TOWN OF MILFORD

Office of Community Development

Planning • Zoning • Building Safety • Code Enforcement • Health Economic Development • Active Projects

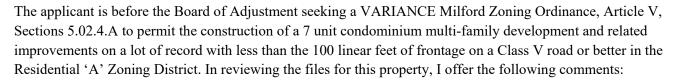
Administrative Review

Date: October 29, 2020

To: Jason Plourde, Chair, Zoning Board of Adjustment From: Lincoln Daley, Community Development Director

Subject: Case #2020-24: San-Ken Homes, Inc., Milford Tax Map 30, Lot 19 – Variance Application.

Continued from October 15, 2020.



- 1. Existing Conditions:
 - a. The subject property is approximately 5.57 acres and is undeveloped.
 - b. No current utilities are on the subject property. Property would be serviced by town municipal sewer and water.
 - c. The property contains approximately 30 linear of frontage on Wheeler Street (a Class V roadway).
 - d. The property is situated in an established residential neighborhood and abuts the Souhegan River to the North.
- 2. The applicant is seeking to build 7 unit, multi-family residential development, shared driveway access, and associated site improvements on the southern portion of the 5.57 acre parcel that contains less than the 100 linear feet of legal frontage on a Class V roadway or better in the Residential 'A' Zoning District. A concurrent Variance application (Case #2020-25) has been filed seeking relief to allow a multi-family development in a Residential 'A' Zoning District.
- 3. Access to the property would be through the 30 linear feet of frontage on Wheeler Street (a Class V roadway).
- 4. Said driveway access would require a driveway permit from the Public Works Department and shall meet the driveway standards and regulations. The driveway and development would be subject to a Milford Stormwater Permit.
- 5. The premises conforms to all site and dimension requirements of the Zoning Ordinance with the exception that the subject property does not contain the required 100 linear feet of frontage on a Class V or better required under Section 5.04.4.A. However, due to the lack of sufficient frontage defined as: "That continuous portion of a lot bordering on a road(s) from which access can be taken, that meets the minimum requirements of the underlying zoning district.", a Variance is required.



- 6. In addition, should the Board of Adjustment grant the Variance Request, the applicant will be required to follow two additional steps in compliance with NH RSA 674:41 prior to the property owner being able to obtain a building permit.
 - a. Review and comment by the Planning Board provided to the local governing body (Board of Selectmen) on the matter of issuance of building permit for the subject lot, and,
 - b. The Board of Selectmen votes to authorize the issuance of a building permit.

Aerial Photo(s) of Subject Property:





Street Photo(s) of Subject Property:

View Looking East At 30' Wide Access To Subject Property

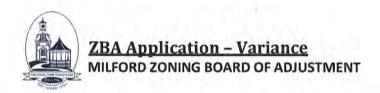


View Looking North On Wheeler Street To Subject Property



View Looking East on Farley Street To Subject Property





	PROPERTY INFORMATION	Case Number: 2020-
Street	Address: Wheeler Road	Application #: 202011 23. Date Complete:
	ap / Parcel #: Map 30, Lot 9	Hearing Date: 89-17-20
from t from t sure y	ance is a use which is not permitted by the Zoning Ordinance. Approval the Zoning Board of Adjustment is required to allow any use or deviation the Zoning Ordinance. Please work with the Zoning Administrator to make our application is complete and you know what will be required of you at aring.	Decision Date:
	section of the Zoning Ordinance are you asking to be varied? Section 5.02.4. A.	- C
	be the variance you are requesting under the above section of the	TOWN OF MILFORD RECEIVED
	struct 7 Condo Units in 2 buildings on a lot of land with 30 feet of frontage.	AUG 2 0 2020
		PB ZBA Office
	General Criteria Section 10.01	
Explai	n how the proposal meets the following conditions per New Hampshire RSA	A 674:33.I
1.	Granting the Variance would not be contrary to the public interest because: See Attached	
2.	If the Variance were granted, the spirit of the ordinance would be observed because See Attached	ise:
2.	그는 얼마 없는 그런 맛이 있는데 그렇게 되었다면 하는데	ise:
	See Attached	ise:
	See Attached Granting the Variance would do substantial justice because:	

determine what is unique to your property and not generally applicable to other properties in the area or in town.

Date Received:

A. Owing to special conditions of the property that distinguish it from other properties in the area; denial of the Variance would result in unnecessary hardship because:
i. No fair and substantial relationship exists between the general public purposes of the ordinance provision and the specific application of that provision to the property because :
See Attached
AND
ii. The proposed use is a reasonable one because:
See Attached
(B) Explain how, if the criteria in paragraph (A) are not established, an unnecessary hardship will be deemed to exist if, and only if, owing to special conditions of the property that distinguish it from other properties in the area, the property cannot be reasonably used in strict conformance with the Ordinance, and a Variance is therefore necessary to enable a reasonable use of it:
See Attached
(C) Not withstanding paragraph (B) above, a Variance may be granted without finding a hardship arising from the terms of the Zoning Ordinance when reasonable accommodations are necessary to allow a person or persons with a recognized physical disability to reside in or regularly use the premises, provided that:
N/A
 The Variance requested under this paragraph shall be in harmony with the general purpose and intent of the Zoning Ordinance because:
N/A
In addition, Variances may have extra criteria that must be met. This includes, but is not limited to: 6.03.5 Floodplain Management: The criteria for evaluation is listed in 6.03.5:B General Conditions and the applicable conditions are listed in 6.03.5:C. If your project is covered by this regulation, include your answers to the required criteria as specified in the referenced Section of the Milford Zoning Ordinance as an attachment under Section 3 C. of this application.
ATTACHMENTS – additional information may be needed to help the Zoning Board of Adjustment fully understand your petition. A. A plan of the property and all buildings, drawn to scale, is required. B. A Building Permit Application as needed (to be determined by the building official.) C. Additional explanations, justification, abutters' statements, letters, etc.



Please read the following information that is designed to help you understand the unique nature of a Variance petition.

Town of Milford Zoning Ordinance can be found at: http://planning.milfordnh.info/DOCUMENTS/ZONING%20ORDINANCE%20MASTER%20(2011).pdf NH RSAs, Chapters 672-677 can be found at: http://www.gencourt.state.nh.us/rsa/html/NHTOC/NHTOC-LXIV.htm

VARIANCE: A variance is an authorization, which may be granted under special circumstances, to use your property in a way that is not permitted under the strict terms of the zoning ordinance. If you are applying for a variance, you must first have some form of determination that your proposed use is not permitted without a variance. Most often, this determination is a denial of a building permit. A copy of the determination must be attached to your application.

For a variance to be legally granted, you must show that your proposed use meets all five (5) of the following conditions:

a. Granting the Variance would not be contrary to the public interest.

A variance would be considered contrary to the public interest if it unduly and to a marked degree violated the basic zoning objectives of the Zoning Ordinance. Will the variance alter the essential character of the neighborhood or threaten the health, safety, or general welfare of the public?

Granting the Variance would observe the spirit of the ordinance.

This requires that the effect of the variance be evaluated in light of the goals of the zoning ordinance.

- c. Substantial justice would be done by granting the Variance.

 Substantial justice is done when any loss to the individual is not outweighed by a gain to the general public.
- d. Granting the Variance would not diminish the value of surrounding property.

 The applicant, to convince the Zoning Board must explain that granting the variance will not decrease the value of surrounding property.
 - e. Denial of the Variance would result in an unnecessary hardship.

The first requirement is that there are special conditions or characteristics applying to the property (such as, but not limited to, exceptional narrowness, shallowness, or shape of the property, or exceptional topographical conditions), that distinguish it from other properties in the area. Because of these special conditions, no fair and substantial relationship exists between the general public purposes of the ordinance provision and the specific application of that provision to the property. And finally, the proposed use must be a reasonable one. You must explain what makes the property unique and why a "hardship" would be created if the terms of the ordinance were strictly applied.

In lieu of a claim of unnecessary hardship, the Variance may be granted when reasonable accommodations are necessary to allow a person or persons with a recognized physical disability to reside in or regularly use the premises, provided that any Variance sought shall be in harmony with the general purpose and intent of the zoning ordinance and the Variance shall survive only so long as the particular person or persons have a continuing need to use the premises. To meet this criterion, explain the accommodations that are necessary and identify the person or persons and provide evidence of their disability.

TOWN OF MILFORD ZONING BOARD OF ADJUSTMENT

APPLICATION FOR VARIANCE

Applicant/Owner: San-Ken Homes, Inc

Property: Tax Map 30, Lot 9

Relief Requested:

The above-referenced Applicant respectfully requests a variance from Article V (Zoning Districts and Regulations), Section 02 (Residence "A" District), and Subsection 4 (Lot Sizes and Frontages) of the Zoning Ordinance of the Town of Milford ("Ordinance") governing frontage requirements on a class V or better road.

More specifically, the Applicant requests a variance from the Ordinance's requirement of one hundred (100) feet of frontage on a Class V or better road to permit the construction of 7 Condominium Units within 2 buildings on a lot of record with 30.22 feet of frontage.

RSA 674:33 (I)(b)'s Variance Criteria

- Granting the variance will not be contrary to the public interest. (RSA 674:33 (I)(b)(1))
 And
- 2. The spirit of the ordinance is observed.

(RSA 674.33(I)(b)(2))

THE VARIANCE WILL NOT BE CONTRARY TO THE PUBLIC INTEREST AND WILL BE CONSISTENT WITH THE SPIRIT OF THE ORDINANCE.

The requirement that the variance not be contrary to the public interest is related to the requirement that it be consistent with the spirit of the ordinance and the two have for years been treated together by the State Supreme Court. See Malachy Glen Associates, Inc v. Town of Chichester, 155 NH 102 (2007). Because the provisions of a zoning ordinance represent a declaration of public interest, any variance would be contrary thereto to some degree. Consequently, the Supreme Court has instructed that to determine whether a requested variance is not contrary to the public interest and is consistent with the spirit of the Ordinance, the Zoning Board of Adjustment must determine whether granting the variance "would unduly and to a marked degree conflict with the ordinance such that it violates the ordinances basic zoning objectives'.

The Court has recognized tow test for determining whether granting a variance would violate an Ordinance's basic zoning objectives. One is to determine whether the variance would "alter the essential character of the neighborhood." The second is to determine whether granting the variance would "threaten the public health, safety or welfare."

Granting the variance will not alter the essential character of the neighborhood.

The Property is more than 5 acres of land in a zoning district that set a 15,000 square foot minimum. Many lots in the immediate area have acreages under the 15,000 square foot minimum and frontages under 100 feet.

The circumstances where a lot is served by driveway on frontage that is less than 100 feet is not uncommon in the Town's "Residence A District".

Nor would granting the variance threaten the public health, safety, or welfare. The residences would be constructed in accord with all applicable building codes and will be served by municipal water and sewer. The residences will have no significant impact on traffic considerations in the neighborhood.

3. Granting the variance would do substantial justice. (RSA 674.33(I)(b)(3))

As stated previously, the Property is situated in the Residential A District. This property is oversized for the neighborhood. In its current configuration, the Property will support multiple configurations but for the lack of frontage. Denying the Variance would deprive the Applicant any reasonable use of the property. That is a loss to the Applicant that is not outweighed by any reasonable gain to the public.

4. The values of the surrounding properties will not be diminished. (RSA 674.33(I)(b)(4))

Granting the variance will allow for construction to take place on the Property. The neighborhood is characterized by residential uses of various types and value. The access to the Property from Wheeler St will be via the Properties own 30 ft frontage and will not diminish the value of surrounding properties.

- 5. Unnecessary Hardship (RSA 674:33(I)(b)(5))
- A. Owning to special conditions of the property that distinguish it from other properties in the area, denial of the variance would result in unnecessary hardship because:
 - i. No fair and substantial relationship exists between the general public purposes of the ordinance provision and the specific application of the provision to the property because:

The Applicant's Property is unlike other property in the area in that it is a separate and distinct lot that has been in existence since prior to 1936. This Property has always been accessed via the 30 ft frontage which appears to date back to the creation of the Property. The Property lacks frontage, but has a legal access. The existence of the Property as a separate lot with the 30 ft of frontage pre-date the adoption of zoning in Milford.

The general purpose of the frontage requirement for lots in the Residential A District is to prevent the proliferation of back lots and other lots without frontage thereby leading an increase in curb cuts and driveways which could cause safety concerns. Granting the variance will not interfere with the general purpose of the ordinance because the Property is the only back lot lacking frontage in the area.

ii. The proposed use is reasonable because:

The proposed use of the Property is reasonable because the Property is a Lot of Record and pre-dates zoning. According to Article II (General Provisions), Section 1 (Lot of Record), a lot of record is defined as the following:

Lot of record shall be considered to meet the minimum lot size and frontage requirements of the Ordinance if it was in existence prior to the adoption of the Zoning Ordinance (3/11/69) as long as the lot of record has fifteen (15) feet of frontage on a Class V or better road.

B. Explain how if the criteria in subparagraph (A) are not established, an unnecessary hardship will be deemed to exist if, and only if, owing to special conditions of the property that distinguish it from other properties in the area, the property cannot be reasonably used in strict conformance with the ordinance, and a variance is therefore necessary to enable a reasonable use of it.

The description of the Property set forth in Section 5.A.(i) above, and elsewhere in this Application is incorporated by reference to establish the special conditions of the Property. Article V, Section 2.4 A & B sets forth the permitted frontage requirements in the Residential A District. None of which are practical or even possible. The requirement that a lot have 100 feet of frontage is applicable to all uses in the District. Without the variance, the Applicant will not have reasonable use of the Property.

NOTES

1. OWNER OF RECORD:

TAX MAP 30 LOT 19 SAN-KEN HOMES, INC. 586 TURNPIKE ROAD NEW IPSWICH, NH 03071 BK: 9251 PG: 750

- 2. THE INTENT OF THIS PLAN IS TO SHOW THE BOUNDARY OF THE SUBJECT PARCEL AND THE IMPROVEMENTS THEREON.
- 3. THE SUBJECT AND ABUTTING PARCELS ARE ZONED "RESIDENCE A". DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS:

MINIMUM LOT SIZE = 15,000 SQ FT (WITH MUNICIPAL WATER & SEWER) MINIMUM FRONTAGE = 100' (WITH MUNICIPAL WATER & SEWER) MINIMUM BUILDING SETBACKS;

FRONT = 30'SIDE = 15'REAR = 15'

4. DENSITY CALCULATIONS;

LOT SIZE - (WETLAND & SLOPES >25%) / 15,000 X FACTOR = MAX UNITS FACTOR = 0.6 (31.7% OF LOT IS WET/STEEP) $((259,800 - 82,437) / 15,000) \times 0.6 = 7.09 = 7 \text{ MAX UNITS}.$

- 5. THIS PLAN REPRESENTS EXISTING CONDITIONS, BOUNDARY EVIDENCE, AND MONUMENTATION AS OBSERVED DURING A SURVEY BY THIS OFFICE IN MAY 2020. BOUNDARY INFORMATION SHOWN HEREON IS BASED ON THE REFERENCE PLANS.
- 6. THE SUBJECT PROPERTY IS LOCATED PARTIALLY WITHIN THE 1% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR HILLSBOROUGH COUNTY, NEW HAMPSHIRE. MAP NUMBER 33011C0459D. EFFECTIVE DATE SEPTEMBER 25, 2009.
- 7. ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. THIS OFFICE HAS NOT LOCATED ANY UNDERGROUND UTILITIES. ALWAYS CALL DIG SAFE TO MARK OUT UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
- 8. PORTIONS OF THE PROPERTY ARE SUBJECT TO THE PROVISIONS OF THE SHORELAND WATER QUALITY PROTECTION ACT, NHRSA 483-B.
- 9. TOPOGRAPHIC DATA SHOWN HEREON SOUTH OF THE WETLANDS IS BASED ON A SURVEY BY THIS OFFICE. TOPOGRAPHY ON THE REMAINDER OF THE LOT WAS TAKEN FROM NOAA LIDAR. VERTICAL DATUM IS NAVD '88.
- 10. PROPERTY IS SUBJECT TO A SEWER EASEMENT TO BENEFIT THE TOWN OF MILFORD AS RECORDED IN BOOK 2691 PAGE 355 AND SHOWN ON REFERENCE PLAN 3.
- 11. PROPERTY IS SUBJECT TO AN EASEMENT FOR DITCH MAINTENANCE RECORDED IN BOOK 3026 PAGE 770.
- 12. THE SUBJECT PROPERTY FALLS WITHIN THE GROUNDWATER OVERLAY DISTRICT AND SHALL COMPLY TO ALL PERFORMANCE
- 13. WATER, SEWER, ROAD (INCLUDING PARKING LOT) AND DRAINAGE WORKSHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF MILFORD'S WATER UTILITIES DEPARTMENT AND PUBLIC WORKS DEPARTMENT STANDARDS.
- 14. AS-BUILT PLANS SHALL BE DELIVERED TO THE BUILDING DEPARTMENT PRIORTO A CERTIFICATE OF OCCUPANCY BEING ISSUED.
- 15. NHDES SEWER DISCHARGE PERMIT # XXXXXX
- 16. WITH THE APPROVAL OF THIS PLAN THE FOLLOWING WAIVERS HAVE **BEEN APPROVED**
- 17. SNOW WILL BE STORED ALONG THE EDGE OF THE ROADWAY AND EDGE OF DRIVEWAYS. EXCESS SNOW WILL BE REMOVED FROM THE SITE

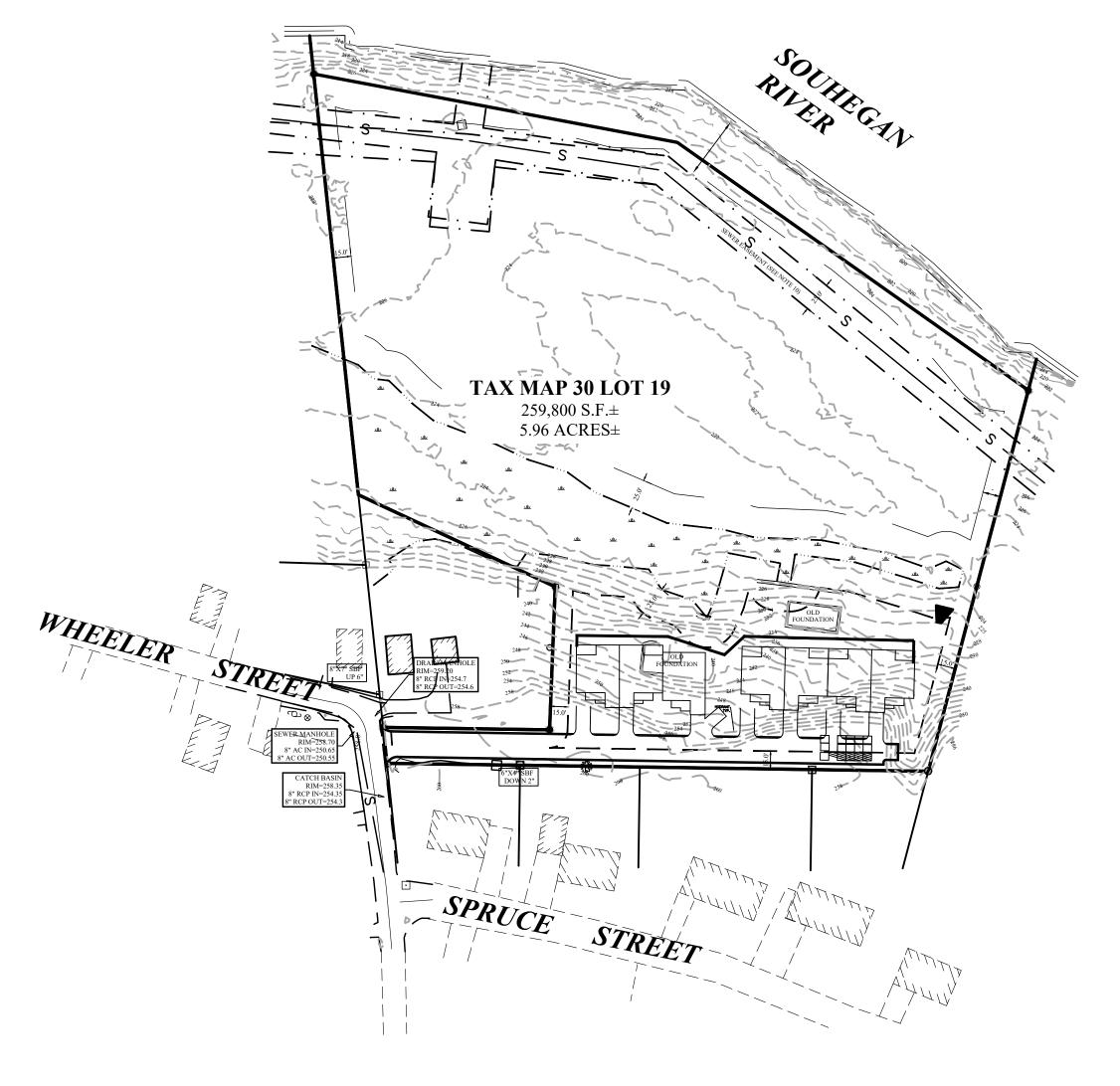
CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION

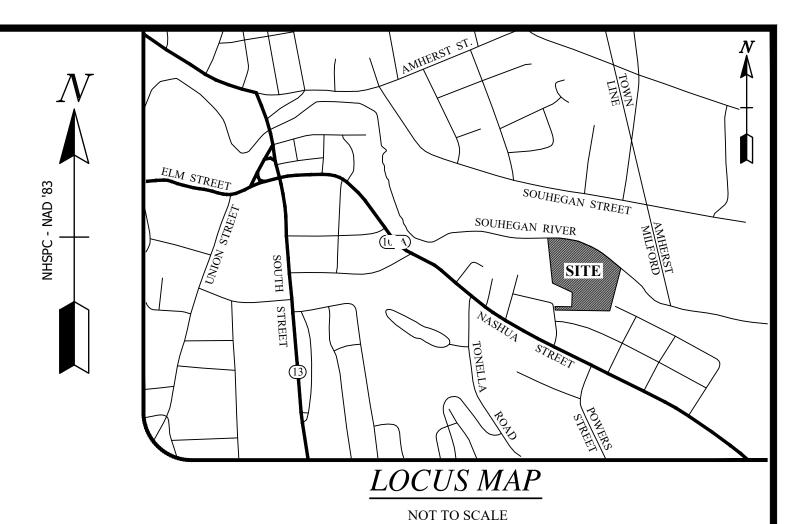
THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. ROKEH CONSULTING, LLC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ANY UTILITIES WHETHER THEY BE ABOVE OR BELOW GROUND. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 1-800-DIG-SAFE.



SITE DEVELOPMENT PLANS

WHEELER ROAD- MILFORD, NH





LIST OF DRAWINGS

WG NO.	DESCRIPTION
1	COVER SHEET
2	EXISTING CONDITIONS / BOUNDARY PLAN
3	SITE PLAN
4	UTILTY PLAN
5	GRADING DRAINAGE EROSION CONTROL PLAN
6	LANDSCAPING LIGHTING PLANS
7	ROADWAY AND DRAINAGE PROFILES
8-13	CONSTRUCTION & EROSION CONTROL DETAILS
14-19	STORMTECH DETAILS



APPROVED

MILFORD, NH PLANNING BOARD

DATE APPROVED ____

LIST OF ADDITIONAL CONSULTANTS

LAND SURVEYOR S&H LAND SERVICES LLC 1600 CANDIA ROAD SUITE #5 MANCHËSTER NH 603-628-8500

WETLANDS CHRISTOPHER GUIDA FIELDSTONE LAND CONSULTANTS, PLLC 206 ELM STREET MILFORD, NH, 03055 phone: (603) 672-5456

OWNER'S SIGNATURE POR SAN KEN HOMES, INC

08/14/2020 DATE

DATE SIGNED:

PREPARED FOR: SAN-KEN HOMES, INC. 286 TURNPIKE ROAD NEW IPSWICH, NH

COVER SHEET CONDOMINIUM SITE PLAN MAP 30, LOT 19 WHEELER STREET, MILFORD NH

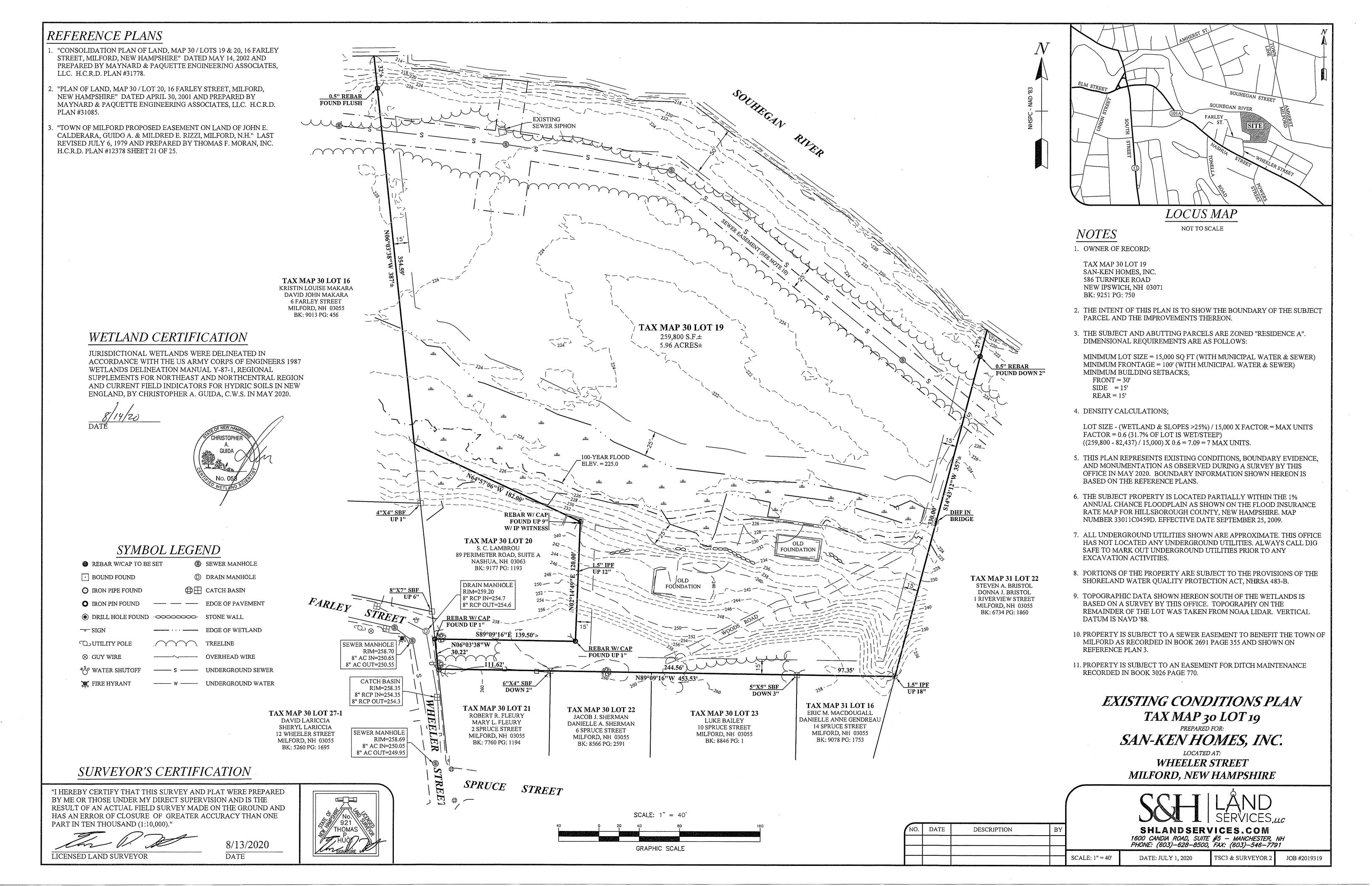
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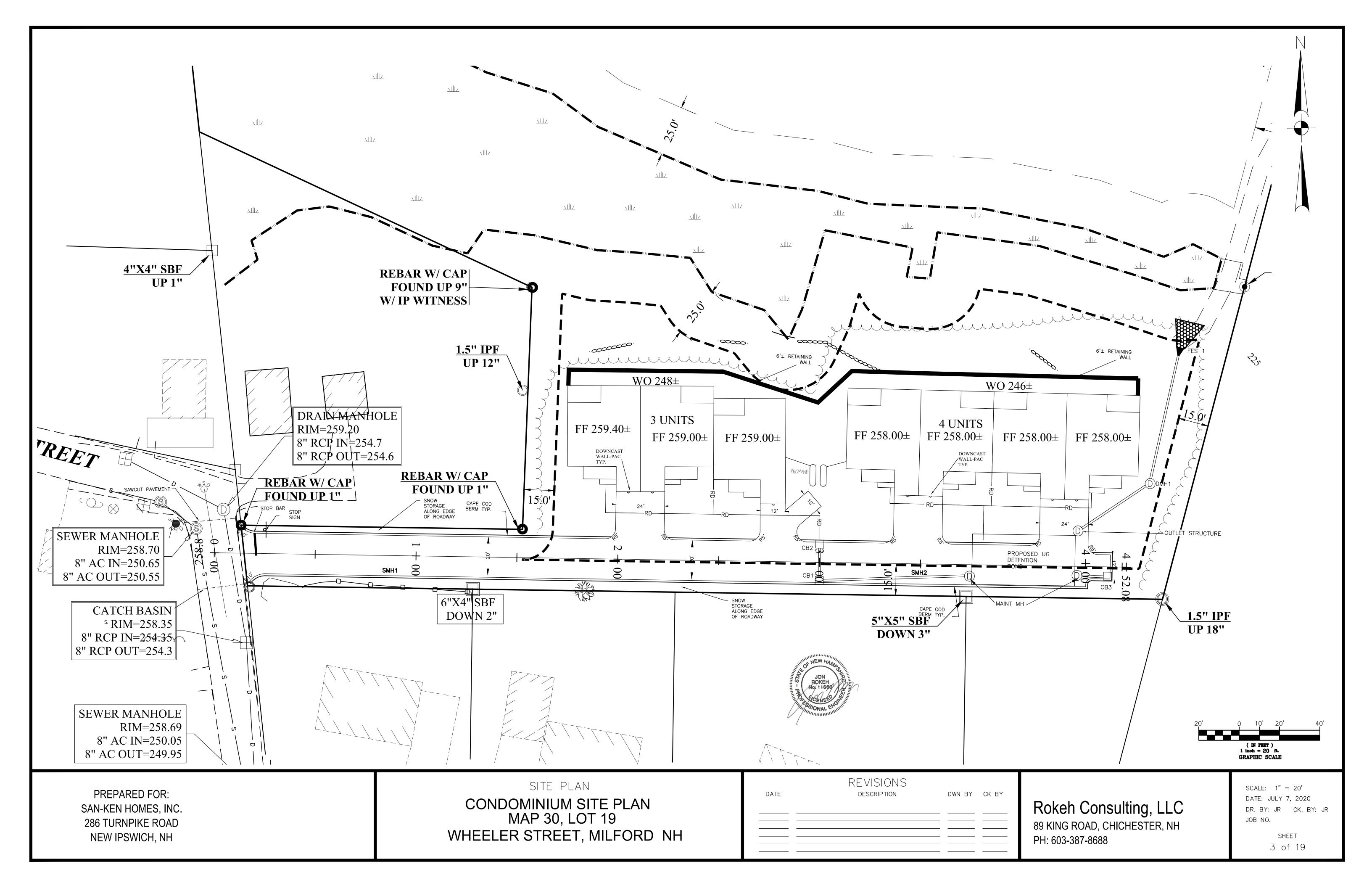
Rokeh Consulting, LLC 89 KING ROAD, CHICHESTER, NH PH: 603-387-8688

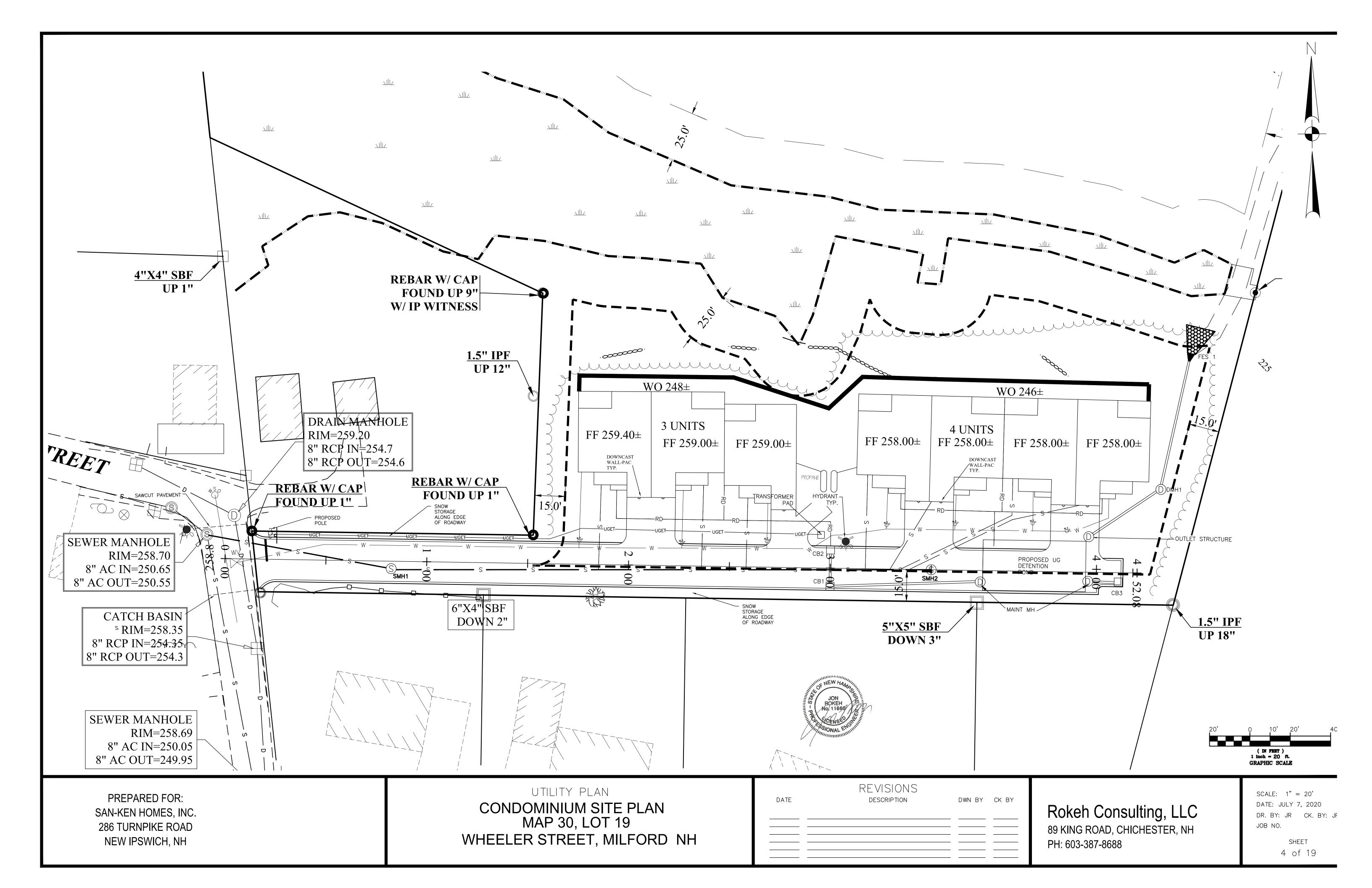
DATE: JULY 7, 2020 DR. BY: JR CK. BY: JR JOB NO.

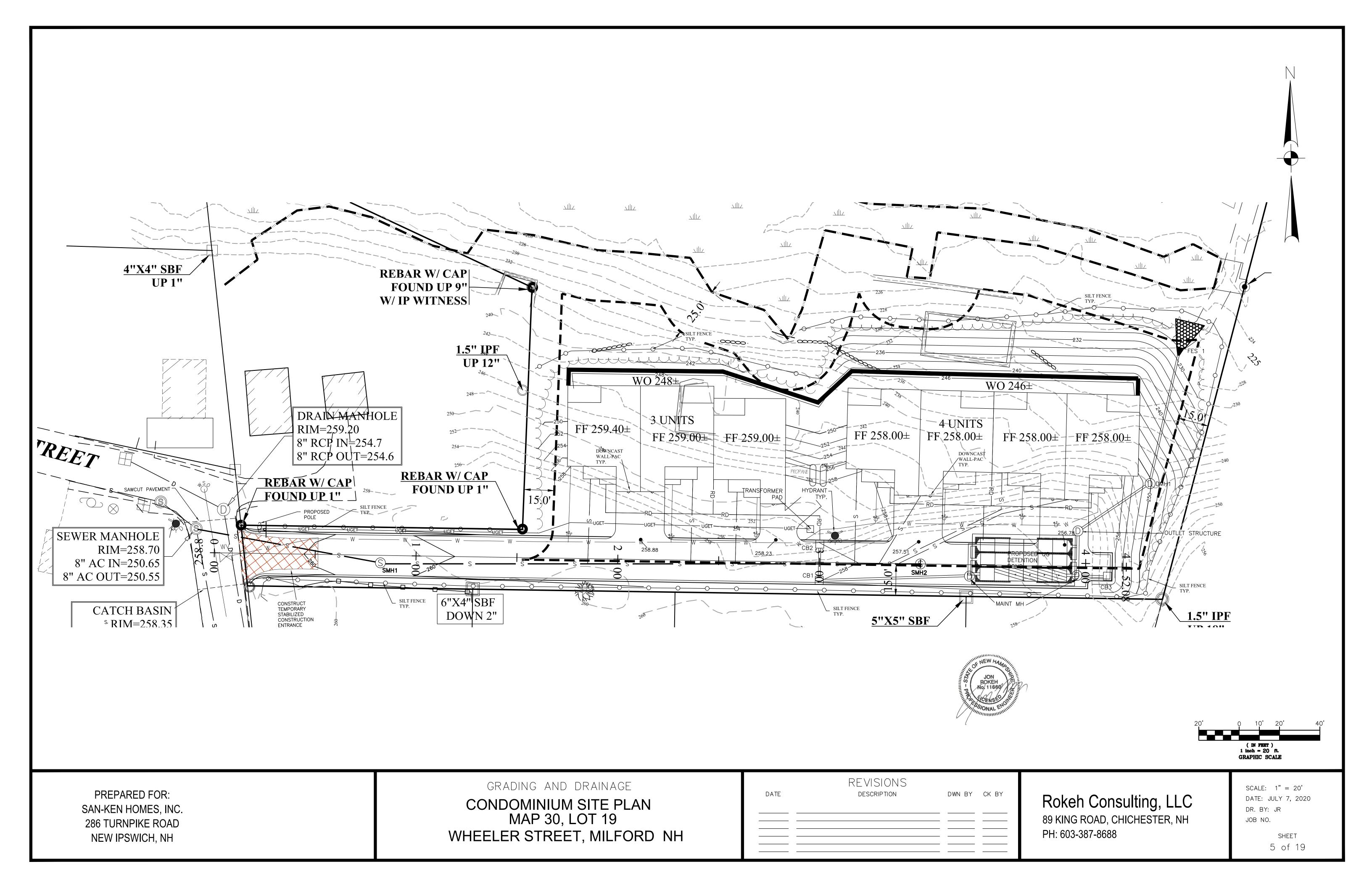
SCALE: 1" = 80'

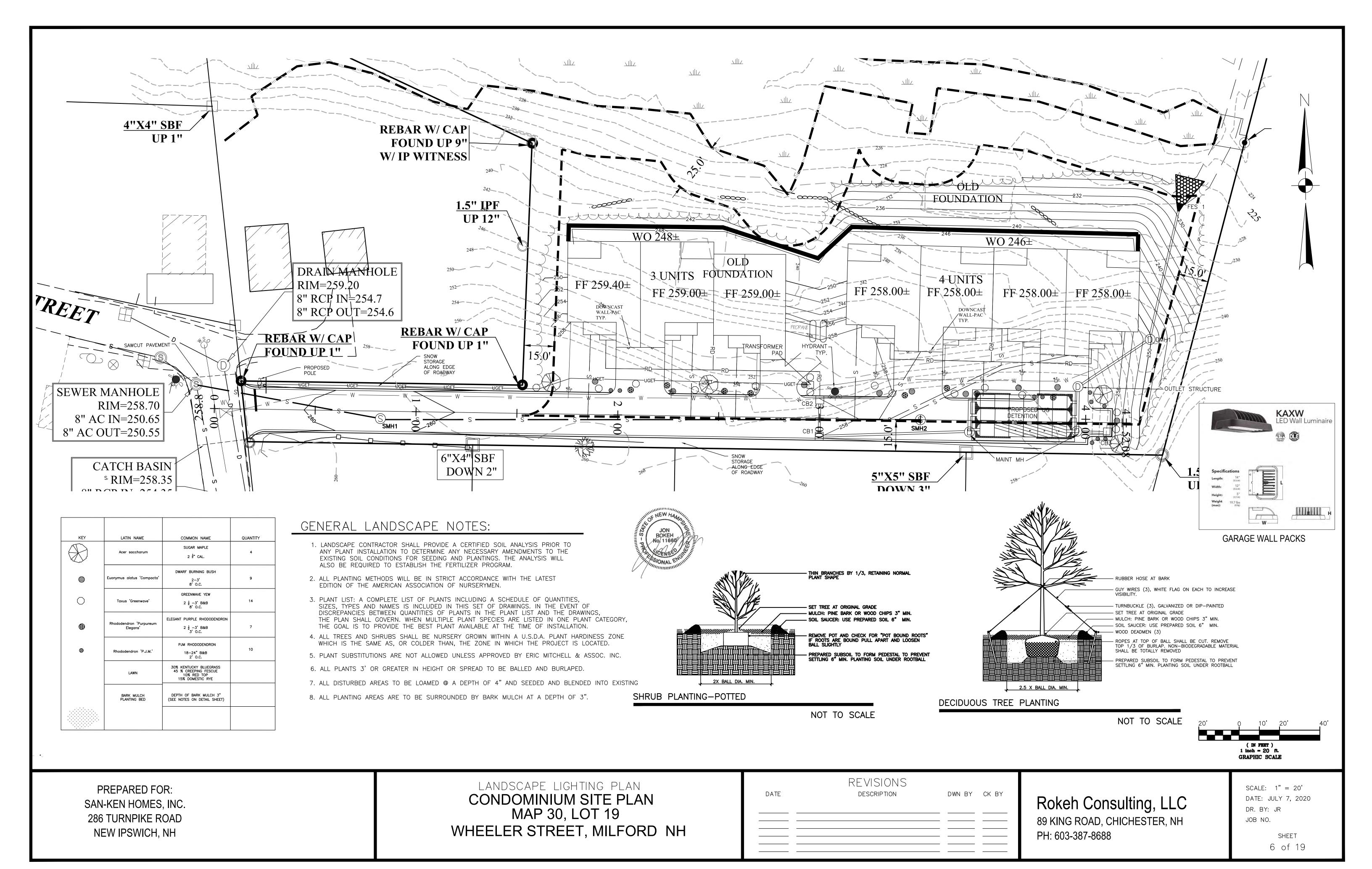
SHEET 1 of 19

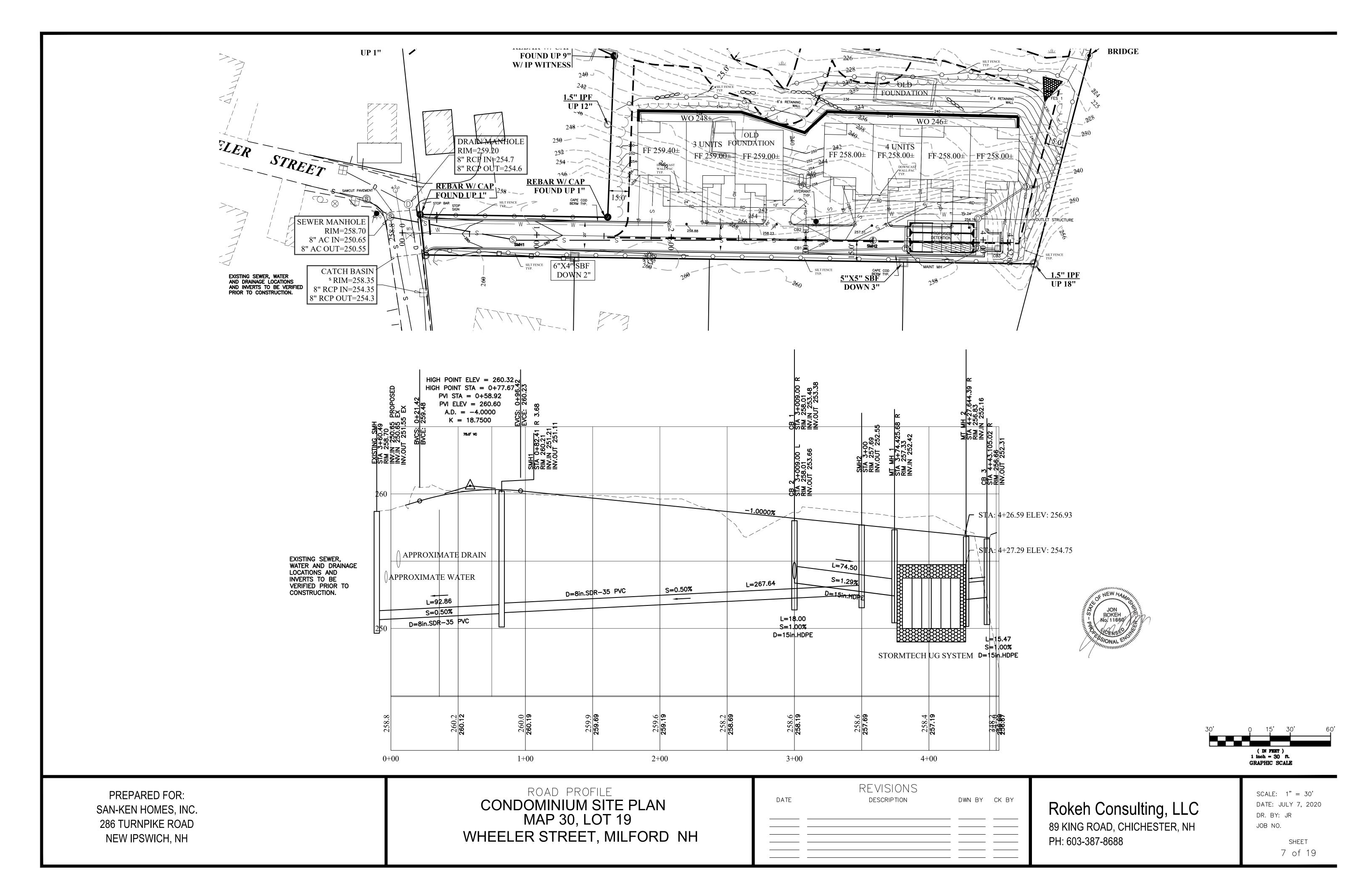


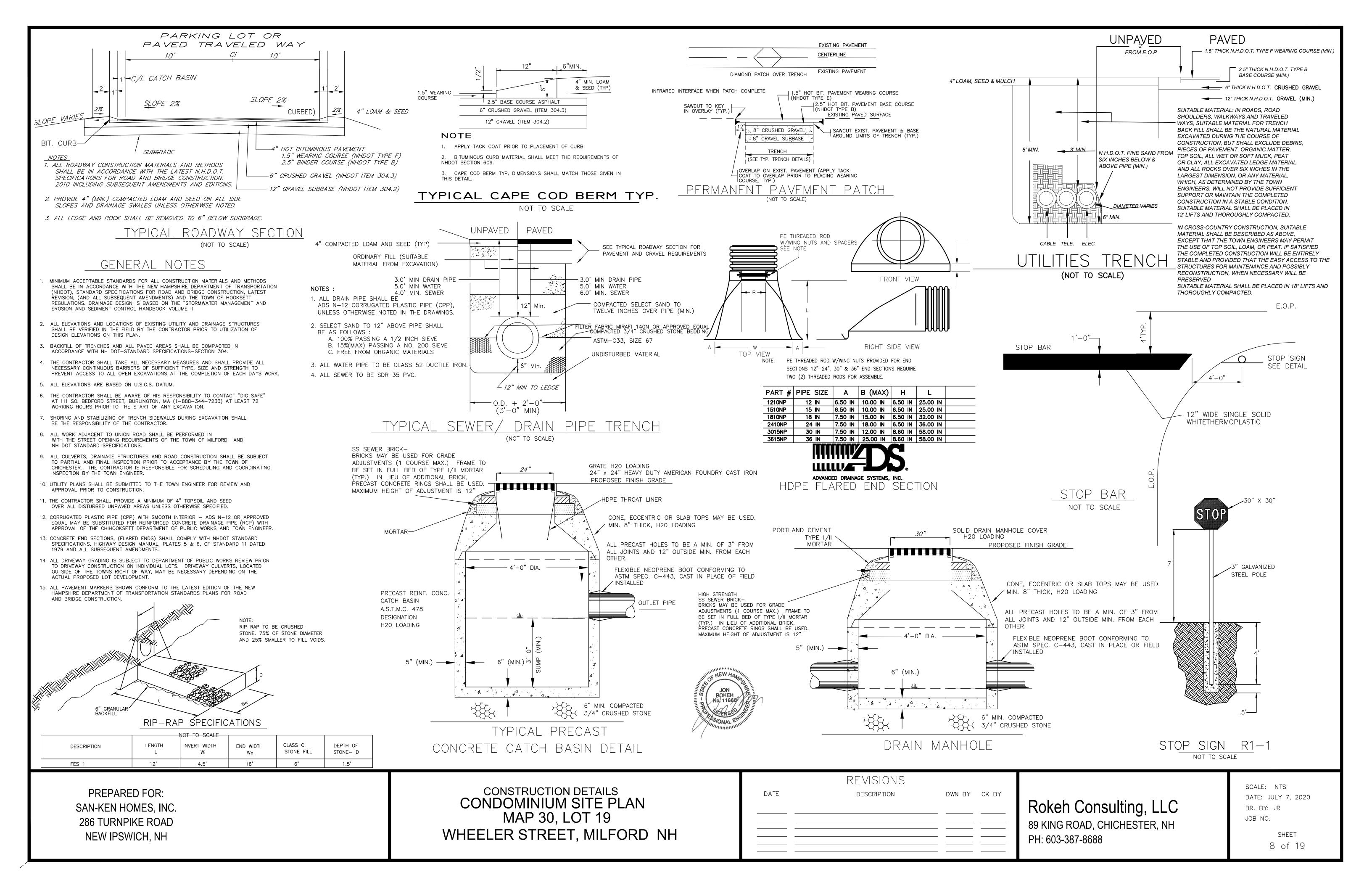


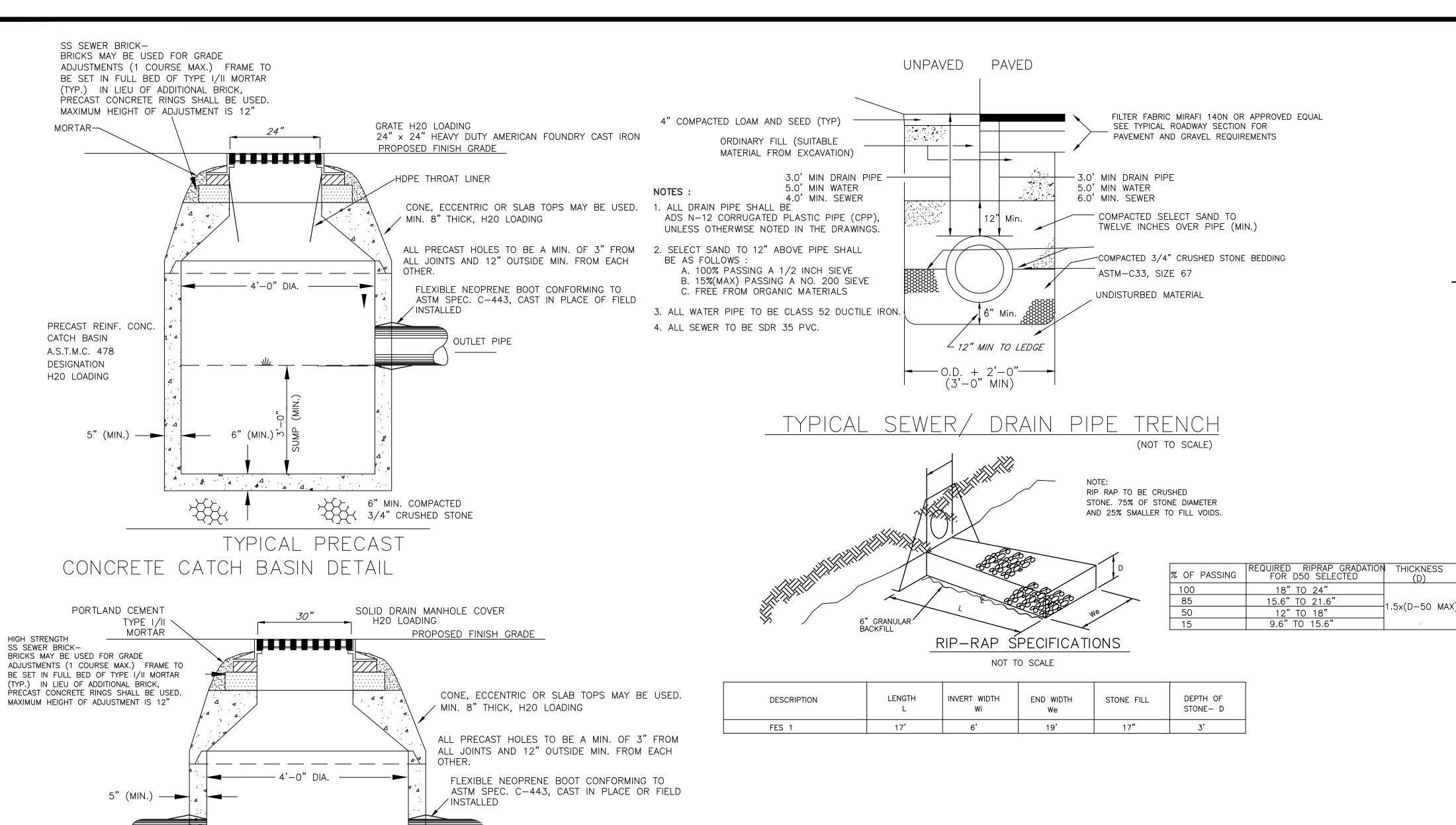


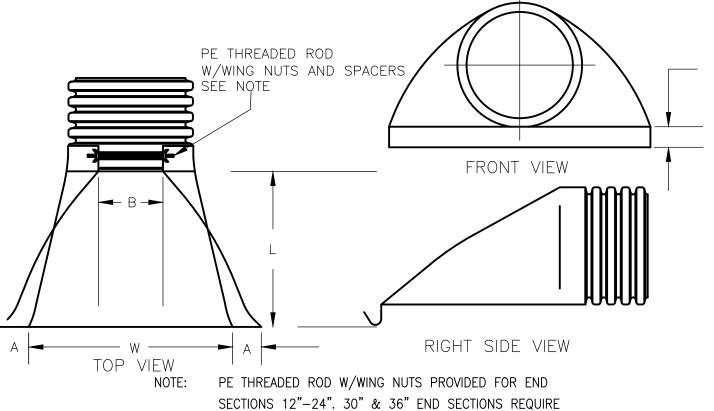












TWO (2) THREADED RODS FOR ASSEMBLE.

PART #	PIPE SIZE	Α	B (MAX)	Н	L	
1210NP	12 IN	6.50 IN	10.00 IN	6.50 IN	25.00 IN	
1510NP	15 IN	6.50 IN	10.00 IN	6.50 IN	25.00 IN	
1810NP	18 IN	7.50 IN	15.00 IN	6.50 IN	32.00 IN	
2410NP	24 IN	7.50 IN	18.00 IN	6.50 IN	36.00 IN	
3015NP	30 IN	7.50 IN	12.00 IN	8.60 IN	58.00 IN	
3615NP	36 IN	7.50 IN	25.00 IN	8.60 IN	58.00 IN	

ADVANCED DRAINAGE SYSTEMS, INC.
HDPE FLARED END SECTION



PREPARED FOR:
SAN-KEN HOMES, INC.
286 TURNPIKE ROAD
NEW IPSWICH, NH

CONSTRUCTION DETAILS
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

6" (MIN.)

FORBAY SECTION

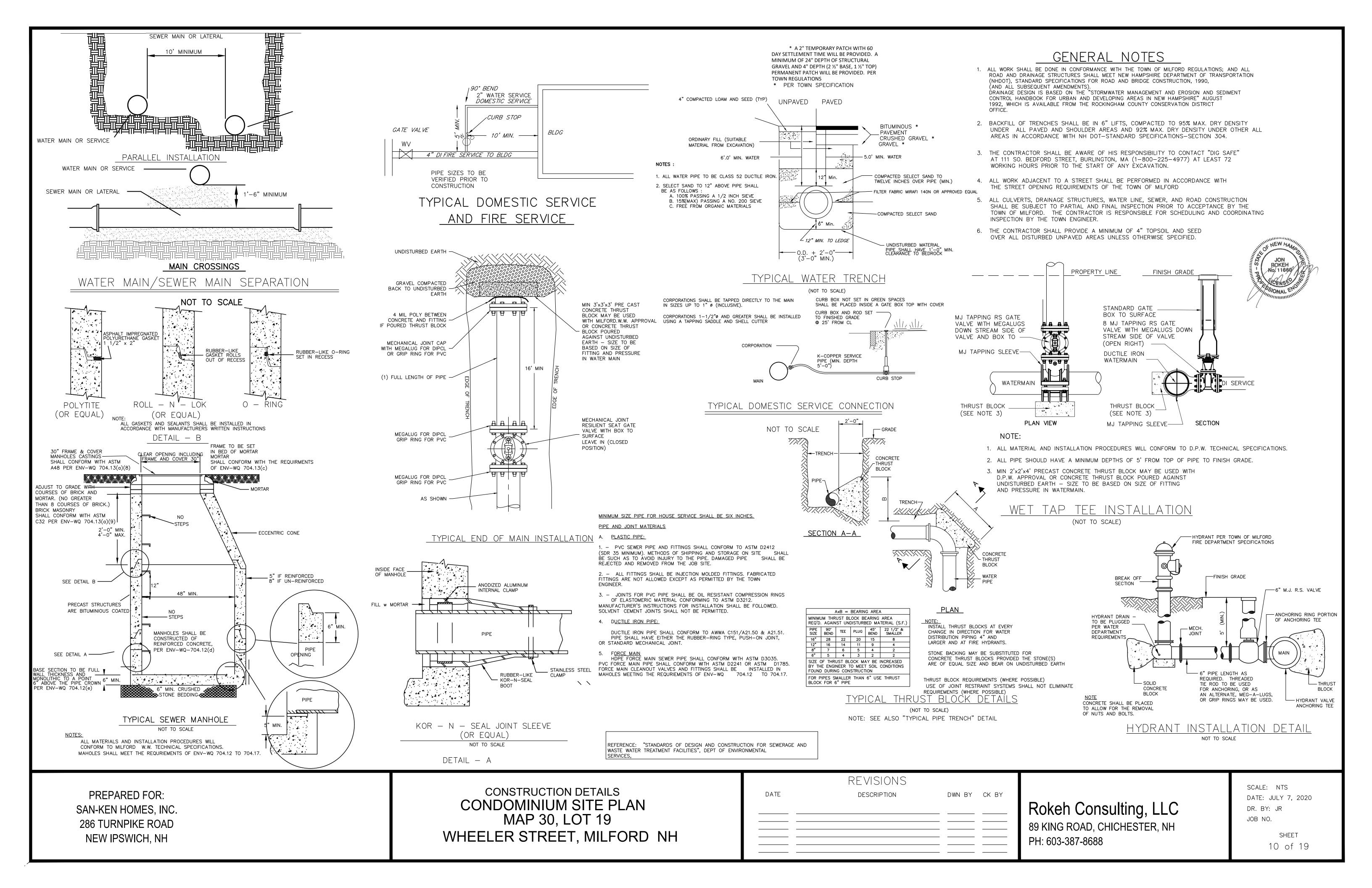
DRAIN MANHOLE

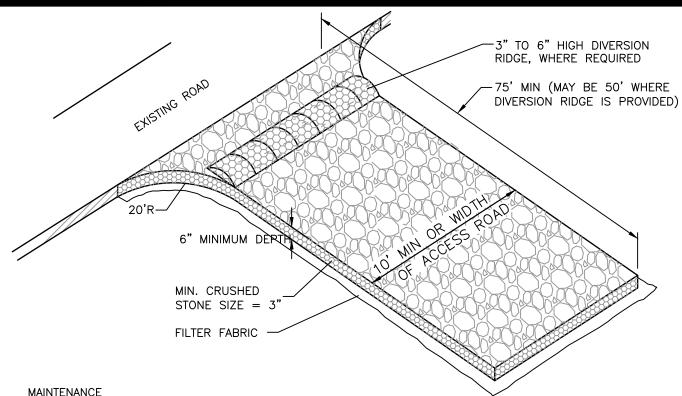
6" MIN. COMPACTED
3/4" CRUSHED STONE

DATE DESCRIPTION DWN BY CK BY

Rokeh Consulting, LLC 89 KING ROAD, CHICHESTER, NH PH: 603-387-8688 SCALE: NTS
DATE: JULY 7, 2020
DR. BY: JR
JOB NO.

SHEET 9 of 19





- 1. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL, REGRADED ON SITE, AND STABILIZED. THE ENTRANCE SHALL THEN BE
- 2. THE CONTRACTOR SHALL SWEEP THE PAVEMENT AT EXITS WHENEVER SOIL MATERIALS ARE TRACKED ONTO THE ADJACENT PAVEMENT OR TRAVELED WAY.
- 3. WHEN WHEEL WASHING IS REQUIRED, IT SHALL BE CONDUCTED ON AN AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT-TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

PREPARED FOR:

SAN-KEN HOMES, INC.

286 TURNPIKE ROAD

NEW IPSWICH, NH

- CONSTRUCTION SPECIFICATIONS

 4. ONLY CONSTRUCTION TRAFFIC LEAVING THE SITE IS REQUIRED TO USE THE TEMPORARY STABILIZED EXIT.

 CONSIDER PROVIDING A SEPARATE, UNPROTECTED, ENTRANCE FOR TRAFFIC ENTERING THE SITE. THIS WILL

 CONSIDER PROVIDING THE SITE AND INCREASE THE LONGEVITY OF THE STABILIZED EXIT BY ELIMINATING HEAVY LOADS ENTERING THE SITE AND REDUCING THE TOTAL TRAFFIC OVER THE DEVICE.
- 5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR MAINTENANCE OF ANY MEASURES USED TO TRAP
- 6. STONE FOR A TEMPORARY CONSTRUCTION EXIT SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED
- 7. THE MINIMUM LENGTH OF THE PAD SHALL BE 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH HIGH BERM IS INSTALLED AT THE ENTRANCE OF THE
- 8. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
- 9. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE EXIT OR 10 FEET, WHICH EVER IS GREATER.
- 10. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
- 11. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.

TEMPORARY CONSTRUCTION EXIT

CONSTRUCTION SEQUENCES:

NOTE: - ALL EROSION CONTROLS TO BE INSPECTED WEEKLY AND AFTER EVERY .5" OF RAINFALL.

- ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING FLOW TO THEM. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- 1. PRIOR TO CONSTRUCTION INSTALL FABRIC SILTATION FENCING AS SHOWN ON PLAN CONSTRUCT TEMPORARY STABILIZED ENTRANCE, AND INSTALL OTHER APPROPRIATE SEDIMENT AND EROSION CONTROL.
- 2. COMPLETE TEMPORARY SEDIMENT BASINS AT INLET LOCATIONS. CONSTRUCT BERMS AND SWALES TO DIRECT STORMWATER TO BASINS. SEDIMENT MUST BE REMOVED TO THE DESIGN GRADE OF THE BASIN UPON COMPLETION
- 3. ALLOW FOR VEGETATION STABILIZATION TO OCCUR WITHIN THE SWALES PRIOR TO DIRECTING STORM WATER INTO THE A.) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED:
- B.) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED; A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE, OR RIP-RAP HAS BEEN INSTALLED: OR
- D.) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED. 4. CUT AND CLEAR ALL VEGETATION AND STUMPS FROM AREAS TO BE DISTURBED FOR THE CONSTRUCTION OF THE
- 5. REMOVE TOPSOIL AND OTHER ORGANIC MATERIALS FROM AREAS TO BE DISTURBED. ALL SUCH TOPSOIL REMOVED
- SHALL BE STOCKPILED FOR LATER USE. ALL STOCKPILES SHALL BE SEEDED AND MULCHED TO PREVENT LOSS DUE TO FROSION, AND ENCIRCLED WITH FABRIC SILT FENCE, WHEN CONSTRUCTION ACTIVITIES ARE TEMPORARILY CEASED. FOR MORE THAN 21 DAYS, PERMANENTLY CEASED, OR SHUT DOWN FOR WINTER, THE CONTRACTOR SHALL LEAVE NO SLOPES STEEPER THAN 3;1 AND SHALL IMPLEMENT TEMPORARY LOAMING, SEEDING AND MULCHING. WHERE CONSTRUCTION ACTIVITIES HAVE BEEN SUSPENDED OUTSIDE THE GROWING SEASON ALL EXPOSED SOIL SHALL BE STABILIZED BY MULCHING, AND ALL SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH NETTING & PINNING.
- 6. CONSTRUCT, CUT, AND FILL SLOPES. ALL CUT AND FILL SLOPES TO BE STABILIZED IMMEDIATELY AFTER CONSTRUCTION. ALL SLOPES GREATER THAN 3:1 TO BE STABILIZED WITH JUTE MATTING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND LOAMED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
- 7. CONSTRUCT STORM DRAINAGE, AND OTHER UNDERGROUND UTILITIES. ALL SWALES TO BE PROTECTED WITH TEMPORARY EROSION CONTROL MEASURES SHOWN. ALL CATCH BASIN OPENINGS TO BE PROTECTED WITH BLOCK AND GRAVEL INLET SEDIMENT FILTERS AS SHOWN. SEDIMENT TRAPS AND/OR BASINS SHOULD BE USED UNTIL BASINS/PONDS ARE STABILIZED.
- 8. BEGIN TOP SOILING, SEEDING AND Mulching IMMEDIATELY AFTER COMPLETION OF EMBANKMENTS. TEMPORARY EROSION CONTROL / DIVERSION CHANNELS SHALL BE IMPLEMENTED WHERE REQUIRED TO PREVENT EROSION OF EMBANKMENTS. ANY EROSION OCCURRING SHALL BE REPAIRED IMMEDIATELY UPON DISCOVERY.
- 9. FINISH GRADING & PAVING. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS
- OF ACHIEVING FINISH GRADES. 10. ALL PAVED AREAS TO BE COMPLETED BY OCTOBER 15. ALL LANDSCAPED AREAS TO BE STABILIZED BY OCTOBER 15th,
- WITH HAY MULCH AND SEED. 11. COMPLETE PERMANENT SEEDING AND MULCHING OF ALL DISTURBED AREAS. ALL TEMPORARY EROSION CONTROL MEASURES TO REMAIN IN PLACE UNTIL A FULL VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL DISTURBED AREAS.
- 12. SILT FENCES AND HAY BALE BARRIERS TO BE REMOVED ONCE THE SITE HAS STABILIZED.

- 1. TEMPORARY SEEDING SHALL BE INSPECTED WEEKLY AND AFTER ANY RAINFALL EXCEEDING ½ INCH IN 24 HOURS ON ACTIVE CONSTRUCTION SITES. TEMPORARY SEEDING SHALL ALSO BE INSPECTED JUST PRIOR TO SEPTEMBER 15, TO ASCERTAIN WHETHER ADDITIONAL SEEDING IS REQUIRED TO PROVIDE STABILIZATION OVER
- 2. BASED ON INSPECTION, AREAS SHALL BE RESEEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS. IF IT IS TOO LATE IN THE PLANTING SEASON TO APPLY ADDITIONAL SEED, THEN OTHER TEMPORARY STABILIZATION MEASURES SHALL BE IMPLEMENTED
- 3. AT A MINIMUM, 85% OF THE SOIL SURFACE SHALL BE COVERED BY VEGETATION.
- 4. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND AREAS SHALL BE RESEEDED, WITH OTHER TEMPORARY MEASURES (E.G., MULCH) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

- 5. INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS,
- 6. GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH
- 7. RUNOFF SHALL BE DIVERTED FROM THE SEEDED AREA.
- 8. ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHALL INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

9. STONES AND TRASH SHALL BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.

- 10. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
- 11. IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHALL BE APPLIED DURING THE GROWING SEASON. - APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 600 POUNDS PER ACRE OR 13.8 POUNDS PER 1,000 SQUARE FEET OF LOW PHOSPHATE FERTILIZER1 (N-P205-K20) OR EQUIVALENT. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000
 - FERTILIZER SHALL BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE2 NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 FEET AND 250 FEET FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHALL BE APPLIED WITHIN 25 FEET OF A SURFACE WATER BODY. THESE LIMITATIONS ARE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

12. SELECT SEED FROM RECOMMENDATIONS IN TABLE 4-1.

- 13. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10 % WHEN
- 14. TEMPORARY SEEDING SHALL TYPICALLY OCCUR PRIOR TO SEPTEMBER 15TH.
- 15. AREAS SEEDED BETWEEN MAY 15TH AND AUGUST 15TH SHALL BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE.
- 16. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHALL BE ACHIEVED PRIOR TO OCTOBER 15TH. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.

	TABLE	4-1.	SEEDING	REC	OMMENDATI	ONS	FOR	TEMPORARY	VEGETATION	
SPECIES	-		PER	ACRE	BUSHELS	F	PER	1,000 FT2	REMARKS	
			(=: .)	~~ ~		· ~ \				

SPECIES	PER ACRE BUSHELS PER 1,000 FT2	
	(BU) OR POUNDS (LBS)	
WINTER RYE		2 BU. OR 112 LBS. 2.5 LBS. BEST FOR FALL SEEDING SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS		2.5 BU. OR 80 LBS. 2 LBS. BEST FOR SPRING SEEDINGS. SEED NO LATER THAN MAY 15 FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYEGRASS		40 LBS. 1 LB. GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15 AND SEPTEMBER 15. COVER THE SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYEGRASS		30 LBS. 0.7 LB. GOOD COVER WHICH IS LONGER LASTING THAN ANNUAL

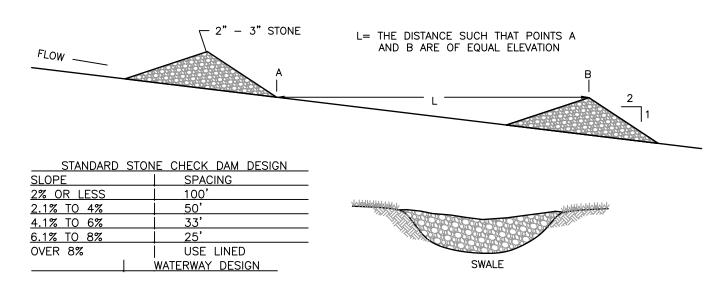
JUNE 1 AND/OR BETWEEN AUGUST 15 AND SEPTEMBER 15. MULCHING WILL ĽLÒW SEEDING THROUGHOUT THE GROWING SEASON. SEED TO A DEPTH OF APPROXIMATELY 0.5 INCH.

RYEGRASS. SEED BETWEEN APRIL 1 AND

- 13. REMOVE ACCUMULATIONS OF SEDIMENT FROM DRAINAGE STRUCTURES, TREATMENT SWALES TO BE CLEANED OUT, LOAMED & MATTED AS NECESSARY UPON COMPLETION OF PROJECT.
- 14. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS FROM INITIAL DISTURBANCE

15. WINTER CONSTRUCTION NOTES:

- A.) DURING WINTER CONDITIONS, THE MAXIMUM ALLOWABLE DISTURBED AREA SHALL BE 0.5 ACRES. B.) ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MAXIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15th, OR WHICH ARE DISTURBED AFTER OCTOBER 15th, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
- C.) ALL DITCHES AND SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15th, OR WHICH ARE DISTURBED AFTER OCTOBER 15th, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS
- D.) AFTER OCTOBER 15th, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER N.H.D.O.T. ITEM 304.3.
- 16. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED: A.) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
- B.) A MINIMUM OF 85% VEGETATIVE GROWTH HAS BEEN ESTABLISHED;
- C.) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
- D.) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.



I. THIS PRACTICE IS INTENDED FOR USE IN AREAS OF CONCENTRATED FLOW, BUT MUST NOT BE USED IN STREAM CHANNELS (WHETHER PERENNIAL OR INTERMITTENT).

- 2. THE CHECK DAM MAY BE LEFT IN PLACE PERMANENTLY TO AVOID UNNECESSARY DISTURBANCE OF THE SOIL ON REMOVAL, BUT ONLY IF THE PROJECT DESIGN HAS ACCOUNTED FOR THEIR HYDRAULIC PERFORMANCE AND CONSTRUCTION PLANS CALL FOR THEM TO BE RETAINED.
- 3. IF IT IS NECESSARY TO REMOVE A STONE CHECK DAM FROM A GRASSLINED CHANNEL THAT WILL BE MOWED, CARE SHALL BE TAKEN TO ENSURE THAT ALL STONES ARE REMOVED. THIS INCLUDES STONE THAT HAS

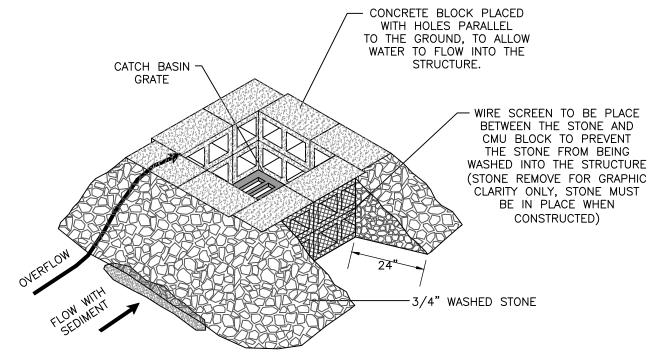
4. CHECK DAMS SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL AND NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY.

- 5. INSPECTIONS SHALL VERIFY THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.
- 6. EROSION CAUSED BY HIGH FLOWS AROUND THE EDGES OF THE DAM MUST BE CORRECTED IMMEDIATELY.
- 7. IF EVIDENCE OF SILTATION IN THE WATER IS APPARENT DOWNSTREAM FROM THE CHECK DAM, THE CHECK DAM SHALL BE INSPECTED AND ADJUSTED IMMEDIATELY.
- 8. CHECK DAMS SHALL BE CHECKED FOR SEDIMENT ACCUMULATION AFTER EACH SIGNIFICANT RAINFALL. SEDIMENT SHALL BE REMOVED WHEN IT REACHES ONE HALF OF THE ORIGINAL HEIGHT OR BEFORE.

9. CHECK DAMS SHALL BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE OR DRAINAGE DITCH.

- 10. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE DAM SHALL BE LESS THAN ONE ACRE.
- 11. THE MAXIMUM HEIGHT OF THE DAM SHALL BE 2 FEET.
- 12. THE CENTER OF THE DAM SHALL BE AT LEAST 6 INCHES LOWER THAN THE OUTER EDGES.
- 13. THE MAXIMUM SPACING BETWEEN THE DAMS SHALL BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE OVERFLOW ELEVATION OF THE DOWNSTREAM DAM.
- 14. STONE CHECK DAMS SHALL BE CONSTRUCTED OF A WELL-GRADED ANGULAR 2-INCH TO 3-INCH STONE. 3/4-INCH STONE ON THE UPGRADIENT FACE IS RECOMMENDED FOR BETTER FILTERING.
- 15. IF PROVIDED BY DESIGN AND CONSTRUCTION PLANS, LEAVE THE DAM IN PLACE PERMANENTLY.
- 18. TEMPORARY STRUCTURES SHALL BE REMOVED ONCE THE SWALE OR DITCH HAS BEEN STABILIZED: - IN TEMPORARY DITCHES AND SWALES, CHECK DAMS SHALL BE REMOVED AND THE DITCH FILLED IN WHEN IT IS NO LONGER NEEDED - IN PERMANENT STRUCTURES, CHECK DAMS SHALL BE REMOVED WHEN A PERMANENT LINING HAS
 - BEEN ESTABLISHED. IF THE PERMANENT LINING IS VEGETATION, THEN THE CHECK DAM SHALL BE RETAINED UNTIL THE GRASS HAS MATURED TO PROTECT THE DITCH OR SWALE. THE AREA BENEATH THE CHECK DAM MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER REMOVAL. TEMPORARY STONE CHECK DAMS

NOT TO SCALE



INLET BARRIERS SHALL BE INSPECTED BEFORE AND AFTER EACH RAIN EVENT AND REPAIRED AS NEEDED.

- 2. SEDIMENT SHALL BE REMOVED AND THE STORM DRAIN SEDIMENT BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE BARRIER. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
- 3. THE BARRIERS SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
- 4. ALL CATCH BASINS AND STORM DRAIN INLETS MUST BE CLEANED AT THE END OF CONSTRUCTION AND AFTER THE SITE HAS BEEN FULLY STABILIZED.

. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN ONE ACRE.

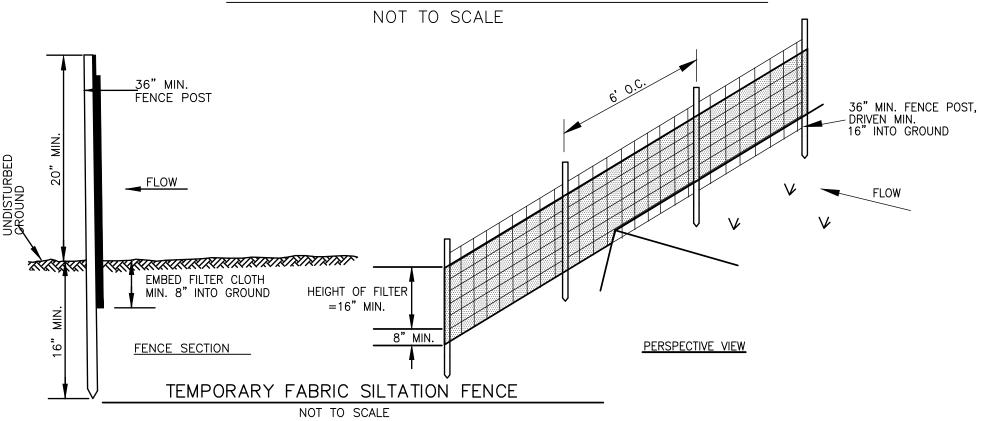
- 6. THE INLET PROTECTION DEVICE SHALL BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN-OUT AND DISPOSAL OF TRAPPED SEDIMENTS AND MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES.
- 7. ANY RESULTANT PONDING OF STORMWATER MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.
- 8. THE BLOCKS SHALL BE PLACED LENGTHWISE IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET.
- 9. THE BLOCK ENDS SHALL ABUT ONE ANOTHER.
- 10. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING COMBINATIONS OF 4-INCH, 8-INCH AND 12-INCH WIDE BLOCKS. THE BARRIER OF BLOCKS AND GRAVEL FILTER SHALL BE A MINIMUM OF 12 INCHES HIGH AND NO MORE THAN 24 INCHES HIGH.
- 11. A HARDWARE CLOTH OR WIRE MESH SHALL BE PLACED OVER THE OPENINGS OF THE CONCRETE BLOCKS AND EXTEND AT LEAST 12 INCHES AROUND THE OPENING TO PREVENT AGGREGATE FROM BEING TRANSPORTED THROUGH THE OPENINGS IN THE BLOCKS. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED.
- 12. THE GRAVEL FILTER SHALL BE CLEAN COARSE AGGREGATE.
- 13. THE GRAVEL SHALL BE PLACED AGAINST THE WIRE AND ALONG THE OUTSIDE EDGES OF THE BLOCKS TO THE TOP OF THE BLOCK BARRIER.
- 14. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE BLOCKS, CLEANED AND REPLACED.

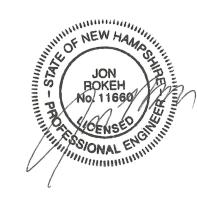
MANUFACTURED SEDIMENT BARRIERS 15. MANUFACTURED SEDIMENT BARRIERS ARE NOW AVAILABLE THAT COULD BE FUNCTIONALLY EQUIVALENT TO THE BARRIERS LISTED ABOVE. THESE MEASURES ARE ACCEPTABLE AS LONG AS THEY ARE INSTALLED, USED, AND MAINTAINED AS SPECIFIED BY THE VENDOR OR MANUFACTURER, AND PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM. IF SUCH PRODUCTS FAIL TO PERFORM THE REQUIRED SEDIMENT TRAPPING FUNCTION, THEY SHALL BE REMOVED AND REPLACED WITH AN EFFECTIVE ALTERNATIVE BARRIER.

TEMPORARY STORM DRAIN INLET PROTECTION

NOT TO SCALE

TEMPORARY CONSTRUCTION EXIT





- 1. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY
- 6 INCHES, FOLDED AND STAPLED.
- 2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP
- IN THE SILT FENCE.

REVISIONS **DESCRIPTION**

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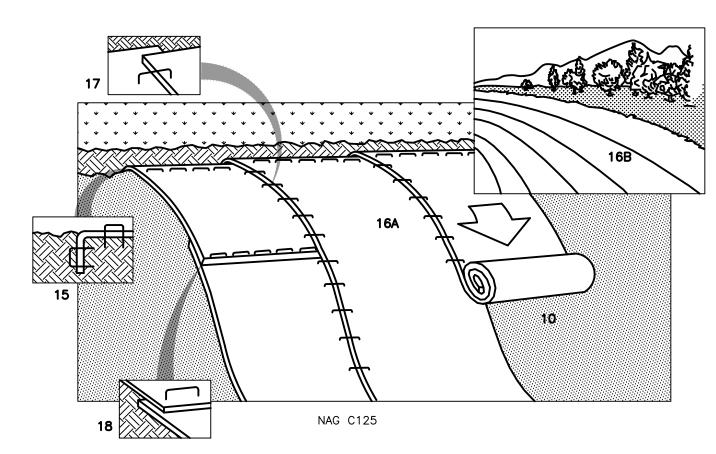
Rokeh Consulting, LLC 89 KING ROAD, CHICHESTER, NH PH: 603-387-8688

SCALE: NTS DATE: JULY 7, 2020 DR. BY: JR JOB NO. SHEET

CONDOMINIUM SITE PLAN MAP 30, LOT 19 WHEELER STREET, MILFORD NH

CONSTRUCTION DETAILS

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CONSIDERATIO

- 1. DURING THE GROWING SEASON (APRIL 15 SEPTEMBER 15) USE MATS OR MULCH AND NETTING ON SLOPES 15% OR GREATER AND ANY DISTURBED SOIL ADJACIENT TO LAKES, STREAMS AND ON WETLANDS.
- 2. DURING THE LATE FALL AND WINTER (SEPTEMBER 15 APRIL 15) USE HEAVY GRADE MATS ON ALL AREAS NOTED ABOVE PLUS USE LIGHTER GRADE MATS OR MULCH AND NETTING ON SLOPES GREATER THAN 8%. THERE MAY BE CASES WHERE MATS WILL BE NEEDED ON SLOPES FLATTER THAN 8%, DEPENDING ON SITE CONDITIONS AND THE LENGTH OF THE SLOPE.
- 3. INSTALL MATS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- 4. ALL BLANKET AND MATS SHOULD BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING ½ INCH IN A 24-HOUR PERIOD.
- 5. ANY FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUT OF THE SLOPE, DISPLACEMENT OF THE MAT, OR DAMAGE TO THE MAT OCCURS, THE AFFECTED SLOPE SHALL BE REPAIRED AND RESEEDED, AND THE AFFECTED AREA OF MAT SHALL BE RE—INSTALLED OR REPLACED.

SITE PREPARATION: 6. GRADE AND SHAPE AREA OF INSTALLATION.

- 7. REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
- 8. PREPARE SEEDBED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.
- 9. INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE

SEEDING: 10. SEED AREA BEFORE BLANKET INSTALLATION FOR EROSION CONTROL AND RE-VEGETATION. SEEDING AFTER MAT INSTALLATION IS OFTEN SPECIFIED FOR TURF REINFORCEMENT APPLICATION. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOTS AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE RESEEDED.

11. WHERE SOIL FILLING IS SPECIFIED, SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL.

INSTALLING AND ANCHORING BLANKETS:

- 12. BLANKETS SHALL BE INSTALLED AND ANCHORED PER THE MANUFACTURER'S SPECIFICATIONS.
- 13. ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.

INSTALLATION ON SLOPES:

- 14. BLANKETS SHALL BE INSTALLED ON SLOPES PER THE MANUFACTURER'S SPECIFICATIONS. IF THE MANUFACTURER'S INSTRUCTIONS DIFFER FROM THOSE LISTED BELOW, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED.
- 15. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- 16. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
- 17. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 6" OVERLAP.
- 18. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

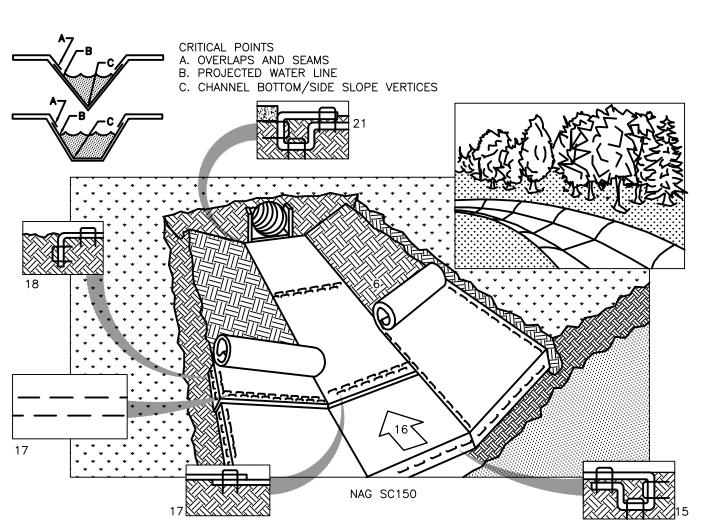
TEMPORARY EROSION CONTROL BLANKET ON SLOPES

NOT TO SCALE

TEMPORARY EROSION CONTROL BLANKETS NHFG WILDLIFE FRIENDLY REQUIREMENTS

CONSIDERATION

- 1. THE ELIMINATION OF PLASTIC OR 'BIODEGRADABLE PLASTIC' EROSION CONTROL NETTING IS REQUIRED AS THESE ARE KNOWN SOURCE OF ENTRAPMENT AND MORTALITY TO PROTECTED SNAKES AND TURTLES.
- 2. SEVERAL 'WILDLIFE FRIENDLY' OPTIONS SUCH AS WOVEN ORGANIC MATERIAL (E.G., COCO MATTING) OR THE USE OF EROSION CONTROL BERM OKAY
- 3. ACCEPTABLE MATERIALS INCLUDE NORTH AMERICAN GREEN C125BN OR EAST COAST EROSION CONTROL BLANKET ECC-2B BOTH ARE BIODEGRADABLE WITH A COCONUT FIBER MATRIX AND JUTE NETTING.



CONSIDERATIONS

- 1. DURING THE GROWING SEASON (APRIL 15 SEPTEMBER 15) USE MATS OR MULCH AND NETTING ON THE BASE OF GRASSED WATERWAYS.
- 2. DURING THE LATE FALL AND WINTER (SEPTEMBER 15 APRIL 15) USE HEAVY GRADE MATS ON SIDE SLOPES OF GRASSED WATERWAYS.
- 3. INSTALL MATS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

NANCE REQUIREMENTS

- 4. ALL BLANKET AND MATS SHOULD BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING ½ INCH IN A 24-HOUR PERIOD.
- 5. ANY FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUT OF THE SLOPE, DISPLACEMENT OF THE MAT, OR DAMAGE TO THE MAT OCCURS, THE AFFECTED SLOPE SHALL BE REPAIRED AND RESEEDED, AND THE AFFECTED AREA OF MAT SHALL BE RE-INSTALLED OR REPLACED.

SPECIFICATIONS SITE PREPARATION:

- 6. GRADE AND SHAPE AREA OF INSTALLATION.
- 7. REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
- 8. PREPARE SEEDBED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.
- 9. INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE SEEDING PLAN.

SEEDING: 10. SEED AREA BEFORE BLANKET INSTALLATION FOR EROSION CONTROL AND RE-VEGETATION. SEEDING AFTER MAT INSTALLATION IS OFTEN SPECIFIED FOR TURF REINFORCEMENT APPLICATION. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOTS AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE

11. WHERE SOIL FILLING IS SPECIFIED, SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL.

INSTALLING AND ANCHORING BLANKETS:

- 12. BLANKETS SHALL BE INSTALLED AND ANCHORED PER THE MANUFACTURER'S SPECIFICATIONS.
- 13. ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.

INSTALLATION IN CHANNELS:

- 14. BLANKETS SHALL BE INSTALLED IN CHANNELS PER THE MANUFACTURER'S SPECIFICATIONS. IF THE MANUFACTURER'S INSTRUCTIONS DIFFER FROM THOSE LISTED BELOW, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED.
- 15. BEGIN AT THE OUTLET OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH.
 BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- 16. ROLL CENTER BLANKET IN DIRECTION OF THE INLET END OF THE CHANNEL.
- 17. PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE BLANKETS.
- 18. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- 19. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" OVER THE CENTER BLANKET AND STAPLED.
- 20. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
- 21. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

TEMPORARY EROSION CONTROL BLANKET FOR CHANNELS

NOT TO SCALE

TEMPORARY & PERMANENT MULCHING

CONSIDERATIONS

- CONSIDERATIONS

 1. WITHIN 100 FEET OF STREAMS, WETLANDS AND IN LAKE WATERSHEDS, TEMPORARY MULCH SHOULD BE APPLIED WITHIN 7
 DAYS OF EXPOSING SOIL OR PRIOR TO ANY STORM EVENT.
- 2. AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHOULD BE MULCHED IMMEDIATELY FOLLOWING SEEDING.
- 3. AREAS THAT CANNOT BE SEEDED WITHIN THE GROWING SEASON SHOULD BE MULCHED FOR OVER-WINTER PROTECTION. THE AREA SHOULD BE SEEDED AT THE BEGINNING OF THE NEXT GROWING SEASON.
- 4. MULCH ANCHORING SHOULD BE USED ON SLOPES WITH GRADIENTS GREATER THAN 5% IN LATE FALL (PAST SEPTEMBER 15), AND OVER-WINTER (SEPTEMBER 15 MAY 15).
- 5. PERMANENT MULCH CAN BE USED IN CONJUNCTION WITH TREE, SHRUB, VINE, AND GROUND COVER PLANTINGS.
- MAINTENANCE REQUIREMENTS

 6. ALL TEMPORARY MULCHES MUST BE INSPECTED PERIODICALLY AND IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION OR DISPLACEMENT OF THE MULCH. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHOULD BE IMMEDIATELY APPLIED. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGES OCCUR, REPAIR ANY DAMAGE TO THE SLOPE AND RE—INSTALL OR REPLACE NETTING AS NECESSARY. INSPECTIONS SHOULD TAKE PLACE UNTIL GRASSES ARE FIRMLY ESTABLISHED (85% SOIL SURFACE UNIFORMLY COVERED WITH HEALTHY STAND OF GRASS).
- 7. EROSION CONTROL MIX MULCH USED FOR TEMPORARY STABILIZATION SHOULD BE LEFT IN PLACE. VEGETATION ADDS STABILITY AND SHOULD BE PROMOTED.
- 8. WHERE PERMANENT MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.
- 9. PERMANENT MULCHED AREAS SHOULD BE INSPECTED AT LEAST ANNUALLY, AND AFTER EACH LARGE RAINFALL (2.5 INCHES OR MORE IN A 24-HOUR PERIOD). ANY REQUIRED REPAIRS SHOULD BE MADE IMMEDIATELY. WHERE EROSION CONTROL MIX HAS BEEN USED, PLACE ADDITIONAL MIX ON TOP OF THE MULCH TO MAINTAIN THE RECOMMENDED THICKNESS. WHEN THE MULCH IS DECOMPOSED, CLOGGED WITH SEDIMENT, ERODED OR INEFFECTIVE, IT MUST BE REPLACED OR REPAIRED.
- 10. IF THE MULCH NEEDS TO BE REMOVED, SPREAD IT OUT INTO THE LANDSCAPE.

SPECIFICATIONS GENERAL:

- 1. APPLY MULCH PRIOR TO A STORM EVENT. THIS IS APPLICABLE IN EXTREMELY SENSITIVE AREAS SUCH AS WITHIN 100 FEET OF LAKES, PONDS, RIVERS, STREAMS, AND WETLANDS. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.
- 12. MULCHING SHOULD BE COMPLETED WITHIN THE FOLLOWING SPECIFIED TIME PERIODS FROM ORIGINAL SOIL EXPOSURE:

 WITHIN 100 FEET OF RIVERS AND STREAMS, WETLANDS, AND IN LAKE AND POND WATERSHEDS, THE TIME PERIOD SHOULD BE NO GREATER THAN 7 DAYS. THIS 7-DAY LIMIT SHOULD BE REDUCED FURTHER DURING WET WEATHER PERIODS.
 IN OTHER AREAS, THE TIME PERIOD CAN RANGE FROM 14 TO 30 DAYS, THE LENGTH OF TIME VARYING WITH SITE CONDITIONS (SOIL ERODIBILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS. OTHER STATE OR LOCAL RESTRICTIONS MAY ALSO APPLY.
- 13. THE CHOICE OF MATERIALS FOR MULCHING SHOULD BE BASED ON SITE CONDITIONS, SOILS, SLOPE, FLOW CONDITIONS, AND
- TIME OF YEAR.

 HAY OR STRAW MULCHES:

 14. ORGANIC MULCHES INCLUDING HAY AND STRAW SHOULD BE AIR—DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE
- 15. APPLICATION RATE SHOULD BE 2 BALES (70-90 POUNDS) PER 1000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90 % OF THE GROUND SURFACE.
- 16 HAY OR STRAW MULCH SHOULD BE ANCHORED TO PREVENT DISPLACEMENT BY WIND OR FLOWING WATER, USING ONE OF THE FOLLOWING METHODS:

 NETTING: INSTALL JUTE, WOOD FIBER, OR BIODEGRADABLE PLASTIC NETTING OVER HAY OR STRAW TO ANCHOR IT TO THE SOIL SURFACE. INSTALL NETTING MATERIAL ACCORDING TO MANUFACTURER'S RECOMMENDATION. NETTING SHOULD BE USED JUDICIOUSLY, AS WILDLIFE CAN BECOME ENTANGLED IN THE MATERIALS.

 TACKIFIER: APPLY POLYMER OR ORGANIC TACKIFIER TO ANCHOR HAY OOOR STRAW MULCH. APPLICATION RATES VARY BY MANUFACTURER: TYPICALLY 40-60 LBS/ACRE FOR POLYMER MATERIAL, AND 80-120 LBS/ACRE FOR ORGANIC MATERIAL. LIQUID MULCH BINDERS ARE ALSO TYPICALLY APPLIED HEAVIER AT EDGES, IN VALLEYS, AND AT CRESTS
- 17. WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON), IT SHOULD BE APPLIED TO A DEPTH OF FOUR INCHES (150–200 POUNDS OF HAY OR STRAW PER 1000 SQUARE FEET, OR DOUBLE STANDARD APPLICATION RATE). SEEDING CANNOT GENERALLY BE EXPECTED TO GROW UP THROUGH THIS DEPTH OF MULCH AND WILL BE SMOTHERED. IF VEGETATION IS DESIRED, THE MULCH WILL NEED TO BE REMOVED IN THE SPRINGTIME AND THE AREA SEEDED AND MULCHED.
- WOOD CHIPS OR BARK:
 18. WOOD CHIPS OR GROUND BARK SHOULD BE APPLIED TO A THICKNESS OF 2 TO 6 INCHES.
- 19 WOOD CHIPS OR GROUND BARK SHOULD BE APPLIED AT A RATE OF 10 TO 20 TONS PER ACRE OR 460 TO 920 POUNDS PER 1,000 SQUARE FEET.
- ROSION CONTROL MIX:

 O. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE PROJECT SITE. IT MUST CONSIST PRIMARILY OF ORGANIC
 MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS, COMPOSTED
 BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR
 REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
- 21. COMPOSITION OF THE EROSION CONTROL MIX SHOULD BE AS FOLLOWS:

 EROSION CONTROL MIX SHOULD CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS
- THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHOULD MEET THE FOLLOWING STANDARDS:
- THE ORGANIC MATTER CONTENT SHOULD BE BETWEEN 25 AND 65%, DRY WEIGHT BASIS.
 PARTICLE SIZE BY WEIGHT SHOULD BE 100% PASSING A 3" SCREEN, 90% TO 100% PASSING A 1-INCH SCREEN, 70%
- TO 100% PASSING A 0.75-INCH SCREEN, AND A MAXIMUM OF 30% TO 75%, PASSING A 0.25-INCH SCREEN. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
- THE ORGANIC FORTION NEEDS TO BE FIBROUS AND ELONGATED.
 THE MIX SHOULD NOT CONTAIN SILTS, CLAYS OR FIRE SANDS.
- SOLUBLE SALTS CONTENT SHOULD BE < 4.0 MMHOS/CM.
 THE PH SHOULD BE BETWEEN 5.0 AND 8.0.
- 22. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
- 23. THE BARRIER MUST BE A MINIMUM OF 12" HIGH, AS MEASURED ON THE UPHILL SIDE OF THE BARRIER, AND A MINIMUM OF TWO FEET WIDE.

WINTER CONSTRUCTION NOTES

- 1. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCT.. 15TH, OR WHICH ARE DISTURBED AFTER OCT. 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
- 2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCT. 15TH, OR WHICH ARE DISTURBED AFTER OCT. 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- 3. AFTER OCTOBER. 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

GN-4: VEGETATION STABILIZATION NOTES

ALL VEGETATION STABILIZATION SHALL BE IN ACCORDANCE WITH USDA NRCS "VEGETATING NEW HAMPSHIRE SAND and GRAVEL PITS", IN ADDITION TOO "BEST MANAGEMENT PRACTICES FOR ROUTINE ROADWAY MAINTENANCE ACTIVITIES IN NEW HAMPSHIRE", LATEST EDITIONS.

PARK SEED TYPE 15 SHALL NORMALLY BE USED ON LOAM AREAS. THIS SEED MIXTURE SHALL CONFORM TO TABLE 1 UNLESS AMENDED BY THE PROJECT ENGINEER TO SUIT ACTUAL FIELD CONDITIONS.

TABLE 1						
KIND OF SEED	MINIMUM	MINIMUM	POUNDS/ACRE			
	PURITY (%)	GERMINATION (%)				
CREEPING FESCUE	96	85	40			
PERENNIAL RYEGRASS	98	90	50			
KENTUCKY BLUEGRASS	97	85	25			
REDTOP	95	80	5			
		T	OTAL 120			

SLOPE SEED TYPE 44 SHALL NORMALLY BE USED FOR ALL SLOPE WORK, and SHALL CONFORM TO TABLE 2 UNLESS AMENDED BY THE DESIGN ENGINEER TO SUIT ACTUAL FIELD CONDITIONS.

TABLE 2						
KIND OF SEED	MINIMUM	MINIMUM	POL	JNDS/ACRE		
	PURITY (%)	GERMINATION (%)				
CREEPING RED FESCUE	96	85		35		
PERENNIAL RYEGRASS	98	90		30		
REDTOP	95	80		5		
ALSIKE CLOVER	97	90		5		
BIRDSFOOT TREFOIL	98	80		5		
		T	OTAL	80		

SEEDING SEASON:

1. SEEDBED PREPARATION

- A. ALL AREAS TO BE SEEDED SHALL BE A REASONABLY FIRM, BUT FRIABLE.
- SURFACE and SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING.
- C. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM and SMOOTH CONDITION, FOLLOWING
- D. ALL AREAS TO BE SEEDED SHALL MEET THE SPECIFIED GRADES, AS SPECIFIED ON THE
- E. ALL VEGETATION SHALL BE INSPECTED ANNUALLY FOR UNHEALTHY or DEAD AREAS. ANY and ALL SUCH AREAS ARE TO BE REPAIRED or REPLACED IN KIND.

2. ESTABLISHING A STAND

- A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
 - AGRICULTURAL LIMESTONE: 2 TONS PER ACRE OR 0.09 LBS. PER SQ. FT.
 NITROGEN (N): 50 LBS. PER ACRE OR 1.1 LBS. PER 1000 SQ. FT.
 - PHOSPHATE (P₂O₅): 100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT. - POTASH (K₂O): 100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT. (NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER
- B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH 0.25 INCH O SOIL OR LESS, BY CULTIPACKING OR RAKING.

3. MULCH

- A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
- B. MULCH WILL BE HELD IN PLACE USING TECHNIQUES FROM THE "BEST MANAGEMENT PRACTICE FOR MULCHING", AS SHOWN IN, "STORMWATER MANAGEMENT AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE".

4. MAINTENANCE TO ESTABLISH A STAND

ACRE OF 5-10-10)

- A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
- B. FERTILIZATION WILL BE PERFORMED ANNUALLY IN ACCORDANCE WITH NOTE 2A..
- C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING or TRIMMING WILL BE PERFORMED ANNUALLY TO CONTROL GROWTH.
- B. ALL VEGETATION SHOULD BE INSPECTED REGULARLY and AFTER EVERY MAJOR RAIN EVENT (> 5"/24 hr). DAMAGED AREAS SHOULD BE REPAIRED AND RE-VEGETATED IMMEDIATELY.



PREPARED FOR: SAN-KEN HOMES, INC. 286 TURNPIKE ROAD NEW IPSWICH, NH CONSTRUCTION DETAILS

CONDOMINIUM SITE PLAN

MAP 30, LOT 19

WHEELER STREET, MILFORD NH

DATE	DESCRIPTION	GRATE H20 LOADING DWN BY	CK BY

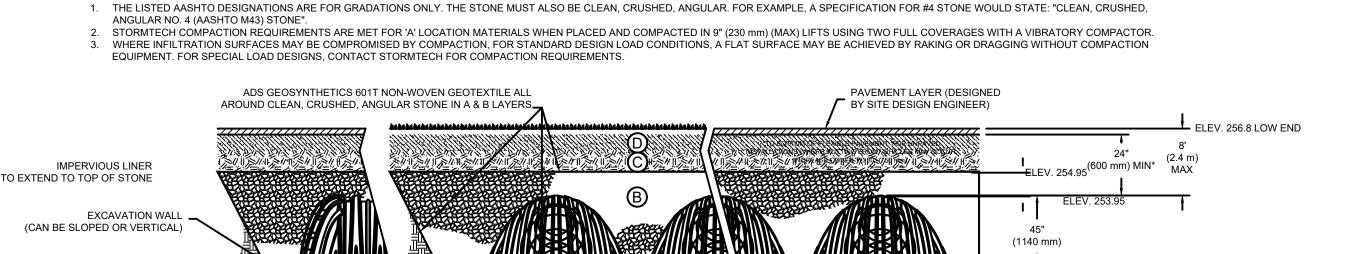
REVISIONS

Rokeh Consulting, LLC 89 KING ROAD, CHICHESTER, NH

PH: 603-387-8688

SCALE: NTS
DATE: JULY 7, 2020
DR. BY: JR
JOB NO.
SHEET

12 of 19



ADJUST TO GRADE WITH HARD RED BRICK

2 COURSE MINIMUM 12" MAXIMUM

- BOOT REQUIRED ON

IMPERVIOUS CORE

RIPLEYS DAM w/ COUPLING AS SUPPLIED BY

" WALLED STRUCTURES

SEAL ALL PRECAST

JOINTS WITH MORTAR

8" CRUSHED STONE OR CRUSHED GRAVEL MAY BE REQUIRED AS ORDERED

BARREL BLOCKS ARE NOT ACCEPTABLE.

CONCRETE COLLARS AND

- STAINLESS CLAMP

SUBGRADE SOILS (SEE NOTE 4)

ALLOW 3" FOR PAVEMENT -

RIM 450.97

OUTLET STRUCTURE DETAIL

CAST IRON FRAME DMH -

SET ON FULL BED OF

MORTAR AND SEALED

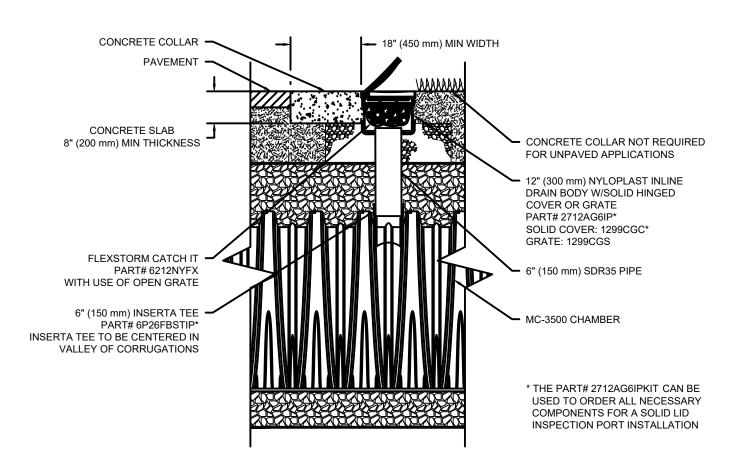
WITH MORTAR.

EXPOSED BRICK -

5" IF REINFORCED 8" IF UN-REINFORCED

18" OPENING

EL 254.15



MC-3500 6" INSPECTION PORT DETAIL

INSPECTION & MAINTENANCE

- 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)
- 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
- ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
- 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

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

- 1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS
- 2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY

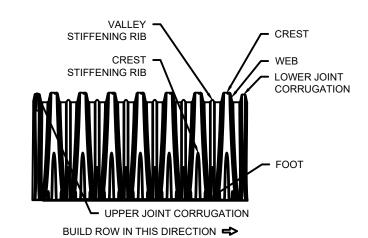
STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT

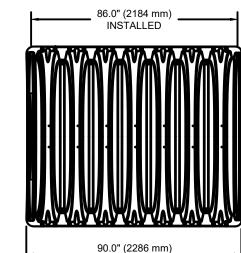
- A. INSPECTION PORTS (IF PRESENT) A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
- A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3. B. ALL ISOLATOR ROWS
- i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
- B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

 $\sqrt{\mu}$ DMH 1

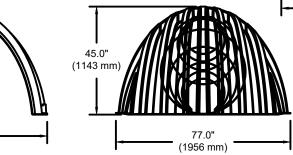
OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

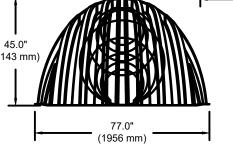


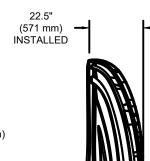




ACTUAL LENGTH







NOMINAL CHAMBER SPECIFICATIONS
SIZE (W X H X INSTALLED LENGTH) 77.0" X 45.0" X 86.0" (1956 mm X 1143 mm X 2184 mm) CHAMBER STORAGE 109.9 CUBIC FEET MINIMUM INSTALLED STORAGE* 178.9 CUBIC FEET (5.06 m³) WEIGHT 135.0 lbs.

SIZE (W X H X INSTALLED LENG

MINIMUM INSTALLED STORAGE*

END CAP STORAGE

(1143 m

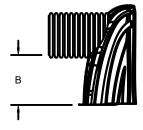
(61.2 kg)

77.0" X 45.0" X 22.5" (1956 mm X 1143 mm X 571 mm) 14.9 CUBIC FEET (0.42 m³) 46.0 CUBIC FEET 50.0 lbs.

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 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"						
PART#	STUB	В	С			
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			0.93" (24 mm)			
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)				
MC3500IEPP12B	12 (300 11111)		1.35" (34 mm)			
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)				
MC3500IEPP15B	15 (57511111)		1.50" (38 mm)			
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)				
MC3500IEPP18BC	10 (430 11111)		1.77" (45 mm)			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)				
MC3500IEPP24BC	24 (000 111111)		2.06" (52 mm)			
MC3500IEPP30BC	30" (750 mm)					



NOTE: ALL DIMENSIONS ARE NOMINAL

CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED 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 HIGHTEST POSSIBLE FOR THE PIPE SIZE.

MC-3500 TECHNICAL SPECIFICATION

SEE ADS SHOP DRAWINGS FOR UNDERGROUND DETENTION DETAILS AND CONSTRUCTION



PREPARED FOR: SAN-KEN HOMES, INC. 286 TURNPIKE ROAD NEW IPSWICH, NH

STORMTECH DETAILS CONDOMINIUM SITE PLAN MAP 30, LOT 19 WHEELER STREET, MILFORD NH

REVISIONS DATE DESCRIPTION

Rokeh Consulting, LLC 89 KING ROAD, CHICHESTER, NH PH: 603-387-8688

SCALE: 1" = 30'DATE: JULY 7, 2020 DR. BY: JR JOB NO.

> SHEET 13 of 19







WHEELER STREET

MILFORD, NH

STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-3500 OR APPROVED EQUAL.
- 2. CHAMBERS SHALL BE MADE 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.
- 4. 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.
- 5. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 6. 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".
- 7. 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. 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.
 - b. 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.
 - c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- 8. 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

- 1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- 2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- 3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN 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.
- 4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- 5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- 6. MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
- 7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- 8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm) MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.^J
- 9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING..^J
- 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

- 1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".^J
- 2. 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 CONSRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- 3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.^J
 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.

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CONCEPTUAL LAYOUT

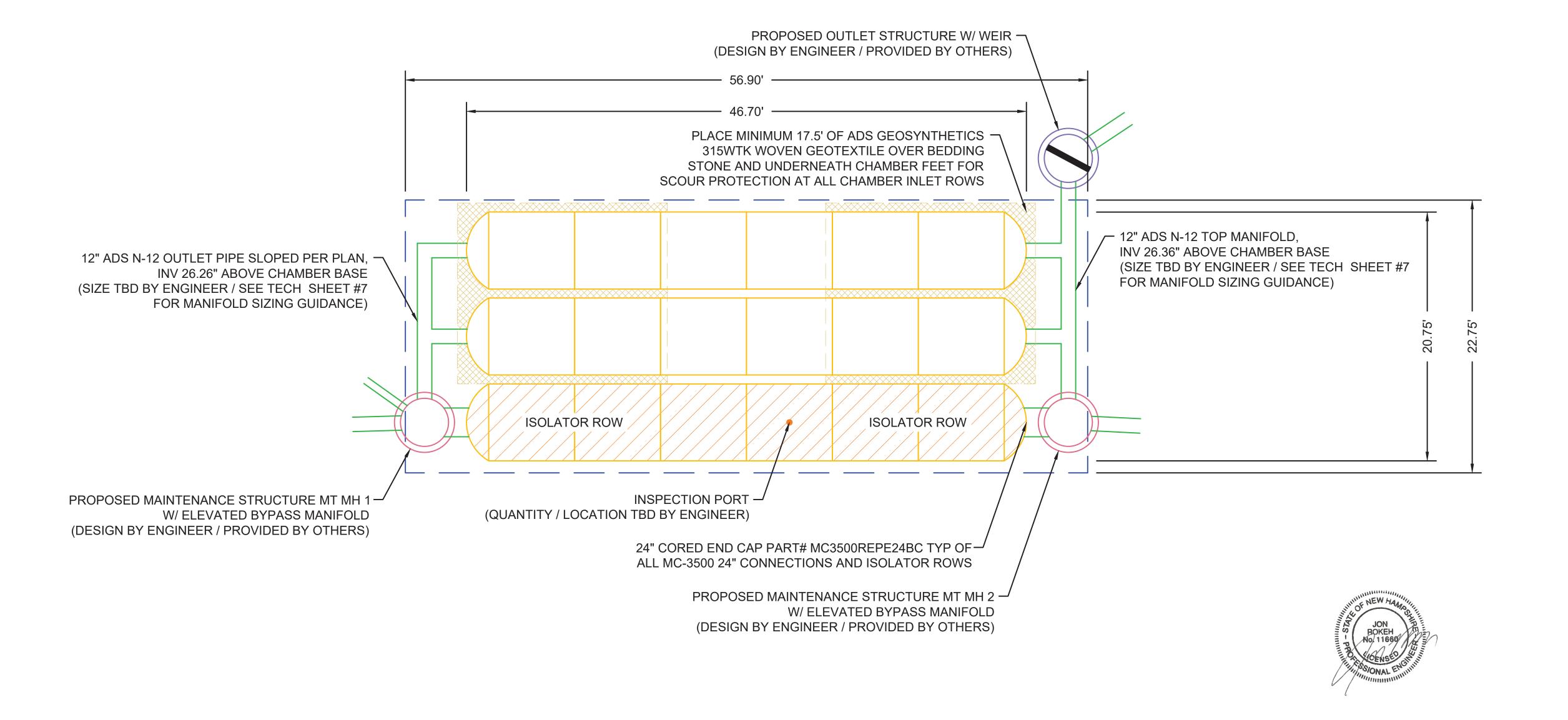
PERIMETER OF SYSTEM: 159 FT

(18) STORMTECH MC-3500 CHAMBERS
(6) STORMTECH MC-3500 END CAPS
INSTALLED WITH 15" COVER STONE, 12" BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME: 4349 CF
AREA OF SYSTEM: 1295 FT²

PROPOSED ELEVATIONS

I NOI GOLD LLL VICTORIO	
MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	261.7
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	255.7
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	255.2
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	255.2
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	255.2
TOP OF STONE:	255.0
TOP OF CHAMBER:	253.7
12" TOP CONNECTION INVERT:	252.2
24" BOTTOM CONNECTION INVERT (ISOLATOR ROW):	250.1
BOTTOM OF CHAMBER:	250.0
BOTTOM OF STONE:	249.0

COMPUTER GENERATED CONCEPTUAL LAYOUT NOT FOR CONSTRUCTION



HILLIARD, OH 43026 1-800-733-7473

HILL HILL ADVANCED DRAINAGE SYSTEMS, INC.

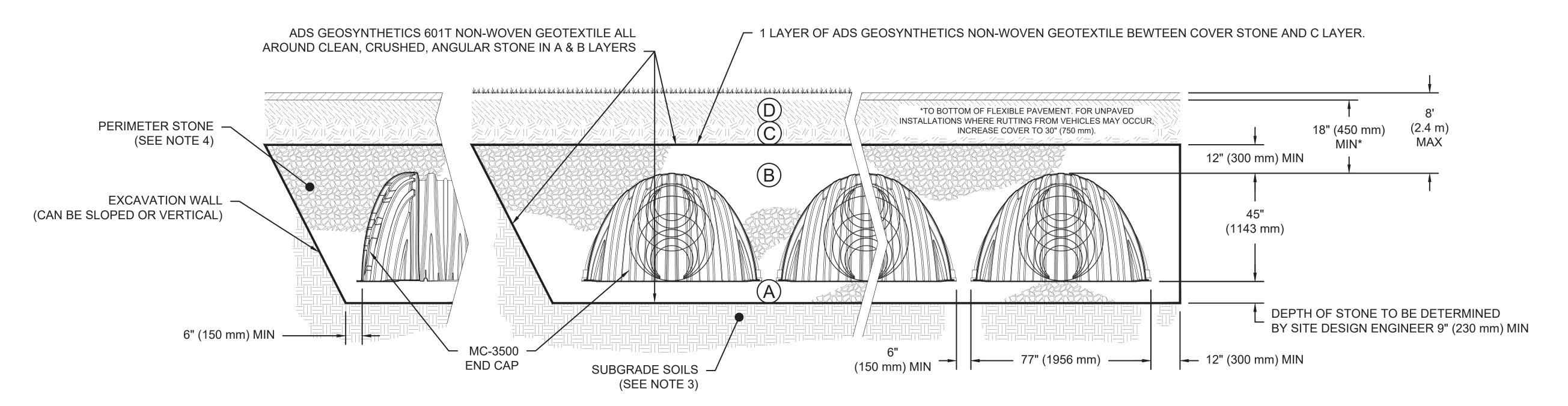
SHEET
SHEET 15 OF 19

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 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	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
С	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. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 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.
В	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.
А	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.
- 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.

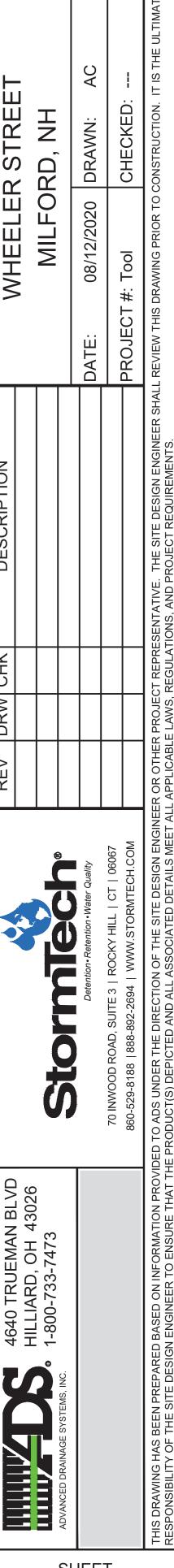


NOTES:

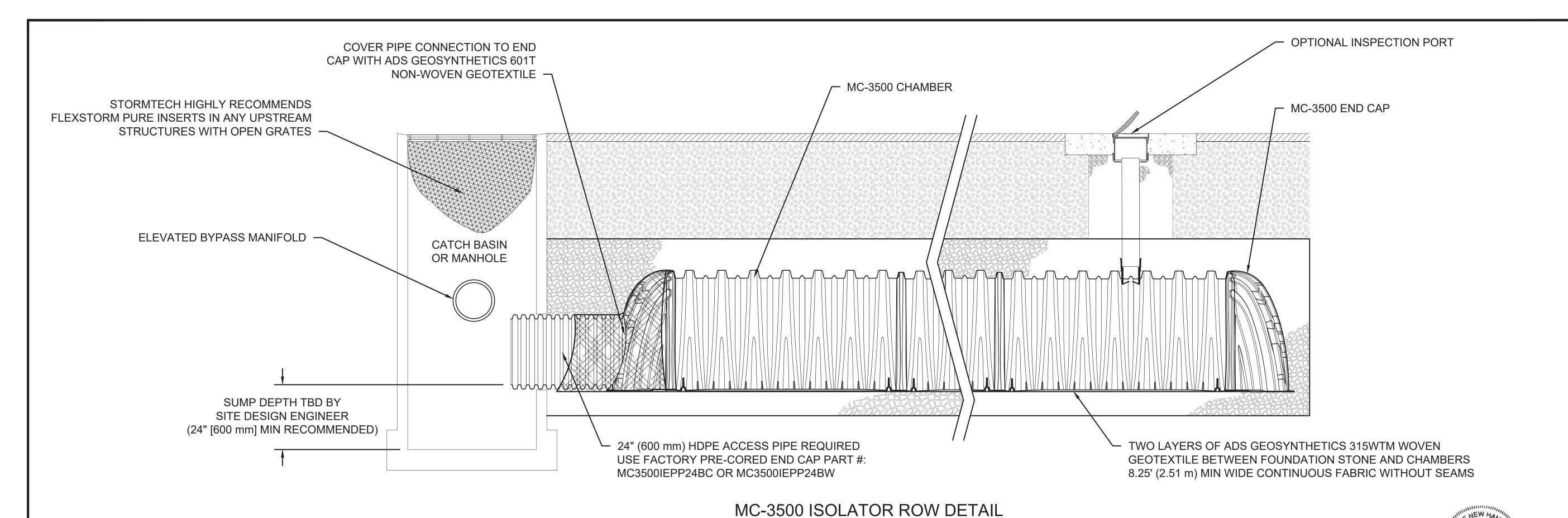
- 1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- 2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- 4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- 5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN.

 AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.





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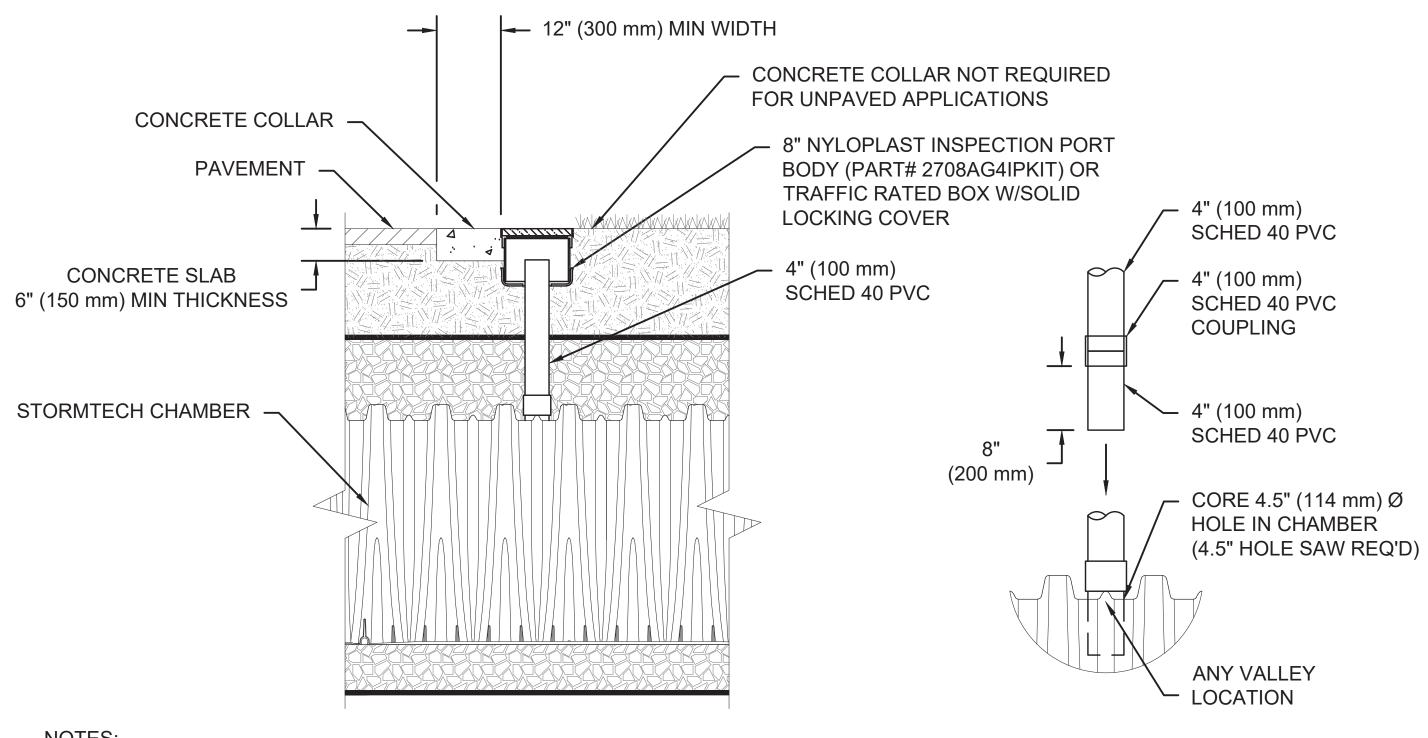
INSPECTION & MAINTENANCE

INSPECT ISOLATOR ROW FOR SEDIMENT

- A. INSPECTION PORTS (IF PRESENT)
- A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
- REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
- USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
- LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
- IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
- 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.
- 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
- REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS. STEP 3)
- 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.
- 2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTES:

NTS

- 1. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.
- 2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED (4" PVC NOT PROVIDED BY ADS).

4" PVC INSPECTION PORT DETAIL

CONNECTION DETAIL

NTS

SHEET

SHEET 17 OF 19

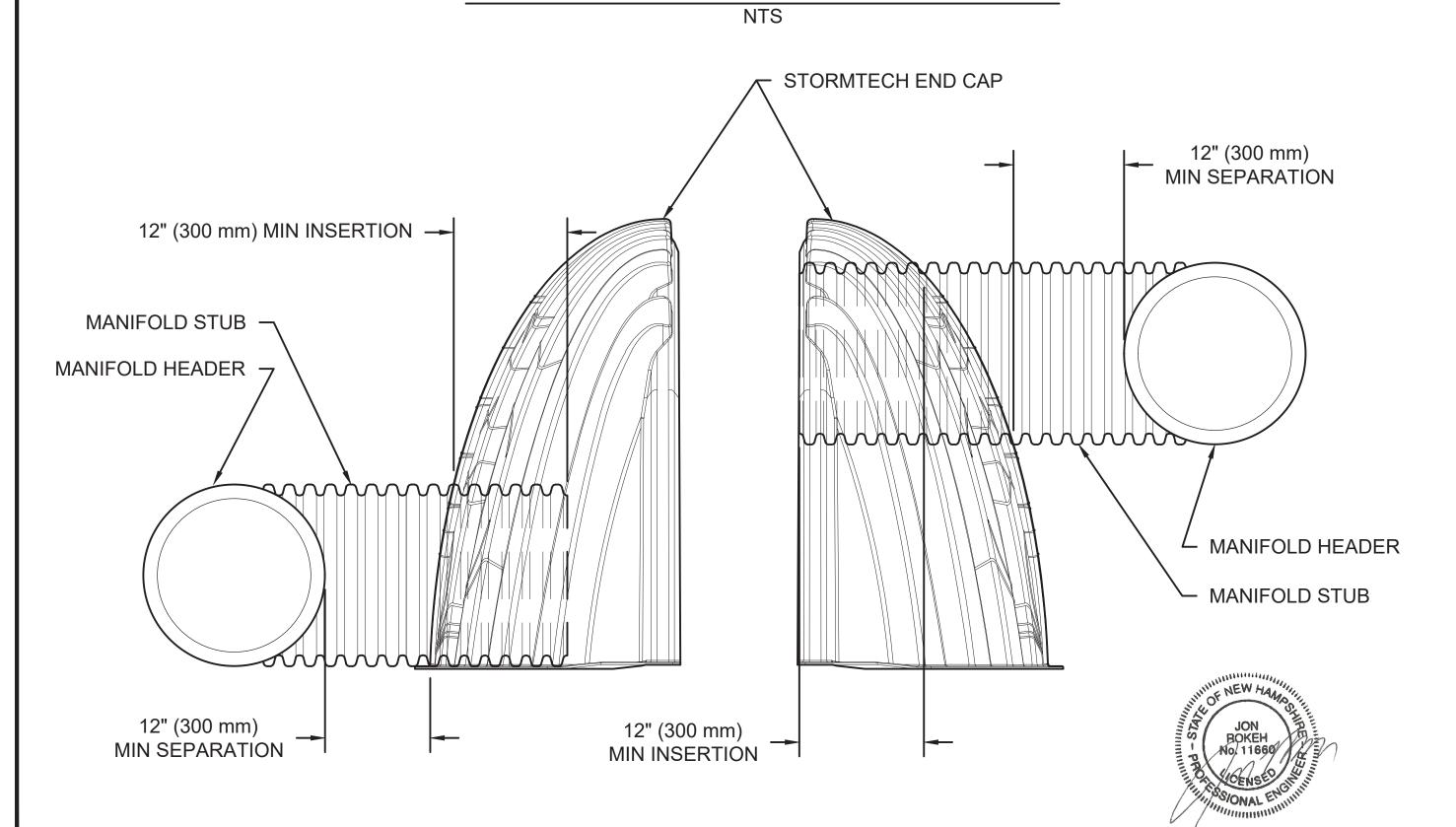
INSERTA TEE DETAIL NTS DO NOT INSTALL ─ INSERTA-TEE AT **CHAMBER JOINTS** CONVEYANCE PIPE MATERIAL MAY VARY (PVC, HDPE, ETC.) **INSERTA TEE** CONNECTION INSERTA TEE TO BE (X) \dashv INSTALLED, CENTERED -**OVER CORRUGATION** PLACE ADS GEOSYNTHETICS 315 WOVEN GEOTEXTILE (CENTERED ON INSERTA-TEE **SECTION A-A** SIDE VIEW INLET) OVER BEDDING STONE FOR SCOUR PROTECTION AT SIDE INLET CONNECTIONS. GEOTEXTILE MUST EXTEND 6" (150 mm) PAST CHAMBER FOOT

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS		

GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON

PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

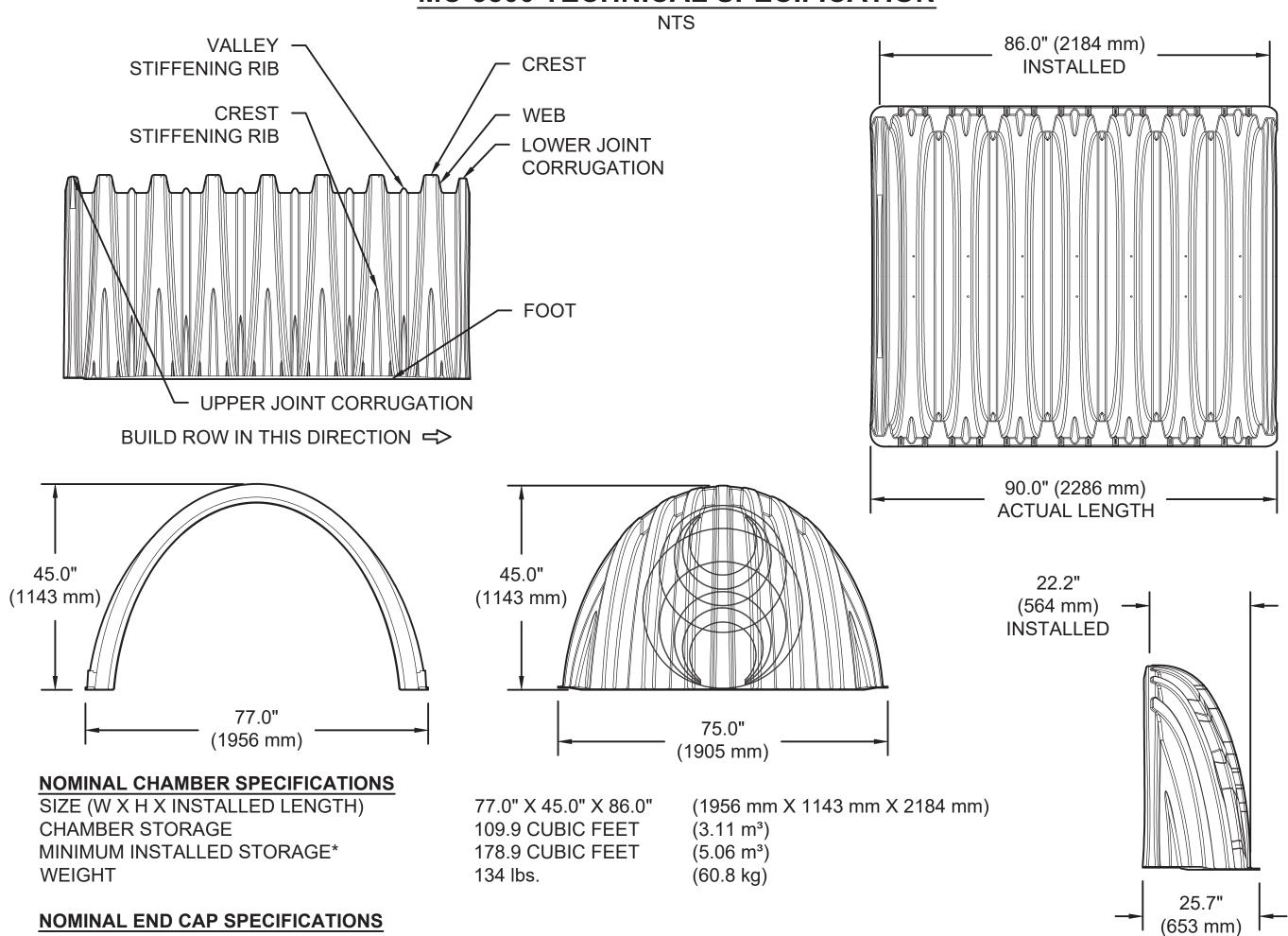
MC-SERIES END CAP INSERTION DETAIL



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL

FOR A PROPER FIT IN END CAP OPENING.

MC-3500 TECHNICAL SPECIFICATION



(1905 mm X 1143 mm X 564 mm)

(0.42 m³) (1.30 m³)

(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

49 lbs.

75.0" X 45.0" X 22.2"

14.9 CUBIC FEET

46.0 CUBIC FEET

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	В	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	
MC3500IEPP06B	0 (130 11111)		0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	
MC3500IEPP08B	0 (200 111111)		0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	
MC3500IEPP10B	10 (230 11111)		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	18" (450 mm)	20.03" (509 mm)	
MC3500IEPP18TW		20.03 (309 11111)	
MC3500IEPP18BC			1.77" (45 mm)
MC3500IEPP18BW			1.77 (45 111111)
MC3500IEPP24TC	24" (600 mm)	14.49" (269 mm)	
MC3500IEPP24TW		14.48" (368 mm)	
MC3500IEPP24BC			2 06" (52 mm)
MC3500IEPP24BW			2.06" (52 mm)
MC3500IEPP30BC	30" (750 mm)		2.75" (70 mm)

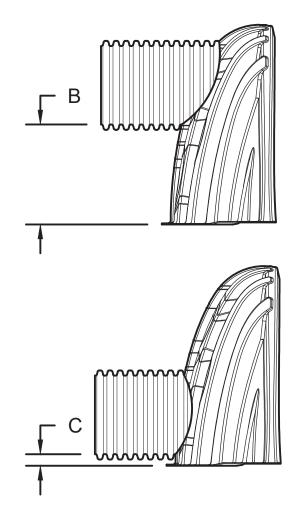
NOTE: ALL DIMENSIONS ARE NOMINAL

SIZE (W X H X INSTALLED LENGTH)

MINIMUM INSTALLED STORAGE*

END CAP STORAGE

WEIGHT

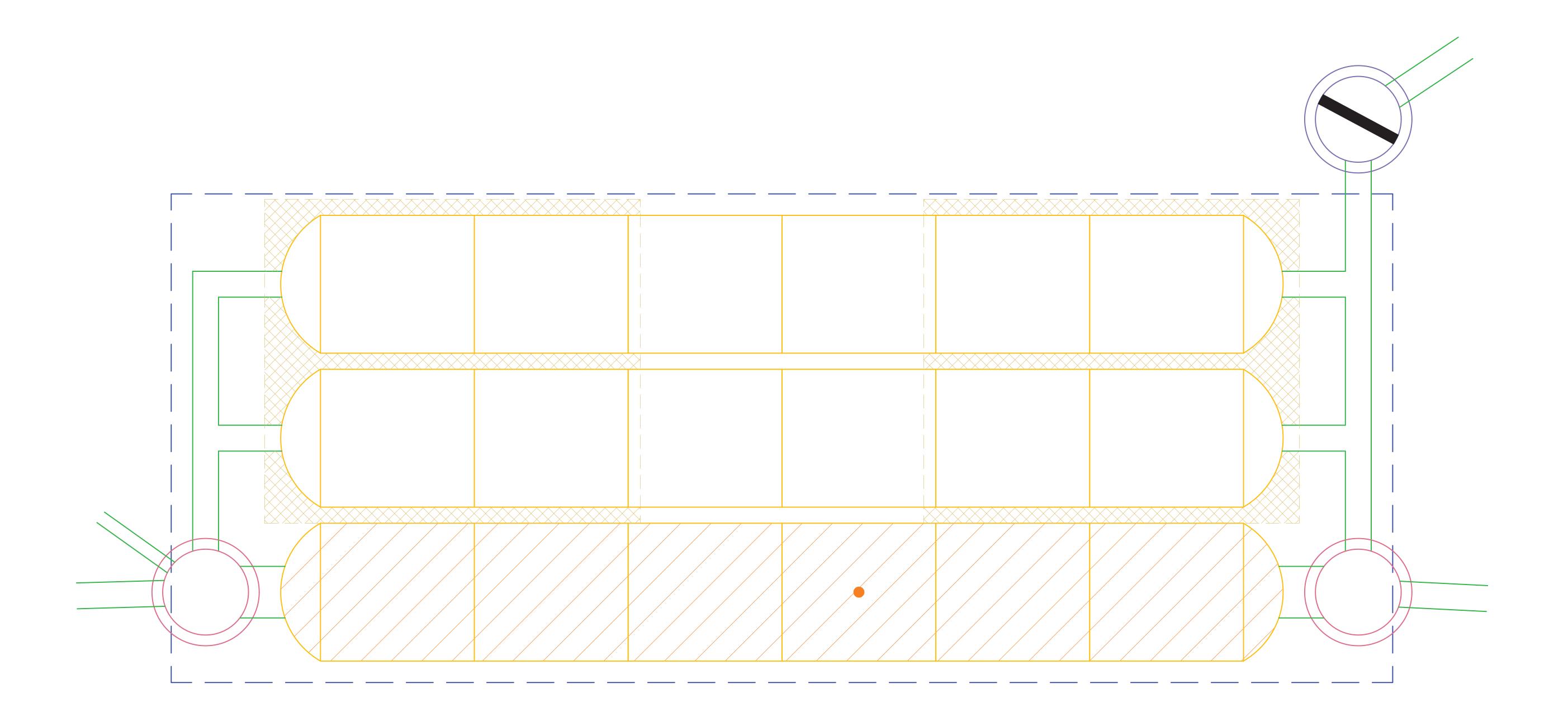


CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST.
INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm)
ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION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

	CA IS IEMAN BI VD		REV	REV DRW CHK		DESCRIPTION	THEELED STREET	CTBEET
	HILLIARD, OH 43026							, O
	0 1-800-733-7473						MILFORD, NH	SD, NH
ADVANCED DRAINAGE SYSTEMS, INC.								
		Detention Retention Water Quality					DATE: 08/12/2020	08/12/2020 DRAWN: AC
		70 INWOOD ROAD, SUITE 3 ROCKY HILL CT 06067						
		860-529-8188 888-892-2694 WWW.STORMTECH.COM					PROJECT #: Tool	CHECKED:
HIS DRAWING HAS BEEN PREPARE ESPONSIBILITY OF THE SITE DESIG	ED BASED ON INFORMATION PROVII 3N ENGINEER TO ENSURE THAT TH	HIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE ESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.	R OR OTHER - APPLICABLE	PROJECT RE ELAWS, REGU	PRESENTATIVE. THE SIT LATIONS, AND PROJECT	TE DESIGN ENGINEER SHALL REQUIREMENTS.	REVIEW THIS DRAWING PRIOR TO C	ONSTRUCTION. IT IS THE ULTIMATE

SHEET

SHEET 18 OF 19







Facsimile Condo Units

Another Quality Home By:



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To Scale on 11" x 17" Paper

Pictures are facsimiles, and may show upgrade items, items that will not be included, or items that may be changed dependant on availability.

DRAWING SHEET INDEX

COVER SHEET:

CS-1 Cover Sheet ARCHITECTURAL:

A-1	First Floor	
A-2	Exterior Elevations	
A-3	Exterior Elevations	
A-4	Exterior Elevations	
A-5	Floor Framing Overviews	
A-6	Floor Framing Overviews	
A-7	Framing Detail	
A-8	Framing Detail	
A-9	Framing Detail	
A-10	Building Sections and Deta	

A-10 Building Sections and Details
S-1 Basement/Foundation Plan

PLAN DETAILS

FINISHED LIVING AREA: 3584
UNFINISHED LIVING AREA: 0
BASEMENT AREA: 3584

TOTAL LIVING AREA: 3584

GARAGE AREA: 783 DECK AREA: 384 PORCH AREA: 288

BEDROOMS: 6
BATHROOMS: 6
GARAGE BAYS: 3

NUMBER DATE REVISED BY DESCRIPTION

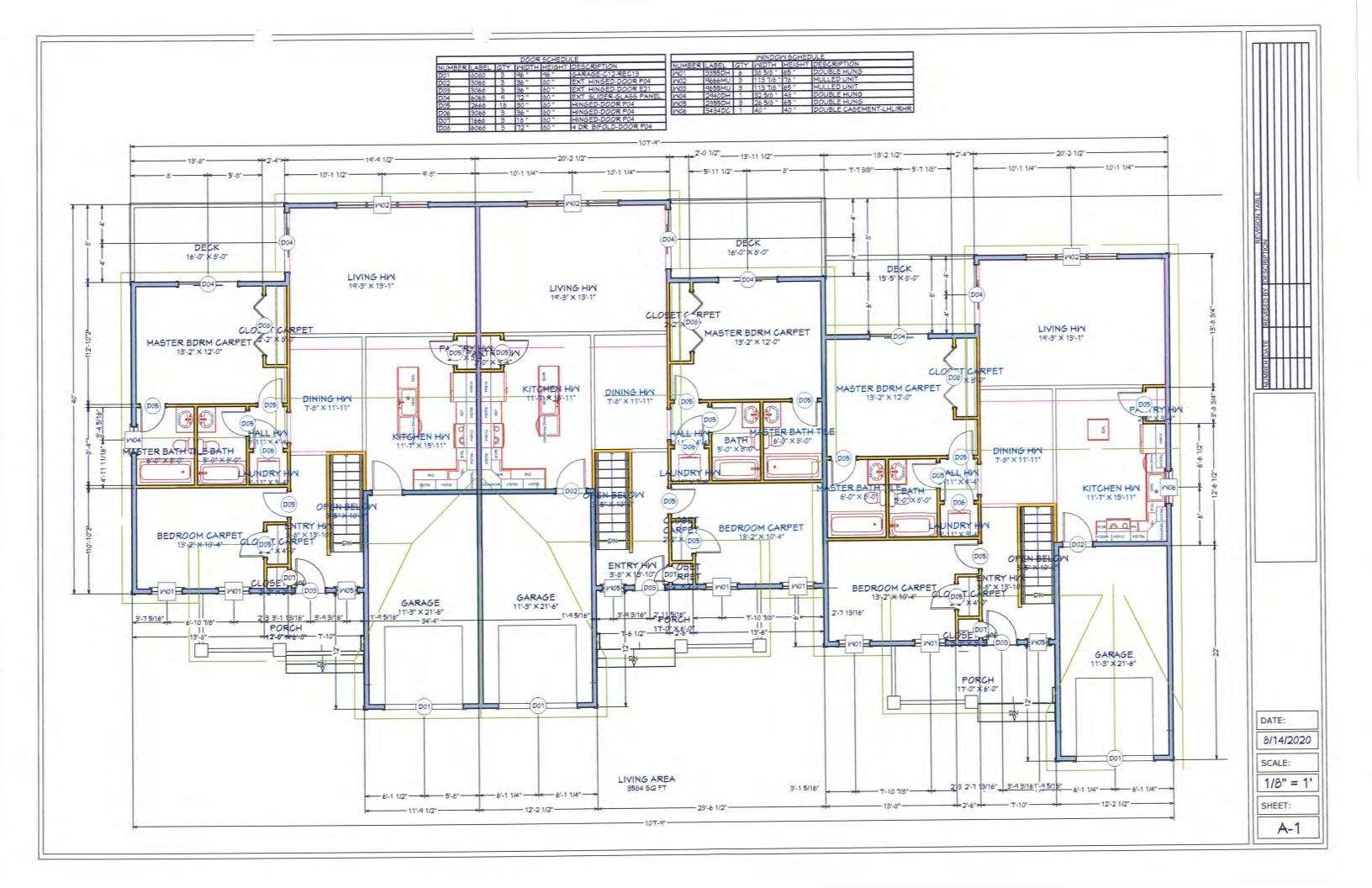
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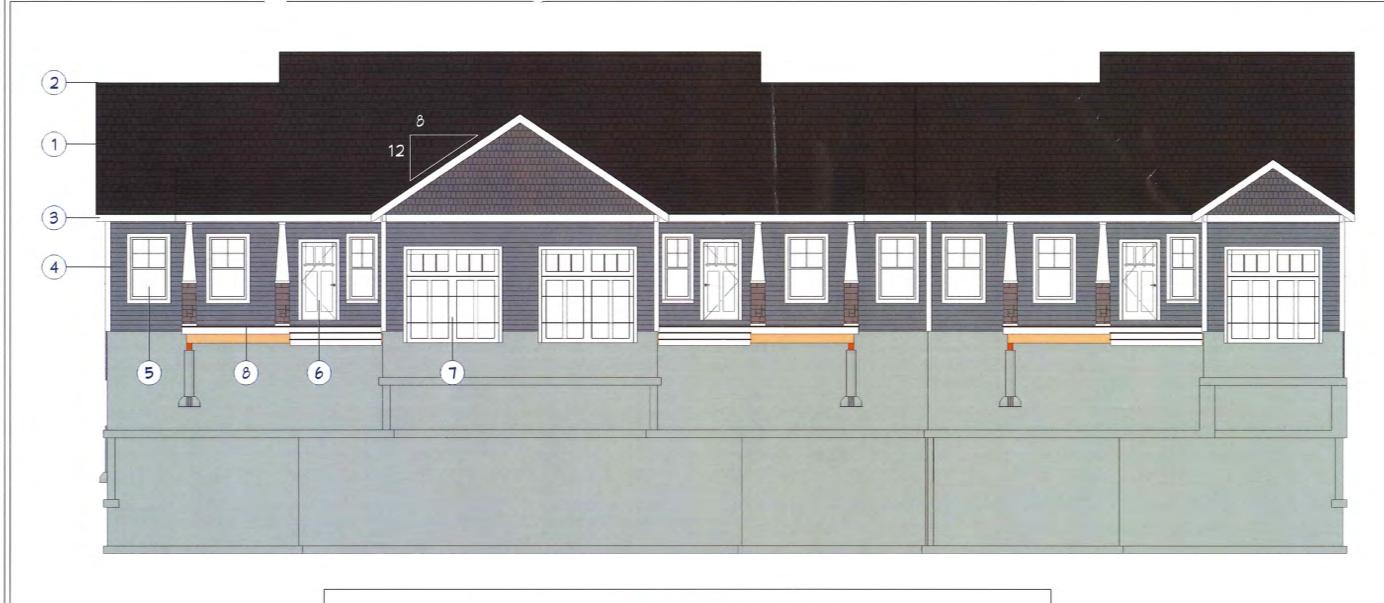
SCALE:

8/14/2020

NOT TO SCALE

SHEET:





MATERIAL LEGEND

- (1) ASPHALT SHINGLES
- (2) CONTINUES RIDGE VENT W/ ASPHALT SHINGLE CAP
- 3 BENT METAL (ALUMINUM) DRIPEDGE, FASCIA & TRIM COLOR WHITE
- (4) VINYL SIDING & CORNER TRIM
- (5) VINYL WINDOWS (TILT-WASH) W/ ARGON INSULATED GLASS, GRILLES AND SCREENS (SEE WINDOW SCHEDULE FOR SIZES AND TYPES) U VALUE = .35 MAX, SHGC = ANY
- (6) PREHUNG, FIBERGLASS INSULATED DOOR
- (7) METAL GARAGE DOOR
- (8) TREX PORCH/DECK

DATE:

8/14/2020

SCALE: 1/8" = 1'

SHEET:

A-2



NUMBER IDATE REVISED BY IDESCRIPTION

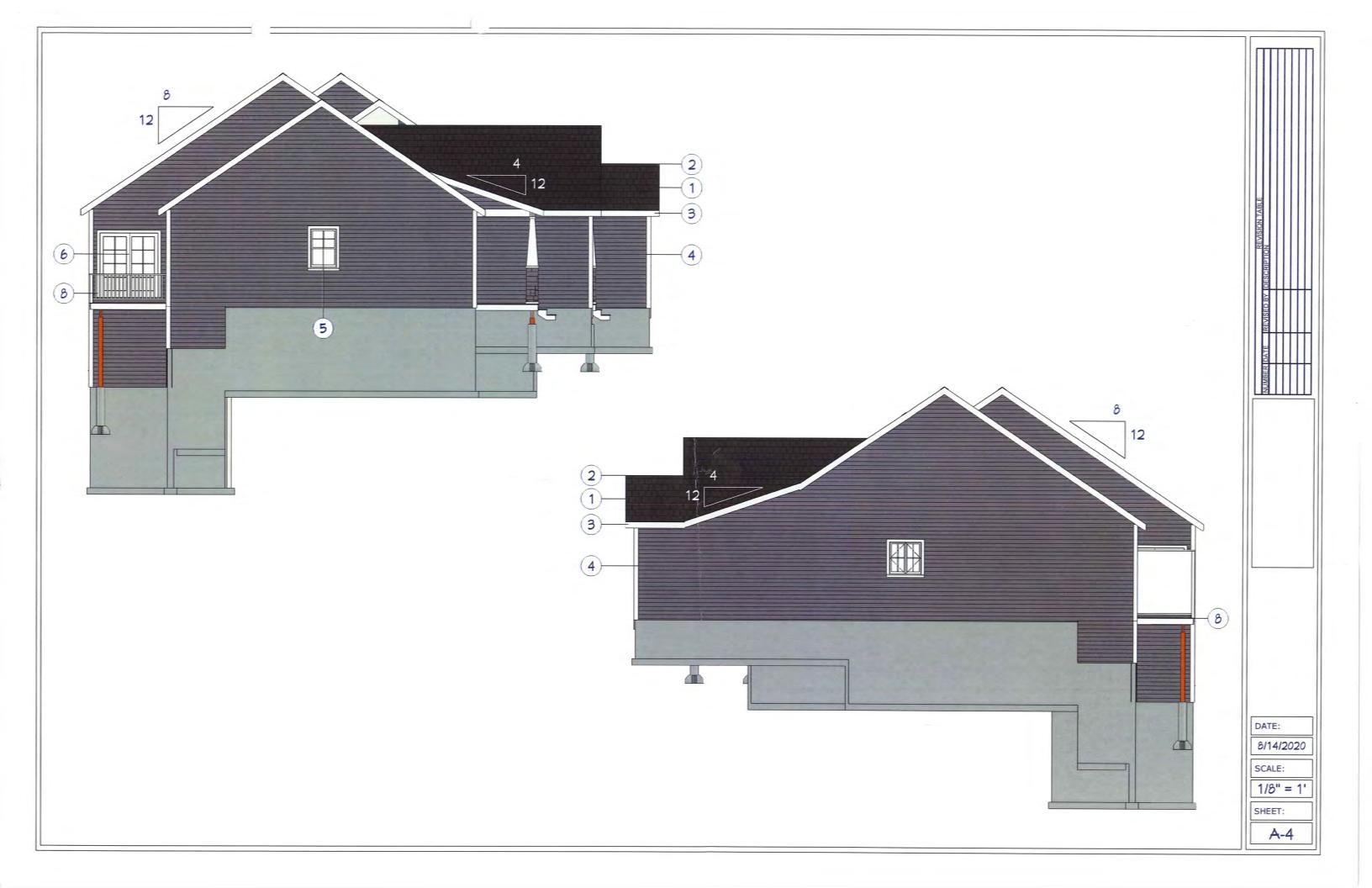
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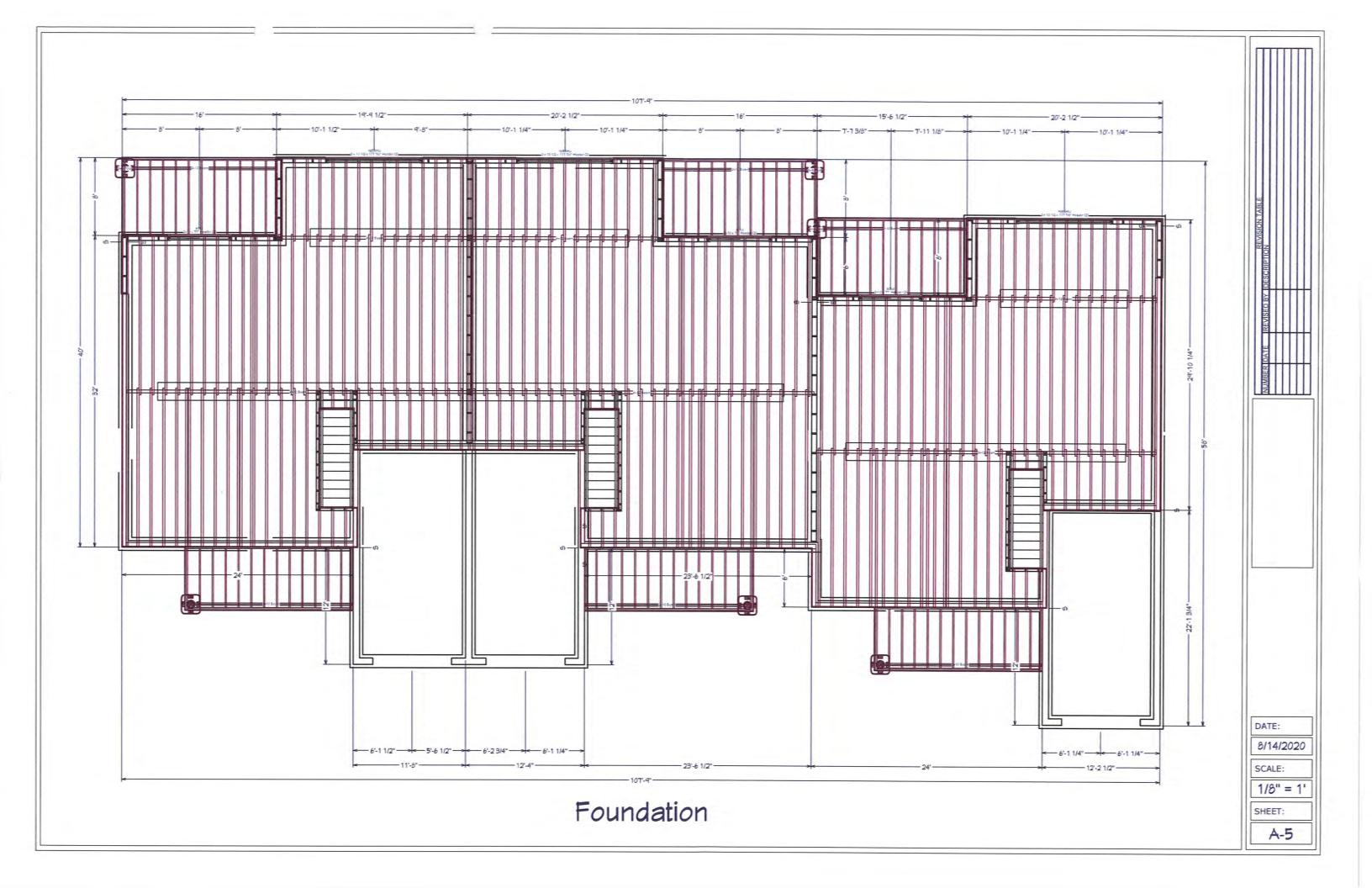
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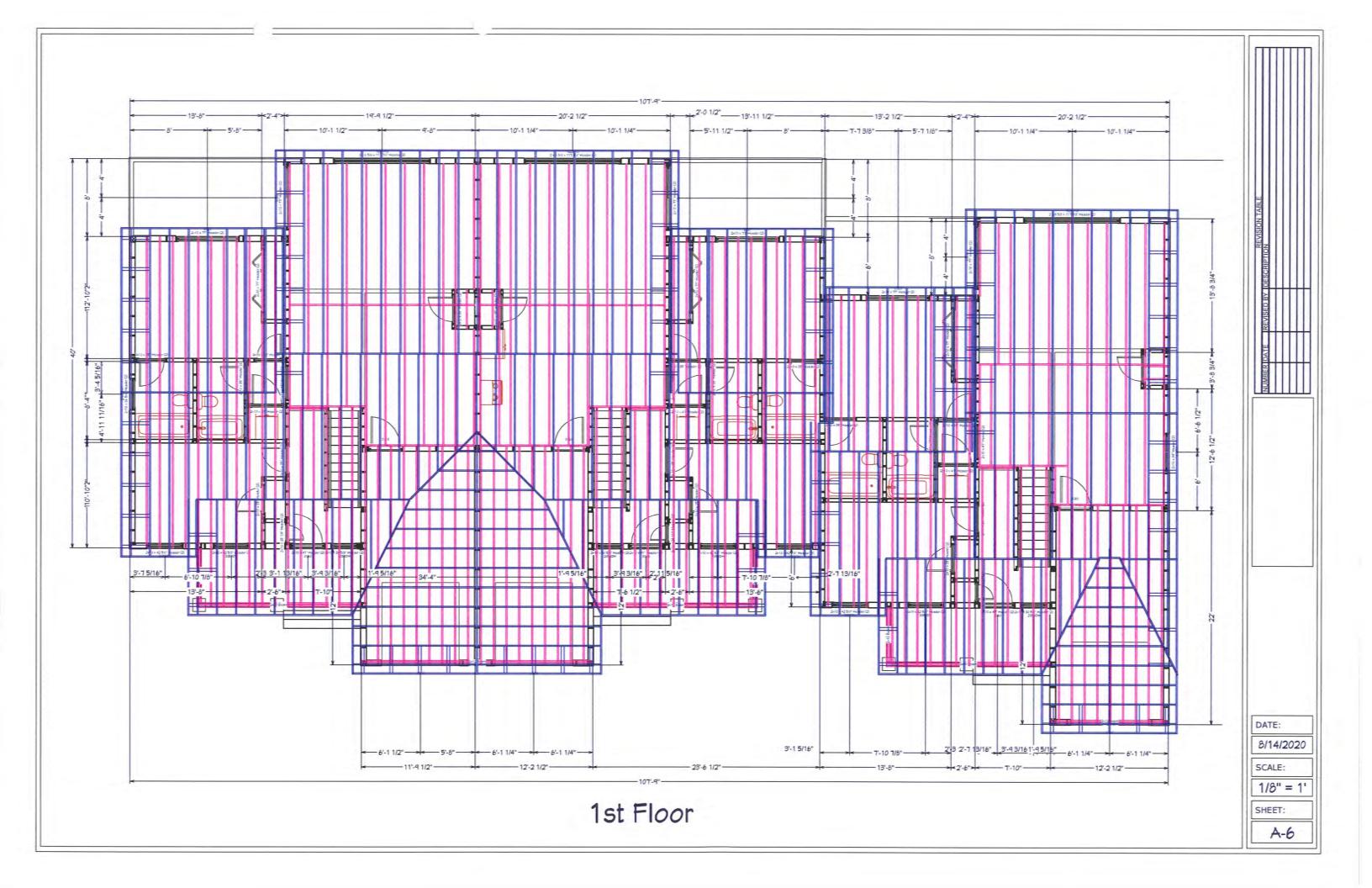
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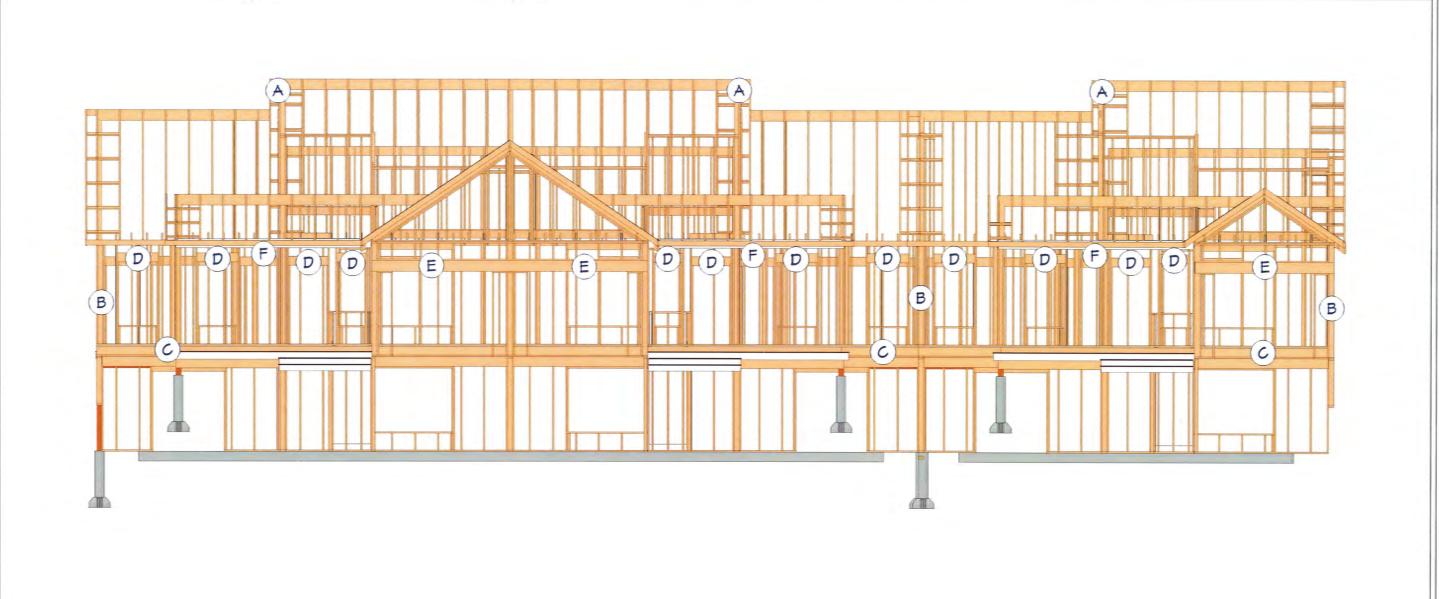
SHEET:

A-3









FRAMING DETAILS

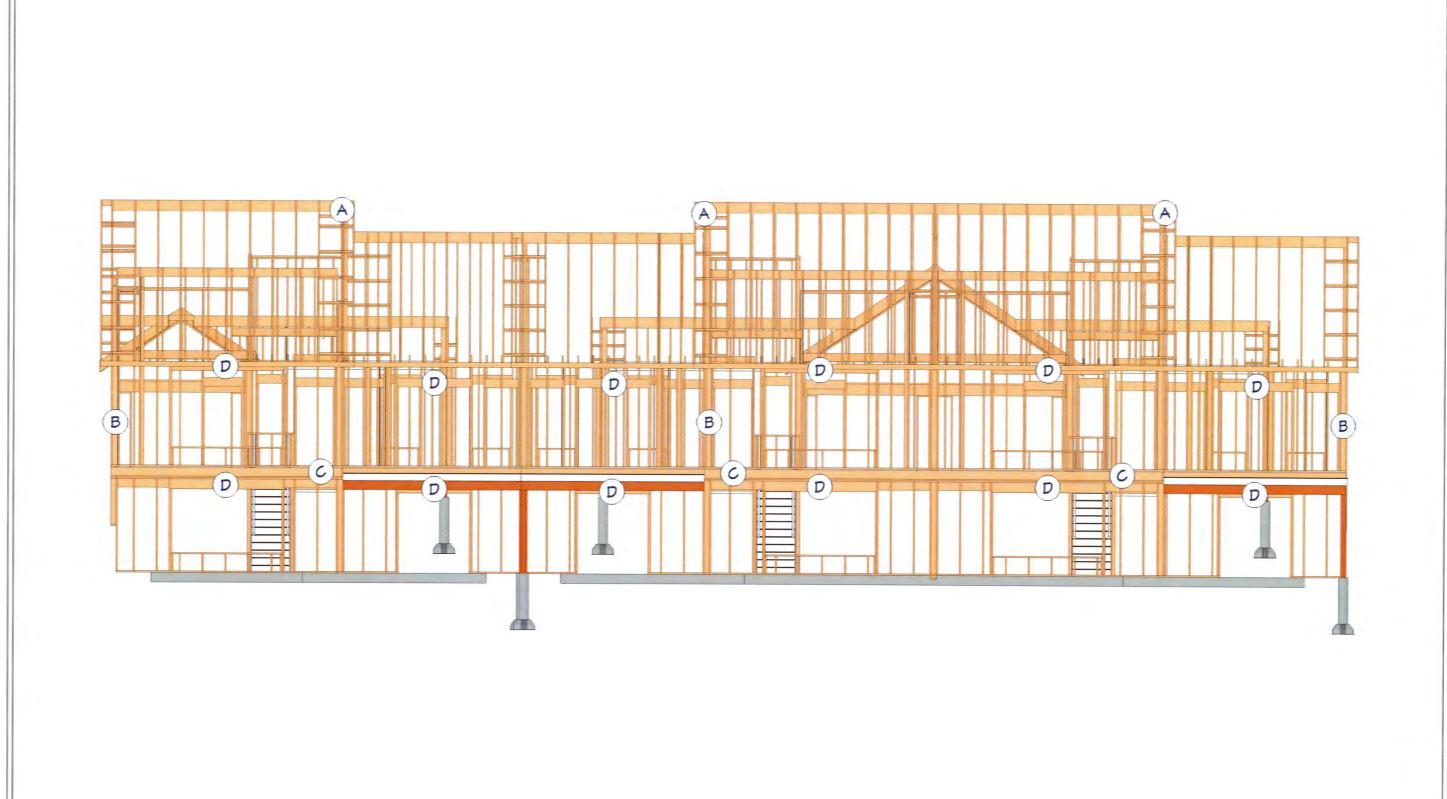
- (A) TRUSS
- B WALLS 2"X6"
- © FLOOR JOISTS 2"X10"
- D HEADERS TRIPLE 2"X10"
- E HEADER TRIPLE 2"X12"X144" FRAMED IN ACCORDANCE WITH R602.10.4.1.1
- F PORCH BEAM QUAD 2"X10"

DATE:

8/14/2020

SCALE: 1/8" = 1'

SHEET:





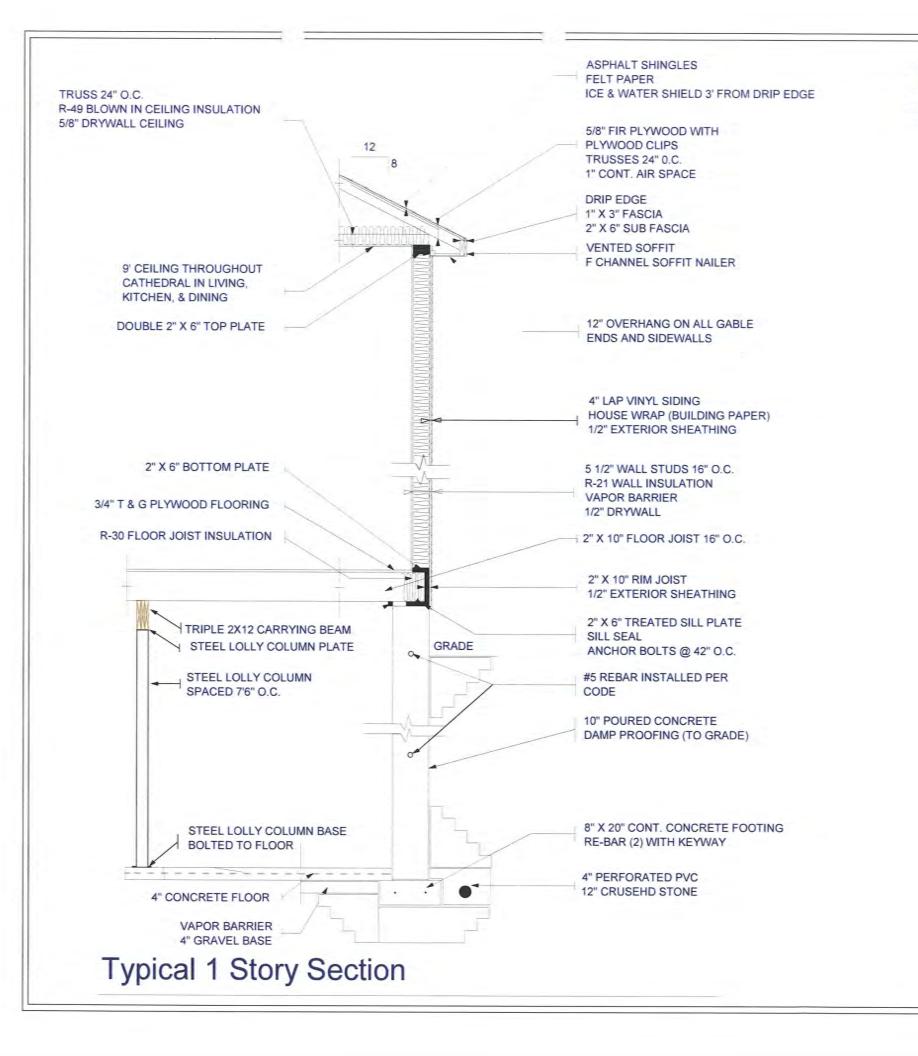
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8/14/2020

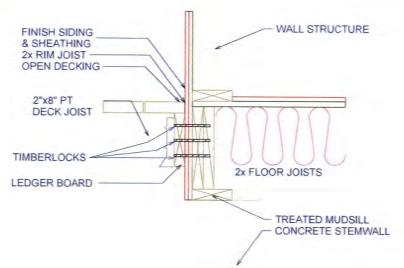
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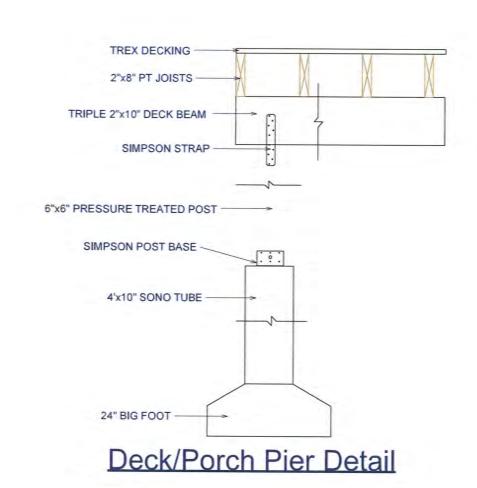




FRONT PORCH TO BE FRAMED EXTENDING 5 1/2" FROM EXTERIOR WALL IN ORDER TO GIVE ROOM FOR DECORATIVE POSTS FRONT PORCH, BACK DECK, AND EXTERIOR STAIRS ARE TO BE PICTURE FRAMED.



Deck Anchored to Wood Wall: 1st Floor

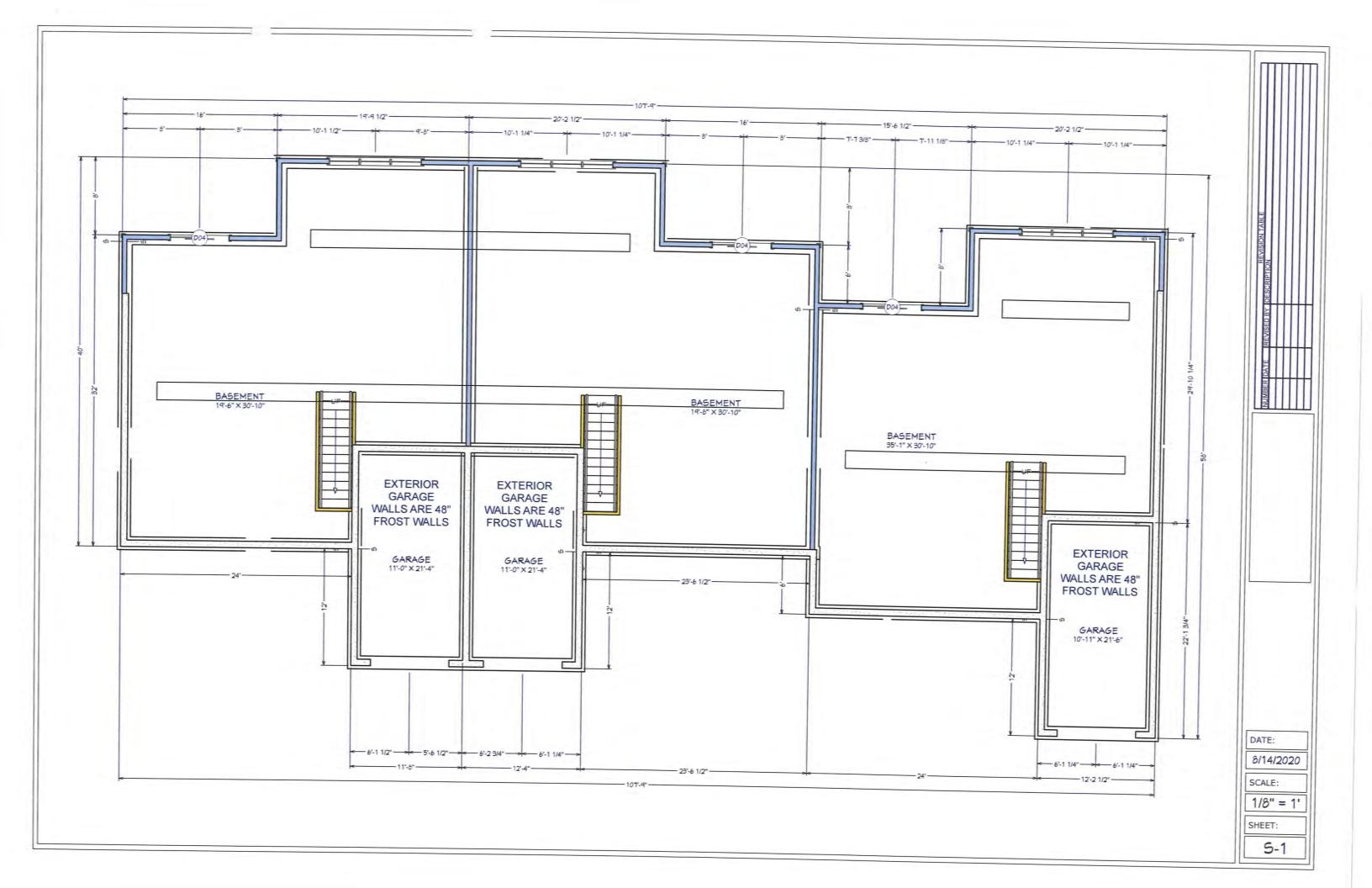


DATE:

8/14/2020

SCALE:

SHEET:



NOTES

1. OWNER OF RECORD:

TAX MAP 30 LOT 19 SAN-KEN HOMES, INC. 586 TURNPIKE ROAD NEW IPSWICH, NH 03071 BK: 9251 PG: 750

- 2. THE INTENT OF THIS PLAN IS TO SHOW THE BOUNDARY OF THE SUBJECT PARCEL AND THE IMPROVEMENTS THEREON.
- 3. THE SUBJECT AND ABUTTING PARCELS ARE ZONED "RESIDENCE A". DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS:

MINIMUM LOT SIZE = 15,000 SQ FT (WITH MUNICIPAL WATER & SEWER) MINIMUM FRONTAGE = 100' (WITH MUNICIPAL WATER & SEWER) MINIMUM BUILDING SETBACKS;

FRONT = 30'SIDE = 15'REAR = 15'

4. DENSITY CALCULATIONS;

LOT SIZE - (WETLAND & SLOPES >25%) / 15,000 X FACTOR = MAX UNITS FACTOR = 0.6 (31.7% OF LOT IS WET/STEEP) $((259,800 - 82,437) / 15,000) \times 0.6 = 7.09 = 7 \text{ MAX UNITS}.$

- 5. THIS PLAN REPRESENTS EXISTING CONDITIONS, BOUNDARY EVIDENCE, AND MONUMENTATION AS OBSERVED DURING A SURVEY BY THIS OFFICE IN MAY 2020. BOUNDARY INFORMATION SHOWN HEREON IS BASED ON THE REFERENCE PLANS.
- 6. THE SUBJECT PROPERTY IS LOCATED PARTIALLY WITHIN THE 1% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR HILLSBOROUGH COUNTY, NEW HAMPSHIRE. MAP NUMBER 33011C0459D. EFFECTIVE DATE SEPTEMBER 25, 2009.
- 7. ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. THIS OFFICE HAS NOT LOCATED ANY UNDERGROUND UTILITIES. ALWAYS CALL DIG SAFE TO MARK OUT UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
- 8. PORTIONS OF THE PROPERTY ARE SUBJECT TO THE PROVISIONS OF THE SHORELAND WATER QUALITY PROTECTION ACT, NHRSA 483-B.
- 9. TOPOGRAPHIC DATA SHOWN HEREON SOUTH OF THE WETLANDS IS BASED ON A SURVEY BY THIS OFFICE. TOPOGRAPHY ON THE REMAINDER OF THE LOT WAS TAKEN FROM NOAA LIDAR. VERTICAL DATUM IS NAVD '88.
- 10. PROPERTY IS SUBJECT TO A SEWER EASEMENT TO BENEFIT THE TOWN OF MILFORD AS RECORDED IN BOOK 2691 PAGE 355 AND SHOWN ON REFERENCE PLAN 3.
- 11. PROPERTY IS SUBJECT TO AN EASEMENT FOR DITCH MAINTENANCE RECORDED IN BOOK 3026 PAGE 770.
- 12. THE SUBJECT PROPERTY FALLS WITHIN THE GROUNDWATER OVERLAY DISTRICT AND SHALL COMPLY TO ALL PERFORMANCE
- 13. WATER, SEWER, ROAD (INCLUDING PARKING LOT) AND DRAINAGE WORKSHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF MILFORD'S WATER UTILITIES DEPARTMENT AND PUBLIC WORKS DEPARTMENT STANDARDS.
- 14. AS-BUILT PLANS SHALL BE DELIVERED TO THE BUILDING DEPARTMENT PRIORTO A CERTIFICATE OF OCCUPANCY BEING ISSUED.
- 15. NHDES SEWER DISCHARGE PERMIT # XXXXXX
- 16. WITH THE APPROVAL OF THIS PLAN THE FOLLOWING WAIVERS HAVE **BEEN APPROVED**
- 17. SNOW WILL BE STORED ALONG THE EDGE OF THE ROADWAY AND EDGE OF DRIVEWAYS. EXCESS SNOW WILL BE REMOVED FROM THE SITE

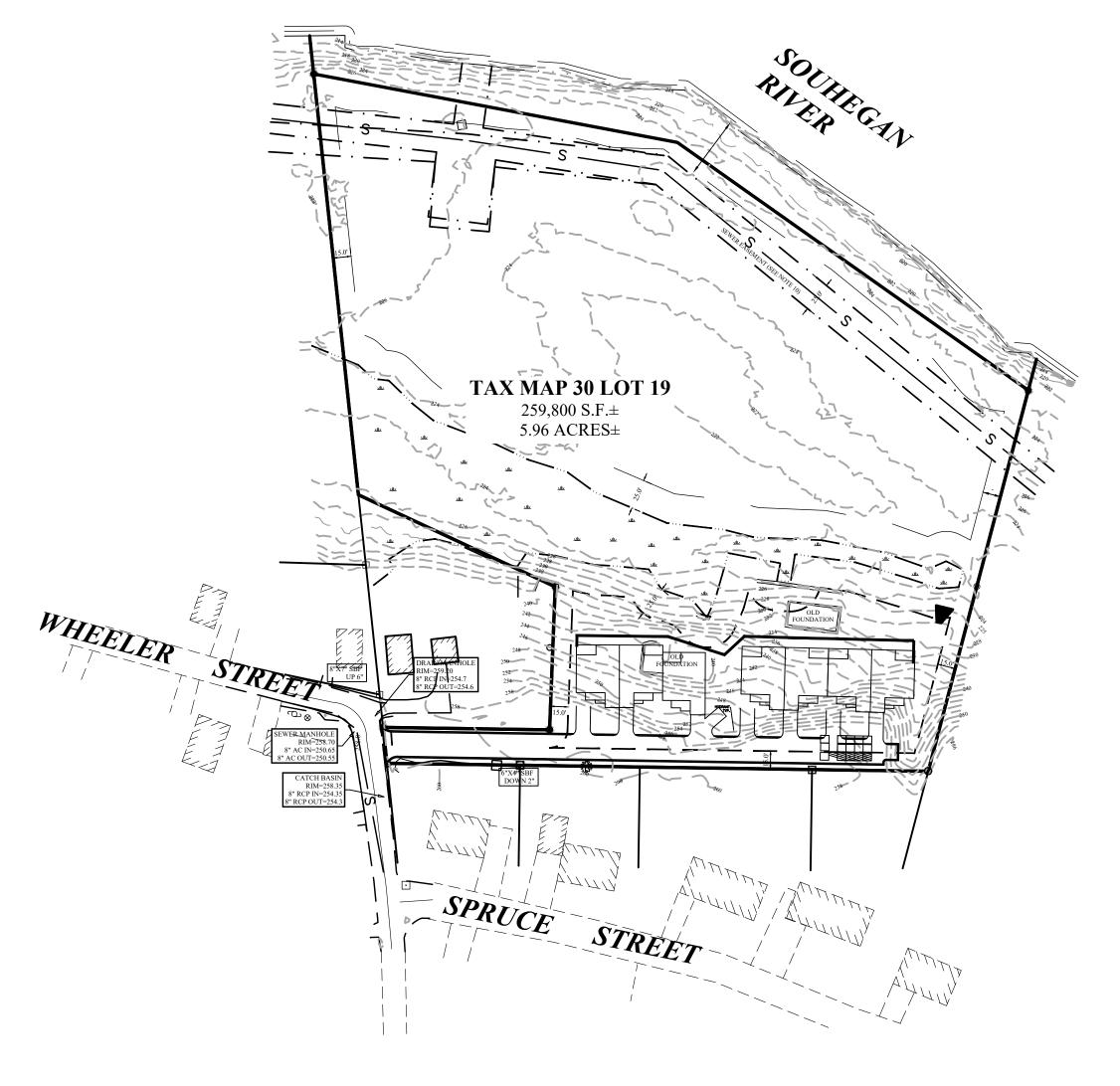
CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION

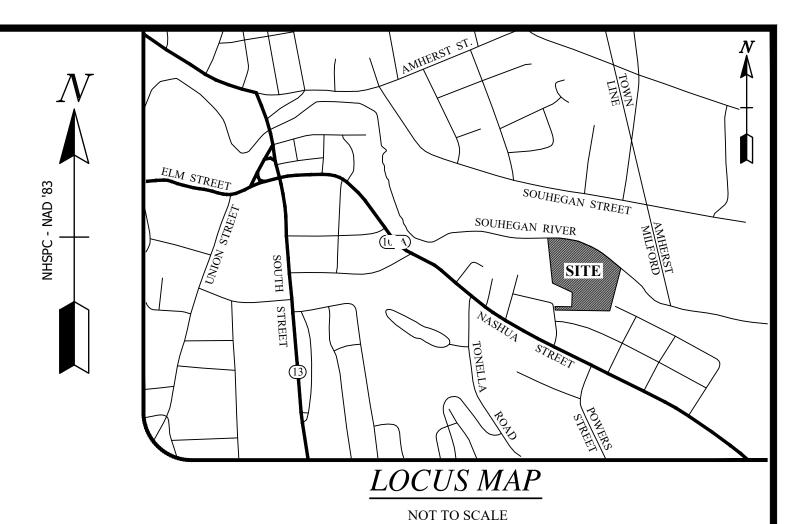
THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. ROKEH CONSULTING, LLC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ANY UTILITIES WHETHER THEY BE ABOVE OR BELOW GROUND. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 1-800-DIG-SAFE.



SITE DEVELOPMENT PLANS

WHEELER ROAD- MILFORD, NH





LIST OF DRAWINGS

WG NO.	DESCRIPTION
1	COVER SHEET
2	EXISTING CONDITIONS / BOUNDARY PLAN
3	SITE PLAN
4	UTILTY PLAN
5	GRADING DRAINAGE EROSION CONTROL PLAN
6	LANDSCAPING LIGHTING PLANS
7	ROADWAY AND DRAINAGE PROFILES
8-13	CONSTRUCTION & EROSION CONTROL DETAILS
14-19	STORMTECH DETAILS



APPROVED

MILFORD, NH PLANNING BOARD

DATE APPROVED ____

LIST OF ADDITIONAL CONSULTANTS

LAND SURVEYOR S&H LAND SERVICES LLC 1600 CANDIA ROAD SUITE #5 MANCHËSTER NH 603-628-8500

WETLANDS CHRISTOPHER GUIDA FIELDSTONE LAND CONSULTANTS, PLLC 206 ELM STREET MILFORD, NH, 03055 phone: (603) 672-5456

OWNER'S SIGNATURE POR SAN KEN HOMES, INC

08/14/2020 DATE

DATE SIGNED:

PREPARED FOR: SAN-KEN HOMES, INC. 286 TURNPIKE ROAD NEW IPSWICH, NH

COVER SHEET CONDOMINIUM SITE PLAN MAP 30, LOT 19 WHEELER STREET, MILFORD NH

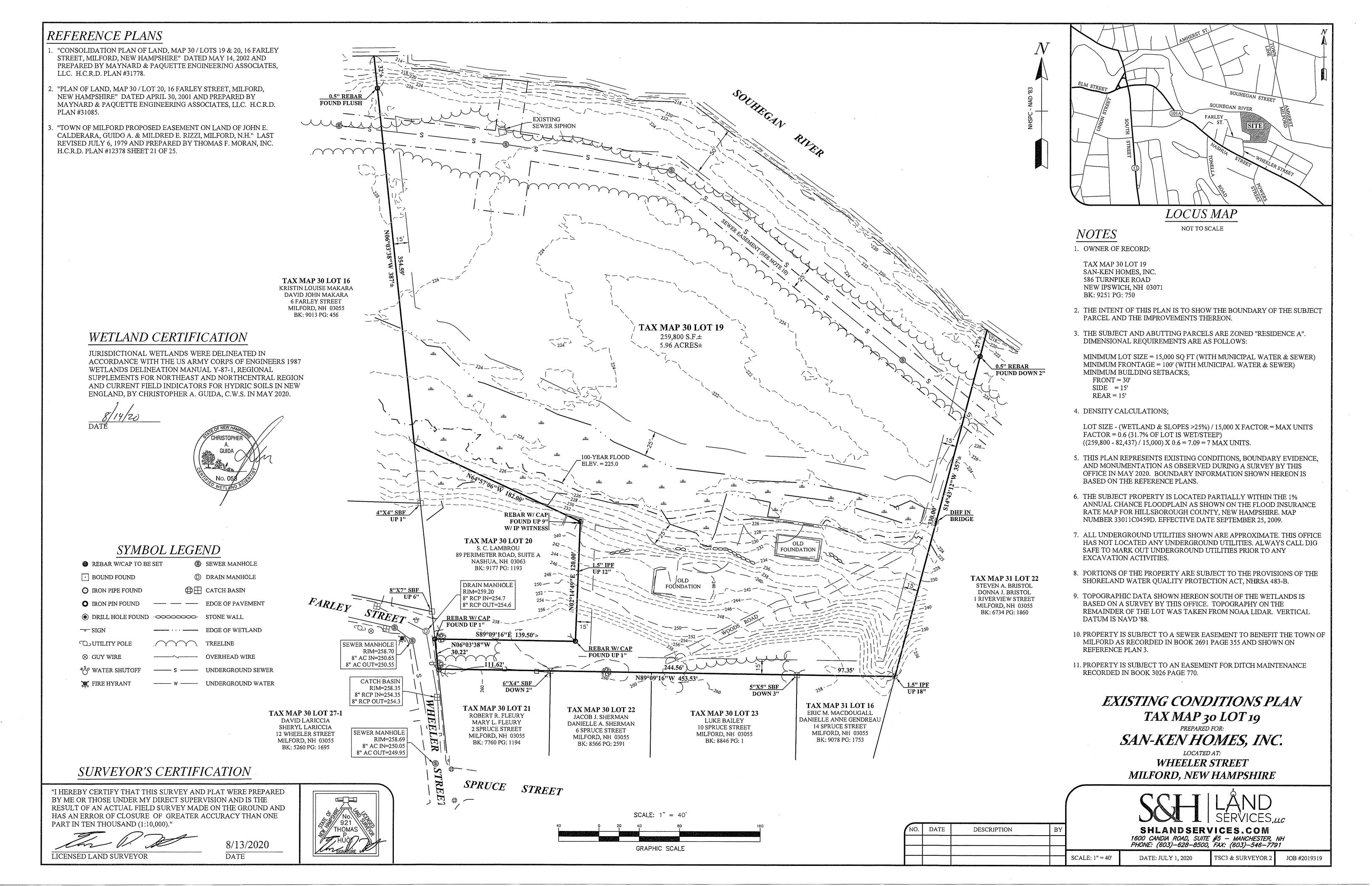
DATE	REVISIONS DESCRIPTION	DWN BY	CK BY

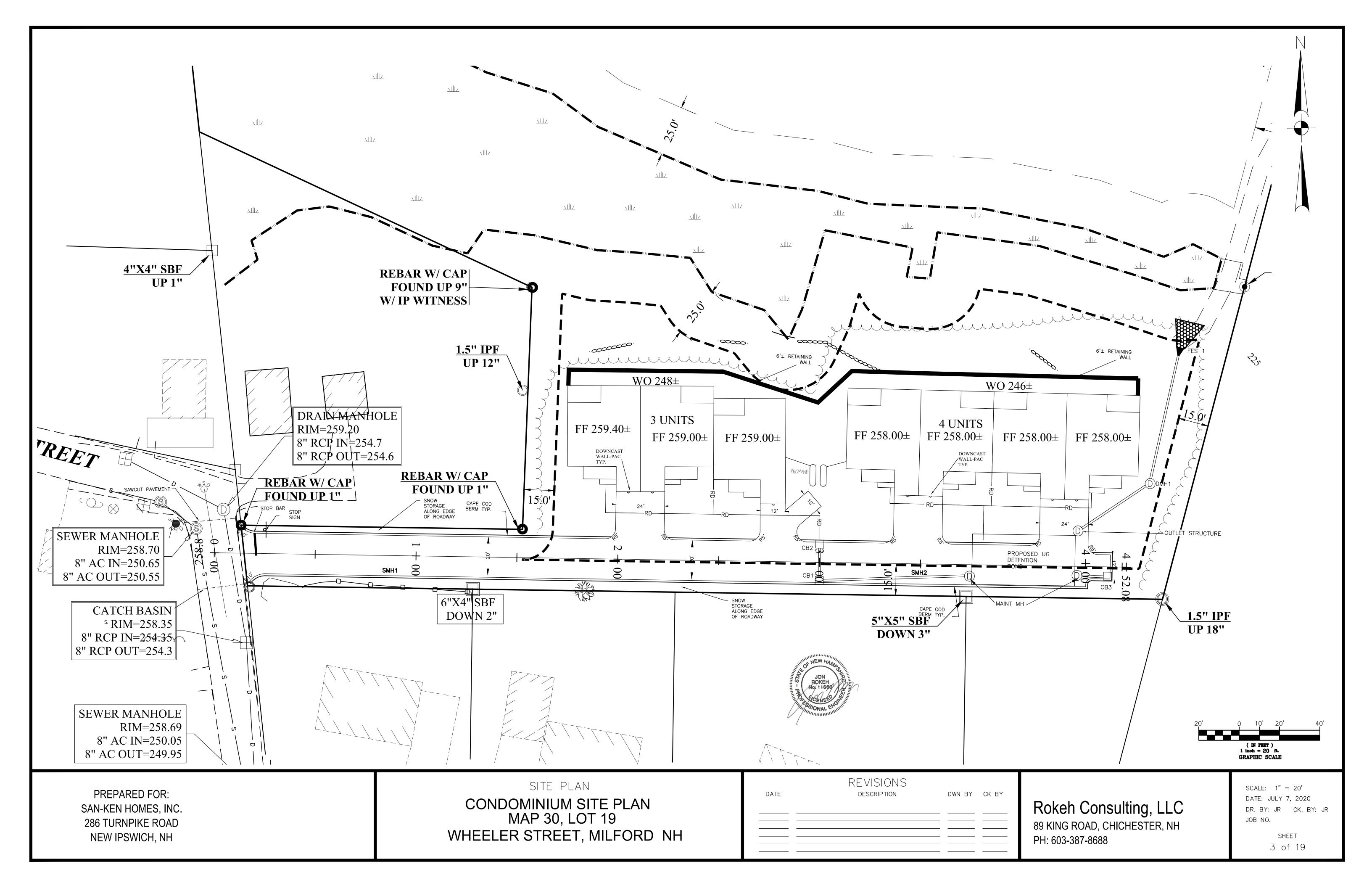
Rokeh Consulting, LLC 89 KING ROAD, CHICHESTER, NH PH: 603-387-8688

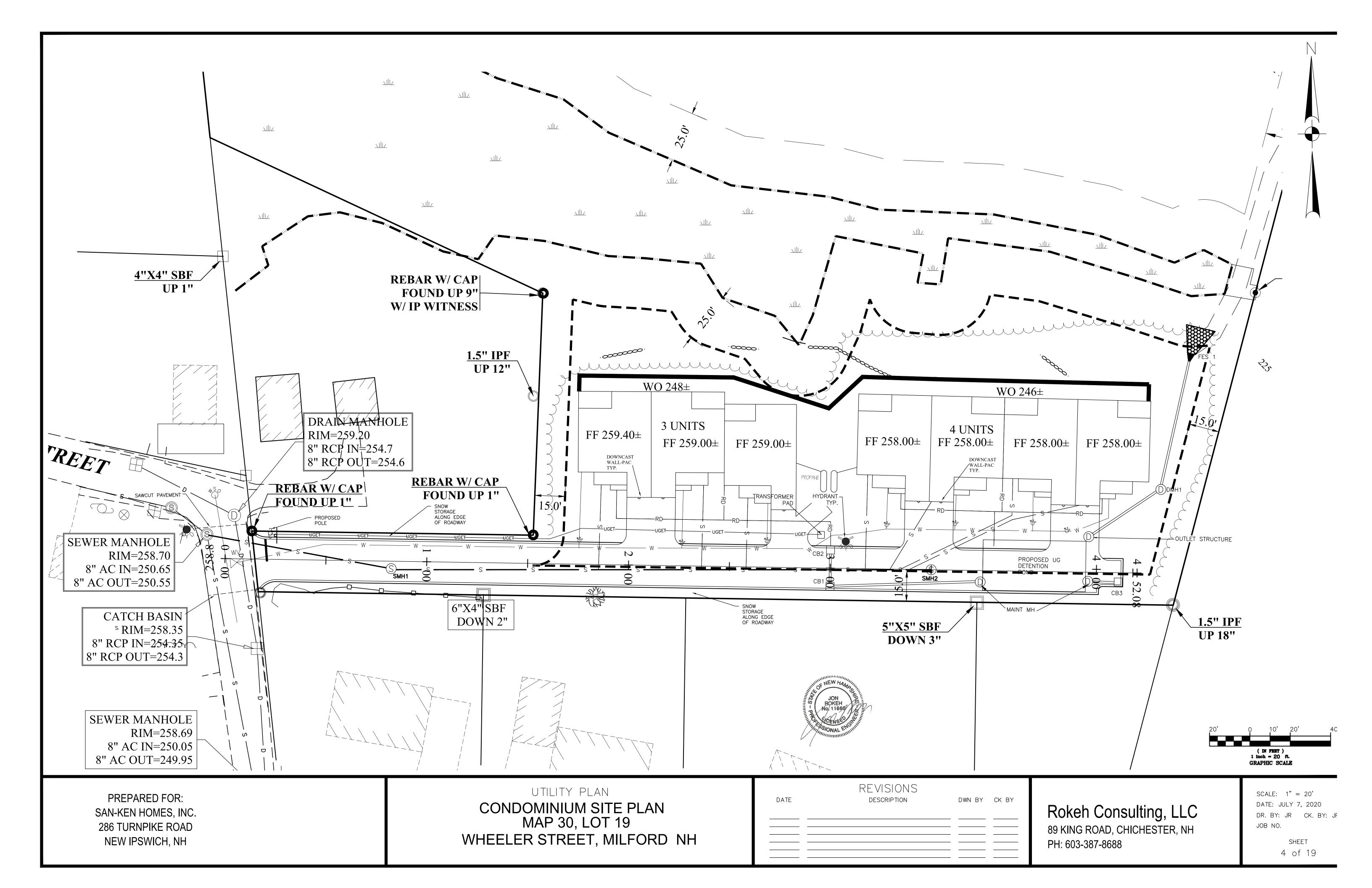
DATE: JULY 7, 2020 DR. BY: JR CK. BY: JR JOB NO.

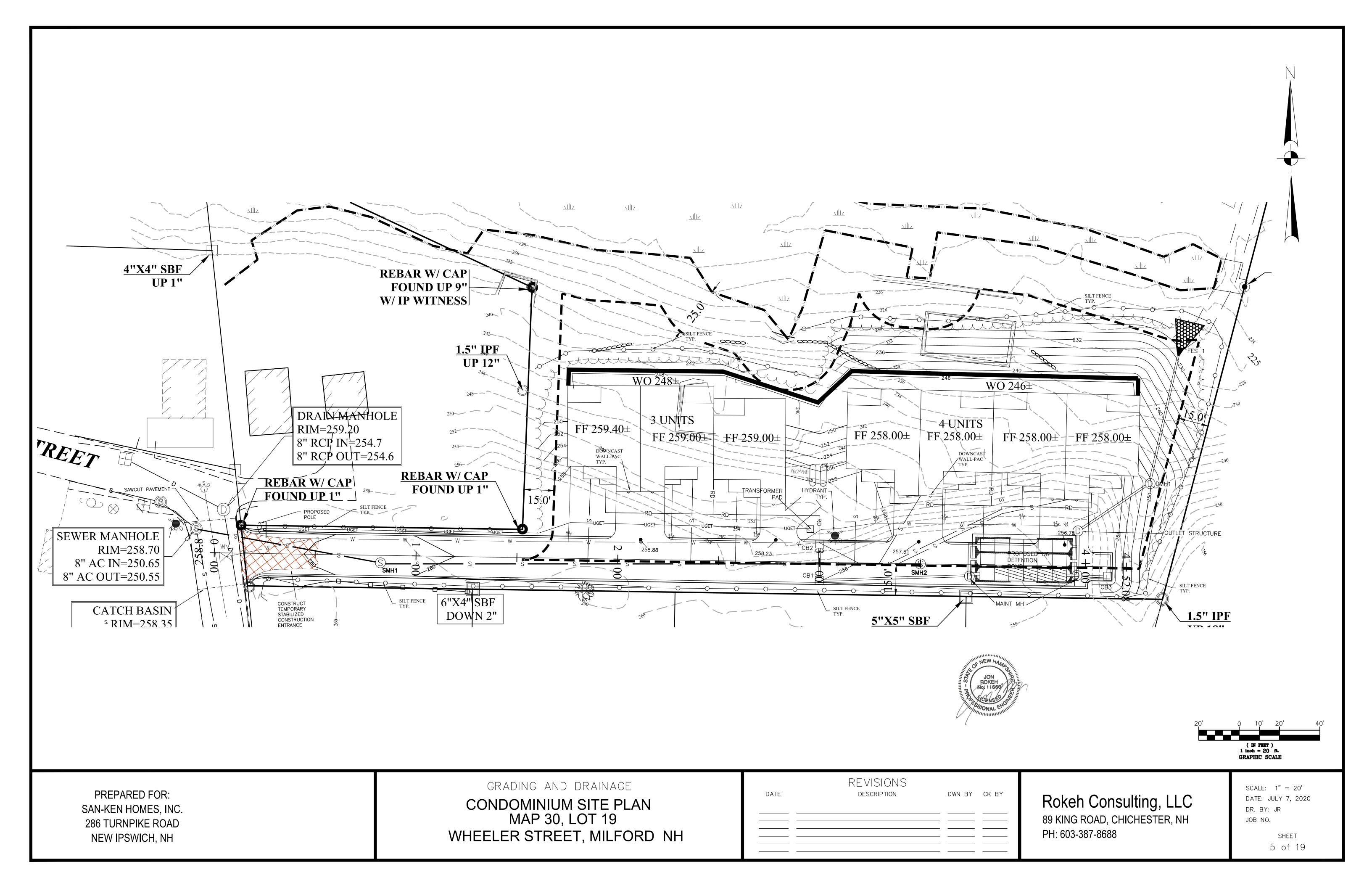
SCALE: 1" = 80'

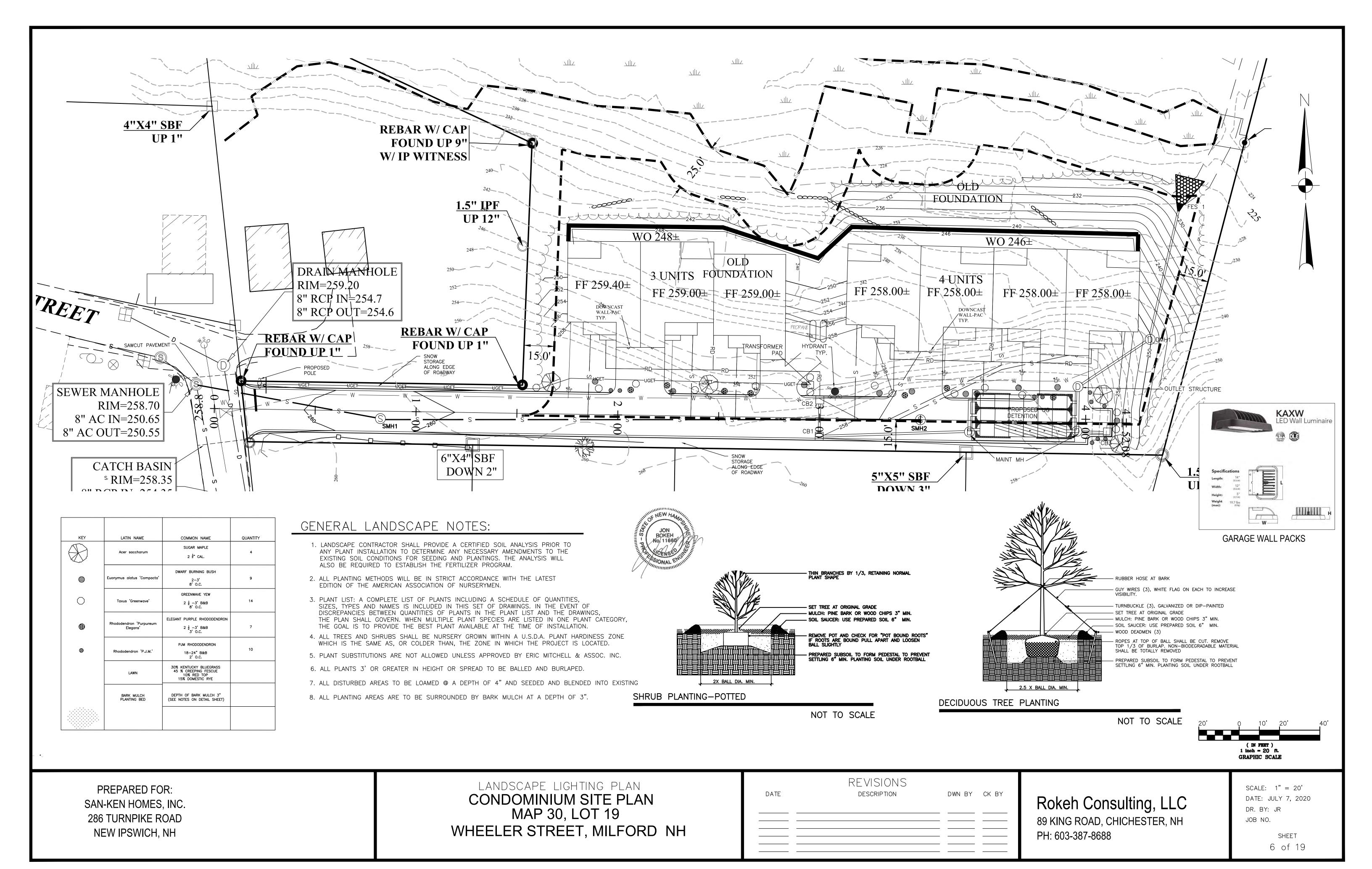
SHEET 1 of 19

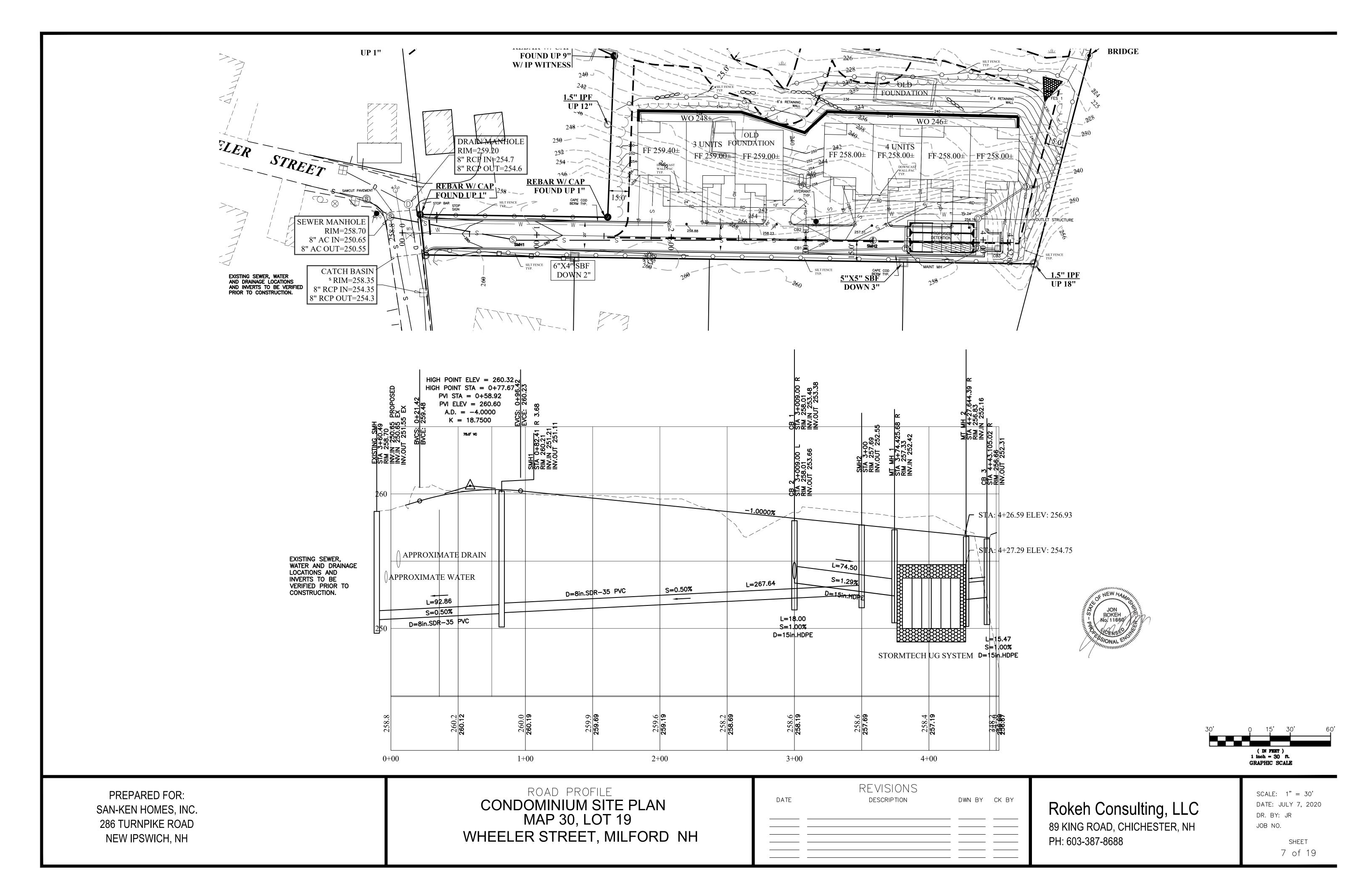


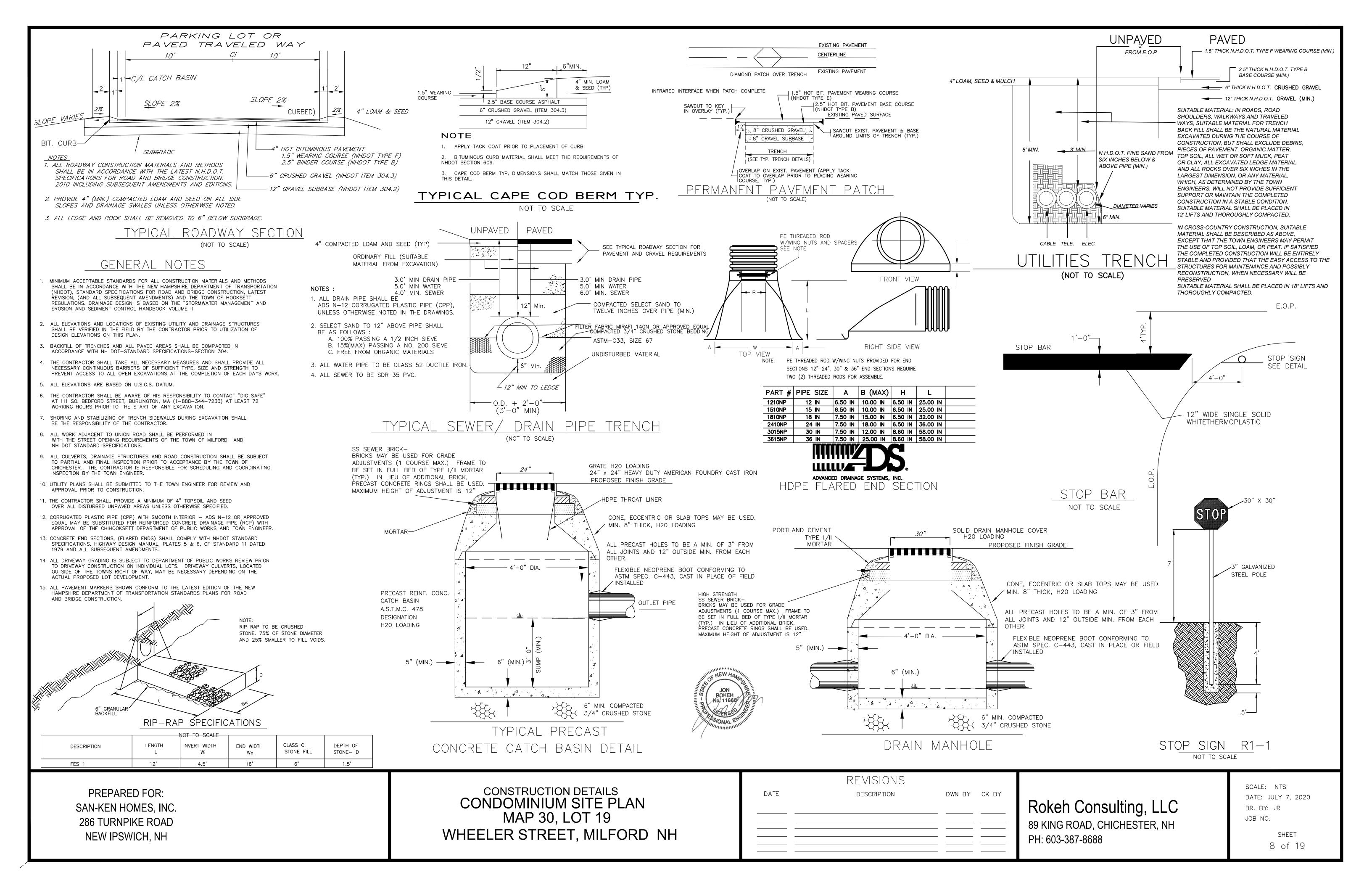


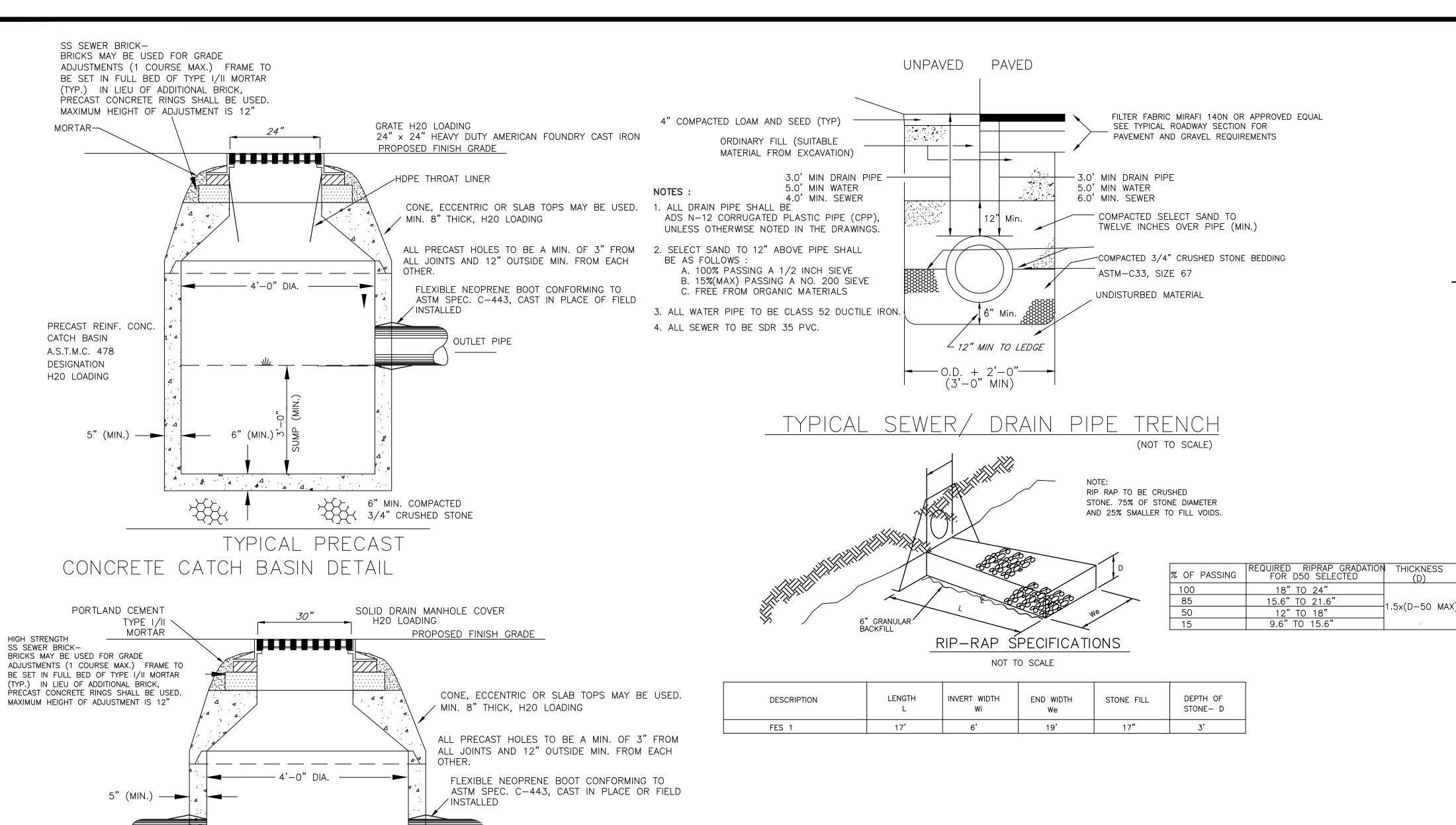


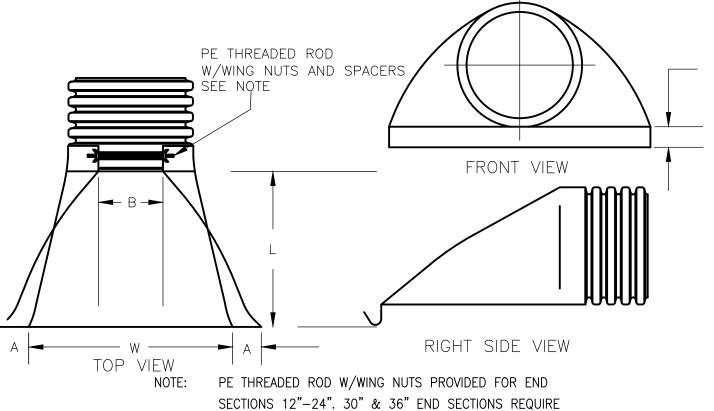












TWO (2) THREADED RODS FOR ASSEMBLE.

PART #	PIPE SIZE	Α	B (MAX)	Н	L	
1210NP	12 IN	6.50 IN	10.00 IN	6.50 IN	25.00 IN	
1510NP	15 IN	6.50 IN	10.00 IN	6.50 IN	25.00 IN	
1810NP	18 IN	7.50 IN	15.00 IN	6.50 IN	32.00 IN	
2410NP	24 IN	7.50 IN	18.00 IN	6.50 IN	36.00 IN	
3015NP	30 IN	7.50 IN	12.00 IN	8.60 IN	58.00 IN	
3615NP	36 IN	7.50 IN	25.00 IN	8.60 IN	58.00 IN	

ADVANCED DRAINAGE SYSTEMS, INC.
HDPE FLARED END SECTION



PREPARED FOR:
SAN-KEN HOMES, INC.
286 TURNPIKE ROAD
NEW IPSWICH, NH

CONSTRUCTION DETAILS
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

6" (MIN.)

FORBAY SECTION

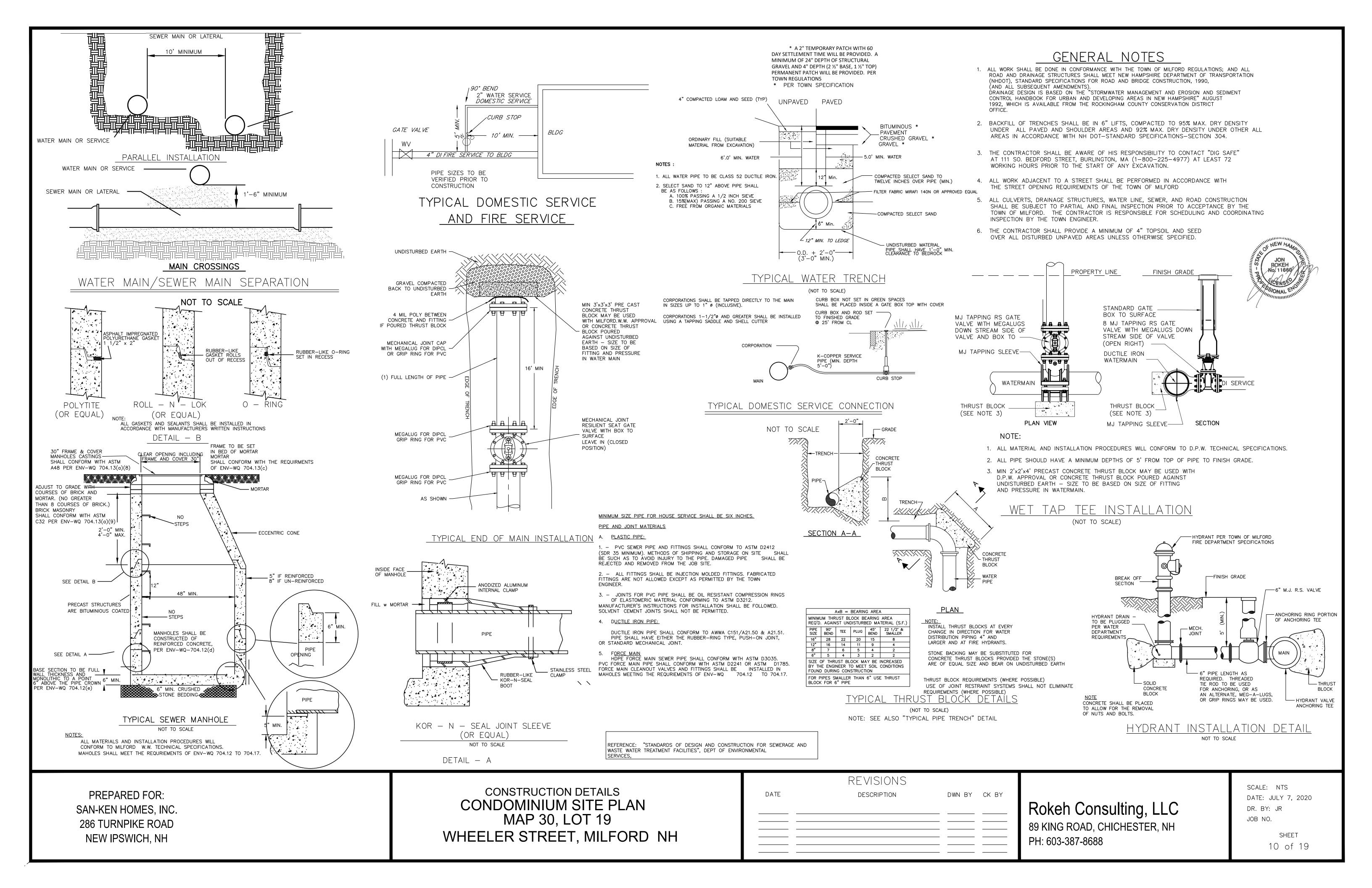
DRAIN MANHOLE

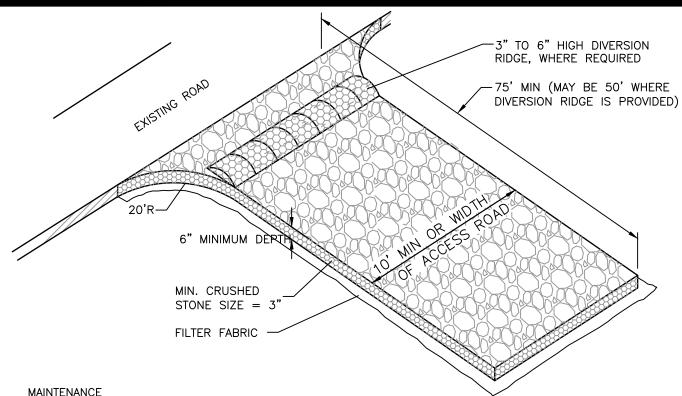
6" MIN. COMPACTED
3/4" CRUSHED STONE

DATE DESCRIPTION DWN BY CK BY

Rokeh Consulting, LLC 89 KING ROAD, CHICHESTER, NH PH: 603-387-8688 SCALE: NTS
DATE: JULY 7, 2020
DR. BY: JR
JOB NO.

SHEET 9 of 19





- 1. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL, REGRADED ON SITE, AND STABILIZED. THE ENTRANCE SHALL THEN BE
- 2. THE CONTRACTOR SHALL SWEEP THE PAVEMENT AT EXITS WHENEVER SOIL MATERIALS ARE TRACKED ONTO THE ADJACENT PAVEMENT OR TRAVELED WAY.
- 3. WHEN WHEEL WASHING IS REQUIRED, IT SHALL BE CONDUCTED ON AN AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT-TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

- CONSTRUCTION SPECIFICATIONS

 4. ONLY CONSTRUCTION TRAFFIC LEAVING THE SITE IS REQUIRED TO USE THE TEMPORARY STABILIZED EXIT.

 CONSIDER PROVIDING A SEPARATE, UNPROTECTED, ENTRANCE FOR TRAFFIC ENTERING THE SITE. THIS WILL

 CONSIDER PROVIDING THE SITE AND INCREASE THE LONGEVITY OF THE STABILIZED EXIT BY ELIMINATING HEAVY LOADS ENTERING THE SITE AND REDUCING THE TOTAL TRAFFIC OVER THE DEVICE.
- 5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR MAINTENANCE OF ANY MEASURES USED TO TRAP
- 6. STONE FOR A TEMPORARY CONSTRUCTION EXIT SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED
- 7. THE MINIMUM LENGTH OF THE PAD SHALL BE 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH HIGH BERM IS INSTALLED AT THE ENTRANCE OF THE
- 8. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
- 9. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE EXIT OR 10 FEET, WHICH EVER IS GREATER.
- 10. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
- 11. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.

TEMPORARY CONSTRUCTION EXIT

CONSTRUCTION SEQUENCES:

NOTE: - ALL EROSION CONTROLS TO BE INSPECTED WEEKLY AND AFTER EVERY .5" OF RAINFALL.

- ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING FLOW TO THEM. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- 1. PRIOR TO CONSTRUCTION INSTALL FABRIC SILTATION FENCING AS SHOWN ON PLAN CONSTRUCT TEMPORARY STABILIZED ENTRANCE, AND INSTALL OTHER APPROPRIATE SEDIMENT AND EROSION CONTROL.
- 2. COMPLETE TEMPORARY SEDIMENT BASINS AT INLET LOCATIONS. CONSTRUCT BERMS AND SWALES TO DIRECT STORMWATER TO BASINS. SEDIMENT MUST BE REMOVED TO THE DESIGN GRADE OF THE BASIN UPON COMPLETION
- 3. ALLOW FOR VEGETATION STABILIZATION TO OCCUR WITHIN THE SWALES PRIOR TO DIRECTING STORM WATER INTO THE A.) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED:
- B.) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED; A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE, OR RIP-RAP HAS BEEN INSTALLED: OR
- D.) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED. 4. CUT AND CLEAR ALL VEGETATION AND STUMPS FROM AREAS TO BE DISTURBED FOR THE CONSTRUCTION OF THE
- 5. REMOVE TOPSOIL AND OTHER ORGANIC MATERIALS FROM AREAS TO BE DISTURBED. ALL SUCH TOPSOIL REMOVED
- SHALL BE STOCKPILED FOR LATER USE. ALL STOCKPILES SHALL BE SEEDED AND MULCHED TO PREVENT LOSS DUE TO FROSION, AND ENCIRCLED WITH FABRIC SILT FENCE, WHEN CONSTRUCTION ACTIVITIES ARE TEMPORARILY CEASED. FOR MORE THAN 21 DAYS, PERMANENTLY CEASED, OR SHUT DOWN FOR WINTER, THE CONTRACTOR SHALL LEAVE NO SLOPES STEEPER THAN 3;1 AND SHALL IMPLEMENT TEMPORARY LOAMING, SEEDING AND MULCHING. WHERE CONSTRUCTION ACTIVITIES HAVE BEEN SUSPENDED OUTSIDE THE GROWING SEASON ALL EXPOSED SOIL SHALL BE STABILIZED BY MULCHING, AND ALL SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH NETTING & PINNING.
- 6. CONSTRUCT, CUT, AND FILL SLOPES. ALL CUT AND FILL SLOPES TO BE STABILIZED IMMEDIATELY AFTER CONSTRUCTION. ALL SLOPES GREATER THAN 3:1 TO BE STABILIZED WITH JUTE MATTING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND LOAMED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
- 7. CONSTRUCT STORM DRAINAGE, AND OTHER UNDERGROUND UTILITIES. ALL SWALES TO BE PROTECTED WITH TEMPORARY EROSION CONTROL MEASURES SHOWN. ALL CATCH BASIN OPENINGS TO BE PROTECTED WITH BLOCK AND GRAVEL INLET SEDIMENT FILTERS AS SHOWN. SEDIMENT TRAPS AND/OR BASINS SHOULD BE USED UNTIL BASINS/PONDS ARE STABILIZED.
- 8. BEGIN TOP SOILING, SEEDING AND Mulching IMMEDIATELY AFTER COMPLETION OF EMBANKMENTS. TEMPORARY EROSION CONTROL / DIVERSION CHANNELS SHALL BE IMPLEMENTED WHERE REQUIRED TO PREVENT EROSION OF EMBANKMENTS. ANY EROSION OCCURRING SHALL BE REPAIRED IMMEDIATELY UPON DISCOVERY.
- 9. FINISH GRADING & PAVING. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS
- OF ACHIEVING FINISH GRADES. 10. ALL PAVED AREAS TO BE COMPLETED BY OCTOBER 15. ALL LANDSCAPED AREAS TO BE STABILIZED BY OCTOBER 15th,
- WITH HAY MULCH AND SEED. 11. COMPLETE PERMANENT SEEDING AND MULCHING OF ALL DISTURBED AREAS. ALL TEMPORARY EROSION CONTROL MEASURES TO REMAIN IN PLACE UNTIL A FULL VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL DISTURBED AREAS.
- 12. SILT FENCES AND HAY BALE BARRIERS TO BE REMOVED ONCE THE SITE HAS STABILIZED.

- 1. TEMPORARY SEEDING SHALL BE INSPECTED WEEKLY AND AFTER ANY RAINFALL EXCEEDING ½ INCH IN 24 HOURS ON ACTIVE CONSTRUCTION SITES. TEMPORARY SEEDING SHALL ALSO BE INSPECTED JUST PRIOR TO SEPTEMBER 15, TO ASCERTAIN WHETHER ADDITIONAL SEEDING IS REQUIRED TO PROVIDE STABILIZATION OVER
- 2. BASED ON INSPECTION, AREAS SHALL BE RESEEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS. IF IT IS TOO LATE IN THE PLANTING SEASON TO APPLY ADDITIONAL SEED, THEN OTHER TEMPORARY STABILIZATION MEASURES SHALL BE IMPLEMENTED
- 3. AT A MINIMUM, 85% OF THE SOIL SURFACE SHALL BE COVERED BY VEGETATION.
- 4. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND AREAS SHALL BE RESEEDED, WITH OTHER TEMPORARY MEASURES (E.G., MULCH) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

- 5. INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS,
- 6. GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH
- 7. RUNOFF SHALL BE DIVERTED FROM THE SEEDED AREA.
- 8. ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHALL INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

9. STONES AND TRASH SHALL BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.

- 10. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
- 11. IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHALL BE APPLIED DURING THE GROWING SEASON. - APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 600 POUNDS PER ACRE OR 13.8 POUNDS PER 1,000 SQUARE FEET OF LOW PHOSPHATE FERTILIZER1 (N-P205-K20) OR EQUIVALENT. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000
 - FERTILIZER SHALL BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE2 NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 FEET AND 250 FEET FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHALL BE APPLIED WITHIN 25 FEET OF A SURFACE WATER BODY. THESE LIMITATIONS ARE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

12. SELECT SEED FROM RECOMMENDATIONS IN TABLE 4-1.

- 13. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10 % WHEN
- 14. TEMPORARY SEEDING SHALL TYPICALLY OCCUR PRIOR TO SEPTEMBER 15TH.
- 15. AREAS SEEDED BETWEEN MAY 15TH AND AUGUST 15TH SHALL BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE.
- 16. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHALL BE ACHIEVED PRIOR TO OCTOBER 15TH. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.

	TABLE	4-1.	SEEDING	REC	OMMENDATI	ONS	FOR	TEMPORARY	VEGETATION	
SPECIES	-		PER	ACRE	BUSHELS	F	PER	1,000 FT2	REMARKS	
			(=: .)	~~ ~		· ~ \				

SPECIES	PER ACRE BUSHELS PER 1,000 FT2	
	(BU) OR POUNDS (LBS)	
WINTER RYE		2 BU. OR 112 LBS. 2.5 LBS. BEST FOR FALL SEEDING SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS		2.5 BU. OR 80 LBS. 2 LBS. BEST FOR SPRING SEEDINGS. SEED NO LATER THAN MAY 15 FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYEGRASS		40 LBS. 1 LB. GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15 AND SEPTEMBER 15. COVER THE SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYEGRASS		30 LBS. 0.7 LB. GOOD COVER WHICH IS LONGER LASTING THAN ANNUAL

JUNE 1 AND/OR BETWEEN AUGUST 15 AND SEPTEMBER 15. MULCHING WILL ĽLÒW SEEDING THROUGHOUT THE GROWING SEASON. SEED TO A DEPTH OF APPROXIMATELY 0.5 INCH.

RYEGRASS. SEED BETWEEN APRIL 1 AND

- 13. REMOVE ACCUMULATIONS OF SEDIMENT FROM DRAINAGE STRUCTURES, TREATMENT SWALES TO BE CLEANED OUT, LOAMED & MATTED AS NECESSARY UPON COMPLETION OF PROJECT.
- 14. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS FROM INITIAL DISTURBANCE

15. WINTER CONSTRUCTION NOTES:

- A.) DURING WINTER CONDITIONS, THE MAXIMUM ALLOWABLE DISTURBED AREA SHALL BE 0.5 ACRES. B.) ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MAXIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15th, OR WHICH ARE DISTURBED AFTER OCTOBER 15th, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
- C.) ALL DITCHES AND SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15th, OR WHICH ARE DISTURBED AFTER OCTOBER 15th, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS
- D.) AFTER OCTOBER 15th, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER N.H.D.O.T. ITEM 304.3.
- 16. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED: A.) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
- B.) A MINIMUM OF 85% VEGETATIVE GROWTH HAS BEEN ESTABLISHED;
- C.) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR D.) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

- 2" − 3" STONE L= THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION STANDARD STONE CHECK DAM DESIGN SPACING 4.1% TO 6% 6.1% TO 8% OVER 8% USE LINED WATERWAY DESIGN
- I. THIS PRACTICE IS INTENDED FOR USE IN AREAS OF CONCENTRATED FLOW, BUT MUST NOT BE USED IN STREAM CHANNELS (WHETHER PERENNIAL OR INTERMITTENT).
- 2. THE CHECK DAM MAY BE LEFT IN PLACE PERMANENTLY TO AVOID UNNECESSARY DISTURBANCE OF THE SOIL ON REMOVAL, BUT ONLY IF THE PROJECT DESIGN HAS ACCOUNTED FOR THEIR HYDRAULIC PERFORMANCE AND CONSTRUCTION PLANS CALL FOR THEM TO BE RETAINED.
- 3. IF IT IS NECESSARY TO REMOVE A STONE CHECK DAM FROM A GRASSLINED CHANNEL THAT WILL BE MOWED, CARE SHALL BE TAKEN TO ENSURE THAT ALL STONES ARE REMOVED. THIS INCLUDES STONE THAT HAS

- 4. CHECK DAMS SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL AND NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY.
- 5. INSPECTIONS SHALL VERIFY THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.
- 6. EROSION CAUSED BY HIGH FLOWS AROUND THE EDGES OF THE DAM MUST BE CORRECTED IMMEDIATELY. 7. IF EVIDENCE OF SILTATION IN THE WATER IS APPARENT DOWNSTREAM FROM THE CHECK DAM, THE CHECK
- DAM SHALL BE INSPECTED AND ADJUSTED IMMEDIATELY. 8. CHECK DAMS SHALL BE CHECKED FOR SEDIMENT ACCUMULATION AFTER EACH SIGNIFICANT RAINFALL.

SEDIMENT SHALL BE REMOVED WHEN IT REACHES ONE HALF OF THE ORIGINAL HEIGHT OR BEFORE.

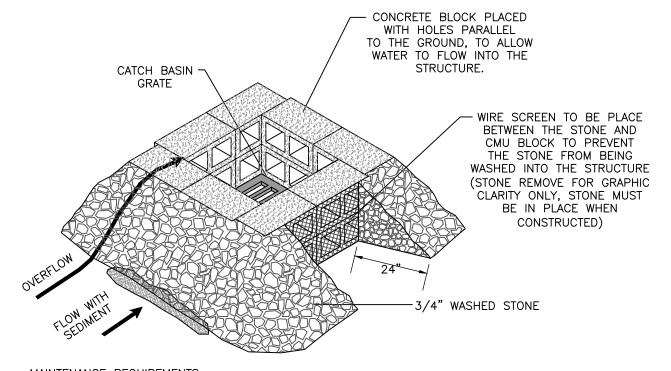
- 9. CHECK DAMS SHALL BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE OR DRAINAGE DITCH.
- 10. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE DAM SHALL BE LESS THAN ONE ACRE.
- 11. THE MAXIMUM HEIGHT OF THE DAM SHALL BE 2 FEET.

12. THE CENTER OF THE DAM SHALL BE AT LEAST 6 INCHES LOWER THAN THE OUTER EDGES.

- 13. THE MAXIMUM SPACING BETWEEN THE DAMS SHALL BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE OVERFLOW ELEVATION OF THE DOWNSTREAM DAM.
- 14. STONE CHECK DAMS SHALL BE CONSTRUCTED OF A WELL-GRADED ANGULAR 2-INCH TO 3-INCH STONE. 3/4-INCH STONE ON THE UPGRADIENT FACE IS RECOMMENDED FOR BETTER FILTERING.
- 15. IF PROVIDED BY DESIGN AND CONSTRUCTION PLANS, LEAVE THE DAM IN PLACE PERMANENTLY.
- 18. TEMPORARY STRUCTURES SHALL BE REMOVED ONCE THE SWALE OR DITCH HAS BEEN STABILIZED: - IN TEMPORARY DITCHES AND SWALES, CHECK DAMS SHALL BE REMOVED AND THE DITCH FILLED IN WHEN IT IS NO LONGER NEEDED
 - IN PERMANENT STRUCTURES, CHECK DAMS SHALL BE REMOVED WHEN A PERMANENT LINING HAS BEEN ESTABLISHED. IF THE PERMANENT LINING IS VEGETATION, THEN THE CHECK DAM SHALL BE RETAINED UNTIL THE GRASS HAS MATURED TO PROTECT THE DITCH OR SWALE. THE AREA BENEATH THE CHECK DAM MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER REMOVAL.

NOT TO SCALE

TEMPORARY STONE CHECK DAMS



INLET BARRIERS SHALL BE INSPECTED BEFORE AND AFTER EACH RAIN EVENT AND REPAIRED AS NEEDED.

- 2. SEDIMENT SHALL BE REMOVED AND THE STORM DRAIN SEDIMENT BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE BARRIER. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
- 3. THE BARRIERS SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
- 4. ALL CATCH BASINS AND STORM DRAIN INLETS MUST BE CLEANED AT THE END OF CONSTRUCTION AND AFTER THE SITE HAS BEEN FULLY STABILIZED.

. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN ONE ACRE.

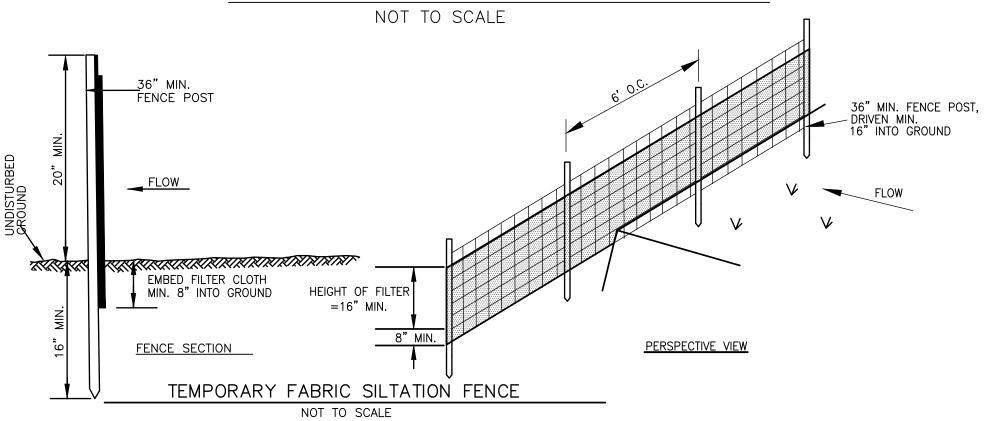
- 6. THE INLET PROTECTION DEVICE SHALL BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN-OUT AND DISPOSAL OF TRAPPED SEDIMENTS AND MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES.
- 7. ANY RESULTANT PONDING OF STORMWATER MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.
- 8. THE BLOCKS SHALL BE PLACED LENGTHWISE IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET.
- 9. THE BLOCK ENDS SHALL ABUT ONE ANOTHER.
- 10. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING COMBINATIONS OF 4-INCH, 8-INCH AND 12-INCH WIDE BLOCKS. THE BARRIER OF BLOCKS AND GRAVEL FILTER SHALL BE A MINIMUM OF 12 INCHES HIGH AND NO MORE THAN 24 INCHES HIGH.
- 11. A HARDWARE CLOTH OR WIRE MESH SHALL BE PLACED OVER THE OPENINGS OF THE CONCRETE BLOCKS AND EXTEND AT LEAST 12 INCHES AROUND THE OPENING TO PREVENT AGGREGATE FROM BEING TRANSPORTED THROUGH THE OPENINGS IN THE BLOCKS. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED.
- 12. THE GRAVEL FILTER SHALL BE CLEAN COARSE AGGREGATE.
- 13. THE GRAVEL SHALL BE PLACED AGAINST THE WIRE AND ALONG THE OUTSIDE EDGES OF THE BLOCKS TO THE TOP OF THE BLOCK BARRIER.
- 14. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE BLOCKS, CLEANED AND REPLACED.

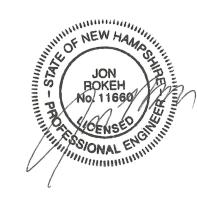
MANUFACTURED SEDIMENT BARRIERS 15. MANUFACTURED SEDIMENT BARRIERS ARE NOW AVAILABLE THAT COULD BE FUNCTIONALLY EQUIVALENT TO THE BARRIERS LISTED ABOVE. THESE MEASURES ARE ACCEPTABLE AS LONG AS THEY ARE INSTALLED, USED, AND MAINTAINED AS SPECIFIED BY THE VENDOR OR MANUFACTURER, AND PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM. IF SUCH PRODUCTS FAIL TO PERFORM THE REQUIRED SEDIMENT TRAPPING FUNCTION, THEY SHALL BE REMOVED AND REPLACED WITH AN EFFECTIVE ALTERNATIVE BARRIER.

TEMPORARY STORM DRAIN INLET PROTECTION

NOT TO SCALE

TEMPORARY CONSTRUCTION EXIT





- 1. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY
- 6 INCHES, FOLDED AND STAPLED.
- 2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

REVISIONS **DESCRIPTION**

DWN BY CK BY

Rokeh Consulting, LLC 89 KING ROAD, CHICHESTER, NH

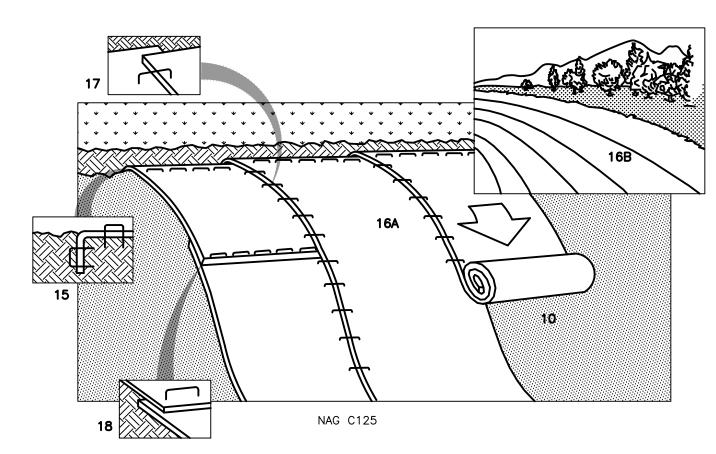
SCALE: NTS DATE: JULY 7, 2020 DR. BY: JR JOB NO. SHEET

PREPARED FOR: SAN-KEN HOMES, INC. 286 TURNPIKE ROAD NEW IPSWICH, NH

CONSTRUCTION DETAILS CONDOMINIUM SITE PLAN MAP 30, LOT 19 WHEELER STREET, MILFORD NH

PH: 603-387-8688

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CONSIDERATIO

- 1. DURING THE GROWING SEASON (APRIL 15 SEPTEMBER 15) USE MATS OR MULCH AND NETTING ON SLOPES 15% OR GREATER AND ANY DISTURBED SOIL ADJACIENT TO LAKES, STREAMS AND ON WETLANDS.
- 2. DURING THE LATE FALL AND WINTER (SEPTEMBER 15 APRIL 15) USE HEAVY GRADE MATS ON ALL AREAS NOTED ABOVE PLUS USE LIGHTER GRADE MATS OR MULCH AND NETTING ON SLOPES GREATER THAN 8%. THERE MAY BE CASES WHERE MATS WILL BE NEEDED ON SLOPES FLATTER THAN 8%, DEPENDING ON SITE CONDITIONS AND THE LENGTH OF THE SLOPE.
- 3. INSTALL MATS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- 4. ALL BLANKET AND MATS SHOULD BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING ½ INCH IN A 24-HOUR PERIOD.
- 5. ANY FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUT OF THE SLOPE, DISPLACEMENT OF THE MAT, OR DAMAGE TO THE MAT OCCURS, THE AFFECTED SLOPE SHALL BE REPAIRED AND RESEEDED, AND THE AFFECTED AREA OF MAT SHALL BE RE—INSTALLED OR REPLACED.

SITE PREPARATION: 6. GRADE AND SHAPE AREA OF INSTALLATION.

- 7. REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
- 8. PREPARE SEEDBED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.
- 9. INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE

SEEDING: 10. SEED AREA BEFORE BLANKET INSTALLATION FOR EROSION CONTROL AND RE-VEGETATION. SEEDING AFTER MAT INSTALLATION IS OFTEN SPECIFIED FOR TURF REINFORCEMENT APPLICATION. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOTS AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE RESEEDED.

11. WHERE SOIL FILLING IS SPECIFIED, SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL.

INSTALLING AND ANCHORING BLANKETS:

- 12. BLANKETS SHALL BE INSTALLED AND ANCHORED PER THE MANUFACTURER'S SPECIFICATIONS.
- 13. ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.

INSTALLATION ON SLOPES:

- 14. BLANKETS SHALL BE INSTALLED ON SLOPES PER THE MANUFACTURER'S SPECIFICATIONS. IF THE MANUFACTURER'S INSTRUCTIONS DIFFER FROM THOSE LISTED BELOW, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED.
- 15. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- 16. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
- 17. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 6" OVERLAP.
- 18. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

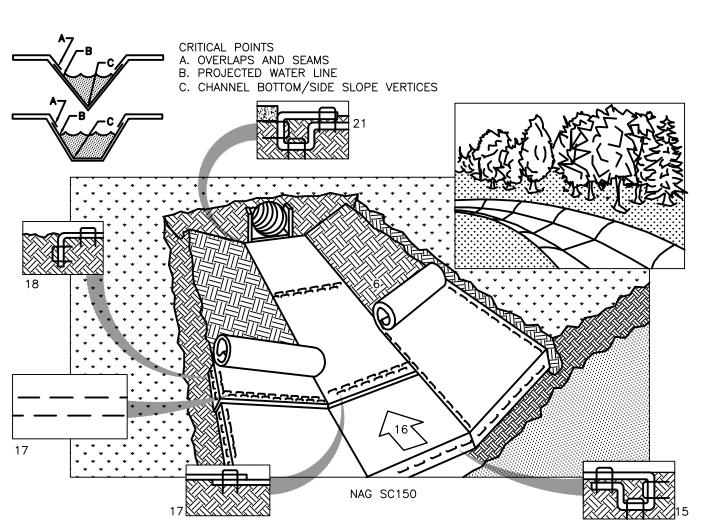
TEMPORARY EROSION CONTROL BLANKET ON SLOPES

NOT TO SCALE

TEMPORARY EROSION CONTROL BLANKETS NHFG WILDLIFE FRIENDLY REQUIREMENTS

CONSIDERATION

- 1. THE ELIMINATION OF PLASTIC OR 'BIODEGRADABLE PLASTIC' EROSION CONTROL NETTING IS REQUIRED AS THESE ARE KNOWN SOURCE OF ENTRAPMENT AND MORTALITY TO PROTECTED SNAKES AND TURTLES.
- 2. SEVERAL 'WILDLIFE FRIENDLY' OPTIONS SUCH AS WOVEN ORGANIC MATERIAL (E.G., COCO MATTING) OR THE USE OF EROSION CONTROL BERM OKAY
- 3. ACCEPTABLE MATERIALS INCLUDE NORTH AMERICAN GREEN C125BN OR EAST COAST EROSION CONTROL BLANKET ECC-2B BOTH ARE BIODEGRADABLE WITH A COCONUT FIBER MATRIX AND JUTE NETTING.



CONSIDERATIONS

- 1. DURING THE GROWING SEASON (APRIL 15 SEPTEMBER 15) USE MATS OR MULCH AND NETTING ON THE BASE OF GRASSED WATERWAYS.
- 2. DURING THE LATE FALL AND WINTER (SEPTEMBER 15 APRIL 15) USE HEAVY GRADE MATS ON SIDE SLOPES OF GRASSED WATERWAYS.
- 3. INSTALL MATS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

NANCE REQUIREMENTS

- 4. ALL BLANKET AND MATS SHOULD BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING ½ INCH IN A 24-HOUR PERIOD.
- 5. ANY FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUT OF THE SLOPE, DISPLACEMENT OF THE MAT, OR DAMAGE TO THE MAT OCCURS, THE AFFECTED SLOPE SHALL BE REPAIRED AND RESEEDED, AND THE AFFECTED AREA OF MAT SHALL BE RE-INSTALLED OR REPLACED.

SPECIFICATIONS SITE PREPARATION:

- 6. GRADE AND SHAPE AREA OF INSTALLATION.
- 7. REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
- 8. PREPARE SEEDBED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.
- 9. INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE SEEDING PLAN.

SEEDING: 10. SEED AREA BEFORE BLANKET INSTALLATION FOR EROSION CONTROL AND RE-VEGETATION. SEEDING AFTER MAT INSTALLATION IS OFTEN SPECIFIED FOR TURF REINFORCEMENT APPLICATION. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOTS AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE

11. WHERE SOIL FILLING IS SPECIFIED, SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL.

INSTALLING AND ANCHORING BLANKETS:

- 12. BLANKETS SHALL BE INSTALLED AND ANCHORED PER THE MANUFACTURER'S SPECIFICATIONS.
- 13. ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.

INSTALLATION IN CHANNELS:

- 14. BLANKETS SHALL BE INSTALLED IN CHANNELS PER THE MANUFACTURER'S SPECIFICATIONS. IF THE MANUFACTURER'S INSTRUCTIONS DIFFER FROM THOSE LISTED BELOW, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED.
- 15. BEGIN AT THE OUTLET OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH.
 BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- 16. ROLL CENTER BLANKET IN DIRECTION OF THE INLET END OF THE CHANNEL.
- 17. PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE BLANKETS.
- 18. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- 19. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" OVER THE CENTER BLANKET AND STAPLED.
- 20. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
- 21. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

TEMPORARY EROSION CONTROL BLANKET FOR CHANNELS

NOT TO SCALE

TEMPORARY & PERMANENT MULCHING

CONSIDERATIONS

- 1. WITHIN 100 FEET OF STREAMS, WETLANDS AND IN LAKE WATERSHEDS, TEMPORARY MULCH SHOULD BE APPLIED WITHIN 7 DAYS OF EXPOSING SOIL OR PRIOR TO ANY STORM EVENT.
- 2. AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHOULD BE MULCHED IMMEDIATELY FOLLOWING SEEDING.
- 3. AREAS THAT CANNOT BE SEEDED WITHIN THE GROWING SEASON SHOULD BE MULCHED FOR OVER-WINTER PROTECTION. THE AREA SHOULD BE SEEDED AT THE BEGINNING OF THE NEXT GROWING SEASON.
- 4. MULCH ANCHORING SHOULD BE USED ON SLOPES WITH GRADIENTS GREATER THAN 5% IN LATE FALL (PAST SEPTEMBER 15), AND OVER-WINTER (SEPTEMBER 15 MAY 15).
- 5. PERMANENT MULCH CAN BE USED IN CONJUNCTION WITH TREE, SHRUB, VINE, AND GROUND COVER PLANTINGS.
- MAINTENANCE REQUIREMENTS

 6. ALL TEMPORARY MULCHES MUST BE INSPECTED PERIODICALLY AND IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION OR DISPLACEMENT OF THE MULCH. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHOULD BE IMMEDIATELY APPLIED. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGES OCCUR, REPAIR ANY DAMAGE TO THE SLOPE AND RE—INSTALL OR REPLACE NETTING AS NECESSARY. INSPECTIONS SHOULD TAKE PLACE UNTIL GRASSES ARE FIRMLY ESTABLISHED (85% SOIL SURFACE UNIFORMLY COVERED WITH HEALTHY STAND OF GRASS).
- 7. EROSION CONTROL MIX MULCH USED FOR TEMPORARY STABILIZATION SHOULD BE LEFT IN PLACE. VEGETATION ADDS STABILITY AND SHOULD BE PROMOTED.
- 8. WHERE PERMANENT MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.
- 9. PERMANENT MULCHED AREAS SHOULD BE INSPECTED AT LEAST ANNUALLY, AND AFTER EACH LARGE RAINFALL (2.5 INCHES OR MORE IN A 24-HOUR PERIOD). ANY REQUIRED REPAIRS SHOULD BE MADE IMMEDIATELY. WHERE EROSION CONTROL MIX HAS BEEN USED, PLACE ADDITIONAL MIX ON TOP OF THE MULCH TO MAINTAIN THE RECOMMENDED THICKNESS. WHEN THE MULCH IS DECOMPOSED, CLOGGED WITH SEDIMENT, ERODED OR INEFFECTIVE, IT MUST BE REPLACED OR REPAIRED.
- 10. IF THE MULCH NEEDS TO BE REMOVED, SPREAD IT OUT INTO THE LANDSCAPE.

SPECIFICATIONS GENERAL:

- 1. APPLY MULCH PRIOR TO A STORM EVENT. THIS IS APPLICABLE IN EXTREMELY SENSITIVE AREAS SUCH AS WITHIN 100 FEET OF LAKES, PONDS, RIVERS, STREAMS, AND WETLANDS. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.
- 12. MULCHING SHOULD BE COMPLETED WITHIN THE FOLLOWING SPECIFIED TIME PERIODS FROM ORIGINAL SOIL EXPOSURE:

 WITHIN 100 FEET OF RIVERS AND STREAMS, WETLANDS, AND IN LAKE AND POND WATERSHEDS, THE TIME PERIOD SHOULD BE NO GREATER THAN 7 DAYS. THIS 7-DAY LIMIT SHOULD BE REDUCED FURTHER DURING WET WEATHER PERIODS.
 IN OTHER AREAS, THE TIME PERIOD CAN RANGE FROM 14 TO 30 DAYS, THE LENGTH OF TIME VARYING WITH SITE CONDITIONS (SOIL ERODIBILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS. OTHER STATE OR LOCAL RESTRICTIONS MAY ALSO APPLY.
- 13. THE CHOICE OF MATERIALS FOR MULCHING SHOULD BE BASED ON SITE CONDITIONS, SOILS, SLOPE, FLOW CONDITIONS, AND
- TIME OF YEAR.

 HAY OR STRAW MULCHES:

 14. ORGANIC MULCHES INCLUDING HAY AND STRAW SHOULD BE AIR—DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE
- 15. APPLICATION RATE SHOULD BE 2 BALES (70-90 POUNDS) PER 1000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90 % OF THE GROUND SURFACE.
- 16 HAY OR STRAW MULCH SHOULD BE ANCHORED TO PREVENT DISPLACEMENT BY WIND OR FLOWING WATER, USING ONE OF THE FOLLOWING METHODS:

 NETTING: INSTALL JUTE, WOOD FIBER, OR BIODEGRADABLE PLASTIC NETTING OVER HAY OR STRAW TO ANCHOR IT TO THE SOIL SURFACE. INSTALL NETTING MATERIAL ACCORDING TO MANUFACTURER'S RECOMMENDATION. NETTING SHOULD BE USED JUDICIOUSLY, AS WILDLIFE CAN BECOME ENTANGLED IN THE MATERIALS.

 TACKIFIER: APPLY POLYMER OR ORGANIC TACKIFIER TO ANCHOR HAY OOOR STRAW MULCH. APPLICATION RATES VARY BY MANUFACTURER: TYPICALLY 40-60 LBS/ACRE FOR POLYMER MATERIAL, AND 80-120 LBS/ACRE FOR ORGANIC MATERIAL. LIQUID MULCH BINDERS ARE ALSO TYPICALLY APPLIED HEAVIER AT EDGES, IN VALLEYS, AND AT CRESTS
- 17. WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON), IT SHOULD BE APPLIED TO A DEPTH OF FOUR INCHES (150–200 POUNDS OF HAY OR STRAW PER 1000 SQUARE FEET, OR DOUBLE STANDARD APPLICATION RATE). SEEDING CANNOT GENERALLY BE EXPECTED TO GROW UP THROUGH THIS DEPTH OF MULCH AND WILL BE SMOTHERED. IF VEGETATION IS DESIRED, THE MULCH WILL NEED TO BE REMOVED IN THE SPRINGTIME AND THE AREA SEEDED AND MULCHED.
- WOOD CHIPS OR BARK:
 18. WOOD CHIPS OR GROUND BARK SHOULD BE APPLIED TO A THICKNESS OF 2 TO 6 INCHES.
- 19 WOOD CHIPS OR GROUND BARK SHOULD BE APPLIED AT A RATE OF 10 TO 20 TONS PER ACRE OR 460 TO 920 POUNDS PER 1,000 SQUARE FEET.
- OSION CONTROL MIX:
 EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE PROJECT SITE. IT MUST CONSIST PRIMARILY OF ORGANIC
 MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS, COMPOSTED
 BARK. OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS. GROUND CONSTRUCTION DEBRIS OR
- REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

 21. COMPOSITION OF THE EROSION CONTROL MIX SHOULD BE AS FOLLOWS:
- EROSION CONTROL MIX SHOULD CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS
 THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL
 TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHOULD MEET THE FOLLOWING STANDARDS:
- THE ORGANIC MATTER CONTENT SHOULD BE BETWEEN 25 AND 65%, DRY WEIGHT BASIS.
 PARTICLE SIZE BY WEIGHT SHOULD BE 100% PASSING A 3" SCREEN, 90% TO 100% PASSING A 1-INCH SCREEN, 70%
- TO 100% PASSING A 0.75-INCH SCREEN, AND A MAXIMUM OF 30% TO 75%, PASSING A 0.25-INCH SCREEN. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
- THE MIX SHOULD NOT CONTAIN SILTS, CLAYS OR FINE SANDS.
 SOLUBLE SALTS CONTENT SHOULD BE < 4.0 MMHOS/CM.
 THE PH SHOULD BE BETWEEN 5.0 AND 8.0.
- 22. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
- 23. THE BARRIER MUST BE A MINIMUM OF 12" HIGH, AS MEASURED ON THE UPHILL SIDE OF THE BARRIER, AND A MINIMUM OF TWO FEET WIDE.

WINTER CONSTRUCTION NOTES

- . ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCT.. 15TH, OR WHICH ARE DISTURBED AFTER OCT. 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
- 2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCT. 15TH, OR WHICH ARE DISTURBED AFTER OCT. 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- 3. AFTER OCTOBER. 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

GN-4: VEGETATION STABILIZATION NOTES

ALL VEGETATION STABILIZATION SHALL BE IN ACCORDANCE WITH USDA NRCS "VEGETATING NEW HAMPSHIRE SAND and GRAVEL PITS", IN ADDITION TOO "BEST MANAGEMENT PRACTICES FOR ROUTINE ROADWAY MAINTENANCE ACTIVITIES IN NEW HAMPSHIRE", LATEST EDITIONS.

PARK SEED TYPE 15 SHALL NORMALLY BE USED ON LOAM AREAS. THIS SEED MIXTURE SHALL CONFORM TO TABLE 1 UNLESS AMENDED BY THE PROJECT ENGINEER TO SUIT ACTUAL FIELD CONDITIONS.

	TA	BLE 1	
KIND OF SEED	MINIMUM	MINIMUM	POUNDS/ACRE
	PURITY (%)	GERMINATION (%)	
CREEPING FESCUE	96	85	40
PERENNIAL RYEGRASS	98	90	50
KENTUCKY BLUEGRASS	97	85	25
REDTOP	95	80	5
		TC	OTAL 120

SLOPE SEED TYPE 44 SHALL NORMALLY BE USED FOR ALL SLOPE WORK, and SHALL CONFORM TO TABLE 2 UNLESS AMENDED BY THE DESIGN ENGINEER TO SUIT ACTUAL FIELD CONDITIONS.

	TA	ABLE 2		
KIND OF SEED	MINIMUM	MINIMUM	POI	JNDS/ACRE
	PURITY (%)	GERMINATION (%)		
CREEPING RED FESCUE	96	85		35
PERENNIAL RYEGRASS	98	90		30
REDTOP	95	80		5
ALSIKE CLOVER	97	90		5
BIRDSFOOT TREFOIL	98	80		5
	T	OTAL	80	

SEEDING SEASON:

1. SEEDBED PREPARATION

- A. ALL AREAS TO BE SEEDED SHALL BE A REASONABLY FIRM, BUT FRIABLE.
- B. SURFACE and SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING.
- C. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM and SMOOTH CONDITION, FOLLOWING SEEDING OPERATIONS.
- D. ALL AREAS TO BE SEEDED SHALL MEET THE SPECIFIED GRADES, AS SPECIFIED ON THE APPROVED PLAN.
- E. ALL VEGETATION SHALL BE INSPECTED ANNUALLY FOR UNHEALTHY or DEAD AREAS. ANY and ALL SUCH AREAS ARE TO BE REPAIRED or REPLACED IN KIND.

2. ESTABLISHING A STAND

- A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
 - FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
 AGRICULTURAL LIMESTONE: 2 TONS PER ACRE OR 0.09 LBS. PER SQ. FT.
 NITROGEN (N): 50 LBS. PER ACRE OR 1.1 LBS. PER 1000 SQ. FT.
- PHOSPHATE (P₂O₅): 100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT. - POTASH (K₂O): 100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT. (NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER
- B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH 0.25 INCH O SOIL OR LESS, BY CULTIPACKING OR RAKING.

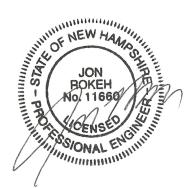
3. MULCH

- A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
- B. MULCH WILL BE HELD IN PLACE USING TECHNIQUES FROM THE "BEST MANAGEMENT PRACTICE FOR MULCHING", AS SHOWN IN, "STORMWATER MANAGEMENT AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE".

4. MAINTENANCE TO ESTABLISH A STAND

ACRE OF 5-10-10)

- A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
- B. FERTILIZATION WILL BE PERFORMED ANNUALLY IN ACCORDANCE WITH NOTE 2A..
- C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING or TRIMMING WILL BE PERFORMED ANNUALLY TO CONTROL GROWTH.
- B. ALL VEGETATION SHOULD BE INSPECTED REGULARLY and AFTER EVERY MAJOR RAIN EVENT (> 5"/24 hr). DAMAGED AREAS SHOULD BE REPAIRED AND RE-VEGETATED IMMEDIATELY.



PREPARED FOR: SAN-KEN HOMES, INC. 286 TURNPIKE ROAD NEW IPSWICH, NH CONSTRUCTION DETAILS

CONDOMINIUM SITE PLAN

MAP 30, LOT 19

WHEELER STREET, MILFORD NH

DATE	DESCRIPTION	GRATE H20 LOADING DWN BY	CK BY

REVISIONS

Rokeh Consulting, LLC 89 KING ROAD, CHICHESTER, NH

PH: 603-387-8688

SCALE: NTS

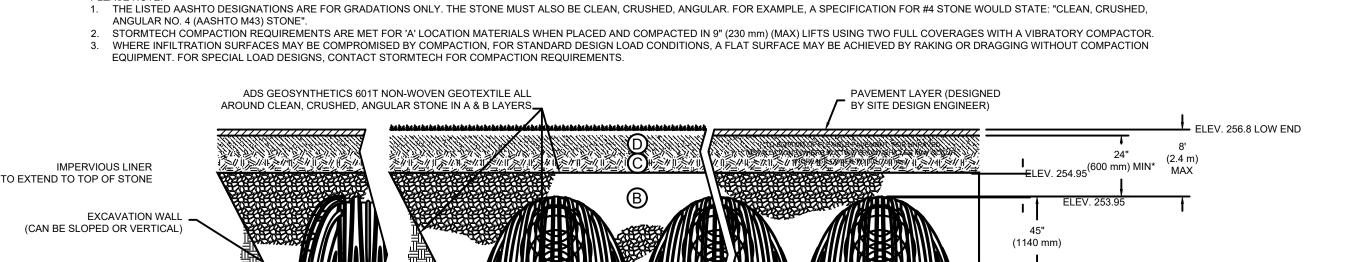
DATE: JULY 7, 2020

DR. BY: JR

JOB NO.

SHEET

12 of 19



ADJUST TO GRADE WITH HARD RED BRICK

2 COURSE MINIMUM 12" MAXIMUM

- BOOT REQUIRED ON

IMPERVIOUS CORE

RIPLEYS DAM w/ COUPLING AS SUPPLIED BY

" WALLED STRUCTURES

SEAL ALL PRECAST

JOINTS WITH MORTAR

8" CRUSHED STONE OR CRUSHED GRAVEL MAY BE REQUIRED AS ORDERED

BARREL BLOCKS ARE NOT ACCEPTABLE.

CONCRETE COLLARS AND

— STAINLESS CLAMP

SUBGRADE SOILS (SEE NOTE 4)

ALLOW 3" FOR PAVEMENT -

RIM 450.97

OUTLET STRUCTURE DETAIL

CAST IRON FRAME DMH -

SET ON FULL BED OF

MORTAR AND SEALED

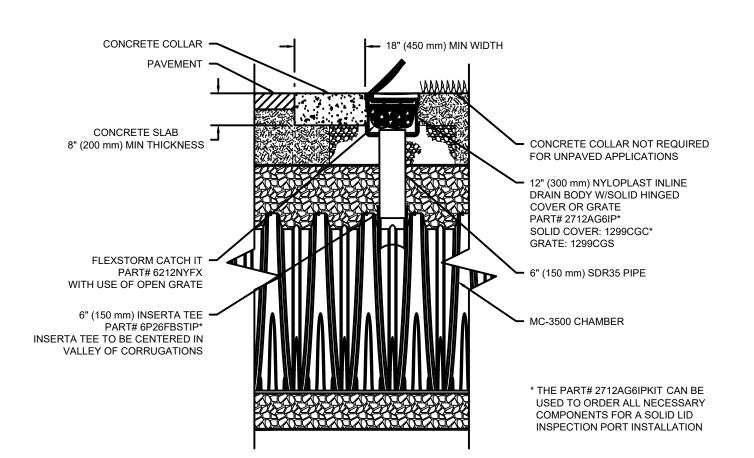
WITH MORTAR.

EXPOSED BRICK -

5" IF REINFORCED 8" IF UN-REINFORCED

18" OPENING

EL 254.15



MC-3500 6" INSPECTION PORT DETAIL

INSPECTION & MAINTENANCE

- 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.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
- 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.
- - A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
 - 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.

- 1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS
- 2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY

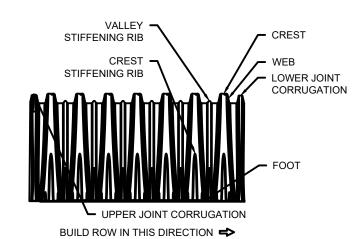
STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT

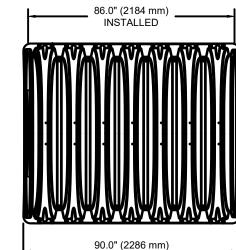
- A. INSPECTION PORTS (IF PRESENT) A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
- A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
- B. ALL ISOLATOR ROWS
- B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN

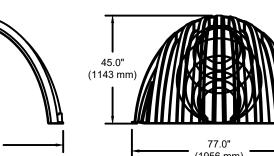
 $\sqrt{\mu}$ DMH 1

OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.





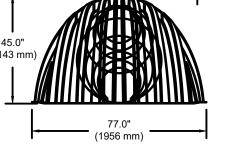


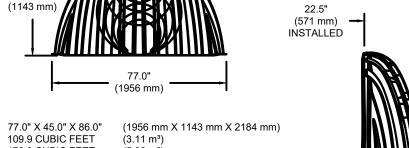


109.9 CUBIC FEET

135.0 lbs.

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS,





ACTUAL LENGTH

14.9 CUBIC FEET (0.42 m³)

178.9 CUBIC FEET (5.06 m³)

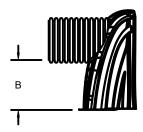
77.0" X 45.0" X 22.5" (1956 mm X 1143 mm X 571 mm) 46.0 CUBIC FEET

(61.2 kg)

50.0 lbs.

12" (305 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"				
PART#	STUB	В	С	
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 111111)		0.81" (21 mm)	
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)		
MC3500IEPP10B	10 (250 111111)		0.93" (24 mm)	
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)		
MC3500IEPP12B	12 (300 11111)		1.35" (34 mm)	
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)		
MC3500IEPP15B	15 (3/3/11111)		1.50" (38 mm)	
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)		
MC3500IEPP18BC	16 (450 111111)		1.77" (45 mm)	
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)		
MC3500IEPP24BC	24" (600 mm)		2.06" (52 mm)	
MC2F00IEDD20DC	20" (750 mm)			



NOTE: ALL DIMENSIONS ARE NOMINAL

NOMINAL CHAMBER SPECIFICATIONS
SIZE (W X H X INSTALLED LENGTH)

MINIMUM INSTALLED STORAGE*

SIZE (W X H X INSTALLED LENG

MINIMUM INSTALLED STORAGE*

CHAMBER STORAGE

END CAP STORAGE

WEIGHT

(1143 m

CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED 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 HIGHTEST POSSIBLE FOR THE PIPE SIZE.

MC-3500 TECHNICAL SPECIFICATION

SEE ADS SHOP DRAWINGS FOR UNDERGROUND DETENTION DETAILS AND CONSTRUCTION



PREPARED FOR: SAN-KEN HOMES, INC. 286 TURNPIKE ROAD NEW IPSWICH, NH

STORMTECH DETAILS CONDOMINIUM SITE PLAN MAP 30, LOT 19 WHEELER STREET, MILFORD NH

REVISIONS DATE DESCRIPTION

Rokeh Consulting, LLC 89 KING ROAD, CHICHESTER, NH PH: 603-387-8688

SCALE: 1" = 30'DATE: JULY 7, 2020 DR. BY: JR JOB NO.

> SHEET 13 of 19







WHEELER STREET

MILFORD, NH

STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-3500 OR APPROVED EQUAL.
- 2. CHAMBERS SHALL BE MADE FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- 3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- 4. 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.
- 5. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 6. 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".
- 7. 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. 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.
 - b. 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.
 - c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- 8. 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

- 1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- 2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- 3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN 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.
- 4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- 5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- 6. MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
- 7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- 8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm) MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.^J
- 9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING..^J
- 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

- 1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".^J
- 2. 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 CONSRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- 3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.^J
 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.

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CONCEPTUAL LAYOUT

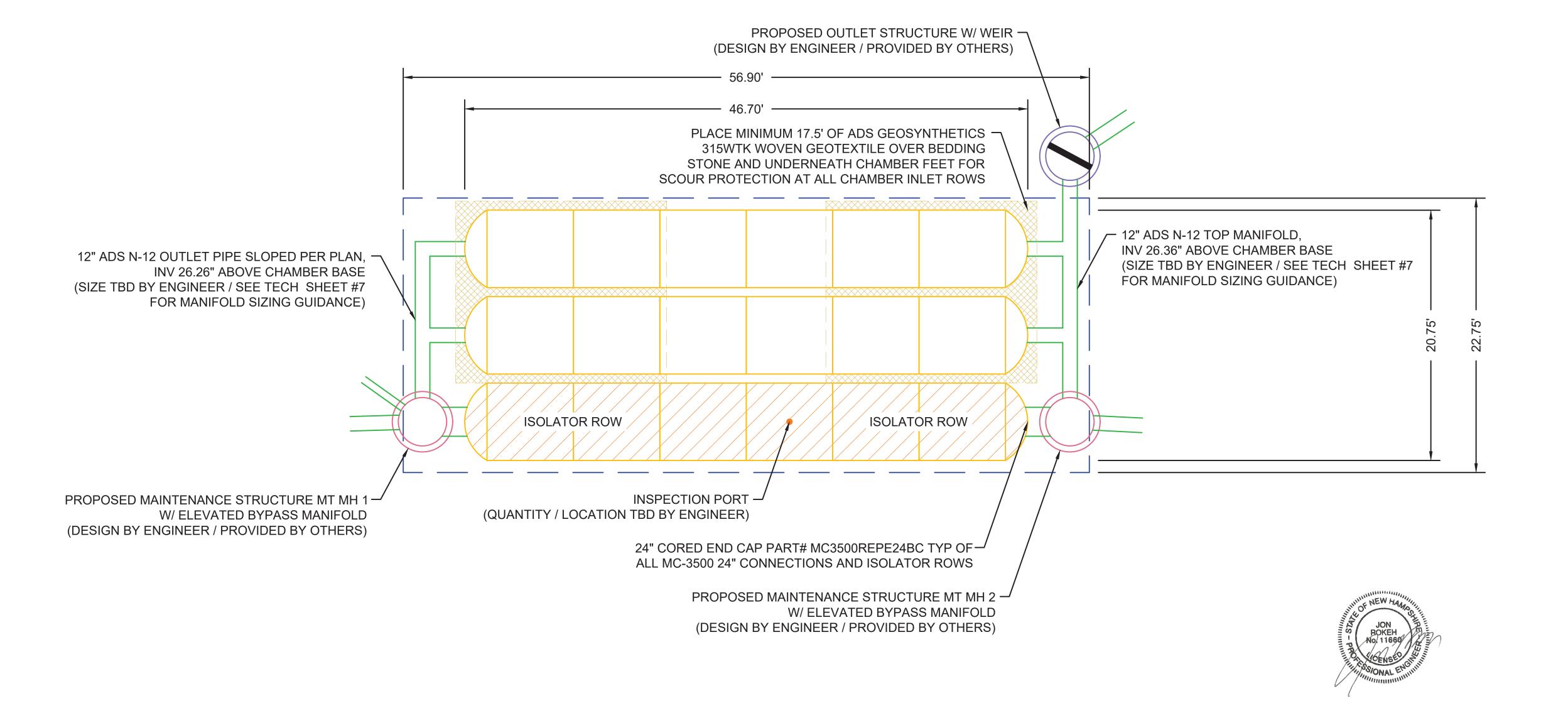
PERIMETER OF SYSTEM: 159 FT

(18) STORMTECH MC-3500 CHAMBERS
(6) STORMTECH MC-3500 END CAPS
INSTALLED WITH 15" COVER STONE, 12" BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME: 4349 CF
AREA OF SYSTEM: 1295 FT²

PROPOSED ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	261.7
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	255.7
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	255.2
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	255.2
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	255.2
ΓΟΡ OF STONE:	255.0
ΓΟΡ OF CHAMBER:	253.7
2" TOP CONNECTION INVERT:	252.2
24" BOTTOM CONNECTION INVERT (ISOLATOR ROW):	250.1
BOTTOM OF CHAMBER:	250.0
ROTTOM OF STONE:	2/10 (

COMPUTER GENERATED CONCEPTUAL LAYOUT NOT FOR CONSTRUCTION



HILLIARD, OH 43026 1-800-733-7473

HILLIA HILLIA ADVANCED DRAINAGE SYSTEMS, INC.

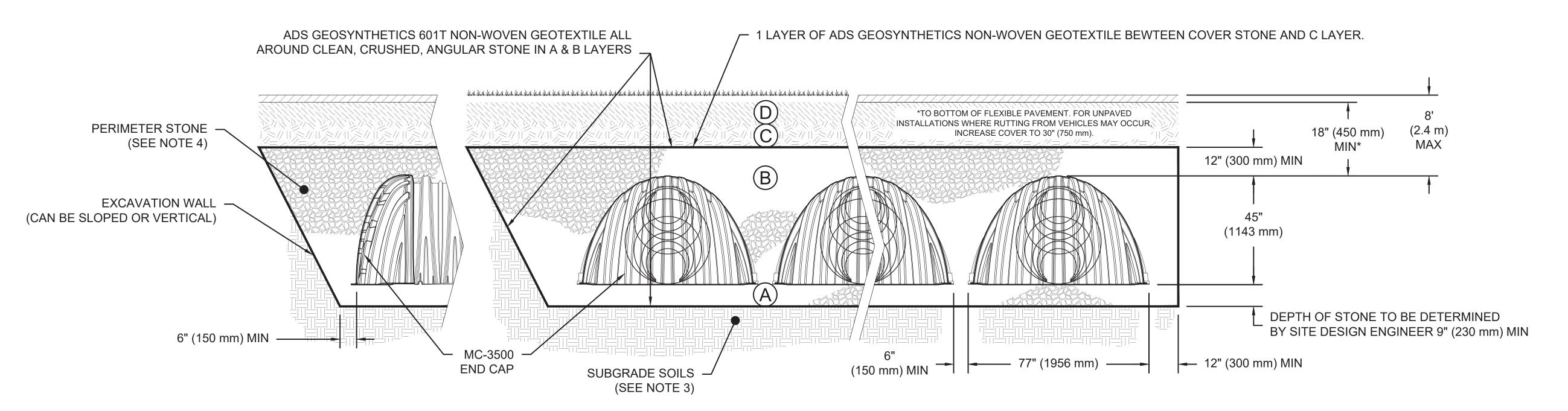
SHEET
SHEET 15 OF 19

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 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	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
С	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. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 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.
В	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.
А	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.
- 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.

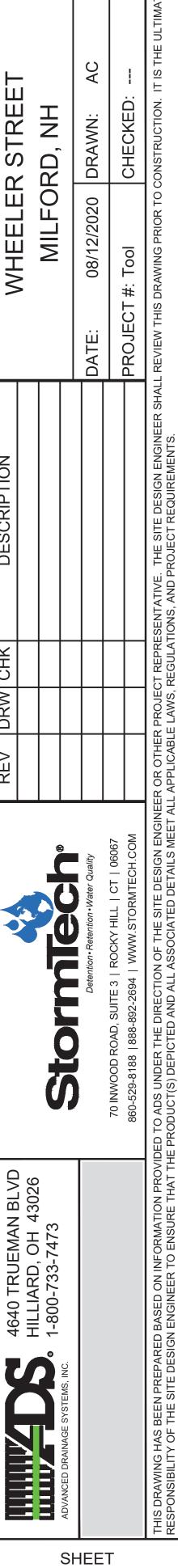


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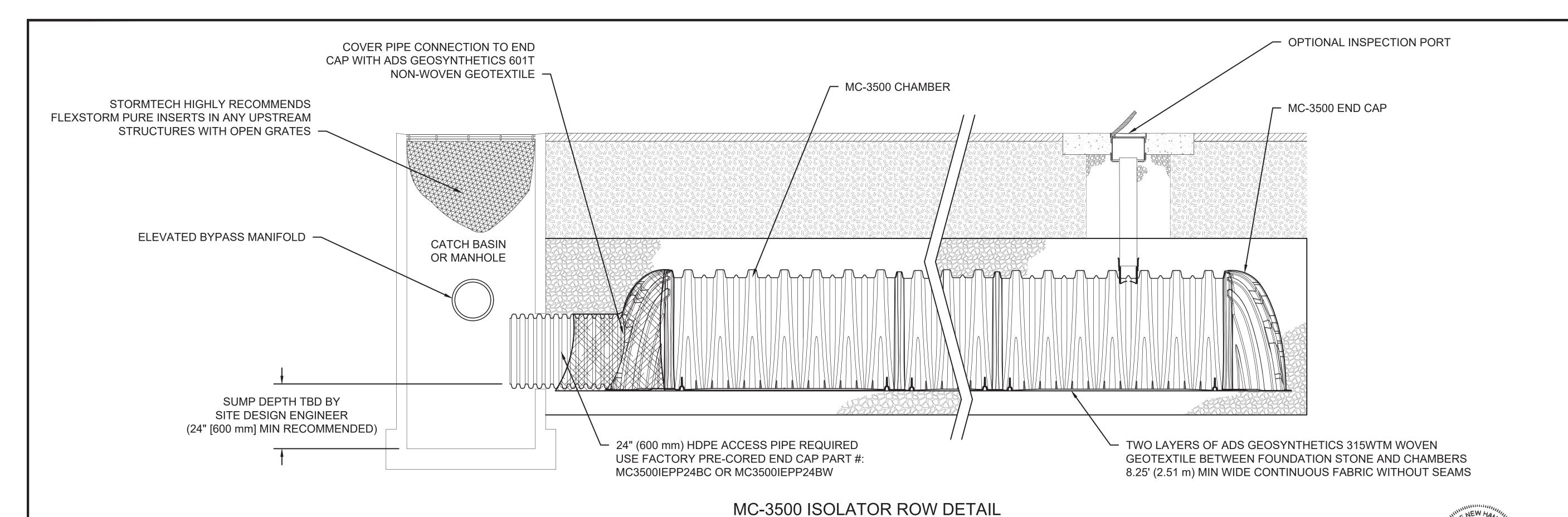
- 1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- 2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- 4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- 5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN.

 AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.





SHEET SHEET 16 OF 19



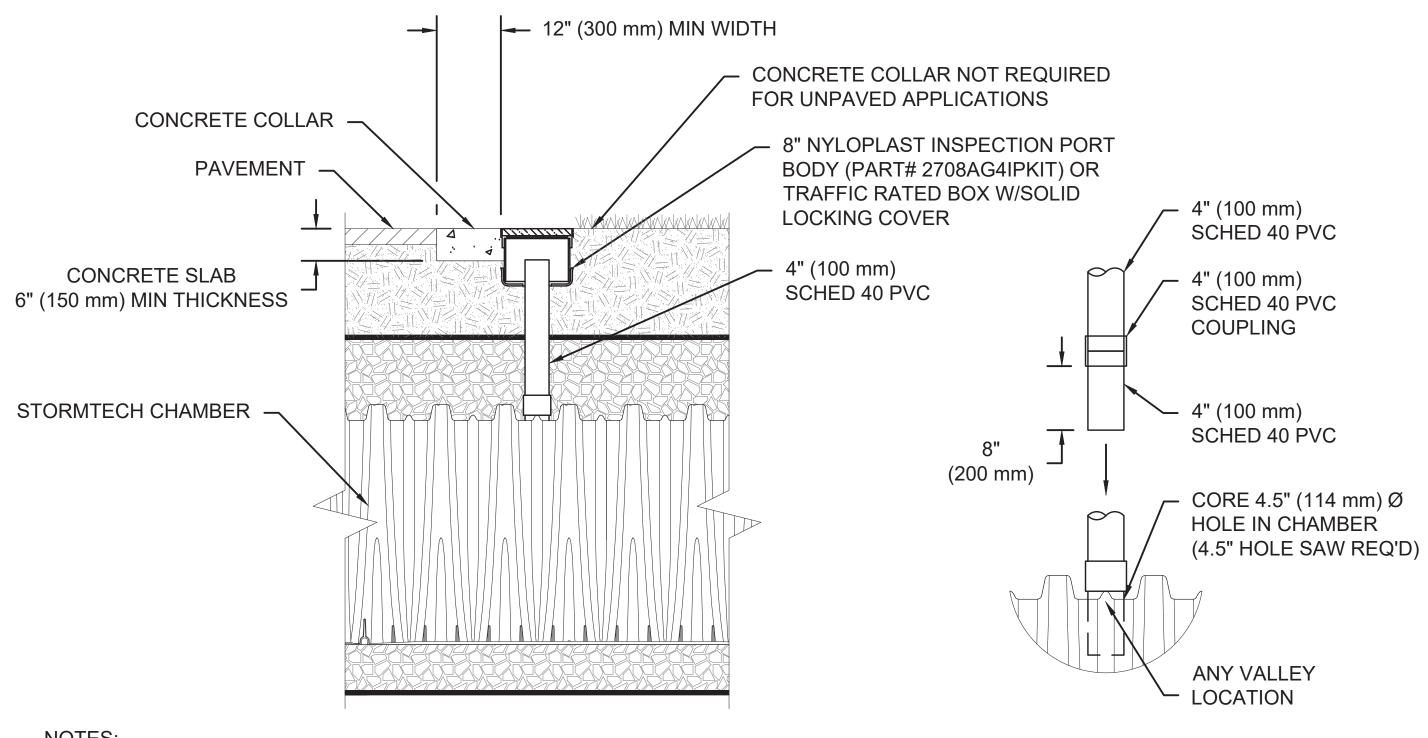
INSPECTION & MAINTENANCE

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 MANHOLEB.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

- 1. 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.
- 2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTES:

NTS

- 1. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.
- 2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED (4" PVC NOT PROVIDED BY ADS).

4" PVC INSPECTION PORT DETAIL

CONNECTION DETAIL

NTS

SHEET

NTS

SHEET 17 OF 19

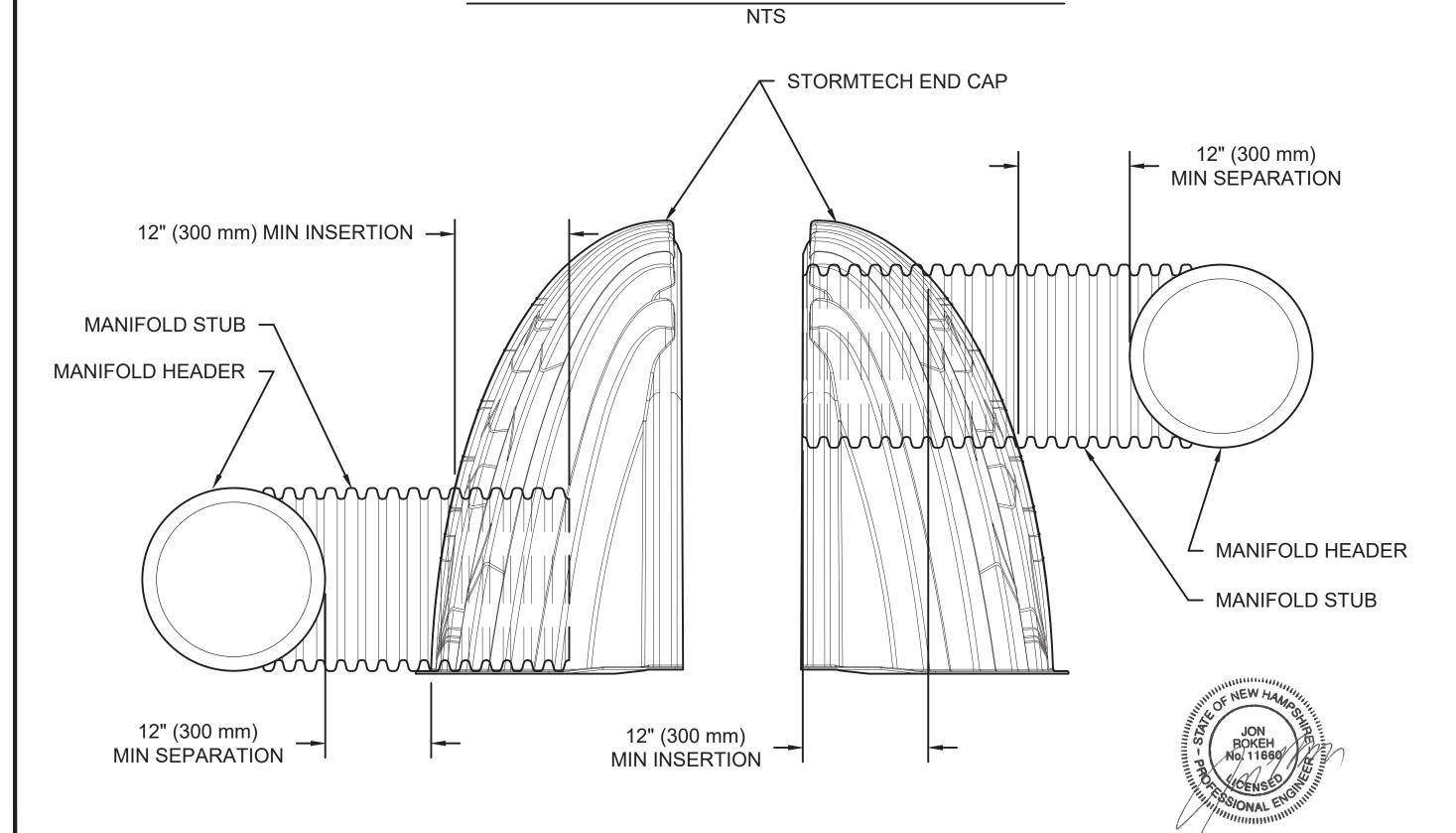
INSERTA TEE DETAIL NTS DO NOT INSTALL ─ INSERTA-TEE AT **CHAMBER JOINTS** CONVEYANCE PIPE MATERIAL MAY VARY (PVC, HDPE, ETC.) **INSERTA TEE** CONNECTION INSERTA TEE TO BE (X) \dashv INSTALLED, CENTERED -**OVER CORRUGATION** PLACE ADS GEOSYNTHETICS 315 WOVEN GEOTEXTILE (CENTERED ON INSERTA-TEE **SECTION A-A SIDE VIEW** INLET) OVER BEDDING STONE FOR SCOUR PROTECTION AT SIDE INLET CONNECTIONS. GEOTEXTILE MUST EXTEND 6" (150 mm) PAST CHAMBER FOOT

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)		
SC-310	6" (150 mm)	4" (100 mm)		
SC-740	10" (250 mm)	4" (100 mm)		
DC-780	10" (250 mm)	4" (100 mm)		
MC-3500	12" (300 mm)	6" (150 mm)		
MC-4500	12" (300 mm)	8" (200 mm)		
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS				

GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON

PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

MC-SERIES END CAP INSERTION DETAIL

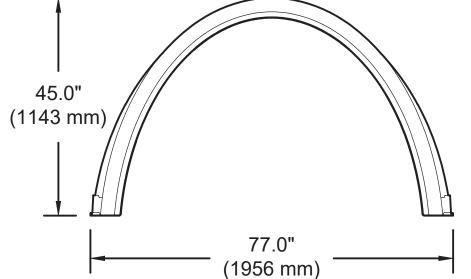


NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL

FOR A PROPER FIT IN END CAP OPENING.

MC-3500 TECHNICAL SPECIFICATION

NTS 86.0" (2184 mm) VALLEY CREST **INSTALLED** STIFFENING RIB CREST · WEB STIFFENING RIB LOWER JOINT CORRUGATION **UPPER JOINT CORRUGATION** BUILD ROW IN THIS DIRECTION ⇒ 90.0" (2286 mm) ACTUAL LENGTH 45.0" 22.2"



NOMINAL CHAMBER SPECIFICATIONS

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

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH) END CAP 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 m^3) 178.9 CUBIC FEET (5.06 m^3) 134 lbs. (60.8 kg)

75.0"

(1905 mm)

75.0" X 45.0" X 22.2" (1905 mm X 1143 mm X 564 mm) 14.9 CUBIC FEET (0.42 m^3) (1.30 m^3) 46.0 CUBIC FEET (22.2 kg) 49 lbs.

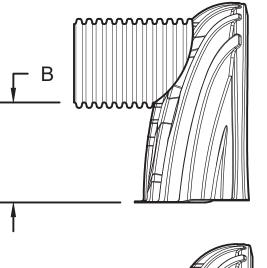
*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

(1143 mm

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	В	С
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	
MC3500IEPP06B			0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	
MC3500IEPP08B			0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	
MC3500IEPP10B			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	13 (3/3 111111)		1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	
MC3500IEPP18TW		20.03 (309 11111)	
MC3500IEPP18BC			1.77" (45 mm)
MC3500IEPP18BW			1.77 (40 11111)
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	
MC3500IEPP24TW		14.40 (300 11111)	
MC3500IEPP24BC			2.06" (52 mm)
MC3500IEPP24BW			2.00 (32 11111)
MC3500IEPP30BC	30" (750 mm)		2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

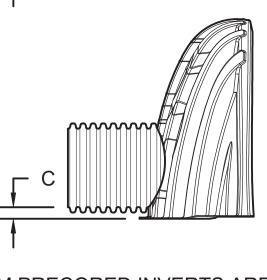


25.7"

(653 mm)

(564 mm)

INSTALLED



CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED 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.

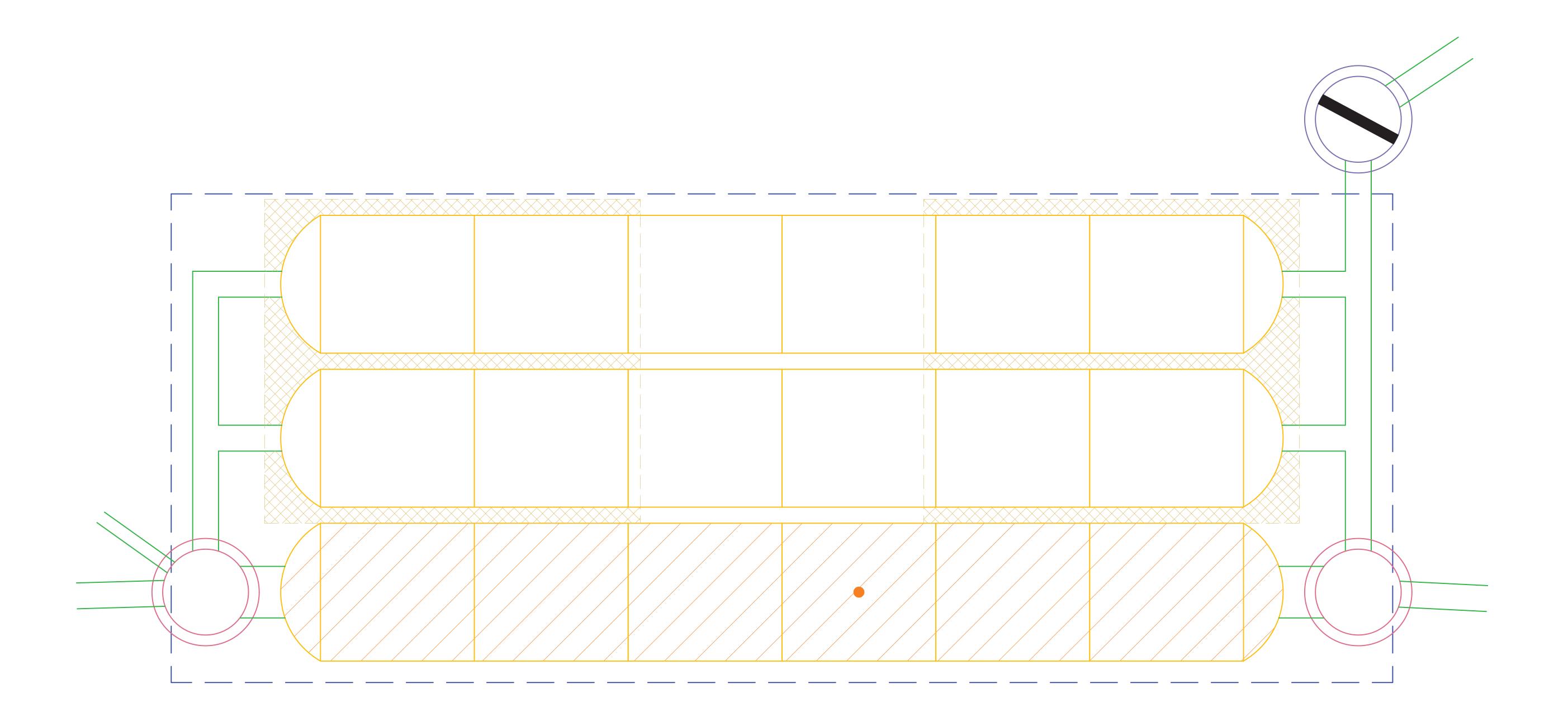
***	REV	REV DRW CHK	CHK	DESCRIPTION		WHEEL ER STREET
						011661
3					MILFO	MILFORD, NH
Detention•Retention•Water Quality					DATE: 08/12/2020 DRAWN:	DRAWN: AC
10000 - HO						
J, SULLE 3 ROCKY HILL CT U6067					- - - - - -	
8-892-2694 WWW.STORMTECH.COM					PROJECT #: Tool	CHECKED:
E DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN E ED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREN	ER OR OTHE L APPLICABI	R PROJEC LE LAWS,	OT REPRE	SENTATIVE. THE SITE DESIGN ENGINEER SHALI IONS, AND PROJECT REQUIREMENTS.	L REVIEW THIS DRAWING PRIOR TO (ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE JENTS.





SHEET

SHEET 18 OF 19







Facsimile Condo Units

Another Quality Home By:



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To Scale on 11" x 17" Paper

Pictures are facsimiles, and may show upgrade items, items that will not be included, or items that may be changed dependant on availability.

DRAWING SHEET INDEX

COVER SHEET:

CS-1 Cover Sheet ARCHITECTURAL:

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A-3	Exterior Elevations	
A-4	Exterior Elevations	
A-5	Floor Framing Overviews	
A-6	Floor Framing Overviews	
A-7	Framing Detail	
A-8	Framing Detail	
A-9	Framing Detail	
A-10	Building Sections and Deta	

A-10 Building Sections and Details
S-1 Basement/Foundation Plan

PLAN DETAILS

FINISHED LIVING AREA: 3584
UNFINISHED LIVING AREA: 0
BASEMENT AREA: 3584

TOTAL LIVING AREA: 3584

GARAGE AREA: 783
DECK AREA: 384
PORCH AREA: 288

BEDROOMS: 6
BATHROOMS: 6
GARAGE BAYS: 3

NUMBER DATE REVISED BY DESCRIPTION

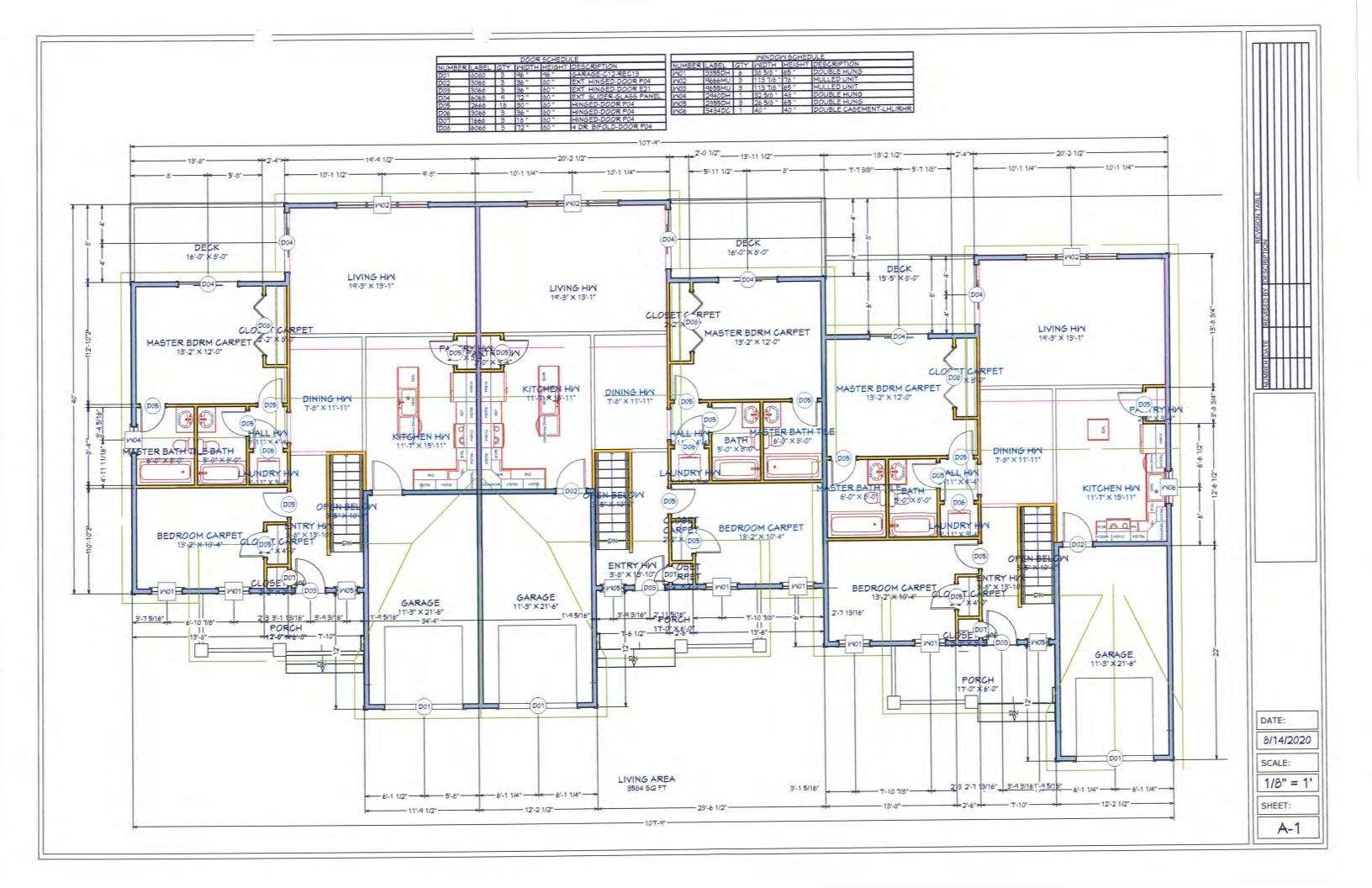
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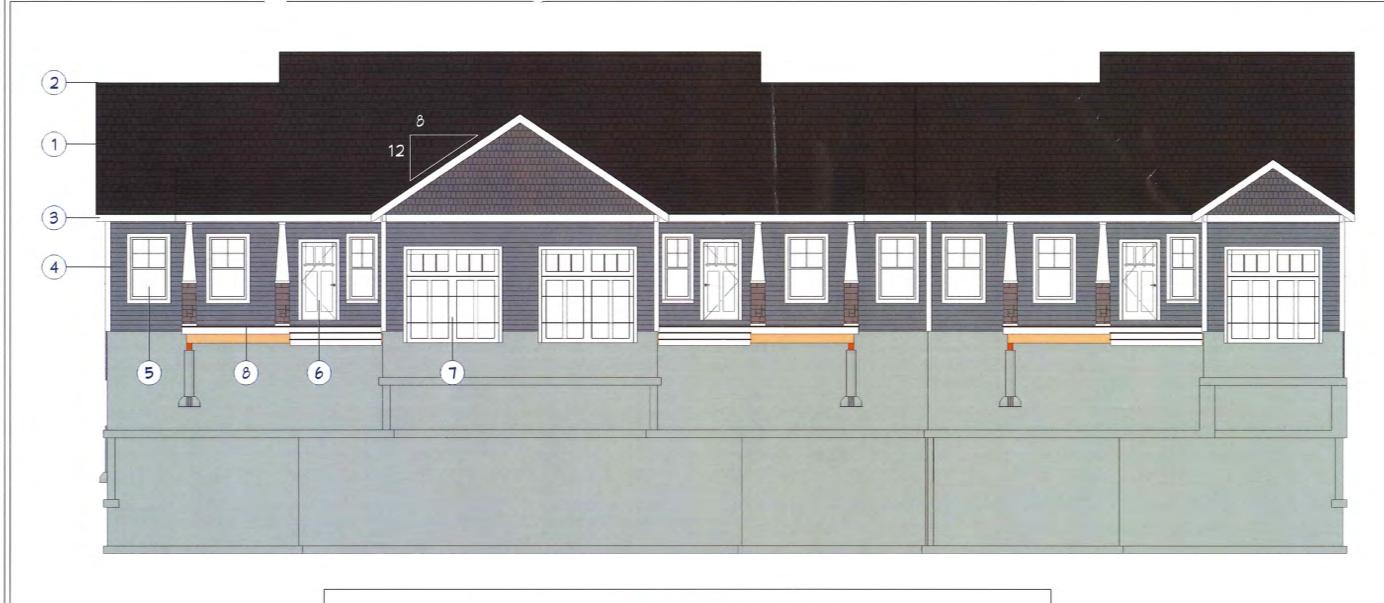
SCALE:

8/14/2020

NOT TO SCALE

SHEET:





MATERIAL LEGEND

- (1) ASPHALT SHINGLES
- (2) CONTINUES RIDGE VENT W/ ASPHALT SHINGLE CAP
- 3 BENT METAL (ALUMINUM) DRIPEDGE, FASCIA & TRIM COLOR WHITE
- (4) VINYL SIDING & CORNER TRIM
- (5) VINYL WINDOWS (TILT-WASH) W/ ARGON INSULATED GLASS, GRILLES AND SCREENS (SEE WINDOW SCHEDULE FOR SIZES AND TYPES) U VALUE = .35 MAX, SHGC = ANY
- (6) PREHUNG, FIBERGLASS INSULATED DOOR
- (7) METAL GARAGE DOOR
- (8) TREX PORCH/DECK

DATE:

8/14/2020

SCALE: 1/8" = 1'

SHEET:



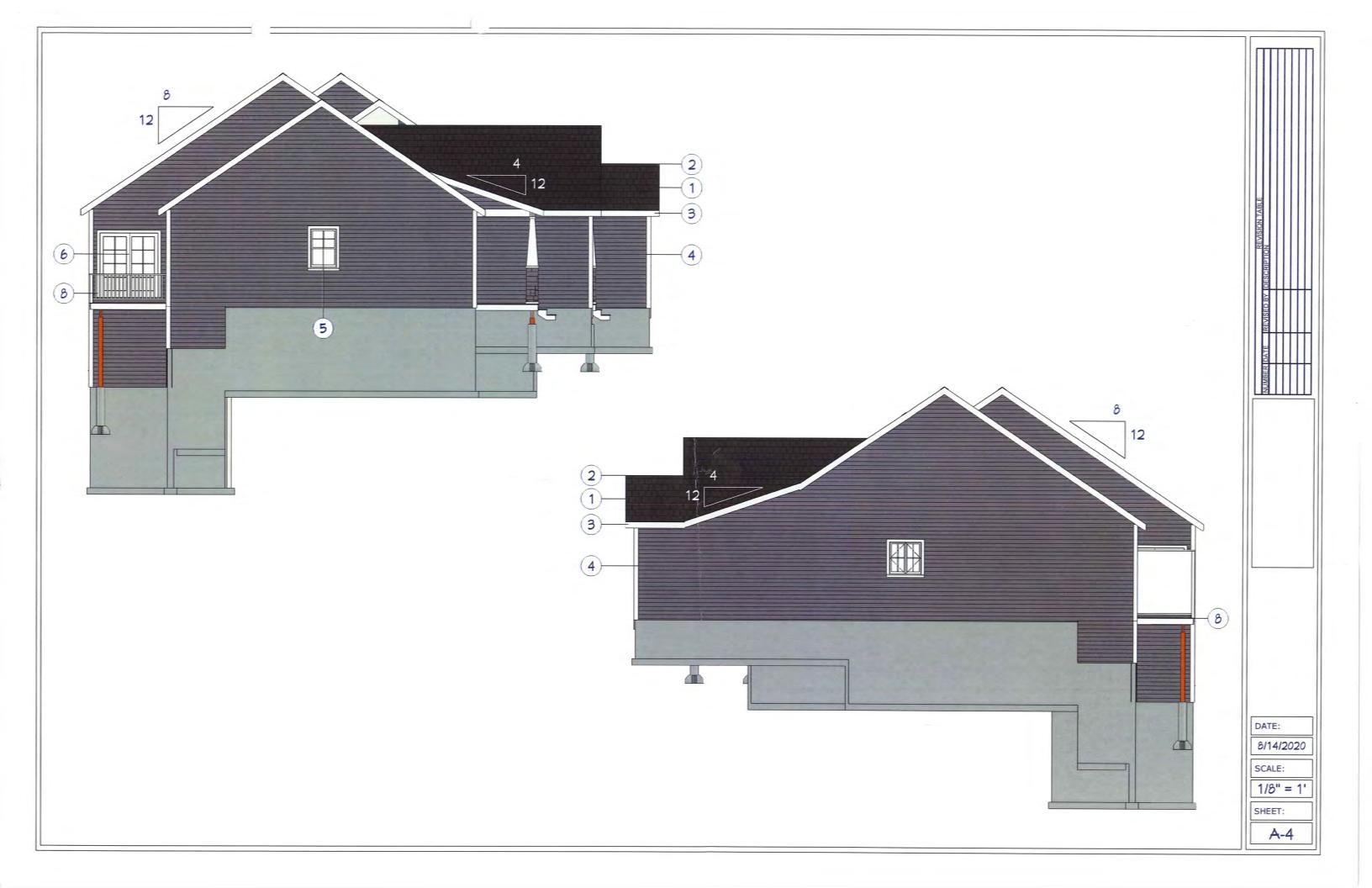
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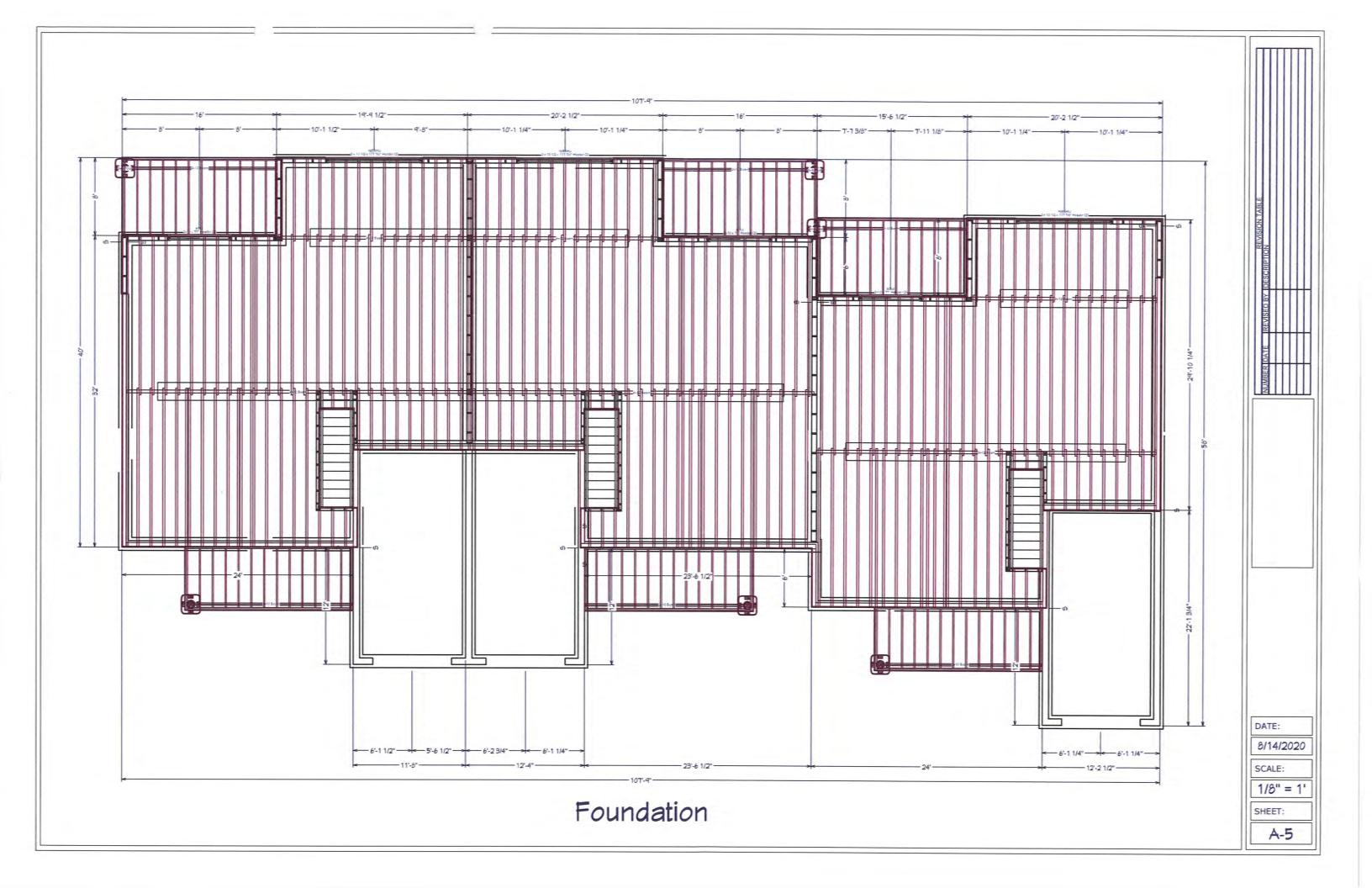
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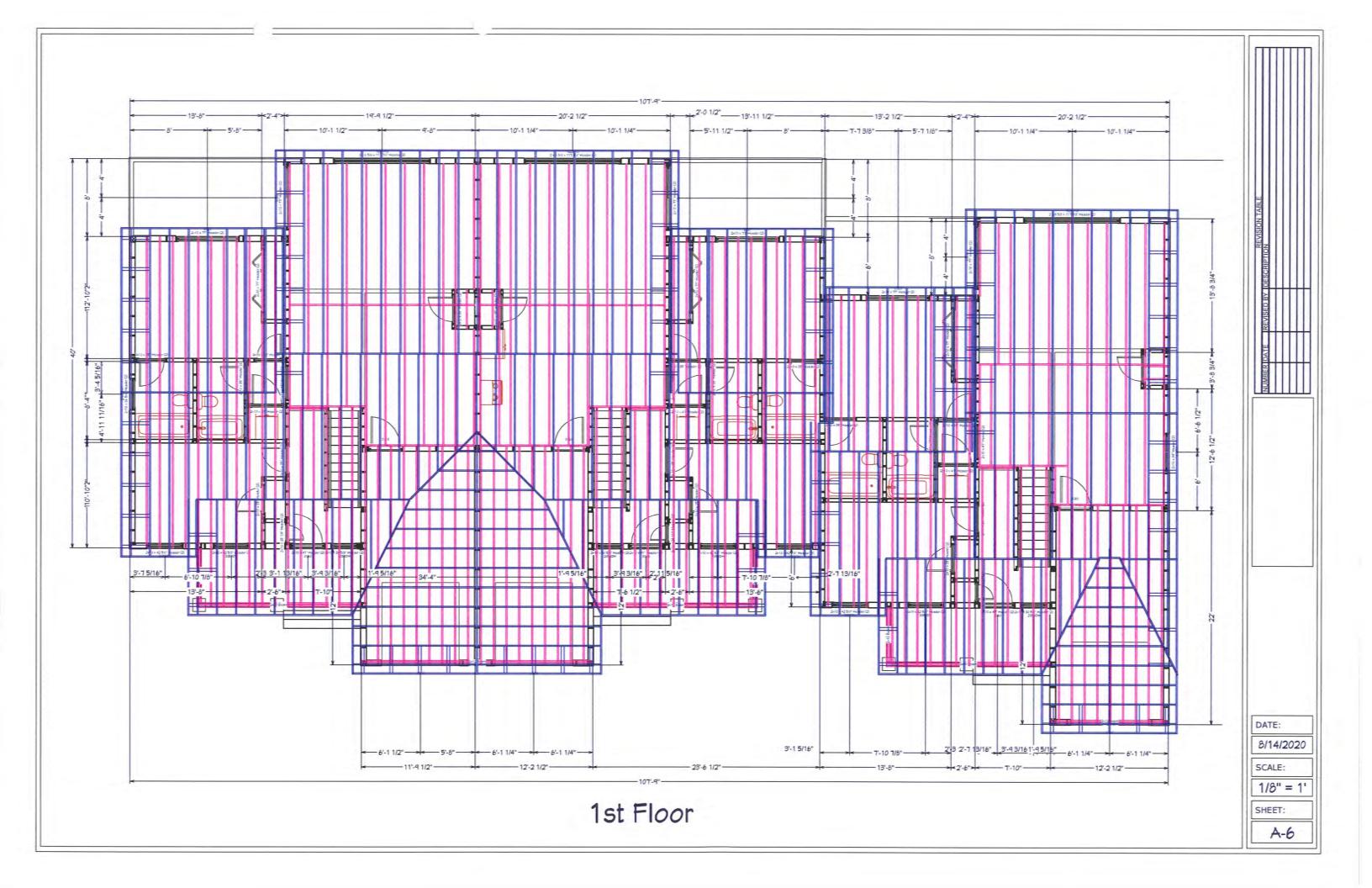
8/14/2020

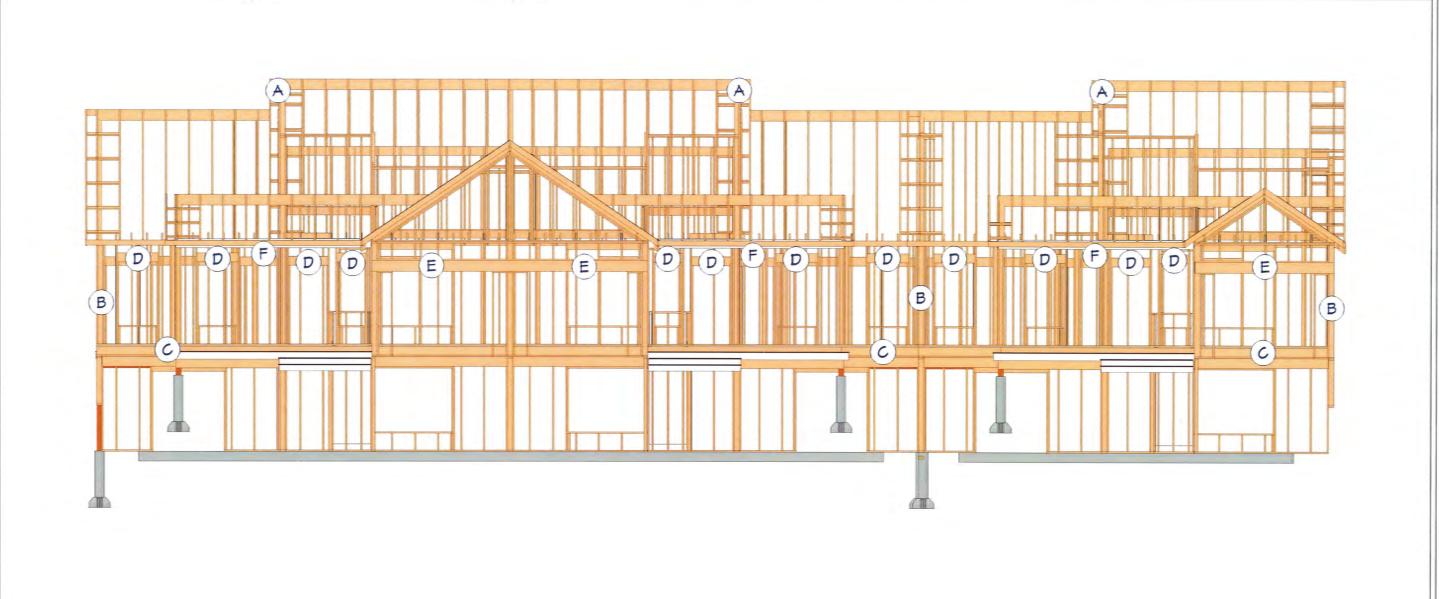
SCALE:

SHEET:









FRAMING DETAILS

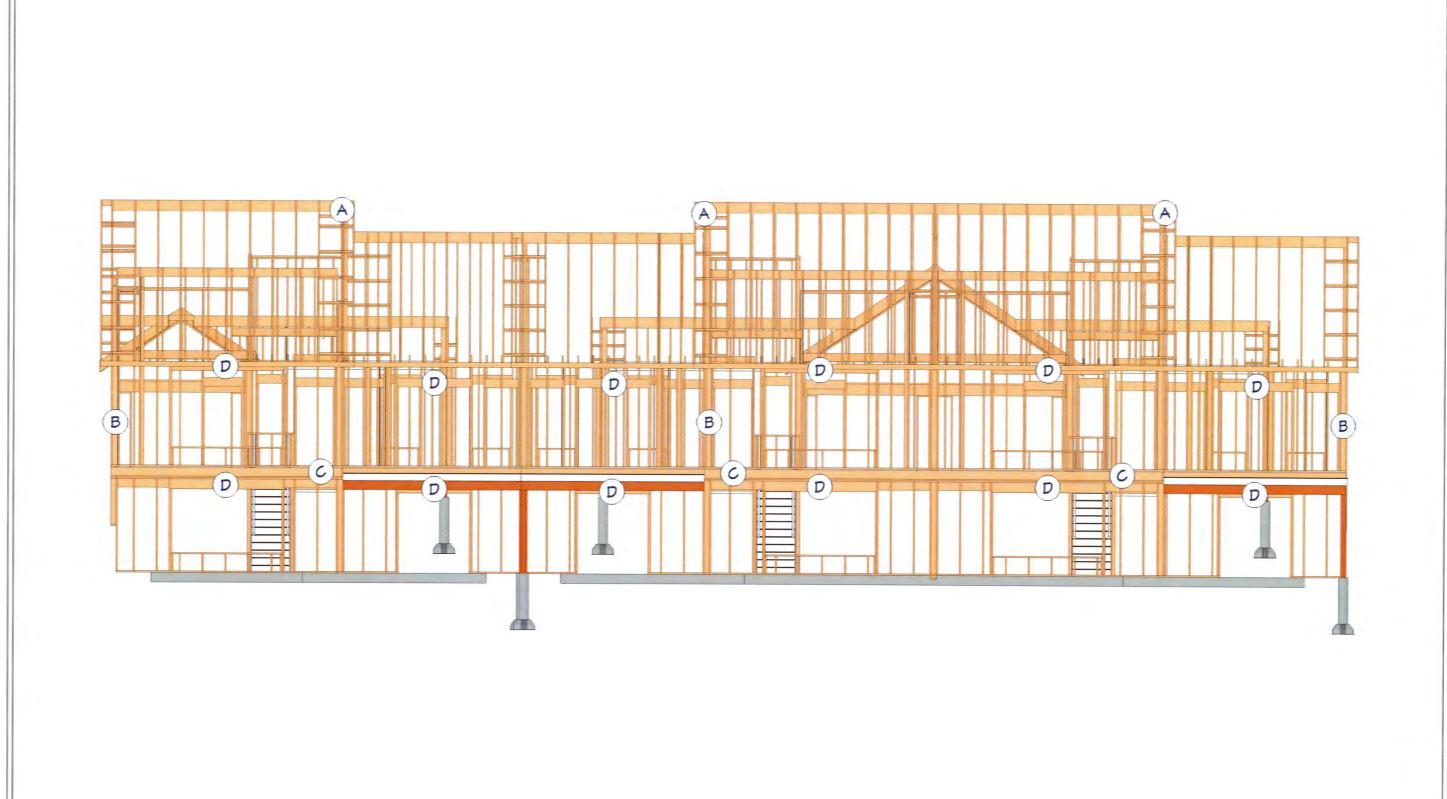
- (A) TRUSS
- B WALLS 2"X6"
- © FLOOR JOISTS 2"X10"
- D HEADERS TRIPLE 2"X10"
- E HEADER TRIPLE 2"X12"X144" FRAMED IN ACCORDANCE WITH R602.10.4.1.1
- F PORCH BEAM QUAD 2"X10"

DATE:

8/14/2020

SCALE: 1/8" = 1'

SHEET:





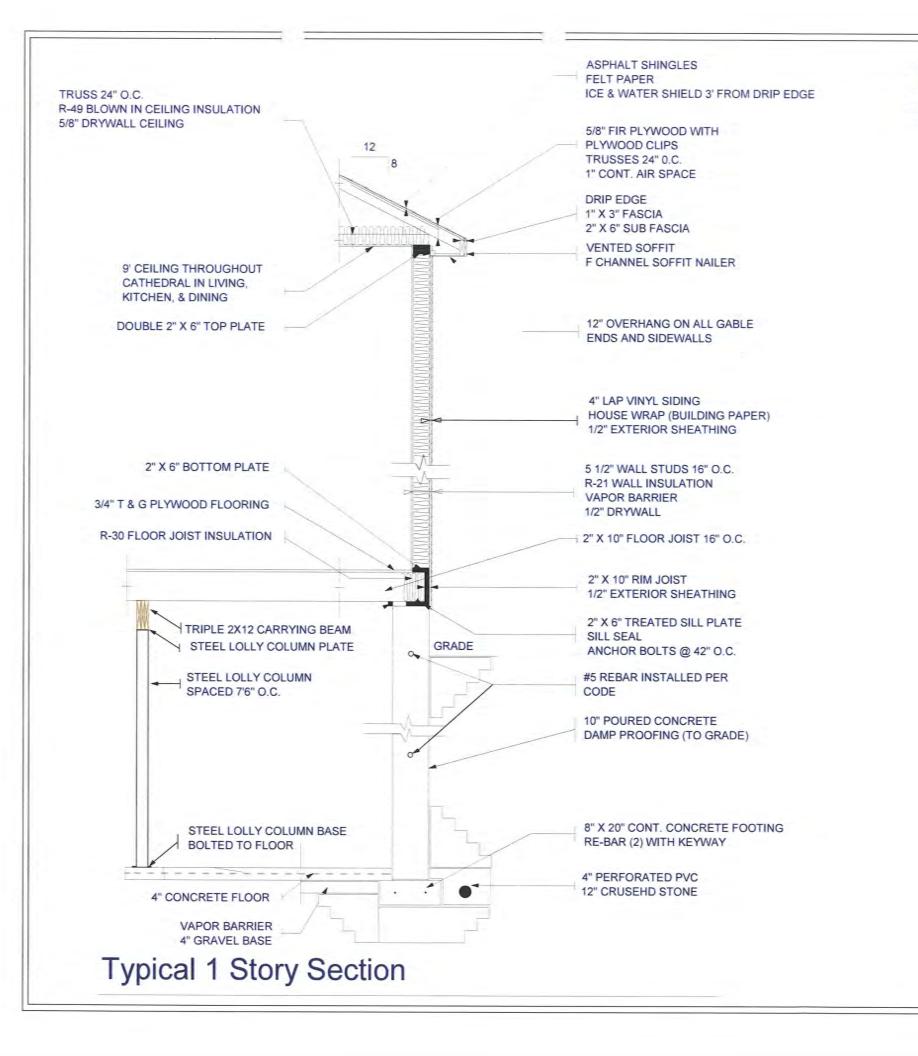
DATE:

8/14/2020

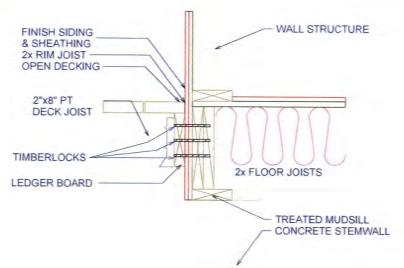
SCALE:

SHEET:

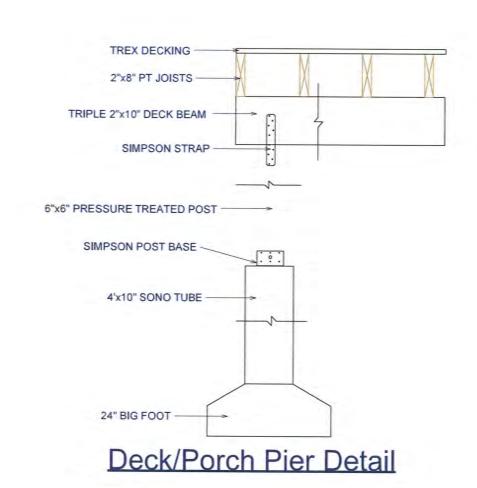




FRONT PORCH TO BE FRAMED EXTENDING 5 1/2" FROM EXTERIOR WALL IN ORDER TO GIVE ROOM FOR DECORATIVE POSTS FRONT PORCH, BACK DECK, AND EXTERIOR STAIRS ARE TO BE PICTURE FRAMED.



Deck Anchored to Wood Wall: 1st Floor



DATE:

8/14/2020

SCALE:

SHEET:

