

SITE-SPECIFIC SOIL MAP NOTES

- THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR USE BY M/S ENGINEERING, P.C. FOR A PARKING LOT EXPANSION AND ALTERATION OF TERRAIN REQUIREMENTS. IT WAS PRODUCED BY A CERTIFIED SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP.
- THIS DETAILED SITE-SPECIFIC SOIL MAP CONFORMS TO THE STANDARDS OF SSSNE PUBLICATION NO. 3, AS AMENDED, "SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NH AND VT".
- THIS MAP HAS BEEN PREPARED TO COMPLY WITH SOIL MAPPING REQUIREMENTS OF RSA 485-A:17 AND NH DES ENV-WQ 1500, ALTERATION OF TERRAIN.
- THE BASE MAP USED WAS PRODUCED BY NORWAY PLAINS ASSOCIATES, INC. & M/S ENGINEERING, P.C. IT CONTAINS THE EXISTING CONDITIONS, WETLAND DELINEATION CONDUCTED BY OTHERS, AND FIVE BACKHOE EXCAVATED TEST PITS CONDUCTED BY THE UNDERSIGNED ON OCTOBER 16, 2020. SOIL MAPPING FIELDWORK WAS CONDUCTED ON OCTOBER 16, 2020 AND OCTOBER 24, 2020. THE ENTIRE AREA SHOWN ON THE BASE MAP WAS NOT SOIL MAPPED; SOIL MAPPING WAS CONDUCTED WHERE THE PROPOSED CHANGES ARE RELATED TO THE PARKING LOT EXPANSION (TAX MAP 5 LOT 1-9 AND TAX MAP 5 LOT 1-10 WERE NOT SOIL MAPPED). IF ADDITIONAL SOIL OBSERVATIONS/TEST PITS ARE CONDUCTED, THE SOIL MAP MAY BE REVISED/FINE-TUNED. THE HYDROLOGIC SOILS GROUPS (HSGS) WERE TAKEN FROM THE SSSNE PUBLICATION NO. 5 EXCEPT FOR THE UDORTHENTS. THE UDORTHENTS HSG WAS ESTIMATED. UPDATED HSGS IN THE NRCS WEB SOIL SURVEY ARE DIFFERENT ON SOME OF THE MAP UNITS THAN THE NOW REQUIRED USED OF THE SSSNE SPECIAL PUBLICATION NO. 5.

SOIL LEGEND

NUMERICAL SYMBOL	SOIL MAP UNIT NAME	HSG
40	CHATFIELD (WELL DRAINED) - HOLLIS (WELL DRAINED) COMPLEX	B
141	HOLLIS (WELL DRAINED) - ROCK OUTCROP - CHATFIELD (WELL DRAINED) COMPLEX	D
238	ELMRIDGE	C
299	UDORTHENTS, SMOOTHED	C ESTIMATED
439	SHAKER (POORLY DRAINED)	C
693	HOLLIS (WELL DRAINED) - CHARLTON - URBAN LAND COMPLEX	D
934	SHAKER VARIANT (SOMEWHAT POORLY DRAINED)	C

ALPHA SLOPE SYMBOL RANGE

A	0-3%
B	3-8%
C	8-15%
D	15-25%
E	>25%

DISTURBED SOIL MAPPING UNIT SUPPLEMENT

THE FIVE COMPONENTS OF THE DISTURBED SOIL MAPPING UNIT SUPPLEMENT FOR THE UDORTHENTS MAP UNIT ARE: CCADC (WELL DRAINED, GLACIAL TILL MATERIAL, NO RESTRICTIVE/IMPERVIOUS LAYERS, KSAT - NOT DETERMINED, ESTIMATED HSG - C).

TEST PIT LOGS

TEST PIT 1:

1-0 INCHES	PARTIALLY DECOMPOSED ORGANIC MATTER
0-8 INCHES	BROWN (10YR 4/3) VERY FINE SANDY LOAM, FRIABLE, GRANULAR
8-11 INCHES	LIGHT OLIVE BROWN (2.5YR 5/3) VERY FINE SANDY LOAM, FRIABLE, BLOCKY
11-40 INCHES	LIGHT YELLOWISH BROWN (2.5YR 6/3) SILT LOAM, FIRM, MASSIVE, COMMON PROMINENT REDOX FEATURES

SEASONAL HIGH WATER TABLE @ 11" (PERCHED)
OBSERVED WATER TABLE NONE TO 40"
RESTRICTIVE HORIZON @ 11"
BEDROCK NONE TO 40"

TEST PIT 2:

1-0 INCHES	PARTIALLY DECOMPOSED ORGANIC MATTER
0-8 INCHES	BROWN (10YR 4/3) VERY FINE SANDY LOAM, FRIABLE, GRANULAR
9-12 INCHES	DARK YELLOWISH BROWN (10YR 4/4) VERY FINE SANDY LOAM, FRIABLE, BLOCKY
12-22 INCHES	LIGHT OLIVE BROWN (2.5Y 5/3) SILT LOAM, FIRM, BLOCKY, COMMON DISTINCT REDOX FEATURES
22-48 INCHES	OLIVE GRAY (5Y 4/2) SILT LOAM, VERY FIRM, BLOCKY, COMMON DISTINCT REDOX FEATURES AND MANGANESE STAINS ON PED FACES.

SEASONAL HIGH WATER TABLE @ 12" (PERCHED)
OBSERVED WATER TABLE NONE TO 48"
RESTRICTIVE HORIZON @ 12"
BEDROCK NONE TO 48"

TEST PIT 3:

1-0 INCHES	PARTIALLY DECOMPOSED ORGANIC MATTER
0-8 INCHES	BROWN (10YR 4/3) VERY FINE SANDY LOAM, FRIABLE, GRANULAR
8-13 INCHES	DARK YELLOWISH BROWN (10YR 4/4) VERY FINE SANDY LOAM, FRIABLE, BLOCKY
13-43 INCHES	LIGHT OLIVE BROWN (2.5Y 5/3) SILT LOAM, FIRM TO VERY FIRM, MASSIVE, COMMON PROMINENT REDOX FEATURES

SEASONAL HIGH WATER TABLE @ 13" (PERCHED)
OBSERVED WATER TABLE NONE TO 43"
RESTRICTIVE HORIZON @ 13"
BEDROCK NONE TO 43"

TEST PIT 4:

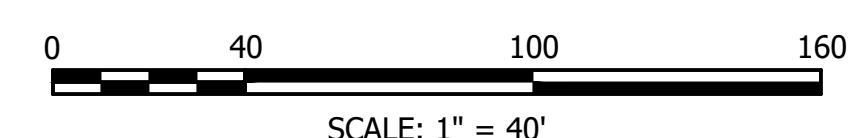
1-0 INCHES	PARTIALLY DECOMPOSED ORGANIC MATTER
0-6 INCHES	DARK BROWN (10YR 3/3) VERY FINE SANDY LOAM, FRIABLE, GRANULAR
6-11 INCHES	DARK YELLOWISH BROWN (10YR 4/4) VERY FINE SANDY LOAM, FRIABLE, BLOCKY
11-40 INCHES	LIGHT OLIVE BROWN (2.5Y 5/3) SILT LOAM, FIRM TO VERY FIRM, MASSIVE, COMMON PROMINENT REDOX FEATURES

SEASONAL HIGH WATER TABLE @ 11" (PERCHED)
OBSERVED WATER TABLE NONE TO 40"
RESTRICTIVE HORIZON @ 11"
BEDROCK NONE TO 40"

TEST PIT 5:

1-0 INCHES	PARTIALLY DECOMPOSED ORGANIC MATTER
0-8 INCHES	VERY DARK GRAYISH BROWN (10YR 3/2) VERY FINE SANDY LOAM, FRIABLE, GRANULAR
8-13 INCHES	DARK YELLOWISH BROWN (10YR 4/4) VERY FINE SANDY LOAM, FRIABLE, BLOCKY
13-40 INCHES	LIGHT OLIVE BROWN (2.5Y 5/3) SILT LOAM, FIRM TO VERY FIRM, MASSIVE, COMMON PROMINENT REDOX FEATURES

SEASONAL HIGH WATER TABLE @ 13" (PERCHED)
OBSERVED WATER TABLE NONE TO 40"
RESTRICTIVE HORIZON @ 13"
BEDROCK NONE TO 40"



PROJECT #:	18-041	NO.	REVISION DESCRIPTION	DATE	NO.	DATE
DATE:	11/30/2021					
SCALE:	1" = 40'					
ENGINEERED BY:	AMS					
DRAWN BY:	AMS					
CHECKED BY:	M/S					
		1.		05/04/2022		REVISED PER TOWN ENGINEERS COMMENTS

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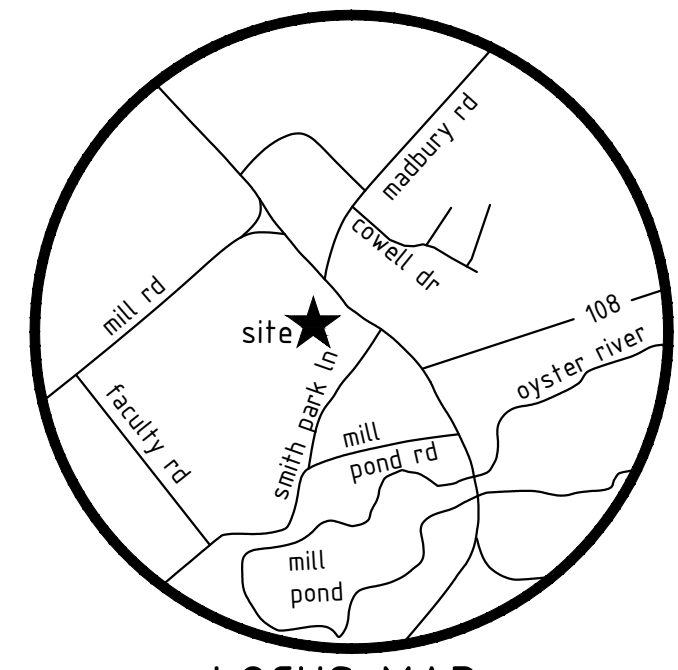
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PREPARED FOR
TOOMERFS, LLC
TAX MAP 5, LOTS 1-9 AND 1-10
19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824

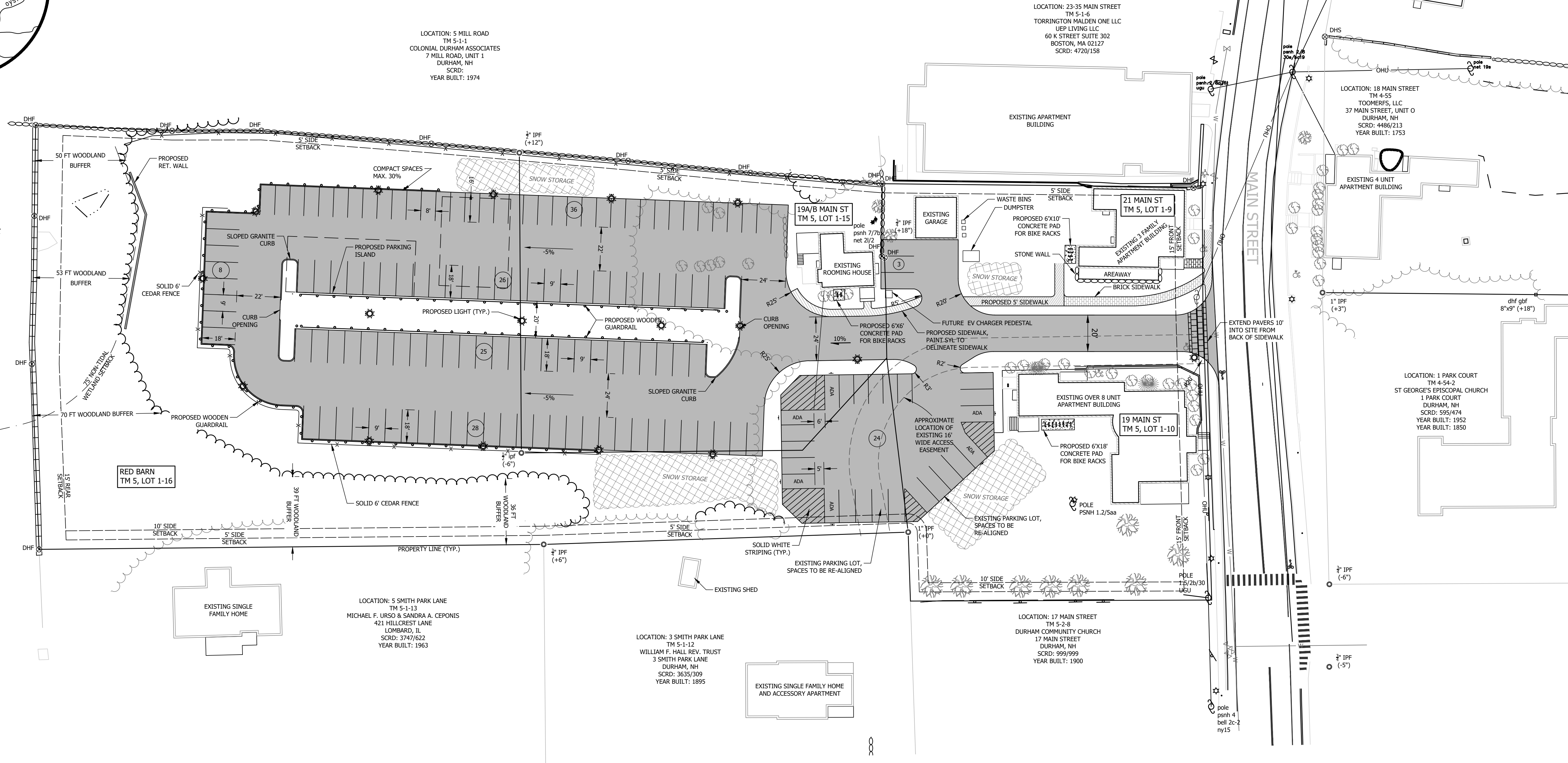
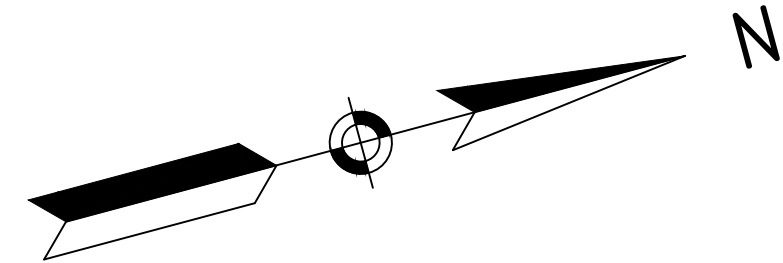
HISS SOIL MAPS

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SHEET E2



LOCUS MAP
NTS



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

LOCATION: 23-35 MAIN STREET
 TM 5-1-6
 TORRINGTON MALDEN ONE LLC
 UEP LIVING LLC
 60 K STREET SUITE 302
 BOSTON, MA 02127
 SCRD: 47201158

LOCATION: 18 MAIN STREET
 TM 4-55
 TOOMERS, LLC
 37 MAIN STREET, UNIT O
 DURHAM, NH
 SCRD: 4486/213
 YEAR BUILT: 1753

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

LOCATION: 5 SMITH PARK LANE
 TM 5-1-13
 MICHAEL F. URSO & SANDRA A. CEPONIS
 421 HILLCREST LANE
 LOMBARD, IL
 SCRD: 3747/622
 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

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

LOCATION: 8 CHESLEY DRIVE
 TM 6-7-59
 ANDERSON WILLIAMS GROUP, LLC
 8 CHESLEY DRIVE
 DURHAM, NH
 SCRD: 3490/629
 YEAR BUILT: 1959

GENERAL NOTES:

- SUBJECT PROPERTY 21 MAIN STREET DURHAM, NH 03824 TAX MAP 5, LOT 1-9
 OWNER OF RECORD TOOMERS, LLC 37 MAIN STREET UNIT O DURHAM, NH 03824 SCRD BK 4486, PG 213
- SUBJECT PROPERTY 19 MAIN STREET DURHAM, NH 03824 TAX MAP 5, LOT 1-10
 OWNER OF RECORD TOOMERS, LLC 37 MAIN STREET UNIT O DURHAM, NH 03824 SCRD BK 4486, PG 213
- SUBJECT PROPERTY 19A/B MAIN STREET DURHAM, NH 03824 TAX MAP 5, LOT 1-15
 OWNER OF RECORD TOOMERS, LLC 37 MAIN STREET UNIT O DURHAM, NH 03824 SCRD BK 4486, PG 213
- SUBJECT PROPERTY RED TOWER DURHAM, NH 03824 TAX MAP 5, LOT 1-16
 OWNER OF RECORD TOOMERS, LLC 37 MAIN STREET UNIT O DURHAM, NH 03824 SCRD BK 4486, PG 213
- COMBINED LOT AREA: 3.26 ACRES (142,005 S.F.)
- REFERENCE PLANS:
 A. EXISTING FEATURES PLAN 19, 20, & 21 MAIN STREET, DURHAM STRAFFORD COUNTY, NH PREPARED FOR TOOMERS, LLC, PREPARED BY NORWAY PLAINS ASSOCIATES, INC. DATED AUGUST, 2019.
 4. VERTICAL DATUM IS ASSUMED.
 5. IMPERVIOUS SURFACE RATIO: EXISTING = 19.3% (27,398 S.F.) PROPOSED = 43.1% (61,141 S.F.)
 6. 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.
 7. 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.

SITE DATA BLOCK

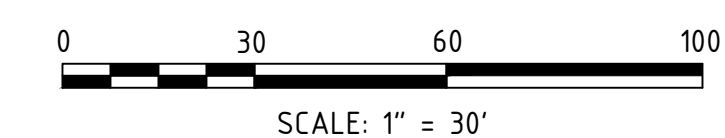
ZONE: CH - CHURCH HILL OVERLAY DISTRICTS: HISTORIC DISTRICT USE: COMMERCIAL

DIMENSIONAL REQUIREMENTS	REQUIRED IN CH DISTRICT
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%

USE	STANDARD	REQUIRED	PROVIDED
DWELLING UNITS AND BOARDING HOUSES	1 SPACE/RESIDENT	38 RESIDENTS	38 SPACES (6 ADA 41 COMPACT)

NOTE: ADDITIONAL PARKING SPACES FOR RENT BY OTHER PROPERTIES.

FRONT (NORTH) PARKING SPACES = 27
 REAR (SOUTH) PARKING SPACES = 123



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

NO.	DATE	REVISION DESCRIPTION
1.	11/30/2021	
2.	02/15/22	REVISED DRAINAGE AND PARKING LAYOUT
3.	03/17/22	REVISED SNOW STORAGE AREAS AND TREE LINE
4.	05/04/2022	REVISED PER TOWN ENGINEERS COMMENTS

PROJECT #: 18-041
 DATE: 11/30/2021
 SCALE: 1" = 30'
 ENGINEERED BY: AWS
 DRAWN BY: AWS
 CHECKED BY: MJS

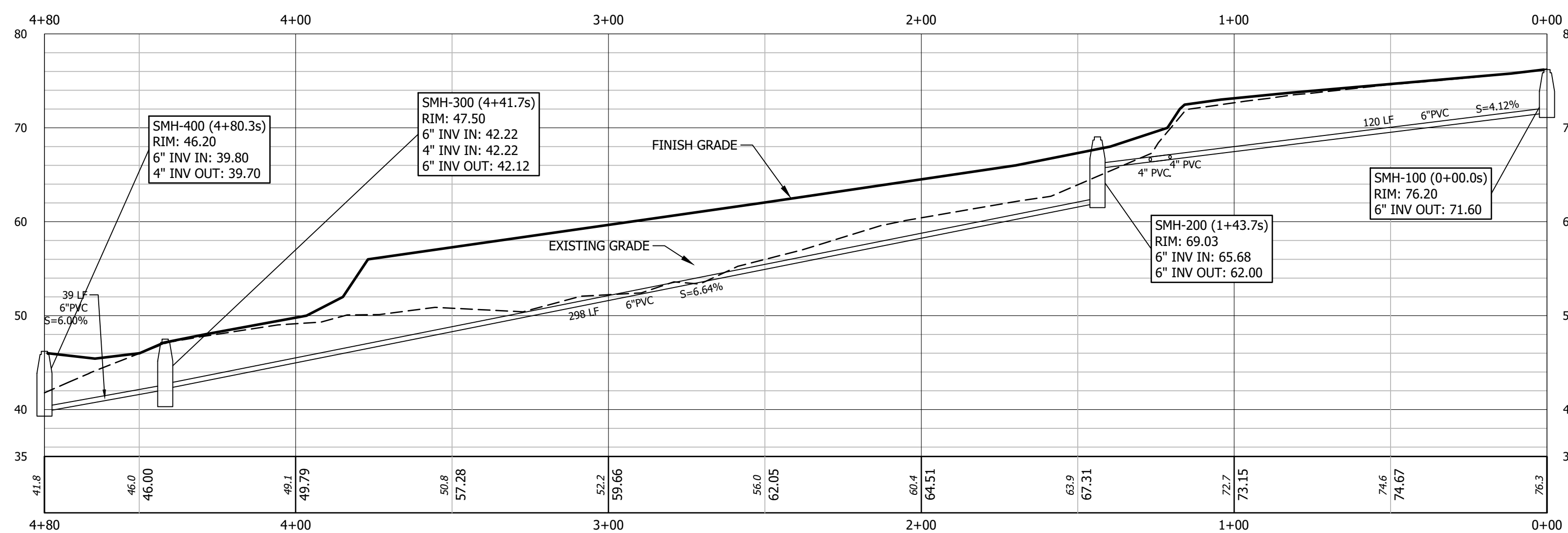
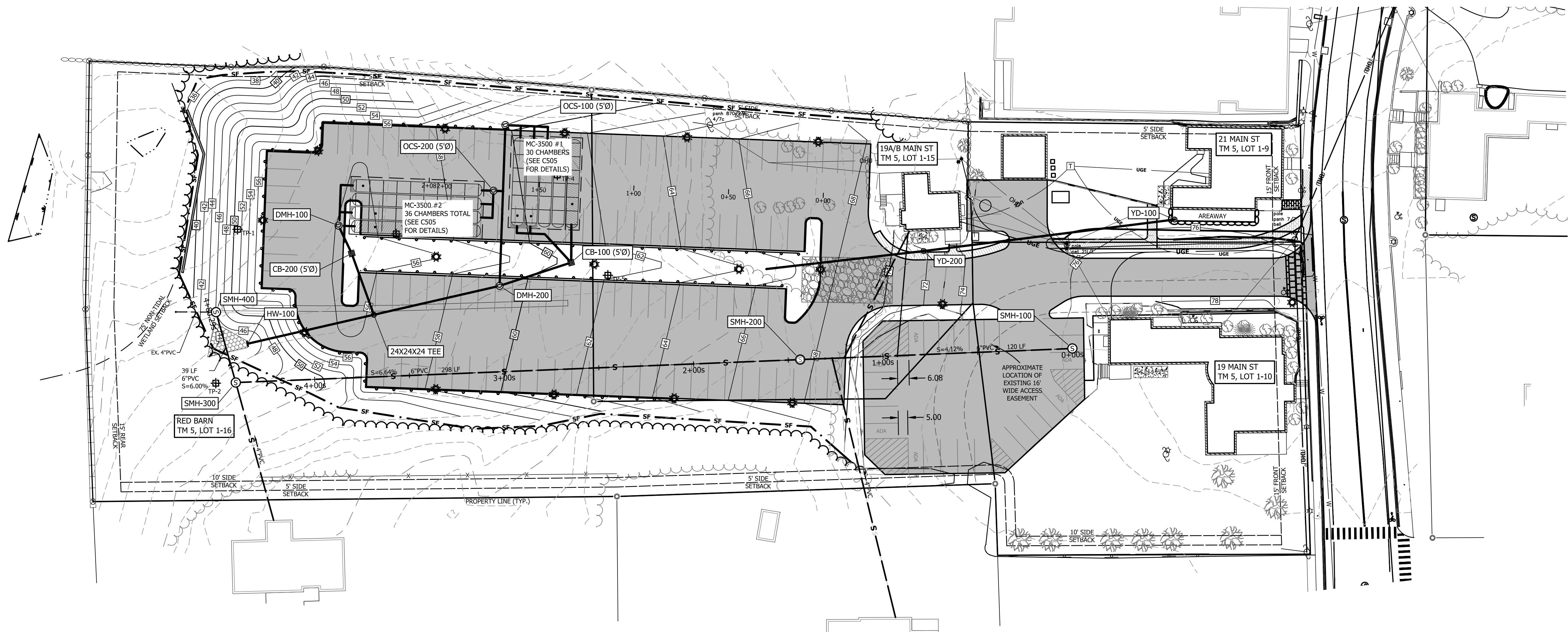
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SITE PLAN PREPARED FOR TOOMERS, LLC TAX MAP 5, LOTS 1-9, 1-10, 1-15, 1-16 19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824

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FOR REVIEW
NOT FOR CONSTRUCTION

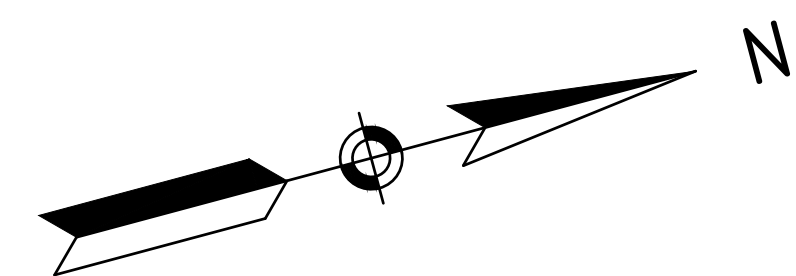
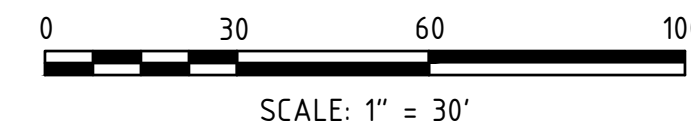


VERTICAL ALIGNMENT OF SANITARY SEWER
STA: 0+00 to STA: 4+80
HORIZONTAL SCALE 1" = 30'
VERTICAL SCALE 1" = 10'

SANITARY SEWERAGE NOTES

- USE SDR 26 PVC PIPES FOR ALL GRAVITY SEWERAGE UNLESS NOTED OTHERWISE.

SEWER STRUCTURE TABLE			
STRUCTURE ID	DETAILS:	PIPES IN:	PIPE OUT
SMH-100	RIM: 76.20 INV OUT: 71.60		Pipe - (201), 6" PVC
SMH-200	RIM: 69.03 INV IN: 65.68 INV OUT: 62.00	Pipe - (201) (3) (1), 6" PVC	Pipe - (202), 6" PVC
SMH-300	RIM: 47.50 INV IN: 42.22 INV IN: 42.22 INV OUT: 42.12	Pipe - (202), 6" PVC Pipe - (204), 4" PVC	Pipe - (205), 6" PVC
SMH-400	RIM: 46.20 INV IN: 39.80 INV OUT: 39.70	Pipe - (205), 6" PVC	Pipe - (53), 4" PVC

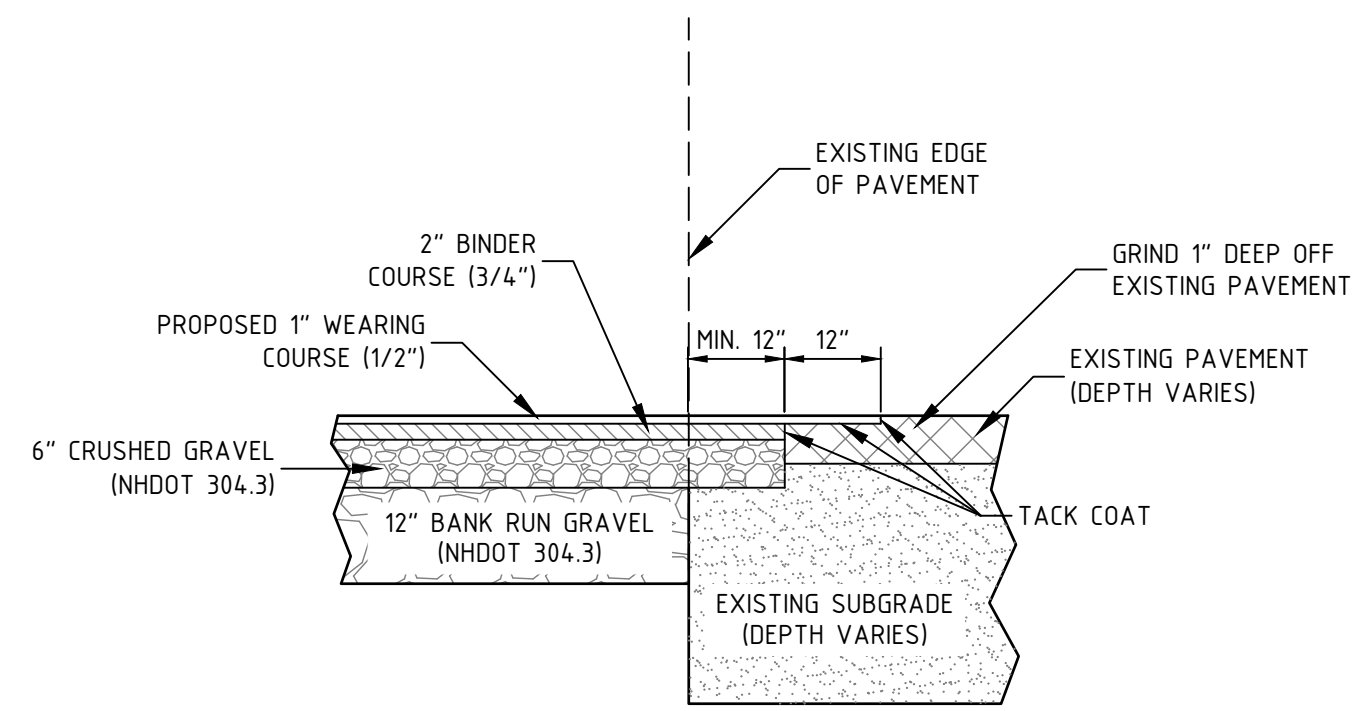


NO.	DATE	REVISION DESCRIPTION
4.	05/04/2022	REVISED PER TOWN ENGINEERS COMMENTS
3.	03/17/22	REVISED SNOW STORAGE AREAS AND TRELLINE
2.	02/15/22	REVISED DRAINAGE AND PARKING LAYOUT
1.	02/02/22	REVISED SUBMISSION PER TRC COMMENTS
0.	11/30/21	INITIAL SUBMISSION FOR 2 ROW PARKING LAYOUT

PROJECT #: 18-041
DATE: 11/30/2021
SCALE: 1" = 30'
ENGINEERED BY: AWS
DRAWN BY: AWS
CHECKED BY: MJS

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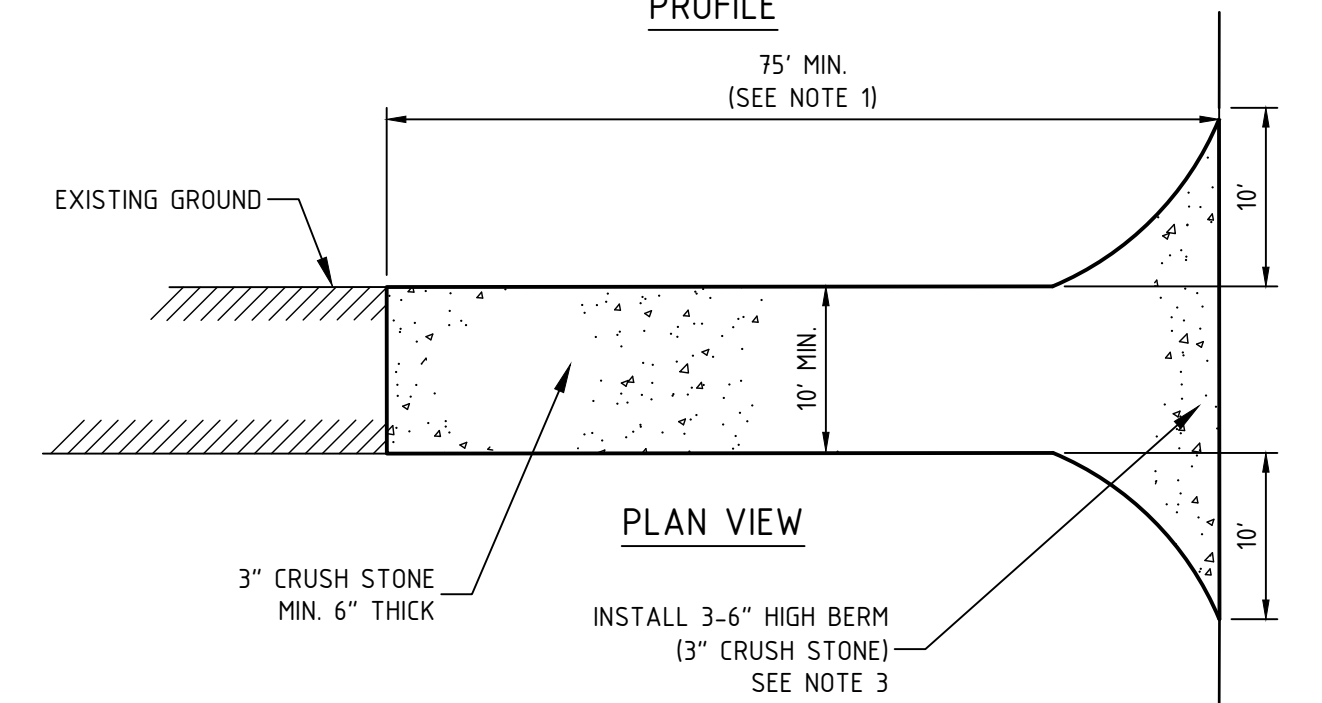
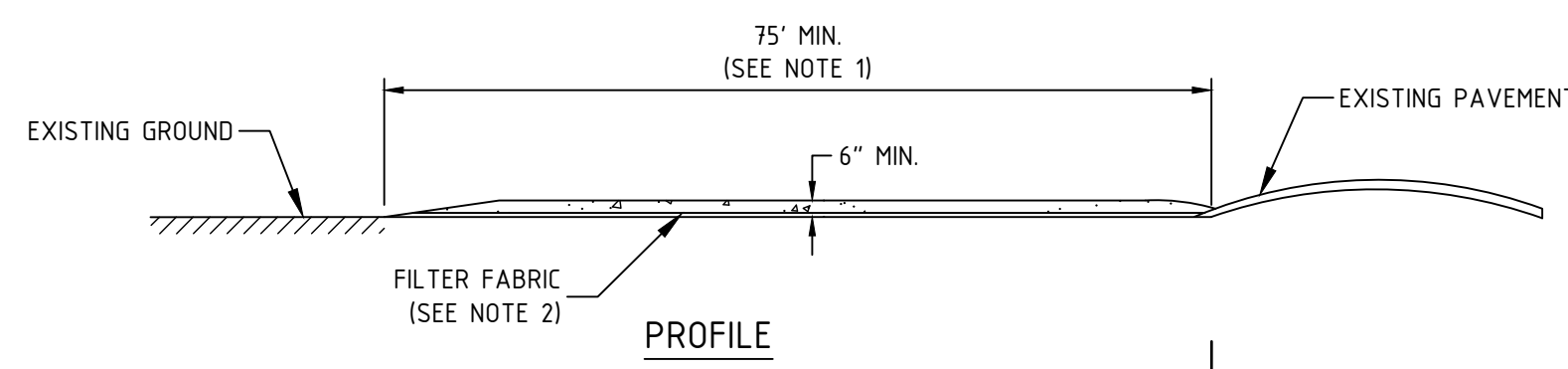
SITE PLAN
PREPARED FOR
TOOMERFS, LLC
TAX MAP 5, LOTS 1-9, 1-10, 1-15, 1-16
19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824



- 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

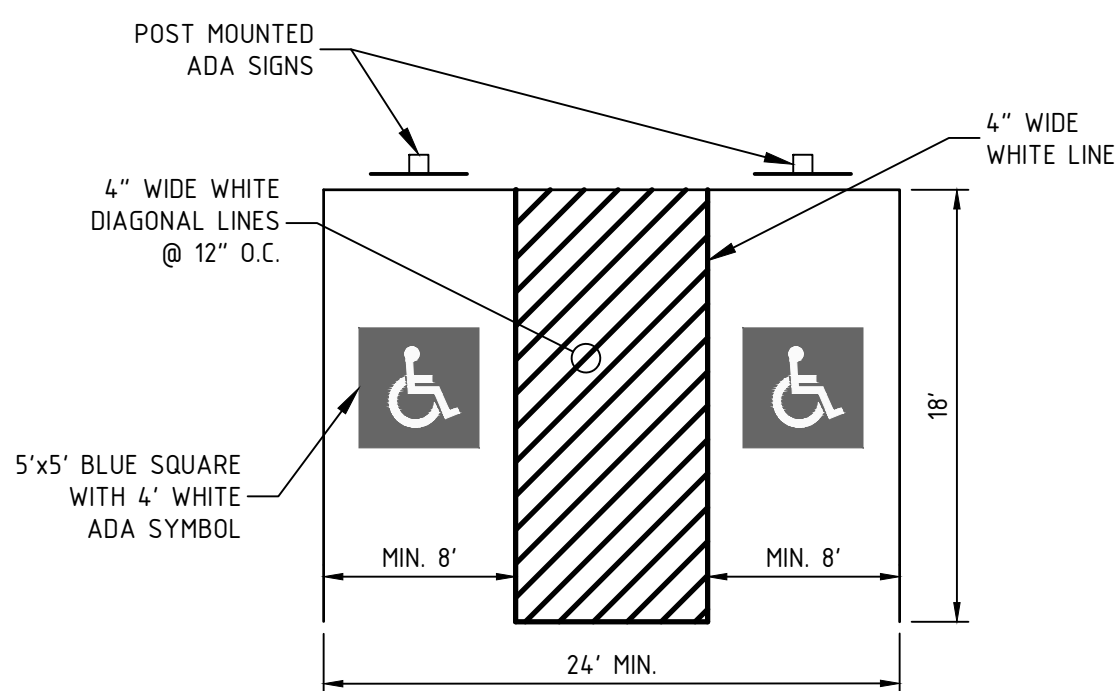
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- NOTES:
 1. LENGTH OF ENTRANCE MAY BE 50' WHERE DIVERSION RIDGE IS PROVIDED.
 2. GRADE AND COMPACT ACCESS ROAD ENTRANCE AS NECESSARY. PLACE FILTER FABRIC AND 6" OF 3" CRUSHED STONE TO MATCH SLOPE OF EXISTING ROAD.
 3. PROVIDE NECESSARY SWALES OR DIVERSIONS TO MINIMIZE DIRECT FLOW OF WATER ONTO STONE AREA.
 4. CONSTRUCTION ENTRANCE SHALL BE MAINTAINED AS NECESSARY TO REMOVE SILT FROM TIRES PRIOR TO ENTERING PUBLIC ROADS. A SMALL SWALE SHALL BE CONSTRUCTED ON THE DOWN GRADIENT SIDE TO TRAP ANY SILT WASHED FROM THE STONE ENTRANCE.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

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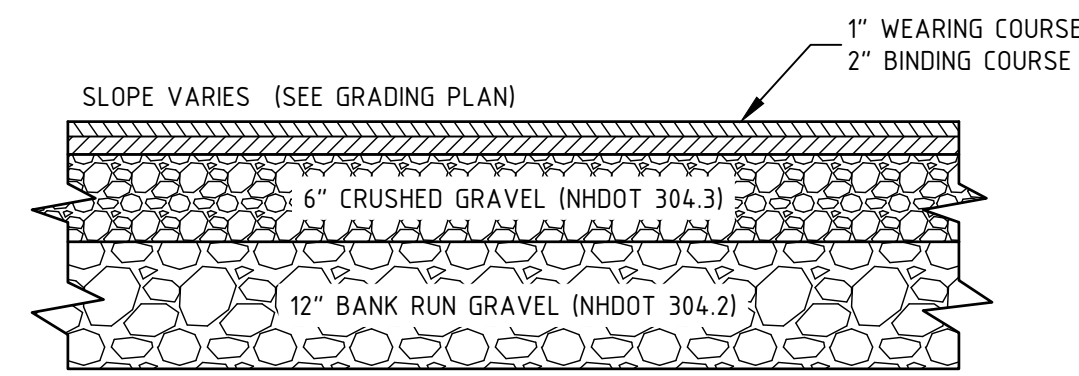
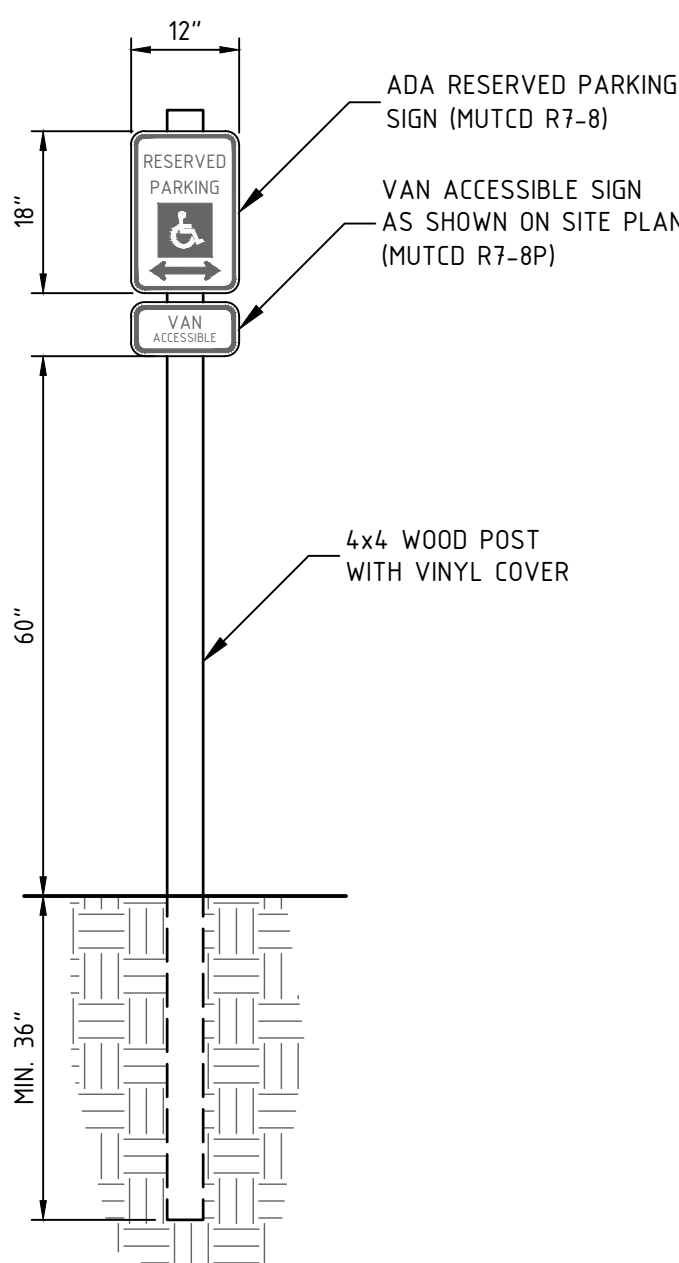
- NOTES:
 1. SEE SITE PLAN FOR STRIPING LAYOUT

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

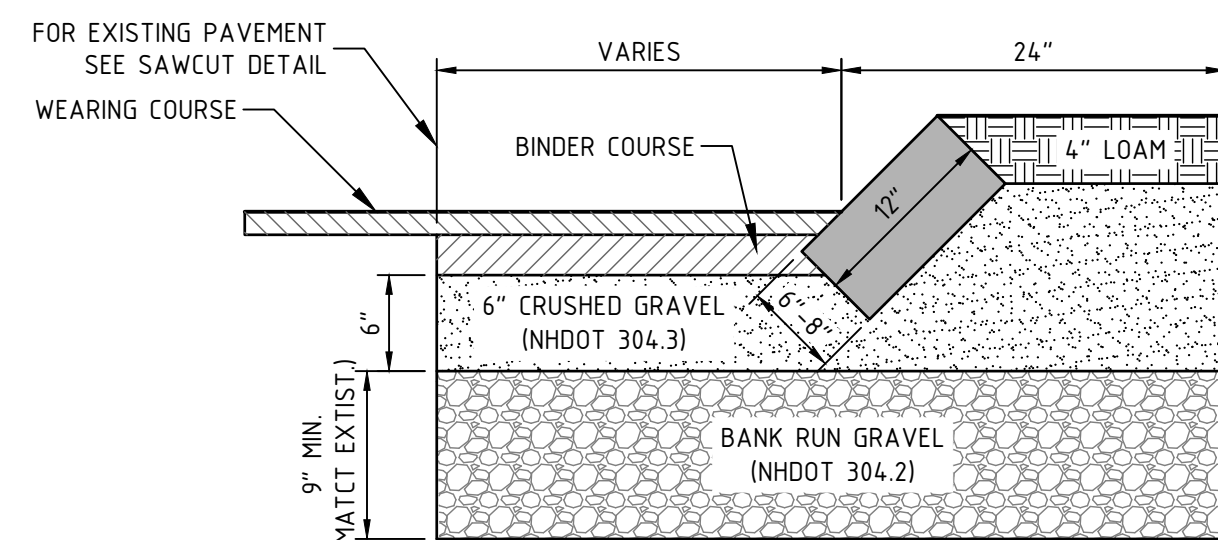
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- NOTES:
 1. DELETERIOUS MATERIALS ENCOUNTERED BELOW PARKING AREA SHALL BE COMPLETELY REMOVED.
 2. COMPACT SUBGRADE TO 95% OF STANDARD PROCTOR.

PAVED PARKING LOT CROSS-SECTION

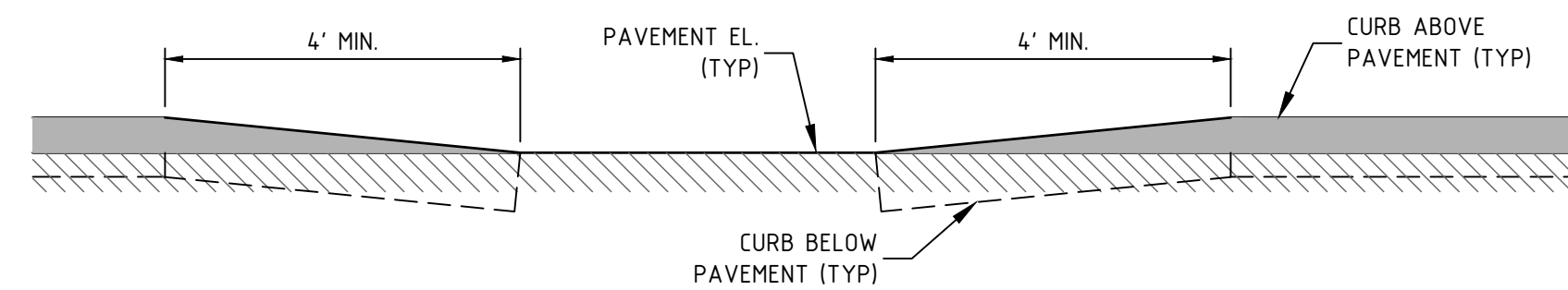
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- NOTES:
 1. REMOVE LOAM TO A MINIMUM DEPTH OF 8" BELOW SELECT MATERIALS.
 2. COMPACT BASE, SUBBASE, AND SUBGRADE TO 95% OF STANDARD PROCTOR.
 3. THIS DETAIL IS USED ONLY AT THE TWO ISLANDS.

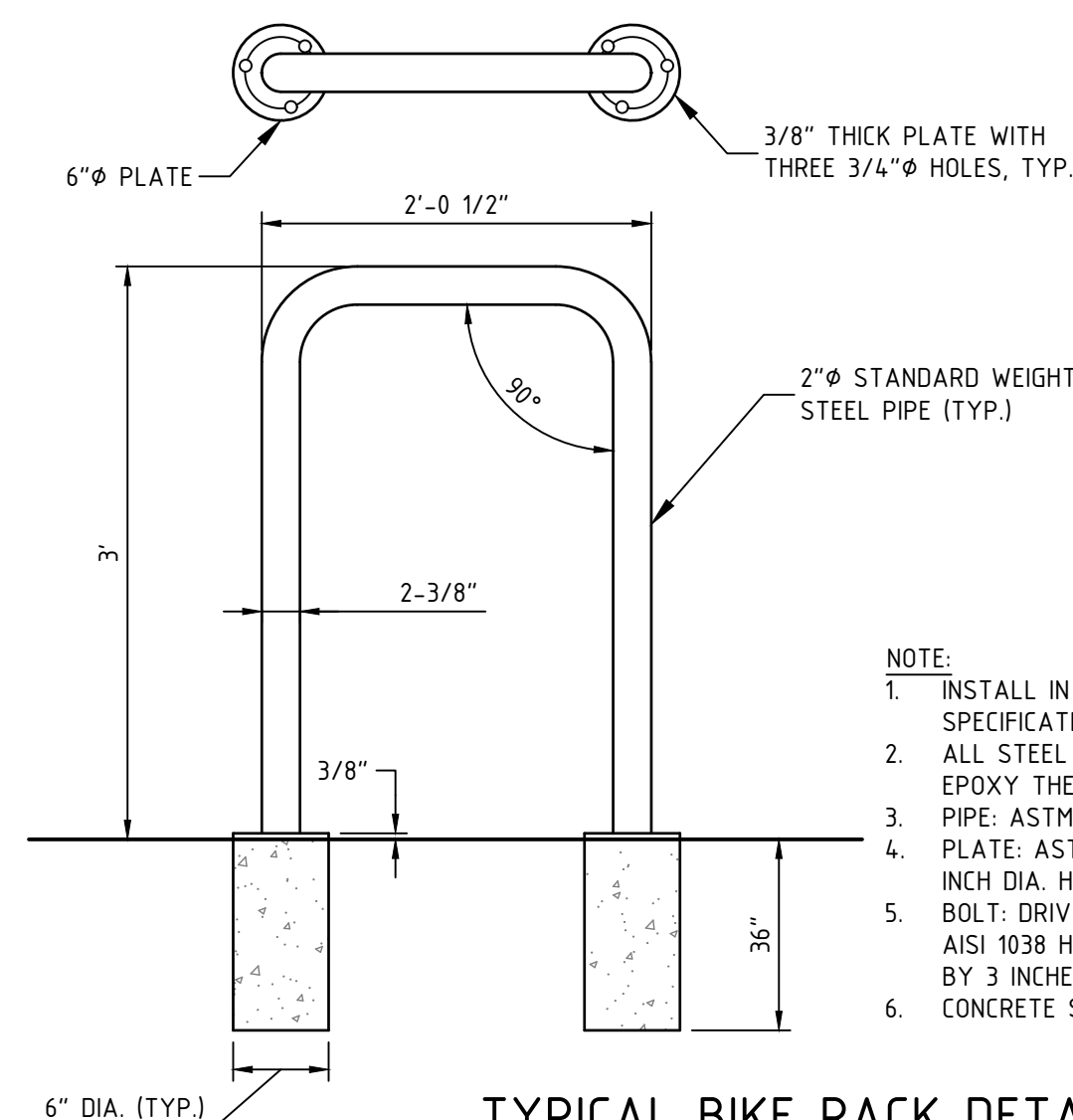
TYPICAL SLOPED GRANITE CURB

NTS



TYPICAL GRANITE CURB TIP DOWN

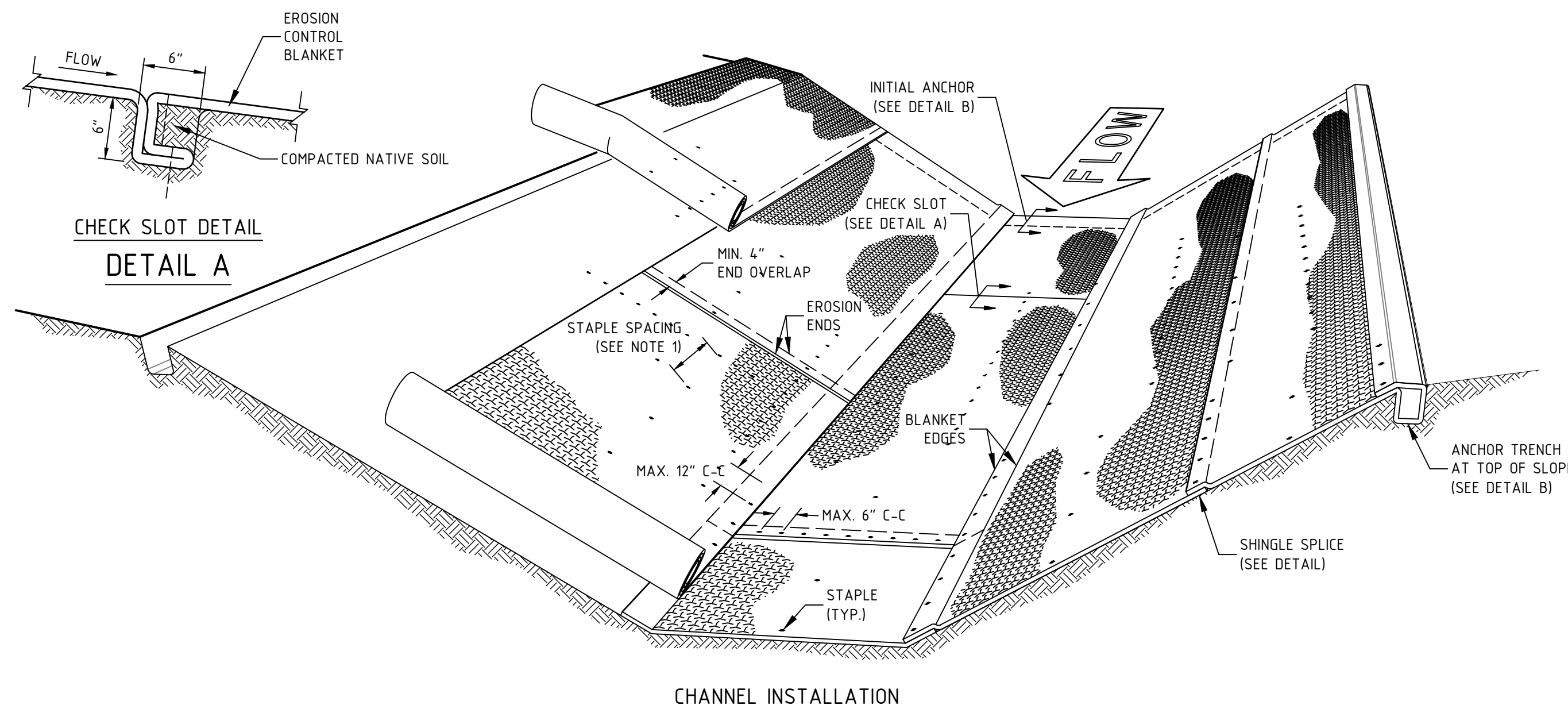
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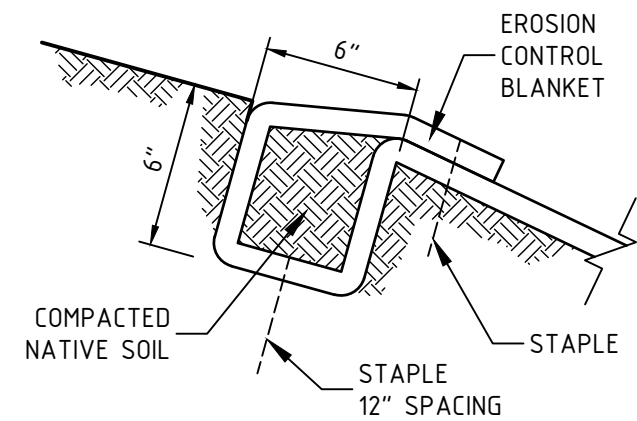
- NOTE:
 1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS
 2. ALL STEEL MEMBERS SHALL BE COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
 3. PIPE: ASTM A53 GRADE B STANDARD WEIGHT STEEL PIPE
 4. PLATE: ASTM 136 3/8 INCH THICK PLATE WITH THREE 3/4 INCH DIA. HOLES AT 120 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.

TYPICAL BIKE RACK DETAIL

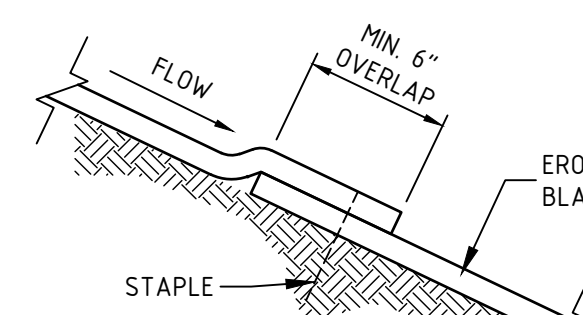
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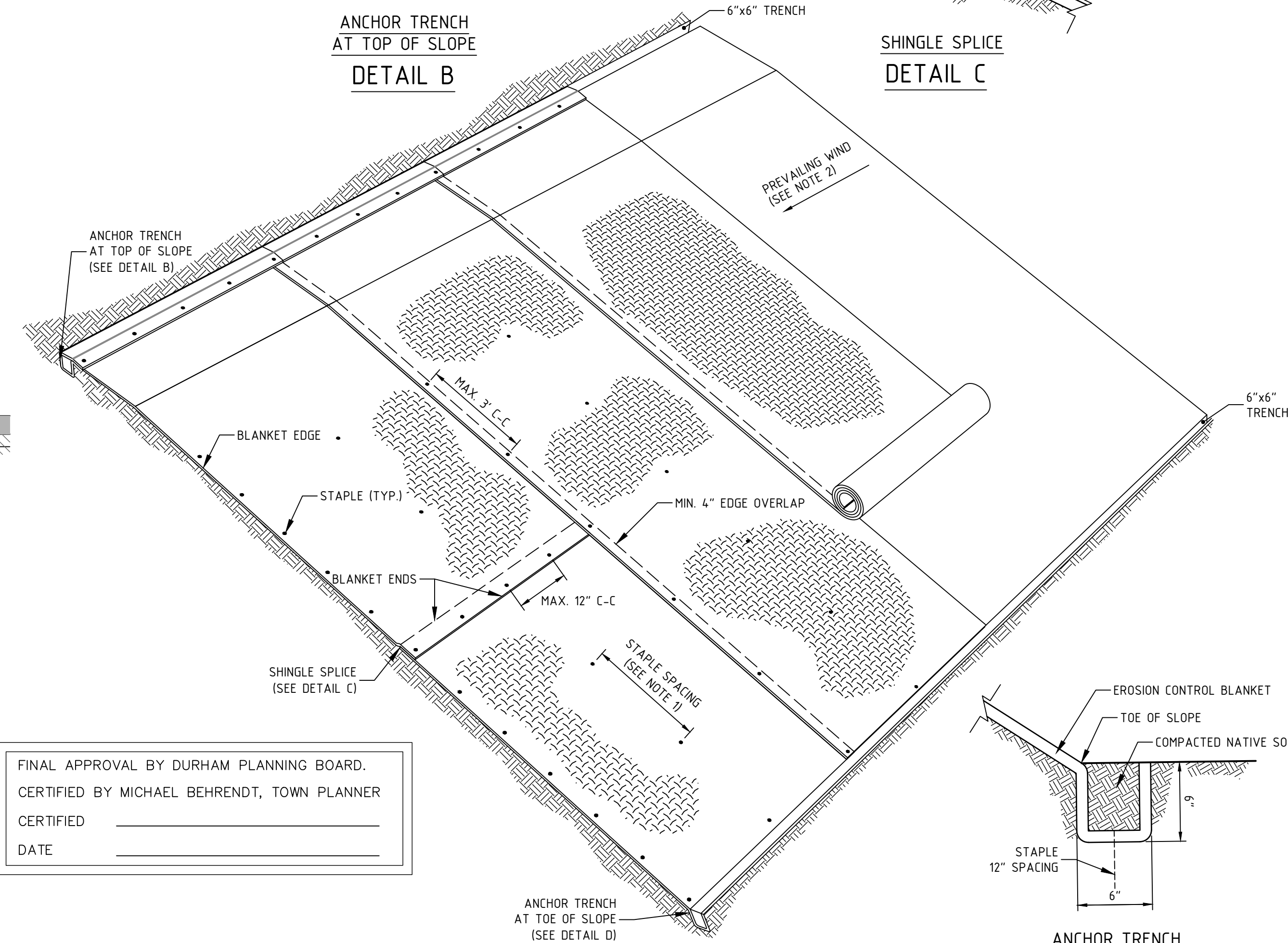
CHANNEL INSTALLATION



ANCHOR TRENCH AT TOP OF SLOPE DETAIL B

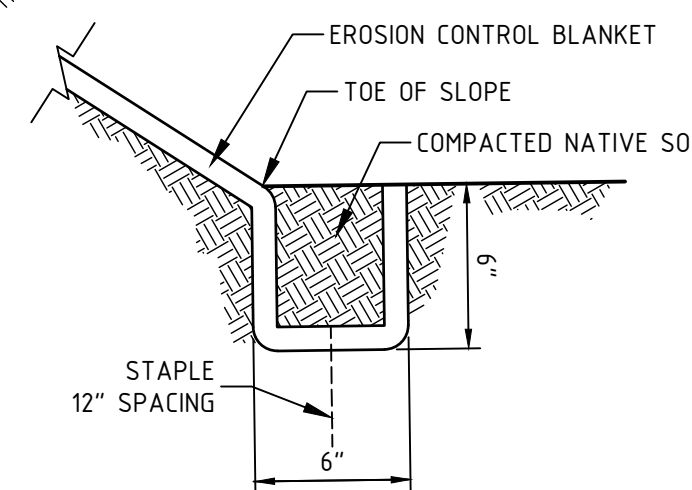


SHINGLE SPlice DETAIL C



ROLLED EROSION CONTROL DETAIL

NTS



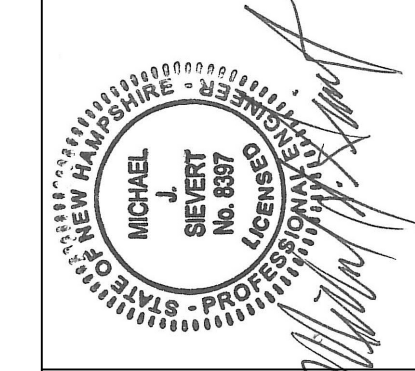
ANCHOR TRENCH AT TOE OF SLOPE DETAIL D

- 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.

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

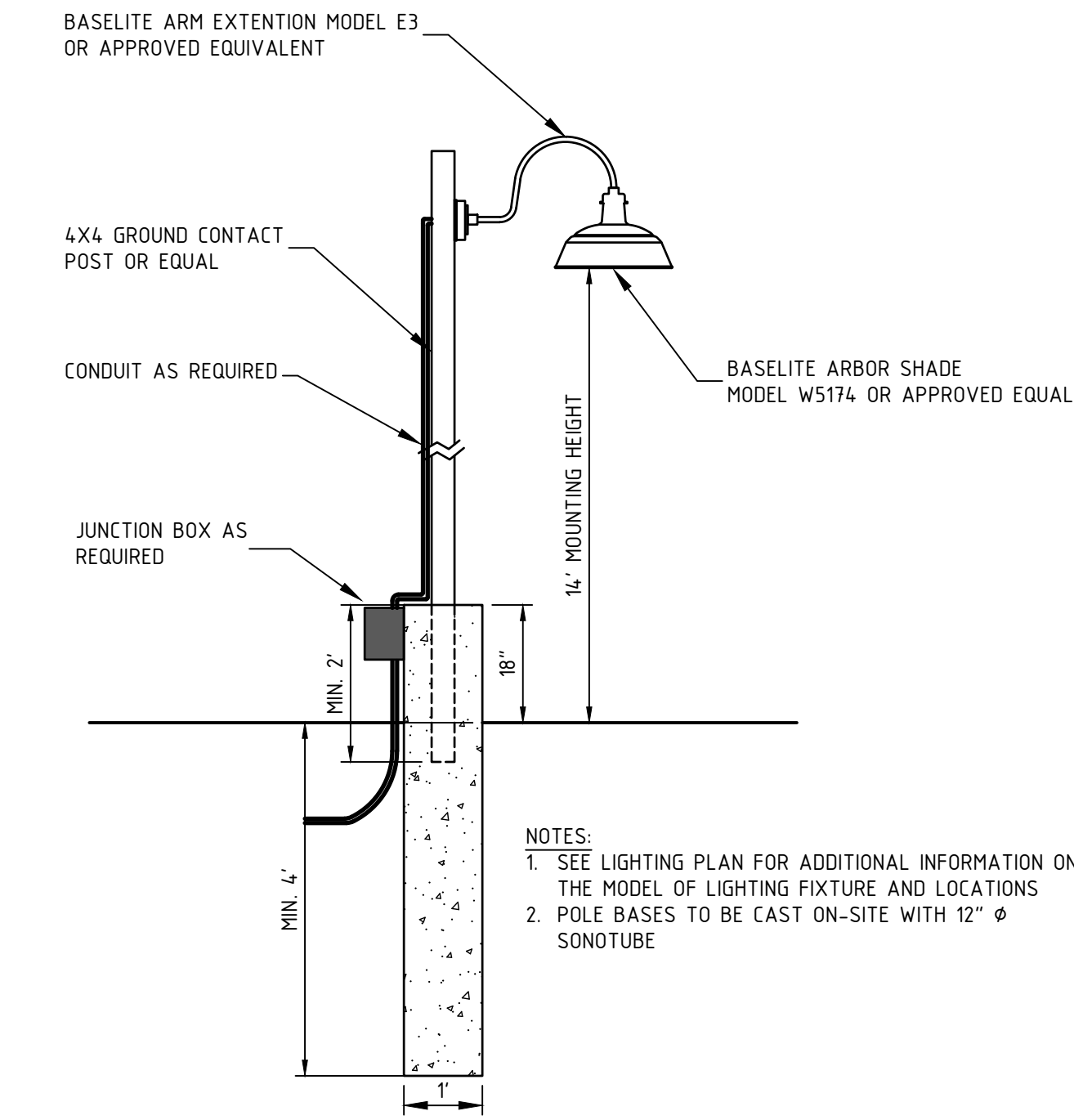
NO.	DATE	REVISION DESCRIPTION	ENG. DWG
1.	05/04/2022	REVISED PER TOWN ENGINEERS COMMENTS	MCS
2.	02/02/22	REVISED SUBMISSION PER TRC COMMENTS	MCS
0.	11/30/21	INITIAL SUBMISSION FOR 2 ROW PARKING LAYOUT	AMS

PROJECT #:	18-041
DATE:	11/30/2021
SCALE:	AS SHOWN
ENGINEERED BY:	AMS
DRAWN BY:	AMS
CHECKED BY:	MJS

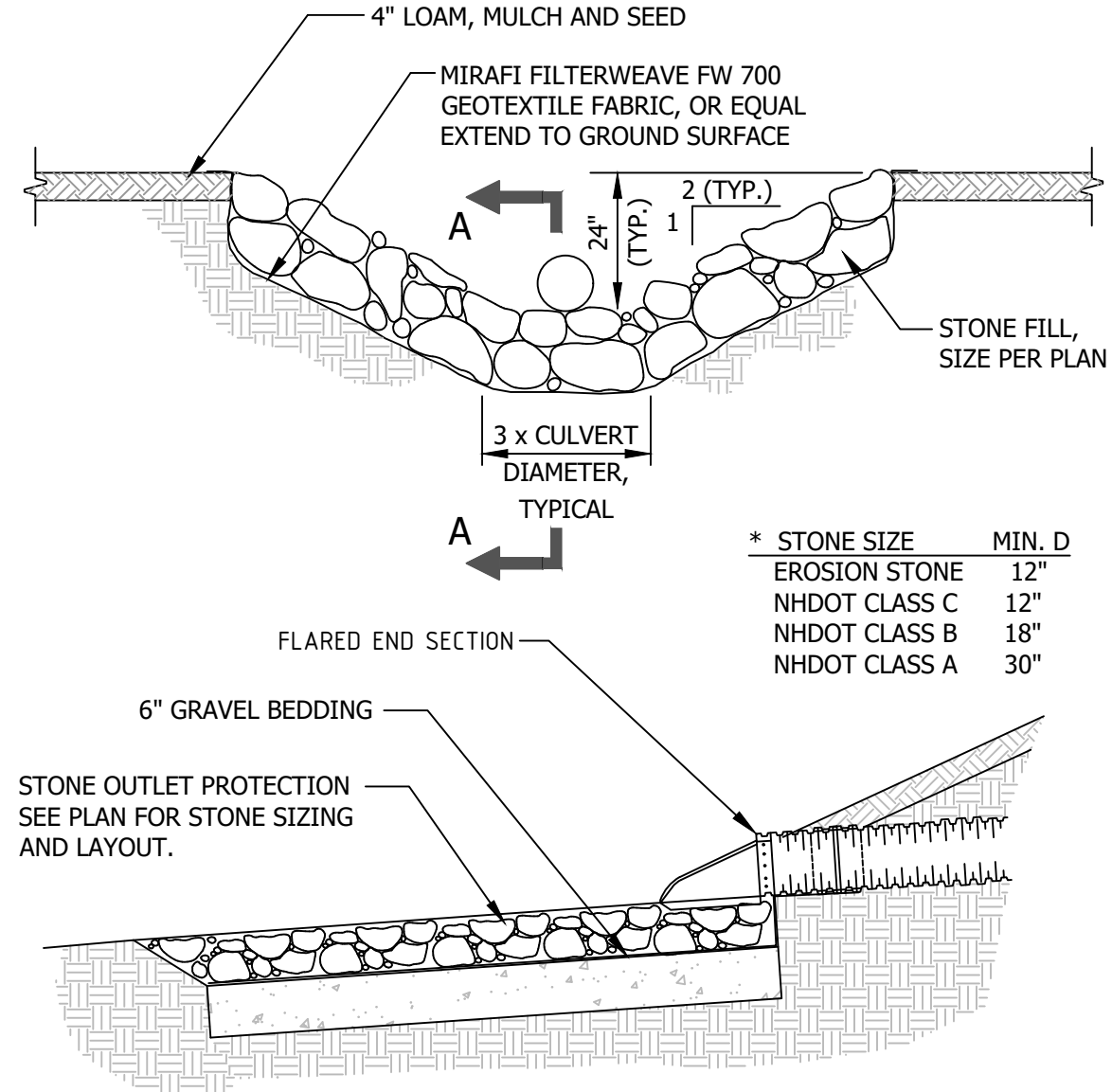


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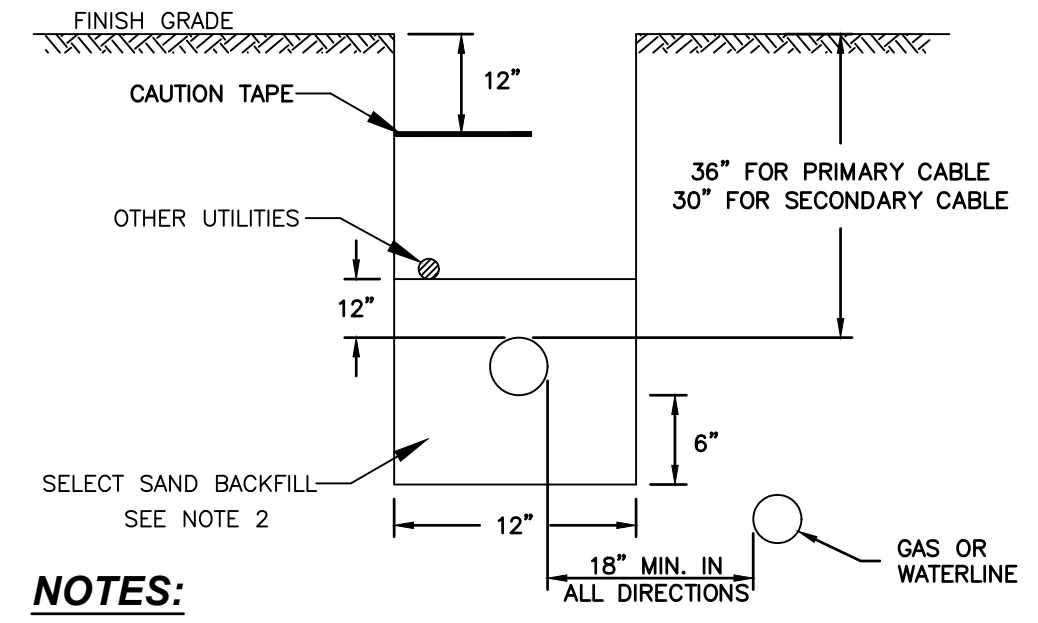
CONSTRUCTION DETAILS
 PREPARED FOR
 TOOMERES, LLC
 TAX MAP 5, LOTS 1-9, 1-10, 1-15, 1-16
 19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824



POLE MOUNTED BASELITE ARBOR LIGHT FIXTURE
NTS

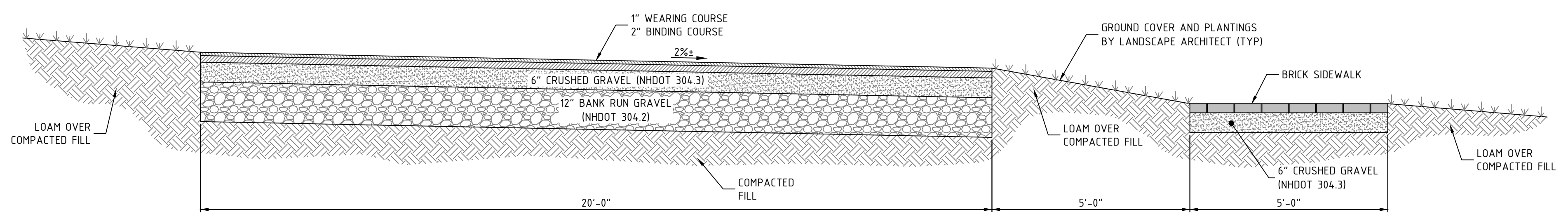


SECTION A-A
STONE LINED OUTLET DETAIL
NOT TO SCALE

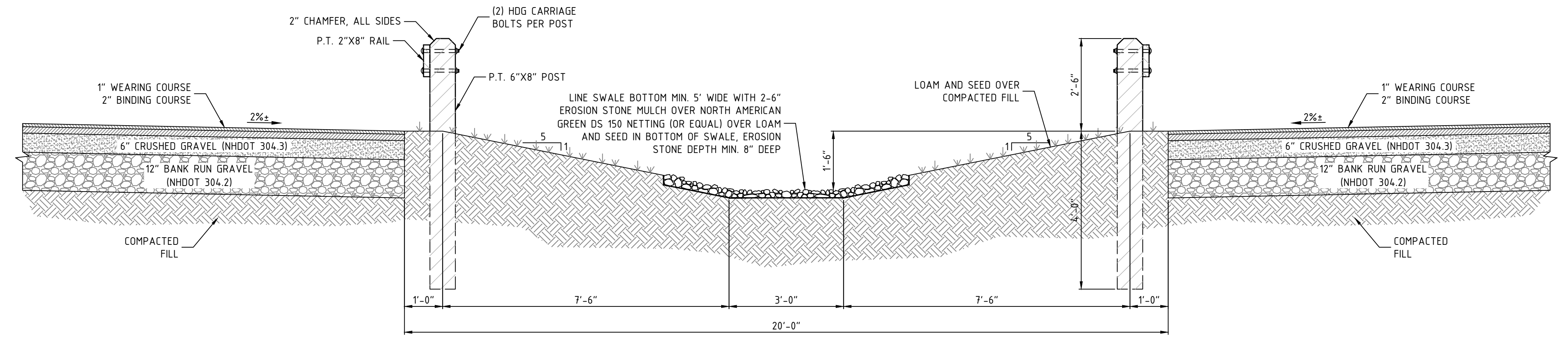


- NOTES:**
- CONSTRUCTION TO BE IN ACCORDANCE WITH PSNH CONSTRUCTION STANDARDS FOR NEW ELECTRICAL SERVICE WORK BY CONTRACTORS, MOST RECENT EDITION.
 - SELECT SAND BACKFILL SHALL CONSIST OF A FINE GRANULAR MATERIAL OF WHICH 100% SHALL PASS THROUGH A 1/4" SIEVE. EXCEPT NATURALLY OCCURRING SMOOTH ROUND 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.

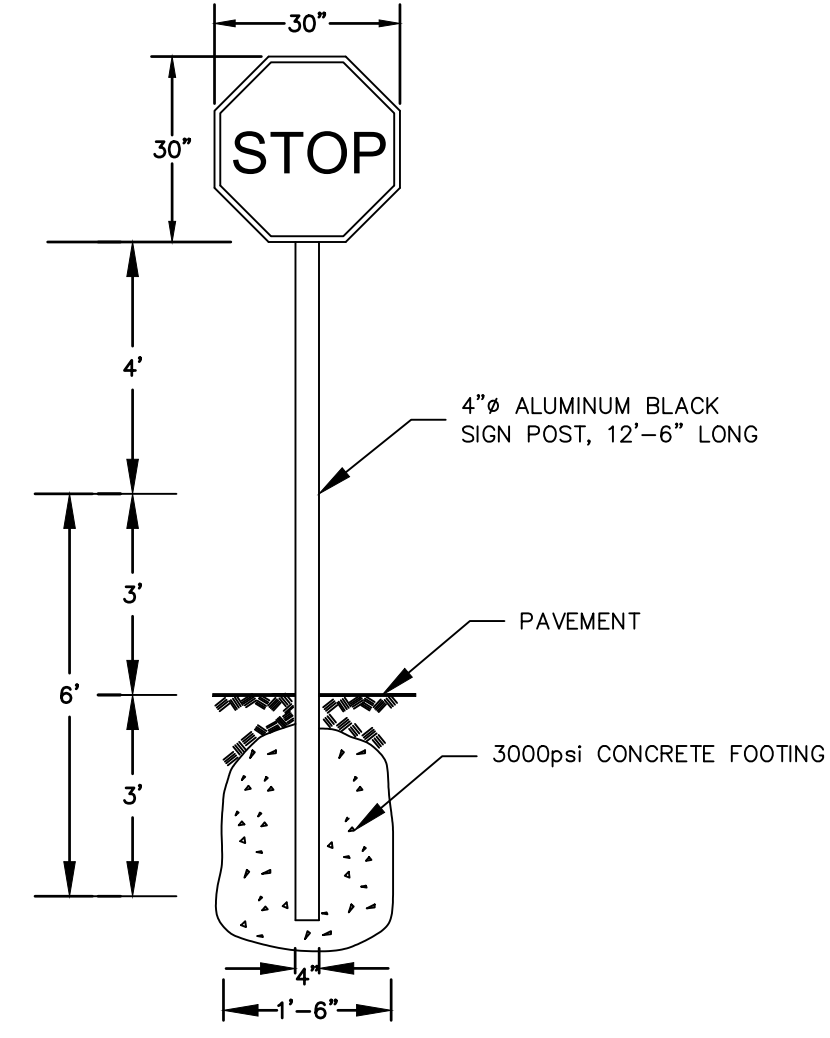
TELEPHONE & ELECTRIC TRENCH
NTS



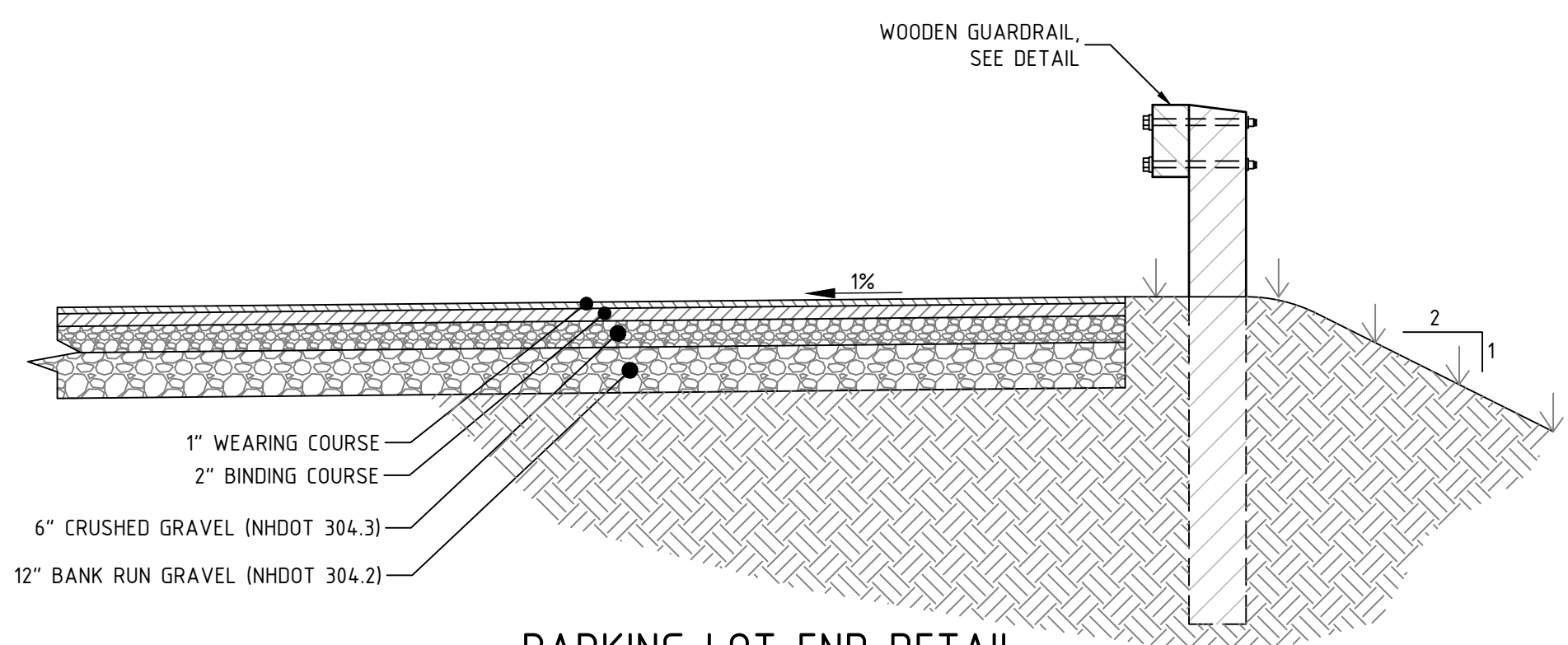
ACCESS ROAD CROSS SECTION
SCALE: 1"=2'



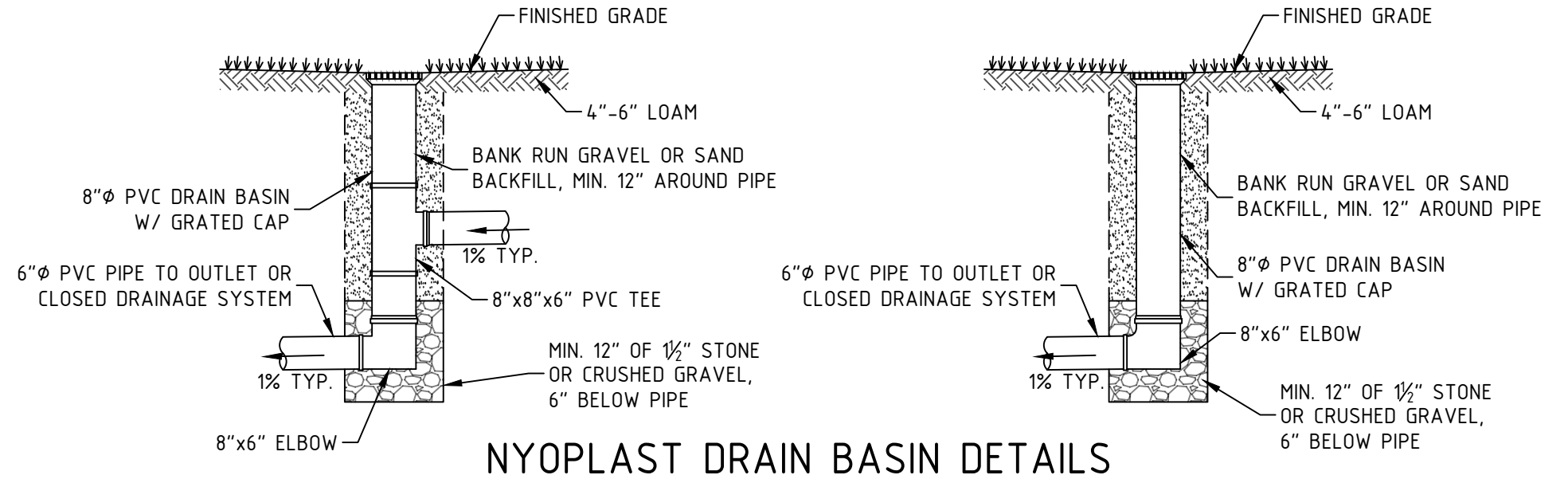
PARKING ISLAND CROSS SECTION
SCALE: 1"=2'



TYPICAL SIGN DETAIL
N.T.S.

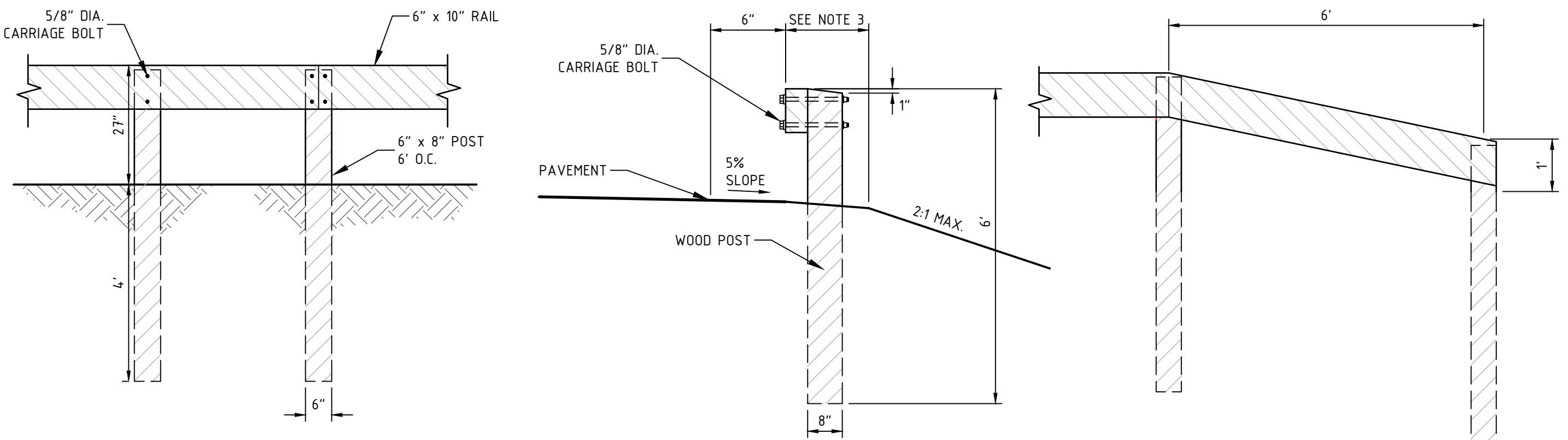


PARKING LOT END DETAIL
NTS



NYOPLAST DRAIN BASIN DETAILS
NTS

- NOTES:**
1. BACKFILL AROUND BASINS IN 12" LIFTS WITH GRAVEL COMPACTED TO 95% MAXIMUM DRY DENSITY.



- NOTE:**
- ALL MATERIAL AND INSTALLATION METHODS SHALL CONFORM W/NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 606-GUARDRAIL.
 - REFER TO SHEET C102 FOR LOCATION AND GRADING AROUND GUARD RAIL.
 - FACE OF GUARDRAIL SHOULD BE 6" FROM EDGE OF PAVEMENT, OR 2'-6" FROM SLOPES GREATER THAN 5%.

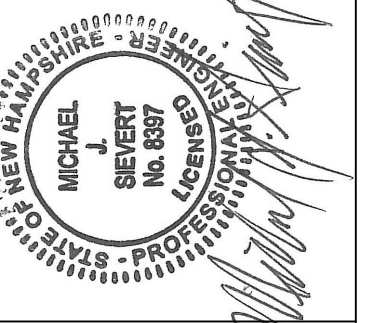
REFERENCE:
TIMBER BRIDGE DESIGN, CONSTRUCTION, INSPECTION, AND MAINTENANCE PUBLISHED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE.

GUARD RAIL DETAIL
NTS

TYPICAL END SECTION

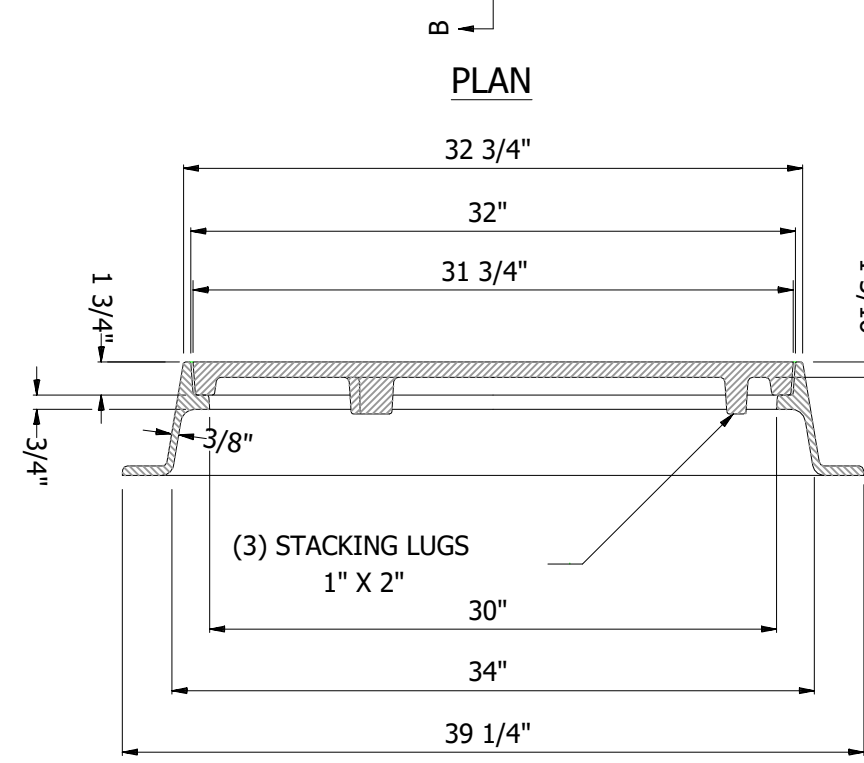
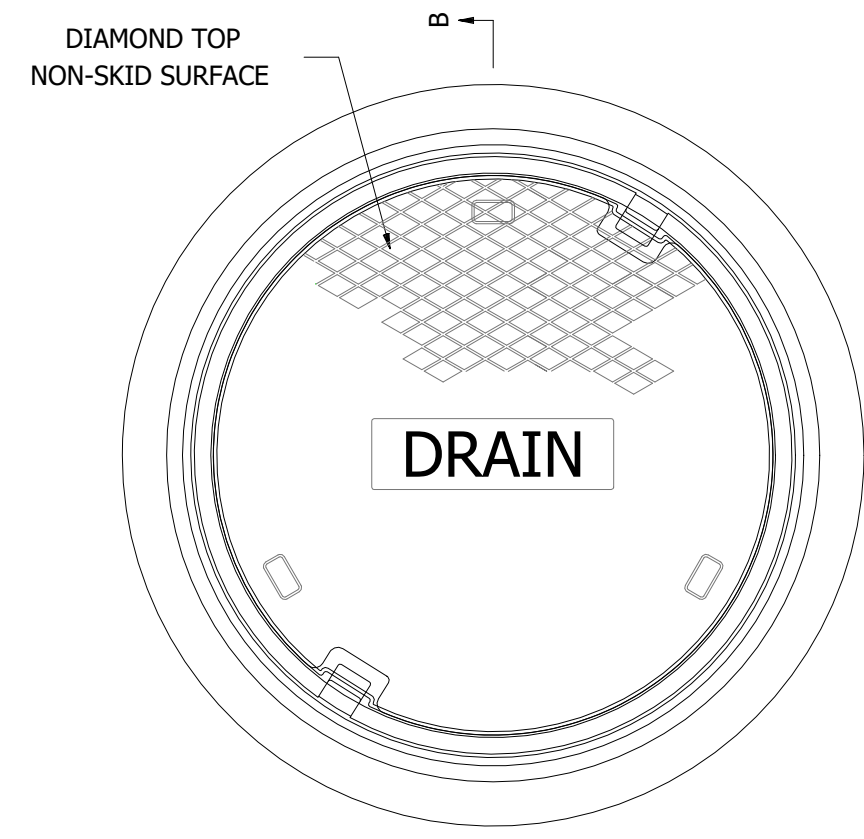
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PROJECT #:	DATE:	SCALE:	ENGINEERED BY:	DRAWN BY:	CHECKED BY:
18-041	11/30/2021	AS SHOWN	AWS	AWS	MJS



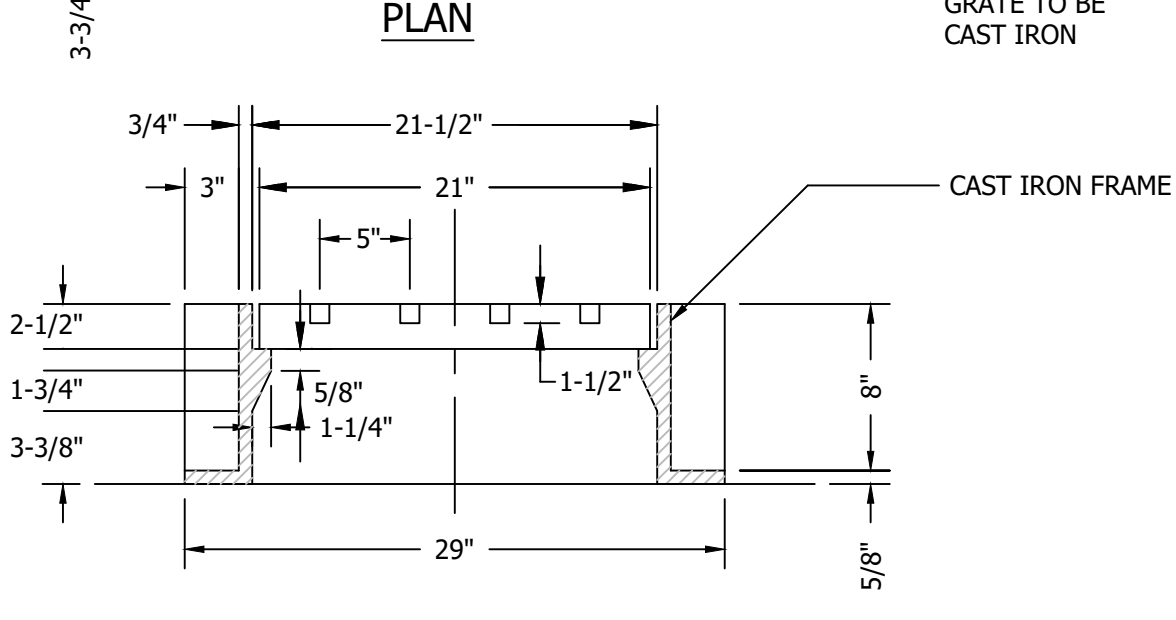
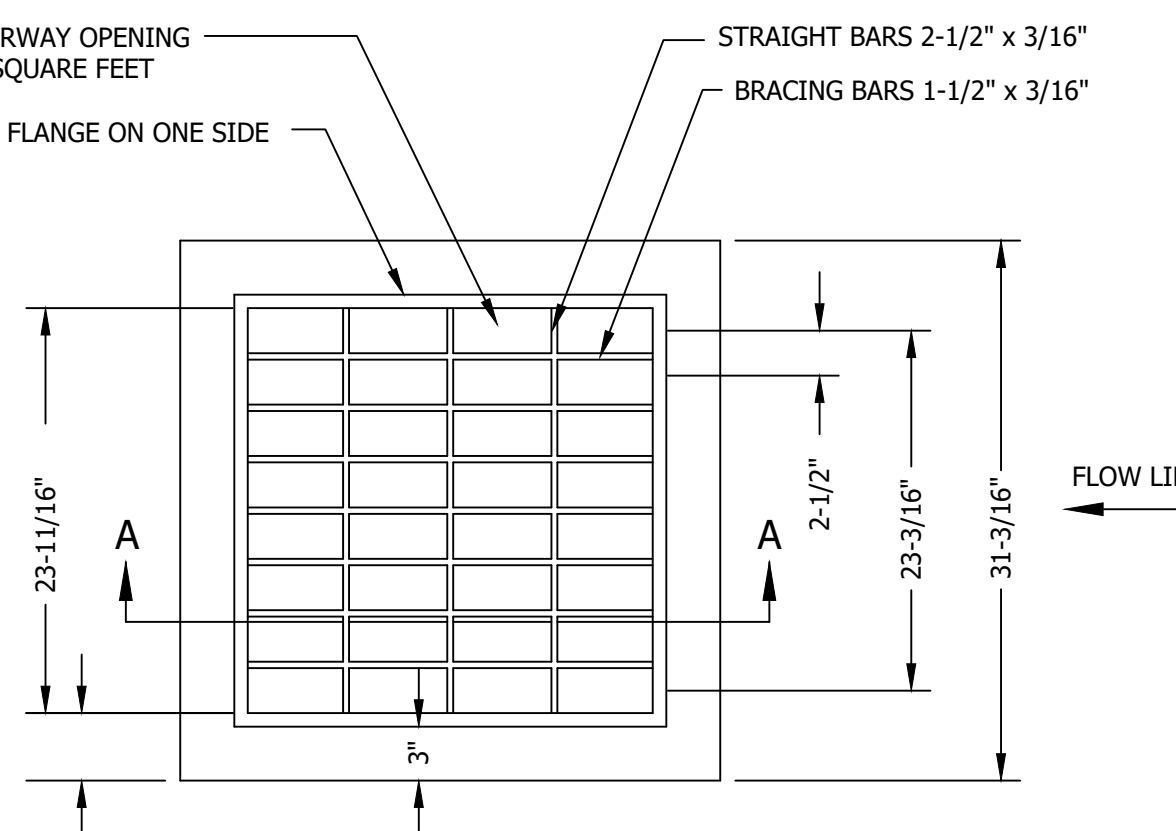
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CONSTRUCTION DETAILS
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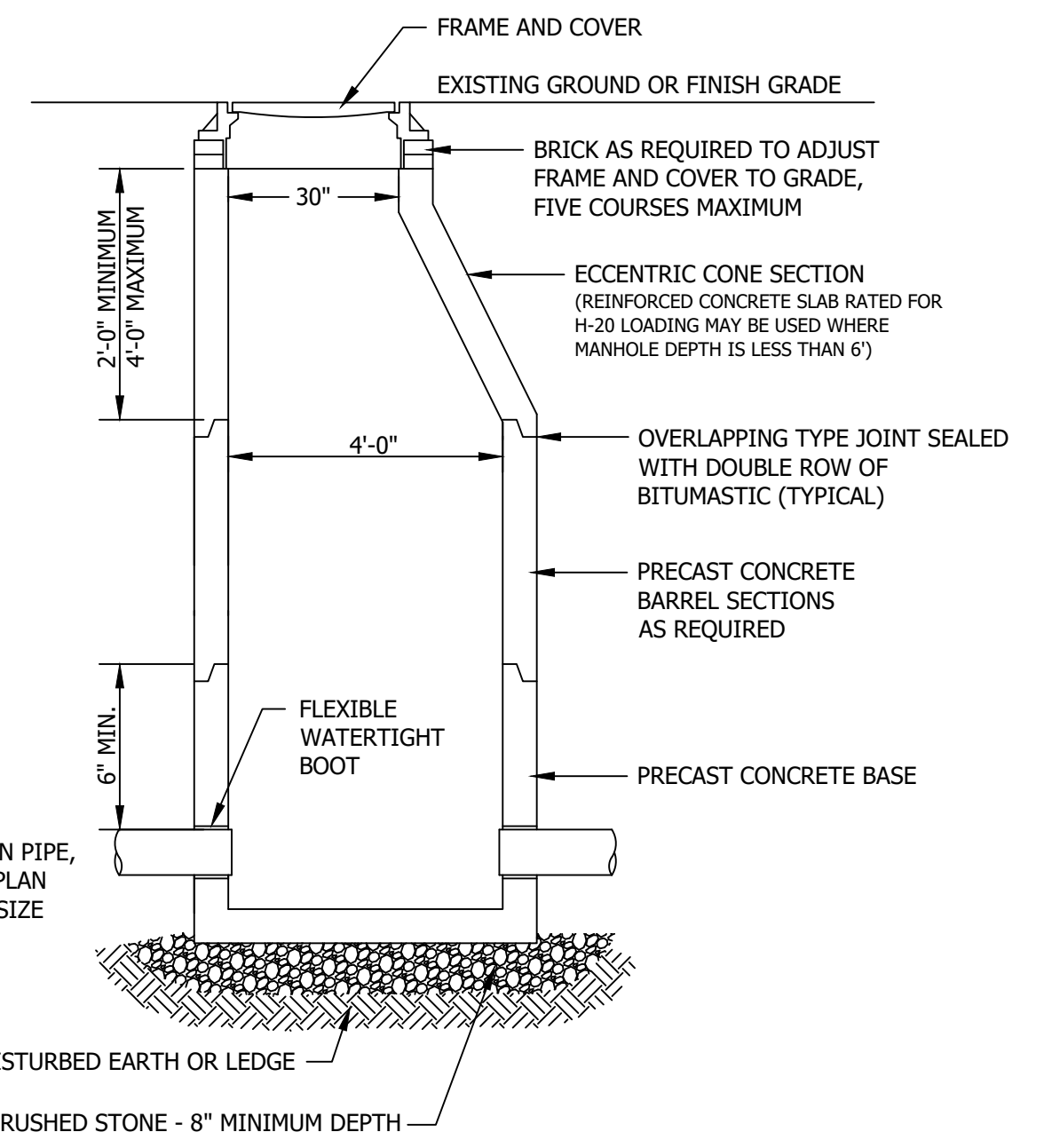
- NOTES**
- ALL DIMENSIONS ARE NOMINAL
 - LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN THE CENTER OF THE COVER

DRAIN MANHOLE FRAME AND GRATE
NOT TO SCALE



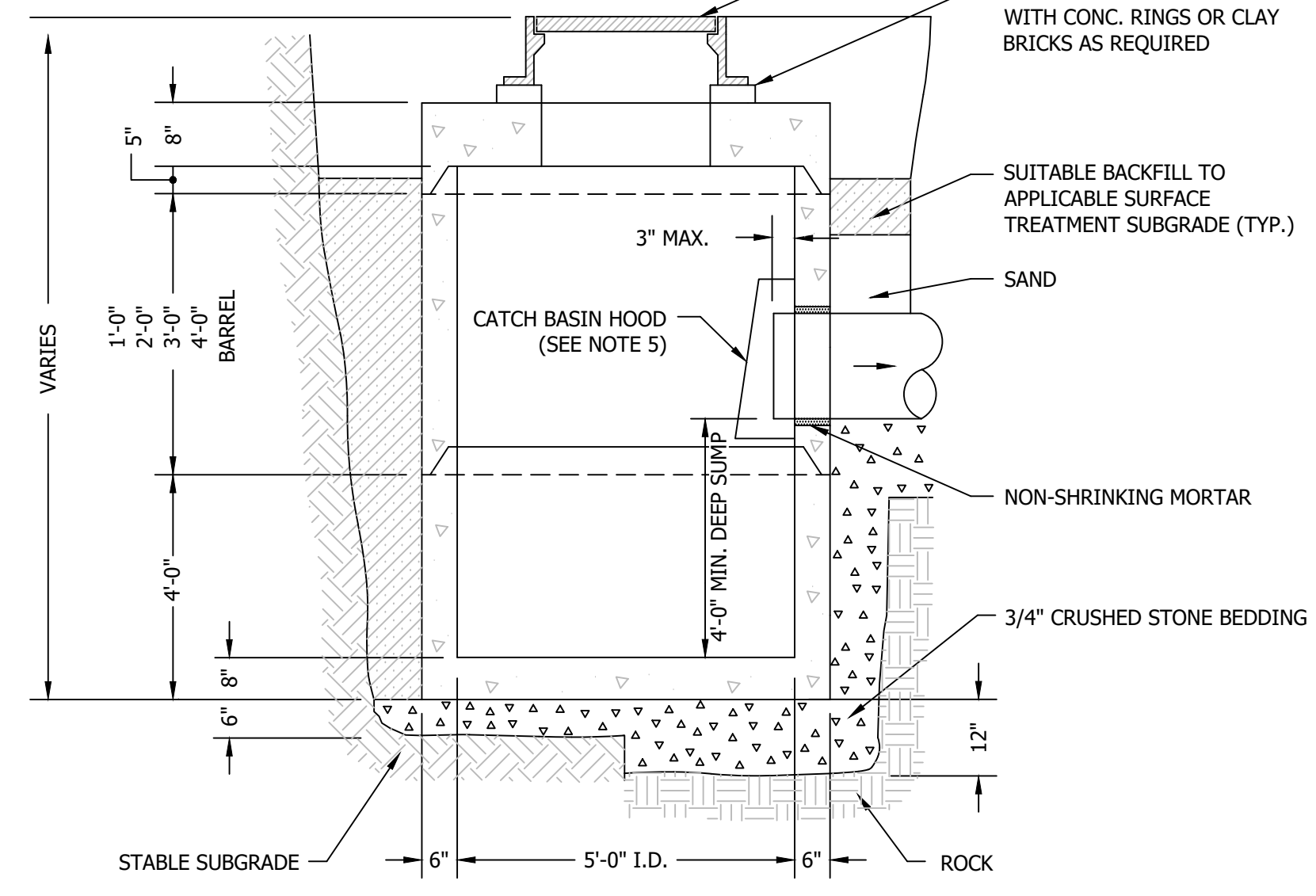
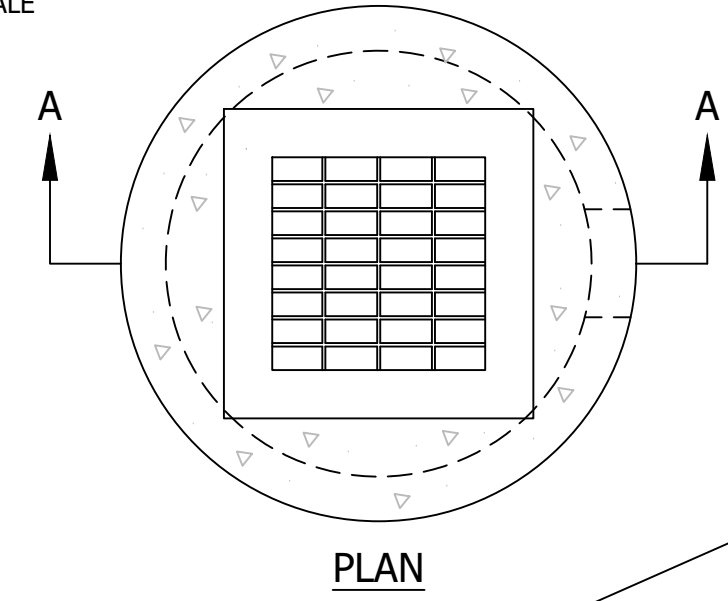
REFERENCE:
NH DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
PLATE 2 OF STANDARD NO. 3

NHDOT TYPE "B" GRATE DETAIL
NOT TO SCALE



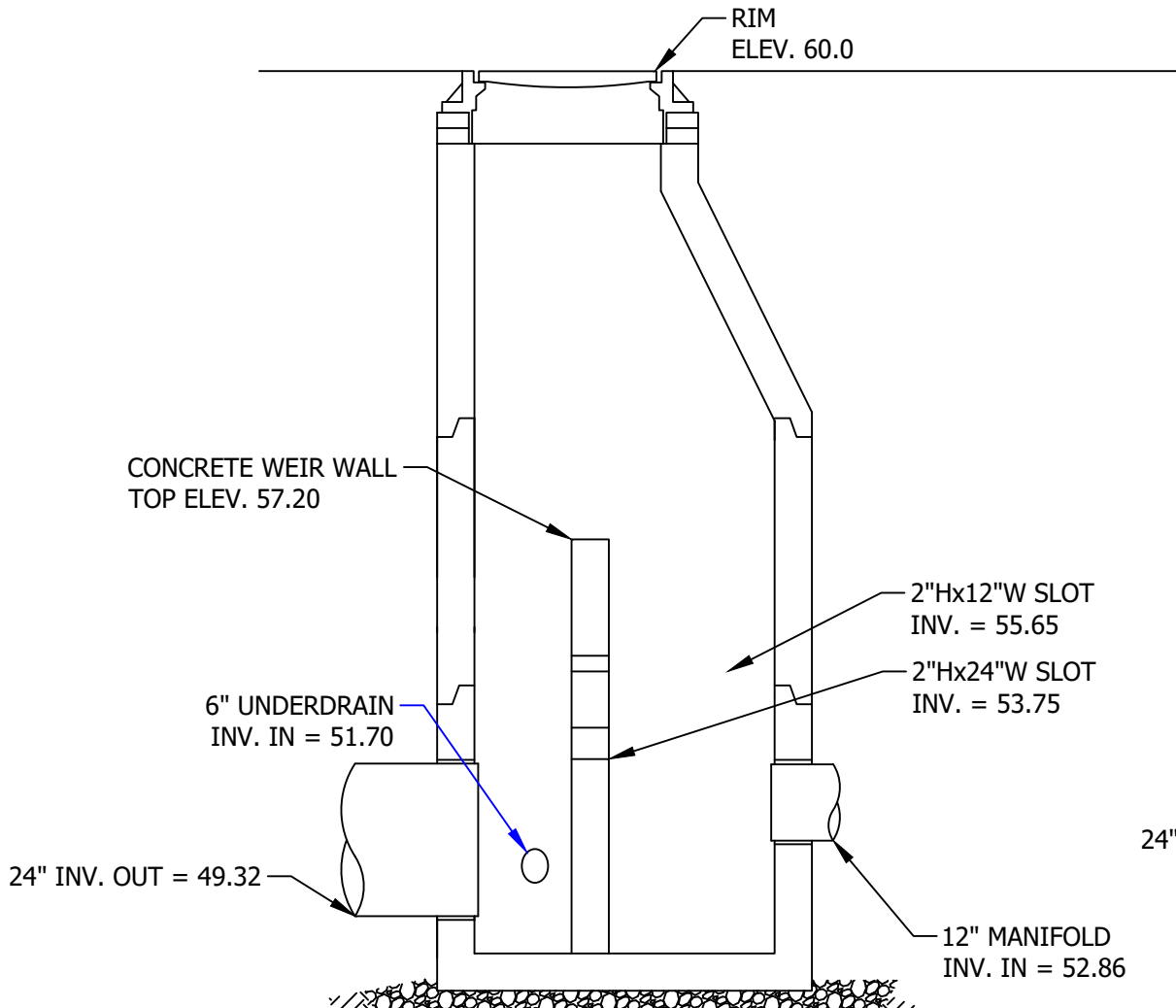
NOTE:
CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO CONFIRM ADEQUATE DIAMETER AND INVERTS.

DRAIN MANHOLE DETAIL
NOT TO SCALE



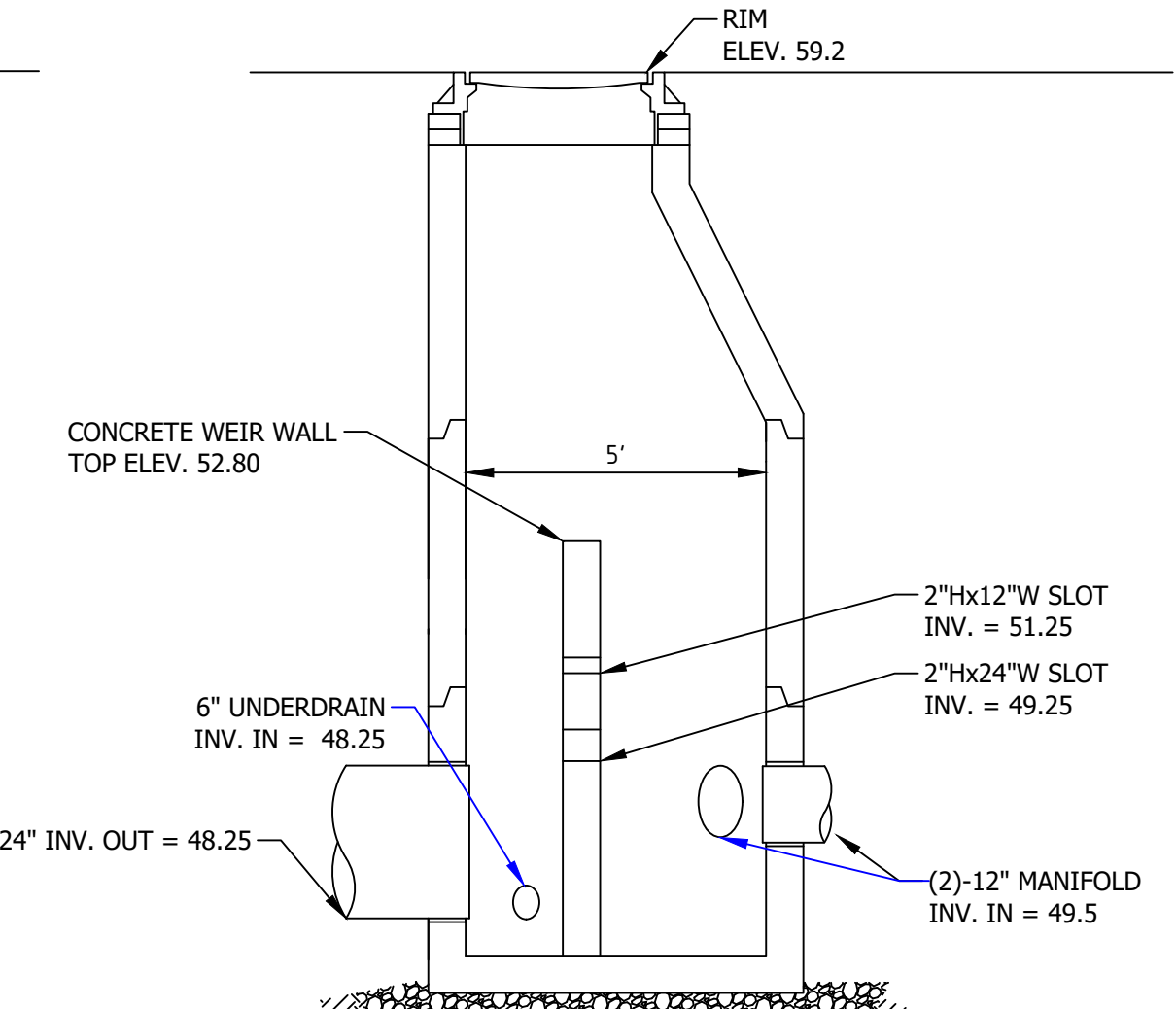
- NOTES:**
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AFTER 28 DAYS.
 - REINFORCING H-20 LOADING 4 x 4/4 x 4 W.W.M.
 - SHIP LAP JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT. AND SHALL BE SEALED WITH 1 STRIP OF 1" DIA. BUTYL RUBBER 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 Baffle 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.

HOODED CATCH BASIN DETAIL
NOT TO SCALE



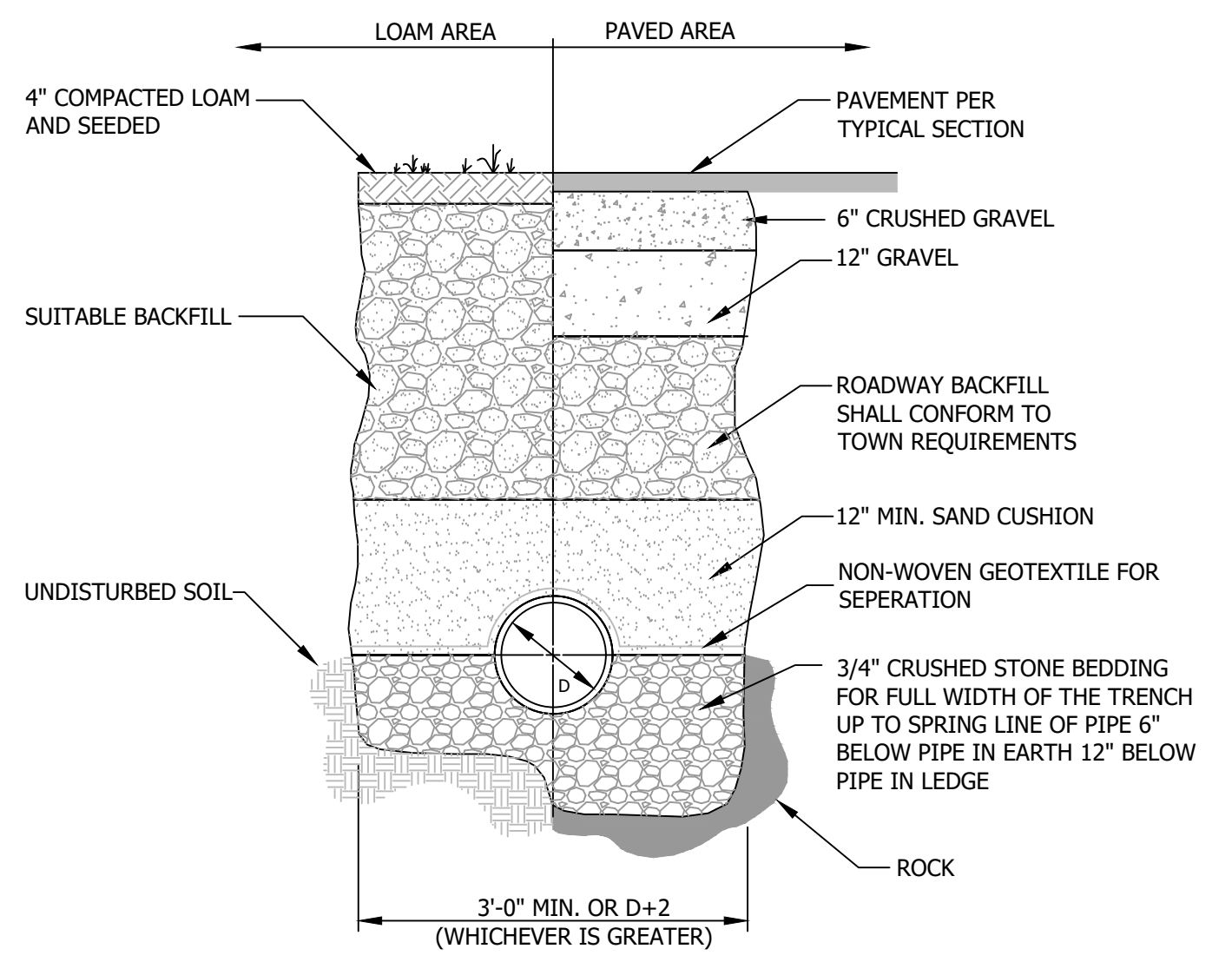
- NOTES:**
- SEE DRAIN MANHOLE DETAIL FOR STANDARD DMH CONSTRUCTION REQUIREMENTS.
 - CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO VERIFY DIAMETER, INVERTS, AND WEIR.

OCS-100 5' DIA DMH
NOT TO SCALE

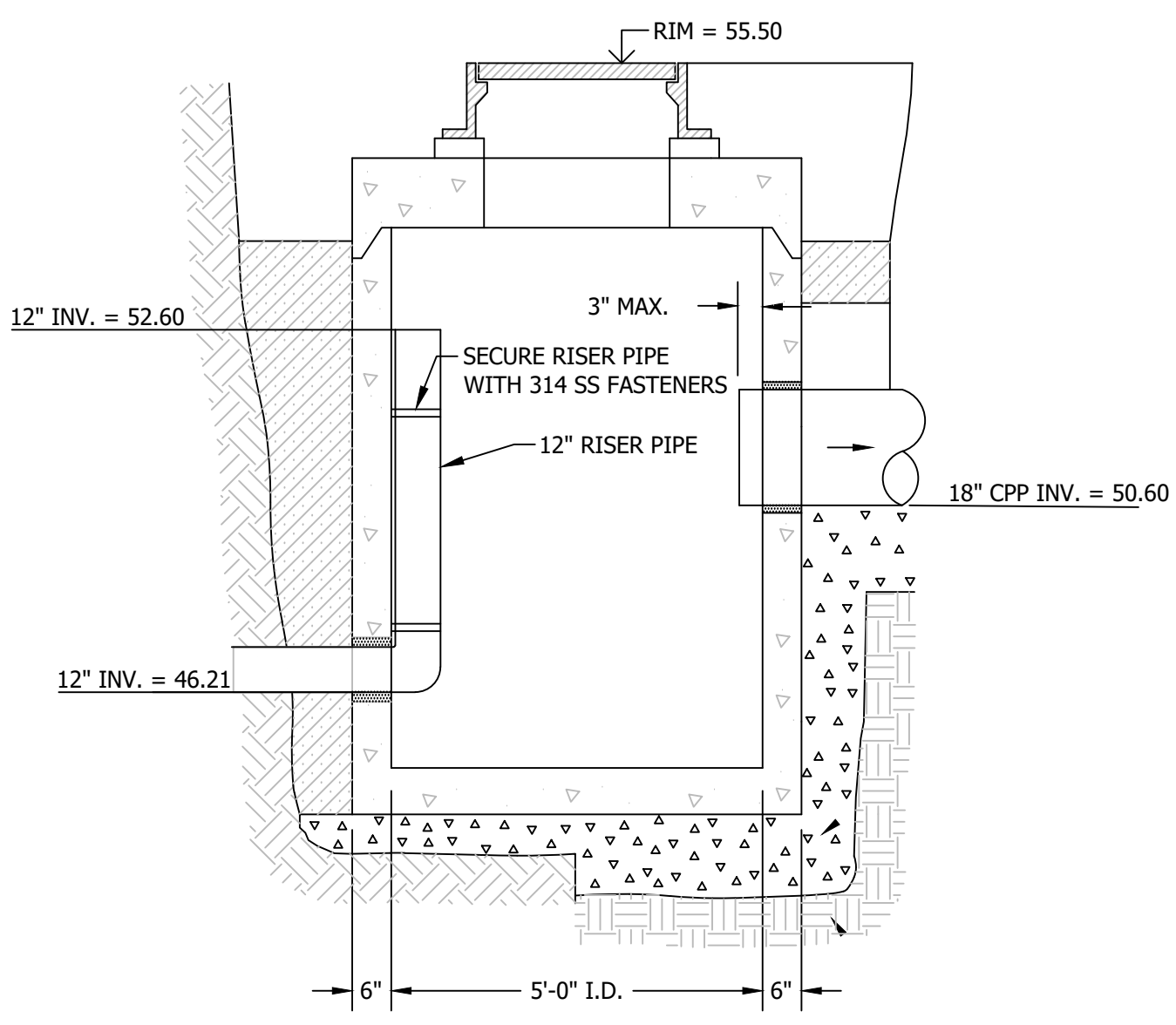


- NOTES:**
- SEE DRAIN MANHOLE DETAIL FOR STANDARD DMH CONSTRUCTION REQUIREMENTS.
 - CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO VERIFY DIAMETER, INVERTS, AND WEIR.

OCS-200 5' DIA DMH
NOT TO SCALE



TYPICAL DRAINAGE TRENCH DETAIL
NOT TO SCALE



- NOTES:**
- SEE HOODED CATCH BASIN DETAIL FOR ADDITIONAL INFORMATION ON BEDDING MATERIALS, JOINTS, AND PIPE CONNECTIONS.

CB-200 5' DIA CATCH BASIN
NOT TO SCALE

STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-3500.
- 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-3500 CHAMBER SYSTEM

- STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH MC-3500 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-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER TIRED 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.
- USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.
- CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

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

PROJECT #:	18-041	DATE:	11/30/2021	SCALE:	AS SHOWN	ENGINEERED BY:	AWB	DRAWN BY:	AWB	CHECKED BY:	MJS
REVISION DESCRIPTION		NO.		DATE							
		3.	05/04/2022								
		1.	02/11/22								
		0.	11/30/21								

CONSTRUCTION DETAILS
PREPARED FOR
TOOMERES, LLC
TAX MAP 5, LOTS 1-9, 1-10, 1-11, 1-15, 1-16
19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824

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C504

MC-3500 #1
5 ROWS x 6 CHAMBERS/ROW
30 CHAMBERS TOTAL
TOP OF STONE = 57.50
TOP OF CHAMBER = 56.50
BOTTOM OF CHAMBER = 52.75
BOTTOM OF STONE = 51.75
UNDERDRAIN INV. = 52.00

12" MANIFOLD
INV = 52.86

OCS-100 (5'0")
RIM = 60.0
(A) 12" INV. = 52.86
(B) 6" INV. = 52.0
(C) 24" INV. = 49.32

WEIR PLATE
TOP = 57.20
ORIFACE 12"W, 2"H = 55.65
ORIFACE 24"W, 2"H = 53.75

OCS-200 (5'0")
RIM = 59.2 (MATCH)
(A) 12" INV. = 49.50
(B) 6" INV. = 49.1
(C) 24" INV. = 48.25

WEIR PLATE
TOP = 52.80
ORIFACE 12"W, 2"H = 51.25
ORIFACE 24"W, 2"H = 49.25

MC-3500 #2
4 ROWS x 9 CHAMBERS/ROW
36 CHAMBERS TOTAL
TOP OF STONE = 54.10
TOP OF CHAMBER = 53.10
BOTTOM OF CHAMBER = 49.35
BOTTOM OF STONE = 48.35
UNDERDRAIN INV. = 49.10

INSPECTION PORT (TYP.)
SEE DETAIL

CB-200 (5'0")
RIM = 55.50
(A) 18" INV. = 50.6
(B) 12" INV. = 52.6 (SEE DETAIL)
SUMP = 4'

DMH-100 (4'0")
RIM = 56.0 (MATCH)
(A) 18" INV. = 50.0
(B) 24" INV. = 49.52
(C) 18" INV. = 50.0

12x24 REDUCER
INV. = 45.61

INV. OUT 45.61

24x24x24 TEE

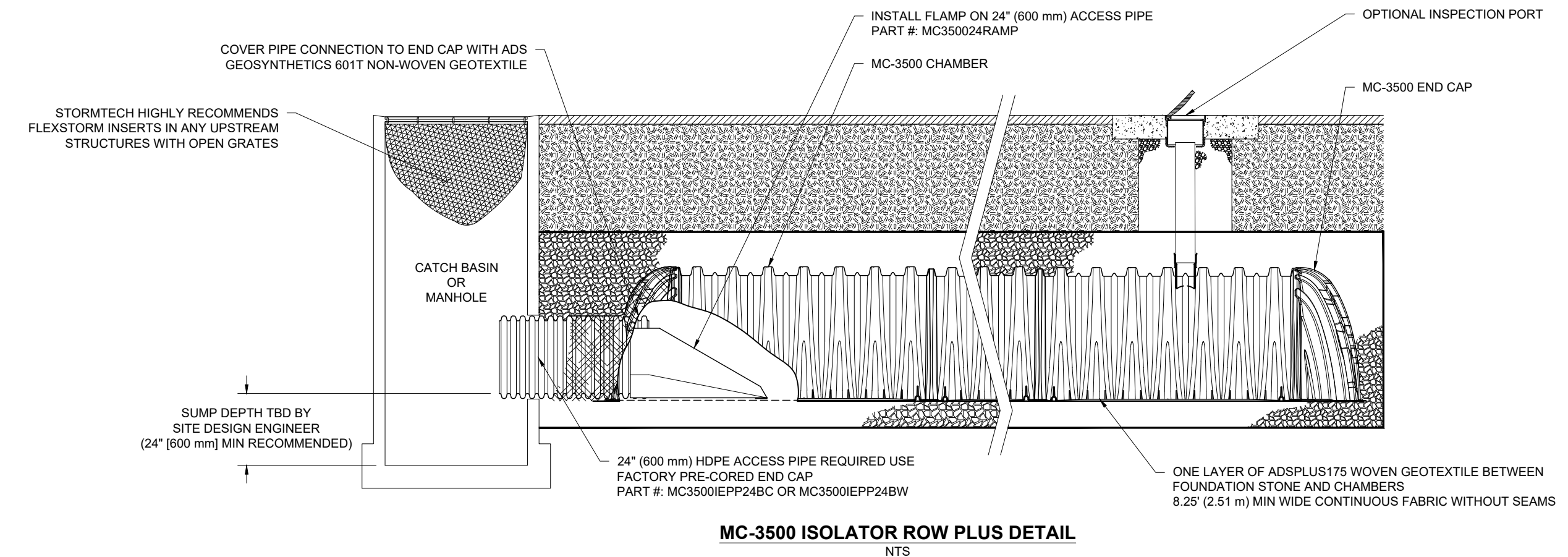
18" CPP
L=11', S=0.05

12" CPP
L=30', S=0.02

INV. OUT 45.61

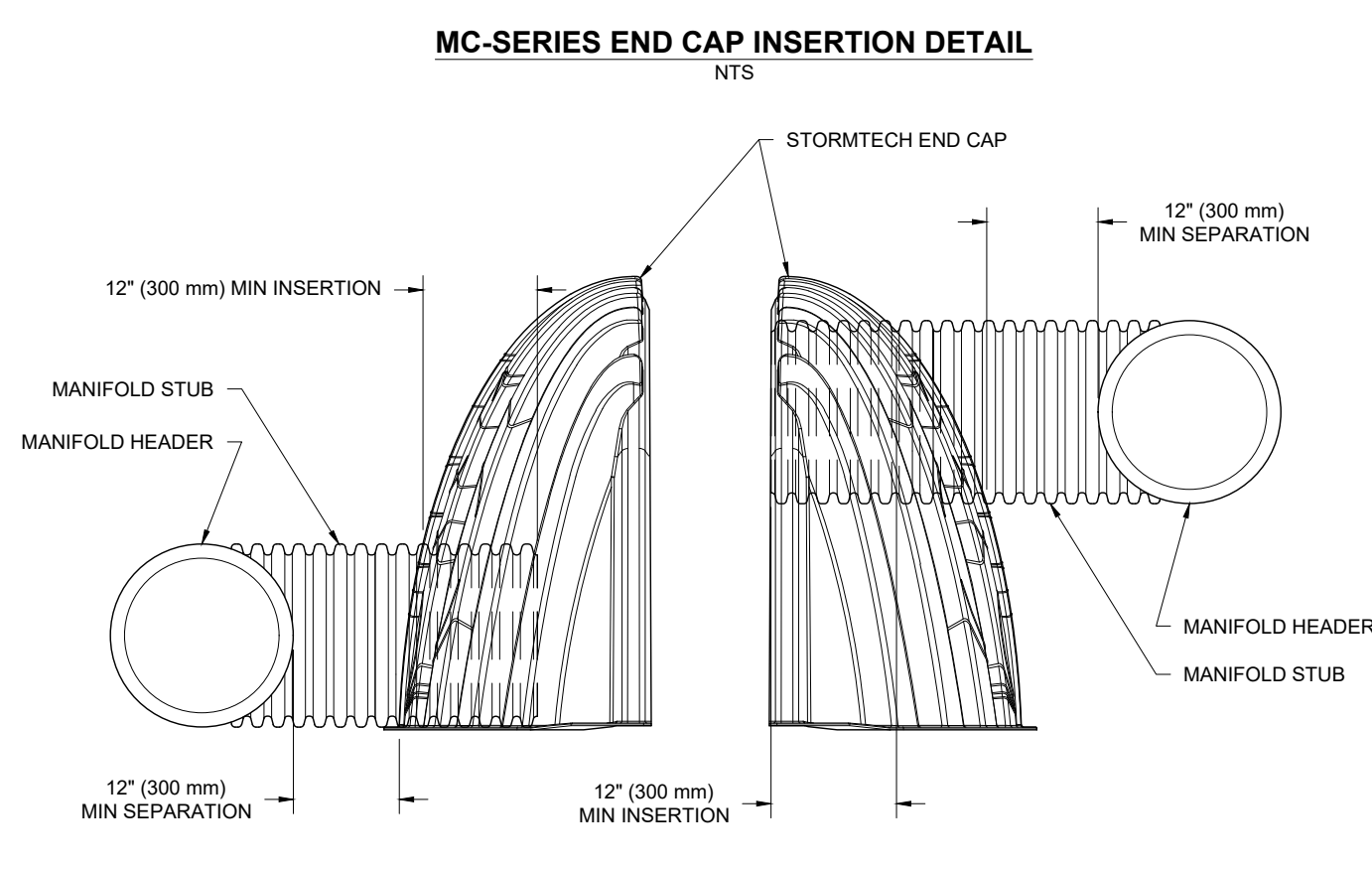
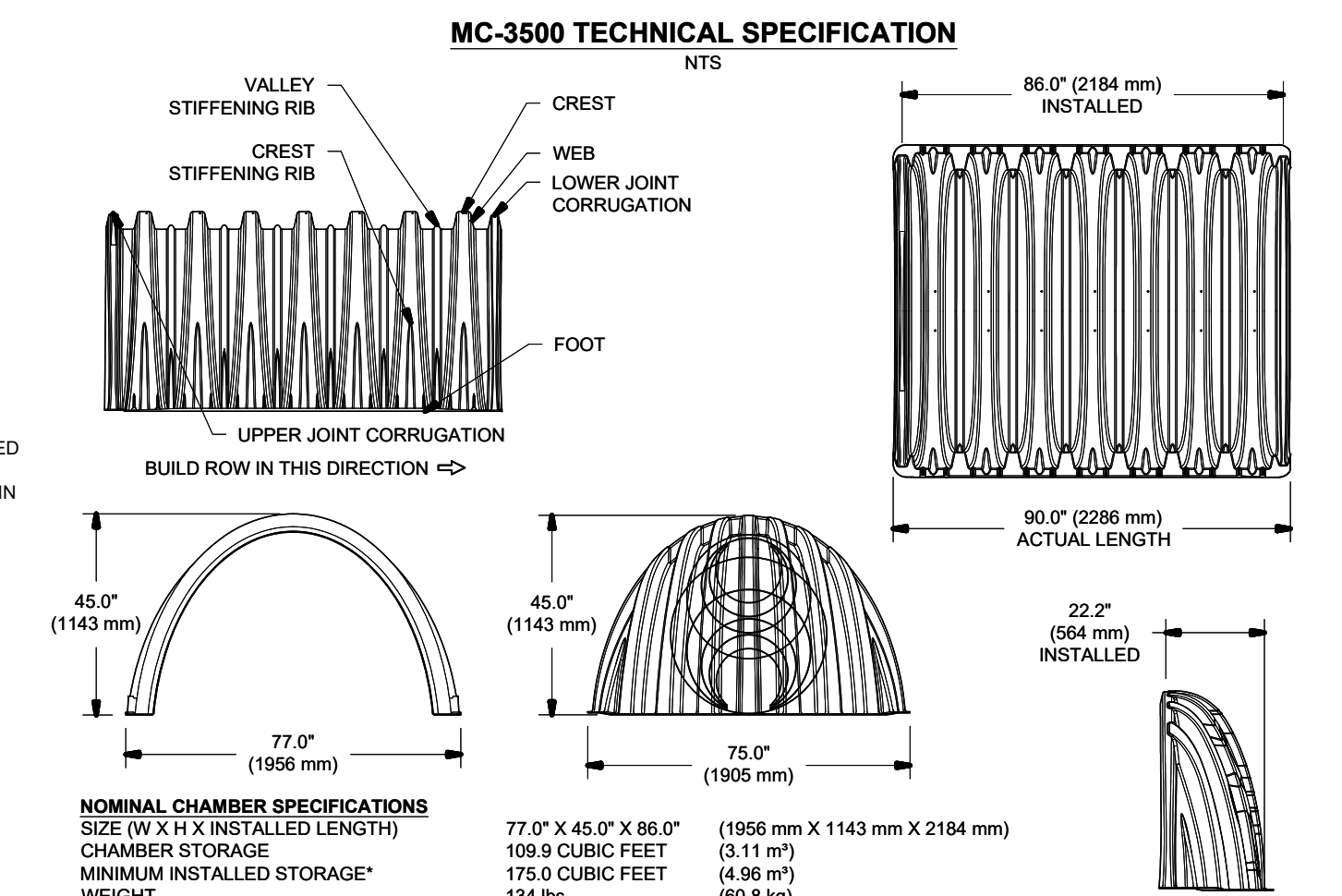
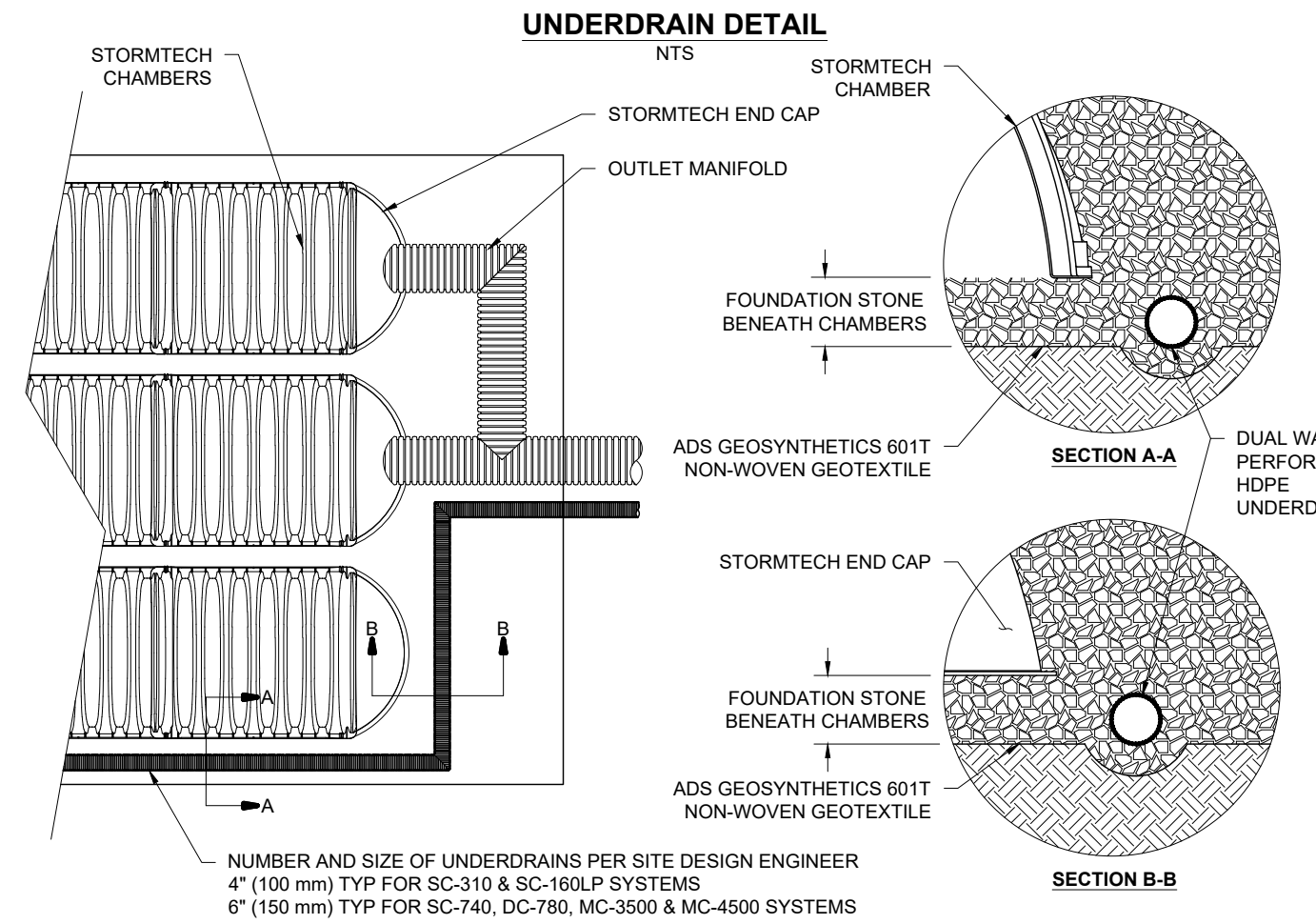
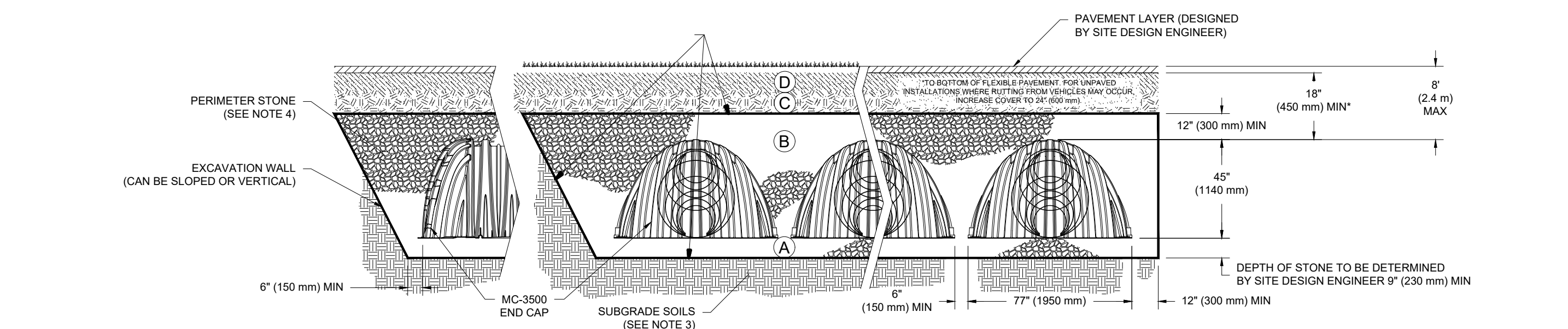
24" CPP, L=64', S=1.0%

INV. OUT 44.95



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. OR 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.	AASHTO M43 ¹ 3, 4	
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	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 COMPACTON 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.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B	6" (150 mm)	---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B	8" (200 mm)	---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B	10" (250 mm)	---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B	12" (300 mm)	---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B	15" (375 mm)	---	1.50" (38 mm)
MC3500IEPP18T	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18B	18" (450 mm)	---	1.77" (45 mm)
MC3500IEPP18BW	18" (450 mm)	---	---
MC3500IEPP24T	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24B	24" (600 mm)	---	2.06" (52 mm)
MC3500IEPP24BW	24" (600 mm)	---	---
MC3500IEPP30B	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVERTED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

PROJECT #: 18-041
DATE: 11/30/2021
SCALE: AS SHOWN
ENGINEERED BY: AWS
DRAWN BY: AWS
CHECKED BY: MJS

REVISION DESCRIPTION

NO.	DATE	REVISION DESCRIPTION
3.	05/04/2022	REVISED PER TOWN ENGINEERS COMMENTS
2.	02/15/22	REVISED DRAINAGE AND PARKING LAYOUT
1.	02/02/22	REVISED SUBMISSION PER TRC COMMENTS
0.	11/30/21	INITIAL SUBMISSION FOR 2 ROW PARKING LAYOUT

ENG DWG

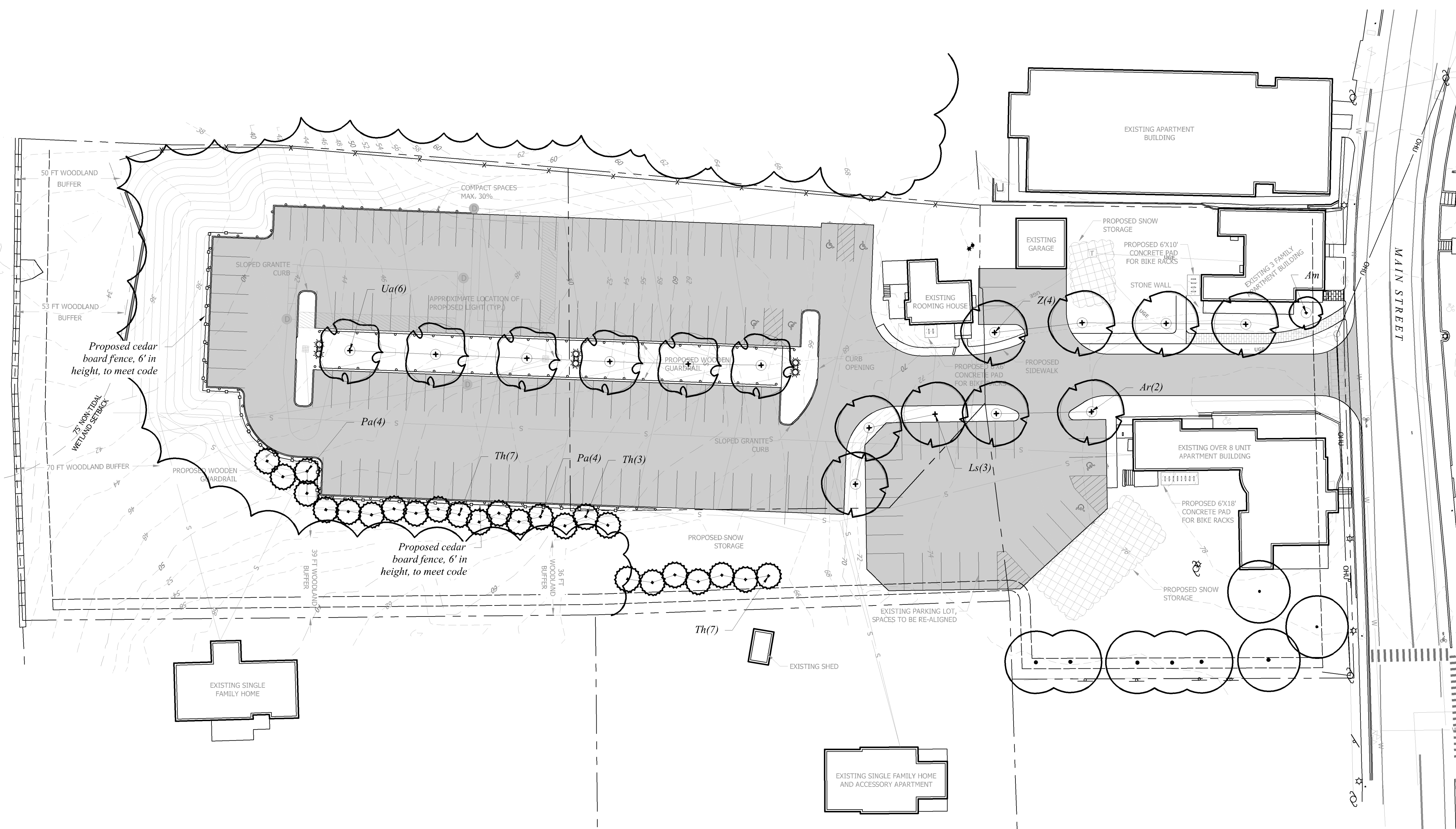
horizons Engineering
Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

CONSTRUCTION DETAILS PREPARED FOR TOOMERES, LLC
TAX MAP 5, LOTS 1-9, 1-10, 1-15, 1-16
19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824

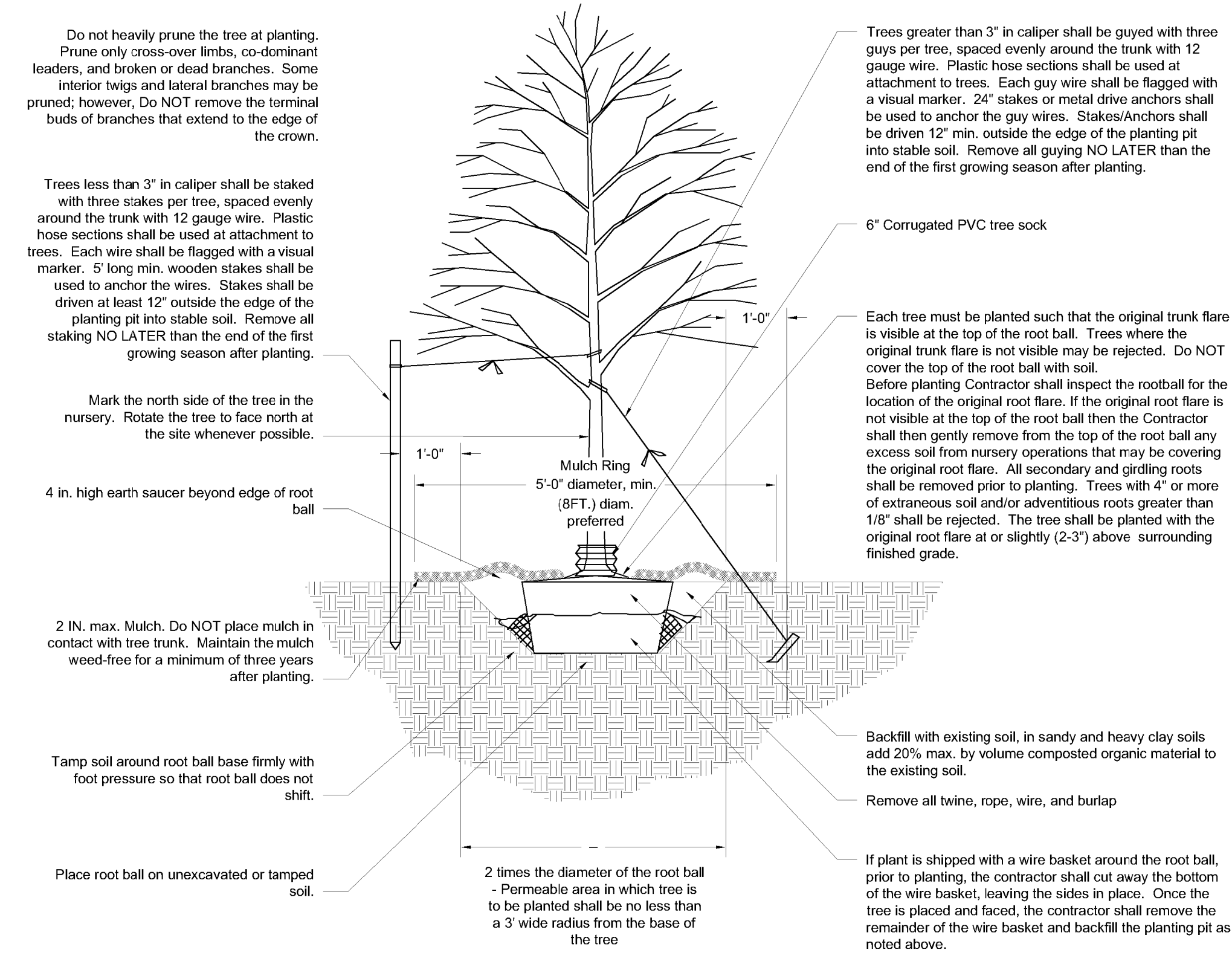
C505

LANDSCAPE NOTES:

- Design is based on drawings by MJS Engineering, P.C. dated November 22, 2021, 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 staked in place 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 DCSAFE at 1-888-344-7233.
- 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, 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 all 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.

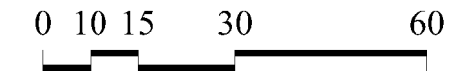


TREE PLANTING DETAIL



Plant List					
TREES					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Am	<i>Amelanchier canadensis</i>	Shadblow Serviceberry	1	2.5-3" cal	B&B
Ar	<i>Acer rubrum</i> 'October Glory'	October Glory Red Maple	2	2.5-3" cal	B&B
Ls	<i>Liquidambar styraciflua</i>	American Sweetgum	3	2.5-3" cal	B&B
Pa	<i>Picea abies</i>	Norway Spruce	8	7-8' ht.	B&B
Th	<i>Thuja plicata</i> 'Green Giant'	Green Giant Arborvitae	17	10' ht.	B&B
Ua	<i>Ulmus americana</i> 'Princeton'	Princeton American Elm	6	2.5-3" cal	B&B
Z	<i>Zelkova serata</i> 'Green Vase'	Green Vase Zelkova	4	2.5-3" cal	B&B

woodburn & company
 LANDSCAPE ARCHITECTURE
 103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949



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

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 Land Surveying and Environmental Consulting
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LANDSCAPE PLAN
 PREPARED FOR
 TOOMERES, LLC
 TAX MAP 5, LOTS 1-9 AND 1-10
 19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824

PROJECT #: 18-041
 DATE: 10/19/2020
 SCALE: 1" = 30'
 DESIGNED BY: RW/VM
 DRAWN BY: VM
 CHECKED BY: RW

REVISION DESCRIPTION
 NO. DATE
 5. 05/04/22 RELOCATED FENCE LINE
 4. 03/17/22 TREES MOVED TO ALLOW FOR SNOW STORAGE
 3. 02/07/22 FENCING ADDED AT EASTERN PL
 2. 12/07/21 PER REVISED SITE PLAN
 1. 07/21/21 PER REVISED SITE PLAN
 0. 10/28/20 INITIAL SUBMISSION FOR SITE PLAN REVIEW

ENG DWG
 VM
 VM
 VM
 VM
 VM

SHEET L-100