Development Area A of the University Station
Proposed Office - 200 Station Drive - PDR Submittal
University Avenue, Westwood, MA

100 Nickerson Road
Marlborough, Ma 01752
Phone:(508) 786-2200 Fax:(508) 786-2201
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TETRA TECH

LOCUS PLAN
SCALE: 1"=500'

Drawing List

Civil Drawings - Site Development Plans

V-101 - V-103	Existing Conditions Plan
C-101	General Layout Map
C-111 - C-113	Site Layout Plan
C-121 - C-123	Grading & Drainage Plan
C-131 - C-133	Utility Plan
C-141 - C-143	Erosion Control Plan
C-501 - C-505	Detail Sheets

Landscape Drawings

L-100	Landscape Plan
L-101	Planting Plan 1
L-102	Planting Plan 2
L-103	Planting Plan 3
L-104	Landscape Details
L-105	Landscape Details

Lighting Drawings

To be provided under separate cover

Architectural Drawings

G-200	View 1
G-201	View 2
A-101	Level 1 Plan
A-102	Level 2 Plan
A-103	Level 3 Plan
A-104	Level 4 Plan
A-105	Roof Plan
A-201	Exterior Elevations
A-202	Exterior Elevations
A-203	Exterior Materials

PDR FILING SET CONTAINS 37 SHEETS TOTAL
(NOT INCLUDING THE COVER SHEET)

PROJECT LOCATION:
University Avenue, Westwood, MA

APPLICANT INFORMATION:
University Station Phase 2 LLC
c/o New England Development
75 Park Plaza
Boston, MA 02116

Tt PROJECT No.:
143-3659-16003

OWNER INFORMATION:
University Station Phase 2 LLC
c/o New England Development
75 Park Plaza
Boston, MA 02116

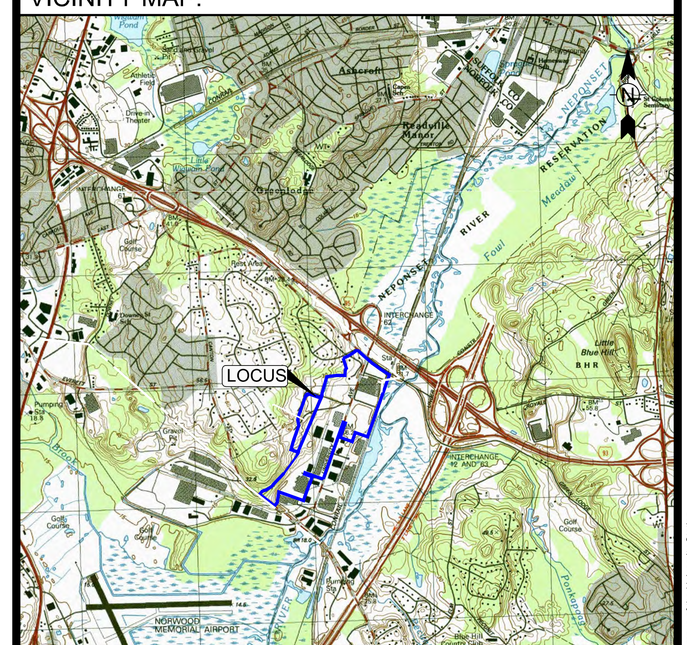
PROJECT DESCRIPTION / NOTES:

ISSUED:

FEBRUARY 20, 2019	PDR Submittal
MAY 1, 2019	Final PDR Plans

COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
NO. 48058
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

VICINITY MAP:



USGS MAP
0 1000' 2000' 4000'
SCALE: 1" = 2000'

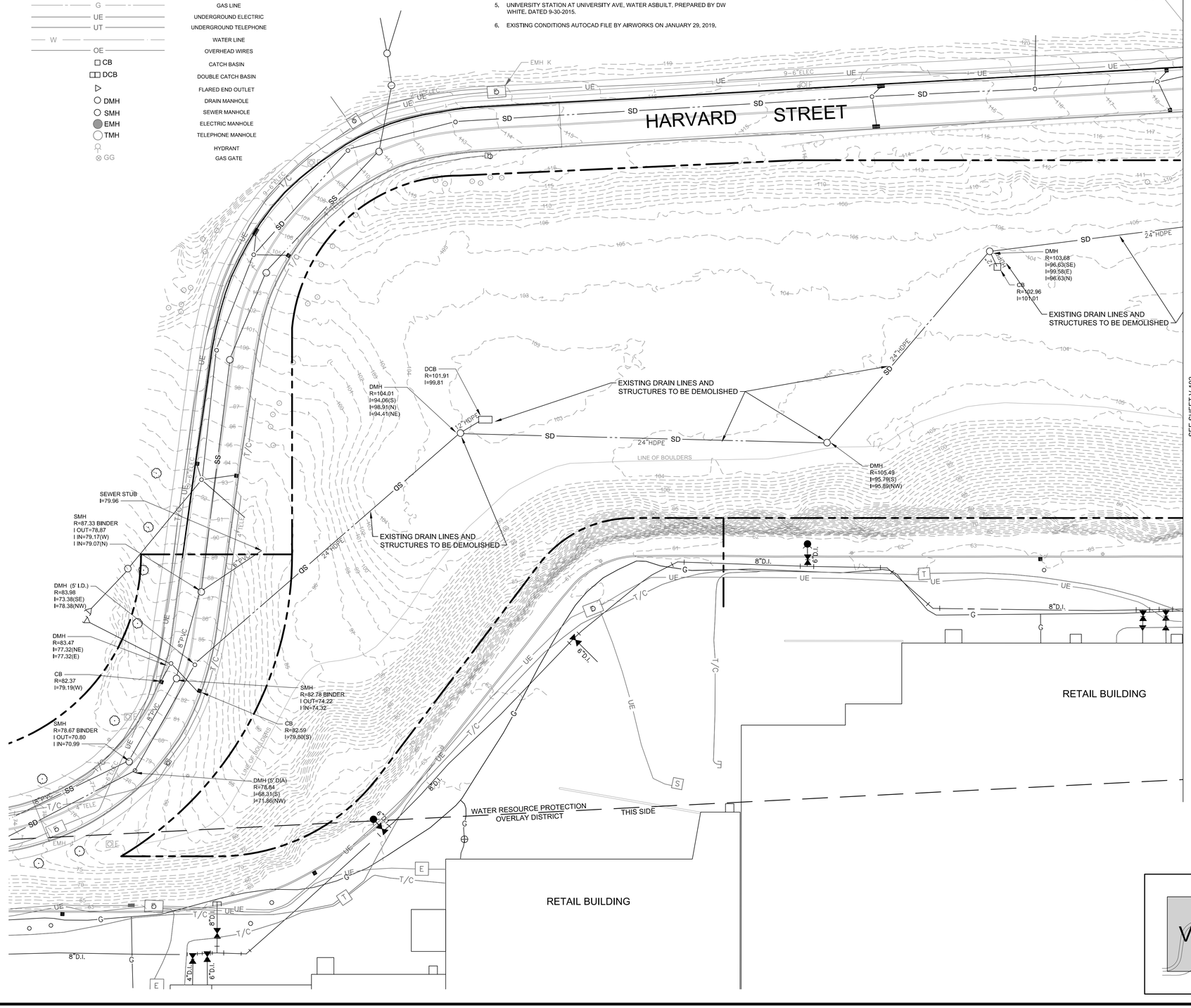
Development Upper Campus of the University Station

LEGEND

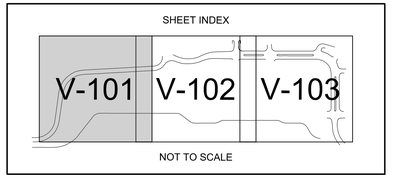
110X23	SPOT GRADE
105	CONTOUR
	LIGHT POLE
	UTILITY POLE
	WATER VALVE
SD	DRAIN LINE
SS	SEWER LINE
G	GAS LINE
UE	UNDERGROUND ELECTRIC
UT	UNDERGROUND TELEPHONE
W	WATER LINE
OE	OVERHEAD WIRES
CB	CATCH BASIN
DCB	DOUBLE CATCH BASIN
	FLARED END OUTLET
DMH	DRAIN MANHOLE
SMH	SEWER MANHOLE
EMH	ELECTRIC MANHOLE
TMH	TELEPHONE MANHOLE
	HYDRANT
GG	GAS GATE

PLAN REFERENCES:

1. EXISTING CONDITIONS SURVEY, WESTWOOD STATION, WESTWOOD, MASSACHUSETTS. PREPARED BY WSP-SELLS. DATED JUNE 22, 2012.
2. UNIVERSITY STATION AT UNIVERSITY AVE, DRAINAGE ASBUILT. PREPARED BY DW WHITE, DATED 9-30-2015.
3. UNIVERSITY STATION AT UNIVERSITY AVE, ELECTRIC & TELECOM ASBUILT. PREPARED BY DW WHITE, DATED 9-30-2015.
4. UNIVERSITY STATION AT UNIVERSITY AVE, SEWER ASBUILT. PREPARED BY DW WHITE. DATED 9-30-2015.
5. UNIVERSITY STATION AT UNIVERSITY AVE, WATER ASBUILT. PREPARED BY DW WHITE. DATED 9-30-2015.
6. EXISTING CONDITIONS AUTOCAD FILE BY AIRWORKS ON JANUARY 29, 2019.



SHEET INDEX



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MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive
Existing Conditions Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C.

V-101

Bar Measures 1 inch

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5/2/2019 1:58:12 PM - P:\3659\143-3659-16003\CAD\SHEETFILES\UPPER CAMPUS\V-101 EXISTING CONDITIONS PLANS.DWG - CHEAL, NATE

STATION DRIVE

WATER RESOURCE PROTECTION OVERLAY DISTRICT

THIS SIDE

CUT AND CAP EXISTING WATER LINE

EXISTING DRAIN LINES AND STRUCTURES TO BE DEMOLISHED

EXISTING WATER LINE TO BE ABANDONED

SEE SHEET V-101

SEE SHEET V-103

RETAIL BUILDING

LINE OF BOULDERS

3-6"ELEC STUB

6-6"ELEC

9-6"ELEC

EMH

DMH R=103.98 I=97.53(N) I=97.18(S) I=99.88(E)

DMH R=103.68 I=96.63(SE) I=99.58(E) I=96.63(N)

CB R=102.96 I=101.01

CB R=102.18 I=99.98

DMH R=105.49 I=101.08(NW)

DCB R=101.93 I=98.68

CB R=103.64 I=101.14

DMH R=104.39 I=98.84(S) I=98.89(W) I=98.79(N)

24"HDPE

12"HDPE

8"D.I.

LEGEND

110X23	SPOT GRADE
105	CONTOUR
	LIGHT POLE
	UTILITY POLE
	WATER VALVE
SD	DRAIN LINE
SS	SEWER LINE
G	GAS LINE
UE	UNDERGROUND ELECTRIC
UT	UNDERGROUND TELEPHONE
W	WATER LINE
OE	OVERHEAD WIRES
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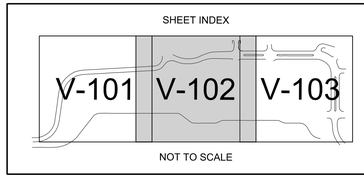
DCB	DOUBLE CATCH BASIN
	FLARED END OUTLET
DMH	DRAIN MANHOLE
SMH	SEWER MANHOLE
EMH	ELECTRIC MANHOLE
TMH	TELEPHONE MANHOLE
	HYDRANT
GG	GAS GATE

0 15' 30' 60'

SCALE: 1" = 30'

SHEET INDEX



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3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive
Existing Conditions Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C.

V-102

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Bar Measures 1 inch

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STATION DRIVE

WATER RESOURCE PROTECTION OVERLAY DISTRICT THIS SIDE

SEE SHEET V-102

EXISTING DRAIN LINES AND STRUCTURES TO BE DEMOLISHED

EXISTING DRAIN LINES AND STRUCTURES TO BE DEMOLISHED

EXISTING DMH TO REMAIN

STATION DRIVE

RETAIL BUILDING

CB R=103.64 I=101.14

DMH R=104.39 I=98.84(S) I=98.89(W) I=98.79(N)

CB R=104.14 I=98.58(N) I=98.58(S)

DMH R=104.74 I=98.54(S) I=98.39(NE)

CB R=94.19 I=91.18

DCB R=91.87 I=88.72

DMH R=94.49 I=90.64(NE) I=90.74(W) I=90.79(SW)

DMH R=92.37 I=85.97(SW) I=85.47(W) I=85.92(NE)

DMH R=89.89 I=79.44(NE) I=83.99(SW)

CB R=88.52 I=83.30

SEWER I=79.21

SMH C.T.E. 8" SS R=88.14 I=OUT=77.22 I IN=78.82 I IN=78.83(SW)

DMH (8' I.D.) R=87.08 I=78.23(E) I=78.33(SW) I=80.39(W) I=80.35(N)

SMH C.T.E. 8" SS R=84.72 I=OUT=73.98 I IN=74.11

DMH-1024 R=82.10 I=70.30(E)

DMH R=73.20 I=62.15(E) I=68.90(W)

LEGEND

110X23	SPOT GRADE
105	CONTOUR
	LIGHT POLE
	UTILITY POLE
	WATER VALVE
SD	DRAIN LINE
SS	SEWER LINE
G	GAS LINE
UE	UNDERGROUND ELECTRIC
UT	UNDERGROUND TELEPHONE
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	FLARED END OUTLET
DMH	DRAIN MANHOLE
SMH	SEWER MANHOLE
EMH	ELECTRIC MANHOLE
TMH	TELEPHONE MANHOLE
	HYDRANT
GG	GAS GATE

0 15' 30' 60'

SCALE: 1" = 30'

SHEET INDEX

V-101 V-102 V-103

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MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive
Existing Conditions Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C

V-103

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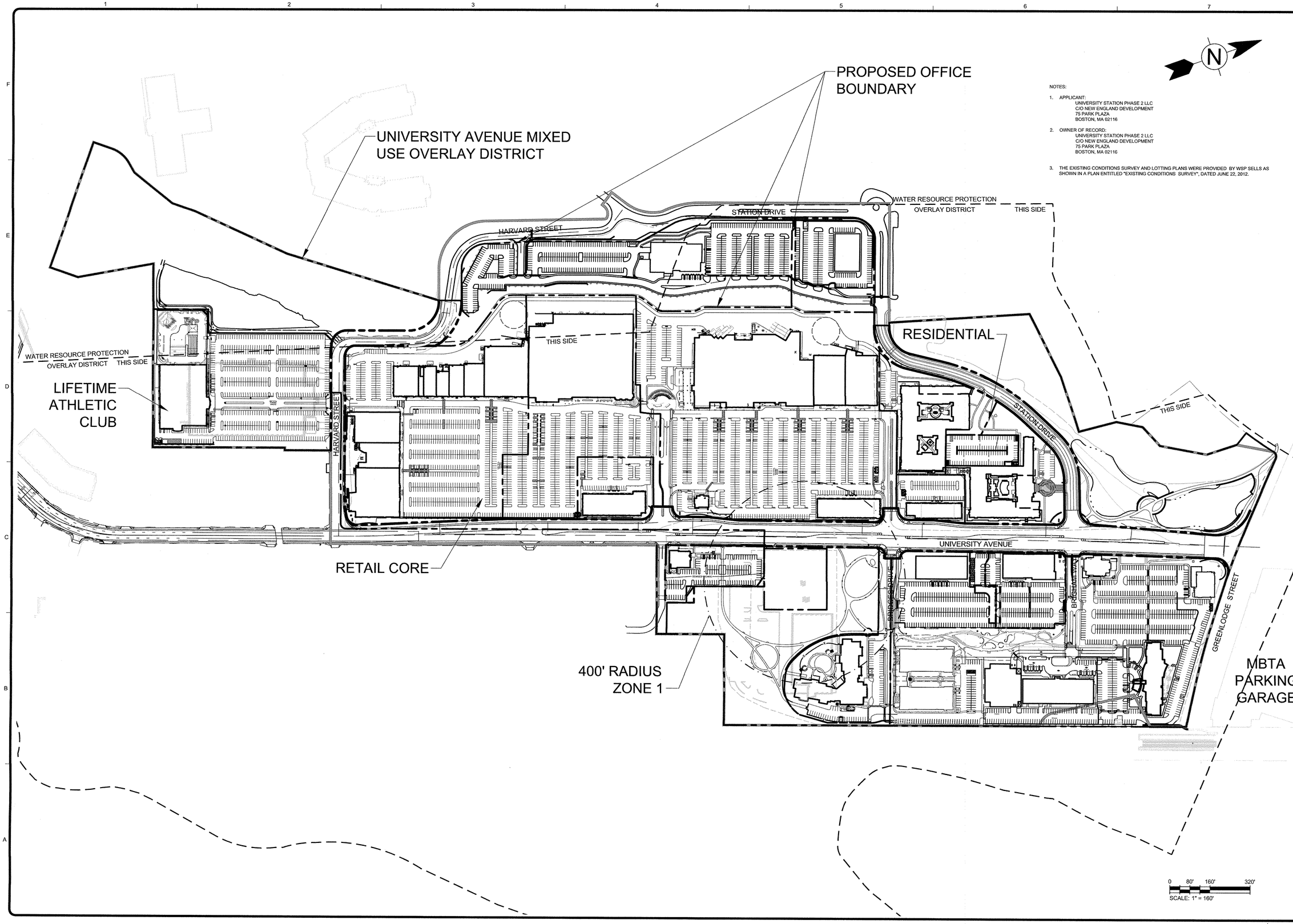
Bar Measures 1 inch

5/2/2019 2:00:42 PM - P:\3659\143-3659-16003\CAD\SHEETFILES\UPPER CAMPUS\V-101 EXISTING CONDITIONS PLANS.DWG - CHEAL, NATE



NOTES:

1. APPLICANT:
   UNIVERSITY STATION PHASE 2 LLC
   C/O NEW ENGLAND DEVELOPMENT
   75 PARK PLAZA
   BOSTON, MA 02116

2. OWNER OF RECORD:
   UNIVERSITY STATION PHASE 2 LLC
   C/O NEW ENGLAND DEVELOPMENT
   75 PARK PLAZA
   BOSTON, MA 02116

3. THE EXISTING CONDITIONS SURVEY AND LOTTING PLANS WERE PROVIDED BY WSP SELLS AS SHOWN IN A PLAN ENTITLED "EXISTING CONDITIONS SURVEY", DATED JUNE 22, 2012.

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100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
NO. 48052
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive General Layout Map

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C

C-101

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Bar Measures 1 inch

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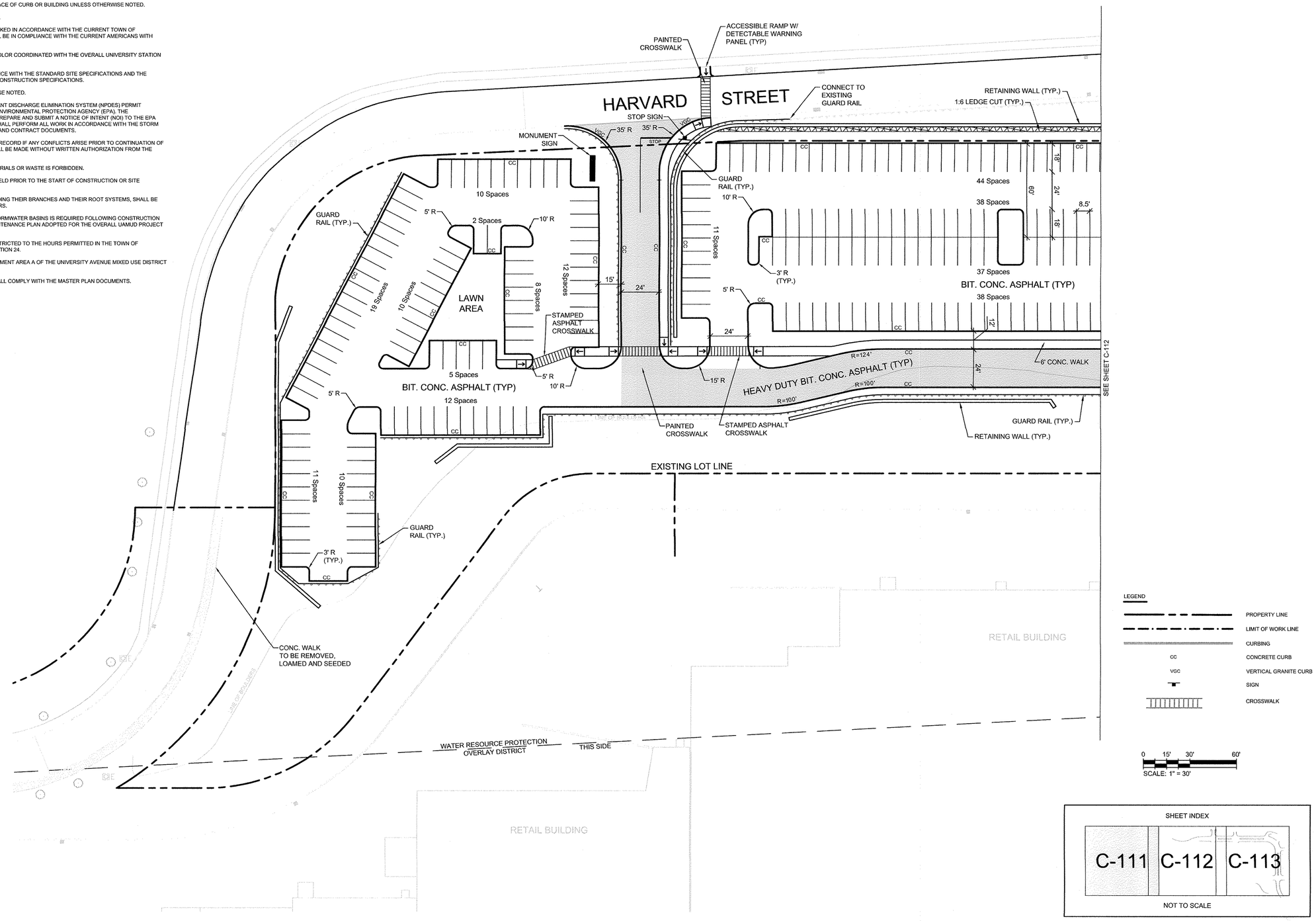
NOTES:

1. APPLICANT:
   UNIVERSITY STATION PHASE 2 LLC
   C/O NEW ENGLAND DEVELOPMENT
   75 PARK PLACE
   BOSTON, MA 02116
2. OWNER OF RECORD:
   UNIVERSITY STATION PHASE 2 LLC
   C/O NEW ENGLAND DEVELOPMENT
   75 PARK PLACE
   BOSTON, MA 02116
3. CURB RADII ARE 3' UNLESS OTHERWISE NOTED.
4. ALL DISTANCES AND DIMENSIONS ARE TO THE FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
5. SEE SITE PLANS FOR CURB TYPE AND LOCATION.
6. HANDICAPPED PARKING SPACES ARE TO BE MARKED IN ACCORDANCE WITH THE CURRENT TOWN OF WESTWOOD SPECIFICATIONS, IF ANY, AND SHALL BE IN COMPLIANCE WITH THE CURRENT AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS.
7. ADA DETECTABLE WARNING STRIPS SHALL BE COLOR COORDINATED WITH THE OVERALL UNIVERSITY STATION DEVELOPMENT.
8. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE STANDARD SITE SPECIFICATIONS AND THE LATEST EDITION OF THE TOWN OF WESTWOOD CONSTRUCTION SPECIFICATIONS.
9. PARKING SPACES ARE 8.5'x18' UNLESS OTHERWISE NOTED.
10. THE PROJECT SHALL OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATORS" SHALL PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND CONTRACT DOCUMENTS.
11. CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IF ANY CONFLICTS ARISE PRIOR TO CONTINUATION OF CONSTRUCTION. NO FIELD MODIFICATIONS SHALL BE MADE WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER OF RECORD.
12. THE USE OF FILL CONTAINING HAZARDOUS MATERIALS OR WASTE IS FORBIDDEN.
13. THE MARKING OF THE LIMITS OF WORK IN THE FIELD PRIOR TO THE START OF CONSTRUCTION OR SITE CLEARING IS REQUIRED.
14. SIGNIFICANT TREES WHICH WILL REMAIN, INCLUDING THEIR BRANCHES AND THEIR ROOT SYSTEMS, SHALL BE PROTECTED WITH SHIELDS, FENCES, OR BARRIERS.
15. THE CLEANING OF CATCH BASIN SUMPS AND STORMWATER BASINS IS REQUIRED FOLLOWING CONSTRUCTION AND ACCORDING TO ANY OPERATIONS AND MAINTENANCE PLAN ADOPTED FOR THE OVERALL UAMUD PROJECT OR FOR THE PDR DEVELOPMENT.
16. THE USE OF CONSTRUCTION MACHINERY IS RESTRICTED TO THE HOURS PERMITTED IN THE TOWN OF WESTWOOD GENERAL BYLAWS, ARTICLE 10, SECTION 24.
17. THE PROPOSED OFFICE IS LOCATED IN DEVELOPMENT AREA A OF THE UNIVERSITY AVENUE MIXED USE DISTRICT (UAMUD).
18. DETAILS NOT INCLUDED IN THIS SUBMISSION SHALL COMPLY WITH THE MASTER PLAN DOCUMENTS.

PERMITTED USES:

- OFFICE / R&D

MAXIMUM BUILDING HEIGHT - 70'



SHEET INDEX

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COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
NO. 48359
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/09/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	4/17/19	REVISED PDR PLAN - DRAFT	
4	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive
Site Layout Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C

C-111

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Bar Measures 1 inch

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STATION DRIVE

THIS SIDE

WATER RESOURCE PROTECTION OVERLAY DISTRICT

VGC

1:6 LEDGE CUT (TYP.)

CONNECT TO EXISTING GUARD RAIL

GUARD RAIL (TYP.)

"FIRE ACCESS NO PARKING" SIGN

EXISTING LOT LINE

FLUSH CURB

15' R

5' R (TYP.)

8.5'

18'

24'

39 Spaces

BIT. CONC. ASPHALT (T

RETAINING WALL (TYP.)

1:6 LEDGE CUT (TYP.)

RECYCLING/TRASH ENCLOSURE

"FIRE ACCESS NO PARKING" SIGN

18' FIRE ACCESS

BITUMINOUS CONCRETE

STABILIZED SHOULDER

10'

6' CONC. WALK

"FIRE ACCESS NO PARKING" SIGN

PLANTED AREA

44 Spaces

38 Spaces

60'

24'

18'

8.5'

20'X50' LOADING BAY

10' R

50' R

25' R

4 STORY BUILDING
100,000 SF TOTAL
F.F.E. = 100.0
LOT AREA = 8.66 ACRES

15 Spaces

17 Spaces

18 Spaces

37 Spaces

BIT. CONC. ASPHALT (TYP)

38 Spaces

PLANTED AREA (TYP.)

30' R

CONCRETE TRANSFORMER PAD

PATIO AREA

PLANTED AREA

HANDICAP PARKING SIGNS (TYP)

DETECTABLE WARNING PANEL (TYP)

STAMPED ASPHALT CROSSWALK

3' R (TYP.)

12'

DETECTABLE WARNING PANEL (TYP)

STAMPED ASPHALT CROSSWALK

CONCRETE WALK

DASHED WHITE EDGE LINE

6' CONC. WALK

R=124'

R=100'

15' R

15' R

27' R

20' R

24'

507 SPACES

8 Spaces

CONCRETE RUMBLE STRIP

10' R (TYP.)

LINE OF BOULDERS

R=206'

R=170'

R=194'

R=506'

HEAVY DUTY BIT. CONC. ASPHALT (TYP)

GUARD RAIL (TYP.)

RETAINING WALL (TYP.)

GUARD RAIL (TYP.)

DIRECTIONAL SIGN

ACCESSIBLE PARKING & DROP OFF

HARVARD STREET & THRU TRAFFIC

EXISTING LOT LINE

RETAIL BUILDING

WATER RESOURCE PROTECTION OVERLAY DISTRICT

THIS SIDE

RETAIL BUILDING

SEE SHEET C-111

SEE SHEET C-113

LEGEND

	PROPERTY LINE
	LIMIT OF WORK LINE
	CURBING
CC	CONCRETE CURB
VGC	VERTICAL GRANITE CURB
	SIGN
	CROSSWALK

0 15' 30' 60'

SCALE: 1" = 30'

SHEET INDEX

C-111	C-112	C-113

NOT TO SCALE

TETRA TECH

www.tetratech.com

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Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
NO. 46042
CIVIL
REGISTERED PROFESSIONAL ENGINEER

5/1/2019

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Site Layout Plan

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Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C.

C-112

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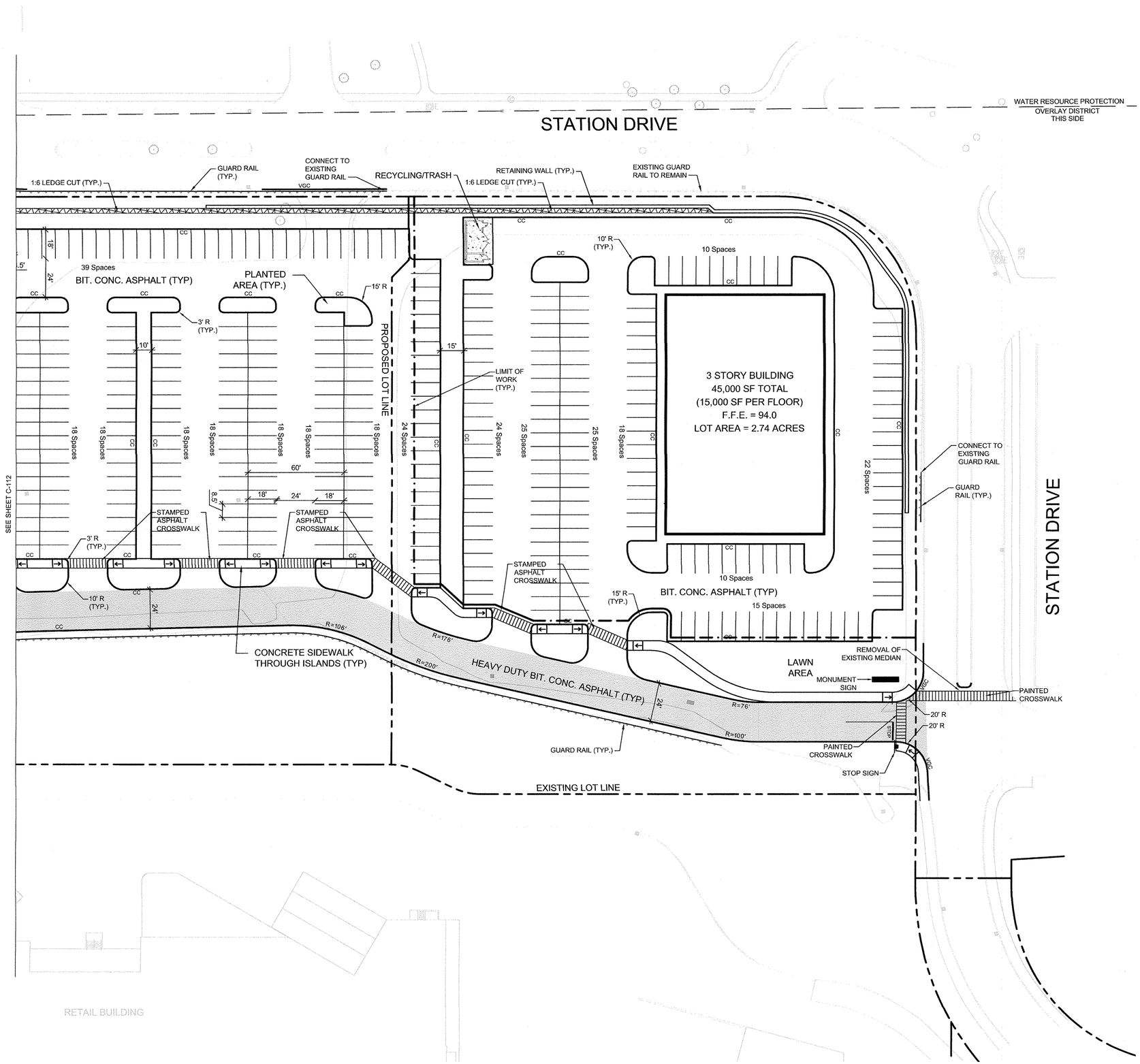

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COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
No. 46956
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

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Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C.

C-113

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Bar Measures 1 inch

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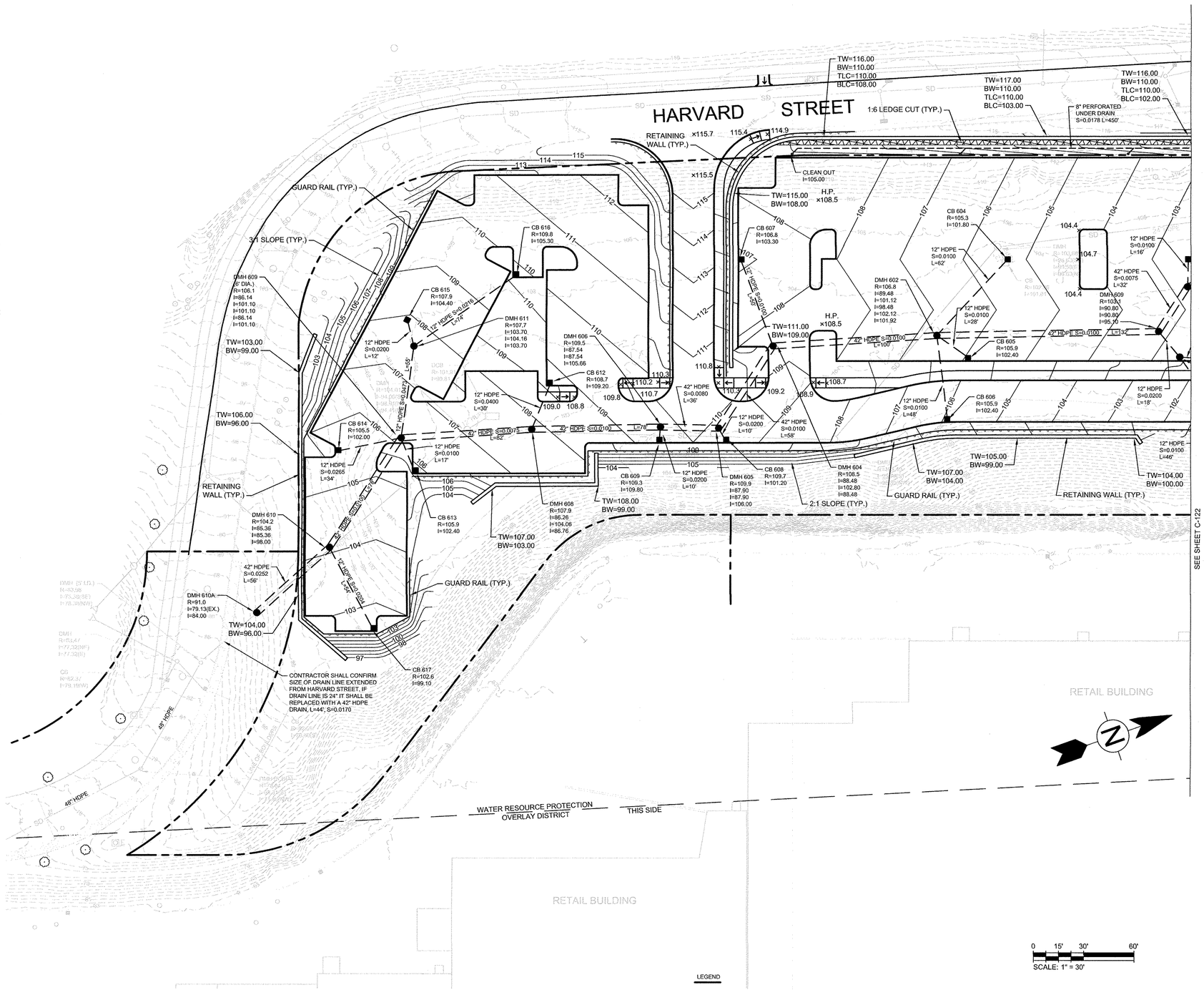
NOTES:

1. APPLICANT:
   UNIVERSITY STATION PHASE 2 LLC
   C/O NEW ENGLAND DEVELOPMENT
   75 PARK PLACE
   BOSTON, MA 02116

2. OWNER OF RECORD:
   UNIVERSITY STATION PHASE 2 LLC
   C/O NEW ENGLAND DEVELOPMENT
   75 PARK PLACE
   BOSTON, MA 02116

3. THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. UNDERGROUND UTILITIES SHOWN ARE FROM FIELD OBSERVATIONS AND RECORD INFORMATION AND ARE NOT GUARANTEED TO BE EXACT, NOR IS IT WARRANTEED THAT ALL UNDERGROUND PIPES OR STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ANY CROSSINGS OR PROPOSED UTILITIES AND EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES RELATIVE TO THE LOCATION AND ELEVATION OF THESE LINES. ANY DISCREPANCIES IN THE LOCATION OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION SHALL BE REPORTED TO TETRA TECH, ONE 100 NICKERSON ROAD, MARLBOROUGH, MASSACHUSETTS 01752, ENGINEERING DIVISION, (508) 903-2000.
4. ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST UNLESS OTHERWISE NOTED.
5. ALL DMH's SHALL BE 4' INSIDE DIAMETER UNLESS OTHERWISE NOTED.
6. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.
7. ALL DRAIN PIPES EQUAL TO OR LESS THAN 48" ARE TO BE SMOOTH INTERIOR CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) AND MUST MEET HEAVY DUTY TRAFFIC (H-20) LOADING REQUIREMENTS, UNLESS SPECIFIED OTHERWISE.
8. GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.
9. THE CONTRACTOR SHALL CALL "DIG-SAFE" AT 1-888-DIG-SAFE (344-7233) 72 HOURS PRIOR TO CONSTRUCTION TO INFORM THE UTILITY COMPANIES OF ANY EXCAVATION ADJACENT TO EXISTING UTILITIES.
10. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN STRICT ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLANS.
11. RETAINING WALL CONSTRUCTION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH RETAINING WALL DESIGN SPECIFICATIONS AND DESIGN DRAWINGS. FOR ANY WALL EXCEEDING 4' IN HEIGHT THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DESIGN DOCUMENTATION TO THE BUILDING DEPARTMENT FOR APPROVAL PRIOR TO CONSTRUCTION.
12. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS, SPECIFICATIONS, AND GEOTECHNICAL REPORT.
13. ALL DRAIN PIPE LENGTHS ARE MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE. DRAIN PIPE LENGTHS FROM CATCH BASINS ARE MEASURED FROM CENTER OF CATCH BASIN TO CENTER OF MANHOLE.
14. STORMWATER MANAGEMENT SYSTEM SHALL BE MAINTAINED IN ACCORDANCE WITH APPROVED OPERATION AND MAINTENANCE PLAN.
15. THE CONTRACTOR SHALL COORDINATE ALL OFFSITE WORK WITH THE ONSITE WORK. THE CONTRACTOR SHOULD BE AWARE THAT WORK SHOWN ON BOTH ONSITE AND OFFSITE DOCUMENTS NEEDS TO BE COORDINATED ACCORDING TO THE ANTICIPATED CONSTRUCTION SCHEDULE.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL DRAINAGE AND UTILITIES COMPLETE, INCLUDING ANY REQUIRED TESTING.
17. THE OWNER/DEVELOPER AND "OPERATORS" SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND CONTRACT DOCUMENTS.
18. THE GRADING IN AREAS OF ADA PARKING AND ACCESS ROUTE SHALL NOT EXCEED 2% IN ANY DIRECTION.
19. SITE CONTRACTOR TO COORDINATE ALL ROOF LEADER CONNECTIONS WITH THE BUILDING ARCHITECTURAL PLANS AND BUILDING CONTRACTOR(S).
20. CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IF ANY CONFLICTS ARISE PRIOR TO CONTINUATION OF CONSTRUCTION. NO FIELD MODIFICATIONS SHALL BE MADE WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER OF RECORD.
21. WHENEVER EXISTING STRUCTURES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPAIR ANY DAMAGED STRUCTURES OR REPLACE ANY REMOVED STRUCTURES, AND MAKE ANY IMPROVEMENTS ABOVE OR BELOW GRADE TO A CONDITION BETTER THAN OR EQUAL TO EXISTING CONDITIONS.
22. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
23. THE CONTRACTOR SHALL OBTAIN A STREET OPENING PERMIT PRIOR TO ANY CONSTRUCTION WITHIN THE TOWN RIGHT-OF-WAY.
24. VERIFY LOCATION OF BUILDING UTILITY CONNECTIONS WITH ARCHITECTURAL, MECHANICAL AND PLUMBING PLANS.
25. THE USE OF FILL CONTAINING HAZARDOUS MATERIALS OR WASTE IS FORBIDDEN.
26. THE MARKING OF THE LIMITS OF WORK IN THE FIELD PRIOR TO THE START OF CONSTRUCTION OR SITE CLEARING IS REQUIRED.
27. SIGNIFICANT TREES, INCLUDING THEIR BRANCHES AND THEIR ROOT SYSTEMS, SHALL BE PROTECTED WITH SHIELDS, FENCES, OR BARRIERS.
28. THE CLEANING OF CATCH BASIN SUMPS AND STORMWATER BASINS IS REQUIRED FOLLOWING CONSTRUCTION AND ACCORDING TO ANY OPERATIONS AND MAINTENANCE PLAN ADOPTED FOR THE OVERALL UAMUD PROJECT OR FOR THE PDR DEVELOPMENT.
29. THE USE OF CONSTRUCTION MACHINERY IS RESTRICTED TO THE HOURS PERMITTED IN THE TOWN OF WESTWOOD GENERAL BYLAWS, ARTICLE 10, SECTION 24.
30. DUCTILE IRON PIPE SHALL BE PROVIDED WHEN LESS THAN 2 FEET OF COVER IS PROVIDED.
31. ALL NEW CATCH BASINS SHALL RECEIVE SILT SACK INSERTS.
32. DETAILS NOT INCLUDED IN THIS SUBMISSION SHALL COMPLY WITH THE MASTER PLAN DOCUMENTS.



LEGEND

53	PROPOSED CONTOUR
TLC=55.18 BLC=54.68	PROPOSED TOP OF LEDGE CUT ELEVATION PROPOSED BOTTOM OF LEDGE CUT ELEVATION
TC=55.18 BC=54.68	PROPOSED TOP OF CURB ELEVATION PROPOSED BOTTOM OF CURB ELEVATION
54.53	PROPOSED SPOT GRADE
	EXISTING CATCH BASIN WITH PIPE AND MANHOLE
	PROPOSED CATCH BASIN WITH PIPE AND MANHOLE
	LIMIT OF WORK
	LIMIT OF FINISH GRADES

SHEET INDEX

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NOT TO SCALE

TETRA TECH
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Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
NO. 46026
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive Grading and Drainage Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C.

C-121

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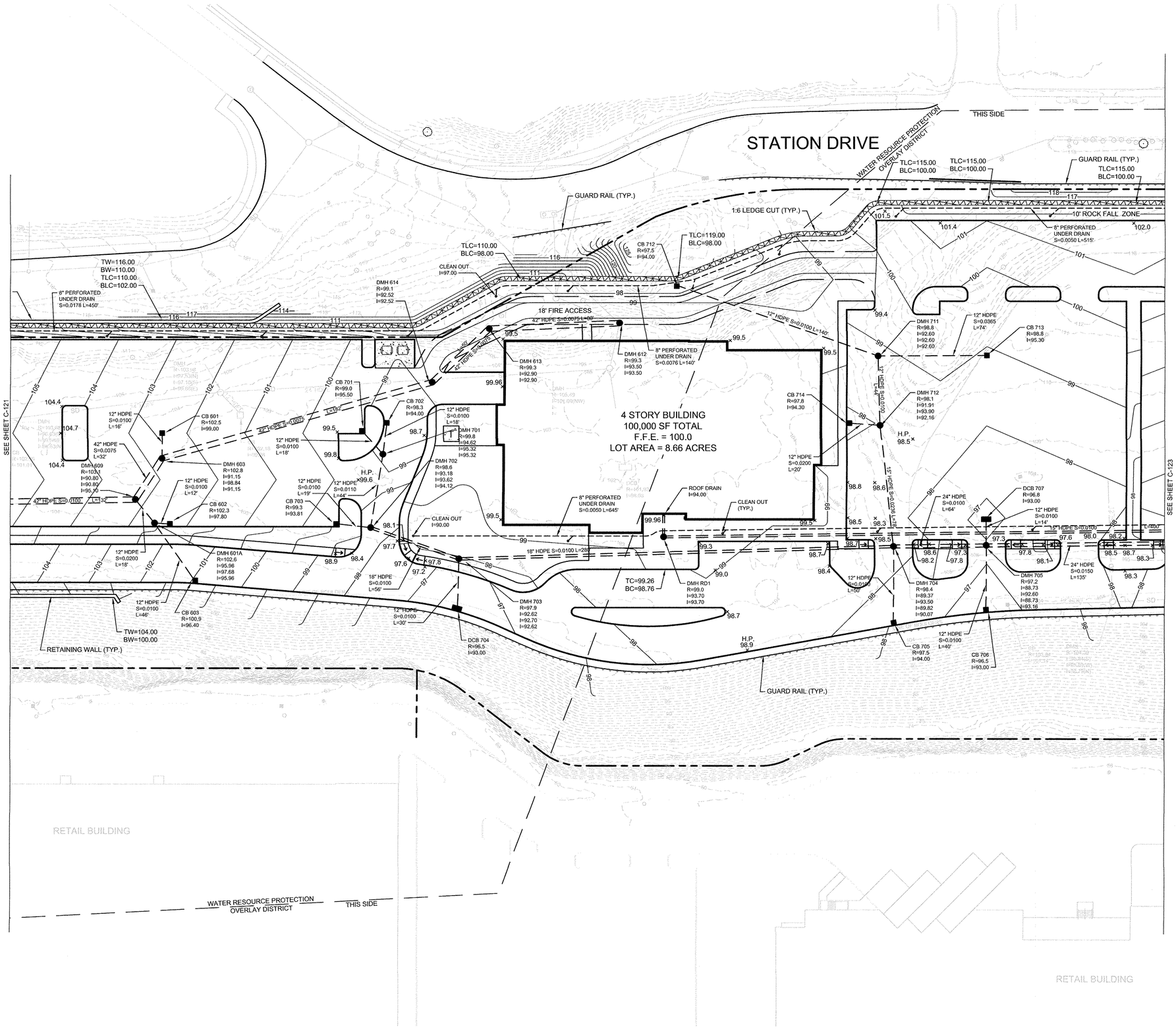

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53	PROPOSED CONTOUR
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TC=55.18 BC=54.68	PROPOSED TOP OF CURB ELEVATION PROPOSED BOTTOM OF CURB ELEVATION
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	EXISTING CATCH BASIN WITH PIPE AND MANHOLE
	PROPOSED CATCH BASIN WITH PIPE AND MANHOLE
	LIMIT OF WORK
	LIMIT OF FINISH GRADES

0 15' 30' 60'
SCALE: 1" = 30'

SHEET INDEX

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COMMONWEALTH OF MASSACHUSETTS
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MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive Grading and Drainage Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C.

C-122

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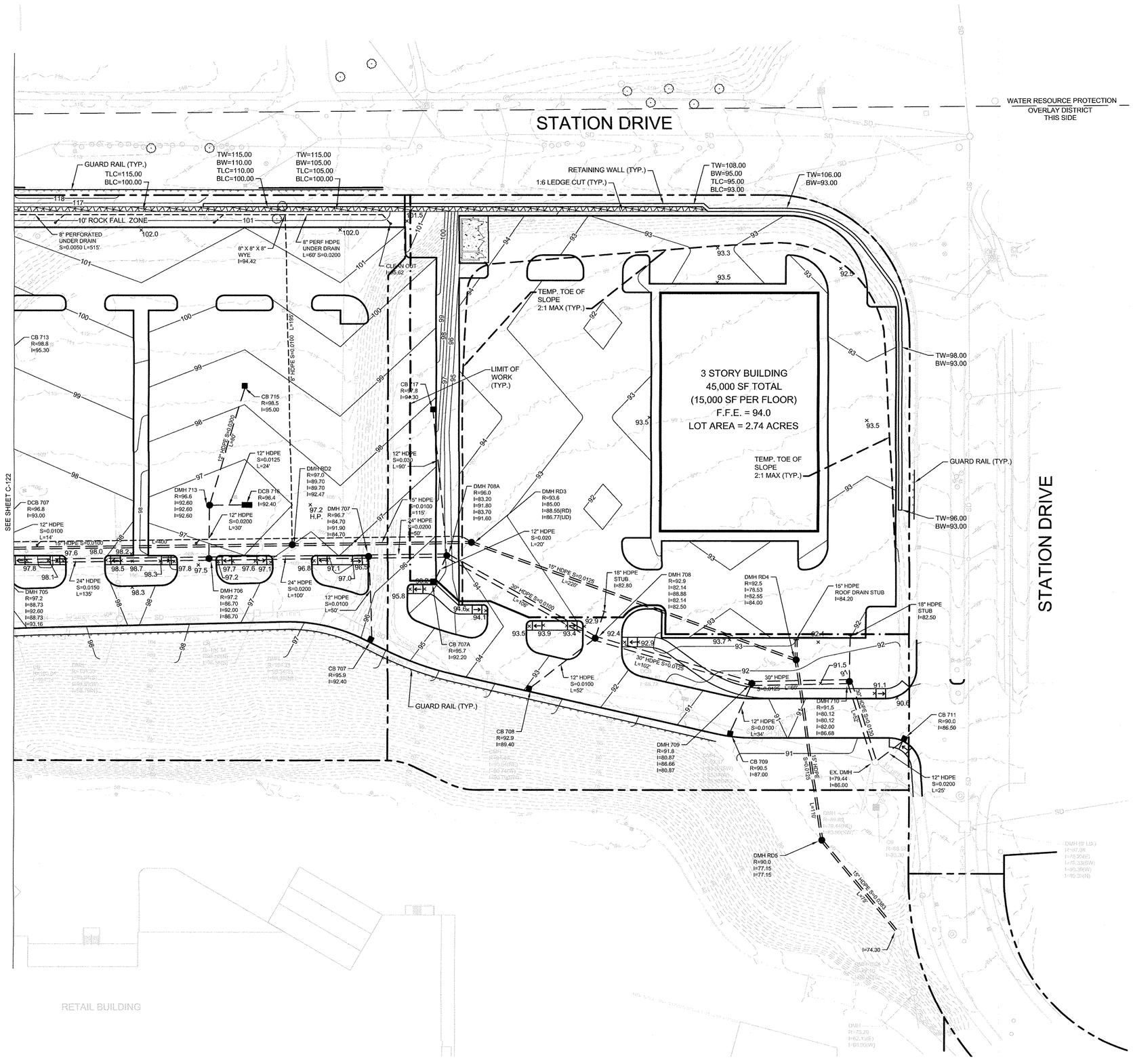

LEGEND

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	EXISTING CATCH BASIN WITH PIPE AND MANHOLE
	PROPOSED CATCH BASIN WITH PIPE AND MANHOLE
	LIMIT OF WORK
	LIMIT OF FINISH GRADES

0 15' 30' 60'
SCALE: 1" = 30'

SHEET INDEX

C-121 C-122 C-123

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COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
NO. 46862
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive Grading and Drainage Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C.

C-123

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NOTES:

1. APPLICANT:
   UNIVERSITY STATION PHASE 2 LLC
   C/O NEW ENGLAND DEVELOPMENT
   75 PARK PLAZA
   BOSTON, MA 02116

2. OWNER OF RECORD:
   UNIVERSITY STATION PHASE 2 LLC
   C/O NEW ENGLAND DEVELOPMENT
   75 PARK PLAZA
   BOSTON, MA 02116

3. THE CONSTRUCTION OF ALL UTILITIES SHALL CONFORM TO THE TOWN OF WESTWOOD STANDARD SPECIFICATIONS, MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION, MASSACHUSETTS DEPARTMENT OF TRANSPORTATION, AND THE DEDHAM-WESTWOOD WATER DISTRICT STANDARDS. CONTRACTOR SHALL CONFORM TO ALL APPICABLE LOCAL, STATE, AND FEDERAL CODES AND REQUIREMENTS DURING CONSTRUCTION.

4. ALL PROPOSED UTILITY CONNECTIONS MUST BE COORDINATED WITH THE RESPECTIVE UTILITY PROVIDERS. THE PROPOSED WATER CONNECTIONS AND WATER MAIN LAYOUTS ARE SUBJECT TO REVIEW BY THE TOWN OF WESTWOOD AND THE DEDHAM-WESTWOOD WATER DISTRICT.

5. PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER OF RECORD AND IN GENERAL WILL DEPEND FOR WATERTIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMETRIC SEALANT.

6. PIPING WITHIN 10 FEET OF A BUILDING SHALL BE INSTALLED IN ACCORDANCE WITH THE MASSACHUSETTS STATE PLUMBING CODE, LATEST EDITION, AS APPLICABLE; SEE BUILDING MEP PLANS AND SPECIFICATIONS.

7. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.

8. THE CONTRACTOR SHALL OBTAIN A STREET OPENING PERMIT PRIOR TO ANY CONSTRUCTION WITHIN THE TOWN RIGHT-OF-WAY.

9. ALL WATER AND SEWER MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE TOWN OF WESTWOOD REQUIREMENTS (SEE STREET OPENING PERMIT).

10. ALL WATER AND SEWER CONSTRUCTION SHALL BE INSPECTED BY THE TOWN OF WESTWOOD OR DEDHAM-WESTWOOD WATER DISTRICT BEFORE BEING BACKFILLED (AS REQUIRED).

11. VERIFY LOCATION OF BUILDING UTILITY CONNECTIONS WITH ARCHITECTURAL, MECHANICAL AND PLUMBING PLANS.

12. VERIFY LOCATION OF ELECTRIC, GAS AND TELEPHONE FACILITIES CONNECTIONS WITH THE RESPECTIVE UTILITY COMPANIES.

13. THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. UNDERGROUND UTILITIES SHOWN ARE FROM FIELD OBSERVATIONS AND RECORD INFORMATION AND ARE NOT GUARANTEED TO BE EXACT, NOR IS IT WARRANTEED THAT ALL UNDERGROUND PIPES OR STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ANY CROSSINGS OR PROPOSED UTILITIES AND EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES RELATIVE TO THE LOCATION AND ELEVATION OF THESE LINES. ANY DISCREPANCIES IN THE LOCATION OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION SHALL BE REPORTED TO TETRA TECH, 100 NICKERSON ROAD, MARLBOROUGH, MASSACHUSETTS 01752, ENGINEERING DIVISION, (508) 903-2000.

14. WHENEVER EXISTING STRUCTURES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPAIR ANY DAMAGED STRUCTURES OR REPLACE ANY REMOVED STRUCTURES, AND MAKE ANY IMPROVEMENTS ABOVE OR BELOW GRADE TO A CONDITION BETTER THAN OR EQUAL TO EXISTING CONDITIONS.

15. BARRICADING, TRAFFIC CONTROL, AND PROJECT SIGNS SHALL CONFORM TO THE MASS HIGHWAY AND DEPARTMENT OF TRANSPORTATION CONSTRUCTION SPECIFICATIONS AND STANDARDS, IF APPLICABLE.

16. TRENCH EXCAVATION FOR TRENCHES 5 FEET OR MORE IN DEPTH SHALL BE IN ACCORDANCE WITH ALL PROVISIONS OF PART 1926, SUBPART P, "EXCAVATIONS, TRENCHING AND SHORING OF THE OCCUPATIONAL SAFETY AND HEALTH'S STANDARDS AND INTERPRETATIONS." IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONFORM TO THE ABOVE PROVISIONS AND PROVIDE NECESSARY TRENCH SAFETY PLANS TO THE TOWNS OF DEDHAM AND WESTWOOD PRIOR TO COMMENCING CONSTRUCTION.

17. PRESSURE AND LEAKAGE TEST, DISINFECTION AND FLUSHING SHALL BE IN ACCORDANCE WITH ALL LOCAL MUNICIPAL STANDARDS AND REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN CONNECTION WITH UTILITY CONNECTIONS, TESTS, FLUSHING, AND INSPECTIONS AS REQUIRED BY THE LOCAL MUNICIPALITY.

18. PROPOSED GAS SERVICE LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL CONFIRM WITH THE LOCAL GAS COMPANY THAT GAS LINE TRENCHING SHALL BE BY THE CONTRACTOR AND INSPECTED BY THE GAS COMPANY. THE CONTRACTOR SHALL GIVE THE GAS COMPANY ADVANCE NOTICE OF WHEN THE GAS LINE CAN BE INSTALLED.

19. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES, POLICE, FIRE, AND DPW PRIOR TO ANY BLASTING.

20. ALL WATER PIPE 4" OR LARGER SHALL BE CEMENT-LINED DUCTILE IRON (CLDI), CLASS 350, ASPHALT COATED INSIDE AND OUT. PIPE SHALL MEET OR EXCEED ALL APPLICABLE AWWA STANDARDS, LATEST REVISION.

21. MECHANICAL JOINT RESTRAINTS SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS AND SHALL BE PROVIDED IN ACCORDANCE WITH THE TOWN OF WESTWOOD AND DEDHAM-WESTWOOD WATER DISTRICT TECHNICAL SPECIFICATIONS.

22. DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING UNLESS OTHERWISE NOTED.

23. ALL WATER AND SANITARY LEADS TO BUILDING SHALL END 10 FT. OUTSIDE OF THE BUILDING LIMITS AS SHOWN ON THE PLANS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT THE END.

24. ALL FIRE HYDRANTS SHALL BE PROVIDED WITH AN APPROVED GATE VALVE LOCATED AT THE TEE AND SHALL BE PROVIDED IN ACCORDANCE WITH THE TOWN OF WESTWOOD AND DEDHAM-WESTWOOD WATER DISTRICT TECHNICAL SPECIFICATIONS.

25. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.

26. GENERAL CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THESE UTILITY SYSTEMS PRIOR TO INSTALLATION.

27. THE CONTRACTOR SHALL CALL "DIG SAFE" AT 1-888-DIG-SAFE (1-888-344-7233) 72 HOURS PRIOR TO CONSTRUCTION TO INFORM THE UTILITY COMPANIES OF ANY EXCAVATION ADJACENT TO EXISTING UTILITIES.

28. TELEPHONE/CABLE DESIGN IS APPROXIMATE. THE CONTRACTOR SHALL CONFIRM WITH THE LOCAL UTILITY PROVIDERS THE SIZE AND LOCATION OF PROPOSED SERVICES.

29. EXISTING PIPES TO BE ABANDONED SHALL EITHER BE REMOVED OR FILLED WITH CONCRETE; TO BE DETERMINED BASED ON FIELD CONDITIONS. AS-BUILTS WILL REFLECT FINAL CONDITIONS.

30. THE PROJECT SHALL OBTAIN NATIONAL POLLUTANT DISCHARAGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATORS" SHALL PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND CONTRACT DOCUMENTS.

31. PROPOSED UTILITIES SHALL BE INSTALLED UNDERGROUND.

32. CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IF ANY CONFLICTS ARISE PRIOR TO CONTINUATION OF CONSTRUCTION. NO FIELD MODIFICATIONS SHALL BE MADE WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER OF RECORD.

33. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE STANDARD SITE SPECIFICATIONS AND THE LATEST EDITION OF THE TOWN OF WESTWOOD CONSTRUCTION SPECIFICATIONS.

34. THE USE OF FILL CONTAINING HAZARDOUS MATERIALS OR WASTE IS FORBIDDEN.

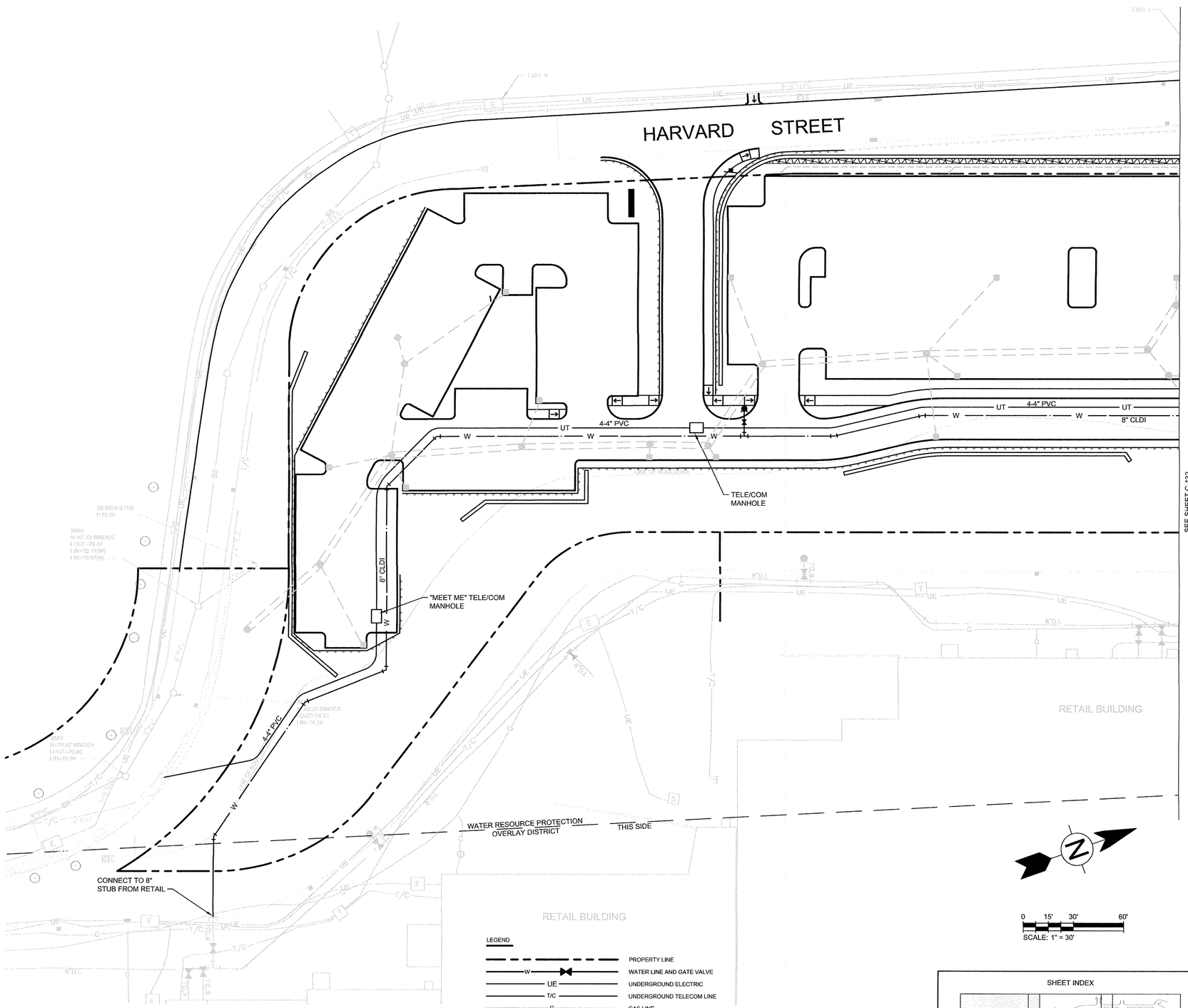
35. THE MARKING OF THE LIMITS OF WORK IN THE FIELD PRIOR TO THE START OF CONSTRUCTION OR SITE CLEARING IS REQUIRED.

36. SIGNIFICANT TREES, INCLUDING THEIR BRANCHES AND THEIR ROOT SYSTEMS, SHALL BE PROTECTED WITH SHIELDS, FENCES, OR BARRIERS.

37. THE CLEANING OF CATCH BASIN SUMPS AND STORMWATER BASINS IS REQUIRED FOLLOWING CONSTRUCTION AND ACCORDING TO ANY OPERATIONS AND MAINTENANCE PLAN ADOPTED FOR THE OVERALL UAMUD PROJECT OR FOR THE PDR DEVELOPMENT.

38. THE USE OF CONSTRUCTION MACHINERY IS RESTRICTED TO THE HOURS PERMITTED IN THE TOWN OF WESTWOOD GENERAL BYLAWS, ARTICLE 10, SECTION 24.

39. DETAILS NOT INCLUDED IN THIS SUBMISSION SHALL COMPLY WITH THE MASTER PLAN DOCUMENTS.



LEGEND

	PROPERTY LINE
W	WATER LINE AND GATE VALVE
UE	UNDERGROUND ELECTRIC
T/C	UNDERGROUND TELECOM LINE
G	GAS LINE
SS	SANITARY SEWER LINE AND MANHOLE
T	TRANSFORMER
	FIRE HYDRANT
MP	METER PEDESTAL
CO	CLEAN OUT
	LIMIT OF WORK

SHEET INDEX

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COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
NO. 40086
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive
Utility Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C

C-131

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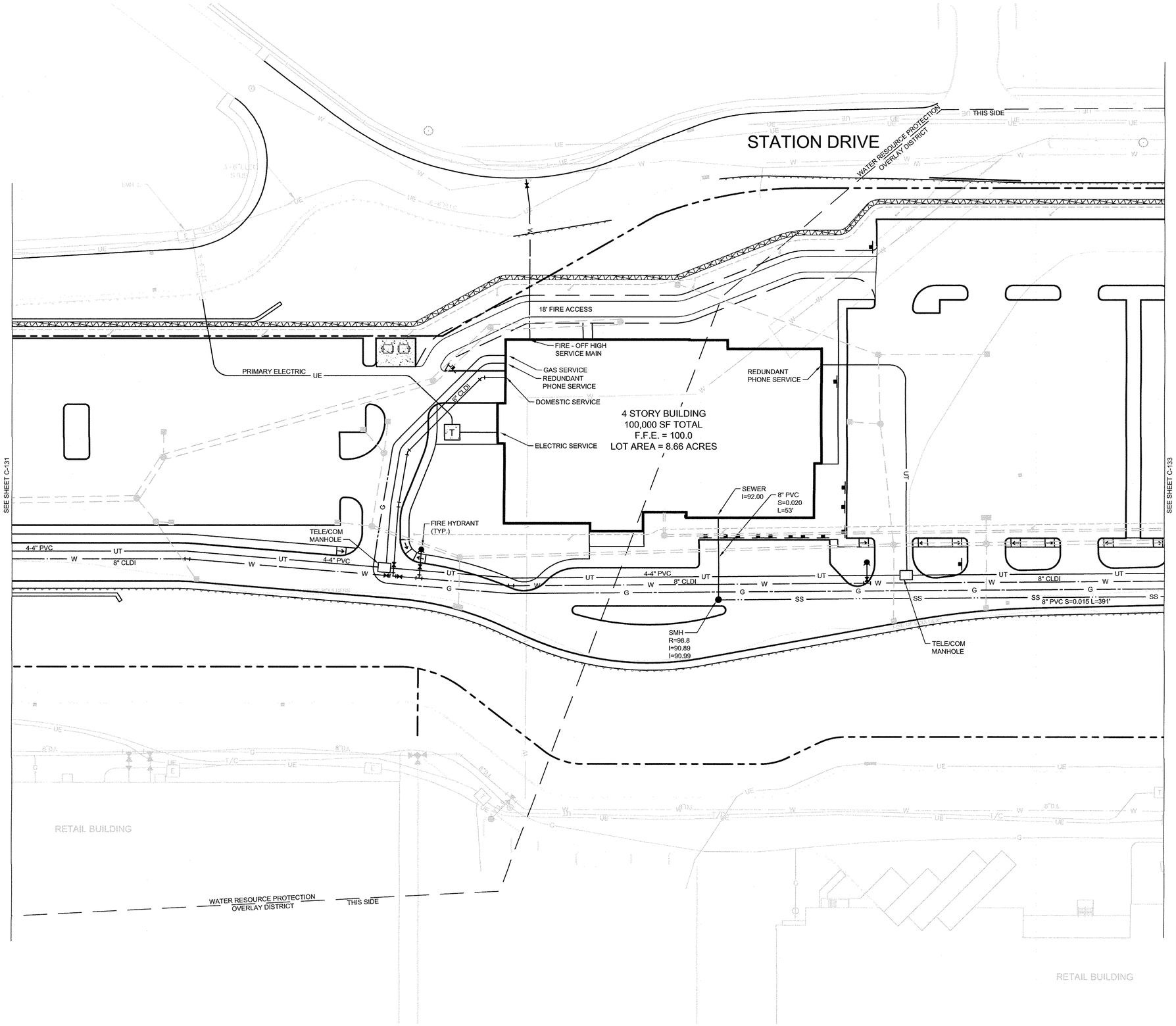

LEGEND

- PROPERTY LINE
- W — WATER LINE AND GATE VALVE
- UE — UNDERGROUND ELECTRIC
- T/C — UNDERGROUND TELECOM LINE
- G — GAS LINE
- SS — SANITARY SEWER LINE AND MANHOLE
- T — TRANSFORMER
- FIRE HYDRANT
- MP — METER PEDESTAL
- CO — CLEAN OUT
- LIMIT OF WORK

0 15' 30' 60'
SCALE: 1" = 30'

SHEET INDEX

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NOT TO SCALE

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COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
NO. 46062
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive Utility Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C

C-132

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STATION DRIVE

WATER RESOURCE PROTECTION OVERLAY DISTRICT THIS SIDE

STATION DRIVE

SEE SHEET C-132

LIMIT OF WORK (TYP.)

3 STORY BUILDING
45,000 SF TOTAL
(15,000 SF PER FLOOR)
F.F.E. = 94.0
LOT AREA = 2.74 ACRES

TELE/COM STUB

PRIMARY ELECTRIC STUB

FIRE HYDRANT (TYP.)

8" PVC SEWER STUB I=81.44

8" CLDI WATER STUB

8" PVC S=0.020 L=68'

"MEET ME" TELE/COM MANHOLE

8" CLDI

4-4" PVC

8" PVC S=0.015 L=391'

SMH R=96.3 I=84.89 I=85.08

8" PVC S=0.015 L=59'

SMH R=94.9 I=84.15 I=84.25

8" PVC S=0.015 L=268'

TELE/COM MANHOLE

8" PVC S=0.019 L=38'

SMH R=91.5 I=80.08 I=80.08 I=80.18

SMH R=89.9 I=79.24 I=79.34

8" PVC S=0.010 L=8'

RETAIL BUILDING

LEGEND

	PROPERTY LINE
W	WATER LINE AND GATE VALVE
UE	UNDERGROUND ELECTRIC
T/C	UNDERGROUND TELECOM LINE
G	GAS LINE
SS	SANITARY SEWER LINE AND MANHOLE
T	TRANSFORMER
	FIRE HYDRANT
MP	METER PEDESTAL
CO	CLEAN OUT
	LIMIT OF WORK

0 15' 30' 60'
SCALE: 1" = 30'

SHEET INDEX

C-131 C-132 C-133

NOT TO SCALE

TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHERL
NO. 44054
CIVIL
REGISTERED PROFESSIONAL ENGINEER
3/17/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive
Utility Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C.

C-133

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Bar Measures 1 inch

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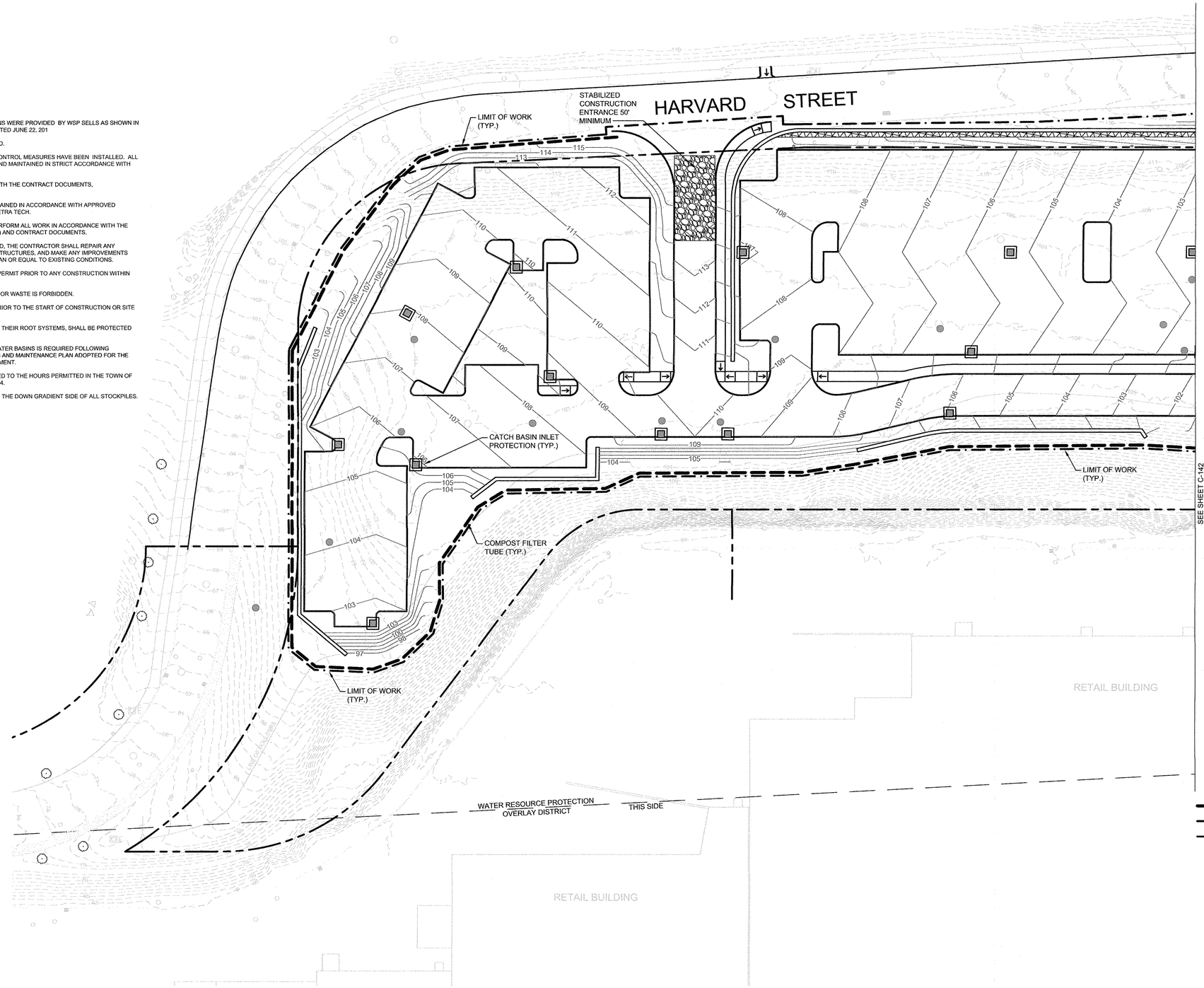
NOTES:

1. APPLICANT:
   UNIVERSITY STATION PHASE 2 LLC
   C/O NEW ENGLAND DEVELOPMENT
   75 PARK PLAZA
   BOSTON, MA 02116
2. OWNER OF RECORD:
   UNIVERSITY STATION PHASE 2 LLC
   C/O NEW ENGLAND DEVELOPMENT
   75 PARK PLAZA
   BOSTON, MA 02116
3. THE EXISTING CONDITIONS SURVEY AND LOTTING PLANS WERE PROVIDED BY WSP SELLS AS SHOWN IN A PLAN ENTITLED "EXISTING CONDITIONS SURVEY", DATED JUNE 22, 201
4. ALL TRAPS ARE PROPOSED UNLESS OTHERWISE NOTED.
5. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN STRICT ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLANS.
6. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS, SPECIFICATIONS, AND GEOTECHNICAL REPORT.
7. STORMWATER MANAGEMENT SYSTEM SHALL BE MAINTAINED IN ACCORDANCE WITH APPROVED OPERATION AND MAINTENANCE PLAN PREPARED BY TETRA TECH.
8. THE OWNER/DEVELOPER AND "OPERATORS" SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND CONTRACT DOCUMENTS.
9. WHENEVER EXISTING STRUCTURES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPAIR ANY DAMAGED STRUCTURES OR REPLACE ANY REMOVED STRUCTURES, AND MAKE ANY IMPROVEMENTS ABOVE OR BELOW GRADE TO A CONDITION BETTER THAN OR EQUAL TO EXISTING CONDITIONS.
10. THE CONTRACTOR SHALL OBTAIN A STREET OPENING PERMIT PRIOR TO ANY CONSTRUCTION WITHIN THE TOWN RIGHT-OF-WAY.
11. THE USE OF FILL CONTAINING HAZARDOUS MATERIALS OR WASTE IS FORBIDDEN.
12. THE MARKING OF THE LIMITS OF WORK IN THE FIELD PRIOR TO THE START OF CONSTRUCTION OR SITE CLEARING IS REQUIRED.
13. SIGNIFICANT TREES, INCLUDING THEIR BRANCHES AND THEIR ROOT SYSTEMS, SHALL BE PROTECTED WITH SHIELDS, FENCES, OR BARRIERS.
14. THE CLEANING OF CATCH BASIN SUMPS AND STORMWATER BASINS IS REQUIRED FOLLOWING CONSTRUCTION AND ACCORDING TO ANY OPERATIONS AND MAINTENANCE PLAN ADOPTED FOR THE OVERALL UAMUD PROJECT OR FOR THE PDR DEVELOPMENT.
15. THE USE OF CONSTRUCTION MACHINERY IS RESTRICTED TO THE HOURS PERMITTED IN THE TOWN OF WESTWOOD GENERAL BYLAWS, ARTICLE 10, SECTION 24.
16. PERIMETER EROSION CONTROLS SHALL BE PLACED ON THE DOWN GRADIENT SIDE OF ALL STOCKPILES.

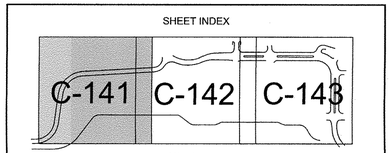


LEGEND

- EXISTING CATCH BASIN
- EXISTING MANHOLE
- EXISTING UTILITY POLE
- EXISTING TREE
- EXISTING CHAIN LINK FENCE
- EXISTING DRAIN LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- COMPOST FILTER TUBE
- LIMIT OF WORK
- PROPERTY LINE
- CATCH BASIN INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED CONTOUR

0 15' 30' 60'
SCALE: 1" = 30'

SHEET INDEX



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TETRA TECH
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COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
No. 49482
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive Erosion Control Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C

C-141

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STATION DRIVE

THIS SIDE

WATER RESOURCE PROTECTION OVERLAY DISTRICT

LIMIT OF WORK (TYP.)

18' FIRE ACCESS

4 STORY BUILDING
100,000 SF TOTAL
F.F.E. = 100.0
LOT AREA = 8.66 ACRES

CATCH BASIN INLET PROTECTION (TYP.)

COMPOST FILTER TUBE (TYP.)

SEE SHEET C-141

SEE SHEET C-143

RETAIL BUILDING

RETAIL BUILDING

WATER RESOURCE PROTECTION OVERLAY DISTRICT

THIS SIDE

LEGEND

- EXISTING CATCH BASIN
- EXISTING MANHOLE
- EXISTING UTILITY POLE
- EXISTING TREE
- EXISTING CHAIN LINK FENCE
- EXISTING DRAIN LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
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0 15' 30' 60'
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SHEET INDEX

C-141 C-142 C-143

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COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
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REGISTERED PROFESSIONAL ENGINEER
5/1/2019

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1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive Erosion Control Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C

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Bar Measures 1 inch

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STATION DRIVE

WATER RESOURCE PROTECTION OVERLAY DISTRICT THIS SIDE

LIMIT OF WORK (TYP.)

TEMP. TOE OF SLOPE 2:1 MAX (TYP.)

LIMIT OF WORK (TYP.)

3 STORY BUILDING
45,000 SF TOTAL
(15,000 SF PER FLOOR)
F.F.E. = 94.0
LOT AREA = 2.74 ACRES

TEMP. TOE OF SLOPE 2:1 MAX (TYP.)

STATION DRIVE

SEE SHEET C-142

COMPOST FILTER TUBE (TYP.)

LIMIT OF WORK (TYP.)

CATCH BASIN INLET PROTECTION (TYP.)

COMPOST FILTER TUBE (TYP.)

STABILIZED CONSTRUCTION ENTRANCE 50' MINIMUM

RETAIL BUILDING

LEGEND

- EXISTING CATCH BASIN
- EXISTING MANHOLE
- EXISTING UTILITY POLE
- EXISTING TREE
- EXISTING CHAIN LINK FENCE
- EXISTING DRAIN LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- COMPOST FILTER TUBE
- LIMIT OF WORK
- PROPERTY LINE
- CATCH BASIN INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED CONTOUR

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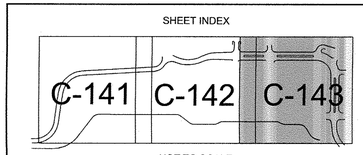

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COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
No. 46036
REGISTERED PROFESSIONAL ENGINEER
5/1/19

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Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive Erosion Control Plan

Project No.:	143-3659-16003
Designed By:	N.H.C.
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Checked By:	N.H.C

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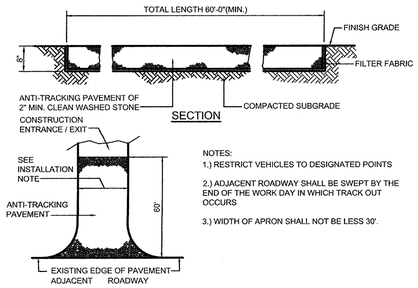


NOTES:
1.) RESTRICT VEHICLES TO DESIGNATED POINTS

2.) ADJACENT ROADWAY SHALL BE SWEPT BY THE END OF THE WORK DAY IN WHICH TRACK OUT OCCURS

3.) WIDTH OF APRON SHALL NOT BE LESS 30'.

LOCATION PLAN

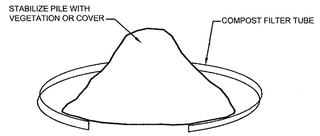
PRACTICE: STABILIZED CONSTRUCTION EXIT POINTS: IN ORDER TO ELIMINATE TRACK OUT FROM VEHICLES, STABILIZED CONSTRUCTION EXITS MUST BE INSTALLED AT THE LOCATIONS WHERE VEHICLES WILL EXIT THE SITE. THE CONTRACTOR MUST RESTRICT VEHICLE USE TO THE DESIGNATED EXIT LOCATIONS. PRIOR TO VEHICLE EXIT, IF THE STABILIZED EXIT IS NOT EFFECTIVELY REMOVING SEDIMENT FROM THE TIRES AND IT IS BEING TRACKED OUT OF THE WORK ZONE, VEHICLE TIRES MUST BE WASHED OR SIMILAR METHOD PROVIDED TO EFFECTIVELY REMOVE SEDIMENT FROM WHEELS AND PREVENTING TRACK-OUT (E.G. THROUGH THE USE OF RUMBLE STRIPS OR AGGREGATE STONE EITHER ALONE OR IN COMBINATION WITH OTHER PRACTICES). NO VISIBLE SIGNS OF SOIL TRACKING FROM VEHICLES SHOULD BE PRESENT ON PUBLIC ROADWAYS EXITING THE SITE.

INSTALLATION: THE STABILIZED CONSTRUCTION EXITS WILL CONSIST OF AN 8 INCH LAYER OF 2" (MIN.) STONE, PLACED OVER A LAYER OF GEOTEXTILE FABRIC IN ORDER TO PROVIDE SEPARATION FROM THE UNDERLYING SOIL AND PREVENT THE STONE FROM BEING GROUND DOWN INTO THE SOIL. THE STABILIZED CONSTRUCTION EXITS MUST BE WIDE ENOUGH TO COVER THE ENTIRE WIDTH OF THE EXIT AND FLARED WHERE IT MEETS THE ROADWAY TO ACCOMMODATE LONGER CONSTRUCTION VEHICLES. THE STABILIZED CONSTRUCTION EXIT MUST BE LONG ENOUGH TO ALLOW MUD AND SEDIMENT TO BECOME DISLODGED FROM VEHICLE TIRES, AND/OR A MINIMUM OF SIXTY FEET (60') IN LENGTH.

MAINTENANCE: DURING THE COURSE OF CONSTRUCTION THE STABILIZED CONSTRUCTION EXIT WILL BECOME FILLED WITH ACCUMULATED SEDIMENT AND/OR THE STONE WILL BECOME COMPACTED. THE CONTRACTOR MUST REPAIR THE EXIT AS NECESSARY BY REMOVING ACCUMULATED SEDIMENT, REPLACING THE STONE OR BACK-BLADING THE STONE TO REFRESH IT. IF TRACKING OF SEDIMENT OCCURS, THE CONTRACTOR MUST REMOVE DEPOSITED SEDIMENT BY COMPLYING WITH THE FOLLOWING REQUIREMENTS:

- WHERE TRACK-OUT OF SEDIMENT OCCURS FROM THE SITE ONTO OFF-SITE STREETS, SIDEWALKS, AND OTHER PAVED AREAS, DEPOSITS MUST BE SWEPT, SHOVELED, OR VACUUMED TO REMOVE TRACK-OUT MATERIAL OR OTHER SEDIMENT DEPOSITS BY THE END OF THE SAME WORK DAY IN WHICH THE TRACK OUT IS DISCOVERED.
- HOSING OR SWEEPING TRACKED-OUT SEDIMENT INTO ANY STORMWATER CONVEYANCE, (UNLESS IT IS CONNECTED TO A SEDIMENT BASIN, SEDIMENT TRAP, OR SIMILARLY EFFECTIVE CONTROL), STORM DRAIN INLET, OR SURFACE WATER IS PROHIBITED.

STABILIZED CONSTRUCTION ENTRANCE / EXIT
N.T.S.



NOTE:

STOCKPILES MUST BE LOCATED OUTSIDE OF BUFFER AREAS AND PHYSICALLY SEPARATED FROM OTHER STORMWATER CONTROLS.

PRACTICE: CONTROL DISCHARGES FROM SEDIMENT OR SOIL STOCKPILES. FOR ANY STOCKPILED OR LAND CLEARING DEBRIS COMPOSED, IN WHOLE OR IN PART, OF SEDIMENT OR SOIL, THE FOLLOWING MEASURES MUST BE FOLLOWED:

- LOCATE THE PILES OUTSIDE OF ANY NATURAL BUFFERS AND PHYSICALLY SEPARATE FROM OTHER STORMWATER CONTROLS IMPLEMENTED;
- PROTECT FROM CONTACT WITH STORMWATER (INCLUDING RUN-ON) USING A TEMPORARY PERIMETER SEDIMENT BARRIER (SILT FENCE OR FIBER ROLL);
- PROVIDE COVER OR APPROPRIATE TEMPORARY STABILIZATION TO AVOID DIRECT CONTACT WITH PRECIPITATION OR TO MINIMIZE SEDIMENT DISCHARGE;
- DO NOT HOSE DOWN OR SWEEP SOIL OR SEDIMENT ACCUMULATED ON PAVEMENT OR OTHER IMPERVIOUS SURFACES INTO ANY STORMWATER CONVEYANCE (UNLESS CONNECTED TO A SEDIMENT BASIN, SEDIMENT TRAP, OR SIMILARLY EFFECTIVE CONTROL), STORM DRAIN INLET, OR SURFACE WATER; AND
- UNLESS INFEASIBLE, CONTAIN AND SECURELY PROTECT FROM WIND.

SOIL STOCKPILE CONTROL
N.T.S.

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

THE BEST MANAGEMENT PRACTICES PROVIDED HEREIN REPRESENT THE MINIMUM MEASURES TO BE EMPLOYED DURING EACH PHASE OF CONSTRUCTION. SPECIFIC SEQUENCING PLANS WILL BE DEVELOPED FOR EACH PHASE OF CONSTRUCTION AS DESIGN IS ADVANCED.

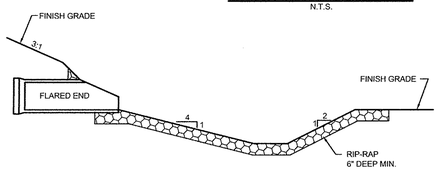
THE CONTRACTOR MUST PERFORM ACTIVITIES IN ACCORDANCE WITH THE REQUIREMENTS OF THE EPA 2012 GENERAL PERMIT FOR DISCHARGES FROM CONSTRUCTION ACTIVITIES AND THE ORDER OF CONDITIONS ISSUED BY THE WCC.

PER THE EPA CONSTRUCTION GENERAL PERMIT, SINCE THE PROJECT WILL DISCHARGE TO A SURFACE WATER THAT IS IMPAIRED FOR SEDIMENT (TURBIDITY), THE CONTRACTOR MUST PERFORM INSPECTIONS AND PREPARE INSPECTION REPORTS EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE OCCURRENCE OF A STORM EVENT OF 0.25 INCHES OR GREATER.

THESE EROSION AND SEDIMENTATION PLANS WILL BE INCORPORATED INTO THE FINAL PROJECT STORMWATER POLLUTION PREVENTION PLAN.

NO EARTH DISTURBING ACTIVITIES SHALL BE PERFORMED UNTIL THE COMPLETION OF INSTALLATION OF PERIMETER SEDIMENT CONTROL MEASURES.

TEMPORARY STABILIZATION PRACTICES MUST BE INITIATED AS SOON AS PRACTICABLE ON PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. THE 7 DAY PERIOD REFLECTS THE EPA CONSTRUCTION GENERAL PERMIT REQUIREMENTS FOR DISCHARGES TO A SEDIMENT IMPAIRED (TURBIDITY) SURFACE WATER.

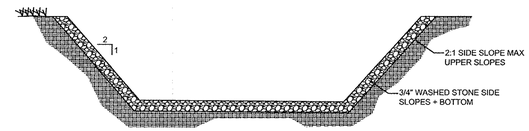


PRACTICE: OUTLET STABILIZATION AND VELOCITY DISSIPATION. OUTLET STABILIZATION AND VELOCITY DISSIPATION MEASURES WILL BE INSTALLED AT THE OUTLETS OF DRAINAGE CHANNELS, CONVEYANCES, SWALES, OR DIVERSIONS, AND BASIN OUTLETS, WHERE THE VELOCITY OF THE DISCHARGE MAY RESULT IN EROSION AT THE OUTLET OR RECEIVING CHANNEL OR DEVELOPMENT OF A PLUNGE POOL. OUTLET STABILIZATION/VELOCITY DISSIPATION MEASURES WILL INCLUDE THE PLACEMENT OF RIPRAP OR CONSTRUCTION OF A CONCRETE DISSIPATION STRUCTURE AT THE DISCHARGE LOCATION.

INSTALLATION REQUIREMENTS: DURABLE ANGULAR ROCK SHALL BE UNDERLAIN FILTER FABRIC AND ALIGNED WITH THE RECEIVING WATER OR BASIN.

MAINTENANCE REQUIREMENTS: INSPECT THE APRON FOR DISPLACEMENT OF RIPRAP AND ANY DAMAGE TO UNDERLYING FABRIC. REPAIR FABRIC AND REPLACE RIP RAP THAT HAS WASHED AWAY. IF RIPRAP CONTINUES TO WASH AWAY, REPLACE WITH LARGER DIAMETER ROCK. INSPECT FOR SCOUR BENEATH THE RIP RAP AND AROUND THE OUTLET AND REPAIR DAMAGE TO SLOPE.

OUTLET STABILIZATION
N.T.S.



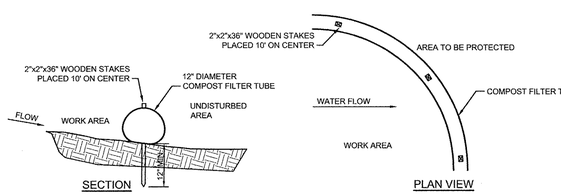
NOTES:

CONTRACTOR TO DEWATER THE SEDIMENT TRAP WITHIN 72 HOURS. PUMP INTAKE SHALL BE LOCATED AS CLOSE TO THE TOP OF THE WATER COLUMN AND WATER SHALL NOT BE DRAWN FROM THE BOTTOM OF THE TRAP. DEWATERING FLUIDS MUST BE ROUTED THROUGH A FILTER BAG PRIOR TO DISCHARGE.

STONE SECTION

PRACTICE: SEDIMENT TRAP AND LINEAR SEDIMENT TRENCH: A SEDIMENT TRAP AND LINEAR SEDIMENT TRENCH, CONSISTS OF A SHALLOW LINEAR DEPRESSION OR EXCAVATION LINED WITH STONE WHERE RUNOFF IS DIRECTED AND ALLOWED TO INFILTRATE THE GROUND. THE TRENCH AND TRAP MUST BE CLEARED OF SEDIMENT WHEN IT REACHES A DEPTH OF ¼ THE DESIGN DEPTH. FOR THIS PROJECT, TRAPS AND TRENCHES WILL BE USED THROUGHOUT THE WORK ZONES TO CAPTURE CONSTRUCTION TERM RUNOFF FROM LOCALIZED AREAS.

SEDIMENT TRAP/TRENCH
N.T.S.



NOTES:

1. PREFABRICATED COMPOST TUBE SHALL BE FILTREXX SOXX OR APPROVED EQUAL.
2. MATERIAL FOR SOCKS SHALL CONSIST OF SANITIZED MATURE COMPOST, FREE OF VIABLE WEED SEEDS AND FOREIGN DEBRIS SUCH AS GLASS AND PLASTIC. COMPOST SHALL BE IN SHREDDED OR GRANULAR FORM AND FREE FROM HARD LUMPS. IN ADDITION, NO KILN-DRIED WOOD OR CONSTRUCTION DEBRIS SHALL BE ALLOWED.
3. TUBES SHALL CONSIST OF JUTE MESH OR OTHER APPROVED BIODEGRADABLE MATERIAL.

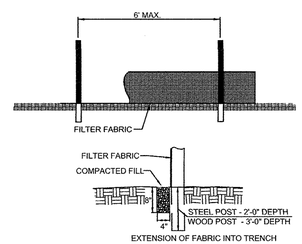
PRACTICE PERIMETER CONTROLS: PERIMETER STORMWATER SEDIMENT CONTROLS FOR THIS PROJECT WILL CONSIST OF A ROW OF SILT FENCE AND/OR FIBER ROLLS WHICH MUST BE INSTALLED PRIOR TO COMMENCING EARTH DISTURBING ACTIVITIES, AT A MINIMUM, THE SEDIMENT CONTROLS MUST BE INSTALLED IN THE LOCATIONS SHOWN ON THE PLAN. CONTROLS MUST BE PLACED ALONG THE CONTOUR IN THE FLATTEST AREA POSSIBLE AT A DISTANCE FROM THE TOE OF SLOPE AND THE ENDS PLACED UP SLOPE FROM THE REST OF THE CONTROL. PERIMETER CONTROL MEASURES MUST BE USED AROUND SOIL STOCKPILES AS A SEDIMENT CONTROL MEASURE.

COMPOST FILTER TUBE: A COMPOST FILTER TUBE IS A TYPE OF CONTAINED COMPOST FILTER BERM CONSISTING OF A MESH TUBE FILLED WITH COMPOSTED MATERIAL THAT IS PLACED PERPENDICULAR TO SHEET-FLOW RUNOFF TO CONTROL EROSION AND RETAIN SEDIMENT IN DISTURBED AREAS. THE COMPOST FILTER TUBE ACTS AS A FILTER TO RETAIN SEDIMENT AND OTHER POLLUTANTS (E.G., SUSPENDED SOLIDS, NUTRIENTS) WHILE ALLOWING THE WATER TO FLOW THROUGH.IT. TUBES ARE ASSEMBLED BY TYING A KNOT IN ONE END OF THE MESH TUBE, FILLING THE TUBE WITH THE COMPOSTED MATERIAL (USUALLY USING A PNEUMATIC BLOWER), THEN KNOTTING THE OTHER END ONCE THE DESIRED LENGTH IS REACHED.

INSTALLATION REQUIREMENTS: NO TRENCHING IS REQUIRED; THEREFORE, SOIL IS NOT DISTURBED UPON INSTALLATION. ONCE THE FILTER TUBE IS FILLED AND PUT IN PLACE, IT SHOULD BE ANCHORED TO THE SLOPE BY STAKES THROUGH THE CENTER OF THE TUBE AT REGULAR INTERVALS; ALTERNATIVELY, STAKES CAN BE PLACED ON THE DOWNSTREAM SIDE OF THE TUBE. THE ENDS OF THE FILTER TUBE SHOULD BE DIRECTED UPSLOPE, TO PREVENT STORMWATER FROM RUNNING AROUND THE END OF THE TUBE.

MAINTENANCE REQUIREMENTS: IF THERE IS EXCESSIVE PONDING BEHIND THE FILTER TUBE OR ACCUMULATED SEDIMENT REACHES THE TOP OF THE TUBE, AN ADDITIONAL TUBE SHOULD BE ADDED ON TOP OR IN FRONT OF THE EXISTING FILTER TUBE IN THESE AREAS. RIPPED OR TORN SECTIONS MUST BE REPLACED.

COMPOST FILTER TUBE
N.T.S.



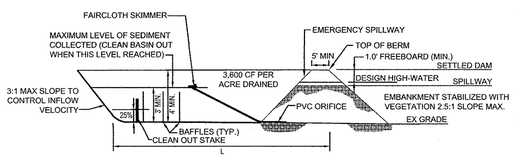
NOTES:
1. FILTER FABRIC SHALL BE A MINIMUM OF 36" IN WIDTH.
2. STEEL POST SHALL BE 5'-0" IN HEIGHT AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.
3. WOOD POST SHALL BE 6'-0" IN HEIGHT AND 3" IN DIAMETER.

PRACTICE: SILT FENCE: SILT FENCE IS A SEDIMENT CONTROL MEASURE CONSISTING OF A LENGTH OF GEOTEXTILE FABRIC STRETCHED BETWEEN ANCHORING POSTS SPACED AT REGULAR INTERVALS. THE FENCE IS USED TO INTERCEPT FLOWS, SLOW SHEET FLOW RUNOFF AND ALLOW PONDING OF FLOW AND SEDIMENT TO SETTLE OUT. THE FILTER FABRIC SHOULD BE ENTRENCHED IN THE GROUND BETWEEN THE SUPPORT POSTS. SILT FENCE WILL BE INSTALLED AS PERIMETER PROTECTION AND WILL ALSO BE USED FOR STOCKPILE CONTROL AND ALONG SLOPE BOUNDARIES THAT WILL RECEIVE STORMWATER FLOW FROM DISTURBED AREAS.

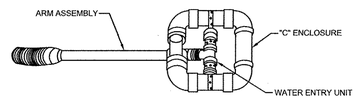
INSTALLATION: THE GEOTEXTILE FABRIC MUST BE ENTRENCHED IN THE GROUND BETWEEN THE SUPPORT POSTS. SILT FENCE IS EFFECTIVE IN TREATING LOW VELOCITY SHEET FLOW AND IS NOT INTENDED FOR USE IN AREAS OF CONCENTRATED OR CHANNELIZED FLOW. THE STAKES USED TO ANCHOR THE FILTER FABRIC SHOULD BE WOOD OR METAL. ERECT SILT FENCE IN A CONTINUOUS FASHION FROM A SINGLE ROLL OF FABRIC TO ELIMINATE GAPS IN THE FENCE. IF A CONTINUOUS ROLL OF FABRIC IS NOT AVAILABLE, OVERLAP THE FABRIC FROM BOTH DIRECTIONS ONLY AT STAKES OR POSTS; OVERLAP AT LEAST 6 INCHES. EXCAVATE A TRENCH TO BURY THE BOTTOM OF THE FABRIC FENCE AT LEAST 6 INCHES BELOW THE GROUND SURFACE TO PREVENT GAPS FROM FORMING AT THE GROUND SURFACE.

MAINTENANCE: SILT FENCE MUST BE INSPECTED FOR RIPS, TEARS, AND GAPS BETWEEN THE FENCE AND THE GROUND. ACCUMULATED SEDIMENT MUST BE REMOVED FROM THE SILT FENCE WHEN IT REACHES ½ OF THE EXPOSED HEIGHT OF THE FABRIC. AN ADEQUATE RESERVE OF SILT FENCE MUST BE KEPT ON SITE AT ALL TIMES FOR EMERGENCY AND/OR ROUTINE REPLACEMENT. IF GAPS OR TEARS ARE DISCOVERED, REPAIR OR REPLACE THE FABRIC IMMEDIATELY. SILT FENCE SHALL BE REMOVED ONLY AFTER EXPOSED SOILS IN THE CONTRIBUTING DRAINAGE AREA ACHIEVE FINAL STABILIZATION.

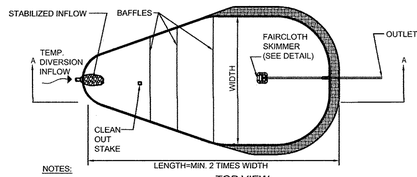
SILT FENCE
N.T.S.



SECTION A-A THROUGH EMBANKMENT



PERSPECTIVE VIEW



TOP VIEW

NOTES:

BAFFLES MAY BE CONSTRUCTED OF:
1. 700g/m^2 COIR EROSION BLANKET
2. COIR MESH
3. DOUBLE TREE PROTECTION MESH OR
4. SILT FENCE W/ WIRE FENCE SLITTING FABRIC IN ALTERNATING SQUARES

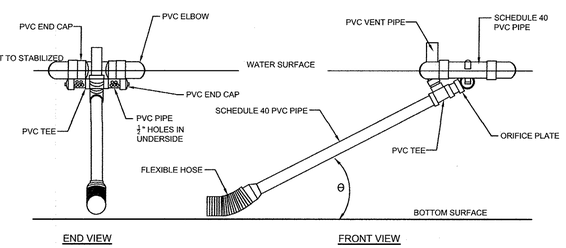
SEDIMENT BASIN WITH SKIMMER OUTLET
N.T.S.

PRACTICE: SEDIMENT BASINS: TEMPORARY SEDIMENT BASINS ARE A SEDIMENT CONTROL PRACTICE WHICH CONSISTS OF AN EXCAVATED OR NATURAL DEPRESSION THAT DETAINS/RETAINS STORM WATER RUNOFF ALLOWING SEDIMENTS TO SETTLE OUT OF SUSPENSION PRIOR TO DISCHARGE VIA SUITABLY STABILIZED OUTLET. EFFECTIVE IMPLEMENTATION OF EROSION CONTROL PRACTICES ON EXPOSED SOILS LOCATED UPSLOPE WITHIN THE CONTRIBUTING DRAINAGE AREA WILL SIGNIFICANTLY REDUCE MAINTENANCE REQUIREMENTS. PER THE EPA CONSTRUCTION GENERAL PERMIT, THE TEMPORARY BASINS SHOWN WERE SIZED BASED ON 3,600 CUBIC FEET PER ACRE DRAINED. IN ADDITION TO THE REQUIRED SEDIMENT BASIN, A SERIES OF SEDIMENT TRAPS AND/OR TRENCHES WILL BE DESIGNED IN SELECT LOCATIONS AT THE SITE WHERE RUNOFF IS EXPECTED TO OCCUR AND ACCUMULATE DURING CONSTRUCTION.

IN ACCORDANCE WITH 2012 EPA CONSTRUCTION GENERAL PERMIT, THE DISCHARGE FROM THE BASIN MUST UTILIZE OUTLET STRUCTURES WHICH DRAW WATER FROM THE SURFACE IN ORDER TO MINIMIZE THE DISCHARGE OF POLLUTANTS. FOR THIS PROJECT, A FLOATING SKIMMER WILL BE USED AND SPECIFIC INSTALLATION AND MAINTENANCE REQUIREMENTS FOR THE SKIMMER WHICH CAN BE FOUND ON THE MANUFACTURER'S WEB SITE WWW.FAIRCLOTHSKIMMER.COM.

INSTALLATION REQUIREMENTS: CONSTRUCTION OF THE BASINS AND TRAPS MUST OCCUR BEFORE EARTH DISTURBANCE ACTIVITIES COMMENCE. THE SIDE SLOPES AND BOTTOMS OF THE TEMPORARY BASIN AND/OR TRAP MUST BE APPROPRIATELY STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

MAINTENANCE REQUIREMENTS: REMOVE ACCUMULATED SEDIMENT BEFORE IT REACHES ½ OF THE CAPACITY OF THE SEDIMENT BASIN IN ORDER TO MAXIMIZE SEDIMENT SETTLING POTENTIAL AND MINIMIZE THE POSSIBILITY OF SEDIMENT WASHOUT DURING HIGH INTENSITY/LONG DURATION STORM EVENTS. INSPECT BASINS AFTER EACH STORM EVENT TO ENSURE PROPER DRAINAGE AND DETERMINE THE NEED FOR REPAIRS. REPLACE MATERIAL ERODED FROM EARTHEN EMBANKMENTS OR STONES DISLODGED FROM STONE CHECK DAMS IMMEDIATELY.



SURFACE SKIMMER DETAIL
(FAIRCLOTH SKIMMER OR APPROVED EQUAL)
N.T.S.

TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
No. 46008
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REV/SED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive
Detail Sheet

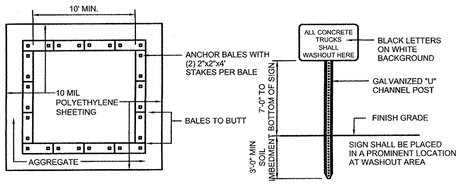
Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C

C-501

Copyright: Tetra Tech

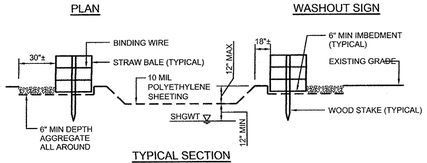
Bar Measures 1 inch

5/2/2019 3:20:40 PM - P:\3659\143-3659-16003\CAD\SHEETFILES\UPPER CAMPUS\C-500 DETAIL SHEETS.DWG - CHEAL, NATE



PLAN

WASHOUT SIGN



TYPICAL SECTION

NOTES:

1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
4. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.

PRACTICE CONCRETE WASHOUT AREAS: CONCRETE WASHOUT AREAS CONSIST OF A PREFABRICATED OR SITE-BUILT IMPERMEABLE CONTAINMENT AREA SIZED TO HOLD CONCRETE WASTES AND WASH WATER. CONCRETE WASHOUTS WILL BE USED TO CONTAIN CONCRETE AND LIQUIDS WHEN THE CHUTES OF CONCRETE MIXERS AND HOPPERS OF CONCRETE PUMPS ARE RINSED OUT AFTER DELIVERY. THE WASHOUT FACILITIES CONSOLIDATE SOLIDS FOR EASIER DISPOSAL AND PREVENT RUNOFF OF LIQUIDS.

INSTALLATION REQUIREMENTS: THE CONCRETE WASHOUT AREA MUST BE CONSTRUCTED PRIOR TO PLACEMENT OF CONCRETE ON-SITE. THE CONCRETE WASHOUT AREA MUST BE LOCATED IN AN AREA WHERE ITS LIKELIHOOD OF CONTRIBUTING TO STORM WATER DISCHARGES IS NEGLIGIBLE. WASHOUTS SHALL BE LOCATED A MINIMUM OF FIFTY FEET (50') FROM ANY STORM DRAIN INLETS, STORM WATER CONVEYANCE, SURFACE WATER OR WETLAND. THESE SPECIALLY DESIGNATED AREAS SHOULD BE PROPERLY SIGNED AND ONSITE PERSONNEL MUST INFORM THE CONCRETE VENDORS OF THE LOCATION.

MAINTENANCE REQUIREMENTS: THE HARDENED RESIDUE FROM THE CONCRETE WASHOUT AREA WILL BE DISPOSED OF IN THE SAME MANNER AS OTHER NON-HAZARDOUS CONSTRUCTION WASTE MATERIALS OR MAY BE BROKEN UP AND USED ONSITE AS APPROPRIATE. IT IS ALSO ACCEPTABLE FOR WASTE CONCRETE TO BE POURED INTO FORMS TO MAKE RIPRAP OR OTHER USEFUL CONCRETE PRODUCTS. CHECK ALL CONCRETE WASHOUT FACILITIES DAILY TO DETERMINE IF THEY HAVE BEEN FILLED TO /5 PERCENT CAPACITY, WHICH IS WHEN MATERIALS MUST BE REMOVED. BOTH ABOVE- AND BELOW- GROUND SELF-INSTALLED WASHOUTS SHOULD BE INSPECTED DAILY TO ENSURE THAT PLASTIC LININGS ARE INTACT AND SIDEWALLS HAVE NOT BEEN DAMAGED BY CONSTRUCTION ACTIVITIES.

MATERIAL REMOVAL: CONCRETE WASHOUTS ARE DESIGNED TO PROMOTE EVAPORATION WHERE FEASIBLE. HOWEVER, IF STORED LIQUIDS HAVE NOT EVAPORATED AND THE WASHOUT IS NEARING CAPACITY, VACUUM AND DISPOSE OF THEM IN AN APPROVED MANNER - CHECK WITH THE LOCAL SANITARY SEWER AUTHORITY TO DETERMINE IF THERE ARE SPECIAL DISPOSAL REQUIREMENTS FOR CONCRETE WASH WATER. REMOVE LIQUIDS OR COVER THE STRUCTURES BEFORE PREDICTED RAINSTORMS TO PREVENT OVERFLOWS. PREFABRICATED AND WATERTIGHT WASHOUT CONTAINER PROVIDERS GENERALLY OFFER A VACUUM SERVICE TO REMOVE THE LIQUID MATERIAL.

CONCRETE WASHOUT AREA

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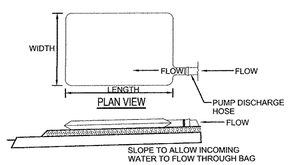

PROFILE VIEW

NOTES:

1. THE PRIMARY PURPOSE OF THE FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS WHILE ALLOWING WATER TO PASS THROUGH THE BAG.
2. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION EFFICIENCY.
3. THE NECK OF THE FILTER BAG SHALL BE STRAPPED TIGHTLY TO THE DISCHARGE HOSE.
4. A FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A REASONABLE RATE.

PRACTICE DEWATERING: DISCHARGING GROUNDWATER OR ACCUMULATED STORMWATER THAT IS REMOVED FROM EXCAVATIONS, TRENCHES, FOUNDATIONS, VAULTS, OR OTHER POINTS OF ACCUMULATION ASSOCIATED WITH A CONSTRUCTION ACTIVITY ARE PROHIBITED, UNLESS SUCH WATERS ARE FIRST TREATED BY AN APPROPRIATE CONTROL FOR SEDIMENT. UNCONTAMINATED, NON-TURBID DEWATERING WATER, MAY BE DISCHARGED WITHOUT BEING ROUTED TO A CONTROL. APPROPRIATE CONTROLS INCLUDE, BUT ARE NOT LIMITED TO, SEDIMENT BASINS OR TRAPS, DEWATERING TANKS, WEIR TANKS, OR FILTRATION SYSTEMS (E.G., BAG OR SAND FILTERS) THAT ARE DESIGNED TO REMOVE SEDIMENT. THE FOLLOWING DISCHARGE REQUIREMENTS FOR DEWATERING ACTIVITIES MUST BE MET:

- DISCHARGE MUST BE LOCATED OUTSIDE OF WETLANDS;
- IF A WELL VEGETATED AREA IS NOT AVAILABLE, OR IF THE DISCHARGE WILL BE WITHIN 100 FEET OF A WETLAND OR STREAM BANK, THE FILTER BAG SHALL BE LOCATED IN A CONTAINMENT STRUCTURE, SUCH AS HAY BALES;
- DO NOT DISCHARGE FLOATING SOLIDS OR VISIBLE FOAM;
- USE AN OIL-WATER SEPARATOR OR SUITABLE FILTRATION DEVICE (SUCH AS A CARTRIDGE FILTER) THAT IS DESIGNED TO REMOVE OIL, GREASE, OR OTHER PRODUCTS IF DEWATERING WATER IS FOUND TO CONTAIN THESE MATERIALS;
- TO THE EXTENT FEASIBLE, UTILIZE VEGETATED, UPLAND AREAS OF THE SITE TO INFILTRATE DEWATERING WATER BEFORE DISCHARGE. IN NO CASE WILL SURFACE WATERS BE CONSIDERED PART OF THE TREATMENT AREA;
- AT ALL POINTS WHERE DEWATERING IS DISCHARGED, COMPLY WITH VELOCITY DISSIPATION REQUIREMENTS OF EPA CONSTRUCTION GENERAL PERMIT;
- WITH BACKWASH WATER, EITHER HAUL IT AWAY FOR DISPOSAL OR RETURN IT TO THE BEGINNING OF THE TREATMENT PROCESS; AND
- REPLACE AND CLEAN THE FILTER MEDIA USED IN DEWATERING DEVICES WHEN THE PRESSURE DIFFERENTIAL EQUALS OR EXCEEDS THE MANUFACTURER'S SPECIFICATIONS.

DEWATERING FILTER BAG DETAIL

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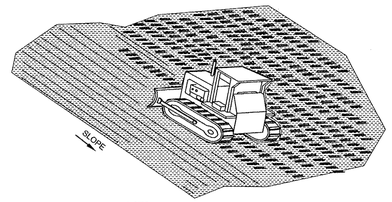

NOTE:

USE DOZER TRACKS TO CREATE GROOVES PERPENDICULAR TO THE SLOPE. GROOVES WILL CATCH SEED, FERTILIZER, MULCH, RAINFALL AND DECREASE SEDIMENT IN RUNOFF.

TRACKING DETAIL

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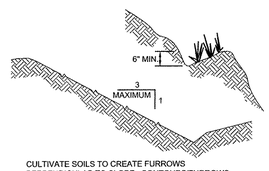


CULTIVATE SOILS TO CREATE FURROWS PERPENDICULAR TO SLOPE. CONTOURS/FURROWS WILL CATCH SEED, FERTILIZER, MULCH, RAINFALL AND DECREASE RUNOFF.

SURFACE ROUGHENING

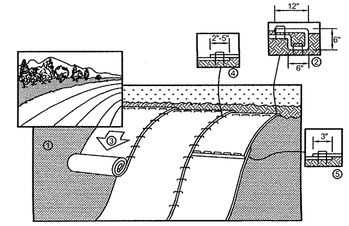
N.T.S.

SEEDING RATES LBS/1000 S.F. & LBS/ACRES			
SPECIES	LBS/1000 SQUARE FOOT	LBS/ACRES	RECOMMENDED SEEDING DATES
ANNUAL RYEGRASS	1	40	APRIL 1 TO JUNE 1 AUG. 1 TO SEPT. 15
FOXTAIL MILLET	0.7	30	MAY 1 TO JUNE 30
OATS	2	80	APRIL 1 TO JULY 1 AUG. 15 TO SEPT. 15
WINTER RYE	3	120	AUG. 15 TO OCT. 15

MULCHING: MULCHING IS AN EROSION CONTROL PRACTICE THAT INVOLVES USING MATERIALS SUCH AS HAY, STRAW, WOOD CHIPS/FIBERS, ETC. TO PROTECT EXPOSED SOILS. MULCH MUST BE APPLIED AT THE APPROPRIATE RATE AND PROPERLY ANCHORED (USING NETTING, TACKIFIERS OR AN ANCHORING TOOL). MULCHING IS HIGHLY EFFECTIVE, AND WHEN INSTALLED CORRECTLY PROVIDES A LEVEL OF PROTECTION COMPARABLE TO DENSE VEGETATIVE COVER. THE HAY OR STRAW MULCH SHALL BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS. APPLICATION RATE MUST BE 2 BALES (70-90 LBS) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS PER ACRE. NO BARE SPOTS SHOWING AND SHALL ONLY BE APPLIED TO SLOPES 3:1 OR FLATTER. ANCHORING METHODS INCLUDING NETTING WITH JUTE, WOOD FIBER OR PLASTIC; OR APPLY MULCH AND TRACK SURFACE UP AND DOWN THE SLOPE SO CLEAT MARKS ARE PARALLEL TO THE CONTOURS. FOR OVERWINTER APPLICATION, THE RATE SHALL BE 150 LBS PER 1,000 SQUARE FEET OR 3 TONS/ACRE. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW; SNOW MUST BE REMOVED DOWN TO A ONE-INCH DEPTH OR LESS PRIOR TO APPLICATION.

TEMPORARY SEEDING: TEMPORARY SEEDING IS AN EROSION CONTROL PRACTICE THAT CONSISTS OF USING SELECT VARIETIES OF GRASSES TO ESTABLISH VEGETATIVE COVER. TEMPORARY SEEDING UTILIZES ANNUAL SPECIES THAT ESTABLISH QUICKLY, ARE NOT PERSISTENT OR INVASIVE, BUT PROVIDE LONG TERM TEMPORARY COVER. TEMPORARY SEEDING CAN BE USED ON DISTURBED AREAS REQUIRING TEMPORARY PROTECTION UNTIL PERMANENT VEGETATION IS ESTABLISHED OR ON AREAS WHICH MAY BE RE-DISTURBED FOLLOWING A PERIOD OF INACTIVITY (7 DAYS OR MORE). TEMPORARY SEEDING RATES AND SPECIFICATIONS ARE PROVIDED BELOW.

SEEDING FOR TEMPORARY COVER



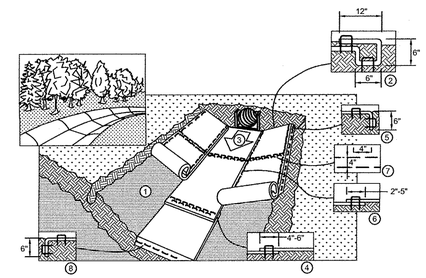
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACK FILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO PREPARED SOIL AND FOLD REMAINING 12" PORTION OF THE BLANKET BACK OVER SEED AND SOIL. SECURE BLANKET OVER SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS DOWN ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH THE APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN
4. GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
5. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
6. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
7. EROSION CONTROL BLANKETS SHALL BE INSTALLED FOLLOWING MANUFACTURERS SPECIFICATIONS.

NOTE:

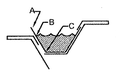
IN LOOSE SOIL CONDITIONS THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS

EROSION CONTROL BLANKET DETAIL FOR SLOPE INSTALLATION

N.T.S.



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL THE TRENCH AFTER STAPLING. APPLY SEED TO SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND SOIL. SECURE BLANKET OVER SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" ACROSS THE WIDTH OF THE BLANKET.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"-5" (DEPENDING ON BLANKET SIZE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30' TO 40' INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



CRITICAL POINTS
A) OVERLAPS AND SEAMS
B) PROJECTED WATER LINE
C) CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTES:

* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

TEMPORARY STABILIZATION: TEMPORARY STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE ON PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. THE FOLLOWING TEMPORARY STABILIZATION PRACTICES MAY BE USED FOR THIS PROJECT:

EROSION CONTROL BLANKETS: EROSION CONTROL BLANKETS CONSIST OF NATURAL OR SYNTHETIC GEOTEXTILE FABRIC FORMED INTO LONG SHEETS OR MATS THAT ARE ROLLED OUT OVER EXPOSED SOILS AND FASTENED WITH STAKES, PEGS OR STAPLES. THEY ARE USED IN AREAS WHERE HIGH RUNOFF VELOCITY MAKES TRADITIONAL MULCHING INEFFECTIVE. BLANKETS ARE HIGHLY EFFECTIVE AT STABILIZING STEEP SLOPES (3:1 OR STEEPER).

SOIL ROUGHENING: SOIL ROUGHENING IS A PRACTICE THAT INVOLVES CREATING GROOVES OR IMPRESSIONS IN EXPOSED SOIL SURFACES WITH TRACKED CONSTRUCTION EQUIPMENT (BULLDOZER, EXCAVATOR, ETC.). SLOPES THAT ARE NOT FINE GRADED OR SMOOTHED, BUT LEFT IN A ROUGHENED CONDITION REDUCE EROSION BY DECREASING SLOPE LENGTH AND RUNOFF VELOCITY, INCREASING INFILTRATION, TRAPPING SEDIMENT, AND ALLOWING SEED TO TAKE HOLD AND GROW. IMPRESSIONS MUST BE MADE PERPENDICULAR TO THE SLOPE CONTOURS (NEVER PARALLEL TO THE CONTOUR); IMPROPER USE OF THIS TECHNIQUE CAN ACTUALLY ACCELERATE EROSION.

EROSION CONTROL BLANKET DETAIL FOR CHANNEL INSTALLATION

N.T.S.

TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
NO. 48363
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive
Detail Sheet

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C

C-502

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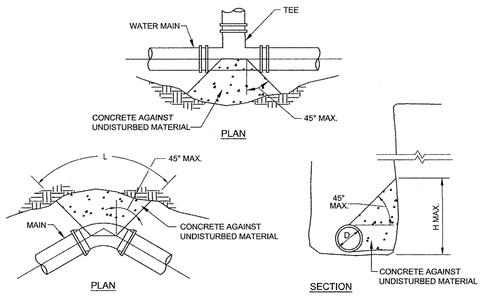
Bar Measures 1 inch

5/2/2019 3:21:55 PM - P:\3659\143-3659-16003\CAD\SHEETFILES\UPPER CAMPUS\C-500 DETAIL SHEETS.DWG - CHEAL, NATE

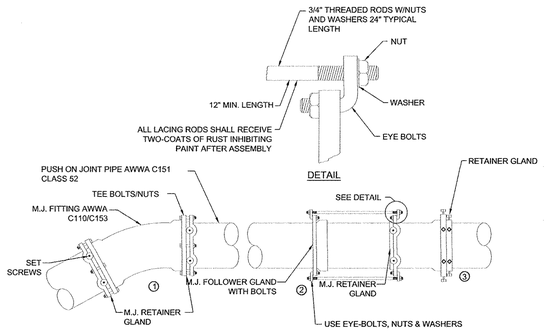


NOTES:
1. ALL ELBOWS, BENDS, AND CAPS SHALL BE BRACED WITH CONCRETE THRUST BLOCKS. JOINTS SHALL NOT BE ENCASED IN CONCRETE.
2. BEARING AREA IS AREA OF CONCRETE IN CONTACT WITH WALL OF TRENCH (H X L).
3. HEIGHT AND LENGTH AS REQUIRED TO OBTAIN BEARING AREA SHOWN IN THE TABLE WITH H APPROX. 1/2 L.
4. THRUST BLOCK SIZING BASED ON 150 PSI PRESSURE AND 2000 PSI SOIL BEARING CAPACITY.
5. THRUST BLOCKS SHALL BE USED ONLY IN LOCATIONS WHERE JOINT RESTRAINT METHODS ARE NOT FEASIBLE.

BEARING AREA FOR VARIOUS DIAMETERS

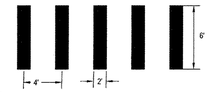
FITTING	2"	4"	6"	8"	10"	12"	16"
1/32 BEND (11 1/4")	2 S.F.	2 S.F.	2 S.F.	2 S.F.	2 S.F.	3 S.F.	5 S.F.
1/16 BEND (22 1/2")	2 S.F.	2 S.F.	2 S.F.	3 S.F.	3 S.F.	4 S.F.	5 S.F.
1/8 BEND (45")	2 S.F.	2 S.F.	2 S.F.	3 S.F.	5 S.F.	7 S.F.	12 S.F.
1/4 BEND (90")	3 S.F.	3 S.F.	3 S.F.	6 S.F.	9 S.F.	12 S.F.	21 S.F.
TEE/PLUG	2 S.F.	2 S.F.	3 S.F.	4 S.F.	6 S.F.	9 S.F.	16 S.F.

WATER MAIN THRUST BLOCK DETAIL
N.T.S.



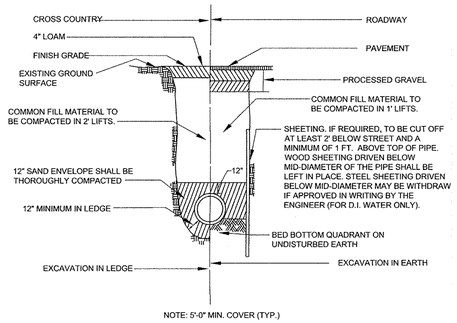
NOTES:
1. ALL JOINTS TO BE MECHANICAL RESTRAINT MEGALUG OR APPROVED EQUAL.
2. RESTRAINING GASKETS SHALL BE USED ON PUSH-JOINT PIPE.

TYPICAL RESTRAINED JOINTS DETAIL
N.T.S.



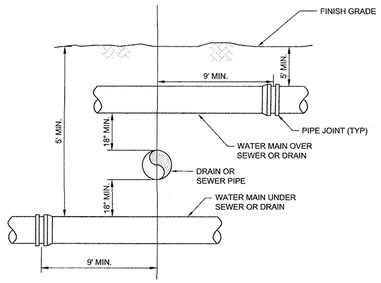
NOTE:
ALL STRIPING SHALL BE 12" PAINTED WHITE LINE.

CROSSWALK STRIPING DETAIL
N.T.S.

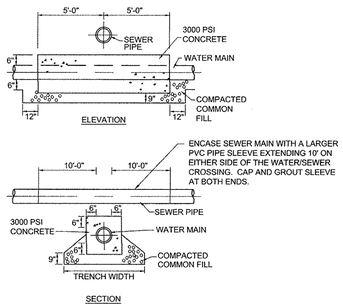


NOTE: 5'-0" MIN. COVER (TYP.)

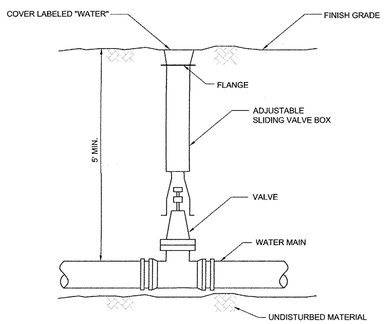
DUCTILE IRON PIPE WATER MAIN TRENCH DETAIL
N.T.S.



SEWER OR DRAIN CROSSING DETAIL
N.T.S.
(DWWD STANDARD DETAIL)



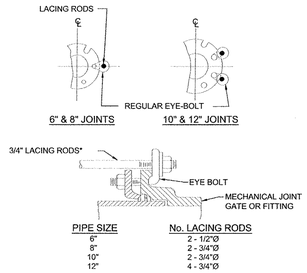
CONCRETE ENCASEMENT DETAIL
N.T.S.



NOTE:
1. ALL GATE VALVES ON MAINLINE PIPE SHALL BE LOCATED A CONSISTENT DISTANCE OF THREE FEET FROM THE TEE, EXCEPT WHERE VALVES WOULD ALIGN UNDER OTHER PIPELINES.

BURIED GATE VALVE
N.T.S.
(DWWD STANDARD DETAIL)

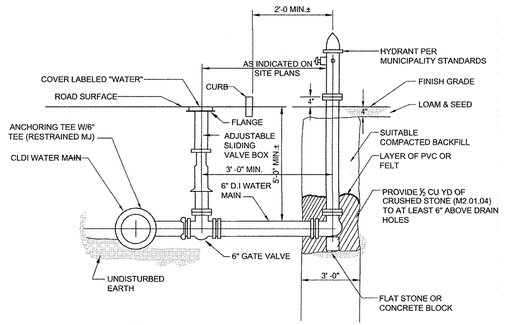
THRUST RESTRAINT - LACING METHOD



* STANDARD LENGTHS ARE 6' & 10'. COUPLINGS MAY BE USED FOR LONGER LENGTHS.

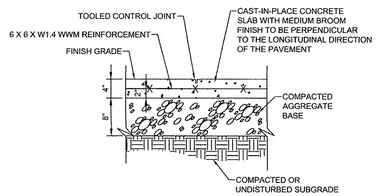
NOTES:
1. TIE RODS MAY ONLY BE USED FOR 6-INCH, 8-INCH OR 12-INCH PIPE WHERE USE OF A JOINT RESTRAINT SYSTEM IS NOT FEASIBLE.
2. EYE-BOLTS AND LACING RODS ARE TO BE FABRICATED FROM A-36 STEEL.
3. STEEL LACING RODS SHALL HAVE A YIELD STRESS OF NOT LESS THAN 36,000 P.S.I.
4. EYE-BOLTS SHALL HAVE A MINIMUM TENSILE STRENGTH OF 7,000 LBS. EACH.

MECHANICAL JOINT LACING DETAIL
N.T.S.



NOTE:
1. ALL JOINTS TO BE MECHANICAL RESTRAINT MEGALUG OR APPROVED EQUAL.
2. VALVES SHALL BE LOCATED AT THE TEE.
3. ANCHOR TEES SHALL BE USED EXCEPT IN EXTENUATING CIRCUMSTANCES.

HYDRANT AND VALVE DETAIL
N.T.S.
(DWWD STANDARD DETAIL)



PEDESTRIAN CONCRETE PAVEMENT
N.T.S.

TABLE 1 - REQUIRED LENGTH OF RESTRAINED JOINTS FROM FITTINGS (FEET)

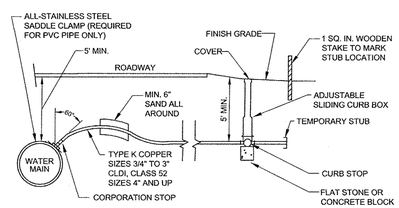
PIPE SIZE	90° BEND	45° BEND OR WYE BRANCH	22 1/2° BEND	11 1/4° BEND	PLUG OR CAP	TEE (BRANCH)
6"	25 (30.5)	10.5 (12.5)	5 (6)	2.5 (3)	43 (64)	34 (51)
8"	33 (40)	13.5 (16.5)	6.5 (8)	3 (4)	55 (82)	47 (70)
10"	40 (48.5)	16.5 (20)	8 (9.5)	4 (5)	67 (100)	58 (87)
12"	47 (56.5)	19.5 (23.5)	9.5 (11.5)	4.5 (5.5)	79 (118)	70 (105)
16"	59.5 (72)	24.5 (30)	12 (14.5)	6 (7)	101 (152)	92 (139)
20"	72 (86.5)	30 (36)	14.5 (17)	7 (8.5)	123 (184)	114 (171)
24"	84 (100)	35 (41)	16.5 (20)	8 (10)	144 (216)	134 (202)
30"	100 (120)	41 (50)	20 (24)	10 (12)	174 (261)	165 (247)

NOTE:
1. RESTRAINED LENGTHS LISTED IN PARENTHESES ARE FOR PIPE WRAPPED IN POLYETHYLENE. THE OTHER ASSOCIATED LENGTHS ARE FOR PLAIN UNWRAPPED DUCTILE IRON PIPE.
2. THE CONTRACTOR SHALL USE THIS TABLE IN CONJUNCTION WITH THE APPROPRIATE PIPE SPECIFICATION SECTION.
3. TABLE BASED ON 150 PSI TEST PRESSURE.
4. INDICATES THE REQUIRED RESTRAINED JOINT LENGTH (FT) IN EACH DIRECTION.

TABLE 2 - REQUIRED LENGTH OF RESTRAINED JOINTS FROM FITTINGS (FEET)

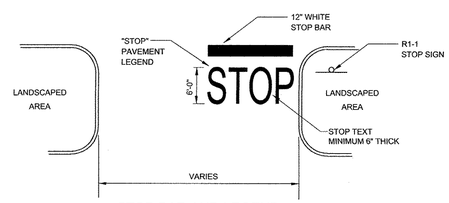
PIPE SIZE	90° BEND	45° BEND OR WYE BRANCH	22 1/2° BEND	11 1/4° BEND	PLUG OR CAP	TEE (BRANCH)
6"	40	16.8	8	4	68.8	54.4
8"	52.8	21.6	10.4	4.8	88	75.2
10"	64	26.4	12.8	6.4	107.2	92.8
12"	75.2	31.2	15.2	7.2	126.4	112

NOTE:
1. RESTRAINED LENGTHS LISTED ARE FOR PLAIN UNWRAPPED DUCTILE IRON PIPE.
2. THE CONTRACTOR SHALL USE THIS TABLE IN CONJUNCTION WITH THE APPROPRIATE PIPE SPECIFICATION SECTION.
3. TABLE BASED ON 240 PSI TEST PRESSURE.
4. INDICATES THE REQUIRED RESTRAINED JOINT LENGTH (FT) IN EACH DIRECTION.



NOTE:
TUBING, CORPORATION COCK & CURB STOP SHALL BE AS REQUIRED.

WATER SERVICE DETAIL
N.T.S.
(DWWD STANDARD DETAIL)



STOP BAR AND LEGEND
N.T.S.

TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
NO. 46652
Civil
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA
University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive
Detail Sheet

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C

C-503

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Bar Measures 1 inch

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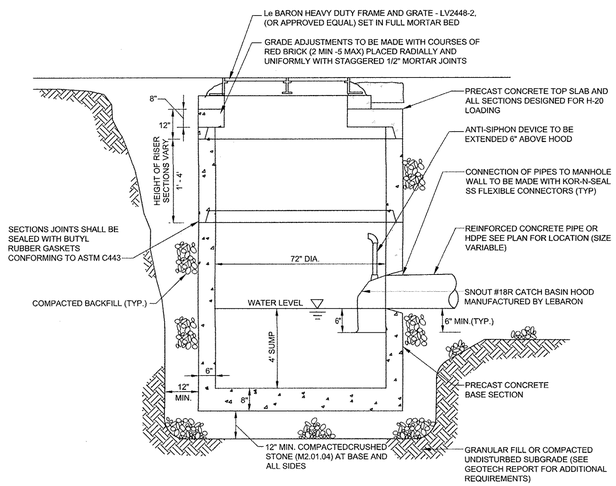
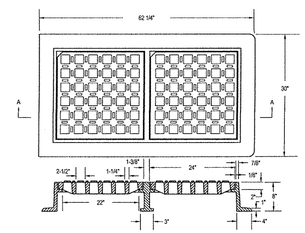


NOTES:
1. CATCH BASIN SHALL BE PRECAST CEMENT CONCRETE MANUFACTURED IN ACCORDANCE WITH ASTM C-478 DESIGNED FOR H-20 LOADING.
2. DRAIN PIPE FOR LATERAL CONNECTIONS SHALL BE INSTALLED AND TEMPORARILY PLUGGED AS REQUIRED OR DIRECTED.
3. SEE GENERAL PLANS FOR PIPE SIZE, LINE AND GRADE.
4. INSTALL FRAME & GRATE WITH 24" SIDE ALONG CURB INLET.

PRECAST CONCRETE 72" DIAMETER DOUBLE CATCH BASIN DETAIL (DCB)

N.T.S.



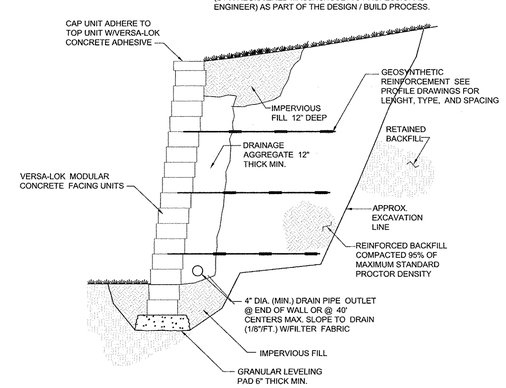
SECTION A-A

NOTE: FRAME AND GRATE SHALL BE HEAVY DUTY CLASS 30 GRAY IRON.

DOUBLE CATCH BASIN FRAME AND GRATE

N.T.S.

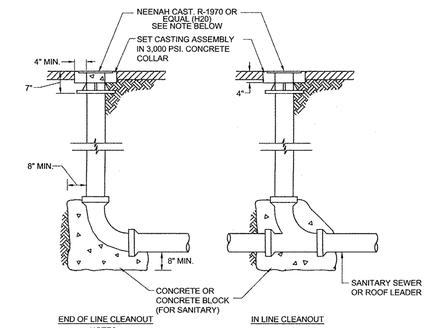
NOTE:
ACTUAL RETAINING WALL AND RETAINING WALL DESIGN PROVIDED BY OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE RETAINING WALL DESIGN (BY A REGISTERED MASSACHUSETTS PROFESSIONAL ENGINEER) AS PART OF THE DESIGN / BUILD PROCESS.



MODULAR BLOCK UNIT

TYPICAL SECTION-REINFORCED RETAINING WALL

N.T.S.

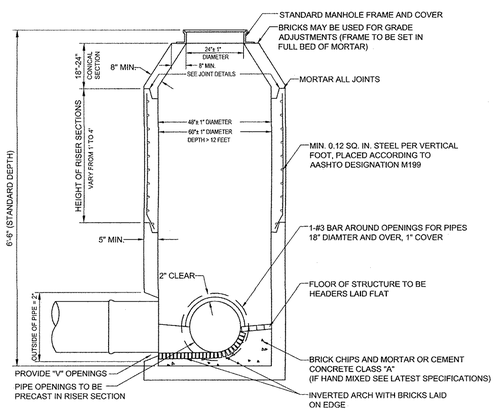


END OF LINE CLEANOUT — IN LINE CLEANOUT

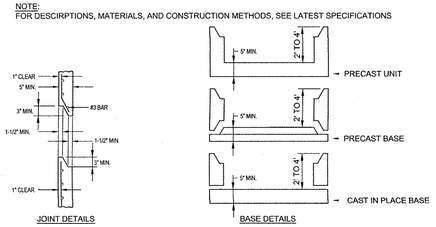
NOTES:
1. CLEANOUT TOP SHALL BE ENCLOSED IN CASTING AND/OR FABRICATED COVER ASSEMBLY.
2. IN NON-PAVED AREAS, THE PVC PLUG OF THE CLEANOUT SHALL BE COVERED BY A SEWER CLEANOUT RING AND COVER AS MADE BY LABARON FOUNDRY (LA 0910)

CLEANOUTS

N.T.S.



NOTE:
FOR DESCIRPTIONS, MATERIALS, AND CONSTRUCTION METHODS, SEE LATEST SPECIFICATIONS

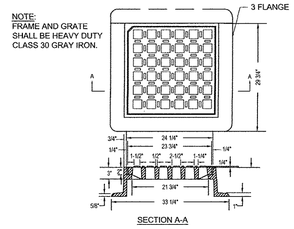


PRECAST CONCRETE DRAIN MANHOLE

(TOWN OF WESTWOOD STANDARD DETAIL #202.4.0)

N.T.S.

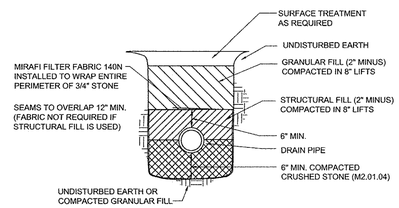
NOTE:
FRAME AND GRATE SHALL BE HEAVY DUTY CLASS 30 GRAY IRON.



SECTION A-A

CATCH BASIN FRAME AND GRATE DETAIL

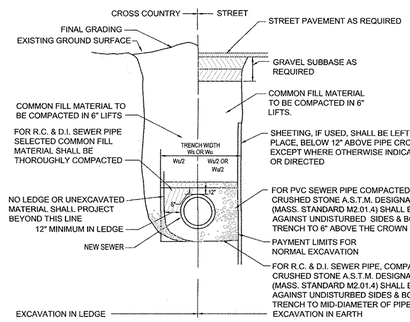
N.T.S.



NOTES:
1. IN CASES WHERE 3/4" STONE IS USED FILTER FABRIC MUST BE INSTALLED AROUND ENTIRE PERIMETER OF STONE MATERIAL.

DRAIN PIPE BEDDING DETAIL

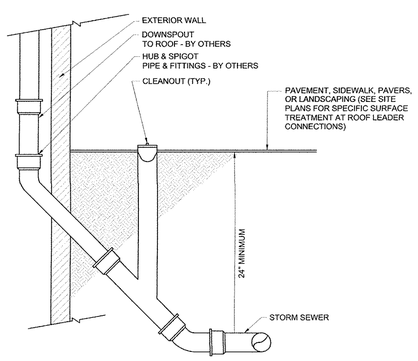
N.T.S.



NOTE:
ALL NON-STRUCTURAL FILL TO BE COMPACTED TO 95% OF MAXIMUM DENSITY AS PER ASTM D1557

SEWER TRENCH SECTION DETAIL

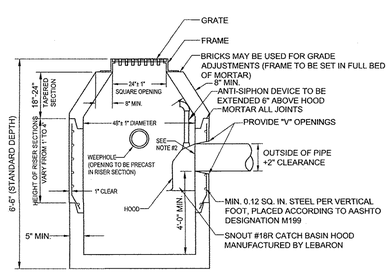
N.T.S.



NOTES:
1. SEE BUILDING PLANS FOR SPECIFIC ROOF LEADER CONNECTIONS

ROOF LEADER CONNECTION

N.T.S.



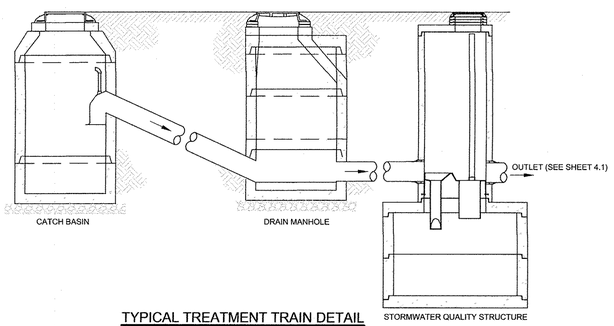
STRUCTURE BASE TO BE SOLID AND BASE AND SIDE TO BE WATERTIGHT

NOTES:
1. DETAILS NOT INDICATED ABOVE ARE TO BE SIMILAR TO THOSE SHOWN IN DETAIL NUMBER 201.3.0.
2. TFACE OF PIPE FLUSH OR NOT TO PROJECT MORE THAN 4" FROM FACE OF WALL ALONG CENTERLINE OF PIPE.
3. FOR DESCRIPTION, MATERIALS, AND CONSTRUCTION METHODS, SEE SPECIFICATIONS.
** WHEN A CURB INLET IS INSTALLED, THE OPENING IS TO BE 24"±1" X 27"±1"

PRECAST CONCRETE CATCH BASIN DETAIL

(TOWN OF WESTWOOD STANDARD DETAIL #201.4.0)

N.T.S.



TYPICAL TREATMENT TRAIN DETAIL

N.T.S.

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Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS — NATHAN H. CHEAL — NO. 46058 — REGISTERED PROFESSIONAL ENGINEER — 5/1/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA
University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive Detail Sheet

Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C

C-504

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Bar Measures 1 inch

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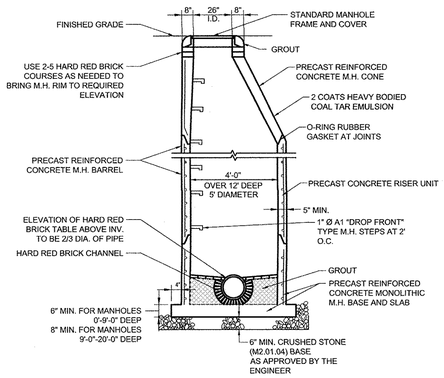
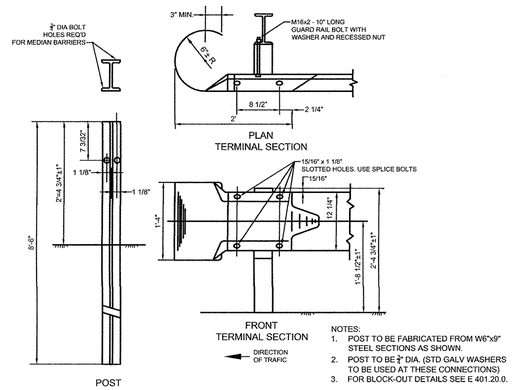


TYPICAL SEWER MANHOLE

(TOWN OF WESTWOOD STANDARD DETAIL #44)

N.T.S.



NOTES:
1. POST TO BE FABRICATED FROM W6"x9" STEEL SECTIONS AS SHOWN.
2. POST TO BE ¾" DIA. (STD GALV WASHERS TO BE USED AT THESE CONNECTIONS)
3. FOR BLOCK-OUT DETAILS SEE E 401.20.0.

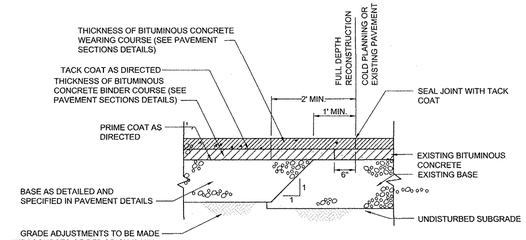
STEEL W BEAM HIGWAY GUARD POST AND TERMINAL SECTION DETAILS

NOT TO SCALE

NOTES:
1. ALL PAVEMENT SECTION DETAILS ARE PER THE GEOTECH REPORT, SEE GEOTECH REPORT FOR MORE INFORMATION.
2. BITUMINOUS CONCRETE TO MEET MHD M3.11.03

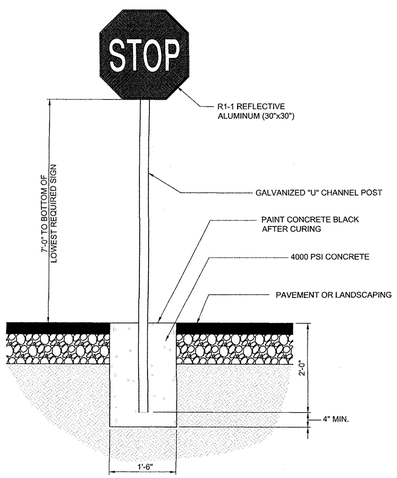
STANDARD DUTY ASPHALT PAVEMENT SECTION

N.T.S.



PAVEMENT MATCHING

N.T.S.



SIGN POST DETAIL

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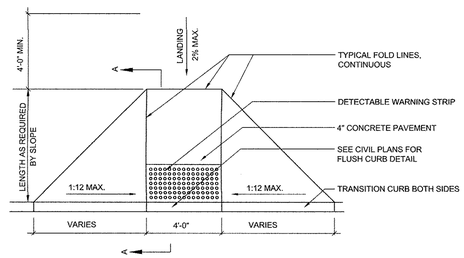
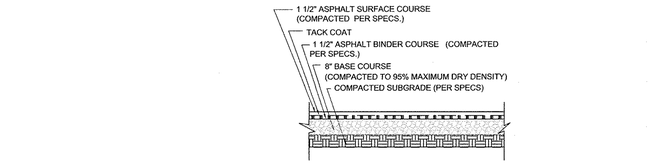


RAMP TYPE A: TYPICAL PLAN VIEW

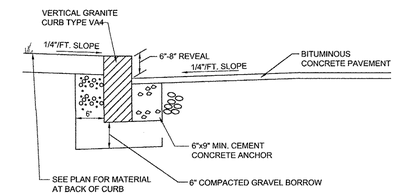


NOTE: BITUMINOUS CONCRETE TO MEET MHD M3.11.03

NOTE:
ALL PAVEMENT SECTION DETAILS ARE PER THE GEOTECH REPORT, SEE GEOTECH REPORT FOR MORE INFORMATION.

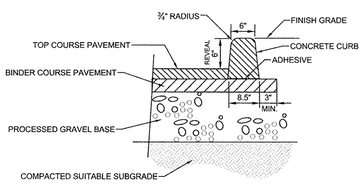
HEAVY DUTY ASPHALT PAVEMENT SECTION

N.T.S.



GRANITE CURB DETAIL

N.T.S.



EXTRUDED CONCRETE CURB

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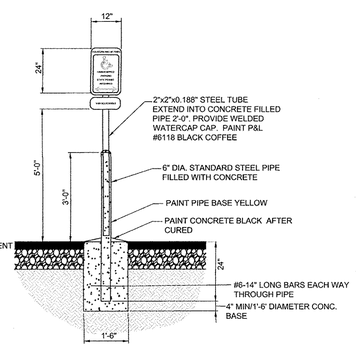
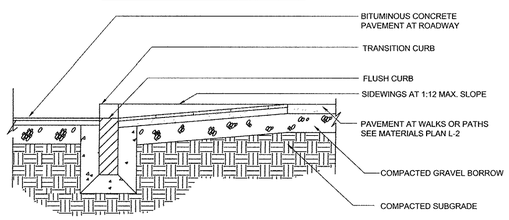


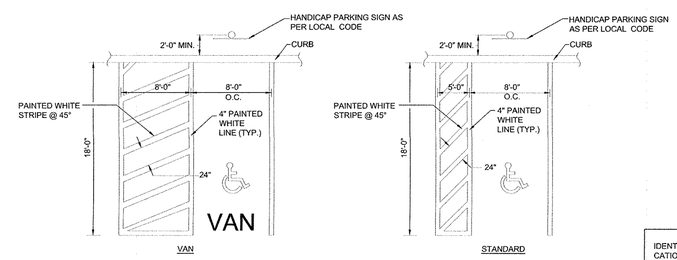
NOTE:
ONE SIGN AT EACH HANDICAP SPACE. WHERE HANDICAP SPACES FACE EACH OTHER WITHOUT A WALKWAY, THERE SHALL BE ONE POST WITH SIGNS MOUNTED ON BOTH SIDES.

ACCESSIBLE SPACE SIGN POST/BASE

N.T.S.



RAMP TYPE A: TYPICAL CROSS SECTION A-A



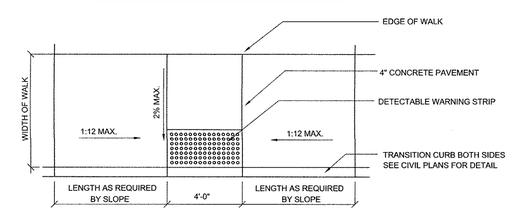
HANDICAP SPACE DETAIL

N.T.S.

TRAFFIC SIGN SUMMARY

IDENTIFI-CATION NUMBER	SIZE OF SIGN		TEXT	NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	AREA (m^2)
	WIDTH (mm)	HEIGHT (mm)			BACK-GROUND	LEGEND	BORDER		
R1-1	750	750			RED	WHITE	WHITE	P5-10	0.56
R7-1	300	450	NO PARKING ANY TIME		WHITE	RED	RED	P5-1	0.14
R7-8	300	450	RESERVED PARKING		WHITE	GREEN	GREEN	P5-1	0.14
R7-8p	450	225	VAN ACCESSIBLE		WHITE	GREEN	GREEN	P5-1	0.10

NOTES:
1. HIGH INTENSITY REFLECTIVE SHEETING TYPE III (CONFORMING TO SECTION M9.30.0) SHALL BE USED. SIGNS MUST MEET TOWN OF WESTWOOD SIGN STANDARDS AND/OR "STANDARD HIGHWAY SIGNS AS SPECIFIED IN THE 2009 M.U.T.C.D."
2. FOR TEXT HEIGHT SEE TOWN OF WESTWOOD SIGN STANDARDS AND/OR "STANDARD HIGHWAY SIGNS AS SPECIFIED IN THE 2009 M.U.T.C.D."

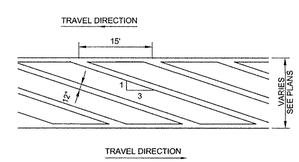


RAMP TYPE B: TYPICAL PLAN VIEW

NOTES:
DETECTABLE WARNING STRIPS SHALL MATCH IN COLOR WITH UNIVERSITY STATION PHASE 1.

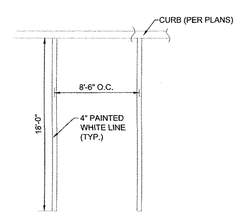
ADA HANDICAP ACCESSIBLE RAMPS

N.T.S.



PAVEMENT MARKING CROSS-HATCHING

N.T.S.



PARKING SPACE DETAIL

N.T.S.

TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
NO. 46652
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/2019

MARK	DATE	DESCRIPTION	BY
1	2/20/19	PDR FILING	J.L.P.
2	4/15/19	REVISED PDR PLANS - DRAFT	T.A.B.
3	5/1/2019	FINAL PDR PLANS	

Client: University Station Phase II
Proj. Loc.: Westwood, MA

University Station - Proposed Office - PDR Submittal
Development Area A of the University Station
Master Development Plan

Proposed Office - 200 Station Drive Detail Sheet

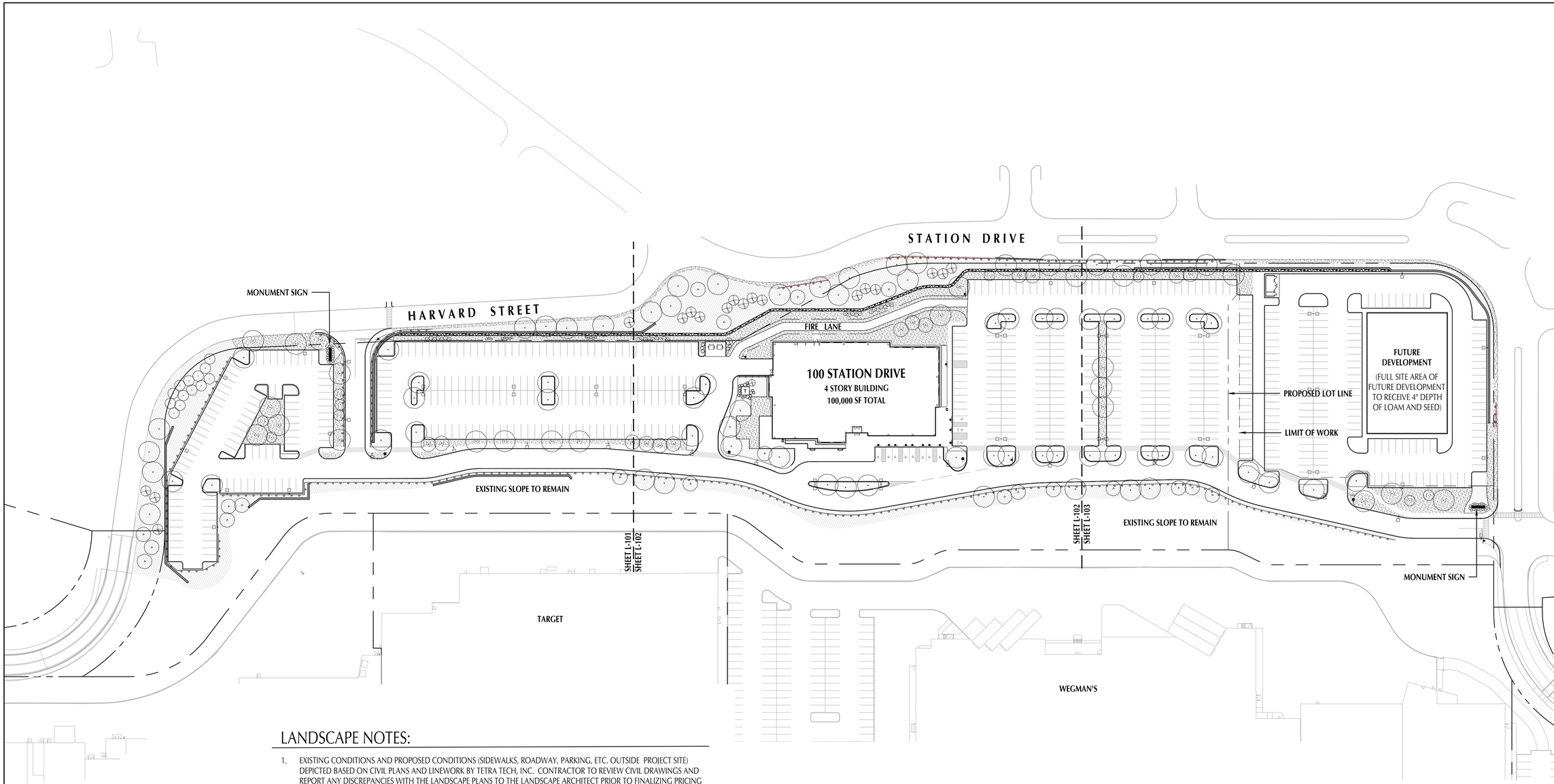
Project No.:	143-3659-16003
Designed By:	N.H.C.
Drawn By:	T.A.B. / J.L.P.
Checked By:	N.H.C

C-505

Copyright: Tetra Tech

Bar Measures 1 inch

5/2/2019 3:26:26 PM - P:\36591143-3659-16003\CAD\SHEETFILES\UPPER CAMPUS\C-500 DETAIL SHEETS.DWG - CHEAL, NATE



LANDSCAPE NOTES:

1. EXISTING CONDITIONS AND PROPOSED CONDITIONS (SIDEWALKS, ROADWAY, PARKING, ETC. OUTSIDE PROJECT SITE) DEPICTED BASED ON CIVIL PLANS AND LINEWORK BY TETRA TECH, INC. CONTRACTOR TO REVIEW CIVIL DRAWINGS AND REPORT ANY DISCREPANCIES WITH THE LANDSCAPE PLANS TO THE LANDSCAPE ARCHITECT PRIOR TO FINALIZING PRICING AND BEFORE ANY CONSTRUCTION.
2. THE CLEANING OF CATCH BASIN SUMPS IS REQUIRED FOLLOWING CONSTRUCTION AND ACCORDING TO ANY OPERATIONS AND MAINTENANCE PLAN FOR THE OVERALL UAMUD PROJECT AND THE PDR DEVELOPMENT.
3. THE USE OF CONSTRUCTION MACHINERY IS RESTRICTED TO THE HOURS PERMITTED IN THE TOWN OF WESTWOOD GENERAL BYLAWS, ARTICLE 10 SECTION 24.
4. STAMPED COLORED ASPHALT (TO MATCH EXISTING WITHIN DEVELOPMENT) TO BE "STREET PRINT" SR-120 OFFSET BRICK PATTERN WITH BEIGE COLORED "STREET BOND" SURFACING AS MANUFACTURED BY HUB SURFACE SYSTEMS.
5. EXISTING PLANT MATERIAL TO REMAIN TO BE PROTECTED THROUGHOUT THE CONSTRUCTION. ANY DAMAGED PLANTS TO BE REPLACED IN KIND.
6. LOCATE AND VERIFY ALL EXISTING UTILITY LINES PRIOR TO PLANTING AND REPORT ANY CONFLICTS TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.
7. ALL NEW PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN ADDITION, ALL NEW PLANT MATERIAL FOR THE PROJECT SHALL BE OF SPECIMEN QUALITY.
8. ALL NEW WOODY STEM PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN, UNLESS OTHERWISE NOTED ON THE PLANT LIST.
9. THE CONTRACTOR SHALL SUPPLY NEW PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON THE DRAWINGS. IF DISCREPANCIES EXIST BETWEEN THE NUMBER OF PLANTS DRAWN ON THE PLANTING PLAN AND THE NUMBER OF PLANTS IN THE PLANT LIST, THE PLANTING PLAN SHALL GOVERN.
10. NO PLANT MATERIAL SHALL BE PLANTED BEFORE ACCEPTANCE OF ROUGH GRADING. PLANTS SHALL BEAR SAME RELATIONSHIP TO FINISHED GRADE AS THEY BORE TO FINISHED GRADE BEFORE BEING DUG IN THE NURSERY. PRIOR TO PLANTING, REMOVE THE TOP OF THE BURLAP AND CONFIRM THAT PLANT ROOT CROWNS ARE NOT COVERED BY SOIL FROM THE NURSERY.
11. NATIVE SEED MIX TO BE "EROSION CONTROL/RESTORATION SEED MIX FOR DRY SITES" BY NEW ENGLAND WETLAND PLANTS OR APPROVED EQUAL.
12. ALL AREAS DISTURBED BY CONSTRUCTION OPERATIONS INSIDE AND OUTSIDE THE LIMIT OF WORK SHALL BE LOAMED AND SEEDED AS SPECIFIED, UNLESS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE.
13. ALL AREAS TO BE SEEDED SHALL RECEIVE SOIL PREPARATION AS SPECIFIED PRIOR TO SEEDING, UNLESS OTHERWISE NOTED ON THE PLAN.
14. ALL NEW PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR FOR ONE YEAR FROM TIME OF WRITTEN ACCEPTANCE OF THE PROJECT.
15. REFER TO IRRIGATION DIAGRAM FOR EXTENTS OF AREAS TO BE IRRIGATED (DETAIL 1 / L-104). IRRIGATION TO BE PROVIDED BY CONTRACTOR ON DESIGN/BUILD BASIS.

0 60' 120' 180'

NORTH

File Name: US-Cdesns_L-100.dwg

University Station Phase 2, LLC

c/o New England Development
75 Park Plaza
Boston, MA 02116

Shadley Associates
Landscape Architects / Site Planning Consultants
1730 Massachusetts Ave. • P 781.652.8809
Lexington, MA 02420 • F 781.862.2687
www.shadleyassociates.com

REVISIONS

NO.	DESCRIPTION	DATE
1	RESPONSE TO COMMENTS	4/9/19
2	FINAL PDR PLANS	5/1/19

STAMP:

MASSACHUSETTS JAMES P. SHADLEY NO. 993 REGISTERED LANDSCAPE ARCHITECT

University Station Phase II

200 Station Drive

PDR FILING

SA PROJECT NUMBER: 18054.0.00

SCALE: 1" = 60'

DRAWN BY: SW / RS / JPG

REVIEWED BY: JPG / JPS

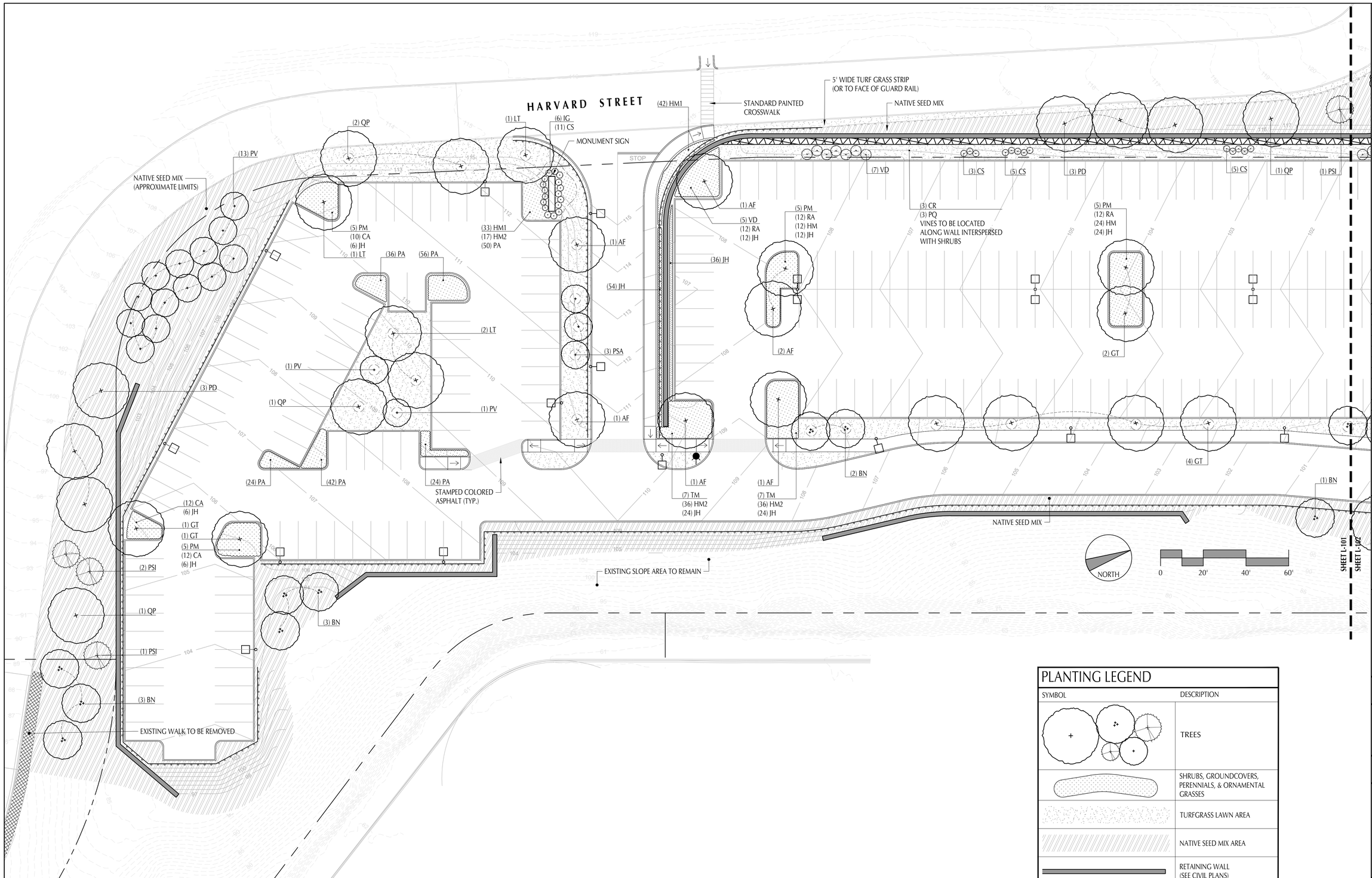
DATE: FEBRUARY 20, 2019

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

L-100



PLANTING LEGEND

SYMBOL	DESCRIPTION
	TREES
	SHRUBS, GROUNDCOVERS, PERENNIALS, & ORNAMENTAL GRASSES
	TURFGRASS LAWN AREA
	NATIVE SEED MIX AREA
	RETAINING WALL (SEE CIVIL PLANS)
	GUARD RAIL (SEE CIVIL PLANS)
HYD	FIRE HYDRANT (SEE CIVIL PLANS)
	LIGHT POLES (SHOWN FOR COORDINATION ONLY, SEE ELECTRICAL PLANS)

University Station Phase 2, LLC

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Boston, MA 02116

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University Station Phase II

200 Station Drive

PDR FILING

SA PROJECT NUMBER: 18054.0.00

SCALE: 1" = 20'

DRAWN BY: SW / RS / JPG

REVIEWED BY: JPG / JPS

DATE: FEBRUARY 20, 2019

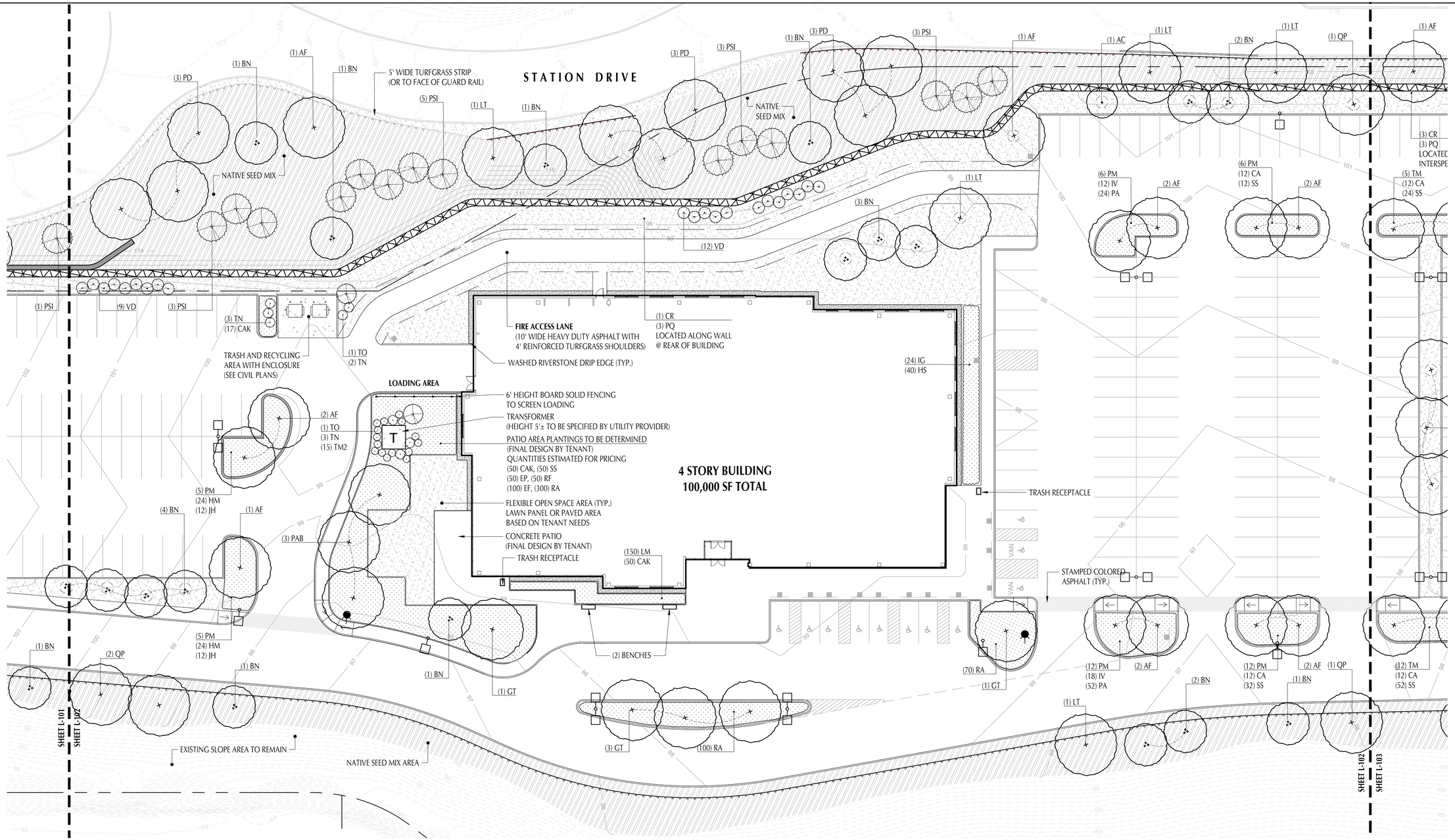
SHEET TITLE:

PLANTING PLAN 1

SHEET NUMBER:

L-101

File Name: US-Grizzo_L-1100.dwg



PLANTING LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	TREES		NATIVE SEED MIX AREA
			RETAINING WALL (SEE CIVIL PLANS)
			GUARD RAIL (SEE CIVIL PLANS)
	SHRUBS, GROUNDCOVERS, PERENNIALS, & ORNAMENTAL GRASSES	HYD	FIRE HYDRANT (SEE CIVIL PLANS)
	TURFGRASS LAWN AREA		LIGHT POLES (SHOWN FOR COORDINATION ONLY, SEE ELECTRICAL PLANS)

NORTH

0 20' 40' 60'

University Station
Phase 2, LLC

c/o New England Development
75 Park Plaza
Boston, MA 02116

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1730 Massachusetts Ave. • P 781.652.8809
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REVISIONS

NO.	DESCRIPTION	DATE
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STAMP:

MASSACHUSETTS JAMES P. SHADLEY NO. 999 REGISTERED LANDSCAPE ARCHITECT

University Station
Phase II

200 Station Drive

PDR FILING

SA PROJECT NUMBER:
18054.0.00

SCALE: 1" = 20'

DRAWN BY: SW / RS / JPG

REVIEWED BY: JPG / JPS

DATE:
FEBRUARY 20, 2019

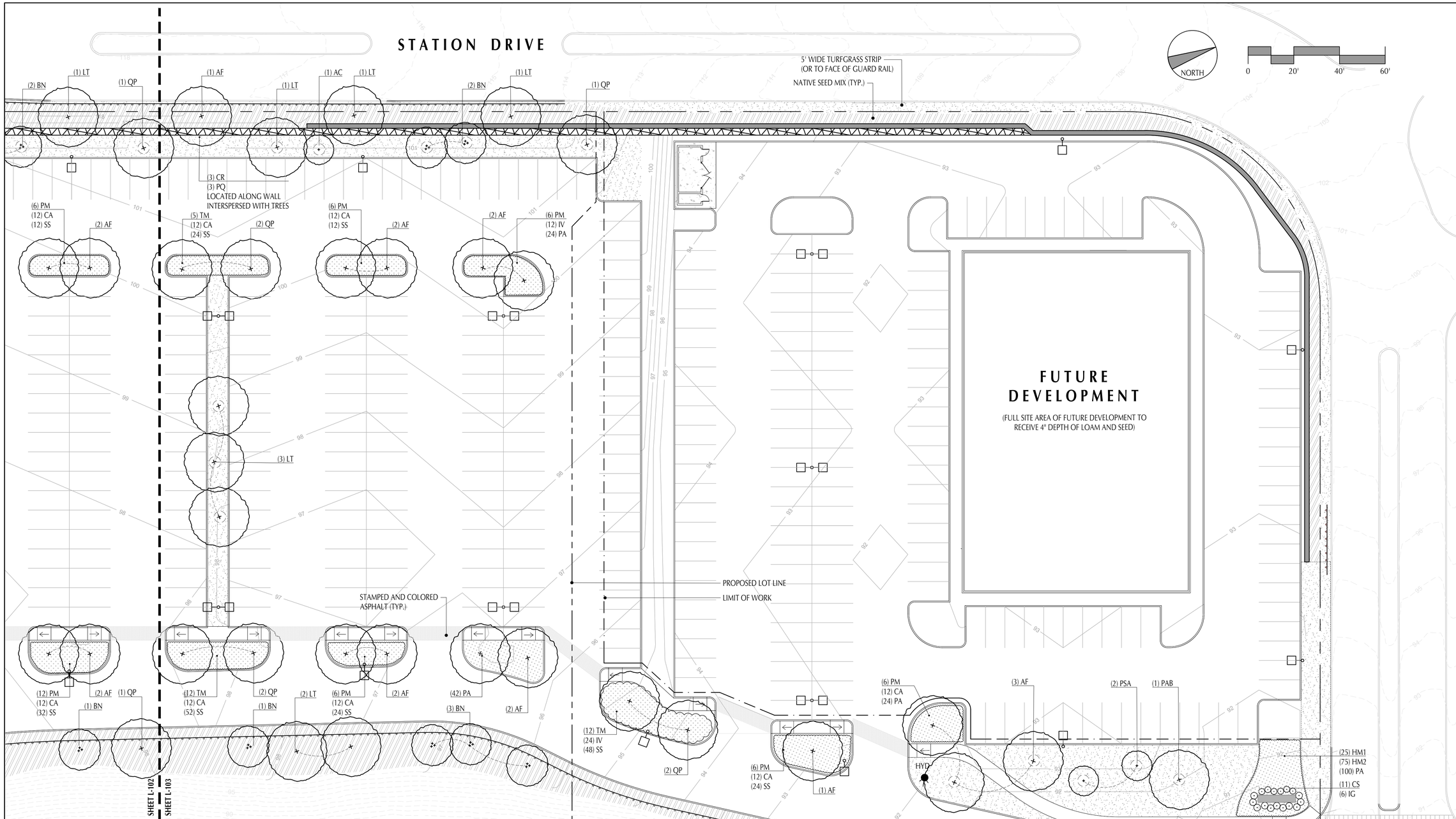
SHEET TITLE:

PLANTING PLAN 2

SHEET NUMBER:

L-102

File Name: US-Citizens_L-100.dwg



PLANTING LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	TREES		NATIVE SEED MIX AREA
			RETAINING WALL (SEE CIVIL PLANS)
	SHRUBS, GROUNDCOVERS, PERENNIALS, & ORNAMENTAL GRASSES		GUARD RAIL (SEE CIVIL PLANS)
		HYD	FIRE HYDRANT (SEE CIVIL PLANS)
	TURFGRASS LAWN AREA		LIGHT POLES (SHOWN FOR COORDINATION ONLY, SEE ELECTRICAL PLANS)

File Name: US-Gizeux_L-100.dwg

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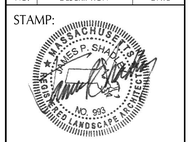
1	RESPONSE TO COMMENTS	4/9/19
2	FINAL PDR PLANS	5/1/19

STAMP:



University Station
Phase II

200 Station Drive

PDR FILING

SA PROJECT NUMBER:
18054.0.00

SCALE: 1" = 20'
DRAWN BY: SW / RS / JPG
REVIEWED BY: JPG / JPS

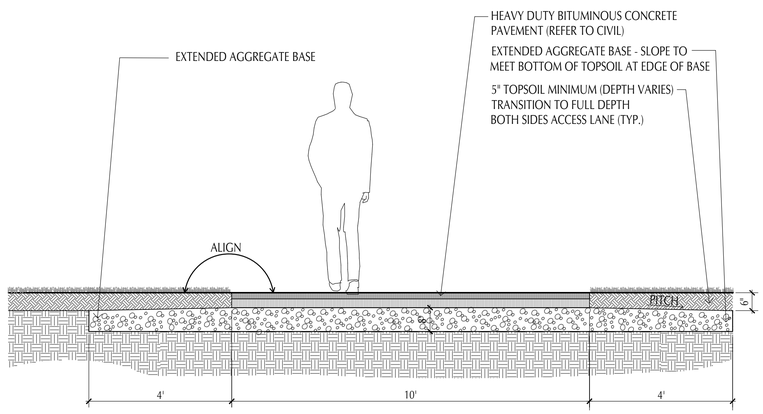
DATE:
FEBRUARY 20, 2019

SHEET TITLE:

PLANTING PLAN 3

SHEET NUMBER:

L-103

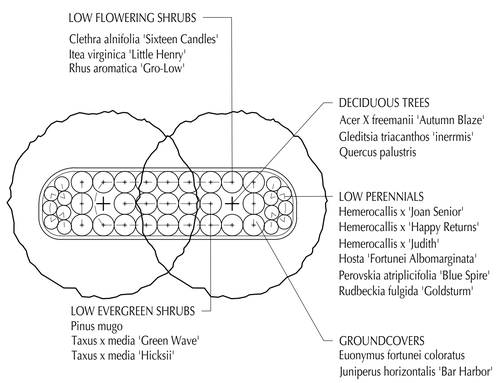


2 BITUMINOUS CONCRETE EMERGENCY ACCESS LANE WITH REINFORCED TURFGRASS EDGES

SCALE: 1/2" = 1'-0"

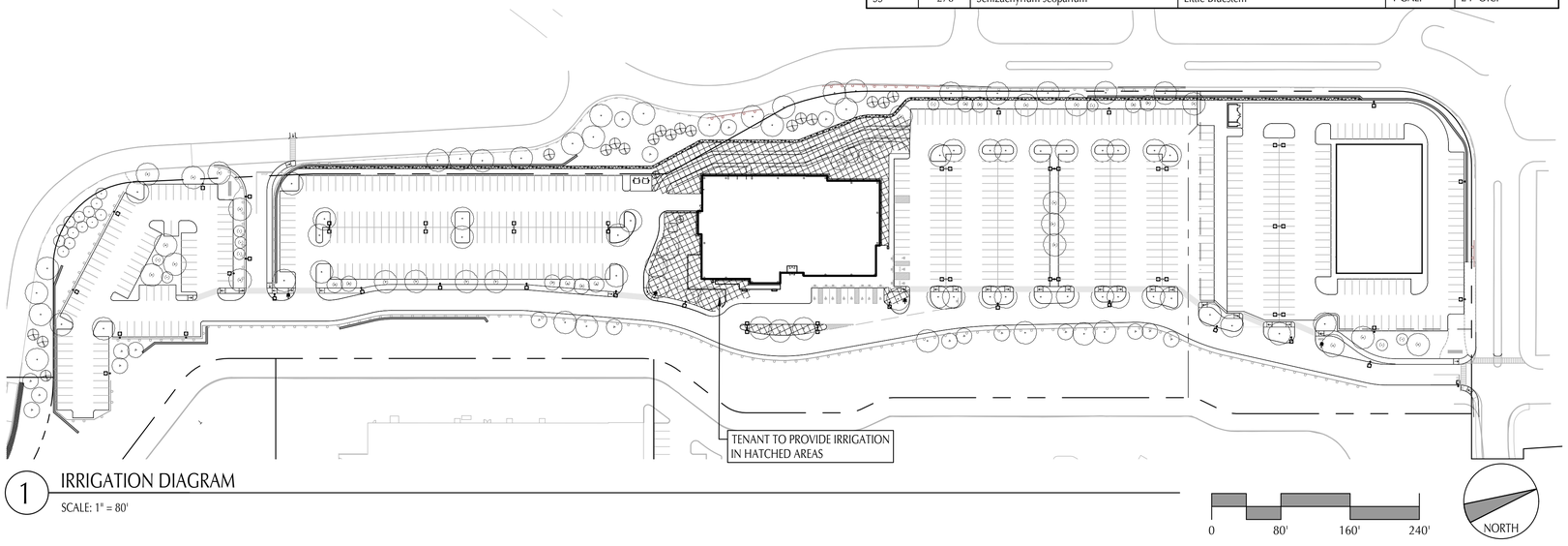
REPRESENTATIVE PLANTING SCHEDULE (FINAL SELECTION TO BE DETERMINED AT CD PHASE)

SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
DECIDUOUS SHADE TREES					
AF	33	Acer X freemanii 'Autumn Blaze'	Autumn Blaze Red Maple	2 1/2" - 3" CAL.	
GT	13	Gleditsia triacanthos 'inerrmis'	Thornless Honeylocust	2 1/2" - 3" CAL.	
LT	18	Liriodendron tulipifera	Tuliptree	2 1/2" - 3" CAL.	
PAB	4	Platanus x acerifolia 'Bloodgood'	London Planetree	2 1/2" - 3" CAL.	
PD	9	Populus deltoides	Eastern Cottonwood	2" - 2 1/2" CAL.	
QP	16	Quercus palustris	Pin Oak	2 1/2" - 3" CAL.	
ORNAMENTAL TREES					
AC	2	Amelanchier canadensis	Shadblow Serviceberry	8' - 10' HT.	
BN	33	Betula nigra 'Heritage'	Heritage River Birch	10' - 12' HT.	
PSA	5	Prunus subhirtella 'Autumnalis'	Autumn Flowering Higan Cherry	8' - 10' HT.	
PV	15	Prunus virginiana	Choke Cherry	8' - 10' HT.	
EVERGREEN TREES					
PSI	18	Pinus strobus	Eastern White Pine	8' - 10' HT	SINGLE LEADER
TO	2	Thuja occidentalis 'Emerald' ('Smaragd')	Emerald Arborvitae	6' - 8' HT	48" O.C.
TN	8	Thuja occidentalis 'Nigra'	Dark American Arborvitae	6' - 8' HT	
SHRUBS					
CA	130	Clethra alnifolia 'Sixteen Candles'	Sixteen Candles Summersweet	18" - 24" HT.	
CS	35	Cornus sericea 'Arctic Fire'	Arctic Fire Redosier Dogwood	24" - 30" HT.	5 CANE MINIMUM
IG	36	Ilex glabra 'Shamrock'	Shamrock Inkberry	24" - 30" HT.	5 CANE MINIMUM
IV	66	Itea virginica 'Little Henry'	Little Henry Sweetspire	18" - 24" HT.	
PM	96	Pinus mugo	Mugo Pine	18" - 24" HT.	# 3 CONT.
RA	500	Rhus aromatica 'Gro-Low'	Gro-Low Fragrant Sumac	12" - 18" HT	# 3 CONT.
TM	43	Taxus x media 'Green Wave'	Green Wave Yew	24" - 30" HT	
TM2	15	Taxus x media 'Hicksii'	Hick's Yew	4' - 5' HT	36" O.C.
VD	33	Viburnum dentatum "Blue Muffin"	Arrowwood Viburnum	36"- 42" HT	
PERENNIALS, ORNAMENTAL GRASSES, GROUNDCOVERS, AND VINES					
CAK	117	Calamagrostis x acutiflora 'Karl Foerster'	Karl Foerster Feather Reed Grass	1 GAL.	18" O.C.
CR	7	Campsis radicans	Trumpet Vine	1 GAL.	
EF	100	Euonymus fortunei coloratus	Wintercreeper Euonymus	4" POT	12" O.C.
EP	50	Echinacea purpurea 'Kim's Knee High'	Kim's Knee High Purple Coneflower	1 GAL.	24" O.C.
HM	84	Hemerocallis x 'Joan Senior'	Joan Senior Daylily	1 GAL.	24" O.C.
HM 1	100	Hemerocallis x 'Happy Returns'	Happy Returns Daylily	1 GAL.	24" O.C.
HM 2	164	Hemerocallis x 'Judith'	Judith Daylily	1 GAL.	24" O.C.
HS	40	Hosta 'Fortunei Albomarginata'	Fortunei Hosta	1 GAL.	24" O.C.
JH	228	Juniperus horizontalis 'Bar Harbor'	Bar Harbor Creeping Juniper	15"-18" SP	24" O.C.
LM	150	Liriope muscari 'Big Blue'	Big Blue Lilyturf	4" POT	12" O.C.
PA	500	Pennisetum alopecuroides 'Hameln'	Hameln Dwarf Fountain Grass	1 GAL.	18" O.C.
PQ	9	Parthenocissus quinquefolia	Virginia Creeper	1 GAL.	
RF	50	Rudbeckia fulgida 'Goldsturm'	Black Eyed Susan	1 GAL.	24" O.C.
SS	278	Schizachyrium scoparium	Little Bluestem	1 GAL.	24" O.C.



3 REPRESENTATIVE ISLAND PLANTING

SCALE: 1" = 10'-0"



1 IRRIGATION DIAGRAM

SCALE: 1" = 80'

University Station Phase 2, LLC

c/o New England Development
75 Park Plaza
Boston, MA 02116

Shadley Associates
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REVISIONS

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2	FINAL PDR PLANS	5/1/19

STAMP:

MASSACHUSETTS JAMES P. SHADLEY NO. 893 REGISTERED LANDSCAPE ARCHITECT

University Station Phase II

200 Station Drive

PDR FILING

SA PROJECT NUMBER: 18054.0.00

SCALE: AS NOTED

DRAWN BY: SW / RS / JPG

REVIEWED BY: JPG / JPS

DATE: FEBRUARY 20, 2019

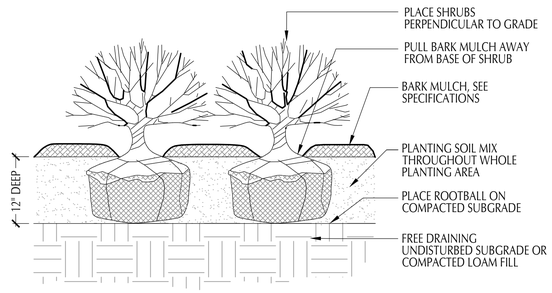
SHEET TITLE:

LANDSCAPE DETAILS

SHEET NUMBER:

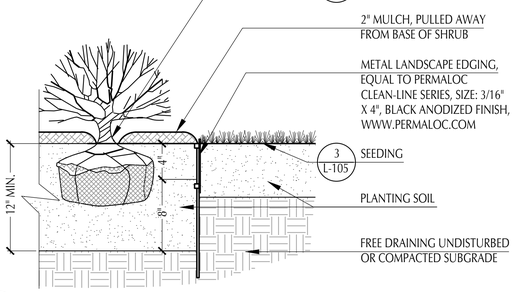
L-104

File Name: US-Citizens_L-100.dwg



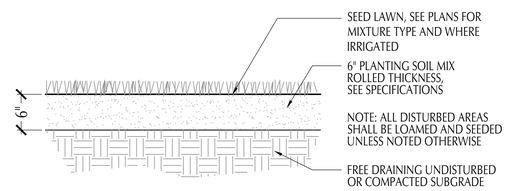
2 SHRUB PLANTING

SCALE: 1" = 1'-0"



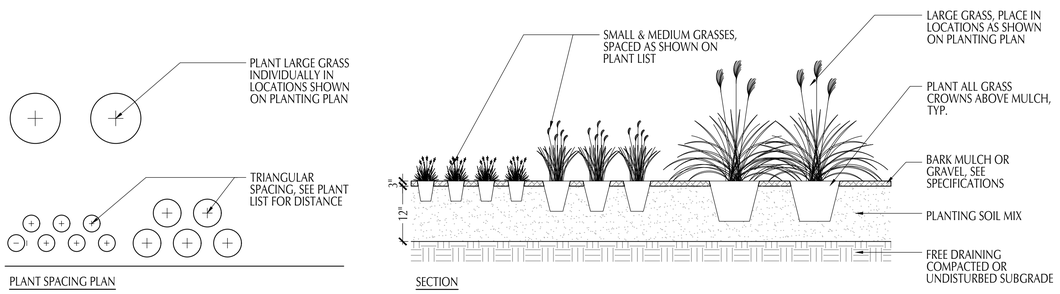
4 METAL EDGING

SCALE: 1 1/2" = 1'-0"



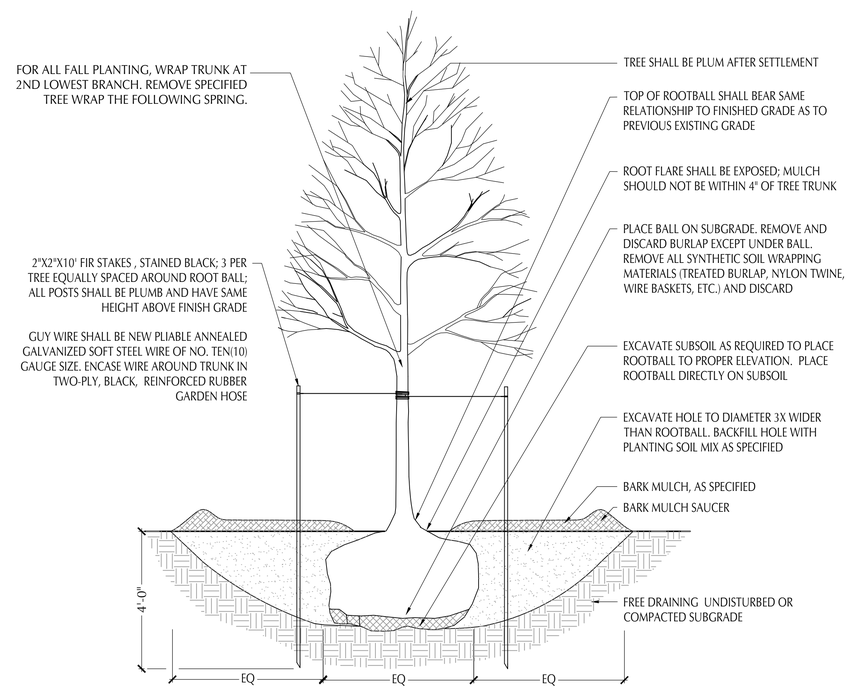
3 SEEDED LAWN

SCALE: 3/4" = 1'-0"



5 ORNAMENTAL GRASS PLANTING

SCALE: 1/2" = 1'-0"



1 DECIDUOUS TREE PLANTING

SCALE: 1/2" = 1'-0"

File Name: LIS-Citizens_L-100.dwg

University Station Phase 2, LLC

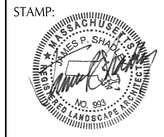
c/o New England Development
75 Park Plaza
Boston, MA 02116

Shadley Associates
Landscape Architects / Site Planning Consultants
1730 Massachusetts Ave. • P 781.652.8809
Lexington, MA 02420 • F 781.862.2687
www.shadleyassociates.com

REVISIONS

NO.	DESCRIPTION	DATE
1	RESPONSE TO COMMENTS	4 / 9 / 19
2	FINAL PDR PLANS	5 / 1 / 19

STAMP:



University Station Phase II

200 Station Drive

PDR FILING

SA PROJECT NUMBER: 18054.0.00

SCALE: AS NOTED

DRAWN BY: SW / RS / JPG

REVIEWED BY: JPG / JPS

DATE: FEBRUARY 20, 2019

SHEET TITLE:

LANDSCAPE DETAILS

SHEET NUMBER:

L-105

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REGISTERED ARCHITECT
WILLIAM GISNESS
No. 5708
BOSTON, MA
COMMONWEALTH OF MASSACHUSETTS

SEAL / SIGNATURE

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2/20/19

PROJECT:

200 Station Drive - BTS

Westwood, MA

University Station

REVISIONS:

No.	Date	Description

SUBMISSIONS:

Date	Issued For:
02.20.19	PDR Submission
04.02.19	PDR Submission II
05.01.19	Final PDR Plans

SCALE
DATE ISSUED **2/20/19**
PROJECT NO **4659.01**
DRAWN BY **EZ**
CHECKED BY **JC**

SHEET TITLE:

Renderings

G-200

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CHECKED BY **JC**

SHEET TITLE:

Renderings 2

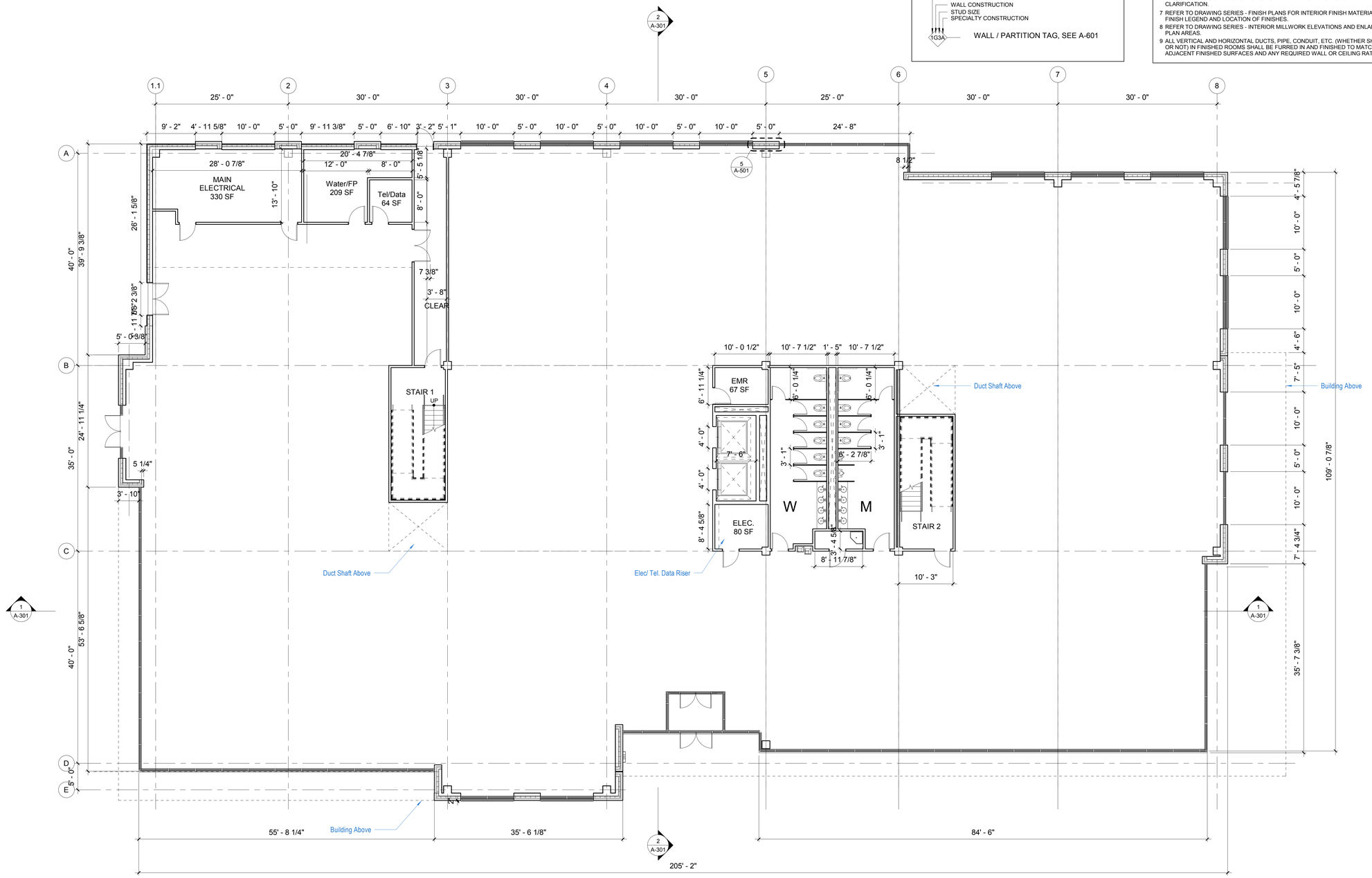
G-201

Plan Symbol Legend

Room name 101	ROOM TAG
4'-0"	SPOT ELEVATION
101	DOOR TAG, SEE A-611
TYPE NAME / TYPE NUMBER / S7	STOREFRONT / CURTAIN WALL TAG, SEE A-621
FIRE RATING / WALL CONSTRUCTION / STUD SIZE / SPECIALTY CONSTRUCTION / 1G3A	WALL / PARTITION TAG, SEE A-601

Plan Notes

1. REFER TO GENERAL CONDITIONS, SPECIFICATIONS AND SCHEDULES FOR ALL WORK.
2. DRAWINGS LISTED UNDER 'DRAWING LIST' MUST BE READ IN CONJUNCTION WITH THIS DRAWING FOR COMPLETE INFORMATION.
3. CONFIRM WITH ARCHITECT THAT THESE DRAWINGS ARE THE MOST CURRENT ISSUE BEFORE BEGINNING LAYOUT AND CONSTRUCTION.
4. CONTRACTOR MUST GIVE ARCHITECT (4) WORKING DAYS NOTICE TO REVIEW PARTITIONS, FLOOR OUTLETS AND FURNITURE PANEL SYSTEM LAYOUT AT 'CHALK LINE' STAGE. TRACK AND STUD WORK SHALL NOT BEGIN BEFORE ARCHITECT HAS REVIEWED ENTIRE LAYOUT
5. FOR DOOR AND HARDWARE INFORMATION REFER TO DOOR AND HARDWARE SHEET
6. INTERIOR DETAILS ARE KEYED TO THE PLANS AT TYPICAL LOCATIONS. THE DETAILS APPLY TO ALL LOCATIONS THAT ARE NOT KEYED - IN AN AREA OF THE SAME CONSTRUCTION AND SCOPE OF WORK. THE CONTRACTOR AND SUBCONTRACTORS ARE RESPONSIBLE TO COORDINATE THE LOCATION OF ALL TYPICAL DETAILS AND INSTALL THE WORK INDICATED. IF DISCREPANCIES EXIST OR QUALIFICATION IS REQUIRED THE CONTRACTOR IS TO NOTIFY THE ARCHITECT TO OBTAIN CLARIFICATION.
7. REFER TO DRAWING SERIES - FINISH PLANS FOR INTERIOR FINISH MATERIALS, FINISH LEGEND AND LOCATION OF FINISHES.
8. REFER TO DRAWING SERIES - INTERIOR MILLWORK ELEVATIONS AND ENLARGED PLAN AREAS.
9. ALL VERTICAL AND HORIZONTAL DUCTS, PIPE, CONDUIT, ETC. (WHETHER SHOWN OR NOT) IN FINISHED ROOMS SHALL BE FURRED IN AND FINISHED TO MATCH ADJACENT FINISHED SURFACES AND ANY REQUIRED WALL OR CEILING RATINGS.



0 4 8 12 16 24 32 48 (ft)

A-101

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University Station

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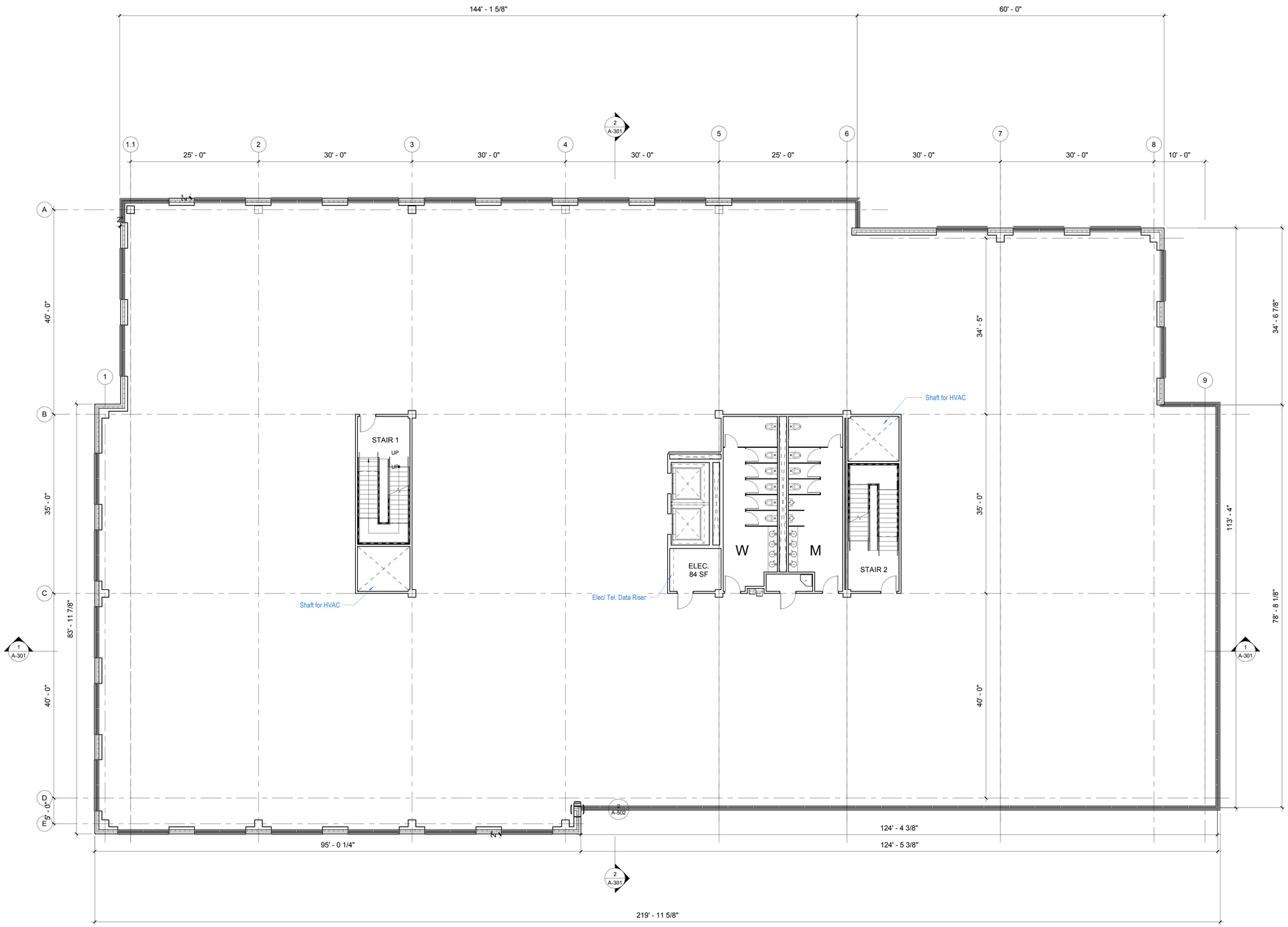
PROJECT NO	**4659.01**
DRAWN BY	**DE / EZ**
CHECKED BY	**JC**

SHEET TITLE:

Level 1 Plan



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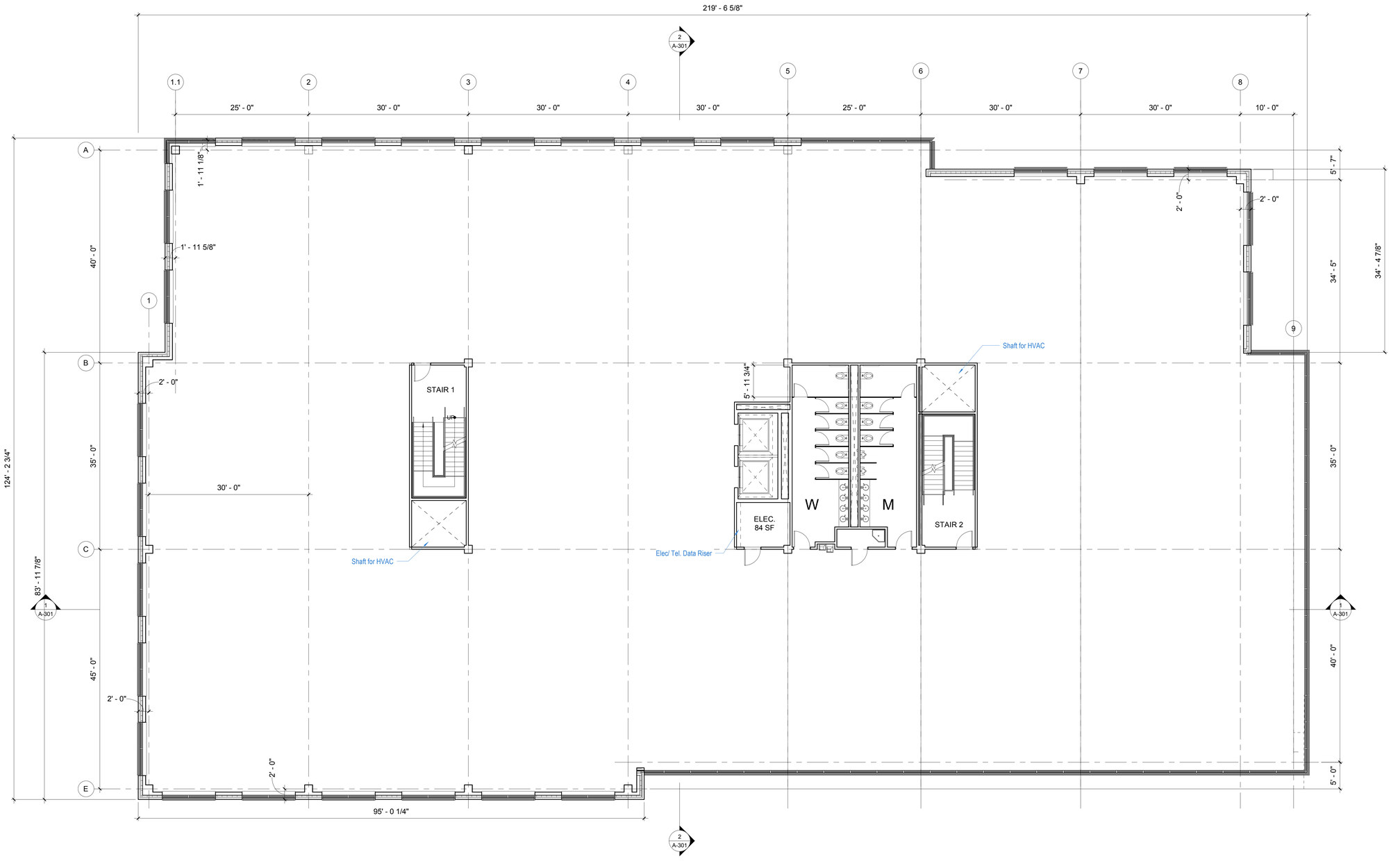
SHEET TITLE:

Level 2 Plan

A-102



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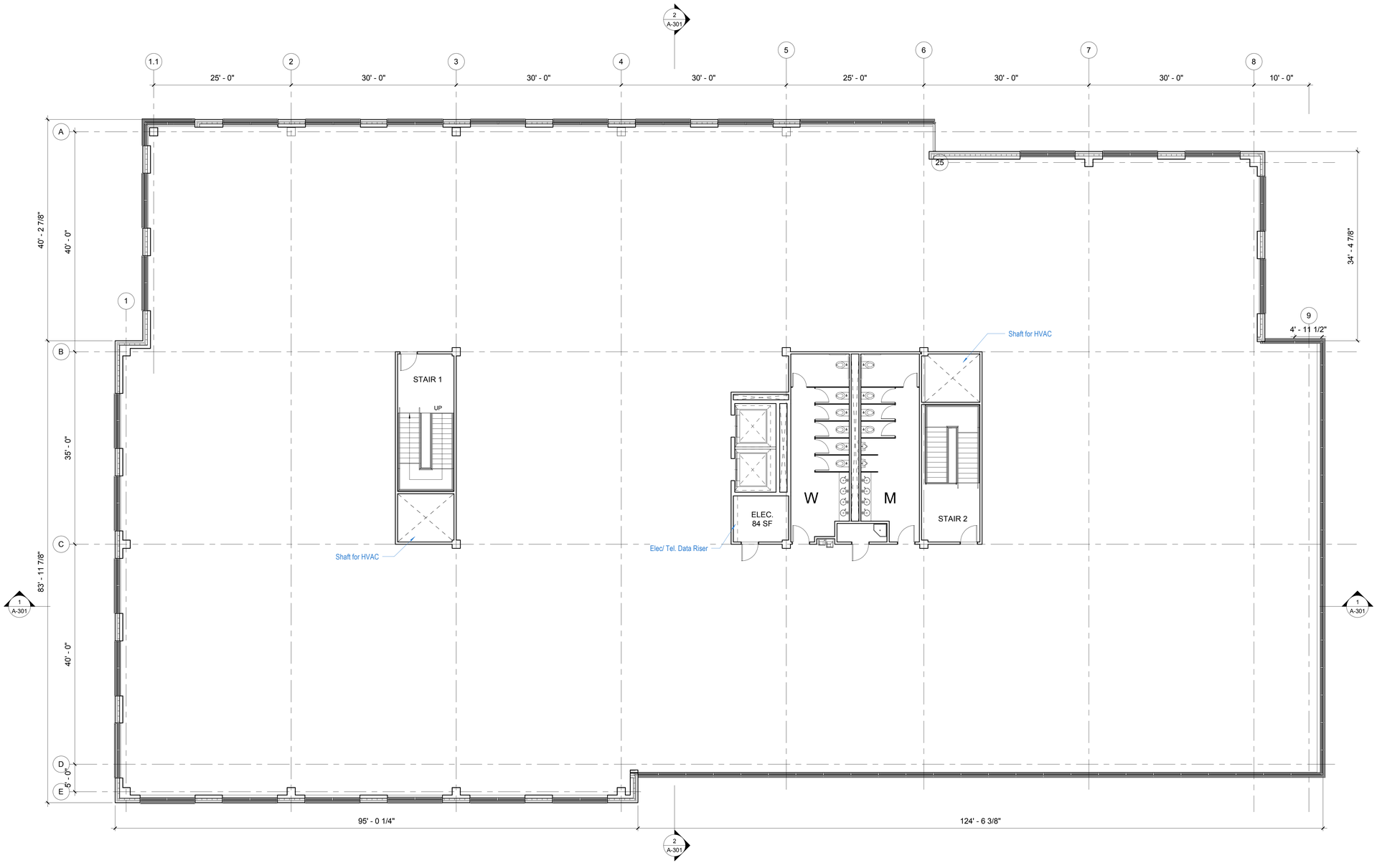
SHEET TITLE:

Level 3 Plan

A-103



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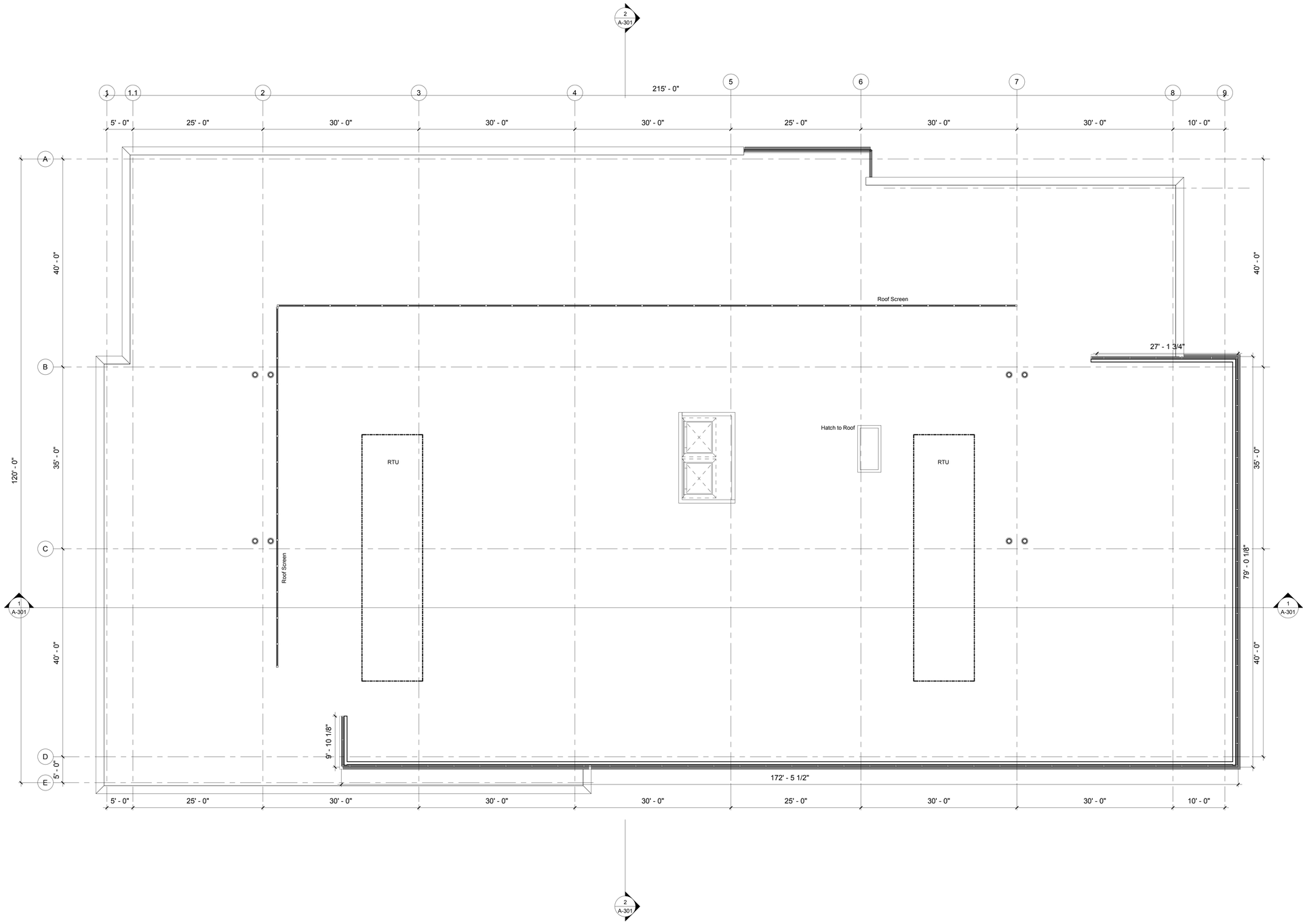
SHEET TITLE:

Level 4 Plan

A-104



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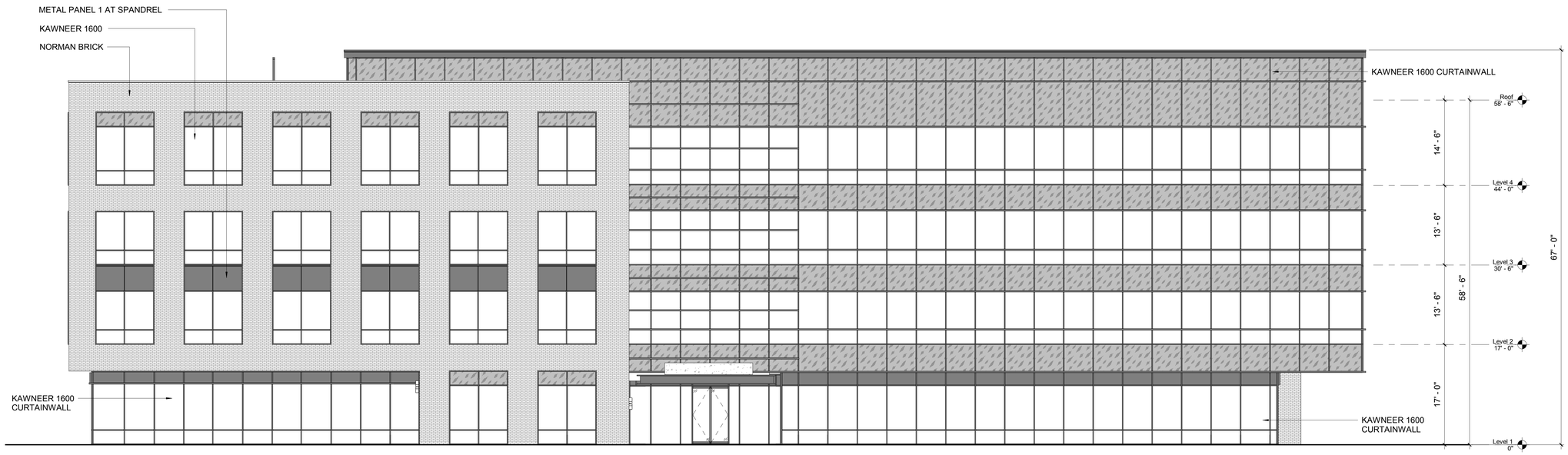
SHEET TITLE:

Roof Plan

A-105



1 East Elevation
1/8" = 1'-0"

2 West Elevation
1/8" = 1'-0"

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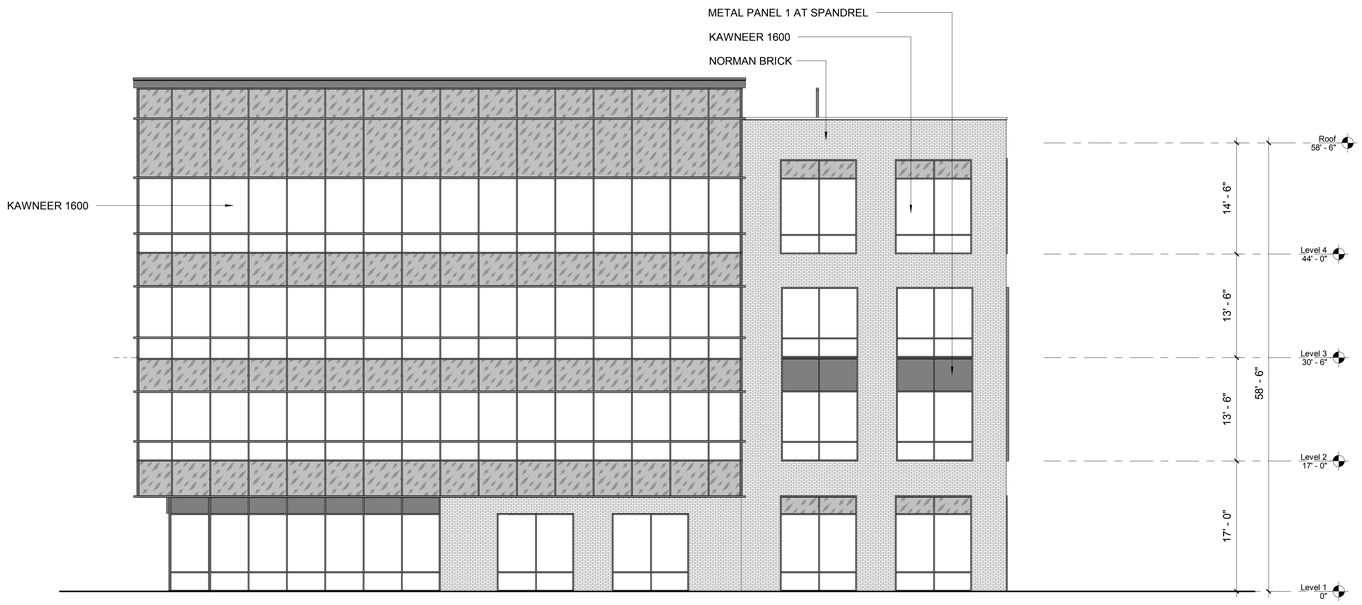
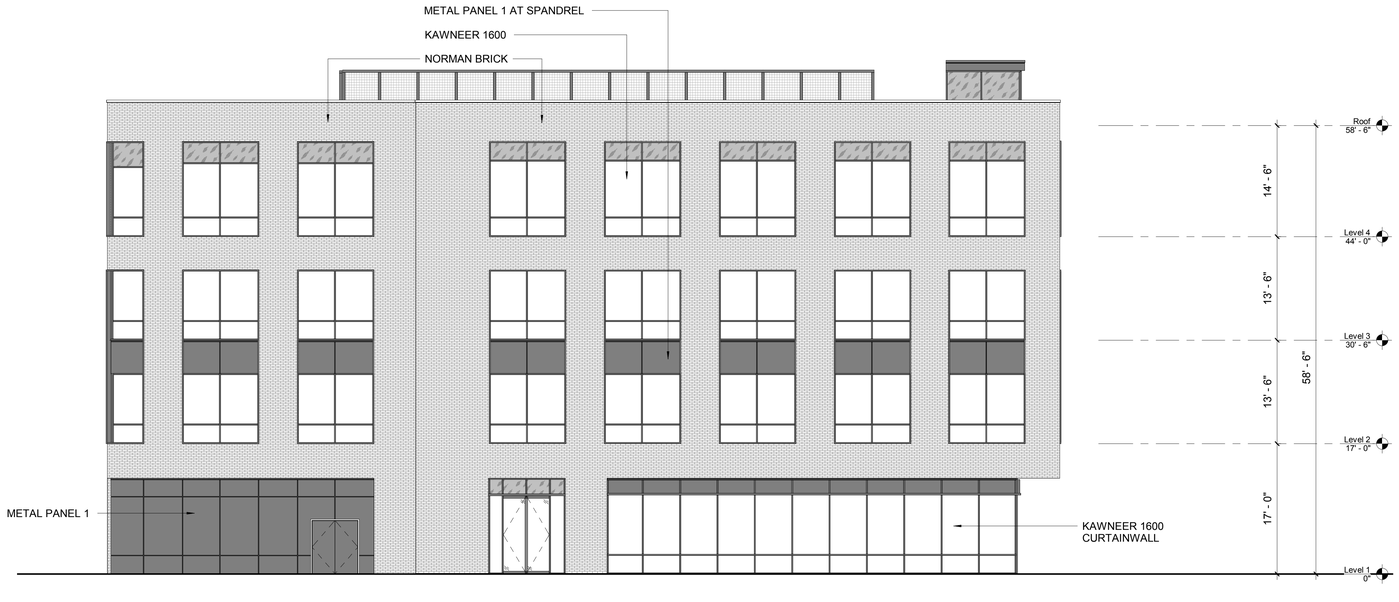
SHEET TITLE:

Exterior Elevations

A-201



1 North Elevation
1/8" = 1'-0"



2 South Elevation
1/8" = 1'-0"

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SHEET TITLE:

Exterior Elevations

A-202

HIGH PERFORMANCE GLASS
(VIRACON VE-2M #2)

METAL PANEL - TITANIUM
WINDOW MULLION AND CAP FLASHING

METAL PANEL - PEWTER
WINDOW INFILL PANEL

METAL PANEL - COPPER PENNY
CANTILEVER SOFFIT PANEL

GROUT (COLOR- PLATINUM)

EARTH TONE NORMAN BRICK
(70% BADLANDS BLEND/ 30% TOASTED FINE ARTS VELOUR BLEND)

SGA

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PROJECT TEAM:

CLIENT
UNIVERSITY STATION PHASE 2, LLC
C/O NATIONAL DEVELOPMENT

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SANBORN, HEAD & ASSOC., INC.

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TETRA TECH

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LANDSCAPE ARCHITECTS
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REGISTERED ARCHITECT
WILLIAM GISNESS III
No. 5708
BOSTON, MA
COMMONWEALTH OF MASSACHUSETTS

SEAL / SIGNATURE

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2/20/19

PROJECT:

200 Station Drive - BTS

Westwood, MA

University Station

REVISIONS:

No.	Date	Description

SUBMISSIONS:

Date	Issued For:
02.20.19	PDR Submission
04.02.19	PDR Submission II
05.01.19	Final PDR Plans

SCALE
DATE ISSUED **2/20/19**
PROJECT NO **4659.01**
DRAWN BY **EZ**
CHECKED BY **JC**

SHEET TITLE:

Exterior Materials

A-203