

LOCATION: 5 MILL ROAD  
TM 5-1-1  
COLONIAL DURHAM ASSOCIATES  
7 MILL ROAD, UNIT 1  
DURHAM, NH  
SCRD: [blank]  
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: 4720158

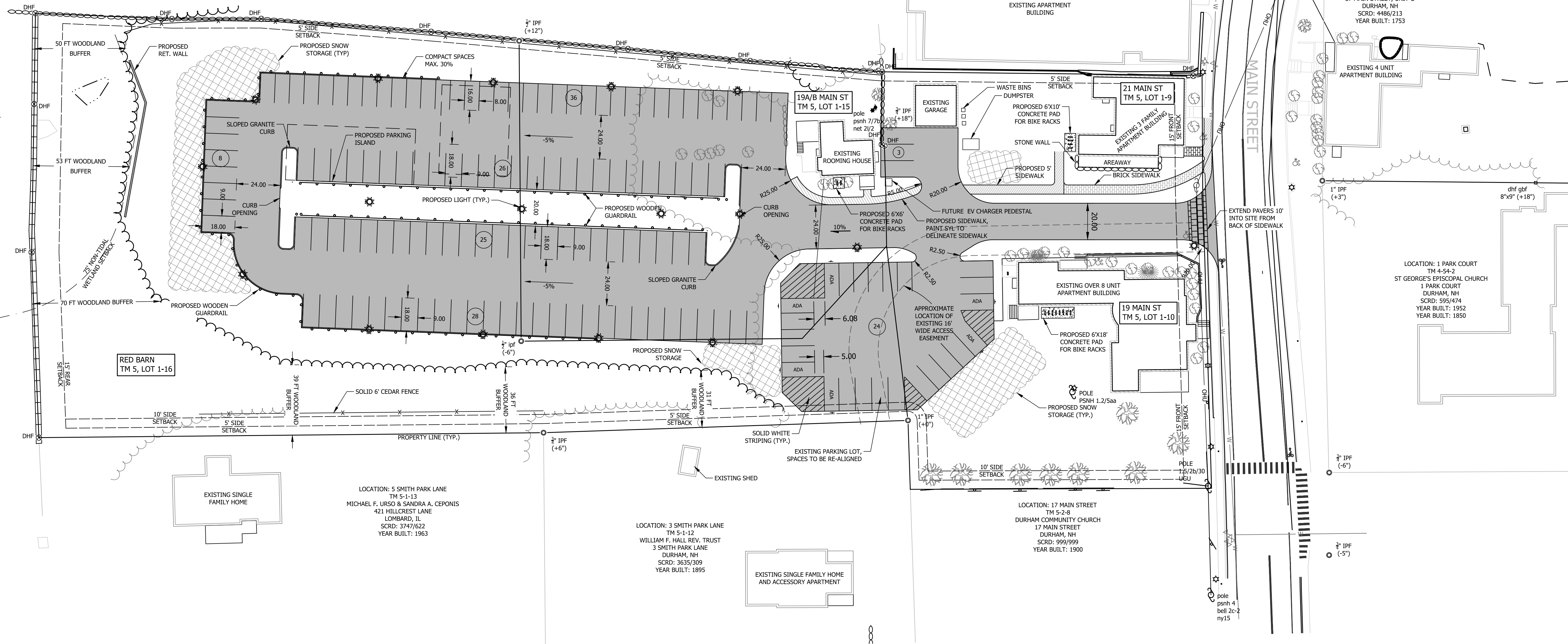
LOCATION: 18 MAIN STREET  
TM 4-55  
TOOMERS, LLC  
37 MAIN STREET, UNIT O  
DURHAM, NH  
SCRD: 4486/213  
YEAR BUILT: 1753

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



**GENERAL NOTES:**

- SUBJECT PROPERTY  
21 MAIN STREET  
DURHAM, NH 03824  
TAX MAP 5, LOT 1-9
  - SUBJECT PROPERTY  
19 MAIN STREET  
DURHAM, NH 03824  
TAX MAP 5, LOT 1-10
  - SUBJECT PROPERTY  
19A/B MAIN STREET  
DURHAM, NH 03824  
TAX MAP 5, LOT 1-15
  - 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
- OWNER OF RECORD  
TOOMERS, LLC  
37 MAIN STREET UNIT O  
DURHAM, NH 03824  
SCRD BK 4486, PG 213
- OWNER OF RECORD  
TOOMERS, LLC  
37 MAIN STREET UNIT O  
DURHAM, NH 03824  
SCRD BK 4486, PG 213
- OWNER OF RECORD  
TOOMERS, LLC  
37 MAIN STREET UNIT O  
DURHAM, NH 03824  
SCRD BK 4486, PG 213
- REFERENCE PLANS:
    - 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.
    - VERTICAL DATUM IS ASSUMED.
    - IMPERVIOUS SURFACE RATIO:  
EXISTING = 19.3% (27,398 S.F.)  
PROPOSED = 43.1% (61,141 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 ADJACENT 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 STORAGE LOCATIONS ARE SHOWN ON SITE. SNOW WILL BE REMOVED FROM THE SITE IF REQUIRED.
  - 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.
  - PLAN INTENT: THE PROPOSAL IS TO CONSTRUCT A NEW PAVED PARKING LOT AND NEW ACCESS DRIVEWAY ON THE SUBJECT PARCELS. ONE (1) EXISTING RESIDENTIAL UNIT WILL BE REMOVED FROM PARCEL 5-1-15

**SITE DATA BLOCK**

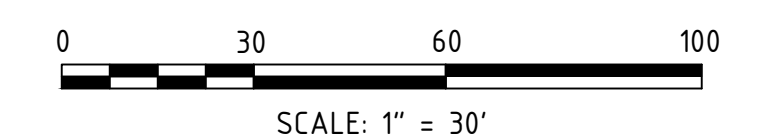
ZONE: CH - CHURCH HILL  
OVERLAY DISTRICTS: HISTORIC DISTRICT  
USE: COMMERCIAL

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

CERTIFIED \_\_\_\_\_

DATE \_\_\_\_\_

NO.	DATE	REVISION DESCRIPTION
1.	02/15/22	REVISED DRAINAGE AND PARKING LAYOUT
2.	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

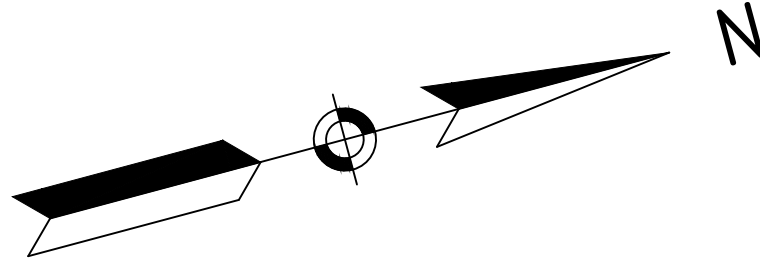
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**SITE PLAN**  
PREPARED FOR  
TOOMERS, LLC  
TAX MAP 5, LOTS 1-9, 1-10, 1-15, 1-16  
19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824

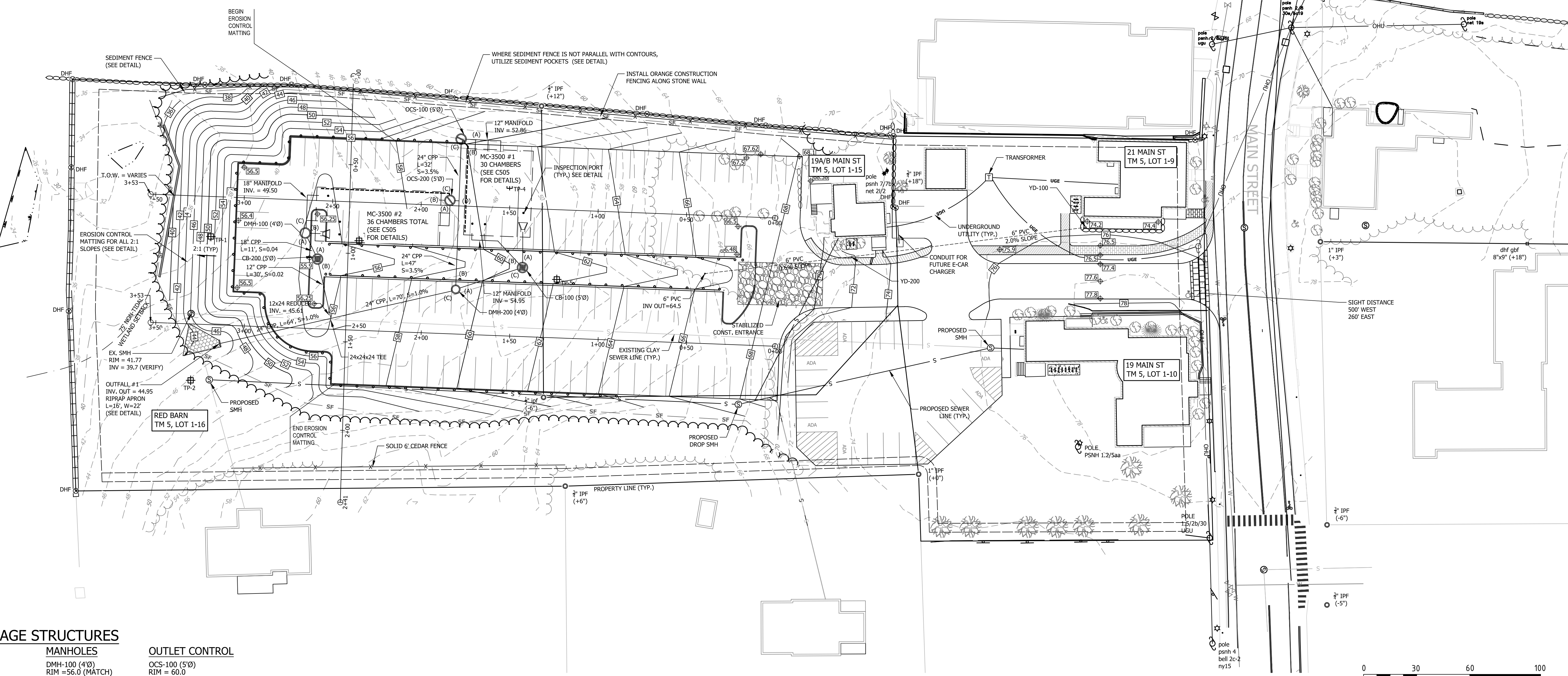
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**C101**

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

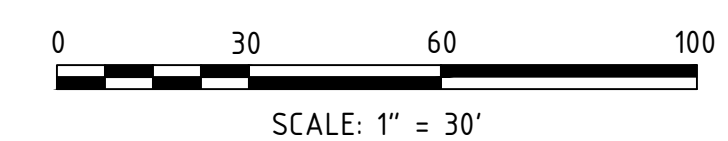
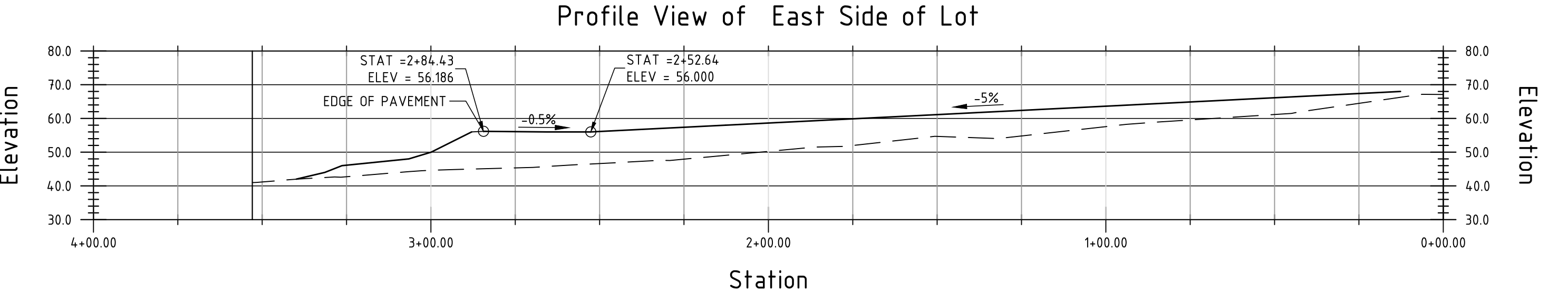
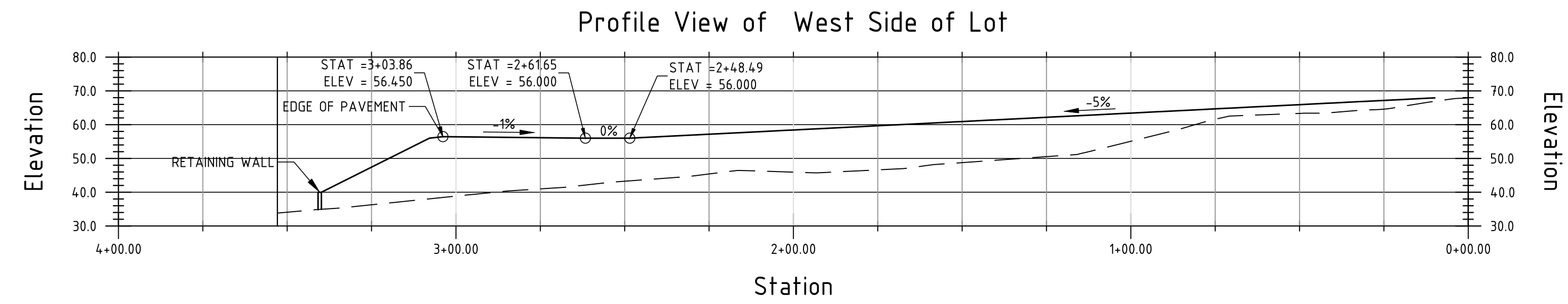
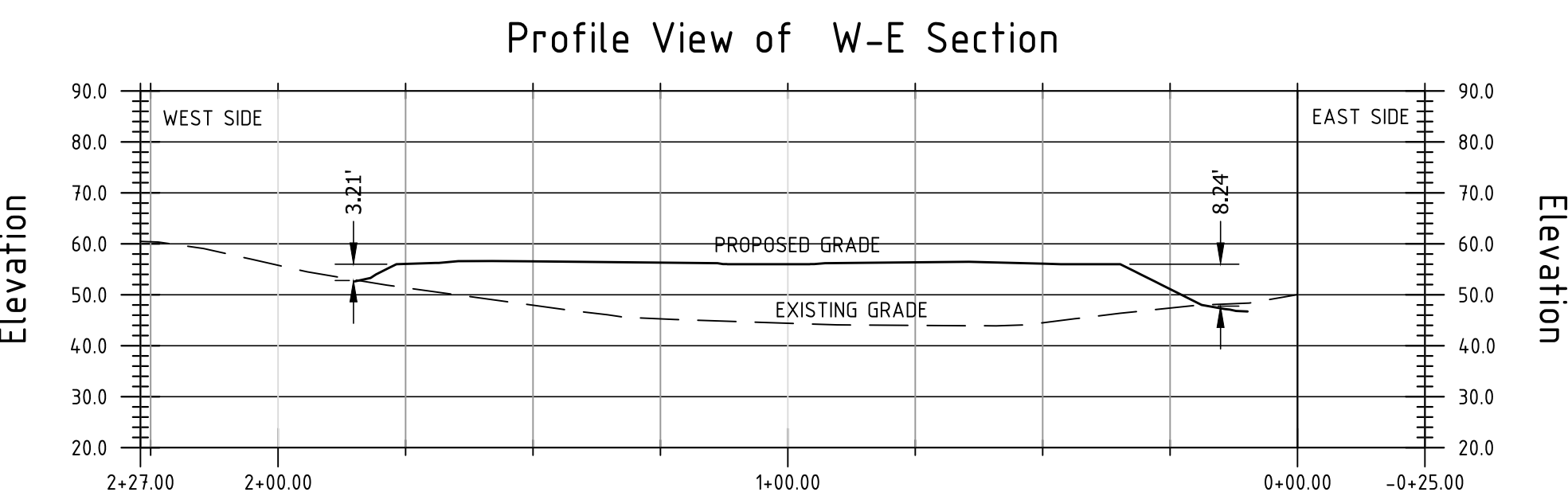


NOTES  
1. SIGHT DISTANCE AT MAIN STREET EXIT IS GREATER THAN 500 FT TO THE WEST AND 260 FT TO THE EAST



**STORM DRAINAGE STRUCTURES**

- CATCH BASINS**  
CB-100 (5'0")  
RIM = 59.5  
(A) 24" INV. = 55.7  
(B) 12" INV. = 56.0  
(C) 12" INV. = 56.7  
SUMP = 4'  
CB-200 (5'0")  
RIM = 55.50  
(A) 18" INV. = 50.6  
(B) 12" INV. = 52.6 (EXIT @ 46.21)  
SUMP = 4'  
YD-100 (8"Ø PVC)  
RIM = 74.00  
INV. = 71.50  
YD-200 (8"Ø PVC)  
RIM = 71.80  
INV. = 68.90  
INV. = 65.60
- MANHOLES**  
DMH-100 (4'0")  
RIM = 56.0 (MATCH)  
(A) 18" INV. = 50.0  
(B) 24" INV. = 49.52  
(C) 18" INV. = 50.0  
DMH-200 (4'0")  
RIM = 59.5 (MATCH)  
(A) 12" INV. = 54.70  
(B) 24" INV. = 46.45  
(C) 24" INV. = 46.30
- OUTLET CONTROL**  
OCS-100 (5'0")  
RIM = 60.0  
(A) 12" INV. = 52.86  
(B) 6" INV. = 51.70  
(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) 12" INV. = 48.25  
(D) 24" INV. = 48.25  
WEIR PLATE  
TOP = 52.80  
ORIFACE 12"W, 2"H = 51.25  
ORIFACE 24"W, 2"H = 49.25



PROJECT #:	NO.	DATE	REVISION DESCRIPTION
18-041			
DATE:	11/30/2021		
SCALE:	1" = 30'		
ENGINEERED BY:	AWS		
DRAWN BY:	AWS		
CHECKED BY:	MJS		
			REVISED DRAINAGE AND PARKING LAYOUT
			1. 02/02/22
			2. 02/02/22
			INITIAL SUBMISSION FOR 2 ROW PARKING LAYOUT
			0. 11/30/21

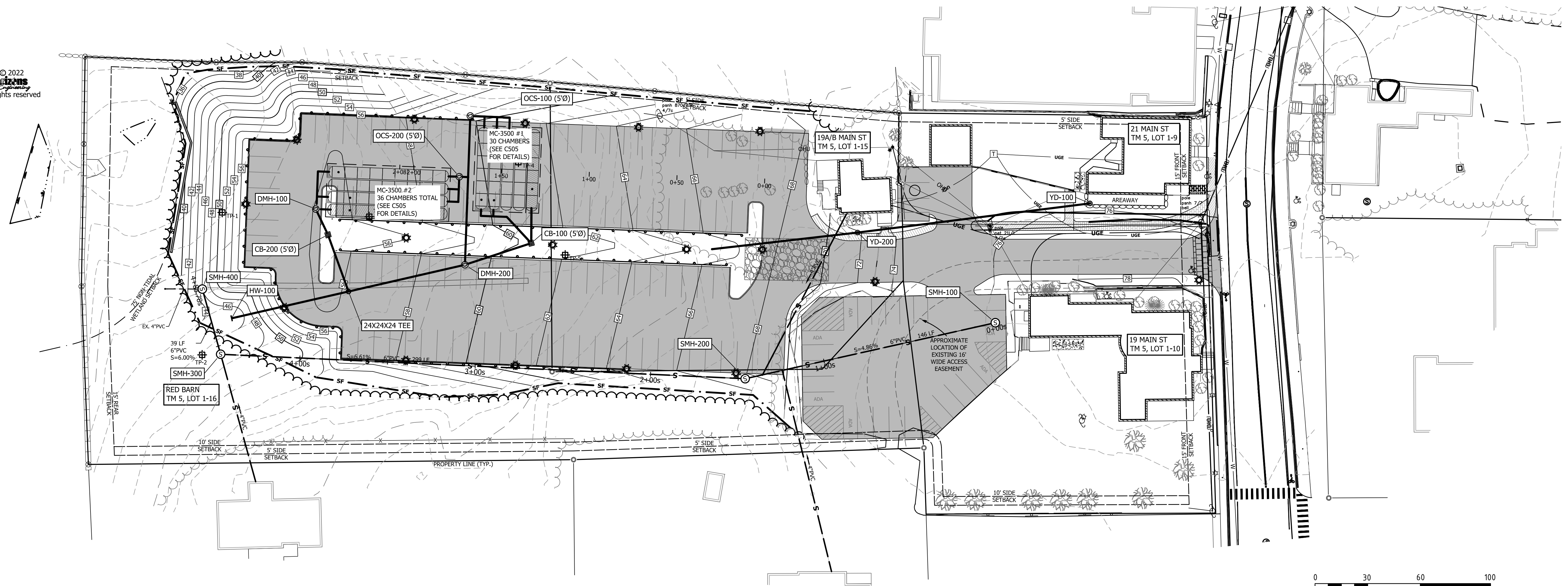
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**GRADING, DRAINAGE, AND UTILITY PLAN**  
PREPARED FOR  
TOOMERES, LLC  
TAX MAP 5, LOTS 1-9, 1-10, 1-15, 1-16  
19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824

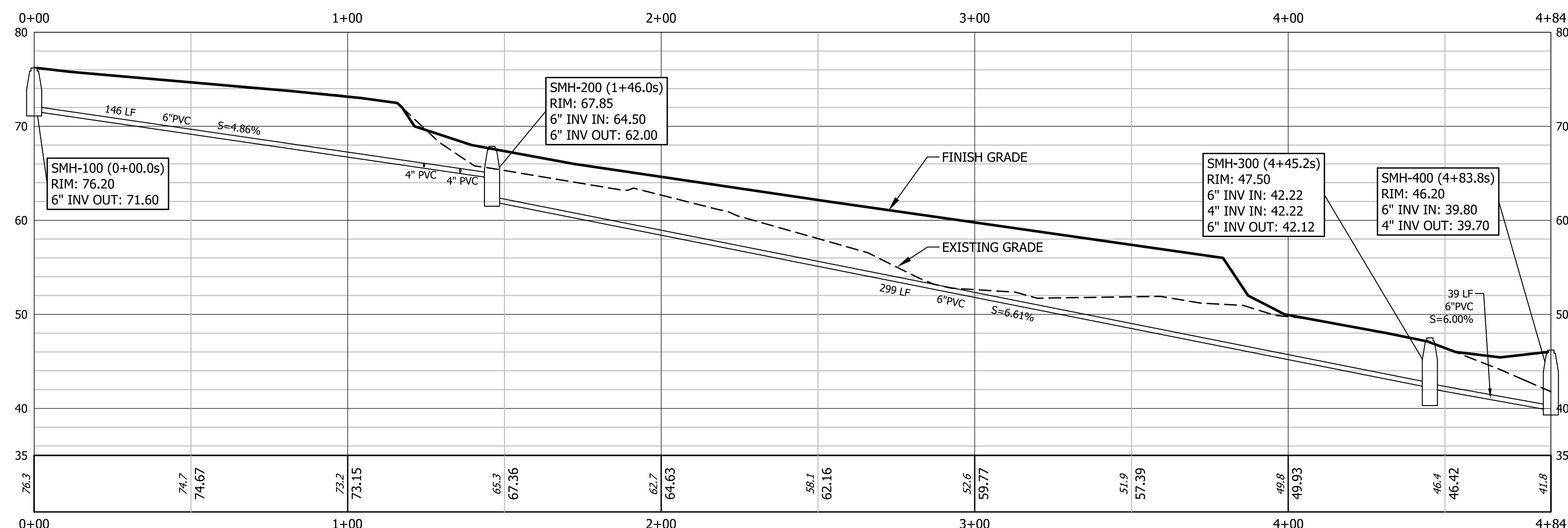
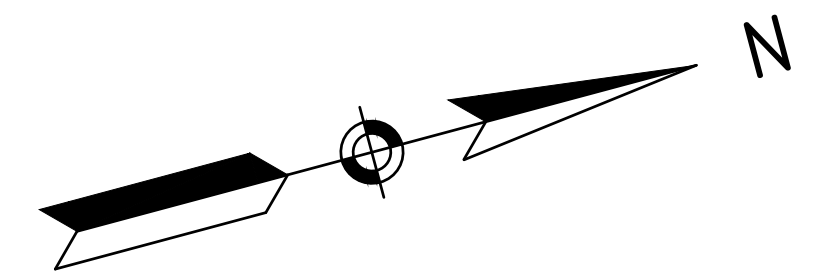
FOR REVIEW  
NOT FOR CONSTRUCTION

DATE OF PRINT  
FEBRUARY 15 2022  
HORIZONS ENGINEERING

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0 30 60 100  
SCALE: 1" = 30'



**VERTICAL ALIGNMENT OF SANITARY SEWER**

STA: 0+00 to STA: 4+84

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
(89)	RIM: 0.20 INV IN: 38.00	Pipe - (53), 4" PVC	
SMH-100	RIM: 76.20 INV OUT: 71.60		Pipe - (201), 6" PVC
SMH-200	RIM: 67.85 INV IN: 64.50 INV OUT: 62.00	Pipe - (201), 6" PVC	Pipe - (202), 6" PVC
SMH-300	RIM: 47.50 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

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**SANITARY SEWER PLAN**

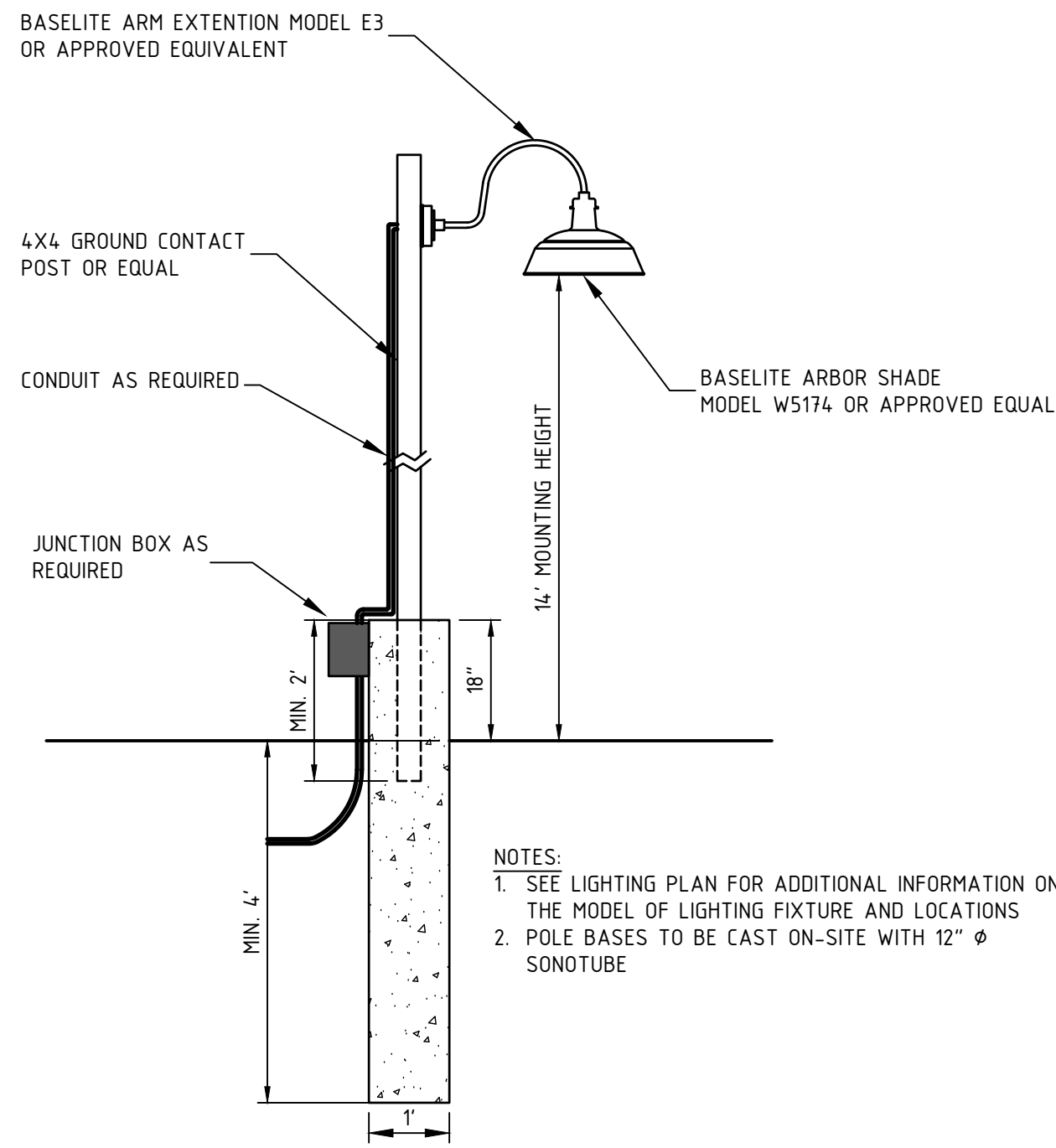
PREPARED FOR

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19 MAIN ST AND 21 MAIN ST,  
DURHAM, NH 03824

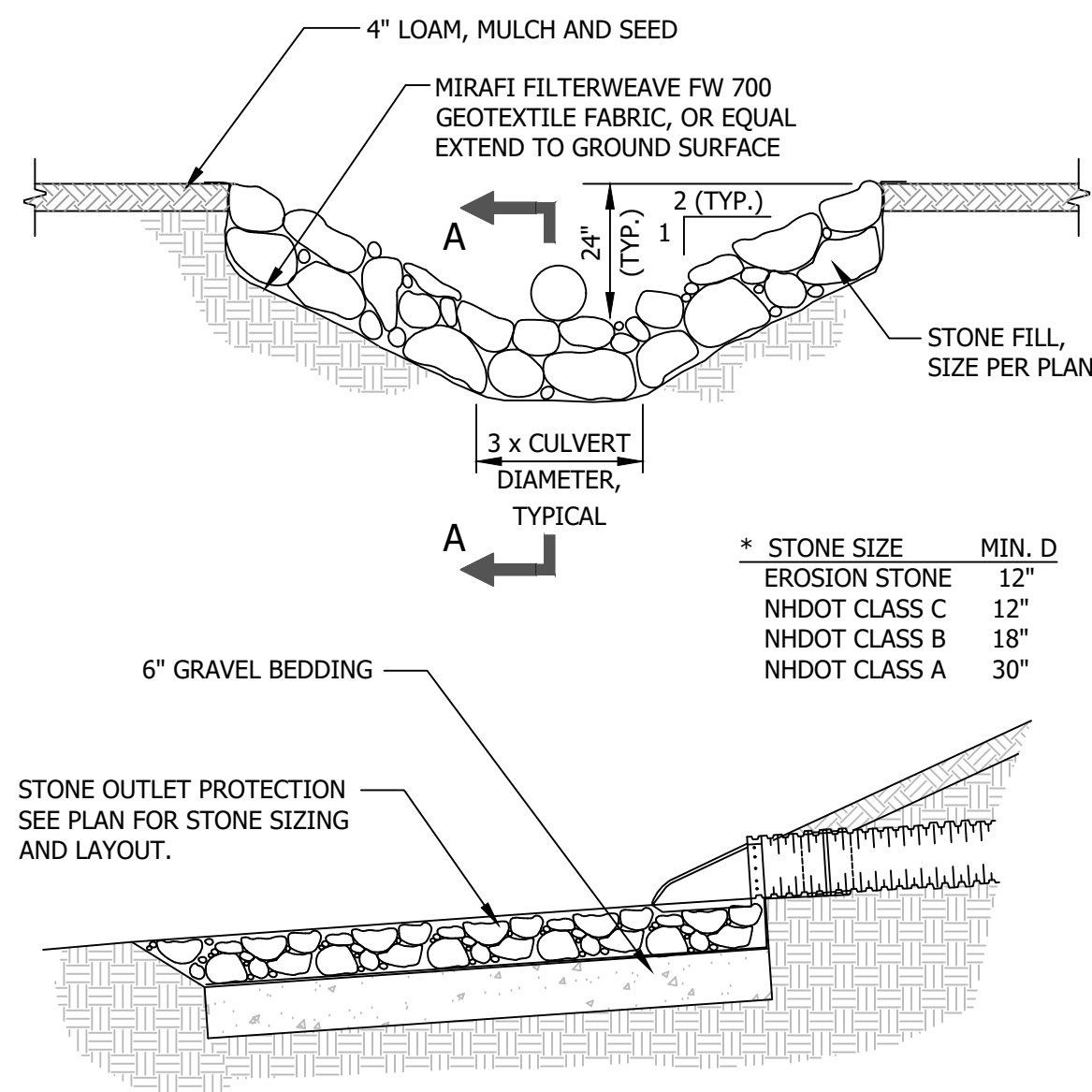
NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE:	PROJECT #:
2022-02-15	18041
ENG'ND BY:	DRAWN BY:
MJS	MCS
CHECK'D BY:	ARCHIVE #:
MJS	H-___

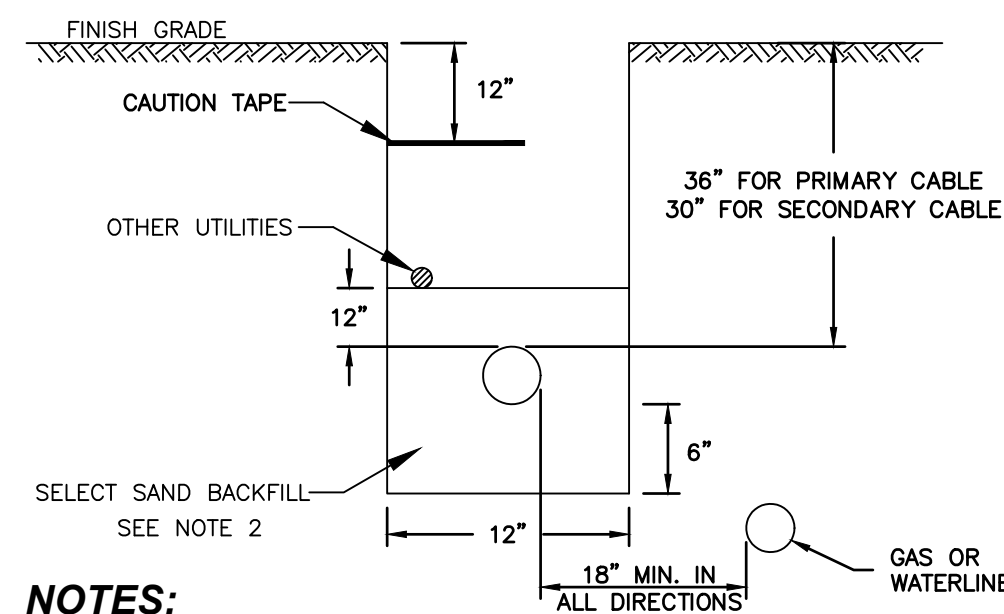
C105



**POLE MOUNTED BASELITE ARBOR LIGHT FIXTURE**  
NTS

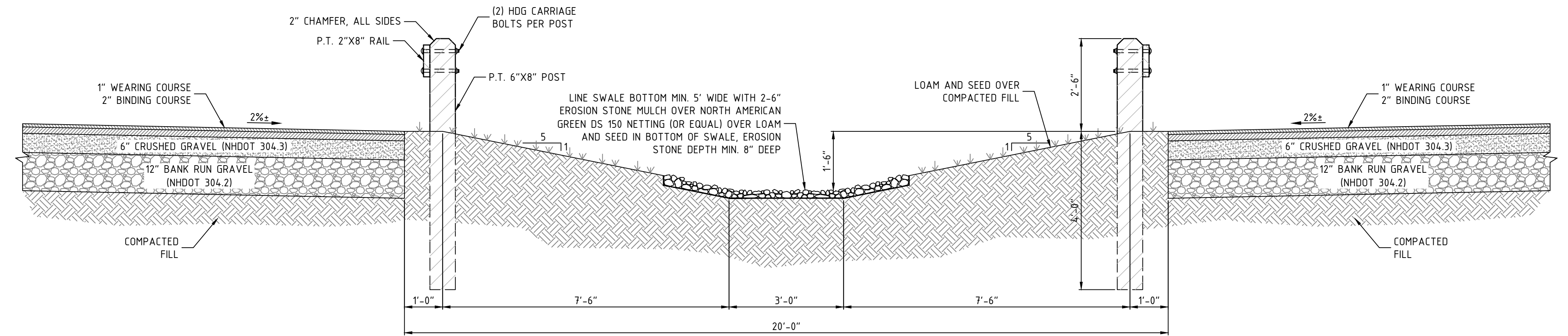
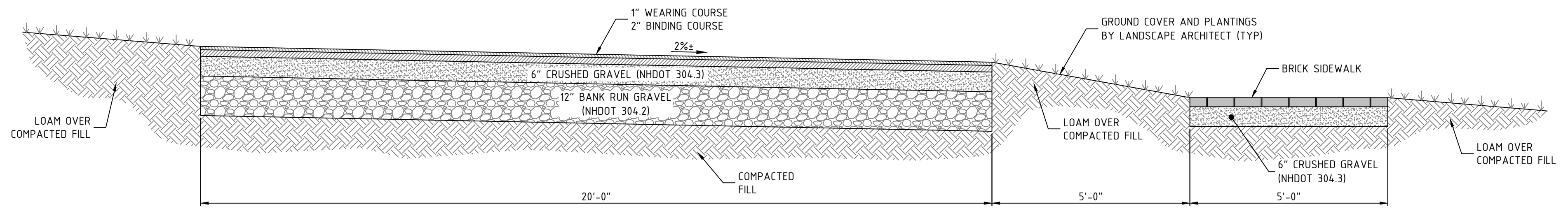


**SECTION A-A**  
**STONE LINED OUTLET DETAIL**  
NOT TO SCALE

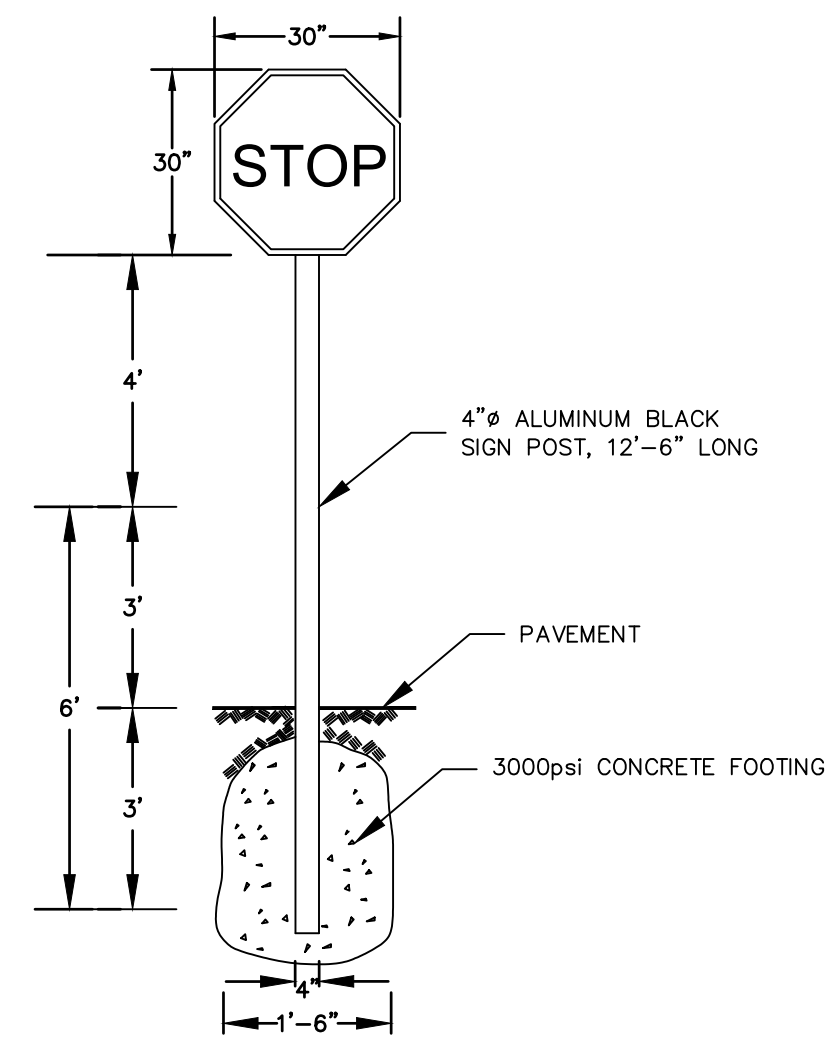


- NOTES:**
- CONSTRUCTION TO BE IN ACCORDANCE WITH PSNH CONSTRUCTION STANDARDS FOR NEW ELECTRICAL SERVICE WORK BY CONTRACTORS, MOST RECENT EDITION.
  - SELECT SAND BACKFILL SHALL CONSIST OF A FINE GRANULAR MATERIAL OF WHICH 100% SHALL PASS THROUGH A 1/4" SIEVE. EXCEPT NATURALLY OCCURRING SMOOTH ROUND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

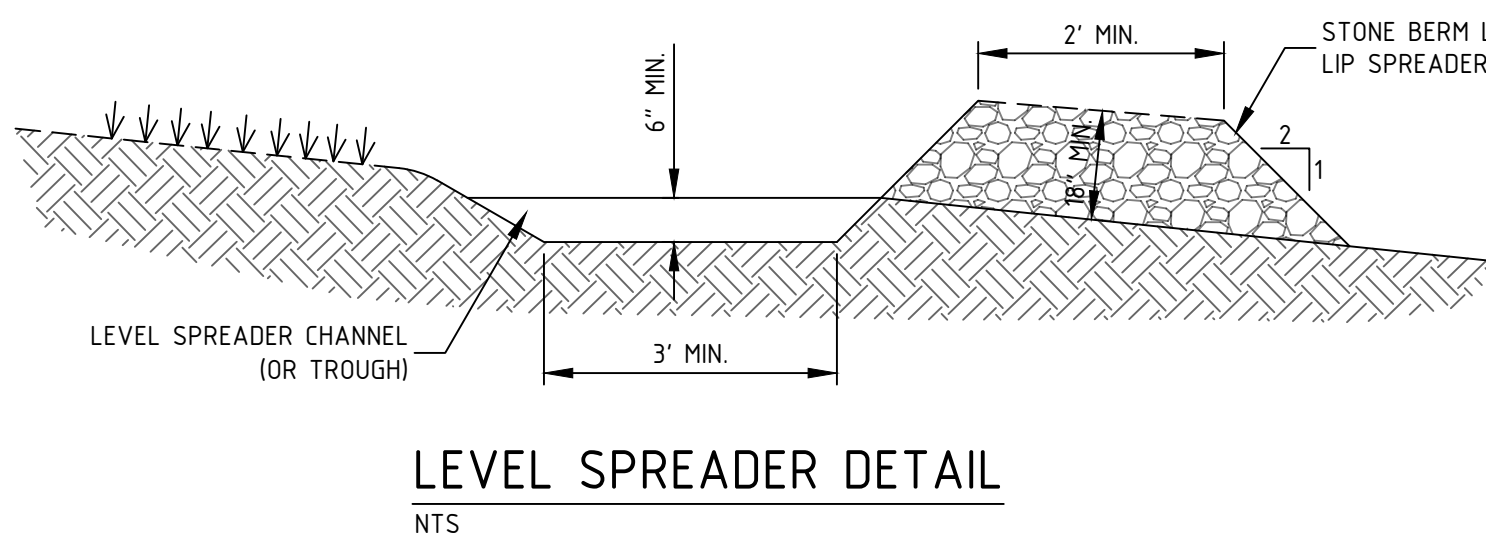
**TELEPHONE & ELECTRIC TRENCH**  
N.T.S



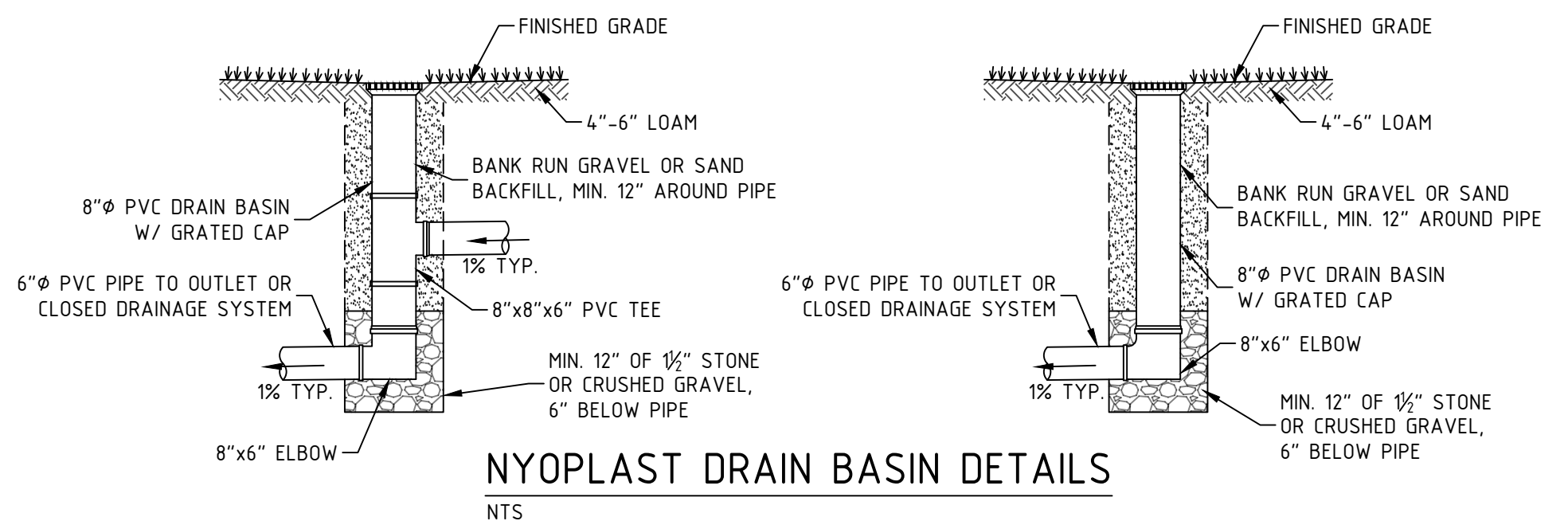
**PARKING ISLAND CROSS SECTION**  
SCALE: 1"=2'



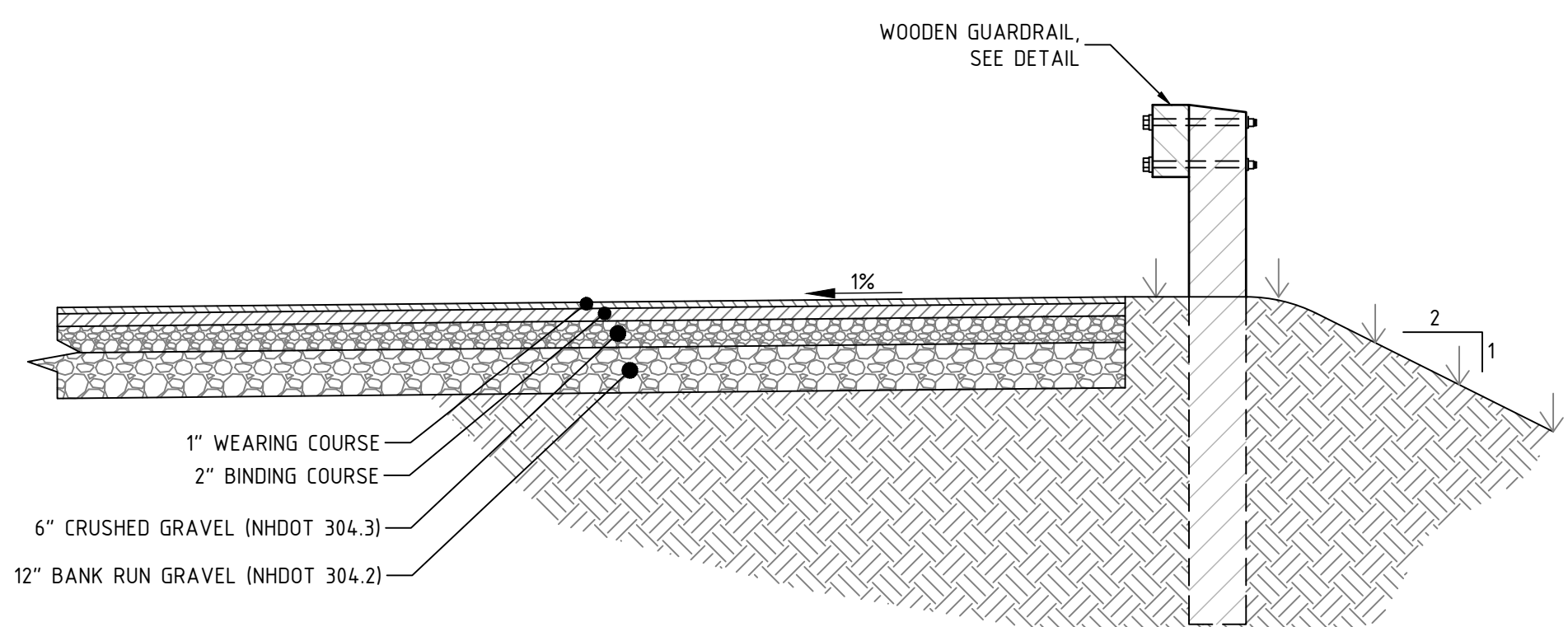
**TYPICAL SIGN DETAIL**  
N.T.S.



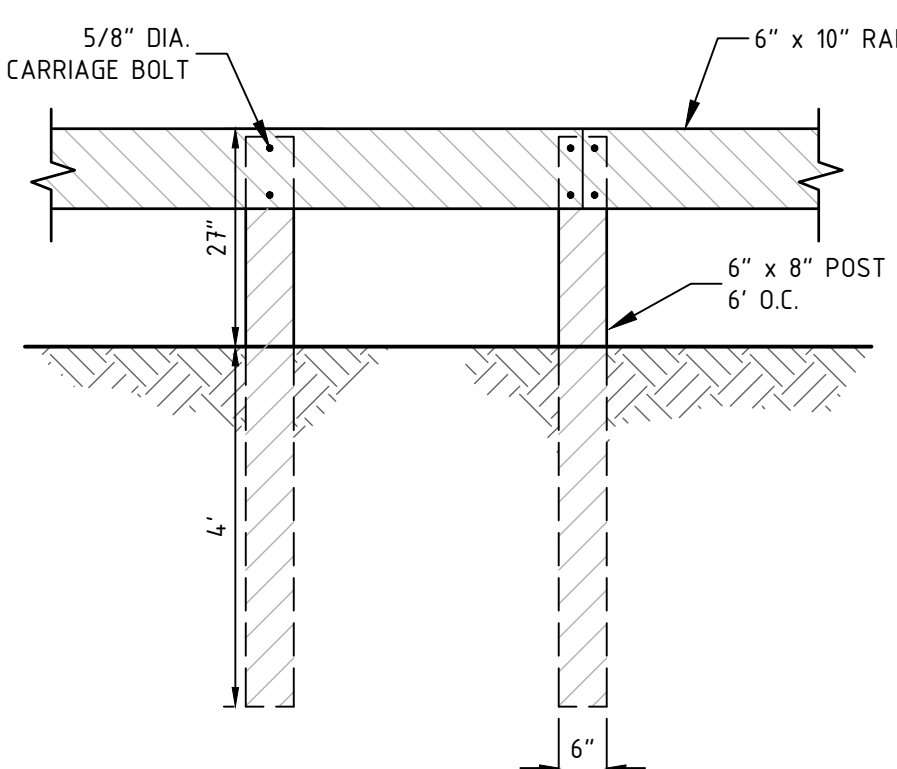
**LEVEL SPREADER DETAIL**  
N.T.S



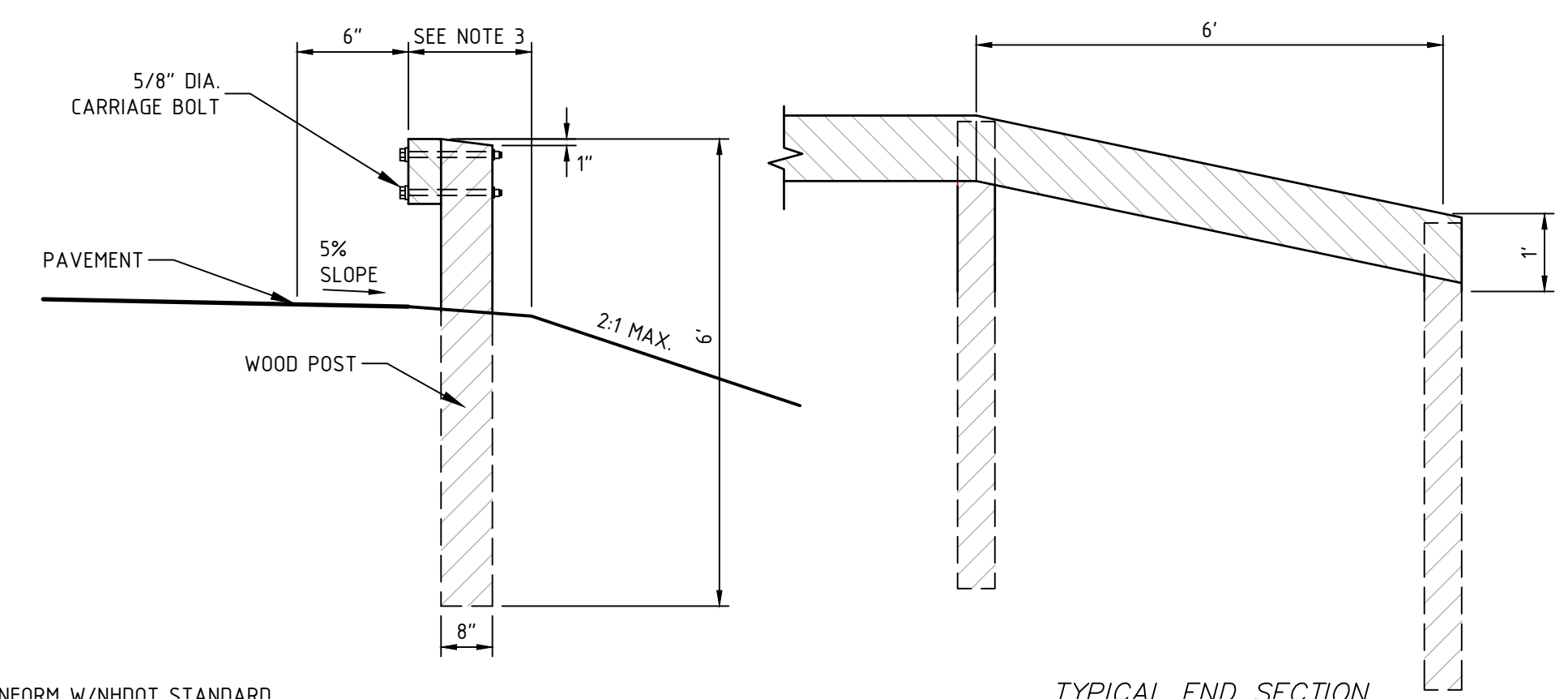
**NYOPLAST DRAIN BASIN DETAILS**  
N.T.S



**PARKING LOT END DETAIL**  
N.T.S



**GUARD RAIL DETAIL**  
N.T.S



**TYPICAL END SECTION**

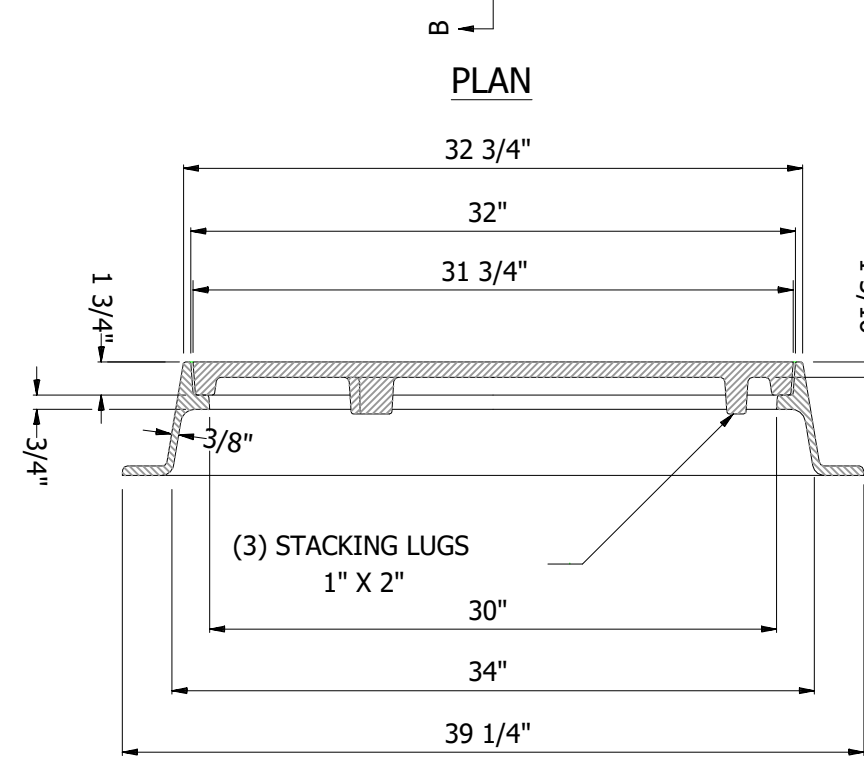
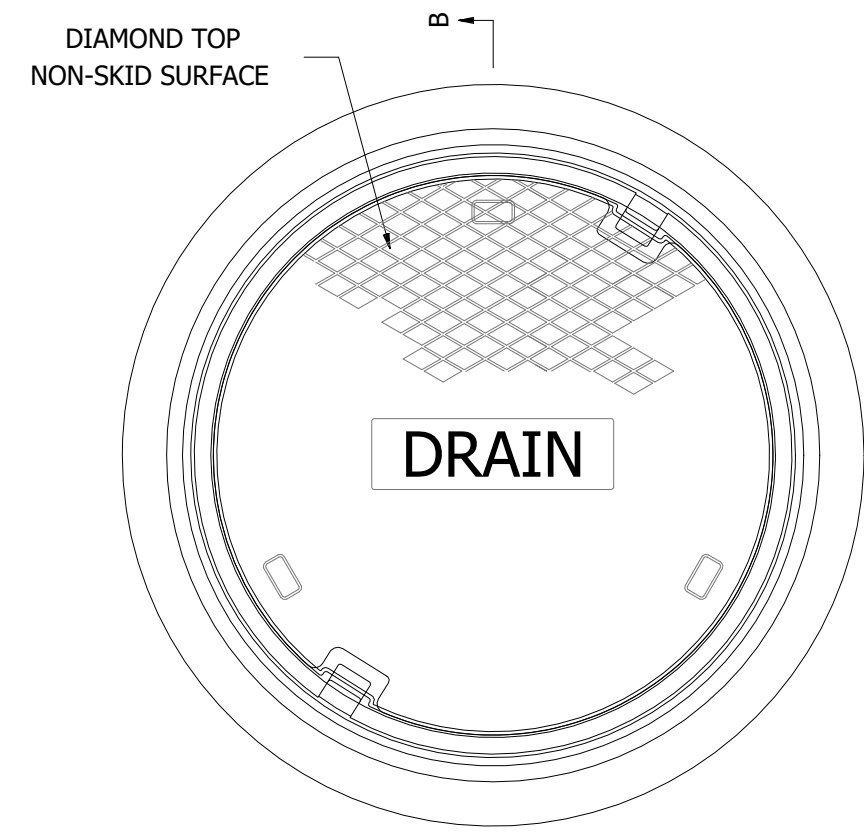
- NOTE:**
- ALL MATERIAL AND INSTALLATION METHODS SHALL CONFORM W/NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 606-GUARDRAIL.
  - REFER TO SHEET C102 FOR LOCATION AND GRADING AROUND GUARD RAIL.
  - FACE OF GUARDRAIL SHOULD BE 6" FROM EDGE OF PAVEMENT, OR 2'-6" FROM SLOPES GREATER THAN 3%.
- REFERENCE:**  
TIMBER BRIDGE DESIGN, CONSTRUCTION, INSPECTION, AND MAINTENANCE PUBLISHED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE.

NO.	DATE	REVISION DESCRIPTION
1.	02/02/22	REVISED SUBMISSION PER TRC COMMENTS
0.	11/30/21	INITIAL SUBMISSION FOR 2 ROW PARKING LAYOUT

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

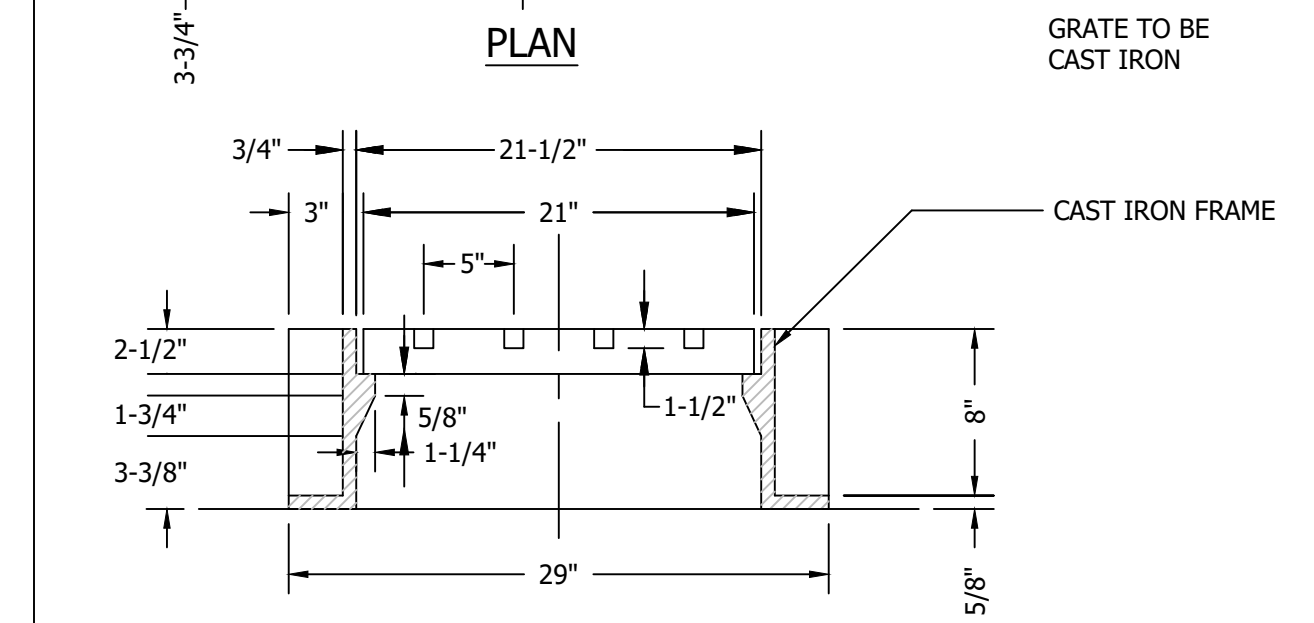
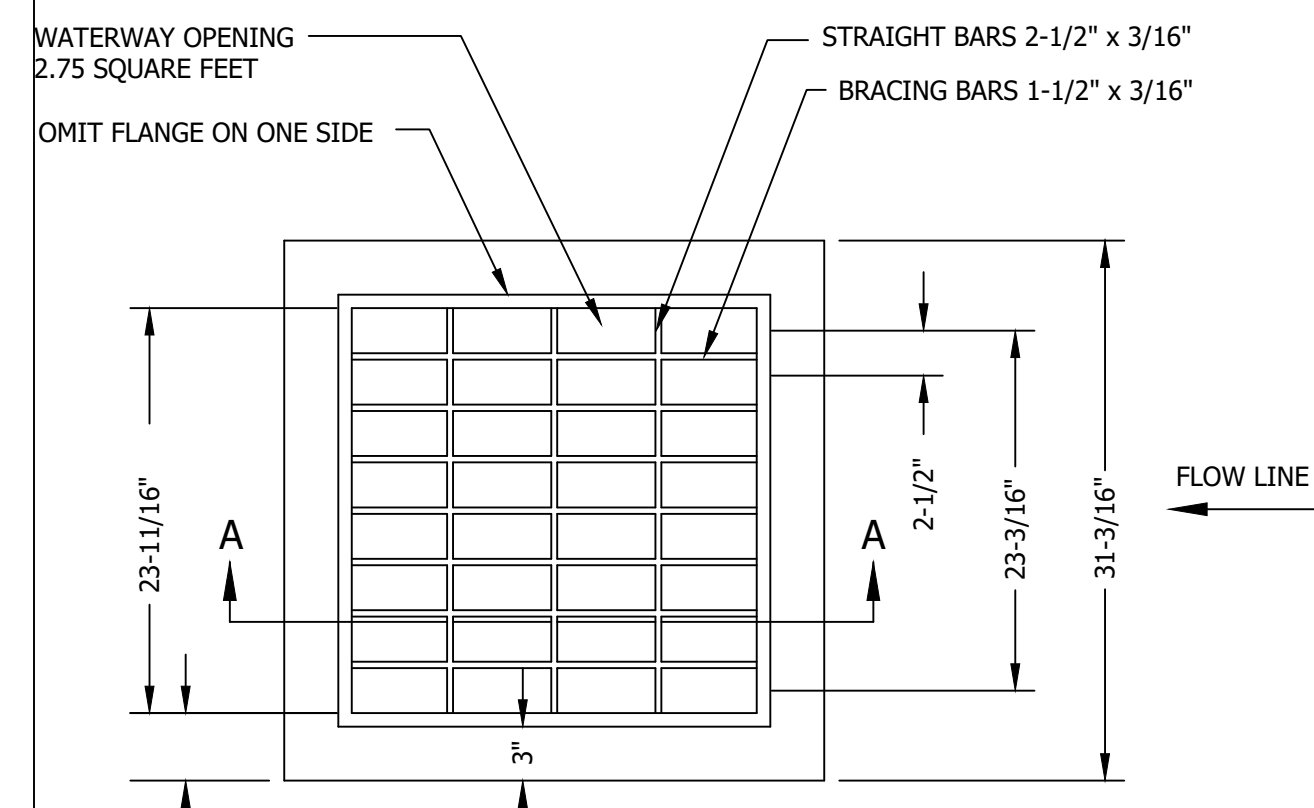
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**CONSTRUCTION DETAILS**  
PREPARED FOR  
TOOMERES, LLC  
TAX MAP 5, LOTS 1-9, 1-10, 1-11, 1-12, 1-13, 1-14, 1-15, 1-16  
19 MAIN ST AND 21 MAIN ST, DURHAM, NH 03824



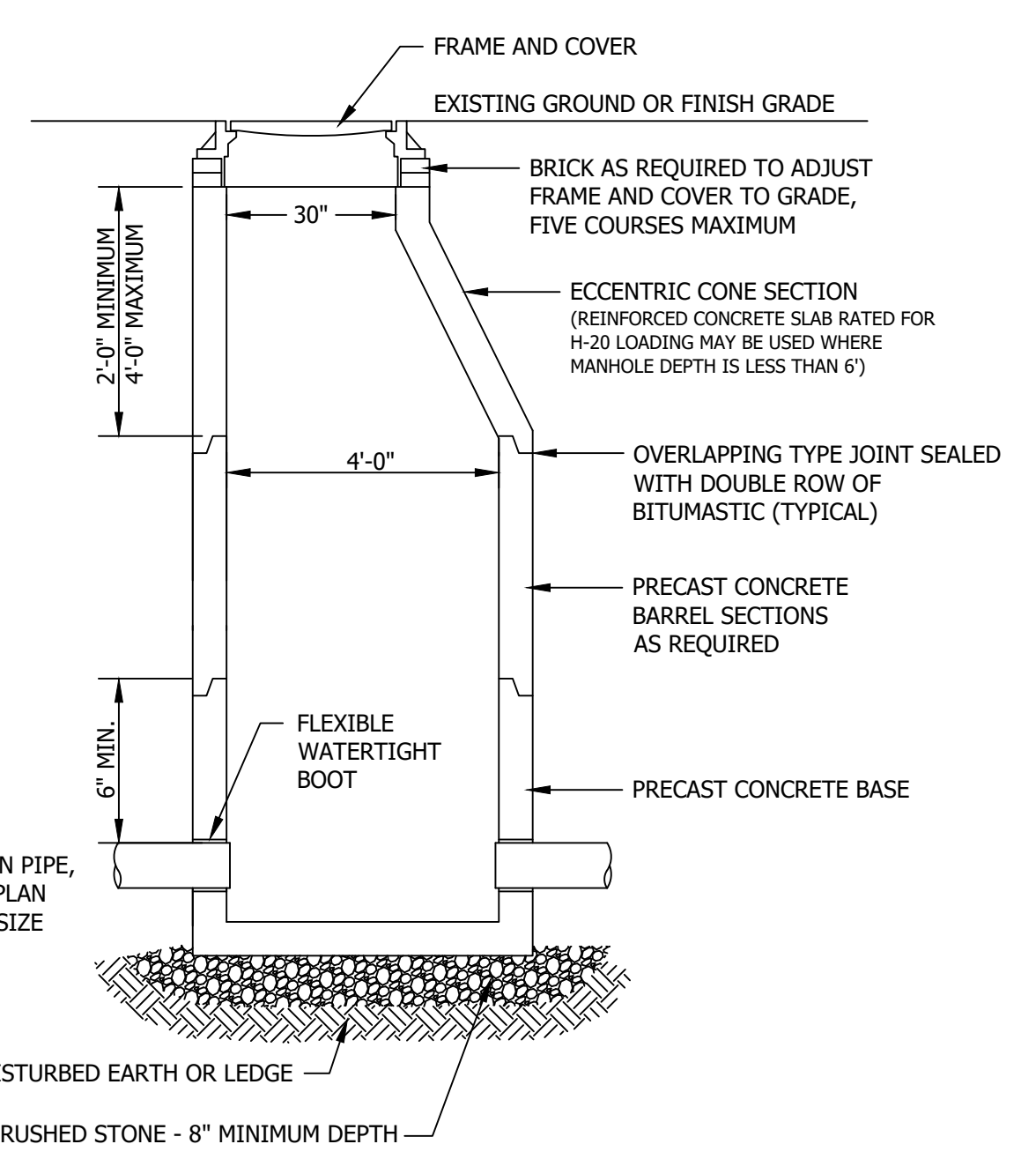
- NOTES**
- ALL DIMENSIONS ARE NOMINAL
  - LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN THE CENTER OF THE COVER

**DRAIN MANHOLE FRAME AND GRATE**  
NOT TO SCALE



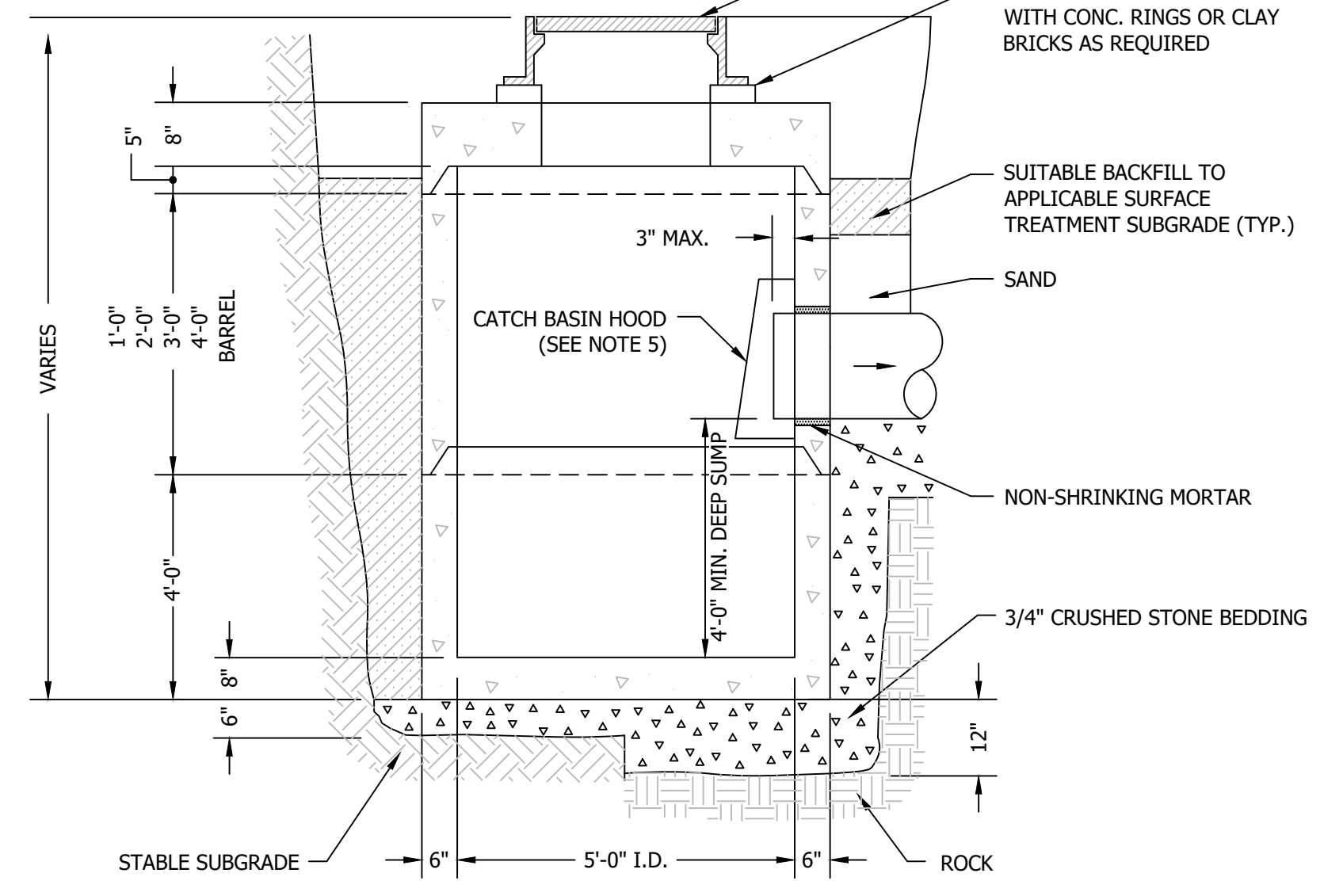
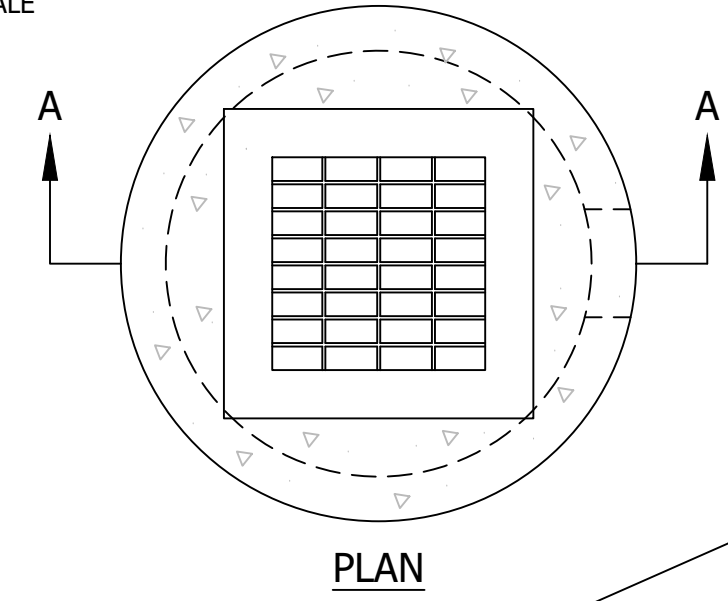
REFERENCE:  
NH DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
PLATE 2 OF STANDARD NO. 3

**NHDOT TYPE "B" GRATE DETAIL**  
NOT TO SCALE



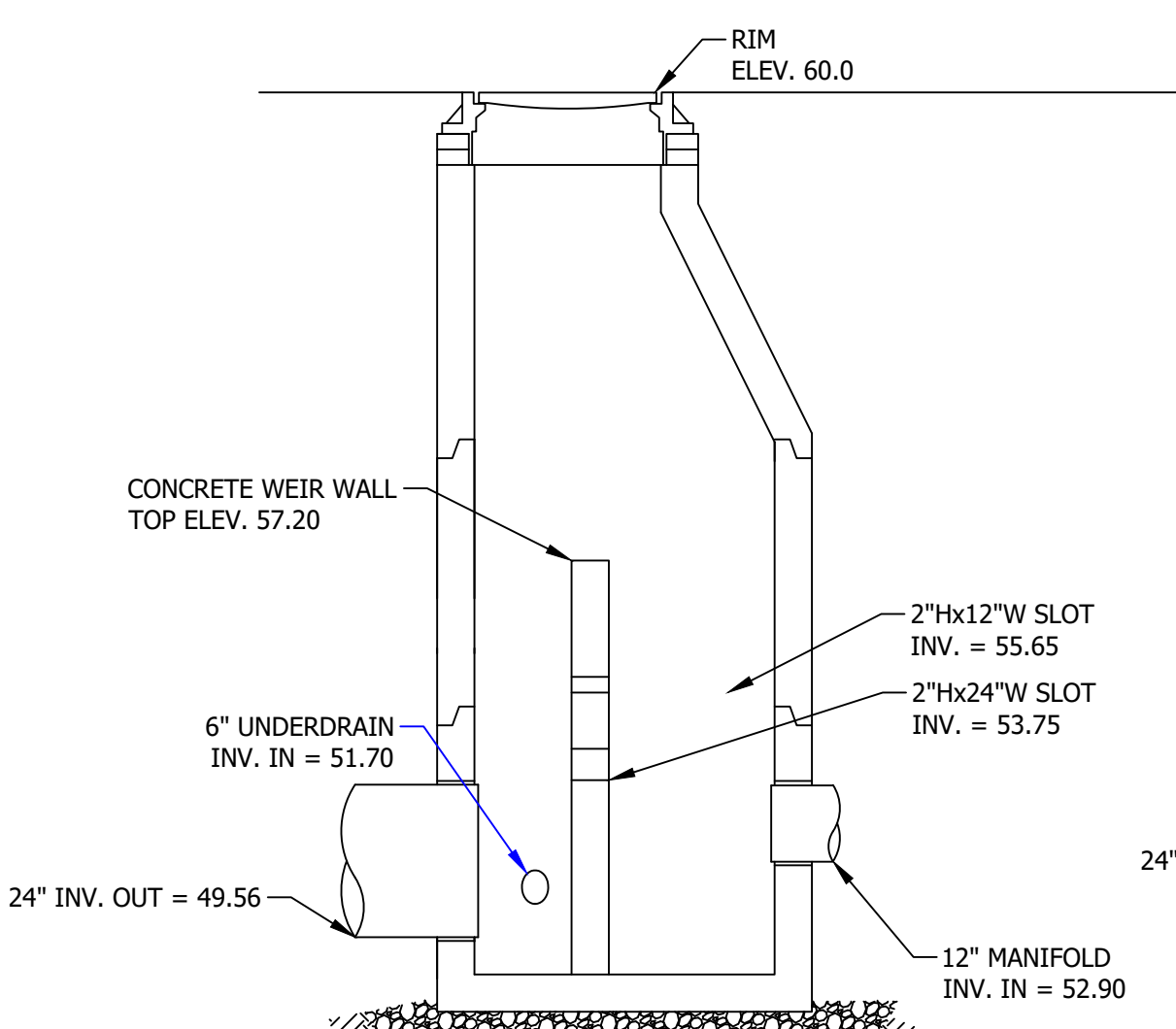
NOTE:  
CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO CONFIRM ADEQUATE DIAMETER AND INVERTS.

**DRAIN MANHOLE DETAIL**  
NOT TO SCALE



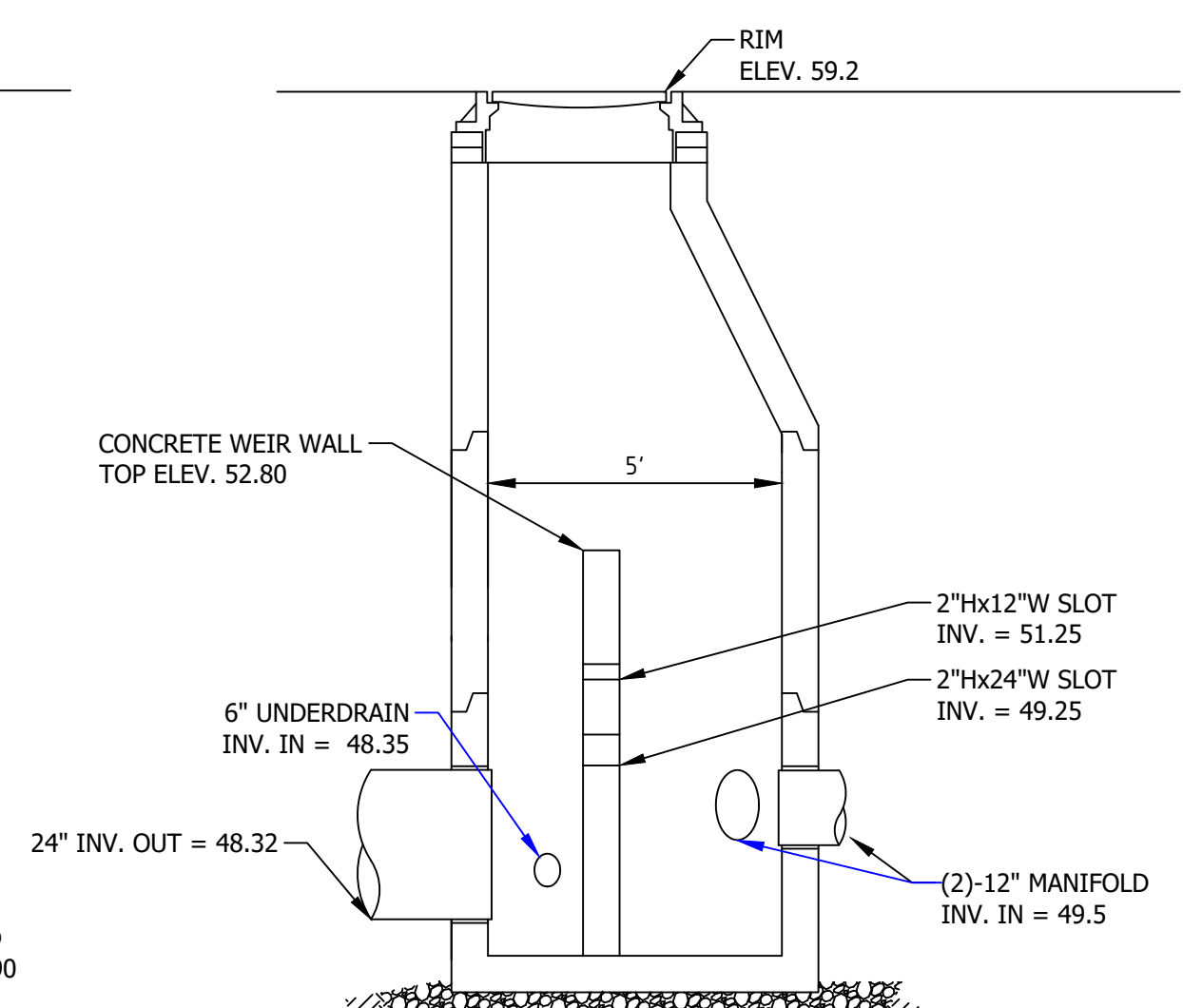
- NOTES:**
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AFTER 28 DAYS.
  - REINFORCING H-20 LOADING 4 x 4/4 x 4 W.W.M.
  - SHIP LAP JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT. AND SHALL BE SEALED WITH 1 STRIP OF 1" DIA. BUTYL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



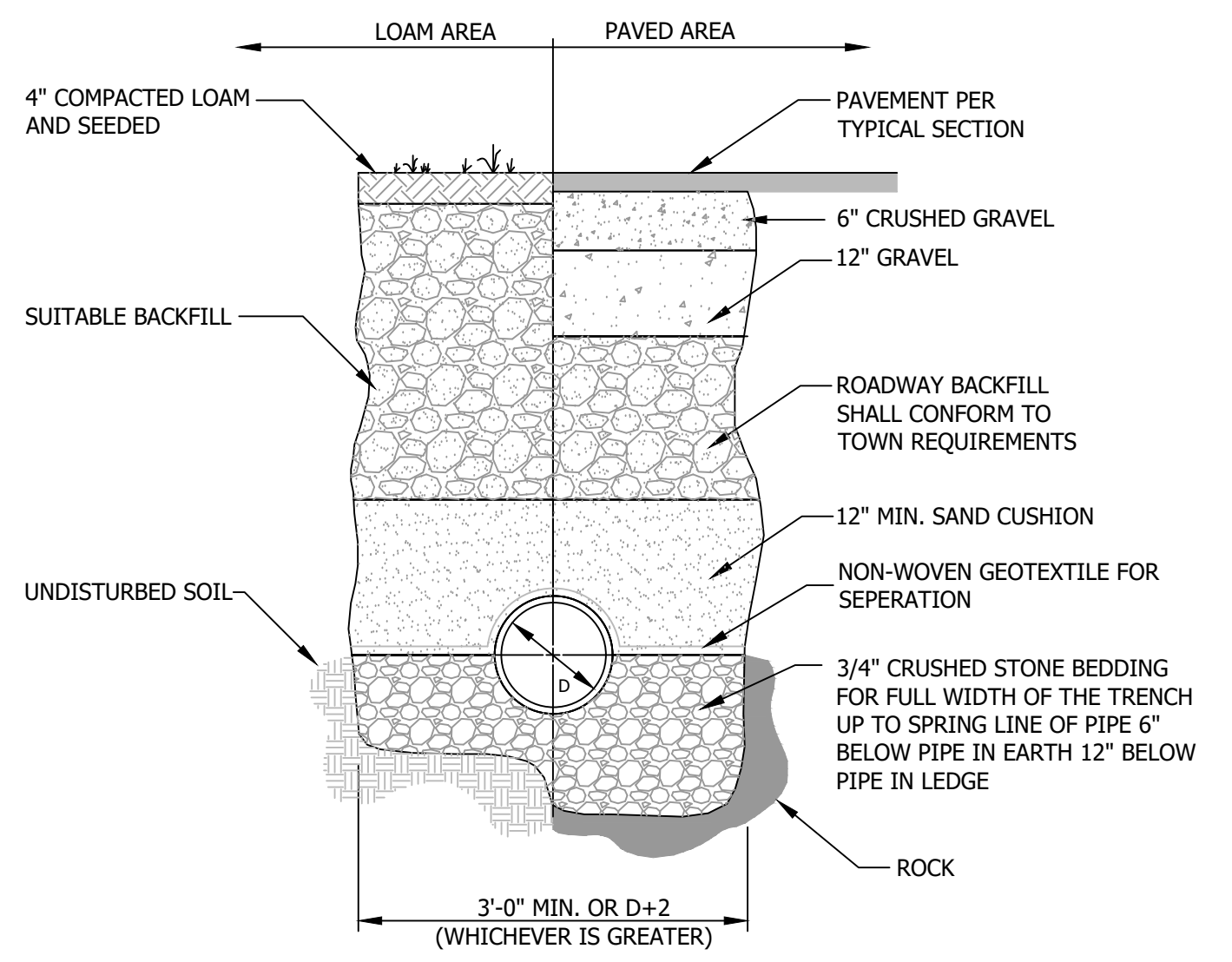
- NOTES:**
- SEE DRAIN MANHOLE DETAIL FOR STANDARD DMH CONSTRUCTION REQUIREMENTS.
  - CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO VERIFY DIAMETER, INVERTS, AND WEIR.

**OCS-100 5' DIA DMH**  
NOT TO SCALE

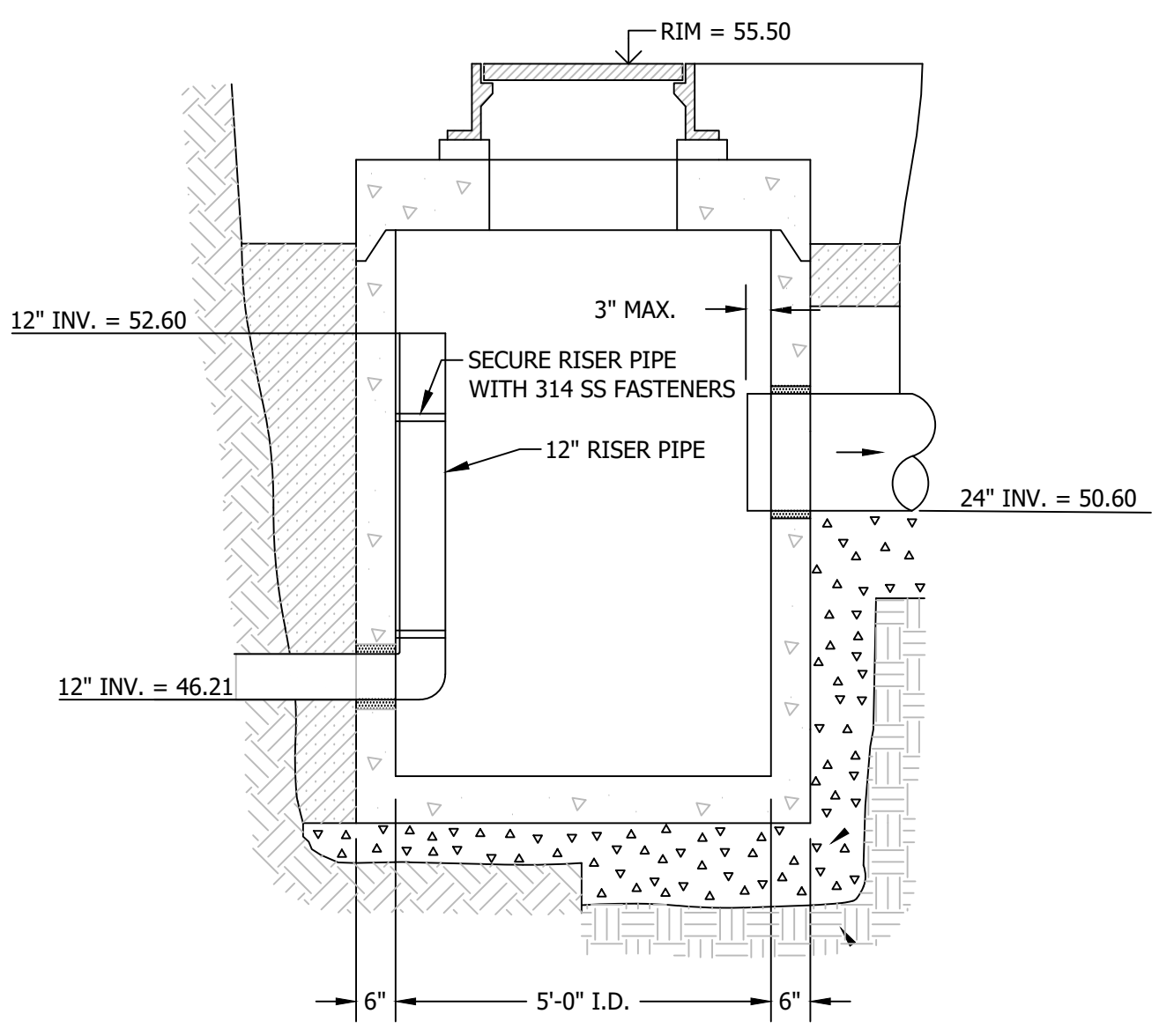


- NOTES:**
- SEE DRAIN MANHOLE DETAIL FOR STANDARD DMH CONSTRUCTION REQUIREMENTS.
  - CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO VERIFY DIAMETER, INVERTS, AND WEIR.

**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 TIRE 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 \_\_\_\_\_

NO.	DATE	REVISION DESCRIPTION
1.	02/11/22	REVISION PER TOWN REVIEW
2.	02/02/22	REVISED SUBMISSION PER TRC COMMENTS
3.	11/30/21	INITIAL SUBMISSION FOR 2 ROW PARKING LAYOUT

PROJECT #:	18-041
DATE:	11/30/2021
SCALE:	AS SHOWN
ENGINEERED BY:	AW5
DRAWN BY:	AW5
CHECKED BY:	MJS

ENG	DWG								

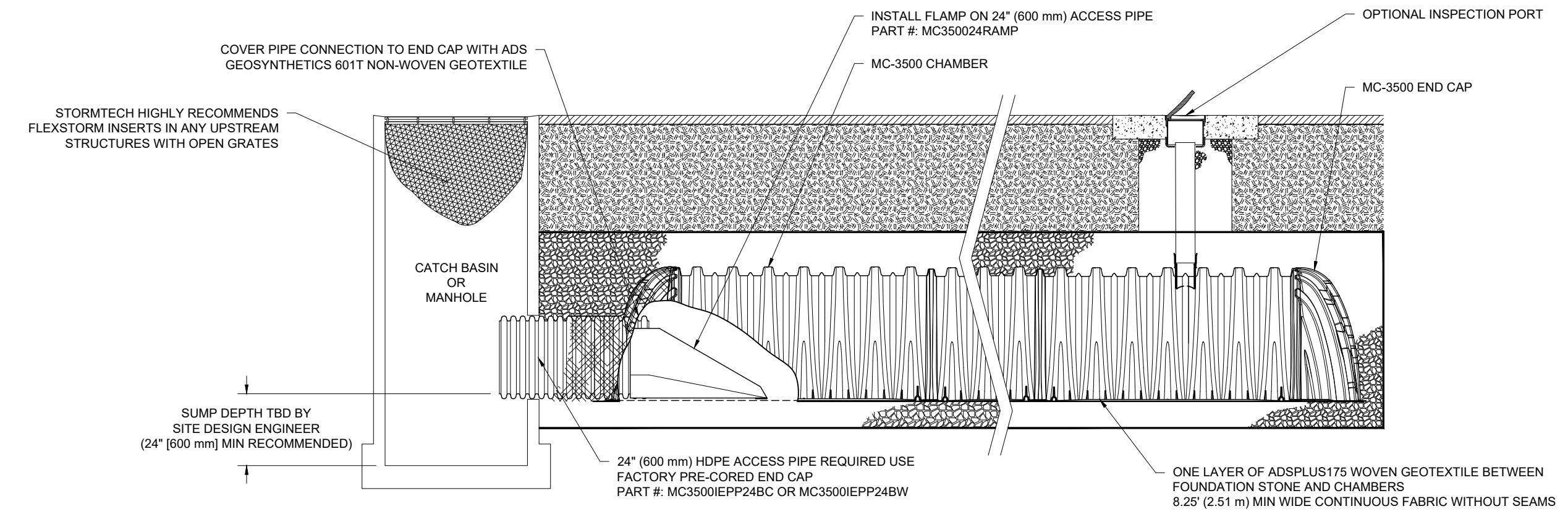
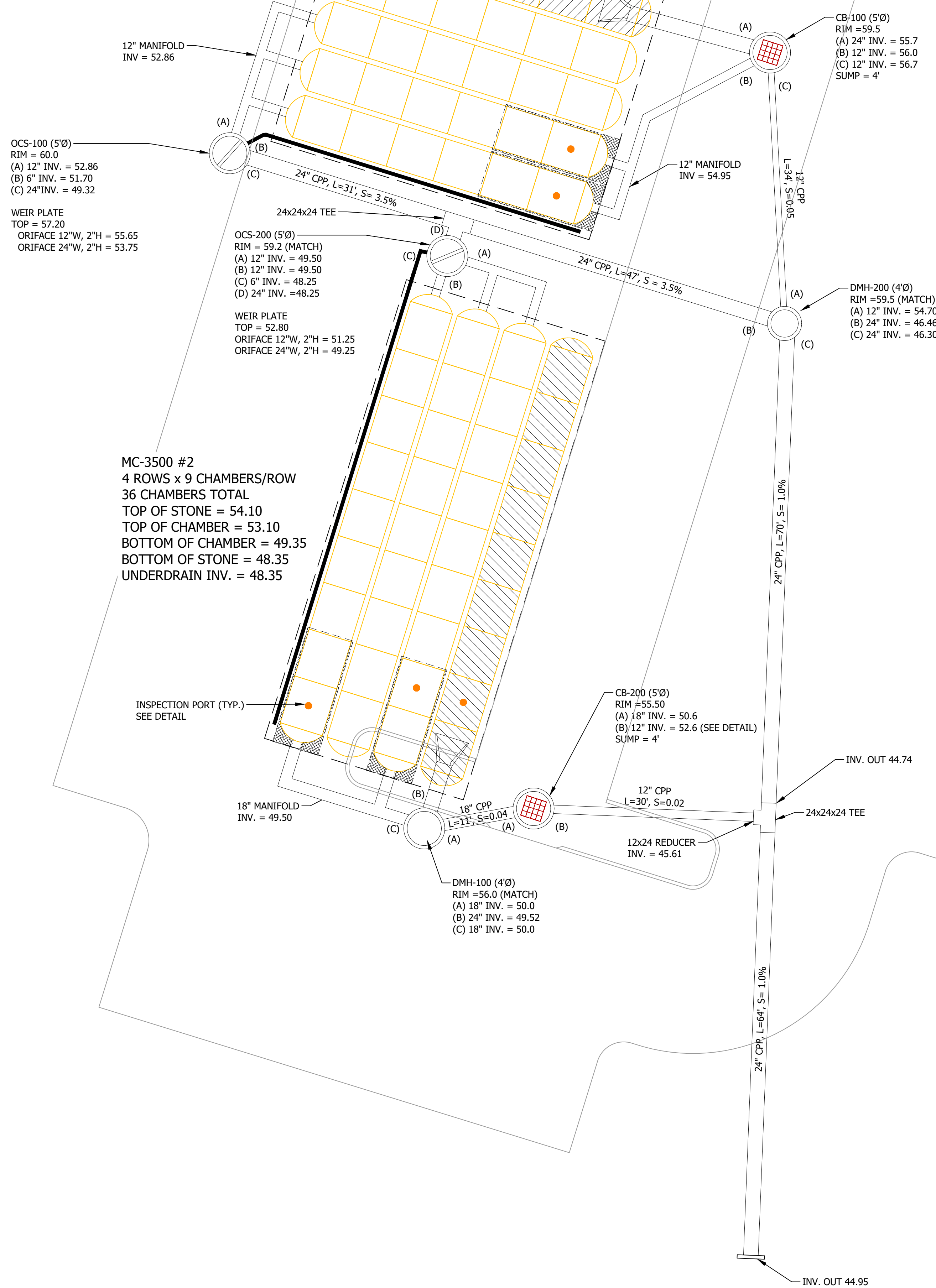
**CONSTRUCTION DETAILS**

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

**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  
UNDERDRAIN INV. = 51.75

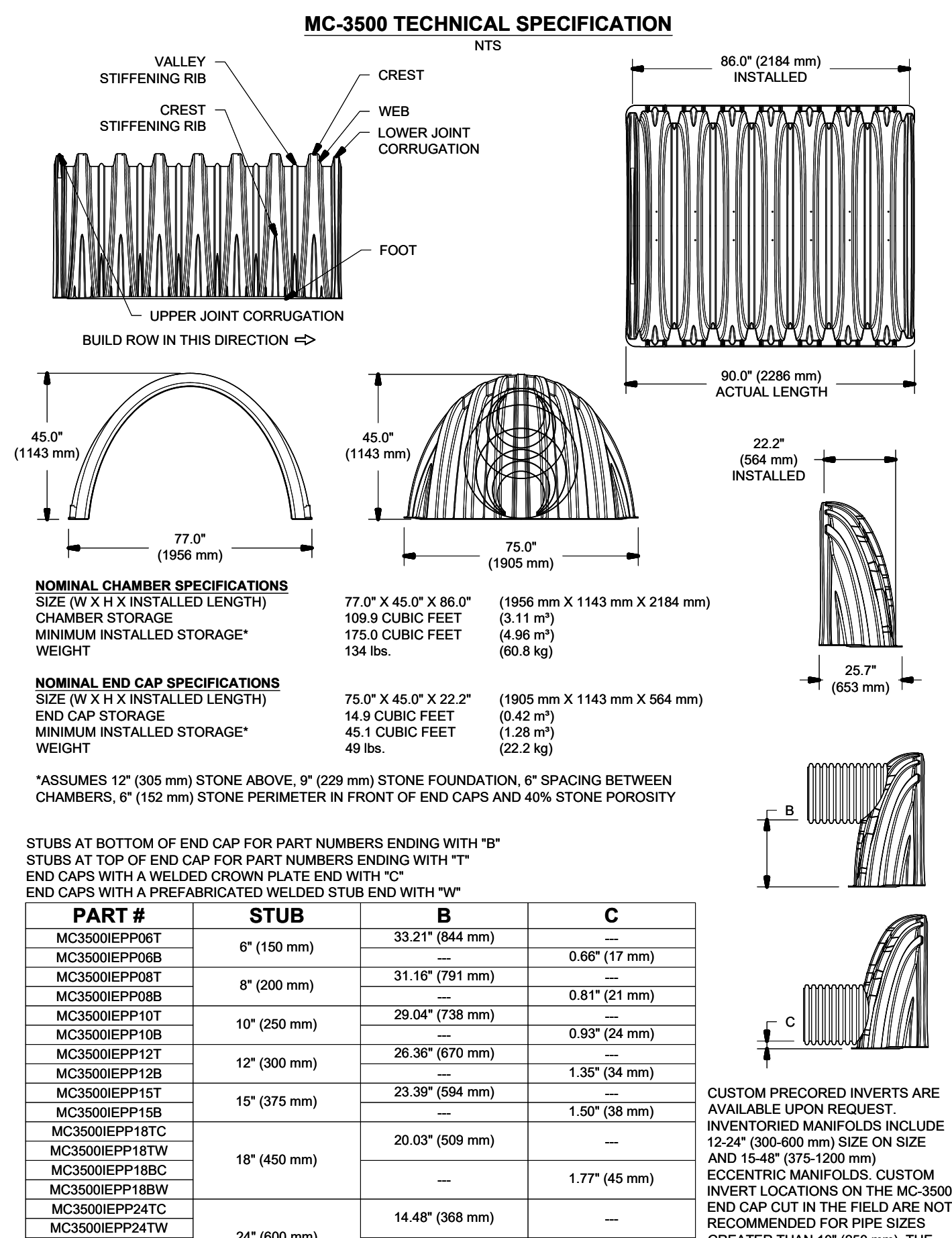
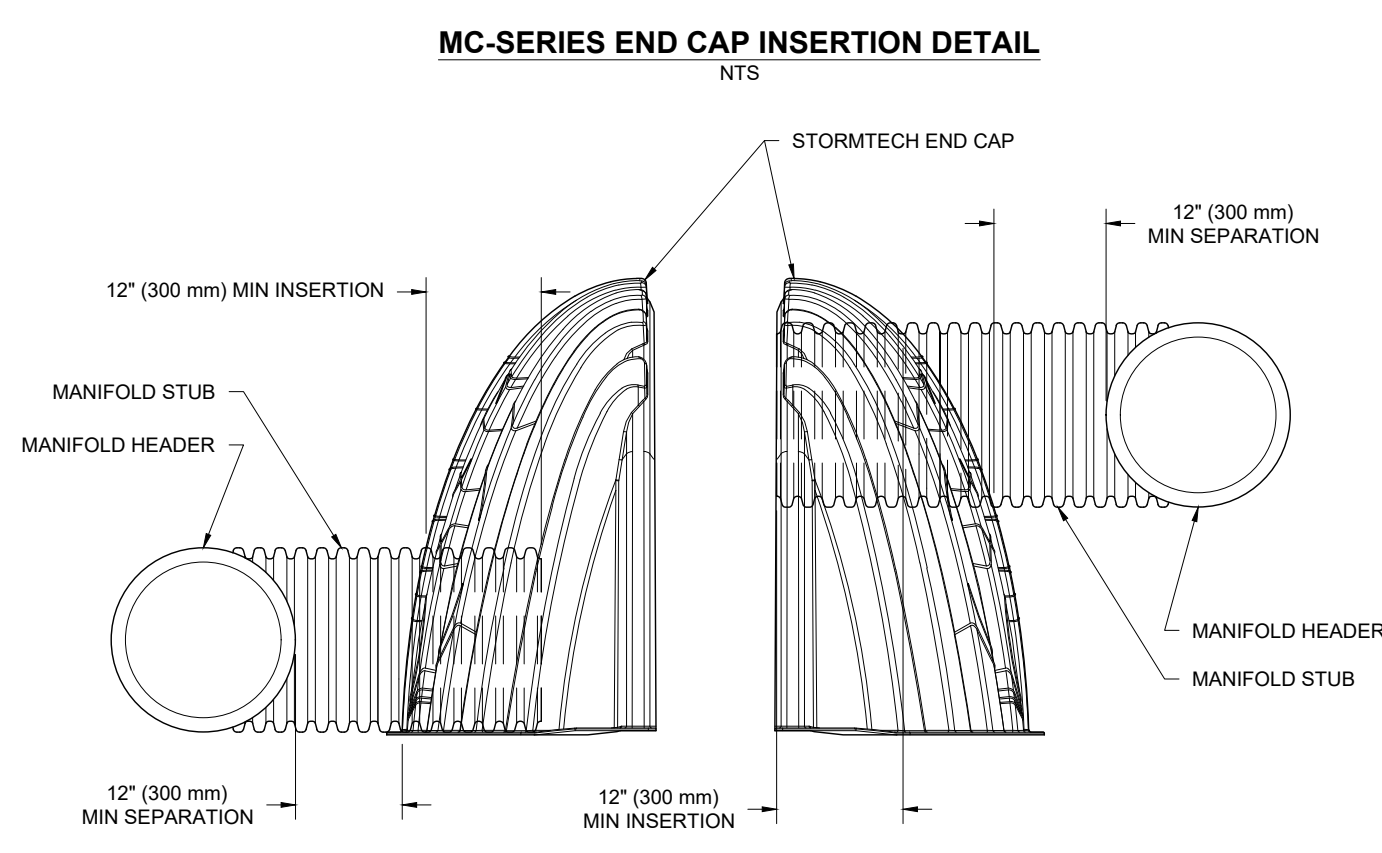
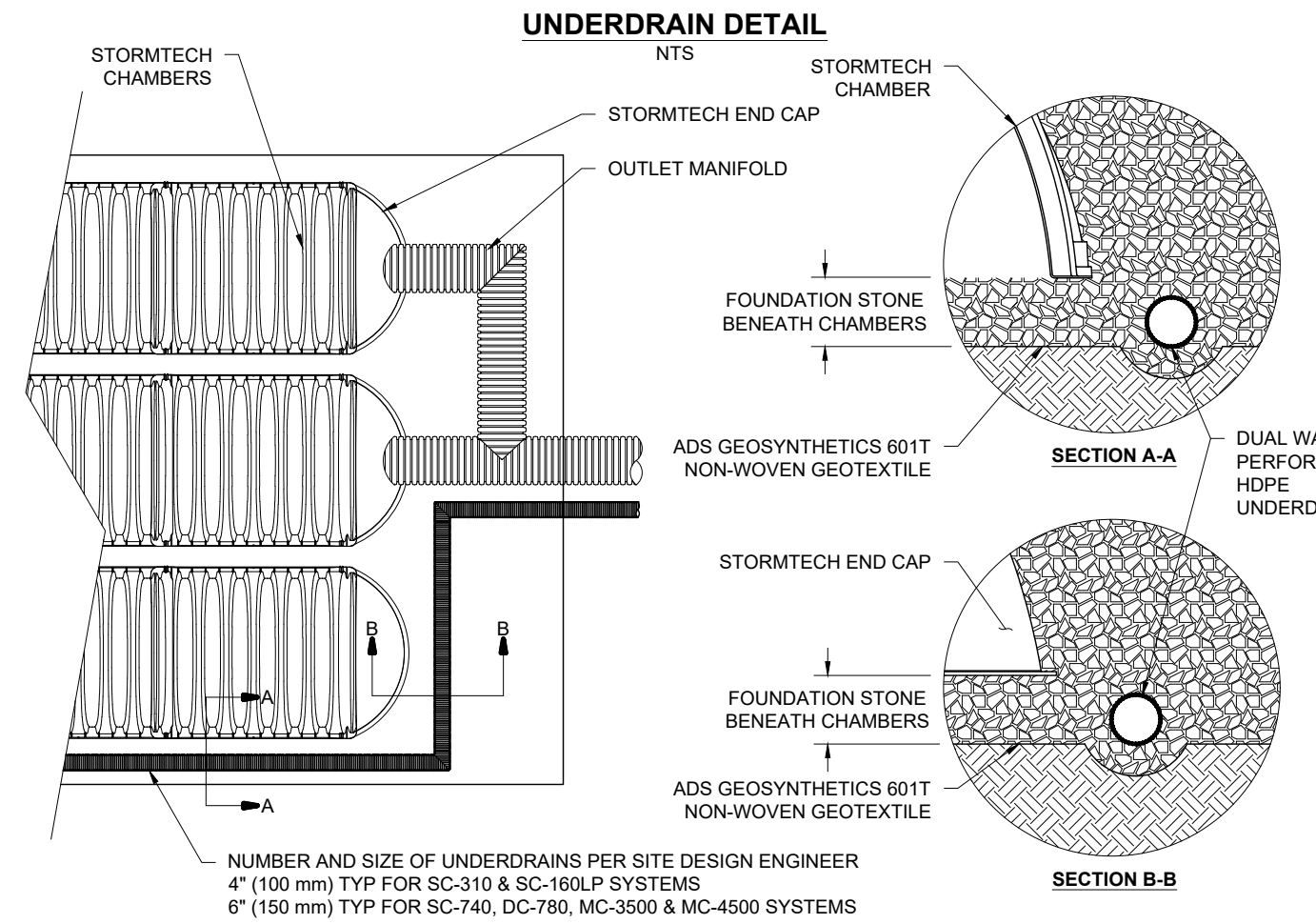
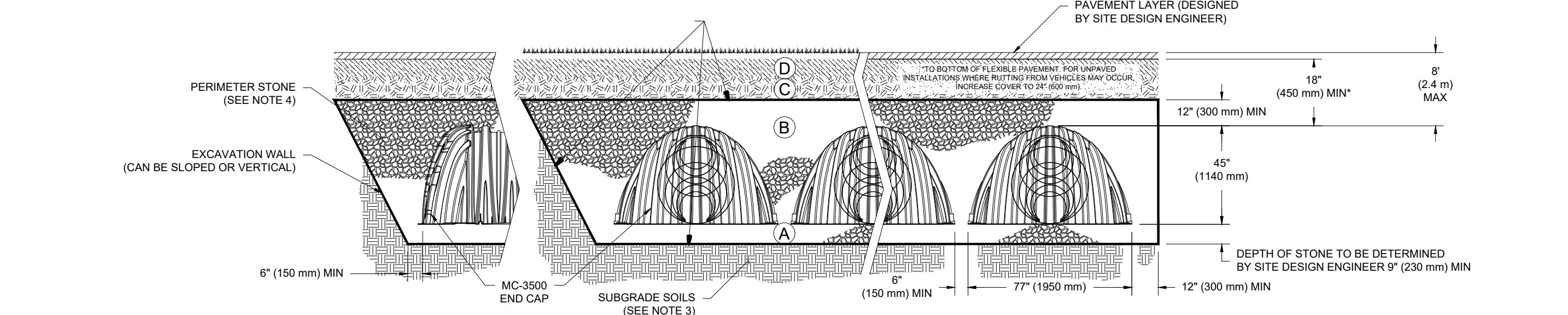
**MC-3500 #2**  
4 ROWS x 9 CHAMBERS/ROW  
36 CHAMBERS TOTAL  
TOP OF STONE = 54.10  
TOP OF CHAMBER = 53.10  
BOTTOM OF CHAMBER = 49.35  
UNDERDRAIN INV. = 48.35



**MC-3500 ISOLATOR ROW PLUS DETAIL**  
NTS

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* 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* 3, 4	
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43* 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>2,3</sup>

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.  
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.



**NOMINAL CHAMBER SPECIFICATIONS**  
SIZE (W X H X INSTALLED LENGTH)  
CHAMBER STORAGE  
MINIMUM INSTALLED STORAGE\*  
WEIGHT

SIZE (W X H X INSTALLED LENGTH)	CHAMBER STORAGE	MINIMUM INSTALLED STORAGE*	WEIGHT
77.0" X 45.0" X 86.0" (1956 mm X 1143 mm X 2184 mm)	109.9 CUBIC FEET (3.11 m³)	175.0 CUBIC FEET (4.96 m³)	134 lbs. (60.8 kg)

**NOMINAL END CAP SPECIFICATIONS**  
SIZE (W X H X INSTALLED LENGTH)  
END CAP STORAGE  
MINIMUM INSTALLED STORAGE\*  
WEIGHT

SIZE (W X H X INSTALLED LENGTH)	END CAP STORAGE	MINIMUM INSTALLED STORAGE*	WEIGHT
75.0" X 45.0" X 22.2" (1905 mm X 1143 mm X 564 mm)	14.9 CUBIC FEET (0.42 m³)	45.1 CUBIC FEET (12.8 m³)	49 lbs. (22.2 kg)

\*ASSUMES 12" (305 mm) STONE ABOVE, 6" (229 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"  
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"  
END CAPS WITH A WELDED CROWN PLATE END WITH "C"  
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B	---	---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B	---	---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B	---	---	1.50" (38 mm)
MC3500IEPP18TC	---	---	---
MC3500IEPP18TW	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18BC	---	---	---
MC3500IEPP18BW	---	---	1.77" (45 mm)
MC3500IEPP24TC	---	---	---
MC3500IEPP24TW	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24BC	---	---	2.06" (52 mm)
MC3500IEPP24BW	---	---	---
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

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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

**C505**

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

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