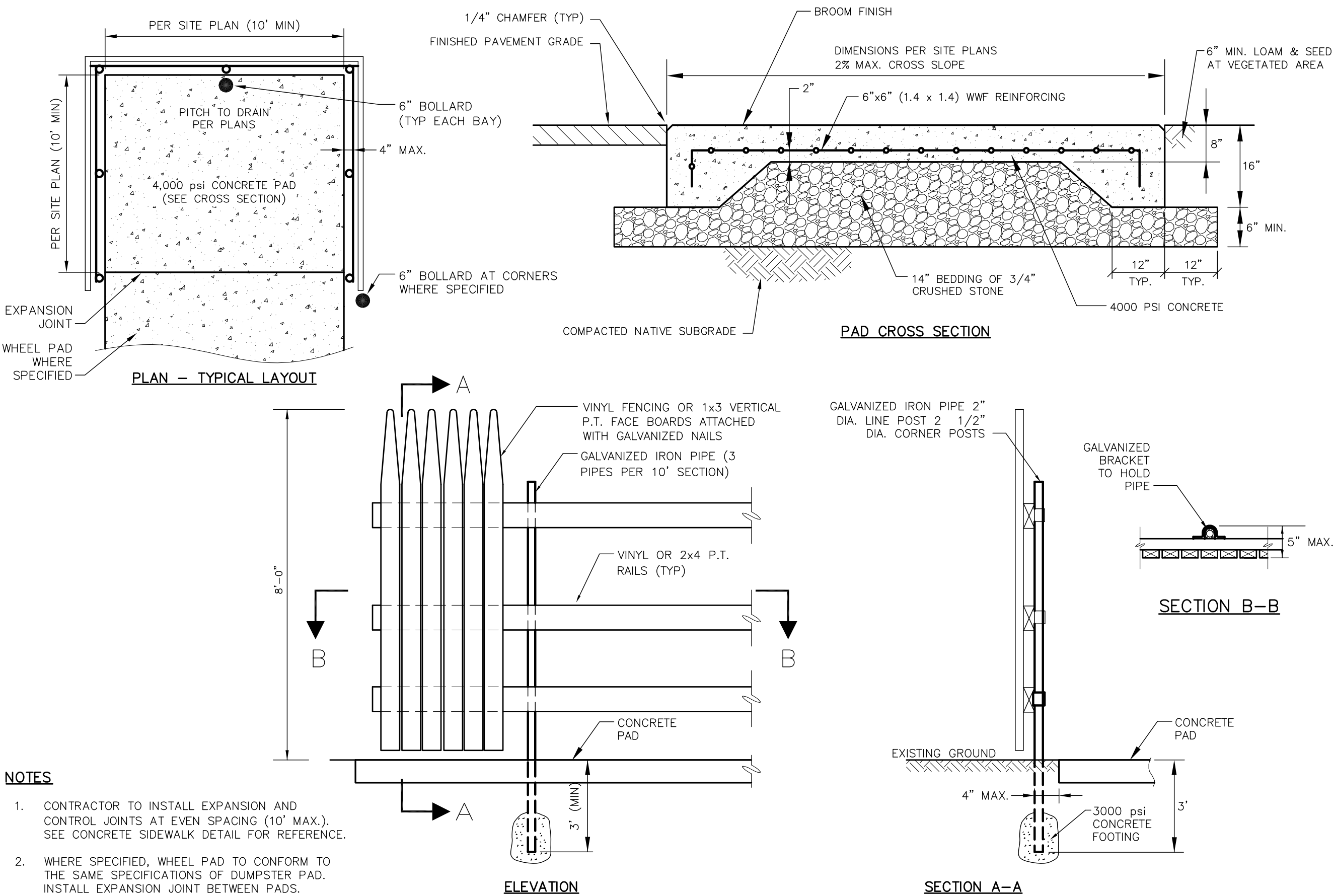
WATER MAIN / SEWER CROSSING NOT TO SCALE



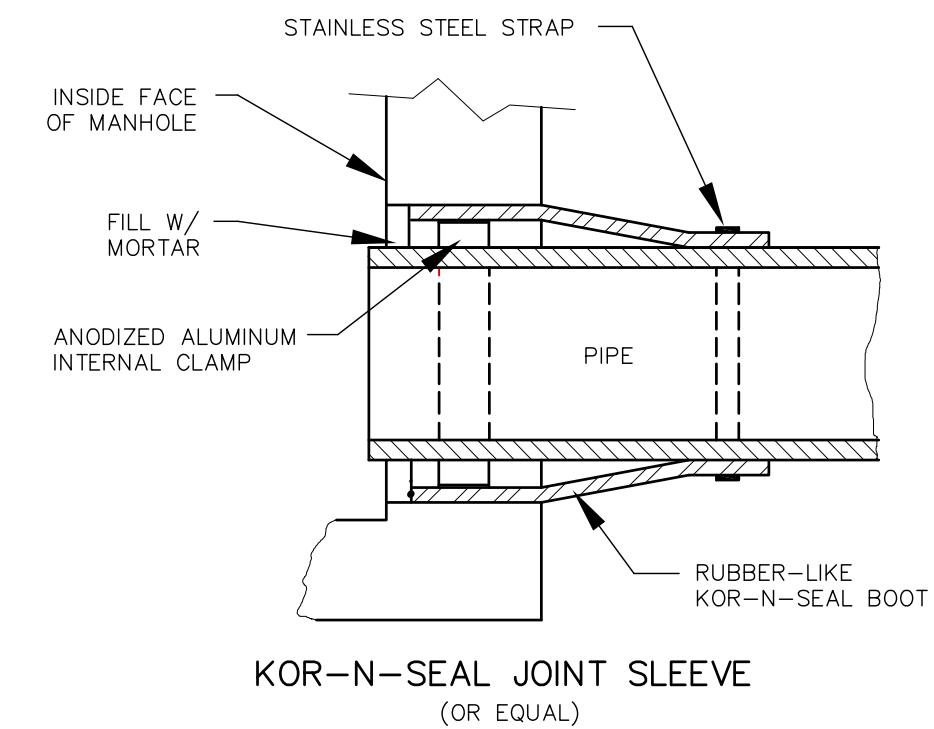
NOTE: ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.



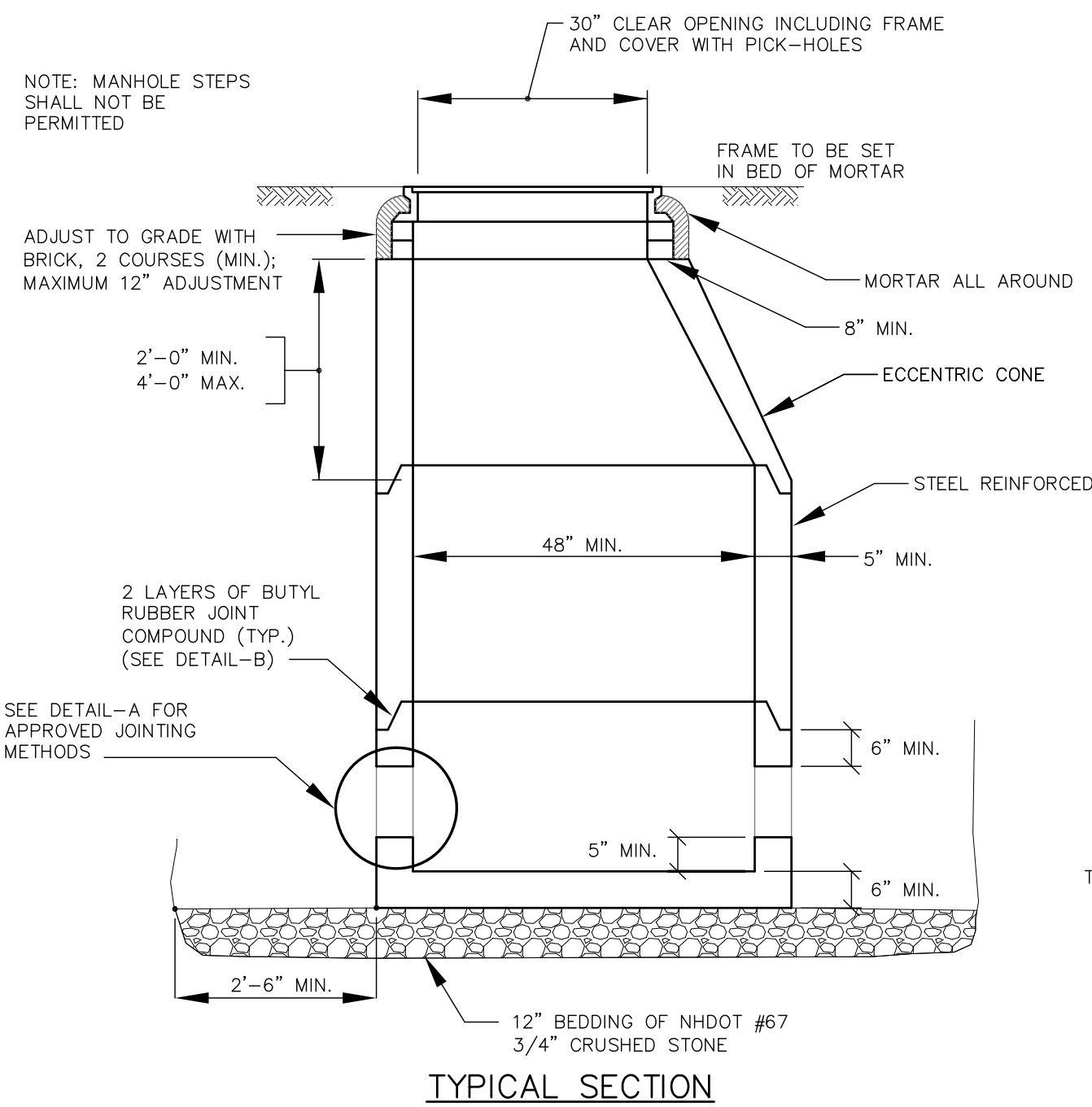
DEEP SEWER SERVICE CONNECTION NOT TO SCALE



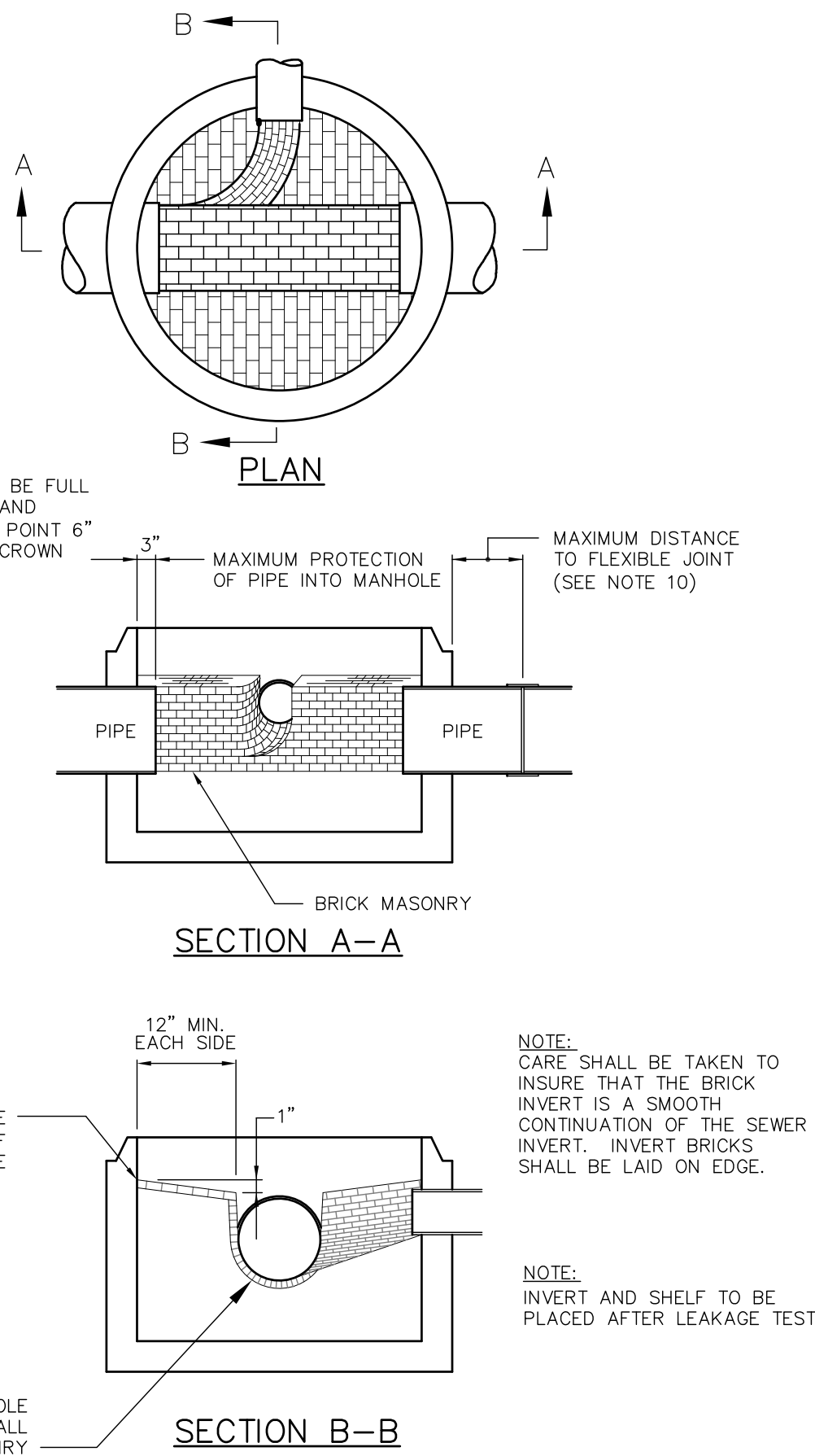
TRASH/RECYCLING ENCLOSURE AND PAD NOT TO SCALE



SEWER MANHOLE DETAIL A NOT TO SCALE



SEWER MANHOLE



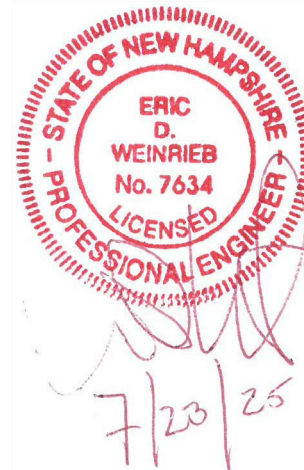
MANHOLE NOTES:

1. IT IS THE INTENTION OF THE NHDES THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY BY THE COMMISSION FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH OR WITHOUT STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH OR WITHOUT REINFORCEMENT IN ANY APPROVED MANHOLE. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H=20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE, A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
2. BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED.
3. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478.
4. LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN'S STANDARD SPECIFICATIONS AND WITH NHDES Env-Wq 704.17.
5. INVERTS AND SHELVES MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION. THE INVERTS SHALL BE LAID OUT IN CURVES, OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. BRICK MASONRY SHALL CONFORM WITH ASTM C32.
6. MORTAR MORTAR USED FOR MANHOLE CONSTRUCTION SHALL CONFORM WITH NHDES Env-Wq 704.13.
7. FRAMES AND COVERS MANHOLE FRAMES AND COVERS SHALL CONFORM WITH ASTM A48/A48M, BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) LETTER "S" OR "SEWER" FOR SEWERS OR "D" OR "DRAIN" FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
8. BEDDING SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33.
100% PASSING 1 INCH SCREEN 0-10% PASSING #4 SIEVE
90-100% PASSING 3/4 INCH SCREEN 0-5% PASSING #8 SIEVE
20- 55% PASSING 3/8 INCH SCREEN
WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2" TO 1/2" SHALL BE USED.
9. CONCRETE FOR DROP SUPPORT SHALL CONFORM TO THE REQUIREMENT FOR CLASS A (3000 LBS.) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:
CEMENT 6.0 BAGS PER CUBIC YARD
WATER 5.75 GALLONS PER BAG CEMENT
MAXIMUM SIZE OF AGGREGATE 1 INCH 9.
10. FLEXIBLE JOINT A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:
PVC PIPE - 60"
RCP & CI PIPE - ALL SIZES - 48"
AC & VC PIPE - UP THROUGH 12" DIAMETER - 18"
AC & VC PIPE - LARGER THAN 12" DIAMETER - 36"
11. SHALLOW MANHOLE IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H=20 LOADS.

SEWER MANHOLE DETAIL B NOT TO SCALE

SEWER MANHOLE

NOT TO SCALE



NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = NTS
11" x 17" - 1" = NTS

OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
RIVERWOODS
DURHAM PHASE II
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:

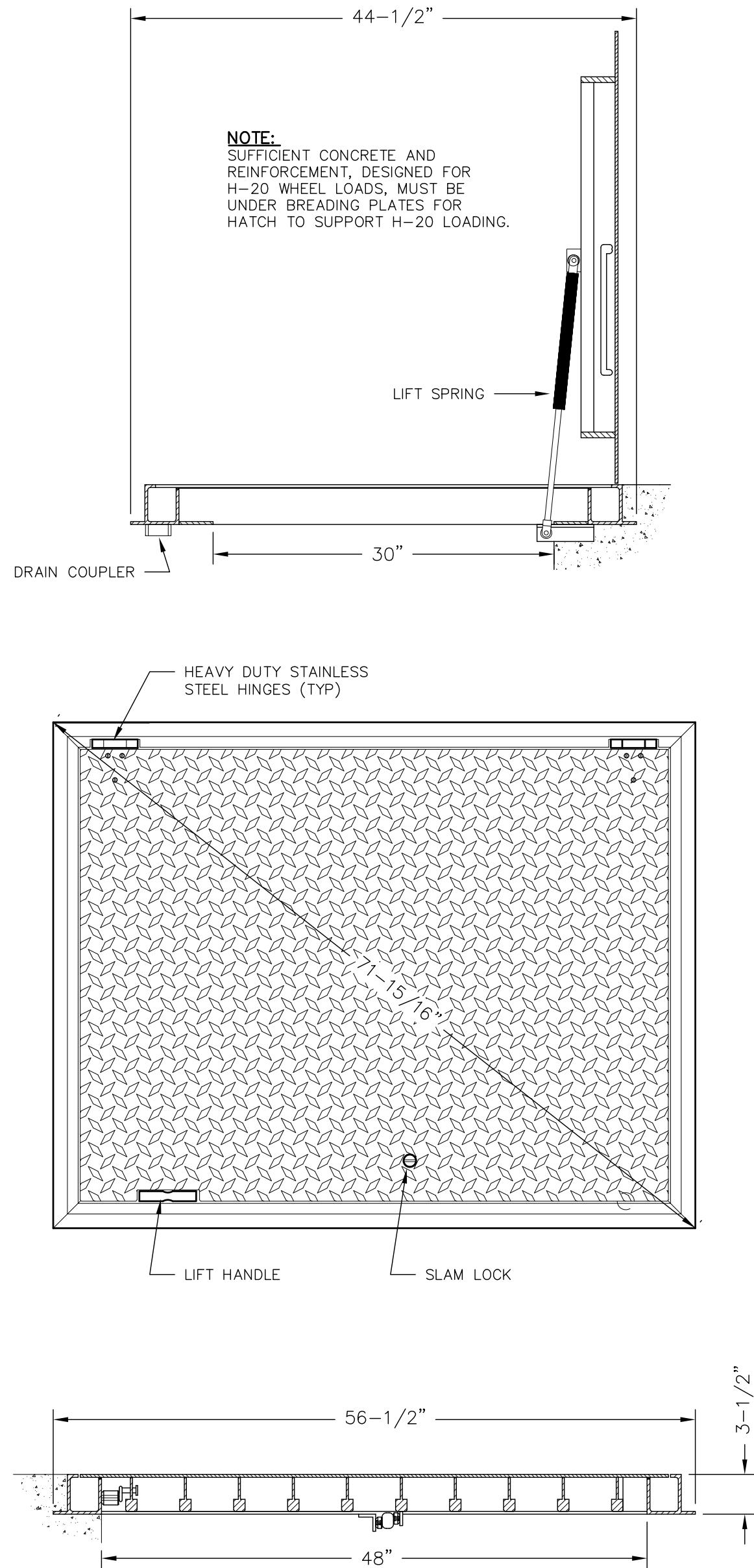
DETAIL SHEET

SHEET NUMBER:

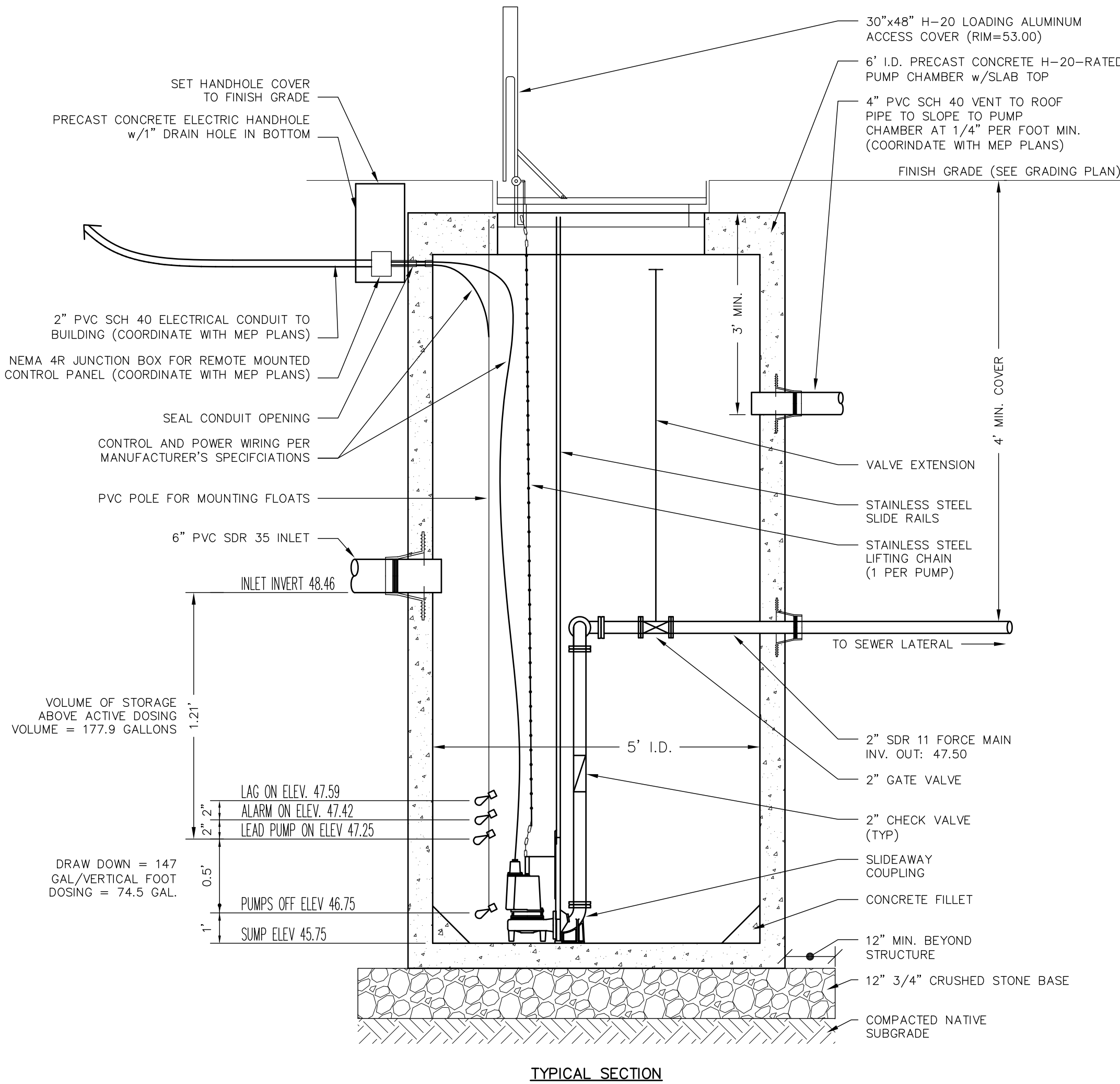
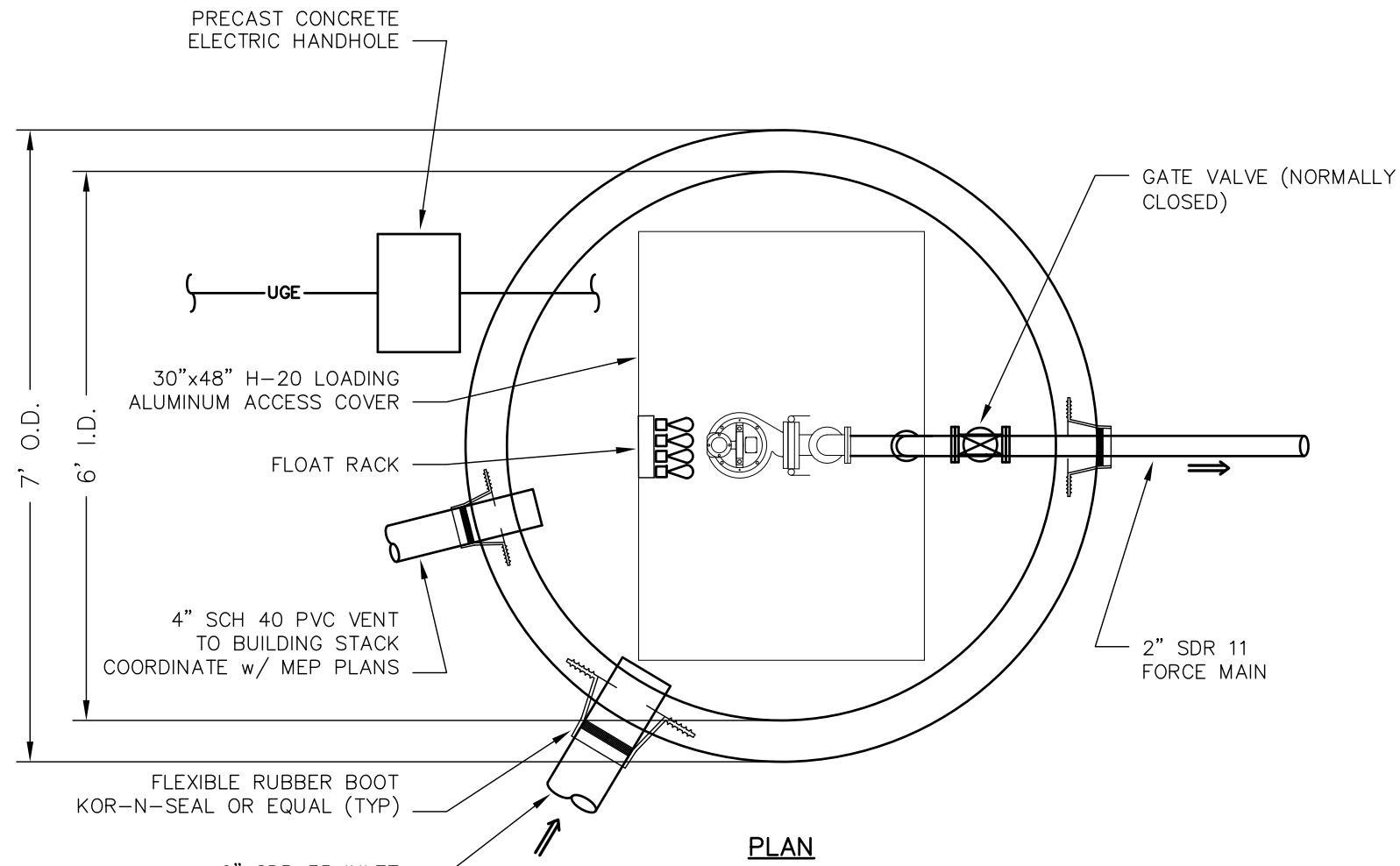
C-19

NOTES

1. STYLE "DT-HD" ACCESS HATCH, AS MANUFACTURED BY SYRACUSE CASTINGS, CICERO, NEW YORK (315-699-2601) OR APPROVED EQUAL.
2. MATERIAL SHALL BE 6061-T6 ALUMINUM FOR BARS, ANGLES, AND EXTRUSIONS. 1/4" DIAMOND PLATE SHALL BE 5086 ALUMINUM.
3. UNIT DESIGNED HEAVY DUTY, FOR H-20 WHEEL LOADS, WHERE NOT SUBJECT TO HIGH DENSITY TRAFFIC. FRAME AND BEARING PLATE MUST BE CAST INTO AND SUPPORTED BY CONCRETE DESIGNED FOR H-20 WHEEL LOADS.
4. UNIT SUPPLIED WITH A HEAVY DUTY PNEU-SPRING, FOR EASE OF OPERATION WHEN OPENING COVER. COVER SHALL BE COUNTERBALANCED, SO ONE PERSON CAN EASILY OPEN THE HATCH DOOR.
5. FRAME SHALL BE OF EXTRUDED ALUMINUM WITH A CONTINUOUS 1-1/4" ANCHOR FLANGE. A DOVETAIL GROOVE SHALL BE EXTRUDED INTO THE SEAT OF THE FRAME FOR A 1/8" SILICONE GASKET.
6. EACH HATCH SHALL BE EQUIPPED WITH A STAINLESS STEEL HOLD OPEN ARM. DOOR SHALL LOCK OPEN IN THE 90 DEGREE POSITION. HOLD OPEN ARM SHALL BE FASTENED TO THE FRAME WITH A 1/2" GRADE 316 STAINLESS STEEL BOLT.
7. HINGES SHALL BE OF HEAVY DUTY DESIGN. MATERIAL SHALL BE GRADE 316 STAINLESS STEEL. EACH HINGE SHALL HAVE A GRADE 316 STAINLESS STEEL, 3/8" DIAMETER HINGE PIN. HINGE SHALL BE FASTENED TO THE CHANNEL FRAME AND DIAMOND PLATE WITH GRADE 316 STAINLESS STEEL BOLTS AND NY-LOCK NUTS.
8. ALUMINUM SHALL BE SUPPLIED WITH MILL FINISH. EXTERIOR OF FRAME WHICH COMES IN CONTACT WITH CONCRETE SHALL HAVE ONE COAT BLACK PRIMER.
9. EACH HATCH SHALL BE SUPPLIED WITH A STAINLESS STEEL SLAM LOCK, WITH THE KEY WAY PROTECTED BY A THREADED ALUMINUM PLUG. THE PLUG SHALL BE FLUSH WITH THE TOP OF THE 1/4" DIAMOND PLATE. THE SLAM LOCK SHALL BE FASTENED WITH GRADE 316 STAINLESS STEEL BOLTS AND WASHERS.
10. EACH HATCH SHALL BE EQUIPPED WITH A STAINLESS STEEL LIFT HANDLE. LIFT HANDLE SHALL BE FLUSH WITH TOP OF 1/4" DIAMOND PLATE.
11. EACH "DT-HD" STYLE HATCH IS SUPPLIED WITH A 1-1/2" THREADED DRAIN COUPLER ON THE UNDERSIDE OF CHANNEL FRAME, FOR PIPE CONNECTION.



SINGLE LEAF H-20 ALUMINUM HATCH NOT TO SCALE



SIMLEX PUMP STATION

PUMP STATION SPECIFICATIONS

PUMP STATION:
Furnish and install pump station as shown on the plans. Station shall include, but not be limited to, a concrete pump chamber, pump, slide rail assemblies, duplex controller, access covers discharge piping, fittings, valves, junction box, level sensors, alarms, electric service, level controls, etc. All wiring shall be in compliance with Town of Durham codes.

PUMP CHAMBER:
Pump chamber shall be on a 5-foot inside diameter precast concrete pump chamber to the depth shown on the Drawings. Chamber shall be rated for H-20 loading.

ACCESS COVER:
The access covers shall be rigidly constructed to provide an H-20 rating with a 2'-6" X 4'-0" clear opening, manufactured by Syracuse Castings or approved equal. Cover shall be sealed with neoprene seal at openings and have hinges constructed of 316 stainless steel.

PUMP:
Pump shall be supplied to operate at the following range of flow vs. TDH: Flow of 70 gpm with a total dynamic head of 9.0'. Provide pump motor with adequate horsepower to deliver flows at the TDH required to reach the receiving point, taking into account the manufacturer's rated efficiency. Motor shall be 1-phase, 60 Cycle 1,750 rpm. Pump shall be submersible non-clog solids-handling sewage pump with 2" discharge as specified by the manufacturer and approved by the Engineer. Impeller shall have a diameter of 4.75" (121mm). Pump shall be Barnes SE-411 (0.4 hp) or approved equal. Provide discharge piping assembly for installation and removal of pump without entering wetwell with stainless steel lift-out rail system.

CONTROLLER:
Duplex control to perform equal alternation of both pumps. Control to consist of two circuit breakers with through-door operating handle, two magnetic starters with ambient compensated quick-trip overloads in each line, discharge piping by manufacturer, duplex unit, running lights, lightning arrestor, door-mounted resets, hour meters, and door-mounted hand-off-automatic selector switches for each pump. Enclosure to include continuous hinge, neoprene gasket in cover and continuous seam weld. Controller shall be Barnes Single Phase Duplex Alternating Control Panel 106484 or approved equal. The controls shall be NEMA 4x watertight construction and mounted on a pedestal adjacent to Pump chamber, on a building, or on nearby utility pole. All conduit and wiring between the station junction boxes and control panel shall be included.

SLIDE RAIL ASSEMBLY:
The slide rail assembly, mounting hardware, and lifting chain shall be AISI Type 316 stainless steel. Slide rails to be provided with AISI Type 316 stainless guide supports. Discharge coupling to be machined cast iron and support the pump four (4) inches above the floor.

PIPING:
The discharge pipe shall be two (2") inch diameter SDR 11 PVC pipe. All fittings shall be cemented or threaded. PVC Ball check valves shall be provided with teflon seats. The working pressure of the check valves shall be 150 psi.

LEVEL CONTROL:
Four (4) liquid level control sensors shall be provided to control operation of the pumps and provide a high water alarm. The level control sensors shall be mounted on a PVC pipe. The controls shall be set at elevations shown on the plans and for a dosage rate of 125 gallons.

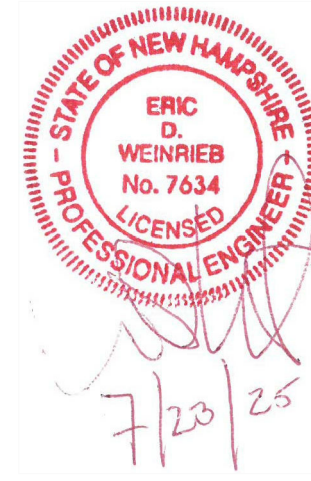
ALARM:
Alarm shall be exterior mounted audio and visual in a location as determined by the Owner. Contractor shall provide a sign for identification.

DOSAGE:
105.75 gallons per dose
Design flow 170 GPD / 105.75 = ±1.6 doses per day

OWNER'S MAINTENANCE NOTES

1. PUMP CHAMBER TO BE PUMPED ANNUALLY BY A LICENSED SANITARY DISPOSAL CONTRACTOR.

NOT TO SCALE



NOT FOR CONSTRUCTION

ISSUED FOR: REVIEW

ISSUE DATE: JULY 23, 2025

REVISIONS
NO. DESCRIPTION BY DATE
0 REVIEW EBS 06/23/25

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5440-SITE.dwg

SCALE:
24" x 36" - 1" = NTS
11" x 17" - 1" = NTS

OWNER:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

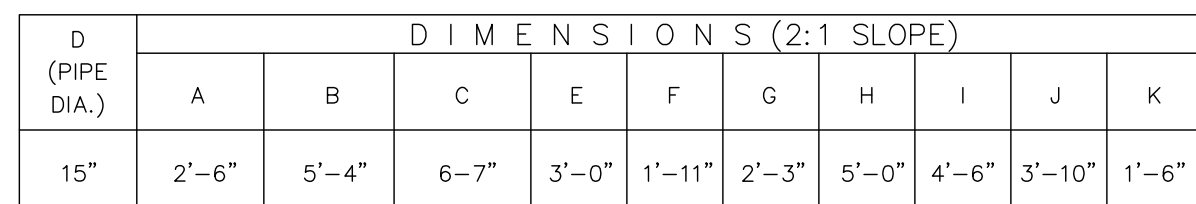
APPLICANT:
RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:
RIVERWOODS
DURHAM PHASE II
TAX MAP 209 LOT 33
STONE QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:

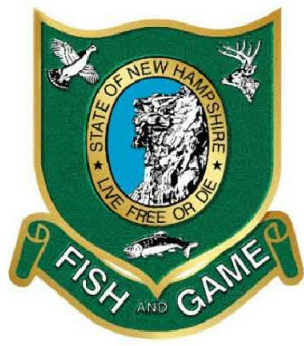
DETAIL SHEET

SHEET NUMBER:
C-20



NH FISH AND GAME CONSERVATION MEASURES APPLICABLE TO THIS PROJECT

- BLANDING'S TURTLE (STATE ENDANGERED) AND NEW ENGLAND COTTONTAIL (STATE ENDANGERED) OCCUR WITHIN THE VICINITY OF THE PROJECT AREA. SPOTTED TURTLE (STATE THREATENED) ALSO VERY LIKELY OCCUR IN THE VICINITY DUE TO OVERLAPPING HABITAT USE AND DISTRIBUTION. ALL OPERATORS AND PERSONNEL WORKING ON OR ENTERING THE SITE SHALL BE MADE AWARE OF THE POTENTIAL PRESENCE OF THESE SPECIES AND SHALL BE PROVIDED NHFG CONTACT INFORMATION. SEE SPECIES FLYERS THIS SHEET.
- SEE THIS SHEET FOR RARE SPECIES INFORMATION (E.G. IDENTIFICATION, OBSERVATION AND REPORTING OF OBSERVATIONS, WHEN TO CONTACT NHFG IMMEDIATELY AND NHFG CONTACT INFORMATION) SHALL BE COMMUNICATED DURING MORNING TAILGATE MEETINGS PRIOR TO WORK COMMENCEMENT DURING THE CONSTRUCTION PHASE OF THE PROJECT.
- TURTLES MAY BE ATTRACTED TO DISTURBED GROUND DURING THE NESTING SEASON (MAY 15TH – JULY 15TH). TURTLE NESTS ARE PROTECTED BY NH LAWS. IF A NEST IS OBSERVED OR SUSPECTED, OPERATORS SHALL CONTACT JOSH MEGYESY AT NHFG IMMEDIATELY FOR FURTHER CONSULTATION. SEE SPECIES FLYERS THIS SHEET FOR NHFG CONTACT INFORMATION.
 - TO MINIMIZE THE POTENTIAL FOR NESTING TO OCCUR WITHIN THE PROJECT SITE:
 - MINIMIZE GROUND DISTURBANCE ACTIVITIES DURING THE ACTIVE NESTING SEASON. LIMIT CLEARING AREAS AND DISTURBING GROUND UNTIL READY TO START ACTIVE CONSTRUCTION FOR A PROJECT COMPONENT.
 - MINIMIZE ACCESS OR MAKE AREAS LESS ATTRACTIVE TO WILDLIFE FOR NESTING FOR DISTURBED GROUND AREAS DURING ACTIVE NESTING SEASON. SOIL/SANDY MOUNDS OR OPEN SANDY/GRAVELLY AREAS WITHIN THE ACTIVE PROJECT SITE SHALL BE COVERED WITH TARPS OR OTHER CONSTRUCTION MATERIALS AT THE END OF THE WORK DAY (NOTE TURTLES CAN MOVE INTO A SITE OVERNIGHT TO NEST – BE OBSERVANT FOR OF TRACKS AND NESTING SIGNS).
 - THE NEST OR SUSPECTED NEST SHALL BE MARKED (SURROUNDING ROPED OFF OR CONE BUFFER DEPLOYED) AND AVOIDED; THIS SHALL BE COMMUNICATED TO ALL PERSONNEL ONSITE.
 - SITE ACTIVITIES SHALL NOT OCCUR IN THE AREA SURROUNDING THE NEST OR SUSPECTED NEST UNTIL FURTHER GUIDANCE IS PROVIDED BY NHFG.
- CATCH BASINS CB #2, CB #17 AND CB #23 SHALL HAVE GRATE OPENINGS NO LARGER THAN 5"x3/8". OUTLET CONTROL STRUCTURES SHALL NOT CONTAIN PUMPS AND SHALL HAVE GRATE OPENINGS NO LARGER THAN 2"x2". SEE PLAN SHEETS C-6.1, C-6.2 AND C-14.
- YARD DRAINS SHALL HAVE HAVE GRATE OPENINGS NO LARGER THAN 6.5"x3/8" AND SHALL NOT CONTAIN GREASE HOODS. SEE PLAN SHEET C-12.
- CATCH BASINS CB #10-1 AND CB #10-2 SHALL NOT CONTAIN GREASE HOODS. SEE PLAN SHEET C-6.1.
- OUTLET CONTROL STRUCTURES SHALL NOT BE PLACED ADJACENT TO THE SIDE SLOPES BUT RATHER AS FAR AWAY AS POSSIBLE TO DETER WILDLIFE FROM CRAWLING ONTO THEM AND FALLING THROUGH THE GRATE OPENINGS. THESE STRUCTURES SHALL BE A MINIMUM OF 12"-18" ABOVE GRADE AND BE SET BACK AT LEAST 3' FROM ADJACENT SLOPES. SEE PLAN SHEET C-14.
- IF HYDROSEEDING IS DEEMED NECESSARY, THE MIX SHALL NOT CONTAIN MICROPLASTICS AND DYES SHALL BE WATER-SOLUBLE AND ECO-FRIENDLY. HYDROSEEDING SHALL NOT OCCUR WITHIN 75 FEET OF WETLANDS. SEE PLAN SHEET C-12.
- AVOID OR MINIMIZE THE USE OF FERTILIZERS IN UPLAND AREAS OR TRANSITION ZONES. IF FERTILIZERS ARE NECESSARY, USE ORGANIC VERSUS SYNTHETIC FERTILIZER OPTIONS. SYNTHETIC OPTIONS SHOULD BE AVOIDED; HOWEVER, IF CHOSEN, THEY SHALL BE CONTROLLED-RELEASED/SLOW-RELEASED AND AT LOW STRENGTHS. SEE PLAN SHEET C-12.
- RIP-RAP SHALL BE FILLED WITH FINER MATERIAL (I.E., NATIVE WETLAND MATERIAL, NATIVE WETLAND SEED MIX, OR GRAVEL IN BETWEEN RIP-RAP) TO CREATE A RELATIVELY SMOOTH SURFACE FOR WILDLIFE TO TRAVERSE. SEE PLAN SHEET C-13.
- STAGING OF CONSTRUCTION EQUIPMENT/MATERIAL AND VEHICLE PARKING SHALL NOT OCCUR IN SHRUB COVER OR WETLANDS AND SHRUB COVER SHALL NOT BE REMOVED BEYOND THE LIMITS OF THE CONSTRUCTION AREA. SEE PLAN SHEET C-7.1.
- A NATIVE SEED MIXTURE SHALL BE APPLIED TO ALL AREAS AFFECTED BY CONSTRUCTION. THE SEED MIXTURE SHALL NOT CONTAIN INVASIVE SPECIES SUCH AS CROWN VETCH, BIRD'S-FOOT TREFOIL, ALSIKE CLOVER, OR FLAT PEA. SEE PLAN SHEET C-12.
- ALL MANUFACTURED OR DERIVED PRODUCTS, WITH THE EXCEPTION OF TURF REINFORCEMENT MATS, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, SLOPE DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN PLASTIC, OR MULTIFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8" INCHES. SEE PLAN SHEET C-12.
- ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES ON THE PROJECT SITE SHALL BE REPORTED IMMEDIATELY TO THE NHFG NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHGREVIEW@WILDLIFE.NH.GOV, WITH THE EMAIL SUBJECT LINE CONTAINING THE NHB DATACHECK TOOL RESULTS LETTER ASSIGNED NUMBER, THE PROJECT NAME, AND THE TERM WILDLIFE SPECIES OBSERVATION.
 - PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHFG 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 NHFG AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHFG.
 - SITE OPERATORS SHALL BE ALLOWED TO RELOCATE WILDLIFE ENCOUNTERED IF DISCOVERED WITHIN THE ACTIVE WORK ZONE IF IN DIRECT HARM FROM PROJECT ACTIVITIES.
 - WILDLIFE SHALL BE RELOCATED IN CLOSE PROXIMITY TO THE CAPTURE LOCATION BUT OUTSIDE OF THE WORK ZONE AND IN THE DIRECTION THE INDIVIDUAL WAS HEADING.
 - NHFG SHALL BE CONTACTED IMMEDIATELY IF THIS ACTION OCCURS.
- NHFG, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.



NEW HAMPSHIRE
STATE ENDANGERED

BLANDING'S TURTLE

Report Sightings: Contact Wildlife Biologist Josh Megyesy at (603) 271 – 1125 or the Wildlife Division at (603) 271 – 2461. Observation reports can be sent to RAARP@wildlife.nh.gov. Photographs and exact locations are strongly encouraged.

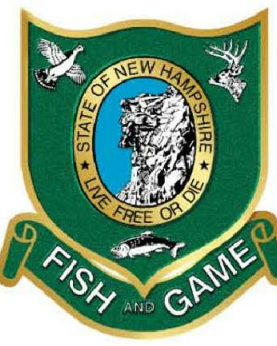
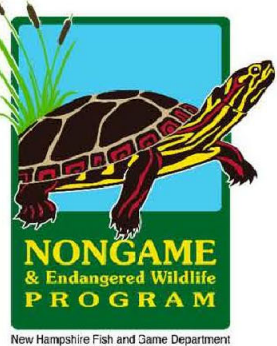


- Specific Information:**
- Adults are 7 – 9 inches long.
 - Shell is highly domed with light speckles.
 - Distinct yellow throat and chin.
 - Uses variety of wetlands and moves extensively over land.
 - Turtles are frequently concealed by leaves and undergrowth and may not be easily visible.
 - Turtles are most active from April 15 – October 15.
 - During nesting season (May 15 – July 15) turtles are attracted to disturbed ground.



This species is protected under RSA 212-A and Fis 1000. Thank you for reporting any observations.

PLEASE DO NOT DISTURB OR HANDLE WILDLIFE



NEW HAMPSHIRE
STATE THREATENED

SPOTTED TURTLE

Report Sightings: Contact Wildlife Biologist Josh Megyesy at (603) 271 – 1125 or the Wildlife Division at (603) 271 – 2461. Observation reports can be sent to RAARP@wildlife.nh.gov. Photographs and exact locations are strongly encouraged.

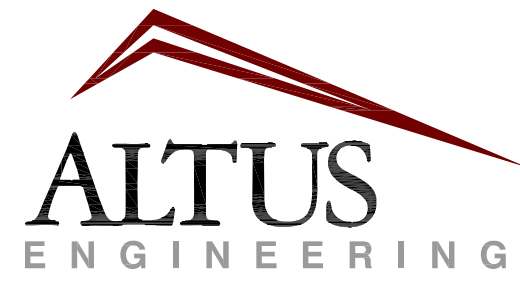
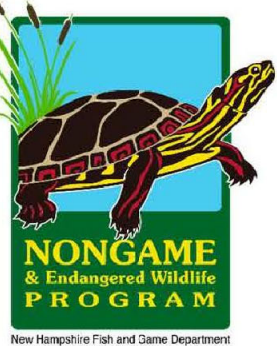


- Specific Information:**
- Adults are 3 – 5 inches long
 - Shell is black or brown, fairly flat, and with yellow spots.
 - Uses variety of wetlands and moves extensively over land.
 - Turtles are frequently concealed by leaves and undergrowth and may not be easily visible.
 - Turtles are most active from April 15 – October 15.
 - During nesting season (May 15 – July 15) turtles are attracted to disturbed ground.



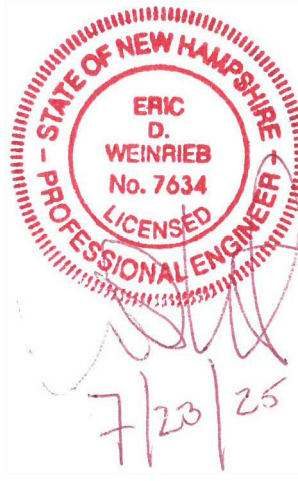
This species is protected under RSA 212-A and Fis 1000. Thank you for reporting any observations.

PLEASE DO NOT DISTURB OR HANDLE WILDLIFE



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR:

REVIEW

ISSUE DATE:

JULY 23, 2025

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	REVIEW	EBS	06/23/25

DRAWN BY:

EBS

APPROVED BY:

EBS

DRAWING FILE:

5440-SITE.dwg

SCALE:

24" x 36" - 1" = NTS

11" x 17" - 1" = NTS

OWNER:

RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

APPLICANT:

RIVERWOODS DURHAM
14 STONE QUARRY DRIVE
DURHAM, NH 03824

PROJECT:

RIVERWOODS
DURHAM PHASE II

STAGE 209 LOT 33
TAX MAP QUARRY DRIVE
& DOVER ROAD (NH 108)
DURHAM, NH

TITLE:

DETAIL SHEET

SHEET NUMBER:

C-22

**D-Series Size 0
LED Area Luminaire**

Specifications

EPA: 0.44 ft² (0.04m²)

Length: 26.19" (665.96mm)

Width: 14.09" (357.91mm)

Height H1: 2.26" (57.91mm)

Height H2: 7.41" (188.16mm)

Weight: 23 lbs (10.4kg)

Ordering Information

EXAMPLE: DSX0 LED P6 40K Z0CR T3M MVOLT SPA NLTAR2 PIRNH DDBX0

Series	LEDs	Color temperature	Color Rendering Index	Distribution	AFR	TCM	TCM	Voltage	Mounting
DSX0 LED	P1	3000K	90	70KCR	AFR	TCM	TCM	120V	120V
	P2	4000K	90	70KCR	AFR	TCM	TCM	120V	120V
	P3	5000K	90	70KCR	AFR	TCM	TCM	120V	120V
	P4	5000K	90	70KCR	AFR	TCM	TCM	120V	120V
Rotated optics	P10	3000K	90	70KCR	AFR	TCM	TCM	120V	120V
	P12	4000K	90	70KCR	AFR	TCM	TCM	120V	120V
	P13	5000K	90	70KCR	AFR	TCM	TCM	120V	120V
	P14	5000K	90	70KCR	AFR	TCM	TCM	120V	120V

Control options

Shipped installed

Other options

Finish

LDN4 STATIC WHITE

FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, hallways, conference rooms and private offices.

CONSTRUCTION — Galvanized steel mounting bracket frame, galvanized steel junction box with ballast, hinged access covers and spring latches. Reflectors are rotated by tension springs.

VERTICALLY ADJUSTABLE — Vertically adjustable mounting brackets with commercial lamp hangers provide 3-1/4" full adjustment.

Two construction options: 12" x 24" and 12" x 36" footcandle for straight through mount only. Capacity 1-1/4 lbs. No. 12 AWG conductors, cable for 90°C.

Accessories: 12" x 24" post spacing.

Passive cooling thermal management for 35°C standard, high ambient (40°C) option available. Light engine and others are accessible from above or below ceiling.

Max ceiling thickness: 1-1/2"

OPTICS — LED is available in a single beam (Type 1) or 120° beam (Type 2) option. 94 CRI optional.

LED light source concealed with diffusing optics lens.

General illumination lighting with 1.85W/ft and 3.5" x 3.5" x 3.5" source and source image.

Self-Ranging dimmable reflectors in specular, semi-specular, or matte diffuse finishes. Also available in white and black powder-coated.

AS CAPABLE LUMINAIRE — This down is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and uniformity of the beam and consistency with other luminaires in the series used with Acuity Brands controls products. All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for dynamic consistency — including color rendering, color fidelity and color temperature tolerances around standard CIE chromaticity coordinates. It is known about A+ standards, specifications, and testing methods.

UGR — UGR is used for fixtures aimed at tasks with a cut-off equal to or less than 10° per CEI 107-1996. Discomfort glare is inherent lighting (UGR 19.0).

ELECTRICAL — Built-in with 120-277V, 50/60Hz, 6-3W dimming. Dimmer connected to junction box, 90% or 95% minimum dimming level available.

6-10' dimming fixture requires 10' (3 additional line voltage wires to be pulled).

LUMEN MAINTENANCE — 70% lumen maintenance at 60,000 hours.

LISTINGS — Certified UL listed Canadian safety standards. Wet location standard (covered ceiling), IP54 rated. Others are UL listed.

GOVERNMENT PROCUREMENT — BAA — Product with the BAA option qualifies as an automotive grade product under the Buy America Act as implemented in the USA and Canada. Product with the BAA option also qualifies as manufactured in the United States under 801 Buy America regulations.

BABA — Built in America Buy America. Product with the BAA option also qualifies as produced in the United States under the definition of the Buy America Act.

Please refer to www.lithonia.com for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.lithonia.com/warranty and www.lithonia.com/warranty.

Note: Actual performance may differ as a result of end-use environment and application.

All values are design or typical value, measured under laboratory conditions at 25 °C.

Specific values subject to change without notice.

PERFORMANCE DATA

Model	Lumens	Wattage	lm/W
540	3224	5.74	91.2
750	7511	8.6	87.3
1000	1045	10.38	98.8
1200	1312	11.5	88.4
2000	2004	22.4	92.7
2500	2551	26.1	97.7
3000	3003	32.1	97.7
4000	4172	43	98.0

NOTES

Tested in accordance with IESNA LM-79-08

Tested to current ENEC and IESNA standards under stabilized laboratory conditions.

Based on LEDA 40 L55 35W 94CRI

Dimensions

See page 4 for other fixture dimensions

Ordering Information

EXAMPLE: RADPT LED P3 30K SYM MVOLT PT4 PE DNAX0

Series	Performance package	Color temperature	Distribution	Voltage	Mounting
RADPT LED	P1	3000K	SYM	120V	PT4
	P2	4000K	SYM	120V	PT4
	P3	5000K	SYM	120V	PT4
	P4	5000K	SYM	120V	PT4

Control options

Other options

Shipped installed

Field installed

**Radean Post Top
LED Area Luminaire**

Specifications

EPA: 1.02 ft² (0.105m²)

Length: 24" (61cm)

Width: 24" (61cm)

Height: 4" (10.16cm)

1/2" Luminaire Height: 20" (50.8cm)

1/2" Luminaire Height: 20" (50.8cm)

Weight: 38lbs (17.24kg)

Introduction

The architecturally-inspired shape of the RADEAN™ post top area luminaire embodies the grace and strength of the RADEAN family. The twin copper-core cast aluminum arms support the slender superstructure, creating a beautiful sculpture by day transforming into a beacon of comfort by night. Triangular arms redirect reflection maintaining its visually quiet appearance. With sleek lines and simple silhouettes, these LED luminaires use specialized lighting and visual comfort to transform common areas like courtyards, outdoor retail locations, universities and corporate campuses into pedestrian friendly nighttime environments.

Ordering Information

EXAMPLE: RADPT LED P3 30K SYM MVOLT PT4 PE DNAX0

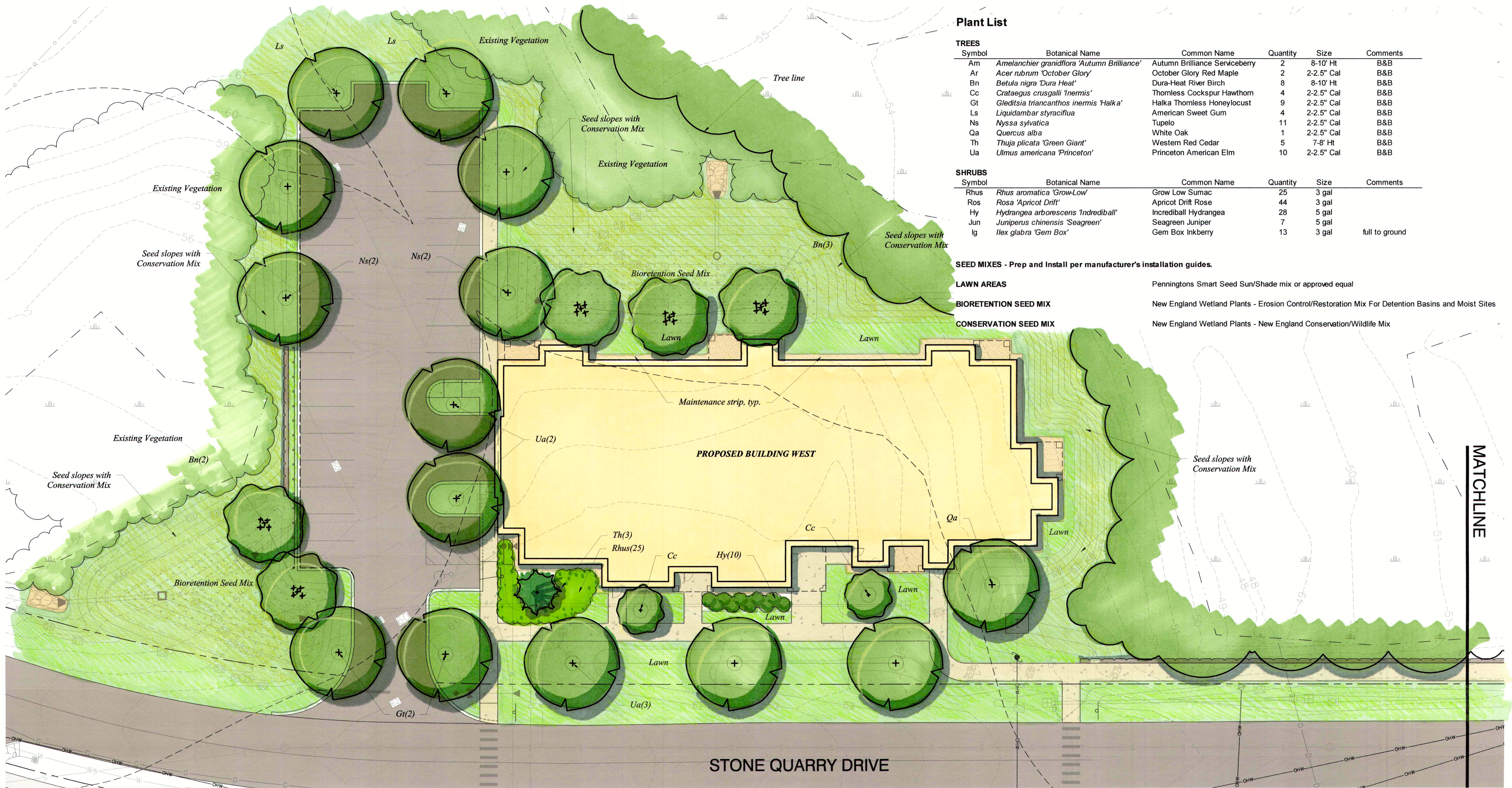
Series	Performance package	Color temperature	Distribution	Voltage	Mounting
RADPT LED	P1	3000K	SYM	120V	PT4
	P2	4000K	SYM	120V	PT4
	P3	5000K	SYM	120V	PT4
	P4	5000K	SYM	120V	PT4

Control options

Other options

Shipped installed

Field installed



Plant List

TREES					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Am	Amelanchier grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	2	8-10' Ht	B&B
Ar	Acer rubrum 'October Glory'	October Glory Red Maple	2	2-2.5' Cal	B&B
Bn	Betula nigra 'Dura Heat'	Dura-Heat River Birch	8	8-10' Ht	B&B
Cc	Crataegus crusgalli 'Inermis'	Thornless Cockspur Hawthorn	4	2-2.5' Cal	B&B
Gt	Gleditsia inacanthos inermis 'Halka'	Halka Thornless Honeylocust	9	2-2.5' Cal	B&B
Ls	Liquidambar styraciflua	American Sweet Gum	4	2-2.5' Cal	B&B
Ns	Nyssa sylvatica	Tupelo	11	2-2.5' Cal	B&B
Qa	Quercus alba	White Oak	1	2-2.5' Cal	B&B
Th	Thuja plicata 'Green Giant'	Western Red Cedar	5	7-8' Ht	B&B
Ua	Ulmus americana 'Princeton'	Princeton American Elm	10	2-2.5' Cal	B&B
SHRUBS					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Rhus	Rhus aromatica 'Grow-Low'	Grow Low Sumac	25	3 gal	
Ros	Rosa 'Apicot Drift'	Apricot Drift Rose	44	3 gal	
Hy	Hydrangea arborescens 'Incrediball'	Incrediball Hydrangea	28	5 gal	
Jun	Juniperus chinensis 'Seagreen'	Seagreen Juniper	7	5 gal	
lg	Ilex glabra 'Gem Box'	Gem Box Inkberry	13	3 gal	full to ground

SEED MIXES - Prep and install per manufacturer's installation guides.

LAWN AREAS

Penningtons Smart Seed Sun/Shade mix or approved equal

BIORETENTION SEED MIX

New England Wetland Plants - Erosion Control/Restoration Mix For Detention Basins and Moist Sites

CONSERVATION SEED MIX

New England Wetland Plants - New England Conservation/Wildlife Mix

Landscape Notes

- Design is based on drawings by Altus Engineering dated July 21, 2025 and may require adjustment due to actual field conditions.
- The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
- Erosion Control shall be in place prior to construction.
- The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
- It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
- Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
- This plan is for review purposes only, NOT for Construction. Construction Documents will be provided upon request.
- Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
- The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
- The Contractor shall procure any required permits prior to construction.
- Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
- Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
- The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
- A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
- All plants shall be legibly tagged with proper botanical name.
- The Contractor shall guarantee all plants for 2 years from time of acceptance.
- Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
- No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
- All landscaping shall be provided with the following:
 - Outside hose attachments spaced a maximum of 150 feet apart, and
 - An underground automatic irrigation system utilizing the latest technology in water conservation
- If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
- The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide clean water suitable for plant health from off site, should it not be available on site.
- All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
- Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and 3/2" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
- Drip strip shall extend to 6" beyond roof overhang and shall be edged with 3/16" thick metal edger.
- In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
- Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy. Within the sight distance triangles at vehicle intersections the canopies shall be raised to 8' min.
- Snow shall be stored a minimum of 5' from shrubs and trunks of trees.

Do not heavily prune the tree at planting. Prune only cross-over limbs, co-dominant leaders, and broken or dead branches. Some interior twigs and lateral branches may be pruned; however, DO NOT remove the terminal buds of branches that extend to the edge of the crown.

Trees less than 3" in caliper shall be staked with three stakes per tree, spaced evenly around the trunk with 12 gauge wire. Plastic hose sections shall be used at attachment to trees. Each wire shall be flagged with a visual marker. 5' long min. wooden stakes shall be used to anchor the wires. Stakes shall be driven at least 12" outside the edge of the planting pit into stable soil. Remove all staking NO LATER than the end of the first growing season after planting.

Mark the north side of the tree in the nursery. Rotate the tree to face north at the site whenever possible.

4 in. high earth saucer beyond edge of root ball

2 IN. max. Mulch. Do NOT place mulch in contact with tree trunk. Maintain the mulch weed-free for a minimum of three years after planting.

Tamp soil around root ball base firmly with foot pressure so that root ball does not shift.

Place root ball on unexcavated or tamped soil.

2 times the diameter of the root ball - Permeable area in which tree is to be planted shall be no less than a 3' wide radius from the base of the tree

Trees greater than 3" in caliper shall be guyed with three guys per tree, spaced evenly around the trunk with 12 gauge wire. Plastic hose sections shall be used at attachment to trees. Each guy wire shall be flagged with a visual marker. 24" stakes or metal drive anchors shall be used to anchor the guy wires. Stakes/anchors shall be driven 12" min. outside the edge of the planting pit into stable soil. Remove all guying NO LATER than the end of the first growing season after planting.

6" Corrugated PVC tree sock

Each tree must be planted such that the original trunk flare is visible at the top of the root ball. Trees where the original trunk flare is not visible may be rejected. DO NOT cover the top of the root ball with soil. Before planting Contractor shall inspect the rootball for the location of the original root flare. If the original root flare is not visible at the top of the root ball then the Contractor shall then gently remove from the top of the root ball any excess soil from nursery operations that may be covering the original root flare. All secondary and girdling roots shall be removed prior to planting. Trees with 4" or more of extraneous soil and/or adventitious roots greater than 1/8" shall be rejected. The tree shall be planted with the original root flare at or slightly (2-3") above surrounding finished grade.

Backfill with existing soil, in sandy and heavy clay soils add 20% max. by volume composted organic material to the existing soil.

Remove all twine, rope, wire, and burlap

If plant is shipped with a wire basket around the root ball, prior to planting, the contractor shall cut away the bottom of the wire basket, leaving the sides in place. Once the tree is placed and faced, the contractor shall remove the remainder of the wire basket and backfill the planting pit as noted above.

Tree Planting Detail

woodburn
& company

LANDSCAPE ARCHITECTURE

Phone: 603.639.5949



103 Kent Place
Newmarket, New Hampshire

RiverWoods Durham Phase II

LANDSCAPE PLAN

14 Stone Quarry Drive Durham, New Hampshire

Drawn By: VM

Checked By: RW

Scale: 1" = 20' - 0"

Date: July 21, 2025

Revisions:

L-1

Sheet 1 of 2



Plant List

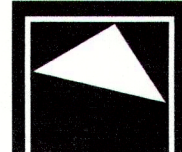
TREES					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Am	Amelanchier grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	2	8-10' Ht	B&B
Ar	Acer rubrum 'October Glory'	October Glory Red Maple	2	2-2.5" Cal	B&B
Bn	Betula nigra 'Dura Heat'	Dura-Heat River Birch	8	8-10' Ht	B&B
Cc	Crataegus crusgalli 'Inermis'	Thornless Cockspur Hawthorn	4	2-2.5" Cal	B&B
Gt	Gleditsia triacanthos inermis 'Halka'	Halka Thornless Honeylocust	9	2-2.5" Cal	B&B
Ls	Liquidambar styraciflua	American Sweet Gum	4	2-2.5" Cal	B&B
Ns	Nyssa sylvatica	Tupelo	11	2-2.5" Cal	B&B
Qa	Quercus alba	White Oak	1	2-2.5" Cal	B&B
Th	Thuja plicata 'Green Giant'	Western Red Cedar	5	7-8' Ht	B&B
Ua	Ulmus americana 'Princeton'	Princeton American Elm	10	2-2.5" Cal	B&B

SHRUBS					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Rhus	Rhus aromatica 'Grow-Low'	Grow Low Sumac	25	3 gal	
Ros	Rosa 'Apricot Drift'	Apricot Drift Rose	44	3 gal	
Hy	Hydrangea arborescens 'Incrediball'	Incrediball Hydrangea	28	5 gal	
Jun	Juniperus chinensis 'Seagreen'	Seagreen Juniper	7	5 gal	
Ig	Ilex glabra 'Gem Box'	Gem Box Inkberry	13	3 gal	full to ground

SEED MIXES - Prep and Install per manufacturer's installation guides.

LAWN AREAS	Penningtons Smart Seed Sun/Shade mix or approved equal
BIORETENTION SEED MIX	New England Wetland Plants - Erosion Control/Restoration Mix For Detention Basins and Moist Sites
CONSERVATION SEED MIX	New England Wetland Plants - New England Conservation/Wildlife Mix

0 5 10 20 40





LEFT

4
A500



BACK

3
A500

- ROOF MIDPOINT
149'-3 3/8"
- TRUSS BEARING
142'-4 7/8"
- FOURTH FLOOR
133'-3 3/4"
- THIRD FLOOR
122'-1 7/8"
- SECOND FLOOR
111'-0"
- FIRST FLOOR
100'-0"



RIGHT

2
A500



FRONT

1
A500

- ROOF MIDPOINT
149'-3 3/8"
- TRUSS BEARING
142'-4 7/8"
- FOURTH FLOOR
133'-3 3/4"
- THIRD FLOOR
122'-1 7/8"
- SECOND FLOOR
111'-0"
- FIRST FLOOR
100'-0"

RIVERWOODS DURHAM PHASE 2 | DESIGN DEVELOPMENT

Durham, New Hampshire
PRELIMINARY DRAFT - NOT FOR CONSTRUCTION

1/8" EXTERIOR ELEVATIONS - HYBRID HOME 'A'

12 FEBRUARY 2025
A500



EXTERIOR ELEVATION KEY NOTES:

- MR STANDING SEAM GALVALUME METAL ROOF
- A THREE DIMENSIONAL ASPHALT SHINGLES
- S STONE VENEER
- MS MANUFACTURED STONE
- F5 FIBER CEMENT SIDING WITH 5" LAP - COLOR B
- F52 FIBER CEMENT SIDING WITH 5" LAP - COLOR C
- FP FIBER CEMENT PANEL - COLOR A
- FP2 FIBER CEMENT PANEL - COLOR B
- FV FIBER CEMENT VERTICAL BATTEN SIDING - COLOR A
(1X3 FIBER CEMENT BATTENS @ 16" O.C.)
- FV2 FIBER CEMENT VERTICAL BATTEN SIDING - COLOR A
(1X3 FIBER CEMENT BATTENS @ 8" O.C.)
- FV3 FIBER CEMENT VERTICAL BATTEN SIDING - COLOR D
(1X3 FIBER CEMENT BATTENS @ 16" O.C.)



LEFT

4
A501

BACK

3
A501



RIGHT

2
A501

FRONT

1
A501

EXTERIOR ELEVATION KEY NOTES:

- MR STANDING SEAM GALVALUME METAL ROOF
- A THREE DIMENSIONAL ASPHALT SHINGLES
- S STONE VENEER
- MS MANUFACTURED STONE
- F5 FIBER CEMENT SIDING WITH 5" LAP - COLOR B
- F52 FIBER CEMENT SIDING WITH 5" LAP - COLOR C
- FP FIBER CEMENT PANEL - COLOR A
- FP2 FIBER CEMENT PANEL - COLOR B
- FV FIBER CEMENT VERTICAL BATTEN SIDING - COLOR A
(1X3 FIBER CEMENT BATTENS @ 16" O.C.)
- FV2 FIBER CEMENT VERTICAL BATTEN SIDING - COLOR A
(1X3 FIBER CEMENT BATTENS @ 8" O.C.)
- FV3 FIBER CEMENT VERTICAL BATTEN SIDING - COLOR D
(1X3 FIBER CEMENT BATTENS @ 16" O.C.)



LEFT

4
A501



BACK

3
A501

ROOF MIDPOINT
119'-4 7/8"

TRUSS BEARING
110'-0"

FIRST FLOOR
100'-0"



RIGHT

2
A501



FRONT

1
A501

ROOF MIDPOINT
119'-4 7/8"

TRUSS BEARING
110'-0"

FIRST FLOOR
100'-0"

