PROPOSED INDUSTRIAL DEVELOPMENT

70 & 80 CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE
PROJECT NO: L-0700-13
APRIL 3, 2018
REVISED: NOVEMBER 6, 2018

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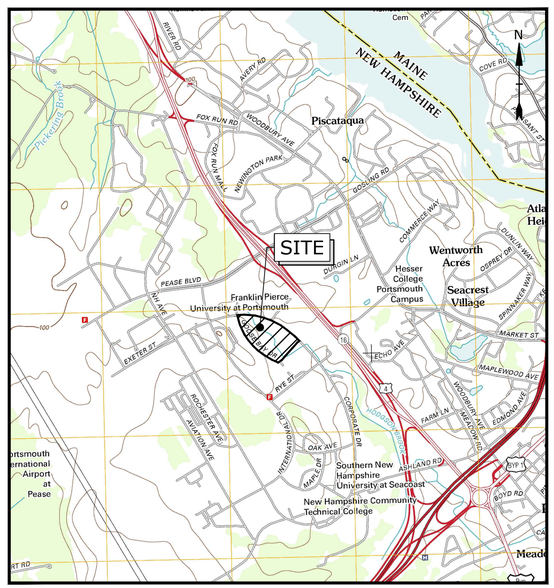
MASTER PLAN SET	21	11/06/2018
PHASE 1A COVER SHEET	1	11/06/2018
PHASE 1A PLAN SET	16	11/06/2018
PHASE 1B COVER SHEET	1	11/06/2018
PHASE 1B PLAN SET	16	11/06/2018
DETAILS COVER SHEET	1	11/06/2018
EROSION CONTROL NOTES & DETAILS SHEETS	9	11/06/2018

LIST OF PERMITS		
LOCAL	STATUS	DATE
SITE PLAN REVIEW PERMIT	PENDING	
STATE		
NHDES - ALTERATION OF TERRAIN PERMIT	ISSUED: AOT-1498	10/02/2018
NHDES - WETLANDS PERMIT	PENDING	
FEDERAL		
EPA - NPDES CGP	PENDING	



LOCATION MAP
SCALE: 1" = 2,000'

OWNER:	PEASE DEVELOPMENT AUTHORITY 55 INTERNATIONAL DRIVE PORTSMOUTH, NEW HAMPSHIRE 03801
CLIENT:	LONZA BIOLOGICS 101 INTERNATIONAL DRIVE PORTSMOUTH, NH 03801
CIVIL ENGINEER:	Tighe&Bond Engineers | Environmental Specialists 177 CORPORATE DRIVE PORTSMOUTH, NEW HAMPSHIRE 03801
SURVEYOR:	DOUCET SURVEY, INC. 102 KENT PLACE NEWMARKET, NEW HAMPSHIRE 03857
WETLAND SCIENTIST:	GOVE ENVIRONMENTAL SERVICES, INC. 8 CONTINENTAL DRIVE, UNIT H EXETER, NEW HAMPSHIRE 03833
STREAM DESIGN CONSULTANT:	STREAMWORKS, PLLC MADBURY, NEW HAMPSHIRE 03823

STATE OF NEW HAMPSHIRE — PROFESSIONAL ENGINEER — LICENSED — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12578 — LICENSED PROFESSIONAL ENGINEER — 11/6/18

COMPLETE SET 75 SHEETS

Last Save Date: November 5, 2018 2:20 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 2:20 PM By: Nathan Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion wss 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Xref\L-0700-13-COVER.dwg Layout Tab: DSGN-CS

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MASTER PLAN SET SHEET INDEX

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C-103	DEMOLITION PLAN	11/06/2018
C-104	OVERALL SITE PLAN	11/06/2018
C-105	SITE PLAN	11/06/2018
C-106	SITE PLAN	11/06/2018
C-107	SITE PLAN	11/06/2018
C-108	GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-109	GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-110	GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-111	UTILITIES PLAN	11/06/2018
C-112	UTILITIES PLAN	11/06/2018
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C-114	LANDSCAPE PLAN	11/06/2018
C-115	LANDSCAPE PLAN	11/06/2018
C-116	LANDSCAPE PLAN	11/06/2018
C-117	PHOTOMETRIC LIGHTING PLAN	11/06/2018
C-118	PHOTOMETRIC LIGHTING PLAN	11/06/2018
C-119	PHOTOMETRIC LIGHTING PLAN	11/06/2018
ASK-001	SITE PLAN - PERSPECTIVE	08/09/2018
ASK-002	BUILDING 1 CONCEPT PLANS	07/12/2018

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C-122	PHASE 1A DEMOLITION PLAN	11/06/2018
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C-124	PHASE 1A OVERALL SITE PLAN	11/06/2018
C-125	PHASE 1A SITE PLAN	11/06/2018
C-126	PHASE 1A SITE PLAN	11/06/2018
C-127	PHASE 1A SITE PLAN	11/06/2018
C-128	PHASE 1A GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-129	PHASE 1A GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-130	PHASE 1A GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-131	PHASE 1A LANDSCAPE PLAN	11/06/2018
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C-133	PHASE 1A LANDSCAPE PLAN	11/06/2018
C-701	HODGSON BROOK GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-702	HODGSON BROOK WETLAND PLANTING PLAN	11/06/2018
C-703	HODGSON BROOK DETAILS SHEET	11/06/2018

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C-152	PHASE 1B UTILITIES PLAN	11/06/2018
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DETAILS SHEET INDEX

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C-501	EROSION CONTROL NOTES & DETAILS SHEET	11/06/2018
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C-509	DETAILS SHEET	11/06/2018

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE BRIAN L. MICHAUD No. 12699 LICENSED PROFESSIONAL ENGINEER 11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12976 LICENSED PROFESSIONAL ENGINEER 11-6-18

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

SHEET INDEX

SCALE: AS SHOWN

C-100

Last Save Date: November 5, 2018 2:20 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 2:20 PM By: Nick A. Hansen
T&B File Location: J:\LL\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Xref\L-0700-13-COVER.dwg Layout Tab: C-100

EXISTING CONDITIONS & SUBDIVISION PLANS

APRIL 3, 2018

REVISED: AUGUST 16, 2018

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	08/16/2018
1 of 4	EXISTING CONDITIONS PLAN	08/16/2018
2 of 4	EXISTING CONDITIONS PLAN	08/16/2018
3 of 4	EXISTING CONDITIONS PLAN	08/16/2018
4 of 4	EXISTING CONDITIONS PLAN	08/16/2018
1 of 2	SUBDIVISION PLAN	04/16/2018
2 of 2	SUBDIVISION PLAN	04/16/2018

COMPLETE SET 7 SHEETS

Last Save Date: November 5, 2018 2:20 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Xref\L-0700-13-COVER.dwg Layout Tab: EX-CS

DRAINAGE STRUCTURE TABLE			
CB #1013	CBR #1324	CB #1461	CB #1732
RIM ELEV.=68.4'	RIM ELEV.=55.7'	RIM ELEV.=57.9'	RIM ELEV.=39.1'
(1019) 18" HDPE INV.=64.4'	(A) 12" RCP INV.=52.3'	(1460) 12" RCP INV.=53.2'	(1695) 10" RCP INV.=37.3'
(A) 18" HDPE INV.=64.4'	(1325) 12" RCP INV.=51.9'		
	(1305) 15" RCP INV.=51.9'	CB #1478	CBR #1733
CB #1019	(B) 22" RCP INV.=51.7'	RIM ELEV.=54.2'	RIM ELEV.=39.1'
RIM ELEV.=68.5'		(1515) 12" RCP INV.=47.2'	STRUCTURE DAMAGED
(A) 18" HDPE INV.=65.1'	CB #1325		
(1013) 18" HDPE INV.=64.7'	RIM ELEV.=55.7'	CB #1484	DMH #1755
	(1399) 15" RCP INV.=51.9'	RIM ELEV.=49.0'	RIM ELEV.=42'
CB #1088	(1324) 12" RCP INV.=51.8'	BROKEN GRATE – NOT OPENED	(A) 24" RCP INV.=37.2'
RIM ELEV.=66.6'			(B) 24" RCP INV.=37.1'
(A) 6" HDPE INV.=62.0'	DMH #1338	CB #1504	
(1111) 12" RCP INV.=61.6'	RIM ELEV.=57.7'	RIM ELEV.=48.9'	CB #1756
(1095) 12" RCP INV.=61.6'	(SUMP)=49.9' (LARGE VAULT)	(A) 12" RCP INV.=42.7'	RIM ELEV.=42.5'
		(1484) 12" RCP INV.=42.6'	(1769) 12" RCP INV.=39.2'
DMH #1095	CB #1345		
RIM ELEV.=65.2'	RIM ELEV.=58.1'	CB #1515	CB #1769
(1088) 12" RCP INV.=60.0'	(1420) 12" RCP INV.=53.9'	RIM ELEV.=54.1'	RIM ELEV.=42.5'
(1137) 12" RCP INV.=59.7'		BROKEN GRATE – NOT OPENED	(1756) 12" RCP INV.=38.1'
	CB #1381		(A) 12" RCP INV.=33.5'
CB #1111	RIM ELEV.=57.2'	CB #1542	
RIM ELEV.=66.8'	(1212) 15" RCP INV.=54.3'	RIM ELEV.=44.4'	CB #1935
(1088) 12" RCP INV.=61.9'	(1311) 15" RCP INV.=54.4'	(1651) 12" RCP INV.=41.0'	RIM ELEV.=49.7'
			NOT OPENED – SILT SOCK
CB #1137	CB #1399	CB #1570	
RIM ELEV.=60.7'	RIM ELEV.=55.5'	RIM ELEV.=40.7'	CB #2031
(1095) 12" RCP INV.=57.3'	(1325) 15" RCP INV.=52.3'	(A) 18" RCP INV.=36.2'	RIM ELEV.=59.0'
(1285) 15" RCP INV.=56.8'		(B) 18" RCP INV.=36.2'	NOT OPENED – SILT SOCK
(1141) 15" RCP INV.=56.8'	DMH #1401		
	RIM ELEV.=58.3'	CB #1572	DMH #2142
DMH #1141	NOT OPENED – OFF SITE	RIM ELEV.=42.2'	RIM ELEV.=62.8'
RIM ELEV.=61.1'		(1611) 12" RCP INV.=38.2'	(A) 24" HDPE INV.=58.2'
(1300) 12" RCP INV.=57.2'	DMH #1408		(B) 24" HDPE INV.=56.8'
(1137) 15" RCP INV.=56.9'	RIM ELEV.=56.8'	CB #1580	
(1147) 15" RCP INV.=56.6'	NOT OPENED – OFF SITE	RIM ELEV.=41.7'	CB #2152
(A) 15" RCP INV.=56.4'		(1586) 15" RCP INV.=36.8'	RIM ELEV.=64.3'
(B) 18" ASB INV.=56.3'	CB #1420		NOT OPENED – SILT SOCK
	RIM ELEV.=58.1'	CB #1586	
CB #1147	(1345) 12" RCP INV.=54.4'	RIM ELEV.=41.9'	DMH #2153
RIM ELEV.=61.5'	(1421) 12" HDPE INV.=54.1'	(1580) 15" RCP INV.=36.4'	RIM ELEV.=64.5'
(A) 15" RCP INV.=57.2'		(A) 15" RCP INV.=36.6'	(SUMP) INV.=53.9'
(1141) 15" RCP INV.=57.1'	DMH #1421		FULL OF WATER
	RIM ELEV.=57.4'	CB #1611	
CB #1183	(1420) 12" RCP INV.=54.3'	RIM ELEV.=42.4'	CB #2170
RIM ELEV.=60.1'	SUMP=53.4' (FULL OF SILT)	(1572) 12" RCP INV.=37.8'	RIM ELEV.=65.7'
(1212) 15" RCP INV.=55.7'		(A) 12" RCP INV.=37.5'	NOT OPENED – SILT SOCK
	DMH #1438		
CB #1212	RIM ELEV.=50.2'	CB #1651	CB #2246
RIM ELEV.=57.5'	(A) 12" RCP INV.=44.6'	RIM ELEV.=44.6'	RIM ELEV.=65.5'
(1183) 15" RCP INV.=54.8'	(1439) 12" RCP INV.=44.6'	(1542) 12" RCP INV.=39.5'	NOT OPENED – SILT SOCK
(1381) 15" RCP INV.=54.6'	(B) UNK. CMP INV.=42.9'	(A) 12" RCP INV.=39.5'	
	(C) UNK. CMP INV.=42.9'		CBR #2327
CB #1285		CB #1678	RIM ELEV.=40.2'
RIM ELEV.=60.7'	CBR #1439	RIM ELEV.=39.2'	(A) 12" RCP INV.=38.3'
(1137) 15" RCP INV.=57.0'	RIM ELEV.=47.4'	(TOP OF WATER) INV.=36.5'	
	(1438) 12" RCP INV.=45.2'	(A) 12" RCP INV.=35.4'	CBR #2329
CBR #1305			RIM ELEV.=47.4'
RIM ELEV.=56.7'	CBR #1444	CB #1685	(A) 12" RCP INV.=42.0'
(1311) 12" RCP INV.=52.8'	RIM ELEV.=48.3'	RIM ELEV.=39.2'	SILT=41.9'
(A) 15" RCP INV.=52.7'	12" HDPE INV.=46.4'	(TOP OF WATER) INV.=36.6'	
(1324) 15" RCP INV.=52.7'	(SUMP) INV.=42.8'	(2330) 12" RCP INV.=36.4'	DMH #2330
			RIM ELEV.=40.4'
CB #1311	CB #1456	DMH #1695	(1685) 12" RCP INV.=36.5'
RIM ELEV.=57.1'	RIM ELEV.=58.1'	RIM ELEV.=42.8'	(A) 12" RCP INV.=36.3'
(1381) 15" RCP INV.=53.4'	(1460) 12" RCP INV.=52.5'	(1732) 10" RCP INV.=36.4'	(B) 15" RCP INV.=36.1'
(1305) 12" RCP INV.=53.0'		(A) 48" RCP INV.=35.9'	
	DMH #1460	(B) NOT MEASURED	DMH #2336
	RIM ELEV.=58'	(RECESSED – LARGE VAULT)	RIM ELEV.=39.7'
	(1461) 12" RCP INV.=51.6'		(A) 18" RCP INV.=36.1'
	(1456) 12" RCP INV.=51.5'		(B) 24" RCP INV.=35.4'
	(A) 15" RCP INV.=50.7'		

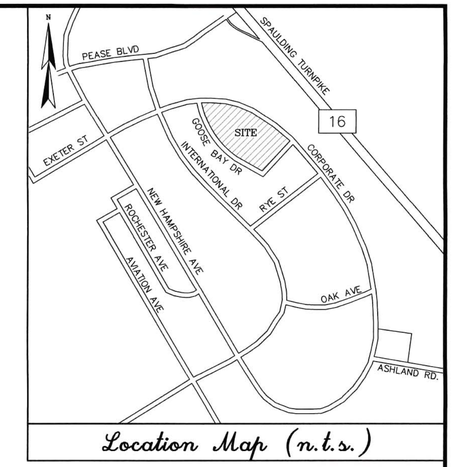
SEWER STRUCTURE TABLE		
SMH #1062	SMH #1551	
RIM ELEV.=69.8'	RIM ELEV.=43.6'	
(A) 6" CLAY INV.=63.9'	(A) 8" PVC INV.=35.6'	
(B) 6" CLAY INV.=63.7'	(B) 12" UNK. INV.=34.2'	
(1067) 8" CLAY INV.=62.6'	(C) 12" UNK. INV.=34.1'	
SMH #1067	SMH #1691	
RIM ELEV.=68.6'	RIM ELEV.=39.9'	
(1062) 8" CLAY INV.=60.4'	(1784) UNK. INV.=34.2'	
(2242) 8" UNK. INV.=60.3'	(1722) UNK. INV.=34.1'	
SMH #1078	SMH #1722	
RIM ELEV.=69.0'	RIM ELEV.=41.1'	
COULD NOT OPEN	(A) 6" CLAY INV.=33.2'	
	(1691) UNK. CLAY INV.=33.1'	
SMH #1123		
RIM ELEV.=64'	SMH #1784	
(1295) 8" PVC INV.=55.8'	RIM ELEV.=41.1'	
	(1921) 10" UNK. INV.=35.4'	
SMH #1169	(1691) 10" UNK. INV.=35.5'	
RIM ELEV.=65.2'		
(1184) 15" STEEL INV.=53.8'	SMH #1921	
(A) 15" STEEL INV.=53.8'	RIM ELEV.=44.8'	
	(1953) UNK. INV.=37'	
SMH #1184	(1784) UNK. INV.=36.9'	
RIM ELEV.=60.4'		
(1296) 8" CLAY INV.=54.2'	SMH #1953	
(1217) 15" STEEL INV.=52.7'	RIM ELEV.=50.1'	
(1169) 15" STEEL INV.=52.7'	(A) 6" CLAY INV.=42.4'	
	(2080) UNK. INV.=42.2'	
SMH #1217	(1921) UNK. INV.=42.2'	
RIM ELEV.=57.9'		
(1184) 15" STEEL INV.=52.3'	SMH #2080	
(1400) 15" STEEL INV.=52.2'	RIM ELEV.=57.9'	
	(A) 8" UNK. INV.=50.1'	
SMH #1296	2187) 8" UNK. INV.=50.1'	
RIM ELEV.=63.7'	(1953) 8" UNK. INV.=49.9'	
(1123) 8" PVC INV.=55.5'		
(2326) 8" UNK. INV.=55.0'	SMH #2187	
(1184) 8" UNK. INV.=55.0'	RIM ELEV.=63'	
	(A) 6" PVC INV.=54.9'	
SMH #1400	(2242) 8" PVC INV.=54.9'	
RIM ELEV.=55.6'	(2080) 8" PVC INV.=54.9'	
(1217) 15" ASB INV.=49.3'		
(1415) 15" ASB INV.=49.3'	SMH #2242	
	RIM ELEV.=65.0'	
SMH #1415	(1067) 8" CLAY INV.=56.8'	
RIM ELEV.=57.9'	(2187) 8" CLAY INV.=57.0'	
(A) 12" PVC INV.=48.3'		
(1400) 18" UNK. INV.=47.9'	SMH #2326	
(1450) 18" PVC INV.=48.0'	RIM ELEV.=68.1'	
	(1078) 8" PVC INV.=62.2'	
SMH #1450	(1296) 8" ASB INV.=62.1'	
RIM ELEV.=60.5'		
(1415) 18" PVC INV.=47.6'	SMH #2328	
(1459) 18" PVC INV.=47.5'	RIM ELEV.=43.1'	
	(1551) 12" UNK INV.=32.3'	
SMH #1459	(A) 18" UNK INV.=32.3'	
RIM ELEV.=58.8'		
(A) 8" PVC INV.=48.4'		
(1450) 18" PVC INV.=47.1'		
(B) 18" PVC INV.=47.1'		

REFERENCE PLANS:

1. "R.O.W. WORKSHEET, CORPORATE DRIVE PREPARED FOR PEASE DEVELOPMENT AUTHORITY" DATED DEC. 21, 1992 BY RICHARD D. BARTLETT & ASSOCIATES, INC. SHEETS 1 AND 2.
2. "PEASE A.F.B. / PORTSMOUTH, N.H. REPAVE BASE STREETS, PORTSMOUTH AVE, ROCKINGHAM AVE." DATED 7 DEC 82 BY STRATETIC AIR COMMAND CIVIL ENGINEERING. SHEET 4 OF 5
3. "PORTSMOUTH AIR FORCE BASE, PORTSMOUTH, N.H. ROADS AND STORAGE AREA FY–56" DATED DEC 1955 BY WHITMAN & HOWARD ENGINEERS. INDEX PAGE AND SHEETS 2 – 5 OF 11.
4. "PEASE INTERNATIONAL TRADEPORT SUBDIVISION PLAT, INTERNATIONAL DRIVE LOTS BC11–001 & BC11–002, PORTSMOUTH, N.H." DATED FEBRUARY 5, 1993 BY RICHARD D. BARTLETT & ASSOCIATES INC. R.C.R.D. PLAN #D22536.
5. "SUBDIVISION PLAN OF LAND FOR REDHOOK ALE BREWERY, INC. CORPORATE DRIVE, COUNTY OF ROCKINGHAM, PORTSMOUTH, N.H." DATED DECEMBER 10, 1994 BY RICHARD P. MILLETTE AND ASSOCIATES. R.C.R.D. PLAN #D–23978.
6. "ALTA/ACSM LAND TITLE SURVEY FOR RESPORT, LLC, ONE INTERNATIONAL DRIVE, COUNTY OF ROCKINGHAM, PORTSMOUTH, N.H." DATED FEBRUARY 27, 1998 BY MILLETTE, SPRAGUE & COLWELL, INC. R.C.R.D. PLAN #D–26125.
7. "FRANKLIN PIERCE COLLEGE, PEASE INTERNATIONAL TRADEPORT, 73 CORPORATE DRIVE, PORTSMOUTH, NH" DATED JANUARY 15, 1998 BY RONALD R. BURD. R.C.R.D. PLAN #D–26427.
8. "SUBDIVISION PLAN FOR LAND LEASED BY PEASE DEVELOPMENT AUTHORITY & KNOWN AS #119 INTERNATIONAL DRIVE LOCATED AT PEASE INTERNATIONAL TRADEPORT, PORTSMOUTH, N.H." DATED MARCH 1, 2000 BY KNIGHT HILL LAND SURVEYING SERVICES, INC. R.C.R.D. PLAN #D–28059.
9. "SUBDIVISION PLAT PREPARED FOR 80 CORPORATE DRIVE LLC C/O BOULOS PROPERTY MANAGEMENT, LOCATION CORPORATE & GOOSE BAY DRIVES, PEASE INTERNATIONAL TRADEPORT – PORTSMOUTH, NH" DATED APRIL 11, 2000 BY FWS LAND SURVEYING P.L.L.C. R.C.R.D. PLAN #D–28447.
10. "LEASE LINE REVISION PLAN FOR LONZA BIOLOGICS, INC. 101 INTERNATIONAL DRIVE, PORTSMOUTH, NEW HAMPSHIRE" DATED FEB. 5, 2001 BY DOUCET SURVEY, INC. R.C.R.D. PLAN #D–28955.
11. "LEASE LINE REVISION PLAN FOR LONZA BIOLOGICS, INC. 101 INTERNATIONAL DRIVE, PORTSMOUTH, NEW HAMPSHIRE" DATED SEPT. 17, 2001 BY DOUCET SURVEY, INC. R.C.R.D. PLAN #D–29538.
12. "SUBDIVISION PLAN OF LAND OF PEASE DEVELOPMENT AUTHORITY TO BE LEASED TO NORTHEAST REHABILITATION (A PORTION OF TAX MAP 303, LOT 6) 105 & 121 CORPORATE DRIVE, PEASE TRADEPORT, PORTSMOUTH, NEW HAMPSHIRE" DATED NOV. 5, 2008 BY DOUCET SURVEY, INC. R.C.R.D. PLAN #D–35869.
13. "CONDOMINIUM SITE & FLOOR PLAN PREPARED FOR PIONEER NEW HAMPSHIRE, LLC, LAND OF PEASE DEVELOPMENT AUTHORITY, TAX MAP PARCEL 305–3 (108, 110, 112 & 114 CORPORATE DRIVE) PORTSMOUTH, NEW HAMPSHIRE" DATED APRIL 12, 2013 BY FIELDSTONE LAND CONSULTANTS, PLLC. SHEET 1 OF 5. R.C.R.D. PLAN #D–37765.
14. "SUBDIVISION PLAN FOR PEASE DEVELOPMENT AUTHORITY, (TAX MAP 303, LOT 4) 67 CORPORATE DRIVE, PEASE TRADEPORT, PORTSMOUTH NEW HAMPSHIRE" DATED MAY 29, 2009 BY DOUCET SURVEY, INC. (NOT RECORDED)
15. "EXISTING CONDITIONS, BUILDING A, 80 CORPORATE DRIVE AND BUILDING B, 70 CORPORATE DRIVE, PORTSMOUTH, NH" DATED 4/14/2000 AND REVISED 6/05/2000 BY OPECHEE CONSTRUCTION CORPORATION. (NOT RECORDED)

LEGEND

———	EXISTING LEASE/R.O.W. LINES
——— O ——— O ———	CHAIN LINK FENCE
——— OHW ———	OVERHEAD WIRES
——— S ———	SEWER LINE
——— D ———	DRAIN LINE
——— G ———	GAS LINE
——— W ———	WATER LINE
——— E ———	UNDERGROUND ELECTRIC LINE
——— XS ———	SEWER LINE PER REF. PLAN #15
——— XD ———	DRAIN LINE PER REF. PLAN #15
——— XG ———	GAS LINE PER REF. PLAN #15
——— XW ———	WATER LINE PER REF. PLAN #15
——— 100 ———	MAJOR CONTOUR LINE
——— 98 ———	MINOR CONTOUR LINE
	TREE LINE
— · · — · · —	EDGE OF WETLAND (SEE NOTE #6)
	HISS LINE (SEE NOTE #6)
	UTILITY POLE
	SIGN
	GRANITE BOUND FOUND
	DRILL HOLE FOUND
	IRON PIPE/ROD FOUND
	4"X4" GRANITE BOUND TO BE SET
	5/8" REBAR W/ ID CAP TO BE SET
	BOLLARD
	FIRE HYDRANT
	WATER GATE VALVE
	GAS GATE VALVE
	PAD MOUNTED TRANSFORMER
	ELECTRIC BOX
	TELEPHONE BOX
	UTILITY BOX
	CABLE BOX
	CATCH BASIN
	CATCH BASIN
	CATCH BASIN
	DRAIN MANHOLE
	FLARED END SECTION
	ELECTRIC MANHOLE
	TELEPHONE MANHOLE
	SEWER MANHOLE
	CLEANOUT
	CATCH BASIN PER REF. PLAN #15
	DRAIN MANHOLE PER REF. PLAN #15
	SEWER MANHOLE PER REF. PLAN #15
	HAND HOLE
	WETLAND AREA
	CONIFEROUS TREE
	DECIDUOUS TREE
	CONCRETE
	RIP RAP
	GRAVEL AREA
	LEDGE OUTCROP
BND. FND.	BOUND FOUND
D.H.F.	DRILL HOLE FOUND
EP	EDGE OF PAVEMENT
SWL	SINGLE WHITE LINE
DYL	DOUBLE YELLOW LINE
VGC	VERTICAL GRANITE CURB
	HISS SOIL TYPE



Location Map (n.t.s.)

NOTES:

1. REFERENCE: TAX MAP 305, LOT 1 PHYSICAL ADDRESS: 70 CORPORATE DRIVE TAX MAP 305, LOT 2 PHYSICAL ADDRESS: 80 CORPORATE DRIVE
2. TOTAL PARCEL AREA: TAX MAP 305, LOT 1: 443,578 SQ. FT. OR 10.183 AC. TAX MAP 305, LOT 2: 604,273 SQ. FT. OR 13.872 AC. TOTAL AREA: 1,047,851 SQ. FT. OR 24.055 AC.
3. OWNER OF RECORD: TAX MAP 305, LOTS 1 & 2 PEASE DEVELOPMENT AUTHORITY 55 INTERNATIONAL DRIVE PORTSMOUTH, NEW HAMPSHIRE 03801 R.C.R.D. BOOK 4227, PAGE 001
4. ZONE: AIRPORT, BUSINESS & COMMERCIAL (ABC)
5. FIELD SURVEY PERFORMED BY J.M.L., E.J.S., J.P.E., J.F.K., AND N.J.M. DURING NOVEMBER 2015 USING A TRIMBLE R8 SURVEY GRADE GPS UNIT AND A TRIMBLE S6 ROBOTIC TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR.
6. JURISDICTIONAL WETLANDS DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC. DURING FALL 2014 IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLANDS DELINEATIONS MANUAL, TECHNICAL REPORT Y–87–1. HISS/SITE SPECIFIC SOILS MAPPING COMPLETED BY GOVE ENVIRONMENTAL SERVICES DURING DECEMBER 2015.
7. FLOOD HAZARD ZONE: "X", PER FIRM MAP #33015C0260E, DATED MAY 17, 2005.
8. HORIZONTAL DATUM BASED ON NH STATE PLANE 2800(NAD83/86) PER REFERENCE PLANS #10, #11, & #12.
9. VERTICAL DATUM IS BASED ON NGVD29 PER REFERENCE PLANS #10, #11, & #12.
10. PROPER FIELD PROCEDURES WERE FOLLOWED IN ORDER TO GENERATE CONTOURS AT 2' INTERVALS. ANY MODIFICATION OF THIS INTERVAL WILL DIMINISH THE INTEGRITY OF THE DATA, AND DOUCET SURVEY, INC. WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.
11. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVABLE PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON–SITE. THE SITE WAS NOT MARKED FOR THE PURPOSES OF THIS SURVEY. SOME UTILITIES ARE SHOWN PER REFERENCE PLANS AS NOTED IN THE LEGEND.
12. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES/TYPES IS SUBJECT TO NUMEROUS FIELD CONDITIONS, INCLUDING; THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS, MANHOLE CONFIGURATION, ETC.
13. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT LEGAL DESCRIPTION, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.
14. TAX MAP 305, LOTS 1 & 2 ARE EITHER SUBJECT TO OR IN BENEFIT OF, BUT NOT LIMITED TO, THE FOLLOWING EASEMENTS/RIGHTS OF RECORD:
    - 14.A. 50' WIDE ACCESS EASEMENT FOR THE BENEFIT OF LOT 305–2 (SHOWN PER REFERENCE PLAN #9)
    - 14.B. APPROXIMATE LOCATION OF 20' WIDE LICENSE TO THE CITY OF PORTSMOUTH FOR THE PURPOSES OF MAINTAINING A DRAINAGE LINE. (SHOWN PER REFERENCE PLAN #9)
15. FINAL MONUMENTATION MAY BE DIFFERENT THAN THE PROPOSED MONUMENTATION SHOWN HEREON, DUE TO THE FACT THAT SITE CONDITIONS WILL DICTATE THE ACTUAL LOCATION AND TYPE OF MONUMENTS INSTALLED IN THE FIELD. PLEASE REFER TO EITHER THE "MONUMENTATION LOCATION PLAN" TO BE RECORDED OR CONTACT DOUCET SURVEY, INC. FOR CLARIFICATION OF MONUMENTS SET. (A RECORDED PLAN WILL BE PRODUCED AT THE DISCRETION OF DOUCET SURVEY, INC.).

PURSUANT TO RSA 676:18, III:

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000."

L.L.S. #964

8-16-18
DATE

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STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR NO. 964 JEFFREY A. GOLDKNOPF SIGNATURE

NO.	DATE	DESCRIPTION	BY
2	8/16/18	MOD. DRAINAGE	J.A.G.
		MOD. SOIL TYPES PER G.E.S.	
1	8/3/16	GENERAL EDITS AND	J.A.G.
		ADDED WETLANDS BUFFER	

NOTE:
ALL ELECTRIC, GAS, TEL. WATER, SEWER AND DRAIN SERVICES ARE SHOWN IN SCHEMATIC FASHION. THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN ON THIS SITE USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG–SAFE AT 1–888–DIG–SAFE.

STATE OF NEW HAMPSHIRE LUKE D. HURLEY 8/16/18 NO. 965 CERTIFIED SOIL SCIENTIST

STATE OF NEW HAMPSHIRE LUKE D. HURLEY 8/14/18 No. 232 CERTIFIED WETLAND SCIENTIST

EXISTING CONDITIONS PLAN
FOR
TIGHE & BOND AND LONZA
LAND OF
PEASE DEVELOPMENT AUTHORITY
(TAX MAP 305, LOTS 1 & 2)
GOOSE BAY DRIVE & CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE

DRAWN BY:	K.C.W.	DATE:	DEC. 23, 2015
CHECKED BY:	J.A.G.	DRAWING NO.:	4375A
JOB NO.:	4375	SHEET	1 OF 4

DOUCET SURVEY INC
Serving Your Professional Surveying & Mapping Needs
102 Kent Place, Newmarket, NH 03857 (603) 659–6560
10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502–7005
http://www.doucetsurvey.com

FILE NAME: C:\Users\JeffL\appdata\local\temp\AcPublish_8524\4375A.dwg LAYOUT NAME: DSI 22x34 (1) PLOTTED: Thursday, August 16, 2018 – 3:18pm

TAX MAP 303, LOT 2-1
OPROCK PORTSMOUTH INTL FEE LLC
C/O OCEAN PROPERTIES LTD
1000 MARKET ST SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 4831, PAGE 2677

TAX MAP 303, LOT 2-2
RESPORT LLC
1000 MARKET ST BLDG 1 STE 300
PORTSMOUTH, NH 03801

TAX MAP 305, LOT 7
PEASE DEVELOPMENT AUTHORITY
55 INTERNATIONAL DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801

TAX MAP 305, LOT 7-1
UNIVERSITY SYSTEM OF NEW HAMPSHIRE
COLLEGE FOR LIFELONG LEARNING
51 INTERNATIONAL DRIVE
PORTSMOUTH, NH 03801

TAX MAP 305, LOT 7-1
CITY OF PORTSMOUTH
1 JUNKINS AVE
PORTSMOUTH, NH 03801

TAX MAP 305, LOT 6
LONZA BIOLOGICS INC.
101 INTERNATIONAL DRIVE
PORTSMOUTH, NH 03801

TAX MAP 303, LOT 3
RED HOOK BREWERY INC
C/O WIDMER BROTHERS BREWING CO
929 NORTH RUSSELL ST.
PORTLAND, OR 97227

NHSPCP(NAD83/2011)

TBM 4375A
"X" CUT BOLT OVER MAIN
ELEV.=69.27'

305-1
443,578 Sq. Ft.
10.18 Acres

L=623.87'
R=1420.00'
CB=N34°46'41"W
CHORD=618.86'
Δ=25°10'21"

L=60.50'
R=35.00'
CB=N34°16'57"E
CHORD=53.24'
Δ=99°01'56"

L=60.72'
R=500.00'
CB=N18°42'46"W
CHORD=60.69'
Δ=6°57'30"

L=910.09'
R=1540.26'
CB=S79°16'27"E
CHORD=896.91'
Δ=33°51'16"

N22°11'13"W
200.00'

25' WETLAND BUFFER (TYP.)
(FOR WETLANDS OVER 10,000 SQ.FT.)

20' LICENSE FOR DRAINAGE
(SEE NOTE #14B)

MATCH LINE SHEET 2
MATCH LINE SHEET 3

GOOSE BAY DRIVE
(60' R.O.W. PER REF. PLAN #3)

CORPORATE DRIVE
(100' R.O.W. PER REF. PLAN #1)

GOOSE BAY RD

915B
313C
313B
546B/P

SOIL IDENTIFICATION LEGEND

SYMBOL	SOIL TAXONOMIC NAME, SLOPE RATING
89C	CHATFIELD, 8 TO 15 PERCENT SLOPES
313B	DEERFIELD, 0 TO 8 PERCENT SLOPES
313C	DEERFIELD, 8 TO 15 PERCENT SLOPES
915B	DEERFIELD VARIANT, 0 TO 8 PERCENT SLOPES
546B/P	WALPOLE POORLY DRAINED, 0 TO 8 PERCENT SLOPES
799B	UDORTHENTS URBAN LAND, 0 TO 8 PERCENT SLOPES
799E	UDORTHENTS URBAN LAND, >25 PERCENT SLOPES

STATE OF NEW HAMPSHIRE
LUKE D. HURLEY
8/16/18
No. 088
CERTIFIED SOIL SCIENTIST

STATE OF NEW HAMPSHIRE
LUKE D. HURLEY
8/20/18
No. 232
CERTIFIED WETLAND SCIENTIST

STATE OF NEW HAMPSHIRE
No. 964
JEFFREY A. GOLDKNOPF
LAND SURVEYOR
SIGNATURE

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Jeffrey A. Goldknopf L.L.S. #964
8-16-18 DATE

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GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

NO.	DATE	DESCRIPTION	BY
2	8/16/18	MOD. DRAINAGE	J.A.G.
		MOD. SOIL TYPES PER G.E.S.	
1	8/3/16	GENERAL EDITS AND	J.A.G.
		ADDED WETLANDS BUFFER	

NOTE:
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EXISTING CONDITIONS PLAN
FOR
TIGHE & BOND AND LONZA
LAND OF
PEASE DEVELOPMENT AUTHORITY
(TAX MAP 305, LOTS 1 & 2)
GOOSE BAY DRIVE & CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE

DRAWN BY:	K.C.W.	DATE:	DEC. 23, 2015
CHECKED BY:	J.A.G.	DRAWING NO.:	4375A
JOB NO.:	4375	SHEET	2 OF 4

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MATCH LINE SHEET 2

MATCH LINE SHEET 3

MATCH LINE SHEET 3

MATCH LINE SHEET 4

TAX MAP 305, LOT 6
LONZA BIOLOGICS INC.
101 INTERNATIONAL DRIVE
PORTSMOUTH, NH 03801

TAX MAP 303, LOT 4
PEASE DEVELOPMENT AUTHORITY
55 INTERNATIONAL DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801

TAX MAP 303, LOT 7
PEASE REHAB LLC
C/O NORTHEAST REHAB
70 BUTLER ST.
SALEM, NH 03079

305-1
443,578 Sq. Ft.
10.183 Acres

L=623.87'
R=1420.00'
CB=N34°46'41"W
CHORD=618.86'
Δ=25°10'21"

L=338.74'
R=1420.00'
CB=N54°11'54"W
CHORD=337.94'
Δ=13°40'04"

L=391.06'
R=825.00'
CB=N35°06'29"E
CHORD=387.41'
Δ=27°09'32"

L=149.63'
R=1540.26'
CB=S59°33'50"E
CHORD=149.57'
Δ=5°33'58"

N48°41'15"E
239.83'

N21°31'44"E
164.25'

S56°46'15"E
176.00'

TBM 4375B
"X" CUT BOLT OVER MAIN
ELEV.=62.94'

20' LICENSE FOR DRAINAGE
(SEE NOTE #14B)

50' ACCESS EASEMENT
(SEE NOTE #14A)

LEASE LINE PER
REF. PLAN #9

GOOSE BAY DRIVE
(60' R.O.W. PER REF. PLAN #9)

CORPORATE DRIVE
(100' R.O.W. PER REF. PLAN #1)

799B/cbade
~ DIRT PARKING AREA ~

799E/cbade

915B

313B

313C

546B/P

CB #1019
CB #1013
SMH #1062
SMH #1067
CB #2170
CB #2246
DMH #2153
CB #2152
SMH #2242
SMH #2187
DMH #2142
CB #2031
SMH #2080
CONC. PAD W/
TRANSFORMER
6' CHAIN LINK FENCE
(TYP.)
PILE OF LARGE CONCRETE BLOCKS
PILE OF FILL
2x10" HDPE
SET VERTICAL
10" HDPE INV.=50.7'
8" HDPE INV.=50.1'
CB #1439
DMH #1438
25' WETLAND BUFFER (TYP.)
(FOR WETLANDS OVER 10,000 SQ.FT.)
SMH #1415
CB #1420
CB #1345
DMH #1421
SMH #1450
SMH #1459
CB #1456
DMH #1460
CB #1461
CB #1515
CB #1478
15" DIP INV.=61.1'
15" DIP INV.=61.1'

NO.	DATE	DESCRIPTION	BY
2	8/16/18	MOD. DRAINAGE	J.A.G.
		MOD. SOIL TYPES PER G.E.S.	
1	8/3/16	GENERAL EDITS AND	J.A.G.
		ADDED WETLANDS BUFFER	

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GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

STATE OF NEW HAMPSHIRE
No. 964
JEFFREY A. GOLDKNOPF
LICENSED LAND SURVEYOR
SIGNATURE

PURSUANT TO RSA 676:18, III:

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JEFFREY A. GOLDKNOPF L.L.S. #964

8-16-18 DATE

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STATE OF NEW HAMPSHIRE
LUKE D. HURLEY
8/20/18
No. 009
CERTIFIED SOIL SCIENTIST

STATE OF NEW HAMPSHIRE
LUKE D. HURLEY
8/20/18
No. 232
CERTIFIED WETLAND SCIENTIST

EXISTING CONDITIONS PLAN
FOR
TIGHE & BOND AND LONZA
LAND OF
PEASE DEVELOPMENT AUTHORITY
(TAX MAP 305, LOTS 1 & 2)
GOOSE BAY DRIVE & CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE

DRAWN BY: K.C.W.	DATE: DEC. 23, 2015
CHECKED BY: J.A.G.	DRAWING NO.: 4375A
JOB NO.: 4375	SHEET 3 OF 4

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MATCH LINE SHEET 3

MATCH LINE SHEET 4

CONC. PAD W/ TRANSFORMER

799B/cbade

6" CHAIN LINK FENCE (TYP.)

GOOSE BAY DRIVE (60' R.O.W. PER REF. PLAN #9)

N81°01'56"W 229.15'

TRAILER

915B

546B/P

313B

89C

305-2
604,273 Sq. Ft.
13.872 Acres

LEDGE OUTCROP

25' WETLAND BUFFER (TYP.)
(FOR WETLANDS OVER 10,000 SQ.FT.)

20' LICENSE FOR DRAINAGE
(SEE NOTE #18)

6T

6" PVC

4" PVC

CB #1935

SMH #1953

L=181.41'
R=1752.84'
CB=N58°03'47"W
CHORD=181.33'
Δ=5°55'47"

CONC. PAD W/ TRANSFORMER

12T W/ CONDUIT

2x12" HDPE SET VERTICAL

12" HDPE INV.=43.6'

L=75.52'
R=50.06'
CB=S81°41'02"W
CHORD=68.56'
Δ=86°26'09"

5/8" REBAR FOUND DOWN 1"

TAX MAP 305, LOT 6
LONZA BIOLOGICS INC.
101 INTERNATIONAL DR
PORTSMOUTH, NH
03801

TAX MAP 305, LOT 4
119 INTERNATIONAL DRIVE LLC
CO-OWNER: KEYBANK REAL ESTATE CAPITAL
ATTN: TAX DEPT
11501 OUTLOOK SUITE 300
OVERLAND PARK, KS 66211

5/8" REBAR FOUND FLUSH

TBM 4375D
"X" CUT BOLT OVER MAIN
ELEV.=47.67'

SMH #1921

SMH #1784

CB #1769

CB #1756

DMH #1755

252.97'
S38°27'58"W

433.19'
S42°06'02"W

CB #1685

DMH #2330

SMH #1691

DMH #1695

CB #1733

15" RCP INV.=38.1'

CB #1732

CB #1678

DMH #2336

42"x29" ARCH CMP INV.=35.3'
42"x29" ARCH CMP INV.=35.4'
42"x29" ARCH CMP INV.=35.2'
15" RCP INV.=35.6'
24" RCP INV.=35.1'

TAX MAP 305, LOT 3-1
PIONEER NEW HAMPSHIRE LLC
340 CENTRAL AVE STE 202
DOVER, NH 03820
R.C.R.D. BOOK 3571, PAGE 1559

TAX MAP 305, LOT 3-2
PIONEER NEW HAMPSHIRE LLC
340 CENTRAL AVE STE 202
DOVER, NH 03820
R.C.R.D. BOOK 3571, PAGE 1559

TAX MAP 305, LOT 3-3
PIONEER NEW HAMPSHIRE LLC
340 CENTRAL AVE STE 202
DOVER, NH 03820
R.C.R.D. BOOK 3571, PAGE 1559

TAX MAP 305, LOT 3-4
NEXTERA ENERGY SEABROOK LLC
700 UNIVERSE BOULEVARD PSX/JB
JUNO BEACH, FL 33408
R.C.R.D. BOOK 5454, PAGE 2321

CB #1444

12" HDPE INV.=45.7'

TBM 4375C
"X" CUT BOLT OVER MAIN
ELEV.=47.97'

L=473.28'
R=2450.00'
CB=S51°14'49"E
CHORD=472.54'
Δ=11°04'05"

CB #1504

CB #1484

CB #2329

CB #1651

CB #1542

SMH #1551

CB #2328

CB #2327

CB #1611

CB #1572

CB #1570

CB #1580

CB #1586

4" X 4" GRANITE BOUND FOUND W/ D.H. UP 8"

15" RCP INV.=35.5'

6' x 2' CONCRETE BOX CULVERT

0" RCP INV.=35.8'

CORPORATE DRIVE (100' R.O.W. PER REF. PLAN #1)

5/8" REBAR FOUND W/ "DSI LLS 937" CAP, DOWN 2"

TAX MAP 303, LOT 7
PEASE REHAB LLC
C/O NORTHEAST REHAB
70 BUTLER ST.
SALEM, NH 03079

TAX MAP 303, LOT 8
PEASE DEVELOPMENT AUTHORITY
55 INTERNATIONAL DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801

NAD83 (2011) NEW HAMPSHIRE STATE PLANE

STATE OF NEW HAMPSHIRE
No. 964
JEFFREY A. GOLDKNOPF
LICENSED LAND SURVEYOR
SIGNATURE

PURSUANT TO RSA 676:18, III:

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000."

L.L.S. #964

8-16-18
DATE

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEED REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.

STATE OF NEW HAMPSHIRE
LUKE D. HORESY
8/16/18
NO. 088
CERTIFIED SOIL SCIENTIST

STATE OF NEW HAMPSHIRE
LUKE D. HURLEY
8/20/18
No. 232
CERTIFIED WETLAND SCIENTIST

EXISTING CONDITIONS PLAN
FOR
TIGHE & BOND AND LONZA
LAND OF
PEASE DEVELOPMENT AUTHORITY
(TAX MAP 305, LOTS 1 & 2)
GOOSE BAY DRIVE & CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
2	8/16/18	MOD. DRAINAGE	J.A.G.
		MOD. SOIL TYPES PER G.E.S.	
1	8/3/16	GENERAL EDITS AND	J.A.G.
		ADDED WETLANDS BUFFER	

NOTE:
ALL ELECTRIC, GAS, TEL WATER, SEWER AND DRAIN SERVICES ARE SHOWN IN SCHEMATIC FASHION; THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN ON THIS SITE USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT 1-888-DIG-SAFE.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

DRAWN BY:	K.C.W.
CHECKED BY:	J.A.G.
JOB NO.:	4375
DATE:	DEC. 23, 2015
DRAWING NO.:	4375A
SHEET	4 OF 4

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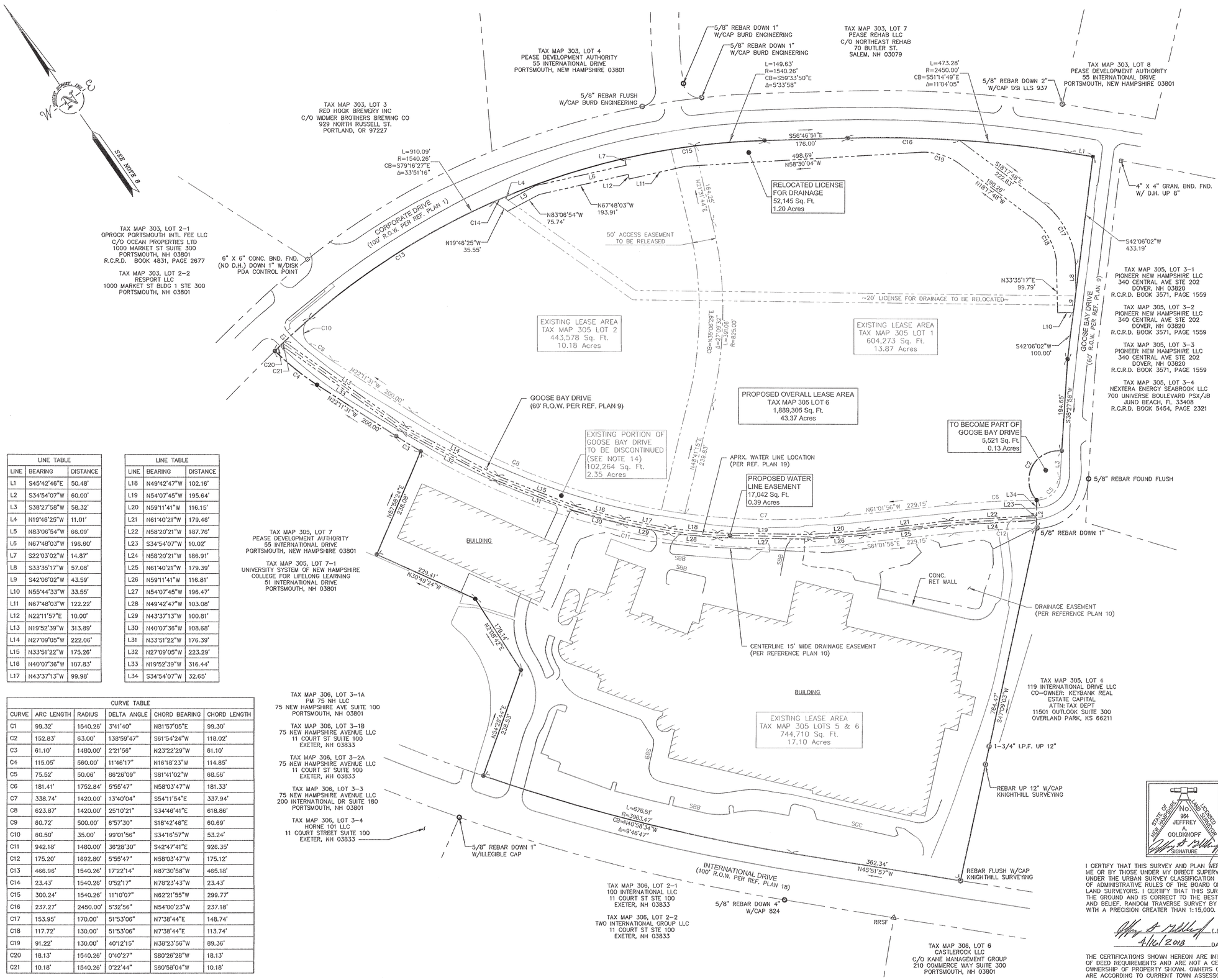
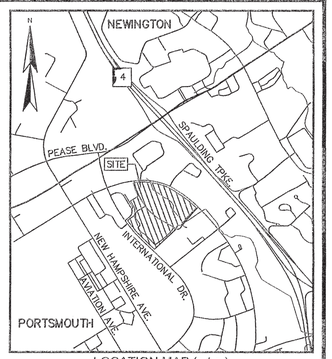
FILE NAME: C:\Users\Jeff\Appdata\Local\Temp\AcPublish_8524\4375A.dwg LAYOUT NAME: DSI 22X34 (4) PLOTTED: Thursday, August 16, 2018 - 3:18pm





LOCATION MAP (n.t.s.)

LEGEND

———	LEASE LINE
——— ——— ———	PROPOSED LEASE LINE
——— ——— ———	PROPOSED EASEMENT/LICENSE
——— ——— ———	LEASE/ROW/EASEMENT/LICENSE LINE TO BE ABANDONED
——— — — ———	APPROXIMATE ABUTTERS LOT LINE
——— — — ———	EASEMENT LINE
⊡	BOUND FOUND
◉	DRILL HOLE FOUND
○	IRON PIPE/ROD FOUND
TYP.	TYPICAL
GRAN.	GRANITE
CONC.	CONCRETE
BND. FND.	BOUND FOUND
D.H.F.	DRILL HOLE FOUND
I.P.F.	IRON PIPE FOUND
EP	EDGE OF PAVEMENT
VGC	VERTICAL GRANITE CURB
■	4"X4" GRANITE BOUND TO BE SET
●	5/8" REBAR W/ ID CAP TO BE SET

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S45°42'46"E	50.48'
L2	S34°54'07"W	60.00'
L3	S38°27'58"W	58.32'
L4	N19°46'25"W	11.01'
L5	N83°06'54"W	66.09'
L6	N67°48'03"W	196.60'
L7	S22°03'02"W	14.87'
L8	S33°35'17"W	57.08'
L9	S42°06'02"W	43.59'
L10	N55°44'33"W	33.55'
L11	N67°48'03"W	122.22'
L12	N22°11'57"E	10.00'
L13	N19°52'39"W	313.89'
L14	N27°09'05"W	222.06'
L15	N33°51'22"W	175.26'
L16	N40°07'36"W	107.83'
L17	N43°37'13"W	99.98'

LINE TABLE		
LINE	BEARING	DISTANCE
L18	N49°42'47"W	102.16'
L19	N54°07'45"W	195.64'
L20	N59°11'41"W	116.15'
L21	N61°40'21"W	179.46'
L22	N58°20'21"W	187.76'
L23	S34°54'07"W	10.02'
L24	N58°20'21"W	186.91'
L25	N61°40'21"W	179.39'
L26	N59°11'41"W	116.81'
L27	N54°07'45"W	196.47'
L28	N49°42'47"W	103.08'
L29	N43°37'13"W	100.81'
L30	N40°07'36"W	108.68'
L31	N33°51'22"W	176.39'
L32	N27°09'05"W	223.29'
L33	N19°52'39"W	316.44'
L34	S34°54'07"W	32.65'

CURVE TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	99.32'	1540.26'	3°41'40"	N81°57'05"E	99.30'
C2	152.83'	63.00'	138°59'47"	S61°54'24"W	118.02'
C3	61.10'	1480.00'	2°21'56"	N23°22'29"W	61.10'
C4	115.05'	560.00'	11°46'17"	N16°18'23"W	114.85'
C5	75.52'	50.06'	86°26'09"	S81°41'02"W	68.56'
C6	181.41'	1752.84'	5°55'47"	N58°03'47"W	181.33'
C7	338.74'	1420.00'	13°40'04"	S54°11'54"E	337.94'
C8	623.87'	1420.00'	25°10'21"	S34°46'41"E	618.86'
C9	60.72'	500.00'	6°57'30"	S18°42'46"E	60.69'
C10	60.59'	35.00'	99°01'56"	S34°16'57"W	53.24'
C11	942.18'	1480.00'	36°28'30"	S42°47'41"E	926.35'
C12	175.20'	1692.80'	5°55'47"	N58°03'47"W	175.12'
C13	466.96'	1540.26'	17°22'14"	N87°30'58"W	465.18'
C14	23.43'	1540.26'	0°52'17"	N78°23'43"W	23.43'
C15	300.24'	1540.26'	11°10'07"	N62°21'55"W	299.77'
C16	237.27'	2450.00'	5°32'56"	N54°00'23"W	237.18'
C17	153.95'	170.00'	51°53'06"	N7°38'44"E	148.74'
C18	117.72'	130.00'	51°53'06"	N7°38'44"E	113.74'
C19	91.22'	130.00'	40°12'15"	N38°23'56"W	89.36'
C20	18.13'	1540.26'	0°40'27"	S80°26'28"W	18.13'
C21	10.18'	1540.26'	0°22'44"	S80°58'04"W	10.18'

100 0 100 200

SCALE: 1 INCH = 100 FT.

SUBDIVISION PLAN

FOR

LONZA BIOLOGICS, INC.

AND

THE PEASE DEVELOPMENT AUTHORITY

OF

TAX MAP 305 LOTS 1, 2, 5 & 6

AND

GOOSE BAY DRIVE

INTERNATIONAL DRIVE - CORPORATE DRIVE

GOOSE BAY DRIVE

PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY

DRAWN BY:	W.D.C.	DATE:	APRIL 16, 2018
CHECKED BY:	J.A.G.	DRAWING NO.:	5518A
JOB NO.:	5518	SHEET	1 OF 2

STATE OF NEW HAMPSHIRE — NO. 984 — LICENSED LAND SURVEYOR — JEFFREY A. COLDKNOPF — SIGNATURE

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000.

L.L.S. #964

4/16/2018 DATE

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEED REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.

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FILE NAME: G:\Users\VJH\Projects\Lonza\Survey\Subplan_13565\5518Alt.dwg LAYOUT NAME: 5518 SUBDIVISION PLAN (SHEET 1) PLOTTED: Friday, November 02, 2018 - 4:27pm

NOTES:

1. REFERENCE: TAX MAP 305, LOTS 5 & 6
   PHYSICAL ADDRESS: 101 INTERNATIONAL DRIVE

2. PROPOSED LEASE AREA: TAX MAP 305, LOT 6: 1,889,305 SQ. FT. OR 43.37 AC.

3. OWNER OF RECORD: PEASE DEVELOPMENT AUTHORITY
   55 INTERNATIONAL DRIVE
   PORTSMOUTH, NEW HAMPSHIRE 03801
   R.C.R.D. BOOK 4227, PAGE 001

4. LESSEE OF RECORD: TAX MAP 305, LOTS 5 & 6
   LONZA BIOLOGICS, INC.
   101 INTERNATIONAL DRIVE
   PORTSMOUTH, NEW HAMPSHIRE 03801
   R.C.R.D. BOOK 3015, PAGE 2559
   (LEASE EXTENSIONS AND MODIFICATIONS HAVE NOT BEEN RECORDED, BUT HAVE BEEN PROVIDED BY THE LESSEE)
   SEE REFERENCE PLAN 10

5. ZONE: AIRPORT, BUSINESS, AND COMMERCIAL (ABC)
   DIMENSIONAL REQUIREMENTS:

MINIMUM LOT AREA	217,800 sq.ft. OR 5.0 AC.
MINIMUM STREET FRONTAGE	200 ft.
FRONT YARD SETBACK	70 ft.
SIDE SETBACK	30 ft.
REAR SETBACK	50 ft.
MINIMUM OPEN SPACE	25 %

   MAXIMUM STRUCTURE HEIGHT SHALL NOT EXCEED FAA CRITERIA

   WETLAND BUFFER 25 ft. (PER PDA REGULATIONS: WETLANDS LESS THAN 1/4 ACRE DO NOT HAVE A BUFFER)

   ZONING INFORMATION LISTED HEREON WAS PROVIDED BY TIGHE & BOND. ADDITIONAL REGULATIONS APPLY, AND REFERENCE IS HEREBY MADE TO THE EFFECTIVE ZONING ORDINANCE. THE LAND OWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE MUNICIPAL, STATE, AND FEDERAL REGULATIONS.

6. FIELD SURVEY PERFORMED BY B.T. & J.C.M. DURING MARCH 2018 USING A TRIMBLE S8 ROBOTIC TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.

7. FLOOD HAZARD ZONE: "X", PER FIRM MAP #33015C0260E, DATED MAY 17, 2005.

8. HORIZONTAL DATUM BASED ON NH STATE PLANE 2800(NAD83/86) PER REFERENCE PLANS 10, 11, & 12.

9. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT LEGAL DESCRIPTION, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.

10. TAX MAP 305, LOTS 1 & 2 ARE EITHER SUBJECT TO OR IN BENEFIT OF, BUT NOT LIMITED TO, THE FOLLOWING EASEMENTS/RIGHTS OF RECORD:
    10.A. 50' WIDE ACCESS EASEMENT FOR THE BENEFIT OF LOT 305-2. (SHOWN PER REFERENCE PLAN 9)
    10.B. APPROXIMATE LOCATION OF 20' WIDE LICENSE TO THE CITY OF PORTSMOUTH FOR THE PURPOSES OF MAINTAINING A DRAINAGE LINE. (SHOWN PER REFERENCE PLAN 9)

11. TAX MAP 305, LOTS 5 & 6 ARE EITHER SUBJECT TO OR IN BENEFIT OF, BUT NOT LIMITED TO, THE FOLLOWING EASEMENTS/RIGHTS OF RECORD:
    11.A. 15' WIDE DRAINAGE EASEMENT. (SHOWN PER REFERENCE PLAN 10)
    11.B. DRAINAGE EASEMENT. (SHOWN PER REFERENCE PLAN 10)

12. FINAL MONUMENTATION MAY BE DIFFERENT THAN THE PROPOSED MONUMENTATION SHOWN HEREON, DUE TO THE FACT THAT SITE CONDITIONS WILL DICTATE THE ACTUAL LOCATION AND TYPE OF MONUMENTS INSTALLED IN THE FIELD. PLEASE REFER TO EITHER THE "MONUMENTATION LOCATION PLAN" TO BE RECORDED OR CONTACT DOUCET SURVEY, INC. FOR CLARIFICATION OF MONUMENTS SET. (A RECORDED PLAN WILL BE PRODUCED AT THE DISCRETION OF DOUCET SURVEY, INC.).

13. IMPROVEMENTS SHOWN HEREON ARE APPROXIMATE.

14. REGARDING THE PORTION GOOSE BAY DRIVE TO BECOME PART OF THE PROPOSED LEASE AREA:
    14.A. THE PEASE DEVELOPMENT AUTHORITY REPORTS THAT THE OWNERSHIP UNDERLYING ROADWAYS WITHIN THE TRADEPORT REMAINS VESTED IN THE PEASE DEVELOPMENT AUTHORITY.
    14.B. THE PEASE DEVELOPMENT AUTHORITY REPORTS THAT THERE ARE UNDERLYING BLANKET UTILITY EASEMENTS ON LANDS IN THEIR OWNERSHIP. THIS MAY INCLUDE, BUT NOT BE LIMITED TO BURIED OR OVERHEAD ELECTRIC, TELECOMMUNICATIONS, GAS, WATER, AND SEWER.

15. THE APPLICANT WILL BE REQUESTING THE FOLLOWING WAIVER FROM THE CITY OF PORTSMOUTH PLANNING BOARD REGARDING SECTION IV;3;I. CUL-DE-SACS:
    15.A. MAXIMUM LENGTH OF CUL-DE-SAC OF 500'
    15.B. MINIMUM RADIUS OF CUL-DE-SAC PAVEMENT OF 50'

REFERENCE PLANS:

1. "R.O.W. WORKSHEET, CORPORATE DRIVE PREPARED FOR PEASE DEVELOPMENT AUTHORITY" DATED DEC. 21, 1992 BY RICHARD D. BARTLETT & ASSOCIATES, INC. SHEETS 1 AND 2. (NOT RECORDED)
2. "PEASE A.F.B. / PORTSMOUTH, N.H. REPAVE BASE STREETS, PORTSMOUTH AVE, ROCKINGHAM AVE." DATED 7 DEC 82 BY STRATETIC AIR COMMAND CIVIL ENGINEERING. SHEET 4 OF 5. (NOT RECORDED)
3. "PORTSMOUTH AIR FORCE BASE, PORTSMOUTH, N.H. ROADS AND STORAGE AREA FY-56" DATED DEC 1955 BY WHITMAN & HOWARD ENGINEERS. INDEX PAGE AND SHEETS 2 - 5 OF 11. (NOT RECORDED)
4. "PEASE INTERNATIONAL TRADEPORT SUBDIVISION PLAT, INTERNATIONAL DRIVE LOTS BC11-001 & BC11-002, PORTSMOUTH, N.H." DATED FEBRUARY 5, 1993 BY RICHARD D. BARTLETT & ASSOCIATES INC. R.C.R.D. PLAN D-22536.
5. "SUBDIVISION PLAN OF LAND FOR REDHOOK ALE BREWERY, INC. CORPORATE DRIVE, COUNTY OF ROCKINGHAM, PORTSMOUTH, N.H." DATED DECEMBER 10, 1994 BY RICHARD P. MILLETTE AND ASSOCIATES. R.C.R.D. PLAN D-23978.
6. "ALTA/ACSM LAND TITLE SURVEY FOR RESPORT, LLC, ONE INTERNATIONAL DRIVE, COUNTY OF ROCKINGHAM, PORTSMOUTH, N.H." DATED FEBRUARY 27, 1998 BY MILLETTE, SPRAGUE & COLWELL, INC. R.C.R.D. PLAN D-26125.
7. "FRANKLIN PIERCE COLLEGE, PEASE INTERNATIONAL TRADEPORT, 73 CORPORATE DRIVE, PORTSMOUTH, NH" DATED JANUARY 15, 1998 BY RONALD R. BURD. R.C.R.D. PLAN D-26427.
8. "SUBDIVISION PLAN FOR LAND LEASED BY PEASE DEVELOPMENT AUTHORITY & KNOWN AS 119 INTERNATIONAL DRIVE LOCATED AT PEASE INTERNATIONAL TRADEPORT, PORTSMOUTH, N.H." DATED MARCH 1, 2000 BY KNIGHT HILL LAND SURVEYING SERVICES, INC. R.C.R.D. PLAN D-28059.
9. "SUBDIVISION PLAT PREPARED FOR 80 CORPORATE DRIVE LLC C/O BOULOS PROPERTY MANAGEMENT, LOCATION CORPORATE & GOOSE BAY DRIVES, PEASE INTERNATIONAL TRADEPORT - PORTSMOUTH, NH" DATED APRIL 11, 2000 BY FWS LAND SURVEYING P.L.L.C. R.C.R.D. PLAN D-28447.
10. "LEASE LINE REVISION PLAN FOR LONZA BIOLOGICS, INC. 101 INTERNATIONAL DRIVE, PORTSMOUTH, NEW HAMPSHIRE" DATED SEPT. 17, 2001 BY DOUCET SURVEY, INC. R.C.R.D. PLAN D-29538.
11. "SUBDIVISION PLAN OF LAND OF PEASE DEVELOPMENT AUTHORITY TO BE LEASED TO NORTHEAST REHABILITATION (A PORTION OF TAX MAP 303, LOT 6) 105 & 121 CORPORATE DRIVE, PEASE TRADEPORT, PORTSMOUTH, NEW HAMPSHIRE" DATED NOV. 5, 2008 BY DOUCET SURVEY, INC. R.C.R.D. PLAN D-35869.
12. "CONDOMINIUM SITE & FLOOR PLAN PREPARED FOR PIONEER NEW HAMPSHIRE, LLC, LAND OF PEASE DEVELOPMENT AUTHORITY, TAX MAP PARCEL 305-3 (108, 110, 112 & 114 CORPORATE DRIVE) PORTSMOUTH, NEW HAMPSHIRE" DATED APRIL 12, 2013 BY FIELDSTONE LAND CONSULTANTS, PLLC. SHEET 1 OF 5. R.C.R.D. PLAN D-37765.
13. "SUBDIVISION PLAN FOR PEASE DEVELOPMENT AUTHORITY, (TAX MAP 303, LOT 4) 67 CORPORATE DRIVE, PEASE TRADEPORT, PORTSMOUTH NEW HAMPSHIRE" DATED MAY 29, 2009 BY DOUCET SURVEY, INC. (NOT RECORDED)
14. "EXISTING CONDITIONS, BUILDING A, 80 CORPORATE DRIVE AND BUILDING B, 70 CORPORATE DRIVE, PORTSMOUTH, NH" DATED 4/14/2000 AND REVISED 6/05/2000 BY OPECHEE CONSTRUCTION CORPORATION. (NOT RECORDED)
15. "EXISTING CONDITIONS PLAN FOR TIGHE & BOND AND LONZA, LAND OF PEASE DEVELOPMENT AUTHORITY, (TAX MAP 305, LOTS 1 & 2), GOOSE BAY DRIVE & CORPORATE DRIVE, PORTSMOUTH, NEW HAMPSHIRE" DATED DECEMBER 23, 2015 BY DOUCET SURVEY, INC. (NOT RECORDED)
16. "119 INTERNATIONAL DRIVE CONDOMINIUM, CONDOMINIUM SITE PLAN, FOR PROPERTY OWNED BY PEASE DEVELOPMENT AUTHORITY, LEASED TO 119 INTERNATIONAL DRIVE, LLC, KNOWN AS PORTSMOUTH TAX MAP 305, LOT 4, PORTSMOUTH, NH" DATED OCT. 10, 2017 BY KNIGHT HILL LAND SURVEYING SERVICES, INC. R.C.R.D. PLAN 40449
17. "ALTA/NSPS LAND TITLE SURVEY FOR 130 INTERNATIONAL DRIVE, LLC AND PEASE DEVELOPMENT AUTHORITY, 130 INTERNATIONAL DRIVE, PORTSMOUTH, NH" DATED JULY 2017 AND REVISED THROUGH 8/9/17 BY DOUCET SURVEY, INC. (NOT RECORDED)
18. "ALTA/ACSM LAND TITLE SURVEY FOR 100 INTERNATIONAL DRIVE, LLC, 100 INTERNATIONAL DRIVE, PEASE INTERNATIONAL TRADEPORT, PORTSMOUTH, NH" DATED MARCH 30, 2006 BY DOUCET SURVEY, INC. (NOT RECORDED)
19. "CITY OF PORTSMOUTH, NEW HAMPSHIRE, FOR CONSTRUCTION, CORPORATE DRIVE AND GOOSE BAY DRIVE SEWER IMPROVEMENTS" DATED JULY 28, 2017 BY UNDERWOOD ENGINEERS, INC. (NOT RECORDED)

SUBDIVISION PLAN
FOR
LONZA BIOLOGICS, INC.
AND
THE PEASE DEVELOPMENT AUTHORITY
OF
TAX MAP 305 LOTS 1, 2, 5 & 6
AND
GOOSE BAY DRIVE
INTERNATIONAL DRIVE - CORPORATE DRIVE
GOOSE BAY DRIVE
PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY

STATE OF NEW HAMPSHIRE — NO. 984 — JEFFREY A. GOLDKNOPF — LICENSED LAND SURVEYOR — SIGNATURE

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000.

L.L.S. #984

4/16/2018
DATE

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEED REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.

DRAWN BY:	W.D.C.	DATE:	APRIL 16, 2018
CHECKED BY:	J.A.G.	DRAWING NO.:	5518A
JOB NO.:	5518	SHEET	2 OF 2

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FILE NAME: Q:\Jobs\JAG\Dgn\Jobs\Jobs\Jobs\5518\dwg LAYOUT (MAR) 5518 SUBDIVISION PLAN (SHEET 2) PLOTTED: Friday, November 02, 2018 - 4:57pm

MASTER PLAN SET

APRIL 3, 2018

REVISED: NOVEMBER 6, 2018

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	MASTER PLAN SET COVER SHEET	11/06/2018
C-101	DEMOLITION PLAN	11/06/2018
C-102	DEMOLITION PLAN	11/06/2018
C-103	DEMOLITION PLAN	11/06/2018
C-104	OVERALL SITE PLAN	11/06/2018
C-105	SITE PLAN	11/06/2018
C-106	SITE PLAN	11/06/2018
C-107	SITE PLAN	11/06/2018
C-108	GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-109	GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-110	GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-111	UTILITIES PLAN	11/06/2018
C-112	UTILITIES PLAN	11/06/2018
C-113	UTILITIES PLAN	11/06/2018
C-114	LANDSCAPE PLAN	11/06/2018
C-115	LANDSCAPE PLAN	11/06/2018
C-116	LANDSCAPE PLAN	11/06/2018
C-117	PHOTOMETRIC LIGHTING PLAN	11/06/2018
C-118	PHOTOMETRIC LIGHTING PLAN	11/06/2018
C-119	PHOTOMETRIC LIGHTING PLAN	11/06/2018
ASK-001	SITE PLAN - PERSPECTIVE	08/09/2018
ASK-002	BUILDING 1 CONCEPT PLANS	07/12/2018

STATE OF NEW HAMPSHIRE - PROFESSIONAL ENGINEER - LICENSED
11/6/18

STATE OF NEW HAMPSHIRE - PATRICK M. CRIMMINS No. 12878 - LICENSED PROFESSIONAL ENGINEER
11-6-18





COMPLETE SET 22 SHEETS

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Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
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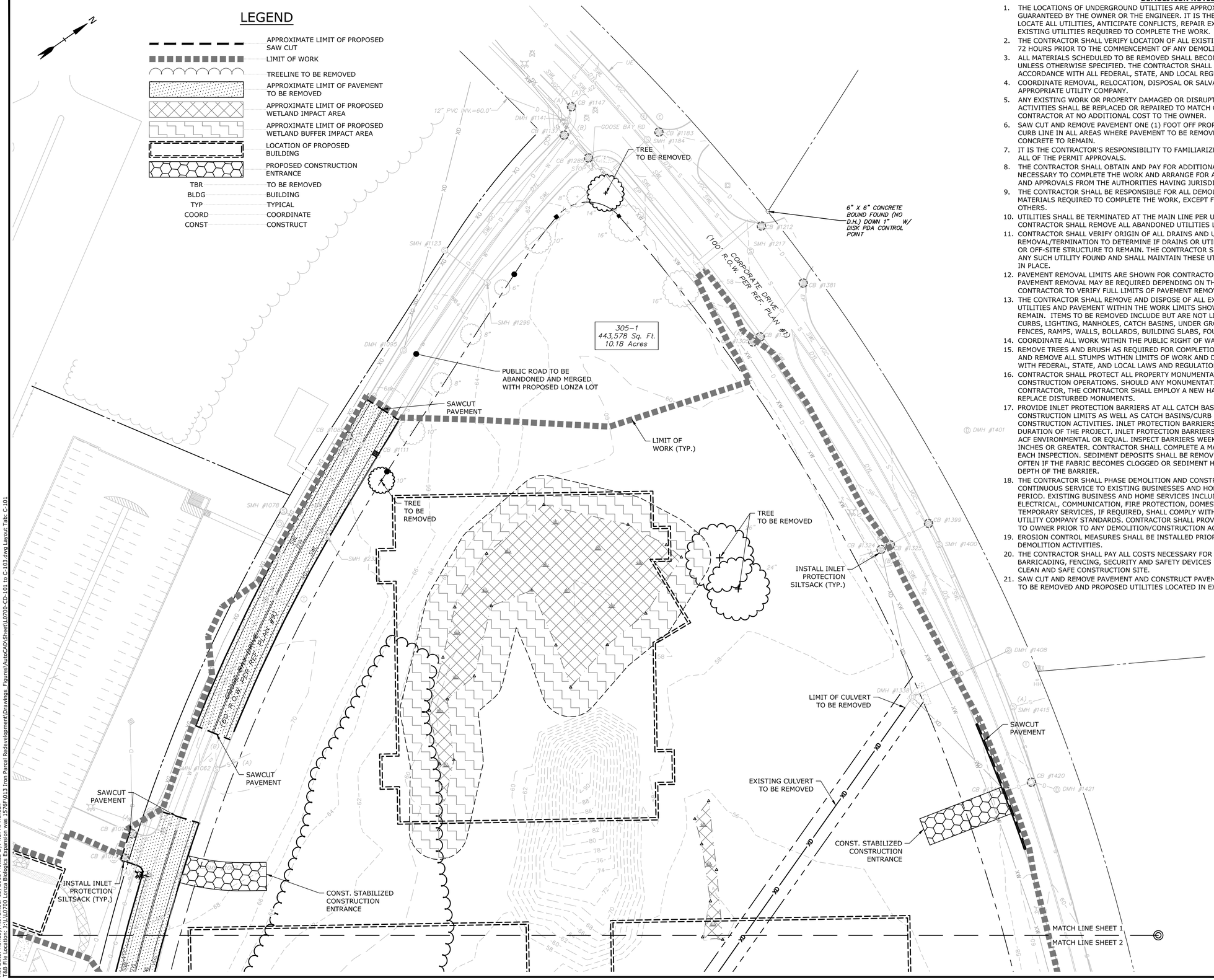
LEGEND

- APPROXIMATE LIMIT OF PROPOSED SAW CUT
- LIMIT OF WORK
- TREELINE TO BE REMOVED
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- APPROXIMATE LIMIT OF PROPOSED WETLAND IMPACT AREA
- APPROXIMATE LIMIT OF PROPOSED WETLAND BUFFER IMPACT AREA
- LOCATION OF PROPOSED BUILDING
- PROPOSED CONSTRUCTION ENTRANCE

TBR	TO BE REMOVED
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
CONST	CONSTRUCT



DEMOLITION NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
2. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
3. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
5. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
11. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
12. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
13. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
14. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
15. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
16. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
17. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT MAY RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
18. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
19. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
20. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12876 LICENSED PROFESSIONAL ENGINEER 11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12876 LICENSED PROFESSIONAL ENGINEER 11-7-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

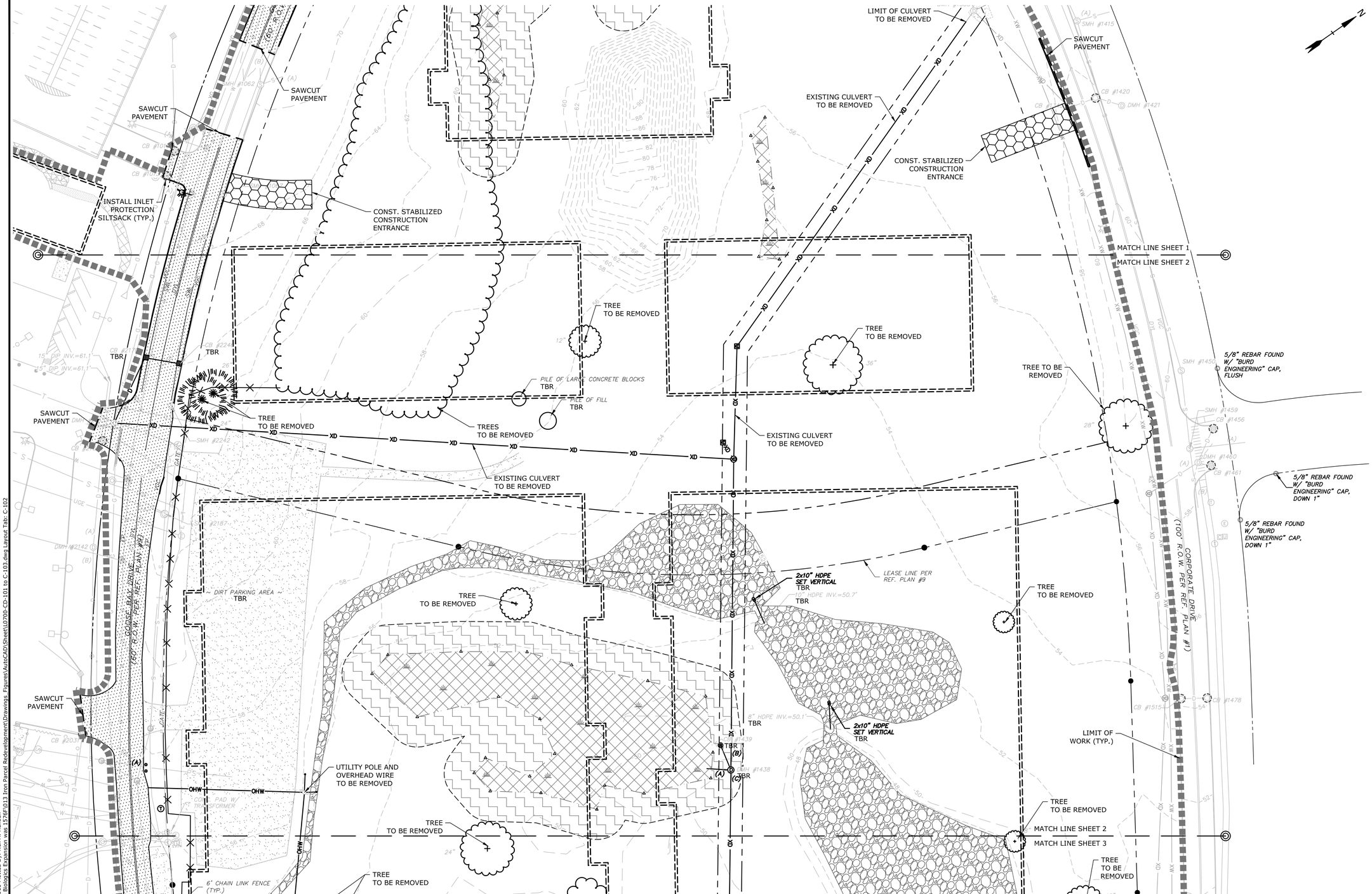
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DEMOLITION PLAN

SCALE: AS SHOWN

C-101

Last Save Date: November 1, 2018 1:13 PM By: NAHANSEN
Plot Date: November 05, 2018 8:56 AM By: Nathan Hansen
T&B File Location: J:\1\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CD-101 to C-103.dwg Layout Tab: C-101



SEE SHEET C-101 FOR LEGEND AND DEMOLITION NOTES

Tighe&Bond
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STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
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B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

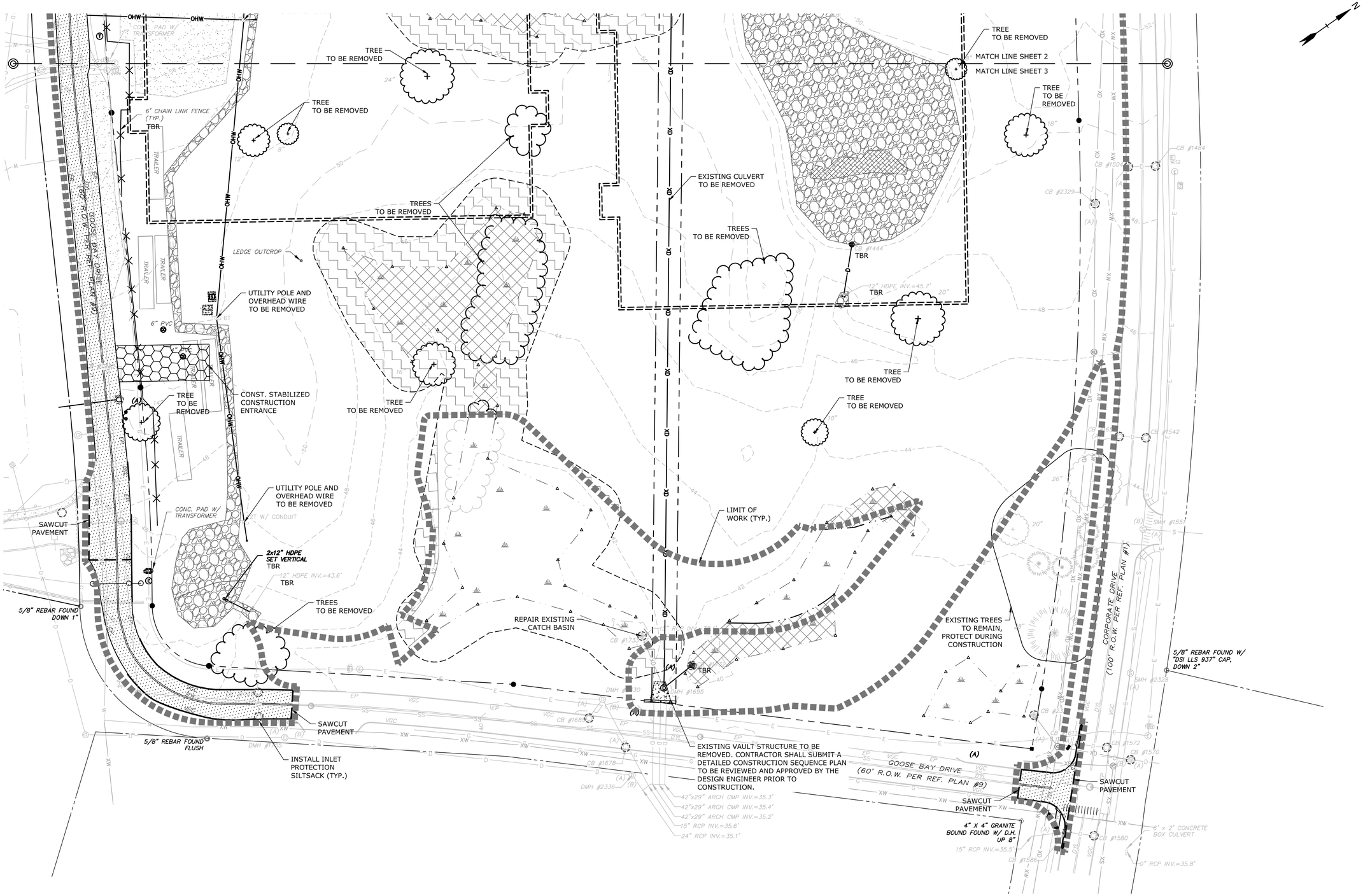
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DEMOLITION PLAN

SCALE: AS SHOWN

C-102

Last Save Date: November 5, 2018 4:16 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CD-101 to C-103.dwg Layout Tab: C-102



SEE SHEET C-101 FOR LEGEND AND DEMOLITION NOTES

Tighe&Bond
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STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
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B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

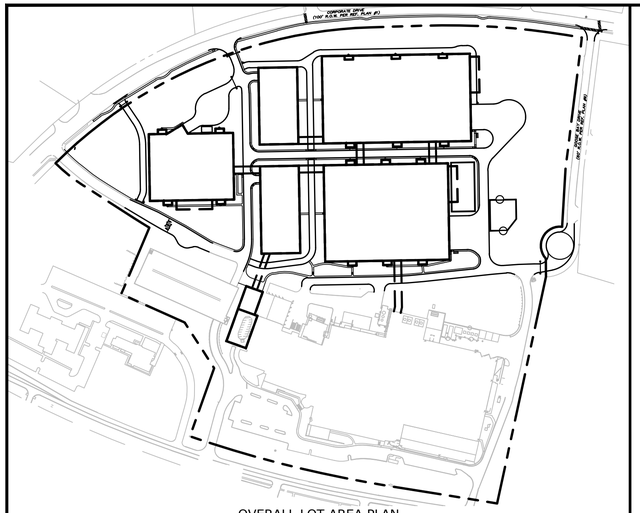
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DEMOLITION PLAN

SCALE: AS SHOWN

C-103

Last Save Date: November 1, 2018 1:10 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CD-101 to C-103.dwg Layout Tab: C-103



OVERALL LOT AREA PLAN
SCALE : 1" = 250'

SITE DATA

LOCATION: TAX MAP 305, LOTS 1 & 2 — 70 & 80 CORPORATE DRIVE, PORTSMOUTH, NH
TAX MAP 305, LOT 6 — 101 INTERNATIONAL DRIVE, PORTSMOUTH, NH

ZONING DISTRICT: AIRPORT, BUSINESS & COMMERCIAL (ABC)

DIMENSIONAL REQUIREMENTS:

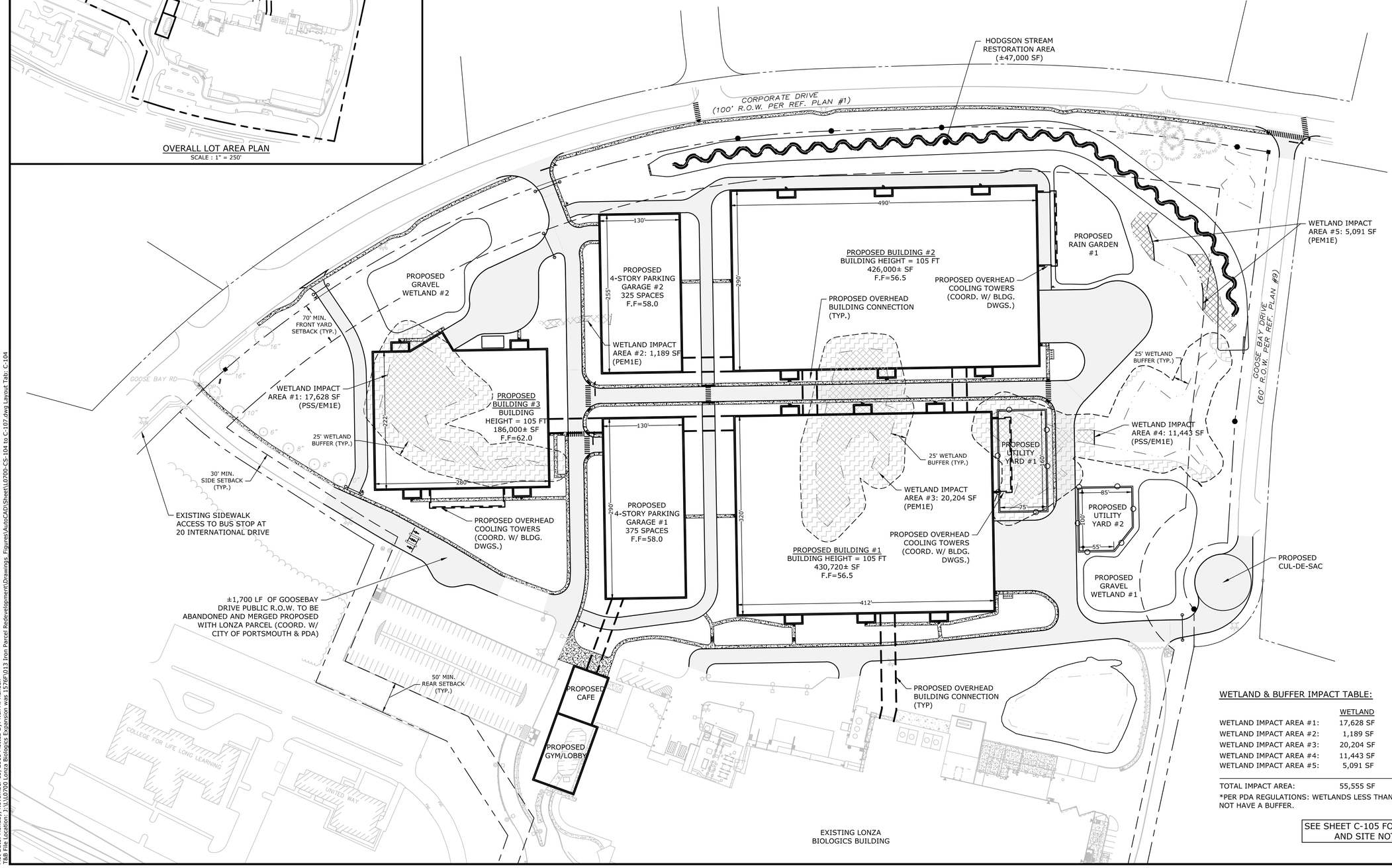
	REQUIRED	PROVIDED
MINIMUM LOT AREA:	5 AC	43.4± AC
MINIMUM STREET FRONTAGE:	200 FT	1,038 FT
MINIMUM FRONT YARD SETBACK:	70 FT	70 FT
SIDE SETBACK	30 FT	30 FT
REAR SETBACK	50 FT	51 FT
MINIMUM OPEN SPACE	25 %	43.3± %

MAXIMUM STRUCTURE HEIGHT SHALL NOT EXCEED FAA CRITERIA.

PARKING REQUIREMENTS:

REQUIRED PARKING
2 SPACES PER 3 EMPLOYEES ON LARGEST SHIFT
740 EXISTING EMPLOYEES — 493 SPACES
1000 ANTICIPATED EMPLOYEES — 667 SPACES
TOTAL REQUIRED: 1160 SPACES

PARKING PROVIDED
EXISTING SPACES: 521 SPACES
PROPOSED PARKING GARAGE #1: 325 SPACES
PROPOSED PARKING GARAGE #2: 375 SPACES
TOTAL: 1221 SPACES



WETLAND & BUFFER IMPACT TABLE:

	WETLAND	BUFFER
WETLAND IMPACT AREA #1:	17,628 SF	24,677 SF
WETLAND IMPACT AREA #2:	1,189 SF	NO BUFFER*
WETLAND IMPACT AREA #3:	20,204 SF	23,047 SF
WETLAND IMPACT AREA #4:	11,443 SF	19,128 SF
WETLAND IMPACT AREA #5:	5,091 SF	NO BUFFER*
TOTAL IMPACT AREA:	55,555 SF	66,852 SF

*PER PDA REGULATIONS: WETLANDS LESS THAN 10,000 SF DO NOT HAVE A BUFFER.

SEE SHEET C-105 FOR LEGEND AND SITE NOTES

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STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 12879 LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 12879 LICENSED PROFESSIONAL ENGINEER — 11.6.18

SCALE IN FEET
0 80' 160'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

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F	11/6/2018	P.B. Submission
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B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

MASTER SITE PLAN

SCALE: AS SHOWN

C-104

Last Save Date: November 5, 2018 3:31 PM By: NAHANSEN
Plot Date/Time: November 05, 2018 03:33 PM By: Nate Hansen
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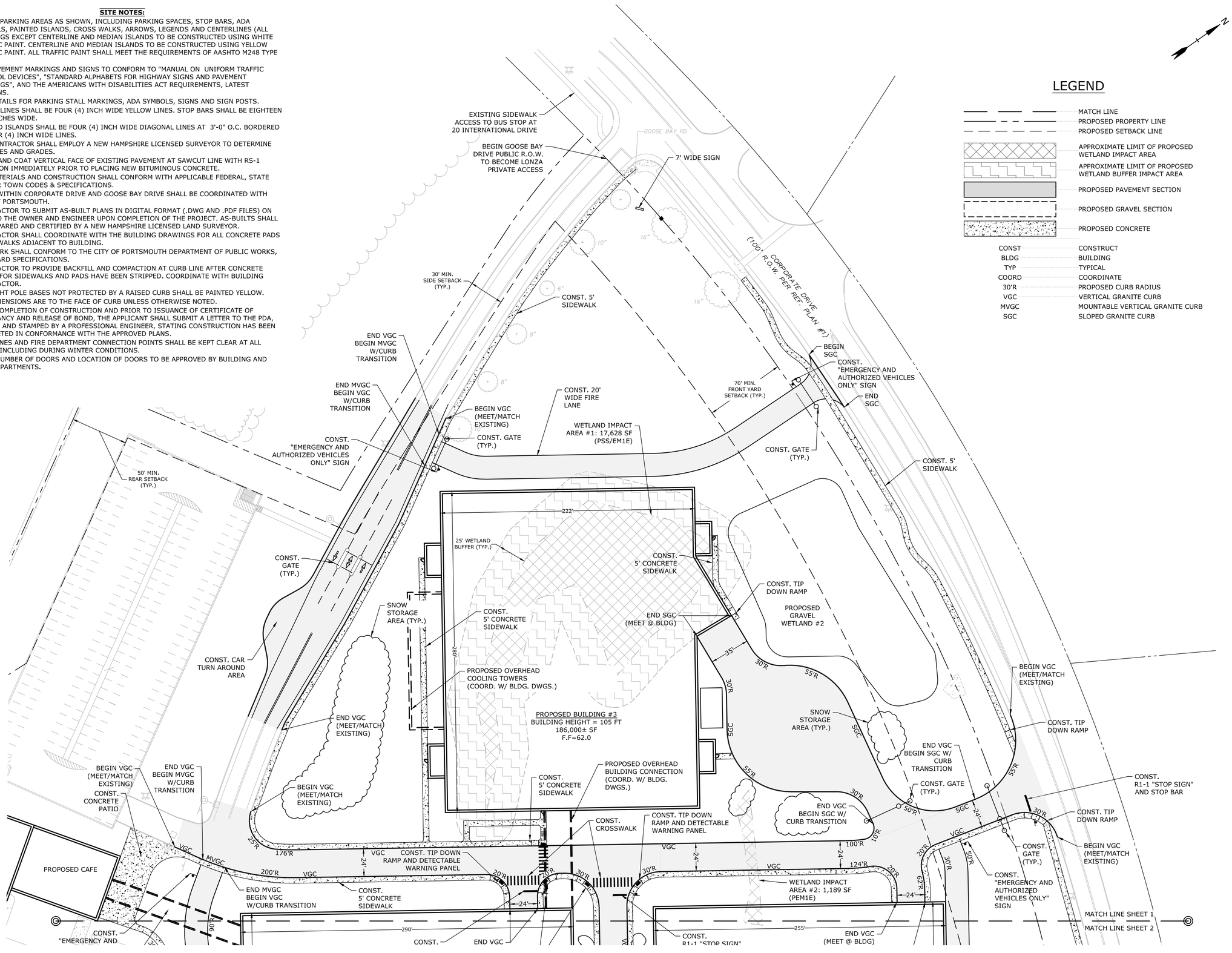
SITE NOTES:

1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES (ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND/OR TOWN CODES & SPECIFICATIONS.
9. WORK WITHIN CORPORATE DRIVE AND GOOSE BAY DRIVE SHALL BE COORDINATED WITH CITY OF PORTSMOUTH.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
11. CONTRACTOR SHALL COORDINATE WITH THE BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS.
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
15. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
16. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY AND RELEASE OF BOND, THE APPLICANT SHALL SUBMIT A LETTER TO THE PDA, SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER, STATING CONSTRUCTION HAS BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS.
17. FIRE LANES AND FIRE DEPARTMENT CONNECTION POINTS SHALL BE KEPT CLEAR AT ALL TIMES, INCLUDING DURING WINTER CONDITIONS.
18. FINAL NUMBER OF DOORS AND LOCATION OF DOORS TO BE APPROVED BY BUILDING AND FIRE DEPARTMENTS.



LEGEND

- MATCH LINE
- PROPOSED PROPERTY LINE
- PROPOSED SETBACK LINE
- APPROXIMATE LIMIT OF PROPOSED WETLAND IMPACT AREA
- APPROXIMATE LIMIT OF PROPOSED WETLAND BUFFER IMPACT AREA
- PROPOSED PAVEMENT SECTION
- PROPOSED GRAVEL SECTION
- PROPOSED CONCRETE

CONST	CONSTRUCT
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
30'R	PROPOSED CURB RADIUS
VGC	VERTICAL GRANITE CURB
MVGC	MOUNTABLE VERTICAL GRANITE CURB
SGC	SLOPED GRANITE CURB

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STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER 11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER 11.6.18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
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B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

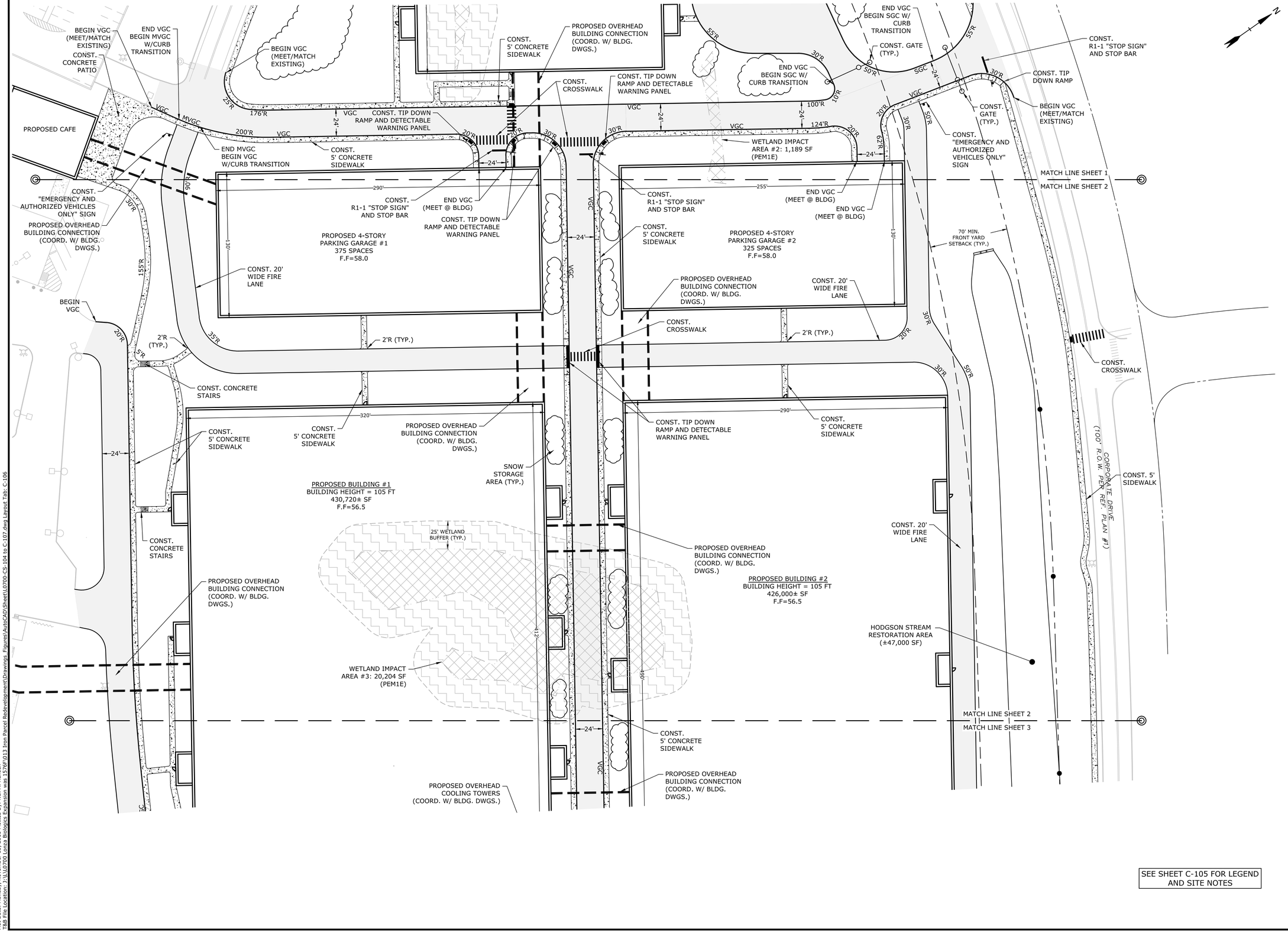
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

SITE PLAN

SCALE: AS SHOWN

C-105

Last Save Date: November 5, 2018 3:31 PM By: NAHANSEN
Plot Date: November 05, 2018 3:31 PM By: Nathan Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion wss 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CS-104 to C-107.dwg Layout Tab: C-105



SEE SHEET C-105 FOR LEGEND AND SITE NOTES

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Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12876 — LICENSED PROFESSIONAL ENGINEER — 11-6-18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12876 — LICENSED PROFESSIONAL ENGINEER — 11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
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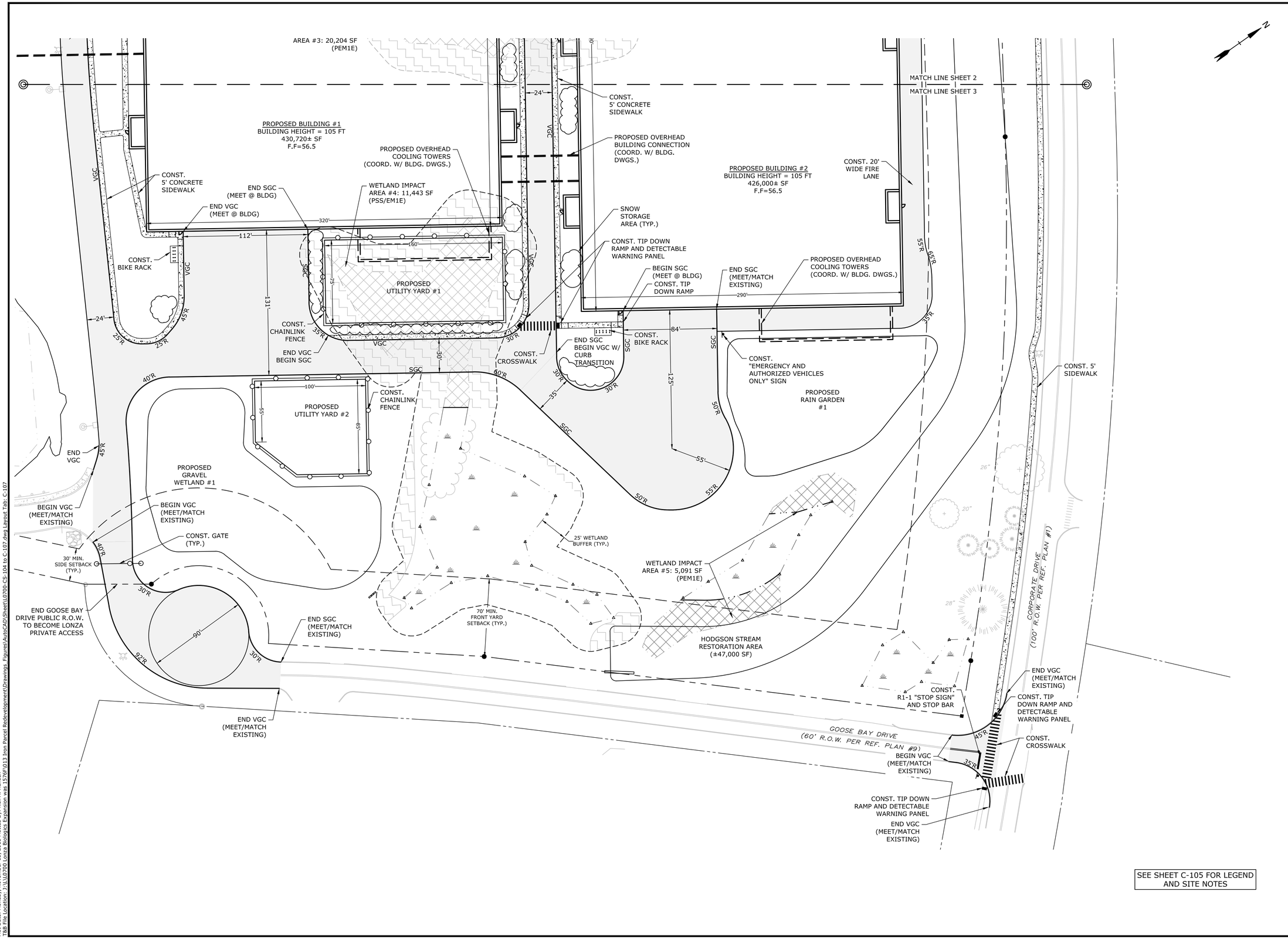
APPROVED:	BLM

SITE PLAN

SCALE: AS SHOWN

C-106

Last Save Date: November 5, 2018 3:31 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Nick A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion wbs 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CS-104 to C-107.dwg Layout Tab: C-106



SEE SHEET C-105 FOR LEGEND AND SITE NOTES

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

SITE PLAN

SCALE: AS SHOWN

C-107

Last Save Date: November 5, 2018 3:31 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CS-104 to C-107.dwg Layout Tab: C-107

DRAINAGE STRUCTURE TABLE

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INV.OUT=61.65

PCB100
RIM=56.00
INV.OUT=52.00

PCB101
RIM=56.00
INV.OUT=51.95

PCB102
RIM=56.00
INV.IN=51.80
INV.IN=51.80
INV.IN=51.80
INV.OUT=51.70

PCB103
RIM=57.00
INV.IN=51.15
INV.OUT=51.05

PCB104
RIM=57.00
INV.IN=50.95
INV.IN=50.95
INV.OUT=50.85

PCB105
RIM=54.00
INV.OUT=49.20

PCB106
RIM=54.00
INV.IN=49.10
INV.IN=49.10
INV.OUT=49.00

PCB107
RIM=51.20
INV.OUT=47.20

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INV.IN=46.30
INV.OUT=46.20

PCB109
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INV.OUT=44.95

PCB110
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INV.IN=43.95
INV.OUT=43.85

PCB111
RIM=49.40
INV.IN=44.50
INV.OUT=44.40

PCB112
RIM=53.60
INV.OUT=46.65

PCB113
RIM=53.60
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PCB114
RIM=49.30
INV.OUT=43.35

PCB115
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INV.OUT=43.15

PCB200
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INV.OUT=51.90

PCB201
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INV.IN=51.80
INV.OUT=51.70

PCB202
RIM=56.00
INV.OUT=51.75

PCB203
RIM=56.00
INV.IN=51.65
INV.OUT=51.55

PCB204
RIM=55.25
INV.OUT=51.50

PCB300
RIM=50.60
INV.OUT=46.60

PCB301
RIM=55.65
INV.OUT=51.65

PCB302
RIM=53.50
INV.OUT=49.50

PCB303
RIM=52.25
INV.OUT=48.25

PDMH100
RIM=55.80
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INV.IN=51.40
INV.OUT=51.30

PDMH101
RIM=59.00
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PDMH103
RIM=53.50
INV.IN=46.30
INV.IN=46.30
INV.OUT=46.20

PDMH104
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PDMH105
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PDMH106
RIM=51.00
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INV.IN=43.30
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PDMH200
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INV.IN=53.35
INV.OUT=53.25

PDMH201
RIM=56.00
INV.IN=51.30
INV.IN=51.30
INV.IN=51.30
INV.OUT=51.20

PDMH202
RIM=56.55
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INV.IN=50.85
INV.OUT=50.75

PDMH203
RIM=57.00
INV.IN=49.45
INV.OUT=49.35

PDMH204
RIM=57.80
INV.IN=49.00
INV.OUT=48.90

PDMH300
RIM=51.50
INV.IN=46.30
INV.IN=46.30
INV.OUT=46.20

PDMH301
RIM=54.45
INV.IN=50.65
INV.IN=50.65
INV.OUT=50.55

PDMH302
RIM=53.60
INV.IN=49.45
INV.IN=49.45
INV.OUT=49.35

PDMH303
RIM=55.00
INV.IN=48.65
INV.IN=48.65
INV.OUT=48.65

PDMH304
RIM=51.00
INV.IN=46.70
INV.IN=47.00
INV.OUT=46.60

PYD100
RIM=55.00
INV.OUT=49.95

PYD101
RIM=55.00
INV.IN=49.20
INV.OUT=49.10

PYD102
RIM=59.00
INV.OUT=52.00

PYD103
RIM=55.00
INV.IN=47.70
INV.OUT=47.60

PYD104
RIM=51.00
INV.IN=45.70
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PYD105
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INV.OUT=55.00

PYD106
RIM=55.00
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PYD200
RIM=59.00
INV.OUT=55.00

PYD201
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PYD300
RIM=55.00
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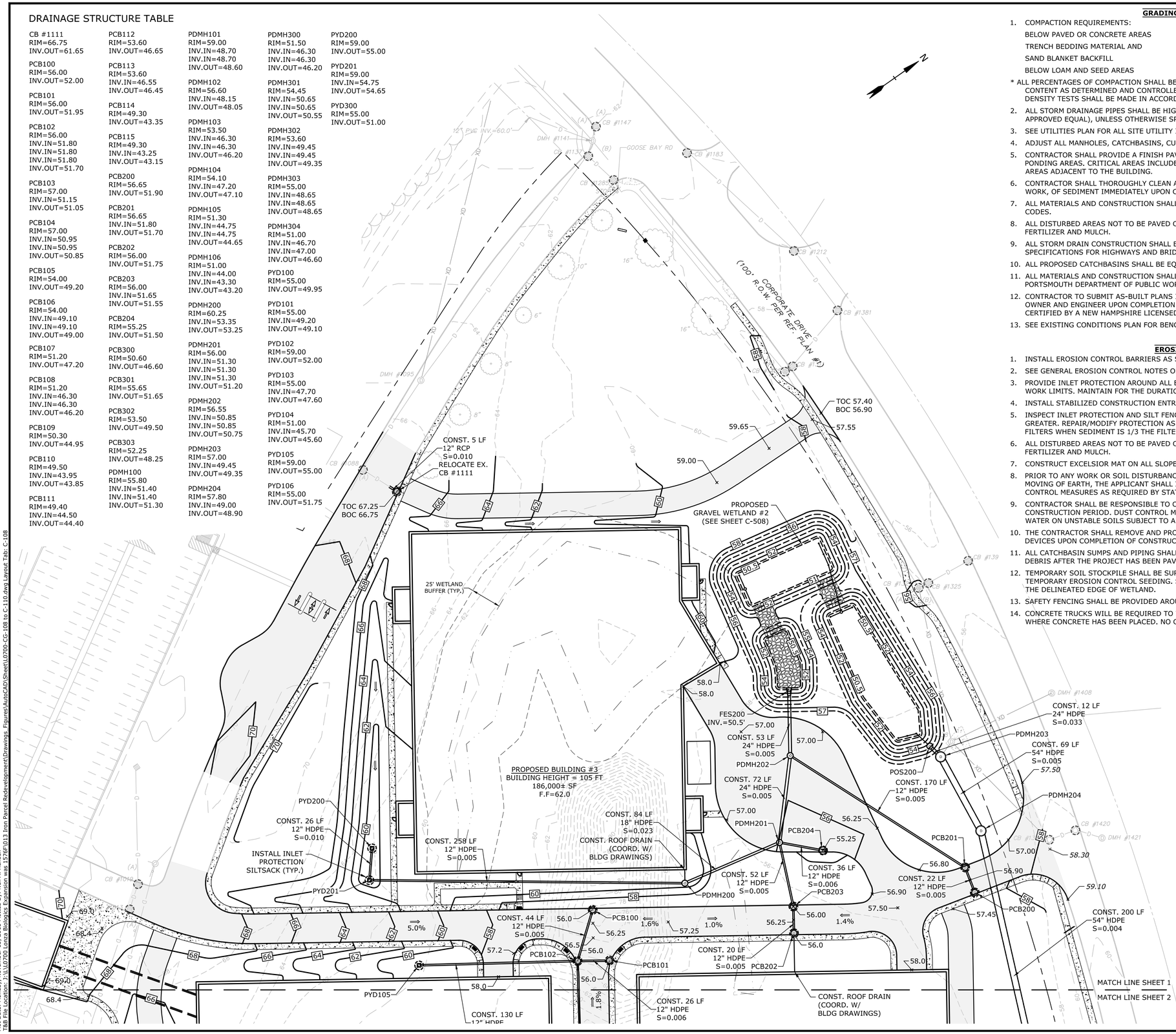


GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:

BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREAS	90%

* ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.

2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR APPROVED EQUAL), UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITIES PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCHBASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCHBASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
10. ALL PROPOSED CATCHBASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION SPECIFICATIONS, LATEST REVISIONS.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
13. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON DETAIL SHEETS.
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCHBASIN INLETS WITHIN THE WORK LIMITS. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
5. INSPECT INLET PROTECTION AND SILT FENCES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EXCELSIOR MAT ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCHBASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED BY SILT FENCE AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLAND.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.

LEGEND

- MATCH LINE
- PROPOSED PROPERTY LINE
- PROPOSED CONTOUR LINE
- PROPOSED DRAIN LINE (TYP)
- PROPOSED SILT SOCK
- INLET PROTECTION SILT SACK
- PROPOSED CATCHBASIN
- PROPOSED DOUBLE GRATE CATCHBASIN
- PROPOSED DRAIN MANHOLE

CONST	CONSTRUCT
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
RD	ROOF DRAIN
VIF	VERIFY IN FIELD

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12876
LICENSED
PROFESSIONAL ENGINEER
11-7-18

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12876
LICENSED
PROFESSIONAL ENGINEER
11-7-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

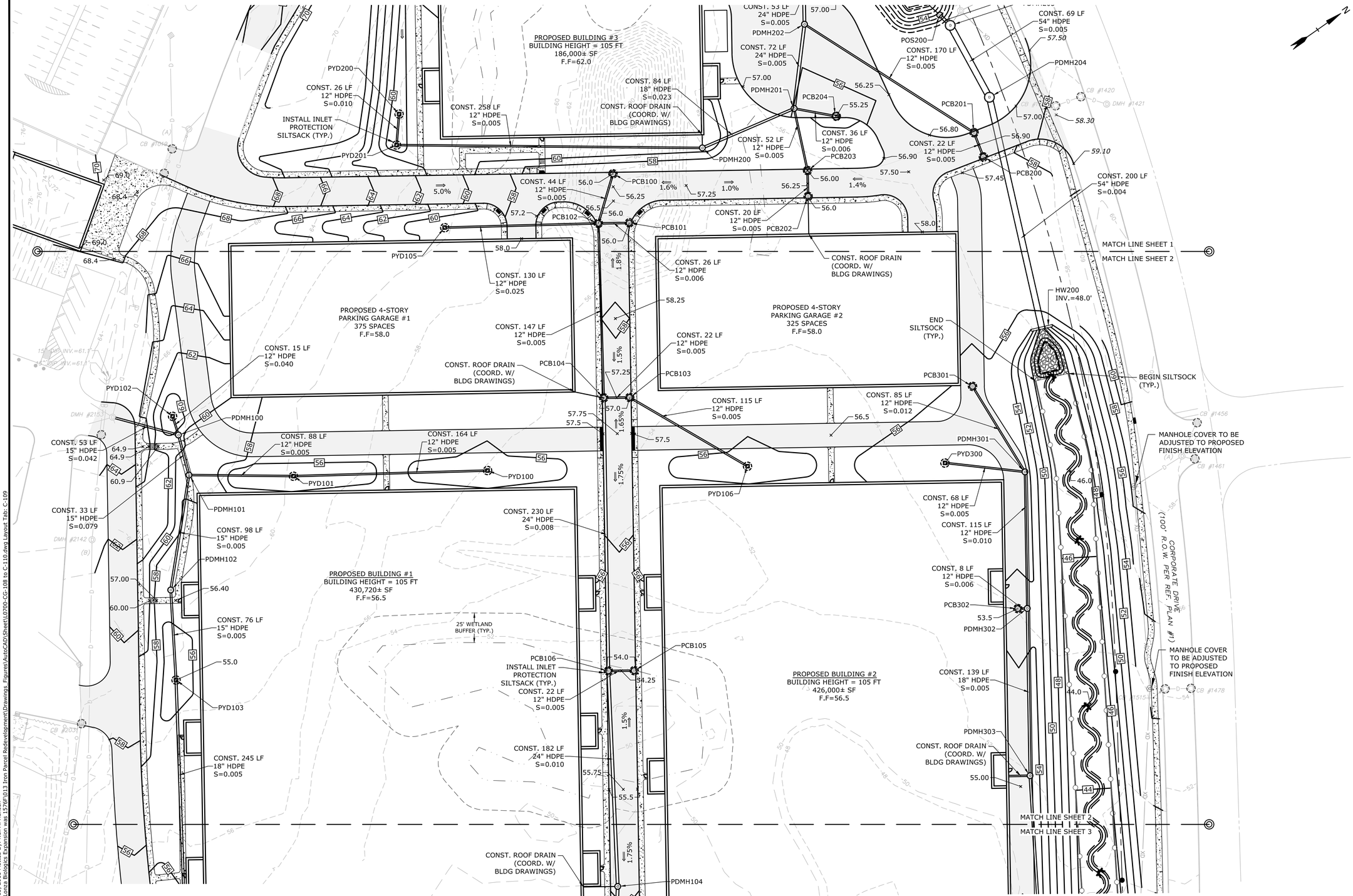
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-108

Last Save Date: November 1, 2018 11:20 AM By: NAHANSEN
Plot Date: November 1, 2018 11:20 AM By: NAHANSEN
T&B File Location: J:\LL\0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CG-108 to C-110.dwg Layout Tab: C-108



SEE SHEET C-108 FOR LEGEND GRADING, DRAINAGE & EROSION CONTROL NOTES, & DRAINAGE STRUCTURE TABLE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12878
LICENSED
PROFESSIONAL ENGINEER
11/6/18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
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PROJECT NO:	L-0700-013
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APPROVED:	BLM

GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-109

Last Save Date: November 1, 2018 11:20 AM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CG-108 to C-110.dwg Layout Tab: C-109

CONST. ROOF DRAIN (COORD. W/ BLDG DRAWINGS)
PDMH104
PDMH103
CONST. ROOF DRAIN (COORD. W/ BLDG DRAWINGS)
CONST. 98 LF 24" HDPE S=0.005
CONST. 162 LF 24" HDPE S=0.005
PROPOSED BUILDING #2
BUILDING HEIGHT = 105 FT
426,000± SF
F.F=56.5
CONST. 269 LF 18" HDPE S=0.007
MATCH LINE SHEET 2
MATCH LINE SHEET 3
CONST. 6" HDPE PERFORATED UNDERDRAIN (TYP.)
CONST. 28 LF 12" HDPE S=0.045
PCB112
CONST. 22 LF 12" HDPE S=0.005
PCB113
CONST. 24 LF 12" HDPE S=0.006
CONST. 27 LF 12" HDPE S=0.033
CONST. RIPRAP APRON W1=5.0' W2=27.0' L=23' D50=8" D=16"
CONST. 25 LF 24" HDPE S=0.064
PCB303
CONST. ROOF DRAIN (COORD. W/ BLDG DRAWINGS)
PCB107
PCB108
CONST. 151 LF 30" HDPE S=0.005
CONST. 60 LF 24" HDPE S=0.024
FES301 INV.=45.0'
MANHOLE COVER TO BE ADJUSTED TO PROPOSED FINISH ELEVATION
PYD104
CONST. 49 LF 24" HDPE S=0.022
CONST. 112 LF 30" HDPE S=0.005
CONST. 9 LF 30" HDPE S=0.044
PCB111
PCB110
PCB109
PDMH105
PDMH304
CONST. RIPRAP APRON W1=6.0' W2=29.0' L=23' D50=6" D=15"
CONST. 31 LF 18" HDPE S=0.039
PROPOSED RAIN GARDEN #1 (SEE SHEET C-509)
POS300
PDMH106
CONST. 16 LF 36" HDPE S=0.006
CONST. 23 LF 12" HDPE S=0.004
PDMH300
FES300 INV.=45.0'
FES302 INV.=42.15'
CONST. 57 LF 12" HDPE S=0.005
PCB114
PCB115
CONST. 30 LF 12" HDPE S=0.005
CONST. 43 LF 12" HDPE S=0.005
CONST. 53 LF 12" HDPE S=0.006
PCB300
CONST. EROSION CONTROL BLANKET SPILLWAY
CONST. 31 LF 18" HDPE S=0.005
25' WETLAND BUFFER (TYP.)
POS100
END SILTSOCK (TYP.)
CORPORATE DRIVE (100' R.O.W. PER REF. PLAN #1)
BEGIN SILTSOCK (TYP.)
END SILTSOCK (TYP.)
REMOVE VAULT STRUCTURE AND CONSTRUCT HEADWALL FOR PROPOSED HODGSON BROOK RELOCATION OUTLET. CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SEQUENCE PLAN TO BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.
3 - 42"x29" ARCH CMP, INV. OUT = 35.6' (V.I.F.)
GOOSE BAY DRIVE (60' R.O.W. PER REF. PLAN #9)
42"x29" ARCH CMP INV.=35.3'
42"x29" ARCH CMP INV.=35.4'
42"x29" ARCH CMP INV.=35.2'
15" RCP INV.=35.6'
24" RCP INV.=35.1'
15" RCP INV.=35.5'
0" RCP INV.=35.8'

SEE SHEET C-108 FOR LEGEND GRADING, DRAINAGE & EROSION CONTROL NOTES, & DRAINAGE STRUCTURE TABLE

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Tighe&Bond
Engineers | Environmental Specialists

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

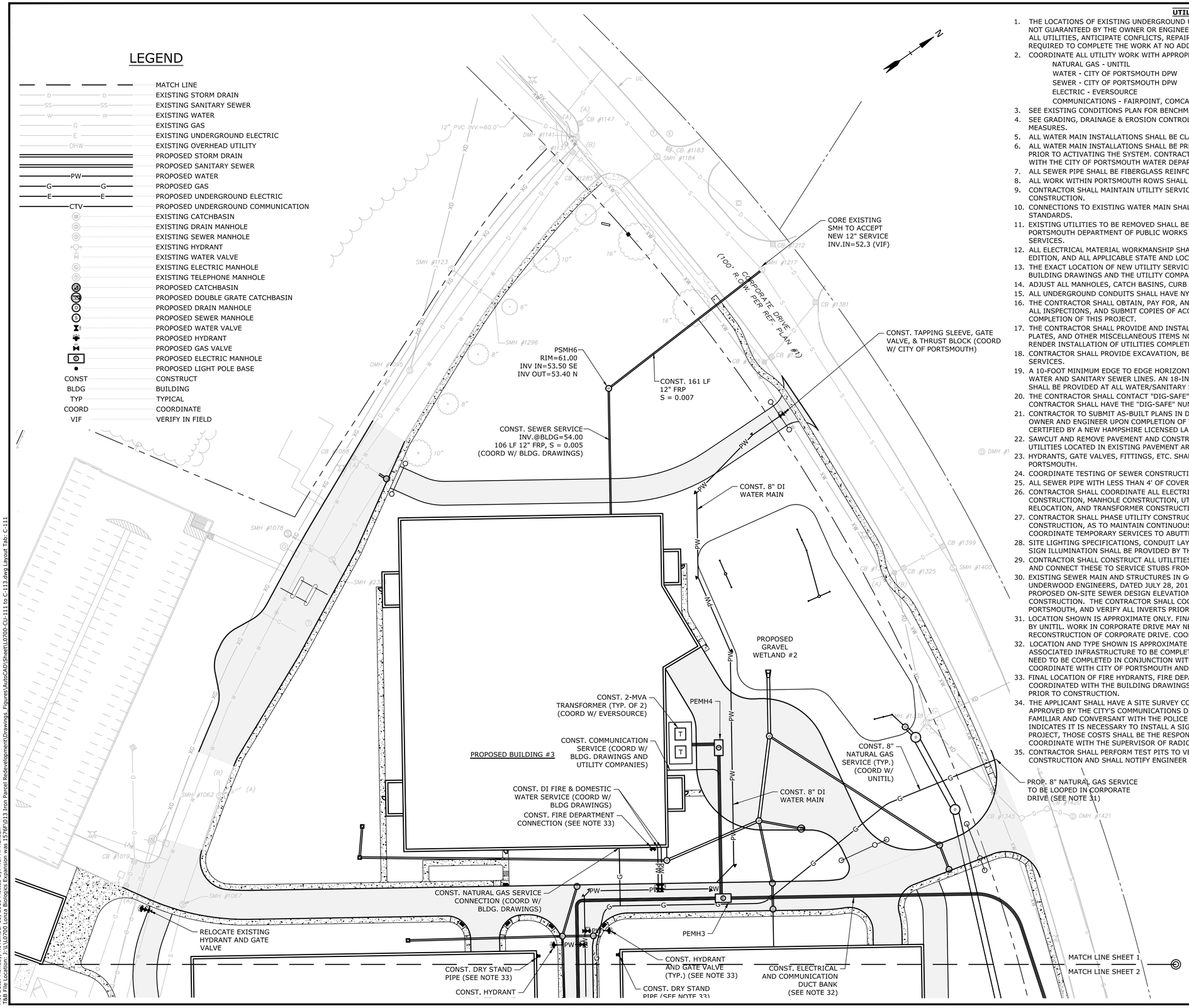
C-110

Last Save Date: November 1, 2018 11:20 AM By: NAHANSEN
Plot Date: Wednesday, November 07, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion wks 1576F\0013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CG-108 to C-110.dwg Layout Tab: C-110

LEGEND

- MATCH LINE
- EXISTING STORM DRAIN
- EXISTING SANITARY SEWER
- EXISTING WATER
- EXISTING GAS
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD UTILITY
- PROPOSED STORM DRAIN
- PROPOSED SANITARY SEWER
- PROPOSED WATER
- PROPOSED GAS
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND COMMUNICATION
- EXISTING CATCHBASIN
- EXISTING DRAIN MANHOLE
- EXISTING SEWER MANHOLE
- EXISTING HYDRANT
- EXISTING WATER VALVE
- EXISTING ELECTRIC MANHOLE
- EXISTING TELEPHONE MANHOLE
- PROPOSED CATCHBASIN
- PROPOSED DOUBLE GRATE CATCHBASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED WATER VALVE
- PROPOSED HYDRANT
- PROPOSED GAS VALVE
- PROPOSED ELECTRIC MANHOLE
- PROPOSED LIGHT POLE BASE

CONST — CONSTRUCT
BLDG — BUILDING
TYP — TYPICAL
COORD — COORDINATE
VIF — VERIFY IN FIELD



UTILITY NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER - CITY OF PORTSMOUTH DPW
   - SEWER - CITY OF PORTSMOUTH DPW
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - FAIRPOINT, COMCAST, FIRSTLIGHT
3. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
5. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
6. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT.
7. ALL SEWER PIPE SHALL BE FIBERGLASS REINFORCED PLASTIC UNLESS OTHERWISE STATED.
8. ALL WORK WITHIN PORTSMOUTH ROWS SHALL BE COORDINATED WITH CITY OF PORTSMOUTH.
9. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
10. CONNECTIONS TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
11. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
12. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
13. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE UTILITY COMPANIES.
14. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
15. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
16. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
17. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
18. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
19. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
20. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
21. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
22. SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
23. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
24. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
25. ALL SEWER PIPE WITH LESS THAN 4' OF COVER SHALL BE INSULATED.
26. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
27. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION, AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
28. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
29. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
30. EXISTING SEWER MAIN AND STRUCTURES IN GOOSE BAY DRIVE ARE BASED ON A PROPOSED DESIGN BY UNDERWOOD ENGINEERS, DATED JULY 28, 2017, AND WAS CONSTRUCTED IN SUMMER 2018. THE PROPOSED ON-SITE SEWER DESIGN ELEVATIONS ARE BASED ON THE UNDERWOOD PLAN DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH, AND VERIFY ALL INVERTS PRIOR TO CONSTRUCTION.
31. LOCATION SHOWN IS APPROXIMATE ONLY. FINAL DESIGN OF NATURAL GAS SERVICE TO BE COMPLETED BY UNITIL. WORK IN CORPORATE DRIVE MAY NEED TO BE COMPLETED IN CONJUNCTION WITH FUTURE RECONSTRUCTION OF CORPORATE DRIVE. COORDINATE WITH CITY OF PORTSMOUTH AND UNITIL.
32. LOCATION AND TYPE SHOWN IS APPROXIMATE ONLY. FINAL DESIGN OF ELECTRIC SERVICE AND ASSOCIATED INFRASTRUCTURE TO BE COMPLETED BY EVERSOURCE. WORK IN CORPORATE DRIVE MAY NEED TO BE COMPLETED IN CONJUNCTION WITH FUTURE RECONSTRUCTION OF CORPORATE DRIVE. COORDINATE WITH CITY OF PORTSMOUTH AND EVERSOURCE.
33. FINAL LOCATION OF FIRE HYDRANTS, FIRE DEPARTMENT CONNECTIONS AND DRY STAND PIPES WILL BE COORDINATED WITH THE BUILDING DRAWINGS AND APPROVED BY THE PORTSMOUTH FIRE DEPARTMENT PRIOR TO CONSTRUCTION.
34. THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.
35. CONTRACTOR SHALL PERFORM TEST PITS TO VERIFY INVERT ELEVATIONS IN FIELD PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF ELEVATION DIFFERS FROM PLAN.

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12876 — LICENSED PROFESSIONAL ENGINEER — 11-6-18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12876 — LICENSED PROFESSIONAL ENGINEER — 11-7-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
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D	8/21/2018	Revised TAC Submission
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B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

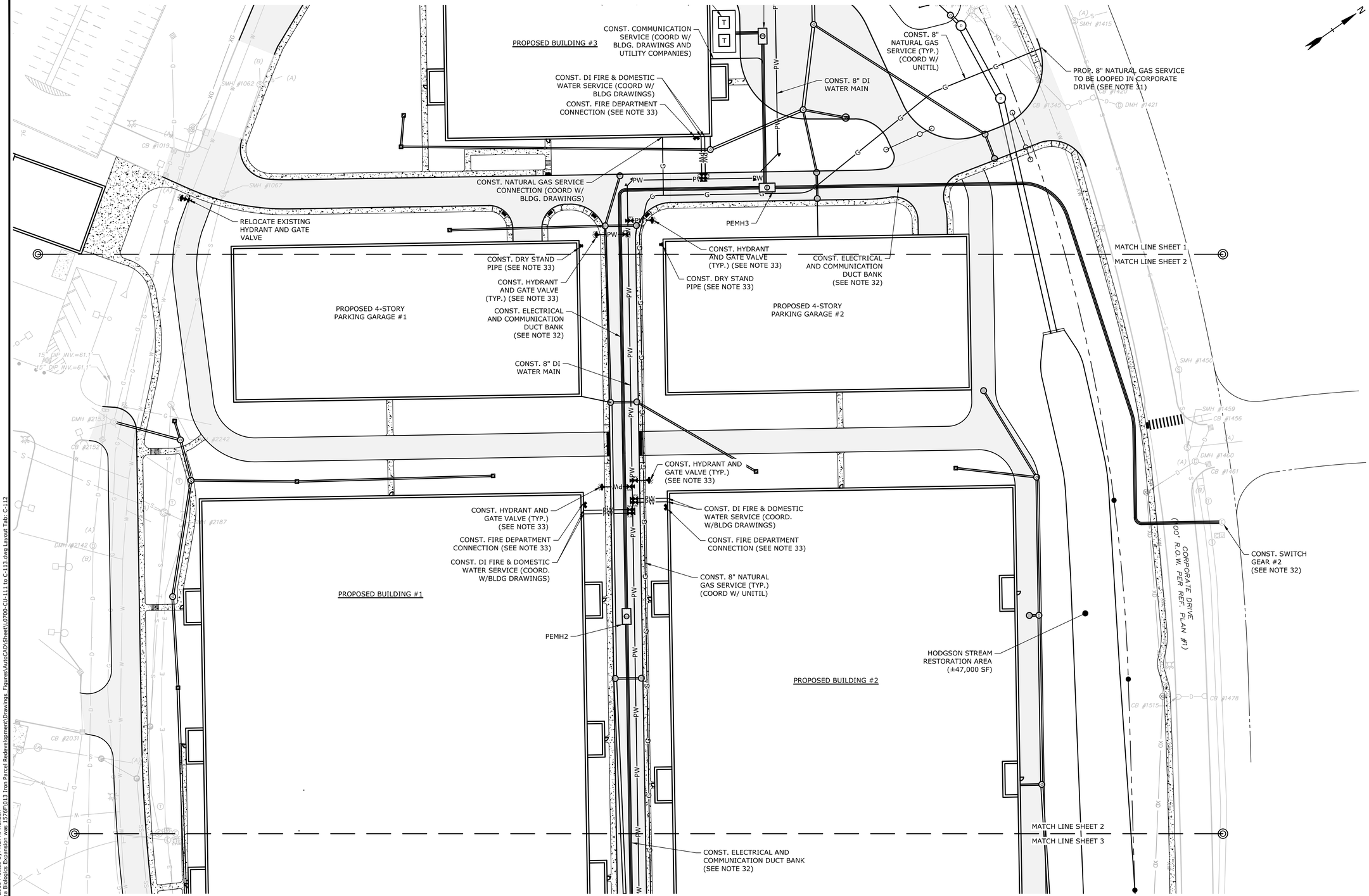
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

UTILITIES PLAN

SCALE: AS SHOWN

C-111

Last Save Date: November 1, 2018 1:06 PM By: NAHANSEN
Plot Date: November 1, 2018 1:08 PM By: Nathan Hansen
T&B File Location: J:\LL\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CU-111 to C-113.dwg Layout Tab: C-111



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T&B File Location: J:\LL0700 Lonza Biologics Expansion was 15726\0013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\LL0700-CU-111 to C-113.dwg Layout Tab: C-112

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — BRIAN L. MICHAUD — No. 13116 — LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12976 — LICENSED PROFESSIONAL ENGINEER — 11.6.18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

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DRAWN BY:	NAH
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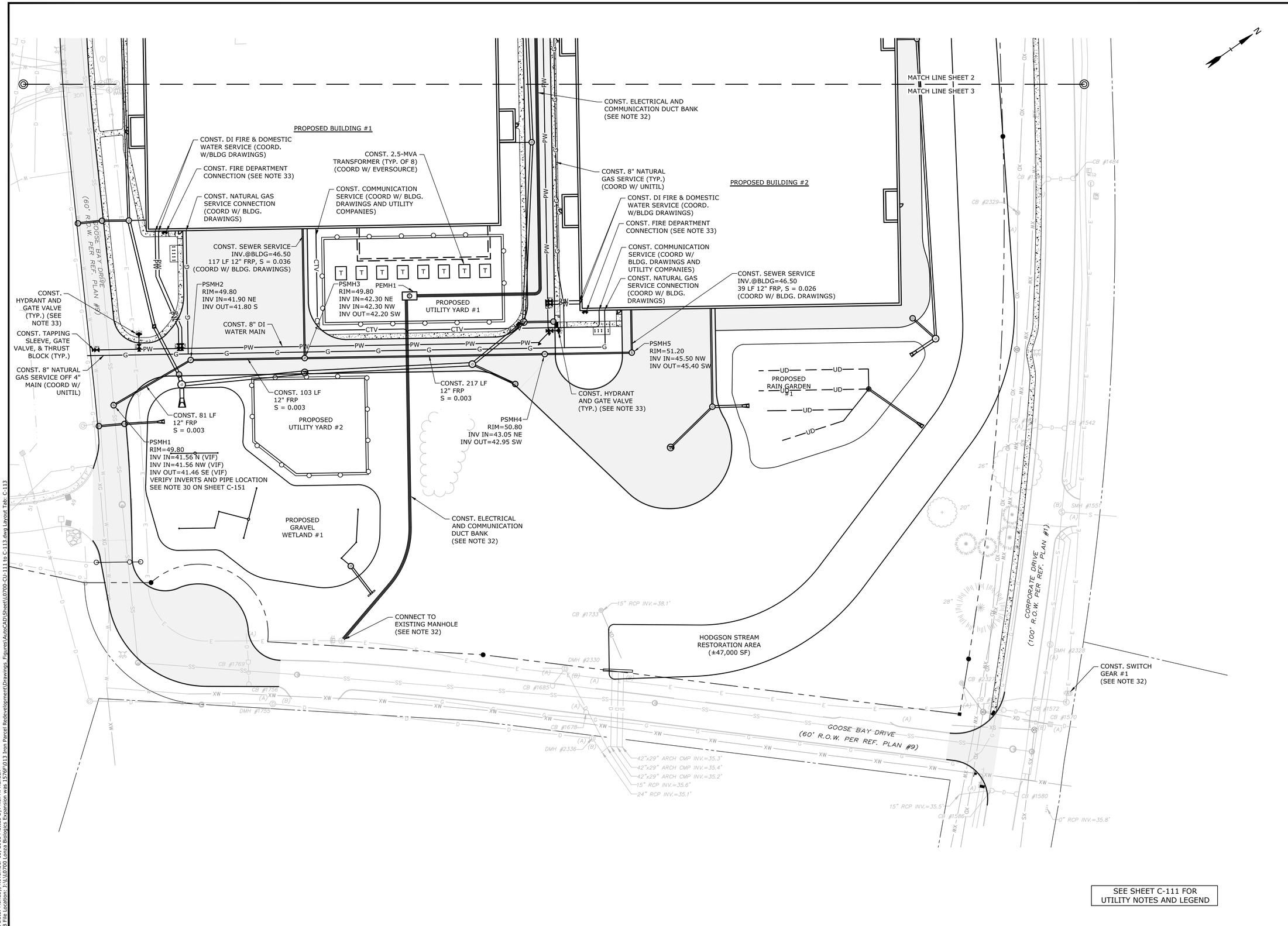
APPROVED:	BLM

UTILITIES PLAN

SCALE: AS SHOWN

C-112



SEE SHEET C-111 FOR UTILITY NOTES AND LEGEND

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED No. 12378 11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER 11-6-18

SCALE IN FEET
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GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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UTILITIES PLAN

SCALE: AS SHOWN

C-113

Last Save Date: November 1, 2018 1:06 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
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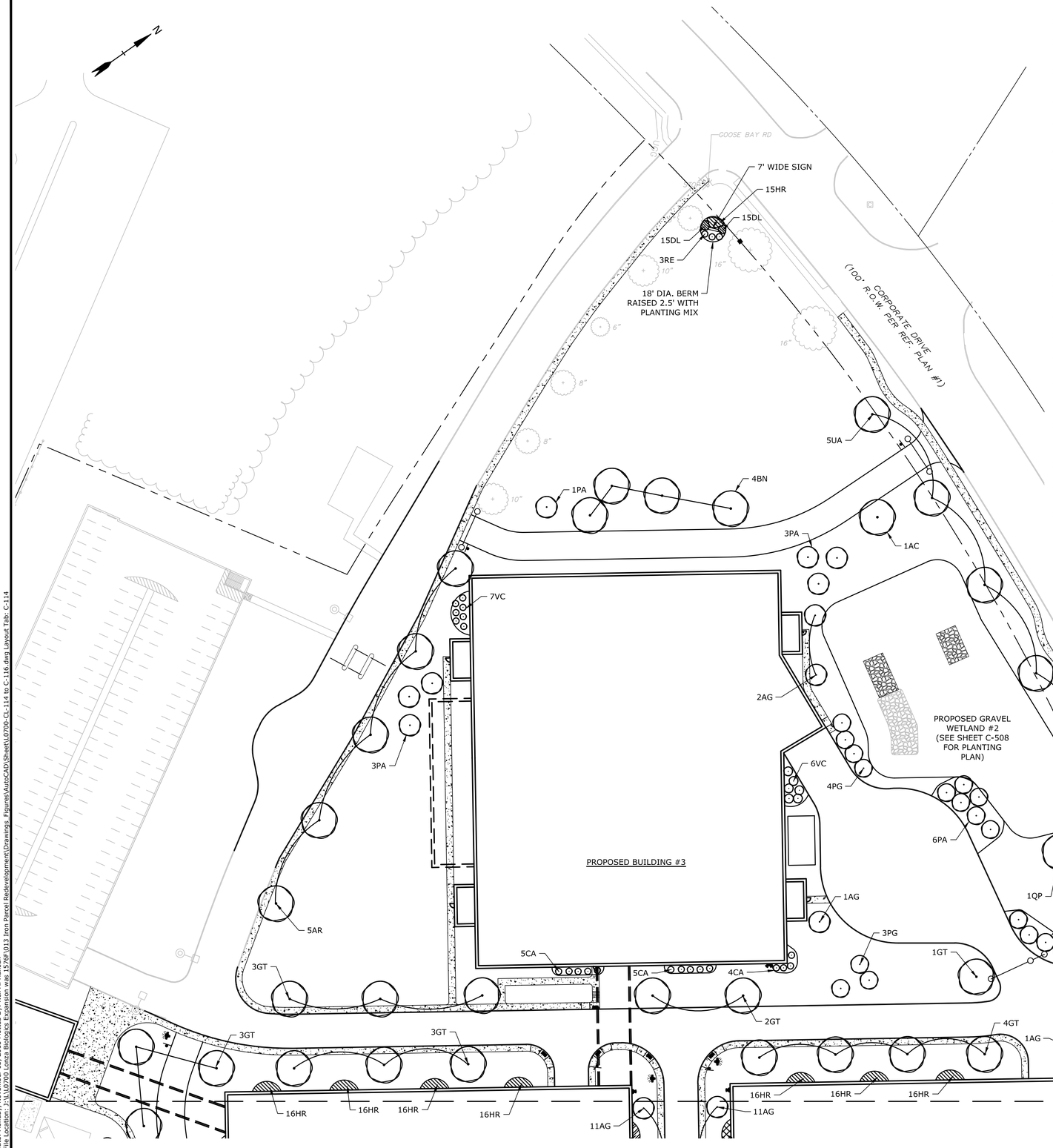

SEE SHEET C-116 FOR PLANT SCHEDULE

LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
2. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
4. PLANT MATERIAL SHALL BARE THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
5. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
6. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
7. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
9. THREE (3) INCH BARK MULCH IS TO BE USED AROUND THE TREE AND SHRUB PLANTING AS SPECIFIED IN THE DETAILS. WHERE BARK MULCH IS TO BE USED IN A CURBED ISLAND THE BARK MULCH SHALL MEET THE TOP INSIDE EDGE OF THE CURB. ALL OTHER AREAS SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED.
10. LANDSCAPING SHALL BE LOCATED WITHIN 150 FT OF EXTERIOR HOSE ATTACHMENT OR SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM.
11. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
12. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
13. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
14. PARKING AREA PLANTED ISLANDS TO HAVE MINIMUM OF 1'-0" TOPSOIL PLACED TO WITHIN 3 INCHES OF THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
15. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES.
16. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE ONE (1) YEAR GUARANTEE PERIOD.
17. EXISTING TREES AND SHRUBS SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES AND SHRUBS SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED DURING CONSTRUCTION, SHALL BE REPLACED BY A TREE OF COMPARABLE SIZE AND SPECIES TREE OR SHRUB.
18. THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
19. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.
21. PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12876
LICENSED
PROFESSIONAL ENGINEER
11/6/18

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12876
LICENSED
PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
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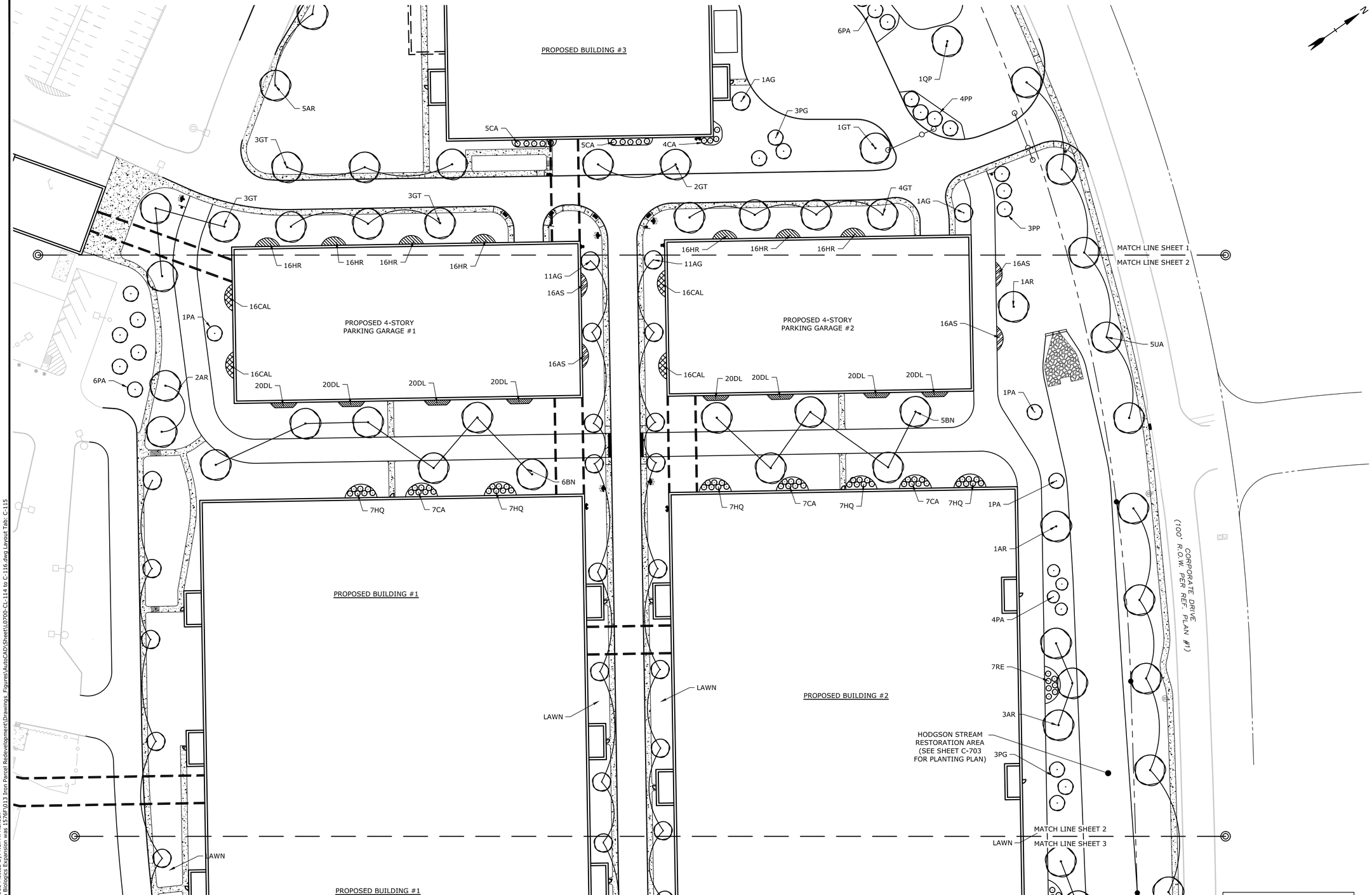
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

LANDSCAPE PLAN

SCALE: AS SHOWN

C-114

Last Save Date: November 1, 2018 12:59 PM By: NAHANSEN
Plot Date: November 01, 2018 - 1:01 PM By: Nels A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CL-114 to C-116.dwg Layout Tab: C-114



SEE SHEET C-114 FOR LANDSCAPING NOTES

SEE SHEET C-116 FOR PLANT SCHEDULE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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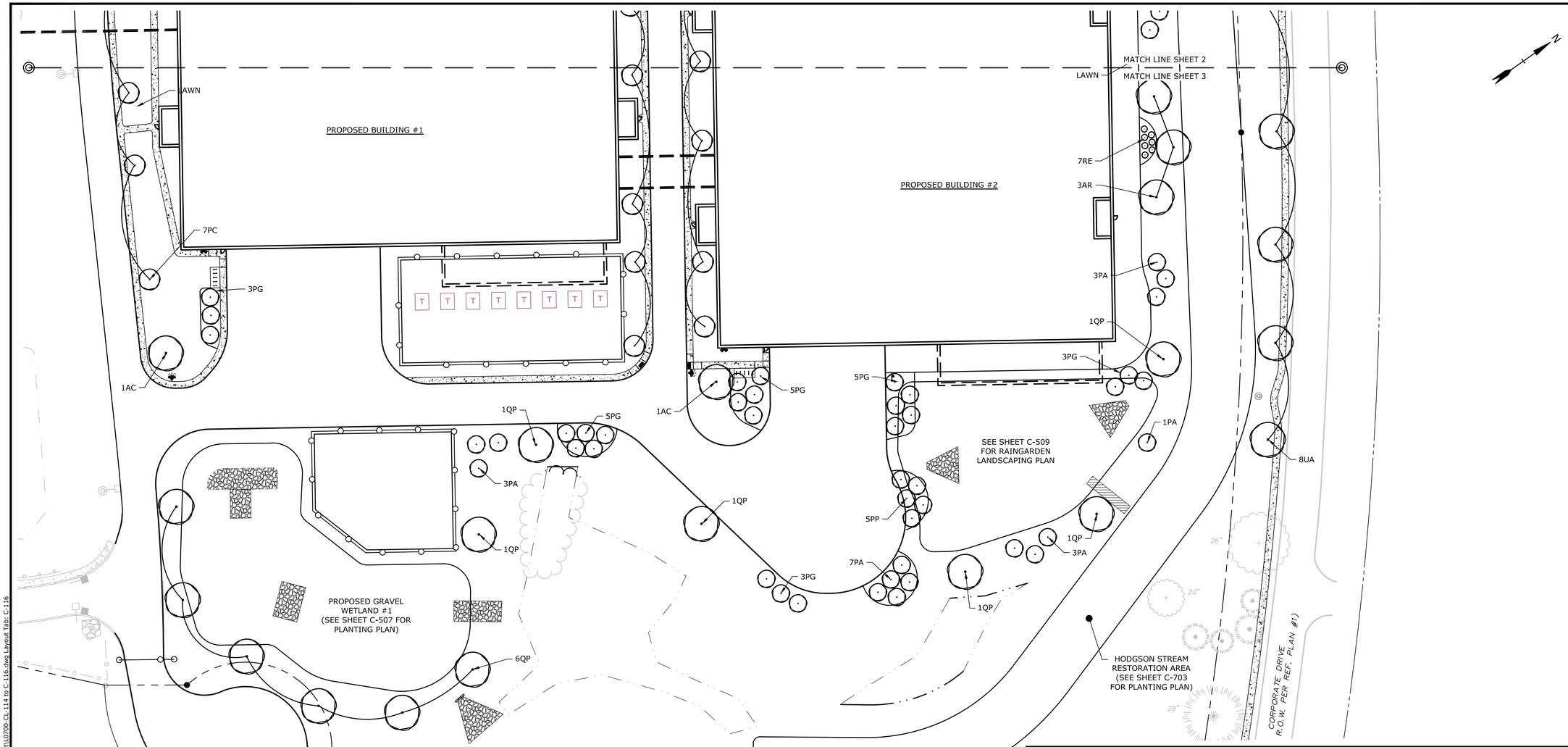
LANDSCAPE PLAN

SCALE: AS SHOWN

C-115

Last Save Date: November 1, 2018 12:59 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CL-114 to C-116.dwg Layout Tab: C-115



SEE SHEET C-114 FOR
LANDSCAPING NOTES

PLANT SCHEDULE

CODE	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES				
UA	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	2½ - 3" CALIPER	B & B
QP	QUERCUS PULUSTRIS	PIN OAK	2½ - 3" CALIPER	B & B
GT	GLEIDITSIA TRIACANTHOS 'SKYLINE'	SKYLINE HONEYLOCUST	2½ - 3" CALIPER	B & B
AR	ACER RUBRUM 'REDPOINTE'	REDPOINTE RED MAPLE	2½ - 3" CALIPER	B & B
AC	AESCULUS CARNEA ' FORT MCNAIR'	FORT MCNAIR HORSECHESTNUT	2½ - 3" CALIPER	B & B
PC	PYRUS CHANTICLEER	CHANTICLEER PEAR	2 - 2½" CALIPER	B & B
AG	AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2 - 2½" CALIPER	B & B (SINGLE STEM)
BN	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	12 - 14' HT.	B & B (MULTISTEM)
PG	PICEA GLAUCA	WHITE SPRUCE	8 - 10' HT.	B & B
PP	PICEA PUNGENS	COLORADO SPRUCE	8 - 10' HT.	B & B
PA	PICEA ABIES	NORWAY SPRUCE	8 - 10' HT.	B & B
SHRUBS				
VC	VIBURNUM CASSINOIDES	WITHEROD VIBURNUM	2½ - 3' HT.	B & B
RE	RHODODENDRON 'ENGLISH ROSEUM'	ENGLISH ROSEUM RHODODENDRON	2½ - 3' HT.	B & B
CA	CLETHERA ALNIFOLIA	SUMMERSWEET CLETHERA	7 GALLON	CONTAINER
HQ	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN'	SNOW QUEEN OAKLEAF HYDRANGEA	2½ - 3' HT.	B & B
GROUNDCOVERS & PERENNIALS				
DL	HEMEROCALLIS 'STELLA DORO'	STELLA DORO DAYLILY	2 GALLON	CONTAINER
HR	HOSTA 'ROYAL STANDARD'	ROYAL STANDARD HOSTA	2 GALLON	CONTAINER
AS	ASTILBE 'VISIONS IN PINK'	VISIONS IN PINK ASTILBE	2 GALLON	CONTAINER
CAL	CALAMAGROSTIS 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3 GALLON	CONTAINER

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
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STATE OF NEW HAMPSHIRE
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SCALE IN FEET
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LANDSCAPE PLAN

SCALE: AS SHOWN

C-116

Last Save Date: November 1, 2018 12:59 PM By: NAHANSEN
Plot Date: Thursday, November 01, 2018 Plotted By: Nick Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576f\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CL-114 to C-116.dwg Layout Tab: C-116

GOOSE BAY RD

STOP SIGN

(100' R.O.W. PER REF. PLAN #1)

CORPORATE DRIVE

PROPOSED BUILDING #3

MATCH LINE SHEET 1

MATCH LINE SHEET 2

Luminaire Schedule					
Symbol		Qty	Label	Arrangement	Description
		1	S3	SINGLE	GLEON-AF-02-LED-E1-SL3/ SSS4A20SFN1 (20' AFG)
		4	S4	SINGLE	GLEON-AF-02-LED-E1-SL4/ SSS4A20SFN1 (20' AFG)
		7	W	SINGLE	GWC-AF-01-LED-E1-SL3/ WALL MTD 20' AFG
		4	W3	SINGLE	GWC-AF-02-LED-E1-SL3/ WALL MTD 20' AFG
		26	W4	SINGLE	GWC-AF-02-LED-E1-SL4/ WALL MTD 20' AFG

Tighe&Bond
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STATE OF NEW HAMPSHIRE
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APPROVED:	BLM

PHOTOMETRIC LIGHTING PLAN

SCALE: AS SHOWN

C-117

Last Save Date: November 1, 2018 1:12 PM By: NAHANSEN
Plot Scale: 1 = 40.0 Plot Date/Time: November 01, 2018 01:13 PM By: Nicole A. Hansen
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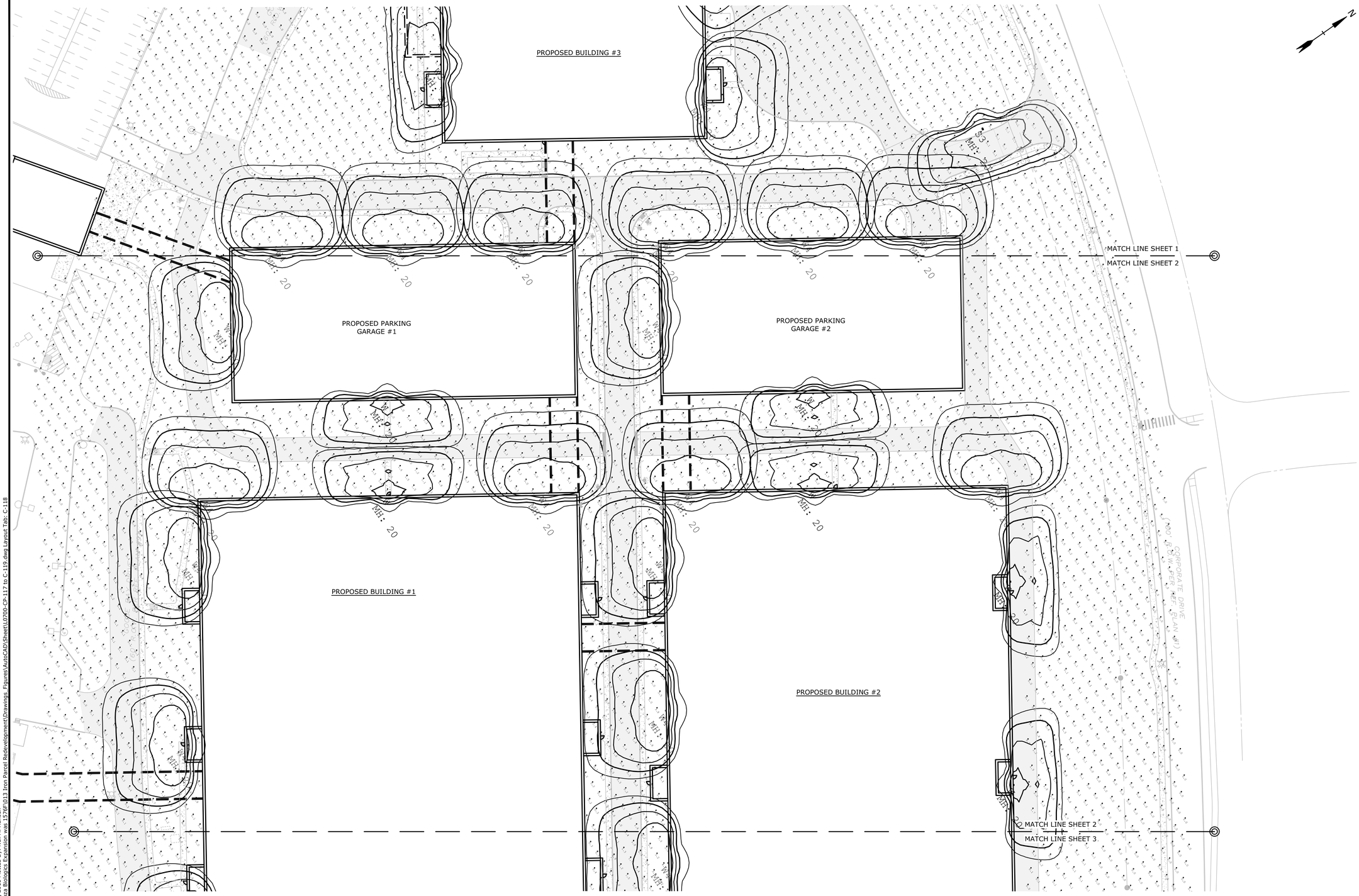

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STATE OF NEW HAMPSHIRE
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PHOTOMETRIC LIGHTING PLAN

SCALE: AS SHOWN

C-118

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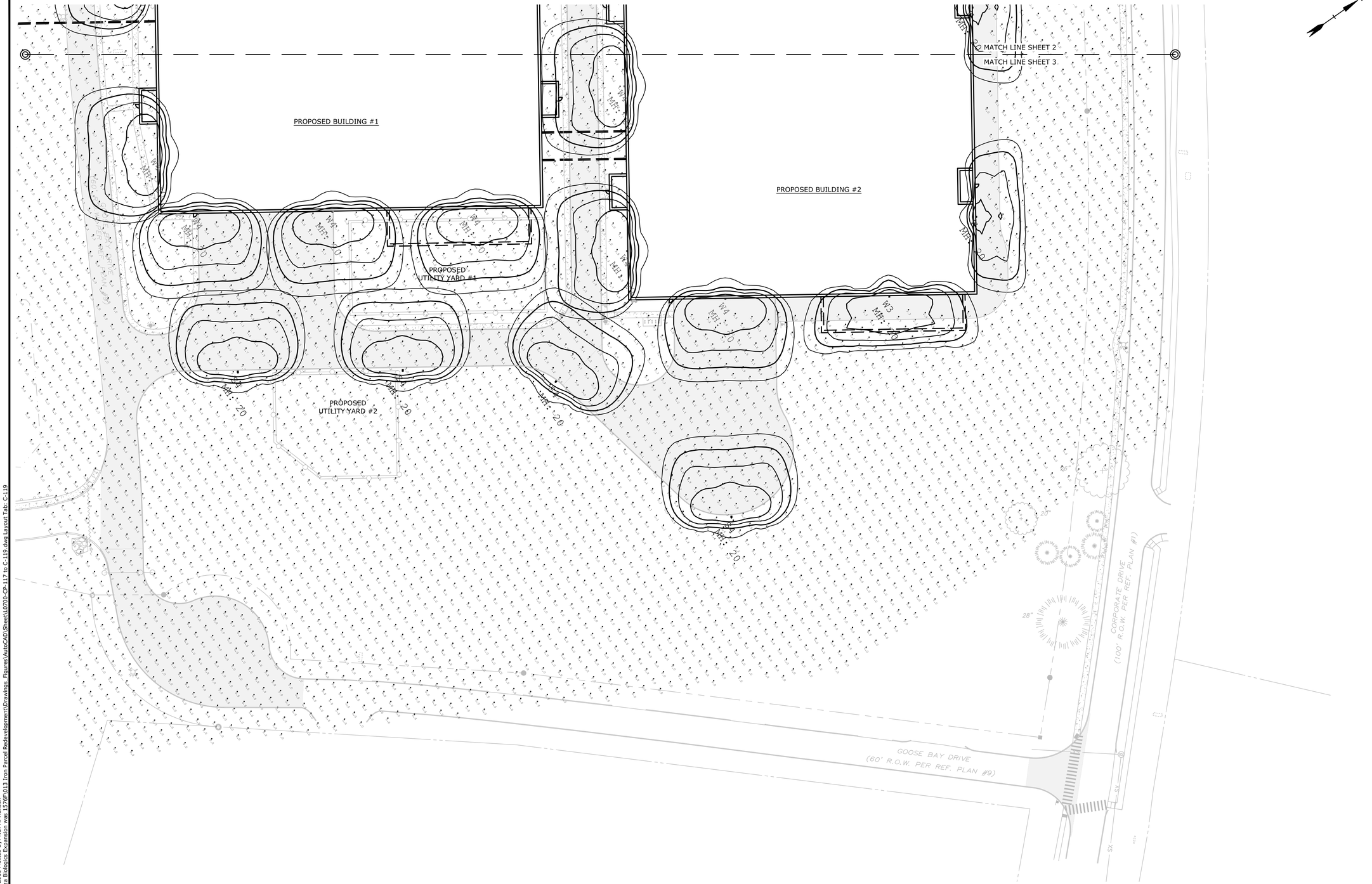

Luminaire Schedule

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Tighe&Bond
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STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER 11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER 11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

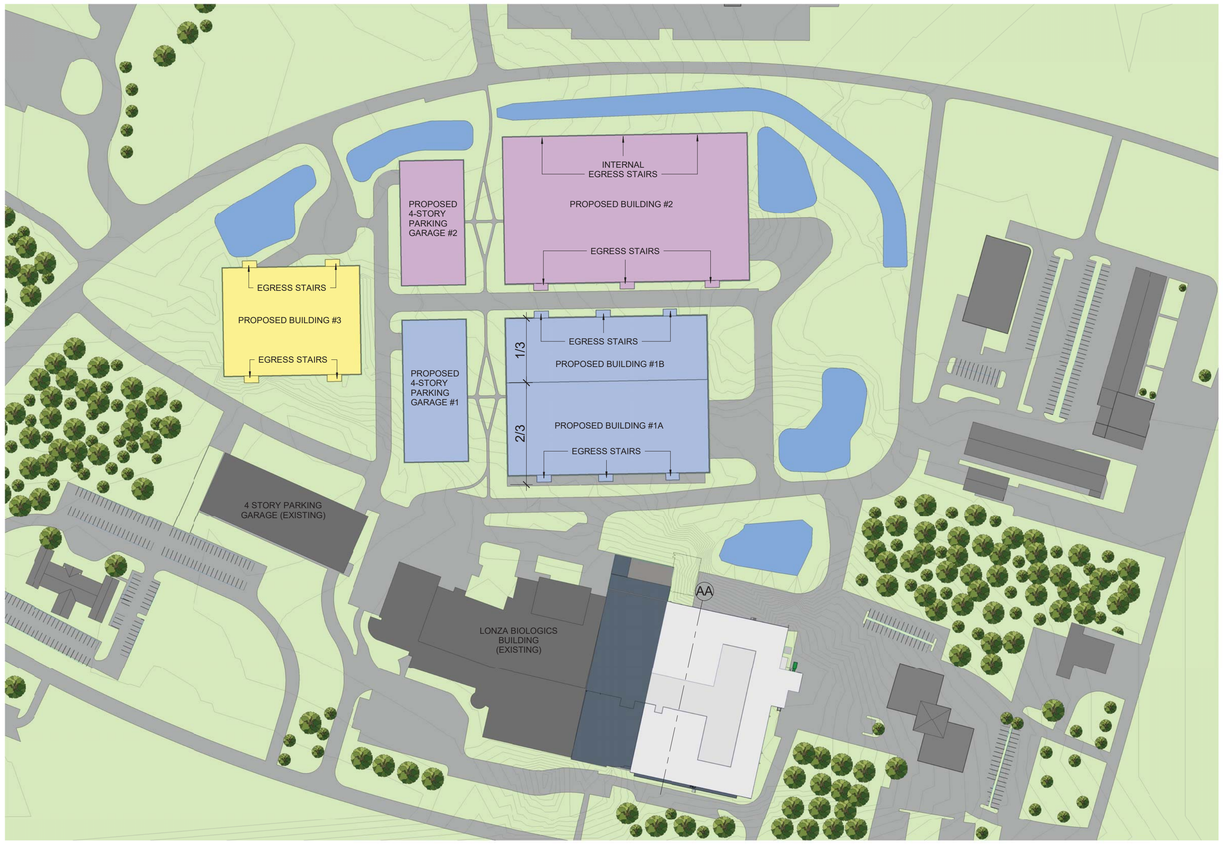
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHOTOMETRIC LIGHTING PLAN

SCALE: AS SHOWN

C-119

Last Save Date: November 1, 2018 1:12 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CP-117 to C-119.dwg Layout Tab: C-119



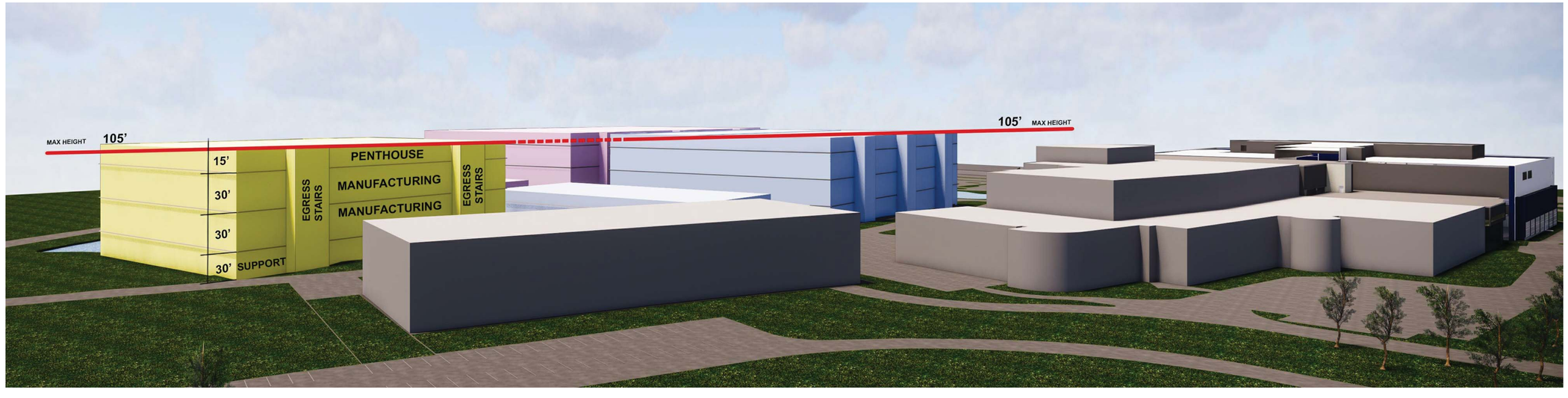
A SITE PLAN
ASK-001 1" = 100'-0"

LEGEND

- PHASE 1 (3-5 YEARS)
- PHASE 2 (5-10 YEARS)
- PHASE 3 (10-15 YEARS)



1 AXONOMETRIC VIEW
ASK-001 NONE



2 PERSPECTIVE VIEW
ASK-001 NONE

Lonza

LONZA BIOLOGICS IRON PARCEL

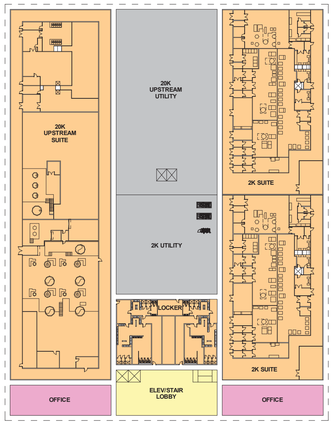
PORTSMOUTH, NEW HAMPSHIRE
MAD18221.01

SITE PLAN - PERSPECTIVE

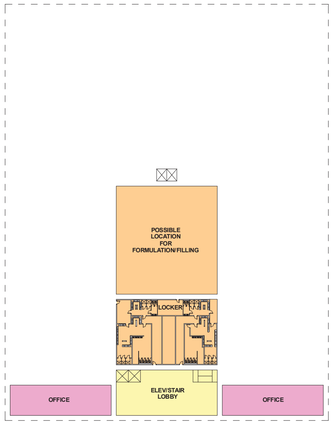
ASK-001

DATE: 09 AUG 2018
REVISION: A

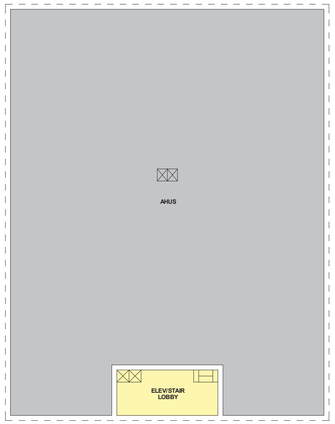
ips



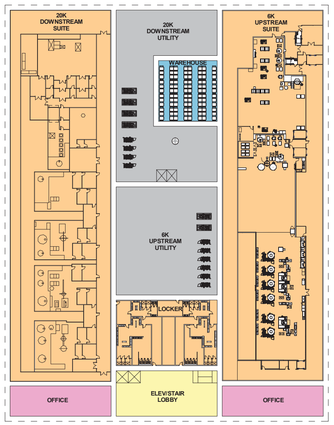
3rd Floor @ 60'-0"



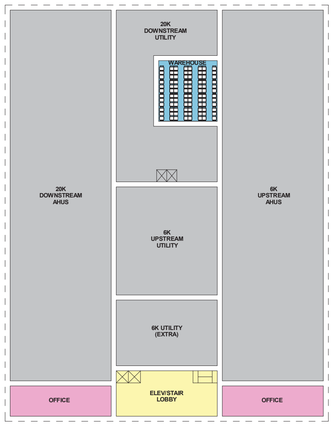
3rd Floor Intermediate @ 75'-0"



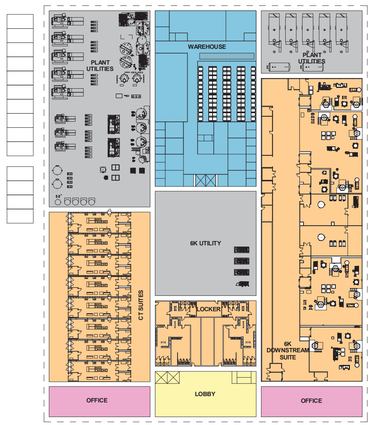
Penthouse @ 90'-0"



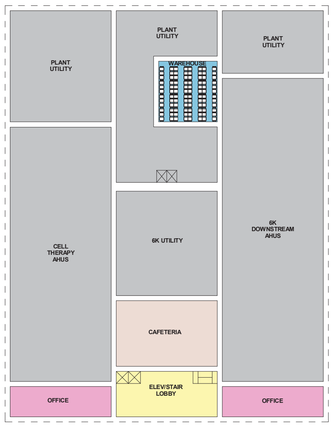
2nd Floor @ 30'-0"



2nd Floor Intermediate @ 45'-0"

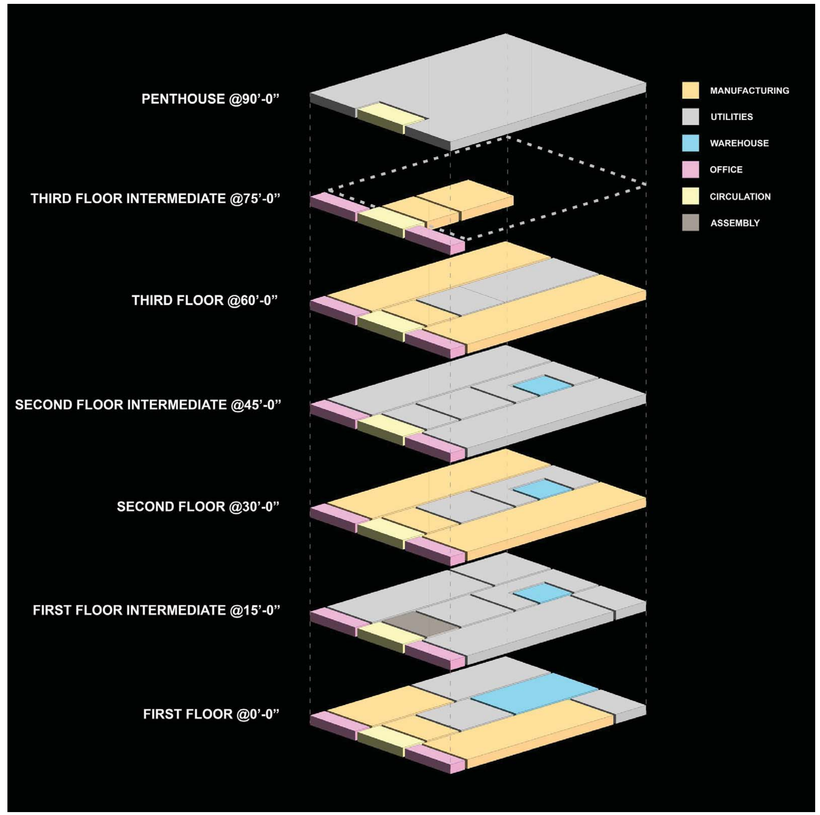


1st Floor @ 0'-0"



1st Floor Intermediate @ 15'-0"

3 CONCEPT PLANS
ASK-002 1" = 50'-0"



1 AXONOMETRIC VIEW
ASK-002 1" = 60'-0"

Master Plan Area Summary (Square Feet) - Option 0

Floor	Area	Building 1	Building 2	Building 3	Site Total
1	First Floor Total	137,840	160,000	62,000	359,840
	Area: Manufacturing	61,700	70,000		131,700
	Area: Lab/Office	12,000	20,000		32,000
	Area: Circulation	19,210	16,000		
	Area: Warehouse	17,000	12,000		
	Area: Support Utility	27,930	42,000	62,000	131,930
2	Second Floor Total	137,840	160,000	62,000	359,840
	Area: Manufacturing	79,900	90,000	62,000	231,900
	Area: Lab/Office	12,000	20,000		32,000
	Area: Warehouse	3,480	3,600		7,080
	Area: Circulation	19,170	16,000		35,170
	Area: Support Utility	23,290	30,400		53,690
3	Third Floor Total	155,040	160,000	62,000	377,040
	Area: Manufacturing	97,100	90,000	62,000	249,100
	Area: Lab/Office	12,000	20,000		32,000
	Area: Circulation	17,740	16,000		33,740
	Area: Support Utility	28,200	34,000		62,200
Total		430,720	480,000	186,000	1,096,720

2 SCHEDULE
ASK-002 NONE

Lonza

IRON PARCEL

PORTSMOUTH, NH
MAD18221.01

BUILDING 1 CONCEPT PLANS

ASK-002

DATE: 12-JUL-2018
REVISION: B

ips

C:\Users\KLuu\Documents\18221_Arch_Lonza_Iron Parcel_Build1g1_LKL@ips-db.com.rvt 7/17/2018 12:28:36 PM

PHASE 1A PLAN SET

APRIL 3, 2018

REVISED: NOVEMBER 6, 2018

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	PHASE 1A PLAN SET COVER SHEET	11/06/2018
C-121	PHASE 1A DEMOLITION PLAN	11/06/2018
C-122	PHASE 1A DEMOLITION PLAN	11/06/2018
C-123	PHASE 1A DEMOLITION PLAN	11/06/2018
C-124	PHASE 1A OVERALL SITE PLAN	11/06/2018
C-125	PHASE 1A SITE PLAN	11/06/2018
C-126	PHASE 1A SITE PLAN	11/06/2018
C-127	PHASE 1A SITE PLAN	11/06/2018
C-128	PHASE 1A GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-129	PHASE 1A GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-130	PHASE 1A GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-131	PHASE 1A LANDSCAPE PLAN	11/06/2018
C-132	PHASE 1A LANDSCAPE PLAN	11/06/2018
C-133	PHASE 1A LANDSCAPE PLAN	11/06/2018
C-701	HODGSON BROOK GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-702	HODGSON BROOK WETLAND PLANTING PLAN	11/06/2018
C-703	HODGSON BROOK DETAILS SHEET	11/06/2018

STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER
11-6-18

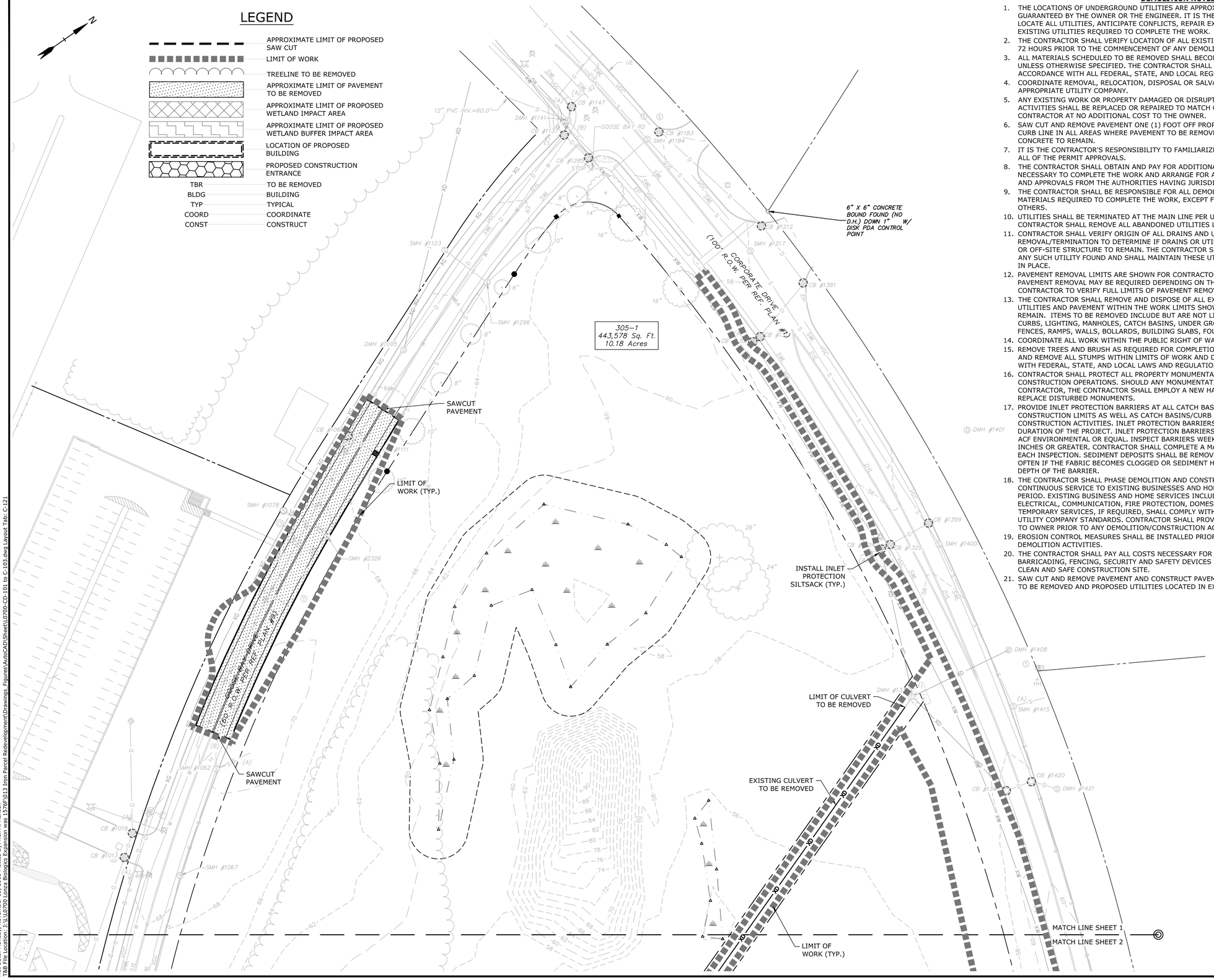
COMPLETE SET 17 SHEETS

Last Save Date: November 5, 2018 2:20 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Xref\L-0700-13-COVER.dwg Layout Tab: PHASE 1A-CS

LEGEND

- APPROXIMATE LIMIT OF PROPOSED SAW CUT
- LIMIT OF WORK
- TREELINE TO BE REMOVED
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- APPROXIMATE LIMIT OF PROPOSED WETLAND IMPACT AREA
- APPROXIMATE LIMIT OF PROPOSED WETLAND BUFFER IMPACT AREA
- LOCATION OF PROPOSED BUILDING
- PROPOSED CONSTRUCTION ENTRANCE

TBR	TO BE REMOVED
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
CONST	CONSTRUCT



DEMOLITION NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
2. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
3. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
5. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
11. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
12. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
13. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
14. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
15. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
16. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
17. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT MAY RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
18. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
19. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
20. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.

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Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12876 — LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12876 — LICENSED PROFESSIONAL ENGINEER — 11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
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B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1A
DEMOLITION PLAN

SCALE: AS SHOWN

C-121

Last Save Date: November 1, 2018 1:18 PM By: NAHANSEN
Plot Date: November 05, 2018 7:08 AM By: Nick A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CD-101 to C-103.dwg Layout Tab: C-121

SAWCUT PAVEMENT

LIMIT OF WORK (TYP.)

EXISTING CULVERT TO BE REMOVED

LIMIT OF CULVERT TO BE REMOVED

EXISTING CULVERT TO BE REMOVED

LIMIT OF WORK (TYP.)

MATCH LINE SHEET 1

MATCH LINE SHEET 2

EXISTING CULVERT TO BE REMOVED

TREE TO BE REMOVED

5/8" REBAR FOUND W/ "BURD ENGINEERING" CAP, FLUSH

5/8" REBAR FOUND W/ "BURD ENGINEERING" CAP, DOWN 1"

5/8" REBAR FOUND W/ "BURD ENGINEERING" CAP, DOWN 1"

PILE OF LARGE CONCRETE BLOCKS

PILE OF FILL

2x10" HDPE SET VERTICAL

10" HDPE INV.=50.7'

8" HDPE INV.=50.1'

2x10" HDPE SET VERTICAL

LEASE LINE PER REF. PLAN #9

~ DIRT PARKING AREA ~

CONC. PAD W/ TRANSFORMER

6' CHAIN LINK FENCE (TYP.)

GOOSE BAY DRIVE (60' R.O.W. PER REF. PLAN #9)

CORPORATE DRIVE (100' R.O.W. PER REF. PLAN #1)

MATCH LINE SHEET 2

MATCH LINE SHEET 3

TREE TO BE REMOVED

SEE SHEET C-121 FOR LEGEND AND DEMOLITION NOTES

Last Save Date: November 1, 2018 1:10 PM By: NAHANSEN
Plot Date: November 1, 2018 1:11 PM By: NAHANSEN
T&B File Location: J:\L\0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CD-101 to C-103.dwg Layout Tab: C-122

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STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12876 LICENSED PROFESSIONAL ENGINEER
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12876 LICENSED PROFESSIONAL ENGINEER
11.6.18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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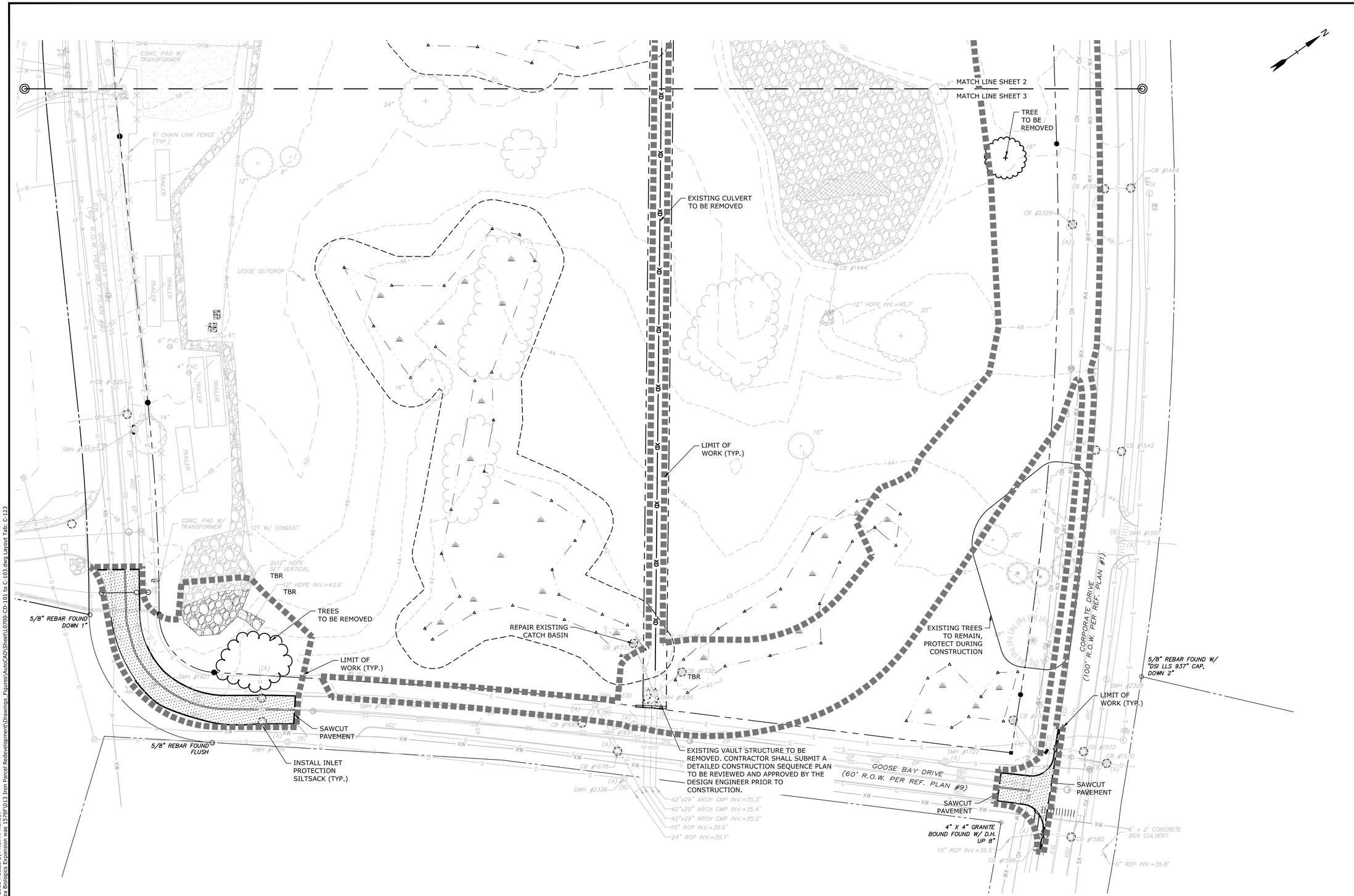
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1A
DEMOLITION PLAN

SCALE: AS SHOWN

C-122



SEE SHEET C-121 FOR LEGEND AND DEMOLITION NOTES

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Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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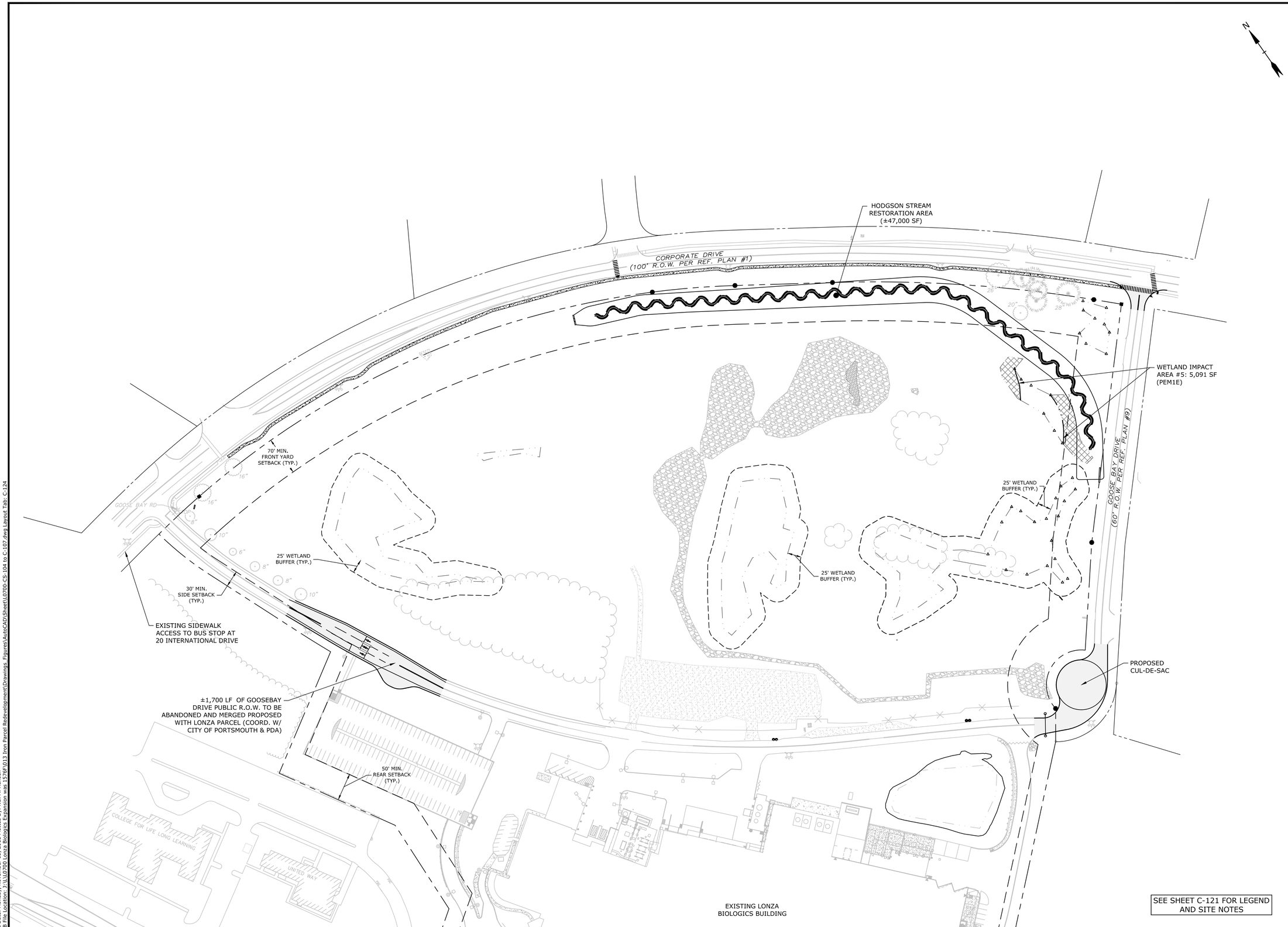
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1A DEMOLITION PLAN

SCALE: AS SHOWN

C-123

Last Save Date: November 1, 2018 1:10 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CD-101 to C-103.dwg Layout Tab: C-123



SEE SHEET C-121 FOR LEGEND AND SITE NOTES

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 80' 160'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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DATE:	04/03/2018
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APPROVED:	BLM

PHASE 1A
OVERALL SITE PLAN

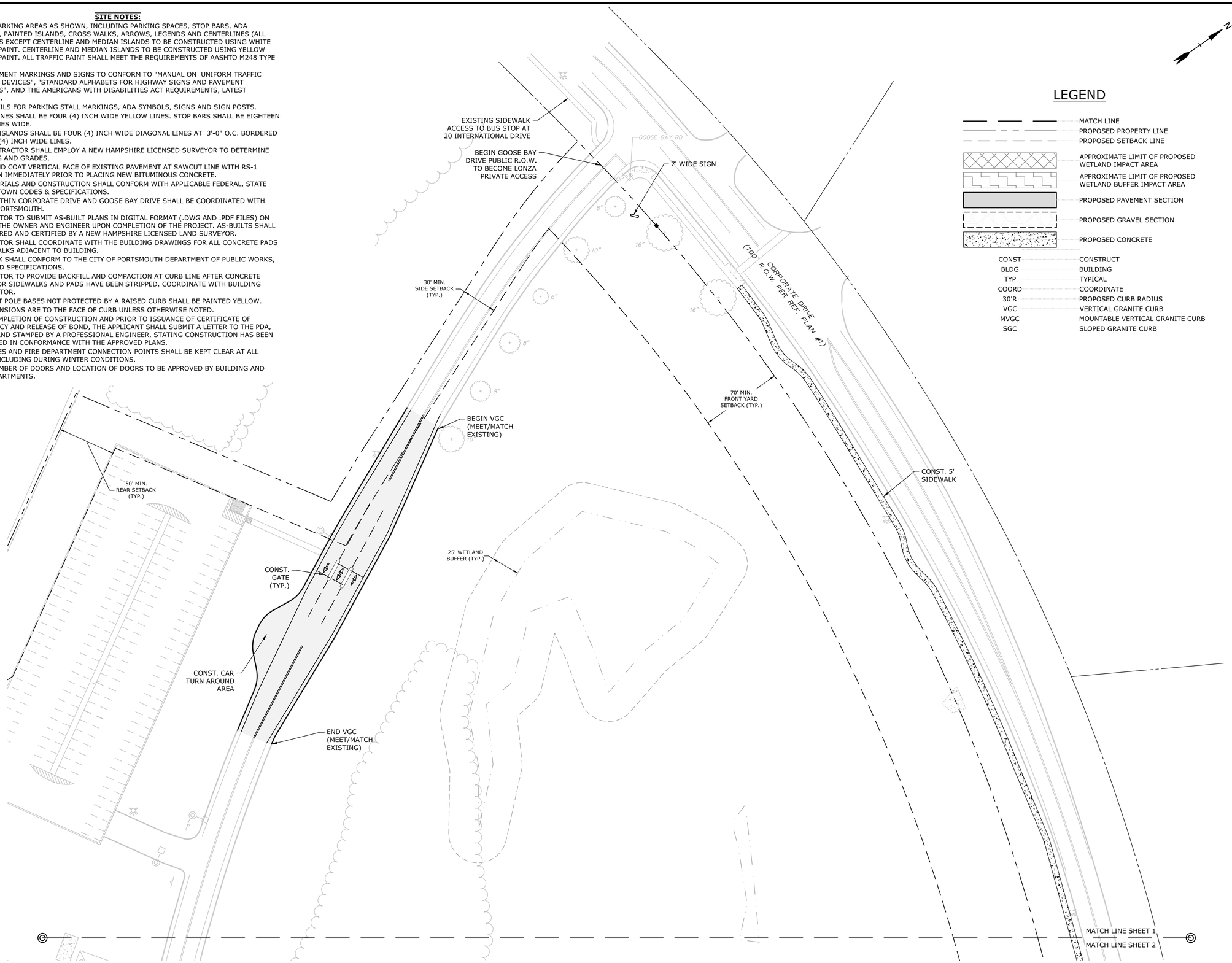
SCALE: AS SHOWN

C-124

Last Save Date: November 5, 2018 3:31 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CS-104 to C-107.dwg Layout Tab: C-124

SITE NOTES:

1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES (ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND/OR TOWN CODES & SPECIFICATIONS.
9. WORK WITHIN CORPORATE DRIVE AND GOOSE BAY DRIVE SHALL BE COORDINATED WITH CITY OF PORTSMOUTH.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
11. CONTRACTOR SHALL COORDINATE WITH THE BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS.
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
15. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
16. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY AND RELEASE OF BOND, THE APPLICANT SHALL SUBMIT A LETTER TO THE PDA, SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER, STATING CONSTRUCTION HAS BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS.
17. FIRE LANES AND FIRE DEPARTMENT CONNECTION POINTS SHALL BE KEPT CLEAR AT ALL TIMES, INCLUDING DURING WINTER CONDITIONS.
18. FINAL NUMBER OF DOORS AND LOCATION OF DOORS TO BE APPROVED BY BUILDING AND FIRE DEPARTMENTS.



LEGEND

	MATCH LINE
	PROPOSED PROPERTY LINE
	PROPOSED SETBACK LINE
	APPROXIMATE LIMIT OF PROPOSED WETLAND IMPACT AREA
	APPROXIMATE LIMIT OF PROPOSED WETLAND BUFFER IMPACT AREA
	PROPOSED PAVEMENT SECTION
	PROPOSED GRAVEL SECTION
	PROPOSED CONCRETE
CONST	CONSTRUCT
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
30'R	PROPOSED CURB RADIUS
VGC	VERTICAL GRANITE CURB
MVGC	MOUNTABLE VERTICAL GRANITE CURB
SGC	SLOPED GRANITE CURB

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 12879 LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 12879 LICENSED PROFESSIONAL ENGINEER — 11.6.18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1A
SITE PLAN

SCALE: AS SHOWN

C-125

Last Save Date: November 5, 2018 3:31 PM By: NAHANSEN
Plot Date: November 05, 2018 3:31 PM By: Nicholas A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CS-104 to C-107.dwg Layout Tab: C-125



SEE SHEET C-125 FOR LEGEND AND SITE NOTES

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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APPROVED:	BLM

PHASE 1A
SITE PLAN

SCALE: AS SHOWN

C-126

Last Save Date: November 5, 2018 3:31 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CS-104 to C-107.dwg Layout Tab: C-126

MATCH LINE SHEET 2
MATCH LINE SHEET 3

BEGIN VGC (MEET/MATCH EXISTING)

CONST. GATE (TYP.)

30' MIN. SIDE SETBACK (TYP.)

40'R

30'R

END GOOSE BAY DRIVE PUBLIC R.O.W. TO BECOME LONZA PRIVATE ACCESS

90'

92'R

30'R

END SGC (MEET/MATCH EXISTING)

END VGC (MEET/MATCH EXISTING)

25' WETLAND BUFFER (TYP.)

70' MIN. FRONT YARD SETBACK (TYP.)

WETLAND IMPACT AREA #5: 5,091 SF (PEM1E)

HODGSON STREAM RESTORATION AREA (±47,000 SF)

CONST. 5' SIDEWALK

CORPORATE DRIVE (100' R.O.W. PER REF. PLAN #1)

26"

20"

28"

CONST. R1-1 "STOP SIGN" AND STOP BAR

END VGC (MEET/MATCH EXISTING)

CONST. TIP DOWN RAMP AND DETECTABLE WARNING PANEL

45'R

CONST. CROSSWALK

GOOSE BAY DRIVE (60' R.O.W. PER REF. PLAN #9)

BEGIN VGC (MEET/MATCH EXISTING)

35'R

CONST. TIP DOWN RAMP AND DETECTABLE WARNING PANEL

END VGC (MEET/MATCH EXISTING)

SEE SHEET C-125 FOR LEGEND AND SITE NOTES

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12879
LICENSED
PROFESSIONAL ENGINEER
11/6/18

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12879
LICENSED
PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
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PHASE 1A
SITE PLAN

SCALE: AS SHOWN

C-127

Last Save Date: November 5, 2018 3:31 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 3:31 PM By: NAHANSEN
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PHASE 1A DRAINAGE STRUCTURE TABLE

CB #1111
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INV.OUT=61.65

PCB203
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INV.IN=51.65
INV.OUT=51.55

PCB204
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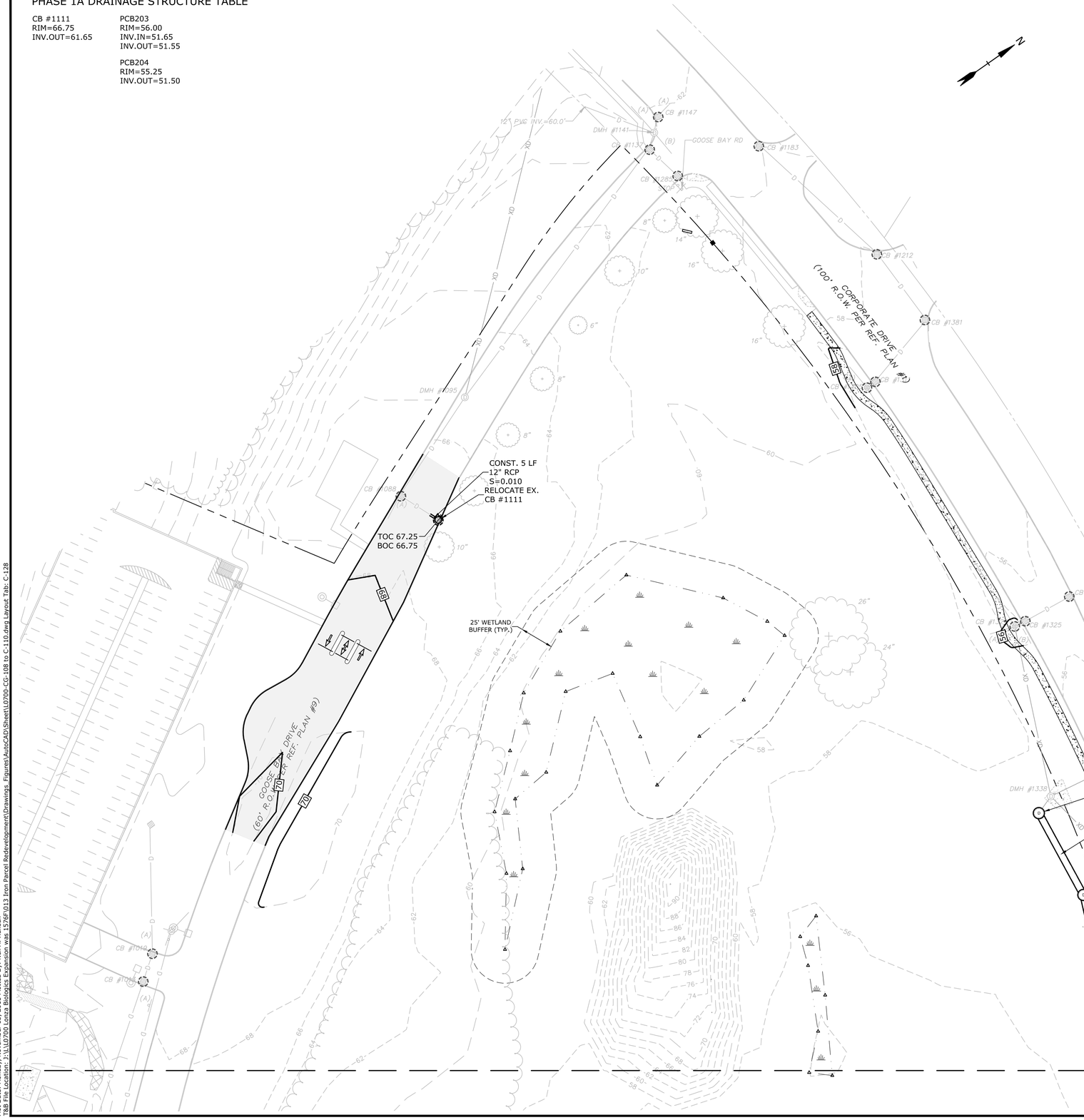

GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:

BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREAS	90%

* ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.

2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR APPROVED EQUAL), UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITIES PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCHBASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCHBASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
10. ALL PROPOSED CATCHBASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION SPECIFICATIONS, LATEST REVISIONS.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
13. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON DETAIL SHEETS.
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCHBASIN INLETS WITHIN THE WORK LIMITS. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
5. INSPECT INLET PROTECTION AND SILT FENCES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EXCELSIOR MAT ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCHBASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED BY SILT FENCE AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLAND.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.

LEGEND

- MATCH LINE
- PROPOSED PROPERTY LINE
- PROPOSED CONTOUR LINE
- PROPOSED DRAIN LINE (TYP)
- PROPOSED SILT SOCK
- INLET PROTECTION SILT SACK
- PROPOSED CATCHBASIN
- PROPOSED DOUBLE GRATE CATCHBASIN
- PROPOSED DRAIN MANHOLE

CONST	CONSTRUCT
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
RD	ROOF DRAIN
VIF	VERIFY IN FIELD

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 12879 LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 12879 LICENSED PROFESSIONAL ENGINEER — 11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

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PROJECT NO:	L-0700-013
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CHECKED:	PMC
APPROVED:	BLM

PHASE 1A
GRADING, DRAINAGE &
EROSION CONTROL PLAN

SCALE: AS SHOWN

C-128

Last Save Date: November 1, 2018 11:20 AM By: NAHANSEN
Plot Date: November 15, 2018 7:19 AM By: Nicholas Hansen
File Location: J:\1\L0700 Lonza Biologics Expansion wse 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CG-108 to C-110.dwg Layout Tab: C-128



SEE SHEET C-128 FOR LEGEND GRADING, DRAINAGE & EROSION CONTROL NOTES, & DRAINAGE STRUCTURE TABLE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12878
LICENSED
PROFESSIONAL ENGINEER
11/6/18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1A
GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-129

Last Save Date: November 1, 2018 11:20 AM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CG-108 to C-110.dwg Layout Tab: C-129

MATCH LINE SHEET 2
MATCH LINE SHEET 3

GOOSE BAY DRIVE
(60' R.O.W. PER REF. PLAN #9)

MANHOLE COVER TO BE ADJUSTED TO PROPOSED FINISH ELEVATION

25' WETLAND BUFFER (TYP.)

END SILTSOCK (TYP.)

BEGIN SILTSOCK (TYP.)

END SILTSOCK (TYP.)

REMOVE VAULT STRUCTURE AND CONSTRUCT HEADWALL FOR PROPOSED HODGSON BROOK RELOCATION OUTLET. CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SEQUENCE PLAN TO BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.
3 - 42"x29" ARCH CMP, INV. OUT = 35.6' (V.I.F.)

42"x29" ARCH CMP INV.=35.3'
42"x29" ARCH CMP INV.=35.4'
42"x29" ARCH CMP INV.=35.2'
15" RCP INV.=35.6'
24" RCP INV.=35.1'

CORPORATE DRIVE
(100' R.O.W. PER REF. PLAN #1)

GOOSE BAY DRIVE
(60' R.O.W. PER REF. PLAN #9)

15" RCP INV.=35.5'
0" RCP INV.=35.8'

SEE SHEET C-128 FOR LEGEND GRADING, DRAINAGE & EROSION CONTROL NOTES, & DRAINAGE STRUCTURE TABLE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
BRIAN L. MICHAUD
No. 13159
LICENSED
PROFESSIONAL ENGINEER
11/6/18

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12976
LICENSED
PROFESSIONAL ENGINEER
11.6.18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

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PHASE 1A
GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-130

Last Save Date: November 1, 2018 11:20 AM By: NAHANSEN
Save Date Version: Version 19.5 (158.2) Printed By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CG-108 to C-110.dwg Layout Tab: C-130



LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
2. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
4. PLANT MATERIAL SHALL BARE THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
5. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
6. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
7. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
9. THREE (3) INCH BARK MULCH IS TO BE USED AROUND THE TREE AND SHRUB PLANTING AS SPECIFIED IN THE DETAILS. WHERE BARK MULCH IS TO BE USED IN A CURBED ISLAND THE BARK MULCH SHALL MEET THE TOP INSIDE EDGE OF THE CURB. ALL OTHER AREAS SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED.
10. LANDSCAPING SHALL BE LOCATED WITHIN 150 FT OF EXTERIOR HOSE ATTACHMENT OR SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM.
11. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
12. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
13. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
14. PARKING AREA PLANTED ISLANDS TO HAVE MINIMUM OF 1'-0" TOPSOIL PLACED TO WITHIN 3 INCHES OF THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
15. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES.
16. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE ONE (1) YEAR GUARANTEE PERIOD.
17. EXISTING TREES AND SHRUBS SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES AND SHRUBS SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED DURING CONSTRUCTION, SHALL BE REPLACED BY A TREE OF COMPARABLE SIZE AND SPECIES TREE OR SHRUB.
18. THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
19. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.
21. PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12878
LICENSED
PROFESSIONAL ENGINEER
11/6/18

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12878
LICENSED
PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

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PHASE 1A
LANDSCAPE PLAN

SCALE: AS SHOWN

C-131

Last Save Date: November 1, 2018 - 12:59 PM By: NAHANSEN
Revit Save Version: 2018.2.0.20180607_Rev 18 Model Version: 0700_2018 Revised.rvt
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SEE SHEET C-131 FOR LANDSCAPING NOTES

SEE SHEET C-133 FOR PLANT SCHEDULE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12878
LICENSED
PROFESSIONAL ENGINEER
11/6/18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

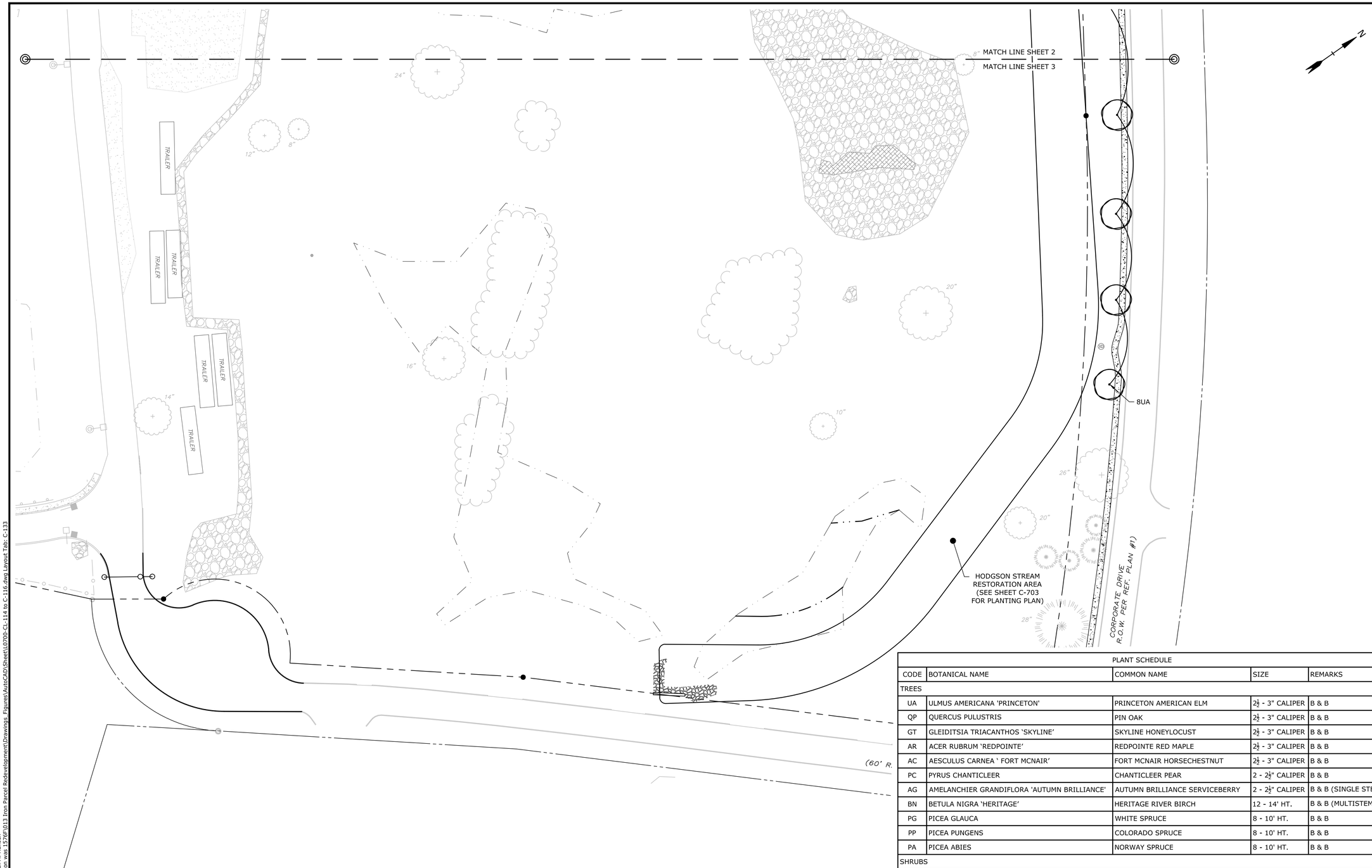
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1A
LANDSCAPE PLAN

SCALE: AS SHOWN

C-132

Last Save Date: November 1, 2018 12:59 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CL-114 to C-116.dwg Layout Tab: C-132



SEE SHEET C-131 FOR LANDSCAPING NOTES

PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES				
UA	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	2½ - 3" CALIPER	B & B
QP	QUERCUS PULUSTRIS	PIN OAK	2½ - 3" CALIPER	B & B
GT	GLEIDITSIA TRIACANTHOS 'SKYLINE'	SKYLINE HONEYLOCUST	2½ - 3" CALIPER	B & B
AR	ACER RUBRUM 'REDPOINTE'	REDPOINTE RED MAPLE	2½ - 3" CALIPER	B & B
AC	AESCULUS CARNEA ' FORT MCNAIR'	FORT MCNAIR HORSECHESTNUT	2½ - 3" CALIPER	B & B
PC	PYRUS CHANTICLEER	CHANTICLEER PEAR	2 - 2½" CALIPER	B & B
AG	AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2 - 2½" CALIPER	B & B (SINGLE STEM)
BN	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	12 - 14' HT.	B & B (MULTISTEM)
PG	PICEA GLAUCA	WHITE SPRUCE	8 - 10' HT.	B & B
PP	PICEA PUNGENS	COLORADO SPRUCE	8 - 10' HT.	B & B
PA	PICEA ABIES	NORWAY SPRUCE	8 - 10' HT.	B & B
SHRUBS				
VC	VIBURNUM CASSINOIDES	WITHEROD VIBURNUM	2½ - 3' HT.	B & B
RE	RHODODENDRON 'ENGLISH ROSEUM'	ENGLISH ROSEUM RHODODENDRON	2½ - 3' HT.	B & B
CA	CLETHERA ALNIFOLIA	SUMMERSWEET CLETHERA	7 GALLON	CONTAINER
HQ	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN'	SNOW QUEEN OAKLEAF HYDRANGEA	2½ - 3' HT.	B & B
GROUNDCOVERS & PERENNIALS				
DL	HEMEROCALLIS 'STELLA DORO'	STELLA DORO DAYLILY	2 GALLON	CONTAINER
HR	HOSTA 'ROYAL STANDARD'	ROYAL STANDARD HOSTA	2 GALLON	CONTAINER
AS	ASTILBE 'VISIONS IN PINK'	VISIONS IN PINK ASTILBE	2 GALLON	CONTAINER
CAL	CALAMAGROSTIS 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3 GALLON	CONTAINER

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STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER
11-6-18

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0 40' 80'
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PHASE 1A
LANDSCAPE PLAN

SCALE: AS SHOWN

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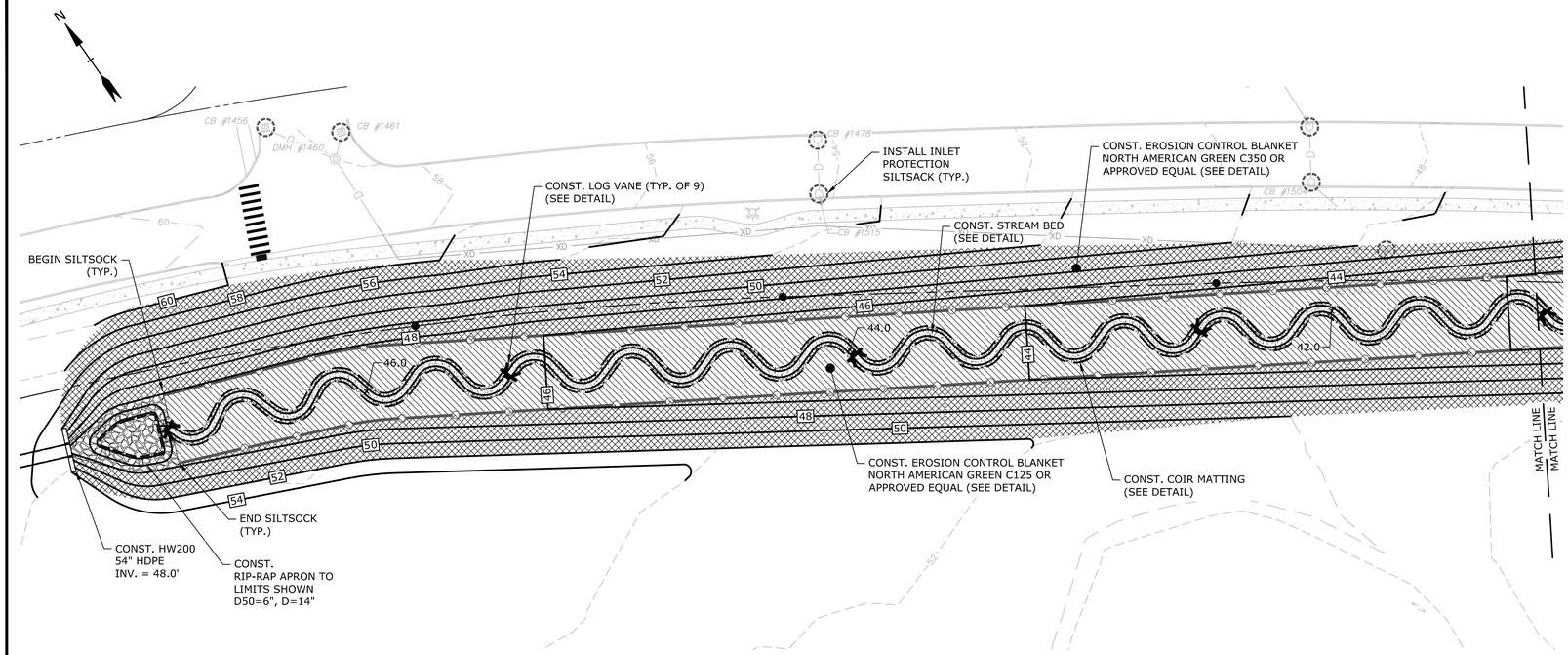

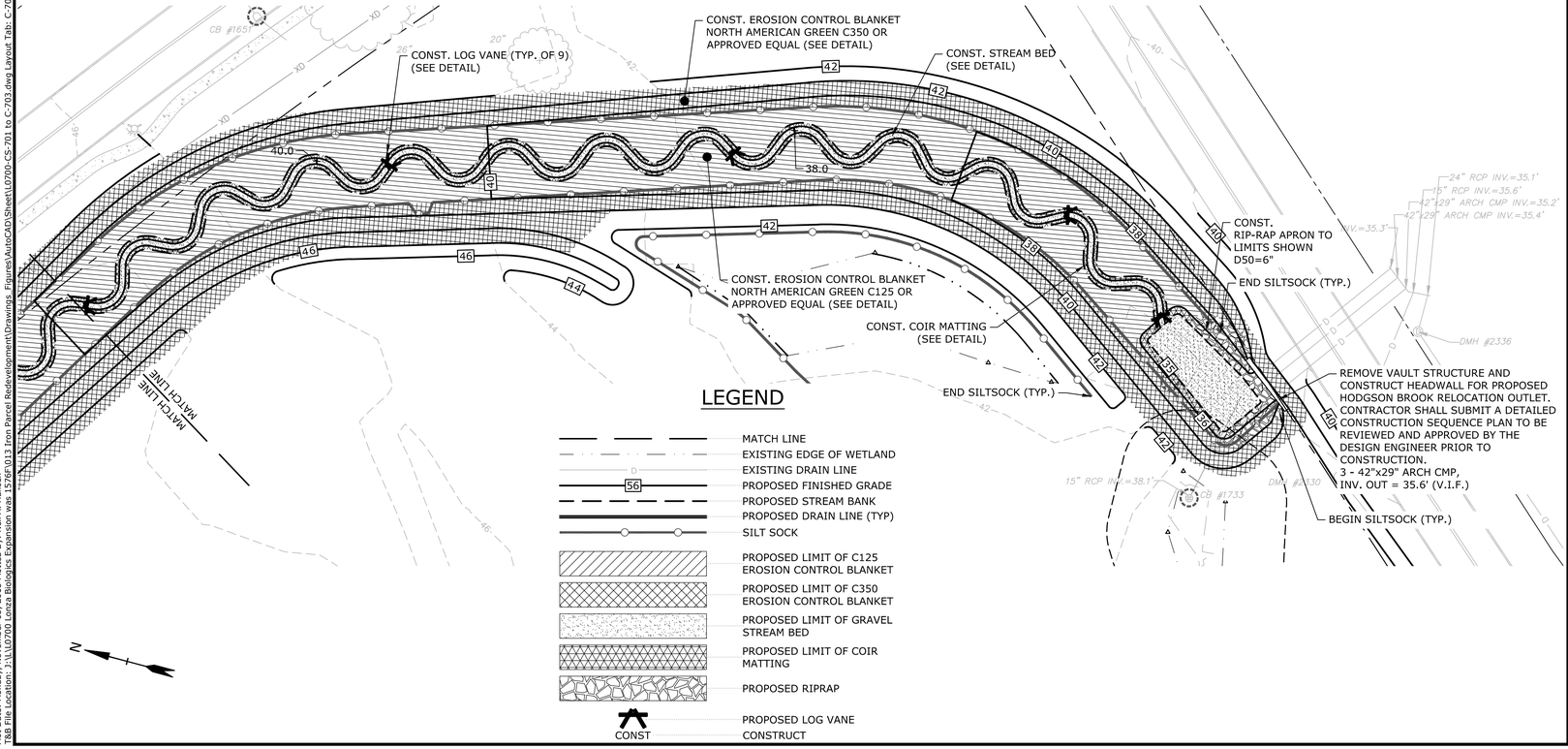

LEGEND

- MATCH LINE
- EXISTING EDGE OF WETLAND
- EXISTING DRAIN LINE
- PROPOSED FINISHED GRADE
- PROPOSED STREAM BANK
- PROPOSED DRAIN LINE (TYP)
- SILT SOCK
- PROPOSED LIMIT OF C125 EROSION CONTROL BLANKET
- PROPOSED LIMIT OF C350 EROSION CONTROL BLANKET
- PROPOSED LIMIT OF GRAVEL STREAM BED
- PROPOSED LIMIT OF COIR MATTING
- PROPOSED RIPRAP
- PROPOSED LOG VANE
- CONST — CONSTRUCT

CONSTRUCTION SEQUENCE:

THIS STREAM RESTORATION IS A PART OF A LARGER DEVELOPMENT PROJECT AS A WHOLE, THE CONSTRUCTION SEQUENCE BELOW DETAILS ONLY ACTIVITIES PERTAINING TO THE STREAM CORRIDOR. IT DOES NOT INCLUDE ACTIVITIES THAT MIGHT USUALLY BE INCLUDED IN SUCH A SEQUENCE, SUCH AS (BUT NOT LIMITED TO) CLEARING AND GRUBBING, CONSTRUCTION LAYOUT, TRAFFIC CONTROL, EROSION CONTROL, AND MATERIAL DISPOSAL. THE SEQUENCE IS SUBJECT TO CHANGE TO INTEGRATE FLUIDLY WITH THE ENTIRE PROJECT, AND MAY CHANGE TO THE DESIRES OF THE CONTRACTOR, AS THEY SEE BEST FIT. CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SEQUENCE PRIOR TO CONSTRUCTION TO BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER. THIS CONSTRUCTION SEQUENCE ASSUMES THAT THE EXISTING DRAINAGE INFRASTRUCTURE IS TO REMAIN IN PLACE UNTIL THE STREAM IS BUILT.

STREAM CORRIDOR CONSTRUCTION SEQUENCE:

1. EXCAVATE AND GRADE THE STREAM CORRIDOR, FROM THE TOP OF THE VALLEY, DOWN TO THE TOP OF THE FLOODPLAIN AND INTO THE CENTER OF THE CORRIDOR, LEAVING AN ACCESS RAMP AT THE START AND END OF THE PROJECT. IF REQUIRED, THE GRADE MAY BE SET LOWER TO ALLOW FOR BACKFILLING OF LOAM, SHOULD THE EXISTING EARTH BE OF POOR MATERIAL. DO NOT OVER-COMPACT FLOODPLAIN OR VALLEY SLOPES; COMPACT ONLY BY TRACK-WALKING OR APPLYING PRESSURE WITH THE BUCKET OF THE EXCAVATOR. THE FLOODPLAIN AND SLOPES SHOULD BE LEFT ROUGH, TO ALLOW SEED TO GROW MORE EASILY. LEAVE AN ACCESS PATH ALONG THE TOP OF THE VALLEY TO ONE OR BOTH SIDES, TO ALLOW FOR THE TRANSPORT AND TEMPORARY STAGING OF IN- STREAM MATERIALS AND MOVEMENT OF HEAVY EQUIPMENT. THIS MAY ALSO BE DONE BY USING THE UPSTREAM ACCESS RAMP TO DELIVER MATERIALS BEHIND THE EXCAVATOR, USING THE CORRIDOR AS THE PATH. THIS IS NOT PREFERRED, SINCE OVER-COMPACTION IS LIKELY TO OCCUR RESULTING FROM THE EXCESSIVE USE.
2. BECAUSE THE CONSTRUCTION WILL BE PERFORMED IN THE DRY, CONSTRUCTION WILL START AT THE DOWNSTREAM END OF THE RESTORED HODGSON BROOK. STARTING AT THE DOWNSTREAM END OF THE STREAM, BEGIN BY EXCAVATING THE POOL WHICH WILL REDIRECT WATER INTO THE EXISTING CULVERTS BELOW GOOSE BAY DRIVE FROM UPSTREAM OF THE POOL. WORKING FROM UPSTREAM OF THE SECTION UNDER CONSTRUCTION, BEGIN THE FINE GRADING OF THE STREAM CHANNEL. THIS MAY BE DONE BY OVER-EXCAVATING THE CHANNEL AND BANKS, THEN INSTALLING THE COMPOST LOG ROLL STREAM BANKS. INITIALLY THE BED SLOPE OF THE STREAM IS GRADED UNIFORM, AND THEN RIFFLES AND POOLS GRADED NEAR THE FINISHING STEPS. THE LOWER COMPOST LOG SHOULD SIT BELOW THE THALWEG OF THE STREAM, AND ONCE SET IN PLACE AT THE CORRECT ELEVATION, MAY HAVE FILL PLACED BEHIND THE ROLLS. THE STREAM CHANNEL SHOULD THEN BE BACKFILLED AT THE RIFFLES AND POOLS WITH APPROPRIATELY GRADED MATERIAL, LEAVING THE POOLS AS DEEPER FEATURES IN THE STREAM CHANNEL. AS CONSTRUCTION CONTINUES UPSTREAM, MERGING THE COMPOST LOG ROLLS SHOULD BE DONE SUCH THAT THE UPSTREAM-MOST END OF THE ROLLS IS CURLED OUT FROM THE BANK, SUCH THAT THE NEXT UPSTREAM ROLLS MAY BE PLACED LINEARLY INTO THE BANK, AND FLOWS WILL BE DIRECTED AS TO NOT CAUSE EROSION OR AVULSION BETWEEN THE ROLLS (SHIPLAPPED CONSTRUCTION). EXTRA HEAVY ATTACHMENT (CONNECTIONS) OF THE ROLLS AT THESE LOCATIONS SHOULD BE PERFORMED WITH BIODEGRADABLE MATERIALS. WHILE CONSTRUCTION CONTINUES, BACKFILLING OF ANY FLOODPLAIN LOAM - SHOULD IT BE DEEMED NECESSARY - SHOULD BE PERFORMED TO THE FINAL GRADE OF THE FLOODPLAIN. CONSTRUCT IN-STREAM STRUCTURES (LOG CROSS VANES) AS THEY ARE REACHED, AS WELL AS FLOODPLAIN SILLS. ADDITIONAL FLOODPLAIN FEATURES MAY BE CONSTRUCTED AT THIS TIME, SUCH AS HABITAT LOGS AND BOULDERS, TREE STANDS, AND VERNAL POOLS (ALL OPTIONAL, BUT RECOMMENDED). CONSTRUCTION MATERIALS MAY BE PROVIDED ON-DEMAND USING THE ACCESS PATH ALONG THE TOP OF THE VALLEY. MATERIALS (LOGS, REBAR, GEOTEXTILE, RIFFLE MATERIAL, COMPOST ROLLS, ETC.) MAY BE SET OUTSIDE THE STREAM CORRIDOR, AND GATHERED BY THE EXCAVATOR FROM INSIDE THE CORRIDOR, OR LESS PREFERABLY, PLACED BEHIND THE EXCAVATOR IN THE CORRIDOR. ALL FINE GRADING AND STRUCTURES SHOULD BE CHECKED FOR ELEVATIONS AND GEOMORPHIC METRICS BEFORE STARTING THE NEXT UPSTREAM SECTION.
3. SEED AND MULCH THE CORRIDOR AND TOP OF VALLEY WITH THE TEMPORARY STABILIZATION SEED MIX (PREFERABLY A CONSERVATION MIX WITH AT LEAST 10% WILDFLOWER SEEDS, THOUGH MAY BE OF A PERENNIAL RYEGRASS). SEED TO THE AMOUNTS AS SPECIFIED BY THE SEED MANUFACTURER - WITH GREATER APPLICATION ON THE STEEPER VALLEY SLOPES - AND MULCH WITH WOOD CHIPS (90% GROUND COVERAGE) OR STRAW (TO A DEPTH OF 1 INCH). WATER AS SPECIFIED BY THE SEED MANUFACTURER, IF DROUGHT PERSISTS LONGER THAN THE RECOMMENDED WATERING RATE. ALLOW THE GRASS TO GROW TO A HEIGHT OF 2 INCHES BEFORE PROCEEDING TO THE NEXT STEP. IF ANY BARE PATCHES EXIST, RESEED AND MULCH TO ENSURE STABILIZATION. THIS STEP MAY BE PERFORMED AS A SECTION OF STREAM IS CONSTRUCTED, WHICH MAY REDUCE THE OVERALL CONSTRUCTION DURATION, THOUGH IT MAY COME AT A COST OF INCREASED WATERING EFFORT.
4. WHEN ALL PREVIOUS STEPS HAVE BEEN COMPLETED, THE STREAM SHOULD BE OPENED UP TO FLOWS. FIRST, THE EXISTING DRAINAGE CULVERT AT THE DOWNSTREAM END SHOULD BE EXCAVATED AND REMOVED. GRADE AND TEMPORARILY STABILIZE THE INCOMING FLOWS TO THE DOWNSTREAM POOL. PROCEED TO THE INLET TO THE STREAM AND CONSTRUCT (IF NOT ALREADY DONE IN STEP 2) THE INLET POOL AND GRADING. FLOWS MAY THEN BE DIRECTED INTO THE STREAM CHANNEL, IN A MANNER THAT SHALL BE DETERMINED IN THE FIELD, BASED ON THE MANNER IN WHICH THE INCOMING CULVERT AND UPSTREAM INFRASTRUCTURE IS BEING CONSTRUCTED. ALLOWING INCOMING FLOWS TO THE STREAM MAY BE PERFORMED CONCURRENTLY WITH THAT OF THE OUTLET, PROVIDED THE CONTRACTOR HAS THE LABOR AND EQUIPMENT AVAILABLE. HOWEVER, CAUTION SHOULD BE EXERCISED TO ENSURE THAT FLOWS ARE ABLE TO EXIT THE CORRIDOR FULLY AND APPROPRIATELY, TO PREVENT DAMAGE AND/OR FLOODING TO THE SITE.
5. WITH THE STREAM NOW CARRYING FLOWS, THE ENTIRE SITE SHOULD BE SEEDED AND PLANTED AS SPECIFIED IN THE PLANTING PLAN. THIS MAY BE DONE COMPLETELY OR PARTIALLY AS CONSTRUCTION OF THE STREAM TAKES PLACE. AT THIS POINT THE TEMPORARY STABILIZATION GRASS SHOULD HAVE TAKEN HOLD ENOUGH TO PROVIDE SOME COVER FOR SEEDS, AND KEEP IN MOISTURE DURING THE DAY. THIS STEP SHOULD ONLY BE DONE DURING A GROWING SEASON AND NOT IN MID-SUMMER OR WINTER, TO HELP ENSURE PLANTING SUCCESS. THIS STEP MAY BE DONE AFTER STEP 6, IF CONSTRUCTION ENDS BEFORE A PLANTING SEASON IS SET TO BEGIN. THIS STEP SHOULD BE PERFORMED WHEN THE APPROPRIATE EQUIPMENT IS AVAILABLE. THIS MAY HELP EXPEDITE THE PROCESS, RATHER THAN PERFORMING IT ALL COMPLETELY BY HAND.
6. FINALLY, MONITORING DEVICES AND COMPONENTS SHOULD BE INSTALLED, MEASUREMENTS RECORDED, AND INSTRUMENTS CALIBRATED AS NECESSARY. PLEASE REFER TO THE MONITORING PLAN SECTION OF THIS REPORT FOR MORE DETAILS ON THE MONITORING METHODS AND SCHEDULES.

SEE SHEET C-128 FOR GRADING, DRAINAGE & EROSION CONTROL NOTES

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Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12879 — LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12879 — LICENSED PROFESSIONAL ENGINEER — 11.6.18

SCALE IN FEET
0 30' 60'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

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PROJECT NO:	L-0700-013
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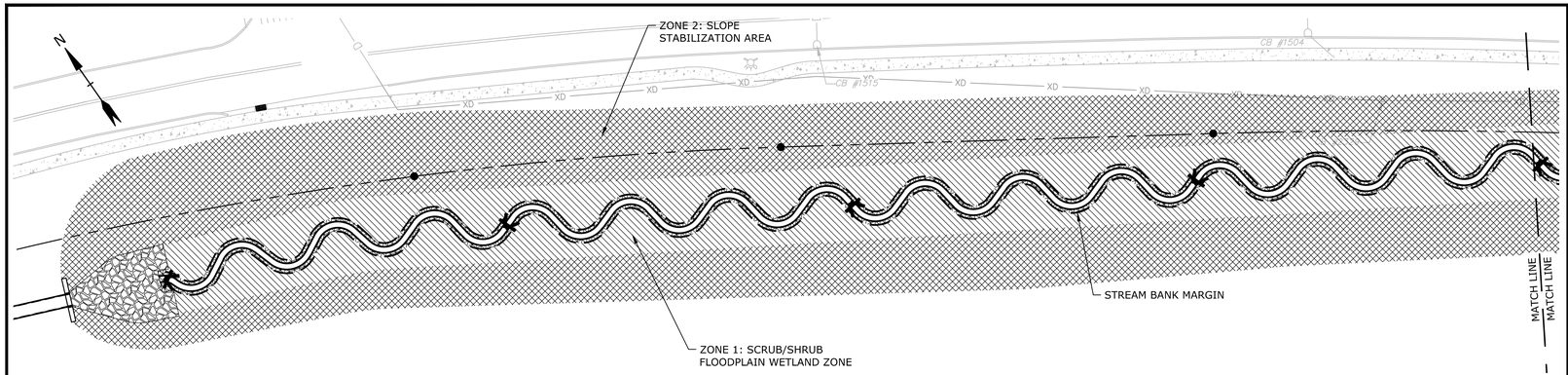
CHECKED:	PMC
APPROVED:	BLM

HODGSON BROOK GRADING, DRAINAGE & EROSION CONTROL PLAN

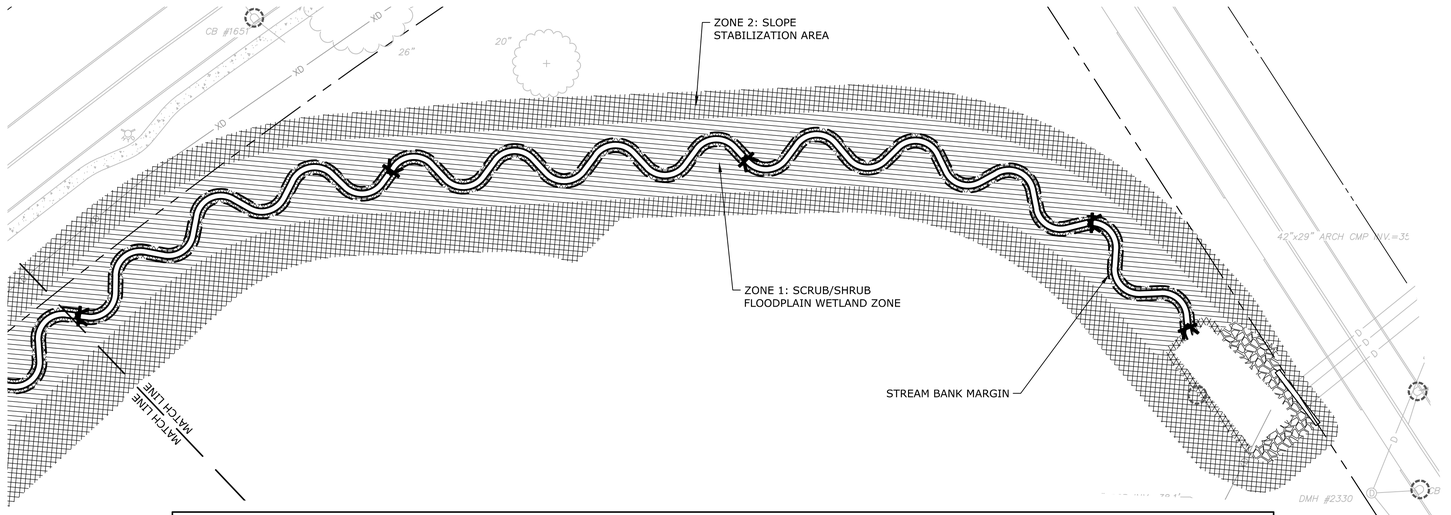
SCALE: AS SHOWN

C-701

Last Save Date: November 1, 2018 11:48 AM By: NAHANSEN
Plot Date: Wednesday, November 07, 2018 Plotted By: Nathan Hansen
T&B File Location: J:\1\L0700 Lonza Biologics Expansion wac 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CS-701 to C-703.dwg Layout Tab: C-701



PLANTING PLAN DETAILS			
PLANTING ZONE	ZONE DESCRIPTION	SPECIES	DENSITY
1Lp	ON THE OUTER BEND OF A POOL FROM THE POINT OF CURVATURE TO THE POINT OF TANGENCY, BEGINNING AT THE MID□BANK ELEVATION, UP OVER THE TOP OF THE BANK, AND OFFSET FROM THE TOP OF THE BANK 1 FOOT.	LIVESTAKES OF PUSSY WILLOW, RED DOGWOOD, SILKY DOGWOOD, AND SPECKLED ALDER	2 LIVESTAKES PER 1 SF
1Lb	FROM THE MID□BANK ELEVATION UP OVER THE TOP OF THE BANK AND BACK 1 FOOT, FOR ALL STREAM BANKS OTHER THAN ZONE 1LP	LIVESTAKES OF PUSSY WILLOW, RED DOGWOOD, SILKY DOGWOOD, AND SPECKLED ALDER	1 LIVESTAKE PER 2 SF
1L	FROM ONE OUTER BEND OF THE CHANNEL DOWN ONE MEANDER WAVELENGTH TO THE NEXT OUTER BEND OF THE CHANNEL, INWARDS ALONG THE TOP OF THE BANK.	PERENNIAL RYE (TEMPORARY STABILIZATION); NATIVE WETLAND SEED MIX INCLUDING BUT NOT LIMITED TO: TALL MEADOW RUE, GOLDENROD, SWAMP MILKWEED, JEWELWEED, AND RYEGRASS; HOBBLEBUSH, PUSSY WILLOW, RED DOGWOOD, SILKY DOGWOOD, SPECKLED ALDER, AND WITCH HAZEL	RYE: PER SEED MIX, WETLAND MIX: PER SEED MIX, SHRUBS: 1 PLANT PER 75 SF
1U	ON THE FLOODPLAIN BENCH, OUTSIDE THE MEANDER BELT WIDTH CORRIDOR, UP TO THE TOP OF THE FLOODPLAIN BENCH	PERENNIAL RYE (TEMPORARY STABILIZATION); NATIVE WETLAND SEED MIX (AS DESCRIBED PREVIOUSLY); BUNCHBERRY, PARTRIDGEBERRY, SWAMP MILKWEED, CHOKECHERRY, GRAY DOGWOOD, HOBBLEBUSH, PUSSY WILLOW, WITCH HAZEL	RYE: PER SEED MIX, WETLAND MIX: PER SEED MIX, SHRUBS: 1 PLANT PER 50 SF
2L	FROM THE TOP OF THE FLOODPLAIN BENCH, UP 1/4 OF THE WAY UP THE RIPARIAN CORRIDOR SLOPE	PERENNIAL RYE (TEMPORARY STABILIZATION); NATIVE CONSERVATION SEED MIX; PARTRIDGEBERRY, CHOKECHERRY, GRAY DOGWOOD, LOWBUSH BLUEBERRY, RASPBERRY, BLACK WILLOW	RYE: PER SEED MIX, SHRUBS: 1 PLANT PER 20 LF
2U	FROM THE TOP OF ZONE 2L, UP OVER THE TOP OF THE RIPARIAN CORRIDOR AND BACK 1 FOOT.	PERENNIAL RYE (TEMPORARY STABILIZATION); NATIVE CONSERVATION SEED MIX; LOWBUSH BLUEBERRY, RASPBERRY; BLACK WILLOW, BLACK CHERRY, RED MAPLE, WHITE OAK, WHITE ASH	RYE: PER SEED MIX, SHRUBS: 1 PLANT PER 25 LF, TREES: 1 TREE PER 40 LF



PLANT SCHEDULE								
SCIENTIFIC NAME	COMMON NAME	ZONE	SCIENTIFIC NAME	COMMON NAME	ZONE	SCIENTIFIC NAME	COMMON NAME	ZONE
GRASSES			SHRUBS			TREES		
LOLIUM PERENNE	PERENNIAL RYEGRASS	1, 2	PRUNUS VIRGINIANA	CHOKECHERRY	1U, 2	SALIX NIGRA	BLACK WILLOW	2U
CORNUS CANADENSIS	BUNCHBERRY	1U	CORNUS RACEMOSA	GRAY DOGWOOD	1U, 2	PRUNUS SEROTINE	BLACK CHERRY	2U
SOLIDAGO SPP.	GOLDENROD	1	VIBURNUM ALNIFOLIUM	HOBBLEBUSH	1	ACER RUBRUM	RED MAPLE	2U
IMPATIENS CAPENSIS	JEWELWEED	1	VACCINIUM ANGUSTIFOLIUM	LOWBUSH BLUEBERRY	2	QUERCUS ALBA	WHITE OAK	2U
MITCHELLA REPENS	PARTRIDGEBERRY	1U, 2	SALIX DISCOLOR	PUSSY WILLOW	1	FRAXINUS AMERICANA	WHITE ASH	2U
ASCLEPIAS INCARNATA	SWAMP MILKWEED	1	RUBUS IDAEUS	RASPBERRY	2			
THALICTRUM POLYGANUM	TALL MEADOW RUE	1	CORNUS STOLONIFERA	RED OSIER DOGWOOD	1			
			CORNUS AMOMUM	SILKY DOGWOOD	1			
			ALNUS RUGOSA	SPECKLED ALDER	1			
			HAMMAMELIS VIRGINIANA	WITCH HAZEL	1			

PLANTING NOTES:

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
2. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
4. PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
5. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
6. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
7. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
8. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST, WITH THE EXCEPTION OF THE WHIPS. WHIPS SHALL BE PLANTED DURING THE DORMANT SEASON, OCTOBER 1ST THROUGH DECEMBER 15TH AND/OR MARCH 15TH THROUGH APRIL 15TH. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT, SUCH AS DAILY WATERING AS REQUIRED.
9. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON.
10. THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD, HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
11. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT.
12. PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED. IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.
13. THE STREAM CORRIDOR HAS TWO DISTINCT ZONES FOR PLANTING: THE FLOODPLAIN (ZONE 1) AND THE UPLAND, OR VALLEY SLOPES (ZONE 2). THE TWO ZONES WERE BROKEN DOWN EVEN FURTHER, WITH EACH ZONE HAVING A LOWER AND AN UPPER PART (1L, 1U; 2L, 2U). FURTHERMORE, ZONE 1L CONTAINS AN ADDITIONAL SUB-ZONE THAT REFERS TO THE STREAM BANKS, JUST UP ONTO THE TOP OF THE BANKS. THIS SUB-ZONE CONTAINS TWO SECTIONS, ONE ALONG THE OUTER BANK OF EACH BEND, AND THE OTHER CONTAINING ALL THE OTHER BANKS (INNER BEND AND RIFFLES). THE OUTER BANK OF EACH POOL IS REFERRED TO AS ZONE 1LP, AND THE OTHER BANKS ARE IN ZONE 1LB. SEE SHEET C-703 FOR DETAILED ZONE PLAN.
14. SCRUB/SHRUB FLOODPLAIN AND FLOODPLAIN WETLAND ZONES (ZONE 1) PLANTING SEQUENCE:
    a. ONCE THE AREA HAS BEEN FULLY GRADED AND LOAMED, ENTIRE AREA SHALL BE SEEDED WITH "RIVERBANK STABILIZATION MIX" AT A RATE OF 1 POUND PER 2000 SF.
    b. THE EROSION CONTROL BLANKET SHALL THEN BE INSTALLED AS SHOWN ON SHEET C-701 AND DETAIL SHEET C-502.
    c. THE SHRUB PLANTINGS SHALL BE PLANTED ON 8' CENTERS IN LIKE GROUPS OF 3 TO 5, THROUGH THE EROSION CONTROL BLANKET.
14. SLOPE STABILIZATION AREA (ZONE 2) PLANTING SEQUENCE:
    a. ONCE THE AREA HAS BEEN FULLY GRADED AND LOAMED, ENTIRE AREA SHALL BE SEEDED WITH "RIVERBANK STABILIZATION MIX" AT A RATE OF 1 POUND PER 2000 SF.
    b. THE EROSION CONTROL BLANKET SHALL THEN BE INSTALLED AS SHOWN ON SHEET C-701 AND DETAIL SHEET C-502.
    c. THE SHRUB PLANTINGS SHALL BE PLANTED ON 6' CENTERS THROUGH THE EROSION CONTROL BLANKET.
15. STREAM BANK MARGINS PLANTING SEQUENCE:
    a. INSTALL COIR MATTING PER DETAILS SHEET C-703.
    b. PLANT WHIPS (1/2" - 3/4" DIAMETER, 3 TO 4 FEET IN LENGTH) OF SILKY DOGWOOD AND RED-OSIER DOGWOOD ON THE UPWARD AND DOWNWARD SIDE OF COIR MATS, AT A MINIMUM OF 1 TO 2 FEET INTO THE SOIL SUBSTRATE.
16. "RIVERBANK STABILIZATION MIX" SHALL CONSIST OF:
    a. AGROSTIS STOLONIFERA (CREEPING BENT GRASS)
    b. AGROSTIS ALBA (RED TOP)
    c. FRAXINUS PENNSYLVANICA (GREEN ASH)
    d. CORNUS STOLONIFERA (RED-OSIER DOGWOOD)
    e. CORNUS AMOMUM (SILKY DOGWOOD)
    f. ELYMUS RIPARIUS (RIVERBANK WILD RYE)
    g. VIBURNUM RECOGNITUM (NORTHERN ARROWWOOD)

AS SUPPLIED BY STONEY RIDGE ENVIRONMENTAL, LLC,
ALTON, NH 603-776-0194, OR APPROVED EQUAL.

17. THE FINAL SPECIES USED IN CONSTRUCTION OF THE SITE MAY NOT BE LIMITED TO THOSE LISTED. ANY OTHER SPECIES WILL BE REVIEWED AND APPROVED BY THE ENGINEER BEFORE BEING ORDERED, OR PLACED IN THE FIELD. THIS IS ESPECIALLY TRUE OF ANY SEED MIX THAT MAY BE USED AT THE SITE; THE SELECTED MIX (MIXES) THAT THE CONTRACTOR SHALL USE SHOULD BE REVIEWED AND APPROVED BY THE ENGINEER BEFORE PLACEMENT, OR BEFORE ORDERING ANY SUCH SEED MIX.

LEGEND

- MATCH LINE
- EXISTING EDGE OF WETLAND
- EXISTING DRAIN LINE
- PROPOSED STREAM BANK
- PROPOSED DRAIN LINE (TYP)
- PROPOSED PLANTING ZONE 1L & ZONE 1U
- PROPOSED PLANTING ZONE 2L & ZONE 2U
- PROPOSED STREAM BANK MARGIN PLANTING ZONE 1Lp & ZONE 1Lb
- PROPOSED RIPRAP
- PROPOSED LOG VANE

SEE SHEET C-128 FOR GRADING, DRAINAGE & EROSION CONTROL NOTES

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12876 LICENSED PROFESSIONAL ENGINEER 11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12876 LICENSED PROFESSIONAL ENGINEER 11-6-18

SCALE IN FEET
0 30' 60'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

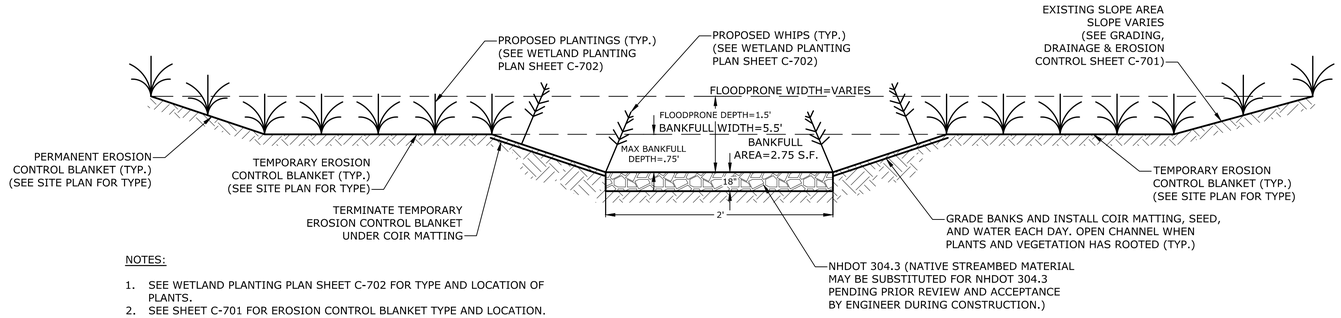
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

HODGSON BROOK WETLAND PLANTING PLAN

SCALE: AS SHOWN

C-702

Last Save Date: November 1, 2018 11:48 AM By: NAHANSEN
Plot Date: Wednesday, November 15, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion wbs 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CS-701 to C-703.dwg Layout Tab: C-702

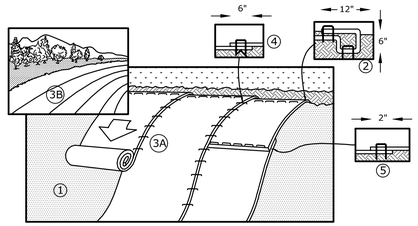


NOTES:

1. SEE WETLAND PLANTING PLAN SHEET C-702 FOR TYPE AND LOCATION OF PLANTS.
2. SEE SHEET C-701 FOR EROSION CONTROL BLANKET TYPE AND LOCATION.
3. ALL AREAS TO BE PLANTED SHALL ALSO RECEIVE 6" OF LOAM AND SEED. SEE WETLAND PLANTING SHEET C-702 PLAN FOR SEED MIX.

TYPICAL RIFFLE CROSS-SECTION

NO SCALE

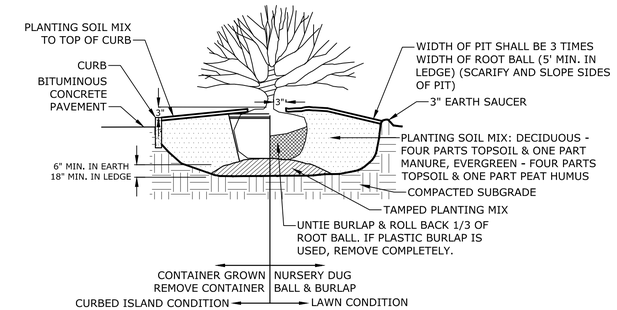


NOTES:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE, 36" OVER THE GRADE BREAK, BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UPSLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF TAPLES/STAKES 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES SPACED 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS DOWN THE SLOPE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES IN APPROPRIATE LOCATIONS AS SHOWN ON THE STAPLE PATTERN GUIDE.
4. STAPLE LENGTHS SHALL BE A MINIMUM OF 8 INCHES.

EROSION CONTROL BLANKET FOR SLOPE PROTECTION

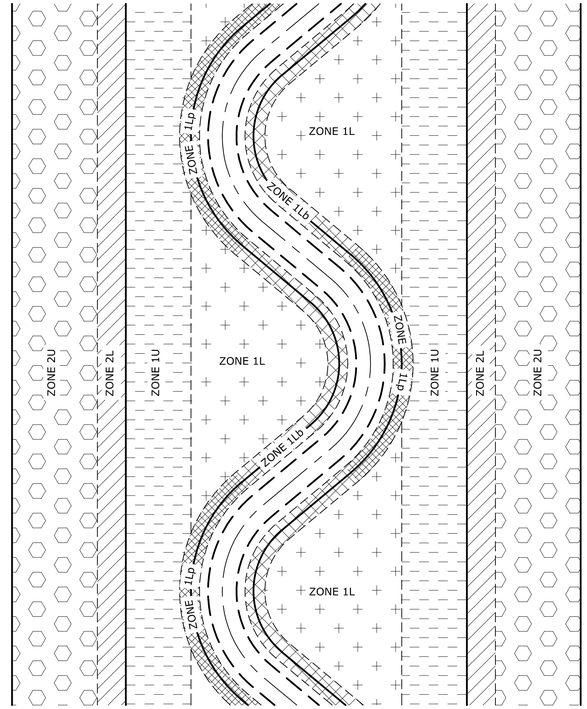
NO SCALE



NOTE:
PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.

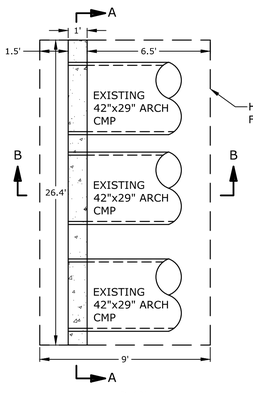
SHRUB PLANTING

NO SCALE



PLANTING ZONES DETAIL

NO SCALE

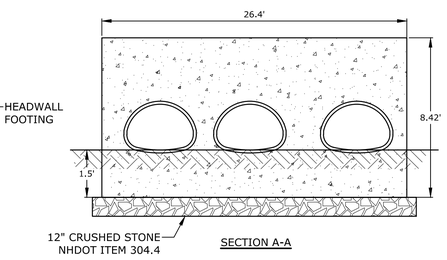


PLAN

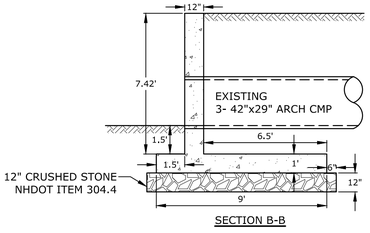
NOTE:
1. CONTRACTOR SHALL SUBMIT REBAR CAGE LAYOUT FOR APPROVAL PRIOR TO CONSTRUCTION.

CONCRETE HEADWALL

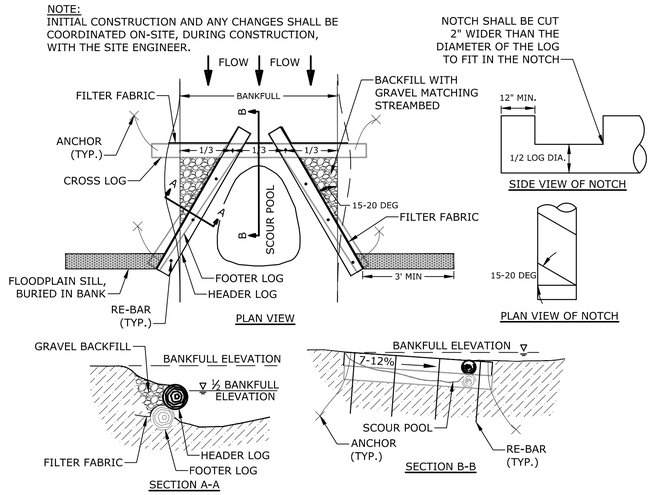
NO SCALE



SECTION A-A



SECTION B-B



SINGLE LOG VANE CONSTRUCTION SEQUENCE:

1. EXCAVATE A TRENCH FOR THE VANE.
2. SET THE CROSS LOG
3. SET THE VANE LOG(S).
4. PIN THE LOG VANE ARMS WITH 4' LONG, ½" REBAR HAMMERED INTO PRE-DRILLED HOLES (2ft ON CENTER). HOLES ARE ANGLED OFF THE VERTICAL, ALTERNATING DIRECTION (UPSTREAM, DOWNSTREAM).
5. EXCAVATE A TRENCH FOR THE GEOTEXTILE FABRIC ON THE UPSTREAM SIDE OF THE VANE. THE TRENCH SHALL BE AT LEAST 1.5' DEEP.
6. ANCHORS SHALL BE CABLED TO THE LOGS BY >½" WIRE ROPE (CABLE), FASTENED WITH GRIPPLE CLIPS OR BOLTED CLAMPS.
7. ANCHORS SHALL BE EITHER LARGE (>100LB) ROCK OR REBAR CROSSES (TWO PIECES OF 2' LENTH, ½" REBAR FASTENED AT THEIR CENTERS).
8. STAPLE OR NAIL THE GEOTEXTILE ON THE UPSTREAM SIDE OF THE LOG, JUST ABOVE MID-DIAMETER, FOR THE FULL LENGTH OF THE LOG. FOLD OVER THE GEOTEXTILE FABRIC ALONG NAIL LINE. THE STAPLES/NAILS SHALL BE AT LEAST 1' ON CENTERS OR CLOSER. THE STAPLE/ NAIL LENGTH SHOULD BE AT LEAST 1".
9. BACKFILL THE UPSTREAM SIDE OF THE VANE.
10. EXCAVATE A SILL TRENCH (MINIMUM LENGTH OF 3') AT THE BANK-END OF THE LOG; EITHER A STONE SILL WITH MINIMUM DEPTH OF 2' OR A GEOTEXTILE SILL - TWO PARALLEL TRENCHES WITH A MINIMUM DEPTH OF 2'.
11. CONSTRUCT THE SILL: PLACE >1' SIZE STONES IN TRENCH, COVER WITH GEOTEXTILE (MIRAFI N140 OR APPROVED EQUAL), BACKFILL; OR PLACE GEOTEXTILE IN PARALLEL TRENCHES, COVERING A MOUND BETWEEN THEM, AND BACKFILL.
12. WEAVE ONE CONTINUOUS GEOTEXTILE ALONG VANE AND SILL.

GENERAL NOTES:

1. CROSS LOGS SHALL BE A MINIMUM OF 8" IN DIAMETER. VANE ARM LOGS SHALL BE A MINIMUM OF 6" IN DIAMETER. ALL LOGS SHOULD BE RELATIVELY STRAIGHT AND, OF A HARDWOOD, HEMLOCK, OR LARCH SPECIES.
2. CROSS LOGS SHALL BE A MINIMUM OF 8' IN LENGTH AND BE PINNED EVERY 2'. VANE ARM LOGS SHALL BE A MINIMUM OF 7', AND PINNED EVERY 2'.
3. VANE ARM LOGS SHALL BE BURIED INTO THE BANK A MINIMUM OF 2', WHERE THEY SHALL BE KEYED INTO THE BANK WITH A SILL OF A MINIMUM LENGTH OF 3'.
4. NAIL FILTER FABRIC (MIRAFI 140N OR APPROVED EQUAL) ON TOP OF FOOTER LOG USING 3" 10d GALVANIZED COMMON NAIL OR SIMILAR AT 1' INTERVALS ALONG THE LOG. FOLD OVER THE FILTER FABRIC ALONG THE NAIL LINE.
5. SET THE ELEVATION OF THE TOP OF THE CROSS LOG TO THE DESIGNED THALWEG (CENTERLINE) ELEVATION OF THE STREAMBED.
6. THE CROSS NOTCH CAN BE FORMED BY MAKING CUTS 1"-2" APART WITH A CHAINSAW, THEN KNOCKING OUT THE SECTIONS WITH A CHISEL AND HAMMER.
7. THE ANGLE OF THE CROSS NOTCH SHALL MATCH THE ANGLE BETWEEN THE VANE ARMS AND THE STREAM BANK.
8. SCOUR POOLS SHALL BE OVER DUG BY ~1.4x THE RIFFLE DEPTH, OR ABOUT 1' - 1.25' DEEP.

LOG CROSS VANE

NO SCALE

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Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

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F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
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PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

HODGSON BROOK
DETAILS SHEET

SCALE: AS SHOWN

C-703

Last Save Date: November 1, 2018 11:48 AM By: NHANSEN
Plot Date: November 01, 2018 - 11:48 AM Plotted By: Nick Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion wks 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CS-701 to C-703.dwg Layout Tab: C-703

PHASE 1B PLAN SET

APRIL 3, 2018

REVISED: NOVEMBER 6, 2018

PHASE 1B PLAN SET SHEET INDEX		
SHEET NO.	SHEET TITLE	LAST REVISED
	PHASE 1B PLAN SET COVER SHEET	11/06/2018
C-141	PHASE 1B DEMOLITION PLAN	11/06/2018
C-142	PHASE 1B DEMOLITION PLAN	11/06/2018
C-143	PHASE 1B DEMOLITION PLAN	11/06/2018
C-144	PHASE 1B OVERALL SITE PLAN	11/06/2018
C-145	PHASE 1B SITE PLAN	11/06/2018
C-146	PHASE 1B SITE PLAN	11/06/2018
C-147	PHASE 1B SITE PLAN	11/06/2018
C-148	PHASE 1B GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-149	PHASE 1B GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-150	PHASE 1B GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-151	PHASE 1B UTILITIES PLAN	11/06/2018
C-152	PHASE 1B UTILITIES PLAN	11/06/2018
C-153	PHASE 1B UTILITIES PLAN	11/06/2018
C-154	PHASE 1B LANDSCAPE PLAN	11/06/2018
C-155	PHASE 1B LANDSCAPE PLAN	11/06/2018
C-156	PHASE 1B LANDSCAPE PLAN	11/06/2018

STATE OF NEW HAMPSHIRE - PROFESSIONAL ENGINEER - LICENSED
11/6/18

STATE OF NEW HAMPSHIRE - PATRICK M. CRIMMINS No. 12878 - LICENSED - PROFESSIONAL ENGINEER
11-6-18





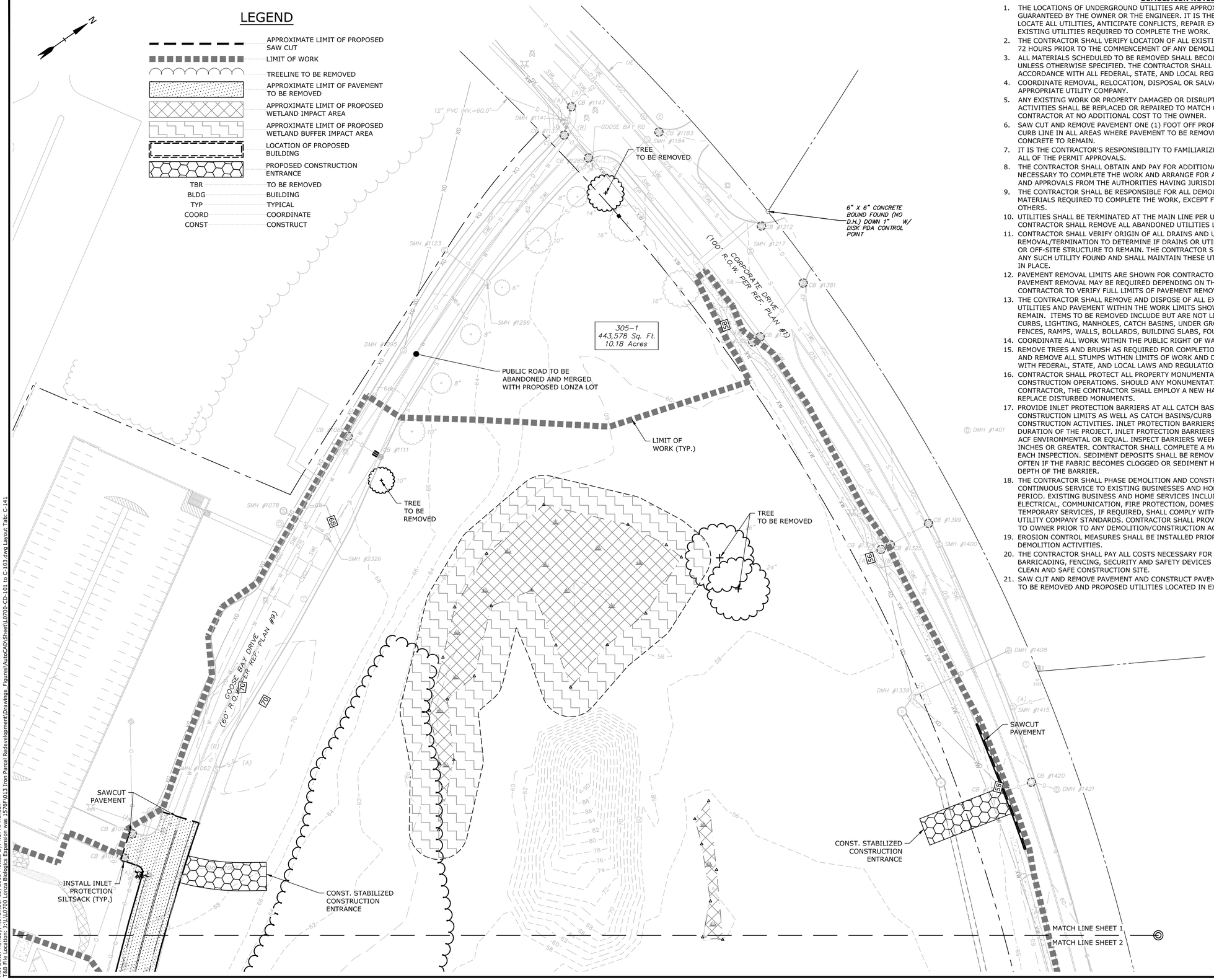
COMPLETE SET 17 SHEETS

Last Save Date: November 5, 2018 2:20 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Xref\L-0700-13-COVER.dwg Layout Tab: PHASE 1B-CS

LEGEND

- APPROXIMATE LIMIT OF PROPOSED SAW CUT
- LIMIT OF WORK
- TREELINE TO BE REMOVED
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- APPROXIMATE LIMIT OF PROPOSED WETLAND IMPACT AREA
- APPROXIMATE LIMIT OF PROPOSED WETLAND BUFFER IMPACT AREA
- LOCATION OF PROPOSED BUILDING
- PROPOSED CONSTRUCTION ENTRANCE

TBR	TO BE REMOVED
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
CONST	CONSTRUCT



DEMOLITION NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
2. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
3. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
5. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
11. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
12. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
13. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
14. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
15. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
16. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
17. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT MAY RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
18. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
19. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
20. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.

Tighe&Bond
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STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12876 — LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12876 — LICENSED PROFESSIONAL ENGINEER — 11.6.18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1B
DEMOLITION PLAN

SCALE: AS SHOWN

C-141

Last Save Date: November 1, 2018 1:13 PM By: NAHANSEN
Plot Date: November 15, 2018 - 2:08 PM By: Nicholas Hansen
T&B File Location: J:\1\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CD-101 to C-103.dwg Layout Tab: C-141



SEE SHEET C-141 FOR LEGEND AND DEMOLITION NOTES

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STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED No. 06680 11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER 11-6-18

SCALE IN FEET
0 40' 80'
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Portsmouth, New Hampshire

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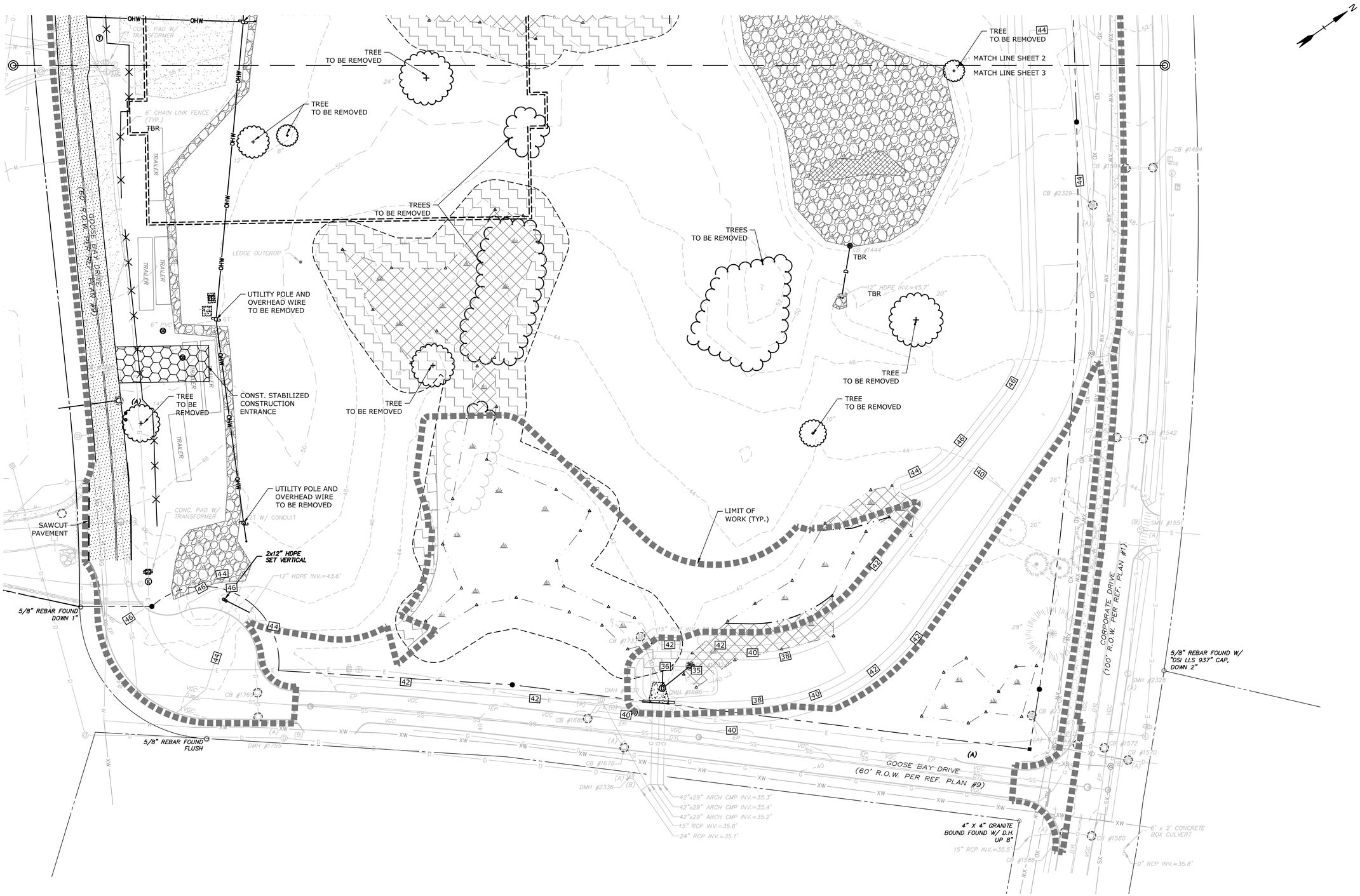
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1B
DEMOLITION PLAN

SCALE: AS SHOWN

C-142

Last Save Date: November 1, 2018 1:10 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CD-101 to C-103.dwg Layout Tab: C-142



SEE SHEET C-141 FOR LEGEND AND DEMOLITION NOTES

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STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
11-6-18

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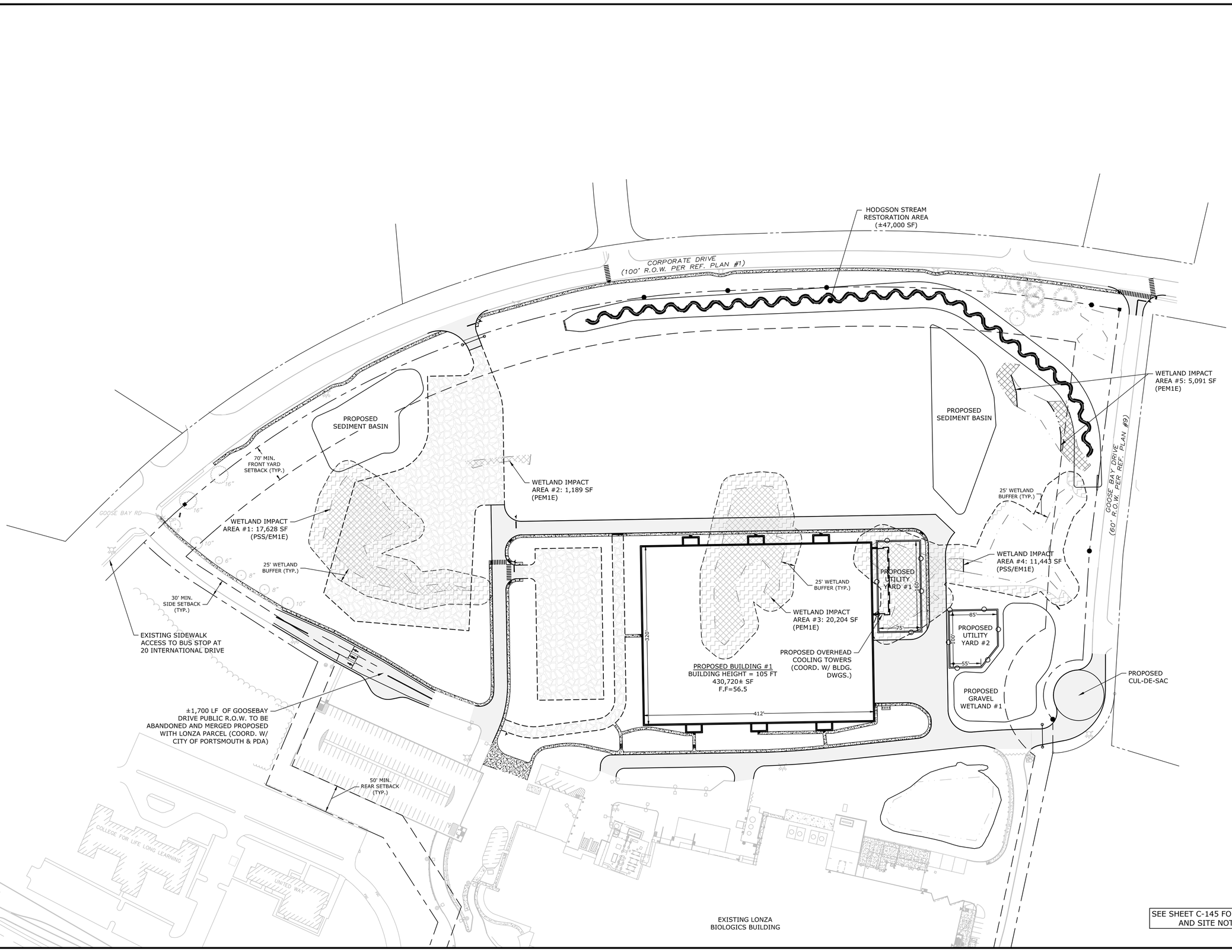
CHECKED:	PMC
APPROVED:	BLM

PHASE 1B
DEMOLITION PLAN

SCALE: AS SHOWN

C-143

Last Save Date: November 1, 2018 1:10 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CD-101 to C-103.dwg Layout Tab: C-143



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Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 80' 160'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1B OVERALL SITE PLAN

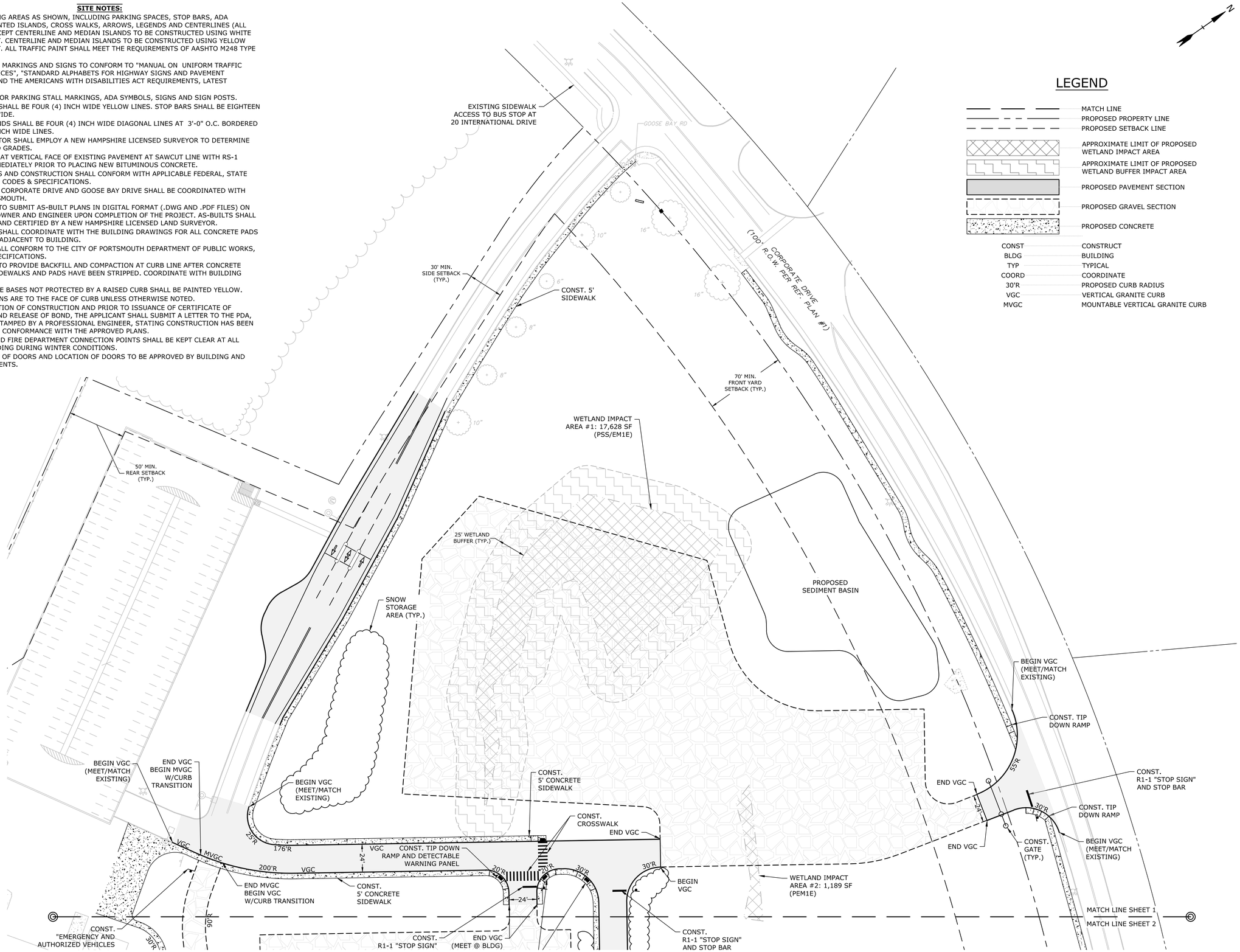
SCALE: AS SHOWN

C-144

Last Save Date: November 5, 2018 3:31 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CS-104 to C-107.dwg Layout Tab: C-144

SITE NOTES:

1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES (ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND/OR TOWN CODES & SPECIFICATIONS.
9. WORK WITHIN CORPORATE DRIVE AND GOOSE BAY DRIVE SHALL BE COORDINATED WITH CITY OF PORTSMOUTH.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
11. CONTRACTOR SHALL COORDINATE WITH THE BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS.
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
15. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
16. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY AND RELEASE OF BOND, THE APPLICANT SHALL SUBMIT A LETTER TO THE PDA, SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER, STATING CONSTRUCTION HAS BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS.
17. FIRE LANES AND FIRE DEPARTMENT CONNECTION POINTS SHALL BE KEPT CLEAR AT ALL TIMES, INCLUDING DURING WINTER CONDITIONS.
18. FINAL NUMBER OF DOORS AND LOCATION OF DOORS TO BE APPROVED BY BUILDING AND FIRE DEPARTMENTS.



LEGEND

	MATCH LINE
	PROPOSED PROPERTY LINE
	PROPOSED SETBACK LINE
	APPROXIMATE LIMIT OF PROPOSED WETLAND IMPACT AREA
	APPROXIMATE LIMIT OF PROPOSED WETLAND BUFFER IMPACT AREA
	PROPOSED PAVEMENT SECTION
	PROPOSED GRAVEL SECTION
	PROPOSED CONCRETE

CONST	CONSTRUCT
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
30'R	PROPOSED CURB RADIUS
VGC	VERTICAL GRANITE CURB
MVGC	MOUNTABLE VERTICAL GRANITE CURB

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STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12876 — LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12876 — LICENSED PROFESSIONAL ENGINEER — 11.6.18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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F	11/6/2018	P.B. Submission
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PROJECT NO:	L-0700-013
DATE:	04/03/2018
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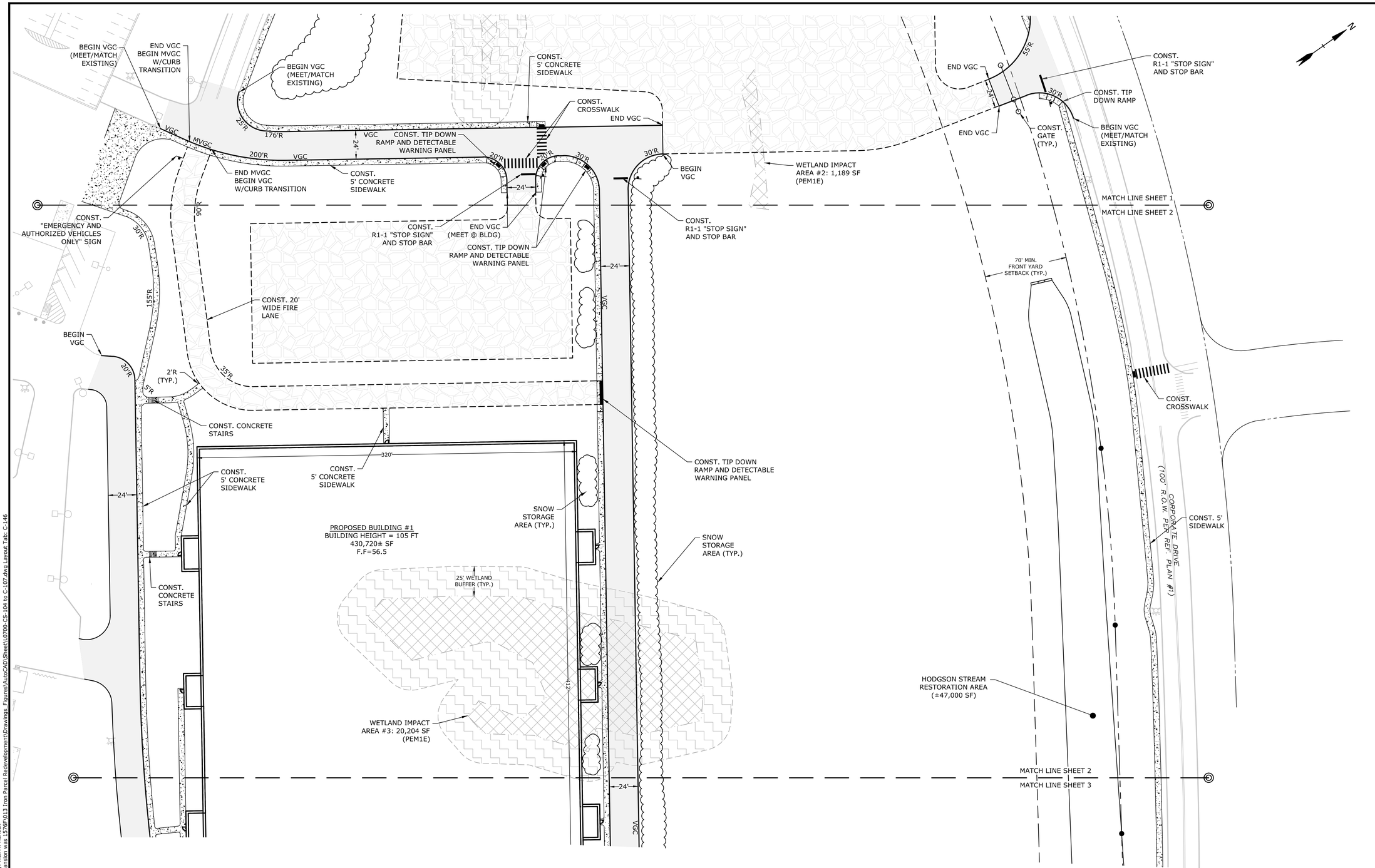
CHECKED:	PMC
APPROVED:	BLM

PHASE 1B
SITE PLAN

SCALE: AS SHOWN

C-145

Last Save Date: November 5, 2018 3:31 PM By: NAHANSEN
Plot Date: November 05, 2018 3:31 PM By: Nicholas A. Hansen
T&B File Location: J:\LL\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CS-104 to C-107.dwg Layout Tab: C-145



SEE SHEET C-145 FOR LEGEND AND SITE NOTES

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
11-6-18

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Proposed Industrial Development

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Portsmouth, New Hampshire

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PHASE 1B SITE PLAN

SCALE: AS SHOWN

C-146

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AREA #3: 20,204 SF
(PEM1E)

MATCH LINE SHEET 2
MATCH LINE SHEET 3

PROPOSED BUILDING #1
BUILDING HEIGHT = 105 FT
430,720± SF
F.F=56.5

PROPOSED OVERHEAD
COOLING TOWERS
(COORD. W/ BLDG. DWGS.)

CONST.
5' CONCRETE
SIDEWALK

END SGC
(MEET @ BLDG)

WETLAND IMPACT
AREA #4: 11,443 SF
(PSS/EM1E)

END VGC
(MEET @ BLDG)

SNOW
STORAGE
AREA (TYP.)

PROPOSED
UTILITY YARD #1

CONST.
CHAINLINK
FENCE

END VGC
BEGIN SGC

END VGC

END SGC

PROPOSED
UTILITY YARD #2

CONST.
CHAINLINK
FENCE

PROPOSED
SEDIMENT BASIN

END
VGC

PROPOSED
GRAVEL
WETLAND #1

BEGIN VGC
(MEET/MATCH
EXISTING)

25' WETLAND
BUFFER (TYP.)

30' MIN.
SIDE SETBACK
(TYP.)

70' MIN.
FRONT YARD
SETBACK (TYP.)

END GOOSE BAY
DRIVE PUBLIC R.O.W.
TO BECOME LONZA
PRIVATE ACCESS

HODGSON STREAM
RESTORATION AREA
(±47,000 SF)

CORPORATE DRIVE
(100' R.O.W. PER REF. PLAN #1)

GOOSE BAY DRIVE
(60' R.O.W. PER REF. PLAN #9)

SEE SHEET C-147 FOR LEGEND
AND SITE NOTES

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STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12876
LICENSED
PROFESSIONAL ENGINEER
11/6/18

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
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11-6-18

SCALE IN FEET
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GRAPHIC SCALE

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Lonza Biologics

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PHASE 1B
SITE PLAN

SCALE: AS SHOWN

C-147

Last Save Date: November 5, 2018 3:31 PM By: NAHANSEN
Print Date: Wednesday, November 05, 2018 Plotted By: NAHANSEN
T&B File Location: J:\L\L0700 Lonza Biologics Expansion v4a 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CS-104 to C-107.dwg Layout Tab: C-147

PHASE 1B DRAINAGE STRUCTURE TABLE

CB #1111
RIM=66.75
INV.OUT=61.65

PCB100
RIM=56.00
INV.OUT=52.00

PCB101
RIM=56.00
INV.OUT=51.95

PCB102
RIM=56.00
INV.IN=51.80
INV.IN=51.80
INV.IN=51.80
INV.OUT=51.70

PCB103
RIM=57.00
INV.IN=51.15
INV.OUT=51.05

PCB104
RIM=57.00
INV.IN=50.95
INV.IN=50.95
INV.OUT=50.85

PCB105
RIM=54.00
INV.OUT=49.20

PCB106
RIM=54.00
INV.IN=49.10
INV.IN=49.10
INV.OUT=49.00

PCB107
RIM=51.20
INV.OUT=47.20

PCB108
RIM=51.20
INV.IN=46.30
INV.IN=46.30
INV.OUT=46.20

PCB109
RIM=50.30
INV.OUT=44.95

PCB110
RIM=49.50
INV.IN=43.95
INV.OUT=43.85

PCB111
RIM=49.40
INV.IN=44.50
INV.OUT=44.40

PCB112
RIM=53.60
INV.OUT=46.65

PCB113
RIM=53.60
INV.IN=46.55
INV.OUT=46.45

PCB114
RIM=49.30
INV.OUT=43.35

PCB115
RIM=49.30
INV.IN=43.25
INV.OUT=43.15

PCB200
RIM=56.65
INV.OUT=51.90

PCB201
RIM=56.65
INV.IN=51.80
INV.OUT=51.70

PCB202
RIM=56.00
INV.OUT=51.75

PCB203
RIM=56.00
INV.IN=51.65
INV.OUT=51.55

PCB204
RIM=55.25
INV.OUT=51.50

PCB300
RIM=50.60
INV.OUT=46.60

PCB301
RIM=55.65
INV.OUT=51.65

PCB302
RIM=53.50
INV.OUT=49.50

PCB303
RIM=52.25
INV.OUT=48.25

PDMH100
RIM=55.80
INV.IN=51.40
INV.IN=51.40
INV.OUT=51.30

PDMH101
RIM=59.00
INV.IN=48.70
INV.IN=48.70
INV.OUT=48.60

PDMH102
RIM=56.60
INV.IN=48.15
INV.OUT=48.05

PDMH103
RIM=53.50
INV.IN=46.30
INV.IN=46.30
INV.OUT=46.20

PDMH104
RIM=54.10
INV.IN=47.20
INV.OUT=47.10

PDMH105
RIM=51.30
INV.IN=44.75
INV.IN=44.75
INV.OUT=44.65

PDMH106
RIM=51.00
INV.IN=44.00
INV.IN=43.30
INV.OUT=43.20

PDMH200
RIM=60.25
INV.IN=53.35
INV.OUT=53.25

PDMH201
RIM=56.00
INV.IN=51.30
INV.IN=51.30
INV.IN=51.30
INV.OUT=51.20

PDMH202
RIM=56.55
INV.IN=50.85
INV.IN=50.85
INV.OUT=50.75

PDMH203
RIM=57.00
INV.IN=49.45
INV.OUT=49.35

PDMH204
RIM=57.80
INV.IN=49.00
INV.OUT=48.90

PYD100
RIM=55.00
INV.OUT=49.95

PYD101
RIM=55.00
INV.IN=49.20
INV.OUT=49.10

PYD102
RIM=59.00
INV.OUT=52.00

PYD103
RIM=55.00
INV.IN=47.70
INV.OUT=47.60

PYD104
RIM=51.00
INV.IN=45.70
INV.OUT=45.60

PYD105
RIM=59.00
INV.OUT=55.00

PYD200
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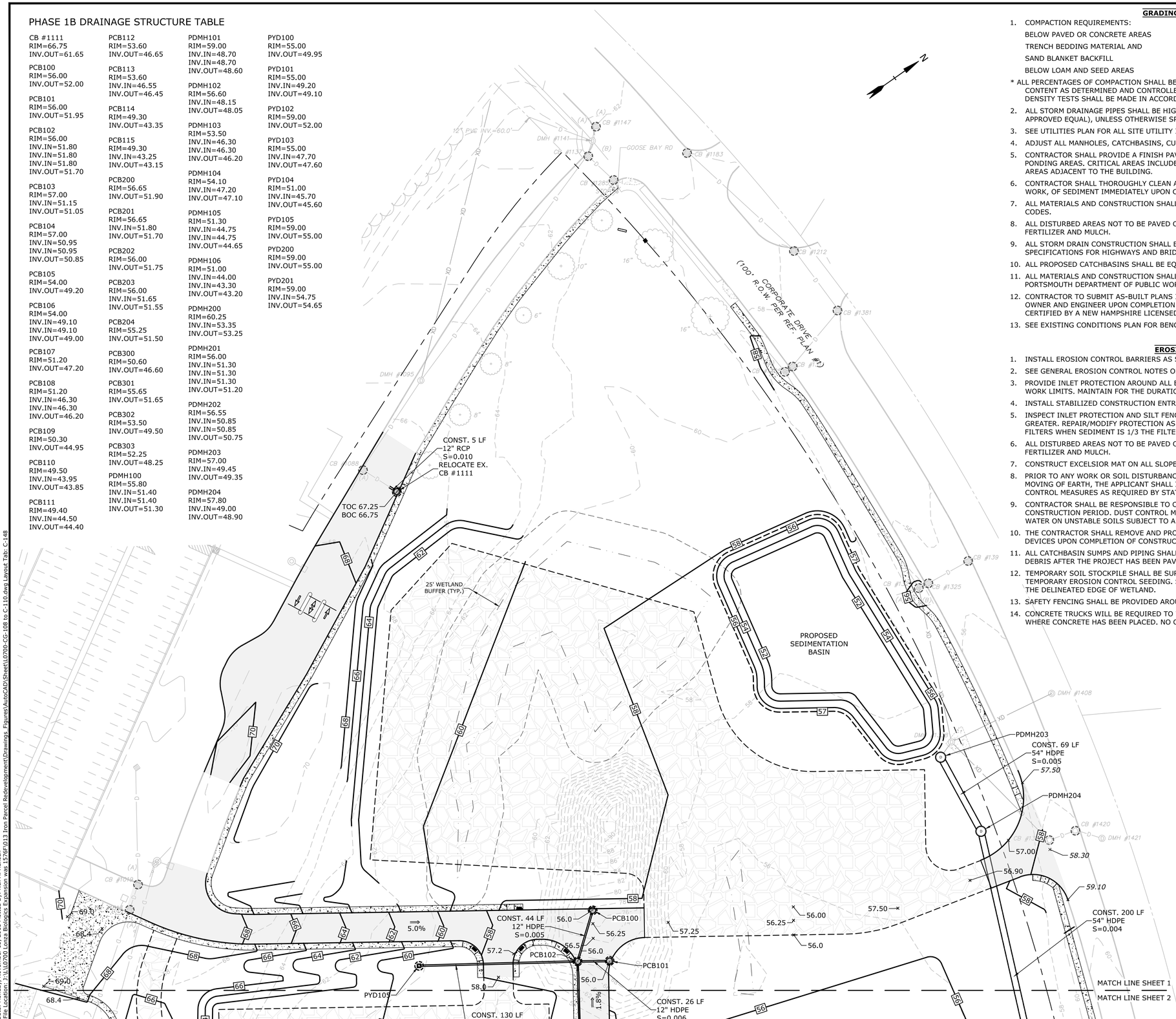
INV.OUT=55.00

PYD201
RIM=59.00
INV.IN=54.75
INV.OUT=54.65



GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:

BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREAS	90%

* ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.

2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR APPROVED EQUAL), UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITIES PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCHBASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCHBASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
10. ALL PROPOSED CATCHBASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION SPECIFICATIONS, LATEST REVISIONS.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
13. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON DETAIL SHEETS.
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCHBASIN INLETS WITHIN THE WORK LIMITS. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
5. INSPECT INLET PROTECTION AND SILT FENCES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EXCELSIOR MAT ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCHBASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED BY SILT FENCE AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLAND.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.

LEGEND

- MATCH LINE
- PROPOSED PROPERTY LINE
- 56 PROPOSED CONTOUR LINE
- PROPOSED DRAIN LINE (TYP)
- PROPOSED SILT SOCK
- INLET PROTECTION SILT SACK
- PROPOSED CATCHBASIN
- PROPOSED DOUBLE GRATE CATCHBASIN
- PROPOSED DRAIN MANHOLE

CONST	CONSTRUCT
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
RD	ROOF DRAIN
VIF	VERIFY IN FIELD

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — BRIAN L. MICHAUD — No. 13193 — LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12876 — LICENSED PROFESSIONAL ENGINEER — 11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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CHECKED:	PMC
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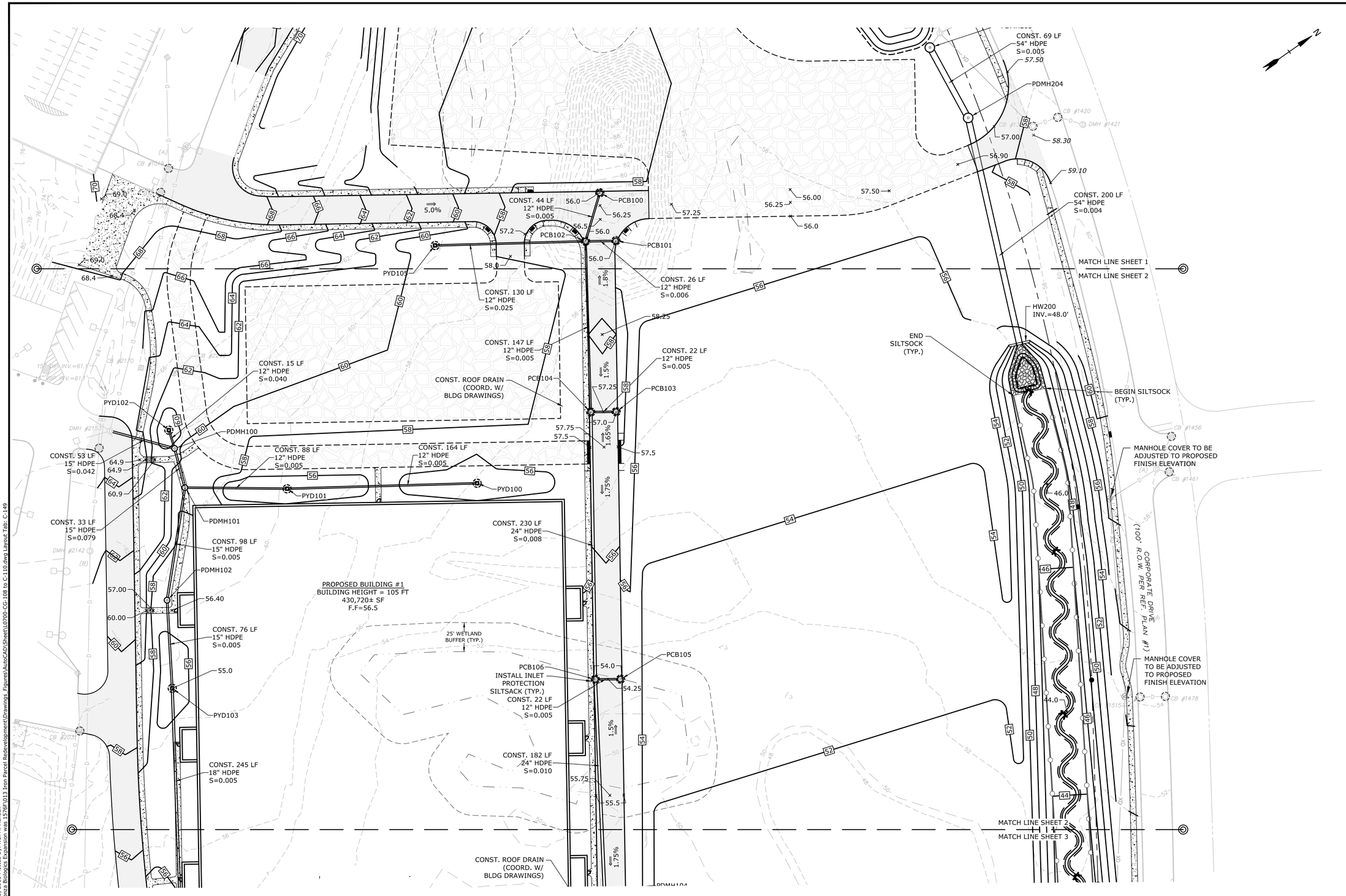
PHASE 1B
GRADING, DRAINAGE &
EROSION CONTROL PLAN

SCALE: AS SHOWN

C-148

Last Save Date: November 1, 2018 11:20 AM By: NAHANSEN
Plot Date/Time: November 01, 2018 11:20 AM By: NAHANSEN
T&B File Location: J:\LL\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CG-108 to C-110.dwg Layout Tab: C-148



SEE SHEET C-148 FOR LEGEND GRADING, DRAINAGE & EROSION CONTROL NOTES, & DRAINAGE STRUCTURE TABLE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
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LICENSED
PROFESSIONAL ENGINEER
11/6/18

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PHASE 1B
GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-149

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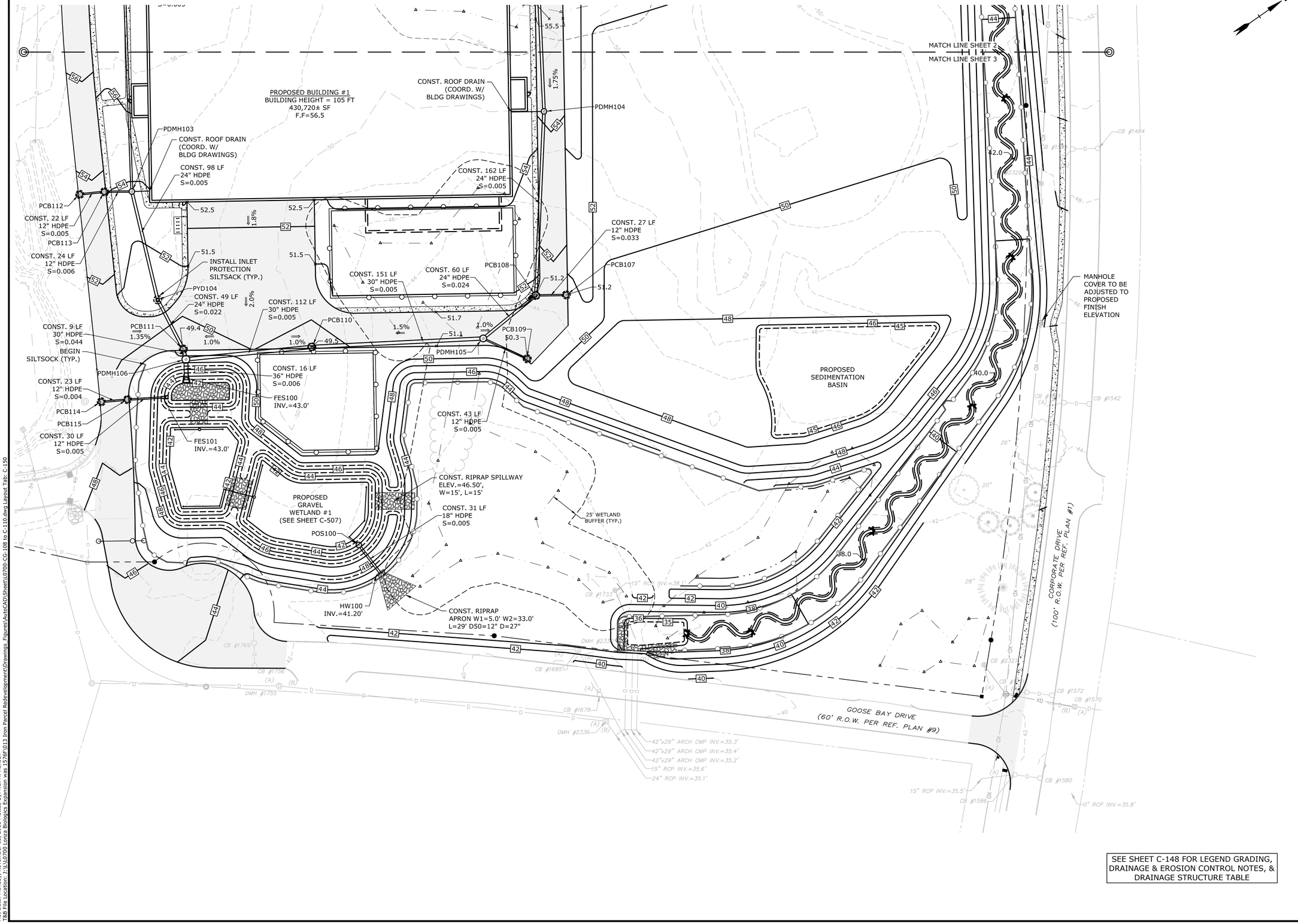
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CG-108 to C-110.dwg Layout Tab: C-149



SEE SHEET C-148 FOR LEGEND GRADING, DRAINAGE & EROSION CONTROL NOTES, & DRAINAGE STRUCTURE TABLE

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STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
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A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
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CHECKED:	PMC
APPROVED:	BLM

PHASE 1B
GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-150

Last Save Date: November 1, 2018 11:20 AM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
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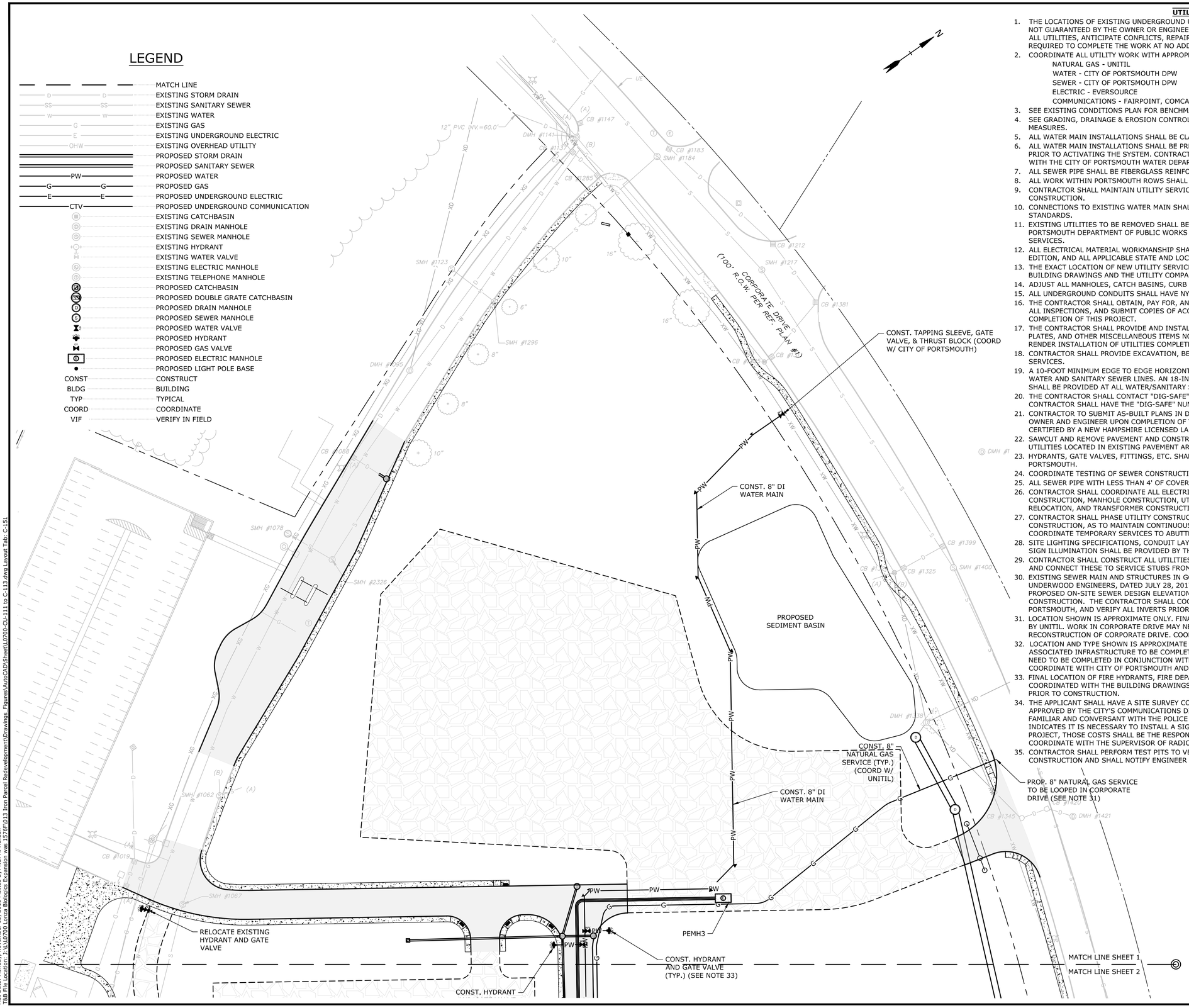
LEGEND

- MATCH LINE
- D — EXISTING STORM DRAIN
- SS — EXISTING SANITARY SEWER
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING UNDERGROUND ELECTRIC
- OHW — EXISTING OVERHEAD UTILITY
- PROPOSED STORM DRAIN
- PROPOSED SANITARY SEWER
- PW — PROPOSED WATER
- G — PROPOSED GAS
- E — PROPOSED UNDERGROUND ELECTRIC
- CTV — PROPOSED UNDERGROUND COMMUNICATION
- EXISTING CATCHBASIN
- EXISTING DRAIN MANHOLE
- EXISTING SEWER MANHOLE
- EXISTING HYDRANT
- EXISTING WATER VALVE
- EXISTING ELECTRIC MANHOLE
- EXISTING TELEPHONE MANHOLE
- PROPOSED CATCHBASIN
- PROPOSED DOUBLE GRATE CATCHBASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED WATER VALVE
- PROPOSED HYDRANT
- PROPOSED GAS VALVE
- PROPOSED ELECTRIC MANHOLE
- PROPOSED LIGHT POLE BASE
- CONST — CONSTRUCT
- BLDG — BUILDING
- TYP — TYPICAL
- COORD — COORDINATE
- VIF — VERIFY IN FIELD



UTILITY NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER - CITY OF PORTSMOUTH DPW
   - SEWER - CITY OF PORTSMOUTH DPW
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - FAIRPOINT, COMCAST, FIRSTLIGHT
3. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
5. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
6. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT.
7. ALL SEWER PIPE SHALL BE FIBERGLASS REINFORCED PLASTIC UNLESS OTHERWISE STATED.
8. ALL WORK WITHIN PORTSMOUTH ROWS SHALL BE COORDINATED WITH CITY OF PORTSMOUTH.
9. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
10. CONNECTIONS TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
11. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
12. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
13. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE UTILITY COMPANIES.
14. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
15. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
16. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
17. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
18. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
19. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
20. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
21. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
22. SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
23. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
24. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
25. ALL SEWER PIPE WITH LESS THAN 4' OF COVER SHALL BE INSULATED.
26. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
27. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION, AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
28. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
29. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
30. EXISTING SEWER MAIN AND STRUCTURES IN GOOSE BAY DRIVE ARE BASED ON A PROPOSED DESIGN BY UNDERWOOD ENGINEERS, DATED JULY 28, 2017, AND WAS CONSTRUCTED IN SUMMER 2018. THE PROPOSED ON-SITE SEWER DESIGN ELEVATIONS ARE BASED ON THE UNDERWOOD PLAN DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH, AND VERIFY ALL INVERTS PRIOR TO CONSTRUCTION.
31. LOCATION SHOWN IS APPROXIMATE ONLY. FINAL DESIGN OF NATURAL GAS SERVICE TO BE COMPLETED BY UNITIL. WORK IN CORPORATE DRIVE MAY NEED TO BE COMPLETED IN CONJUNCTION WITH FUTURE RECONSTRUCTION OF CORPORATE DRIVE. COORDINATE WITH CITY OF PORTSMOUTH AND UNITIL.
32. LOCATION AND TYPE SHOWN IS APPROXIMATE ONLY. FINAL DESIGN OF ELECTRIC SERVICE AND ASSOCIATED INFRASTRUCTURE TO BE COMPLETED BY EVERSOURCE. WORK IN CORPORATE DRIVE MAY NEED TO BE COMPLETED IN CONJUNCTION WITH FUTURE RECONSTRUCTION OF CORPORATE DRIVE. COORDINATE WITH CITY OF PORTSMOUTH AND EVERSOURCE.
33. FINAL LOCATION OF FIRE HYDRANTS, FIRE DEPARTMENT CONNECTIONS AND DRY STAND PIPES WILL BE COORDINATED WITH THE BUILDING DRAWINGS AND APPROVED BY THE PORTSMOUTH FIRE DEPARTMENT PRIOR TO CONSTRUCTION.
34. THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.
35. CONTRACTOR SHALL PERFORM TEST PITS TO VERIFY INVERT ELEVATIONS IN FIELD PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF ELEVATION DIFFERS FROM PLAN.

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STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 12876 LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 12876 LICENSED PROFESSIONAL ENGINEER — 11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

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PROJECT NO:	L-0700-013
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CHECKED:	PMC
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PHASE 1B
UTILITIES PLAN

SCALE: AS SHOWN

C-151

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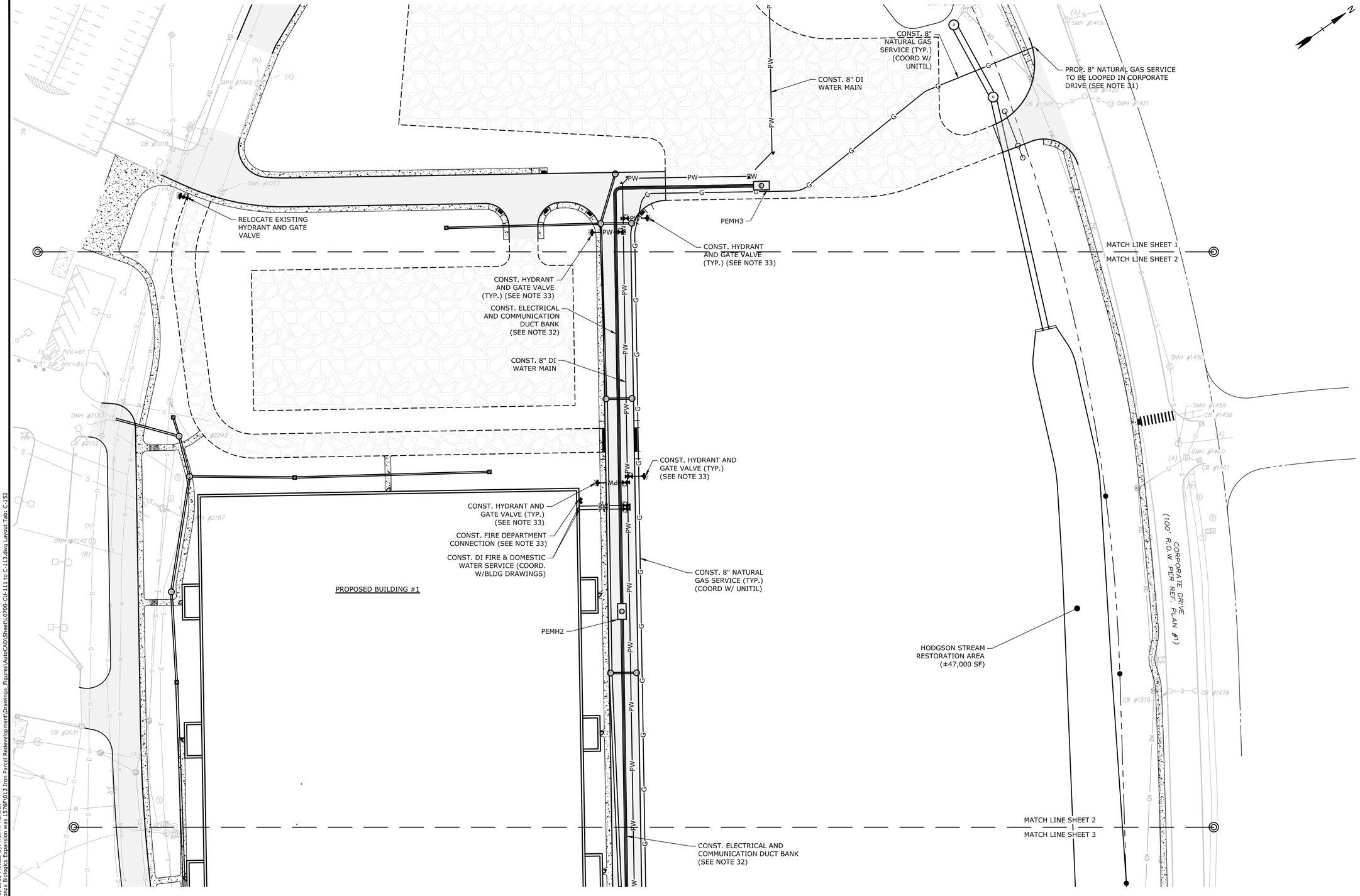

SEE SHEET C-151 FOR UTILITY NOTES AND LEGEND

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Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER LICENSED
11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER
11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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APPROVED:	BLM

PHASE 1B
UTILITIES PLAN

SCALE: AS SHOWN

C-152

Last Save Date: November 1, 2018 1:06 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
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MATCH LINE SHEET 2

MATCH LINE SHEET 3

PROPOSED BUILDING #1

CONST. DI FIRE & DOMESTIC WATER SERVICE (COORD. W/BLDG DRAWINGS)

CONST. FIRE DEPARTMENT CONNECTION (SEE NOTE 33)

CONST. NATURAL GAS SERVICE CONNECTION (COORD W/ BLDG. DRAWINGS)

CONST. 2.5-MVA TRANSFORMER (TYP. OF 8) (COORD W/ EVERSOURCE)

CONST. COMMUNICATION SERVICE (COORD W/ BLDG. DRAWINGS AND UTILITY COMPANIES)

CONST. ELECTRICAL AND COMMUNICATION DUCT BANK (SEE NOTE 32)

CONST. 8" NATURAL GAS SERVICE (TYP.) (COORD W/ UNITIL)

CONST. SEWER SERVICE INV.@BLDG=46.50 117 LF 12" FRP, S = 0.036 (COORD W/ BLDG. DRAWINGS)

PSMH2 RIM=49.80 INV IN=41.90 NE INV OUT=41.80 S

PSMH3 RIM=49.80 INV IN=42.30 NE INV IN=42.30 NW INV OUT=42.20 SW

PEMH1

PROPOSED UTILITY YARD #1

STUB COMMUNICATION CONDUIT FOR FUTURE BUILDING CONNECTION

STUB 8" NATURAL GAS SERVICE FOR FUTURE BUILDING CONNECTION

CONST. HYDRANT AND GATE VALVE (TYP.) (SEE NOTE 33)

CONST. 8" DI WATER MAIN

CONST. TAPPING SLEEVE, GATE VALVE, & THRUST BLOCK (TYP.)

CONST. 8" NATURAL GAS SERVICE OFF 4" MAIN (COORD W/ UNITIL)

CONST. 103 LF 12" FRP S = 0.003

CONST. 81 LF 12" FRP S = 0.003

CONST. 217 LF 12" FRP S = 0.003

PROPOSED UTILITY YARD #2

PSMH4 RIM=50.80 INV IN=43.05 NE INV OUT=42.95 SW

CONST. HYDRANT AND GATE VALVE (TYP.) (SEE NOTE 33)

PROPOSED SEDIMENT BASIN

PSMH1 RIM=49.80 INV IN=41.56 N (VIF) INV IN=41.56 NW (VIF) INV OUT=41.46 SE (VIF) VERIFY INVERTS AND PIPE LOCATION SEE NOTE 30 ON SHEET C-151

PROPOSED GRAVEL WETLAND #1

CONST. ELECTRICAL AND COMMUNICATION DUCT BANK (SEE NOTE 32)

CONNECT TO EXISTING MANHOLE (SEE NOTE 32)

HODGSON STREAM RESTORATION AREA (±47,000 SF)

CONST. SWITCH GEAR #1 (SEE NOTE 32)

GOOSE BAY DRIVE (60' R.O.W. PER REF. PLAN #9)

CORPORATE DRIVE (100' R.O.W. PER REF. PLAN #1)

SEE SHEET C-151 FOR UTILITY NOTES AND LEGEND

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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CHECKED:	PMC
APPROVED:	BLM

PHASE 1B
UTILITIES PLAN

SCALE: AS SHOWN

C-153

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Xref Dates Model: November 25, 2018 Phase 1B: NAHansen
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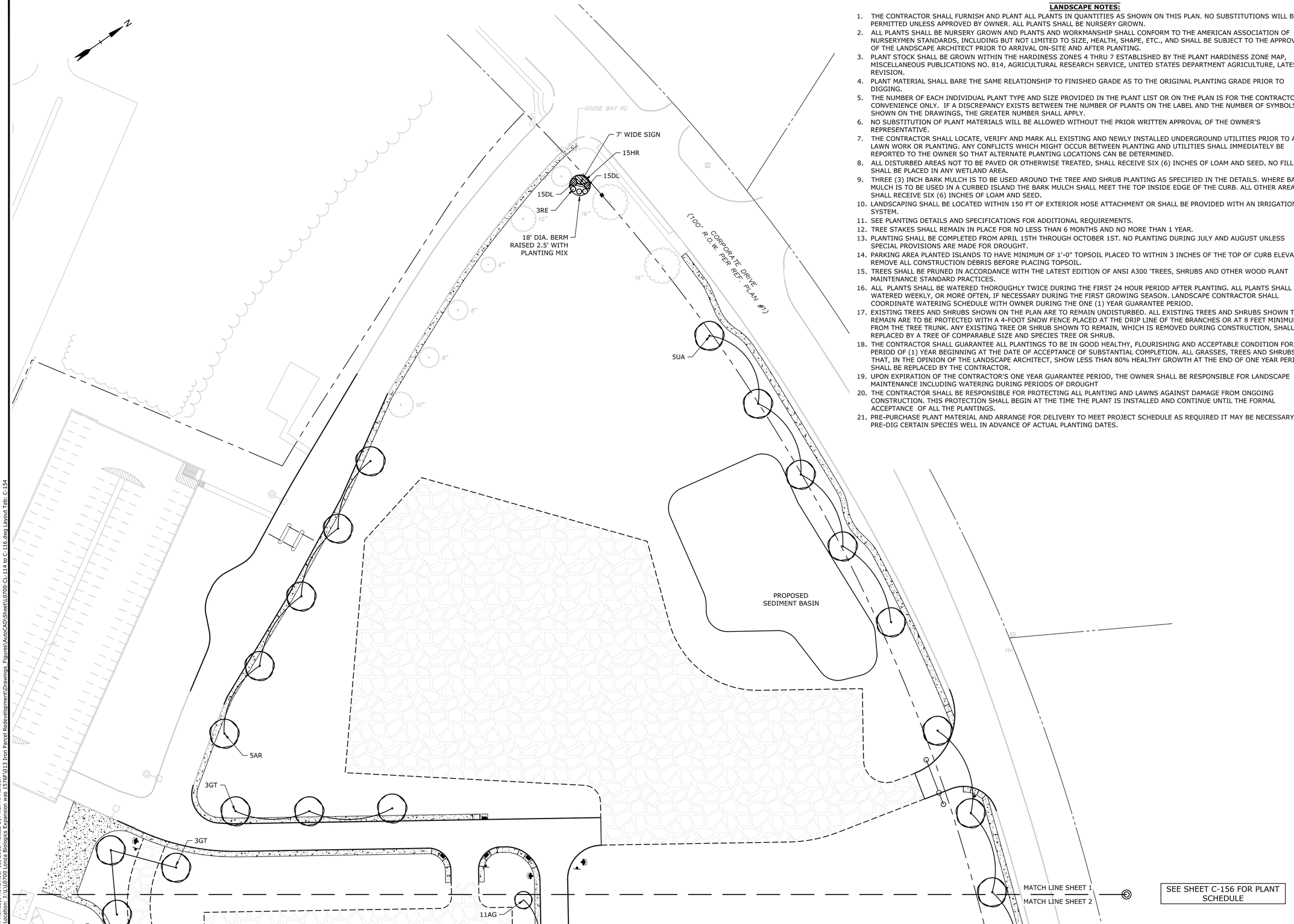

LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
2. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
4. PLANT MATERIAL SHALL BARE THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
5. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
6. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
7. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
9. THREE (3) INCH BARK MULCH IS TO BE USED AROUND THE TREE AND SHRUB PLANTING AS SPECIFIED IN THE DETAILS. WHERE BARK MULCH IS TO BE USED IN A CURBED ISLAND THE BARK MULCH SHALL MEET THE TOP INSIDE EDGE OF THE CURB. ALL OTHER AREAS SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED.
10. LANDSCAPING SHALL BE LOCATED WITHIN 150 FT OF EXTERIOR HOSE ATTACHMENT OR SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM.
11. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
12. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
13. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
14. PARKING AREA PLANTED ISLANDS TO HAVE MINIMUM OF 1'-0" TOPSOIL PLACED TO WITHIN 3 INCHES OF THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
15. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES.
16. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE ONE (1) YEAR GUARANTEE PERIOD.
17. EXISTING TREES AND SHRUBS SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES AND SHRUBS SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED DURING CONSTRUCTION, SHALL BE REPLACED BY A TREE OF COMPARABLE SIZE AND SPECIES TREE OR SHRUB.
18. THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
19. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.
21. PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
BRIAN L. MAYNARD
No. 12116
LICENSED
PROFESSIONAL ENGINEER
11/6/18

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12878
LICENSED
PROFESSIONAL ENGINEER
11-6-18

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PHASE 1B
LANDSCAPE PLAN

SCALE: AS SHOWN

C-154

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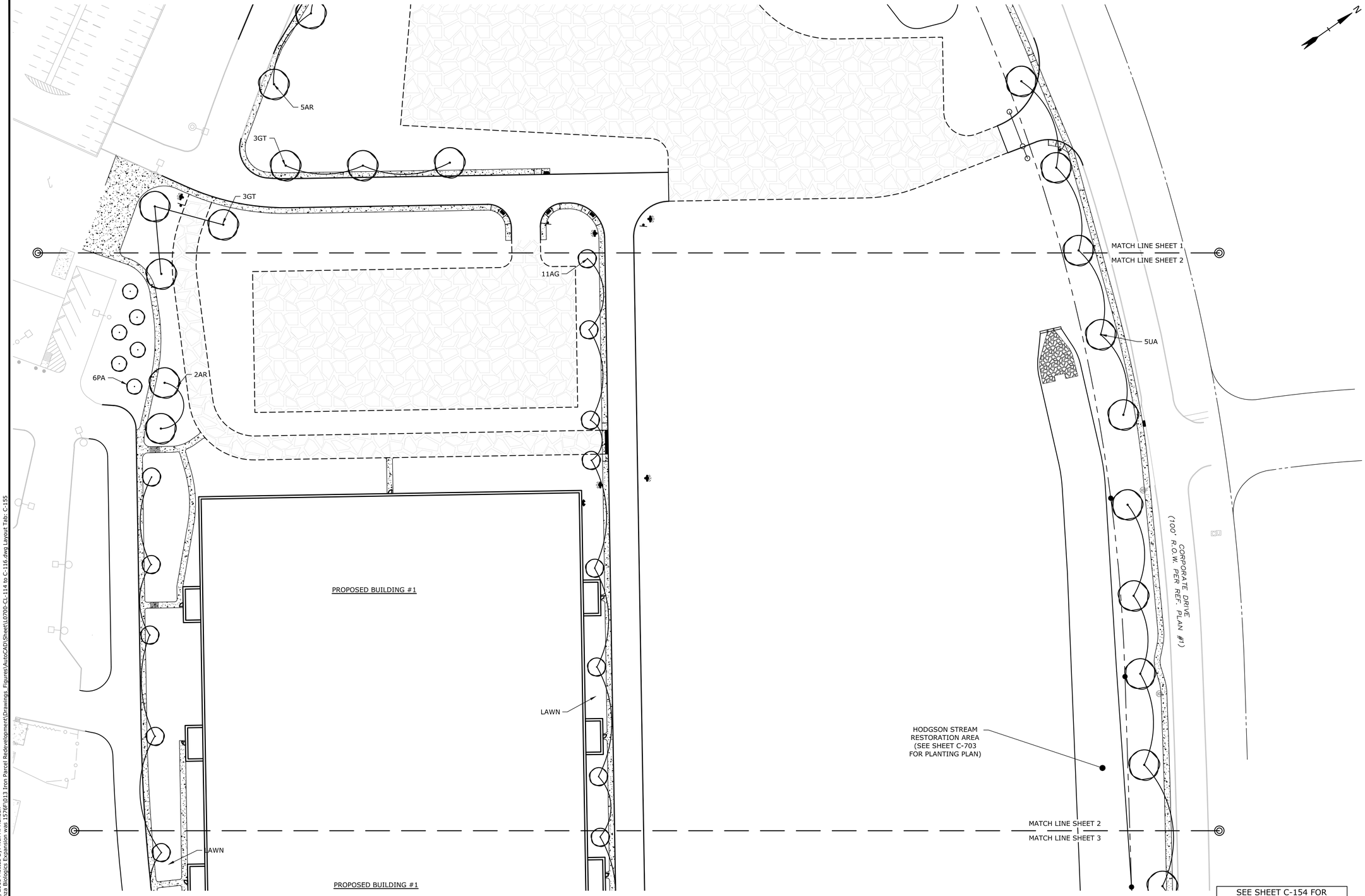

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Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12876
LICENSED
PROFESSIONAL ENGINEER
11/6/18

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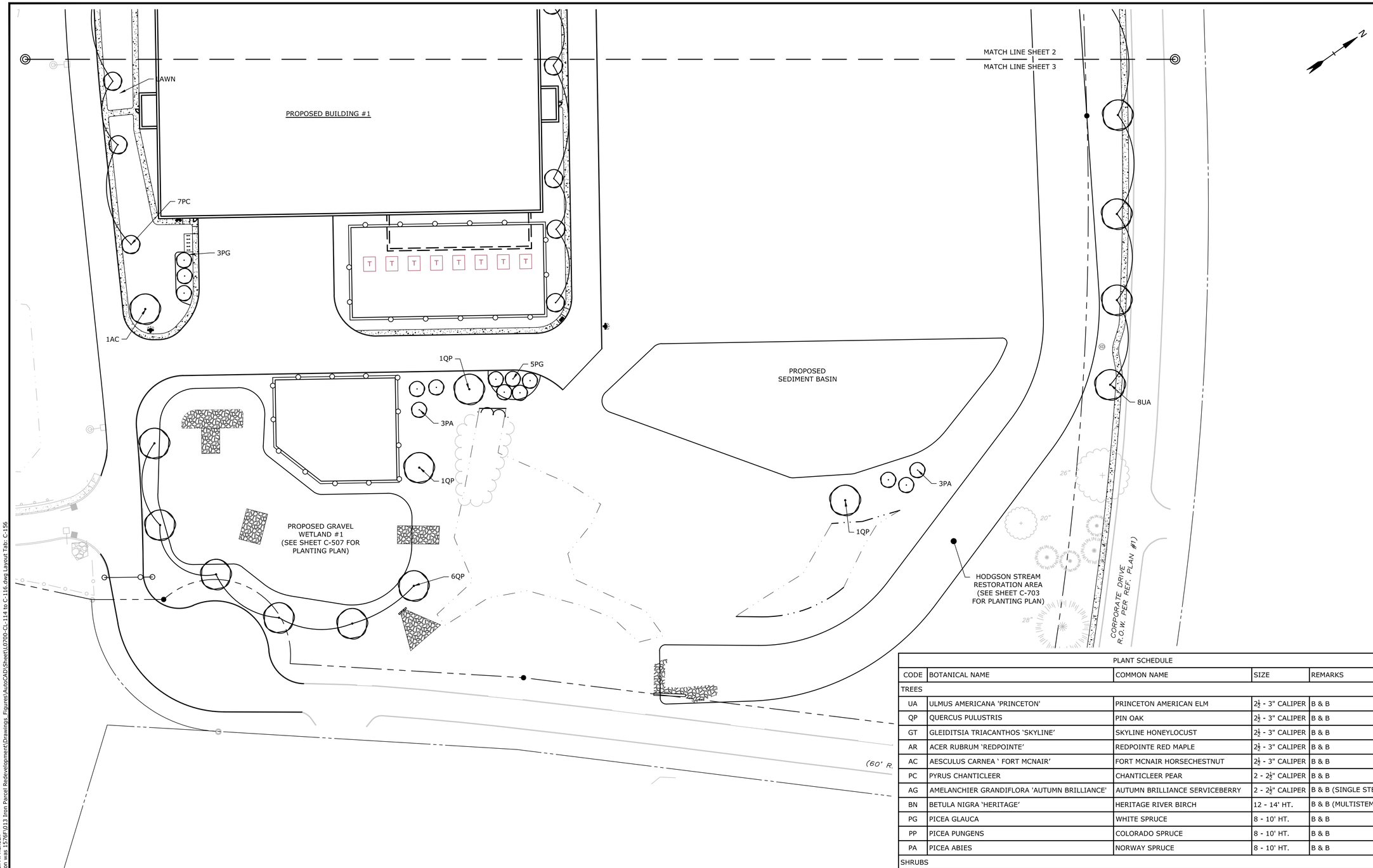
PHASE 1B
LANDSCAPE PLAN

SCALE: AS SHOWN

C-155



SEE SHEET C-154 FOR LANDSCAPING NOTES

PLANT SCHEDULE

CODE	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES				
UA	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	2½ - 3" CALIPER	B & B
QP	QUERCUS PULUSTRIS	PIN OAK	2½ - 3" CALIPER	B & B
GT	GLEIDITSIA TRIACANTHOS 'SKYLINE'	SKYLINE HONEYLOCUST	2½ - 3" CALIPER	B & B
AR	ACER RUBRUM 'REDPOINTE'	REDPOINTE RED MAPLE	2½ - 3" CALIPER	B & B
AC	AESCULUS CARNEA ' FORT MCNAIR'	FORT MCNAIR HORSECHESTNUT	2½ - 3" CALIPER	B & B
PC	PYRUS CHANTICLEER	CHANTICLEER PEAR	2 - 2½" CALIPER	B & B
AG	AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2 - 2½" CALIPER	B & B (SINGLE STEM)
BN	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	12 - 14' HT.	B & B (MULTISTEM)
PG	PICEA GLAUCA	WHITE SPRUCE	8 - 10' HT.	B & B
PP	PICEA PUNGENS	COLORADO SPRUCE	8 - 10' HT.	B & B
PA	PICEA ABIES	NORWAY SPRUCE	8 - 10' HT.	B & B
SHRUBS				
VC	VIBURNUM CASSINOIDES	WITHEROD VIBURNUM	2½ - 3' HT.	B & B
RE	RHODODENDRON 'ENGLISH ROSEUM'	ENGLISH ROSEUM RHODODENDRON	2½ - 3' HT.	B & B
CA	CLETHERA ALNIFOLIA	SUMMERSWEET CLETHERA	7 GALLON	CONTAINER
HQ	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN'	SNOW QUEEN OAKLEAF HYDRANGEA	2½ - 3' HT.	B & B
GROUNDCOVERS & PERENNIALS				
DL	HEMEROCALLIS 'STELLA DORO'	STELLA DORO DAYLILY	2 GALLON	CONTAINER
HR	HOSTA 'ROYAL STANDARD'	ROYAL STANDARD HOSTA	2 GALLON	CONTAINER
AS	ASTILBE 'VISIONS IN PINK'	VISIONS IN PINK ASTILBE	2 GALLON	CONTAINER
CAL	CALAMAGROSTIS 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3 GALLON	CONTAINER

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12879 LICENSED PROFESSIONAL ENGINEER 11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12879 LICENSED PROFESSIONAL ENGINEER 11-6-18

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1B
LANDSCAPE PLAN

SCALE: AS SHOWN

C-156

Last Save Date: November 1, 2018 12:59 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CL-114 to C-116.dwg Layout Tab: C-156

DETAILS PLAN SET

APRIL 3, 2018

REVISED: NOVEMBER 6, 2018

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	DETAILS COVER SHEET	11/06/2018
C-501	EROSION CONTROL NOTES & DETAILS SHEET	11/06/2018
C-502	DETAILS SHEET	11/06/2018
C-503	DETAILS SHEET	11/06/2018
C-504	DETAILS SHEET	11/06/2018
C-505	DETAILS SHEET	11/06/2018
C-506	DETAILS SHEET	11/06/2018
C-507	DETAILS SHEET	11/06/2018
C-508	DETAILS SHEET	11/06/2018
C-509	DETAILS SHEET	11/06/2018

STATE OF NEW HAMPSHIRE
PROFESSIONAL ENGINEER
LICENSED
11/6/18

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12878
LICENSED
PROFESSIONAL ENGINEER
11-6-18





COMPLETE SET 10 SHEETS

Last Save Date: November 5, 2018 2:20 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Xref\L-0700-13-COVER.dwg Layout Tab: DETAILS-CS

GENERAL PROJECT INFORMATION

PROJECT OWNER: PEASE DEVELOPMENT AUTHORITY
55 INTERNATIONAL DRIVE
PORTSMOUTH, NH 03801
PROJECT APPLICANT: LONZA BIOLOGICS
101 INTERNATIONAL DRIVE
PORTSMOUTH, NH 03801
PROJECT ADDRESS: 70 & 80 CORPORATE DRIVE
PORTSMOUTH, NH 03801
PROJECT LATITUDE: 43°-04'-59.0"N
PROJECT LONGITUDE: 71°-48'-09.7"W

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE EXPANSION OF LONZA BIOLOGICS, WHICH INCLUDES THE CONSTRUCTION OF 3 PROPOSED BUILDINGS, 2 PARKING GARAGES AND ASSOCIATED SITE IMPROVEMENTS

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 23 ACRES.

SOIL CHARACTERISTICS

BASED ON THE HIGH INTENSITY SOIL SURVEY PREPARED BY GOVE ENVIRONMENTAL SERVICES, INC. IN DECEMBER 2015, THE SITE SOILS VARY FROM WELL DRAINED TO VERY POORLY DRAINED AND PRIMARILY CONSIST OF SOMEWHAT POORLY DRAINED SOILS.

NAME OF RECEIVING WATERS

THE STORM WATER RUNOFF WILL ULTIMATELY DISCHARGE INTO HODGSON BROOK

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:

1. CUT AND CLEAR TREES.
2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
   - NEW CONSTRUCTION
   - CONTROL OF DUST
   - NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
   - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
4. CLEAR AND DISPOSE OF DEBRIS.
5. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
6. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
7. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
9. SEDIMENT TRAPS AND/OR BASINS SHALL BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.
10. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
11. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
12. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
13. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

SPECIAL CONSTRUCTION NOTES:

1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.
2. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

EROSION CONTROL NOTES:

1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
5. PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
8. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION:

1. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.;
   E. IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.
2. WINTER STABILIZATION PRACTICES:
   A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
   B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;
   C. AFTER NOVEMBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;
3. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
   A. TEMPORARY SEEDING;
   B. MULCHING.
4. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
5. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
6. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT FENCES, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY NOVEMBER 15.

DUST CONTROL:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
2. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

STOCKPILES:

1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
3. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OFF SITE VEHICLE TRACKING:

1. THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

VEGETATION:

1. TEMPORARY GRASS COVER:
   A. SEEDBED PREPARATION:
      a. APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE;
   B. SEEDING:
      a. UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE;
      b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED;
      c. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING;
   C. MAINTENANCE:
      a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
2. VEGETATIVE PRACTICE:
   A. FOR PERMANENT MEASURES AND PLANTINGS:
      a. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF THREE (3) TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5;
      b. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER;
      c. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH;
      d. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH;
      e. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE;
      f. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED;
      g. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED;
      h. A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:

SEED MIX	APPLICATION RATE
CREEPING RED FESCUE	20 LBS/ACRE
TALL FESCUE	20 LBS/ACRE
REDTOP	2 LBS/ACRE

IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.

3. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
   A. FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

CONCRETE WASHOUT AREA:

1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
   A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
   B. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
   C. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
   D. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES:

1. FIRE-FIGHTING ACTIVITIES;
2. FIRE HYDRANT FLUSHING;
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
4. WATER USED TO CONTROL DUST;
5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
11. UNCONTAMINATED EXCAVATION DEWATERING;
12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL:

1. WASTE MATERIAL:
   A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE:
   A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
   B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE:
   A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION:

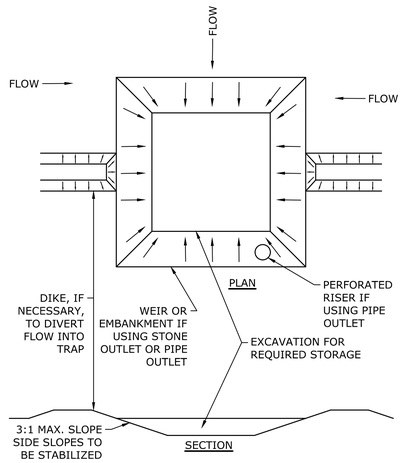
1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
   A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
      a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
      b. ALL MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE;
      c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
      d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
      e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
      f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
   B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
      g. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
      h. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
      i. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
   C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
      a. PETROLEUM PRODUCTS:
         - ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
         - PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
      b. FERTILIZERS:
         - FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
         - ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
         - STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
      c. PAINTS:
         - ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
         - EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
         - EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
   D. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
      a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
      b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
      c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
      d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
      e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
      f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
   E. VEHICLE FUELING AND MAINTENANCE PRACTICE:
      a. CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPTMENT/VEHICAL FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
      b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
      c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
      d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
      e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
      f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP. THE SWPPP SHALL BE PREPARED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ONSITE AT ALL TIMES.

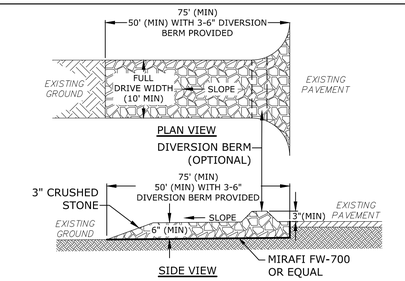
THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:

1. OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY THE CONTRACTOR AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER;
2. AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
3. A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
4. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.



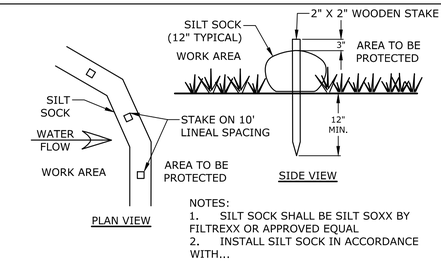
NOTES:
1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING AREA TO A SINGLE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. TRAP OUTLET SHALL BE MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP.
5. TRAP SHALL DISCHARGE TO A STABILIZED AREA.
6. TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.

SEDIMENT TRAP
NO SCALE



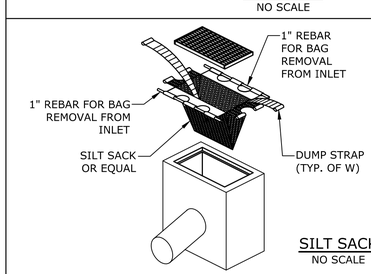
NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

STABILIZED CONSTRUCTION ENTRANCE
NO SCALE



NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL
2. INSTALL SILT SOCK IN ACCORDANCE WITH...

SILT SOCK
NO SCALE



SILT SACK
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER 11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12878 LICENSED PROFESSIONAL ENGINEER 11-6-18

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

EROSION CONTROL NOTES

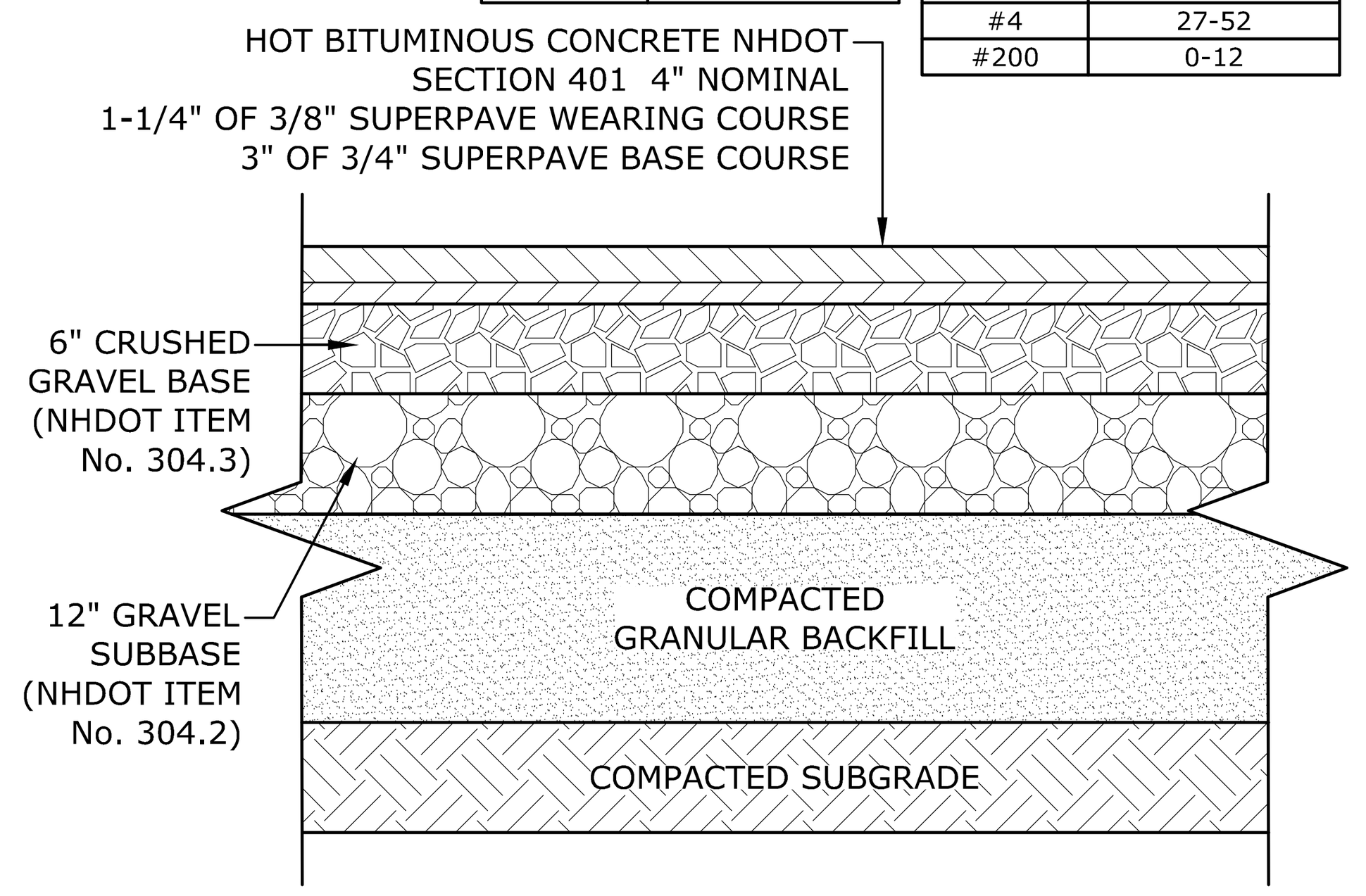
SCALE: AS SHOWN

C-501

Last Save Date: November 5, 2018 2:00 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 2:00 PM By: NAHANSEN
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CD-501 to C-508.dwg Layout Tab: C-501

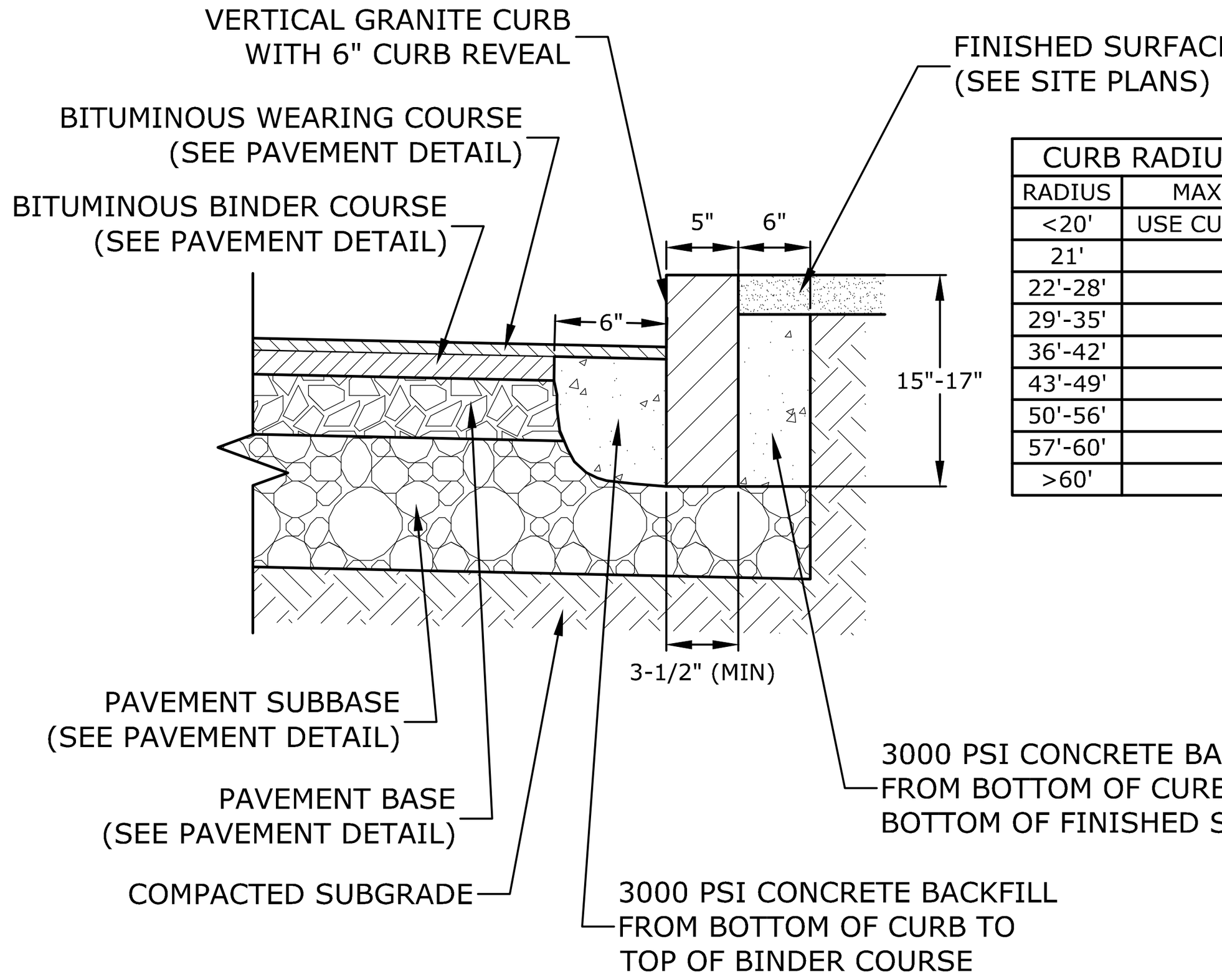
NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12



NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. FINAL PAVEMENT DESIGN TO BE DETERMINED BY GEOTECHNICAL ENGINEER

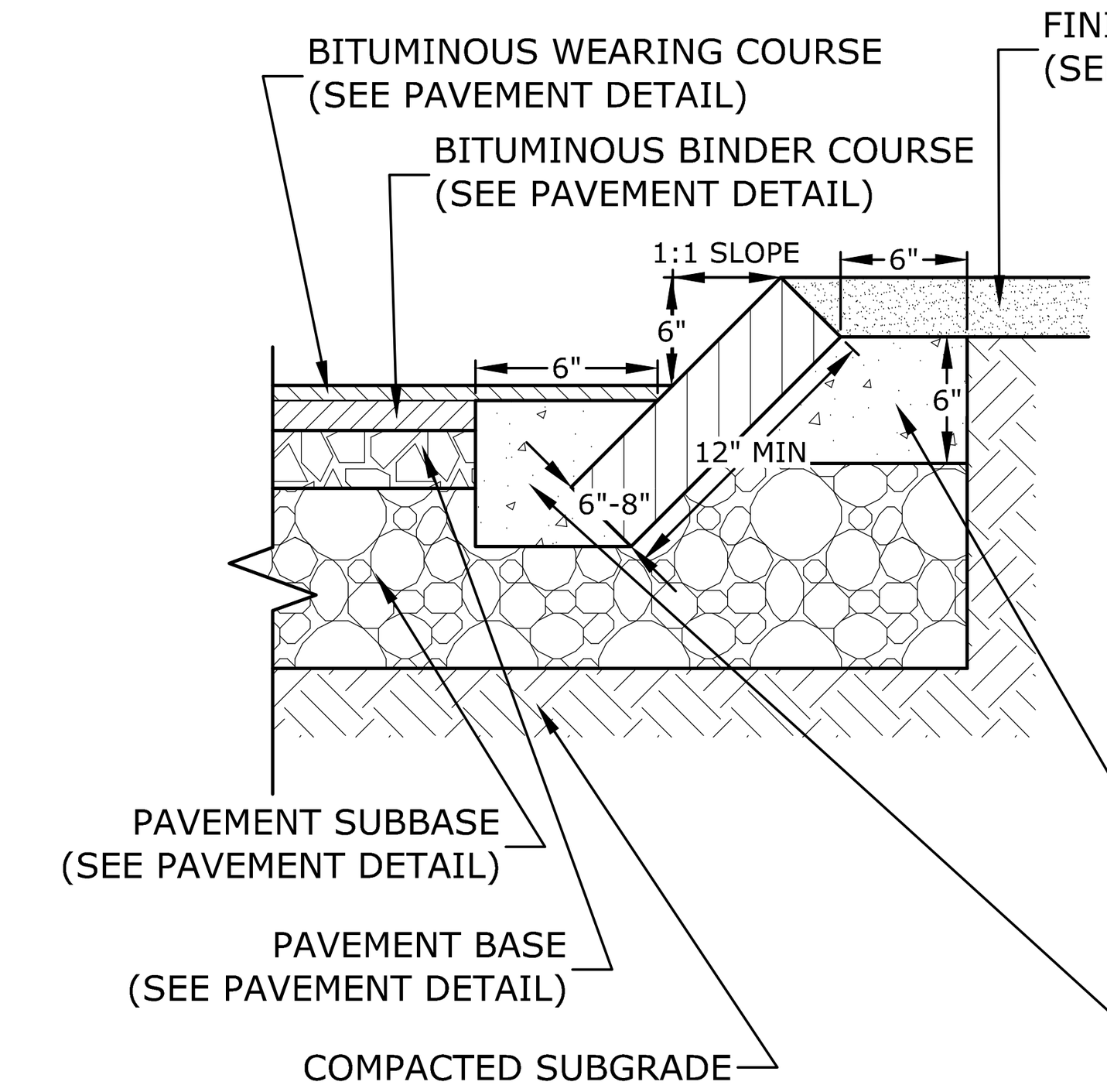
TYPICAL PAVEMENT SECTION
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<20'	USE CURVED CURB
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
>60'	10'

NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

VERTICAL GRANITE CURB
NO SCALE

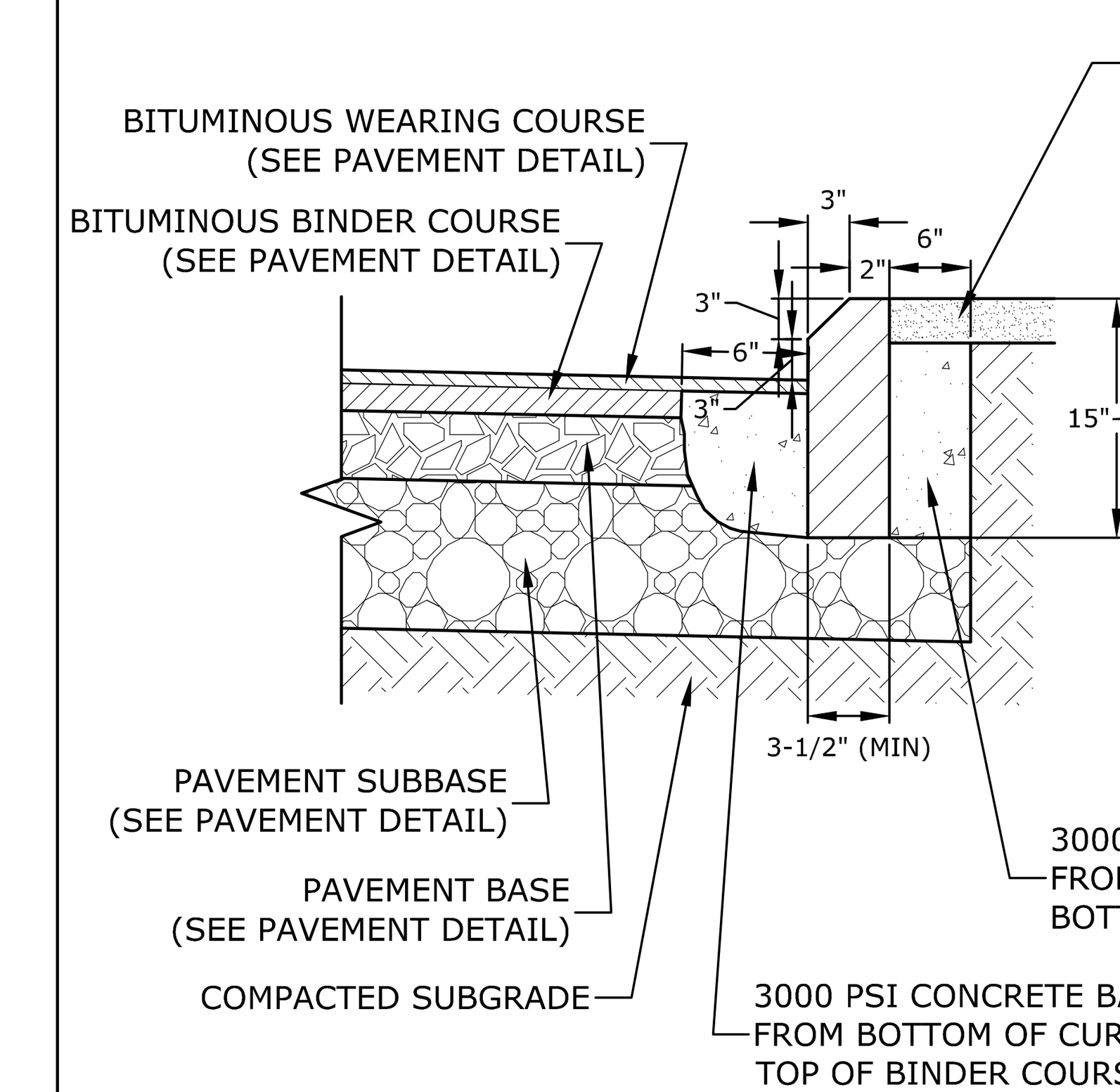


CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
16'-28'	1'-6"
29'-41	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'

CURB RADIUS TABLE
RADIUS MAX LENGTH
<2' USE CURVED CURB
2'-15' USE RADIAL JOINTS
16'-28' 1'-6"
29'-41 2'
42'-55' 3'
56'-68' 4'
69'-82' 5'
83'-96' 6'
97'-110' 7'
>110' 8'

NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

SLOPED GRANITE CURB
NO SCALE



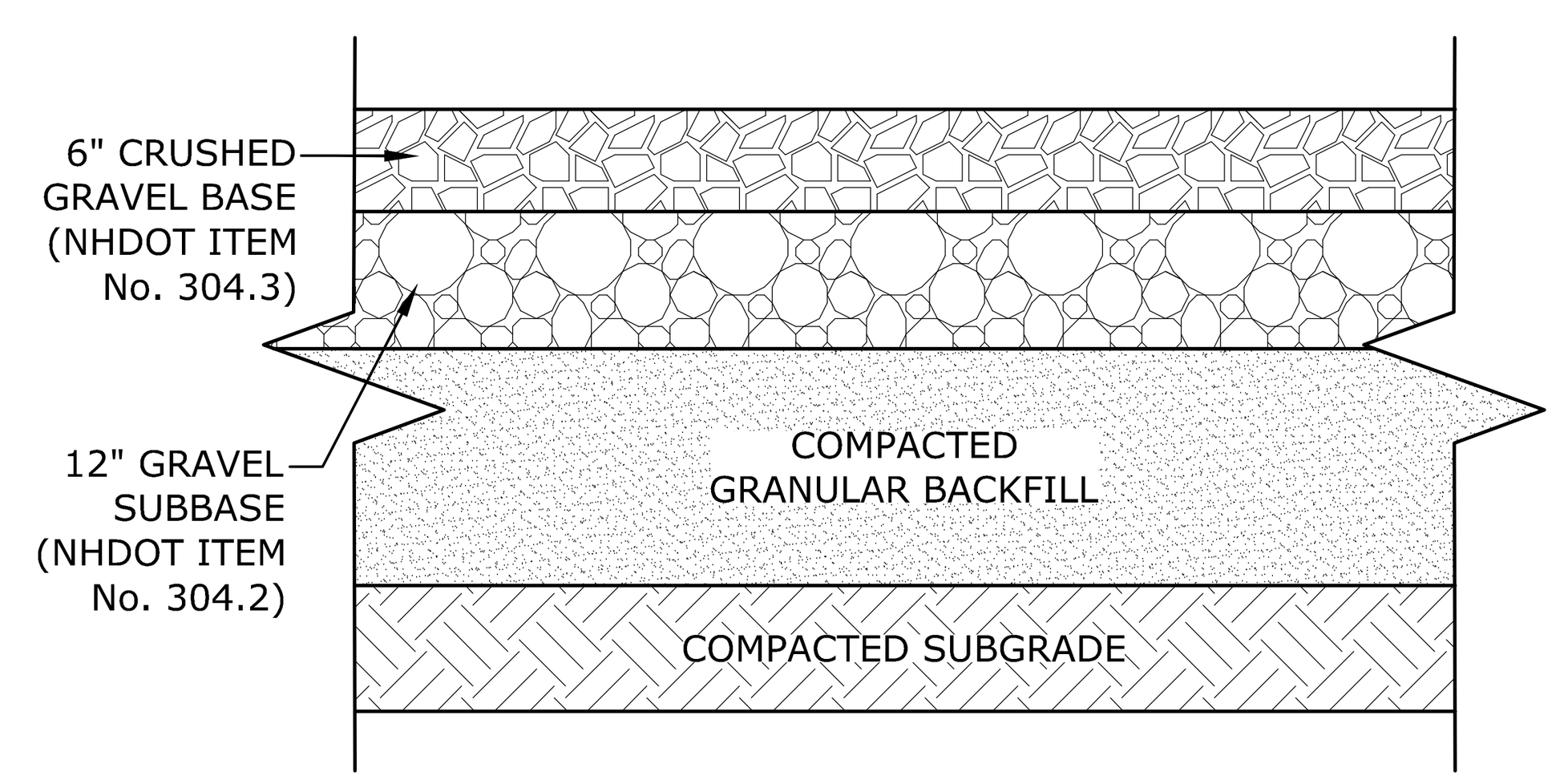
CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<20'	USE CURVED CURB
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
>60'	10'

NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF MOUNTABLE VERTICAL GRANITE CURB (MVGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

MOUNTABLE VERTICAL GRANITE CURB
NO SCALE

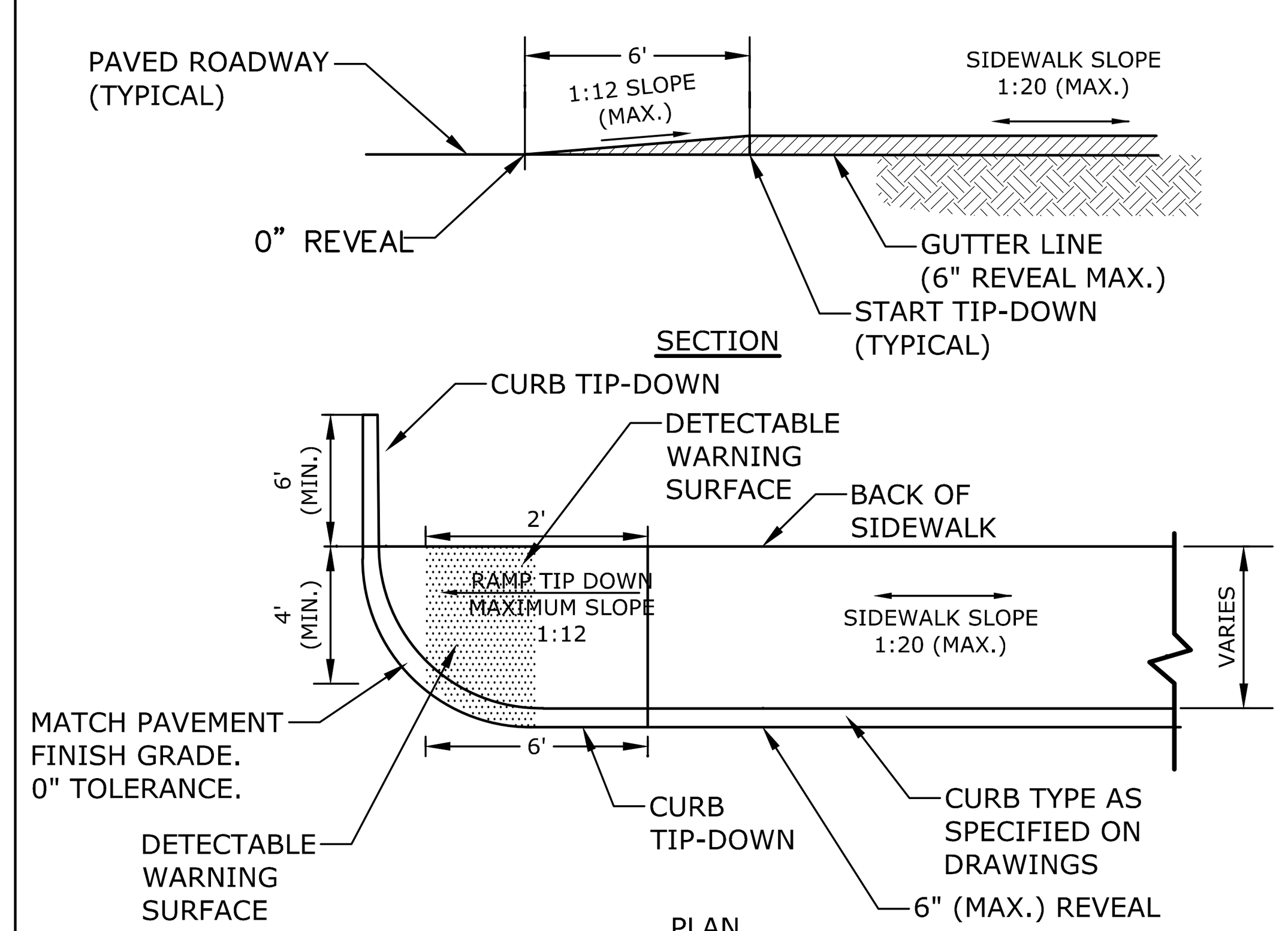
NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12



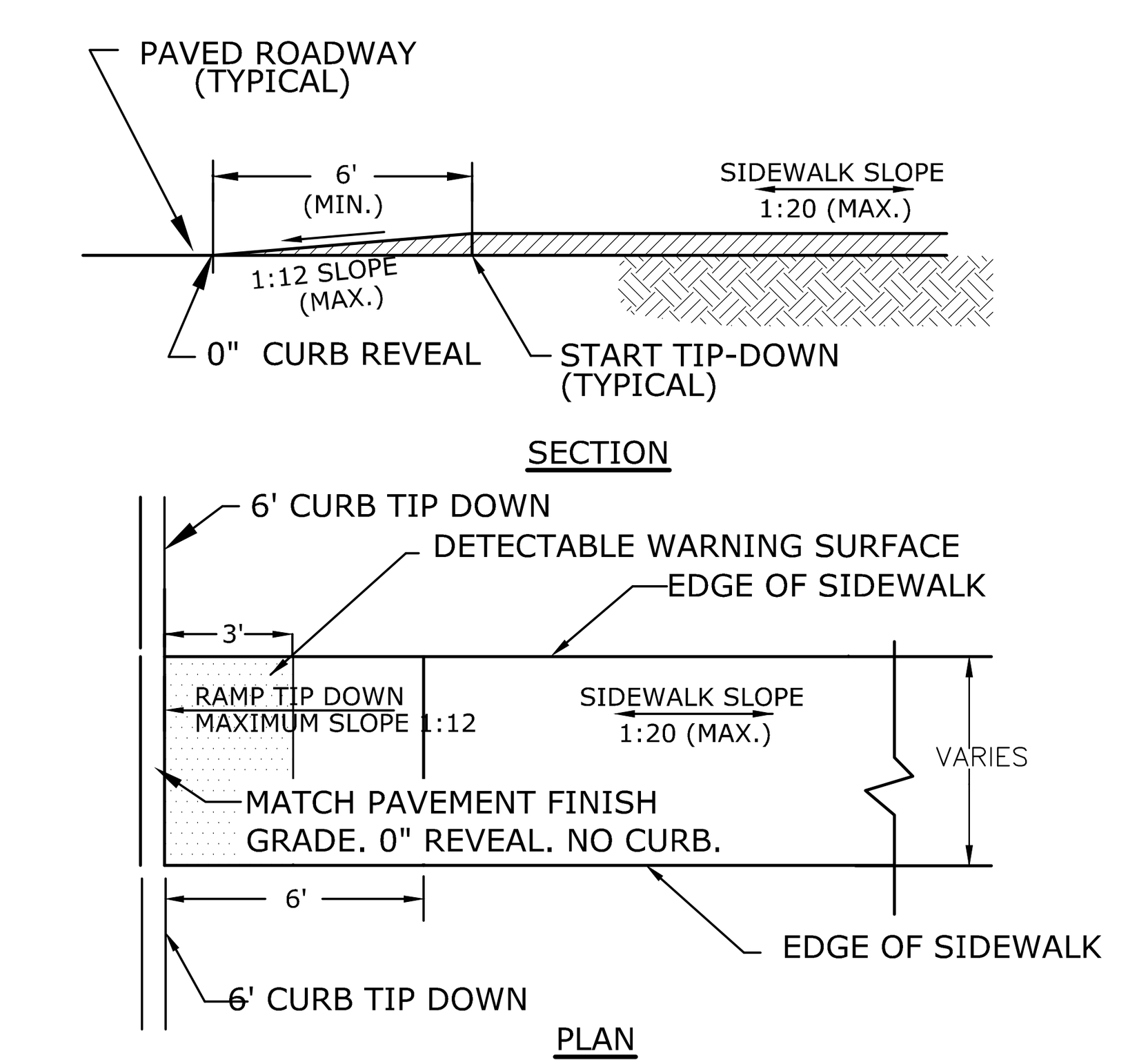
NOTES:
1. SEE SITE PLAN FOR GRAVEL WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. GRAVEL PARKING AREA DESIGN TO BE DETERMINED BY GEOTECHNICAL ENGINEER

GRAVEL PARKING AREA SECTION
NO SCALE



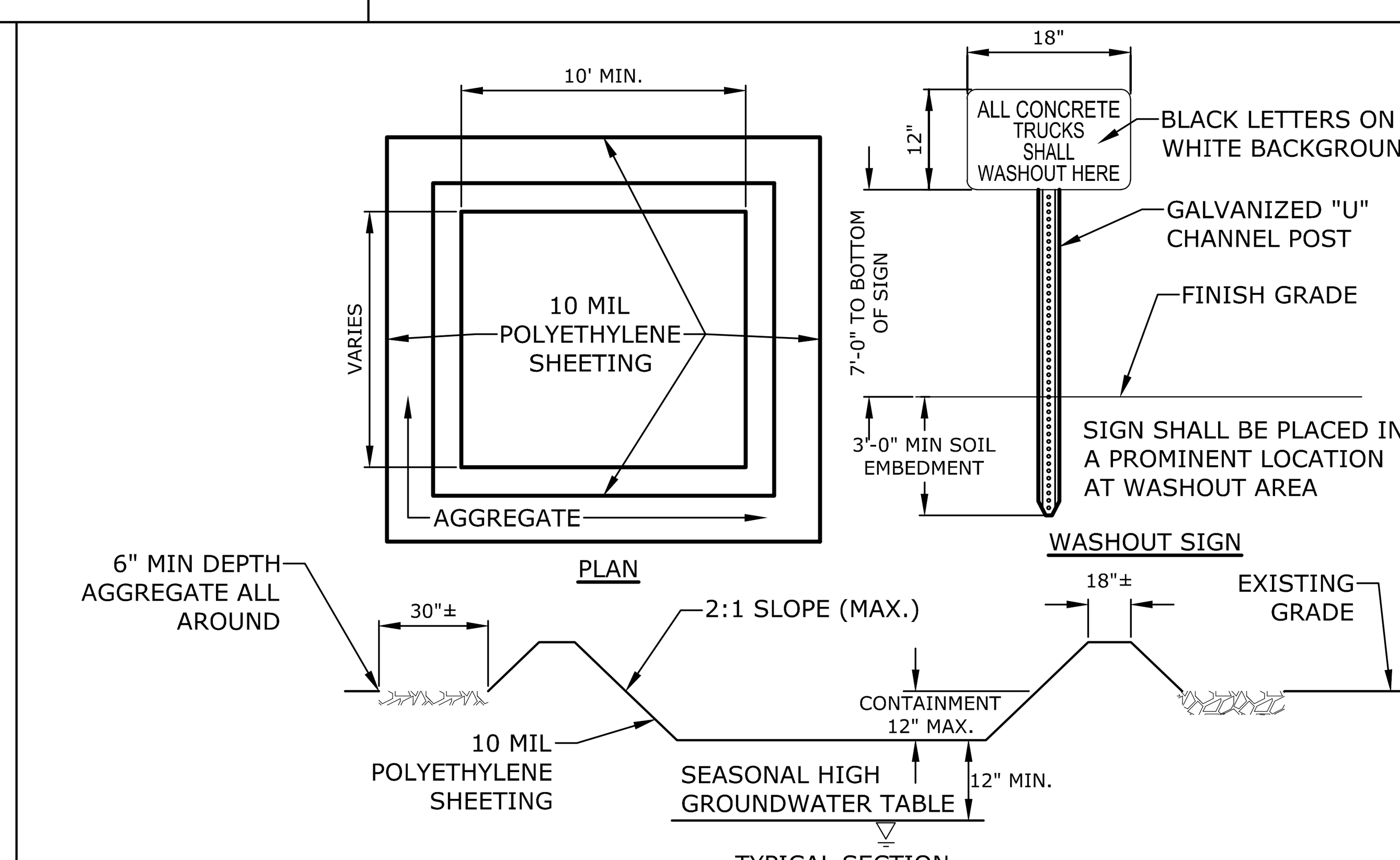
NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS
2. PROVIDE 6" COMPACTED CRUSHED GRAVEL BASE BENEATH RAMPS.
3. DETECTABLE WARNING STRIP SHALL BE ADA SOLUTIONS, INC. CAST IN PLACE RAMP. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

CORNER TIP DOWN RAMP
NO SCALE



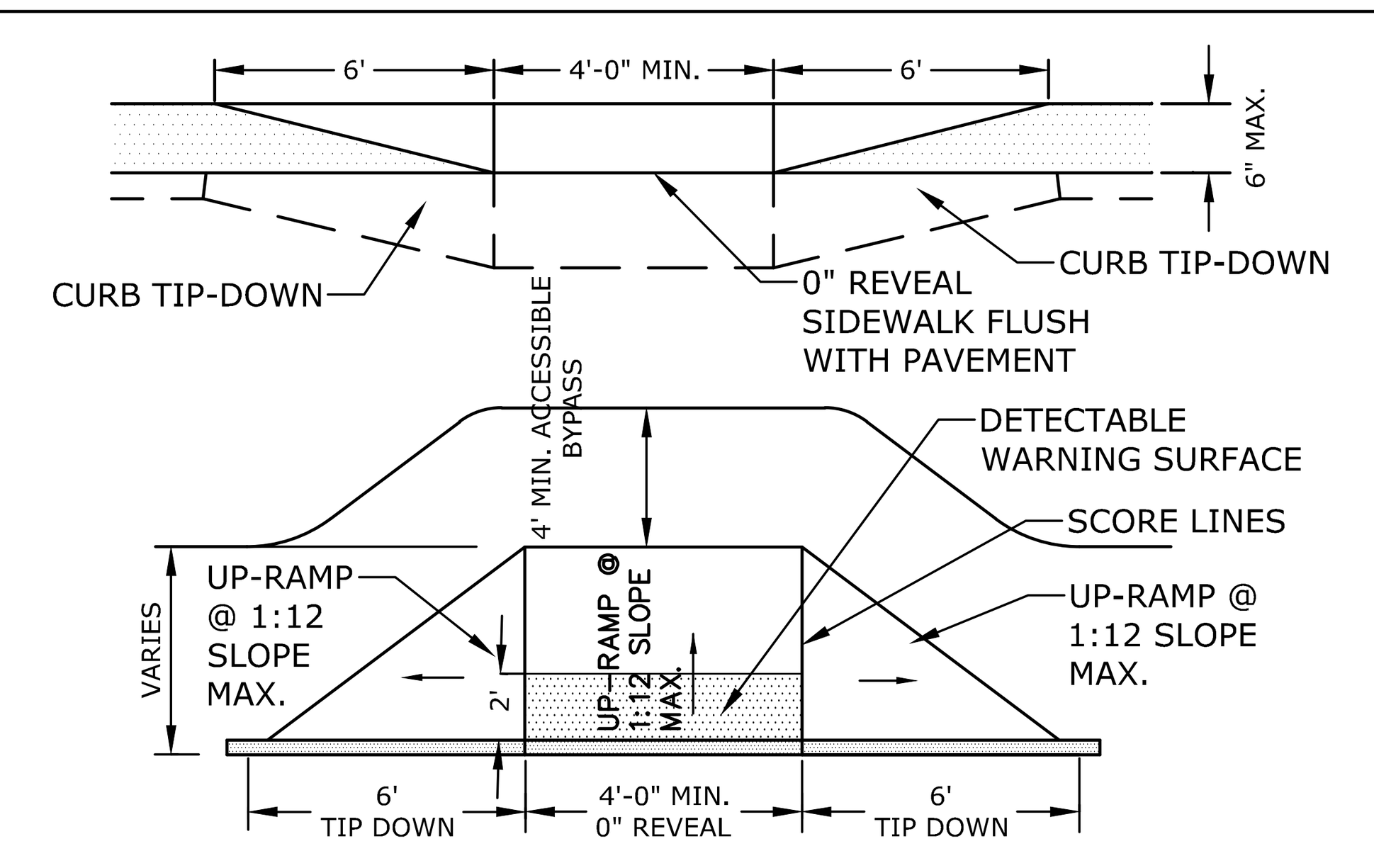
NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS
2. PROVIDE 6" COMPACTED CRUSHED GRAVEL BASE BENEATH RAMPS.
3. DETECTABLE WARNING STRIP SHALL BE ADA SOLUTIONS, INC. CAST IN PLACE RAMP. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

SIDEWALK TIP-DOWN RAMP
NO SCALE



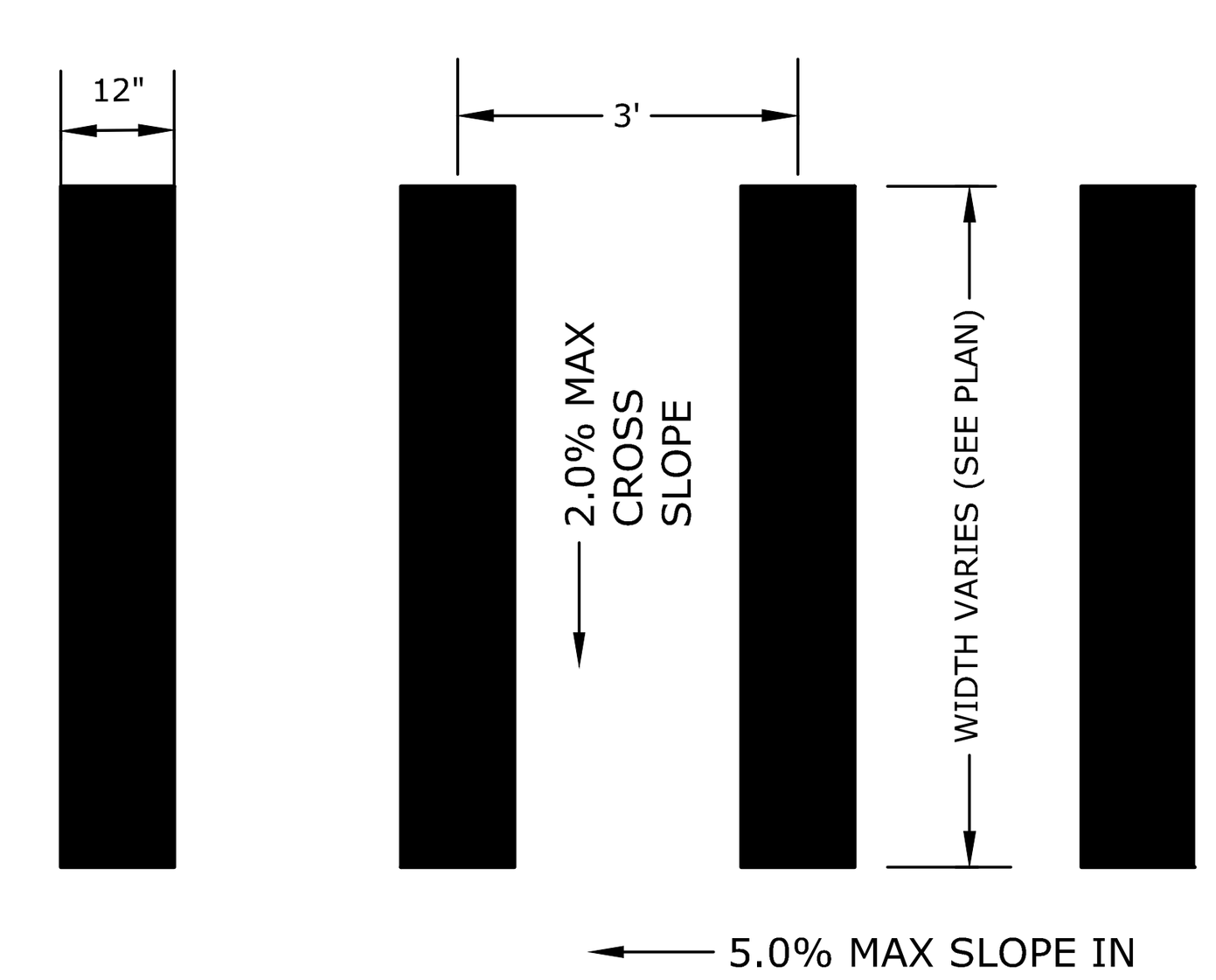
NOTES:
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75%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

CONCRETE WASHOUT AREA
NO SCALE



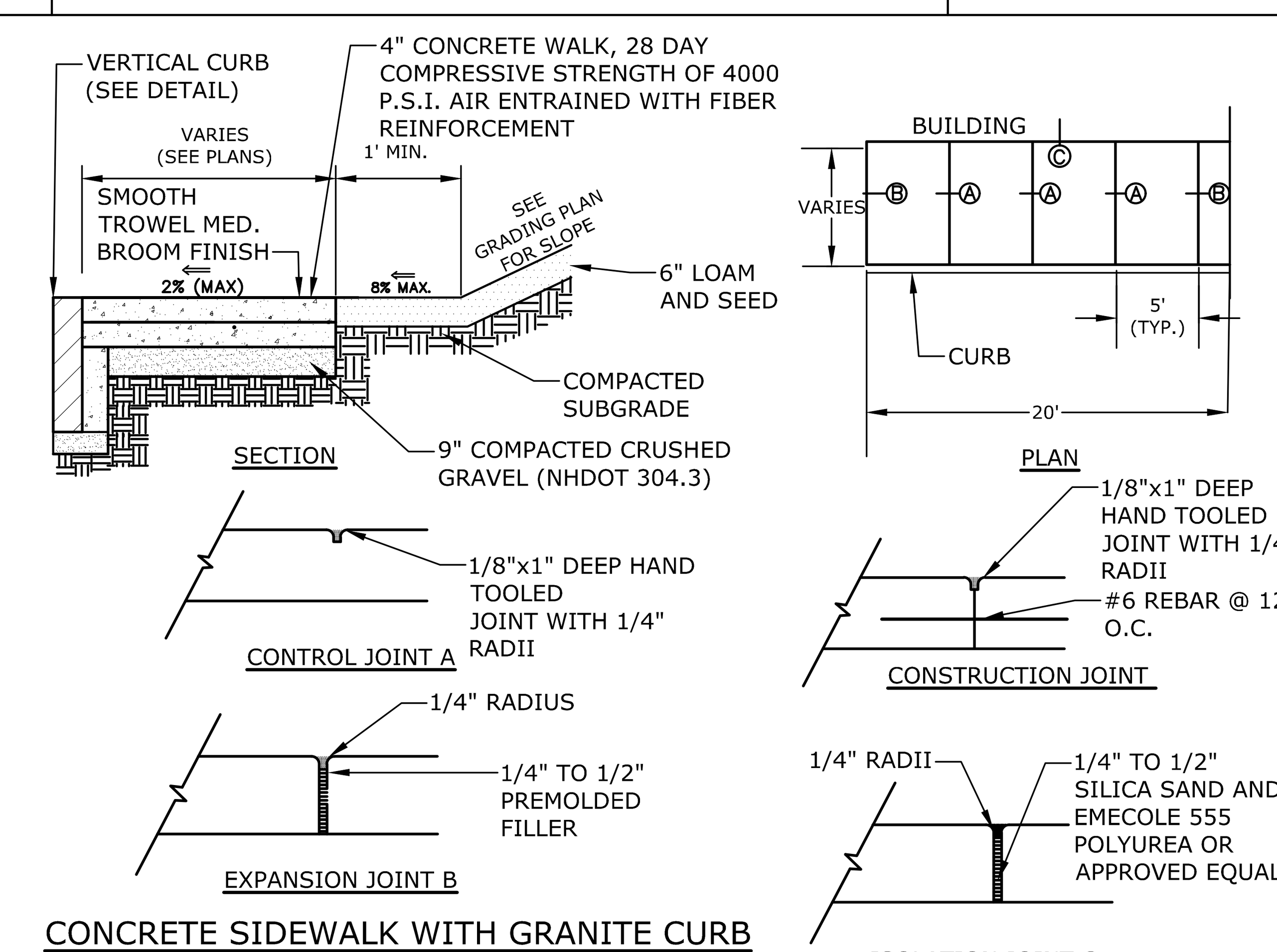
NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS
2. PROVIDE 6" COMPACTED CRUSHED GRAVEL BASE BENEATH RAMPS
3. DETECTABLE WARNING STRIP SHALL BE ADA SOLUTIONS, INC. CAST IN PLACE RAMP. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

CONCRETE WHEELCHAIR ACCESSIBLE RAMP
NO SCALE

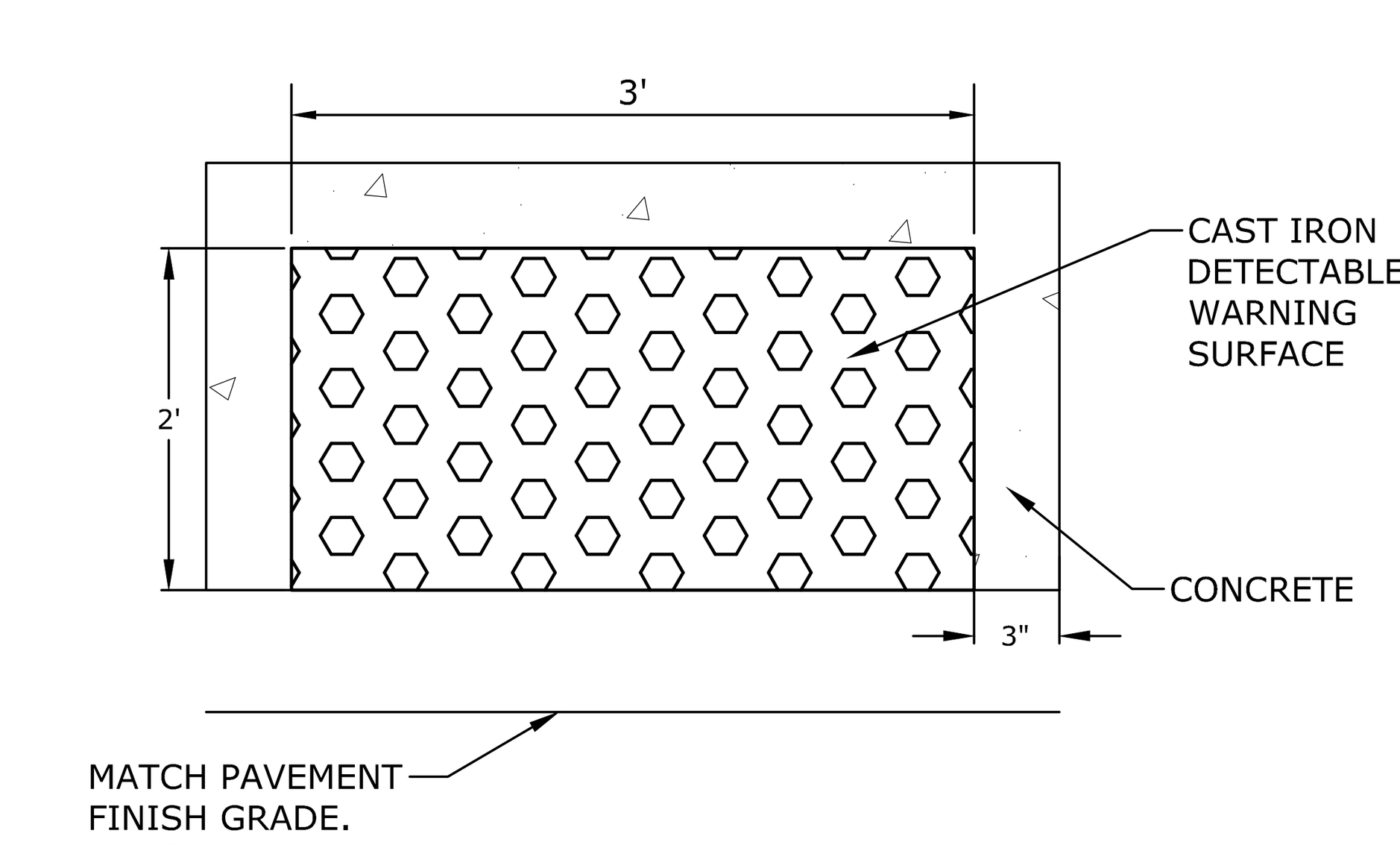


NOTE:
STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

CROSSWALK STRIPING
NO SCALE



CONCRETE SIDEWALK WITH GRANITE CURB
NO SCALE



NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE 2' X 3' CAST IRON PANEL SET IN CONCRETE.
2. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

CAST IRON DETECTABLE WARNING SURFACE
NO SCALE

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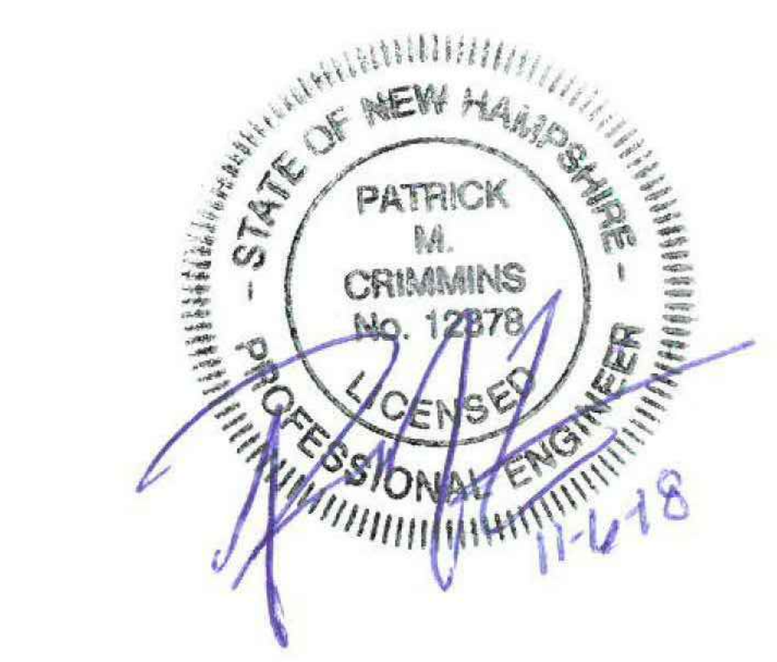


Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEETS

SCALE: AS SHOWN

C-502

Last Save Date: November 5, 2018 2:00 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CD-501 to C-508.dwg Layout Tab: C-502

LEGEND

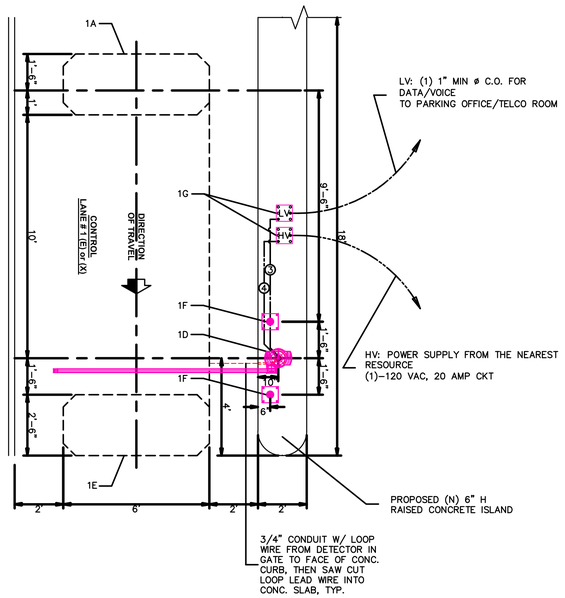
① 1" ø C.O., ARCNET CABLE (DATA)
② 22/4 CAT3, PVC (VOICE)
③ 3/4" ø C.O., 22/8 CABLE O.S., PVC (DATA)
④ ONE (1) 115VAC, 20AMP CIRCUIT (POWER)

CONTROL LANE GENERAL NOTES:

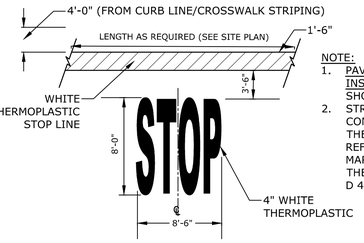
1. THIS DRAWING IS NOT TO BE USED FOR ELECTRICAL CIRCUITRY, REFER TO ELECTRICAL DRAWINGS.
2. ——— - ——— DENOTES CONDUIT AND WIRE FOR POWER OR PULL WIRE FOR CONTROLS BY ELECTRICAL CONTRACTOR.
3. ——— - - ——— DENOTES CONDUIT AND WIRE BY ELECTRICAL CONTRACTOR.
4. C.O. (CONDUIT ONLY) DENOTES CONDUIT AND PULL WIRE.
5. STUB–UP CONDUIT 8" ABOVE TOP OF CONCRETE ISLAND PLUS 3'–0" OF WIRE FOR PARKING EQUIPMENT SUPPLIER.
6. ELECTRICAL CONTRACTOR SHALL VERIFY WITH PARKING EQUIPMENT SUPPLIER AS TO THE ACTUAL POWER REQUIREMENTS TO EACH LOCATION BEFORE START OF WORK.
7. ELECTRICAL CONTRACTOR SHALL VERIFY WITH INTERCOM SYSTEM SUPPLIER AS TO THE ACTUAL CONDUIT SIZE REQUIRED BEFORE START OF WORK.
8. CONCRETE CURBS SHALL BE 6" HIGH UNO.
9. FOR ADDITIONAL PARKING EQUIPMENT REQUIREMENTS, REFER TO SPECS.
10. COORDINATE WITH ELECTRICAL DRAWINGS.

PARKING CONTROL EQUIPMENT LIST:

CONTROL LANE # 1 (E) or (X)
1A – ARMING LOOP DETECTOR ASSEMBLY
1B – SKIDATA ENTRY/EXIT COLUMN UNLIMITED (See Detail)
1C – TWO–WAY INTERCOM UNIT
1D – SKIDATA BARRIER GATE (See Detail)
1E – CLOSING LOOP DETECTOR ASSEMBLY
1F – PROTECTION POST
1G – INGROUND JUNCTION BOXES (8"x8"x4") FOR POWER & DATA

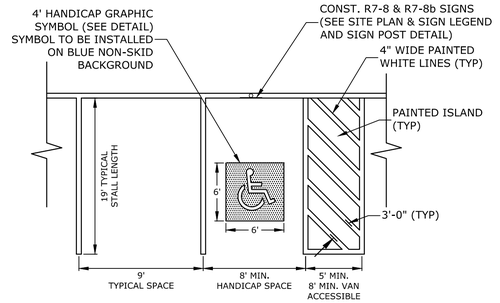


TYPICAL PARKING EQUIPMENT DETAILS
NO SCALE



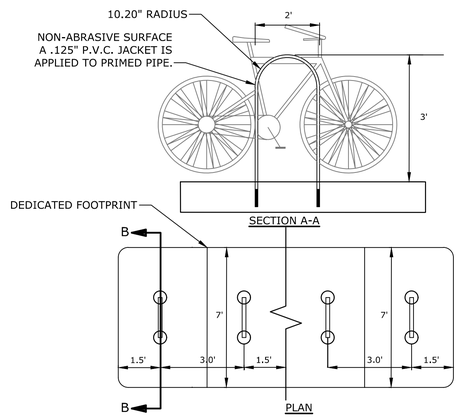
NOTE:
1. PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
2. STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

STOP BAR AND LEGEND
NO SCALE

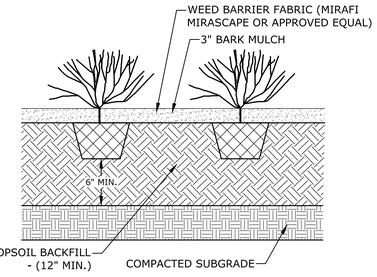


NOTE:
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
3. FINISH PAVEMENT GRADES AT ALL HANDICAP ACCESSIBLE STALLS AND PAINTED ACCESS AISLES SHALL NOT EXCEED 2% IN ANY DIRECTION.

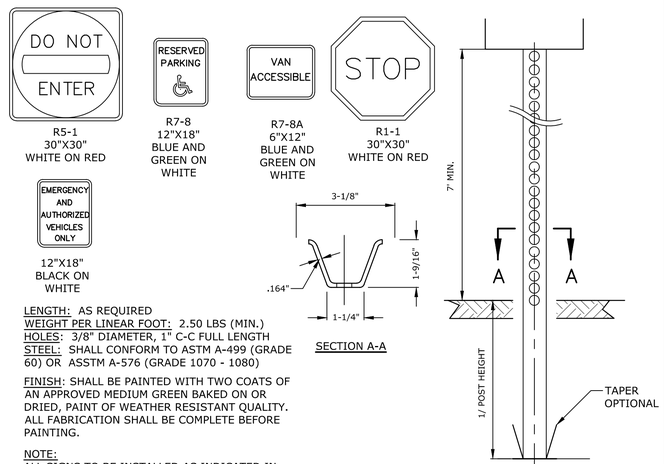
STALL STRIPING-SINGLE STRIPE
NO SCALE



BIKE RACK
NO SCALE



PERENNIAL PLANTING
NO SCALE

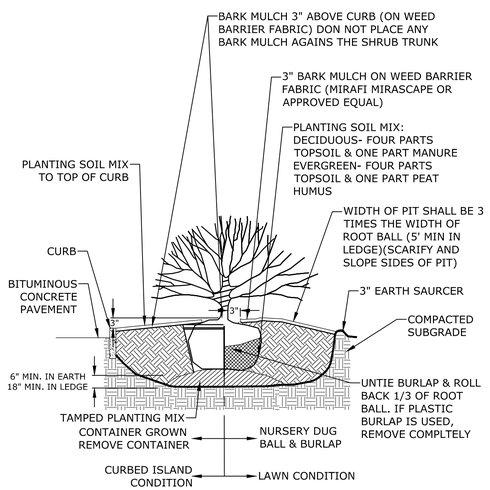


LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASSTM A-576 (GRADE 1070 - 1080)

FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN BAKED ON OR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

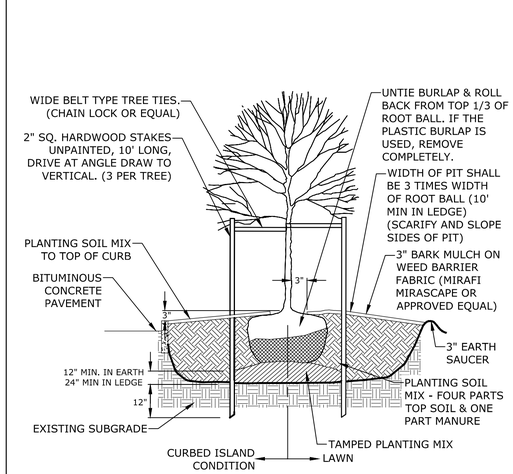
NOTE:
ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

SIGN LEGEND & SIGN POST
NO SCALE



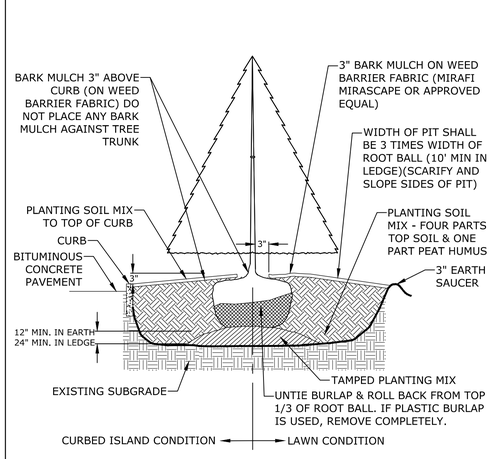
SHRUB PLANTING
NO SCALE

NOTE:
PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.



NOTE:
PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED OR WITHIN 2" ABOVE.

DECIDUOUS TREE PLANTING
NO SCALE



NOTE:
PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED IN NURSERY, OR WITHIN 2" ABOVE.

EVERGREEN TREE PLANTING
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — BRIAN L. MICHAUD — No. 13116 — LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12878 — LICENSED PROFESSIONAL ENGINEER — 11-6-18

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
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PROJECT NO:	L-0700-013
DATE:	04/03/2018
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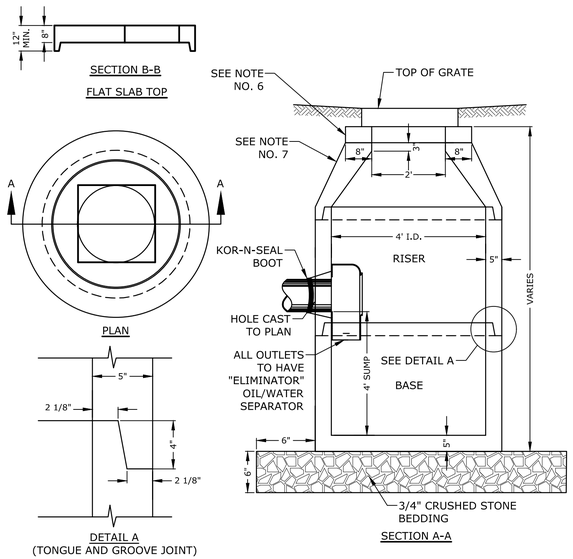
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEET

SCALE: AS SHOWN

C-503

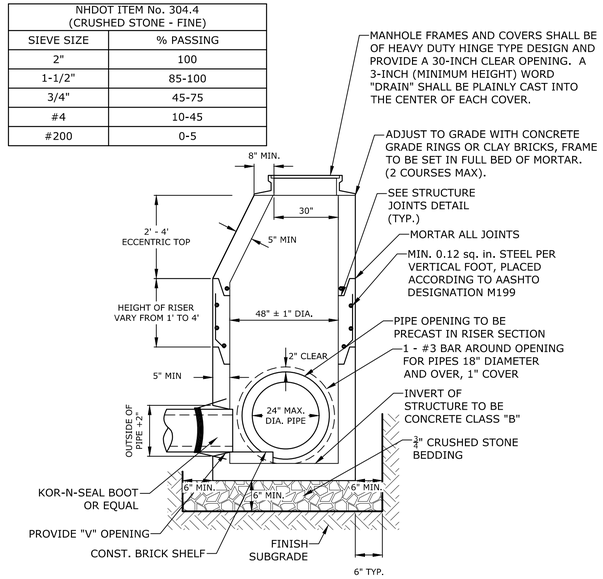
Last Save Date: November 5, 2018 2:00 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 2:00 PM By: nahansen
T&B File Location: J:\LL0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CD-501 to C-508.dwg Layout Tab: C-503



NOTES:
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).
7. CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
8. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
9. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
10. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
11. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
12. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.

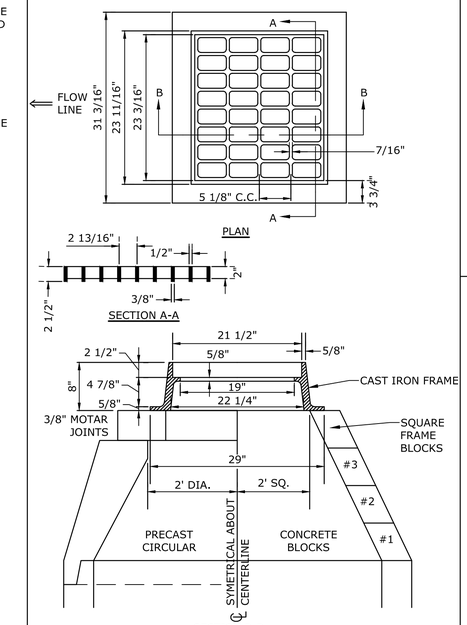
4' DIAMETER CATCHBASIN
NO SCALE

NHDOT ITEM No. 304.4 (CRUSHED STONE - FINE)	
SIEVE SIZE	% PASSING
2"	100
1-1/2"	85-100
3/4"	45-75
#4	10-45
#200	0-5



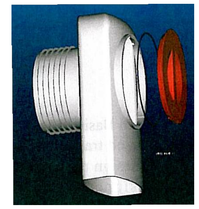
NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. CONSTRUCT CRUSHED STONE BEDDING AND BACKFILL UNDER (6" MINIMUM THICKNESS)
6. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
7. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
8. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
10. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZNTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.

4' DIAMETER DRAIN MANHOLE
NO SCALE



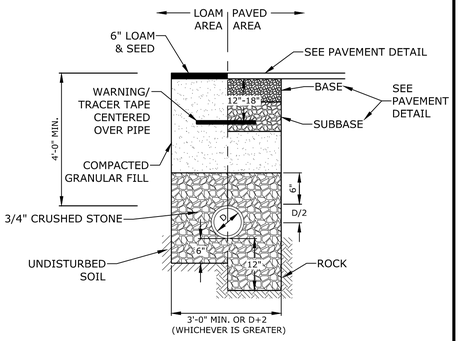
NOTE:
1. GRATE TO BE CAST IRON (NHDOT TYPE B ALTERNATE 1)
2. FRAME AND GRATE TO BE MANUFACTURED IN THE USA

CATCH BASIN FRAME & GRATE
NO SCALE



NOTES:
1. ALL CATCH BASIN OUTLETS TO HAVE "ELIMINATOR" OIL AND FLOATING DEBRIS TRAP MANUFACTURED BY KLEANSTREAM (NO EQUAL)
2. INSTALL DEBRIS TRAP TIGHT TO INSIDE OF STRUCTURE.
3. 1/4" HOLE SHALL BE DRILLED IN TOP OF DEBRIS TRAP

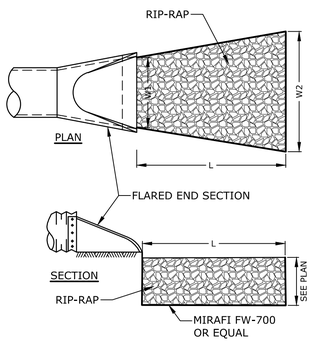
"ELIMINATOR" OIL FLOATING DEBRIS TRAP
NO SCALE



NOTE:
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.
2. ALL UTILITIES SHALL BE INSTALLED PER THE INDIVIDUAL UTILITY COMPANY STANDARDS. COORDINATE ALL INSTALLATIONS WITH INDIVIDUAL UTILITY COMPANIES AND THE CITY OF PORTSMOUTH.

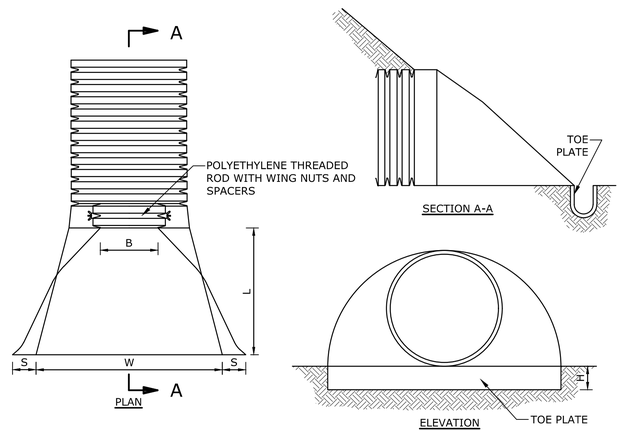
STORM DRAIN TRENCH
NO SCALE

NOTES:
1. STONE SIZE AND MAT DIMENSIONS DETAILED ON PLANS.
2. STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. FLAT OR ROUND ROCKS ARE NOT ACCEPTABLE. THE STONE SHALL BE HARD AND OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING, BE CHEMICALLY STABLE AND IT SHALL BE SUITABLE IN ALL OTHER RESPECTS FOR THE PURPOSE INTENDED. THE BULK SPECIFIC GRAVITY (SATURATED SURFACE-DRY BASIS) OF THE INDIVIDUAL STONES SHALL BE AT LEAST 2.5.



3. THE STONE SHALL BE COMPOSED OF A WELL-GRADED MIXTURE DOWN TO THE ONE-INCH SIZE PARTICLE SUCH THAT 50 PERCENT OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE D50 SIZE SPECIFIED. A WELL-GRADED MIXTURE IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZE BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE D50 SIZE.

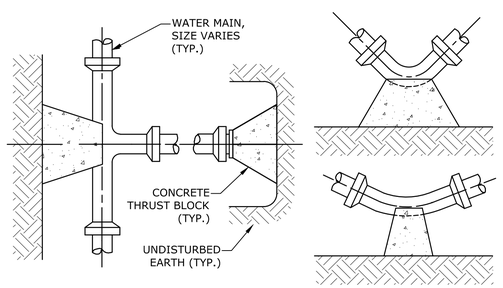
RIP-RAP APRON DETAIL
NO SCALE



PIPE DIA.	S	B	H	L	W
12"	6.5"	10"	6.5"	25"	29"
15"	6.5"	10"	6.5"	25"	29"
18"	7.5"	15"	6.5"	32"	35"
24"	7.5"	18"	6.5"	36"	45"
30"	7.5"	12"	8.6"	58"	63"
36"	7.5"	25"	8.6"	58"	63"

NOTE:
END SECTIONS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, COLUMBUS, OHIO. END SECTIONS TO BE WELDED TO PIPE AS PER MANUFACTURER'S RECOMMENDATIONS.

HDPE END SECTION
NO SCALE



TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL				
REACTION TYPE	PIPE SIZE				
	4"	6"	8"	10"	12"
A 90°	0.89	2.19	3.82	11.14	17.24
B 180°	0.65	1.55	2.78	8.38	12.00
C 45°	0.48	1.19	2.12	6.02	9.32
D 22-1/2°	0.25	0.60	1.06	3.08	4.74
E 11-1/4°	0.13	0.30	0.54	1.54	2.38

NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE WITH TOWN OF EXETER WATER DEPARTMENT STANDARDS.

THRUST BLOCKING DETAIL
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12876 LICENSED PROFESSIONAL ENGINEER 11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12876 LICENSED PROFESSIONAL ENGINEER 11-6-18

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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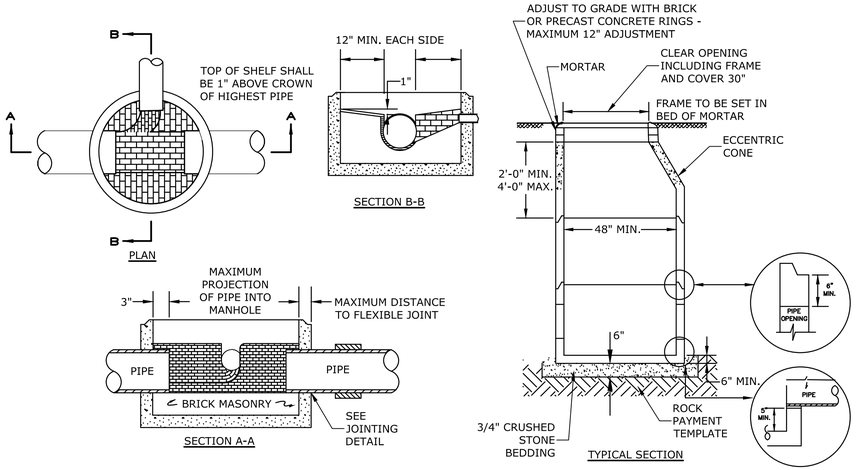
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEETS

SCALE: AS SHOWN

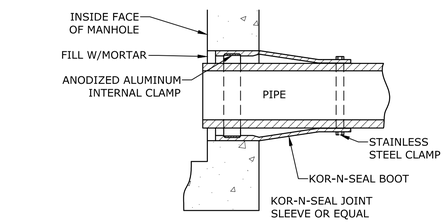
C-504

Last Save Date: November 5, 2018 2:00 PM By: NAHANSEN
Plot Date/Time: November 05, 2018 2:00 PM By: Nick A. Hansen
T&B File Location: J:\LL\0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L\0700-CD-501 to C-508.dwg Layout Tab: C-504

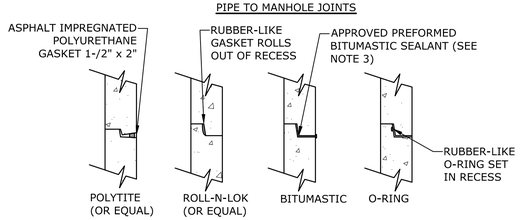


NOTES:
1. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
3. INVERT BRICKS SHALL BE LAID ON EDGE.
4. BITUMINOUS WATERPROOF COATING TO BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
5. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY EJ. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
6. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
7. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H20 LOADING, AND CONFORMING TO ASTM C478-06.

SEWER MANHOLE
NO SCALE



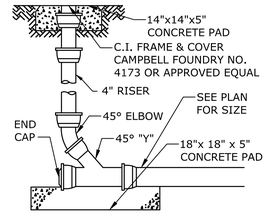
PIPE TO MANHOLE JOINTS



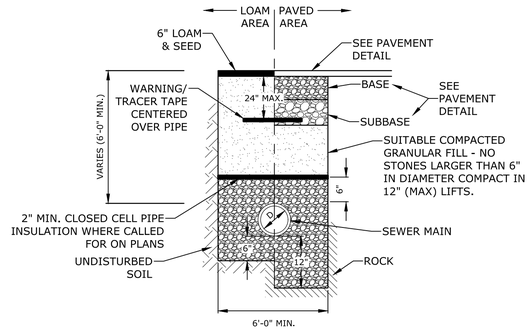
HORIZONTAL JOINTS

NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER TOWN OF EXETER DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
2. PIPE TO MANHOLE JOINTS SHALL BE PER TOWN OF EXETER STANDARD.
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

MANHOLE JOINTS
NO SCALE

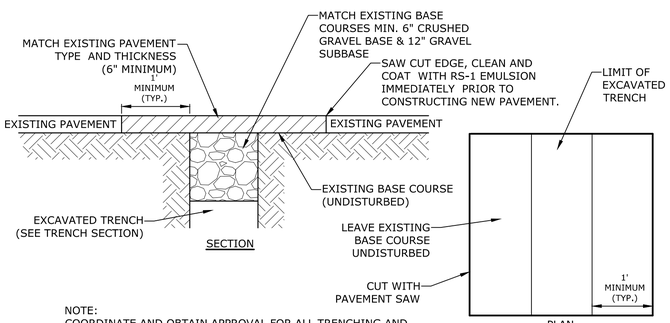


CLEAN-OUT
NO SCALE



NOTE:
1. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

TYPICAL SEWER TRENCH
NO SCALE



NOTE:
COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN CITY RIGHT OF WAY WITH TOWN OF EXETER DPW PRIOR TO COMMENCING WORK.

ROADWAY TRENCH PATCH
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12976 — LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12976 — LICENSED PROFESSIONAL ENGINEER — 11-6-18

Proposed Industrial Development

Lonza Biologics

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DETAILS SHEETS

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C-505

Last Save Date: November 5, 2018 2:00 PM By: NAHANSEN
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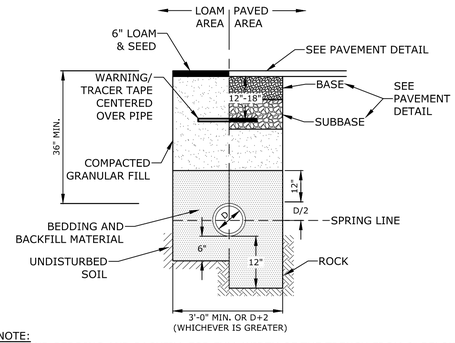
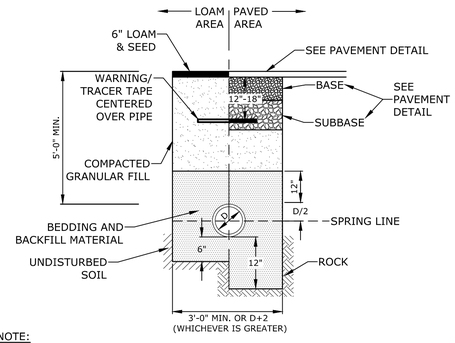
T&B File Location: J:\L\L0700 Lonza Biologics Expansion was 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CD-501 to C-508.dwg Layout Tab: C-505



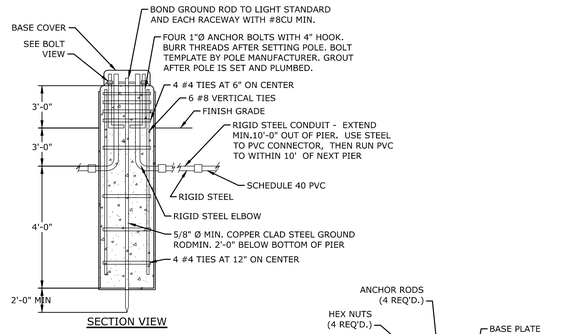
NOTE:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. GAS SHALL BE INSTALLED PER UNITIL STANDARDS. COORDINATE ALL INSTALLATIONS WITH UNITIL AND THE CITY OF PORTSMOUTH.

GAS TRENCH
NO SCALE



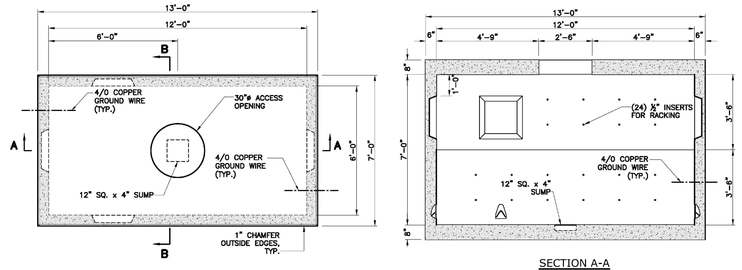
NOTE:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

WATER TRENCH
NO SCALE



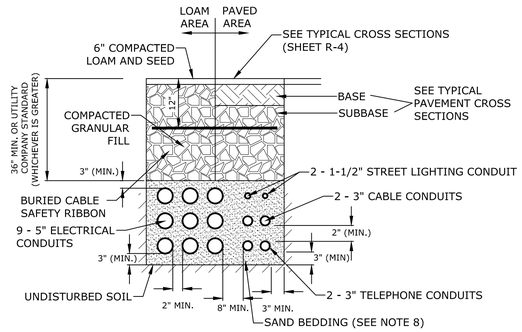
NOTES:
1. PAINT BASE SAFETY YELLOW (UNLESS PROTECTED BY CURBED ISLAND).
2. CONCRETE TO BE CLASS A, 4000 PSI, AIR ENTRAINED STEEL TO BE 60 KSI
3. REFER TO ELECTRICAL PLANS FOR WIRING DETAILS.
4. LIGHT POLE BASE DETAIL FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL, TO INCLUDE PERFORMANCE SPECIFICATIONS, CALCULATIONS AND NH LICENSED STRUCTURAL ENGINEER'S STAMP FOR LIGHT POLE FOUNDATION.

TYPICAL LIGHT POLE BASE
NO SCALE



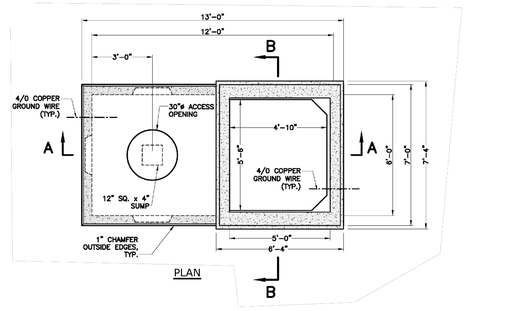
NOTES:
1. DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
2. CONCRETE MINIMUM STRENGTH - 5,000 PSI @ 28 DAYS
3. STEEL REINFORCEMENT - ASTM A615, GRADE 60
4. MINIMUM STEEL COVER - 1 INCH
5. DESIGN LOADING - AASHTO HS20-44
6. EXTERIOR COATING PROVIDED

TYPICAL ELECTRIC MANHOLE
NO SCALE



NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
8. SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, OR WHERE SHOWN ON THE UTILITIES PLAN.

ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE



NOTES:
1. DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
2. CONCRETE MINIMUM STRENGTH - 5,000 PSI @ 28 DAYS
3. STEEL REINFORCEMENT - ASTM A615, GRADE 60, 1" MIN. COVER
4. DESIGNED FOR HS20-44 LOADING
5. EXTERIOR COATING PROVIDED

SWITCH GEAR PAD AND MANHOLE
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12876 LICENSED PROFESSIONAL ENGINEER 11/6/18

STATE OF NEW HAMPSHIRE PATRICK M. CRIMMINS No. 12876 LICENSED PROFESSIONAL ENGINEER 11-6-18

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
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B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEETS

SCALE: AS SHOWN

C-506

Last Save Date: November 5, 2018 2:00 PM By: NAHANSEN
Revit Export Version: November 2, 2018 Revit Build: 20180201_1515(x64)
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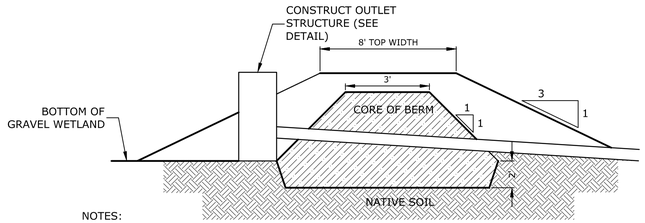
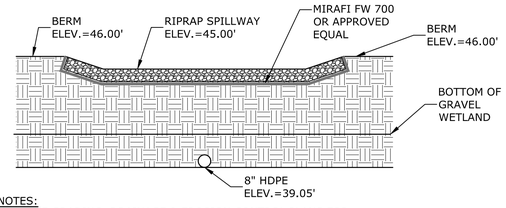


NOTES:
1. CORE MATERIAL SHALL MEET USGS CLASSIFICATION SC, SM, CL OR ML AND HAVE A MAXIMUM PARTICLE SIZE OF 3" AND A PERMEABILITY LESS THAN 0.000005 CM/S, AND MEET THE FOLLOWING GRADATION

SIEVE SIZE	PERCENT FINER BY WEIGHT
3 INCH	100
No. 200	50 -100.

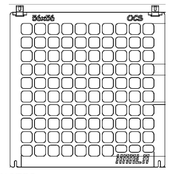
2. PIPE SHALL BE FULLY EMBEDDED IN CORE TO ELIMINATE SEEPAGE

CLAY CORE BERM
NO SCALE



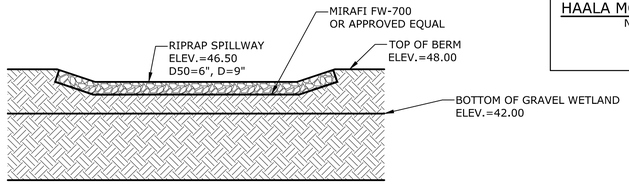
NOTES:
1. SEE GRADING, DRAINAGE & EROSION CONTROL PLANS FOR LOCATIONS AND ELEVATIONS.

GRAVEL WETLAND SPILLWAY
NO SCALE



NOTES:
1. OUTLET STRUCTURE GRATE SHALL BE HAALA INDUSTRIES, INC. MC56X56 TOP MOUNT GRATE OR EQUAL.
2. GRATE TO BE SECURED TO CONCRETE STRUCTURE.

HAALA MC56X56 GRATE
NO SCALE



NOTE:
SEE GRADING, DRAINAGE & EROSION CONTROL PLANS, SHEET C-110, FOR LOCATIONS AND ELEVATIONS.

RIPRAP OVERFLOW SPILLWAY
NO SCALE

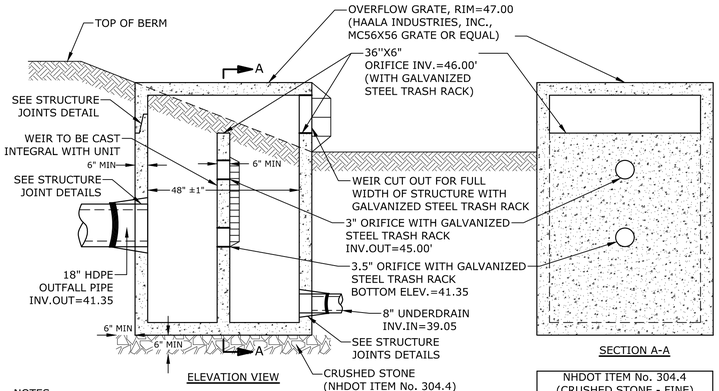
TYPICAL SECTION A-A VIEW

NOTES:
1. WETLAND SOIL SHALL BE A SANDY CLAY LOAM WITH A HYDRAULIC CONDUCTIVITY OF 0.1-0.01 FT/DAY. ORGANIC CONTENT SHALL BE GREATER THAN 15% BY VOLUME. CLAY CONTENT SHALL BE LESS THAN 15% BY VOLUME.
2. CONTRACTOR MAY REUSE EXISTING ON-SITE WETLAND SOILS. TESTING MUST BE PERFORMED BY THE CONTRACTOR PRIOR TO SOIL REUSE TO DETERMINE IF THE EXISTING WETLAND SOILS MEET THE CRITERIA LISTED IN NOTE 1. IF THE EXISTING SOILS DO NOT MEET THE CRITERIA OF WETLAND SOILS AS DEFINED IN NOTE 1 THEY MAY NOT BE REUSED.
3. INFILTRATION TESTING OF THE NATIVE SOILS AT THE SUBGRADE OF THE PROPOSED GRAVEL WETLAND SHALL OCCUR PRIOR TO THE INSTALLATION OF THE GRAVEL WETLAND AND SHALL BE COORDINATED WITH THE ENGINEER. IF THE NATIVE SOILS EXCEED A PERMEABILITY RATE OF 0.03 FT/DAY THE SOILS SHOULD AMENDED OR LOW PERMEABILITY LINER ADDED AS DETERMINED BY THE ENGINEER.
4. INFILTRATION TEST RESULTS SHALL BE SENT TO NHDES.
5. PERFORATED PVC RISERS SHALL HAVE VERTICAL SLOTS CUT INTO PVC RISERS ABOVE GRADE MEASURING 3"x1/8".

GRAVEL WETLAND
NO SCALE

AASHTO #67 STONE (#4 to 3/4")	
SIEVE SIZE	% PASSING
1"	100
3/4"	90-100
3/8"	20-55
#4	0-10
#8	0-5

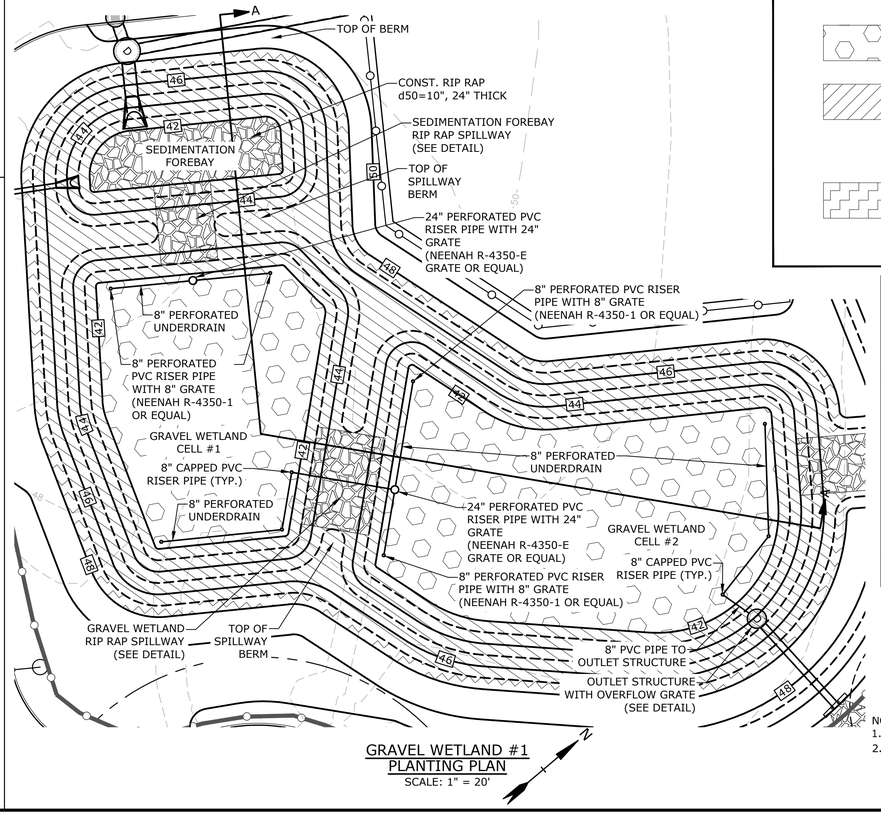
AASHTO #8 STONE (#8 to 3/8")	
SIEVE SIZE	% PASSING
1/2"	100
3/8"	85-100
#4	10-30
#8	0-10
#16	0-5



NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER OF THE THIRDE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

NHDOT ITEM No. 304.4 (CRUSHED STONE - FINE)	
SIEVE SIZE	% PASSING
2"	100
1-1/2"	85-100
3/4"	45-75
#4	10-45
#200	0-5

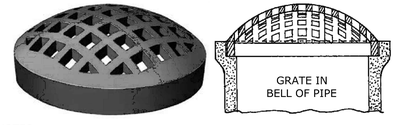
OUTLET STRUCTURE (POS100)
NO SCALE



GRAVEL WETLAND #1 PLANTING PLAN
SCALE: 1" = 20'

GRAVEL WETLAND PLANTING PLAN		
SPECIES	PLANT SIZE	QUANTITY/SPACING
NEW ENGLAND WETMIX, WETLAND SEED MIX OR EQUIVALENT		18LB/ACRE
"RED OSIER DOGWOOD" CORNUS SERICEA AND "SUMMERSWEET CLETHRA" CLETHRA ALNIFOLIA	2'-3'	8'-10' ON CENTER
"SILKY DOGWOOD" CORNUS AMOMUM AND "HIGHBUSH BLUEBERRY" VACCINIUM CORYMBOSUM AND "WINTERBERRY" ILEX VERTICILLATA	2'-3'	8'-10' ON CENTER

GRAVEL WETLAND INSPECTION / MAINTENANCE REQUIREMENTS		
INSPECTION / MAINTENANCE	FREQUENCY	ACTION
MONITOR TO ENSURE THAT GRAVEL WETLAND FUNCTIONS EFFECTIVELY AFTER STORMS	FOUR (4) TIMES ANNUALLY (QUARTERLY) AND AFTER ANY RAINFALL EVENT EXCEEDING 2.5" IN A 24-HR PERIOD	- TRASH AND DEBRIS TO BE REMOVED - ANY REQUIRED MAINTENANCE SHALL BE ADDRESSED - INSPECT SOIL AND REPAIR ERODED AREAS, ESPECIALLY ON SLOPES. - CHECK INLETS, OUTLETS, AND OVERFLOW SPILLWAY FOR BLOCKAGE, STRUCTURAL INTEGRITY AND EVIDENCE OF EROSION.
INSPECT VEGETATION	ANNUALLY	- INSPECT THE CONDITION OF ALL GRAVEL WETLAND VEGETATION - PRUNE BACK OVERGROWTH - REPLACE DEAD VEGETATION - REMOVE ANY INVASIVE SPECIES - COORDINATE WITH UNH STORMWATER CENTER FOR FURTHER VEGETATION MANAGEMENT GUIDELINES
INSPECT DRAWDOWN TIME - THE SYSTEM SHALL DRAWDOWN WITHIN 48-HOURS FOLLOWING A RAINFALL EVENT.	ANNUALLY	- HIRE QUALIFIED PROFESSIONAL TO ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE THE FILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER.



NOTES:
1. 8" GRAVEL WETLAND GRATES SHALL NEENAH R-4350-1 GRATE OR EQUAL.
2. 24" GRAVEL WETLAND GRATES SHALL NEENAH R-4350-E GRATE OR EQUAL.

NEENAH R-4350 SERIES GRATE
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — DANIEL P. RUSKOSKI — No. 273 — CERTIFIED WETLAND SCIENTIST — 11/6/18

STATE OF NEW HAMPSHIRE — PROFESSIONAL ENGINEER — LICENSED — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12878 — LICENSED PROFESSIONAL ENGINEER — 11-6-18

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEETS

SCALE: AS SHOWN

C-507

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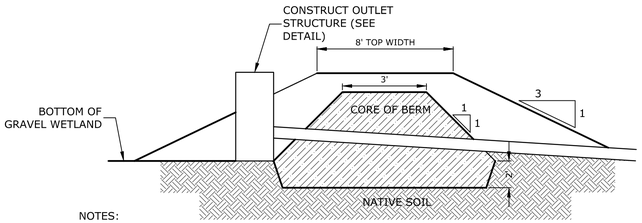
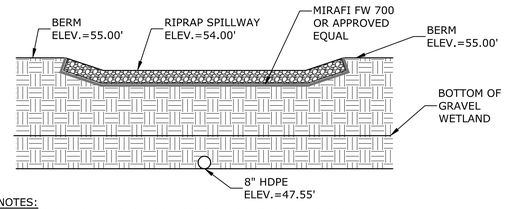


NOTES:
1. CORE MATERIAL SHALL MEET USGS CLASSIFICATION SC, SM, CL OR ML AND HAVE A MAXIMUM PARTICLE SIZE OF 3" AND A PERMEABILITY LESS THAN 0.000005 CM/S, AND MEET THE FOLLOWING GRADATION

SIEVE SIZE	PERCENT FINER BY WEIGHT
3 INCH	100
No. 200	50 -100.

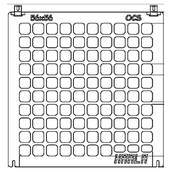
2. PIPE SHALL BE FULLY EMBEDDED IN CORE TO ELIMINATE SEEPAGE

CLAY CORE BERM
NO SCALE



NOTES:
1. SEE GRADING, DRAINAGE & EROSION CONTROL PLANS FOR LOCATIONS AND ELEVATIONS.

GRAVEL WETLAND SPILLWAY
NO SCALE



NOTES:
1. OUTLET STRUCTURE GRATE SHALL BE HAALA INDUSTRIES, INC. MC56X56 TOP MOUNT GRATE OR EQUAL.
2. GRATE TO BE SECURED TO CONCRETE STRUCTURE.

HAALA MC56X56 GRATE
NO SCALE

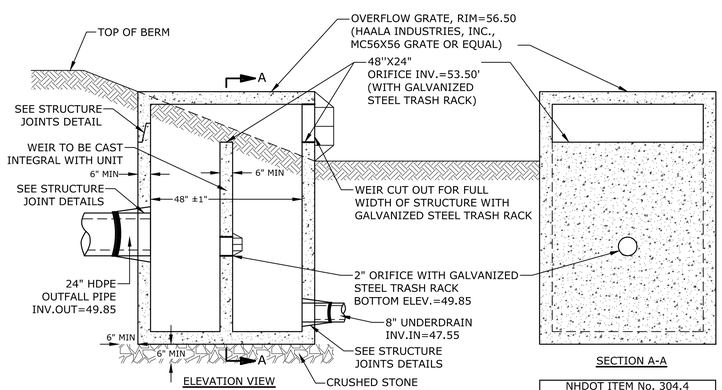
TYPICAL SECTION A-A VIEW

AASHTO #67 STONE (#4 to 3/4")	
SIEVE SIZE	% PASSING
1"	100
3/4"	90-100
3/8"	20-55
#4	0-10
#8	0-5

AASHTO #8 STONE (#8 to 3/8")	
SIEVE SIZE	% PASSING
1/2"	100
3/8"	85-100
#4	10-30
#8	0-10
#16	0-5

NOTES:
1. WETLAND SOIL SHALL BE A SANDY CLAY LOAM WITH A HYDRAULIC CONDUCTIVITY OF 0.1-0.01 FT/DAY. ORGANIC CONTENT SHALL BE GREATER THAN 15% BY VOLUME. CLAY CONTENT SHALL BE LESS THAN 15% BY VOLUME.
2. CONTRACTOR MAY REUSE EXISTING ON-SITE WETLAND SOILS. TESTING MUST BE PERFORMED BY THE CONTRACTOR PRIOR TO SOIL REUSE TO DETERMINE IF THE EXISTING WETLAND SOILS MEET THE CRITERIA LISTED IN NOTE 1. IF THE EXISTING SOILS DO NOT MEET THE CRITERIA OF WETLAND SOILS AS DEFINED IN NOTE 1 THEY MAY NOT BE REUSED.
3. INFILTRATION TESTING OF THE NATIVE SOILS AT THE SUBGRADE OF THE PROPOSED GRAVEL WETLAND SHALL OCCUR PRIOR TO THE INSTALLATION OF THE GRAVEL WETLAND AND SHALL BE COORDINATED WITH THE ENGINEER. IF THE NATIVE SOILS EXCEED A PERMEABILITY RATE OF 0.03 FT/DAY THE SOILS SHOULD AMENDED OR LOW PERMEABILITY LINER ADDED AS DETERMINED BY THE ENGINEER.
4. INFILTRATION TEST RESULTS SHALL BE SENT TO NHDES.
5. PERFORATED PVC RISERS SHALL HAVE VERTICAL SLOTS CUT INTO PVC RISERS ABOVE GRADE MEASURING 3"x1/8".

GRAVEL WETLAND
NO SCALE

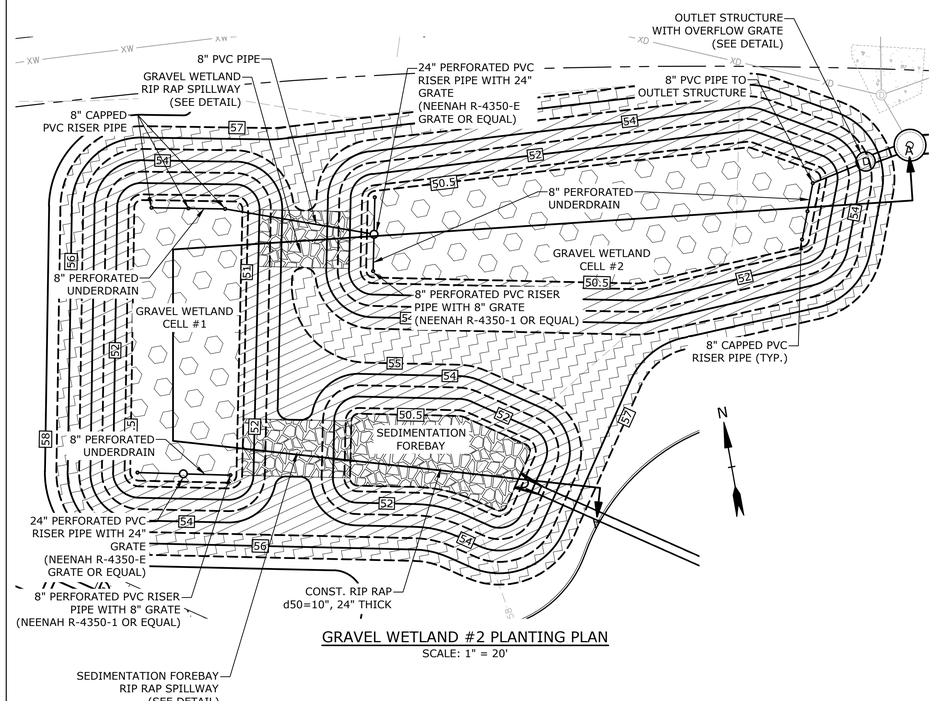


SECTION A-A

NHDOT ITEM No. 304.4 (CRUSHED STONE - FINE)	
SIEVE SIZE	% PASSING
2"	100
1-1/2"	85-100
3/4"	45-75
#4	10-45
#200	0-5

NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER OF THE THIRDE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

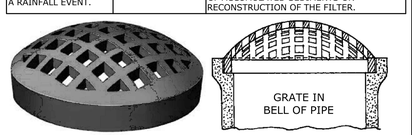
OUTLET STRUCTURE (POS200)
NO SCALE



GRAVEL WETLAND #2 PLANTING PLAN
SCALE: 1" = 20'

GRAVEL WETLAND PLANTING PLAN		
SPECIES	PLANT SIZE	QUANTITY/SPACING
NEW ENGLAND WETMIX, WETLAND SEED MIX OR EQUIVALENT		18LB/ACRE
"RED OSIER DOGWOOD" CORNUS SERICEA AND "SUMMERSWEET CLETHRA" CLETHRA ALNIFOLIA	2'-3'	8'-10' ON CENTER
"SILKY DOGWOOD" CORNUS AMOMUM AND "HIGHBUSH BLUEBERRY" VACCINIUM CORYMBOSUM AND "WINTERBERRY" ILEX VERTICILLATA	2'-3'	8'-10' ON CENTER

GRAVEL WETLAND INSPECTION / MAINTENANCE REQUIREMENTS		
INSPECTION / MAINTENANCE	FREQUENCY	ACTION
MONITOR TO ENSURE THAT GRAVEL WETLAND FUNCTIONS EFFECTIVELY AFTER STORMS	FOUR (4) TIMES ANNUALLY (QUARTERLY) AND AFTER ANY RAINFALL EVENT EXCEEDING 2.5" IN A 24-HR PERIOD	- TRASH AND DEBRIS TO BE REMOVED - ANY REQUIRED MAINTENANCE SHALL BE ADDRESSED - INSPECT SOIL AND REPAIR ERODED AREAS, ESPECIALLY ON SLOPES. - CHECK INLETS, OUTLETS, AND OVERFLOW SPILLWAY FOR BLOCKAGE, STRUCTURAL INTEGRITY AND EVIDENCE OF EROSION.
INSPECT VEGETATION	ANNUALLY	- INSPECT THE CONDITION OF ALL GRAVEL WETLAND VEGETATION - PRUNE BACK OVERGROWTH - REPLACE DEAD VEGETATION - REMOVE ANY INVASIVE SPECIES - COORDINATE WITH UNH STORMWATER CENTER FOR FURTHER VEGETATION MANAGEMENT GUIDELINES
INSPECT DRAWDOWN TIME - THE SYSTEM SHALL DRAWDOWN WITHIN 48-HOURS FOLLOWING A RAINFALL EVENT.	ANNUALLY	- HIRE QUALIFIED PROFESSIONAL TO ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE THE FILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER.



NOTES:
1. 8" GRAVEL WETLAND GRATES SHALL NEENAH R-4350-1 GRATE OR EQUAL.
2. 24" GRAVEL WETLAND GRATES SHALL NEENAH R-4350-E GRATE OR EQUAL.

NEENAH R-4350 SERIES GRATE
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — DANIEL P. RUSKOSKI — No. 273 — CERTIFIED WETLAND SCIENTIST — 11/6/18

STATE OF NEW HAMPSHIRE — BRIAN L. MAYNARD — No. 13076 — LICENSED PROFESSIONAL ENGINEER — 11/6/18

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS — No. 12876 — LICENSED PROFESSIONAL ENGINEER — 11-6-18

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
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APPROVED:	BLM

DETAILS SHEETS

SCALE: AS SHOWN

C-508

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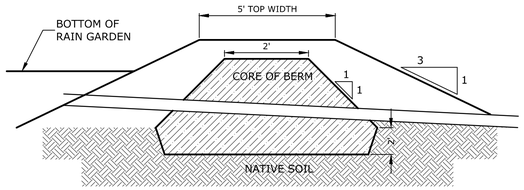
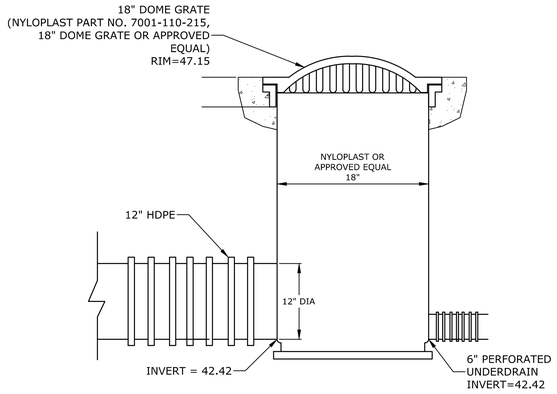


NOTES:
1. CORE MATERIAL SHALL MEET USGS CLASSIFICATION SC, SM, CL OR ML AND HAVE A MAXIMUM PARTICLE SIZE OF 3" AND A PERMEABILITY LESS THAN 0.000005 CM/S, AND MEET THE FOLLOWING GRADATION

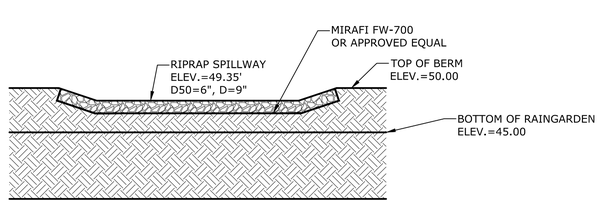
SIEVE SIZE	PERCENT FINER BY WEIGHT
3 INCH	100
No. 200	50 -100.

2. PIPE SHALL BE FULLY EMBEDDED IN CORE TO ELIMINATE SEEPAGE

CLAY CORE BERM
NO SCALE

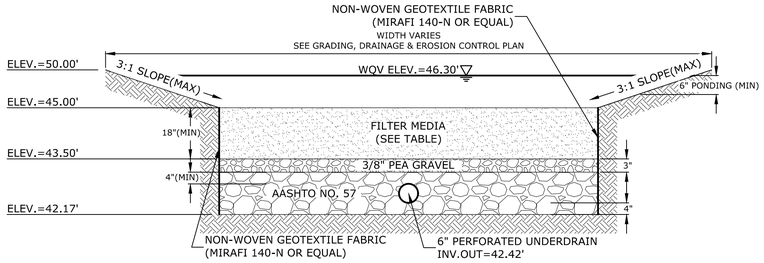


OUTLET STRUCTURE DETAIL (POS300)
NO SCALE



NOTE:
SEE GRADING, DRAINAGE & EROSION CONTROL PLANS, SHEET C-110, FOR LOCATIONS AND ELEVATIONS.

RIPRAP OVERFLOW SPILLWAY
NO SCALE



SECTION VIEW

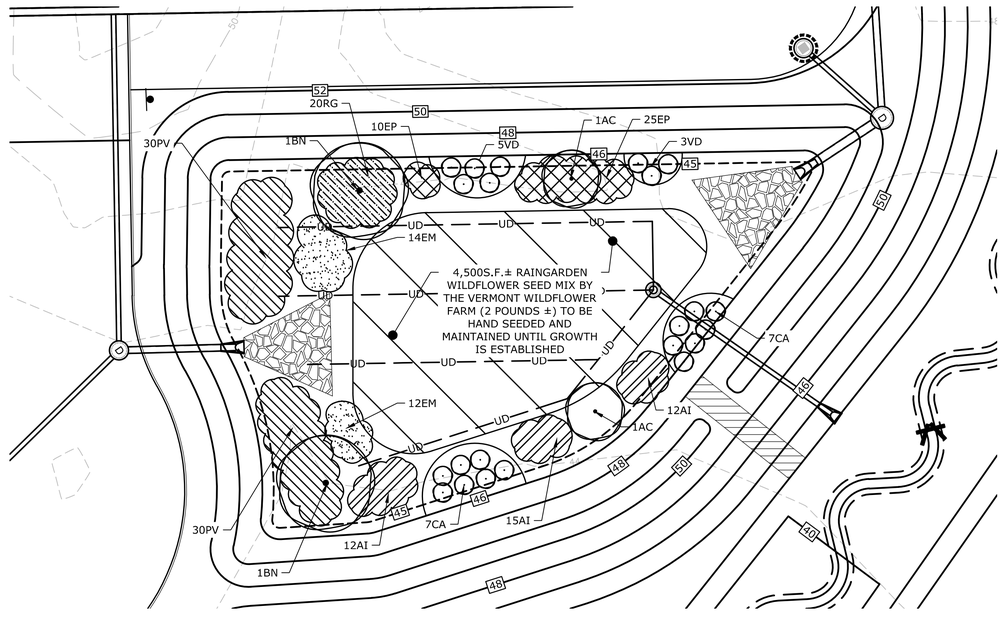
FILTER MEDIA COMPOSITION:

COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL SIEVE NO.	PERCENT PASSING
ASTM C-33 CONCRETE SAND	50-55	SEE NOTE #5	
LOAMY SAND TOPSOIL	20-30	200	15-25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH	20-30	200	5 MAX.

NOTES:
1. RAIN GARDENS SHALL NOT BE PLACED INTO SERVICE UNTIL THE PRACTICE HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
2. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. CONTRACTOR SHALL KEEP ALL EXCAVATION EQUIPMENT OUTSIDE OF THE LIMIT OF THE RAIN GARDEN.
3. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR LOCATIONS, LAYOUTS, AND ELEVATIONS.
4. THE SAND PORTION OF THE FILTER MEDIA SHALL MEET THE FOLLOWING GRADATION (ASTM C-33):

SIEVE SIZE	PERCENT PASSING
3/8"	100
#4	95-100
#8	80-100
#16	50-85
#30	25-60
#50	5-30
#100	0-10

RAIN GARDEN
NO SCALE



RAIN GARDEN PLANTING PLAN
SCALE: 1" = 20'

RAINGARDEN PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES				
BN	BETULA NIGRA	RIVER BIRCH	12 - 14' HT	B & B (CLUMP)
AC	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	6 - 7' HT	B & B (CLUMP)
SHRUBS				
VD	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	5 GALLON	CONTAINER
CA	CLETHRA ALNIFOLIA	SUMMERSWEET CLETHERA	5 GALLON	CONTAINER
PERENNIALS				
PV	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	3 GALLON	CONTAINER
EM	EUPATORIUM MACULATUM	JOE PYE WEED	2 GALLON	CONTAINER
AI	ASCLEPIAS INCARNATA	MARSH MILKWEED	2 GALLON	CONTAINER
RG	RUDBECKIA 'GOLDSTURM'	GOLDSTURM BLACKEYED SUSAN	1 GALLON	CONTAINER
EP	ECHINACEA 'PURPUREA'	PURPLE CONEFLOWER	1 GALLON	CONTAINER

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STATE OF NEW HAMPSHIRE
DANIEL P. RUSKAUSKI
No. 273
CERTIFIED WETLAND SCIENTIST
11/6

STATE OF NEW HAMPSHIRE
PROFESSIONAL ENGINEER
LICENSED
11/6/18

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 12879
LICENSED
PROFESSIONAL ENGINEER
11.6.18

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

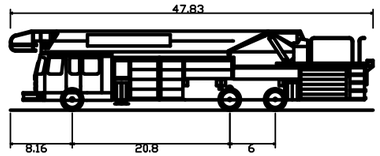
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEETS

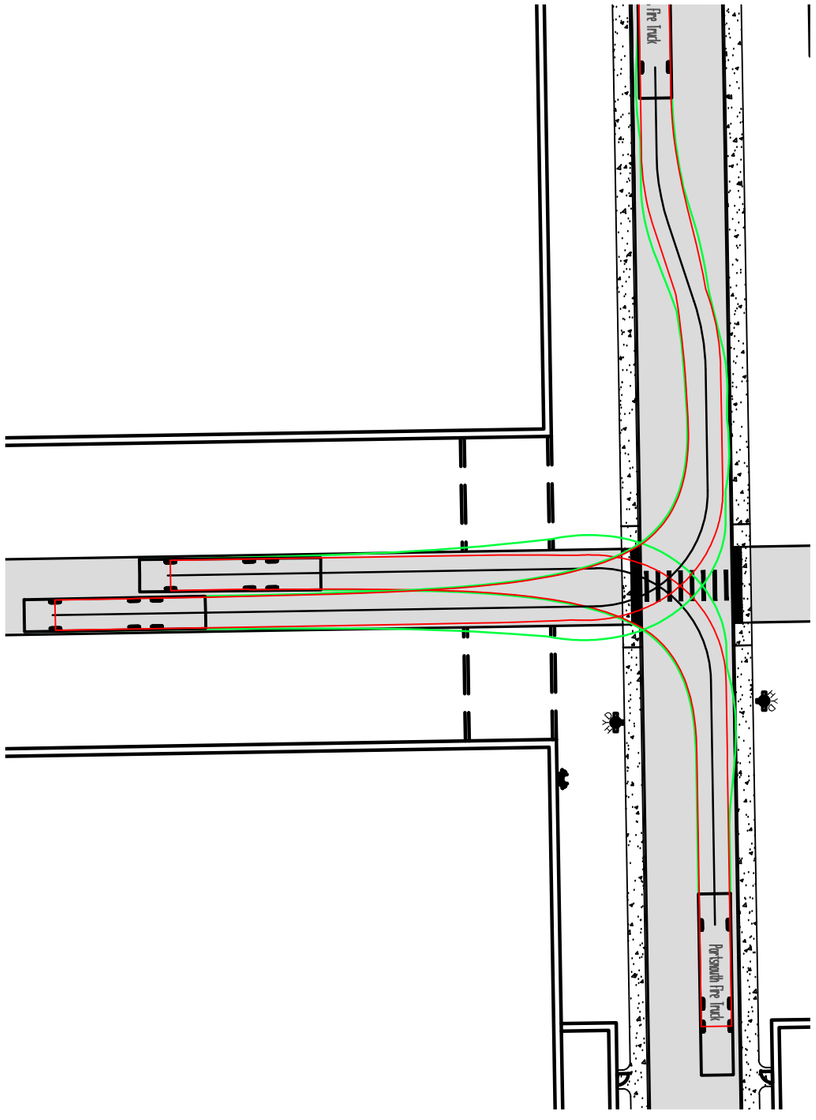
SCALE: AS SHOWN

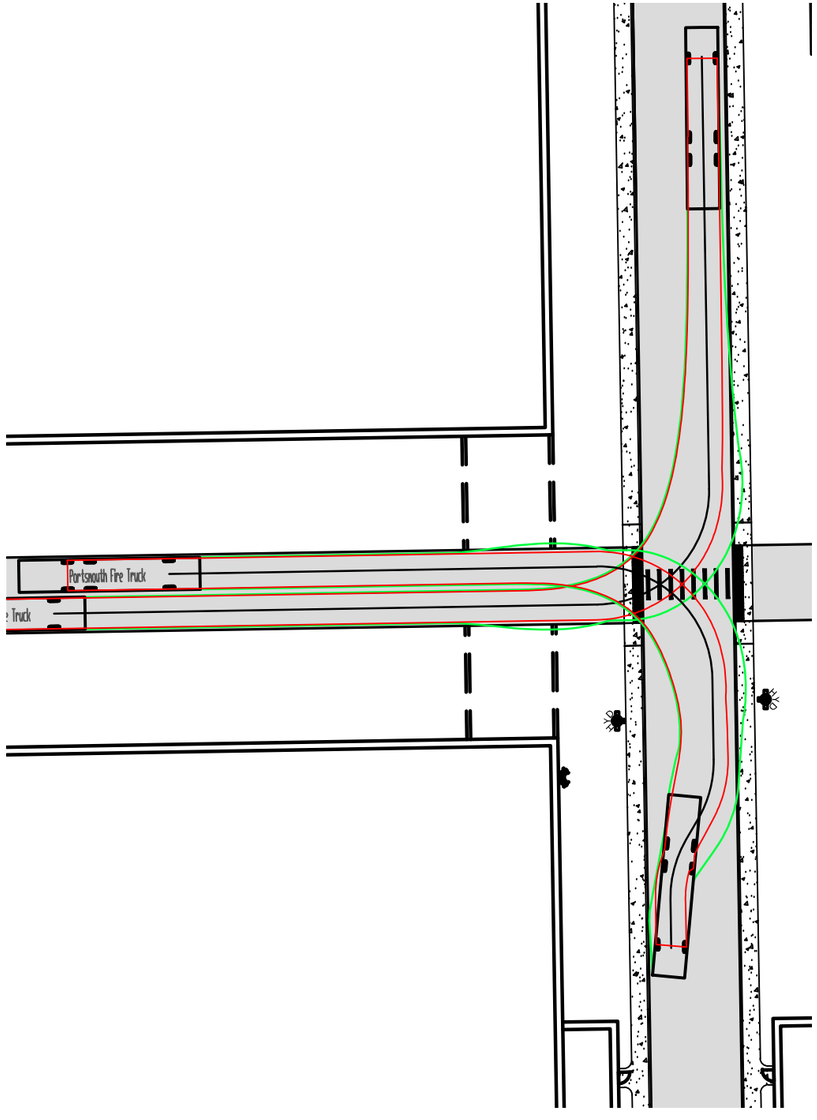
C-509

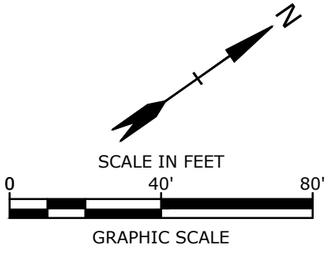
Last Save Date: November 5, 2018 2:00 PM By: NAHANSEN
Plot Date: Monday, November 05, 2018 2:00 PM By: Nicholas Hansen
T&B File Location: J:\1\L0700 Lonza Biologics Expansion wab 1576F\013 Iron Parcel Redevelopment\Drawings, Figures\AutoCAD\Sheet\L0700-CD-501 to C-508.dwg Layout Tab: C-509



Portsmouth Fire Truck	
Overall Length	47.830ft
Overall Width	8.500ft
Overall Body Height	10.432ft
Min Body Ground Clearance	0.862ft
Track Width	8.000ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	38.00°







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Proposed Industrial Development

Lonza Biologics

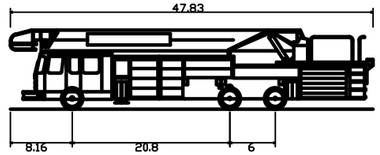
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
A	8/21/2018	Fire Truck Turning Exhibits
PROJECT NO:		L-0700-013
FILE:		L0700-CS-104 to C-107.dwg
DRAWN BY:		NAH
CHECKED:		PMC
APPROVED BY:		BLM

FIRE TRUCK TURNING EXHIBIT

SCALE: AS SHOWN

FILENAME: J:\L0700 LONZA BIOLOGICS EXPANSION WAS 157NF\013 IRON PARCEL REDEVELOPMENT\DRAWINGS_FIGURES\AUTOCAD\SHEET\L0700-CS-104 TO C-107.DWG
SAVE DATE: 8/20/2018 9:56 AM
PLOT DATE: 8/21/2018 11:28 AM



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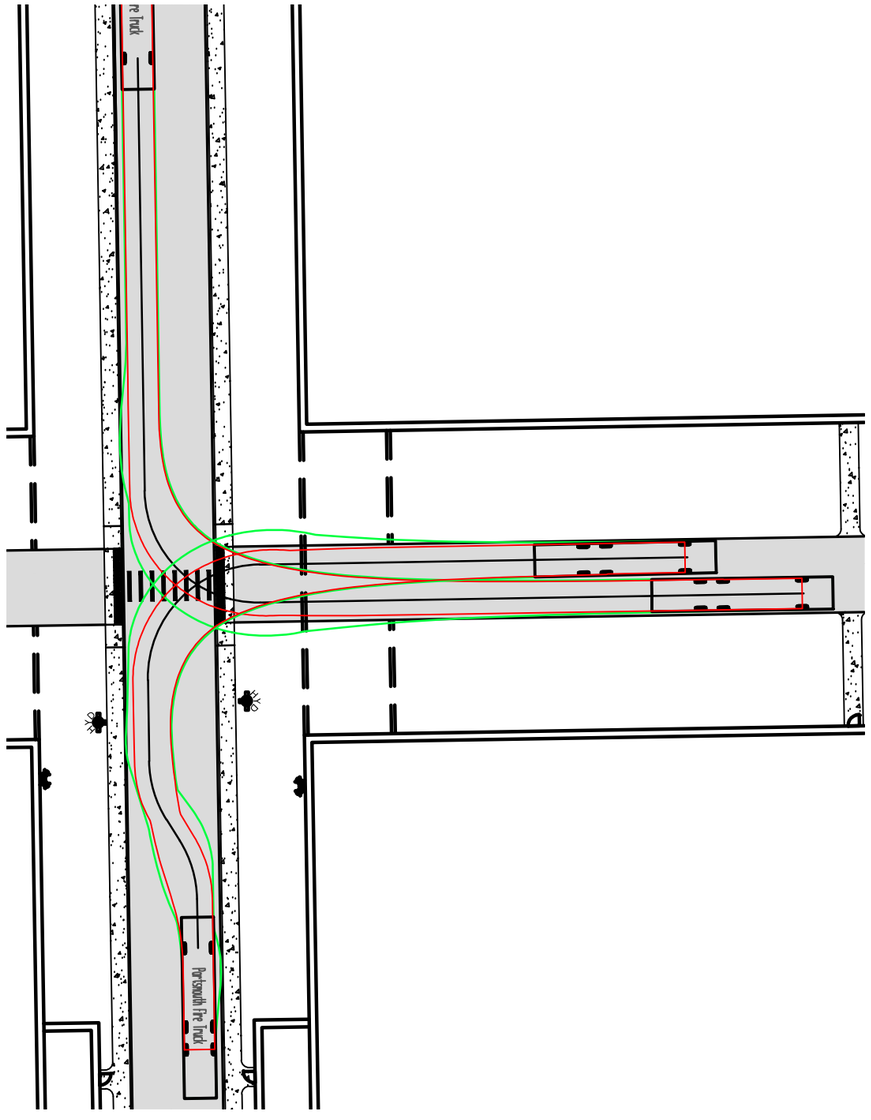

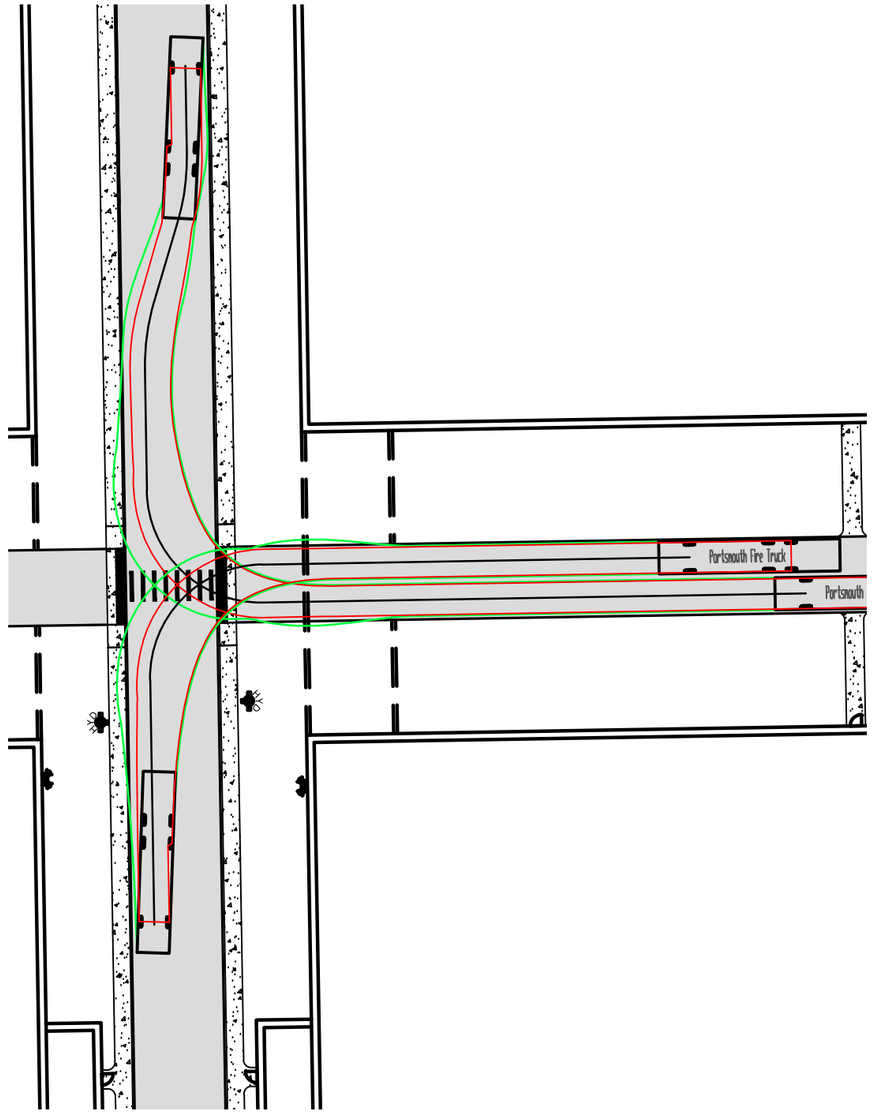

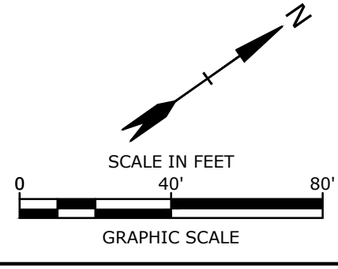

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Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
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PROJECT NO:	L-0700-013
FILE:	L0700-CS-104 to C-107.dwg
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED BY:	BLM

FIRE TRUCK TURNING EXHIBIT

SCALE: AS SHOWN

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SAVE DATE: 8/20/2018 9:56 AM
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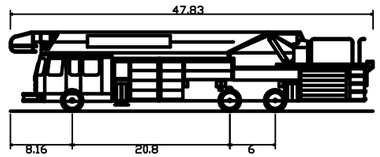

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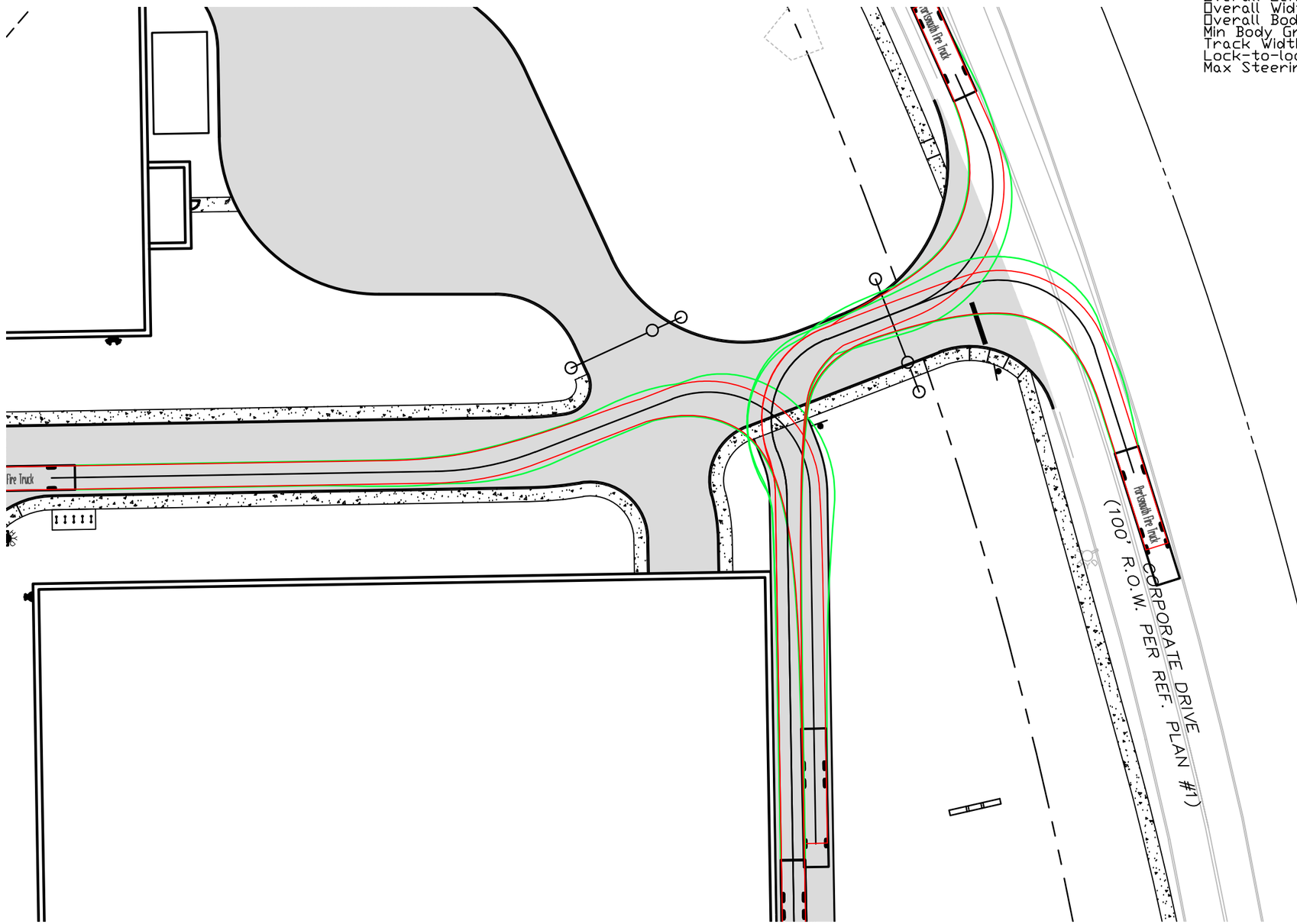

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
A	8/21/2018	Fire Truck Turning Exhibits

PROJECT NO:	L-0700-013
FILE:	L0700-CS-104 to C-107.dwg
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FIRE TRUCK TURNING EXHIBIT

SCALE: AS SHOWN

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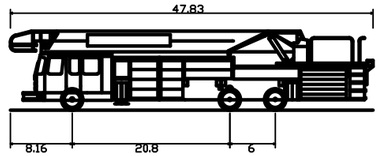

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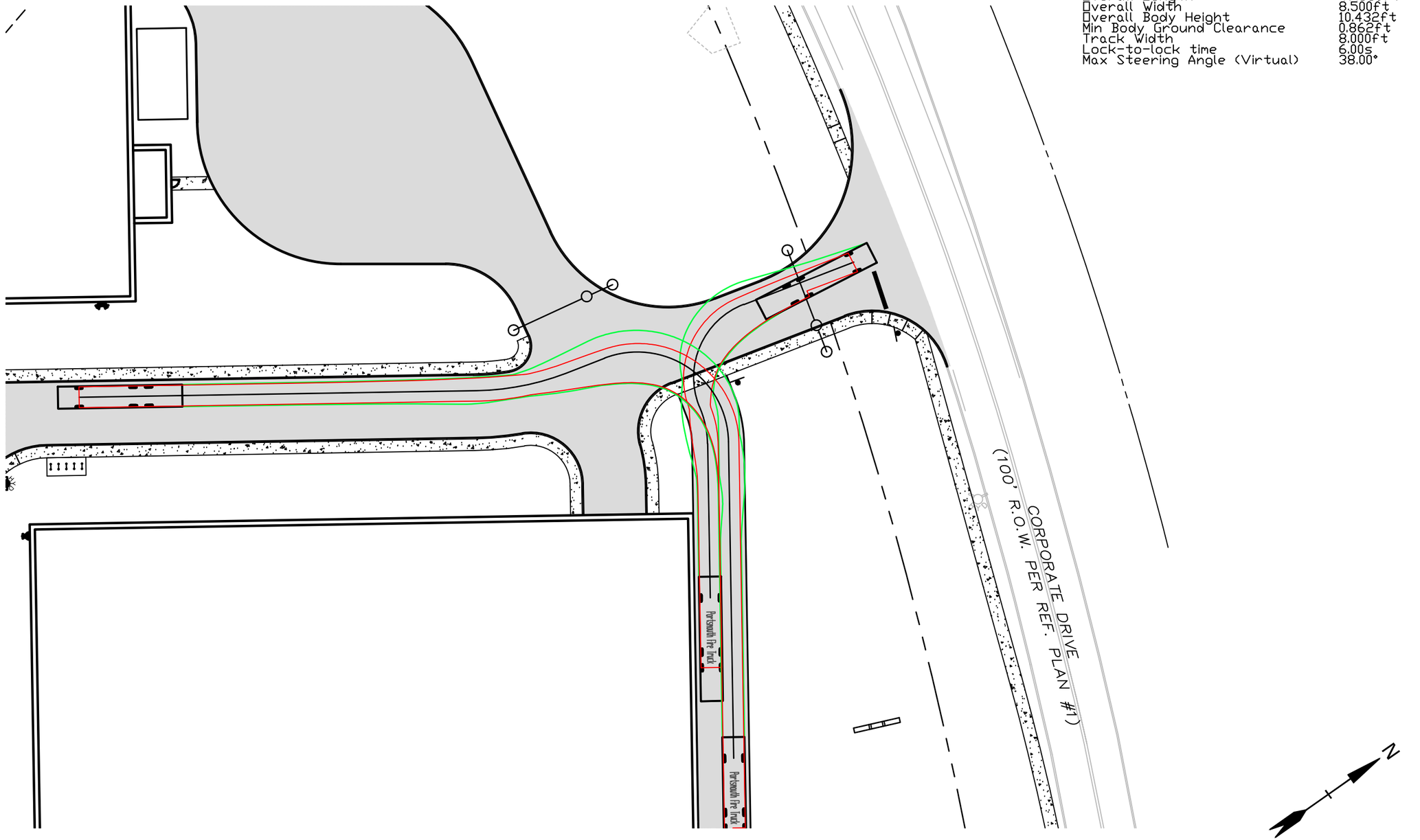

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Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

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FIRE TRUCK TURNING EXHIBIT

SCALE: AS SHOWN

4 OF 5

FILENAME: J:\L\L0700 LONZA BIOLOGICS EXPANSION WAS 1576F\013 IRON PARCEL REDEVELOPMENT\DRAWINGS_FIGURES\AUTOCAD\SHEET\L0700-CS-104 TO C-107.DWG
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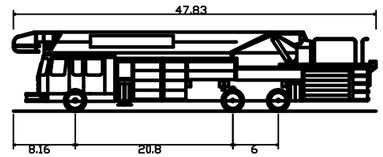

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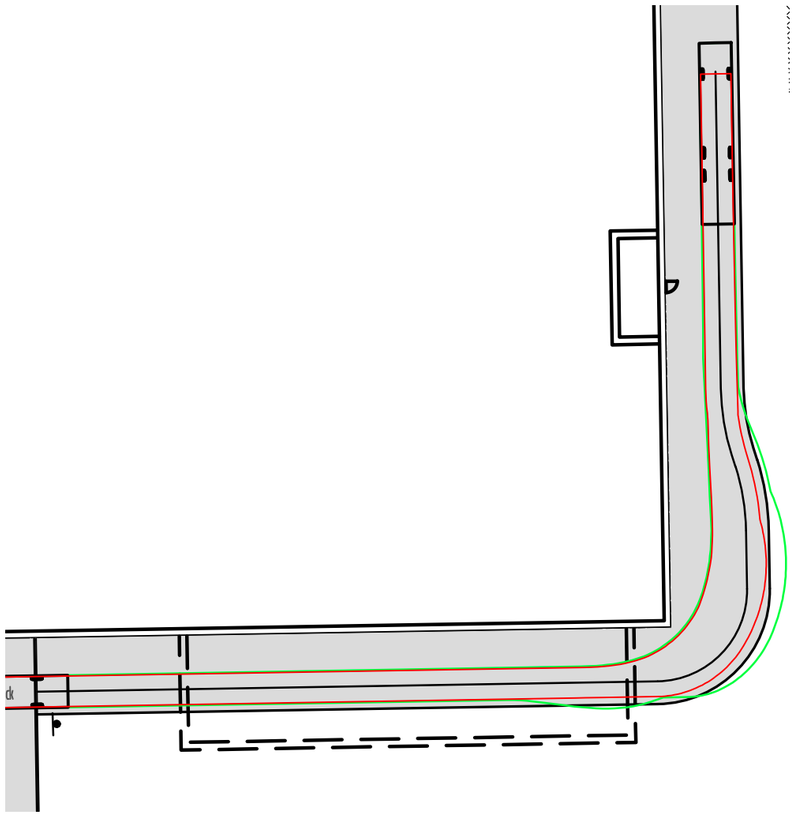

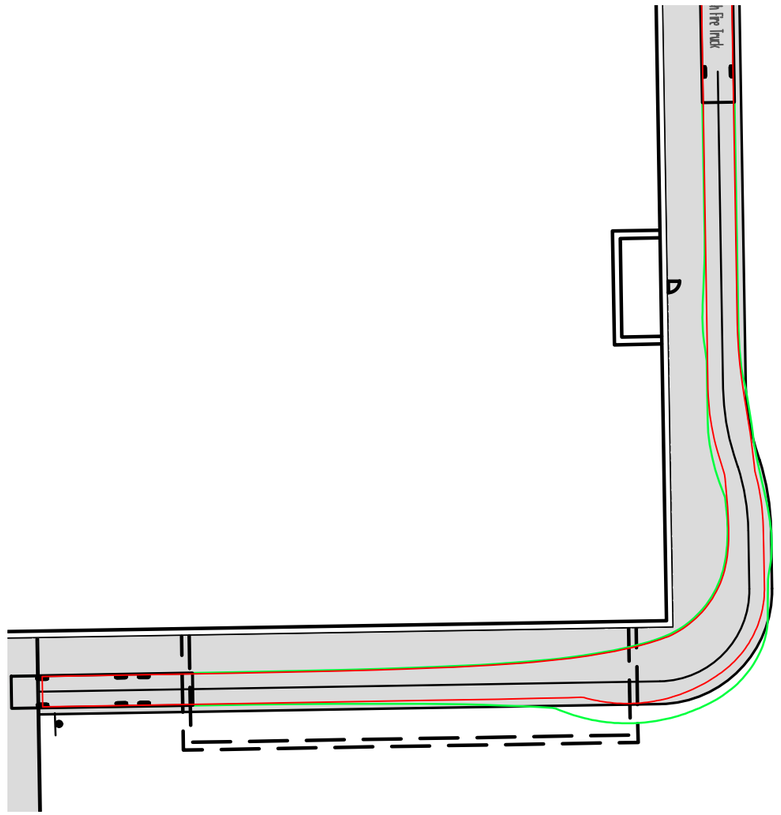

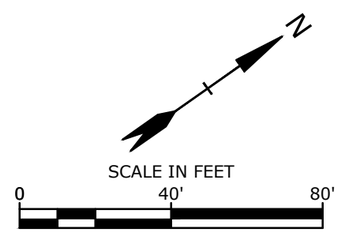

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Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
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APPROVED BY:	BLM

FIRE TRUCK TURNING EXHIBIT

SCALE: AS SHOWN

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HODGSON STREAM RESTORATION AREA (±47,000 SF)

PROPOSED GRAVEL WETLAND #2

PROPOSED 4-STORY PARKING GARAGE #2 325 SPACES F.F=58.0

WETLAND IMPACT AREA #2: 1,189 SF (PEM1F)

PROPOSED BUILDING #2 BUILDING HEIGHT = 105 FT 426,000± SF F.F=56.5

PROPOSED RAIN GARDEN #1

WETLAND IMPACT AREA #4: 11,443 SF (PSS/EM1E)

WETLAND IMPACT AREA #1: 17,628 SF (PSS/EM1E)

PROPOSED BUILDING #3 BUILDING HEIGHT = 105 FT 189,900± SF F.F=62.0

PROPOSED 4-STORY PARKING GARAGE #1 375 SPACES F.F=58.0

WETLAND IMPACT AREA #3: 20,204 SF (PEM1E)

PROPOSED BUILDING #1 BUILDING HEIGHT = 105 FT 430,720± SF F.F=56.5

PROPOSED GRAVEL WETLAND #1

SCALE IN FEET
0 100' 200'
GRAPHIC SCALE

N

LONZA BIOLOGICS - PROPOSED INDUSTRIAL DEVELOPMENT
PORTSMOUTH, NEW HAMPSHIRE

Tighe&Bond
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November 5, 2018
L0700-CS-OVERALL_CLR.dwg

PLOT DATE: TUESDAY, NOVEMBER 06, 2018 PLOTTED BY: BARBARA J. LAMB
T&B File Location: J:\LL0700 Lonza Biologics Expansion was 1576P\COLORDWG\LL0700-CS-OVERALL_CLR 11-05-18.dwg Layout Tab: AERIAL

LONZA BIOLOGICS
IRON PARCEL
PORTSMOUTH, NEW HAMPSHIRE

LAND AREA EXHIBIT

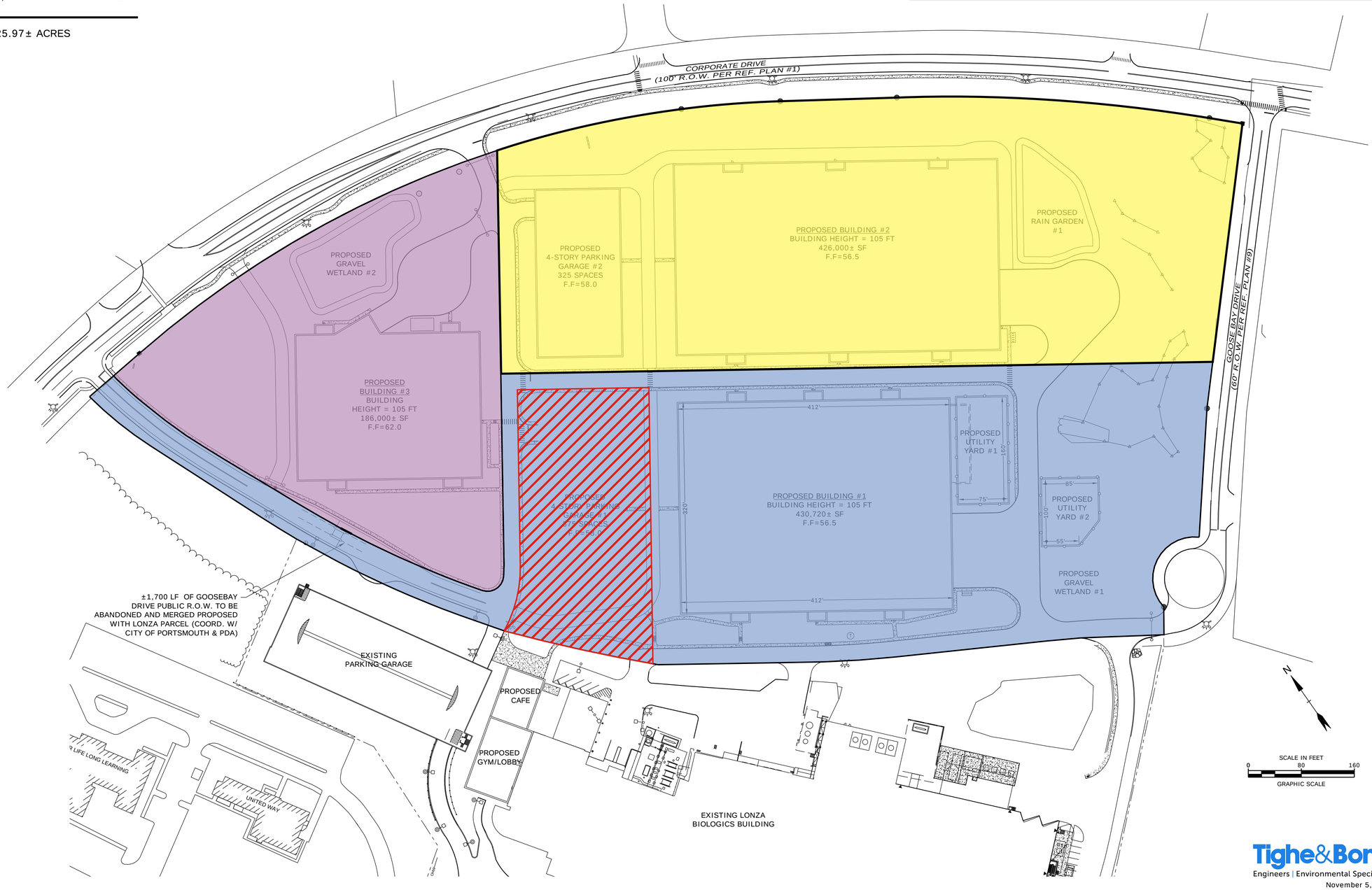
LAND AREA #1 = 474,577± SF = 10.89± ACRES

GARAGE LAND AREA = 79,199± SF

LAND AREA #2 = 429,236± SF = 9.85± ACRES

LAND AREA #3 = 228,031± SF = 5.23± ACRES

TOTAL = 25.97± ACRES



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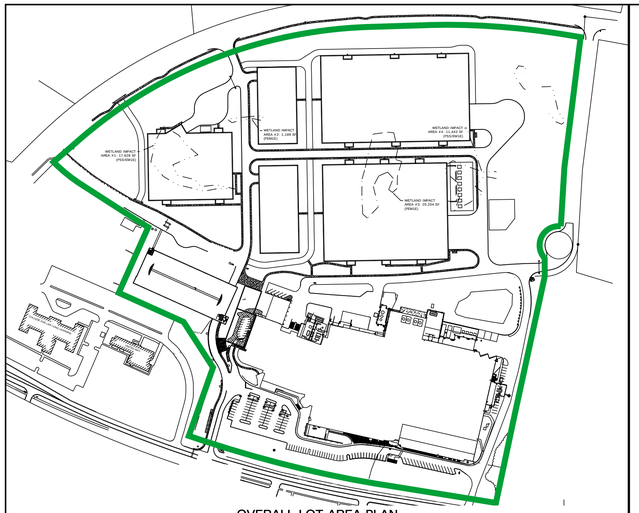
November 5, 2018
L0700-CS-OVERALL_CLR.dwg

Last Save Date: November 5, 2018 6:21 PM By: BJL
Plot Date: Thursday, July 28, 2016 Plotted By: Barbara J. Lamb
T&B File Location: J:\LL\L0700 Lonza Biologics Expansion was 1576F\COLOR\DWG\L0700-CS-OVERALL_CLR_11-05-18.dwg Layout Tab: LAND AREA EXHIBIT

LONZA BIOLOGICS
IRON PARCEL
PORTSMOUTH, NEW HAMPSHIRE

OVERALL SITE MASTER PLAN



OVERALL LOT AREA PLAN
SCALE : 1" = 250'



WETLAND & BUFFER IMPACT TABLE:

	WETLAND	BUFFER
WETLAND IMPACT AREA #1:	17,628 SF	24,677 SF
WETLAND IMPACT AREA #2:	1,189 SF	NO BUFFER*
WETLAND IMPACT AREA #3:	20,204 SF	23,047 SF
WETLAND IMPACT AREA #4:	11,443 SF	19,128 SF
WETLAND IMPACT AREA #5:	5,091 SF	NO BUFFER*
TOTAL IMPACT AREA:	55,555 SF	66,852 SF

*PER PDA REGULATIONS: WETLANDS LESS THAN 10,000 SF DO NOT HAVE A BUFFER.

SITE DATA

LOCATION: TAX MAP 305, LOTS 1 & 2
70 & 80 CORPORATE DRIVE
PORTSMOUTH, NH

TAX MAP 305, LOT 6
101 INTERNATIONAL DRIVE
PORTSMOUTH, NH

ZONING DISTRICT: AIRPORT, BUSINESS & COMMERCIAL (ABC)

DIMENSIONAL REQUIREMENTS:

	REQUIRED	PROVIDED
MINIMUM LOT AREA:	5 AC	43.4± AC
MINIMUM STREET FRONTAGE:	200 FT	1,038 FT
MINIMUM FRONT YARD SETBACK:	70 FT	70 FT
SIDE SETBACK	30 FT	30 FT
REAR SETBACK	50 FT	51 FT
MINIMUM OPEN SPACE	25 %	43.3± %

MAXIMUM STRUCTURE HEIGHT SHALL NOT EXCEED FAA CRITERIA.

PARKING REQUIREMENTS:

REQUIRED PARKING
2 SPACES PER 3 EMPLOYEES ON LARGEST SHIFT

740 EXISTING EMPLOYEES	493 SPACES
1000 ANTICIPATED EMPLOYEES	667 SPACES
TOTAL REQUIRED:	1160 SPACES

PARKING PROVIDED

EXISTING SPACES:	521 SPACES
PROPOSED PARKING GARAGE #1:	325 SPACES
PROPOSED PARKING GARAGE #2:	375 SPACES
TOTAL:	1221 SPACES

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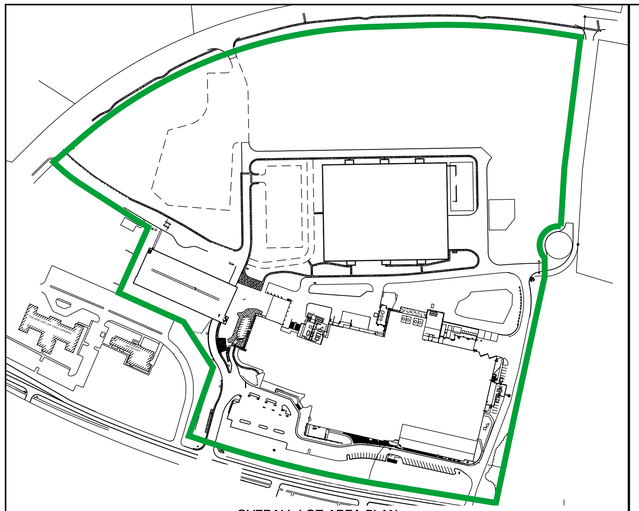
November 5, 2018
L0700-CS-OVERALL_CLR.dwg

LONZA BIOLOGICS
IRON PARCEL
PORTSMOUTH, NEW HAMPSHIRE

SITE PLAN FOR LAND AREA #1



OVERALL LOT AREA PLAN
SCALE : 1" = 250'

CORPORATE DRIVE
(100' R.O.W. PER REF. PLAN #1)

GOOSE BAY DRIVE
(60' R.O.W. PER REF. PLAN #9)

PROPOSED SEDIMENT BASIN

PROPOSED SEDIMENT BASIN

70' MIN. FRONT YARD SETBACK (TYP.)

30' MIN. SIDE SETBACK (TYP.)

PROPOSED BUILDING #1
BUILDING HEIGHT = 105 FT
430,720± SF
F.F=56.5

412'

320'

412'

PROPOSED UTILITY YARD #1

160'

75'

PROPOSED UTILITY YARD #2

85'

100'

55'

PROPOSED GRAVEL WETLAND #1

±1,700 LF OF GOOSEBAY DRIVE PUBLIC R.O.W. TO BE ABANDONED AND MERGED PROPOSED WITH LONZA PARCEL (COORD. W/ CITY OF PORTSMOUTH & PDA)

EXISTING PARKING GARAGE

R LIFE LONG LEARNING

UNITED WAY

HYDRANT

EXISTING LONZA BIOLOGICS BUILDING

SCALE IN FEET
0 80 160
GRAPHIC SCALE

N

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November 5, 2018
L0700-CS-PHASE1_CLR.dwg



SCALE IN FEET
0 80' 160'
GRAPHIC SCALE

N

1992 AERIAL PHOTOGRAPH - LONZA BIOLOGICS
PORTSMOUTH, NEW HAMPSHIRE

Tighe&Bond
Consulting Engineers

July 1, 2016
L-0700-10 SITE.dwg

5.3 Facility Design– Building Renderings

DRAFT



Image 5.10 – Facility Rendering

5.3 Facility Design– Building Renderings

DRAFT



Image 5.11 – Facility Rendering