

SITE PLAN

for
TOOMERFS, LLC
19 MAIN STREET & 21 MAIN STREET
DURHAM, NH
REVISED OCTOBER 28, 2020

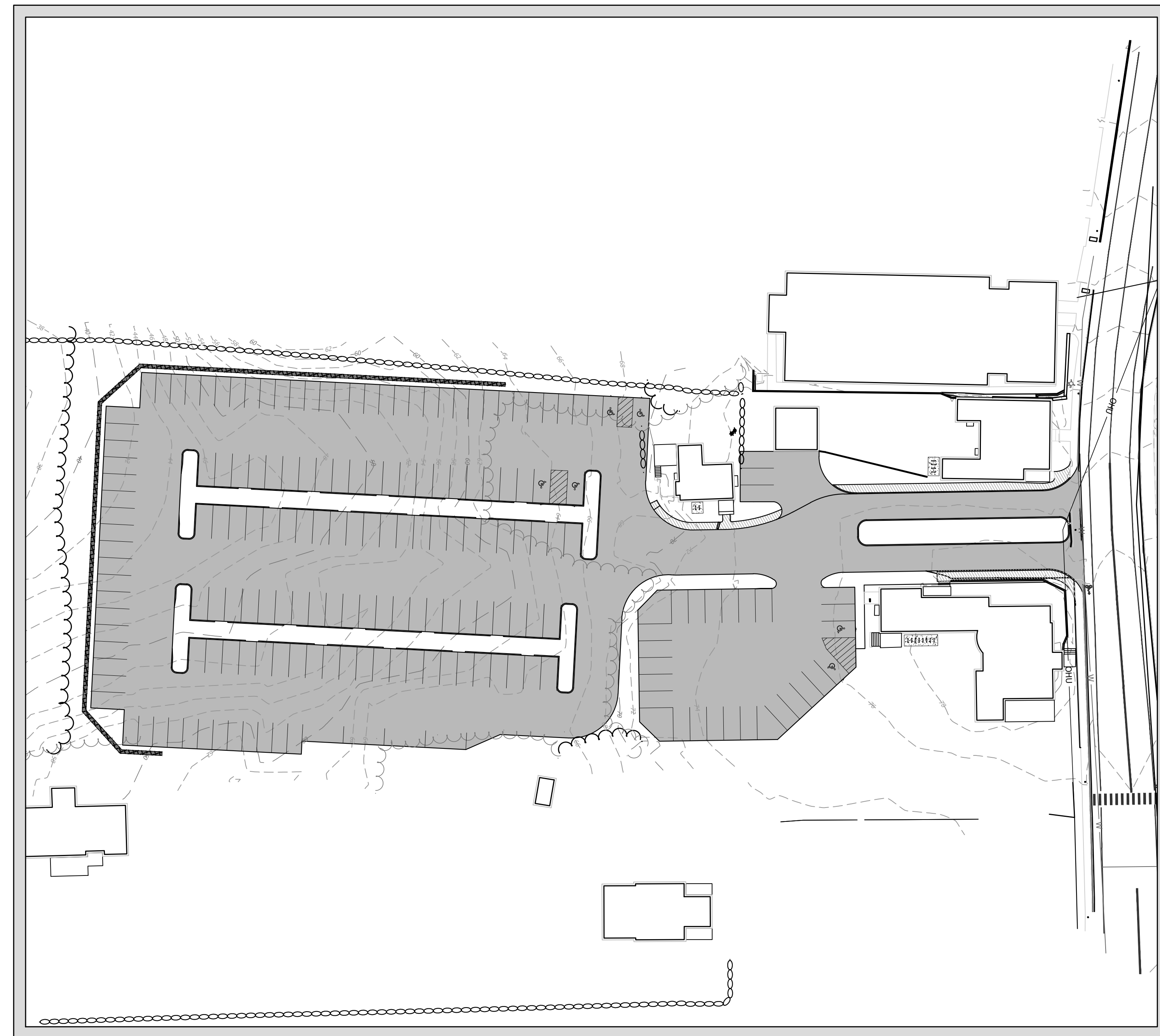
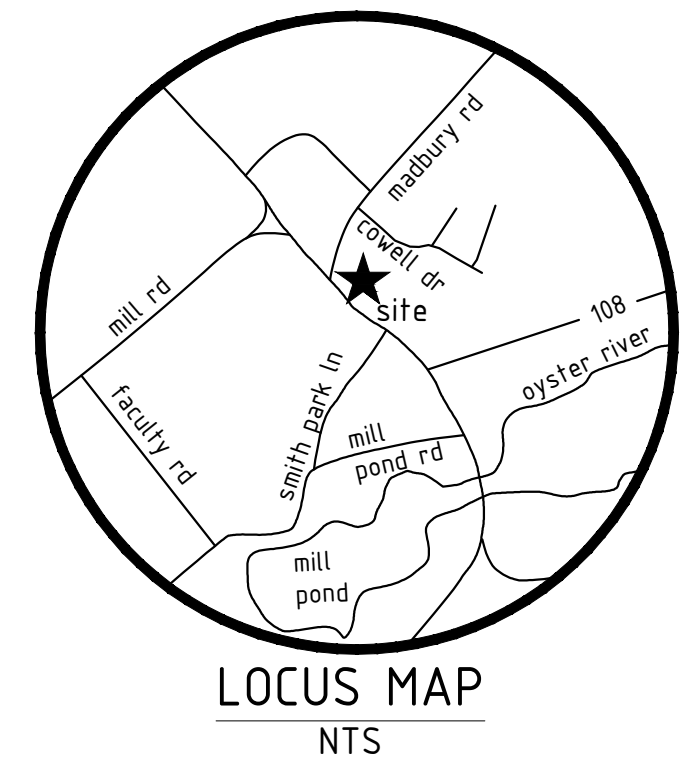
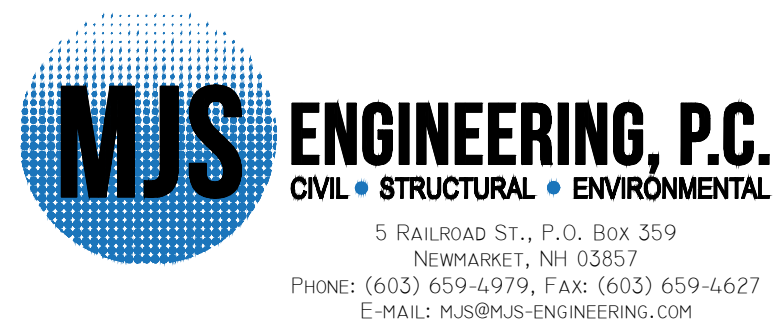


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OWNER
TOOMERFS, LLC
37 MAIN STREET
UNIT 0
DURHAM, NH 03824

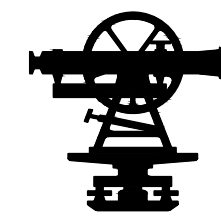
CIVIL ENGINEER



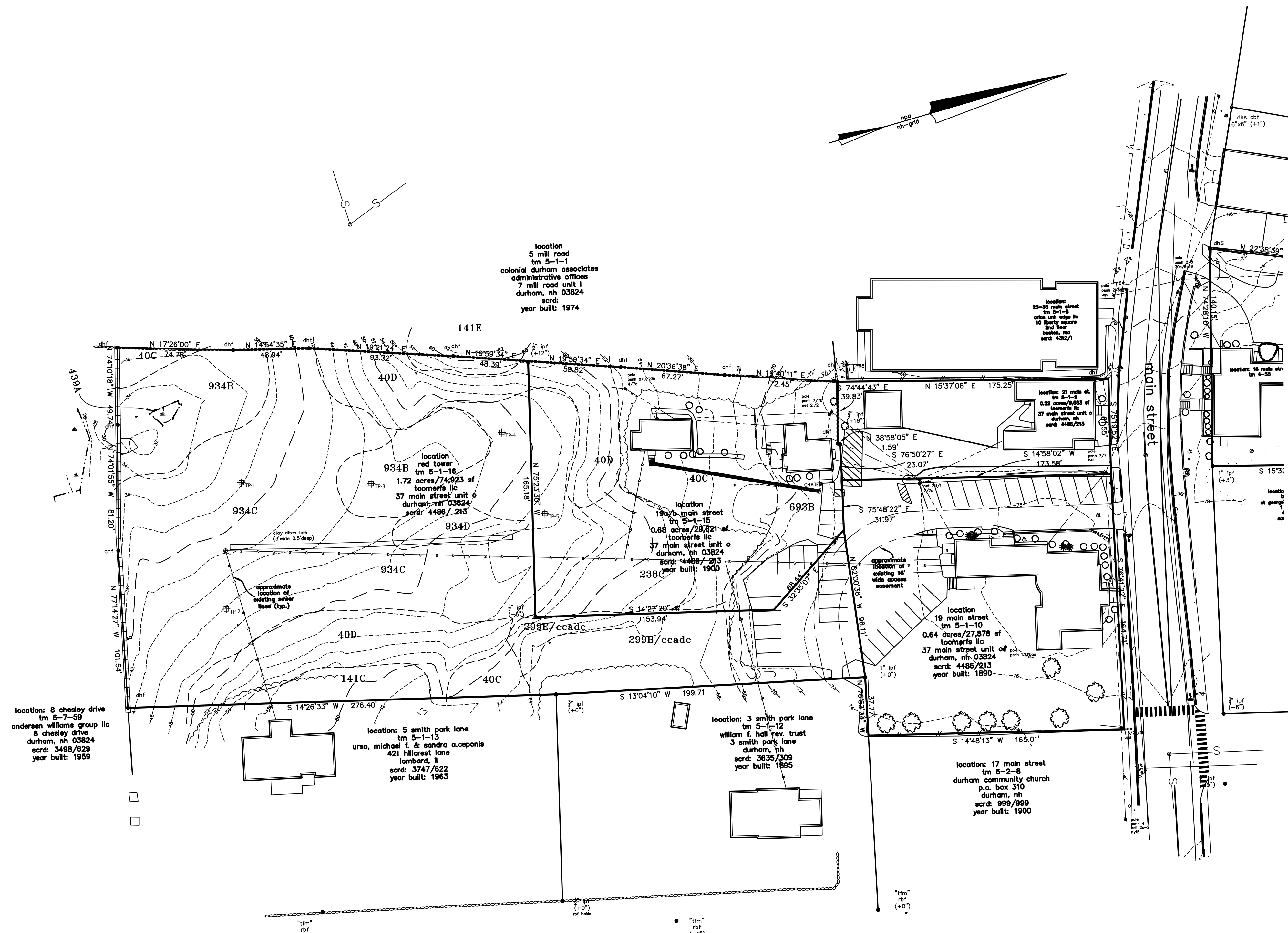
LANDSCAPE ARCHITECT
WOODBURN & COMPANY
103 KENT PLACE
NEWMARKET, NEW HAMPSHIRE
(603) 659-5949

SURVEYOR
NORWAY PLAINS ASSOCIATES, INC.
2 CONTINENTAL BOULEVARD
ROCHESTER, NEW HAMPSHIRE
03867 (603) 335-3948

NO.	REVISIONS	DATE	INT.
0.	INITIAL SUBMISSION FOR SITE PLAN REVIEW	10/28/20	AWS



reserved registry of deeds



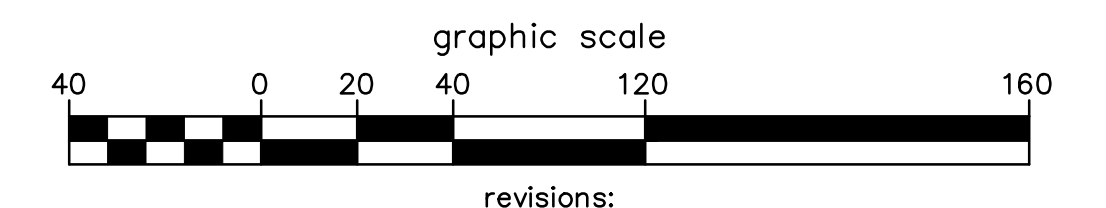
NOTES:

1. Total parcel area: Map 5, Lots 1-9,1-10,1-15,1-16 3.2 acres
2. The parcel is zoned Church Hill Dirstirct. Tax map 5 Lots 1-9 & 1-10 are within the historic overlay district.
3. Minimum lot requirements: lot size = 5000 SF,
4. Building setbacks:
Front = 15' (all Streets)
Side = 5'
Rear = 15'
Maximum building height: 30'
Maximum Impervious Surface Ratio 80%
6. The lots are serviced by the municipal water and sewer system.
7. The proposed lot is not located within the 100 year flood zone as shown on the flood insurance rate map dated 09/30/15 community panel 33017c0318e.

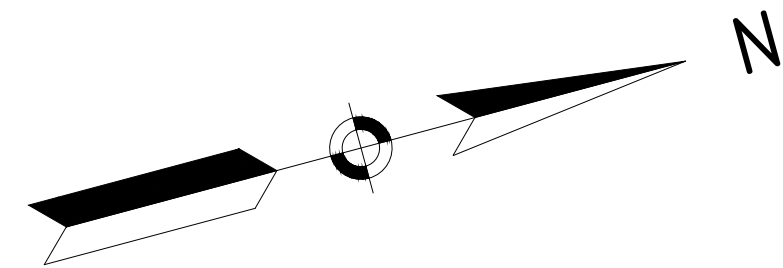
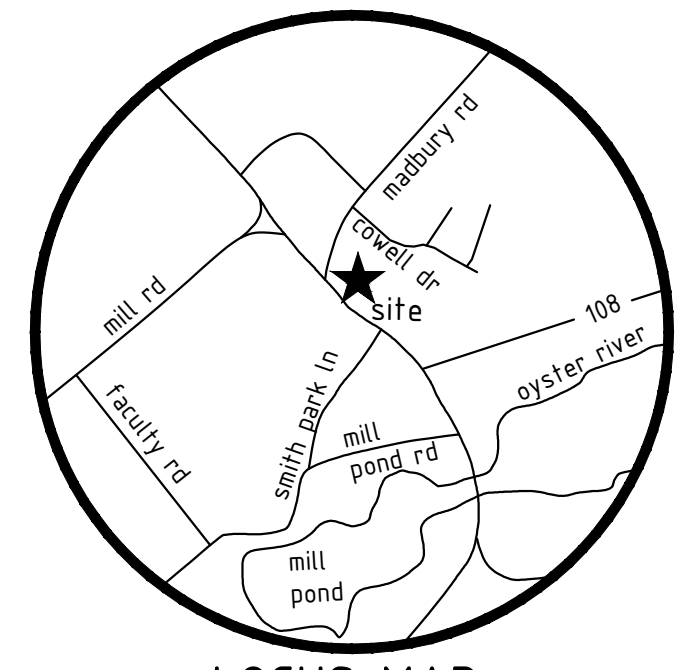
Tax Map & Lot Number
5-1-9,1-10,1-15,1-16
OWNER OF RECORD:
TOOMERFS, LLC
37 MAIN STREET, UNIT 0
DURHAM, NH.

existing features plan
19-21 main street
durham, strafford county, nh
for: Toomerfs, LLC

1"=40' August, 2019



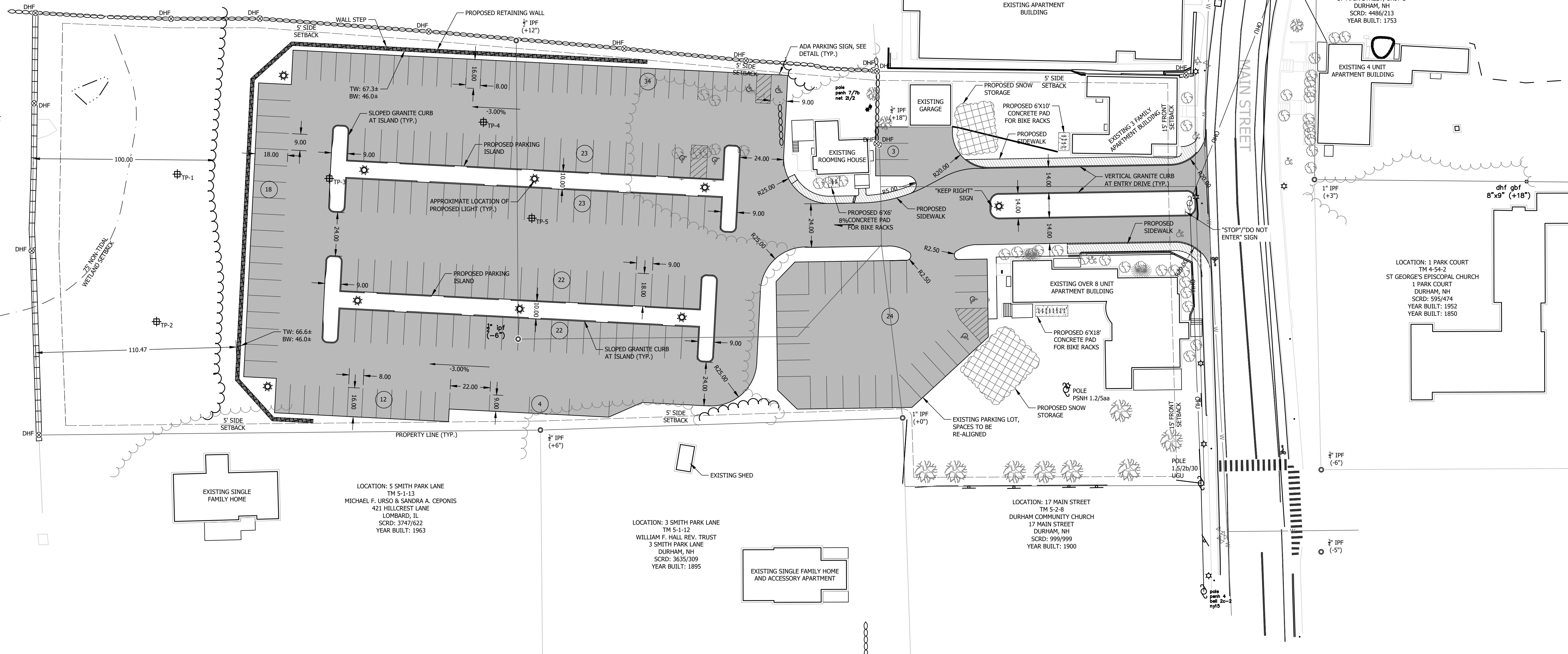
FILE NO.#
PLAN NO.#
DWG. NO.#
F.B. NO. #



LOCATION: 5 MILL ROAD
TM 5-1-1
COLONIAL DURHAM ASSOCIATES
7 MILL ROAD, UNIT 1
DURHAM, NH
SCRD: 3747/822
YEAR BUILT: 1974

LOCUS MAP
NTS

LOCATION: 8 CHESLEY DRIVE
TM 6-7-59
ANDERSON WILLIAMS GROUP, LLC
8 CHESLEY DRIVE
DURHAM, NH
SCRD: 3496/629
YEAR BUILT: 1959



EXISTING SINGLE FAMILY HOME

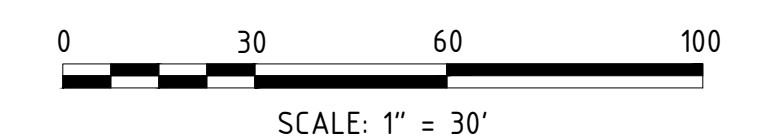
LOCATION: 5 SMITH PARK LANE
TM 5-1-13
MICHAEL F. URSO & SANDRA A. CEPONIS
421 HILLCREST LANE
LOMBARD, IL
SCRD: 3747/822
YEAR BUILT: 1963

LOCATION: 3 SMITH PARK LANE
TM 5-1-12
WILLIAM F. HALL REV. TRUST
3 SMITH PARK LANE
DURHAM, NH
SCRD: 3635/309
YEAR BUILT: 1895

EXISTING SINGLE FAMILY HOME AND ACCESSORY APARTMENT

LOCATION: 17 MAIN STREET
TM 5-2-8
DURHAM COMMUNITY CHURCH
17 MAIN STREET
DURHAM, NH
SCRD: 999/999
YEAR BUILT: 1900

LOCATION: 1 PARK COURT
TM 4-54-2
ST GEORGE'S EPISCOPAL CHURCH
1 PARK COURT
DURHAM, NH
SCRD: 595/474
YEAR BUILT: 1952
YEAR BUILT: 1850



GENERAL NOTES:

- OWNER OF RECORD:
TOOMERFS, LLC
21 MAIN STREET
DURHAM, NEW HAMPSHIRE 03824
S.C.R.D. BOOK 4486, PAGE 213

OWNER OF RECORD:
TOOMERFS, LLC
19 MAIN STREET
DURHAM, NEW HAMPSHIRE 03824
S.C.R.D. BOOK 4486, PAGE 213

OWNER OF RECORD:
TOOMERFS, LLC
19A/B MAIN STREET
DURHAM, NEW HAMPSHIRE 03824
S.C.R.D. BOOK 4486, PAGE 213

OWNER OF RECORD:
TOOMERFS, LLC
RED TOWER
DURHAM, NEW HAMPSHIRE 03824
S.C.R.D. BOOK 4486, PAGE 213
- LOT AREA: 3.26 ACRES (142,005 S.F.)
- REFERENCE PLANS:
A. EXISTING FEATURES: PLAN MAIN STREET AKA NH ROUTE 108 AND COWELL DRIVE, DURHAM STRAFFORD COUNTY, NH PREPARED FOR TOOMERFS, LLC, PREPARED BY NORWAY PLANS ASSOCIATES, INC. DATED AUGUST, 2018.
- VERTICAL DATUM IS ASSUMED.
- IMPERVIOUS SURFACE RATIO:
EXISTING = 19.3% (27,398 S.F.)
PROPOSED = 52.4% (47,443 S.F.)
- ALL OUTSIDE CONSTRUCTION RELATED ACTIVITY RELATED TO THE DEVELOPMENT OF THIS SITE IS RESTRICTED TO THE HOURS OF 7:00 A.M. TO 6:00 P.M. MONDAY THROUGH FRIDAY AND 8:00 A.M. TO 3:00 P.M. SATURDAY.
- 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.

- ALL EXTERIOR LIGHTING MUST BE FULLY SHIELDED AND NOT PROJECT GLARE TOWARD ANY ABUTTING PROPERTIES.
- ACCESS INTO THE SITE FOR FIRE APPARATUS SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PROCESS. PLEASE CONTACT THE FIRE DEPARTMENT AT 868-5531 WITH ANY QUESTIONS ABOUT ACCESS REQUIREMENTS.
- SNOW SHALL NOT BE PUSHED AGAINST TREES OR SHRUBS IN ANY MANNER THAT COULD DAMAGE THEM. SNOW REMOVAL SHALL BE ACCOMPLISHED BY UTILIZING A MELTING MACHINE BROUGHT TO THE SITE AS NEEDED.
- THE GENERAL CONTRACTOR IS RESPONSIBLE TO VERIFY ALL DIMENSIONS, ELEVATIONS AND CONDITIONS AT THE SITE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK. THIS INCLUDES DISCREPANCIES BETWEEN THESE PLANS AND ANY OTHER PLANS OR CONTRACT DOCUMENTS.

SITE DATA BLOCK

PLAN INTENT: THE PROPOSAL IS TO CONSTRUCT A NEW PAVED PARKING LOT ON THE SUBJECT PARCEL
ZONE: CH - CHURCH HILL
OVERLAY DISTRICTS: HISTORIC DISTRICT
USE: COMMERCIAL
DIMENSIONAL REQUIREMENTS
MINIMUM LOT SIZE (SQUARE FEET) 5,000 SF
MINIMUM FRONTAGE (FEET) 50
MINIMUM LOT SETBACKS
FRONT (FEET) 15'
SIDE (FEET) 5'
REAR (FEET) 15'
MAXIMUM ROAD SETBACK (FEET) NA
MAXIMUM HEIGHT (FEET) 30'
MAXIMUM HEIGHT W/ P.B. APPROVAL (FEET) 35'
IMPERVIOUS SURFACES RATIO 80%

PARKING CALCULATION

USE	STANDARD	REQUIRED	PROVIDED
DWELLING UNITS AND BOARDING HOUSES	1 SPACE/RESIDENT	38 RESIDENTS	38 SPACES
			183 SPACES

NOTE: ADDITIONAL PARKING SPACES FOR RENT BY OTHER PROPERTIES.

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

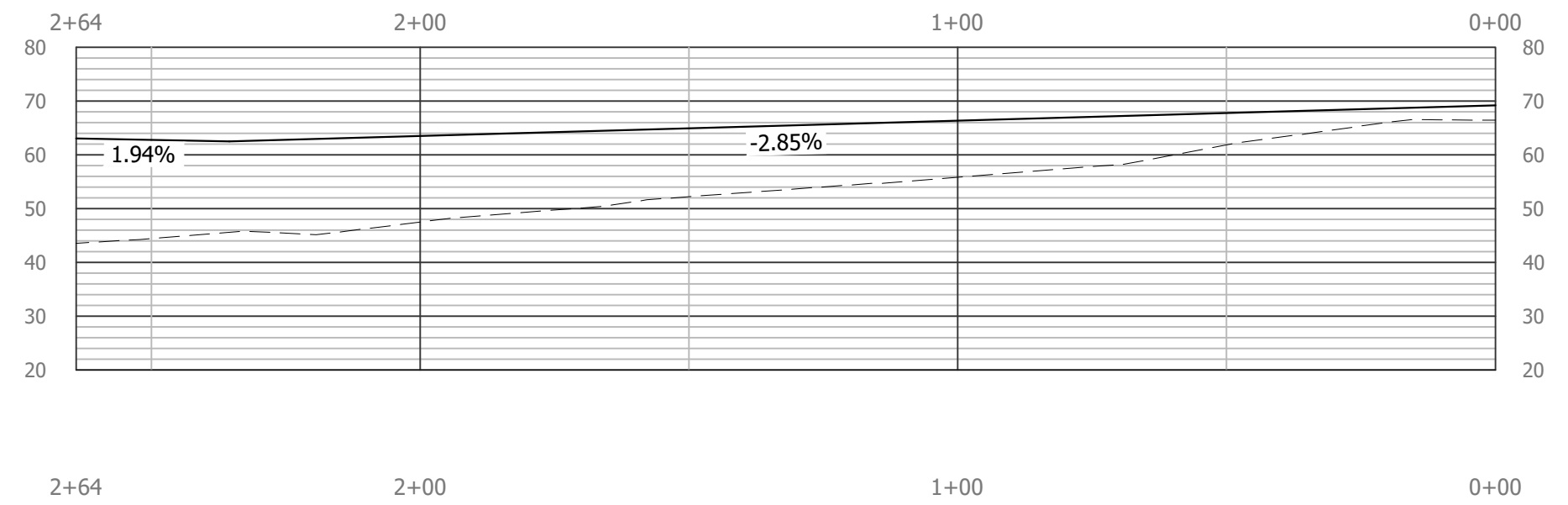
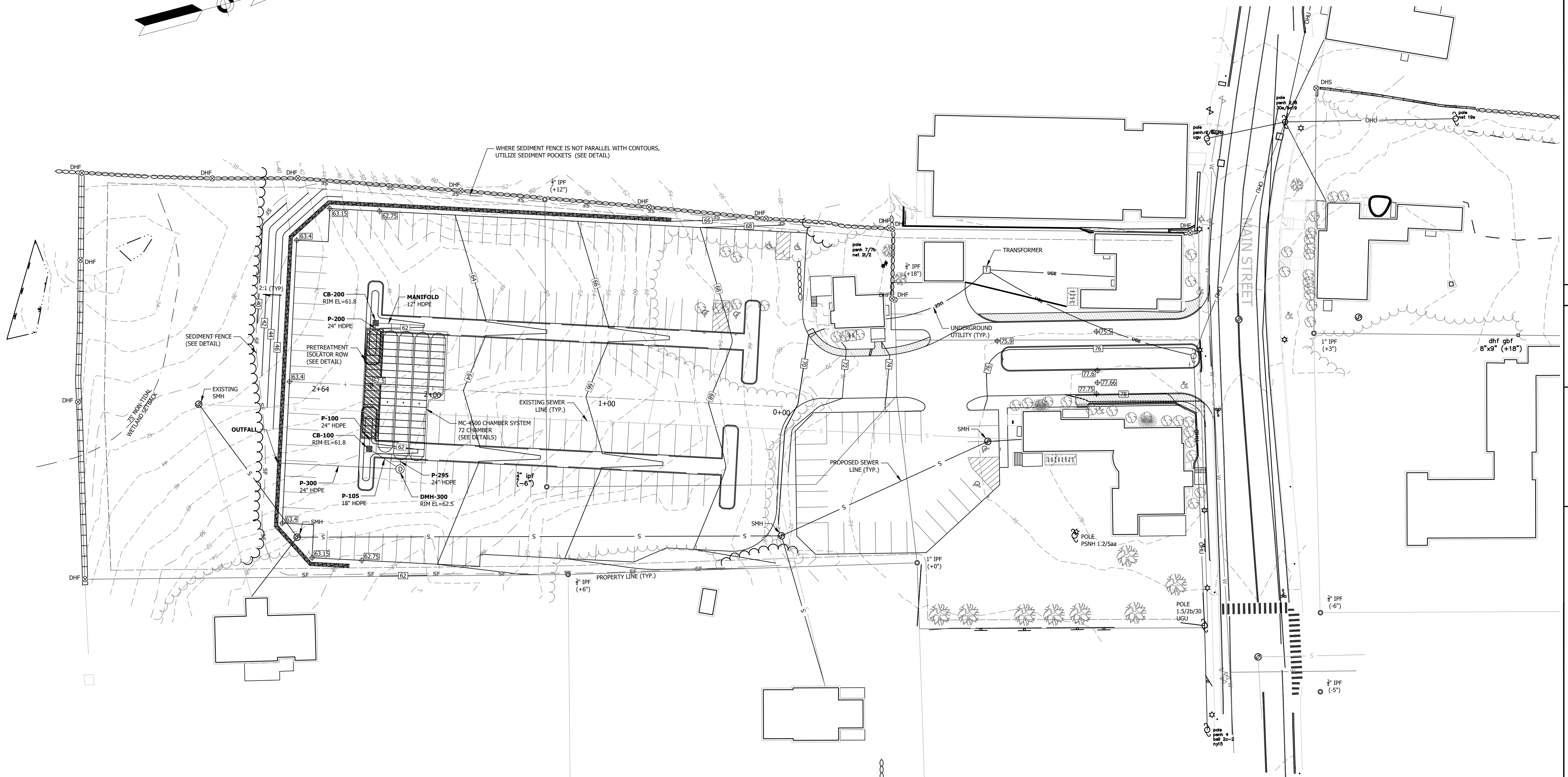
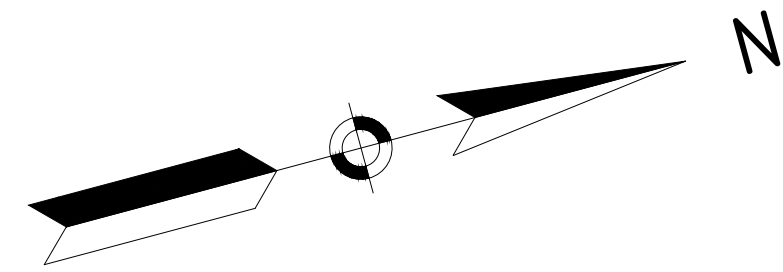
NO.	REVISIONS	DATE	INT.
0.	INITIAL SUBMISSION FOR SITE PLAN REVIEW	10/28/20	AMS

DATE ISSUED: 10/28/20
SCALE: 1" = 30'
DESIGNED BY: AMS
DRAWN BY: AMS
APPROVED BY: MJS
DWF FILE: 18041_CWP.dwg

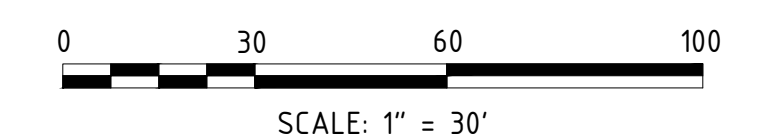
PROPOSED SITE PLAN
prepared for
TOOMERFS, LLC
TAX MAP 5, LOTS 1-9 AND 1-10
19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824



JOB: 18-041
C-101



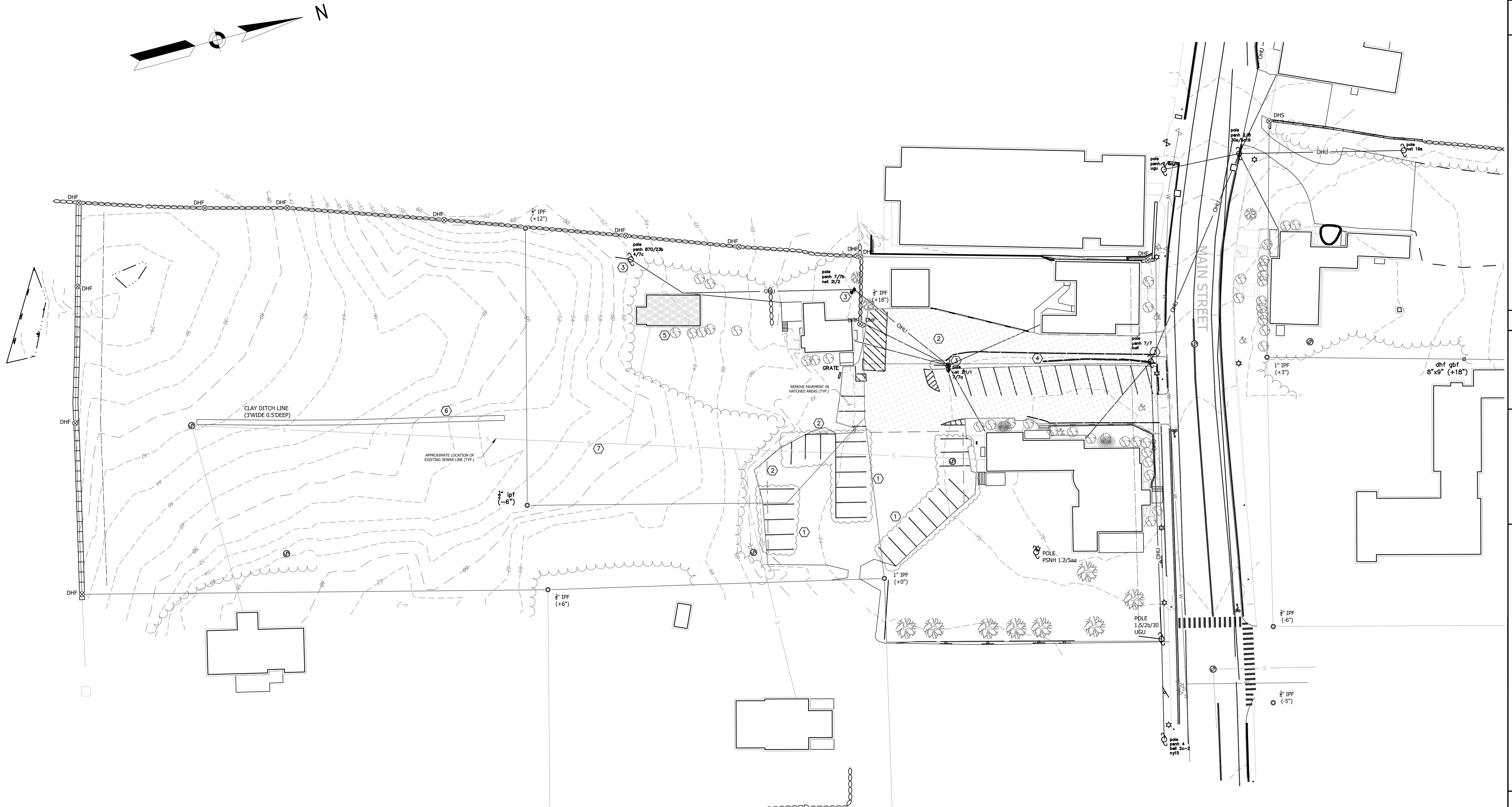
P- PARKING LOT - CL
STA: 0+00 to STA: 2+64



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

DATE ISSUED: 10/28/20		SCALE: 1"=30'		DESIGNED BY: AWS		DRAWN BY: AWS		APPROVED BY: MJS		DWF FILE: 18041 ClwIP.dwg	
GRADING, DRAINAGE, UTILITY & EROSION CONTROL PLAN		prepared for		TOOMERFS, LLC		TAX MAP 5, LOTS 1-9 AND 1-10		19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824		SEAL	
NO.		REVISIONS		DATE		AWS		10/28/20		INT.	
0.		INITIAL SUBMISSION FOR SITE PLAN REVIEW									
C-102		JOB: 18-041									





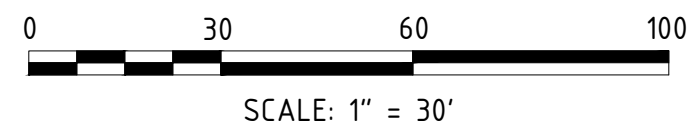
DEMOLITION ITEMS
(REFER TO DEMOLITION NOTE 5)

- ① SAWCUT AND REMOVE PAVEMENT AND ALL MARKINGS OR REMOVE OR GRIND PAVEMENT AS REQUIRED TO RECONSTRUCT AS SHOWN ON SITE PLAN.
- ② SAWCUT AND REMOVE EXISTING PAVEMENT TO THE LIMITS SHOWN.
- ③ REMOVE UTILITY POLE AND CONNECTED CABLES. COORDINATION WITH EVERSOURCE AND INTERNET/TV/PHONE PROVIDER MAY BE REQUIRED.
- ④ REMOVE EXISTING CURBING.
- ⑤ DEMOLISH EXISTING BUILDING, FOUNDATION, AND ALL ASSOCIATED UTILITIES AND STRUCTURES.
- ⑥ EXCAVATE EXISTING CLAY DITCH LINE TO PROJECT EXTENTS.
- ⑦ REMOVE EXISTING SEWER LINE WHERE NECESSARY TO AVOID INTERFERENCE WITH CONSTRUCTION.

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 DISSAFE AT 1-888-DIG-SAFE (1-888-344-7253) PRIOR TO COMMENCING WITH ANY DEMOLITION WORK. ALL UTILITY WORK AND MATERIALS SHALL BE IN CONFORMANCE WITH THE SPECIFIC UTILITY COMPANY. CONSULT WITH THE SPECIFIC UTILITY COMPANY.
2. CONSTRUCTION SEQUENCING SHALL MEET THE REQUIREMENTS OF THE CONSTRUCTION SEQUENCING AND EROSION CONTROL NOTES FOUND ON SHEET 01. TEMPORARY EROSION CONTROL STRUCTURES AND TEMPORARY CHAINLINK FENCE SHALL BE INSTALLED PRIOR TO CONDUCTING EARTHWORK ACTIVITIES.
3. ALL SALVAGED MATERIALS FROM WITHIN THE CITY RIGHT OF WAY SHALL BE TAKEN TO THE DPW FACILITY. ALL DEMOLITION MATERIALS FROM WITHIN THE LOTS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS SPECIFICALLY INDICATED OTHERWISE ON THIS PLAN. MATERIALS SHALL BE REMOVED FROM THE SITE AS SOON AS POSSIBLE TO PREVENT UNDUE BURDEN ON THE BUILDING CONTRACTOR OF WORKING AROUND STOCKPILED MATERIALS.
4. ALL DEMOLITION MATERIALS SHALL BE PROPERLY DISPOSED OF OFF SITE PER CURRENT LOCAL, STATE, AND FEDERAL REGULATIONS.
5. 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.
6. 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. NORWAY PLAINS & ASSOCIATES INC. (335-3948) IS THE SURVEYOR OF RECORD FOR THIS PROPERTY. COSTS FOR THIS WORK SHALL BE PAID FOR BY THE SITE CONTRACTOR.
7. THE SITE CONTRACTOR SHALL PROVIDE DAILY MAINTENANCE AS NECESSARY, INCLUDING SWEEPING AS NECESSARY, TO REMOVE DEPOSITED MATERIALS, SPILLS, ETC. ASSOCIATED WITH THE SITE CONSTRUCTION ACTIVITIES.
8. 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.
9. IN ANY LOCATION WHERE AN EXISTING PEDESTRIAN TRAVEL WAY LEADS TO THE CONSTRUCTION SITE (CROSSWALK, SIDEWALK, ETC.), ACCESS TO THE CONSTRUCTION SITE SHALL BE BLOCKED AND SIGNAGE SHALL BE PROVIDED AS SHOWN BELOW:

NO ACCESS
CONSTRUCTION SITE
10. UTILITIES: THE SITE CONTRACTOR SHALL COORDINATE WITH EVERSOURCE TO REMOVE AND RELOCATE THE EXISTING TRANSFORMER.



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

NO.	REVISIONS	DATE	INT.
0.	INITIAL SUBMISSION FOR SITE PLAN REVIEW	10/28/20	AWS

SEAL
DATE ISSUED: 10/28/20
SCALE: 1"=30'
DESIGNED BY: AWS
DRAWN BY: AWS
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DEMOLITION PLAN
prepared for
TOOMERFS, LLC
TAX MAP 5, LOTS 1-9 AND 1-10
19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824

MJS ENGINEERING, P.C.
CIVIL • STRUCTURAL • ENVIRONMENTAL
5 RAILROAD ST., P.O. BOX 359
NEWBARKET, NH 03857
PHONE: (603) 659-4070 FAX: (603) 659-4627
E-MAIL: mjs@engineerinc.com

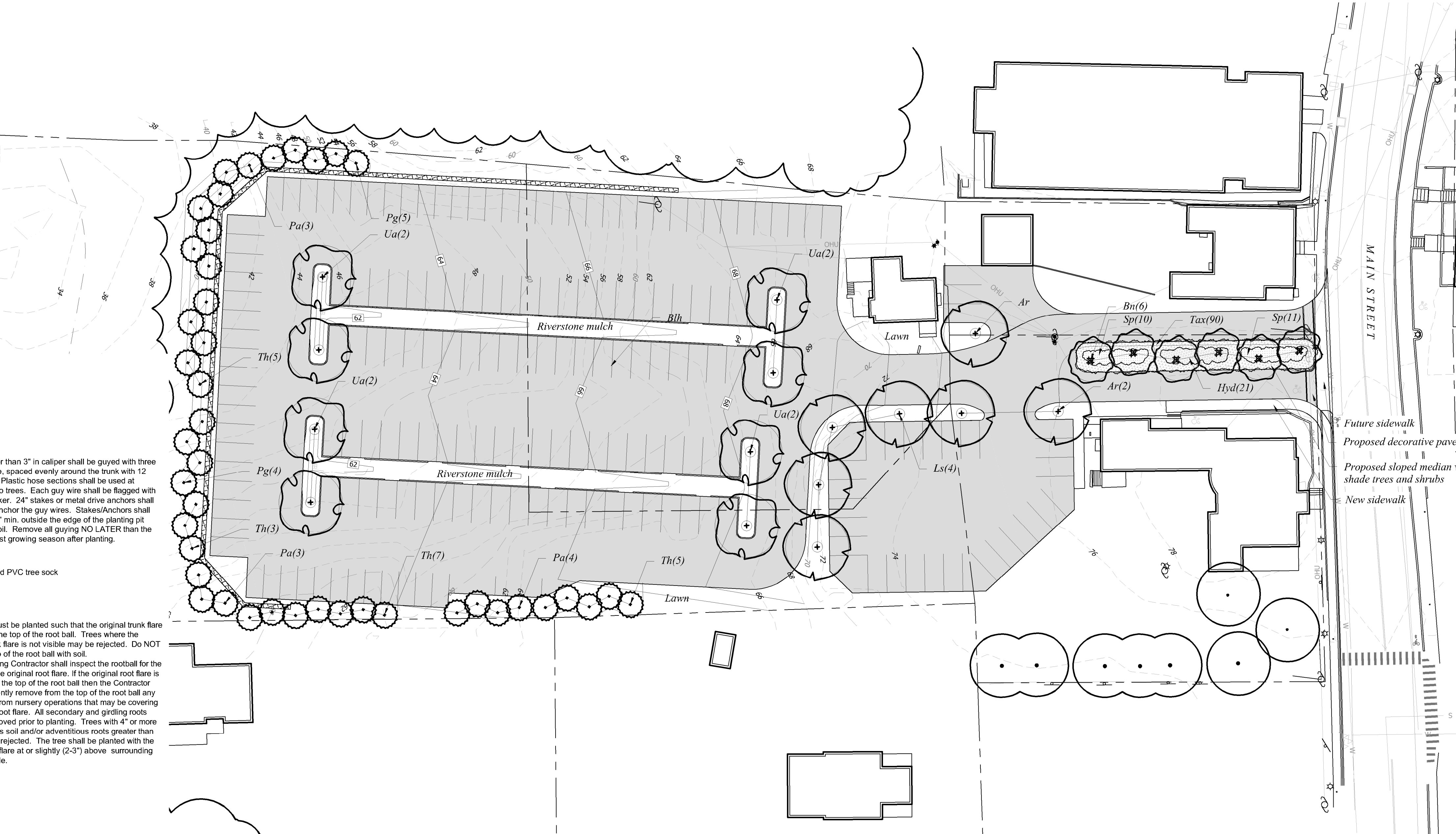
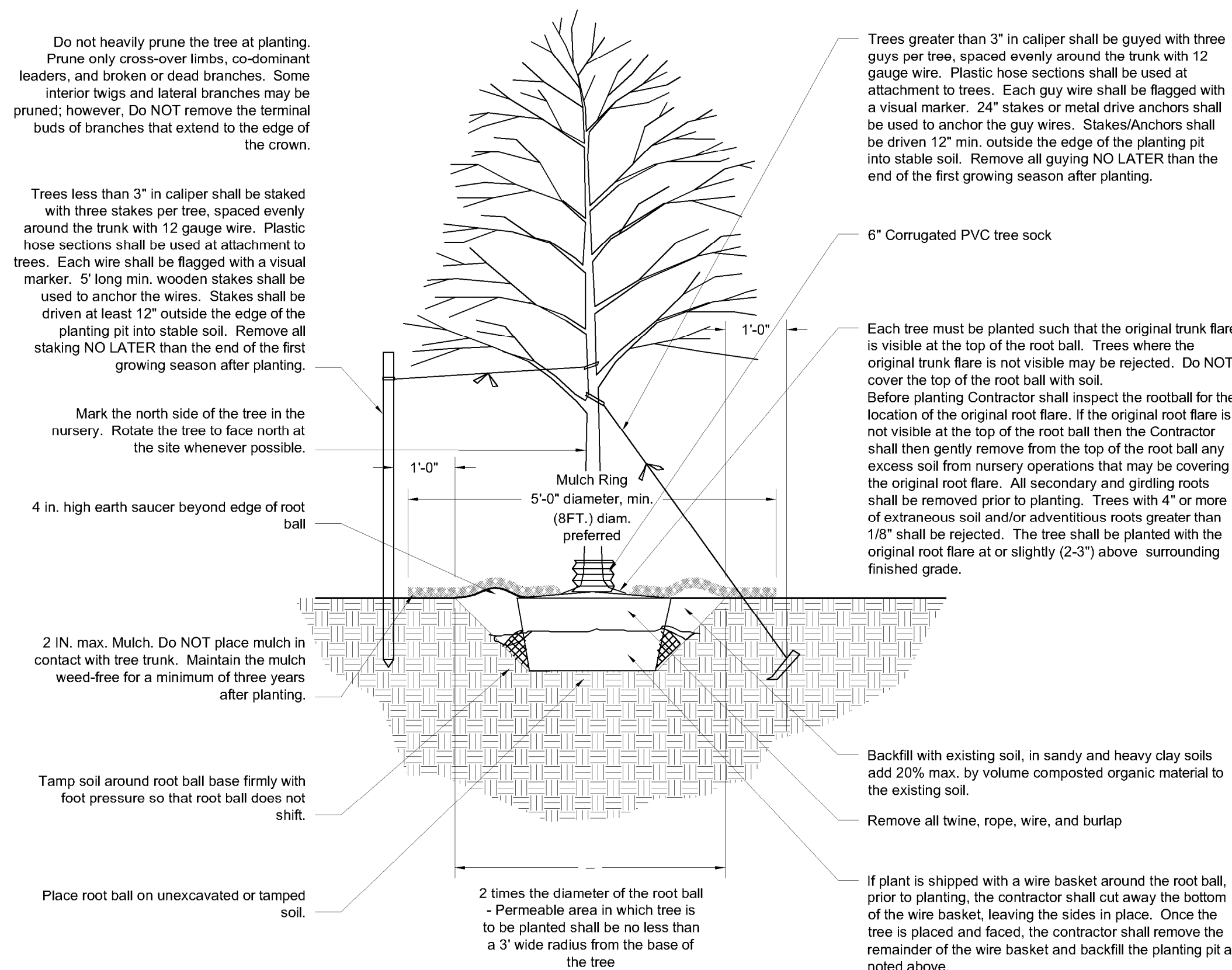
LANDSCAPE NOTES:

- Design is based on drawings by MJS Engineering, P.C. dated October 20, 2020, and may require adjustment due to actual field conditions.
- The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
- Erosion Control shall be in place prior to construction.
- Erosion Control to consist of Hay Bales and Erosion Control Fabric shall be placed between the work and Water bodies, Wetlands and/or drainage ways prior to any construction.
- The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
- It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
- Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portables within the tree protection area.
- This plan is for review purposes only, NOT for Construction. Construction Documents will be provided upon request.
- Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
- The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-866-344-7233.
- The Contractor shall procure any required permits prior to construction.
- Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
- Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
- The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in ANSI Z60.1 of the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
- A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
- All plants shall be legibly tagged with proper botanical name.
- The Contractor shall guarantee all plants for not less than one year from time of acceptance.
- Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
- No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
- All landscaping shall be provided with either of the following
 - An underground sprinkling system
 - An outside hose attachment within 150 feet
- If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
- The contractor is responsible for plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide water from off site, should it not be available on site.
- All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
- Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and 1/2" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
- In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
- Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy.
- Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
- Landscape Architect is not responsible for the means and methods of the contractor.

Plant List

TREES					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Ar	<i>Acer rubrum</i> 'October Glory'	October Glory Red Maple	3	2.5-3" cal	B&B
Bn	<i>Betula nigra</i> 'Heritage'	Heritage River Birch	6	12-14' ht.	B&B, multi-stemmed
Ls	<i>Liquidambar styraciflua</i>	American Sweetgum	4	2.5-3" cal	B&B
Pa	<i>Picea abies</i>	Norway Spruce	10	7-8' ht.	B&B
Pg	<i>Picea glauca</i>	White Spruce	9	7-8' ht.	B&B
Th	<i>Thuja plicata</i> 'Green Giant'	Green Giant Arborvitae	20	10' ht.	B&B
Ua	<i>Ulmus americana</i> 'Princeton'	Princeton American Elm	8	2.5-3" cal	B&B
SHRUBS					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Hyd	<i>Hydrangea serrata</i> 'Tuff Stuff'	Tuff Stuff Hydrangea	21	3 gal	
Sp	<i>Spiraea x bumalda</i> 'Anthony Waterer'	Anthony Waterer Spirea	21	3 gal	
Tax	<i>Taxus media</i> 'Tauntonii'	Taunton Yew	90	2-2.5'	B&B

TREE PLANTING DETAIL



DATE: 10/19/20	SCALE: 1"=30'	DESIGNED BY: RW	DRAWN BY: LF	APPROVED BY: RW	DWG FILE:
SEAL					
NO. _____					
REVISIONS					
0	INITIAL	SUBMISSION	DATE	DATE	LF
<p>MJS ENGINEERING P.C. CIVIL & STRUCTURAL • ENVIRONMENTAL 5 Newmarket, NH 03857 Phone: (603) 659-4979, Fax: (603) 659-4627 E-MAIL: T.HUBB@MJS-ENGINEERING.COM</p>					
JOB: 18-041					
L1					

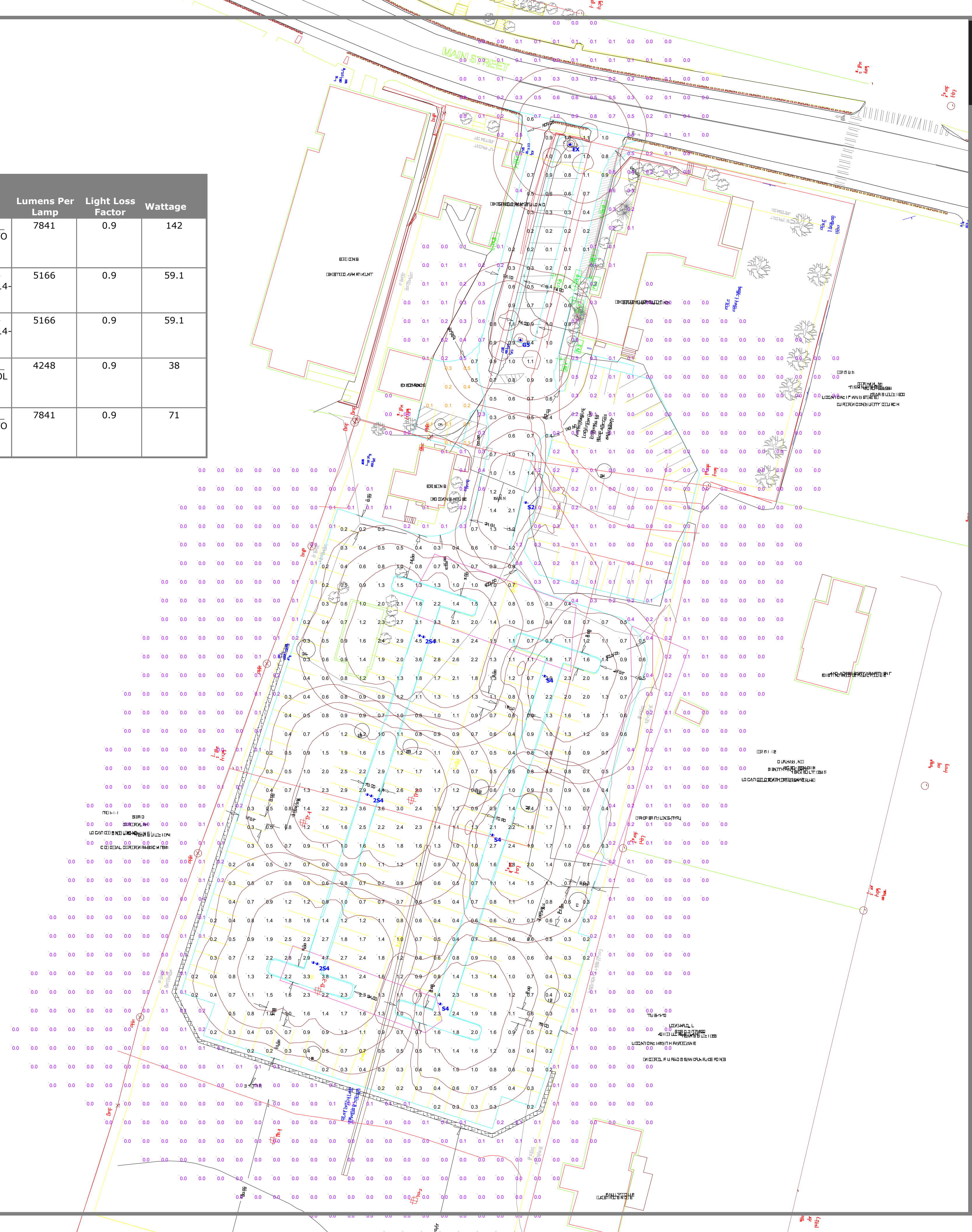


VISUAL

19 MAIN ST - DURHAM, NH Site Lighting Layout

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	2S4	3	Lithonia Lighting	DSX0 LED P3 30K TFTM MVOLT SPA DDBXD with SSS 18 4C DM28AS DDBXD	DSX0 LED Area Fixture; mounted at 18ft	LED	1	DSX0_LED_P3_30K_TFTM_MVO LT.ies	7841	0.9	142
	EX	1	XXXXXX	XXXXXXX	Existing Lantern-Style Fixture; mounted at 14ft	LED	1	962TC-XRLED-12L45T5-MDL14-SV1.IES	5166	0.9	59.1
	G5	1	Sternberg Lighting	962TC-XRLED-12L45T5-MDL14-SV1	Glenn Ellen Series; mounted at 14ft	LED	1	962TC-XRLED-12L45T5-MDL14-SV1.IES	5166	0.9	59.1
	S2	1	Lithonia Lighting	DSX0 LED P1 30K T3M MVOLT SPA DDBXD with SSS 12 4C DM19AS DDBXD	DSX0 LED Area Fixture; mounted at 12ft	LED	1	DSX0_LED_P1_30K_T3M_MVOL T.ies	4248	0.9	38
	S4	3	Lithonia Lighting	DSX0 LED P3 30K TFTM MVOLT SPA DDBXD with SSS 18 4C DM19AS DDBXD	DSX0 LED Area Fixture; mounted at 18ft	LED	1	DSX0_LED_P3_30K_TFTM_MVO LT.ies	7841	0.9	71

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Outside of Parking Lot	+	0.1 fc	1.3 fc	0.0 fc	N/A	N/A
Parking at Rooming House	+	0.2 fc	0.5 fc	0.1 fc	5.0:1	2.0:1
Parking Lot	+	1.1 fc	4.7 fc	0.1 fc	47.0:1	11.0:1

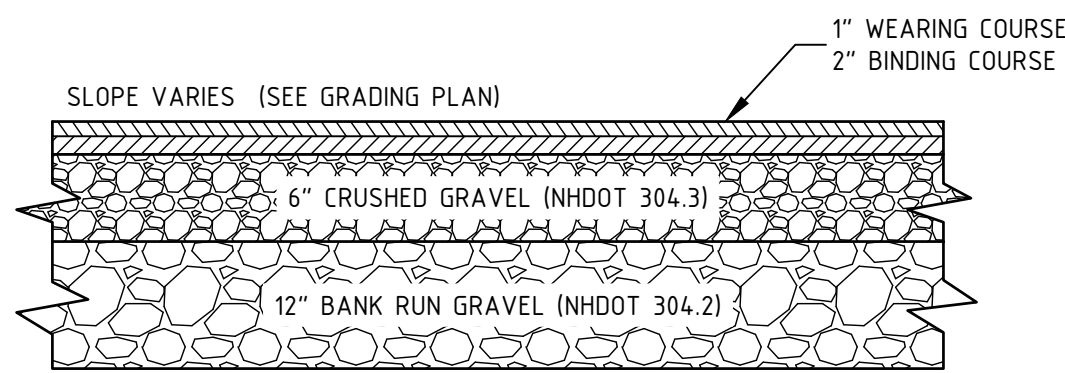
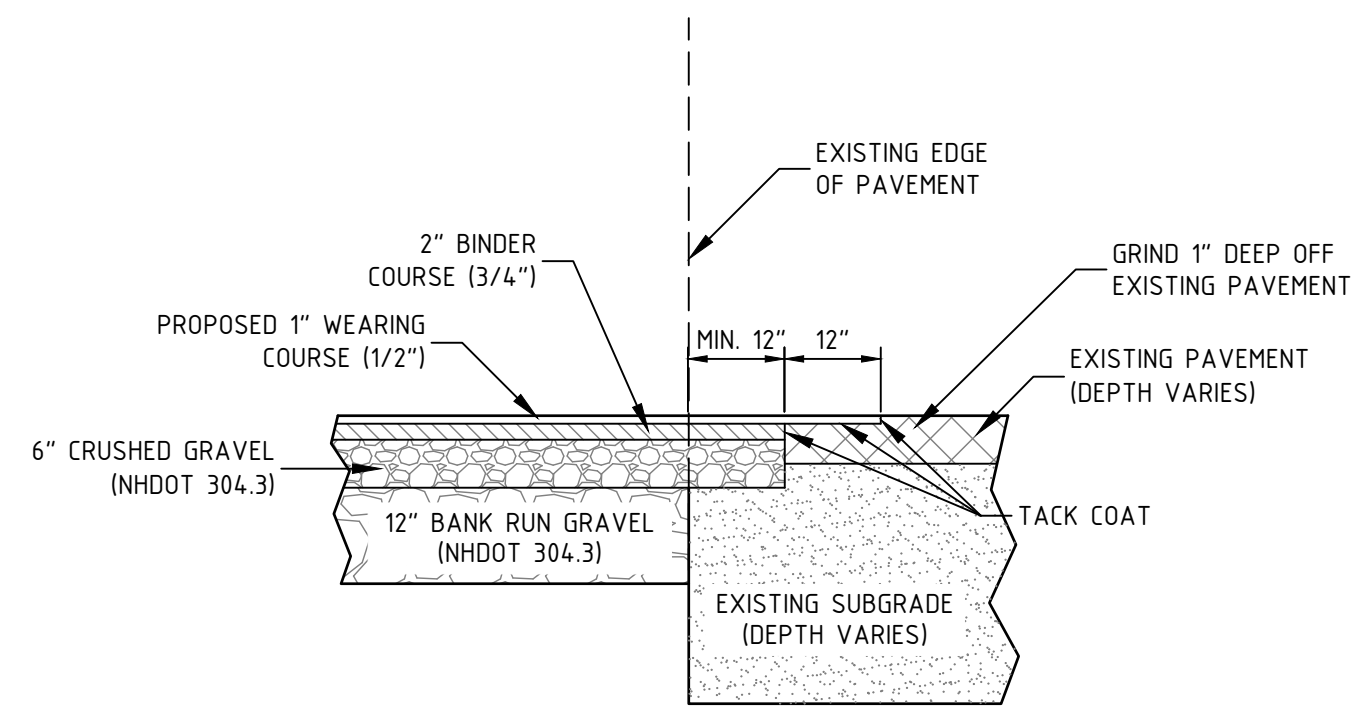


Designer
Heidi G. Connors
Visible Light, Inc.
24 Stickney Terrace
Suite 6
Hampton, NH 03842

Date
10/27/2020

Scale
1"=30'

Drawing No.
Summary

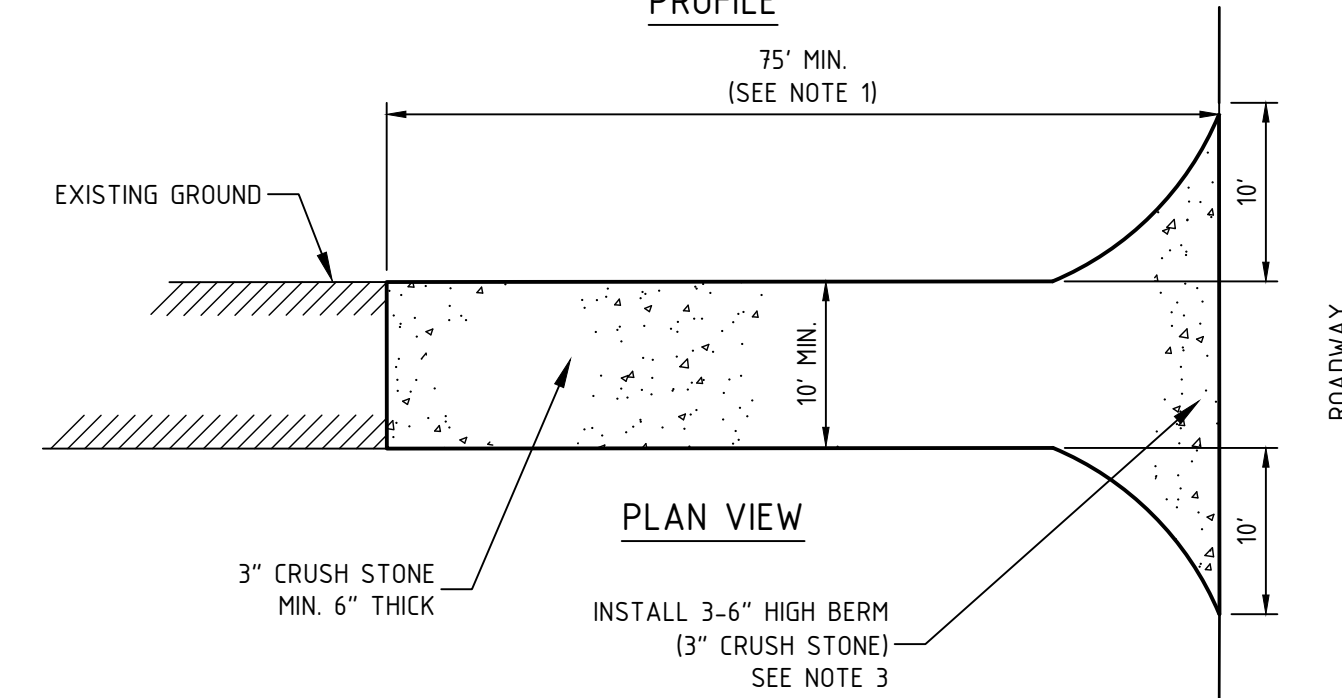
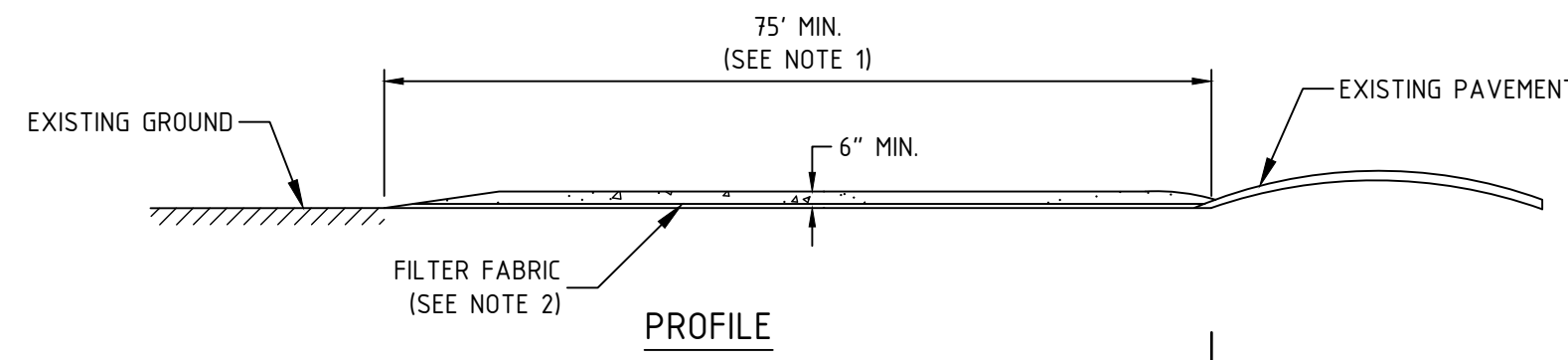


NOTES:
1. DELETERIOUS MATERIALS ENCOUNTERED BELOW PARKING AREA SHALL BE COMPLETELY REMOVED.
2. COMPACT SUBGRADE TO 95% OF STANDARD PROCTOR.

PAVED PARKING LOT CROSS-SECTION
NTS

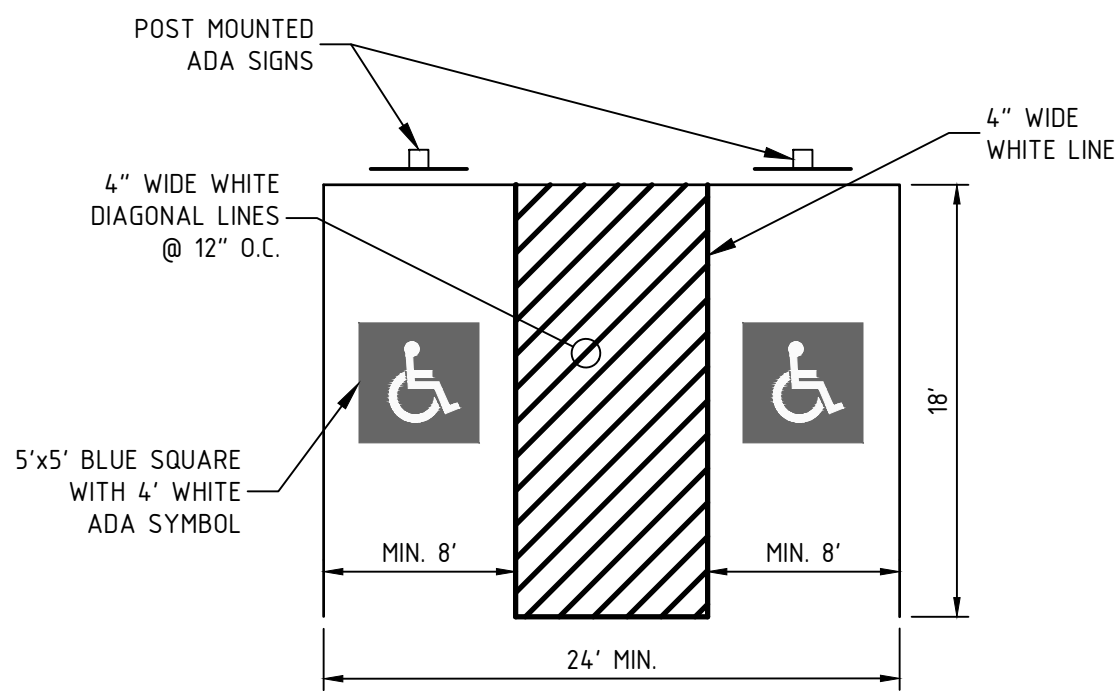
- NOTES:
1. SAWCUT THROUGH DEPTH OF PAVEMENT AT LEAST 1 FT. FROM EDGE OR GREATER IF REQUIRED BY NHDOT.
2. INSTALL AND COMPACT CRUSHED GRAVEL TO GRADE.
3. PLACE BINDER COURSE.
4. GRIND EXISTING PAVEMENT 1 FT. WIDE TO A DEPTH NECESSARY TO PROPERLY MATCH NEW WEARING COURSE PAVEMENT.
5. TACK COAT ALL EXISTING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

TYPICAL PAVEMENT SAWCUT DETAIL
NTS



- NOTES:
1. LENGTH OF ENTRANCE MAY BE 50' WHERE DIVERSION RIDGE IS PROVIDED.
2. GRADE AND COMPACT ACCESS ROAD ENTRANCE AS NECESSARY. PLACE FILTER FABRIC AND 6\"/>

STABILIZED CONSTRUCTION ENTRANCE DETAIL
NTS

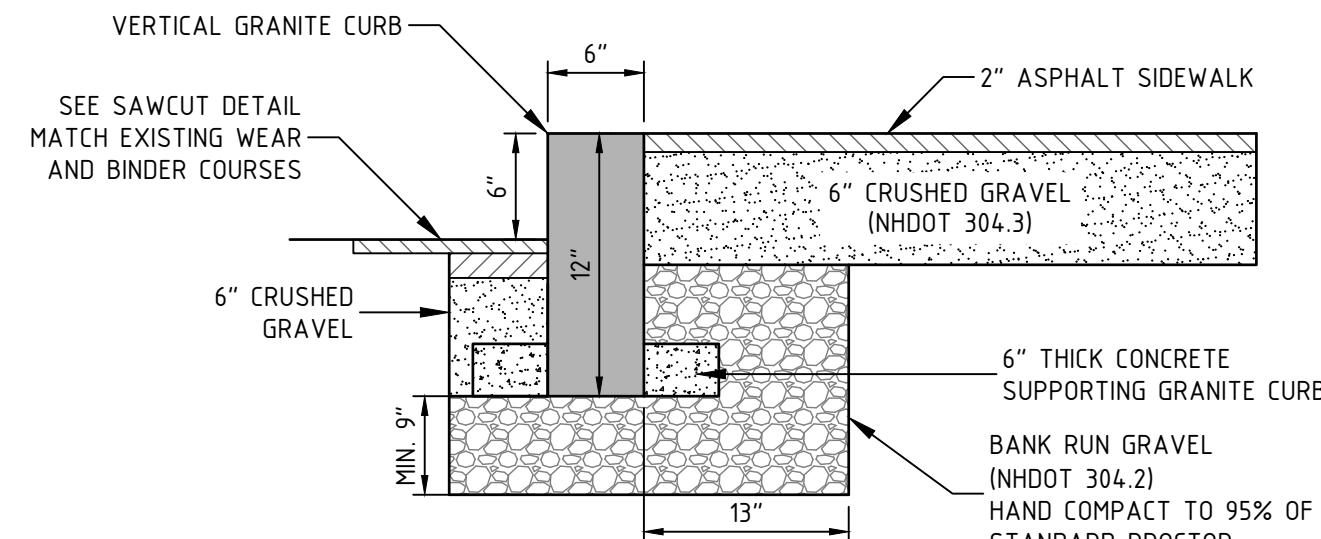


- NOTES:
1. SEE SITE PLAN FOR STRIPING LAYOUT

PAVEMENT MARKINGS:

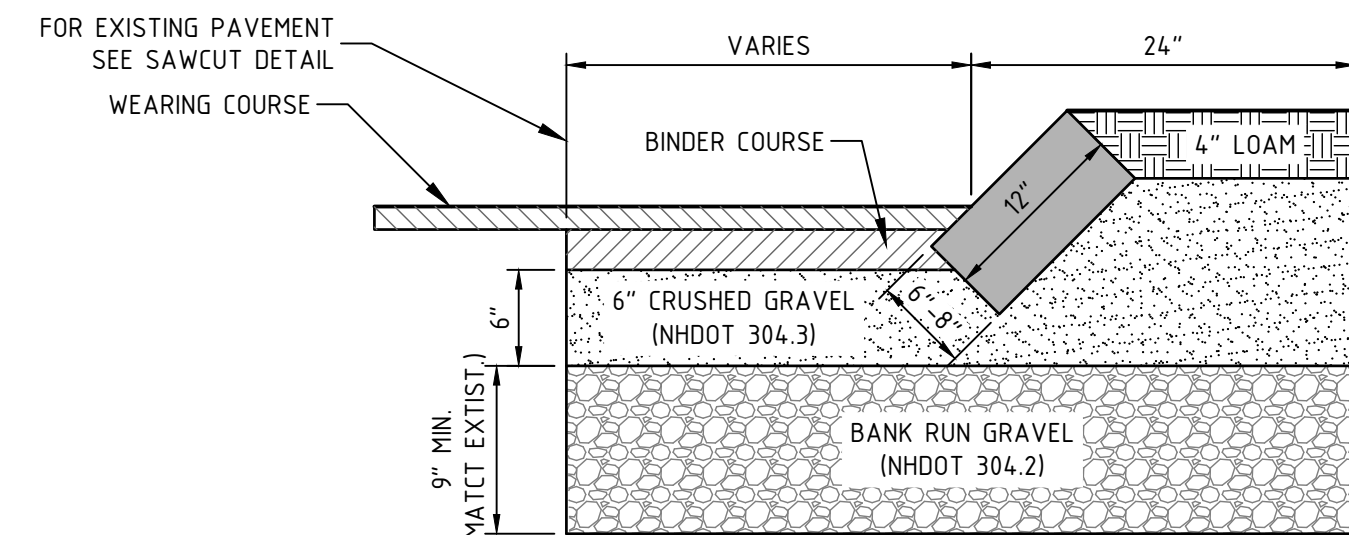
1. STRIPE PARKING AREAS AND DRIVES AS SHOWN, INCLUDING PARKING SPACES, HANDICAP SYMBOLS, AND PAINTED ISLANDS. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) AND AASHTO M248 TYPE "F" MEDIAN ISLANDS AND CENTERLINES TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT.
2. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE "STANDARD ALPHABETS FOR HIGHWAY SIGN AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS.
3. PAINTED ISLANDS SHALL BE 4 INCH WIDE DIAGONAL LINES SPACED AT 3 FT. O.C. BORDERED BY 4 INCH WIDE LINES.
4. MAXIMUM SLOPE OF ADA PARKING IS 2%

ADA STRIPING AND SIGN DETAIL
NTS



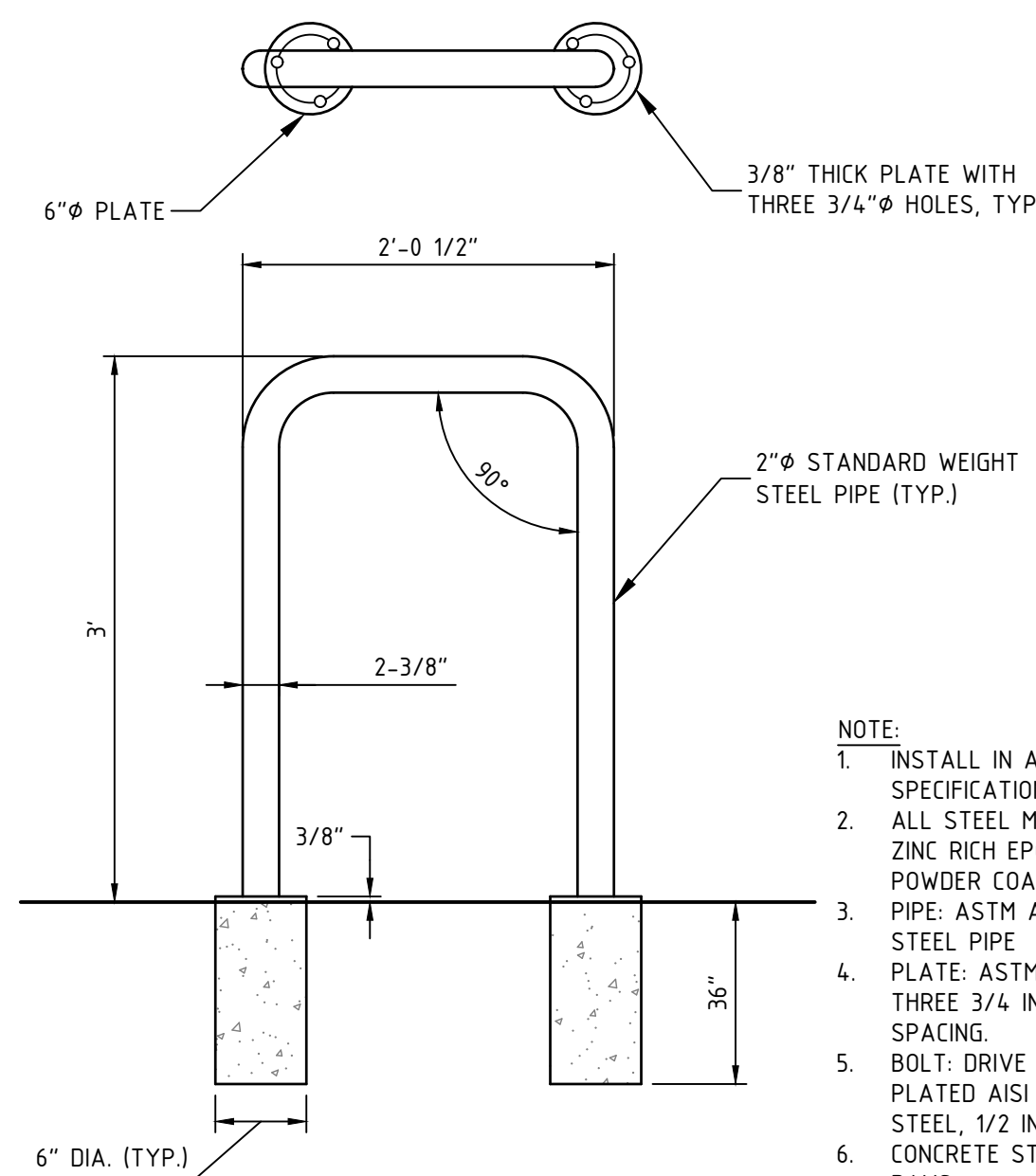
- NOTES:
1. MINIMUM LENGTH OF CURB STONES = 3'
2. MAXIMUM LENGTH OF CURB STONES = 10'
3. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
4. SEE PLAN FOR LOCATION

TYPICAL VERTICAL GRANITE CURB
NTS



- NOTES:
1. REMOVE LOAM TO A MINIMUM DEPTH OF 8\"/>

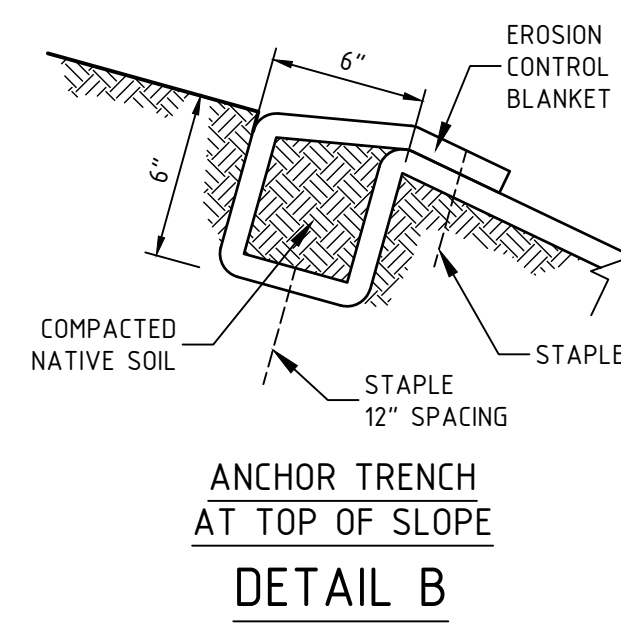
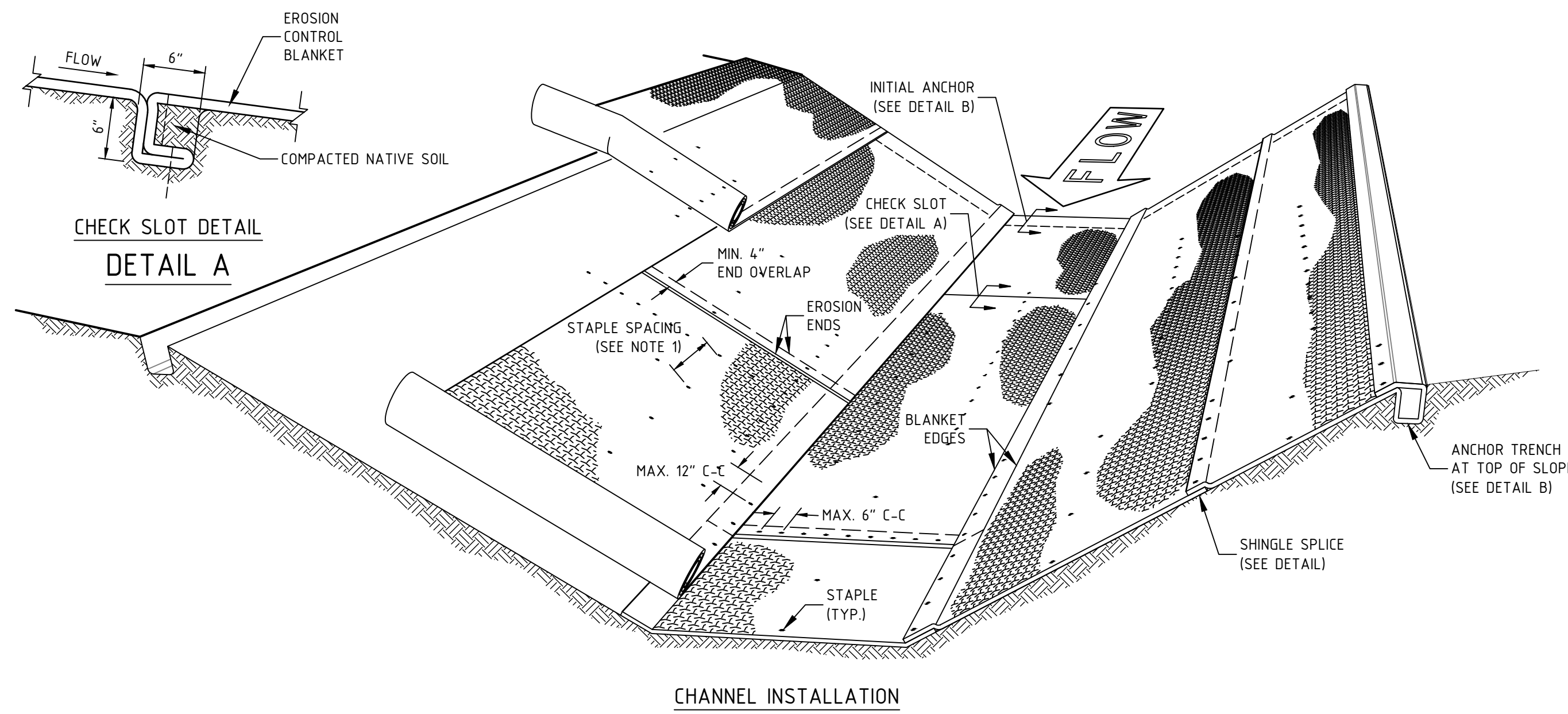
TYPICAL SLOPED GRANITE CURB
NTS



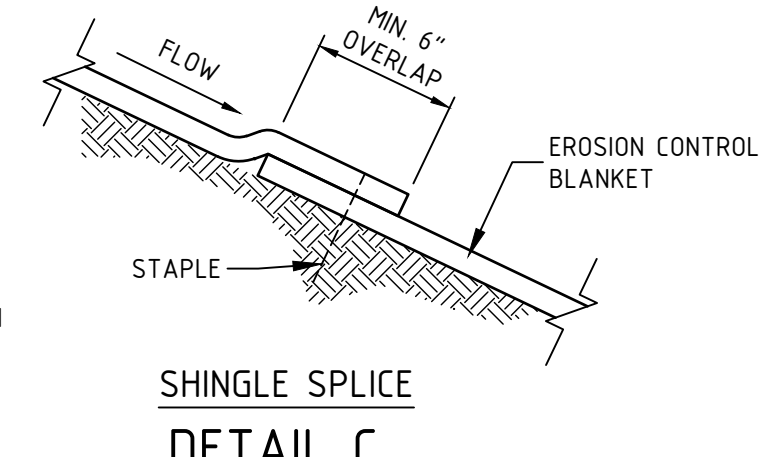
TYPICAL BIKE RACK DETAIL
NTS

- NOTE:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS
2. ALL STEEL MEMBERS SHALL BE COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING
3. PIPE: ASTM A53 GRADE B STANDARD WEIGHT STEEL PIPE
4. PLATE: ASTM 136 3/8 INCH THICK PLATE WITH THREE 3/4 INCH DIA. HOLES AT 120 DEGREE SPACING.
5. BOLT: DRIVE TYPE ANCHOR BOLT MADE OF ZINC PLATED AISI 1038 HEAT TREATED CARBON STEEL, 1/2 INCH DIA. BY 3 INCHES LONG.
6. CONCRETE STRENGTH TO BE 3,000 PSI AT 28 DAYS.

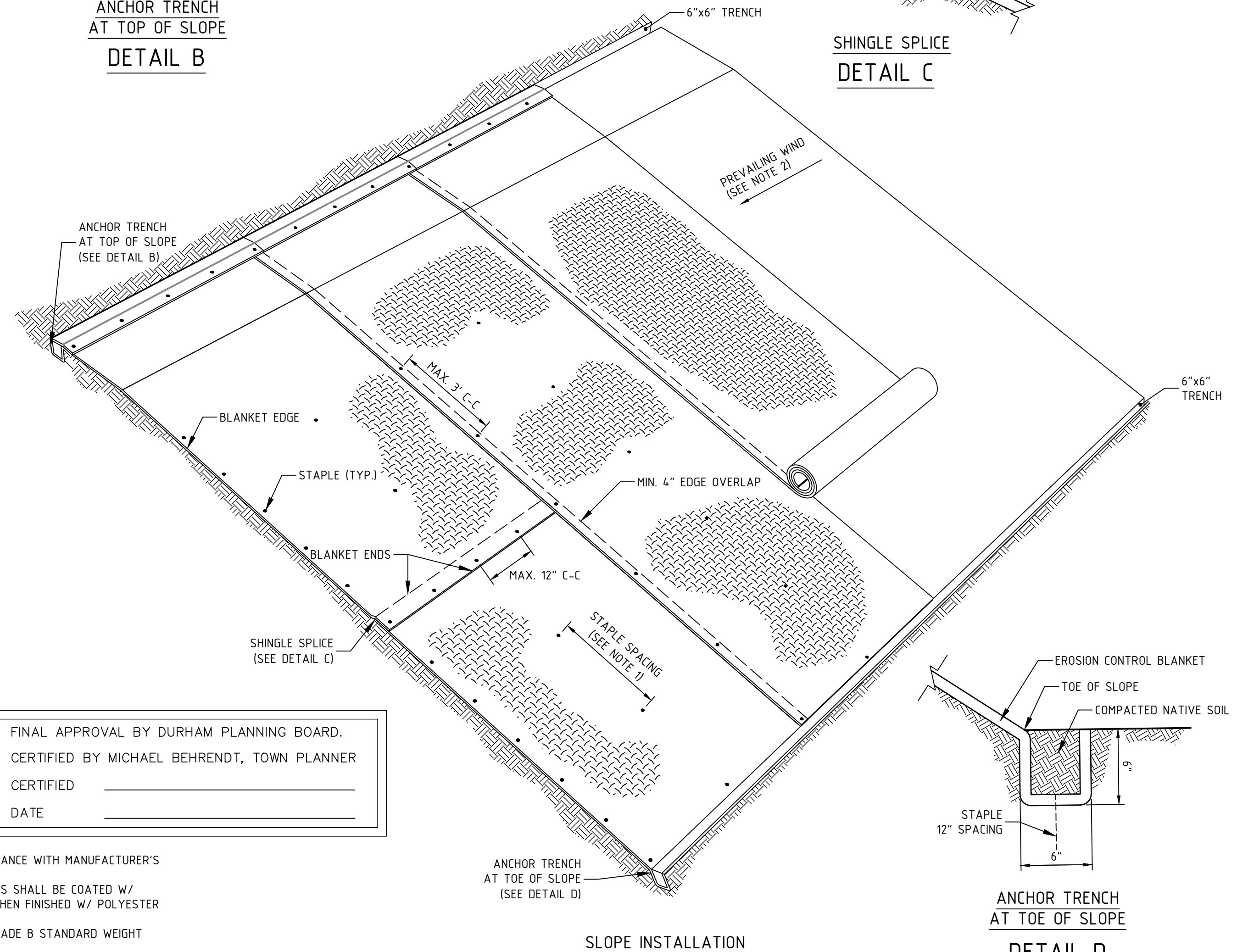
FINAL APPROVAL BY DURHAM PLANNING BOARD.
CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER
CERTIFIED _____
DATE _____



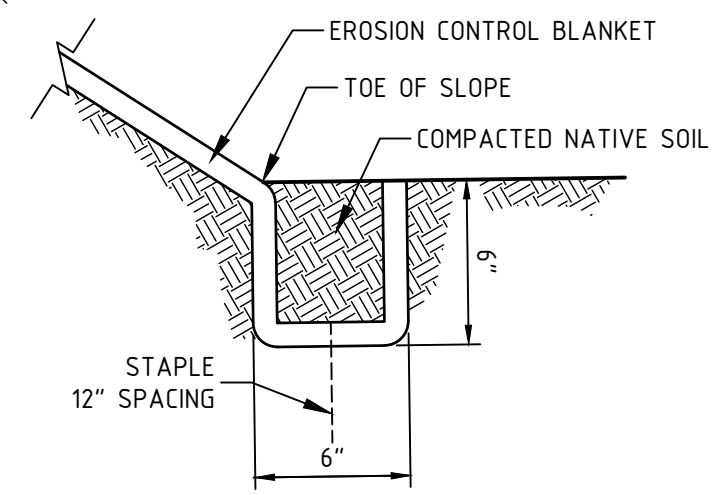
ANCHOR TRENCH AT TOP OF SLOPE DETAIL B



SHINGLE SPLICE DETAIL C



ROLLED EROSION CONTROL DETAIL
NTS



ANCHOR TRENCH AT TOE OF SLOPE DETAIL D

- NOTES:
1. INSTALL STAPLES ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
2. OVERLAP IN THE DIRECTION OF THE PREVAILING WIND.
3. INSTALL STAPLES ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
4. PROVIDE CHECK SLOTS ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
5. ROLL ENDS MAY BE SPLICED IN A CHECK SLOT.
6. TRAPEZOIDAL DITCH SHOWN. SIMILAR DETAILS FOR A V-DITCH.

NO.	REVISIONS	DATE	INT.
0.	INITIAL SUBMISSION FOR SITE PLAN REVIEW	10/28/20	AWA

SEAL

DATE ISSUED:	10/28/20
SCALE:	N/A
DESIGNED BY:	AWA
DRAWN BY:	AWA
APPROVED BY:	MJS
DWG FILE:	18041 Def A.dwg

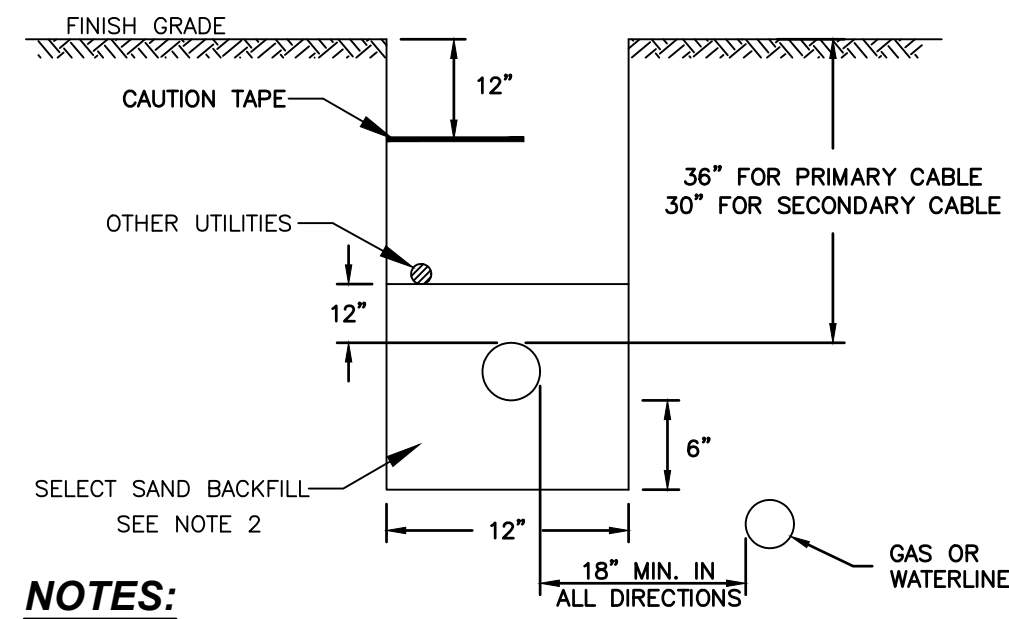
CONSTRUCTION DETAILS

prepared for
TOOMERS, LLC
TAX MAP 5, LOTS 1-9 AND 1-10
19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824

MJS ENGINEERING, P.C.
CIVIL • STRUCTURAL • ENVIRONMENTAL
5 Railroad St., P.O. Box 359
Newmarket, NH 03857
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Email: mjs@mjsengineering.com

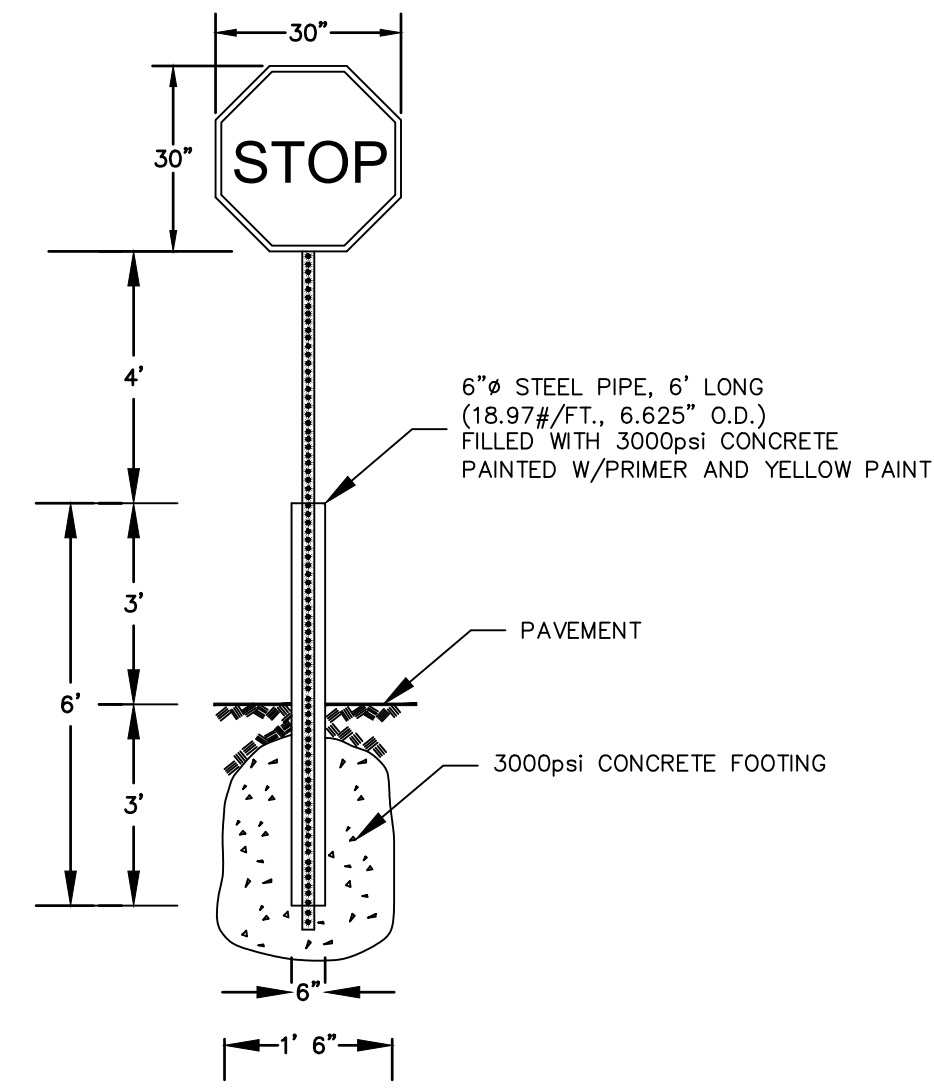
JOB: 18-041

C-502



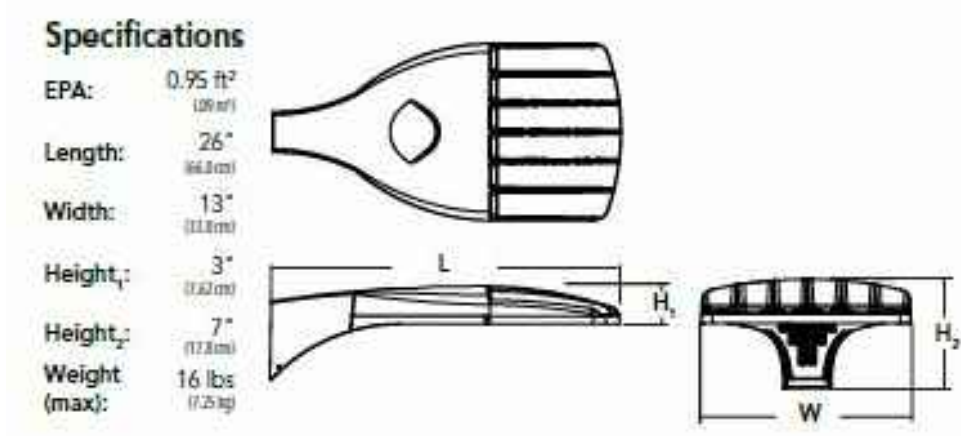
- NOTES:**
- CONSTRUCTION TO BE IN ACCORDANCE WITH PSNH CONSTRUCTION STANDARDS FOR NEW ELECTRICAL SERVICE WORK BY CONTRACTORS, MOST RECENT EDITION.
 - SELECT SAND BACKFILL SHALL CONSIST OF A FINE GRANULAR MATERIAL OF WHICH 100% SHALL PASS THROUGH A 1/4" SIEVE, EXCEPT NATURALLY OCCURRING SMOOTH ROUND PEBBLES NO GREATER THAN 3/8" IN DIAMETER ARE PERMITTED AS LONG AS THEIR TOTAL VOLUME PER CUBIC FOOT OF SAND DOES NOT EXCEED 1%. THE SAND SHALL BE COMPLETELY FREE OF FROZEN LUMPS, ROCKS, STONES, DEBRIS AND RUBBISH. BACKFILL SHALL BE THOROUGHLY COMPACTED IN 6" LIFTS.
 - CONDUIT SIZES TO BE 5" 3-PHASE PRIMARY AND 4" 3-PHASE SECONDARY. ALL CONDUIT SIZES TO BE VERIFIED BY PSNH.
 - 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.

TELEPHONE & ELECTRIC TRENCH
N.T.S.

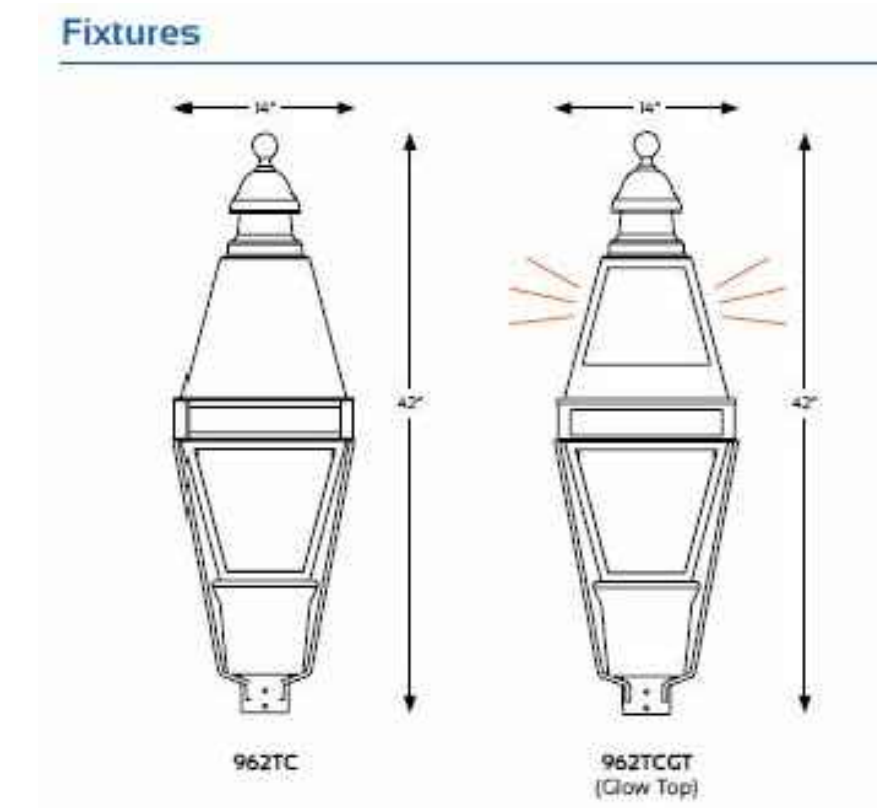


TYPICAL SIGN DETAIL
N.T.S.

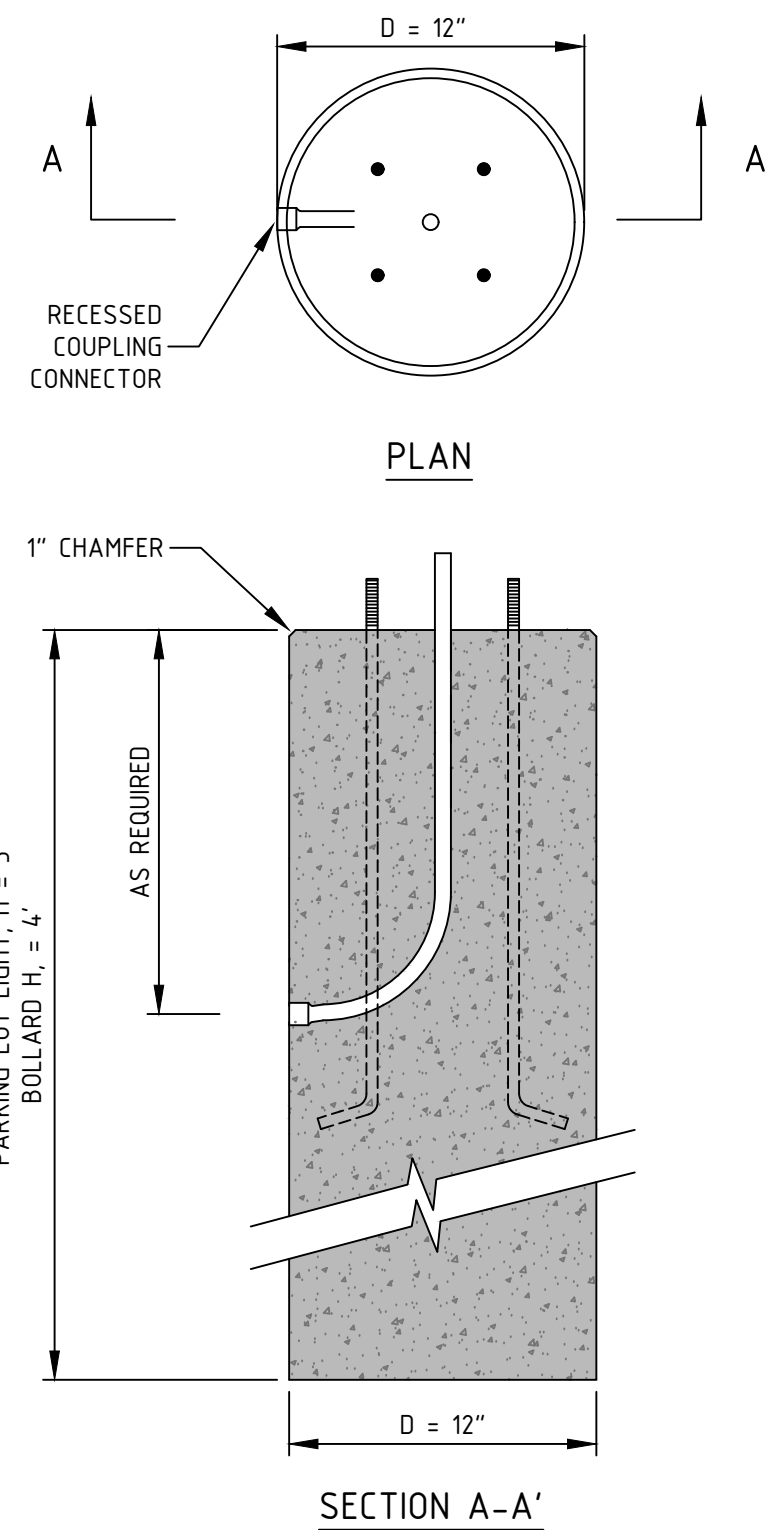
- NOTES:**
1. SEE PLANS FOR SIGN PLACEMENT.



LITHONIA DSX0-LED POLE MOUNTED LIGHT FIXTURE
N.T.S.

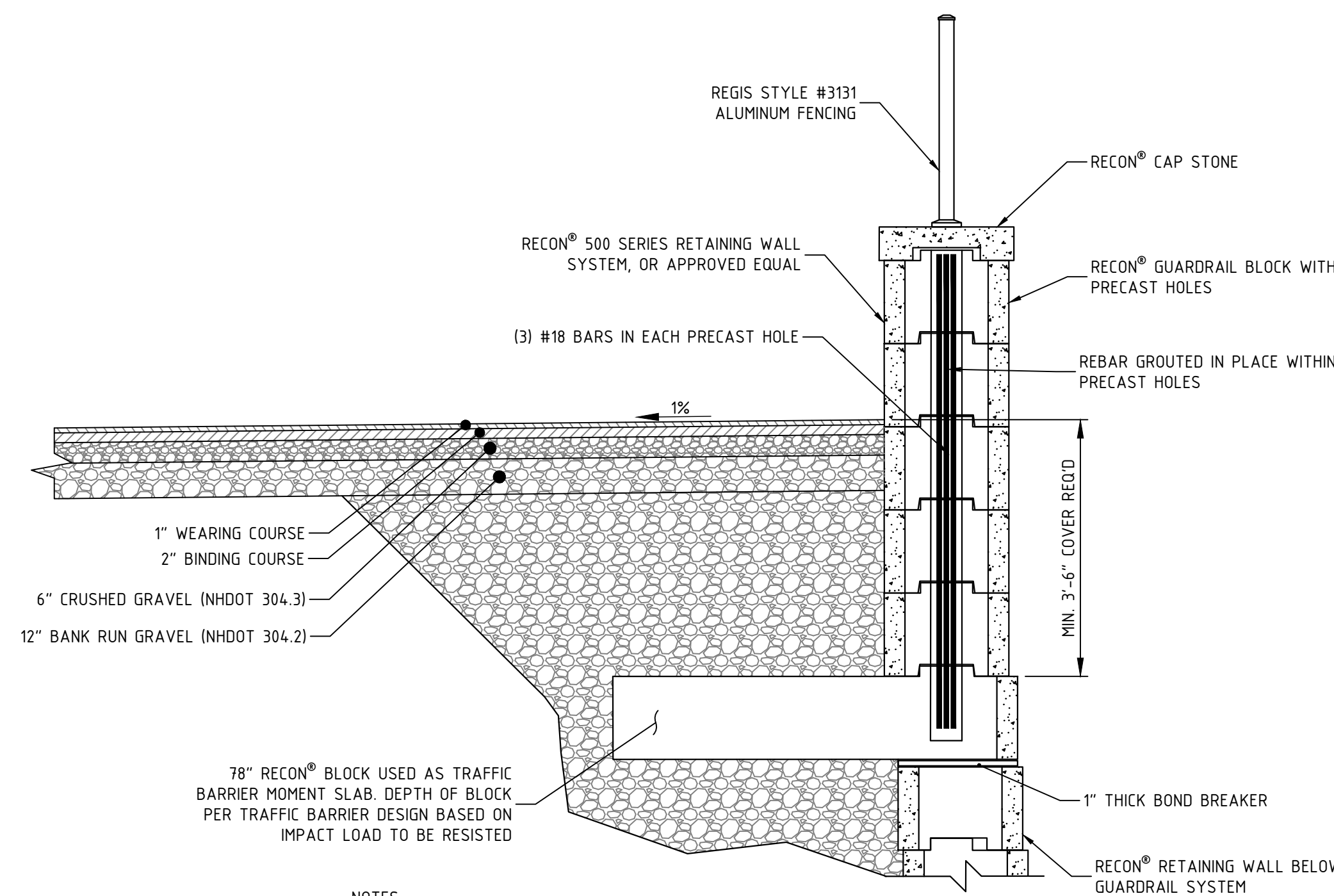


STERNBERG LIGHTING 962TC-XRLED GLEN ELLYN SERIES POLE MOUNTED LIGHT FIXTURE
N.T.S.



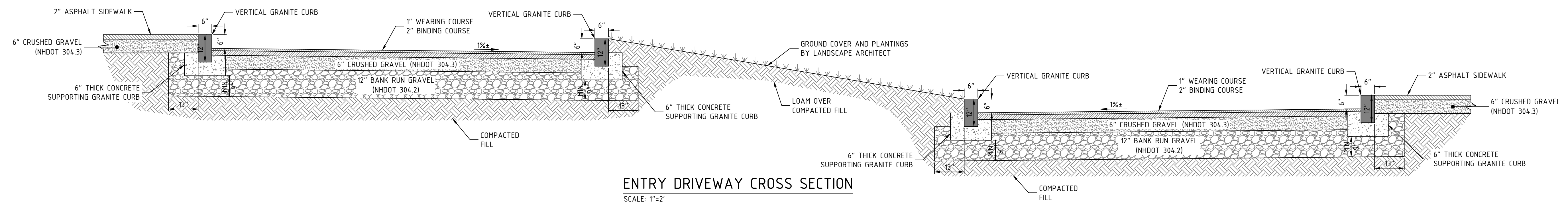
- NOTES:**
- CONCRETE MINIMUM 5,000 PSI AFTER 28 DAYS.
 - CONDUIT, ANCHOR BOLTS AND TEMPLATE SUPPLIED BY OTHERS.
 - LIGHT POLE BASE SIZE IS TO BE SPECIFIED BY A QUALIFIED ENGINEER.
 - TYPICAL BASE DIAMETERS 'D' INCLUDE: 12", 18", 24", AND 30".
 - TYPICAL BASE HEIGHTS 'H' RANGE FROM 4' TO 7'.
 - OTHER BASE SIZES AVAILABLE UPON REQUEST.

LIGHT POLE BASE DETAIL
N.T.S.



- NOTES:**
1. DELETERIOUS MATERIALS ENCOUNTERED BELOW PARKING AREA SHALL BE COMPLETELY REMOVED.
2. COMPACT SUBGRADE TO 95% OF STANDARD PROCTOR.

RETAINING WALL DETAIL
N.T.S.



ENTRY DRIVEWAY CROSS SECTION
SCALE: 1"=2'

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

SEAL

DATE ISSUED:	10/28/20
SCALE:	N/A
DESIGNED BY:	AMS
DRAWN BY:	AMS
APPROVED BY:	MJS
DWG FILE:	18041 Def A.dwg

CONSTRUCTION DETAILS

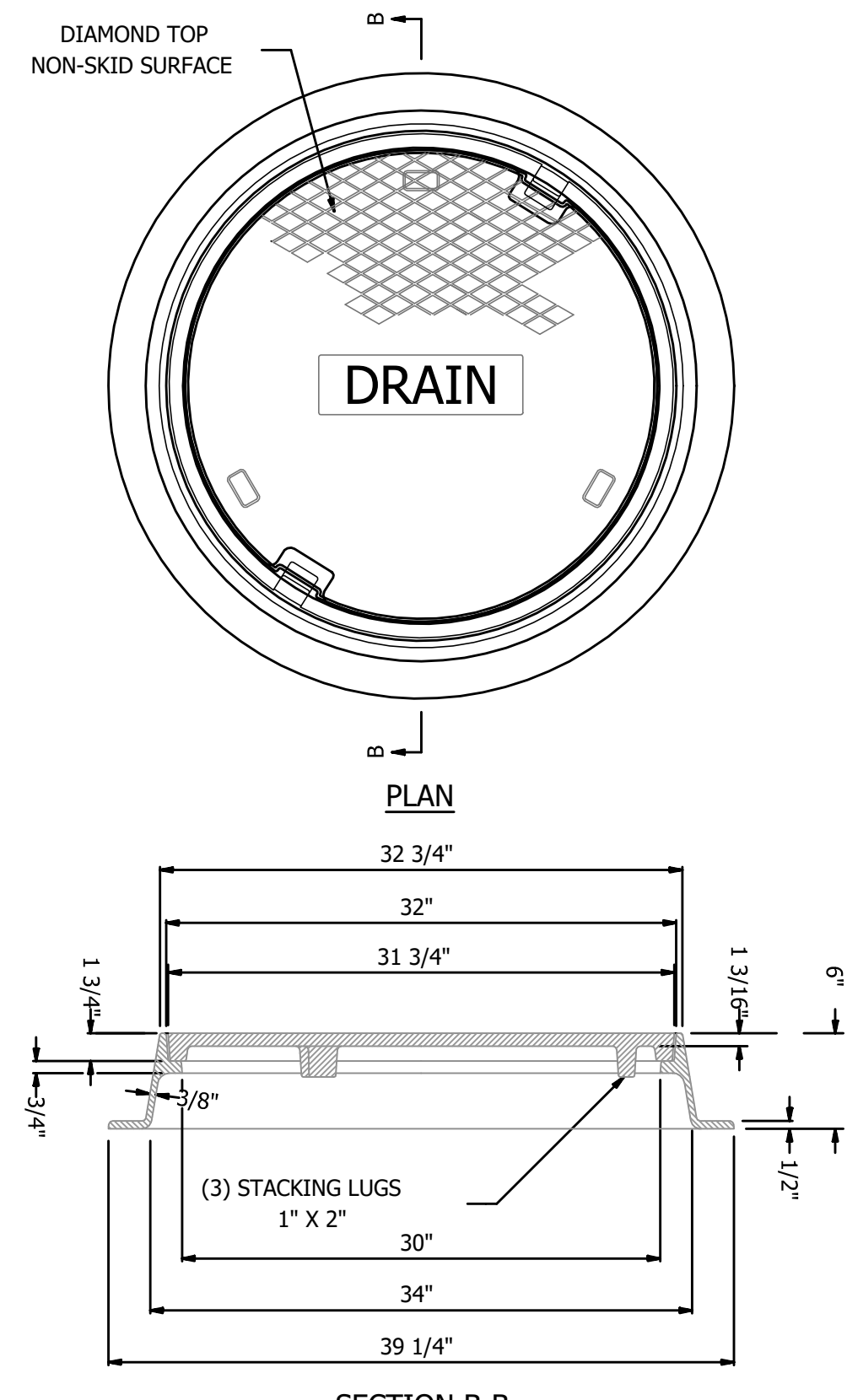
prepared for
TOOMERFS, LLC
TAX MAP 5, LOTS 1-9 AND 1-10
19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824



JOB: 18-041

C-503

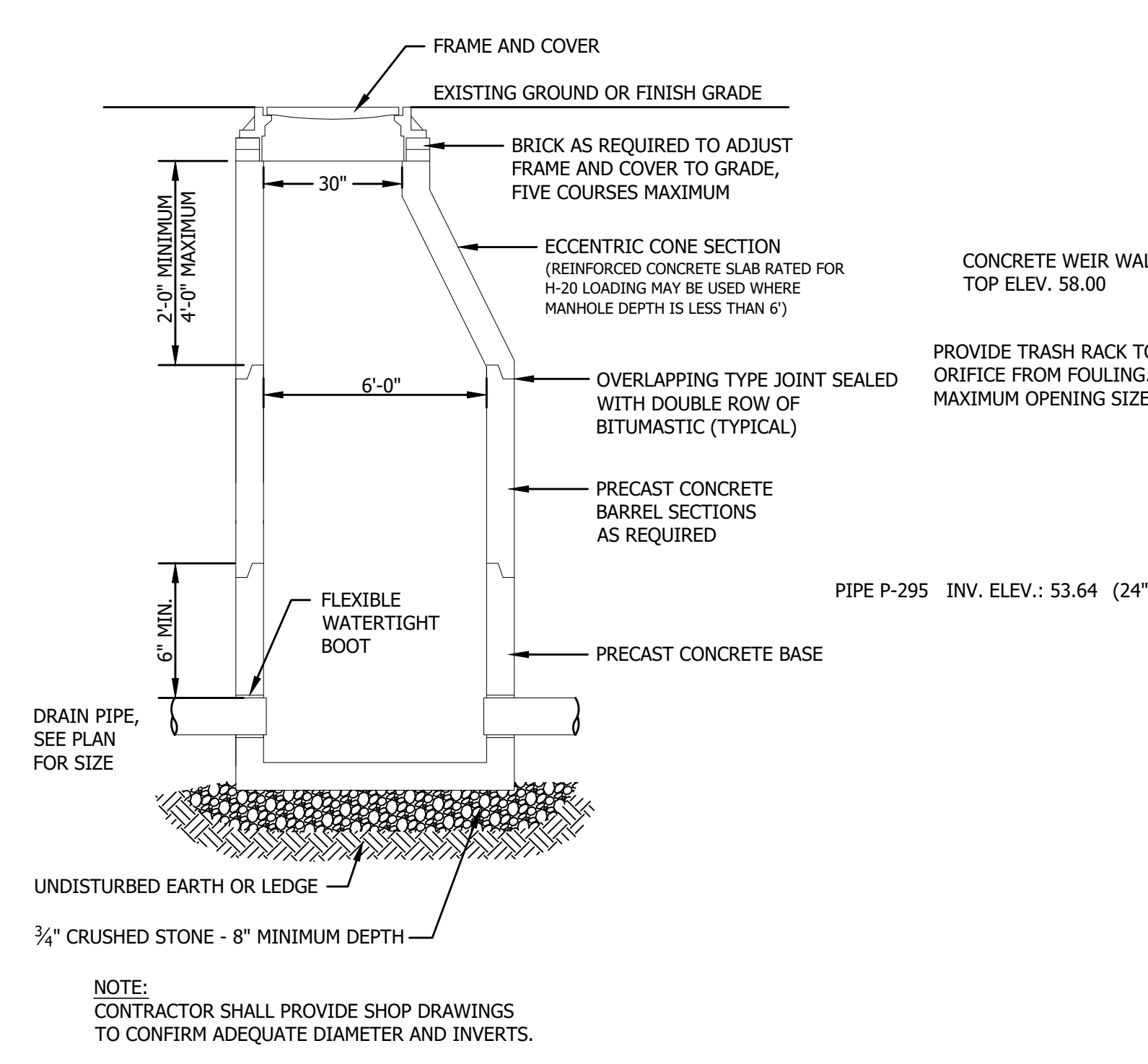
NO.	REVISIONS	DATE	INT.
0.	INITIAL SUBMISSION FOR SITE PLAN REVIEW	10/28/20	AMS



NOTES

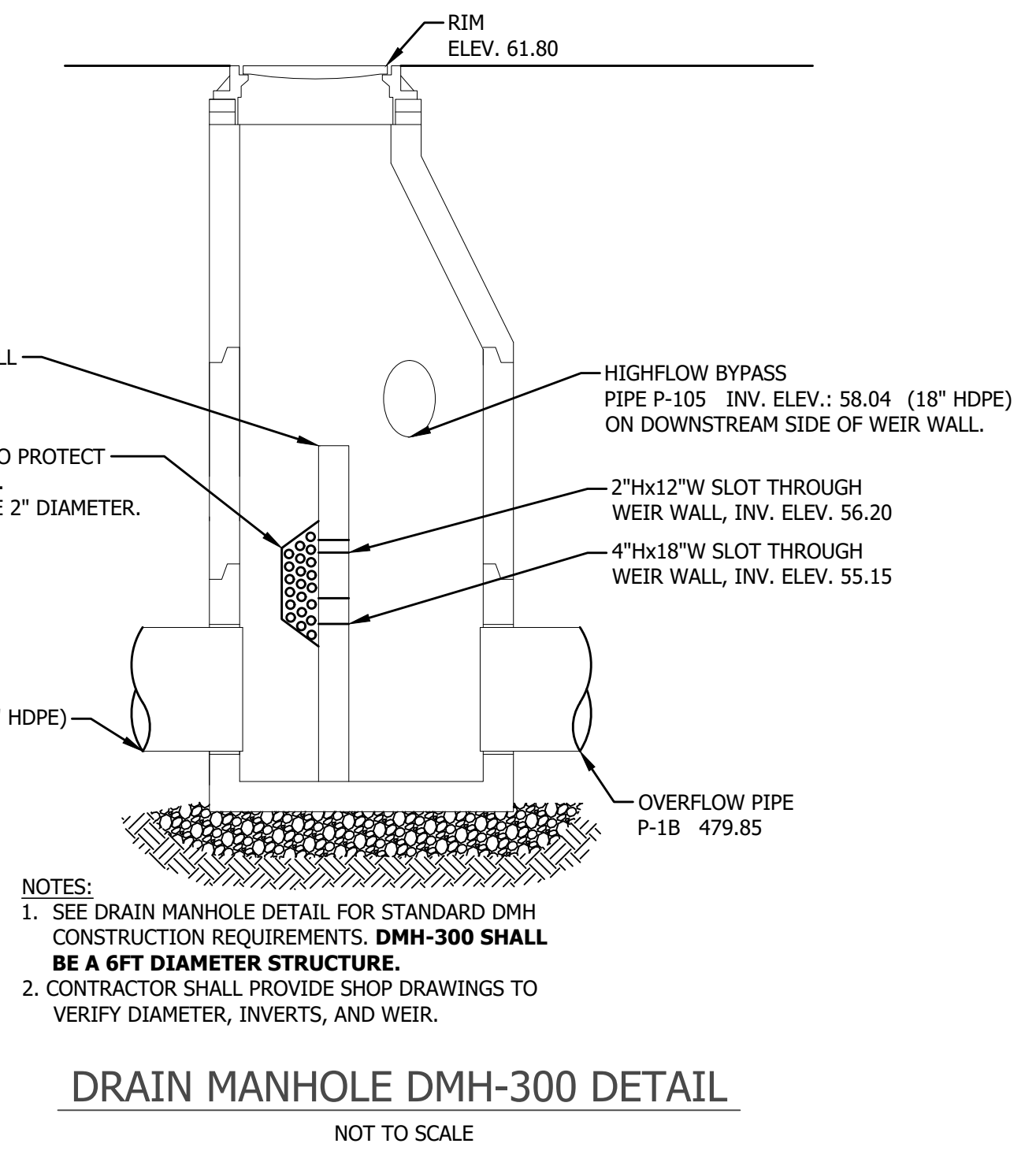
- ALL DIMENSIONS ARE NOMINAL
- LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN THE CENTER OF THE COVER

DRAIN MANHOLE FRAME AND GRATE
 NOT TO SCALE



DRAIN MANHOLE DETAIL
 NOT TO SCALE

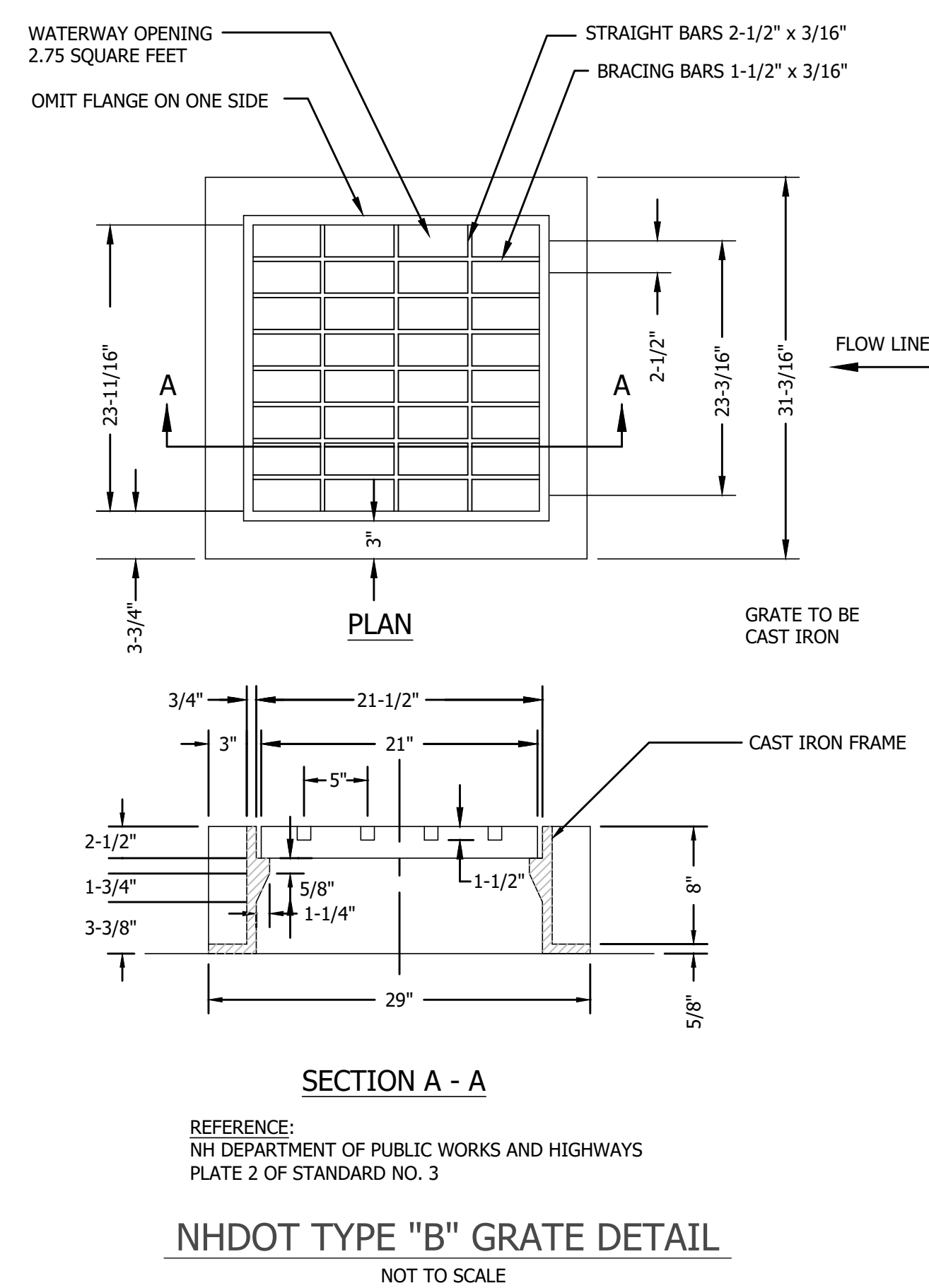
NOTE:
 CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO CONFIRM ADEQUATE DIAMETER AND INVERTS.



DRAIN MANHOLE DMH-300 DETAIL
 NOT TO SCALE

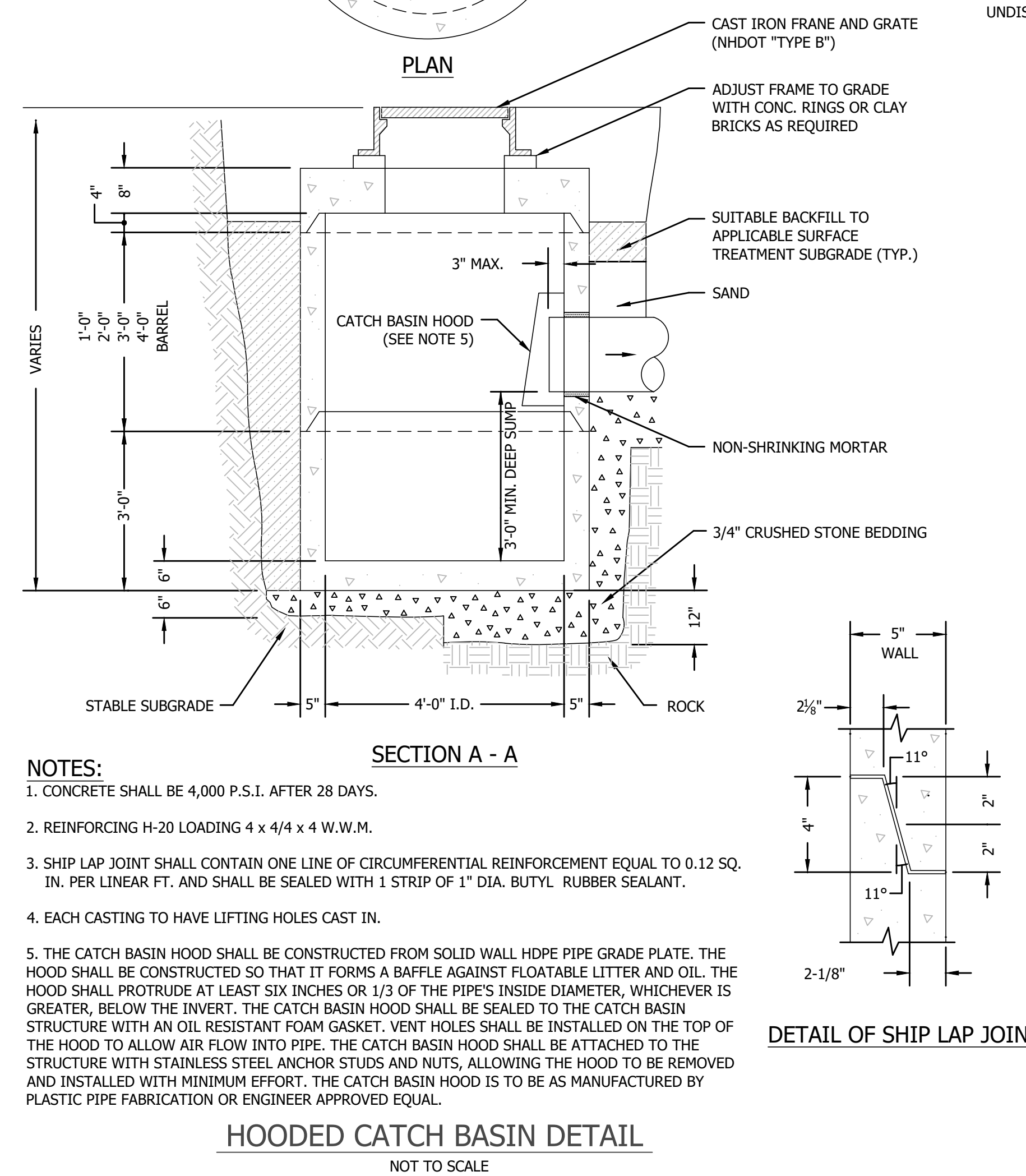
NOTES:

- SEE DRAIN MANHOLE DETAIL FOR STANDARD DMH CONSTRUCTION REQUIREMENTS. **DMH-300 SHALL BE A 6FT DIAMETER STRUCTURE.**
- CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO VERIFY DIAMETER, INVERTS, AND WEIR.



NHDOT TYPE "B" GRATE DETAIL
 NOT TO SCALE

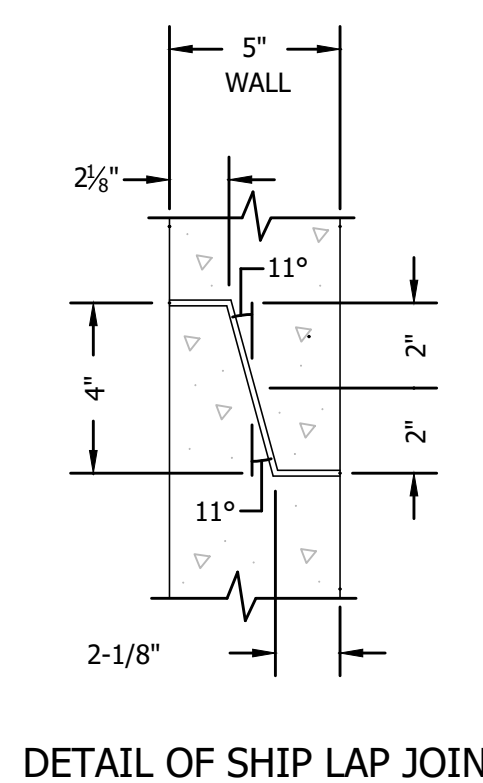
REFERENCE:
 NH DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
 PLATE 2 OF STANDARD NO. 3



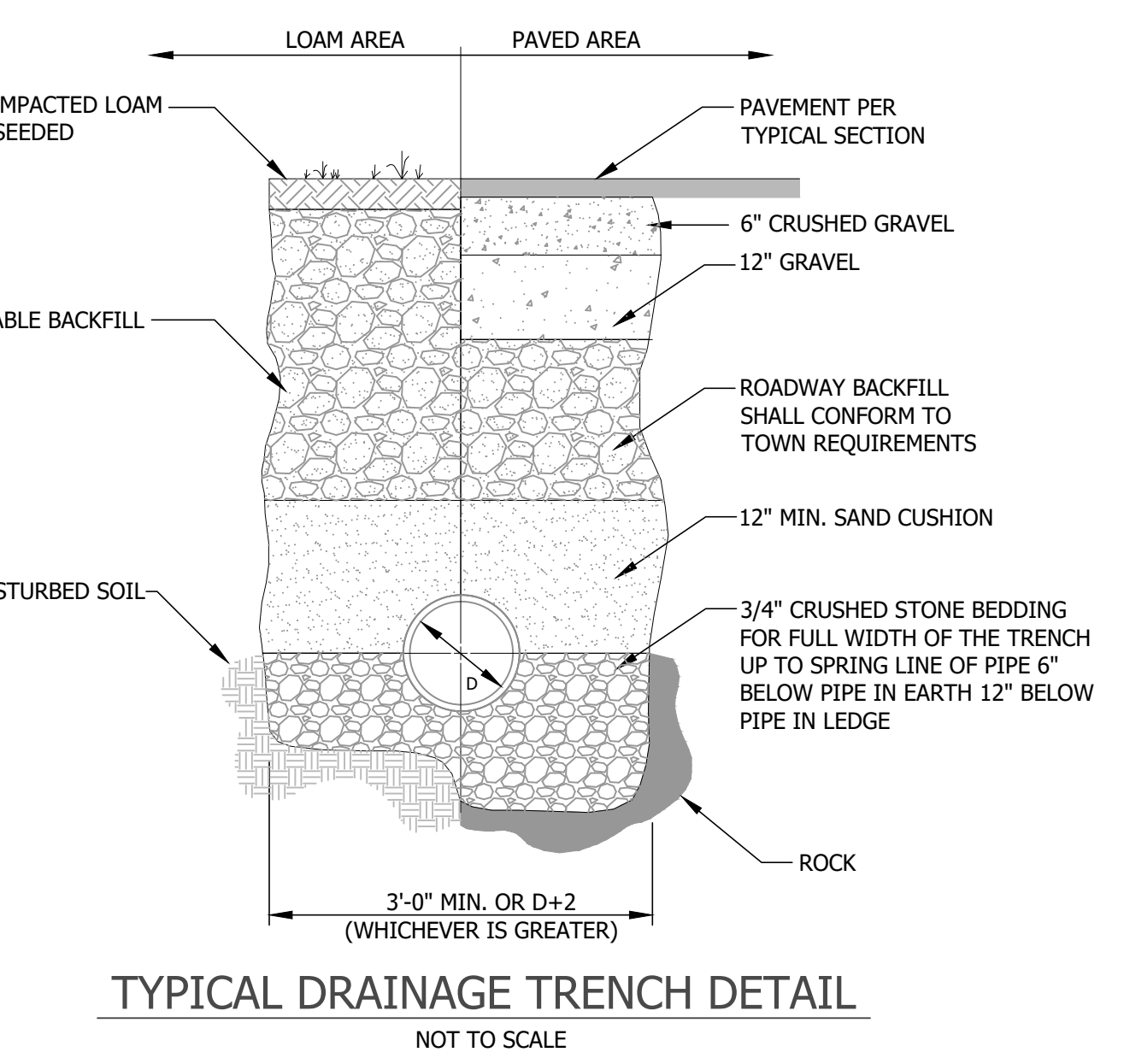
NOTES:

- CONCRETE SHALL BE 4,000 P.S.I. AFTER 28 DAYS.
- REINFORCING H-20 LOADING 4 x 4/4 x 4 W.W.M.
- SHIP LAP JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT. AND SHALL BE SEALED WITH 1 STRIP OF 1" DIA. BUTYL RUBBER SEALANT.
- EACH CASTING TO HAVE LIFTING HOLES CAST IN.
- THE CATCH BASIN HOOD SHALL BE CONSTRUCTED FROM SOLID WALL HDPE PIPE GRADE PLATE. THE HOOD SHALL BE CONSTRUCTED SO THAT IT FORMS A BAFLE AGAINST FLOATABLE LITTER AND OIL. THE HOOD SHALL PROTRUDE AT LEAST SIX INCHES OR 1/3 OF THE PIPE'S INSIDE DIAMETER, WHICHEVER IS GREATER, BELOW THE INVERT. THE CATCH BASIN HOOD SHALL BE SEALED TO THE CATCH BASIN STRUCTURE WITH AN OIL RESISTANT FOAM GASKET. VENT HOLES SHALL BE INSTALLED ON THE TOP OF THE HOOD TO ALLOW AIR FLOW INTO PIPE. THE CATCH BASIN HOOD SHALL BE ATTACHED TO THE STRUCTURE WITH STAINLESS STEEL ANCHOR STUDS AND NUTS, ALLOWING THE HOOD TO BE REMOVED AND INSTALLED WITH MINIMUM EFFORT. THE CATCH BASIN HOOD IS TO BE AS MANUFACTURED BY PLASTIC PIPE FABRICATION OR ENGINEER APPROVED EQUAL.

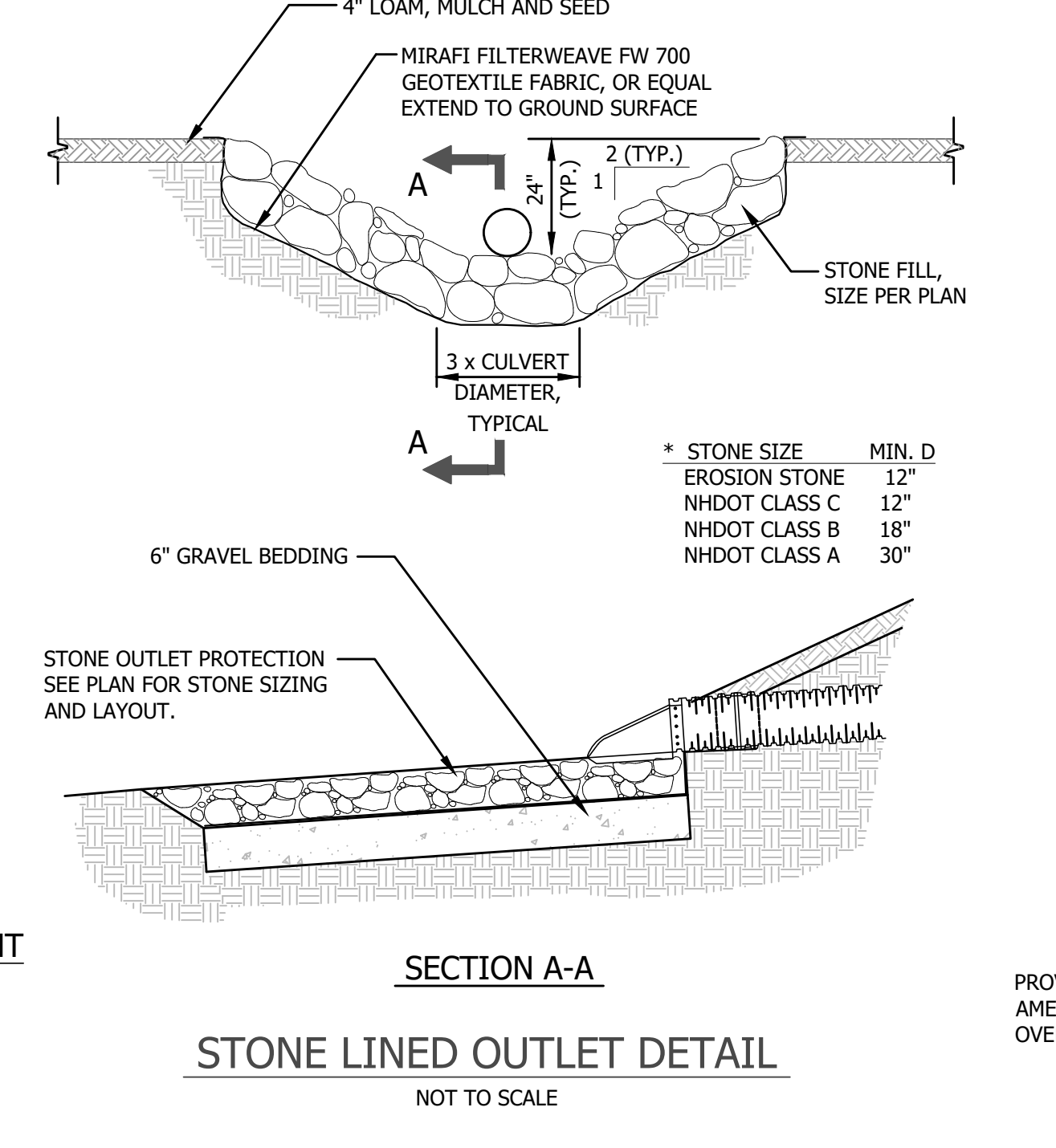
SECTION A - A
 NOT TO SCALE



DETAIL OF SHIP LAP JOINT



TYPICAL DRAINAGE TRENCH DETAIL
 NOT TO SCALE



SECTION A-A
 NOT TO SCALE

STONE LINED OUTLET DETAIL
 NOT TO SCALE

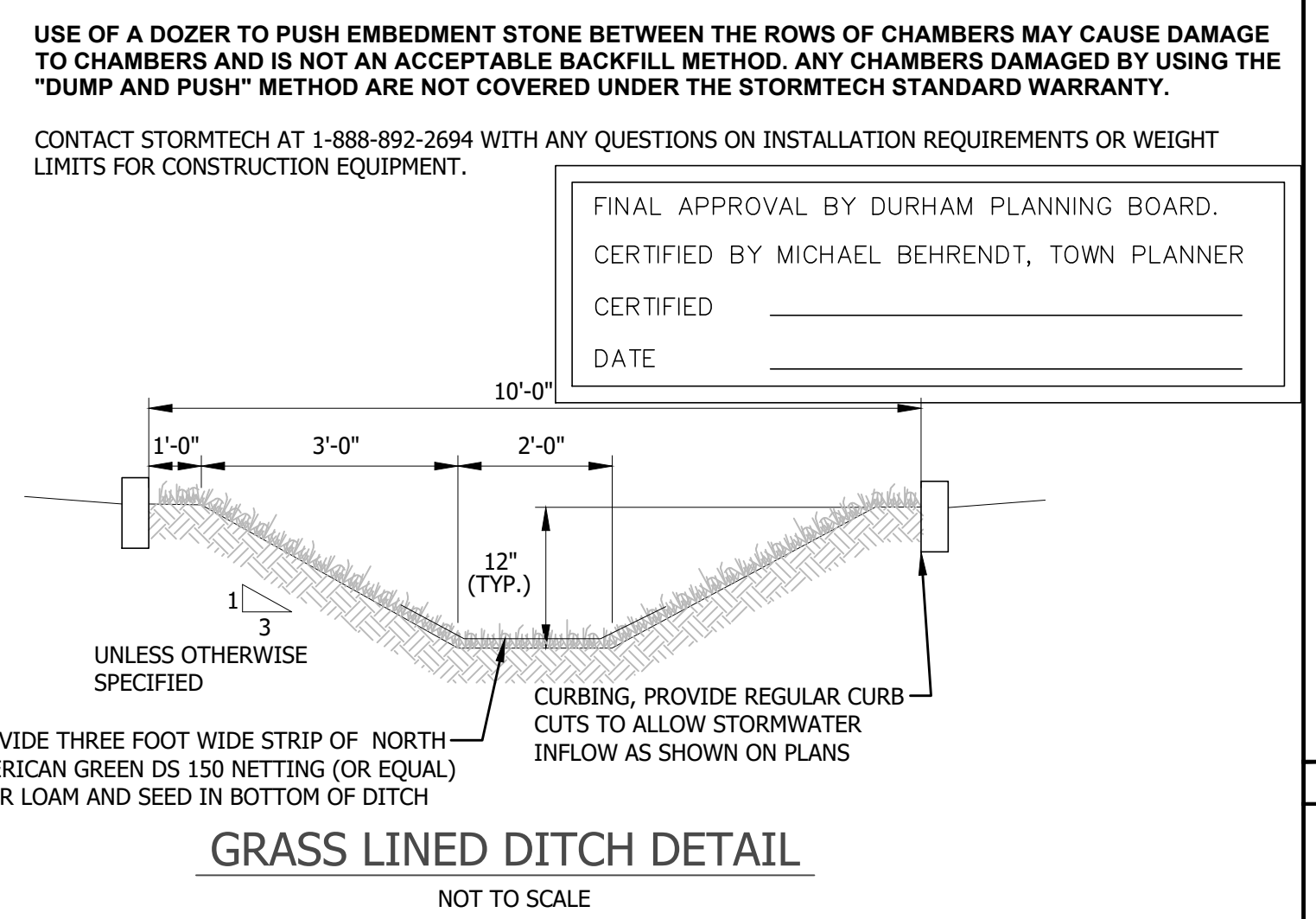
*** STONE SIZE**

MIN. D	MIN. D
EROSION STONE	12"
NHDOT CLASS C	12"
NHDOT CLASS B	18"
NHDOT CLASS A	30"

- STORMTECH CHAMBER SPECIFICATIONS**
- CHAMBERS SHALL BE STORMTECH MC-4500.
 - CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
 - CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
 - THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
 - CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
 - STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
 - CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

- IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM**
- STORMTECH MC-4500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
 - STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
 - THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
 - JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
 - MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
 - INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
 - EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
 - STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
 - STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
 - THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
 - ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

- NOTES FOR CONSTRUCTION EQUIPMENT**
- STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - THE USE OF EQUIPMENT OVER MC-4500 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER TIED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.



GRASS LINED DITCH DETAIL
 NOT TO SCALE

PROVIDE THREE FOOT WIDE STRIP OF NORTH AMERICAN GREEN DS 150 NETTING (OR EQUAL) OVER LOAM AND SEED IN BOTTOM OF DITCH

UNLESS OTHERWISE SPECIFIED

CURBING: PROVIDE REGULAR CURB CUTS TO ALLOW STORMWATER INFLOW AS SHOWN ON PLANS

DATE ISSUED:	10/28/20	SCALE:	N/A
DESIGNED BY:	AMS	DRAWN BY:	AMS
APPROVED BY:	MJS	DWG FILE:	20601 COVER DETAIL S 01.dwg
NO.	0	INITIAL SUBMISSION FOR SITE PLAN REVIEW	REVISIONS
DATE	10/28/20	DATE	INT.

CONSTRUCTION DETAILS

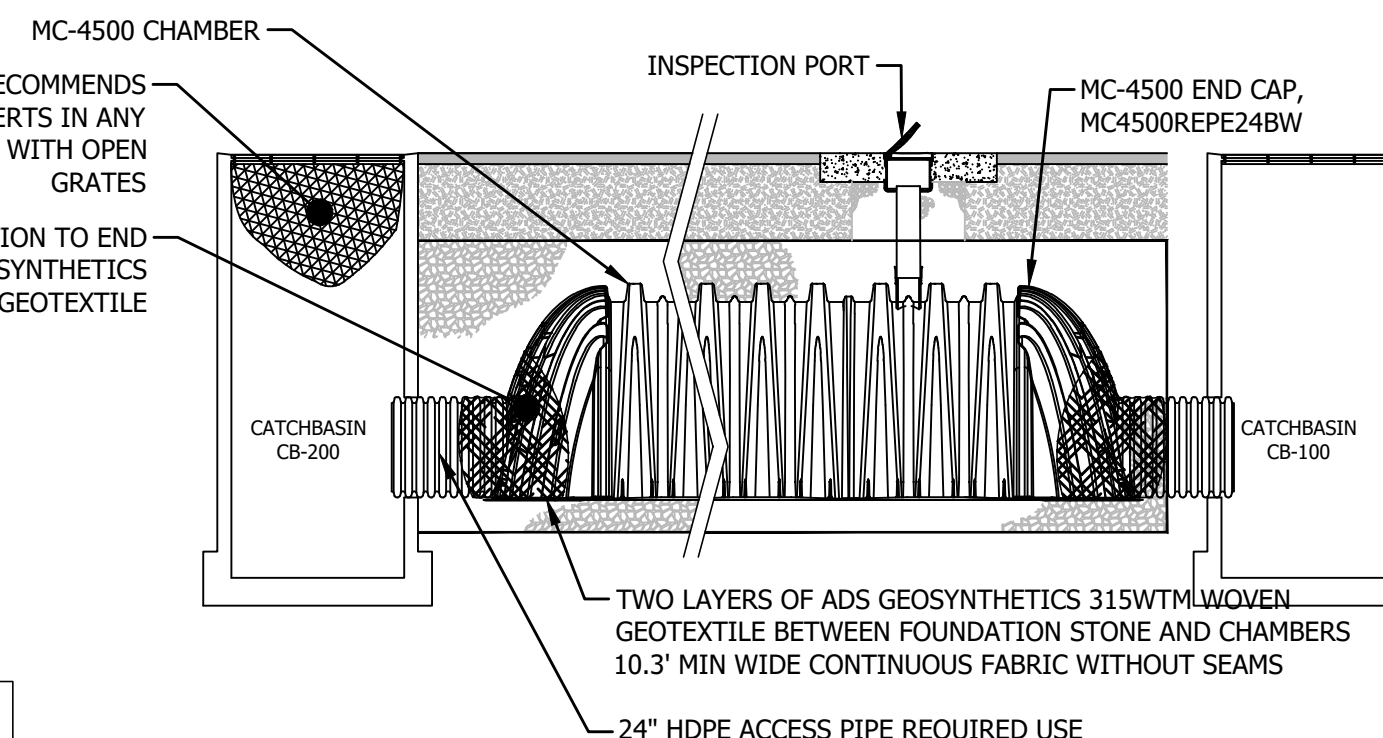
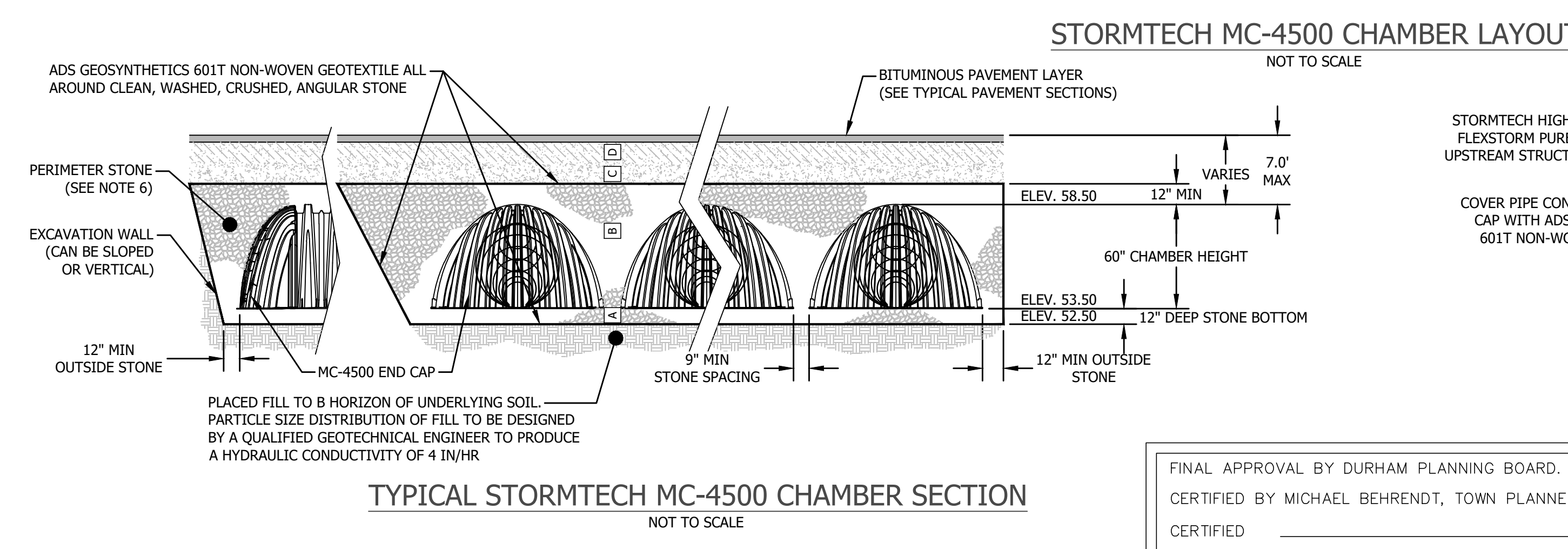
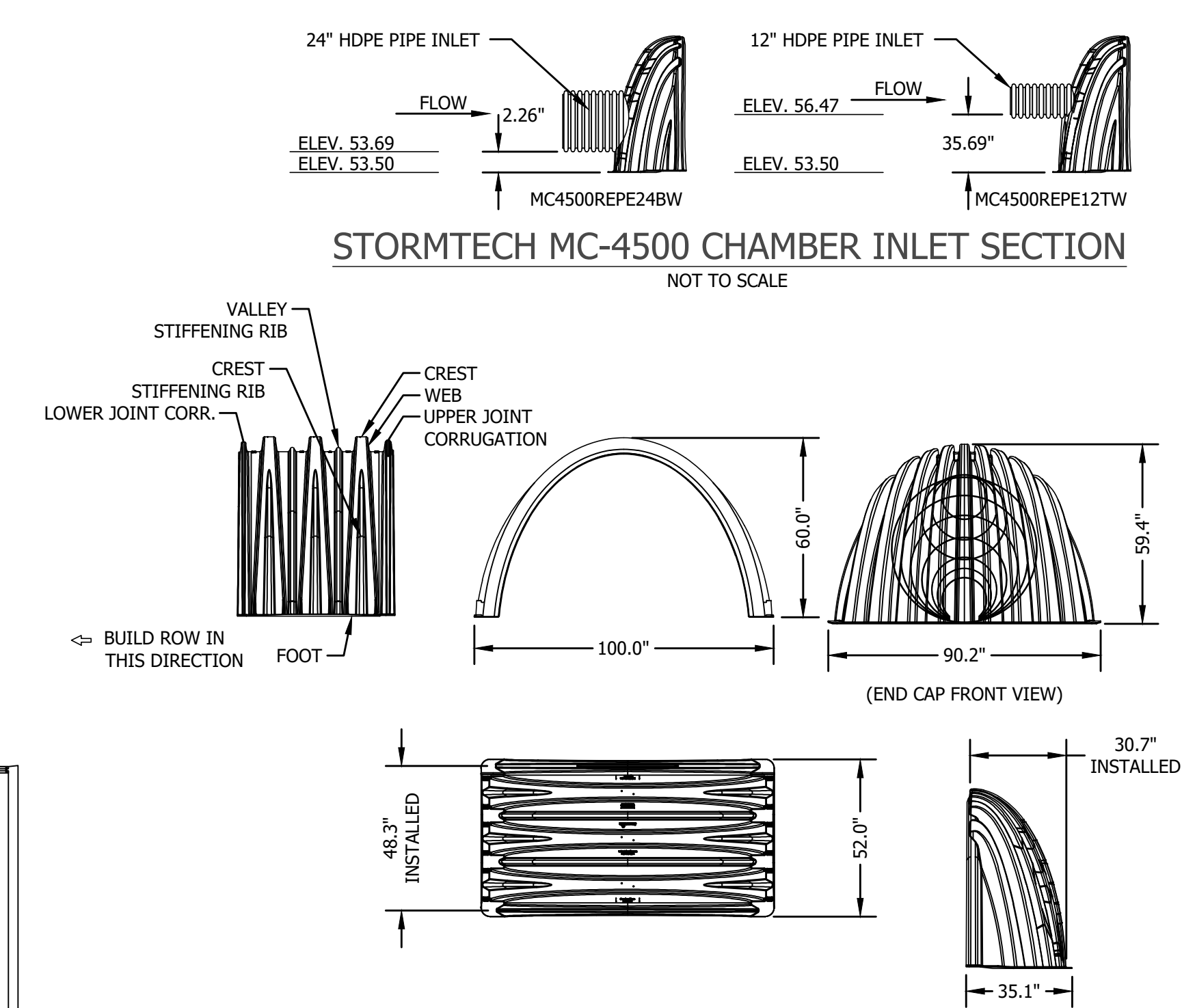
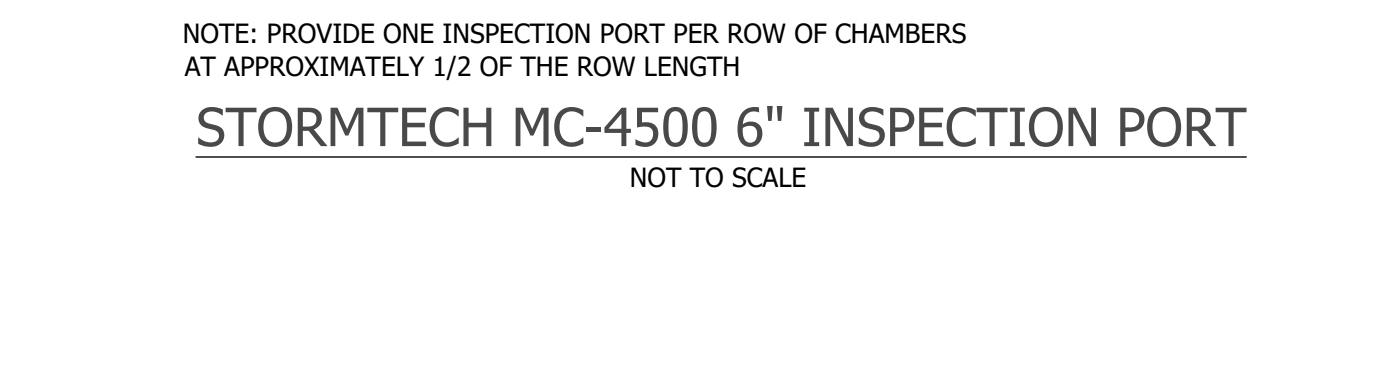
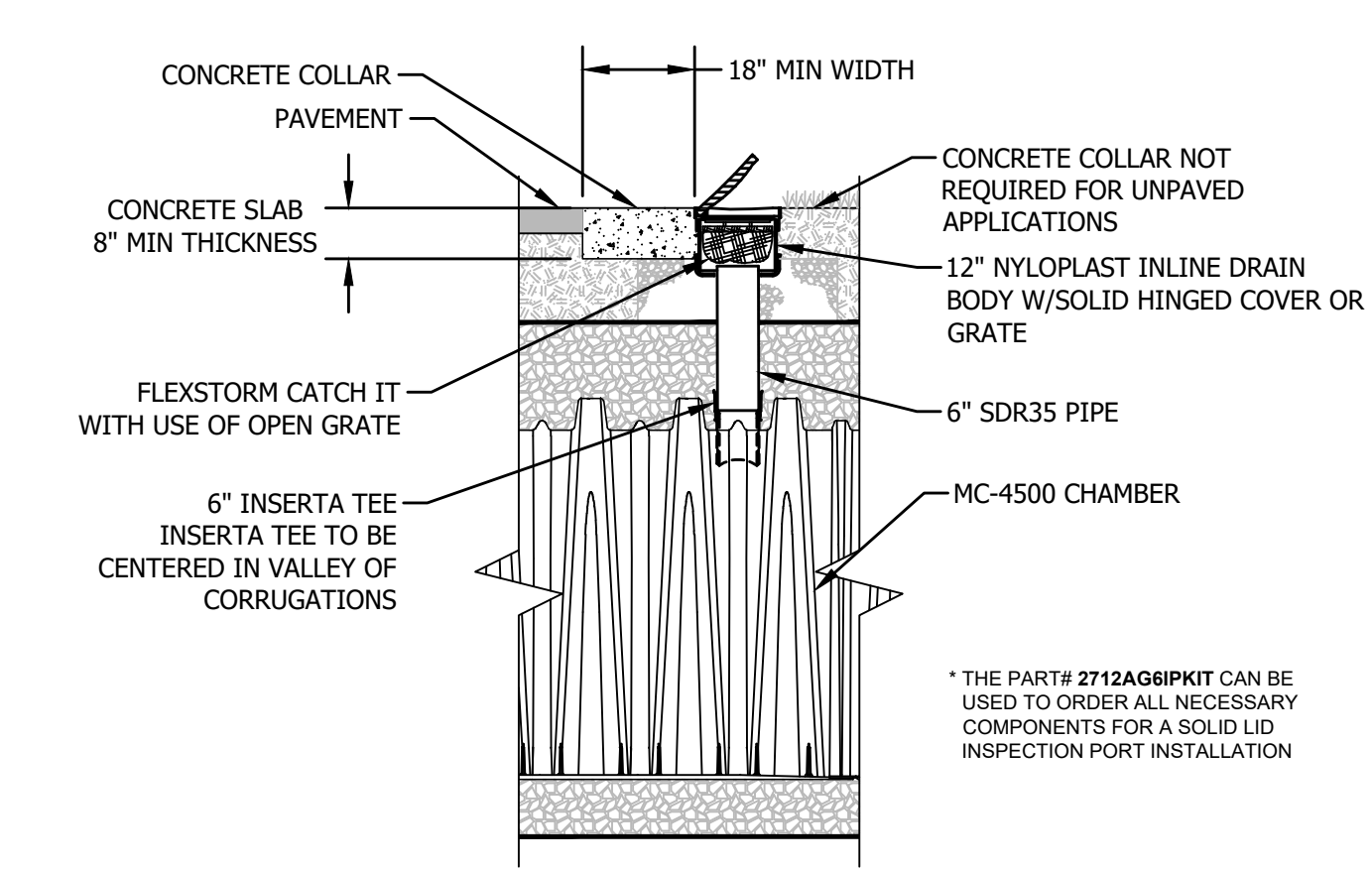
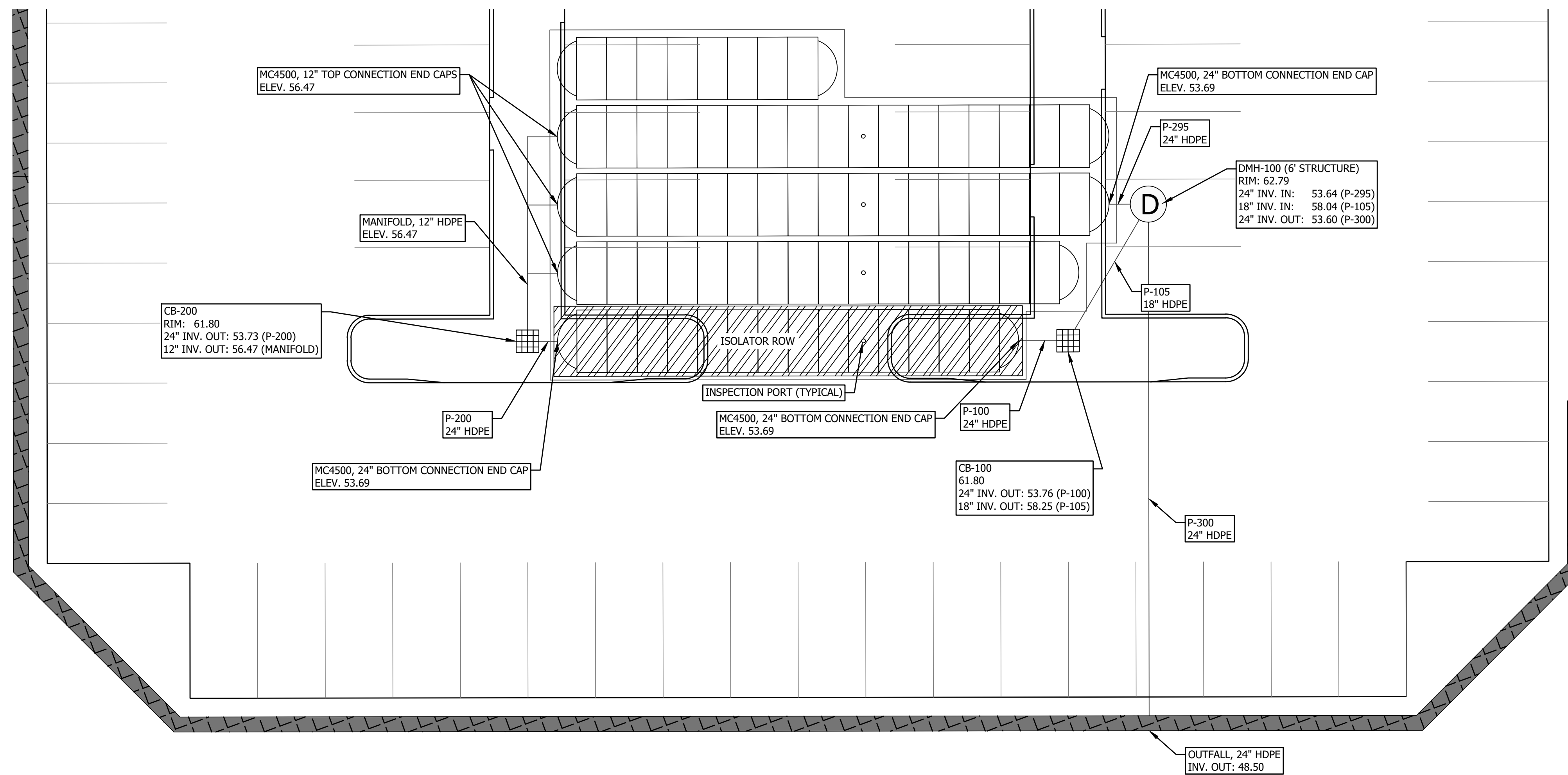
prepared for
TOOMERS, LLC
 TAX MAP 5, LOTS 1-9 AND 1-10
 19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824

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

JOB: 18-041

C-504



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

ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE AASHTO M43 ¹ 3, 4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE AASHTO M43 ¹ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
 A. INSPECTION PORTS (IF PRESENT)
 A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 B. ALL ISOLATOR ROWS
 B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
 A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
 B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

IMPORTANT NOTE

FOUNDATION AND EMBEDMENT STONE SHALL BE **CLEAN, WASHED, ANGULAR CRUSHED STONE**. ENGINEER SHALL INSPECT AND VERIFY MATERIAL PRIOR TO SYSTEM INSTALLATION.

STORMTECH MC-4500 CHAMBER SPECIFICATIONS

100.0" WIDE x 9.0" SPACING = 109.0" C-C ROW SPACING

ROW LENGTH VARIES
 [17 CHAMBERS/ROW x 4.025' LONG] + [2.55' CAP LENGTH x 2] = 73.53' ROW LENGTH
 + [12.0" END STONE x 2] = 75.53' BASE LENGTH
 [16 CHAMBERS/ROW x 4.025' LONG] + [2.55' CAP LENGTH x 2] = 69.50' ROW LENGTH
 + [12.0" END STONE x 2] = 71.50' BASE LENGTH
 [14 CHAMBERS/ROW x 4.025' LONG] + [2.55' CAP LENGTH x 2] = 61.45' ROW LENGTH
 + [12.0" END STONE x 2] = 63.45' BASE LENGTH
 [08 CHAMBERS/ROW x 4.025' LONG] + [2.55' CAP LENGTH x 2] = 37.30' ROW LENGTH
 + [12.0" END STONE x 2] = 39.30' BASE LENGTH

[5 ROWS x 100.0" WIDE] + [9.0" SPACING x 4] + [12.0" SIDE STONE x 2] = 46.67' BASE WIDTH
 [12.0" BASE + 60.0" CHAMBER HEIGHT + 12.0" COVER] = 7.00' FIELD HEIGHT

[72 CHAMBERS x 106.5 CF] + [35.7 CF CAP VOLUME x 2 x 5 ROWS] = 8,025 CF CHAMBER STORAGE
 21,327 CF FIELD - 8,025 CF CHAMBERS = 13,302 CF STONE X 40.0% VOIDS = 5,321 CF STONE STORAGE

CHAMBER STORAGE + STONE STORAGE = 13,346 CF = 0.306 AF
 OVERALL STORAGE EFFICIENCY = 62.6%

72 CHAMBERS, 10 END CAPS
 21,327 CY FIELD, 13,302 CY STONE

*CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL QUANTITIES

NO.	REVISIONS	DATE	INT.
0.	INITIAL SUBMISSION FOR SITE PLAN REVIEW	10/28/20	AWS

DATE ISSUED:	SCALE:	DESIGNED BY:	DRAWN BY:	APPROVED BY:	DWG FILE:
10/28/20	N/A	AWS	MJS		20601 COVER DETAILS 01.dwg

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C-505