

SITE DEVELOPMENT PLANS FOR ORION STUDENT HOUSING

25, 27, 29 & 35 MAIN STREET DURHAM, NH

LOCUS MAP

OWNER\APPLICANT:
ORION UNH LLC
225 FRANKLIN STREET, 26TH FLOOR
BOSTON, MA 02110

SITE ENGINEERS:
ALLEN & MAJOR ASSOCIATES, INC.
250 COMMERCIAL STREET
SUITE 1001
MANCHESTER, NH 03101

ARCHITECT:
DESTEFANO ARCHITECTS
23 HIGH STREET
PORTSMOUTH, NH 03801

ABUTTERS:
TAX MAP 5 LOT 1-5
37 MAIN STREET DURHAM LLC
6 PARK STREET
NEWBURYPORT, MA 01950

TAX MAP 5 LOT 1-9 KYREAGES INC P O BOX 174 ELIOT, ME 03903

TAX MAP 5 LOT 1-15 KYREAGES INC P O BOX 174 ELIOT, ME 03903

TAX MAP 5 LOT 1-1A/1B
COLONIAL DURHAM ASSOCIATES
ADMINISTRATIVE OFFICES
7 MILL ROAD UNIT C
DURHAM, NH 03824

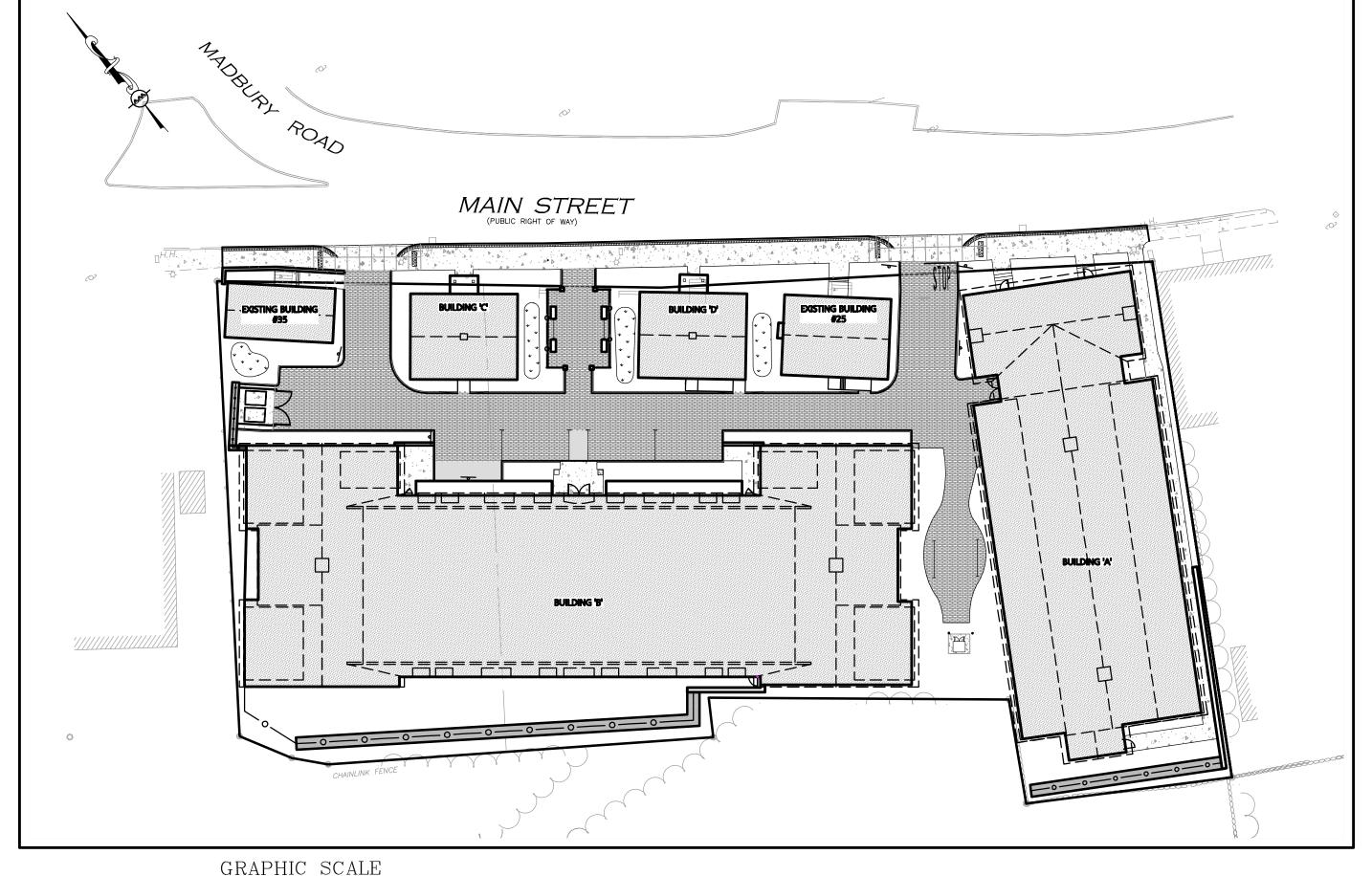
TAX MAP 4 LOT 55-0 KYREAGES INC P O BOX 174 ELIOT, ME 03903

TAX MAP 4 LOT 56-0 HENDERSON, CHRISTINE & HENDERSON, MARK H 1 MAIN STREET, SUITE 16 DURHAM, NH 03824

TAX MAP 4 LOT 59-0 US POSTAL SERVICE P.O. BOX 1270 MANDAN, ND 58554

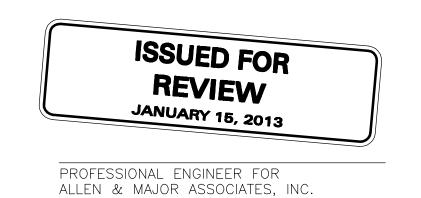
TAX MAP 4 LOT 1-0 HENDERSON, EARLE H & MARK H 1 MAIN STREET, SUITE 16 DURHAM, NH 03824 (IN FEET)

1 inch = 30 ft.

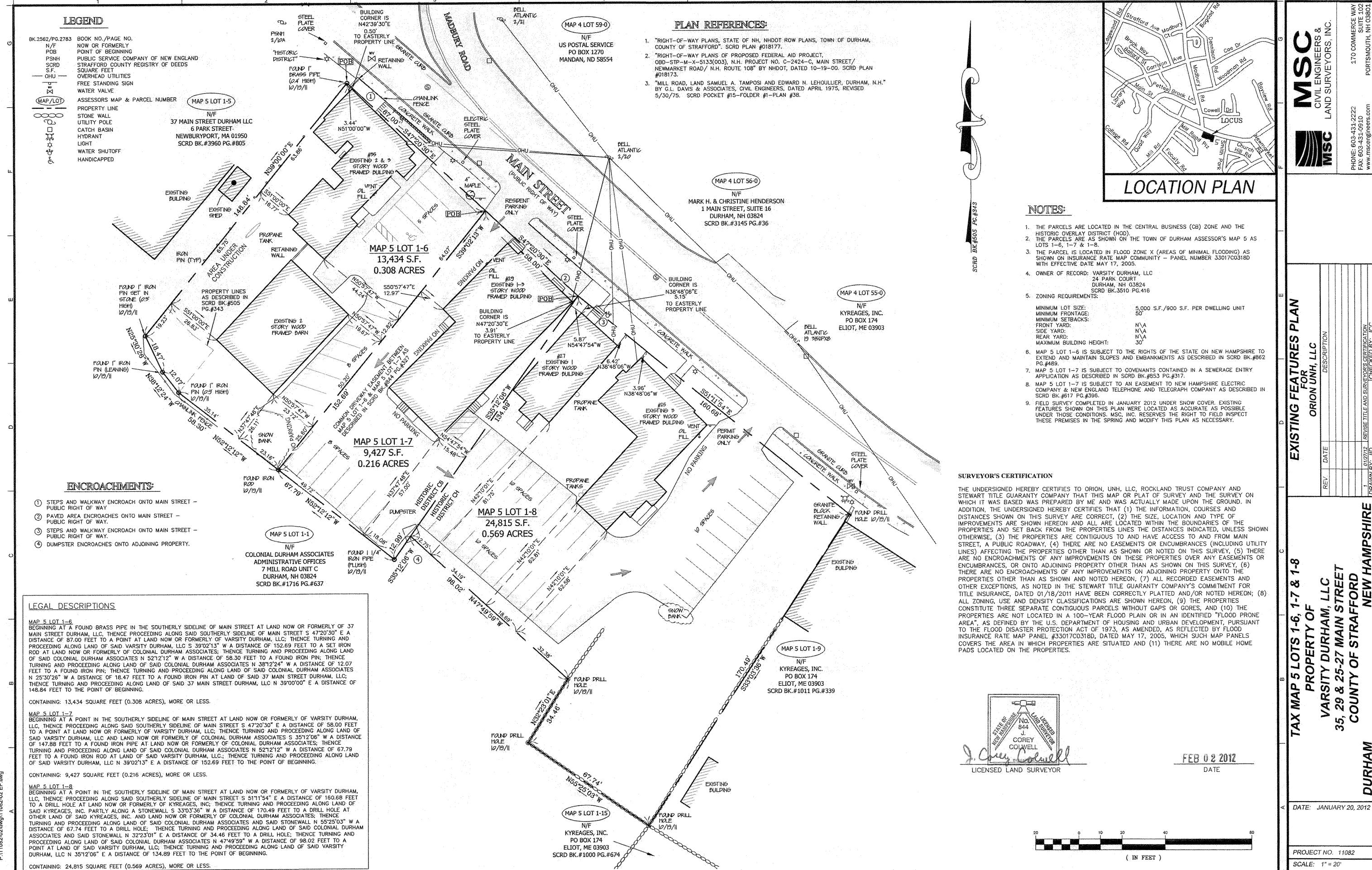


LIST OF I	DRAWINGS	5	
DRAWING TITLE	SHEET NO.	ISSUED	REVISED
EXISTING CONDITIONS PLAN	EX-I	02-02-12	-
LAYOUT & MATERIALS PLAN	C-I	09-04-13	01-15-14
GRADING & DRAINAGE PLAN	C-2	09-04-13	01-15-14
UTILITY PLAN	C-3	09-04-13	01-15-14
LANDSCAPE PLAN	C-4	09-04-13	01-15-14
CONSTRUCTION MANAGEMENT PLAN	C-5	10-25-13	01-15-14
STORMWATER POLLUTION PREVENTION NOTES	SWPPPI	09-04-13	01-15-14
STORMWATER POLLUTION PREVENTION PLAN	SWPPP2	09-04-13	01-15-14
STORMWATER POLLUTION PREVENTION DETAILS	SWPPP3	09-04-13	01-15-14
DETAILS	D-I	09-04-13	01-15-14
DETAILS	D-2	09-04-13	01-15-14
DETAILS	D-3	09-04-13	01-15-14
DETAILS	D-4	09-04-13	01-15-14
DETAILS	D-5	09-04-13	01-15-14
EXIST. WATERSHED PLAN	EWP	09-04-13	01-15-14
PROP. WATERSHED PLAN	PWP	09-04-13	01-15-14
BUILDING A ELEVATIONS	A-2.1	09-04-13	12-20-13
BUILDING A&B ELEVATIONS	A-2.2	09-04-13	12-20-13
BUILDING B ELEVATIONS	A-2.3	09-04-13	12-20-13
BUILDING B ELEVATIONS	A-2.4	09-04-13	12-20-13
BUILDING C&D ELEVATIONS	A-2.5	09-04-13	12-20-13
LIGHTING PLAN	L-I	10-25-13	-
TRAFFIC RECOMMENDATION PLAN	TR-I	12-20-13	01-15-14
STOPPING SIGHT DISTANCE	TR-2	01-15-14	-
GARBAGE TRUCK TURN PATH	TP-I	01-15-14	-

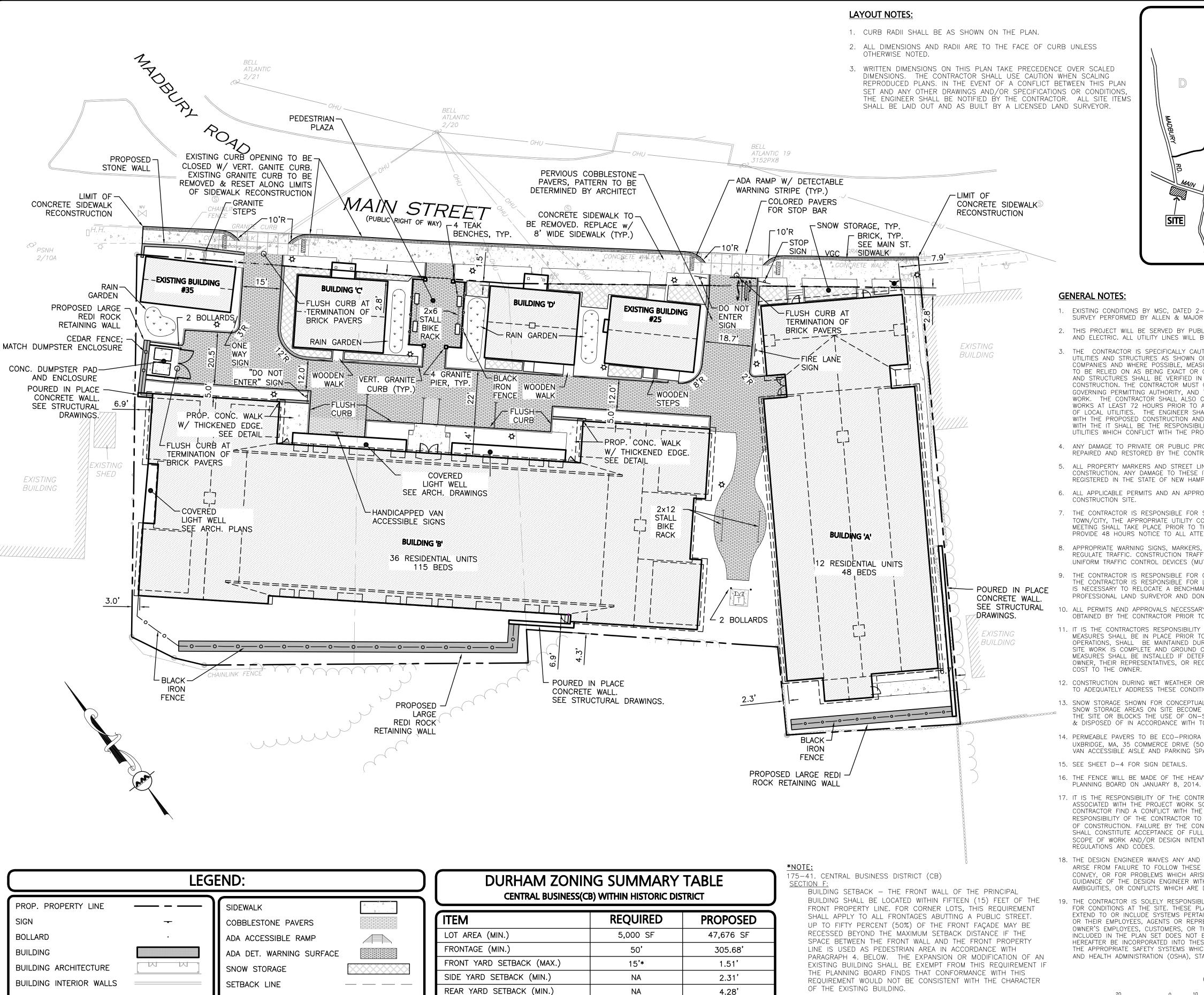




ISSUED FOR PLANNING BOARD REVIEW: SEPTEMBER 4, 2013
ISSUED FOR ZONING BOARD REVIEW: OCTOBER 25, 2013
ISSUED FOR REVIEW-REVISION 3: JANUARY 15, 2014



Feb 02, 2012 - 11:08am



CURB

RETAINING WALL

LIGHT POLE

BLACK IRON FENCE

TRANSFORMER

BUILDING HEIGHT (MAX.)

TOTAL PERVIOUS PAVER

TOTAL ON-SITE IMPERVIOUS AREA

50'**

NA

NA

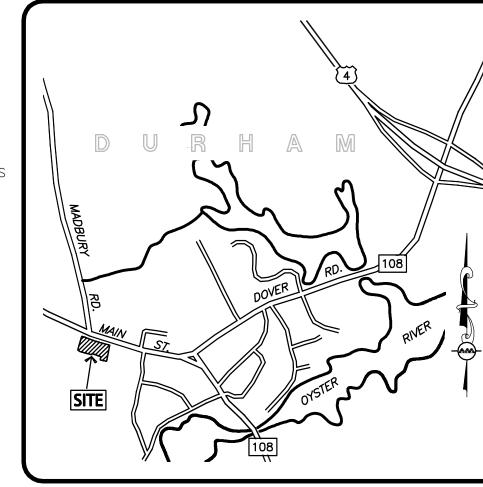
36.6'

32,504 SF

7,055 SF

PLANNING BOARD APPROVAL

DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS OR CONDITIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR. ALL SITE ITEMS



SCALE: 1"=1,000'

GENERAL NOTES:

1. EXISTING CONDITIONS BY MSC, DATED 2-2-2012, WERE COMPILED FROM AN ON THE GROUND SURVEY PERFORMED BY ALLEN & MAJOR ASSOCIATES, 2013.

TELEPHONE, CABLE 2. THIS PROJECT WILL BE SERVED BY PUBLIC SEWER, WATER, NATURAL GAS, AND ELECTRIC. ALL UTILITY LINES WILL BE INSTALLED UNDERGROUND.

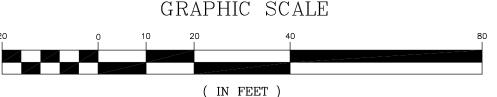
3. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START C CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK. THE CONTRACTOR SHALL ALSO CONTACT THE TOWN OF DURHAM DEPARTMENT OF PUBLIC WORKS AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF LOCAL UTILITIES. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDIN WITH THE IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

4. ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTIES DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT THEIR OWN EXPENSE.

- 5. ALL PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AND RESTORED BY A SURVEYOR REGISTERED IN THE STATE OF NEW HAMPSHIRE AT THE CONTRACTORS EXPENSE.
- 6. ALL APPLICABLE PERMITS AND AN APPROVED SET OF PLANS SHALL BE AILABLE AT THE CONSTRUCTION SITE.

7. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A PRECONSTRUCTION MEETING WITH THE TOWN/CITY, THE APPROPRIATE UTILITY COMPANIES, THE OWNER AND OWNER'S REPRESENTATIVE. THE MEETING SHALL TAKE PLACE PRIOR TO THE START OF CONSTRUCTION AND THE CONTRACTOR MUST PROVIDE 48 HOURS NOTICE TO ALL ATTENDEES PRIOR TO THE START OF THE MEETING.

- 8. APPROPRIATE WARNING SIGNS, MARKERS, BARRICADES AND/OR FLAGMEN SHALL BE PROVIDED TO REGULATE TRAFFIC. CONSTRUCTION TRAFFIC CONTROL SHALL BE IMPLEMENTED PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE LOCAL AUTHORITY.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ADDITIONAL BENCHMARK INFORMATION IF REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING BENCHMARKS. IF IS NECESSARY TO RELOCATE A BENCHMARK, IT SHALL BE RELOCATED BY A NEW HAMPSHIRE PROFESSIONAL LAND SURVEYOR AND DONE SO AT THE CONTRACTOR'S EXPENSE.
- 10. ALL PERMITS AND APPROVALS NECESSARY FROM AGENCIES GOVERNING THE WORK SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.
- 11. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY SITE WORK OR EARTHWORK OPERATIONS, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL AL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DETERMINED NECESSARY BY ON SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES, OR REGULATORY AGENCIES HAVING JURISDICTION AT NO ADDITIONAL
- 12. CONSTRUCTION DURING WET WEATHER OR WINTER CONDITIONS IS TO BE ANTICIPATED AND PROVISIONS TO ADEQUATELY ADDRESS THESE CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 13. SNOW STORAGE SHOWN FOR CONCEPTUAL PURPOSES ONLY. SNOW SHALL BE TAKEN OFF-SITE ONCE SNOW STORAGE AREAS ON SITE BECOME INADEQUATE, AND BEGINS TO BLOCK ACCESS TO AND FROM THE SITE OR BLOCKS THE USE OF ON—SITE PARKING. ANY EXCESS WILL BE BE TRUCKED OFF—SITE & DISPOSED OF IN ACCORDANCE WITH TOWN OF DURHAM AND NHDES GUIDELINES.
- 14. PERMEABLE PAVERS TO BE ECO-PRIORA (STYLE) SIERRA AND GRANITE (COLORS) BY UNILOCK, UXBRIDGE, MA. 35 COMMERCE DRIVE (508-278-4536). THE MAJORITY SHALL BE SIERRA WHILE THE VAN ACCÉSSIBLE AISLE AND PARKING SPACES SHALL BE MARKED WITH GRANITE COLOR PAVERS.
- 16. THE FENCE WILL BE MADE OF THE HEAVY DUTY METAL MATERIAL THAT WAS PRESENTED TO THE
- 17. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE START OF CONSTRUCTION. SHOULD TH CONTRACTOR FIND A CONFLICT WITH THE DRAWINGS, SPECIFICATIONS, OR RELATIVE CODES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT PRIOR TO START OF CONSTRUCTION, FAILURE BY THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AND/OR DESIGN INTENT OF THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
- 18. THE DESIGN ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS, AND/OR THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE GUIDANCE OF THE DESIGN ENGINEER WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCES, AMBIGUITIES, OR CONFLICTS WHICH ARE DISCOVERED OR ALLEGED.
- 19. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY ALLEN & MAJOR ASSOCIATES DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK, OR THE OWNER'S EMPLOYEES, CUSTOMERS, OR THE GENERAL PUBLIC. THE SEAL OF THE ENGINEER AS INCLUDED IN THE PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PROVIDE THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), STATE, AND LOCAL REGULATIONS.



175-54. DIMENSIONAL STANDARDS TABLE (IN FEET CENTRAL BUSINESS(CB) 50' MAX ALLOWED W/ 1 inch = 20 ft.

 $R: \PROJECTS \setminus 1925-01 \setminus CIVIL \setminus DRAWINGS \setminus CURRENT \setminus C-1925-01_C-1_LAYOUT \& MATERIALS.DWG$



23 High Street Portsmouth, NH 03801

> 603.431.8701 603.422.8707

> > DATE

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT

JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

3	01-15-14	REVS PER PEER REVIEW
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK
REV	DATE	DESCRIPTION
	2	2 12-20-13 1 10-25-13

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION STUDENT HOUSING 25/35 MAIN STREET **DURHAM, NEW HAMPSHIRE**

PROJECT NO. 1925-01 DATE: 09-04-13 SCALE: 1" = 20' DWG. NAME: LAYOUT DRAFTED BY

WBL | CHECKED BY:



civil & structural engineering ♦ land surveying environmental consulting • landscape architecture www.allenmajor.com 250 COMMERCIAL STREET

SUITE 1001 MANCHESTER, NH 03101 TEL: (603) 627-5500

FAX: (603) 627-5501 WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

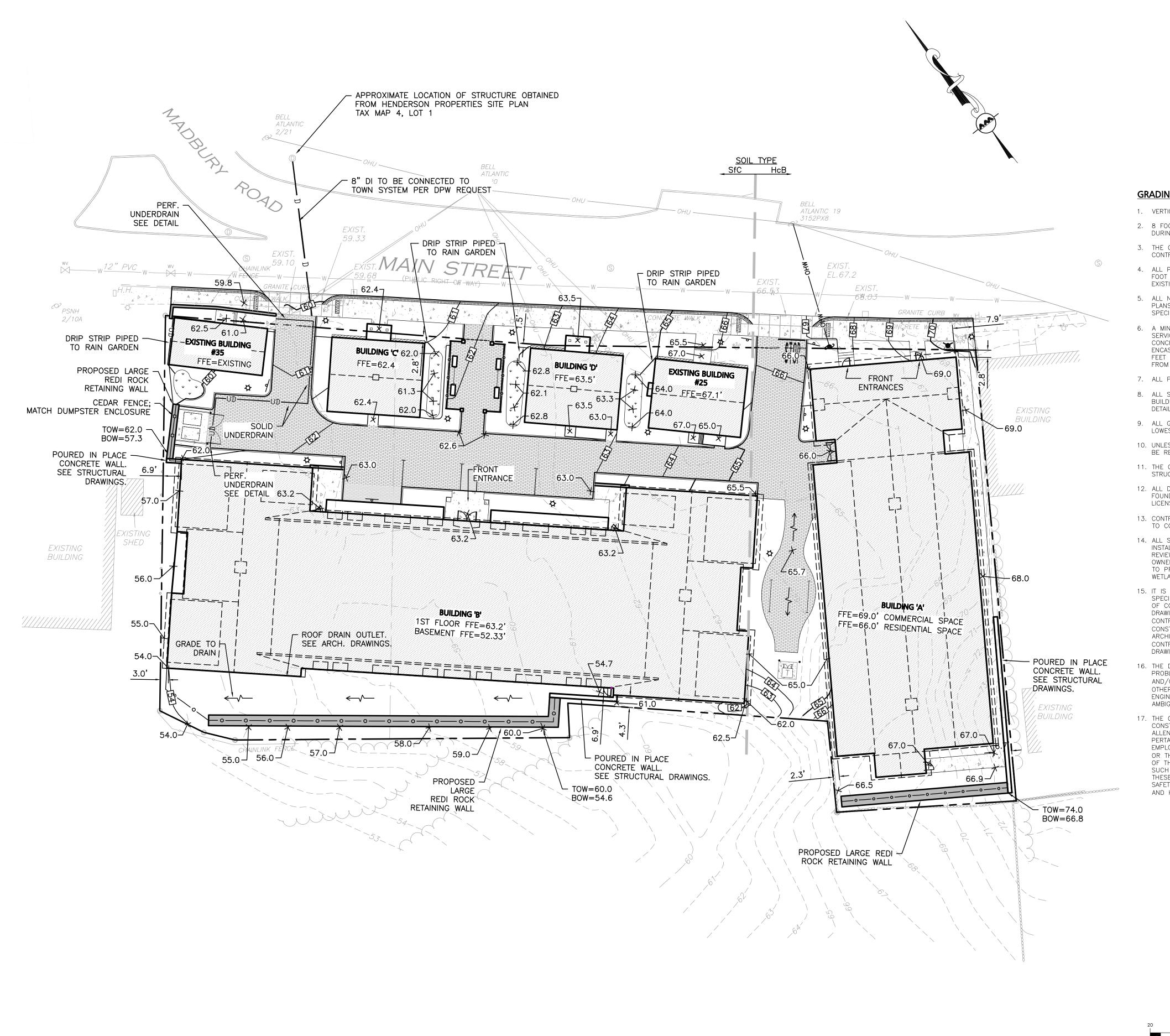
SHEET No.

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LAYOUT &

DRAWING TITLE:

MATERIALS PLAN Copyright ©2013 Allen & Major Associates, Inc.





DRAIN MANHOLE	
DRAIN LINE	—— D ———
5' CONTOUR	65
1' CONTOUR	57
SPOT GRADE	× 128
SAW-CUT LINE	
UNDERDRAIN	UD
SCS SOILS BOUNDARY	

GRADING & DRAINAGE NOTES:

- 1. VERTICAL DATUM IS NAVD88.
- 2. 8 FOOT DIAMETER DRAIN MANHOLES AND CATCH BASINS MAY BE NECESSARY DURING STORM DRAINAGE INSTALLATION.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCH MARKS NECESSARY FOR THE WORK.
- 4. ALL PROPOSED CATCH BASINS ON—SITE SHALL BE EQUIPPED WITH HOODS AND 4 FOOT SUMPS AND SHALL CONFORM TO THE TOWN OF DURHAM STANDARDS. EXISTING CATCH BASINS TO REMAIN SHALL BE EQUIPPED WITH HOODS.
- 5. ALL NEW ROOF DRAINAGE PIPES SHALL BE SDR 35 PVC, SIZED AS NOTED ON THE PLANS, TURNED UP ABOVE GRADE AND BE TERMINATED WITH A FITTING SPECIFICALLY DESIGNED TO RECEIVE A RECTANGULAR DOWNSPOUT.
- 6. A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHERE WATER SERVICES CROSS STORM DRAIN LINES. WATER SERVICES SHALL BE ENCASED IN CONCRETE REGARDLESS OF CLEARANCE WHEN PASSING BELOW STORM DRAIN LINES. ENCASEMENT SHALL EXTEND ALONG WATER SERVICE A MINIMUM DISTANCE OF 8 FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
- 7. ALL PROPOSED DRAINAGE SHALL CONFORM TO TOWN OF DURHAM STANDARDS.
- 8. ALL SERVICE CONNECTIONS (I.E., ROOF DRAINS) SHALL BE INSTALLED TO THE BUILDING WALL AND TURNED UP ABOVE GRADE UNLESS OTHERWISE NOTED OR DETAILED.
- 9. ALL GRAVITY DRAINAGE PIPE SYSTEMS ARE TO BE CONSTRUCTED BEGINNING AT THE LOWEST POINT IN THE SYSTEM AND PROCEEDING TO THE HIGHEST POINT.
- 10. UNLESS OTHERWISE NOTED, ALL EXISTING DRAINAGE STRUCTURES AND PIPES SHALL
- 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ALL DRAINAGE STRUCTURES ON SITE PRIOR TO COMPLETION OF PROJECT.
- 12. ALL DRAIN, WATER AND SANITARY SEWER PIPES INSTALLED WITHIN 10 FEET OF THE FOUNDATION SLAB MUST BE PERMITTED AND INSTALLED BY A NEW HAMPSHIRE LICENSED PLUMBER.
- 13. CONTRACTOR/OWNER TO OBTAIN TEMPORARY CONSTRUCTION EASEMENT IN ORDER TO CONSTRUCT PROPOSED WALLS ON WEST, SOUTH, AND EAST PROPERTY LINES.
- 14. ALL STORMWATER MANAGEMENT INFRASTRUCTURE SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH DESIGN STANDARDS OF THE DURHAM SITE PLAN REVIEW REGULATIONS. THE INFRASTRUCTURE SHALL BE OWNED BY THE PROPERTY OWNER AND IT SHALL BE OPERATED AND MAINTAINED BY THE PROPERTY OWNER TO PROTECT THE QUALITY OF ON—SITE AND OFF—SITE WATER RESOURCES AND WETLAND HABITAT
- 15. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE START OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DRAWINGS, SPECIFICATIONS, OR RELATIVE CODES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT PRIOR TO START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE ENGINEER AND/OR ARCHITECT SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AND/OR DESIGN INTENT OF THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
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DESTEFANO ARCHITECTS

23 High Street Portsmouth, NH 03801

603.431.8701 603.422.8707

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT DATE

SSUED FOR REVIEW JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

3 01-15-14 REVS PER PEER REVIEW
2 12-20-13 REVS PER TOWN COMMENTS
1 10-25-13 LIGHT WELLS / SIDEWALK
REV DATE DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION
STUDENT HOUSING
25/35 MAIN STREET
DURHAM, NEW HAMPSHIRE

PROJECT NO. 1925-01 DATE: 09-04-13

SCALE: 1" = 20' DWG. NAME: GRADING

DRAFTED BY: WBL CHECKED BY: RPC



ASSOCIATES, INC.

civil & structural engineering • land surveying
environmental consulting • landscape architecture

w w w . a l l e n m a j o r . c o m

250 COMMERCIAL STREET SUITE 1001 MANCHESTER, NH 03101 TEL: (603) 627-5500

TEL: (603) 627-5500 FAX: (603) 627-5501 WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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SHEET No.

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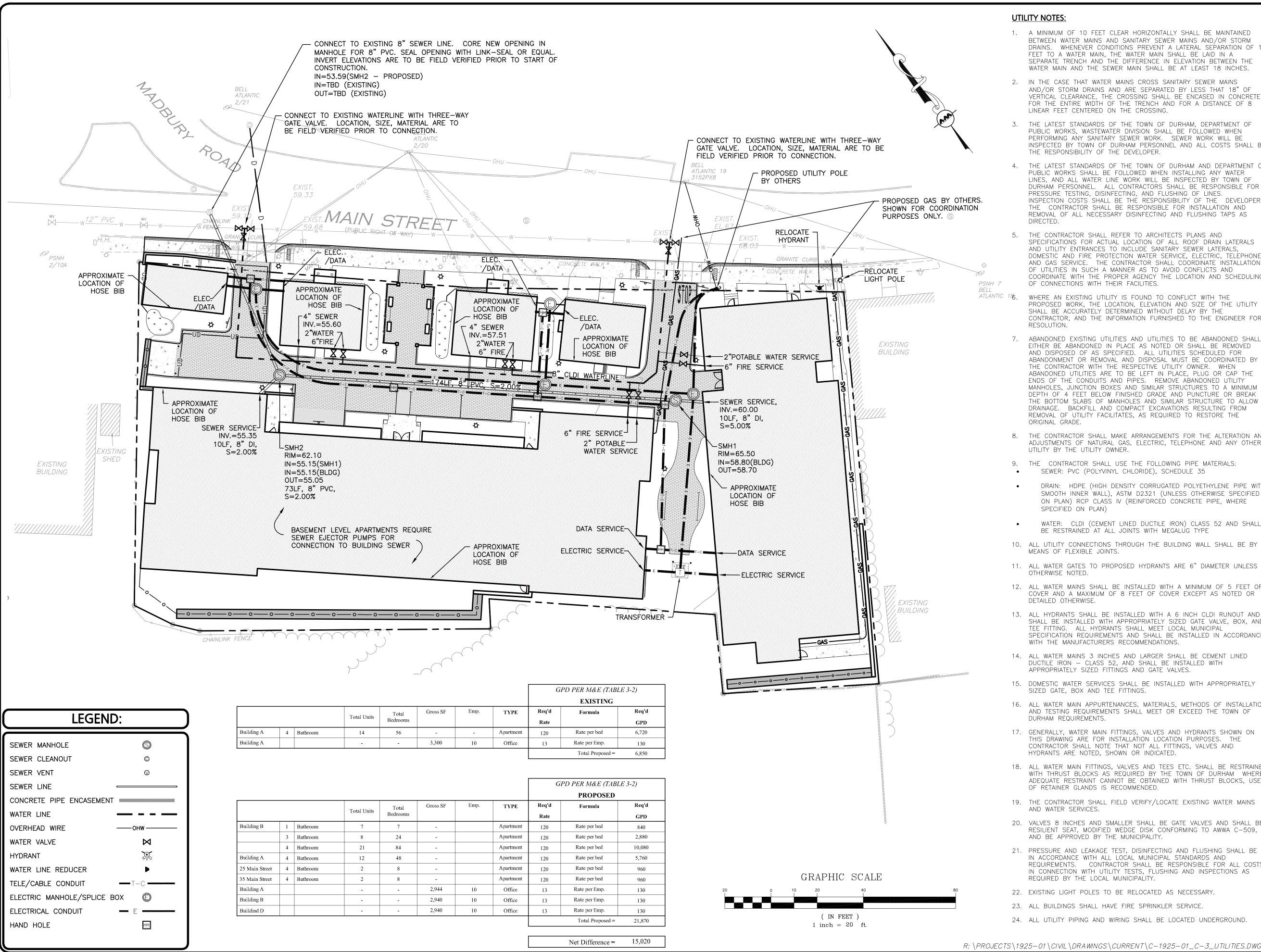
GRADING & DRAINAGE PLAN

R: \PROJECTS\1925-01\CIVIL\DRAWINGS\CURRENT\C-1925-01_C-2_GRADING & DRAINAGE.DWG

(IN FEET)

1 inch = 20 ft.

GRAPHIC SCALE



- 1. A MINIMUM OF 10 FEET CLEAR HORIZONTALLY SHALL BE MAINTAINED BETWEEN WATER MAINS AND SANITARY SEWER MAINS AND/OR STORM DRAINS. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 1 FEET TO A WATER MAIN, THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE DIFFERENCE IN ELEVATION BETWEEN THE WATER MAIN AND THE SEWER MAIN SHALL BE AT LEAST 18 INCHES.
- 2. IN THE CASE THAT WATER MAINS CROSS SANITARY SEWER MAINS AND/OR STORM DRAINS AND ARE SEPARATED BY LESS THAT 18" OF VERTICAL CLEARANCE, THE CROSSING SHALL BE ENCASED IN CONCRETE FOR THE ENTIRE WIDTH OF THE TRENCH AND FOR A DISTANCE OF 8 LINEAR FEET CENTERED ON THE CROSSING.
- THE LATEST STANDARDS OF THE TOWN OF DURHAM, DEPARTMENT OF PUBLIC WORKS, WASTEWATER DIVISION SHALL BE FOLLOWED WHEN PERFORMING ANY SANITARY SEWER WORK. SEWER WORK WILL BE INSPECTED BY TOWN OF DURHAM PERSONNEL AND ALL COSTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER.
- 4. THE LATEST STANDARDS OF THE TOWN OF DURHAM AND DEPARTMENT OF PUBLIC WORKS SHALL BE FOLLOWED WHEN INSTALLING ANY WATER LINES, AND ALL WATER LINE WORK WILL BE INSPECTED BY TOWN OF DURHAM PERSONNEL. ALL CONTRACTORS SHALL BE RESPONSIBLE FOR PRESSURE TESTING, DISINFECTING, AND FLUSHING OF LINES.
 INSPECTION COSTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND REMOVAL OF ALL NECESSARY DISINFECTING AND FLUSHING TAPS AS
- 5. THE CONTRACTOR SHALL REFER TO ARCHITECTS PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL ROOF DRAIN LATERALS AND UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRIC, TELEPHONE AND GAS SERVICE. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND COORDINATE WITH THE PROPER AGENCY THE LOCATION AND SCHEDULING OF CONNECTIONS WITH THEIR FACILITIES.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR
- ABANDONED EXISTING UTILITIES AND UTILITIES TO BE ABANDONED SHALL EITHER BE ABANDONED IN PLACE AS NOTED OR SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED. ALL UTILITIES SCHEDULED FOR ABANDONMENT OR REMOVAL AND DISPOSAL MUST BE COORDINATED BY THE CONTRACTOR WITH THE RESPECTIVE UTILITY OWNER. WHEN ABANDONED UTILITIES ARE TO BE LEFT IN PLACE, PLUG OR CAP THE ENDS OF THE CONDUITS AND PIPES. REMOVE ABANDONED UTILITY MANHOLES, JUNCTION BOXES AND SIMILAR STRUCTURES TO A MINIMUM DEPTH OF 4 FEET BELOW FINISHED GRADE AND PUNCTURE OR BREAK THE BOTTOM SLABS OF MANHOLES AND SIMILAR STRUCTURE TO ALLOW DRAINAGE. BACKFILL AND COMPACT EXCAVATIONS RESULTING FROM REMOVAL OF UTILITY FACILITATES, AS REQUIRED TO RESTORE THE
- 8. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENTS OF NATURAL GAS, ELECTRIC, TELEPHONE AND ANY OTHER UTILITY BY THE UTILITY OWNER.
- 9. THE CONTRACTOR SHALL USE THE FOLLOWING PIPE MATERIALS: • SEWER: PVC (POLYVINYL CHLORIDE), SCHEDULE 35
- DRAIN: HDPE (HIGH DENSITY CORRUGATED POLYETHYLENE PIPE WITH SMOOTH INNER WALL), ASTM D2321 (UNLESS OTHERWISE SPECIFIED ON PLAN) RCP CLASS IV (REINFORCED CONCRETE PIPE, WHERE
- WATER: CLDI (CEMENT LINED DUCTILE IRON) CLASS 52 AND SHALL BE RESTRAINED AT ALL JOINTS WITH MEGALUG TYPE
- 10. ALL UTILITY CONNECTIONS THROUGH THE BUILDING WALL SHALL BE BY MEANS OF FLEXIBLE JOINTS.
- 11. ALL WATER GATES TO PROPOSED HYDRANTS ARE 6" DIAMETER UNLESS
- 12. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 5 FEET OF COVER AND A MAXIMUM OF 8 FEET OF COVER EXCEPT AS NOTED OR
- 13. ALL HYDRANTS SHALL BE INSTALLED WITH A 6 INCH CLDI RUNOUT AND SHALL BE INSTALLED WITH APPROPRIATELY SIZED GATE VALVE, BOX, AND TEE FITTING. ALL HYDRANTS SHALL MEET LOCAL MUNICIPAL SPECIFICATION REQUIREMENTS AND SHALL BE INSTALLED IN ACCORDANCE
- 14. ALL WATER MAINS 3 INCHES AND LARGER SHALL BE CEMENT LINED DUCTILE IRON - CLASS 52, AND SHALL BE INSTALLED WITH APPROPRIATELY SIZED FITTINGS AND GATE VALVES.
- 15. DOMESTIC WATER SERVICES SHALL BE INSTALLED WITH APPROPRIATELY SIZED GATE, BOX AND TEE FITTINGS.
- 16. ALL WATER MAIN APPURTENANCES, MATERIALS, METHODS OF INSTALLATION AND TESTING REQUIREMENTS SHALL MEET OR EXCEED THE TOWN OF DURHAM REQUIREMENTS.
- 17. GENERALLY, WATER MAIN FITTINGS, VALVES AND HYDRANTS SHOWN ON THIS DRAWING ARE FOR INSTALLATION LOCATION PURPOSES. THE CONTRACTOR SHALL NOTE THAT NOT ALL FITTINGS, VALVES AND HYDRANTS ARE NOTED, SHOWN OR INDICATED.
- 18. ALL WATER MAIN FITTINGS, VALVES AND TEES ETC. SHALL BE RESTRAINE WITH THRUST BLOCKS AS REQUIRED BY THE TOWN OF DURHAM WHERE ADEQUATE RESTRAINT CANNOT BE OBTAINED WITH THRUST BLOCKS, USE OF RETAINER GLANDS IS RECOMMENDED.
- 19. THE CONTRACTOR SHALL FIELD VERIFY/LOCATE EXISTING WATER MAINS AND WATER SERVICES.
- 20. VALVES 8 INCHES AND SMALLER SHALL BE GATE VALVES AND SHALL BE RESILIENT SEAT, MODIFIED WEDGE DISK CONFORMING TO AWWA C-509, AND BE APPROVED BY THE MUNICIPALITY.
- 21. PRESSURE AND LEAKAGE TEST, DISINFECTING AND FLUSHING SHALL BE IN ACCORDANCE WITH ALL LOCAL MUNICIPAL STANDARDS AND REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN CONNECTION WITH UTILITY TESTS, FLUSHING AND INSPECTIONS AS REQUIRED BY THE LOCAL MUNICIPALITY.
- 22. EXISTING LIGHT POLES TO BE RELOCATED AS NECESSARY.
- 23. ALL BUILDINGS SHALL HAVE FIRE SPRINKLER SERVICE.
- 24. ALL UTILITY PIPING AND WIRING SHALL BE LOCATED UNDERGROUND.

23 High Street Portsmouth, NH 03801

> 603.431.8701 603.422.8707

> > DATE

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT

JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

3	01-15-14	REVS PER PEER REVIEW
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK
REV	DATE	DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

PROJECT NO.

ORION STUDENT HOUSING 25/35 MAIN STREET **DURHAM, NEW HAMPSHIRE**

1925-01 DATE:

09-04-13

SCALE: 1" = 20' DWG. NAME: UTILITIES DRAFTED BY WBL | CHECKED BY:



www.allenmajor.com 250 COMMERCIAL STREET SUITE 1001

MANCHESTER, NH 03101 TEL: (603) 627-5500 FAX: (603) 627-5501

WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT.

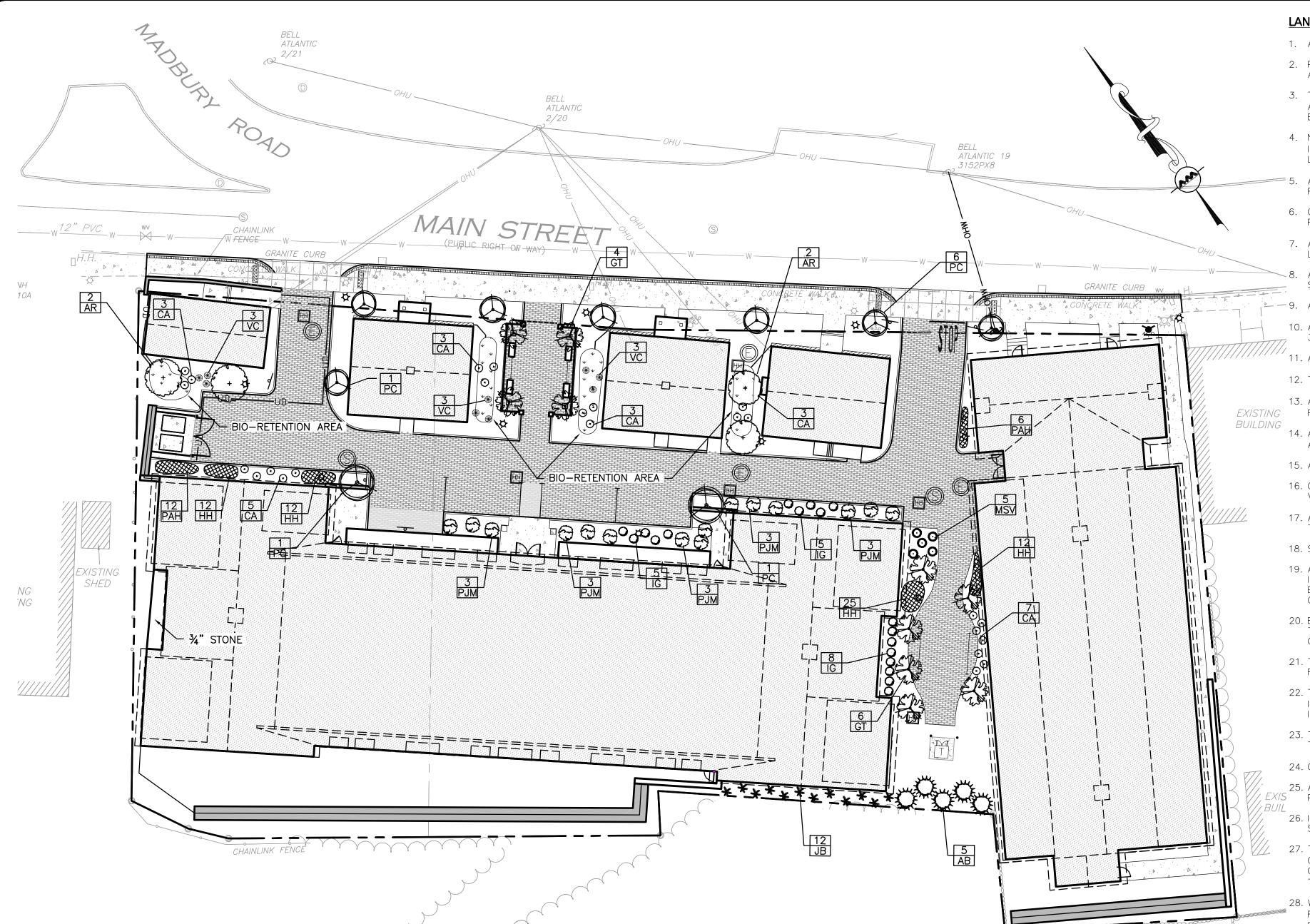
CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OF OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT.

DRAWING TITLE:

SHEET No.

UTILITY PLAN

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NURSERY SIZE | SPACING | COMMENTS

LANDSCAPE NOTES:

- 1. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF DURHAM.
- 2. PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES, ANY PERMITTING AGENCIES, AND "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS IN ADVANCE OF ANY WORK THAT WILL REQUIRE EXCAVATION. CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE OF NAY CONFLICTS IN WRITING.
- 4. NO PLANT MATERIAL SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA, ANY TREES NOTED AS "SEAL OR SELECTED SPECIMEN" SHALL BE TAGGED AND SEALED BY THE LANDSCAPE ARCHITECT.
- ALL TREES SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
- 6. CONTRACTOR SHALL VERIFY QUANTITIES SHOWN ON PLANT LIST. QUANTITIES SHOWN ON PLANS SHALL GOVERN OVER
- 7. ANY PROPOSED PLANT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
- ALL PLANT MATERIALS INSTALLED SHALL MEET THE GUIDELINES ESTABLISHED BY THE STANDARDS FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- -9. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE.
- 10. ALL DISTURBED AREAS NOT OTHERWISE NOTED SHALL RECEIVE 6" OF SUITABLE LOAM & SEED. LAWNS WITH OVER 3:1 SLOPES SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET.
- 11. ANY FALL TRANSPLANTING HAZARD PLANTS SHALL BE DUG IN THE SPRING AND STORED FOR SPRING PLANTING.
- 12. TREES SHALL HAVE A MINIMUM CALIPER OF 2.5" ONE FOOT ABOVE THE ROOT CROWN.
- 13. ALL PLANT BEDS AND TREE SAUCERS TO RECEIVE 3" OF PINE BARK MULCH, AND GROUND COVER AREAS SHALL RECEIVE 1" OF PINE BARK MULCH.
- 14. ALL DECIDUOUS TREES ADJACENT TO WALKWAYS AND ROADWAYS SHALL HAVE A BRANCHING PATTERN TO ALLOW FOR A MINIMUM OF 7' OF CLEARANCE BETWEEN THE GROUND AND THE LOWEST BRANCH.
- 15. ALL TREE STAKES SHALL BE STAINED DARK BROWN.
- 16. CONTRACTOR RESPONSIBLE FOR WATERING, AND RESEEDING OF BARE SPOTS UNTIL A UNIFORM STAND OF VEGETATION IS ESTABLISHED AND ACCEPTED.
- 17. ALL PARKING ISLANDS PLANTED WITH SHRUBS SHALL HAVE 24" OF TOP SOIL. FINISH GRADE SHALL BE EQUAL TO THE TOP OF CURB.
- 18. SOIL SAMPLES AND TESTS SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT OR THE OWNER.
- 19. ALL LANDSCAPE AREAS INCLUDING LAWNS SHALL BE PROVIDED WITH UNDERGROUND IRRIGATION. SCOPE OF IRRIGATION TO BE DETERMINED BY OWNER. DESIGN AND INSTALLATION OF IRRIGATION SYSTEM TO BE PERFORMED BY AN APPROVED IRRIGATION DESIGN BUILD CONTRACTOR OR BY AN APPROVED EQUAL, TO BE DETERMINED BY THE OWNERS REPRESENTATIVE AND LANDSCAPE ARCHITECT.
- 20. BEST MANAGEMENT PRACTICES SHALL BE FOLLOWED FOR THE PROTECTION OF EXISTING TREES AND VEGETATION THAT ARE PLANNED TO BE PRESERVED. ALSO, THE PROVISIONS OF SECTION 175-123- PROTECTION DURING CONSTRUCTION UNDER ARTICLE XXII- LANDSCAPING OF THE DURHAM ZONING ORDINANCE SHALL BE FOLLOWED.
- 21. THE PROVISION FOR MAINTENANCE OF LANDSCAPING MATERIALS AS SPECIFIED IN SECTION 175-124 MAINTENANCE REQUIREMENTS OF THE ARTICLE XXII — LANDSCAPING IN THE DURHAM ZONING ORDINANCE, SHALL APPLY.
- 22. TREES SHOULD BE PLANTED USING COMMONLY ACCEPTED BEST MANAGEMENT PRACTICES, SUCH AS THOSE LISTED IN ANSI A300 PART 6: TREE MAINTENANCE STANDARD PRACTICES (TRANSPLANTING), WHICH IS AVAILABLE FROM THE INTERNATIONAL SOCIETY OF LANDSCAPE ARCHITECTS.
- 23. THE CONTRACTOR SHALL ENSURE THAT THERE IS ADEQUATE ROOTING SPACE AND OVERHEAD SPACE AND FIT FOR THE TREES TO BE INSTALLED.
- 24. ONLY LOW PHOSPHORUS/SLOW RELEASE NITROGEN FERTILIZERS FOR LANDSCAPING MATERIALS MAY BE USED.
- 25. A QUALIFIED ARBORIST SHALL BE ON SITE TO OVERSEE CONSTRUCTION WORK AROUND EXISTING TREES TO BE $\mathbb{E}^{X/S}$ - preserved. No such work shall be conducted in the absence of this arborist.
- 26. IF FEASIBLE, CONDUCT CONSTRUCTION NEAR EXISTING TREES DURING THE WINTER OR DORMANT SEASON, WHEN STRESS TO TREES WILL BE LESS.
- 27. TO THE EXTENT FEASIBLE, TREES AND SHRUBS TO BE PRESERVED SHALL BE PROTECTED AT OR ALONG THE CRITICAL ROOT ZONE BY FENCING SUFFICIENTLY SUBSTANTIAL TO MAKE CLEAR THE INTENT TO PROTECT THEM. (THE CRITICAL ROOT ZONE IS A CIRCLE WITH RADIUS EQUAL TO 1.5 FEET PER 1 INCH OF TRUNK DIAMETER. IF MORE THAN 40% OF THAT CRITICAL ROOT ZONE WILL BE DISTURBED, THE TREE MAY BE DAMAGED BEYOND RECOVERY.)
- 28. WHERE ROOTS OF EXISTING TREES WILL BE DISTURBED, SEVER ROOTS CLEANLY BY HAND OR WITH A ROCK SAW, RATHER THAN USING HEAVY EQUIPMENT, TO MINIMIZE TREE ROOT SYSTEM DAMAGE. (IF TOO MUCH OF THE TREE ROOT SYSTEM IS REMOVED OR DAMAGED BY CONSTRUCTION, THE TREE MAY DECLINE OR DIE.)
- 29. CARE SHALL BE TAKEN TO AVOID PASSES BY HEAVY EQUIPMENT NEAR PLANTED AREAS AND TREES TO BE PRESERVED, ESPECIALLY WHEN THE SOIL IS WET. (COMPACTED SOILS HAVE LESS OPEN PORE SPACE, AND HENCE LESS SPACE FOR MOISTURE AND OXYGEN NEEDED TO SUSTAIN TREE HEALTH. EVEN ONE PASS WITH HEAVY EQUIPMENT CAN CAUSE SOIL COMPACTION.)

	'					
DECID	UOUS TRE	ES				
AR	4	ACER RUBRUM	RED MAPLE	2½" CAL.	AS SHOWN	В&В
GT	10	GLEDITSIA TRIACANTHOS	HONEY LOCUST	2½" CAL.	AS SHOWN	В&В
EVERG	GREEN & FL	OWERING TREES				
AB	5	ABIES BALSAMEA	BALSAM FIR	8'-10'	AS SHOWN	В&В
PC	9	PYRUS CALLERY 'CHANTICLEER'	CLEVELAND SELECT PEAR	2½" CAL.	AS SHOWN	B&B

BOTANICAL NAME

KEY QUANTITY

PLANTING SCHEDULE-TREES & SHRUBS

COMMON NAME

PLANTING SCHEDULE-SHURBS, GROUNDCOVERS, PERENIALS & GRASSES

QUANTITY	BOTANICAL NAME	COMMON NAME	NURSERY SIZE	SPACING	COMMENTS
S					
24	CORNUS ALBA	RED TWIG DOGWOOD	3'-4'	AS SHOWN	B&B
12	JUNIPERUS H. 'BAR HARBOR'	BAR HARBOR JUNIPER	2 GAL.	AS SHOWN	CONT.
18	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	18" TO 24"	AS SHOWN	В&В
15	P.J.M. RHODENDRON	RHODENDRON	2'-21/2'	AS SHOWN	В&В
9	VACCINIUM CORYMBOSUM 'NORTHLAND'	HIGHBUSH BLUEBERRY	2'-21/2'	AS SHOWN	#3 POT
ND COVER	S, PERENIALS, AND GRASSES				
61	HEMEROCALLIS 'HAPPY RETURNS'	DAYLILLIES	1 GAL.	18" O.C.	STAGGERED
5	MISCANTHUS SINENSIS 'ZEBRINUS'	ZEBRA GRASS	2 GAL.	AS SHOWN	STAGGERED
18	PENNISETUM ALOPECUROIDES 'HAMELIN'	DWARF FOUNTAIN GRASS	1 GAL.	18" O.C.	STAGGERED
	24 12 18 15 9 ND COVER	CORNUS ALBA 12 JUNIPERUS H. 'BAR HARBOR' 18 ILEX GLABRA 'SHAMROCK' 15 P.J.M. RHODENDRON 9 VACCINIUM CORYMBOSUM 'NORTHLAND' ND COVERS, PERENIALS, AND GRASSES 61 HEMEROCALLIS 'HAPPY RETURNS' 5 MISCANTHUS SINENSIS 'ZEBRINUS'	S 24 CORNUS ALBA RED TWIG DOGWOOD 12 JUNIPERUS H. 'BAR HARBOR' BAR HARBOR JUNIPER 18 ILEX GLABRA 'SHAMROCK' SHAMROCK INKBERRY 15 P.J.M. RHODENDRON RHODENDRON 9 VACCINIUM CORYMBOSUM 'NORTHLAND' HIGHBUSH BLUEBERRY ND COVERS, PERENIALS, AND GRASSES 61 HEMEROCALLIS 'HAPPY RETURNS' DAYLILLIES 5 MISCANTHUS SINENSIS 'ZEBRINUS' ZEBRA GRASS	S 24 CORNUS ALBA RED TWIG DOGWOOD 3'-4' 12 JUNIPERUS H. 'BAR HARBOR' BAR HARBOR JUNIPER 2 GAL. 18 ILEX GLABRA 'SHAMROCK' SHAMROCK INKBERRY 18" TO 24" 15 P.J.M. RHODENDRON RHODENDRON 2'-2½' 9 VACCINIUM CORYMBOSUM 'NORTHLAND' HIGHBUSH BLUEBERRY 2'-2½' ND COVERS, PERENIALS, AND GRASSES 61 HEMEROCALLIS 'HAPPY RETURNS' DAYLILLIES 1 GAL. 5 MISCANTHUS SINENSIS 'ZEBRINUS' ZEBRA GRASS 2 GAL.	S 24 CORNUS ALBA RED TWIG DOGWOOD 3'-4' AS SHOWN 12 JUNIPERUS H. 'BAR HARBOR' BAR HARBOR JUNIPER 2 GAL. AS SHOWN 18 ILEX GLABRA 'SHAMROCK' SHAMROCK INKBERRY 18" TO 24" AS SHOWN 15 P.J.M. RHODENDRON RHODENDRON 2'-2½' AS SHOWN 9 VACCINIUM CORYMBOSUM 'NORTHLAND' HIGHBUSH BLUEBERRY 2'-2½' AS SHOWN ND COVERS, PERENIALS, AND GRASSES 61 HEMEROCALLIS 'HAPPY RETURNS' DAYLILLIES 1 GAL. 18" O.C. 5 MISCANTHUS SINENSIS 'ZEBRINUS' ZEBRA GRASS 2 GAL. AS SHOWN

	LEGEND):
	DECIDUOUS TREE	<u></u>
	FLOWERING TREE	O \$
	EVERGREEN TREE	
	EVERGREEN SHRUB	○ *
	LARGE SHRUB	⊕
	MEDIUM SHRUB	80 %
l	SMALL SHRUB	00
l	PERENNIALS	
	LIMIT OF PLANT BED	
	PLANT KEY	$\frac{1}{XX}$

GRAPHIC SCALE (IN FEET) 1 inch = 20 ft.

 $R: \PROJECTS \setminus 1925-01 \setminus CIVIL \setminus DRAWINGS \setminus CURRENT \setminus C-1925-01 \subseteq C-4 \subseteq LANDSCAPE.DWG$



23 High Street Portsmouth, NH 03801

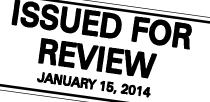
> 603.431.8701 603.422.8707

> > DATE

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT

I, ROBERT P. CLARKE, HEREBY CERTIFY THAT I AM THE DESIGNER OF THIS LANDSCAPE PLAN, THAT I AM A PROFESSIONAL LANDSCAPE ARCHITECT LICENSED BY THE STATE OF NEW HAMPSHIRE AND/OR I AM A MEMBER OF THE GRANITE STATE LANDSCAPE ARCHITECTS".



REGISTERED LANDSCAPE ARCHITECT, A.S.L.A FOR ALLEN & MAJOR ASSOCIATES, INC.

3	01-15-14	REVS PER PEER REVIEW
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK
REV	DATE	DESCRIPTION
	•	

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

ORION STUDENT HOUSING 25/35 MAIN STREET **DURHAM, NEW HAMPSHIRE**

PROJECT NO. 1925-01 DATE: 09-04-13 1" = 20' DWG. NAME: LANDSCAPE **DRAFTED BY:** WBL | CHECKED BY:



ASSOCIATES, INC. civil & structural engineering ♦ land surveying environmental consulting ♦ landscape architecture www.allenmajor.com

> 250 COMMERCIAL STREET SUITE 1001 MANCHESTER, NH 03101 TEL: (603) 627-5500

FAX: (603) 627-5501 WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

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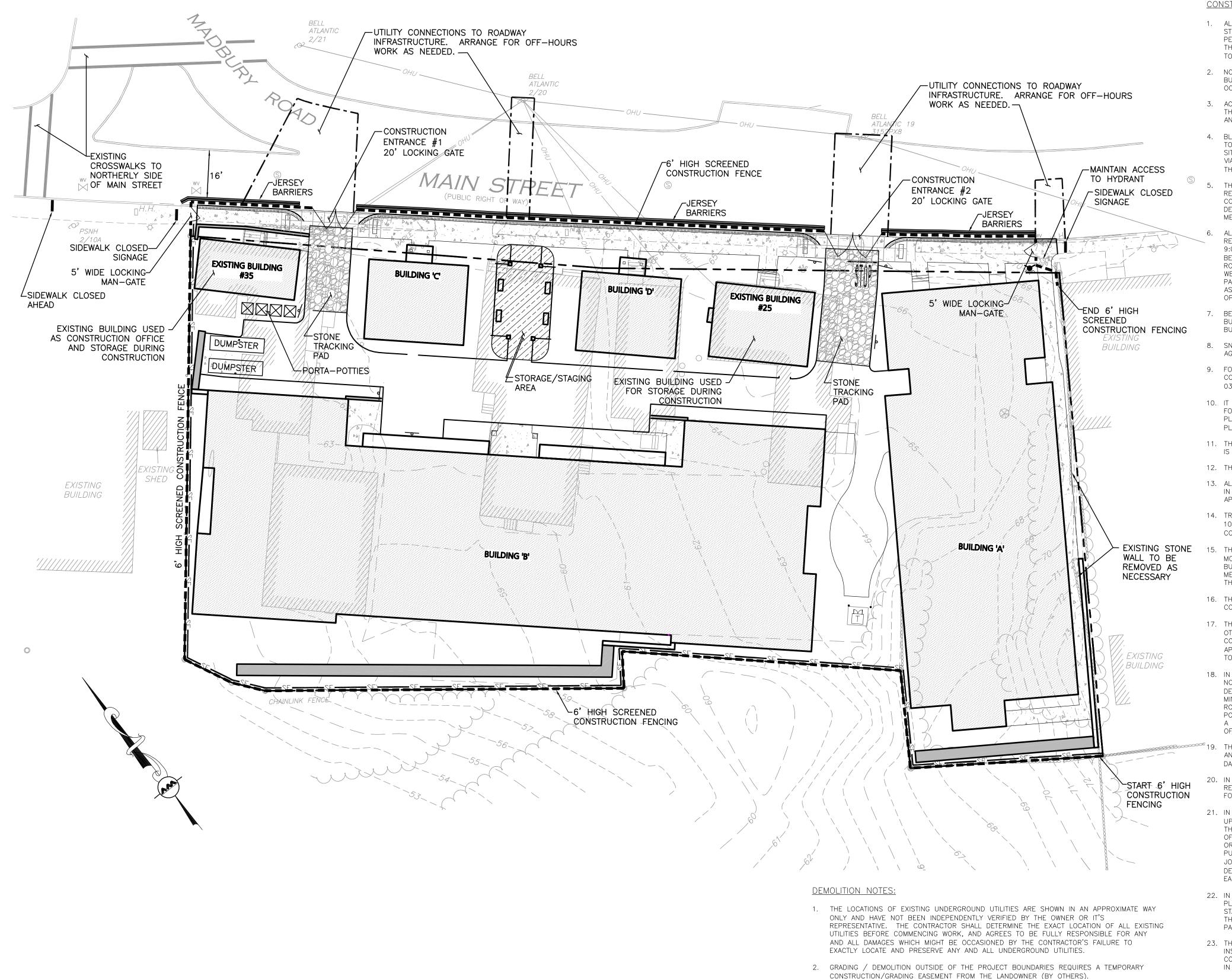
DRAWING TITLE:

LANDSCAPE PLAN

C-4

SHEET No.

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LEGEND:

CONSTRUCTION FENCING

STABILIZED CONST. ENTRANCE

STOCKPILE/CONSTRUCTION

SILT FENCE

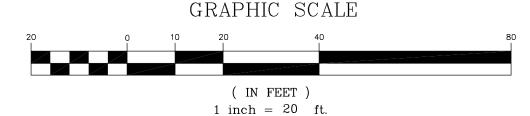
STAGING AREA

JERSEY BARRIERS

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CONSTRUCTION MANAGEMENT NOTES:

- 1. ALL INSPECTION/OBSERVATION SERVICES FOR THE INSTALLATION OF WATER, WASTEWATER, STORMWATER MANAGEMENT, POROUS PAVEMENT, AND OTHER INFRASTRUCTURE SHALL BE PERFORMED BY AUTHORIZED REPRESENTATIVES OF THE TOWN OF DURHAM AS STIPULATED B' THE DURHAM DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER SHALL REIMBURSE THE TOWN FOR ALL ASSOCIATED INSPECTION/OBSERVATION COSTS.
- 2. NO CUT TREES, STUMPS, DEBRIS, JUNK, RUBBISH, OR OTHER WASTE MATERIALS SHALL BE BURIED IN THE LAND, OR LEFT OR DEPOSITED ON SITE AT THE TIME THE CERTIFICATE OF OCCUPANCY IS ISSUED, OR AT ANY TIME AFTER THAT.
- ACCESS INTO THE SITE FOR FIRE APPARATUS SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PROCESS. PLEASE CONTACT THE FIRE DEPARTMENT AT 868-5531 WITH ANY QUESTIONS ABOUT ACCESS REQUIREMENTS.
- 4. BLASTING AND ON-SITE CHIPPING (OF STONE) IS RESTRICTED TO THE HOURS OF 9:00 A.M. TO 4:00 P.M. MONDAY THROUGH FRIDAY. THERE SHALL BE NO PROCESSING OF STONE ON SITE. A NOTICE OF INTENT TO BLAST SHALL BE PROVIDED AT LEAST 24 HOURS IN ADVANCE VIA SIGNAGE PLACED IN APPROPRIATE. PLACES AND OTHER APPROPRIATE MEDIA PROVIDED E THE TOWN (SUCH AS THE TOWN'S WEBSITE AND FRIDAY UPDATES).
- THIS APPROVAL IS FOR THE SITE PLAN ONLY. LIFE SAFETY CODE AND BUILDING CODE REVIEW WILL BE REQUIRED AS PART OF THE BUILDING PERMIT PROCESS WHEN THE CONSTRUCTION PLANS ARE SUBMITTED. VARIOUS REQUIREMENTS REGARDING THE BUILDING DESIGN MAY BE SPECIFIED AT THAT TIME. THE APPLICANT IS STRONGLY ENCOURAGED TO MEET WITH BUILDING AND FIRE OFFICIALS EARLY TO EXPEDITE THE REVIEW PROCESS.
- ALL OUTSIDE CONSTRUCTION ACTIVITY RELATED TO THE DEVELOPMENT OF THIS SITE SHALL B RESTRICTED TO THE HOURS OF 7:00 A.M. TO 6:00P.M. MONDAY THROUGH FRIDAY AND 9:00A.M. TO 6:00P.M. SATURDAY. TRUCK LOADING AND HAULING WILL TAKE PLACE ONLY BETWEEN THE HOURS OF 7:00 A.M. (9:00A.M. ON SATURDAY) AND 5:00P.M. THE USE OF ROCK DRILLS OR HAMMERS WILL BE LIMITED TO THE HOURS OF 9:00 A.M. TO 4:00P.M. ON WEEKDAYS, WITH NO DRILLING OR HAMMERING ON WEEKENDS OR HOLIDAYS. SEE TABLE ON PAGE 5 IN THE CONSTRUCTION MANAGEMENT PLAN PREPARED BY ALLEN & MAJOR ASSOCIATES, INC., DATED OCTOBER 28, 2013, FOR A SUMMARY OF THE HOURS OF
- 7. BECAUSE OF THE HISTORIC CHARACTER OF THE BUILDINGS THAT SHALL BE DEMOLISHED, NO BUILDINGS, NOR PARTS OF ANY BUILDINGS, MAY BE DEMOLISHED ON SITE UNTIL THE BUILDING PERMIT IS ISSUED.
- 8. SNOW SHALL BE REMOVED FROM THE SITE, AS NEEDED, AND SHALL NOT BE PUSHED AGAINST TREES OR OTHER VEGETATION.
- 9. FOR MORE INFORMATION ABOUT THIS SITE PLAN, OR TO SEE THE COMPLETE PLAN SET, CONTACT THE TOWN OF DURHAM PLANNING DEPARTMENT, 15 NEWMARKET ROAD, DURHAM, NH 03824. (603) 868-8064.
- 10. IT IS THE APPLICANT'S, SITE CONTRACTOR'S, AND BUILDING CONTRACTOR'S RESPONSIBILITY T FOLLOW ALL REQUIREMENTS RELATED TO THIS SITE PLAN APPROVAL. PLEASE REVIEW THESE PLANS AND THE PLANNING BOARD NOTICE OF DECISION CAREFULLY. CONTACT THE DURHAM PLANNING DEPARTMENT AT (603) 868-8064 WITH ANY QUESTIONS OR CONCERNS.
- 11. THERE SHALL BE NO OCCUPANCY ON THE SITE OF EXISTING BUILDINGS WHILE CONSTRUCTION IS ONGOING UNLESS APPROVED BY THE BUILDING OFFICIAL.
- 12. THE SITE IS TO BE FENCED IN DURING THE DURATION OF PROJECT.
- 13. ALL BUILDINGS ARE TO BE COMPLETED IN THE SAME MONTH: THERE WILL BE NO PHASING IN THE ISSUANCE OF INDIVIDUAL CERTIFICATE OF OCCUPANCY DURING CONSTRUCTION, UNLES APPROVED BY THE BUILDING OFFICIAL.
- 14. TRUCKS ACCESSING THE SITE FROM OUTSIDE OF DURHAM SHALL BE RESTRICTED TO ROUTE 108 (THEN TO MAIN STREET/CHURCH HILL) AND ROUTE 4 (THEN TO MAIN STREET/OLD CONCORD TURNPIKE).
- 15. THE APPLICANT/CONTRACTOR SHALL MEET WITH THE BUILDING OFFICIAL AT LEAST TWO MONTHS (60 DAYS) PRIOR TO THE START OF CONSTRUCTION IN ORDER TO DISCUSS THE BUILDING PROCESS AND TO PLAN FOR THE PROPER SUBMITTAL OF ALL STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND OTHER PLANS. THE BUILDING OFFICIAL MAY REDUCE THIS TIMEFRAME AT HIS REASONABLE DISCRETION FOR GOOD CAUSE.
- 16. THE APPLICANT/CONTRACTOR SHALL COMPLY WITH THE PROVISIONS CONTAINED IN THE CONSTRUCTION MANAGEMENT PLAN.
- 17. THE APPLICANT/CONTRACTOR SHALL HOLD WEEKLY MEETINGS WITH THE TOWN ENGINEER AND OTHER APPROPRIATE TOWN STAFF(AS DETERMINED BY THE TOWN ENGINEER) TO DISCUSS THE CONSTRUCTION PROCESS AND THE SCHEDULE FOR THE UPCOMING WEEK. IN ADDITION, THE APPLICANT/CONTRACTOR SHALL BE RESPONSIBLE FOR COMMUNICATING WITH APPROPRIATE TOWN STAFF SHOULD ISSUES ARISE IN THE INTERIM.
- 18. IN ACCORDANCE WITH PLANNING BOARD REQUIREMENTS, THE APPLICANT/CONTRACTOR SHALL NOT OBSTRUCT ANY ROAD OR SIDEWALK WITHOUT APPROVAL OF THE DURHAM POLICE DEPARTMENT. THE APPLICANT/CONTRACTOR SHALL CONTACT THE POLICE DEPARTMENT A MINIMUM OF 24 HOURS PRIOR TO ANY ACTIVITY OR DELIVERY THAT WOULD OBSTRUCT ANY ROAD OR SIDEWALK AND THE POLICE DEPARTMENT WILL DETERMINE WHETHER OR NOT A POLICE DETAIL IS NEEDED. IN ALL CASES, THE POLICE DEPARTMENT SHALL DETERMINE WHEN A POLICE OFFICER IS NEEDED ON SITE. POLICE DETAILS SHALL BE BILLED FOR A MINIMUM OF 4 HOURS AT THE PREVAILING BILLING RATE USED BY THE POLICE DEPARTMENT.
- 19. THE DURHAM POLICE WILL NOT ALLOW ANY CONSTRUCTION OR DELIVERY THAT WOULD CAUSE ANY LANE CLOSURE DURING THE PERIOD OF THE LAST WEEK IN AUGUST THROUGH LABOR DAY WEEKEND THAT WOULD COINCIDE WITH UNH 'MOVE-IN'.
- 20. IN ACCORDANCE WITH PLANNING BOARD REQUIREMENTS, THE TOWN ENGINEER MAY APPROVE REASONABLE DEPARTURES FROM THE PROVISIONS IN THE CONSTRUCTION MANAGEMENT PLAN FOR GOOD CAUSE.
- 21. IN ACCORDANCE WITH PLANNING BOARD REQUIREMENTS (AND PURSUANT TO RSA 676:15), UPON FAILURE OF THE APPLICANT/CONTRACTOR TO COMPLY WITH THE REQUIREMENTS OF THE CONSTRUCTION MANAGEMENT PLAN OR OTHER ORDERS RELATED TO THE CONSTRUCTION OF THE SITE MADE BY THE DURHAM PUBLIC WORKS DIRECTOR, POLICE CHIEF, FIRE CHIEF, OR BUILDING OFFICIAL, THE TOWN ADMINISTRATOR, UPON RECOMMENDATION OF THE DURHAM PUBLIC WORKS DIRECTOR, POLICE CHIEF, FIRE CHIEF, OR BUILDING OFFICIAL MAY ORDER TH JOB SITE CLOSED AND/OR ASSESS A FINE PAYABLE FROM THE CONSTRUCTION COMPLIANCE DEPOSIT. THE FIRST FINE SHALL BE \$275.00. EACH SUBSEQUENT FINE SHALL BE \$550.00 EACH DAY THAT A VIOLATION CONTINUES SHALL BE CONSIDERED A SEPARATE OFFENSE.
- 22. IN ACCORDANCE WITH TOWN POLICY, THE APPLICANT'S BUILDING PERMIT FEES COVER THE PLANS REVIEW CONDUCTED BY THE DURHAM BUILDING OFFICIAL AT THE BUILDING PERMIT STAGE. IT IS UNDERSTOOD THAT SHOULD THE APPLICANT SEEK A QUICKER TURNAROUND THAN WHAT IS AVAILABLE WITH AN IN-HOUSE REVIEW, THE APPLICANT HAS THE OPTION OF PAYING ADDITIONAL FEES TO ENABLE THE BUILDING OFFICIAL TO HIRE AN OUTSIDE REVIEWER
- 23. THE TOWN OF DURHAM FIRE CODE OFFICIAL, OR DESIGNEE, SHALL PERFORM ON-SITE INSPECTIONS DURING FIRE CODE AND LIFE-SAFETY MATTERS. THE APPLICANT SHALL PAY THE COSTS OF ANY SUPPLEMENTAL STAFF HIRED BY THE TOWN TO ASSIST THE FIRE DEPARTMENT IN ITS INSPECTION OF THIS PROJECT.



 $R: \PROJECTS \setminus 1925-01 \setminus CIVIL \setminus DRAWINGS \setminus CURRENT \setminus C-1925-01 - C-5 - CONSTRUCTION STAGING.DWG$



603.431.8701

23 High Street

603.422.8707

DATE

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT



PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

3	01-15-14	REVS PER PEER REVIEW
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK
REV	DATE	DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION STUDENT HOUSING 25/35 MAIN STREET DURHAM, NEW HAMPSHIRE

PROJECT NO. 1925-01 DATE: 09-04-13 SCALE: 1" = 20' DWG. NAME: DRAFTED BY WBL | CHECKED BY:



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SUITE 1001 MANCHESTER, NH 03101 TEL: (603) 627-5500 FAX: (603) 627-5501

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DRAWING TITLE:

SHEET No.

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CONSTRUCTION

MANAGEMENT PLAN

CONSTRUCTION GENERAL PERMIT

- 1. THE OWNER, IN CONJUNCTION WITH THE CONTRACTOR (OPERATORS), NEEDS TO OBTAIN A CONSTRUCTION GENERAL PERMIT (CGP) FOR LARGE CONSTRUCTION ACTIVITIES (FIVE OR MORE ACRES) OR SMALL CONSTRUCTION ACTIVITIES (GREATER THAN ONE ACRE BUT LESS THAN FIVE ACRES) FROM THE ENVIRONMENTAL PROTECTION AGENCY (EPA). AS PART OF THE CGP, A STORM WATER NOTICE OF INTENT (NOI) WILL NEED TO BE SUBMITTED TO THE EPA AT LEAST 14 DAYS PRIOR TO COMMENCING CONSTRUCTION. THE NOI WILL NEED TO BE SUBMITTED TO STORM WATER NOTICE OF INTENT (4203M), USEPA, 1200 PENNSYLVANIA AVE. NW, WASHINGTON, DC 20460.
- 2. THE CGP OUTLINES A SET OF PROVISIONS MANDATING THE OWNER AND CONTRACTOR TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER REGULATIONS, INCLUDING, BUT NOT LIMITED TO, STORM WATER POLLUTION PREVENTION PLANS (SWPPP'S), IMPLEMENTATION OF EROSION AND SEDIMENTATION CONTROLS, EQUIPMENT MAINTENANCE GUIDELINES, ETC. PLEASE CONTACT USEPA OFFICE OF WASTEWATER MANAGEMENT AT 202-564-9545 OR AT WWW.EPA.GOV/NPDES/STORMWATER FOR ADDITIONAL INFORMATION. IN ADDITION, ONE CAN CONTACT ABBY SWAINE OF NEW ENGLAND'S EPA REGION 1 AT

NOTES

- 1. IT IS BEING PROPOSED TO CONSTRUCT 4 BUILDINGS AND REHAB 2 EXISTING WITH ASSOCIATED PARKING.
- 2. TOTAL SITE AREA: 47,676 S.F. / 1.09 AC. TOTAL AREA OF DISTURBANCE: 51,900 S.F. / 1.19 AC.
- 3. SOILS SHOWN ARE FROM THE SOIL SURVEY OF STRAFFORD COUNTY, NH, PREPARED BY USDA—SOIL CONSERVATION SERVICES.

 SfC SUFFIELD SILT LOAM

HcB - HOLLIS - CHARLTON FINE SANDY LOAM

- 4. STORM WATER DRAINAGE SYSTEM IS SHOWN ON THE PLAN. SEE SHEET C-2 FOR RIM, INVERT, PIPE LENGTH AND SLOPE INFORMATION.
 POST-CONSTRUCTION RUNOFF COEFFICIENT: C=0.92
 TOTAL SITE AREA: 47,676 S.F. / 1.09 AC.
 TOTAL AREA OF DISTURBANCE: 51,900 S.F. / 1.19 AC.
 IMPERVIOUS SURFACE AREA: 32,504 S.F. / 0.75 AC.
- 5. STABILIZATION PRACTICES FOR EROSION AND SEDIMENTATION CONTROLS:

TEMPORARY STABILIZATION — TOPSOIL STOCKPILES AND DISTURBED AREAS OF THE CONSTRUCTION SITE THAT WILL NOT BE REDISTURBED FOR 21 DAYS OR MORE MUST BE STABILIZED BY THE 14TH DAY AFTER THE LAST DISTURBANCE. THE TEMPORARY SEED SHALL BE ANNUAL RYE APPLIED AT THE RATE OF 1.1 LBS PER 1,000 SQUARE FEET. PRIOR TO SEEDING, A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS PER ACRE OF 10-20-20 FERTILIZER SHALL BE APPLIED. AFTER SEEDING, EACH AREA SHALL BE MULCHED WITH 1.5 TONS PER ACRE OF HAY MULCH. MULCH TO BE ANCHORED IN PLACE WHERE NECESSARY. AREAS OF THE SITE THAT WILL BE PAVED WILL TEMPORARILY BE STABILIZED BY APPLYING GEOTEXTILES AND A STONE SUB-BASE UNTIL BITUMINOUS PAVEMENT CAN BE APPLIED. CALCIUM CHLORIDE SHALL BE USED FOR DUST CONTROL IF NEEDED.

PERMANENT STABILIZATION — DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASES SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY. THE PERMANENT SEED MIX SHALL CONSIST OF 0.45 LBS/1,000 S.F. TALL FESCUE, 0.20 LBS/1,000 S.F. CREEPING RED FESCUE, AND 0.20 LBS/1,000 S.F. BIRDSFOOT TREFOIL. PRIOR TO SEEDING, A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS PER ACRE IF 10-20-20 FERTILIZER SHALL BE APPLIED. AFTER SEEDING, EACH AREA SHALL BE MULCHED WITH 1.5 TONS PER ACRE OF HAY MULCH. MULCH TO BE ANCHORED IN PLACE WHERE NECESSARY.

6. STRUCTURAL PRACTICES FOR EROSION AND SEDIMENTATION CONTROL

SILTATION BARRIER— WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE DISTURBED AREAS AND WILL DELINEATE THE LIMITS OF WORK FOR THE PROPOSED CONSTRUCTION. SILT FENCE WILL BE INSTALLED BY STRETCHING THE REINFORCED FILTER FABRIC BETWEEN POSTS WITH AT LEAST 6 INCHES OF THE FABRIC BURIED BELOW THE GROUND SURFACE TO PREVENT GAPS FROM FORMING NEAR THE GROUND SURFACE. RUNOFF WILL FLOW THROUGH THE OPENINGS IN THE FILTER FABRIC WHILE RETAINING THE SEDIMENT WITHIN THE CONSTRUCTION AREA. COIR LOGS SHALL BE INSTALLED WITHIN THE LIMITS OF DISTURBANCE ALONG THE SILT FENCE. THE COIR LOGS SHALL BE SET IN A 4" DEEP TRENCH AND STAKED 2' ON CENTER.

STABILIZED CONSTRUCTION ENTRANCE — WILL BE INSTALLED AT THE ENTRANCE TO THE CONSTRUCTION SITE TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS OFF THE SITE. THE STABILIZED ENTRANCE WILL BE 10 FEET WIDE AND FLARE AT THE ENTRANCE TO THE PAVED ROAD AND HAVE A DEPTH OF 8 INCHES OF STONE. THE STABILIZED ENTRANCE SHALL BE MAINTAINED UNTIL THE REMAINDER OF THE CONSTRUCTION SITE HAS BEEN FULLY STABILIZED.

7. <u>STORM WATER MANAGEMENT</u>

STORM WATER DRAINAGE FOR THE MAJORITY OF DEVELOPED AREAS WILL BE COLLECTED VIA SHEET FLOW TO PERMEABLE BRICK PAVERS WITH SUBSURFACE STORAGE CAPACITY TO ATTENUATE PEAK FLOWS AND INFILTRATE. ADDITIONAL STORAGE, ATTENUATION, AND INFILTRATION WILL BE PROVIDED THROUGH THE CONSTRUCTION OF SEVERAL RAIN GARDENS WHICH WILL INTERCEPT ROOF RUNOFF.

- 8. ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURE DUMPSTERS OR APPROVED ENCLOSURE AND REMOVED FROM THE SITE ON A WEEKLY BASIS. NO CONSTRUCTION WASTE SHALL BE BURIED ON SITE. PORTABLE TOILET SANITARY WASTE FACILITIES WILL BE PROVIDED DURING CONSTRUCTION AND MAINTAINED/DISPOSED OF ON A REGULAR BASIS IN ACCORDANCE WITH TOWN AND STATE REGULATIONS.
- 9. A STABILIZED CONSTRUCTION DRIVEWAY SHALL BE INSTALLED IN THE LOCATION SHOWN ON THE PLAN IN ACCORDANCE WITH THE DETAIL IN SWPPP-3, TO MINIMIZE TRACKING OF SEDIMENT OFFSITE BY CONSTRUCTION VEHICLES. THE PAVED STREET ADJACENT TO THE SITE SHALL BE INSPECTED ON A DAILY BASIS AND SWEPT AS NEEDED TO REMOVE EXCESS MUD AND DIRT FROM BEING TRACKED FROM THE SITE. TRUCKS HAULING MATERIAL TO AND/OR FROM THE SITE SHALL BE COVERED WITH A TARPAULIN

NOTES CONTINUED

10. A LIST OF CONSTRUCTION ITEMS AND OTHER PRODUCTS USED ON THIS PROJECT SHALL BE KEPT ON RECORD WITH THIS PLAN ONSITE. ALL CHEMICALS, PETROLEUM PRODUCTS AND OTHER MATERIALS USED DURING CONSTRUCTION SHALL BE STORED IN A SECURE AREA, AND PRECAUTIONS USED TO PREVENT POTENTIAL SOURCES OF CONTAMINATION OR POLLUTION. ANY SPILL OF THESE TYPES OF SUBSTANCES SHALL BE CLEANED UP AND DISPOSED OF IN A LEGAL MANNER AS SPECIFIED BY STATE REGULATIONS AND THE MANUFACTURER. ANY SPILL IN AMOUNTS EQUAL TO OR EXCEEDING REPORTABLE QUANTITY AS DEFINED BY THE EPA SHALL TAKE THE FOLLOWING STEPS:

NOTIFY THE NATIONAL RESPONSE CENTER IMMEDIATELY AT (800) 424-8802; IN WASHINGTON, D.C., CALL (202) 426-2675.
WITHIN 14 DAYS, SUBMIT A WRITTEN DESCRIPTION OF THE RELEASE TO THE EPA REGIONAL OFFICE PROVIDING THE DATE AND CIRCUMSTANCES OF THE RELEASE AND THE STEPS TO BE TAKEN TO PREVENT ANOTHER RELEASE.
MODIFY THE POLLUTION PREVENTION PLAN TO INCLUDE THE INFORMATION LISTED ABOVE.

GOOD HOUSEKEEPING

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

- AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO

DO THE JOB;

- ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR

- PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL;

 SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;

- WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER;

- MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED;

 THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.
 HAZARDOUS PRODUCTS:

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
 ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN

IMPORTANT PRODUCT INFORMATION;

— IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL

- IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES:
THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:

PETROLEUM PRODUCTS:

ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS: FERTILIZERS

FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOLID TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS:

CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONTO THE SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
 MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
 THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE

- SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF SIZE.

- THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

- THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY—TO—DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THEY WILL DESIGNATE AT LEASE THREE OTHER SITE PERSONNEL WHO WILL EACH RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.

- 11. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN RECORDS OF CONSTRUCTION ACTIVITIES, INCLUDING DATES OF MAJOR GRADING ACTIVITIES, DATES WHEN CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED ON A PORTION OF THE SITE, DATES WHEN WORK IS COMPLETED ON A PORTION OF THE SITE, AND DATES WHEN STABILIZATION MEASURES ARE INITIATED ONSITE.
- 12. THE CONTRACTOR SHALL PERFORM INSPECTIONS OR HAVE A CONSULTING ENGINEER PERFORM INSPECTIONS EVERY SEVEN (7) DAYS OR WITHIN 24 HOURS AFTER A STORM OF 0.25 INCH OR GREATER. INSPECTIONS REPORTS ARE TO BE KEPT ON FILE AT THE SITE WITH THIS PLAN. MAINTENANCE OR MODIFICATION SHALL BE IMPLEMENTED AND ADDED TO THE PLAN AS RECOMMENDED BY THE QUALIFIED INSPECTOR.
- 13. THIS PROJECT WILL DISTURB OVER ONE ACRE OF GROUND COVER AND/OR MEETS OTHER THRESHOLDS RELATED TO PERMIT CRITERIA FOR EPA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) COMPLIANCE. THE SITE CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), SUBMISSION OF A NOTICE OF INTENT (NOI) TO EPA, INSPECTION AND MAINTENANCE OF SEDIMENT CONTROL MEASURES, DOCUMENTATION OF MAINTENANCE ACTIVITIES, AND SUBMISSION A NOTICE OF TERMINATION (NOT) TO EPA. THE SITE CONTRACTOR IS ALSO RESPONSIBLE TO COMPLY WITH ALL OTHER FEDERAL, STATE AND LOCAL STORMWATER OR NPDES REQUIREMENTS.
- 14. ALL EROSION AND SEDIMENTATION CONTROL STRUCTURES SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED AND THE GROUND SURFACE IS STABILIZED. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MONITORED BY THE APPLICANT ON A PERIODIC BASIS DURING CONSTRUCTION AND ANY DEFICIENCIES SHALL BE CORRECTED AS SOON AS POSSIBLE.



23 High Street Portsmouth, NH 03801

603.431.8701 603.422.8707

DATE

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT

ISSUED FOR REVIEW JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
1	10-25-13	LIGHT WELLS / SIDEWALK
2	12-20-13	REVS PER TOWN COMMENTS
3	01-15-14	REVS PER PEER REVIEW

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION
STUDENT HOUSING
25/35 MAIN STREET
DURHAM, NEW HAMPSHIRE

PROJECT NO. 1925-01 DATE: 09-04-13

SCALE: 1" = 20' DWG. NAME: SWPPP

DRAFTED BY: WBL CHECKED BY: RPC



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250 COMMERCIAL STREET

SUITE 1001

MANCHESTER, NH 03101

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FAX: (603) 627-5501 WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

SHEET No.

SWPPP

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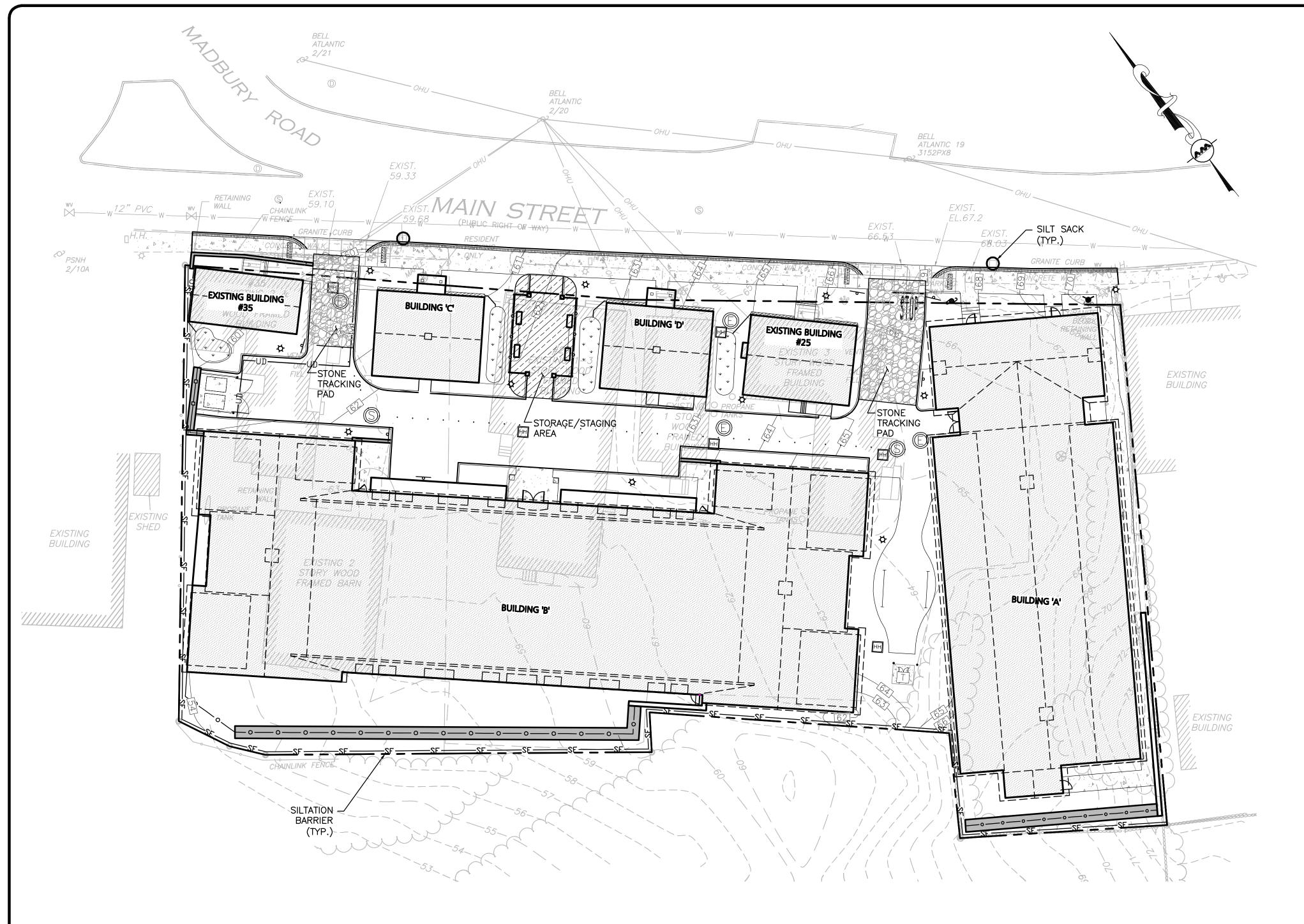
DRAWING TITLE:

STORMWATER POLLUTION
PREVENTION NOTES

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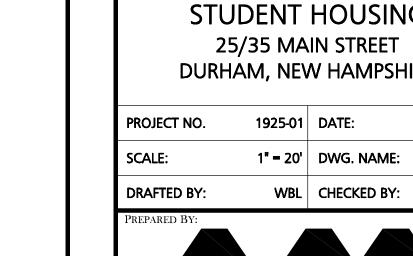
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LEGEND:

SILTATION BARRIER SILT SACK STABILIZED CONST. ENTRANCE PROPOSED GRADING STOCKPILE/CONSTRUCTION STAGING AREA



cture 250 COMMERCIAL STREET

SUITE 1001 MANCHESTER, NH 03101 TEL: (603) 627-5500 FAX: (603) 627-5501

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DRAWING TITLE:

SHEET No. SWPPP STORMWATER POLLUTION PREVENTION PLAN

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(IN FEET)

1 inch = 20 ft.

GRAPHIC SCALE



603.431.8701 603.422.8707

23 High Street

DATE

Portsmouth, NH 03801

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT

ISSUED FOR REVIEW JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

3	01-15-14	REVS PER PEER REVIEW
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK
REV	DATE	DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION STUDENT HOUSING 25/35 MAIN STREET DURHAM, NEW HAMPSHIRE

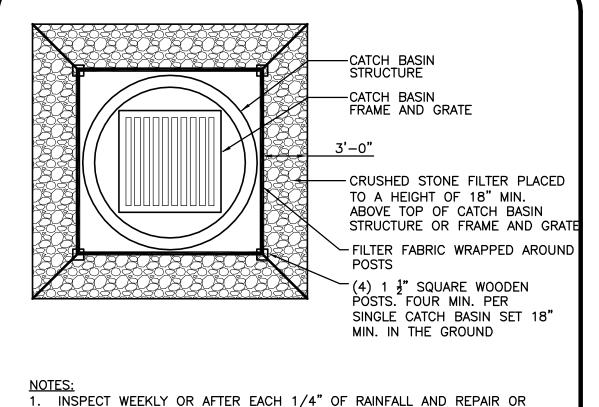
09-04-13

GRADING

DRAFTED BY:	WBL	CHECKED BY	
PREPARED BY:	_		_
ALLE	N &	t MAJ	JOR
ASSOC	CIA	TES,	INC.
civil & structura	-	-	
environmental con		; ♦ landscape major.c	

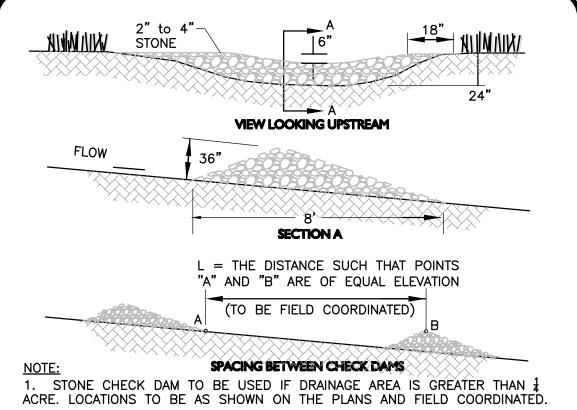
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1. INSPECT WEEKLY OR AFTER EACH 1/4" OF RAINFALL AND REPAIR OR REPLACEMENT OF STONE AND FILTER FABRIC SHALL BE MADE PROMPTLY IF DAMAGED OR AS DIRECTED 2. CONTRACTOR SHALL REMOVE SEDIMENT ACCUMULATION ONCE IT REACHES A DEPTH OF 6" MAX.

CRUSHED STONE CATCH BASIN INLET PROTECTION

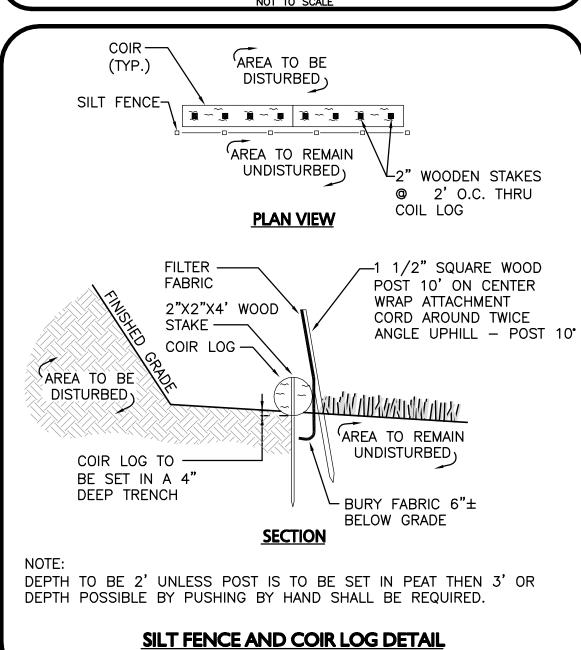


A MINIMUM OF 18" TO PREVENT FLOW AROUND THE DAM.

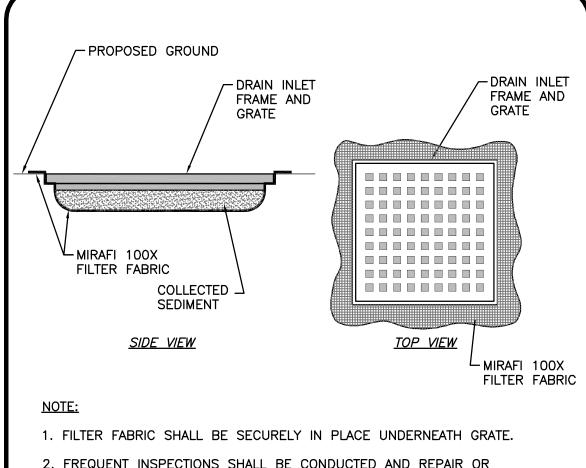
CONTRACTOR TO INSPECT CHECK DAMS AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL EVENTS. CONTRACTOR TO REPAIR AND REPLACE THE STONE AS NECESSARY.

2. KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS

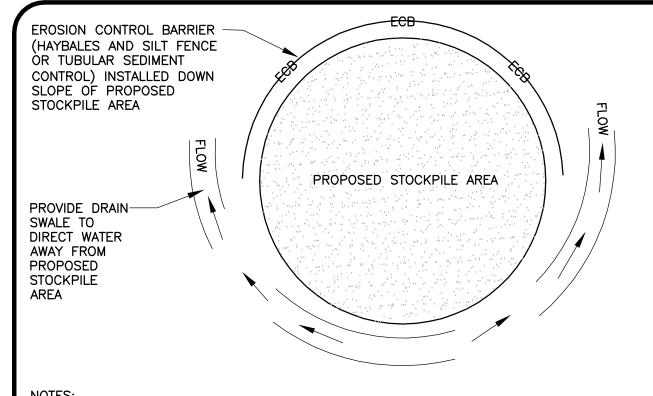
STONE CHECK DAM DETAIL NOT TO SCALE



NOT TO SCALE



MINIMUM 3"-4" CLEAN STONE MIRAFI 600X WOVEN GEOTEXTILE UNDERLINER 20' WIDE MINIMUM OR FULL WIDTH OF ACCESS ROAD. WHICHEVER IS GREATER. 2. FREQUENT INSPECTIONS SHALL BE CONDUCTED AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY IF NECESSARY. TYPICAL SILT SACK DETAIL CONSTRUCTION ENTRANCE NOT TO SCALE

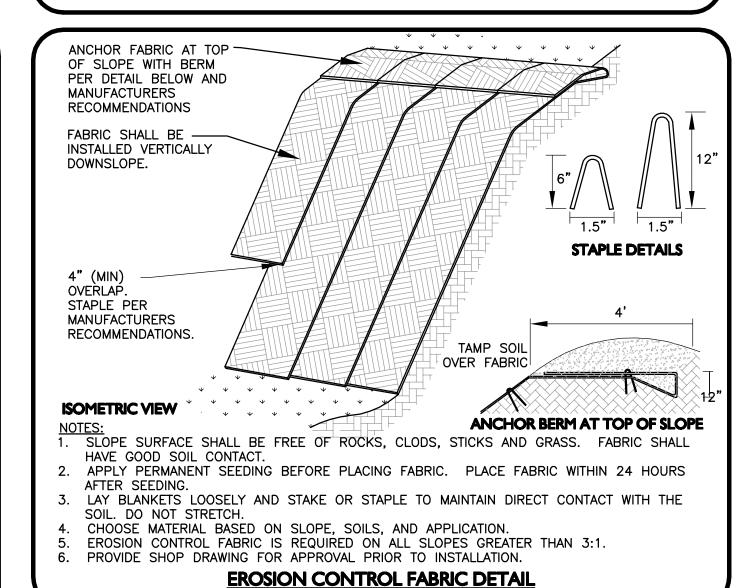


SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 90 DAYS SHALL BE COVERED WITH HAY AND MULCH (AT 100LBS/1,000 SF), OR WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.

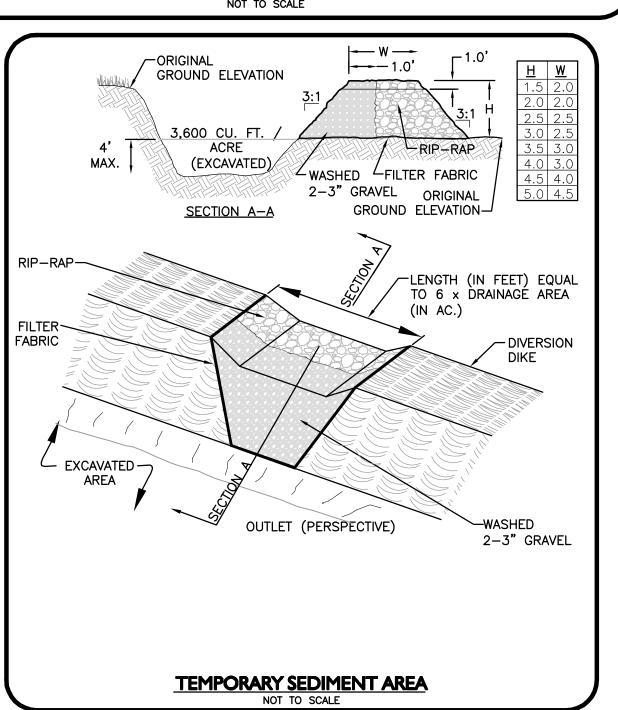
2. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR 90 DAYS OR MORE SHALL BE SEEDED WITH WINTER RYE (FOR FALL SEEDING AT 3LB/1,000 SF) OR OATS (FOR SUMMER SEEDING AT 2LB/1,000 SF) AND THEN COVERED WITH HAY MULCH (AT 100LB/1,000 SF) OR AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.

STOCKPILE PROTECTION DETAIL

NOT TO SCALE



NOT TO SCALE





23 High Street Portsmouth, NH 03801

603.431.8701 603.422.8707

DATE

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT

JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

3	01-15-14	REVS PER PEER REVIEW
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK
REV	DATE	DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION STUDENT HOUSING 25/35 MAIN STREET **DURHAM, NEW HAMPSHIRE**

09-04-13 PROJECT NO. 1925-01 DATE: SCALE: 1" = 20' DWG. NAME: **SWPPP** WBL | CHECKED BY: **DRAFTED BY:**



ASSOCIATES, INC. civil & structural engineering • land surveying environmental consulting ♦ landscape architecture

www.allenmajor.com 250 COMMERCIAL STREET SUITE 1001 MANCHESTER, NH 03101

TEL: (603) 627-5500 FAX: (603) 627-5501 WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

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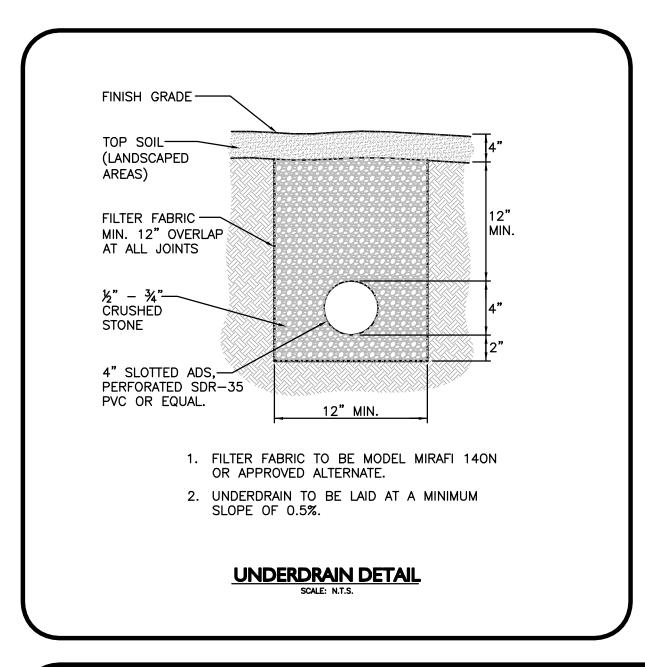
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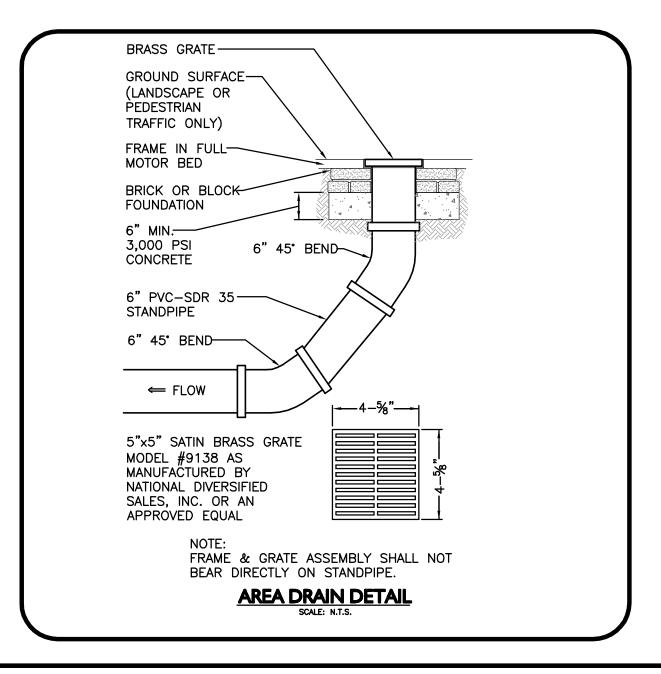
SHEET No. SWPPP STORMWATER POLLUTION

3

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PREVENTION DETAILS





GENERAL EROSION CONTROL NOTES:

- 1. GRADING, AND PLANTING OF BIORETENTION SHALL BE COMPLETED IN EARLY PHASES OF CONSTRUCTION. PLANTS AND SEED ON SLOPES AND BOTTOM OF BASIN MUST BE ESTABLISHED PRIOR TO CONNECTING STORM DRAINAGE SYSTEM OUTLETS TO BIORETENTION AREA. PLANTS AND SEED MIX SHALL HAVE A MINIMUM OF 6 MONTHS GROWING, BE ESTABLISHED AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO CONNECTING STORM DRAINAGE SYSTEM OUTLETS TO BIORETENTION AREA.
- 2. EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN, SHALL BE IN PLACE PRIOR TO ANY REGRADING ACTIVITY.
- 3. EXCAVATION, FILLING AND PLANTING SHALL OCCUR IN THE DRY. WATER LEVELS MUST BE LOWERED IN THE BIOREMEDIATION AREA BY RELYING ON DRY SEASON AND OR DRY SPELLS; OR MAY BE ACCOMPLISHED THROUGH THE USE OF DEWATERING METHODS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ANY DEWATERING METHODS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- 4. WATER FROM ANY DEWATERING OPERATION SHALL BE TREATED TO REDUCE TOTAL SUSPENDED SOLIDS AND BE IN COMPLIANCE WITH STATE AND FEDERAL STANDARDS.

PLANTING & SOIL NOTES:

- 1. A NEW ENGLAND CONSERVATION / WILDLIFE MIX WILL BE DISPERSED IN AND ADJACENT TO THE BANK OF THE BIORETENTION AREA AT A RATIO OF 1 POUND PER 1,750 SQUARE FEET AS AVAILABLE FROM NEW ENGLAND WETLAND PLANTS OR APPROVED EQUAL, INC. 820 WEST ST., AMHERST, MA, 413-548-8000.
- 2. A NEW ENGLAND WETMIX WILL BE DISPERSED AT THE BOTTOM 6" OF THE BANK AND BELOW OF THE BIORETENTION AREA AT A RATIO OF 1 POUND PER 2,500 SQUARE FEET AS AVAILABLE FROM NEW ENGLAND WETLAND PLANTS, INC. 820 WEST ST., AMHERST, MA, 413-548-8000.
- 3. LOAM AND SEED ALL NON-BIOREMEDITATION AREAS WITH UPLAND MIX TO PROVIDE VEGETATIVE COVER AND EROSION CONTROL.
- 4. ALL PLANTINGS SHALL BE MONITORED AND REPLACED AS NECESSARY DURING THE TWO-YEAR ESTABLISHMENT PERIOD.
- 5. PLANTING SOIL SHALL HAVE PH RANGE OF 5.5-6.5%, ORGANIC MATTER OF 1.5-3.0%. PLANTING SOIL SHALL HAVE A SANDY LOAM, LOAMY SAND, OR LOAM TEXTURE PER USDA TEXTURAL TRIANGLE. MAXIMUM CLAY CONTENT IS <5%, 60-70% SAND; 10% LEAF COMPOST*; AND 25-30% TOPSOIL. THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILIAR OBJECTS LARGER THAN 2". LEAF COMPOST IS ESSENTIALLY COMPOSED OF AGED LEAF MULCH AND PROVIDES ADDED ORGANIC MATTER. A SIEVE ANALYSIS, PH, AND ORGANIC MATTER TEST SHALL BE SENT TO UMASS SOIL TESTING LAB OR APPROVED EQUAL FOR APPROVAL BY LANDSCAPE ARCHITECT. SOIL SHALL BE AMENDED TO MEET THESE SPECIFICATIONS FOR APPROVAL.

(BY NEW ENGLAND WETLAND PLANTS INC.):

COMMON NAME LURID SEDGE FOWL MEADOW GRASS FRINGED SEDGE JOE-PYE-WEED BROOM SEDGE SOFT RUSH WOOLGRASS

BONESET

TUSSOCK

10. BLUE VERVAIN

NOT TO SCALE

GLYCERIA CANADENSIS CAREX CRINITA EUPATORIADELPHUS MACULATUS CAREX SPP., OVALES GROUP JUNCUS EFFUSUS SCRIPUS CYPERINUS EUPATORIUM PEFOLIATUM SEDGE CAREX STRICTIA VERBENA HASTATA

LATIN NAME

CAREX LURIDA

NEW ENGLAND CONSERVATION / WILDLIFE MIX (BY NEW ENGLAND WETLAND PLANTS INC.):

<u>LATIN NAME</u> ANDROPOGON GERARDII BIG BLUESTEM

SWITCHGRASS LITTLE BLUESTEM CANADA WILD RYE FOX SEDGE PARTRIDGE PEA FRINGED BROMEGRASS PENNSYLVANIA SMARTWEED COMMON MILKWEED 10. SHOWY TICK-TREFOIL 11. NEW ENGLAND ASTER 12. FLAT-TOP ASTER

13. NODDING BUR-MARIGOLD

PANICUM VIRGATUM SCHIZACHYRIUM SCOPARIUM ELYMUS CANAENSIS CAREX VULPINOIDEA CHAMAECRISTA FASCICULATA BROMUS CILIATUS POLYGONUM PENSYLVANICUM ASCLEPIAS SYRIACA DESMODIUM CANADENSE ASTER NOVAE-ANGLIAE ASTER UMBELLATUS BIDENS CCERNUA



23 High Street Portsmouth, NH 03801

> 603.431.8701 603.422.8707

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT DATE



PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

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PROJECT:

DRAFTED BY:

ORION STUDENT HOUSING 25/35 MAIN STREET DURHAM, NEW HAMPSHIRE

PROJECT NO. 1925-01 DATE: 09-04-13 SCALE: 1" = 20' DWG. NAME: C - DETAIL

WBL | CHECKED BY:



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FAX: (603) 627-5501 WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

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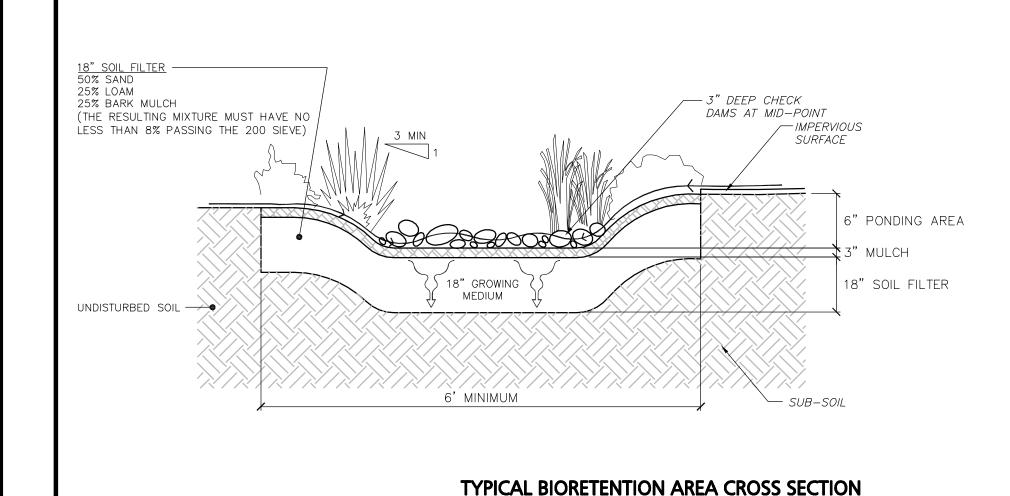
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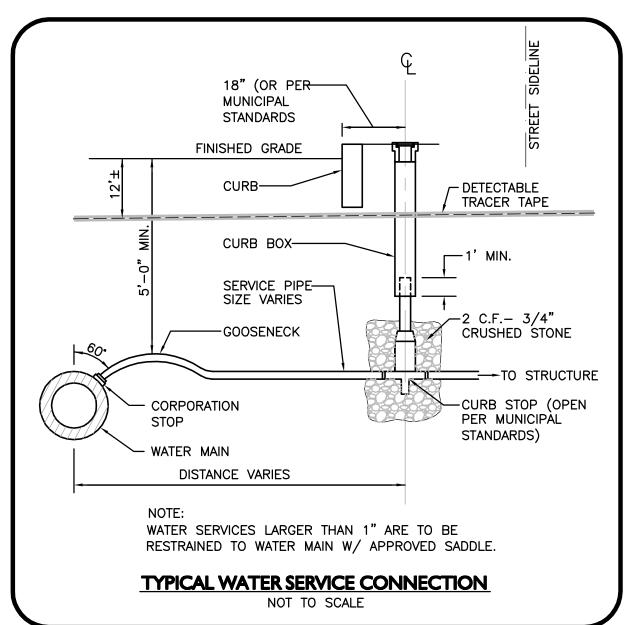
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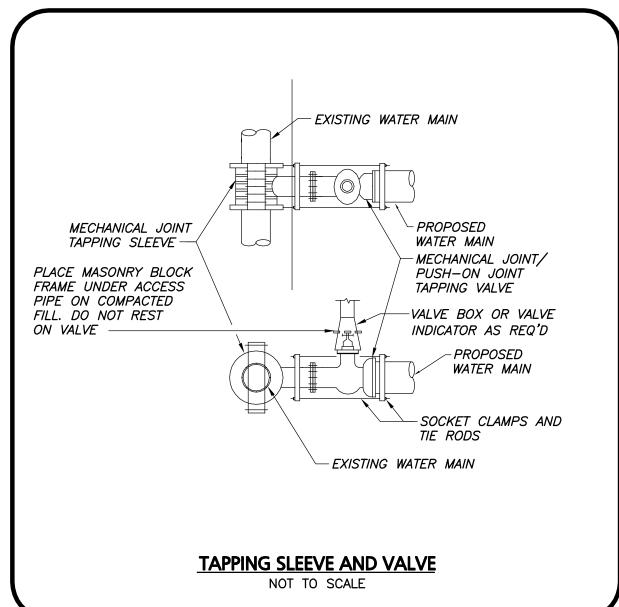
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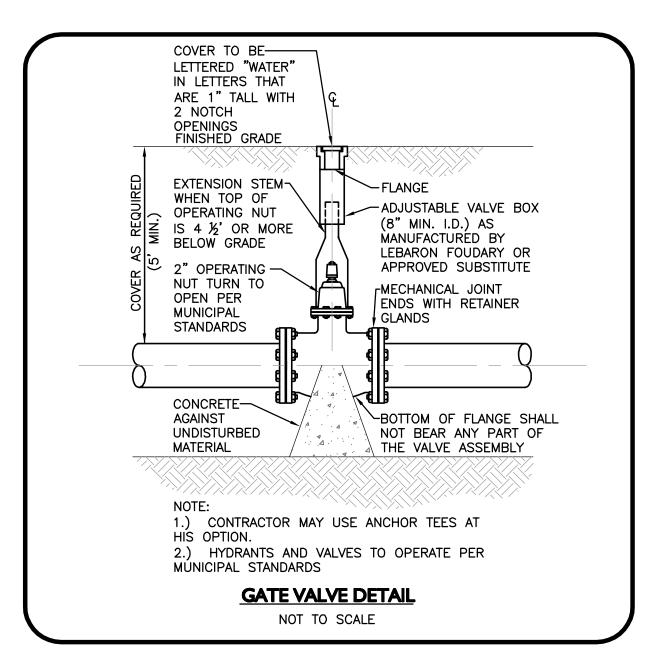
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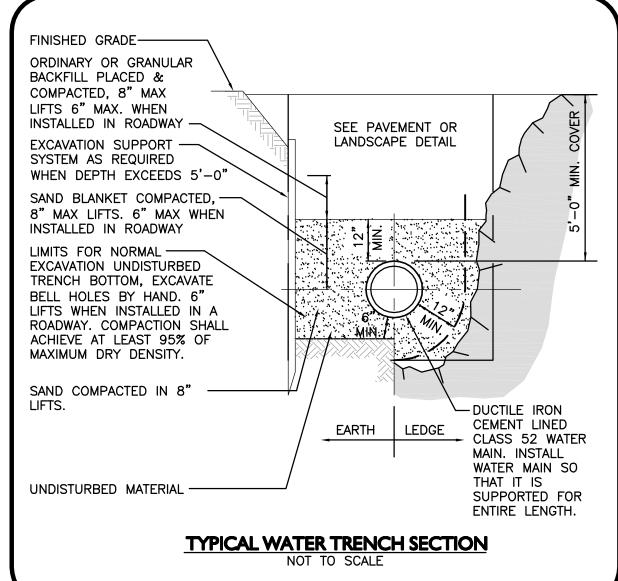
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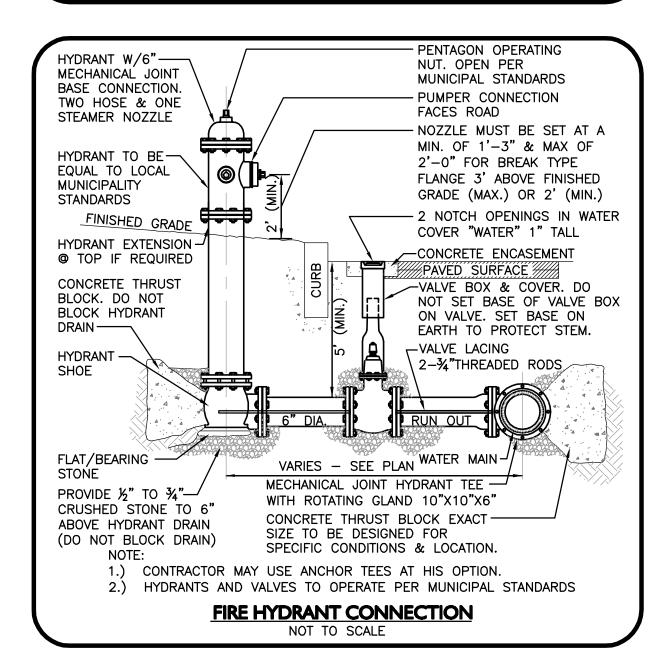


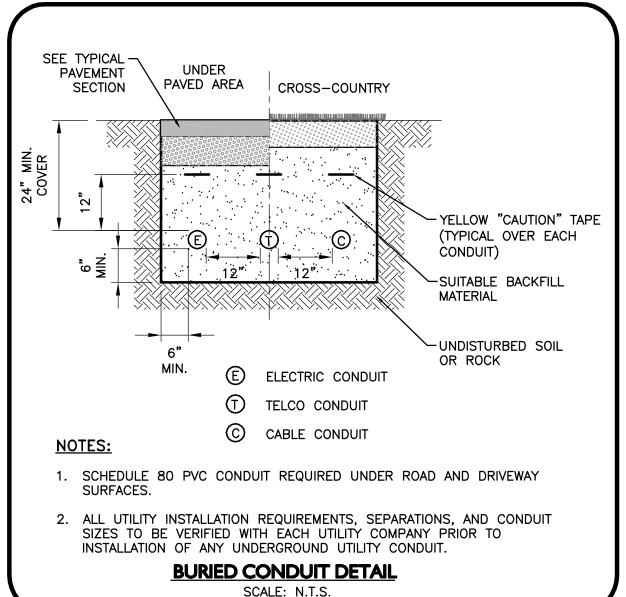


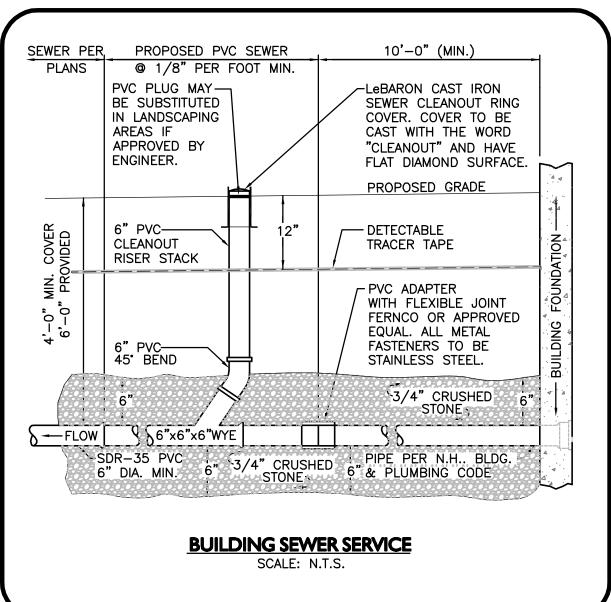


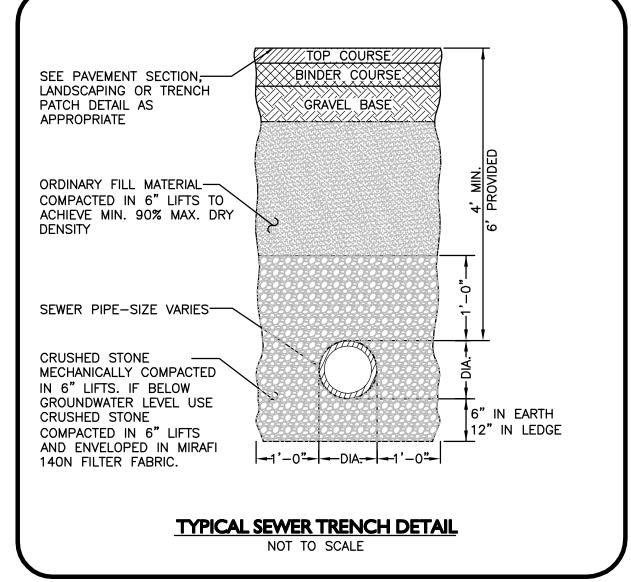


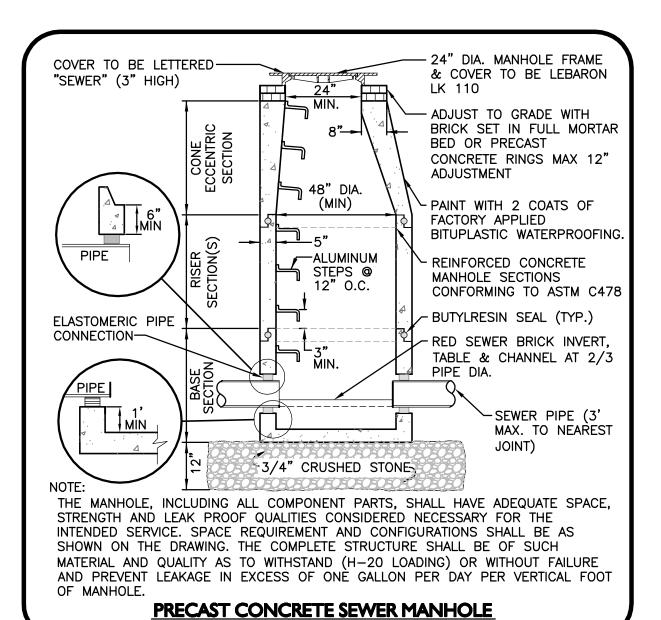


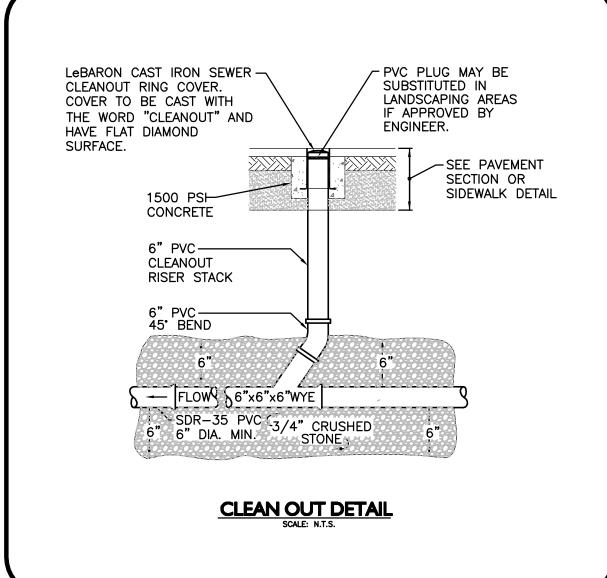


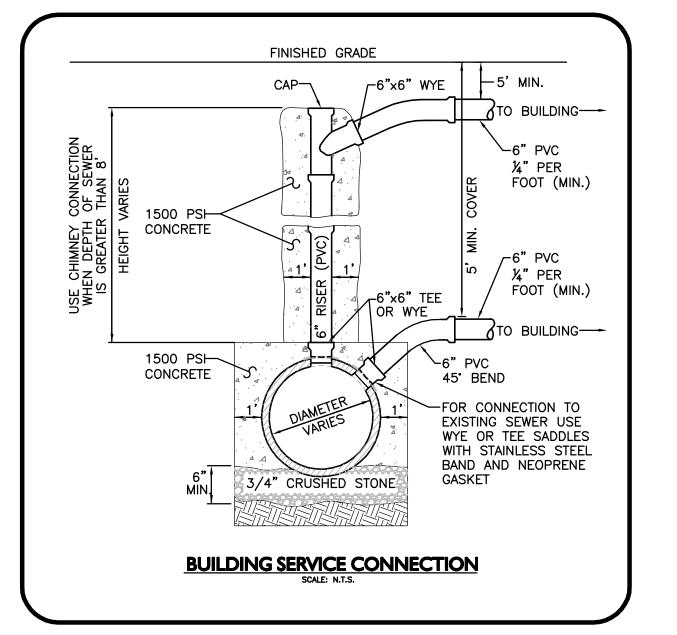












12-20-13 REVS PER TOWN COMMENTS 10-25-13 | LIGHT WELLS / SIDEWALK DESCRIPTION REV DATE APPLICANT\OWNER: ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110 PROJECT: ORION STUDENT HOUSING 25/35 MAIN STREET **DURHAM, NEW HAMPSHIRE** PROJECT NO. 1925-01 DATE: SCALE: 1" = 20' DWG. NAME: C - DETAIL DRAFTED BY WBL | CHECKED BY: ALLEN & MAJOR ASSOCIATES, INC. civil & structural engineering ♦ land surveying environmental consulting ♦ landscape architecture www.allenmajor.com 250 COMMERCIAL STREET SUITE 1001 MANCHESTER, NH 03101 TEL: (603) 627-5500 FAX: (603) 627-5501 WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT/CLIENT'S REPRESENTATIVE OR CONSULTANT MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OF OTHERWISE, ALLEN & MAJOR ASSOCIATES, INC. MAY REMOVE ALL INDICATION OF THE DOCUMENT'S AUTHORSHIP ON THE MAGNETIC MEDIA. PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS ISSUED SHALL BE THE ONLY RECORD COPIES OF ALLEN & MAJOR ASSOCIATES, INC.'S WORK PRODUCT. **DRAWING TITLE: DETAILS** Copyright © 2013 Allen & Major Associates, Inc.

23 High Street

603.431.8701

603.422.8707

DATE

09-04-13

SHEET No.

Portsmouth, NH 03801

FINAL APPROVAL BY DURHAM PLANNING BOARD.

MICHAEL BEHRENDT

CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

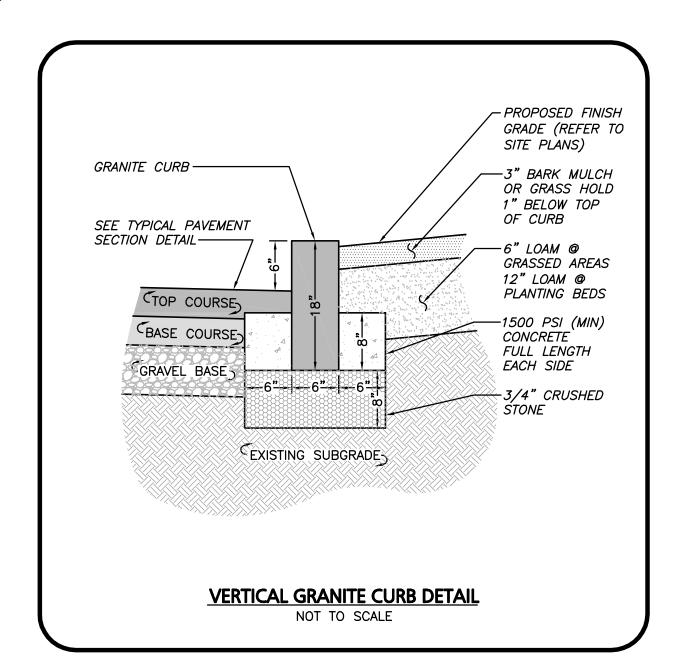
JANUARY 15, 2014

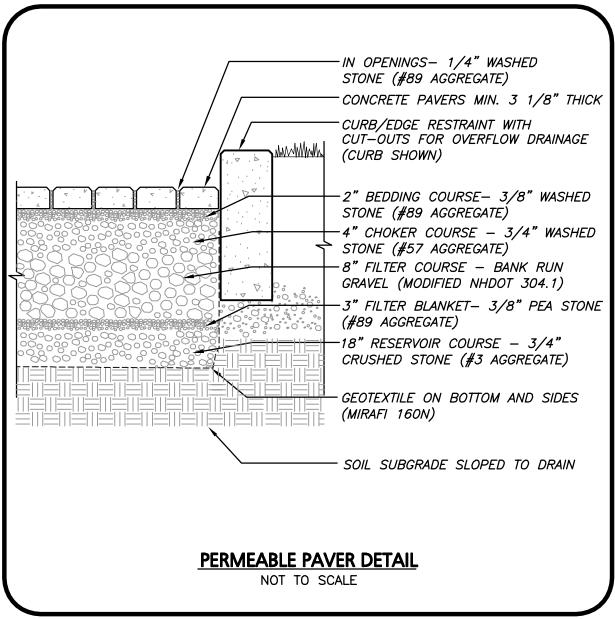
01-15-14 REVS PER PEER REVIEW

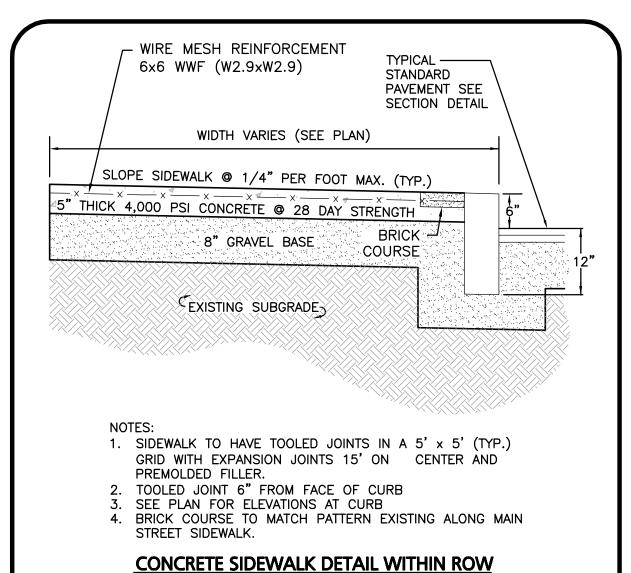
PROFESSIONAL ENGINEER FOR

ALLEN & MAJOR ASSOCIATES, INC.

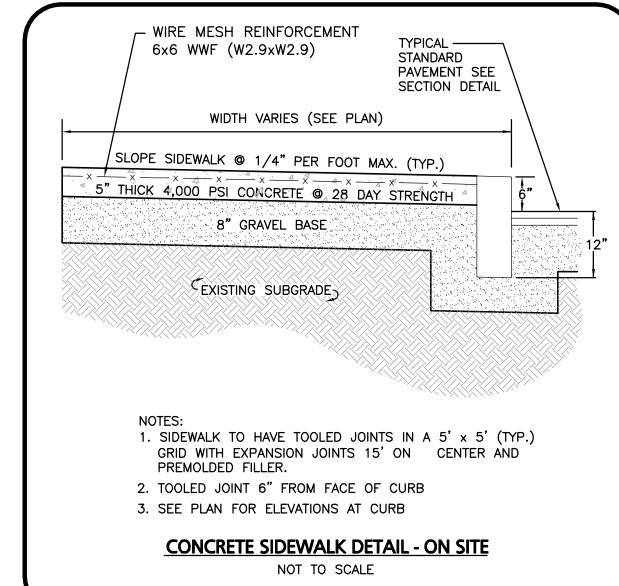
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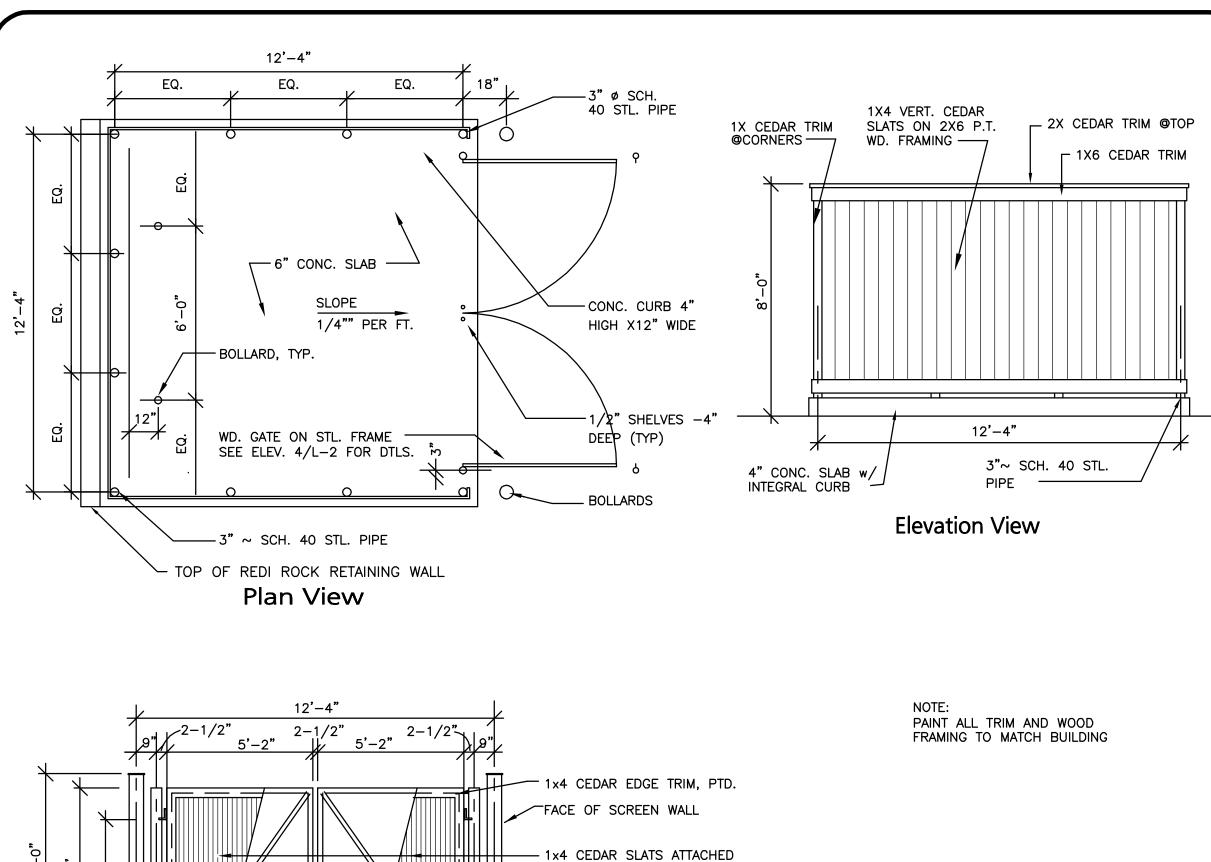






NOT TO SCALE





TO METAL GATE FRAME, PTD.

2" STL. TUBE, MITER, WELD,

AND GRIND SMOOTH, PTD.

PIVOTING GATE LATCHES

FABRICATED FROM \" ~

PROVIDE 3/4" X 4" DEEP

SLEEVES IN CONC. PAVEMENT

-VERIFY POST & FOUNDATION W/

STL. RODS

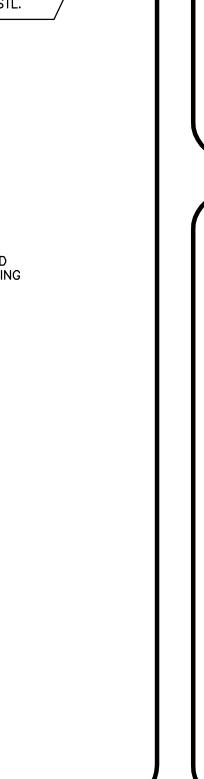
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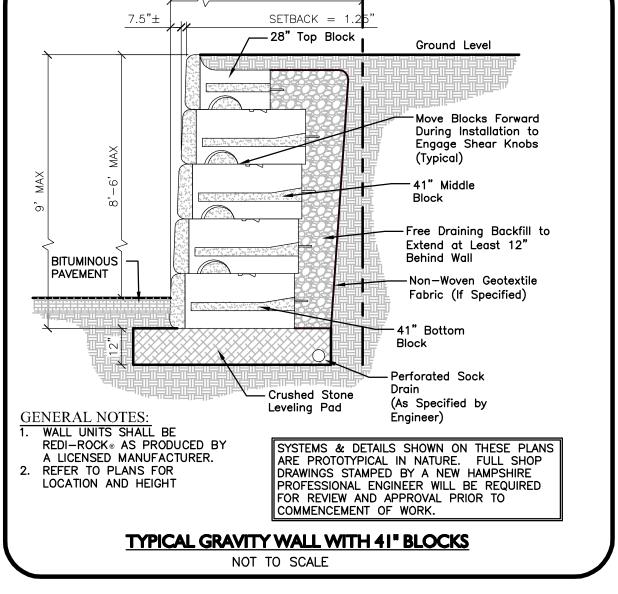
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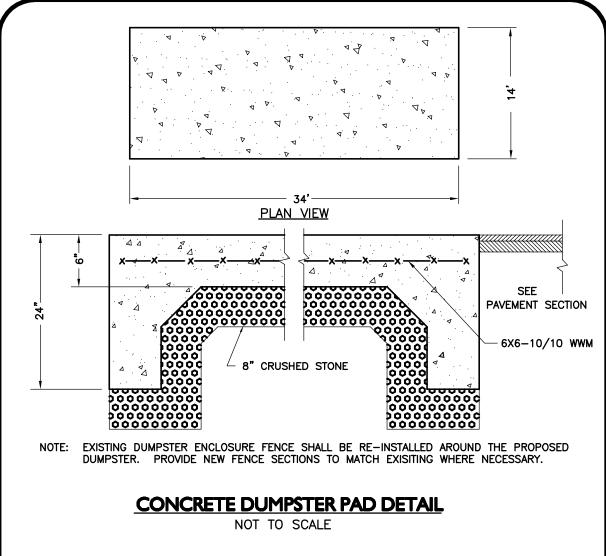
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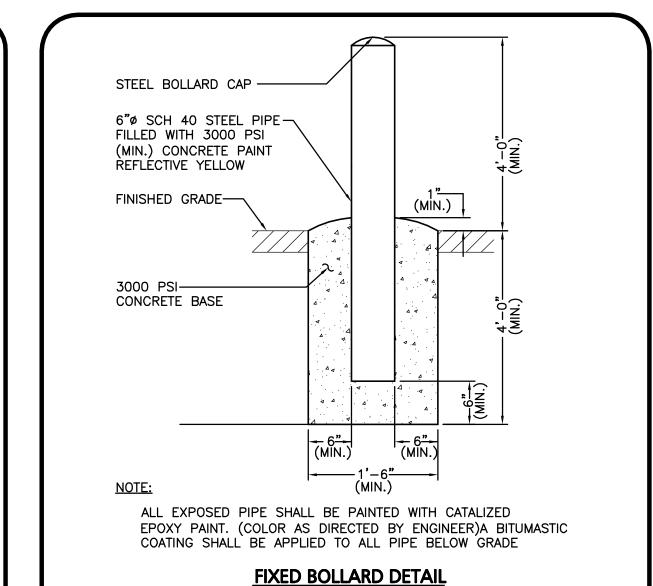
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GATE FRAME FABRICATED FROM

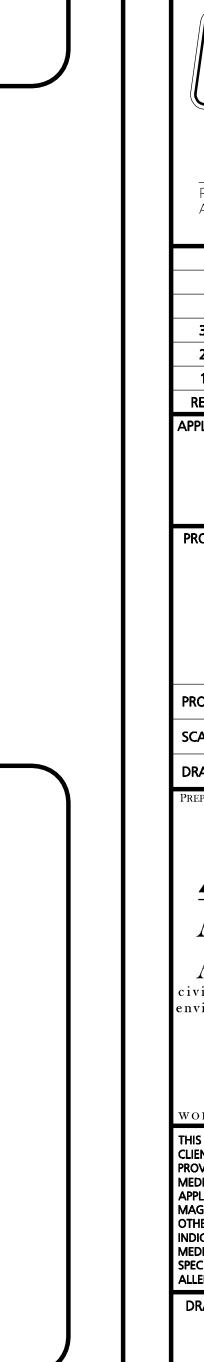








NOT TO SCALE



DeStefano Architects

Portsmouth, NH 03801
P: 603.431.8701

DATE

23 High Street

F: 603.422.8707

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT

ISSUED FOR REVIEW JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

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REV DATE DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION
STUDENT HOUSING
25/35 MAIN STREET
DURHAM, NEW HAMPSHIRE

PROJECT NO. 1925-01 DATE: 09-04-13

SCALE: 1" = 20' DWG. NAME: C - DETAIL

DRAFTED BY: WBL CHECKED BY: RPC



ASSOCIATES, INC.

civil & structural engineering ◆ land surveying environmental consulting ◆ landscape architecture w w w . a l l e n m a j o r . c o m 250 COMMERCIAL STREET

SUITE 1001 MANCHESTER, NH 03101 TEL: (603) 627-5500 FAX: (603) 627-5501

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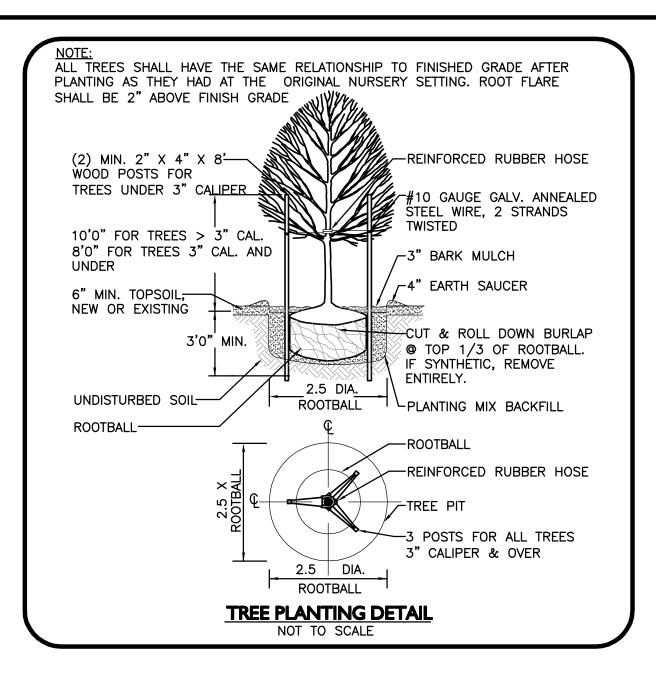
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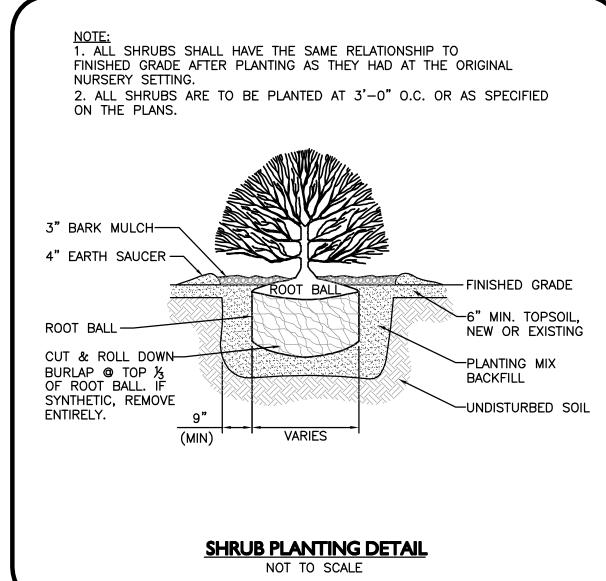
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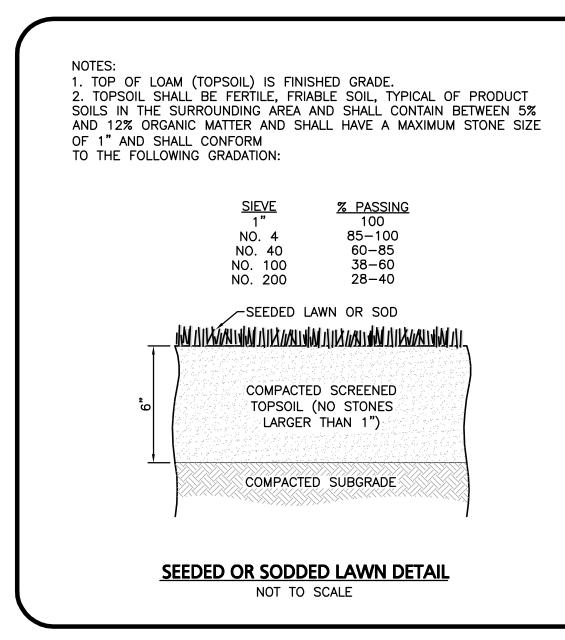
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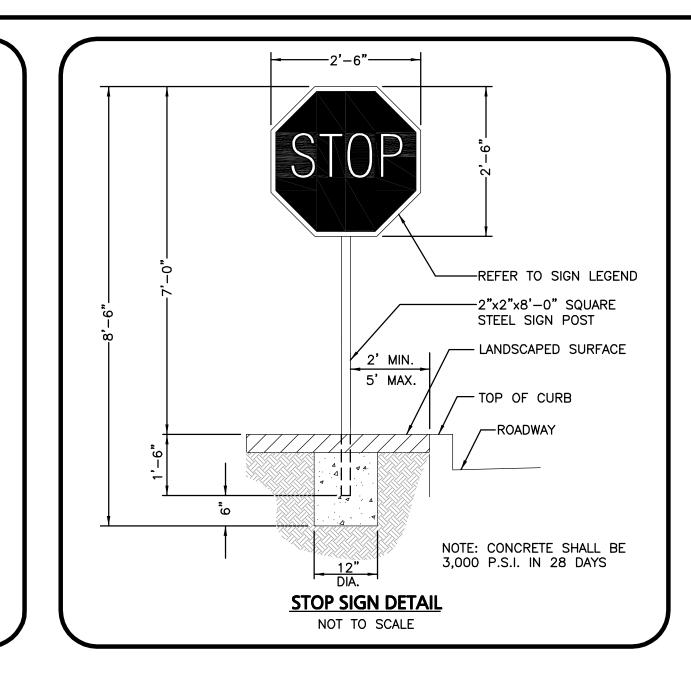
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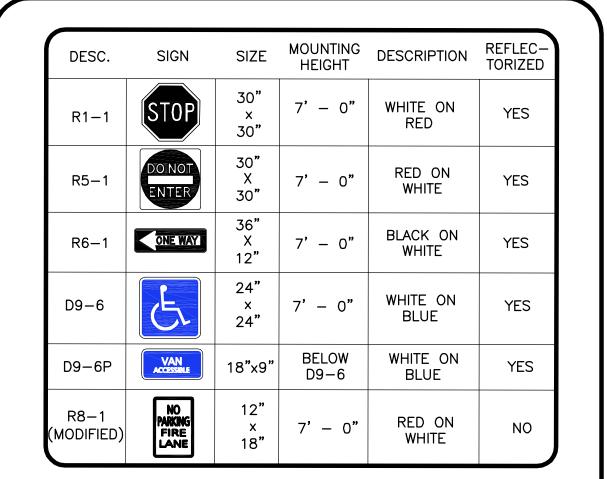
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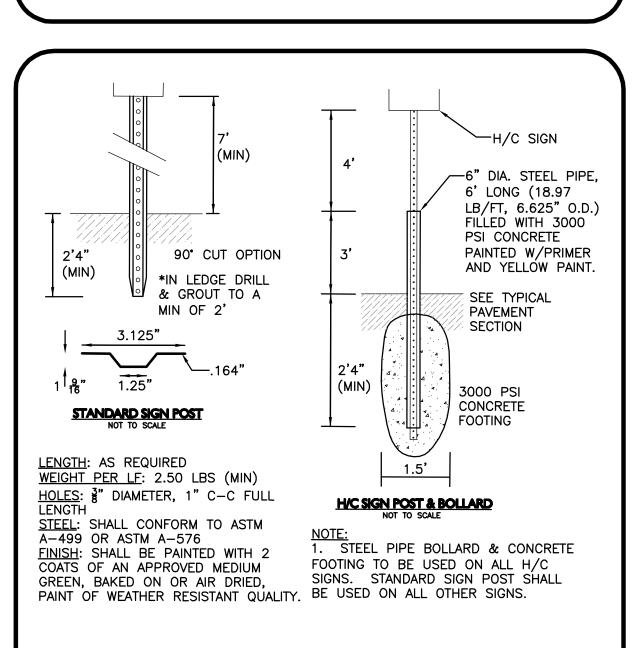






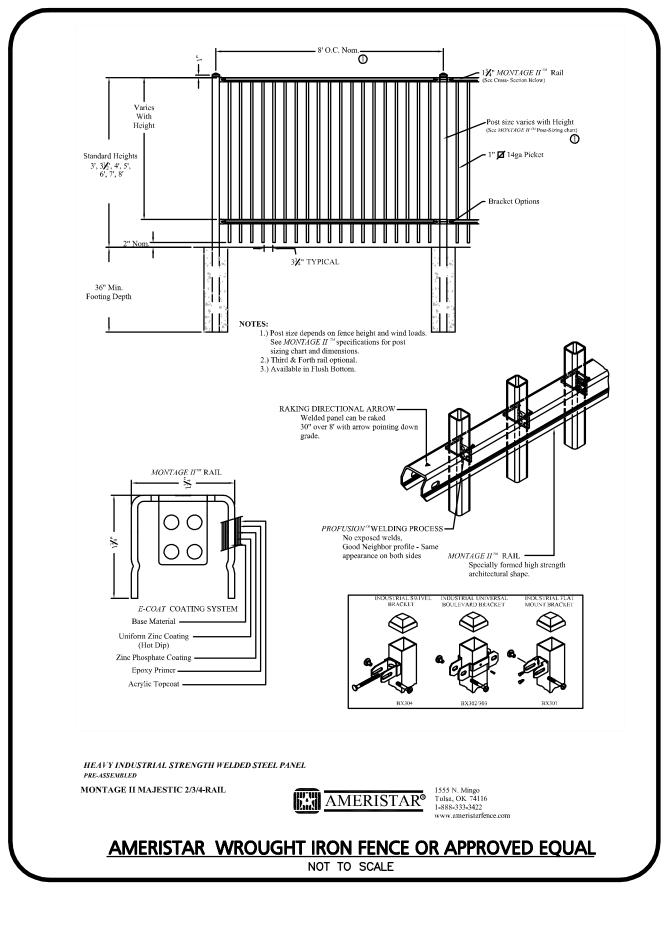


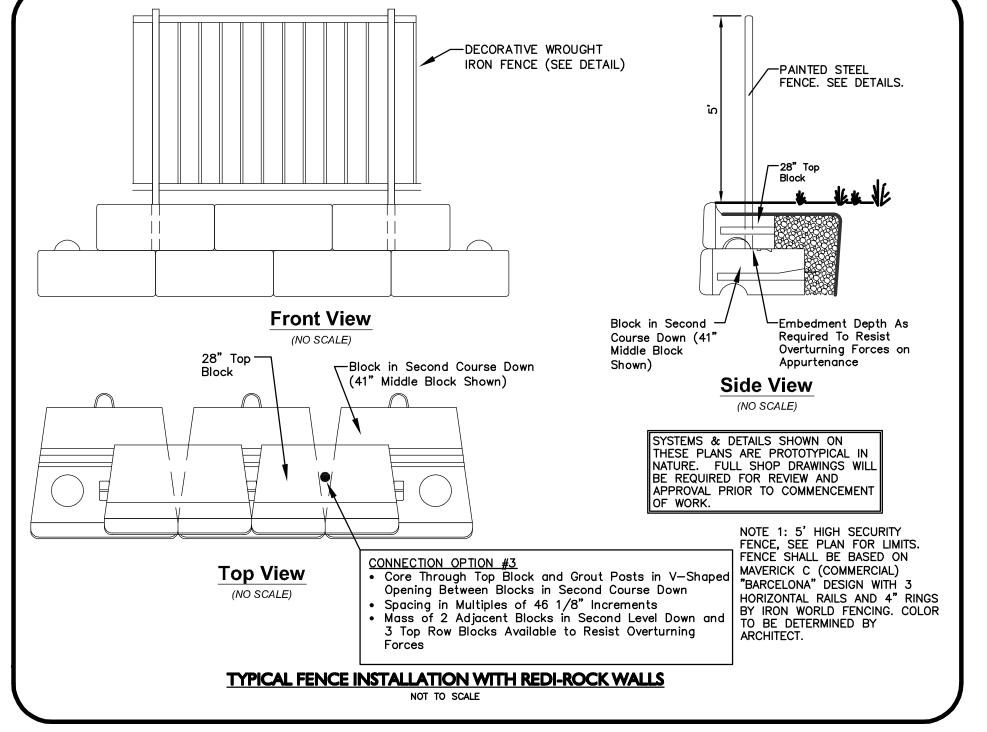


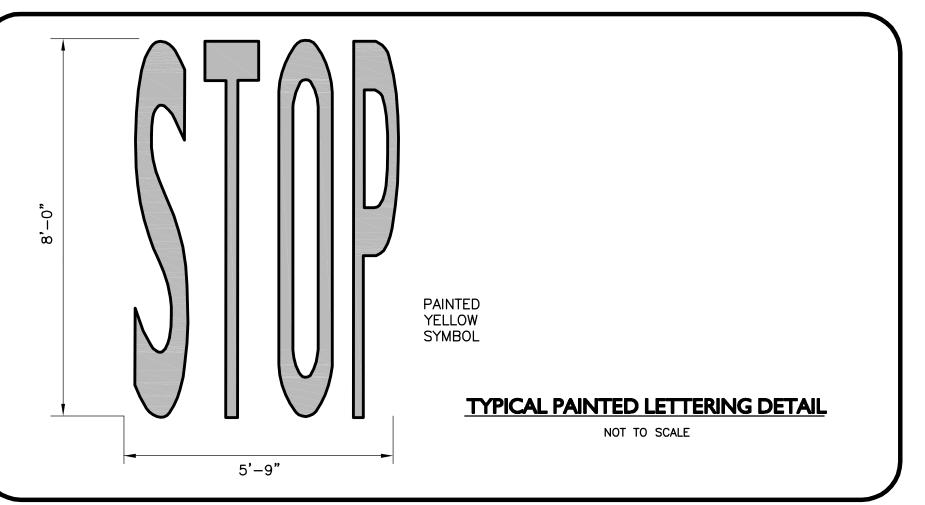


SIGN POSTS

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23 High Street Portsmouth, NH 03801

603.431.8701 603.422.8707

DATE

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT

ISSUED FOF REVIEW JANUARY 15, 2014

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DRAFTED BY: WBL CHECKED BY: RPC



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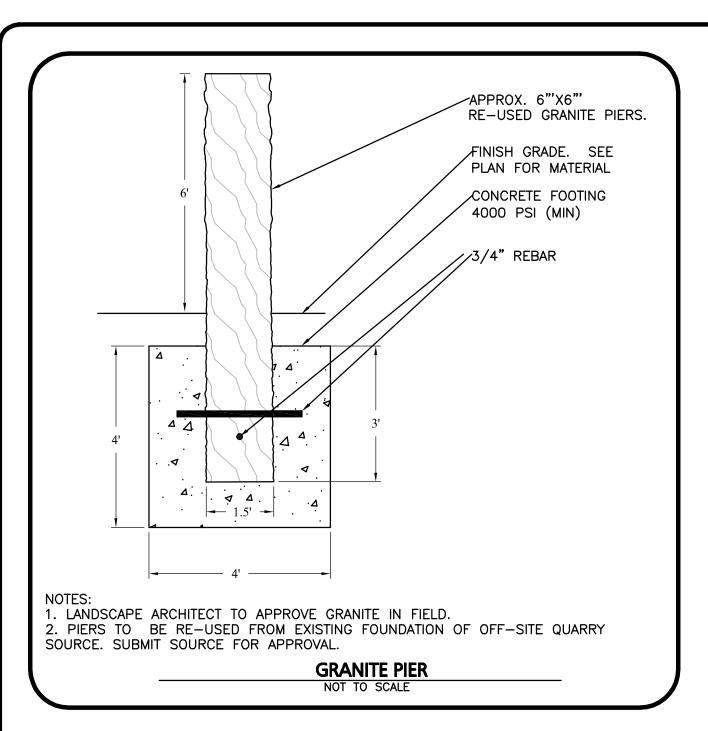
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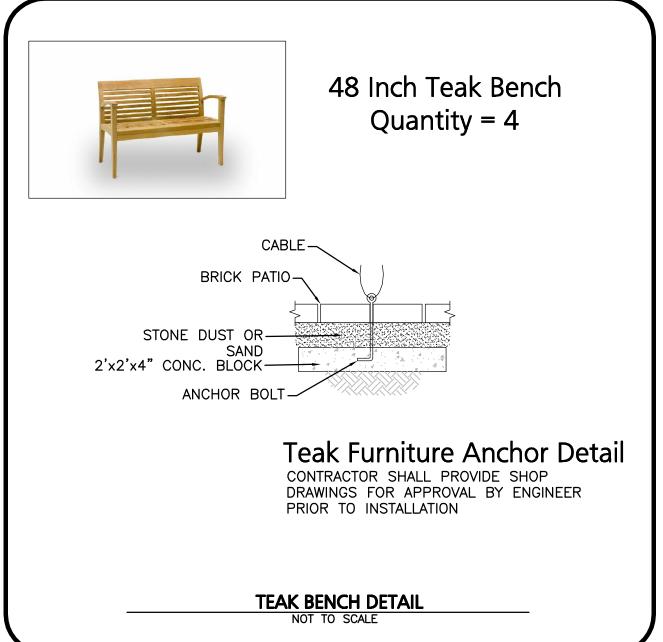
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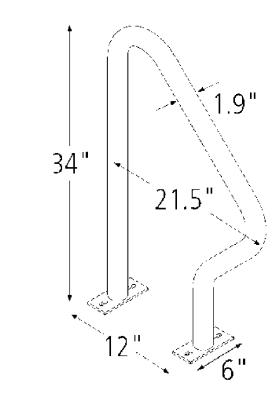
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DETAILS



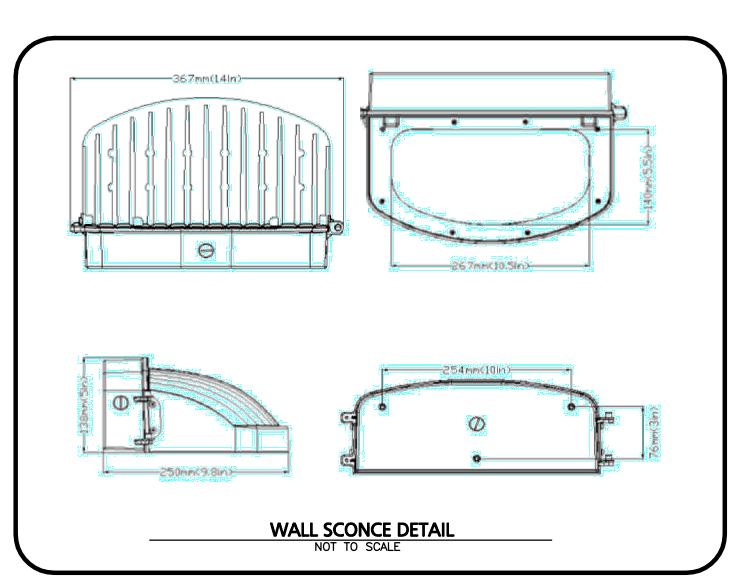


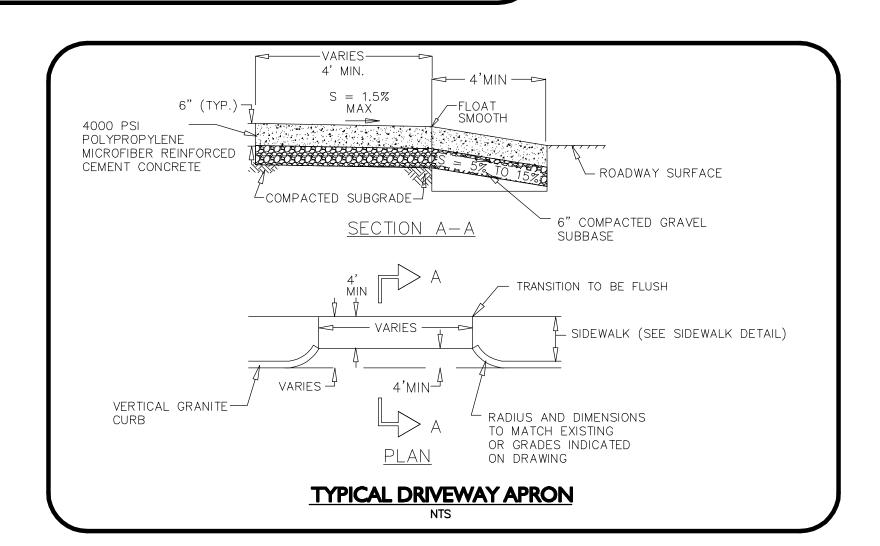


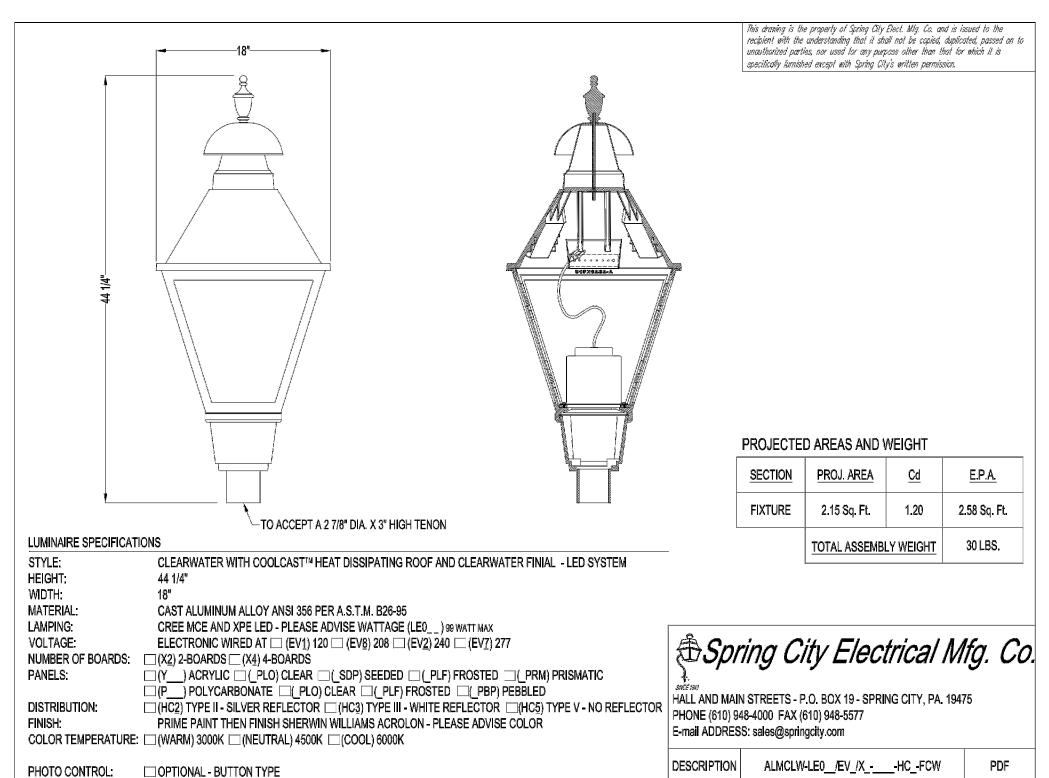


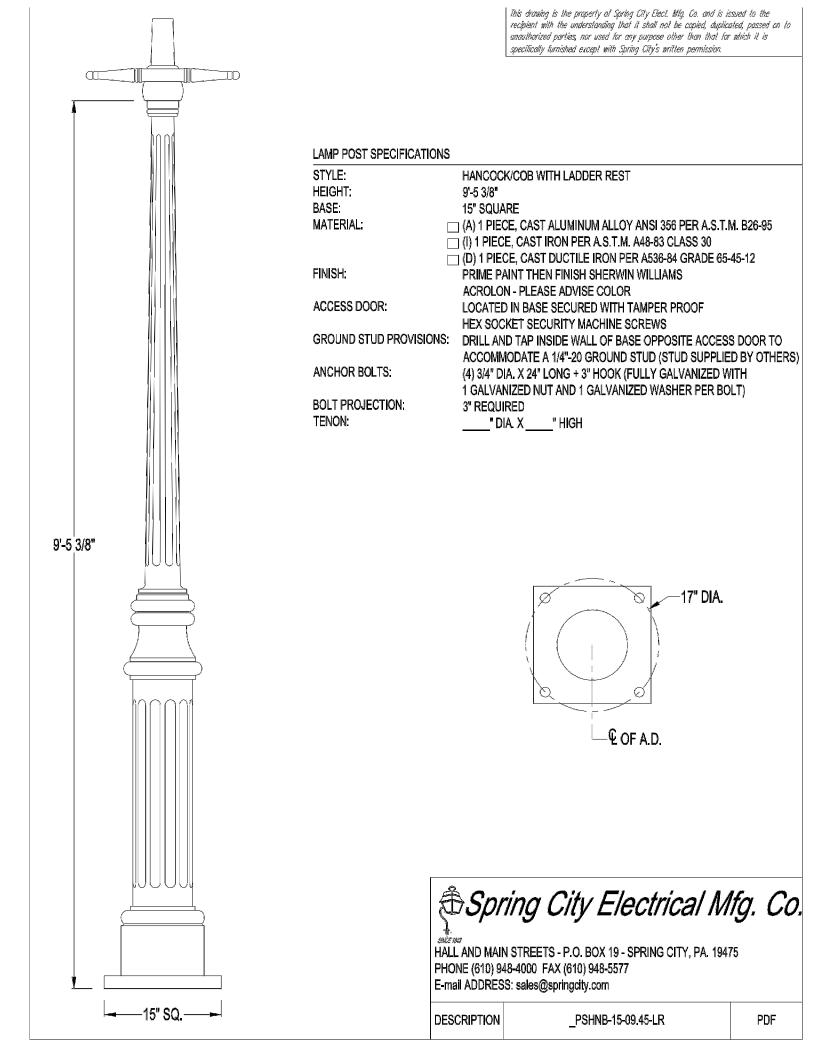
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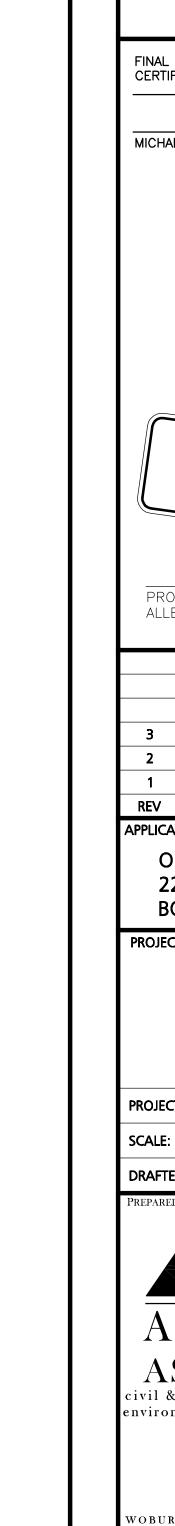
BICYCLE RACK DETAIL













23 High Street Portsmouth, NH 03801

> 603.431.8701 603.422.8707

> > DATE

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MICHAEL BEHRENDT

JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

3	01-15-14	REVS PER PEER REVIEW
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK
REV	DATE	DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION STUDENT HOUSING 25/35 MAIN STREET DURHAM, NEW HAMPSHIRE

1925-01 DATE: 09-04-13 PROJECT NO. 1" = 20' DWG. NAME: C - DETAIL **DRAFTED BY:** WBL | CHECKED BY:



civil & structural engineering • land surveying environmental consulting ♦ landscape architecture www.allenmajor.com 250 COMMERCIAL STREET

SUITE 1001 MANCHESTER, NH 03101 TEL: (603) 627-5500

FAX: (603) 627-5501 WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

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DRAWING TITLE:

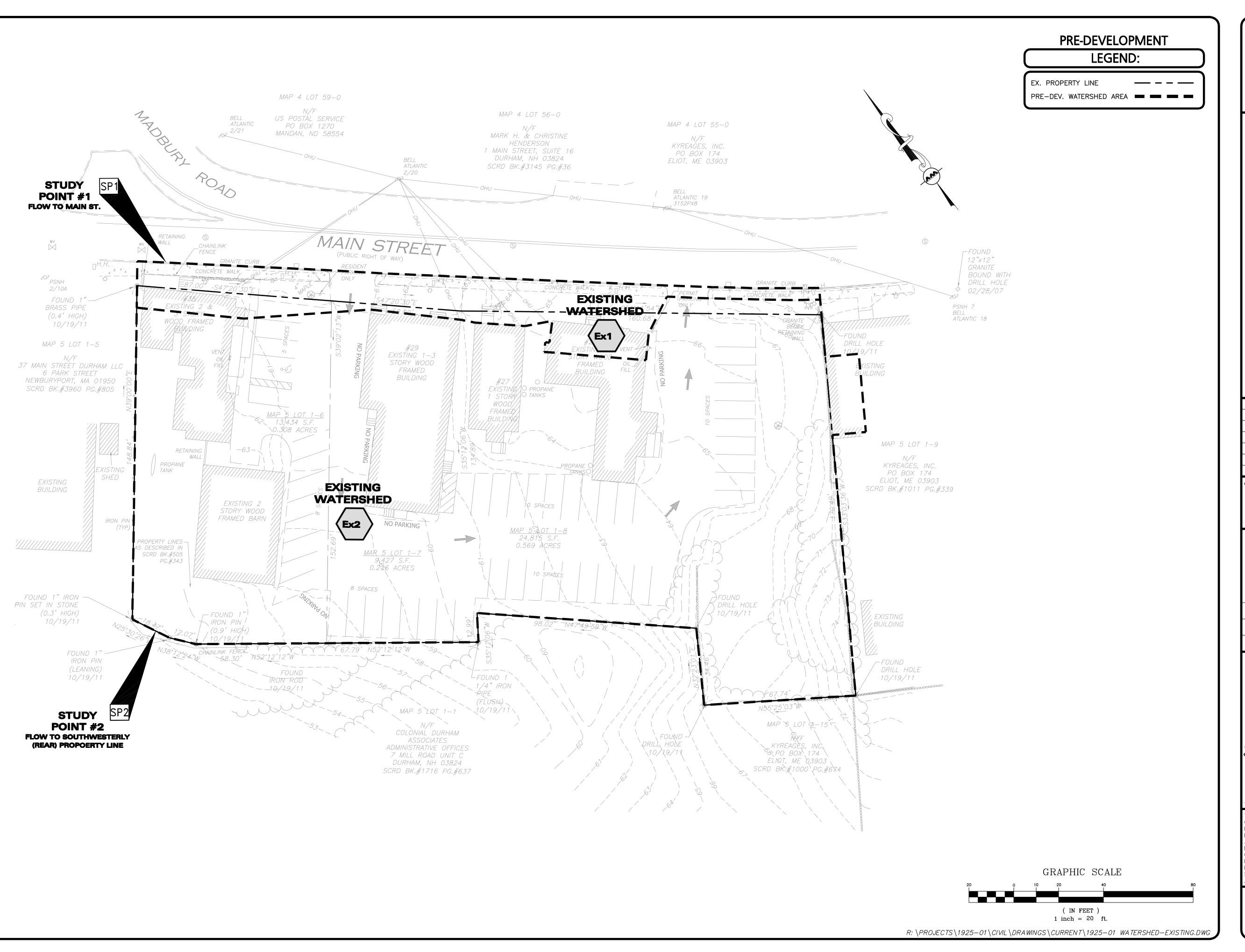
SHEET No.

D-5

DETAILS

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 $R: \PROJECTS \setminus 1925-01 \setminus CIVIL \setminus DRAWINGS \setminus CURRENT \setminus C-1925-01_D-1_DETAILS.DWG$





23 High Street Portsmouth, NH 03801

> 603.431.8701 603.422.8707

> > DATE

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT

ISSUED FOR REVIEW JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

3	01-15-14	REVS PER PEER REVIEW
2	12-20-13	REVS PER TOWN COMMENTS
1	10-25-13	LIGHT WELLS / SIDEWALK
REV	DATE	DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION
STUDENT HOUSING
25/35 MAIN STREET
DURHAM, NEW HAMPSHIRE

PROJECT NO. 1925-01 DATE: 09-04-13

SCALE: 1" = 20' DWG. NAME: WATERSHED EX.

DRAFTED BY: WBL CHECKED BY: RPC



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MANCHESTER. NH 03101

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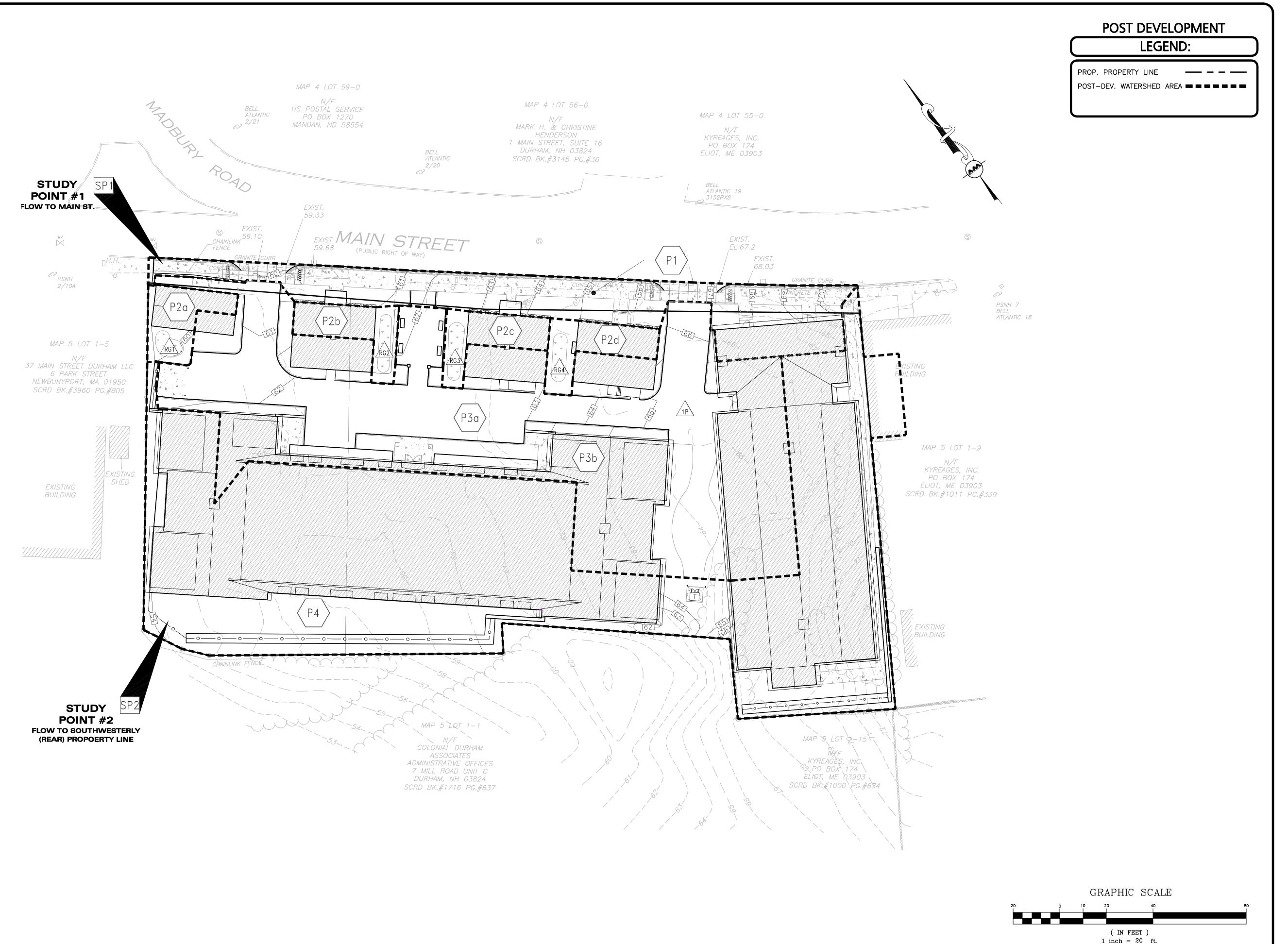
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DRAWING TITLE:

SHEET No.

EXISTING
WATERSHED PLAN

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> 603.431.8701 603.422.8707

> > DATE

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT

SSUED FOR REVIEW JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

3	01-15-14	REVS PER PEER REVIEW
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REV	DATE	DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION
STUDENT HOUSING
25/35 MAIN STREET
DURHAM, NEW HAMPSHIRE

PROJECT NO. 1925-01 DATE: 09-04-13

SCALE: 1" = 20' DWG. NAME: WATERSHED PR.

DRAFTED BY: WBL CHECKED BY: RPC



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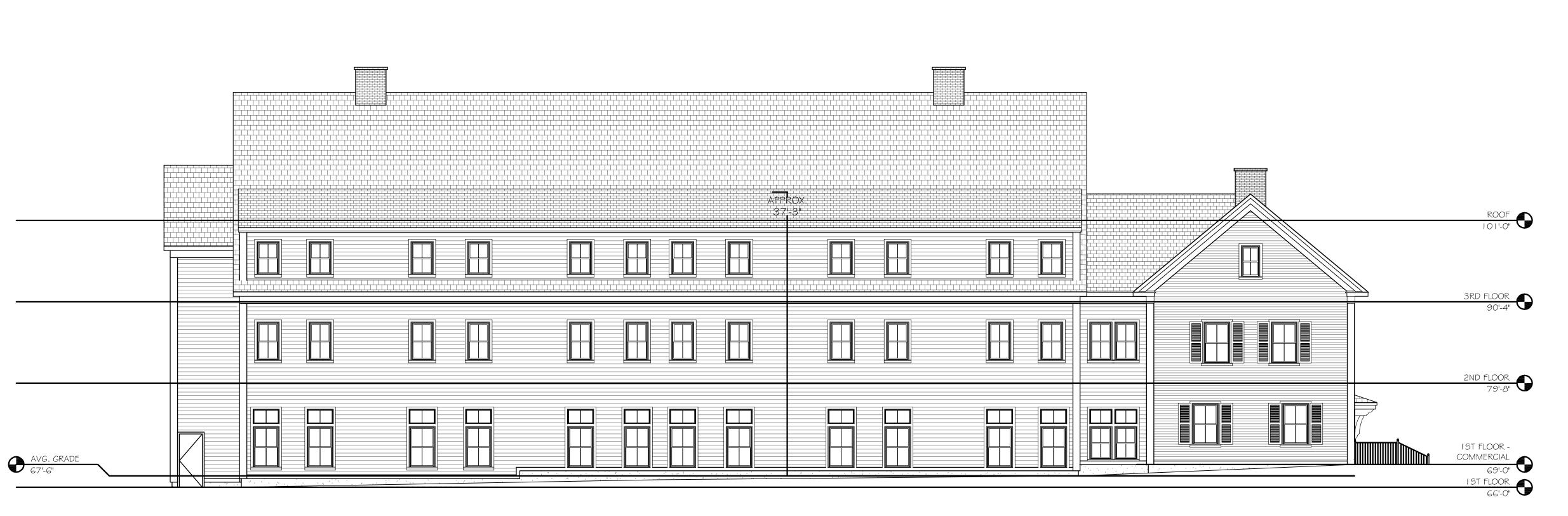
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R: \PROJECTS\1925-01\CIVIL\DRAWINGS\CURRENT\1925-01 WATERSHED-PROPOSED.DWG

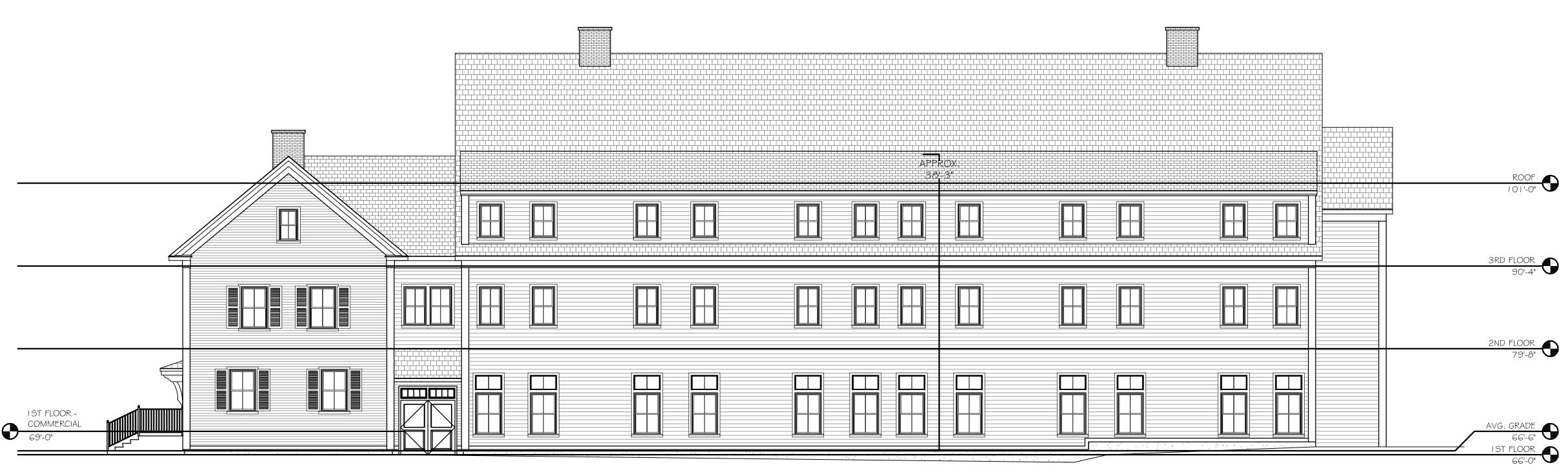
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PWP

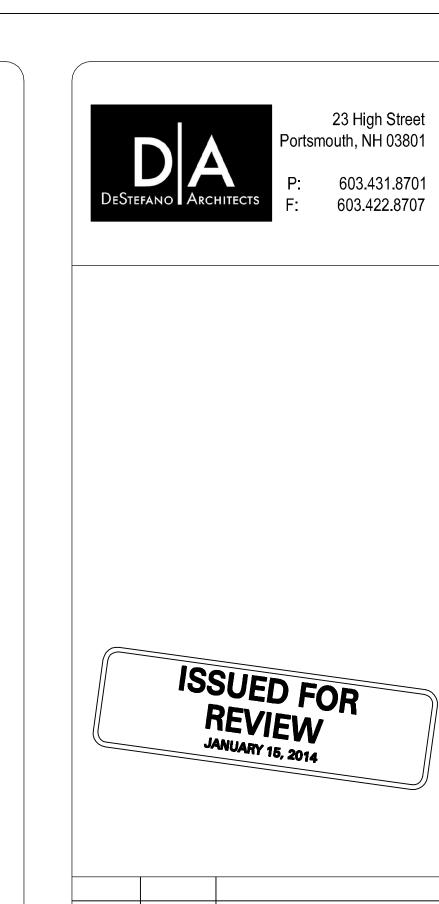
PROPOSED
WATERSHED PLAN
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2 | 12-20-13 **REVS PER TOWN COMMENTS** LIGHT WELLS / SIDEWALK REV DATE DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

PROJECT NO.

ORION STUDENT HOUSING 25/35 MAIN STREET DURHAM, NEW HAMPSHIRE

1925-01 DATE:

SCALE: AS SHOWN DWG. NAME: ELEVATIONS **DRAFTED BY:** WBL | CHECKED BY: PREPARED BY: ALLEN & MAJOR

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FAX: (603) 627-5501

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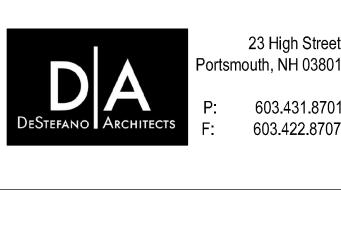
SHEET No. A-2.1

09-04-13

Building A Elevations Copyright ©2013 Allen & Major Associates, Inc. All Rights Reserved

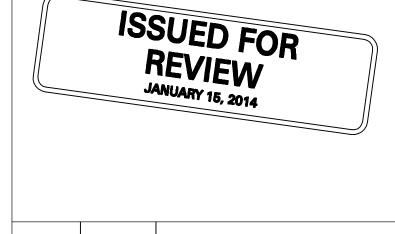
R: \PROJECTS\1925-01\CIVIL\DRAWINGS\CURRENT\1925-01_A AND B ELEVATIONS.DWG





23 High Street

603.431.8701



REVS PER TOWN COMMENTS 2 |12-20-13 | LIGHT WELLS / SIDEWALK

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

DESCRIPTION

ORION STUDENT HOUSING 25/35 MAIN STREET DURHAM, NEW HAMPSHIRE

1925-01 DATE:

09-04-13

SCALE: AS SHOWN DWG. NAME: ELEVATIONS WBL CHECKED BY: **DRAFTED BY:** PREPARED BY: ALLEN & MAJOR

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FAX: (603) 627-5501 WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

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A-2.2

SHEET No.

Building A&B Elevations

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Building B North Elevation 2 $(2)^{1/8"} = 1'-0"$







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> 603.431.8701 603.422.8707

ISSUED FOR REVIEW JANUARY 15, 2014

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REV	DATE	DESCRIPTION

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ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

PROJECT NO.

ORION
STUDENT HOUSING
25/35 MAIN STREET
DURHAM, NEW HAMPSHIRE

DRAFTED BY:

WBL CHECKED BY:

PREPARED BY:

ALLEN & MAJOR

1925-01 DATE:

ASSOCIATES, INC.

environmental consulting \bullet landscape architecture www.allenmajor.com

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FAX: (603) 627-5501
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A-2.3

09-04-13

Building B Elevations

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Building B South Elevation 2



Building B South Elevation 1



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: 603.431.870⁻⁶

ISSUED FOR REVIEW
JANUARY 15, 2014

2 12-20-13 REVS PER TOWN COMMENTS
1 10-25-13 LIGHT WELLS / SIDEWALK
REV DATE DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

PROJECT NO.

ORION
STUDENT HOUSING
25/35 MAIN STREET
DURHAM, NEW HAMPSHIRE

1925-01 DATE:

SCALE: AS SHOWN DWG. NAME: ELEVATIONS

DRAFTED BY: WBL CHECKED BY: RPC

PREPARED BY:

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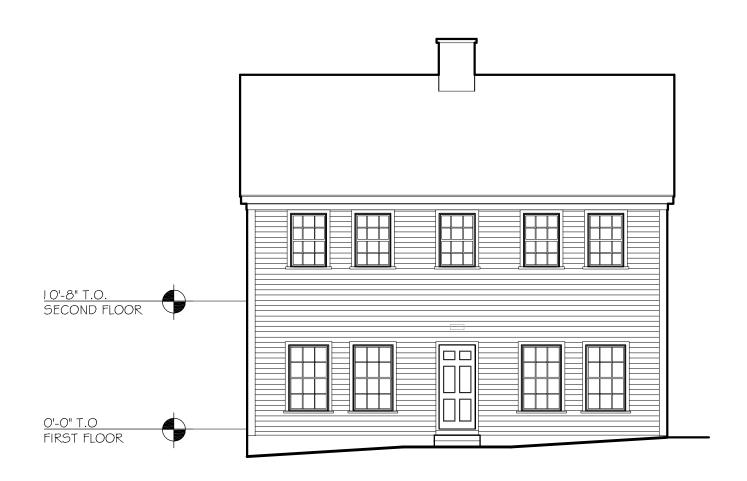
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A-2.4

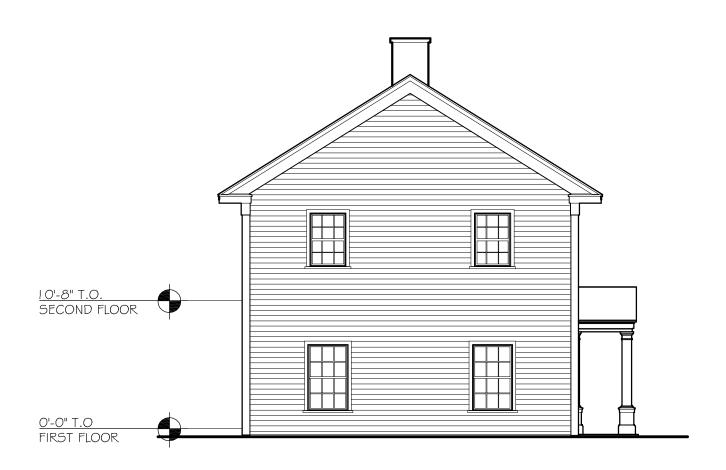
09-04-13

Building B Elevations

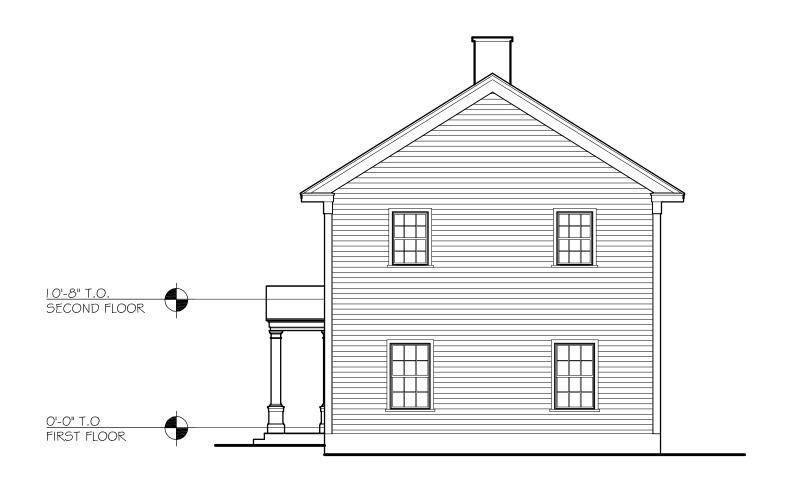
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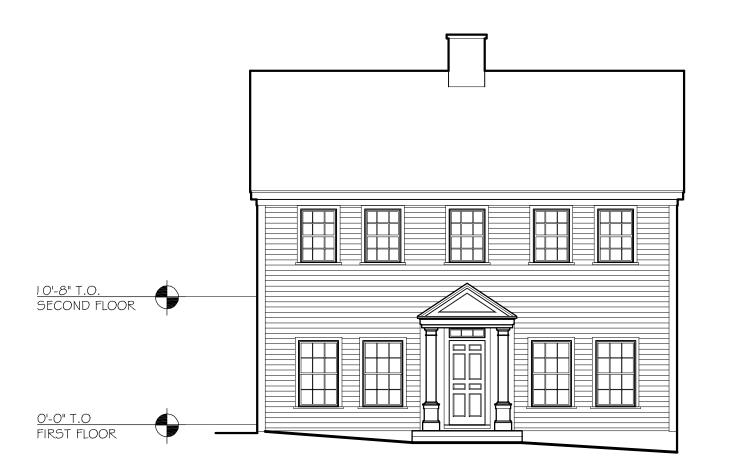




Building C/D Typical East Elevation



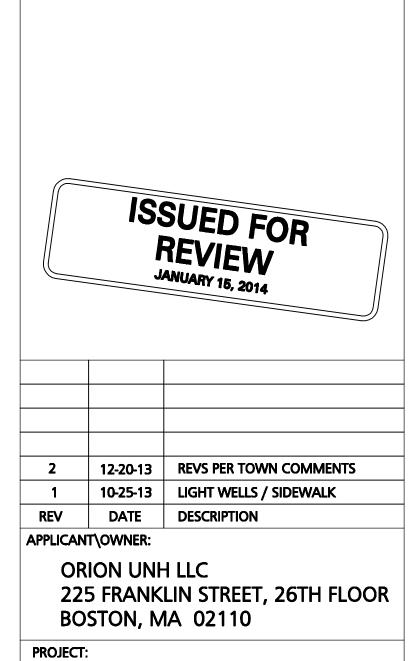
Building C/D Typical West Elevation



Building C/D Typical North Elevation



23 High Street Portsmouth, NH 03801 603.431.8701 603.422.8707



ORION

STUDENT HOUSING

25/35 MAIN STREET DURHAM, NEW HAMPSHIRE

PROJECT NO.	1925-01	DATE:	09-04-1
SCALE:	1" = 20'	DWG. NAME:	ELEVATION
DRAFTED BY:	WBL	CHECKED BY:	RP
ALLI	EN &	MAJ	OR
ASSO		TEC I	NC
	CIA	1 L5, 1	INC.
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250 COMMERCIAL STREET

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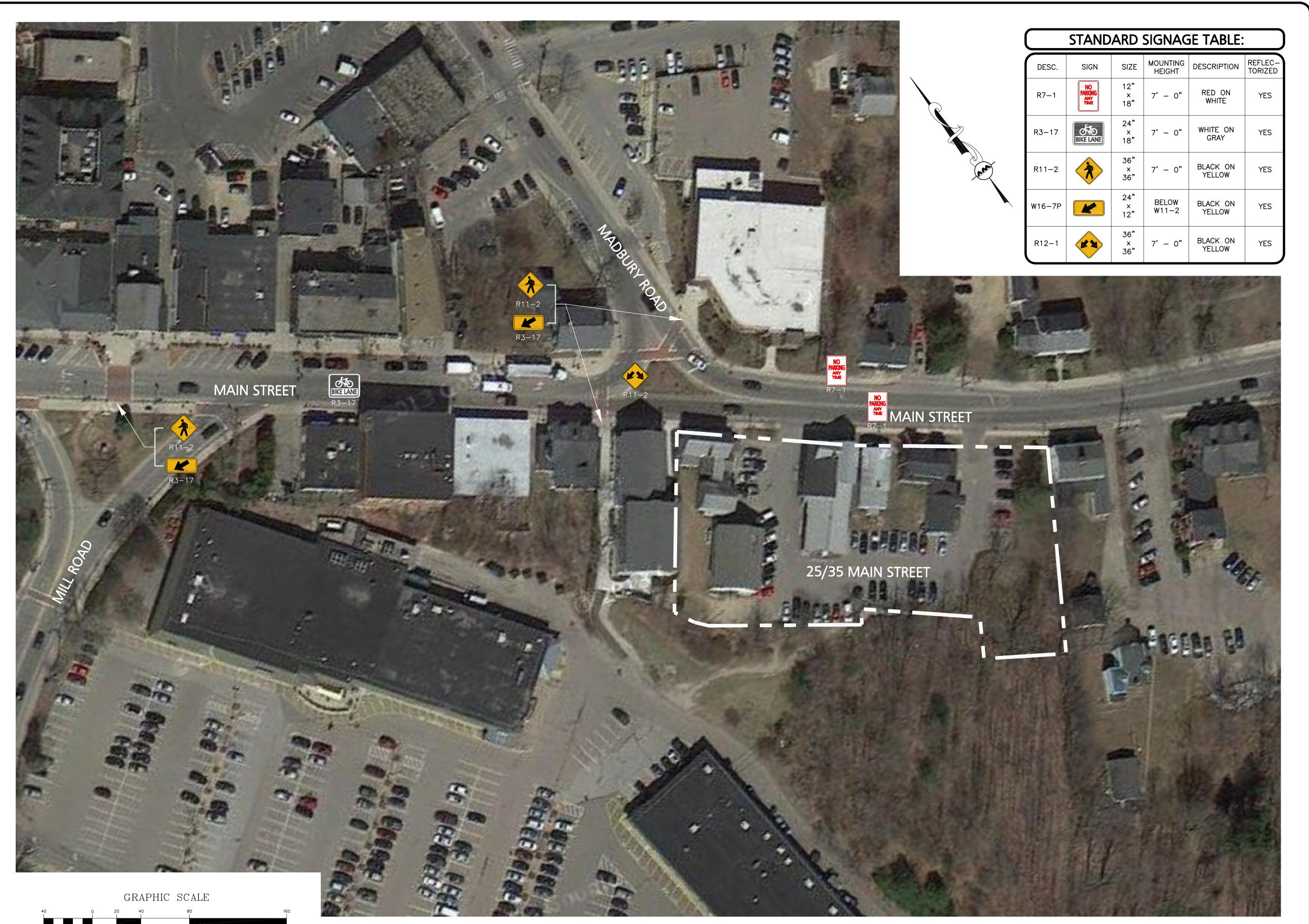
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SHEET No.

BUILDING C&D ELEVATIONS A-2.5

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R: \PROJECTS\1925-01\CIVIL\DRAWINGS\CURRENT\1925-01_C AND D ELEVATIONS.DWG



(IN FEET)1 inch = 40 ft. NOTE:
SIGNAGE RECOMMENDATIONS FROM ACCESS
AND CIRCULATION ASSESSMENT BY VANASSE
& ASSOCIATES, DATED OCTOBER 31, 2013.

REV DATE DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

23 High Street

603.431.8701 603.422.8707

DATE

Portsmouth, NH 03801

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

> ISSUED FOR REVIEW JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

MICHAEL BEHRENDT

PROJECT:

ORION
STUDENT HOUSING
25/35 MAIN STREET
DURHAM, NEW HAMPSHIRE

 PROJECT NO.
 1925-01
 DATE:
 01-15-14

 SCALE:
 1" = 40'
 DWG. NAME:
 TRAFFIC

WBL CHECKED BY:

REPARED BY:

DRAFTED BY:



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250 COMMERCIAL STREET

SUITE 1001

MANCHESTER, NH 03101

TEL: (603) 627-5500

FAX: (603) 627-5501 WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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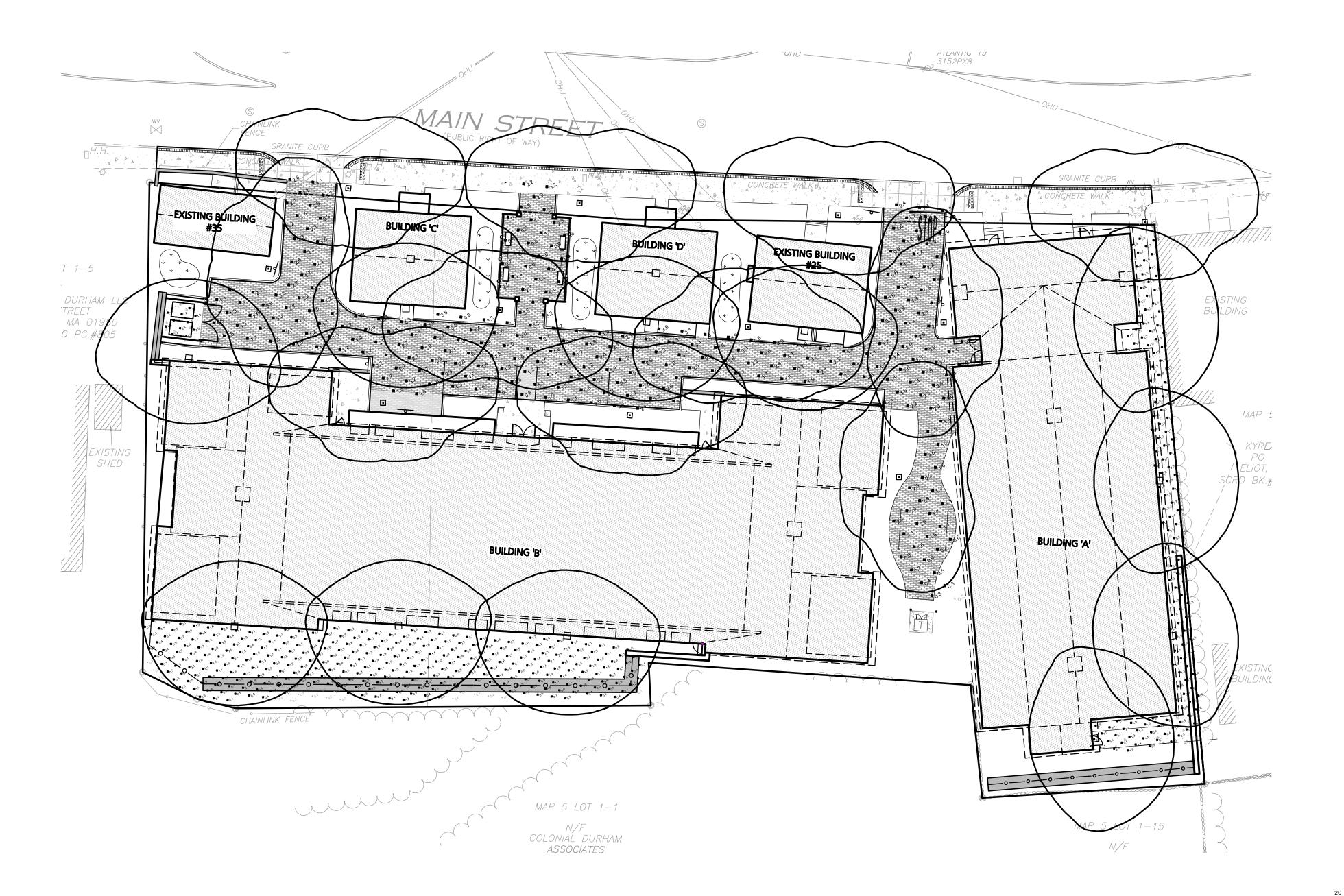
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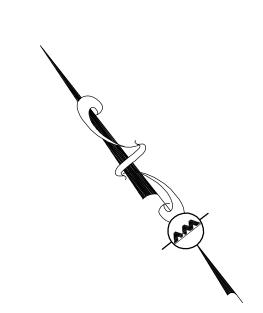
TRAFFIC RECOMMENDATIONS

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LUMINAIRE SCHEDULE									
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
•	Α	11	Spring City "Clearwater" 55 watt LED	CLW-LE55-X2-45-CR3- YSDP	LED 1W Cool White (350mA) (core only)	CLW-LE100-X2- -45-CR3- YSDP.ies	Absolute	0.45	1
	В	11	LeoTek "Wall Sconce" 36 watt LED	CAST ALUMINUM HEATSINK HOUSING, CLEAR PLASTIC ENCLOSURE.	(36) WHITE LEDS WITH CLEAR PLASTIC OPTICS BELOW	LWS1-036-MV- CW-3M- XX_LTL_16606 _10-06- 2009.IES	Absolute	0.81	36.6

STATISTICS								
Description	Symbol	A vg	Max	Min	Max/Min	Avg/Min		
Area Behind Building A	+	1.5 fc	3.6 fc	0.2 fc	18.0:1	7.5:1		
Area Behind Building B	+	1.0 fc	3.5 fc	0.2 fc	17.5:1	5.0:1		
Dumpster Area	+	1.8 fc	3.0 fc	1.0 fc	3.0:1	1.8:1		
Site Lighting	+	2.1 fc	5.8 fc	0.2 fc	29.0:1	10.5:1		





10 20 40 8

(IN FEET) 1 inch = 20 ft.

R:\PROJECTS\1925-01\CIVIL\DRAWINGS\CURRENT\C-1925-01_L-1_LIGHTING.DWG

GRAPHIC SCALE



23 High Street Portsmouth, NH 03801

> 603.431.8701 603.422.8707

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MICHAEL BEHRENDT

DATE



REV DATE DESCRIPTION

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION
STUDENT HOUSING
25/35 MAIN STREET
DURHAM, NEW HAMPSHIRE

PROJECT NO. 1925-01 DATE: 10-25-13

SCALE: 1" = 20' DWG. NAME: LIGHTING

DRAFTED BY: PB CHECKED BY: RPC



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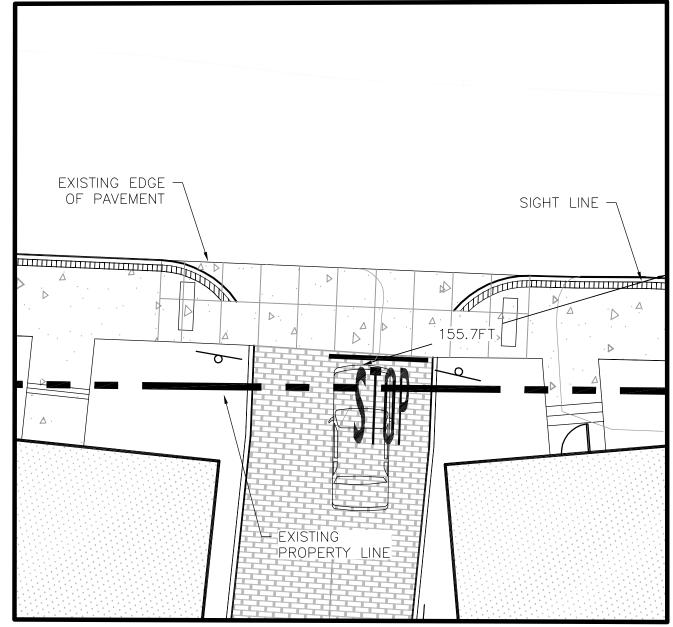
SHEET No.

LIGHTING PLAN

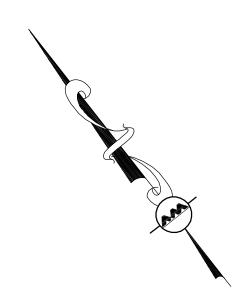
L-1

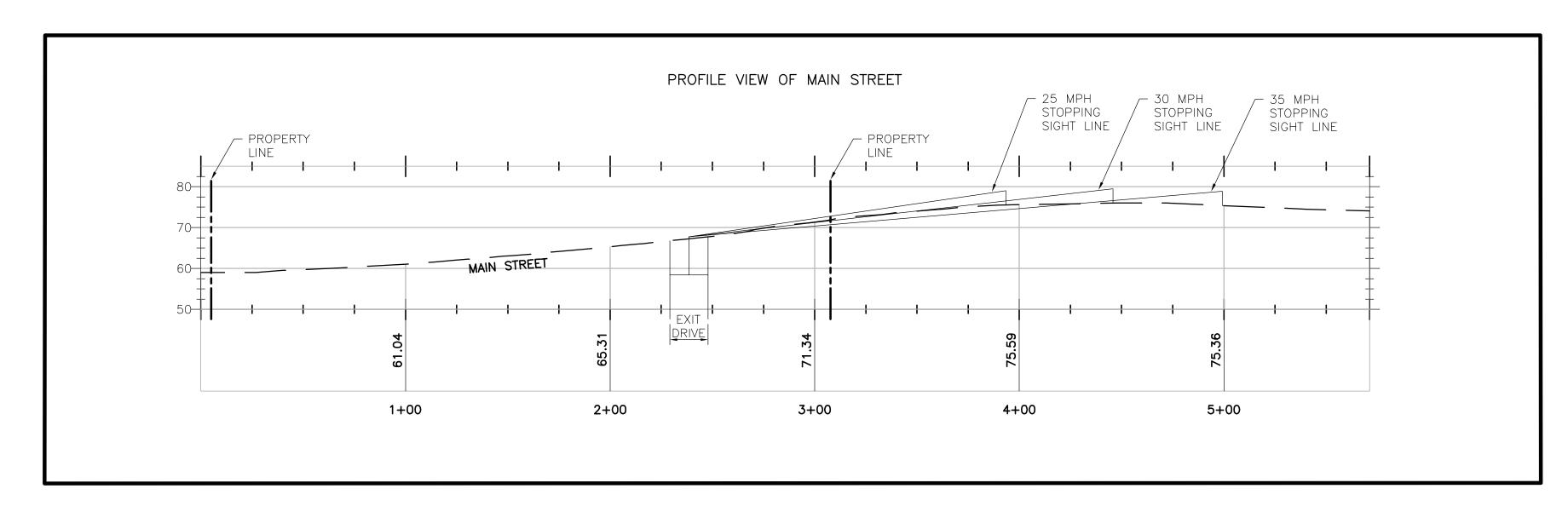
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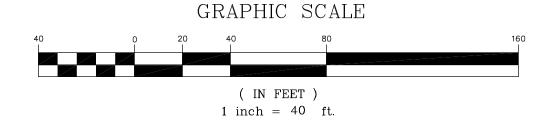


EXIT DRIVE ENLARGED PLAN
SCALE: 1"=10'





MAIN STREET - PROFILE VIEW SCALE: H - 1"=40' / V - 1"=20'



NOTES:

1. TOPOGRAPHY DATA WITHIN THE ROADWAY OBTAINED FROM GOOGLE EARTH.

2. STOPPING SIGHT LINE IS MEASURED FROM 3.5 FEET ABOVE GRADE TO A

0.5 FEET HIGH OBJECT IN THE ROADWAY.

23 High Street Portsmouth, NH 03801

> 603.431.8701 603.422.8707

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MICHAEL BEHRENDT DATE

ISSUED FOR REVIEW JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

DATE DESCRIPTION REV

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION STUDENT HOUSING 25/35 MAIN STREET DURHAM, NEW HAMPSHIRE

1925-01 DATE: PROJECT NO. 01-15-14 SCALE: 1" = 40' DWG. NAME: TRAFFIC WBL | CHECKED BY: DRAFTED BY:

ALLEN & MAJOR ASSOCIATES, INC.

civil & structural engineering • land surveying environmental consulting ♦ landscape architecture www.allenmajor.com 250 COMMERCIAL STREET

SUITE 1001 MANCHESTER, NH 03101 TEL: (603) 627-5500

FAX: (603) 627-5501 WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

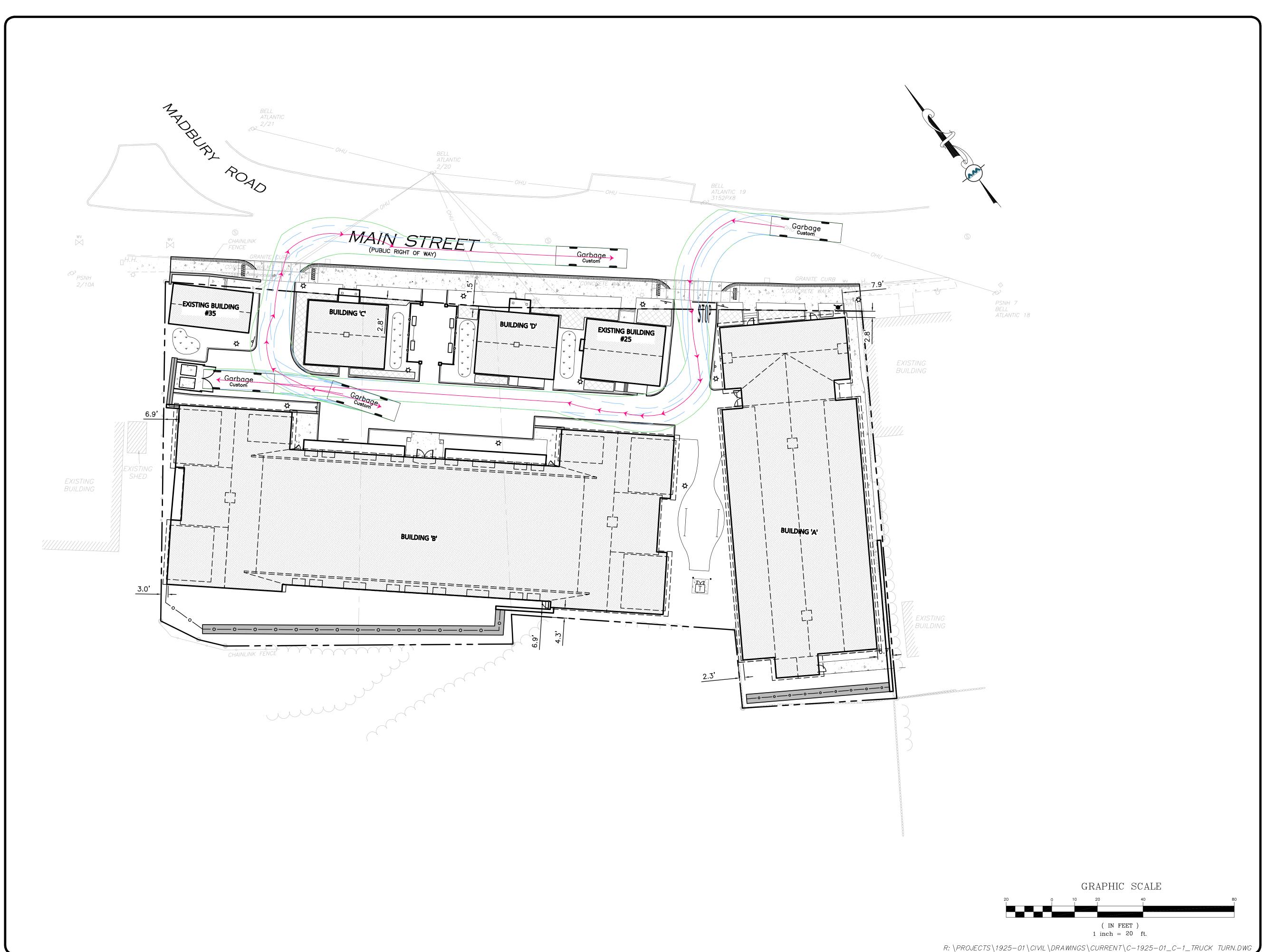
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STOPPING SIGHT





23 High Street Portsmouth, NH 03801

> 603.431.8701 603.422.8707

FINAL APPROVAL BY DURHAM PLANNING BOARD. CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER.

MICHAEL BEHRENDT DATE

ISSUED FOR REVIEW JANUARY 15, 2014

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

DATE DESCRIPTION REV

APPLICANT\OWNER:

ORION UNH LLC 225 FRANKLIN STREET, 26TH FLOOR BOSTON, MA 02110

PROJECT:

ORION STUDENT HOUSING 25/35 MAIN STREET DURHAM, NEW HAMPSHIRE

1925-01 DATE: 09-04-13 PROJECT NO. 1" = 20' DWG. NAME: TRUCK TURN SCALE:

DRAFTED BY:

WBL CHECKED BY:



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GARBAGE TRUCK

TURN PATH