Doc # 0014708 Oct 11, 2018 3:07 PM
Plan 117-005 1 of 1
Register of Deeds, Strafford County
C/H L-CHIP STA135658

EASEMENT NOTES:

TAX MAP 2, LOT 14–1 IS EITHER SUBJECT TO, BUT NOT LIMITED TO, THE FOLLOWING EASEMENTS/RIGHTS OF RECORD:

A) RIGHTS GRANTED TO NET&T FROM TOWN & CAMPUS, INC. TO ABANDON UNDERGROUND CABLES ON THE PREMISES. SAID RIGHTS DO NOT ALLOW GRANTEE TO PLACE ADDITIONAL CABLE ON THE PREMISES. EASEMENT RECORDED IN S.C.R.D. BOOK 1061, PAGE 652.

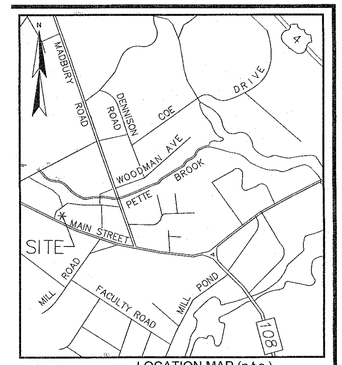
B) NO RECORDED EASEMENT WAS FOUND FOR THE EXISTING POLES AND ANCHORS ON THE PREMISES.

C) EXISTING PARKING SPACES ARE SHOWN ON THIS PLAN BOTH AT THE FRONT OF THE NEW NORTHERLY LOT AND IN THE TOWN'S PROPERTY NEAR MAIN STREET. IT IS UNDERSTOOD THAT NO EASEMENT TO PROVIDE ACCESS TO THESE SPACES IS BEING ESTABLISHED AS PART OF THIS SUBDIVISION.

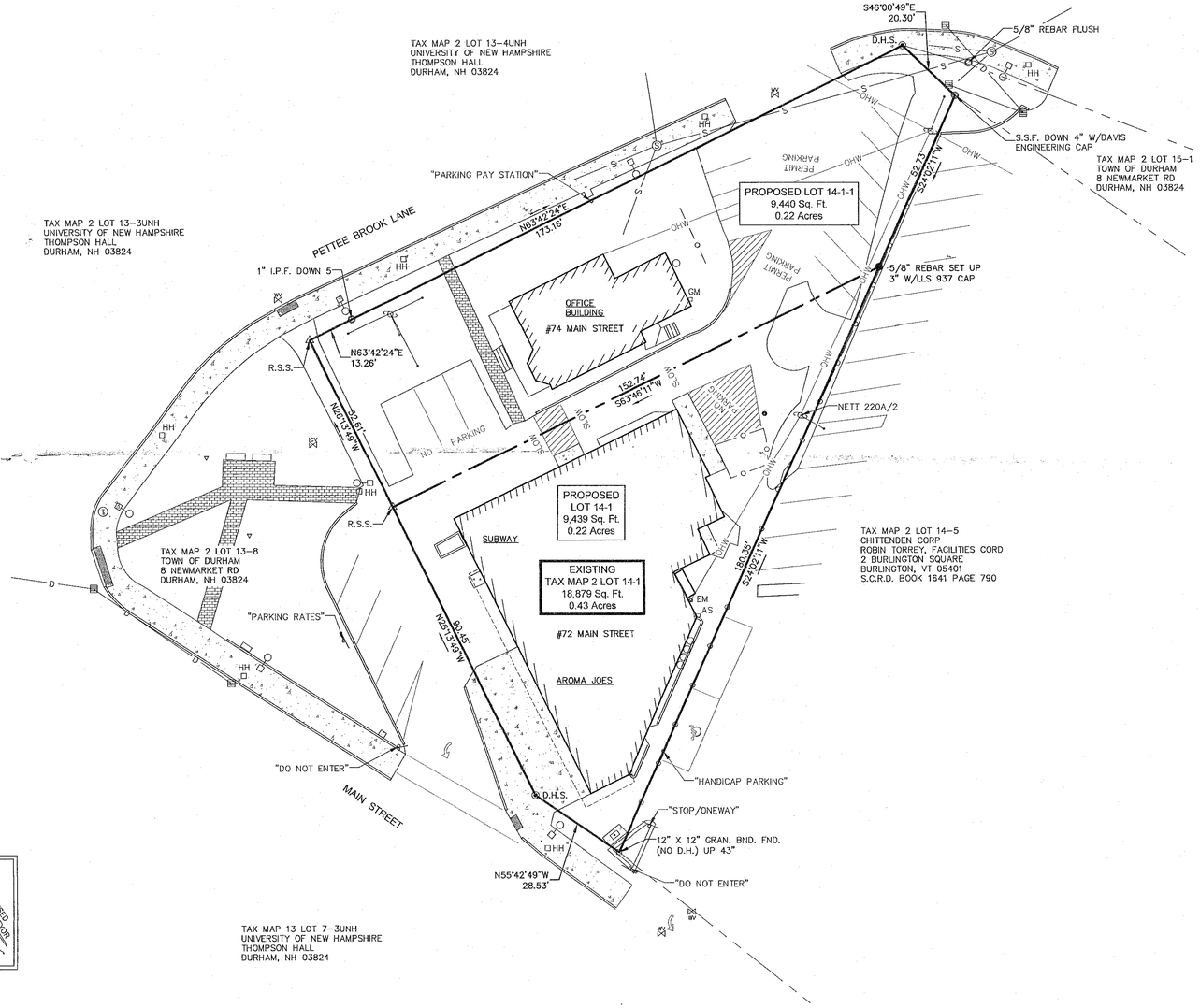
D) EASEMENTS ARE TO BE RECORDED HEREWITH TO DEFINE ITEMS INCLUDING BUT NOT LIMITED TO PARKING, ACCESS, UTILITIES AND MAINTENANCE.

REFERENCE PLANS:

1. "BOUNDARY LINE ADJUSTMENT MAIN ST. & PETTEE BROOK RD. DURHAM, STRAFFORD COUNTY, NEW HAMPSHIRE, BETWEEN TOWN & CAMPUS, INC. & TOWN OF DURHAM" DATED APRIL 16, 1987 BY THOMAS F. MORAN INC. S.C.R.D. PLAN 28A–118.
2. "BOUNDARY LINE ADJUSTMENT PLAN GAMMA THETA CORP., MAIN STREET DURHAM, N.H." DATED 12–15–03 WITH A REVISION DATE OF 1–9–04 BY CAMMETT ENGINEERING. S.C.R.D. PLAN 74–56.



LOCATION MAP (n.t.s.)



LEGEND

- EXISTING LOT LINE
- PROPOSED LOT LINE
- CHAIN LINK FENCE
- OHW OVERHEAD WIRE
- S SEWER LINE
- D DRAIN LINE
- CONCRETE
- BRICK
- UTILITY POLE
- UTILITY POLE & GUY WIRE
- SIGN
- LIGHT POLE W/ARM
- BOLLARD
- WATER GATE VALVE
- HAND HOLE
- CATCH BASIN
- IRRIGATION CONTROL VALVE
- BOUND FOUND
- IRON ROD/PIPE FOUND
- I.P.F. IRON PIPE FOUND
- S.S.F. STEEL STAKE FOUND
- D.H.S. DRILL HOLE SET (9/6/18)
- R.S.S. RAILROAD SPIKE SET (9/6/18)
- EP EDGE OF PAVEMENT
- VGC VERTICAL GRANITE CURB
- SBB SLOPED BITUMINOUS BERM
- VBB VERTICAL BITUMINOUS BERM
- SW SINGLE WHITE LINE
- AS AUTO SPRINKLER
- EM ELECTRIC METER
- MAILBOX
- ACCESSIBLE PARKING SPACE

NOTES:

1. REFERENCE: TAX MAP 2, LOT 14–1
2. TOTAL PARCEL AREA: 18,879 SQ. FT. OR 0.433 AC.
3. OWNER OF RECORD: TOWN & CAMPUS, INC.
   105 PERKINS ROAD
   MADBURY, NH 03823
   S.C.R.D. BOOK 838, PAGE 056
4. ZONE: CB
   DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA	N/A
MIN. FRONTAGE	50 ft.
MIN. FRONT SETBACK	SEE DEVELOPMENT STANDARDS FOR CB ZONE
MIN. SIDE/REAR SETBACK	SEE DEVELOPMENT STANDARDS FOR CB ZONE

   ZONING INFORMATION LISTED HEREON IS BASED ON THE TOWN OF DURHAM ZONING ORDINANCE DATED 4/16/18 AS AVAILABLE ON THE TOWN WEBSITE ON 5/25/18. 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.
5. FIELD SURVEY PERFORMED BY J.P.E. & P.J.M. DURING MAY 2018 USING A TRIMBLE S7 TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
6. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
7. VERTICAL DATUM IS BASED ON NAVD88 PER DISK "UNH 13".
8. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVABLE PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON–SITE.
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.

   THE INTENT OF THIS PLAN IS ALSO TO SUBDIVIDE THE EXISTING TAX MAP 2, LOT 14–1 INTO TWO PARCELS OF APPROXIMATELY EQUAL SQUARE FOOTAGE. THE NEW LOT NUMBERS SHALL BE 14–1 AND 14–1–1. THE NEW STREET ADDRESSES SHALL BE 72 MAIN STREET AND 74 MAIN STREET AS SHOWN ON THE PLAN.
10. 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.
11. THE BUILDINGS ON THE PARCEL ARE SERVICED BY MUNICIPAL WATER AND SEWER. THE SEWER IS BELIEVED TO BE SERVICED FROM PETTE BROOK LANE AS INDICATED HEREON. THE WATER IS BELIEVED TO BE SERVICED FROM MAIN STREET. THE EXACT LOCATIONS OF THE SERVICES WAS NOT OBSERVED DURING THE SURVEY. FURTHERMORE THE TOWN ENGINEERING DEPARTMENT DID NOT HAVE THIS INFORMATION AVAILABLE.
12. FOR MORE INFORMATION ABOUT THIS SUBDIVISION, OR TO SEE THE COMPLETE PLAN SET, CONTACT THE TOWN OF DURHAM PLANNING DEPARTMENT, 8 NEWMARKET ROAD, DURHAM, NH. (603) 868–8064.

20 0 20 40
SCALE: 1 INCH = 20 FT.

SUBDIVISION PLAN
FOR
TOWN & CAMPUS, INC.
OF
TAX MAP 2, LOT 14-1
72 MAIN STREET
DURHAM, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
1	09/06/18	REVISIONS PER TOWN CONDITIONS	J.F.K.

DRAWN BY:	E.J.S.	DATE:	JULY 11, 2018
CHECKED BY:	J.F.K.	DRAWING NO.:	5549A
JOB NO.:	5549	SHEET	1 OF 1

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.

John F. Kaiser L.L.S. #937

9/7/18 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.

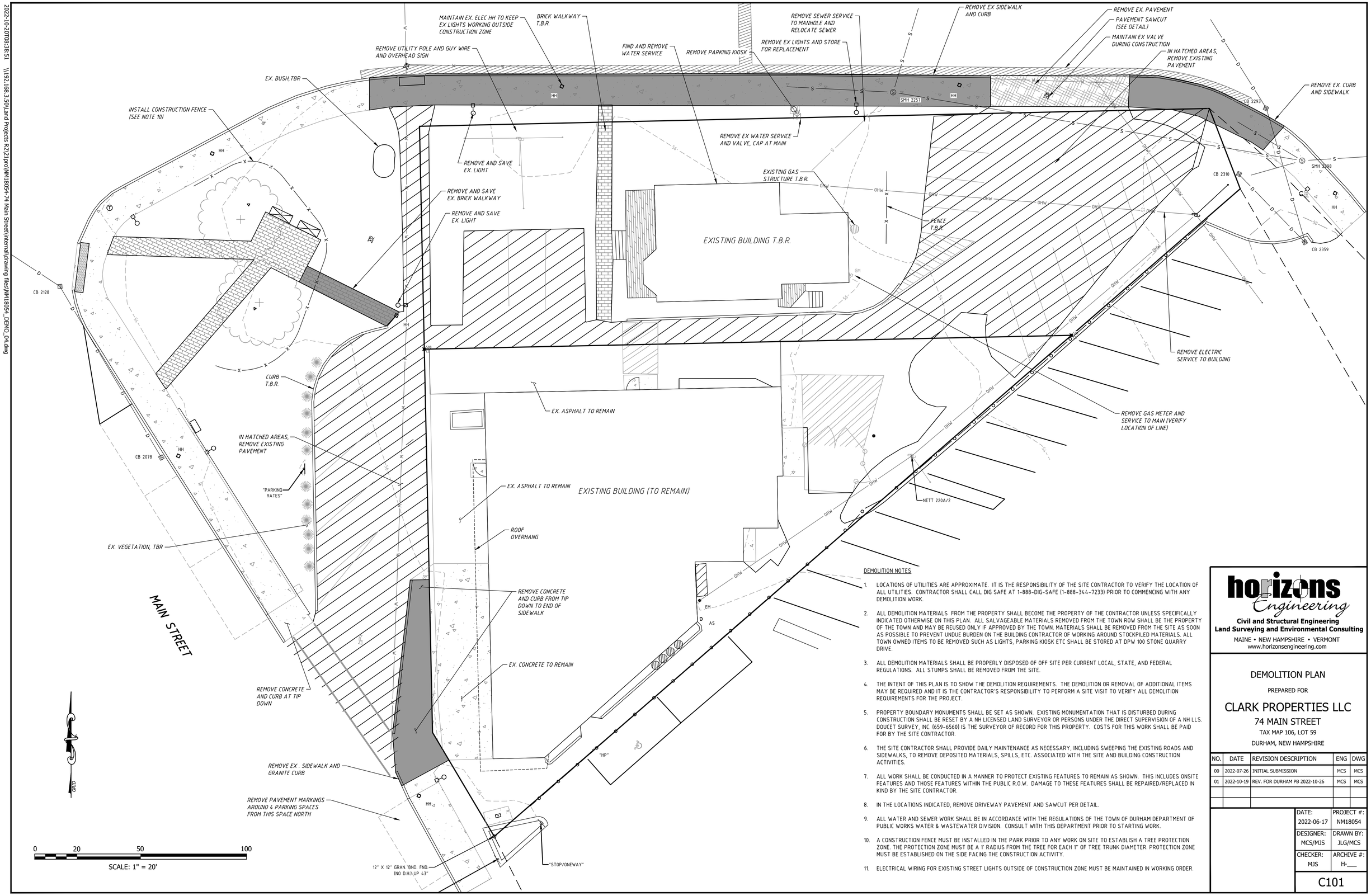
STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 937 JOHN F. KAISER SIGNATURE

FINAL APPROVAL BY DURHAM PLANNING BOARD.
CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER
DATE 10/15/2018

DOUCET SURVEY INC
Serving Your Professional Surveying & Mapping Needs
102 Kent Place, Newmarket, NH 03857 (603) 659-6560
2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 614-4060
10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005
http://www.doucetsurvey.com

FILE NAME: N:\PROJECTS\5549 CIVIL\DWG\5549A.dwg LAYOUT NAME: 5549A PLAN OF LAND 22X34 PLOTTED: Friday, September 07, 2018 - 10:32am

2022-10-20T08:38:51 \\192.168.3.50\Land Projects R2\2Lpro\NM18054-74 Main Street\Internal\drawing files\NM18054_DEMO_04.dwg



DEMOLITION NOTES

1. LOCATIONS OF UTILITIES ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE SITE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES. CONTRACTOR SHALL CALL DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) PRIOR TO COMMENCING WITH ANY DEMOLITION WORK.
2. ALL DEMOLITION MATERIALS FROM THE PROPERTY SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS SPECIFICALLY INDICATED OTHERWISE ON THIS PLAN. ALL SALVAGEABLE MATERIALS REMOVED FROM THE TOWN ROW SHALL BE THE PROPERTY OF THE TOWN AND MAY BE REUSED ONLY IF APPROVED BY THE TOWN. MATERIALS SHALL BE REMOVED FROM THE SITE AS SOON AS POSSIBLE TO PREVENT UNDUE BURDEN ON THE BUILDING CONTRACTOR OF WORKING AROUND STOCKPILED MATERIALS. ALL TOWN OWNED ITEMS TO BE REMOVED SUCH AS LIGHTS, PARKING KIOSK ETC SHALL BE STORED AT DPW 100 STONE QUARRY DRIVE.
3. ALL DEMOLITION MATERIALS SHALL BE PROPERLY DISPOSED OF OFF SITE PER CURRENT LOCAL, STATE, AND FEDERAL REGULATIONS. ALL STUMPS SHALL BE REMOVED FROM THE SITE.
4. THE INTENT OF THIS PLAN IS TO SHOW THE DEMOLITION REQUIREMENTS. THE DEMOLITION OR REMOVAL OF ADDITIONAL ITEMS MAY BE REQUIRED AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM A SITE VISIT TO VERIFY ALL DEMOLITION REQUIREMENTS FOR THE PROJECT.
5. PROPERTY BOUNDARY MONUMENTS SHALL BE SET AS SHOWN. EXISTING MONUMENTATION THAT IS DISTURBED DURING CONSTRUCTION SHALL BE RESET BY A NH LICENSED LAND SURVEYOR OR PERSONS UNDER THE DIRECT SUPERVISION OF A NH LLS. DOUCET SURVEY, INC. (659-6560) IS THE SURVEYOR OF RECORD FOR THIS PROPERTY. COSTS FOR THIS WORK SHALL BE PAID FOR BY THE SITE CONTRACTOR.
6. THE SITE CONTRACTOR SHALL PROVIDE DAILY MAINTENANCE AS NECESSARY, INCLUDING SWEEPING THE EXISTING ROADS AND SIDEWALKS, TO REMOVE DEPOSITED MATERIALS, SPILLS, ETC. ASSOCIATED WITH THE SITE AND BUILDING CONSTRUCTION ACTIVITIES.
7. ALL WORK SHALL BE CONDUCTED IN A MANNER TO PROTECT EXISTING FEATURES TO REMAIN AS SHOWN. THIS INCLUDES ONSITE FEATURES AND THOSE FEATURES WITHIN THE PUBLIC R.O.W. DAMAGE TO THESE FEATURES SHALL BE REPAIRED/REPLACED IN KIND BY THE SITE CONTRACTOR.
8. IN THE LOCATIONS INDICATED, REMOVE DRIVEWAY PAVEMENT AND SAWCUT PER DETAIL.
9. ALL WATER AND SEWER WORK SHALL BE IN ACCORDANCE WITH THE REGULATIONS OF THE TOWN OF DURHAM DEPARTMENT OF PUBLIC WORKS WATER & WASTEWATER DIVISION. CONSULT WITH THIS DEPARTMENT PRIOR TO STARTING WORK.
10. A CONSTRUCTION FENCE MUST BE INSTALLED IN THE PARK PRIOR TO ANY WORK ON SITE TO ESTABLISH A TREE PROTECTION ZONE. THE PROTECTION ZONE MUST BE A 1' RADIUS FROM THE TREE FOR EACH 1" OF TREE TRUNK DIAMETER. PROTECTION ZONE MUST BE ESTABLISHED ON THE SIDE FACING THE CONSTRUCTION ACTIVITY.
11. ELECTRICAL WIRING FOR EXISTING STREET LIGHTS OUTSIDE OF CONSTRUCTION ZONE MUST BE MAINTAINED IN WORKING ORDER.

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Civil and Structural Engineering
Land Surveying and Environmental Consulting
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DEMOLITION PLAN

PREPARED FOR

CLARK PROPERTIES LLC

74 MAIN STREET

TAX MAP 106, LOT 59

DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
00	2022-07-26	INITIAL SUBMISSION	MCS	MCS
01	2022-10-19	REV. FOR DURHAM PB 2022-10-26	MCS	MCS

DATE: 2022-06-17	PROJECT #: NM18054
DESIGNER: MCS/MJS	DRAWN BY: JLG/MCS
CHECKER: MJS	ARCHIVE #: H-___

C101

PETTEE BROOK LANE

RESTRIPE EXISTING PARKING 8'x22'

22

8

EX. PARKING METER, REINSTALL AT END OF CONSTRUCTION

RECONSTRUCT EX. SIDEWALK WITH VERTICAL GRANITE CURB

REINSTALL EX. LIGHT POLE

REFER TO SHEET C106 FOR OFFSITE RECONSTRUCTION OF PETTEE BROOK LN CONST. STAGING AREA

PROP SHUT OFF VALVE TO 72 MAIN ST (FIRE AND DOMESTIC SERVICE)

REPAVE STREET TO MATCH NEW ENTRANCE AS REQUIRED IN TYPICAL PAVEMENT SECTION, C501

PROP STOP SIGN

OBLITERATE ALL EX. STRIPING

PROP. IMPACTS DURHAM LAND, MAY REQUIRE TEMPORARY EASEMENT

RESTRIPE

REBUILD CURB RAMP (TYP) INSTALL DETECTABLE WARNING MATS (SEE DETAIL SHEET C501)

PROP SIGN «LOADING ZONE»

CURBED ISLAND

R5

R6

TIP DOWN

TIP DOWN

EX. SIDEWALK

DISTURBED AREA FOR FOUNDATION PIT AND WATER LINE, REGRADE TO MATCH EX. AND LOAM AND SEED

EX. TREE (TYP)

EX. BENCH (TYP)

S 63°42'24" W 13.26'

S 63°42'24" W 173.16'

CRUSHED STONE (TYP)

PROP WATER SHUT OFF

PROP BICYCLE STANDS (TYP) (8 SPACES)

PROP NEW LIGHT POLE LOCATION

GEOTHERMAL WELL (TYP)

S 48°10'48" E 20.31'

20'

2'

SWL

PROP. 6 YD DUMP.

106-61
CLARK PROPERTIES LLC
28 CEDAR POINT ROAD
DURHAM, NH 03824

PROPOSED BUILDING
~4 650 SF (GROUND FLOOR)
~6 250 SF (UPPER FLOORS)

PROP. ASPHALT PAVEMENT

N 26°13'59" W 52.61'

PROP. LIGHT RELOCATION

PROP COVERED BICYCLE STANDS (TYP) (6 SPACES)

BOLLARDS (TYP)

PROP. CONC. TRANSFORMER PAD (TYP)

EX. SIDEWALK TO REMAIN

LAWN AREA

S 8°40'11" W 52.73'

PROP. PERMEABLE CONC. PAVERS (TYP)

PROP. VGC

RECONSTRUCT BRICK WALKWAY WITH EX. SAVED BRICKS

CB 2080

9.3'

6.3'

7.0'

0.7%

GRADE TO MATCH EX. ASPHALT

BUILDING OVERHANG (TYP)

S 63°46'11" W 152.74'

17.6' +/-

BUILDING COLUMNS

20.1'

PROP. CB (TYP)

EDGE RESTRAINT

106-57
TOWN OF DURHAM
8 NEWMARKET ROAD
DURHAM, NH 03824

106-60
TOWN OF DURHAM
8 NEWMARKET ROAD
DURHAM, NH 03824

PROP. RECONSTRUCTION OF CONC SIDEWALK (TYP)

EX. BICYCLE PARKING

EX. LIGHT POST

CB 2078

HH

EX. ELECTRICAL PULL BOX

EX. ASPHALT, TO REMAIN

WOOD PLANTER, TO REMAIN

EXIST EP

SEACOAST CHABAD JEWISH CENTER

COMPACT

8'

16'

COMPACT

3

EX. CONC. ENTRANCE PAD, TO REMAIN

EX. ASPHALT TO REMAIN, MATCH CONC. SIDEWALK TO GRADE

PROPERTY LINE AND PROP. EDGE OF CONC. SIDEWALK

EX. TRASH ENCLOSURE

EXIST FENCE LINE

106-62
CHITTENDEN CORP
C/O M&T BANK
ATTN:CORP SERVICES - FSU DEPT
ONE M&T BANK, 18TH FLOOR
BUFFALO, NY 14203

MAIN STREET

6

EX. SIDEWALK

REGRADE, LOAM, AND SEED EX. PARKING AREA TO EXPAND TOWN PARK

EXISTING BUILDING

SUBWAY

GRADE TO MATCH NEW SIDEWALK

106-61
TOWN & CAMPUS INC
105 PERKINS ROAD
MADBURY, NH 03823

3 EXISTING SPACES

EX. PARKING METER

EXIST EOC

AROMA JOES

PROP. SIDEWALK

PROP. RECONSTRUCTION OF CONC. SIDEWALK (TYP) SEE SHEET C501

2 NEW PARKING SPACES

INSTALL NEW VERT. GRANITE CURB APPOXIMATELY 55LF, SEE DETAIL SHEET C501

ABUTTING PROPERTY LINE (TYP)

EXISTING RAISED CONC ISLAND

1 EXISTING SPACE

EXISTING BUILDING

GRID

0 10 20 30 40

SCALE: 1" = 10'

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

_____ DATE _____

NOTES:

1. REFERENCE: TAX MAP 106, LOT 59 (FORMERLY TAX MAP 2, LOT 14-1)
2. TOTAL PARCEL AREA: 18,879 SQ. FT. OR 0.433 AC.
3. OWNER OF RECORD: CLARK PROPERTIES LLC, 28 CEDAR POINT ROAD, DURHAM, NH 03824, S.C.R.D. BOOK 4612, PAGE 791
4. ZONE: CB
   DIMENSIONAL REQUIREMENTS:
   MIN. LOT AREA: N/A
   MIN. FRONTAGE: 50 ft.
   MIN. FRONT SETBACK: SEE DEVELOPMENT STANDARDS FOR CB ZONE
   MIN. SIDE/REAR SETBACK: SEE DEVELOPMENT STANDARDS FOR CB ZONE
5. ZONING INFORMATION LISTED HEREON IS BASED ON THE TOWN OF DURHAM ZONING ORDINANCE DATED 4/16/18 AS AVAILABLE ON THE TOWN WEBSITE ON 5/25/18. 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. THE PROPOSED PROJECT WILL DECREASE ON-SITE PARKING BY 10 SPACES. THIS PROJECT WILL INCREASE ON-STREET PARKING BY 2 SPACES.

   ON-SITE PARKING
   EXISTING: 15 SPACES
   PROPOSED: 0 SPACES

USE	# SPACES REQUIRED FOR EACH USE	REQUIRED SPACES	PROVIDED SPACES
12 CONDOS	1 SPACE/ 1 SPACE × 12 UNITS = 12	12 SPACES	
COMMERCIAL 1ST FLOOR CARRY-OUT REST.	1 SPACE/ 2 SEATS + 1 PER EMP. 16 SEATS/ 1 SPACE/2SEATS + 3 EMP	11 SPACES	
MEETING SPACE W/ OFFICES BASEMENT & 4TH FLOOR	1 SPACE/ 400 SF + 1 SPACE/EMP. 4000/400 = 4 + 14 (SIMILAR TO HOTEL/MOTEL MEETING)	14 SPACES	
		37 SPACES	0 SPACES

7. THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED DEVELOPMENT ON LOT 59 AND THE PARKING, ACCESS, AND UTILITY CONNECTIONS FOR LOT 61.
8. ALL ELECTRICAL, GAS, COMMUNICATIONS, 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.
9. BOTH PARCELS ARE SERVICED BY MUNICIPAL WATER AND SEWER.
10. FOR MORE INFORMATION ABOUT THIS SITE PLAN, OR TO SEE THE COMPLETE PLAN SET, CONTACT THE TOWN OF DURHAM PLANNING DEPARTMENT, 8 NEWMARKET ROAD, DURHAM, NH 03824. (603) 868-8064
11. IT IS THE RESPONSIBILITY OF THE APPLICANT, SITE CONTRACTOR, AND BUILDING CONTRACTOR TO FOLLOW ALL REQUIREMENTS RELATED TO THIS SITE PLAN APPROVAL. PLEASE REVIEW THESE PLANS AND THE PLANNING BOARD NOTICE OF DECISION CAREFULLY. CONTACT THE DURHAM PLANNING DEPARTMENT AT (603) 868-8064 WITH ANY QUESTIONS OR CONCERNS

horizons Engineering
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Land Surveying and Environmental Consulting
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www.horizonsengineering.com

SITE PLAN

PREPARED FOR

CLARK PROPERTIES LLC
74 MAIN STREET
TAX MAP 106, LOT 59
DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
04	2022-04-15	REVISED PER 7 APRIL MEETING	MCS	MCS
05	2022-06-16	REVISED SITE PLAN	MCS	MCS
06	2022-07-26	REVISED SITE PLAN	MJS	MCS
07	2022-10-19	REV. FOR DURHAM PB 2022-10-26	MCS	MCS

DATE: 2022-01-21	PROJECT #: NM18054
DESIGNER: MJS	DRAWN BY: JLG/MCS
CHECKER: MJS	ARCHIVE #: H-___

C102

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

_____ DATE _____

2022-10-20T08:43:50 \\192.168.3.50\Land Projects R2\21pro\NM18054-74 Main Street\internal\drawing files\NM18054_Site_18.dwg

PETTEE BROOK LANE

EX. PARKING METER, REINSTALL AT END OF CONSTRUCTION

RECONSTRUCT EX. SIDEWALK WITH VERTICAL GRANITE CURB

REINSTALL EX. LIGHT POLE

PROP. TEMPORARY SHORING

SAWCUT (TYP.) FOR REMOVAL OF CURBING AND SIDEWALK FOR CONSTRUCTION

INSTALL VERTICAL GEOMEMBRANE TO FROST DEPTH (MIN. 4')

EX. SIDEWALK

REGRADE AREA TO MATCH EXISTING

EX. TREE (TYP)

EX. BENCH (TYP)

GEOTHERMAL WELL (TYP)

B-104 B-4 B-5 B-1

S 63°42'24" W 13.26'

S 63°42'24" W 173.16'

56.00 56.00 54.00 53.50

56.30

N 26°13'39" W 52.61'

106-61
CLARK PROPERTIES LLC
28 CEDAR POINT ROAD
DURHAM, NH 03824

B-3C B-3B B-3A B-3

PROPOSED BUILDING
~4 650 SF (GROUND FLOOR)
~6 250 SF (UPPER FLOORS)

LIMIT OF OPEN-GRADED BASE (SEE PAVER DETAIL)

54.86 53.55 55.87

B-2A B-2

GP-1

TP-B

56.66

56.32

B-101

S 63°46'11" W 152.74'

MATCH GRADE

CIP CONC. EDGE RESTRAINT BEVEL AND 1/2" REVEAL ON ASPHALT SIDE

106-60
TOWN OF DURHAM
8 NEWMARKET ROAD
DURHAM, NH 03824

RECONSTRUCT BRICK WALKWAY

EX. BICYCLE PARKING

EX. LIGHT POST

CB 2078

EX. ELECTRICAL PULL BOX

EX. SIDEWALK

MAIN STREET

EX. PARKING METER

PROP. SIDEWALK

GRID

EXIST EP

EX. ASPHALT, TO REMAIN

WOOD PLANTER, TO REMAIN

M ATCH EX. GRADE

SEACOAST CHABAD JEWISH CENTER

EX. CONC. ENTRANCE PAD, TO REMAIN

EX. ASPHALT TO REMAIN, MATCH CONC. SIDEWALK TO GRADE

PROPERTY LINE AND PROP. EDGE OF CONC. SIDEWALK

EXISTING BUILDING

SUBWAY

106-61
TOWN & CAMPUS INC
105 PERKINS ROAD
MADBURY, NH 03823

EXIST EOC

AROMA JOES

EX. TRASH ENCLOSURE

EXIST FENCE LINE

ABUTTING PROPERTY LINE (TYP)

EXISTING RAISED CONC ISLAND

EXISTING BUILDI

PERMEABLE CONCRETE PAVERS ~2200 SF

GP-2

TP-A

52.80 52.30 52.30 52.63 52.20 52.53

8" CPEP

4" CPP

4" PERF HDPE

UGE

OHW

CB 2007
RIM: 51.00
12" INV: 47.80

S 45°40'42" E 20.39'

12" RCP

CB 2009
RIM: 49.10
12" INV: 47.00
12" INV: 46.60

CB 2008
RIM: 51.30
12" INV: 47.60
12" INV: 47.50

PR. CB#1
RIM: 52.09
(S) 8" INV: 47.80
(SW) 4" INV: 49.00
(W) 8" INV: 48.00
(NE) 12" INV: 47.70

S 24°02'11" W 52.73'

CURB RESTRAINT FLUSH WITH BRICK

GEOMEMBRANE TO RETAIN STORMWATER IN 1.5' THICK RESERVOIR STONE

PR. CB#2
RIM: 53.10
8" INV: 48.10

EX. SIDEWALK TO REMAIN

106-57
TOWN OF DURHAM
8 NEWMARKET ROAD
DURHAM, NH 03824

106-62
CHITTENDEN CORP
C/O M&T BANK
ATTN:CORP SERVICES - FSU DEPT
ONE M&T BANK, 18TH FLOOR
BUFFALO, NY 14203

LEGEND

STORM SEWER (EXIST)
STORM SEWER (PROP)

EXIST	PROP	
G	G	GEOTHERMAL WELL
WV	WV	WATER VALVE
		CATCH BASIN
D	D	STORM DRAINAGE MANHOLE
S	S	SANITARY SEWER MANHOLE
	B-#	BOREHOLE LOCATION
	GP-#	INFILTRATION TEST LOCATION

INFILTRATION RATE

THE SATURATED HYDRAULIC CONDUCTIVITY (K) OF THE EXISTING SOILS WAS MEASURED IN THE FIELD BY HORIZONS ENGINEERING WITH A GUELPH PERMEAMETER ON 21 JULY 2022.

GP-1
DEPTH = 24" (600 mm)
K = 1.2 IN/HR (30 mm/hr)

GP-2
DEPTH = 18" (450 mm)
K = 5.4 IN/HR (137 mm/hr)

A FACTOR OF SAFETY OF 2 HAS BEEN APPLIED TO ALL K VALUES REPORTED.

0 10 20 30 40

SCALE: 1" = 10'

SOIL INVESTIGATION

BORINGS PERFORMED BY JTC

B-1
0.1 - 1.4 SAND WITH SILT (SW-SM)
1.4 - 7.5 SILTY SAND (SM)
7.5 - 15.5 SILTY SAND (SM) (BOULDERS/TRC. GRAVEL)
REFUSAL AT 15.5' DEPTH

B-2
0.2 - 0.9 SAND WITH SILT AND GRAVEL (SW-SM)
0.9 - 2.2 SILT WITH GRAVEL (ML)
2.2 - 5.0 SILTY SAND (SM)
5.0 - 8.5 SILT (ML)
REFUSAL AT 8.5' DEPTH

B-2A REFUSAL AT 8.5' DEPTH

B-3
0 - 0.25 ASPHALT PAVEMENT
0.25 - 5.0 FILL (SW-SM)
REFUSAL AT 5' DEPTH

B-3A REFUSAL AT 4' DEPTH

B-3B REFUSAL AT 7.5' DEPTH

B-3C REFUSAL AT 12.25' DEPTH

B-4
0 - 0.75 URBAN FILL (SM)
0.75 - 2.75 MARINE DEPOSITS (ML)
2.75 - 11.0 MARINE DEPOSITS (SM)
REFUSAL AT 11.0' DEPTH

B-5 REFUSAL AT 12.0' DEPTH

B-101
0.25 - 1.0 SAND W/ SILT (SW-SM)
1.0 - 8.0 SILTY TO SILTY SAND (ML TO SM)
REFUSAL AT 8.0' DEPTH

B-102
0 - 0.25 ASPHALT PAVEMENT
0.25 - 5.0 FILL (SW-SM)
REFUSAL AT 5.0' DEPTH

B-103
0 - 0.25 ASPHALT PAVEMENT
0.25 - 2.5 FILL (SW-SM)
2.5 - 7.5 ROCK CORING
REFUSAL AT 2.5' DEPTH

B-104
0 - 0.25 TOP SOIL
0.25 - 5.0 FILL (SW-SM)
5.0 - 10.0 MARINE DEPOSIT (SM)
REFUSAL AT 10' DEPTH

TP-1 (PERFORMED 2022-04-08 BY JTC)
0 - 3.0 FILL
WEATHERED ROCK AT 3.0' DEPTH

TP-2 (PERFORMED 2022-04-08 BY JTC)
0 - 2.0 FILL
WEATHERED ROCK AT 2.0' DEPTH

TP-A (PERFORMED 2022-06-26 BY M. SIEVERT)
0 - 0.25 PAVEMENT
0.25 - 0.6 GRAVEL SUBBASE
0.6 - 1.7 COURSE SAND, LOOSE
1.7 - 3.4 SILTY CLAY LOAD, FIRM
3.4 - 5.0 SILTY CLAY, BLOCKY, FIRM
ESHW AT 2.7' DEPTH
NO LEDGE OR SEEPAGE ENCOUNTERED

TP-B (PERFORMED 2022-06-16 BY M. SIEVERT)
0 - 0.25 PAVEMENT
0.25 - 1.3 GRANULAR COURSE SAND, LOOSE
1.3 - 4.0 SILTY CLAY LOAM, BLOCKY, FRIABLE
4.0 - 6.0 SILTY CLAY LOAM, BLOCKY, FIRM
ESHW AT 2.7' DEPTH
NO LEDGE OR SEEPAGE ENCOUNTERED

GENERAL NOTES

1. PERMEABLE PAVERS AND UNDERGROUND DRAINAGE SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH THE DETAILS AND THE NH STORMWATER MANUAL.
2. PRIOR TO CONSTRUCTION, SILT SACKS MUST BE PLACED IN THE 3 CATCH BASINS AT THE NORTH OF THE PARCEL ON PETTEE BROOK LN AND 2 CATCH BASINS ON MAIN ST.
3. SILT SOXX MUST BE AVAILABLE ONSITE FOR USE DURING CONSTRUCTION AS NEEDED TO CONTROL RUNOFF.

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GRADING AND DRAINAGE PLAN

PREPARED FOR

CLARK PROPERTIES LLC

74 MAIN STREET

TAX MAP 106, LOT 59

DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
04	2022-04-15	REVISED PER 7 APRIL MEETING	MCS	MCS
05	2022-06-16	REVISED SITE PLAN	MCS	MCS
06	2022-07-26	REVISED SITE PLAN	MJS	MCS
07	2022-10-19	REV. FOR DURHAM PB 2022-10-26	MCS	MCS

DATE: 2022-01-21	PROJECT #: NM18054
DESIGNER: MJS	DRAWN BY: JLG/MCS
CHECKER: MJS	ARCHIVE #: H-___

C103

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

_____ DATE _____

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PETTEE BROOK LANE

MAIN STREET

PROPOSED BUILDING
~4 650 SF (GROUND FLOOR)
~6 250 SF (UPPER FLOORS)

EXISTING BUILDING

SEACOAST CHABAD JEWISH CENTER

SUBWAY

AROMA JOES

106-61
CLARK PROPERTIES LLC
28 CEDAR POINT ROAD
DURHAM, NH 03824

106-60
TOWN OF DURHAM
8 NEWMARKET ROAD
DURHAM, NH 03824

106-57
TOWN OF DURHAM
8 NEWMARKET ROAD
DURHAM, NH 03824

106-61
TOWN & CAMPUS INC
105 PERKINS ROAD
MADBURY, NH 03823

106-62
CHITTENDEN CORP
C/O M&T BANK
ATTN:CORP SERVICES - FSU DEPT
ONE M&T BANK, 18TH FLOOR
BUFFALO, NY 14203

EX. 3 WATER VALVES
APPROX. EX. WATER LINE, TBR
PROP. TEMP SHORING
PROP. LIGHT RELOCATION
6" WATER SERVICE CONNECTION
EX. VCP PIPE TO BE LINED
EX. PARKING METER, REINSTALL AT END OF CONSTRUCTION
PROP. NAT. GAS SERVICE
EX. NAT. GAS ON PETTEE BROOK (NOT LOCATED)
RECONSTRUCT EX. SIDEWALK WITH VERTICAL GRANITE CURB
REINSTALL EX. LIGHT POLE
REBUILD SEWER MANHOLE AS NEEDED (SEE DETAIL)
PROP. ASPH SAW CUT
EX. WATER SERVICE, TBR
PROP. 4" PVC DR 18 W/ NEW WSO
SMH 2257
SMH 2298
8" VCP
8" AC
EX. SIDEWALK
PROP. 6" DUCTILE IRON PIPE
EX. TREE (TYP)
EX. BENCH (TYP)
GEOTHERMAL WELL (TYP)
2" DOMESTIC WATER W/ WSO
PROP. NAT. GAS METER
EXIST. WATER SERVICE CONNECTION, TBR
EXIST. SEWER LATERAL, TBR
PROP. SEWER LATERAL
PROP. TRANS. PAD
S 63°42'24" W 173.16'
S 63°42'24" W 13.26'
N 26°12'49" W 52.61'
S 63°46'11" W 152.74'
S 24°02'11" W 52.73'
S 45°08'14" E 230.30'
PROP. LIGHT RELOCATION
SLEEVE NEW SEWER LATERAL IN 12" PVC SDR 26 FROM ABUTTING PL TO STREET
PROP. 6" PVC SDR26 SEWER LATERAL FROM PL TO EX. MAIN INSTALL 6" SADDLE AT MAIN
SLEEVE NEW WATER SERVICE IN 8" PVC SDR 26 FROM ABUTTING PL TO STREET
APPROX LOCATION OF EX. 6"SEWER SERVICE TO REMAIN
APPROX LOCATION OF EX. WATER SERVICE TO REMAIN
EX. SIDEWALK TO REMAIN
EX. BICYCLE PARKING
EX. LIGHT POST
EX. ELECTRICAL PULL BOX
PROP. GATE VALVE
EX. PARKING METER
PROP SIDEWALK
EXIST EP
EX. ASPHALT, TO REMAIN
WOOD PLANTER, TO REMAIN
EX. CONC. ENTRANCE PAD, TO REMAIN
EX. ASPHALT TO REMAIN, MATCH CONC. SIDEWALK TO GRADE
PROPERTY LINE AND PROP. EDGE OF CONC. SIDEWALK
EXIST EDC
EX. TRASH ENCLOSURE
EXIST FENCE LINE
ABUTTING PROPERTY LINE (TYP)
EXISTING RAISED CONC ISLAND
CB 2178
CB 2179
CB 2180
DMH 2180-12
OHW1 +7 OHW2 +7

LEGEND

EXIST	PROP	
		SANITARY SEWER (EXIST)
		SANITARY SEWER (PROP)
W	W	WATER LINE (EXIST) / WATER LINE (PROP)
G	G	NATURAL GAS LINE (PROP)
		NATURAL GAS LINE (PROP)
		ASPHALT PAVEMENT
		CONCRETE PAVEMENT
		GEOTHERMAL WELL
		WATER VALVE
		CATCH BASIN
		STORM DRAINAGE MANHOLE
		SANITARY SEWER MANHOLE

0 10 20 30 40
SCALE: 1" = 10'

NOTES:

1. REFERENCE: TAX MAP 106, LOT 59 (FORMERLY TAX MAP 2, LOT 14-1)
2. HORIZONTAL DATUM: NH STATE PLANE DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK
3. VERTICAL DATUM: NAVD88, PER DISK UNH13
4. THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED GRADING OF THE DEVELOPMENT AND THE STORMWATER MANAGEMENT SYSTEM.
5. UNDERGROUND UTILITIES SHOWN HERON ARE BASED ON OBSERVABLE PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON-SITE.
6. ALL ELECTRICAL, GAS, COMMUNICATIONS, 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.

REFERENCE PLAN:

1. SUBDIVISION PLAN FOR TOWN & CAMPUS INC, TAX MAP 2 LOT 14-1, 72 MAIN STREET DURHAM BY DOUCET SURVEY

GENERAL NOTES:

1. THE EXISTING 8" SEWER MUST BE RELINED PRIOR TO INSTALLATION OF THE CONSTRUCTION SHORING.
2. THE SEWER LINE MUST BE CONTINUOUSLY MONITORED FOR DAMAGE DURING INSTALLATION OF THE SHORING.
3. PROVISIONS MUST BE IN PLACE FOR IMMEDIATE REPAIR AND TEMPORARY BYPASS PUMPING IN THE EVENT OF A SEWER MAIN BREAK.
4. ONCE CONSTRUCTION IS COMPLETE, THE SEWER MAIN MUST BE VISUALLY INSPECTED TO MAKE SURE THERE IS NO DAMAGE.
5. IN CASE REPAIR IS REQUIRED, ALL CUTS TO THE EXISTING ASBESTOS-CEMENT PIPE MUST BE MADE WITH A SNAP CUTTER.
6. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL PERSONS WORKING WITH THE ASBESTOS-CEMENT PIPE HAVE RECEIVED PROPER TRAINING AND USE THE REQUIRED PROTECTIVE EQUIPMENT AT ALL TIMES.

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UTILITY PLAN

PREPARED FOR

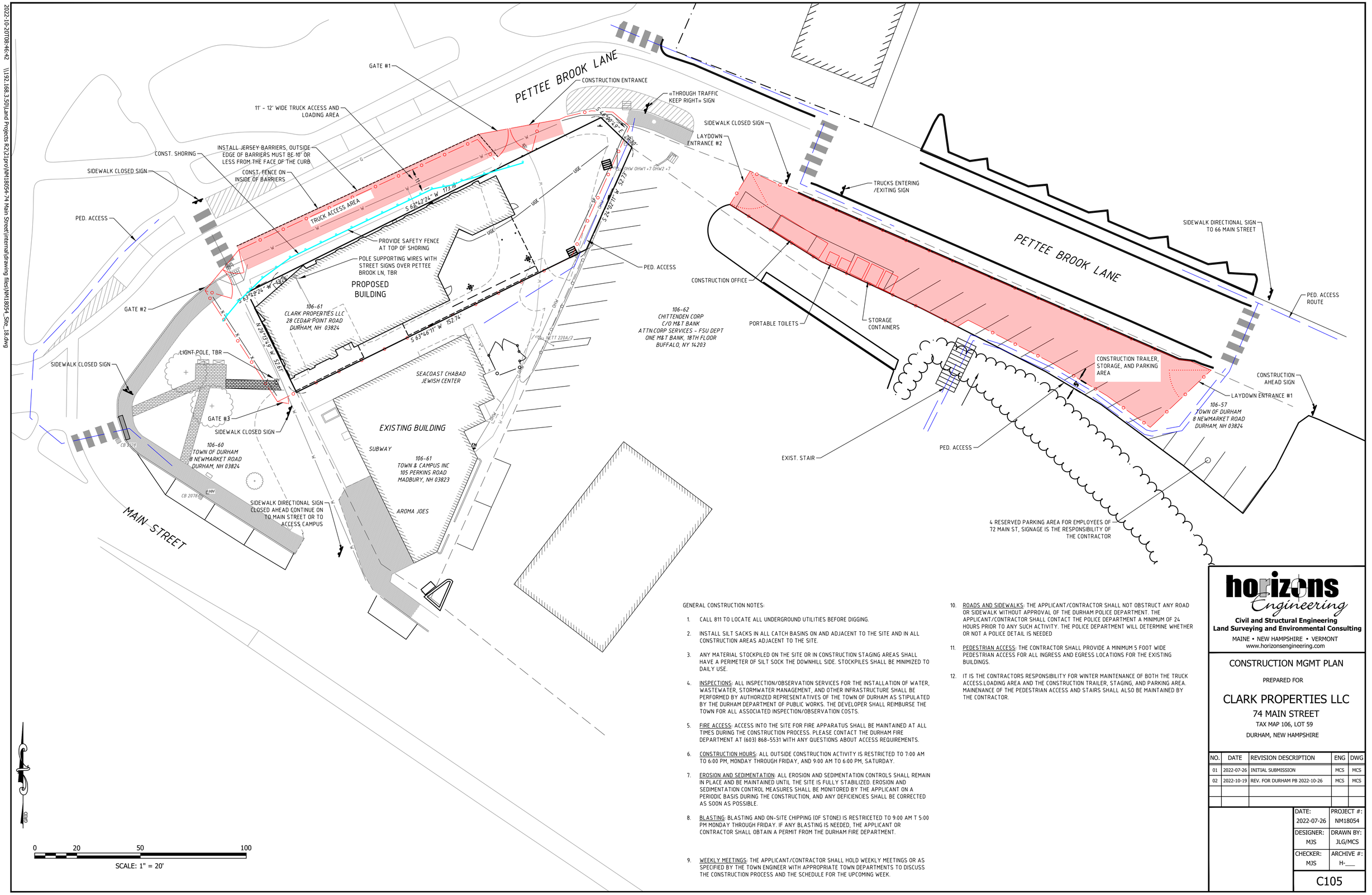
CLARK PROPERTIES LLC

74 MAIN STREET
TAX MAP 106, LOT 59
DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
04	2022-04-15	REVISED PER 7 APRIL MEETING	MCS	MCS
05	2022-06-16	REVISED SITE PLAN	MCS	MCS
06	2022-07-26	REVISED SITE PLAN	MJS	MCS
07	2022-10-19	REV. FOR DURHAM PB 2022-10-26	MCS	MCS

DATE: 2022-01-21	PROJECT #: NM18054
DESIGNER: MJS	DRAWN BY: JLG/MCS
CHECKER: MJS	ARCHIVE #: H-___

C104



GENERAL CONSTRUCTION NOTES:

1. CALL 811 TO LOCATE ALL UNDERGROUND UTILITIES BEFORE DIGGING.
2. INSTALL SILT SACKS IN ALL CATCH BASINS ON AND ADJACENT TO THE SITE AND IN ALL CONSTRUCTION AREAS ADJACENT TO THE SITE.
3. ANY MATERIAL STOCKPILED ON THE SITE OR IN CONSTRUCTION STAGING AREAS SHALL HAVE A PERIMETER OF SILT SOCK THE DOWNHILL SIDE. STOCKPILES SHALL BE MINIMIZED TO DAILY USE.
4. INSPECTIONS: ALL INSPECTION/OBSERVATION SERVICES FOR THE INSTALLATION OF WATER, WASTEWATER, STORMWATER MANAGEMENT, AND OTHER INFRASTRUCTURE SHALL BE PERFORMED BY AUTHORIZED REPRESENTATIVES OF THE TOWN OF DURHAM AS STIPULATED BY THE DURHAM DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER SHALL REIMBURSE THE TOWN FOR ALL ASSOCIATED INSPECTION/OBSERVATION COSTS.
5. FIRE ACCESS: ACCESS INTO THE SITE FOR FIRE APPARATUS SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PROCESS. PLEASE CONTACT THE DURHAM FIRE DEPARTMENT AT (603) 868-5531 WITH ANY QUESTIONS ABOUT ACCESS REQUIREMENTS.
6. CONSTRUCTION HOURS: ALL OUTSIDE CONSTRUCTION ACTIVITY IS RESTRICTED TO 7:00 AM TO 6:00 PM, MONDAY THROUGH FRIDAY, AND 9:00 AM TO 6:00 PM, SATURDAY.
7. EROSION AND SEDIMENTATION: ALL EROSION AND SEDIMENTATION CONTROLS SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MONITORED BY THE APPLICANT ON A PERIODIC BASIS DURING THE CONSTRUCTION, AND ANY DEFICIENCIES SHALL BE CORRECTED AS SOON AS POSSIBLE.
8. BLASTING: BLASTING AND ON-SITE CHIPPING (OF STONE) IS RESTRICETED TO 9:00 AM T 5:00 PM MONDAY THROUGH FRIDAY. IF ANY BLASTING IS NEEDED, THE APPLICANT OR CONTRACTOR SHALL OBTAIN A PERMIT FROM THE DURHAM FIRE DEPARTMENT.
9. WEEKLY MEETINGS: THE APPLICANT/CONTRACTOR SHALL HOLD WEEKLY MEETINGS OR AS SPECIFIED BY THE TOWN ENGINEER WITH APPROPRIATE TOWN DEPARTMENTS TO DISCUSS THE CONSTRUCTION PROCESS AND THE SCHEDULE FOR THE UPCOMING WEEK.
10. ROADS AND SIDEWALKS: THE APPLICANT/CONTRACTOR SHALL NOT OBSTRUCT ANY ROAD OR SIDEWALK WITHOUT APPROVAL OF THE DURHAM POLICE DEPARTMENT. THE APPLICANT/CONTRACTOR SHALL CONTACT THE POLICE DEPARTMENT A MINIMUM OF 24 HOURS PRIOR TO ANY SUCH ACTIVITY. THE POLICE DEPARTMENT WILL DETERMINE WHETHER OR NOT A POLICE DETAIL IS NEEDED
11. PEDESTRIAN ACCESS: THE CONTRACTOR SHALL PROVIDE A MINIMUM 5 FOOT WIDE PEDESTRIAN ACCESS FOR ALL INGRESS AND EGRESS LOCATIONS FOR THE EXISTING BUILDINGS.
12. IT IS THE CONTRACTORS RESPONSIBILITY FOR WINTER MAINTENANCE OF BOTH THE TRUCK ACCESS.LOADING AREA AND THE CONSTRUCTION TRAILER, STAGING, AND PARKING AREA. MAINENANCE OF THE PEDESTRIAN ACCESS AND STAIRS SHALL ALSO BE MAINTAINED BY THE CONTRACTOR.

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CONSTRUCTION MGMT PLAN

PREPARED FOR

CLARK PROPERTIES LLC

74 MAIN STREET

TAX MAP 106, LOT 59

DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
01	2022-07-26	INITIAL SUBMISSION	MCS	MCS
02	2022-10-19	REV. FOR DURHAM PB 2022-10-26	MCS	MCS

DATE: 2022-07-26	PROJECT #: NM18054
DESIGNER: MJS	DRAWN BY: JLG/MCS
CHECKER: MJS	ARCHIVE #: H-___

C105

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REBUILD CURB TIP-DOWN WITH ADA WARNING MAT

SAW CUT AND REPAVE AREA TRAFFICED BY CONSTRUCTION VEHICLES FULL SAWCUT 11' FROM EX. CURB, 1' OUTSIDE OF JERSEY BARRIER. SEE SAWCUT DETAIL SHEET C501

RESTRIPE 5 PARKING SPACES AND DELINEATE NO PARKING AREA IN ADVANCE OF THE CROSS WALK

RECONSTRUCT EXISTING SIDEWALK WITH VERTICAL GRANITE CURBING (6" REVEAL)

REPAIR SEWER PIPE IF DAMAGE OCCURS DURING CONSTRUCTION

PRIOR TO CONSTRUCTION, INSPECT SEWER MANHOLE AND REPAIR OR REPLACE IF NECESSARY

OBLITERATE EXISTING STRIPING AND RESTRIPE

PETTEE BROOK LANE

REPAIR SEWER PIPE IF DAMAGE OCCURS DURING CONSTRUCTION (TRAINED PERSONAL TO CUT, HANDLE, AND DISPOSE OF AC PIPE IF REQUIRED)

CONST. TIP DOWN

CONS. TIPDOWN

SMH 2257

8" AC

S 63°42'24" W 173.16'

S 63°42'24" W 13.26'

REINSTALL POLE MOUNTED LIGHT REMOVED DURING EXCAVATION

PLACE «MATERIAL» FROM BACK OF SIDEWALK TO THE PROPERTY LINE

REINSTALL PARKING KIOSK

REESTABLISH EXISTING GRADE AFTER FOUNDATION IS BACKFILLED LOAM AND SEED

106-61
CLARK PROPERTIES LLC
28 CEDAR POINT ROAD
DURHAM, NH 03824

PROPOSED BUILDING

INSTALL NEW 6" WATER LINE AND DISINFECT IMPACTED LINE BEFORE PUTTING BACK INTO SERVICE

REINSTALL LIGHT POLE THAT WAS REMOVED DURING FOUNDATION EXCAVATION

RELOCATE HAND HOLE AND ELECTRICAL CONDUIT AS NEEDED

N 67°13'26" W 29.21'

S 63°46'11" W 152.74'

106-60
TOWN OF DURHAM
8 NEWMARKET ROAD
DURHAM, NH 03824

RECONSTRUCT BRICK WALKWAY W/ EX. SAVED BRICKS MATCH EXISTING BRICK WALKWAY CONSTRUCTION

CONST. CONCRETE SIDEWALK FROM PETTEE BROOK CROSSWALK TO MAIN STREET

SEACOAST CHABAD JEWISH CENTER

BRING TO FINAL GRADE SHOWN ON SHEET C102 AND LOAD AND SEED

EXISTING BUILDING

SUBWAY

106-61
TOWN & CAMPUS INC
105 PERKINS ROAD
MADBURY, NH 03823

CONST. NEW CONCRETE SIDEWALK WITH VERTICAL GRANITE CURB (6" REVEAL)

RESTRIPE PARKING SPACES

AROMA JOES

SMH 2298

CLEAN BASIN AND ADJUST EXISTING OUTLET INVERT

S 44°01'18" E 20.30'

S 24°02'17" W 52.13'

106-57
TOWN OF DURHAM
8 NEWMARKET ROAD
DURHAM, NH 03824

106-62
CHITTENDEN CORP
C/O M&T BANK
ATTN:CORP SERVICES - FSU DEPT
ONE M&T BANK, 18TH FLOOR
BUFFALO, NY 14203

GENERAL NOTES:

1. THE FULL 11' WIDTH ON PETTEE BROOK LN MUST BE RECONSTRUCTED AFTER CONSTRUCTION. PAVEMENT FULL DEPTH REMOVED, GRADE, COMPACT AND REPAVE WITH MINIMUM 4" PAVEMENT OR MATCH EXSTING.
2. ALL NEW SIDEWALKS SHALL BE REPLACED IN ACCORDANCE WITH THE SIDEWALK CONSTRUCTION DETAILS SHOWN ON SHEET C501.
3. THE TOWN PARKING AREA USED FOR CONSTRUCTION STORAGE, PARKING, ETC SHALL BE RECONSTRUCTED AT THE END OF CONSTRUCTION. FULL DEPTH GRIND, REGRADE, AND REPAVE IN ACCORDANCE WITH DETAIL SHEET C501. ADJUST FRAME AND GRATES OF EXISTING CATCH BASINS.
4. ADJUST ALL FRAMES, GRATES AND COVERS OF EXISTING UTILITIES AS REQUIRED TO MATCH NEW PAVEMENT AT ALL OFFSITE LOCATIONS.

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

_____ DATE _____

GRID

0 10 20 30 40

SCALE: 1" = 10'

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OFFSITE RECONSTRUCTION PLAN

PREPARED FOR

CLARK PROPERTIES LLC

74 MAIN STREET

TAX MAP 106, LOT 59

DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
04	2022-04-15	REVISED PER 7 APRIL MEETING	MCS	MCS
05	2022-06-16	REVISED SITE PLAN	MCS	MCS
06	2022-07-26	REVISED SITE PLAN	MJS	MCS
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DATE: 2022-01-21	PROJECT #: NM18054
DESIGNER: MJS	DRAWN BY: JLG/MCS
CHECKER: MJS	ARCHIVE #: H-___

C106

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EX. SIDEWALK

PETTEE BROOK LANE

SAWCUT, SEE DETAIL

DRIVE AISLE WIDTH OF 10'

RESTRIPE PARKING SPACES

GRIND EXISTING ASPHALT AND REPAVE TOWN PARKING AREA

EX. SIDEWALK

SAWCUT, SEE DETAIL

22

8

10

2

10

8

9

18

REGRADE, LOAM AND SEED ALL EXISTING SLOPES TO MATCH NEW EDGE OF PAVEMENT (TYP)

EX. STAIRS

EX. VEGETATION

106-62
CHITTENDEN CORP
C/O M&T BANK
ATTN:CORP SERVICES - FSU DEPT
ONE M&T BANK, 18TH FLOOR
BUFFALO, NY 14203

106-63
TOWN OF DURHAM
8 NEWMARKET ROAD
DURHAM, NH 03824

GRID

0 10 20 30 40

SCALE: 1" = 10'

GENERAL NOTES:

1. THE FULL 11' WIDTH ON PETTEE BROOK LN MUST BE RECONSTRUCTED AFTER CONSTRUCTION. PAVEMENT FULL DEPTH REMOVED, GRADE, COMPACT AND REPAVE WITH MINIMUM 4" PAVEMENT OR MATCH EXSTING.
2. ALL NEW SIDEWALKS SHALL BE REPLACED IN ACCORDANCE WITH THE SIDEWALK CONSTRUCTION DETAILS SHOWN ON SHEET C501.
3. THE TOWN PARKING AREA USED FOR CONSTRUCTION STORAGE, PARKING, ETC SHALL BE RECONSTRUCTED AT THE END OF CONSTRUCTION. FULL DEPTH GRIND, REGRADE, AND REPAVE IN ACCORDANCE WITH DETAIL SHEET C501. ADJUST FRAME AND GRATES OF EXISTING CATCH BASINS.
4. ADJUST ALL FRAMES, GRATES AND COVERS OF EXISTING UTILITIES AS REQUIRED TO MATCH NEW PAVEMENT AT ALL OFFSITE LOCATIONS.

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

_____ DATE _____

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OFFSITE RECONSTRUCTION PLAN

PREPARED FOR

CLARK PROPERTIES LLC

74 MAIN STREET
TAX MAP 106, LOT 59
DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
04	2022-04-15	REVISED PER 7 APRIL MEETING	MCS	MCS
05	2022-06-16	REVISED SITE PLAN	MCS	MCS
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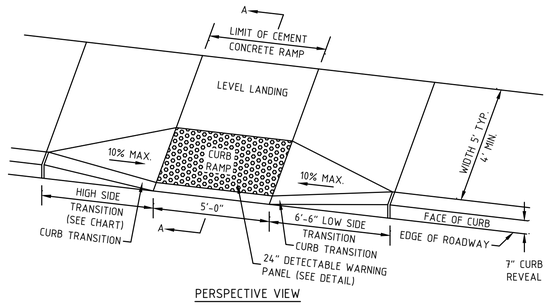
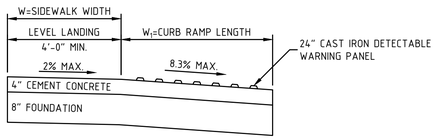
DATE: 2022-01-21	PROJECT #: NM18054
DESIGNER: MJS	DRAWN BY: JLG/MCS
CHECKER: MJS	ARCHIVE #: H-___

C107



PERSPECTIVE VIEW



SECTION A-A

LEGEND:

W = SIDEWALK WIDTH (MIN. 5' EXCLUDING CURB)

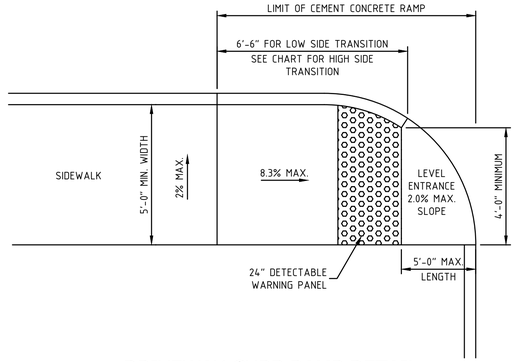
W_1 = PERPENDICULAR RAMP LENGTH

NOTE:

LEVEL LANDING SHALL BE 60" MIN. IN DIRECTION OF PEDESTRIAN CROSSING WHEN CONSTRAINED. RECOMMENDED 60"x60".

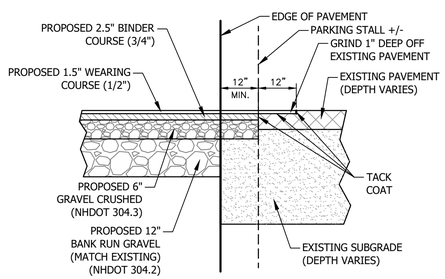
TYPICAL CURB RAMP DETAIL

NOT TO SCALE



DRIVEWAY CURB RAMP DETAIL

NOT TO SCALE

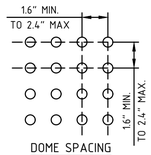


TYPICAL PAVEMENT SAWCUT DETAIL

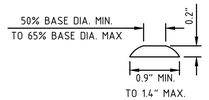
NOT TO SCALE

PAVEMENT SAWCUT NOTES:

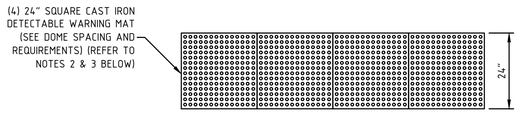
1. SAWCUT THROUGH DEPTH OF PAVEMENT AT LEAST 1 FT. FROM EDGE OR GREATER IF REQUIRED BY NHDOT.
2. INSTALL AND COMPACT CRUSHED GRAVEL TO GRADE.
3. PLACE BINDER COURSE.
4. GRIND EXISTING PAVEMENT 1 FT. WIDE TO A DEPTH NECESSARY TO PROPERLY MATCH NEW WEARING COURSE PAVEMENT.
5. TACK COAT ALL EXISTING PAVEMENT SURFACES WITH EMULSIFIED ASPHALT (MS-1) PRIOR TO PLACING NEW PAVEMENT.
6. CRACK SEAL ALL JOINTS TO TOWN SPECIFICATIONS.



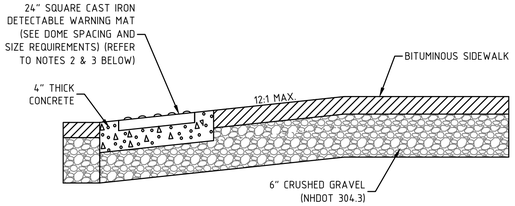
DOME SPACING



DOME SECTION



PLAN VIEW



SECTION VIEW

NOTES:
1. MAXIMUM CROSS SLOPE OF SIDEWALK TO BE 2%.
2. CONCRETE TO BE 4,000 PSF.
3. REFER TO MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION OF DETECTABLE WARNING MATS.

TYPICAL ADA WARNING MAT DETAIL

NOT TO SCALE

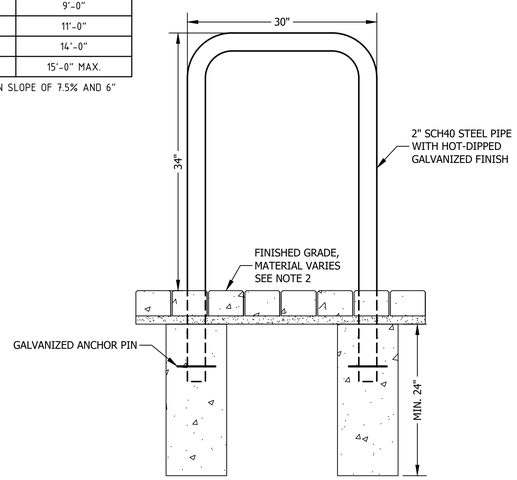
NOTES:

1. ALL RAMPS TO BE CONSTRUCTED OF CEMENT CONCRETE.
2. ALL RAMPS TO HAVE DETECTABLE WARNING PANELS CONFORMING TO TOWN DETAILS.
3. FIELD LOCATION OF CURB RAMPS TO BE APPROVED BY TOWN ENGINEER PRIOR TO CONSTRUCTION.

TABLE OF TRANSITION LENGTHS

ROADWAY PROFILE GRADE (%)	HIGH SIDE TRANSITION LENGTH
0	6'-6"
>0-1	7'-8"
>1-2	9'-0"
>2-3	11'-0"
>3-4	14'-0"
>4	15'-0" MAX.

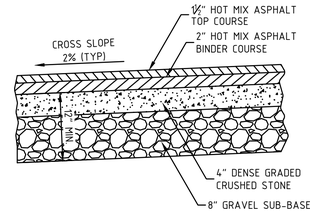
*BASED ON A DESIGN SLOPE OF 7.5% AND 6" OF CURB REVEAL.



NOTES:
1. ALL BICYCLE STANDS MUST BE MADRAX UX238-IG-G OR UX238-SF-G, OR APPROVED EQUAL.
2. ALL BICYCLE STANDS MUST BE IN-GROUND MOUNTED UNLESS THEY WILL BE MOUNTED TO AN EXISTING CONCRETE SLAB THAT MEETS MADRAX REQUIREMENTS FOR SURFACE MOUNTING.

SHEFFIELD BICYCLE STAND DETAIL

NOT TO SCALE

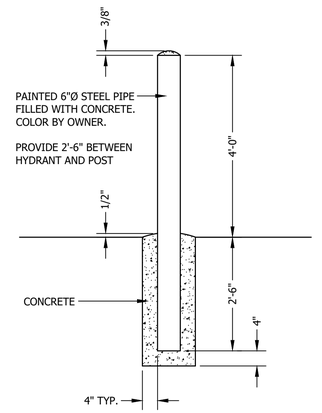


NOTES:

1. MINIMUM PAVEMENT THICKNESS SHOWN IS FOR RESIDENTIAL STREETS, PROPOSED PAVEMENT DESIGNS FOR OTHER ROADWAYS TO BE APPROVED BY TOWN ENGINEER.
2. RECLAIMED ASPHALT PAVEMENT MATERIAL MAY BE SUBSTITUTED FOR DENSE GRADED CRUSHED STONE AND GRAVEL SUB-BASE IF APPROVED BY TOWN ENGINEER. GRADATION SHALL MET AASHTO A-1-A AT A MINIMUM.

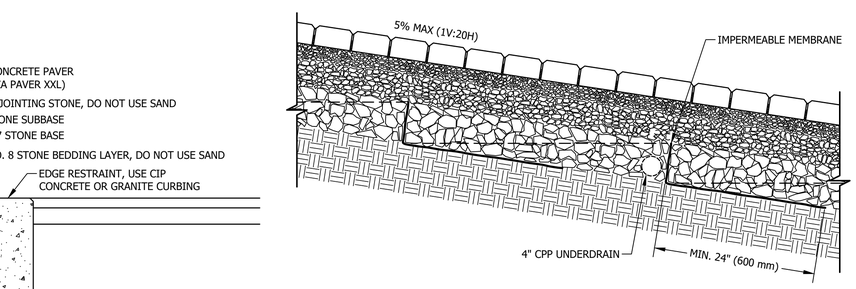
TYPICAL PAVEMENT SECTION

NOT TO SCALE



CONCRETE FILLED BOLLARD DETAIL

NOT TO SCALE



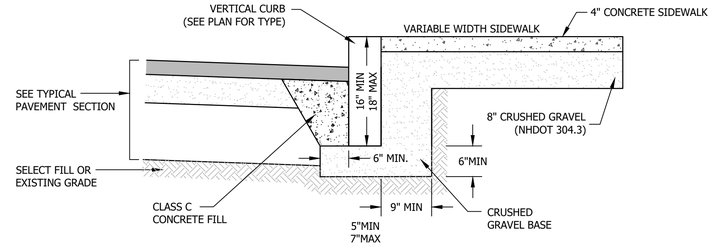
TYPICAL PERMEABLE PAVER CROSS-SECTION

NOT TO SCALE

NOTES:
1. LOCATIONS, HEIGHT, AND WIDTHS OF CHECK DAMS TO BE SPECIFIED IN THE DESIGN PLANS.
2. DEPTH OF CHECK DAM VARIES WITH HYDROLOGIC DESIGN.
3. UNDERDRAIN TO PASS THROUGH IMPERMEABLE MEMBRANE ATTACHED AS A WATERTIGHT COLLAR.
4. IMPERMEABLE LINER TOP AND BOTTOM COVER WITH NON-WOVEN GEOTEXTILE (MIRAFI 160N) FOR PROTECTION AGAINST DAMAGE DURING AGGREGATE COMPACTION.

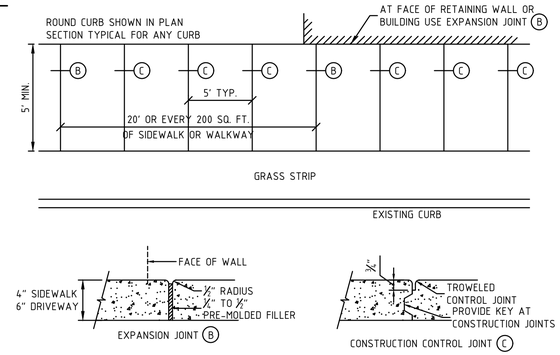
TYPICAL IMPERMEABLE MEMBRANE CHECK DAM

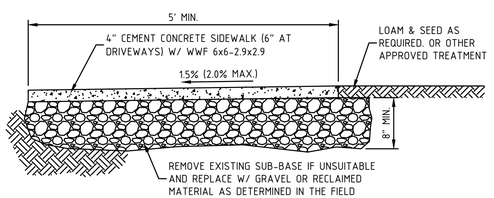
NOT TO SCALE



TYPICAL VERTICAL CURB DETAIL

NOT TO SCALE





TYPICAL CONCRETE SIDEWALK DETAIL

NOT TO SCALE

horizons Engineering
Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

CONSTRUCTION DETAILS

PREPARED FOR

CLARK PROPERTIES LLC

74 MAIN STREET

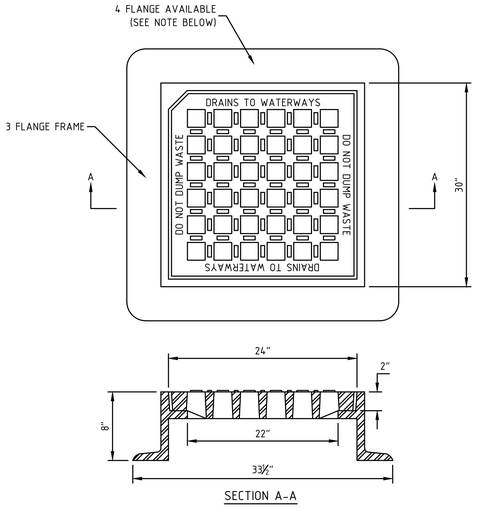
TAX MAP 106, LOT 59

DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
01	2021-07-19	REVISED DRAINAGE DESIGN	MCS	MCS

DATE: 2021-07-19	PROJECT #: NM18054
DESIGNER: MJS	DRAWN BY: MCS
CHECKER: MJS	ARCHIVE #: H-___

C501

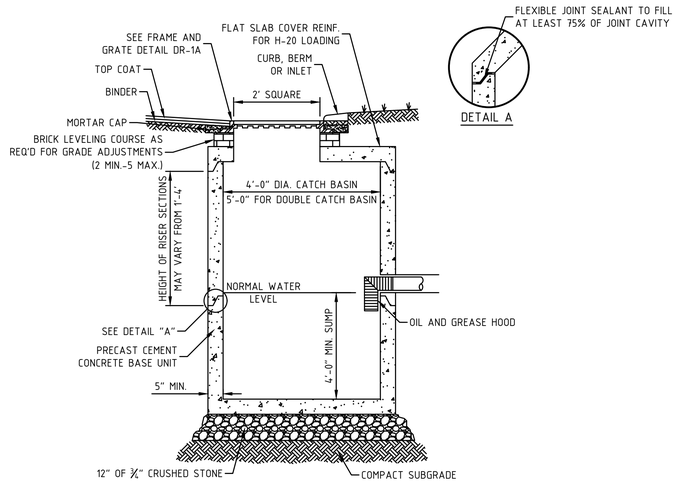


SECTION A-A

NOTE:
1. 3 FLANGE FRAMES TO BE USED WHERE INLET IS ADJACENT TO CURB STONES, 4 FLANGE FRAME TO BE USED ELSEWHERE.
3. "DO NOT DUMP WASTE, DRAINS TO WATERWAYS" SHALL BE FORGED INTO THE GRATE.

CATCH BASIN FRAME & GRATE

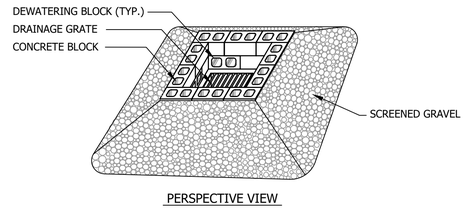
NOT TO SCALE



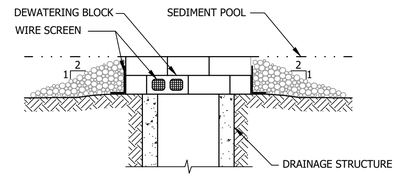
NOTE:
PRECAST REINFORCED CONCRETE CATCH BASIN TO BE CAPABLE OF SUPPORTING H-20 LOADING.

TYPICAL CATCH BASIN DETAIL

NOT TO SCALE



PERSPECTIVE VIEW



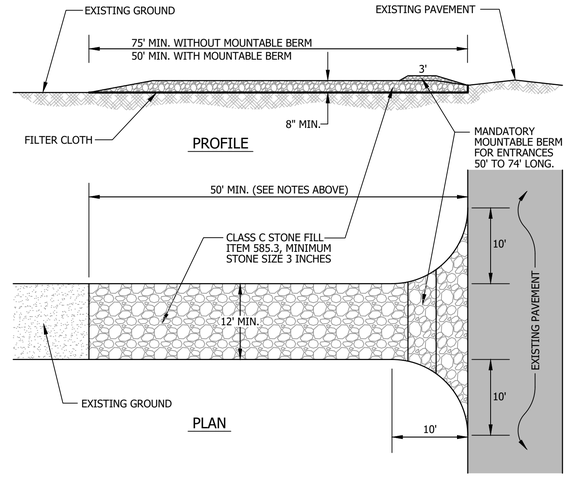
SECTION

MATERIALS SPECIFICATIONS:
1. CONCRETE BLOCKS: HOLLOW LOAD BEARING CONCRETE MASONRY UNITS, 8" x 8" x 16" DIMENSION.
2. WIRE SCREEN: HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2" OPENINGS.
3. SCREENED GRAVEL: UNIFORMLY GRADED 3/8" TO 1-1/2" DIA. STONE.

CONSTRUCTION SPECIFICATIONS:
1. INSTALL BLOCK AND GRAVEL INLET PROTECTION WHERE INDICATED OR WARRANTED.
2. EXCAVATE FOUNDATION 2" BELOW RIM OF STORM DRAIN.
3. PLACE BOTTOM ROW OF BLOCKS AGAINST EDGE OF STORM DRAIN WITH ONE BLOCK ON EACH SIDE OF THE ROW BEING LAID ON ITS SIDE. PLACE TOP ROW OF BLOCKS.
4. INSTALL WIRE SCREEN OVER ALL DEWATERING BLOCKS.
5. PLACE SCREENED GRAVEL AROUND EXTERIOR OF BLOCK BARRIER TO 1" BELOW THE TOP OF THE BLOCKS.

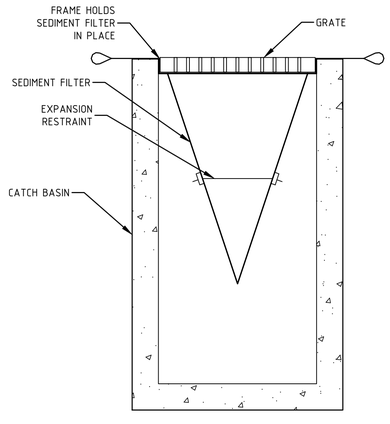
CATCH BASIN INLET PROTECTION DETAIL

NO SCALE



STABILIZED CONSTRUCTION ENTRANCE

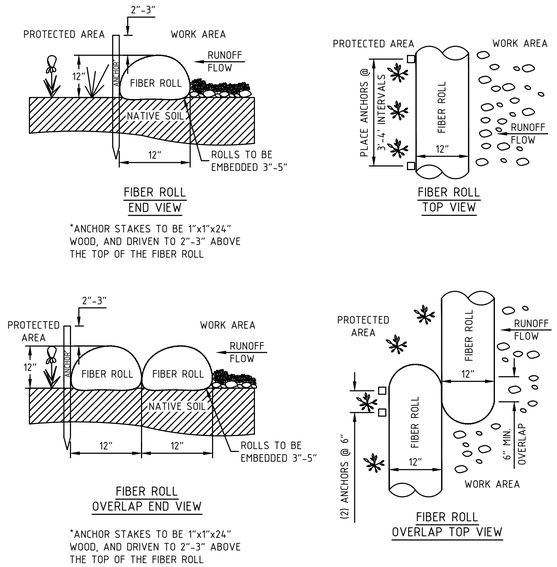
NOT TO SCALE



NOTES:
1. SEDIMENT FILTER TRAP SHALL BE ACF REGULAR FLOW SILTSACK OR APPROVED EQUAL.
2. FILTERS SHALL BE INSPECTED AFTER EVERY RAIN EVENT OF 0.25" OR GREATER AND SEDIMENTS SHALL BE REMOVED FROM TRAP WHEN SEDIMENT HAS REACHED TWO THIRDS OF THE DEPTH OF THE TRAP, OR IF PONDING OF WATER AT SURFACE BEGINS TO OCCUR. DO NOT PUNCTURE FILTER TRAP TO MITIGATE PONDING.

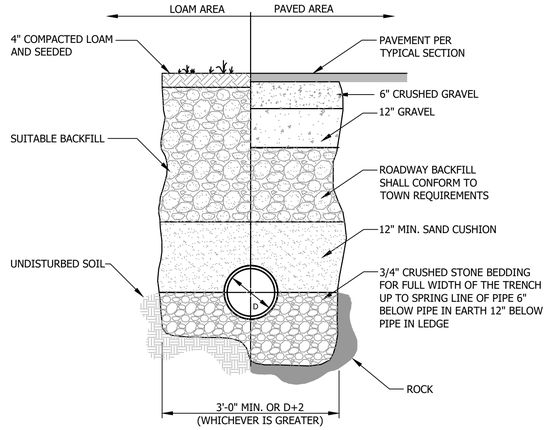
CATCH BASIN SILT SACK INSERT

NOT TO SCALE



EROSION CONTROL FIBER ROLL DETAIL

NOT TO SCALE



TYPICAL DRAINAGE TRENCH DETAIL

NOT TO SCALE

FOR REVIEW
NOT FOR CONSTRUCTION

DATE OF PRINT
28 SEPTEMBER 2022
HORIZONS ENGINEERING

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Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
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CONSTRUCTION DETAILS

PREPARED FOR

CLARK PROPERTIES LLC
74 MAIN STREET
TAX MAP 106, LOT 59
DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
01	2021-07-19	REVISED DRAINAGE DESIGN	MCS	MCS

DATE:	PROJECT #:
2021-07-19	NM18054
DESIGNER:	DRAWN BY:
MJS	MCS
CHECKER:	ARCHIVE #:
MJS	H-___

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SEWER NOTES

1. GENERAL

   CONSTRUCTION OF ALL COMPONENTS OF THE SANITARY SEWER SYSTEM SHALL CONFORM TO THE MOST CURRENT VERSION OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES ENV-WQ 700 AND TECHNICAL SPECIFICATIONS ENTITLED "_____".

2. TYPES OF SEWERS

   A. THERE SHALL BE NO CONNECTION BETWEEN SANITARY SEWERS AND STORM SEWERS.
   B. RUNOFF FROM ROOFS, STREETS, AND OTHER AREAS AND GROUNDWATER FROM FOUNDATION DRAINS, SUMP PUMPS, OR OTHER SUBSURFACE DRAINS SHALL BE EXCLUDED FROM SANITARY SEWERS.

3. SEWER SIZE AND COVER

   A. MINIMUM PIPE SIZE FOR GRAVITY SEWER MAINS SHALL BE 8 INCHES.
   B. MINIMUM PIPE SIZE FOR GRAVITY SEWER SERVICES SHALL BE 4 INCHES.
   C. MINIMUM PIPE SIZE FOR FORCE MAIN SEWER SERVICES SHALL BE 2 INCHES.
   D. SANITARY SEWERS SHALL HAVE 6 FEET MINIMUM COVER IN ALL ROADWAY LOCATIONS AND 4 FEET MINIMUM COVER IN ALL CROSS-COUNTRY LOCATIONS.

4. PIPE AND FITTING MATERIALS:

   A. DUCTILE IRON PIPE

      DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION:
      (1) AWWA C151 FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL OR SAND LINED MOLDS, FOR WATER OR OTHER LIQUIDS;
      (2) AWWA C150 FOR THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A 536 IRON CASTINGS; AND
      (3) JOINTS SHALL BE MECHANICAL TYPE, PUSH-ON TYPE, OR BALL-AND-SOCKET TYPE;

   B. PVC (POLY VINYL CHLORIDE) PIPE

      PVC PIPE AND FITTINGS SHALL BE APPROVED FOR SEWAGE SERVICE AND CONFORM TO THE FOLLOWING:
      (1) PVC PIPE USED FOR GRAVITY SEWERS SHALL BE TYPE SDR 35 CONFORMING TO ASTM D3034;
      (2) PVC PIPE USED FOR FORCE MAINS SHALL BE TYPE SDR 26 CONFORMING TO ASTM D2241 OR ASTM D1785;
      (3) JOINTS SHALL BE PUSH-ON, BELL-AND-SPIGOT TYPE HAVING OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D3212.

5. BEDDING

   PIPE BEDDING SHALL BE SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67. BEDDING SHALL EXTEND FROM THE SPRING LINE OF THE PIPE TO A MINIMUM DEPTH OF 6" BELOW THE BOTTOM OF THE PIPE OUTSIDE SURFACE.

100% PASSING	1 INCH SCREEN
90-100% PASSING	¾ INCH SCREEN
20-55% PASSING	⅜ INCH SCREEN
0-10% PASSING	#4 SIEVE
0-5% PASSING	#8 SIEVE

6. MANHOLES

   A. PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL CONFORM TO ASTM C478.
   B. MANHOLES SHALL BE DESIGNED FOR H-20 LOADING.
   C. HORIZONTAL JOINTS BETWEEN BARREL SECTIONS SHALL BE OF AN OVERLAPPING TYPE WHICH SHALL DEPEND UPON A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT FOR WATER TIGHTNESS.
   D. PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
      (1) ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;
      (2) CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS;
      (3) ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
      (4) NON-SHRINK GROUTED JOINTS WHERE WATERTIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.

   E. MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.

7. PROTECTION OF WATER SUPPLIES

   A. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE WATER SUPPLY SYSTEM AND A SEWER OR SEWER APPURTENANCE WHICH WOULD PERMIT THE PASSAGE OF SEWAGE OR POLLUTED WATER INTO THE POTABLE SUPPLY. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER OR SEWER MANHOLE.

   B. NO SEWER SHALL BE LOCATED WITHIN THE WELL PROTECTIVE RADII ESTABLISHED IN ENV-WS 300 FOR ANY PUBLIC WATER SUPPLY WELLS OR WITHIN 100 FEET OF ANY PRIVATE WATER SUPPLY WELL.

   C. SEWERS SHALL BE LOCATED AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.

   D. A DEVIATION FROM THE SEPARATION REQUIREMENTS OF (B) OR (C) ABOVE SHALL BE ALLOWED WHERE NECESSARY TO AVOID CONFLICT WITH SUBSURFACE STRUCTURES, UTILITY CHAMBERS, AND BUILDING FOUNDATIONS, PROVIDED THAT THE SEWER IS CONSTRUCTED IN ACCORDANCE WITH THE FORCE MAIN CONSTRUCTION REQUIREMENTS SPECIFIED IN ENV-WQ 704.06.

   E. WHENEVER SEWERS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS:
      (1) VERTICAL SEPARATION OF THE SEWER AND WATER MAIN SHALL BE NOT LESS THAN 18 INCHES, WITH WATER ABOVE SEWER; AND
      (2) SEWER PIPE JOINTS SHALL BE LOCATED AT LEASE 6 FEET HORIZONTALLY FROM THE WATER MAIN.

STANDARD TRENCH NOTES - SEWER

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE SHALL BE REPLACED WITH BEDDING MATERIAL. SEE ALSO NOTE 4.

2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67.

100% PASSING	1 INCH SCREEN
90-100% PASSING	¾ INCH SCREEN
20-55% PASSING	⅜ INCH SCREEN
0-10% PASSING	#4 SIEVE
0-5% PASSING	#8 SIEVE

3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 100% PASSES A ½ INCH SIEVE AND NOT MORE THAN 15% PASSES A #200 SIEVE.

4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS, AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED FROM THE TRENCH DURING THE COURSE OF CONSTRUCTION, AFTER EXCLUDING DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL NOT APPROVED BY THE ENGINEER.

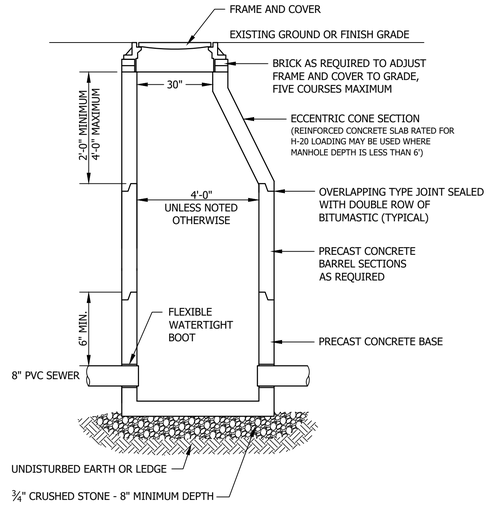
   TRENCH BACKFILL IN CROSS-COUNTRY LOCATIONS SHALL BE SUITABLE MATERIAL AS DESCRIBED ABOVE, EXCEPT THAT TOP SOIL, LOAM, MUCK, OR PEAT MAY BE USED PROVIDED THAT THE COMPLETED CONSTRUCTION WILL BE STABLE AND ACCESS TO THE PIPE FOR MAINTENANCE AND RECONSTRUCTION IS PRESERVED. BACKFILL SHALL BE MOUNDED TO A HEIGHT OF SIX INCHES ABOVE THE ORIGINAL GROUND SURFACE

5. BASE COURSE FOR TRENCH REPAIR SHALL MEET THE REQUIREMENTS OF SECTION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.

6. SHEETING: ALL TRENCH SUPPORTS SHALL CONFORM TO OSHA STANDARDS. CONTRACTOR IS RESPONSIBLE FOR OSHA COMPLIANCE AND WORKER SAFETY THROUGHOUT CONSTRUCTION.

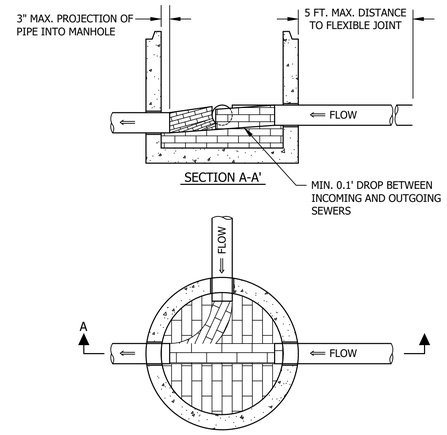
7. TRENCH DIMENSIONS: W = MAXIMUM ALLOWABLE TRENCH WIDTH MEASURED 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER (D) OR LESS, W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS THE PIPE OUTSIDE DIAMETER. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE. THE MAXIMUM ALLOWABLE TRENCH PAVEMENT PAYMENT WIDTH SHALL BE 8 FEET CENTERED OVER PIPE.

8. PIPE INSULATION AT STORM DRAIN CROSSING: INSTALL 2" THICK RIGID FOAM INSULATION OVER SEWER AT STORM DRAIN CROSSINGS, EXTEND INSULATION 4 FEET EITHER SIDE OF STORM DRAIN ALONG SEWER.



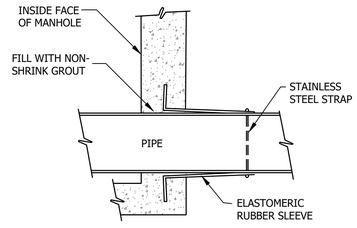
SANITARY SEWER MANHOLE DETAIL

NOT TO SCALE

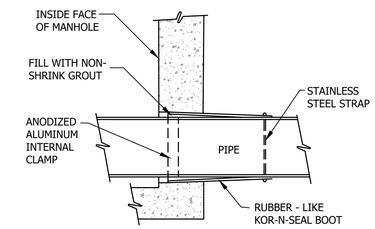


MANHOLE INVERT DETAILS

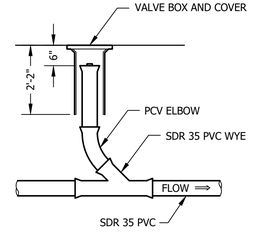
NOT TO SCALE



LOCK-JOINT FLEXIBLE MANHOLE SLEEVE

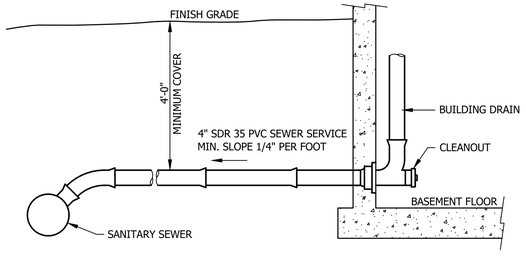


KOR-N-SEAL JOINT SLEEVE



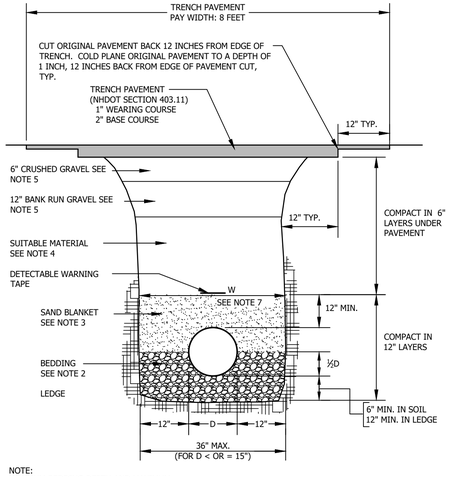
SEWER CLEANOUT DETAIL

NOT TO SCALE



SEWER SERVICE DETAIL

NOT TO SCALE

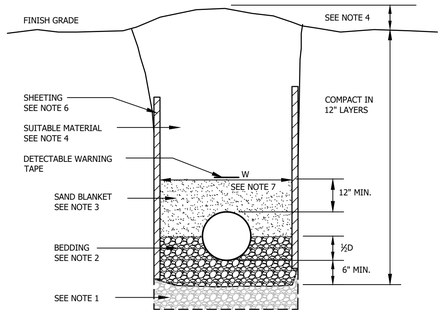


NOTE:
MINIMUM BEDDING DEPTH AND MAXIMUM PAYMENT LIMIT FOR LEDGE EXCAVATION = ¼D (12" MINIMUM)

LEDGE/SUB PAVEMENT CONSTRUCTION

PIPE-TO-MANHOLE CONNECTION DETAIL

NOT TO SCALE



EARTH CONSTRUCTION WITH OR WITHOUT SHEETING

STANDARD TRENCH SECTIONS

NOT TO SCALE

DATE OF PRINT
28 SEPTEMBER 2022
HORIZONS ENGINEERING

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Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

CONSTRUCTION DETAILS

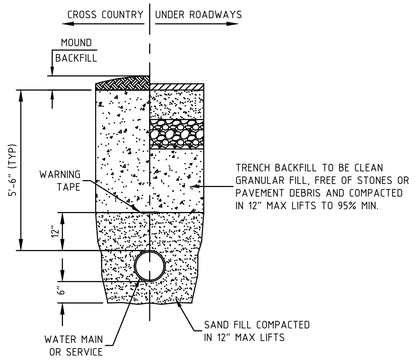
PREPARED FOR

CLARK PROPERTIES LLC
74 MAIN STREET
TAX MAP 106, LOT 59
DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
01	2021-07-19	REVISED DRAINAGE DESIGN	MCS	MCS

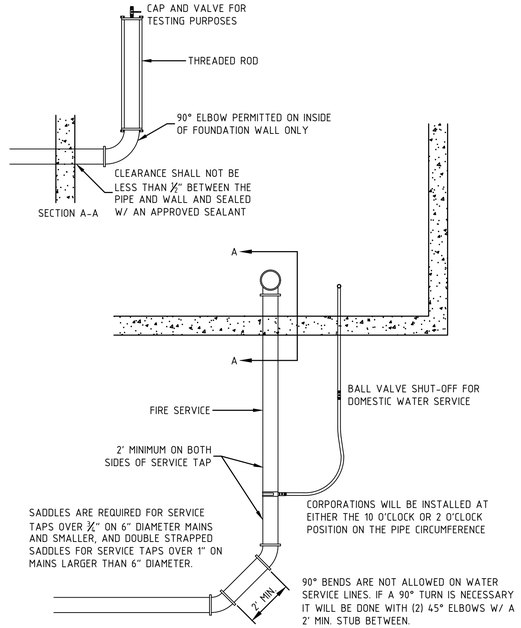
DATE: 2021-07-19	PROJECT #: NM18054
DESIGNER: MJS	DRAWN BY: MCS
CHECKER: MJS	ARCHIVE #: H-___

C503



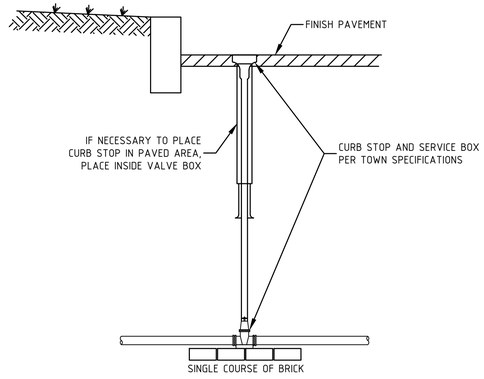
WATER MAIN TRENCH DETAIL

NOT TO SCALE



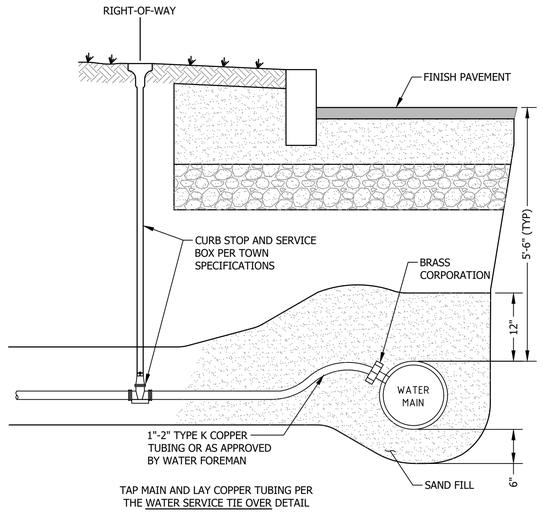
BUILDING FIRE AND DOMESTIC WATER SERVICE DETAIL

NOT TO SCALE



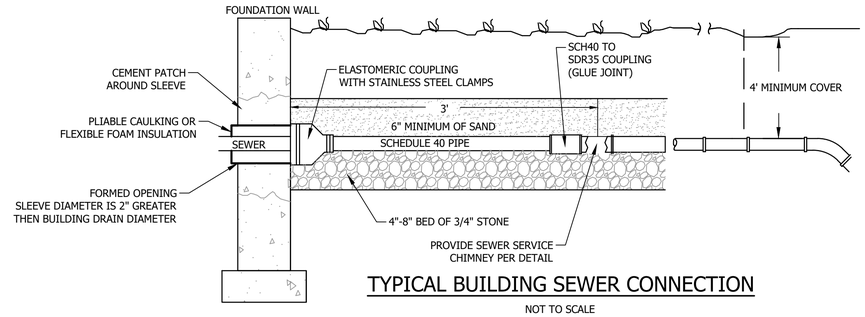
CURB STOP IN PAVEMENT DETAIL

NOT TO SCALE



WATER SERVICE INSTALLATION DETAIL

NOT TO SCALE



TYPICAL BUILDING SEWER CONNECTION

NOT TO SCALE

POTABLE WATER DISTRIBUTION SYSTEM NOTES

THE WATER DISTRIBUTION SYSTEM MUST COMPLY WITH THE US SAFE DRINKING WATER ACT, NHDES ADMINISTRATIVE RULES, AND ALL MUNICIPAL REGULATIONS.

1. PIPELINE DESIGN CRITERIA

DESIGN LIFE EXPECTANCY	100 YEAR
DESIGN LIVE LOADS	HS-20
DESIGN PRESSURE	200 PSI (1.4 MPa)
MAX. OPERATING TEMPERATURE	73 °F (23 °C)

2. REFERENCE SPECIFICATIONS

DUCTILE IRON (DI) PIPES	
PIPE	AWWA C151/A21.51, AWWA C150/A21.50
2"-16" FITTINGS	AWWA C153/A21.53
GASKETS	AWWA C111/A21.11
GATE VALVES	AWWA C515
DRY-BARREL HYDRANTS	AWWA C502
WATER MAIN DISINFECTION	AWWA C651

ALL MATERIALS MUST BE NSF/ANSI 61 CERTIFIED AND BE INTENDED FOR USE WITH POTABLE WATER.

3. GENERAL NOTES

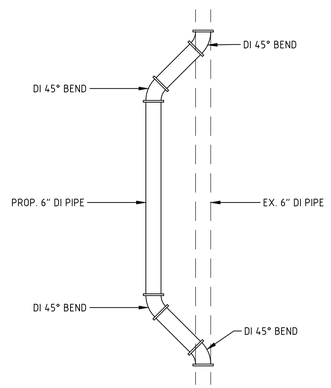
A. IF CONTAMINATED SOILS ARE FOUND DURING EXCAVATION, CONTACT DURHAM FIRE DEPT IMMEDIATELY. CONTACT ENGINEER OF RECORD TO DETERMINE REQUIRED NEXT STEPS BEFORE WORK CAN RESUME.

4. DISINFECTION

A. ALL PIPES THAT WILL BE DEPRESSURIZED OR NEWLY INSTALLED MUST BE DISINFECTED.
B. CONTACT DURHAM DPW TO DETERMINE THE REQUIRED LAB TESTING. IF DURHAM DPW DOES NOT HAVE AN ACCEPTANCE CRITEREA, THE WATER MUST BE TESTED FOR FECAL- AND TOTAL COLIFORMS, AND HETEROTROPHS PER AWWA C651. THE SYSTEM CAN ONLY GO INTO SERVICE IF NO COLIFORMS ARE PRESENT AND THE HPC < 500 CFU/ml IN TWO SETS OF SAMPLES TAKEN AT LEAST 16 HOURS AFTER DISINFECTION AND 15 MINUTES APART.

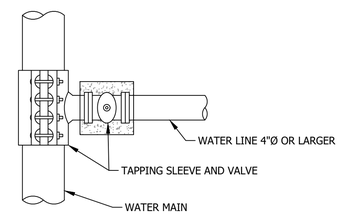
6. PRESSURE TESTING

A. WATER SYSTEM MUST BE PRESSURE TESTED USING THE METHODS DESCRIBED IN AWWA C605.
B. WATER DISTRIBUTION SYSTEM MUST BE TESTED WITH WATER TO THE GREATER OF MAOP×1.5 OR 150 PSI. DO NOT USE AIR TO PRESSURE TEST SYSTEM.



POTABLE WATER PIPE RELOCATION

NOT TO SCALE



PLAN VIEW

NOTES:
1. USE JCM 459 MJ OUTLET OR EQUAL APPROVED BY ENGINEER OF RECORD.

WATER MAIN TAPPING SLEEVE CONNECTION

NOT TO SCALE

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CONSTRUCTION DETAILS

PREPARED FOR

CLARK PROPERTIES LLC

74 MAIN STREET

TAX MAP 106, LOT 59

DURHAM, NEW HAMPSHIRE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
01	2021-07-19	REVISED DRAINAGE DESIGN	MCS	MCS

DATE: 2021-07-19	PROJECT #: NM18054
DESIGNER: MJS	DRAWN BY: MCS
CHECKER: MJS	ARCHIVE #: H-___

C504

GENERAL NOTES:

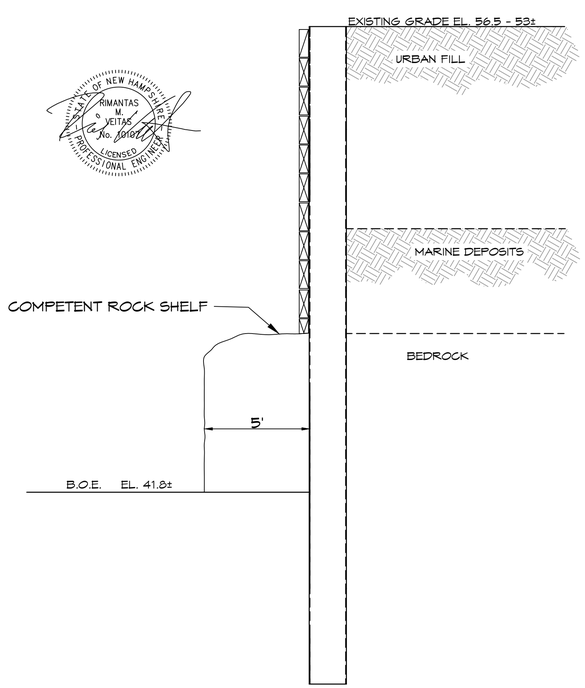
1. Support of Excavation plan used project drawings Clark Properties, LLC C103 Utility Plan, Topographic Plan for Town & Campus, Inc. by Doucet Survy, Inc., and Structural Drawings prepared by Odeh Engineers dated 7/26/2022, 8/21/2018, and 7/23/2021, respectively. For additional information, please reference the architectural and structural drawings for proposed dimensions and locations of proposed structures.
2. "Geotechnical Investigation Report, Proposed 74 Main Street Durham, New Hampshire", prepared by John Turner Consulting, Inc. dated April 22, 2022 was used for the subsurface information when designing the Support of Excavation.
3. Limits of the Support of Excavation system shown on the drawings are based on the project plans and discussions between HELICAL and the General Contractor. This design has assumed installation by HELICAL Drilling and is not for use by other contractors/installers.
4. The excavation support system has been designed for a maximum vertical construction surcharge or 250 psf applied no closer than 2 feet behind the system. If additional surcharge loads are required, HELICAL will need to be made aware.
5. All slopes and excavations to be conducted onsite and around the proposed Support of Excavation shall be stable and safe within the applicable OSHA requirements. Any overhead wires shall be deenergized or removed to provide OSHA 10-ft minimum clearance at all times.
6. Soldier piles shall be installed at the locations shown and to the minimum depths provided. If any variations are encountered, notify the engineer immediately.
7. All existing and proposed below grade utilities shall be marked and identified prior to the start of work. DIG SAFE will be notified by HELICAL but any additional utilities not picked up by DIG SAFE is the responsibility of the General Contractor. If any conflicts are discovered they should be address immediately and prior to mobilization to start the work.
8. To prevent the loss of retained earth between lagging board joints, surface drainage shall be graded to not allow it to collect behind the Support of Excavation. The Support of Excavation system is also not designed to retain water and will allow groundwater to seep between lagging boards.
9. No lagging excavations shall be left open overnight. If lagging boards cannot be installed prior to end of day, any excavated areas will need to be temporarily backfilled (by Others) until lagging boards can be installed. Speed and frequency of excavation for lagging work shall be at the sole discretion of HELICAL.
10. Any temporary work stoppages will need to allow time to allow excavations to be made safe for the period of the shutdown.
11. The Lateral movement of the system shall be monitored (by Others) during construction and during use of the system. If the movement exceeds the threshold value of 1 inch HELICAL shall be notified immediately to review the conditions.
12. The type of rock removal shall be reviewed with Helical Drilling. Methods used that may reduce the quality of the rock at the soldier pile locations should not be allowed.

MATERIAL NOTES:

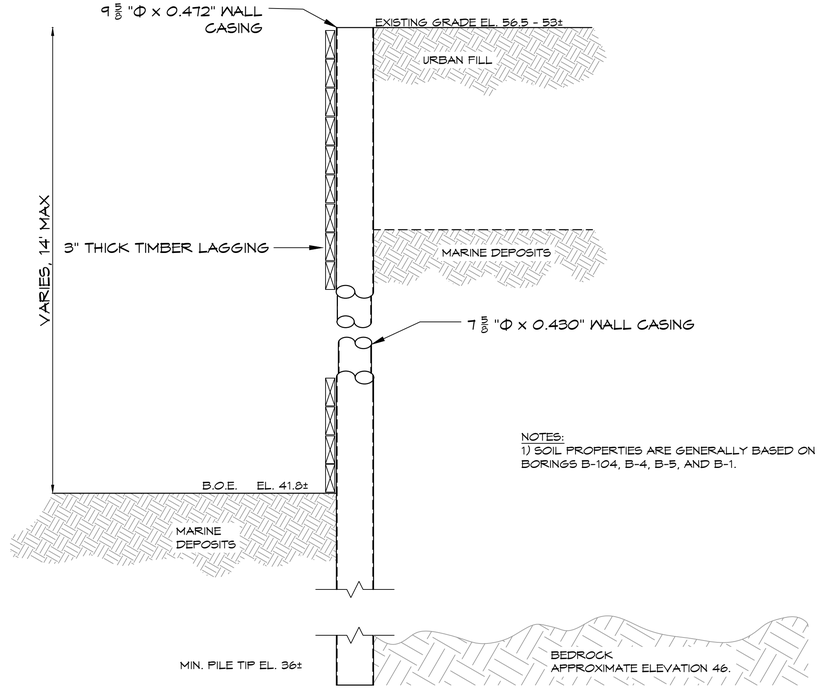
1. Drilled soldier piles - API N80 Drill Casing.
2. Grout - shall be a either a neat cement grout with a water/cement ratio not to exceed 0.45 or a ready-mix sand grout.
3. Either grout used shall have a minimum 28 day design strength of 4,000psi.
4. All plates, angles or miscellaneous metals shall ASTM A36 Grade 36 unless noted otherwise. Member sizes of equal or greater capacity than shown may be substituted.
5. All welding shall be done by a qualified welder at the sole judgement of HELICAL. Welding electrodes shall be E70xx unless noted otherwise.
6. Timber lagging shall be rough sawn nominal 3" thick and 8" wide boards. Lagging boards shall be free from significant deflects and can be either new or used at the sole discretion of HELICAL.

INSTALLATION PROCEDURE NOTES:

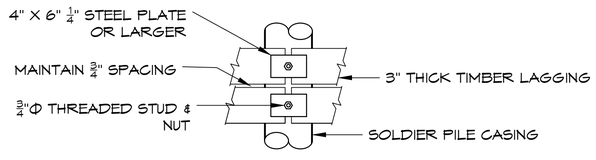
1. The area along the alignment shall be cleared of all existing utilities and other obstructions prior to pile installation. The soldier piles shall then be installed at the locations shown in the plan. Piles shall be drilled. If utilities are within 2 feet of a pile location, the pile location shall be sleeved by Others to the invert of the utility.
2. Working grade is assumed to be the existing grade along Pettee Brook Lane, ranging from approximately El. 56.5 - 53.
3. Piles will then be drilled to their minimum design tip elevations.
4. Next grout will be placed in the piles. Grout can be end dumped from the surface as long as there is no standing water or sediment within the soldier pile. If water or sediment is within the soldier pile prior to grouting, grout shall be tremie grouted in place displacing all water and sediment.
5. Placement of the inner sleeve will occur after the soldier pile has been fully grouted. Sleeve will be wet set into the fresh grout without delay.
6. Core pipe sleeve shall be placed to the pile tip and will be 15-ft long minimum.
7. Cable handrail will be installed.
8. Installation of lagging boards will be completed in a top down manner. Excavation depth shall be no deeper than 4-ft prior to placement of lagging boards at any time. The number of bays excavated and prepared for lagging placement shall be no more than what can be lagged within a few hour period and at the sole discretion of HELICAL.
9. Piles shall be cut below frost depth after building is backfilled and temporary shoring wall is no longer needed.

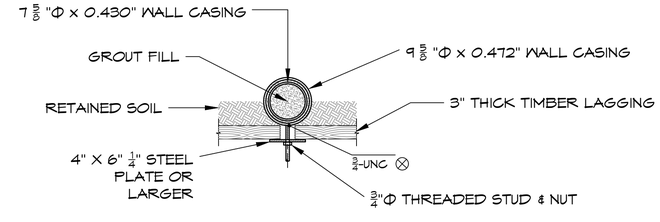


ROCK SHELF ELEVATION
NOT TO SCALE

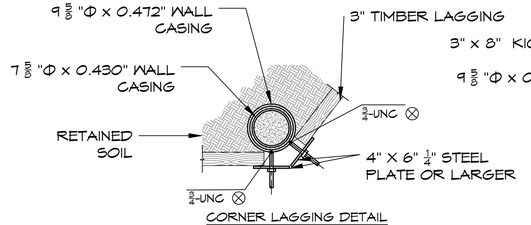


SOLDIER PILE AND LAGGING
ELEVATION
NOT TO SCALE



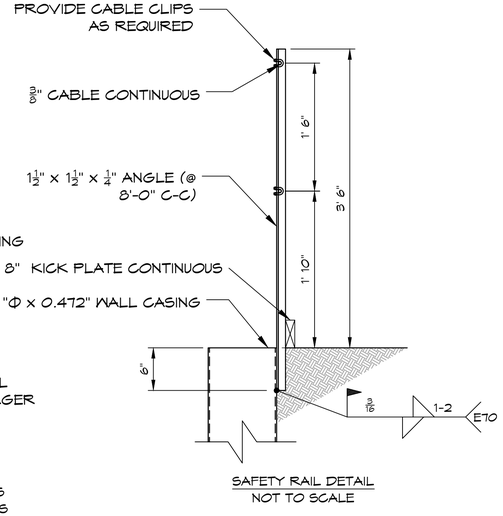


TYPICAL LAGGING DETAIL
NOT TO SCALE



CORNER LAGGING DETAIL
NOT TO SCALE

NOTE: ONE THREADED STUD MAY BE USED IF ANGLE IS SHALLOW AND DOES NOT REQUIRE 2 THREADED STUDS



SAFETY RAIL DETAIL
NOT TO SCALE

SCALE	DATE	SHEET
N.T.S.	9/20/2022	1 of 3
DRAWN BY	CHKD BY	APPD BY
KAD	JMC	MDC

HELICAL
Geotechnical Design/Build
639 GRANITE ST.
BRAINTREE, MA
02184
(781) 848-2110

SUPPORT OF EXCAVATION DETAILS

MIXED-USE BUILDING
74 MAIN STREET
DURHAM, NH 03824

SHEET NO.
SOE-0.1

PROPOSED BUILDING FFE = El. 56.67
BOTTOM OF DEEPEST FOOTING IS
-14' 10" CORRELATING TO El. 41.84

NOTE: TOP OF ROCK PROFILE IS ESTIMATED FOR SHORING DESIGN ONLY AND IS NOT SUFFICIENT FOR ESTIMATING ROCK REMOVAL FOR THE BUILDING FOOTPRINT

PENETRATION THROUGH SOE FOR PROPOSED UTILITIES

PENETRATION THROUGH SOE FOR PROPOSED UTILITIES

PILE LOCATIONS TO BE SLEEVED BY OTHERS TO IDENTIFY UTILITY CLEARANCE

EXISTING WATER SERVICE CONNECTION TO BE REMOVED BY OTHERS

APPROXIMATE PROPERTY LINE

APPROXIMATE EDGE OF FOOTING

EXISTING SEWER SERVICE CONNECTION TO BE REMOVED BY OTHERS

EXISTING LIGHT POLE TO BE REMOVED BY OTHERS

POLE AND ANCHORS SUPPORTING WIRES WITH STREET SIGNS OVER PETTEE BROOK LANE TO BE REMOVED BY OTHERS

EXISTING GRADE El. 56

EXISTING GRADE El. 54

EXISTING BUILDING

SWL

MAT A

B-104
Bedrock @ El. 46

B-5
Auger refusal @ El. 44

B-4
Auger refusal @ El. 45

B-1
Auger refusal @ El. 38

B-2A
Auger refusal @ El. 45

B-2
Auger refusal @ El. 46

B-3C
Auger refusal @ El. 45

B-3B
Auger refusal @ El. 49

B-3A
Auger refusal @ El. 53

B-3
Auger refusal @ El. 49

B-103
Bedrock @ El. 54

B-102
Bedrock @ El. 51

B-101
Bedrock @ El. 46

El.39 El.40 El.41 El.42 El.43 El.44 El.45 El.47 El.48 El.49 El.50 El.51 El.52 El.53

[-13' - 10"] CF3

[-14' - 10"]

7' - 0"

4' - 0"

P1

GRID

STATE OF NEW HAMPSHIRE
SRIMANTH S. VEERAVALLI
No. 10107
PROFESSIONAL ENGINEER

SOLDIER PILE LOCATION AND DESIGNATION

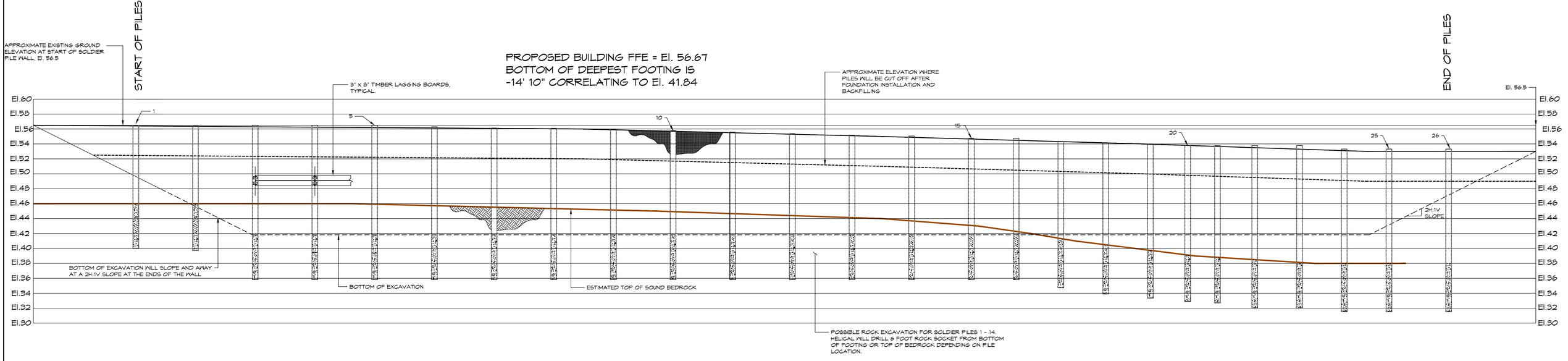
SCALE	DATE	SHEET
1" = 5'	9/20/2022	2 of 2
DRAWN BY	CHKD BY	APPD BY
KAD	JMC	MDC

HELICAL Geotechnical Design/Build
639 GRANITE ST.
BRAINTREE, MA
02184
(781) 848-2110

SUPPORT OF EXCAVATION PLAN

MIXED-USE BUILDING
74 MAIN STREET
DURHAM, NH 03824

SHEET NO.
SOE-1.1



STATE OF NEW HAMPSHIRE
RIMANTAS M. VEIKAS
No. 10107
LICENSED PROFESSIONAL ENGINEER

NOTE: PILES 10 - 26 WILL BE SLEEVED BY HELICAL

SCALE	DATE	SHEET
3/16" = 1'	9/20/2022	3 of 3
DRAWN BY	CHKD BY	APPD BY
KAD	JMC	MDC

HELICAL
Geotechnical Design/Build
639 GRANITE ST.
BRAINTREE, MA
02184
(781) 848-2110

SUPPORT OF EXCAVATION PLAN

MIXED-USE BUILDING
74 MAIN STREET
DURHAM, NH 03824

SHEET NO.
SOE-1.2