TOWNOFMILFORD,NH
OFFICEOFCOMMUNITYDEVELOPMENT
1 UNION SQUARE, MILFORD, NH 03055 TEL: (603)249-0620 WEB: WWW.MILFORD.NH.GOV

STAFF MEMORANDUM

Date: **September 8, 2020**

To: **Planning Board**

From: **Kellie Walsh, Town Planner**

Subject: **San-Ken Homes, Inc. (owner/applicant) –** Conceptual discussion for a potential site plan to construct a two condominium buildings totaling seven units along with associated site improvements. The parcel is located at an unnumbered parcel on Wheeler Street in the Residence A District, Floodplain Management and Wetland Conservation Overlay Districts. Tax Map 30, Lot 19.

BACKGROUND/PROPOSAL:

Map 30, Lot 19 is located on an unnumbered parcel on Wheeler Street in the Residential A zoning district. The site is currently vacant land.

The applicant is before the Planning Board to discuss a conceptual site plan to construct two condominium building totaling seven units (one 3 unit building and one four unit building). The applicant is proposing the access be from an existing right-of-way on Wheeler Street.

In addition to detailing the proposed improvements, the applicant will be seeking input from both Boards regarding the next steps in the regulatory approval process and any other recommendations to assist the applicant if they decide to move forward with a formal application in the future. A conceptual review/discussion shall not bind the applicant or Planning Board.

STAFF COMMENTS:

1. A Variance is required for the use (Residence A District does not permit condos/multi-family) and a Variance is required for frontage. If the applicant is granted the frontage Variance, a recommendation from the Planning Board and approval from the Board of Selectmen will be required prior to building permit issuance per NHRSA 674:41.

2. The applicant will need to receive subdivision approval due to having more than 5 units (Milford Development Regulations, Section 5.08 Open Space Conservation Developments) and per Milford Development Regulations, Article III Section 3.01Definitions: Condominium.

3. Several comments from other municipal departments have been received and are included below.

STAFF RECOMMENDATIONS:

Listen to the applicant's presentation; provide feedback and any recommendations for their consideration in order for them to proceed with formal applications. Please also discuss any typically required/recommended items that the Board would be expecting should a formal application be submitted in the future.

From: Eric Schelberg
To: Kellie Walsh
Subject: RE: IDR - Wheeler Street Condos
Date: Tuesday, September 8, 2020 10:14:30 AM

Hi Kellie,

Ambulance has concerns regarding street width and the ability to turn an ambulance around. If vehicles are parked in the parking spots an ambulance would have to perform a multi-point backing maneuver to turn around.

Is it possible to either widen the street to accommodate this, or add a turn-around or hammer head at the end of the street?

Thank you for taking this into consideration.

Have a good day,

Eric

From: Kellie Walsh
Sent: Tuesday, September 1, 2020 12:59 PM
To: Chris Costantino; Conservation Commission; Craig Frye; David Palance; Eric Schelberg; Jamie Ramsay; Jason Smedick; Kathy Doherty; Ken Flaherty; Kevin Stetson; Marti Noel; Mike Viola; Rick Riendeau
Subject: IDR - Wheeler Street Condos

Please find attached the IDR for a two building seven unit condominium site plan on Wheeler Street.

Thanks in advance for comments.

Kellie Walsh
Town Planner
Community Development
1 Union Square
Milford NH 03055
603-249-0620
kwalsh@milford.nh.gov

From: Rick Riendeau
To: Kellie Walsh
Subject: Wheeler Street
Date: Friday, August 28, 2020 9:57:29 AM

Kellie,

I have some questions in regards to the proposed townhouses on Wheeler street.

1. Is the road becoming Town? (I would not recommend making this town)
2. Snow storage
3. Inadequate size hammer head turn around
4. Who is maintaining the underground detention system proposed? Is there a scheduled maintenance on this?
5. Only one parking space per unit, where is other parking? (not a good area or room to park other cars on Wheeler St.

Rick Riendeau
Director of Public Works
Milford, NH
rriendeau@milford.nh.gov
W 603-673-1662
F 603-673-2206
"Public Works makes it happen"

From: Jason Smedick
To: Kellie Walsh
Cc: Ken Flaherty
Subject: RE: IDR - Wheeler Street Condos
Date: Tuesday, September 1, 2020 3:03:15 PM

Good afternoon Kellie,

After review of the plans we would like to offer the following comments:

1. The proposed snow storage for the site will not be sufficient.
2. Due to the roadway width it will have to de designated a fire lane in accordance with Saf-C 6000, NFPA 1 Uniform Fire Code, Chapter 18, Section 18.2.3.5.1 and shall be labeled.
3. The lack of access to the rear of the building is concerning, however the building code requires a 13 D residential sprinkler systems be installed. I they do have full basements this will then essentially a three story building in the rear and a two story in the front?
4. The exiting water main on Wheeler St. will most likely have to be upgraded. 4" I believe.

Should you have any further questions, please do not hesitate to contact me.

Thank you.

Captain Jason A Smedick
Milford Fire Department
Bureau of Fire Prevention & Investigation
Deputy Health Officer
39 School Street
Milford NH 03055
603-249-0680

From: Kellie Walsh
Sent: Tuesday, September 1, 2020 12:59 PM
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Thanks in advance for comments.

Kellie Walsh
Town Planner
Community Development
1 Union Square
Milford NH 03055

From: Jason Smedick
To: Kellie Walsh
Cc: Ken Flaherty
Subject: Additional
Date: Tuesday, September 1, 2020 3:09:26 PM

Saf-C 6000, NFPA 1 2015 Edition, Chapter 18, Section 18.2.3.4.4 requires dead end roadways in access of 150 feet shall have an approved means for allowing fire apparatus to turn around.

Captain Jason A Smedick
Milford Fire Department
Bureau of Fire Prevention & Investigation
Deputy Health Officer
39 School Street
Milford NH 03055
603-249-0680

From: Kevin Stetson
To: Kellie Walsh
Cc: Ryan Provins; Brad Whitfield
Subject: RE: IDR - Wheeler Street Condos
Date: Tuesday, September 1, 2020 1:58:10 PM

Hi Kellie, I'm seeing some concerns with the water services and construction details (Ryan is on vacation until around Sept 14th and may have some more input):

- We will need to see a detailed water installation plan
- Existing water mains at Wheeler Street are not adequate to supply fire protection and domestic water
  - An 8 inch water main will most likely have to be installed out to Nashua Street by the developer
  - A fire hydrant may have to be installed near the property
- The construction detail for the water Domestic Service and Fire Service will have to be changed:
  - A separate fire service main will have to be run from the property line to the buildings
  - A separate domestic water main will have to be run from the property line to the buildings

Brad can let you know how the sewer details are looking. But it looks like we will need more details on the connections to the existing sewer main.

From: Kellie Walsh
Sent: Tuesday, September 1, 2020 12:59 PM
To: Chris Costantino; Conservation Commission; Craig Frye; David Palance; Eric Schelberg; Jamie Ramsay; Jason Smedick; Kathy Doherty; Ken Flaherty; Kevin Stetson; Marti Noel; Mike Viola; Rick Riendeau
Subject: IDR - Wheeler Street Condos

Please find attached the IDR for a two building seven unit condominium site plan on Wheeler Street.

Thanks in advance for comments.

Kellie Walsh
Town Planner
Community Development
1 Union Square
Milford NH 03055
603-249-0620
kwalsh@milford.nh.gov

Town of Milford
CONSERVATION COMMISSION

Town Hall
1 Union Square
Milford, NH 03055-4240
(603) 249-0628
Fax (603) 673-2273
www.milford.nh.gov
conservation@milford.nh.gov

MEMORANDUM

September 11, 2020

To: Milford Planning Board

Re: Interdepartmental Review Map 30 Lot 19
Wheeler Street Condos

To the Board,

The Conservation Commission (MCC) reviewed this plan at the September 10 meeting. The Commission members have some comments.

1. The MCC would like to schedule a site visit with the engineer. Personal recollection is that there is an unidentified spring emerging where the plan indicates that a retaining wall will be located.

2. The MCC would like to ensure that there is a maintenance or management plan for the underground storage tanks. The members questioned the word "proposed". Is there another stormwater plan being held in reserve? This underground chamber is discharging into the wetland. What kind of treatment is occurring in the chamber?

3. The snow storage area appears to be inadequate for this site.

4. Sheet 6 – Landscape and Lighting Plan indicates planting euonymus alatus (Burning Bush), which is a NH prohibited species. This plant needs to be removed from the landscape plan.

5. The MCC would like to see some sort of physical barrier to prevent trash blowing into the wetland and associated buffer which is located at the bottom of the retaining wall.

The Commission appreciates the opportunity to review this application. We look forward to seeing a well-designed project that improves the natural resource functionality of the site.

Very Respectfully,

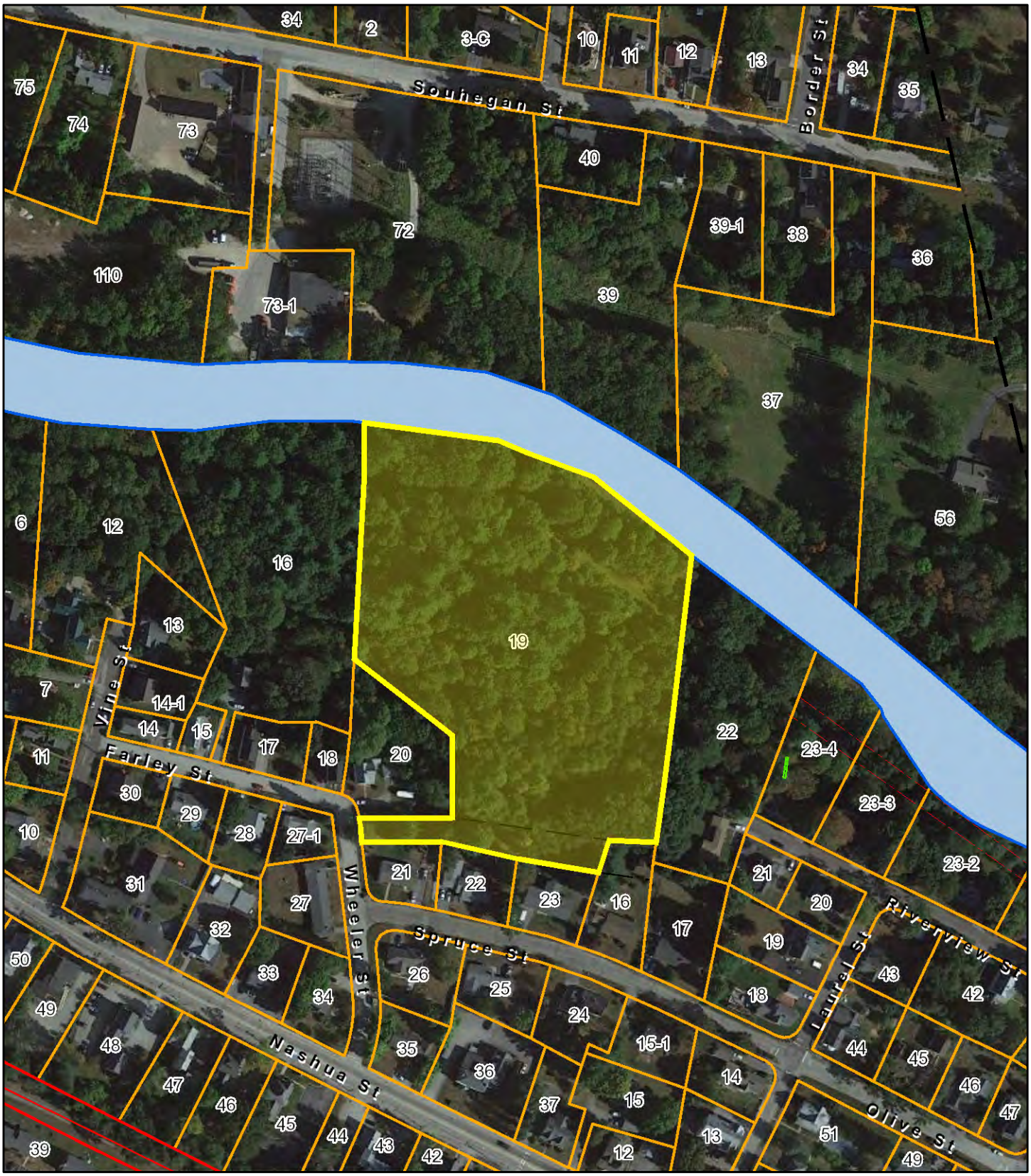
Chris Costantino | Coordinator
Milford Conservation Commission

Milford, NH

1 inch = 200 Feet

0 200 400 600

September 10, 2020



Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

SITE DEVELOPMENT PLANS

WHEELER ROAD- MILFORD, NH

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) X 0.6 = 7.09 = 7 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 STANDARDS

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

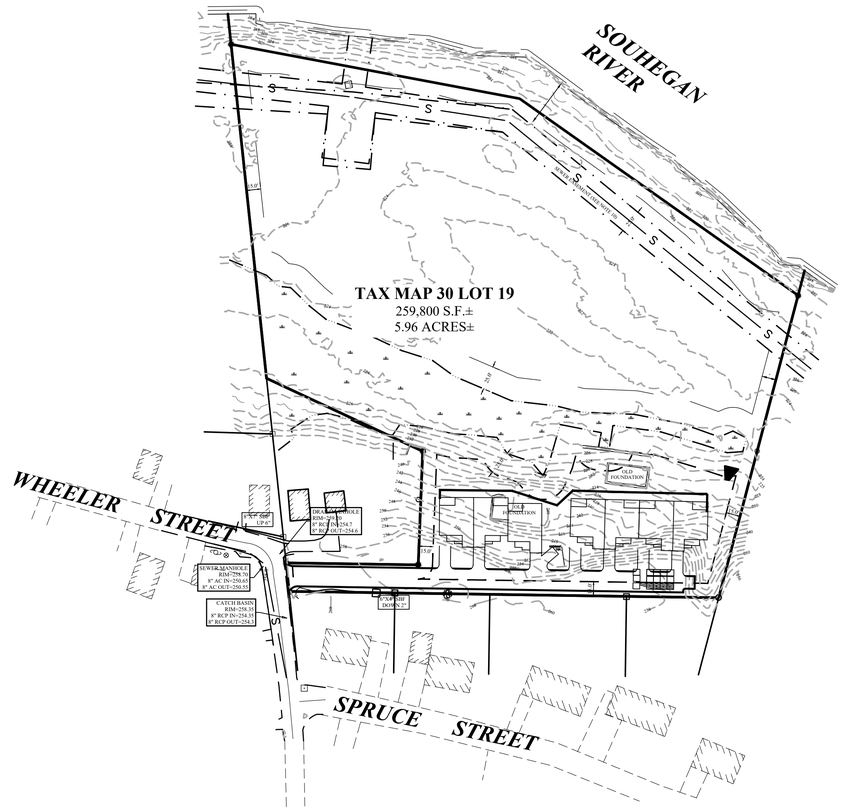
16 . WITH THE APPROVAL OF THIS PLAN THE FOLLOWING WAIVERS HAVE BEEN APPROVED

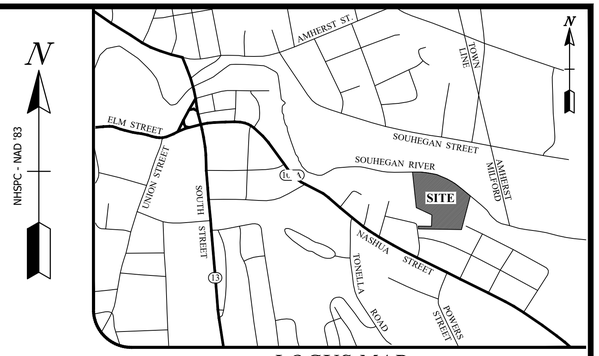
17. SNOW WILL BE STORED ALONG THE EDGE OF THE ROADWAY AND EDGE OF DRIVEWAYS. EXCESS SNOW WILL BE REMOVED FROM THE SITE

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.

DigSafe
MA • ME • NH • RI • VT





LOCUS MAP

NOT TO SCALE

LIST OF DRAWINGS

STATE OF NEW HAMPSHIRE - JON ROKEH No. 11660 LICENSED PROFESSIONAL ENGINEER

LIST OF ADDITIONAL CONSULTANTS

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

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

OWNER'S SIGNATURE

FOR SAN KEN HOMES, INC

08/14/2020
DATE

APPROVED

MILFORD, NH PLANNING BOARD

DATE APPROVED _____

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

REVISIONS

DATE	DESCRIPTION	DWN BY	CK BY

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

SCALE: 1" = 80'
DATE: JULY 7, 2020
DR. BY: JR CK. BY: JR
JOB NO.

SHEET
1 of 19

REFERENCE PLANS

1. "CONSOLIDATION PLAN OF LAND, MAP 30 / LOTS 19 & 20, 16 FARLEY STREET, MILFORD, NEW HAMPSHIRE" DATED MAY 14, 2002 AND PREPARED BY MAYNARD & PAQUETTE ENGINEERING ASSOCIATES, LLC. H.C.R.D. PLAN #31778.

2. "PLAN OF LAND, MAP 30 / LOT 20, 16 FARLEY STREET, MILFORD, NEW HAMPSHIRE" DATED APRIL 30, 2001 AND PREPARED BY MAYNARD & PAQUETTE ENGINEERING ASSOCIATES, LLC. H.C.R.D. PLAN #31085.

3. "TOWN OF MILFORD PROPOSED EASEMENT ON LAND OF JOHN E. CALDERARA, GUIDO A. & MILDRED E. RIZZI, MILFORD, N.H." LAST REVISED JULY 6, 1979 AND PREPARED BY THOMAS F. MORAN, INC. H.C.R.D. PLAN #12378 SHEET 21 OF 25.

WETLAND CERTIFICATION

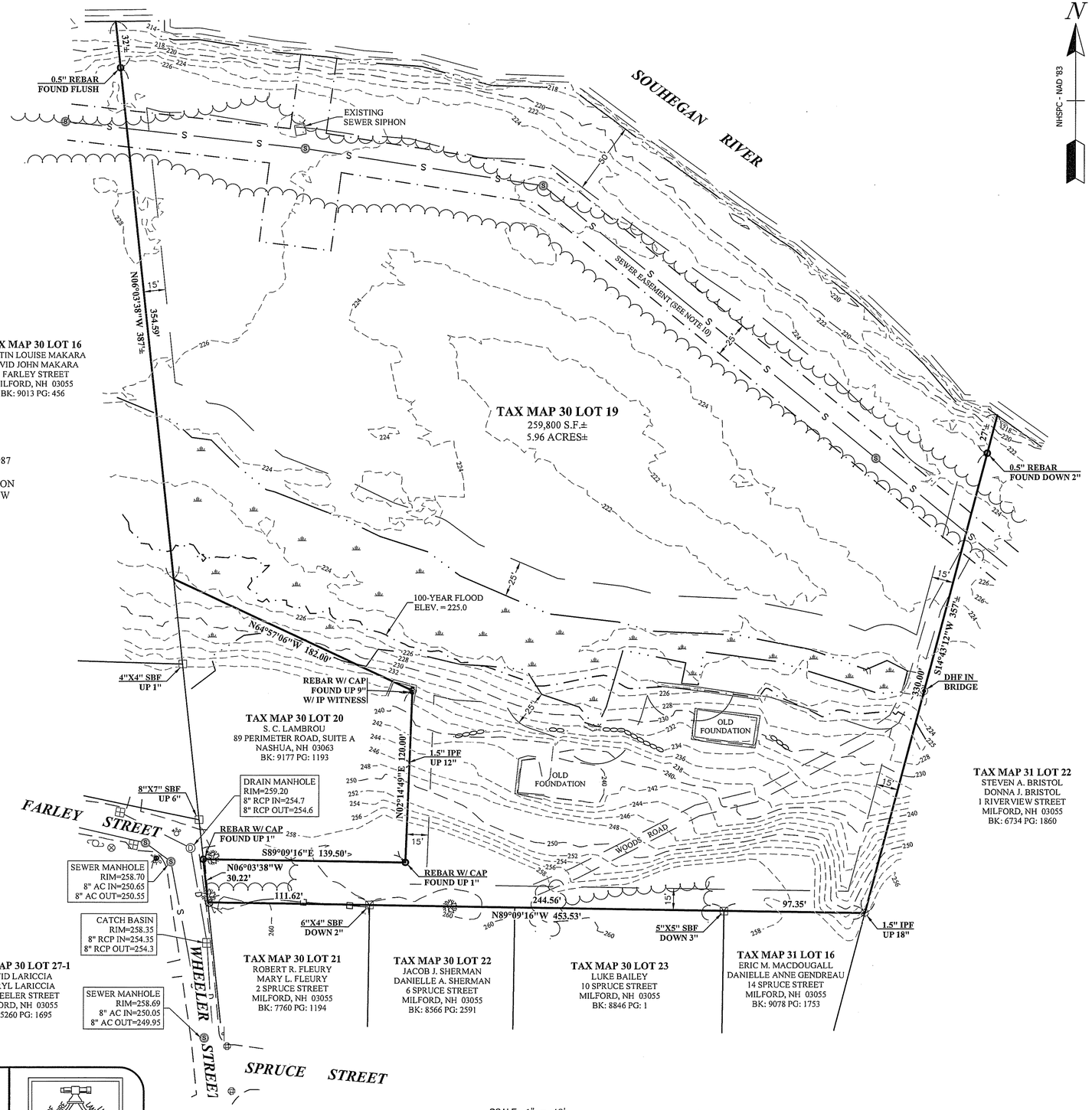
JURISDICTIONAL WETLANDS WERE DELINEATED IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS 1987 WETLANDS DELINEATION MANUAL Y-87-1, REGIONAL SUPPLEMENTS FOR NORTHEAST AND NORTHCENTRAL REGION AND CURRENT FIELD INDICATORS FOR HYDRIC SOILS IN NEW ENGLAND, BY CHRISTOPHER A. GUIDA, C.W.S. IN MAY 2020.

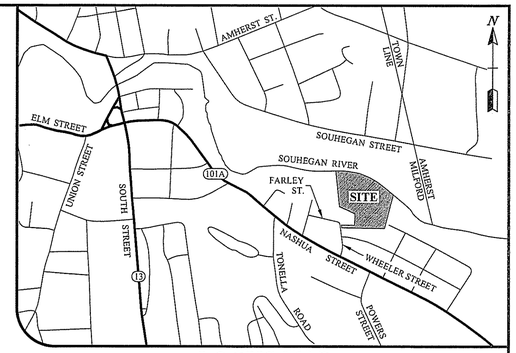
8/14/20
DATE

STATE OF NEW HAMPSHIRE — CHRISTOPHER A. GUIDA — No. 058 — CERTIFIED WETLAND SCIENTIST

SYMBOL LEGEND

REBAR W/CAP TO BE SET	SEWER MANHOLE
BOUND FOUND	DRAIN MANHOLE
IRON PIPE FOUND	CATCH BASIN
IRON PIN FOUND	EDGE OF PAVEMENT
DRILL HOLE FOUND	STONE WALL
SIGN	EDGE OF WETLAND
UTILITY POLE	TREELINE
GUY WIRE	OVERHEAD WIRE
WATER SHUTOFF	UNDERGROUND SEWER
FIRE HYRANT	UNDERGROUND WATER





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4. DENSITY CALCULATIONS;

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EXISTING CONDITIONS PLAN
TAX MAP 30 LOT 19

PREPARED FOR:

SAN-KEN HOMES, INC.

LOCATED AT:

WHEELER STREET
MILFORD, NEW HAMPSHIRE

SURVEYOR'S CERTIFICATION

"I HEREBY CERTIFY THAT THIS SURVEY AND PLAT WERE PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS AN ERROR OF CLOSURE OF GREATER ACCURACY THAN ONE PART IN TEN THOUSAND (1:10,000)."

LICENSED LAND SURVEYOR

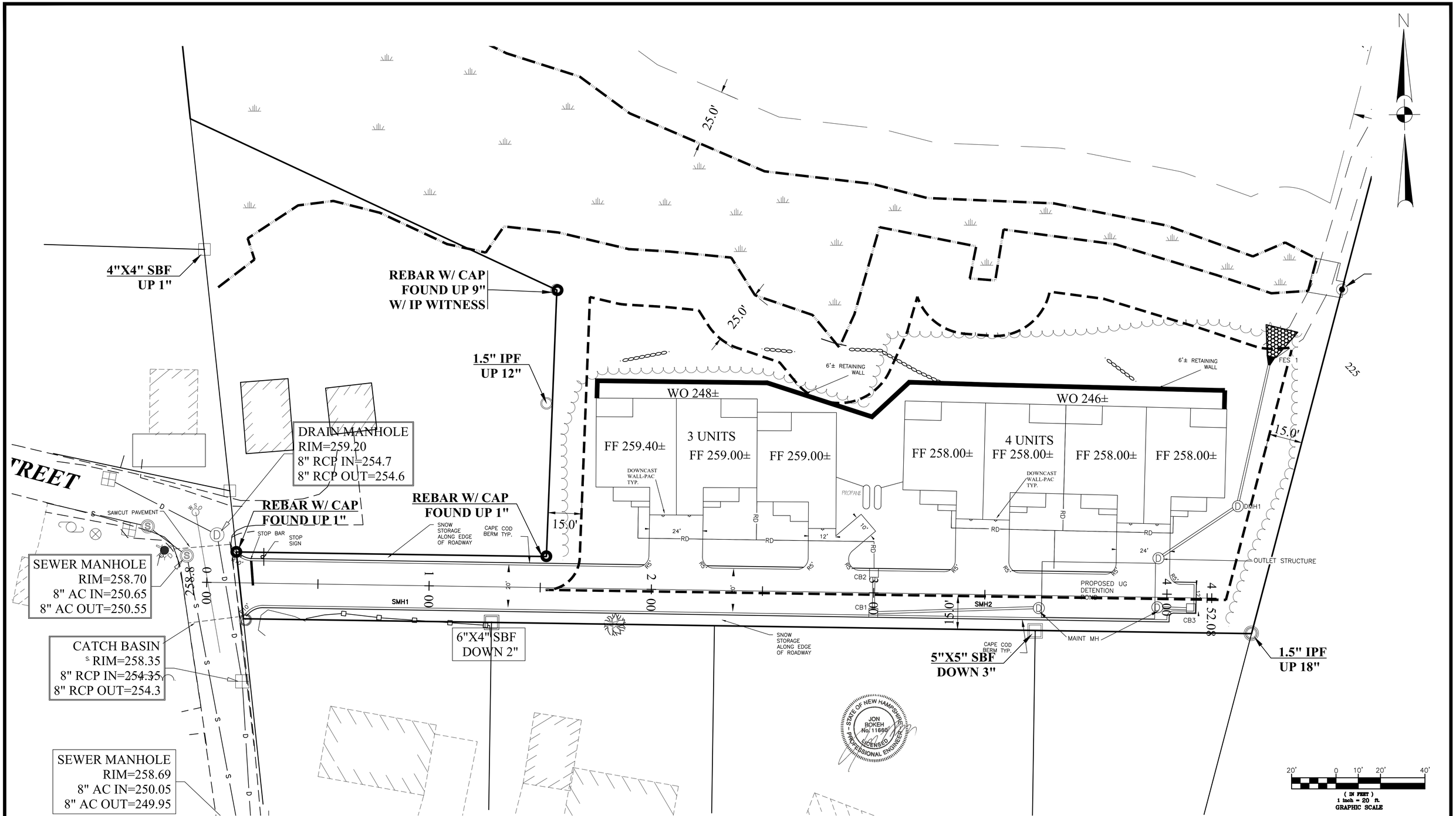
8/13/2020
DATE

STATE OF NEW HAMPSHIRE — No. 921 — THOMAS P. HUCH — LAND SURVEYOR — SIGNATURE

NO.	DATE	DESCRIPTION	BY

S&H LAND SERVICES, LLC
SHLANDSERVICES.COM
1600 CANDIA ROAD, SUITE #5 – MANCHESTER, NH
PHONE: (603)-626-8500, FAX: (603)-546-7791

SCALE: 1" = 40'	DATE: JULY 1, 2020	TSC3 & SURVEYOR 2	JOB #2019319



STATE OF NEW HAMPSHIRE
JON BOKEH
No. 11660
LICENSED
PROFESSIONAL ENGINEER

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

SITE PLAN

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

REVISIONS

DATE	DESCRIPTION	DWN BY	CK BY

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

SCALE: 1" = 20'
DATE: JULY 7, 2020
DR. BY: JR CK. BY: JR
JOB NO.

SHEET
3 of 19

N

4"X4" SBF
UP 1"

REBAR W/ CAP
FOUND UP 9"
W/ IP WITNESS

1.5" IPF
UP 12"

25.0'

25.0'

DRAIN MANHOLE
RIM=259.20
8" RCP IN=254.7
8" RCP OUT=254.6

REBAR W/ CAP
FOUND UP 1"

REBAR W/ CAP
FOUND UP 1"

SEWER MANHOLE
RIM=258.70
8" AC IN=250.65
8" AC OUT=250.55

CATCH BASIN
RIM=258.35
8" RCP IN=254.35
8" RCP OUT=254.3

SEWER MANHOLE
RIM=258.69
8" AC IN=250.05
8" AC OUT=249.95

6"X4" SBF
DOWN 2"

WO 248±

WO 246±

FF 259.40±

3 UNITS
FF 259.00±

FF 259.00±

FF 258.00±

4 UNITS
FF 258.00±

FF 258.00±

FF 258.00±

DOWNCAST WALL-PAC TYP.

DOWNCAST WALL-PAC TYP.

TRANSFORMER PAD

HYDRANT TYP.

PROPANE

SAWCUT PAVEMENT

PROPOSED POLE

SNOW STORAGE ALONG EDGE OF ROADWAY

SNOW STORAGE ALONG EDGE OF ROADWAY

PROPOSED UG DETENTION POND

OUTLET STRUCTURE

FES 1

DMH1

SMH1

SMH2

CB1

CB2

CB3

MAINT MH

15.0'

15.0'

225

5"X5" SBF
DOWN 3"

1.5" IPF
UP 18"

0+00

1+00

2+00

3+00

4+00

4+52.08

20' 0 10' 20' 40

(IN FEET)
1 inch = 20 ft.
GRAPHIC SCALE

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

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

REVISIONS

DATE	DESCRIPTION	DWN BY	CK BY

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

SCALE: 1" = 20'
DATE: JULY 7, 2020
DR. BY: JR CK. BY: JR
JOB NO.

N

4"X4" SBF
UP 1"

REBAR W/ CAP
FOUND UP 9"
W/ IP WITNESS

1.5" IPF
UP 12"

25.0'

SILT FENCE TYP.

WO 248±

WO 246±

3 UNITS
FF 259.40±
FF 259.00±
FF 259.00±

4 UNITS
FF 258.00±
FF 258.00±
FF 258.00±
FF 258.00±

DOWNCAST WALL-PAC TYP.

TRANSFORMER PAD

HYDRANT TYP.

FES 1

15.0'

DRAIN MANHOLE
RIM=259.20
8" RCP IN=254.7
8" RCP OUT=254.6

REBAR W/ CAP
FOUND UP 1"

REBAR W/ CAP
FOUND UP 1"

SAWCUT PAVEMENT

PROPOSED POLE

SILT FENCE TYP.

SEWER MANHOLE
RIM=258.70
8" AC IN=250.65
8" AC OUT=250.55

CATCH BASIN
RIM=258.35

SMH1

258.88

258.23

CB2

CB1

257.51

SMH2

256.75

DMH1

OUTLET STRUCTURE

PROPOSED UG DETENTION SYSTEM

CB3

MAINT MH

SILT FENCE TYP.

CONSTRUCT TEMPORARY STABILIZED CONSTRUCTION ENTRANCE

6"X4" SBF
DOWN 2"

5"X5" SBF

1.5" IPF

1+00
2+00
3+00
4+00
4+52.08

15.0'

10'

225

STATE OF NEW HAMPSHIRE
JON ROKEH
No. 11660
LICENSED
PROFESSIONAL ENGINEER

20' 0 10' 20' 40'
(IN FEET)
1 inch = 20 ft.
GRAPHIC SCALE

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

GRADING AND DRAINAGE

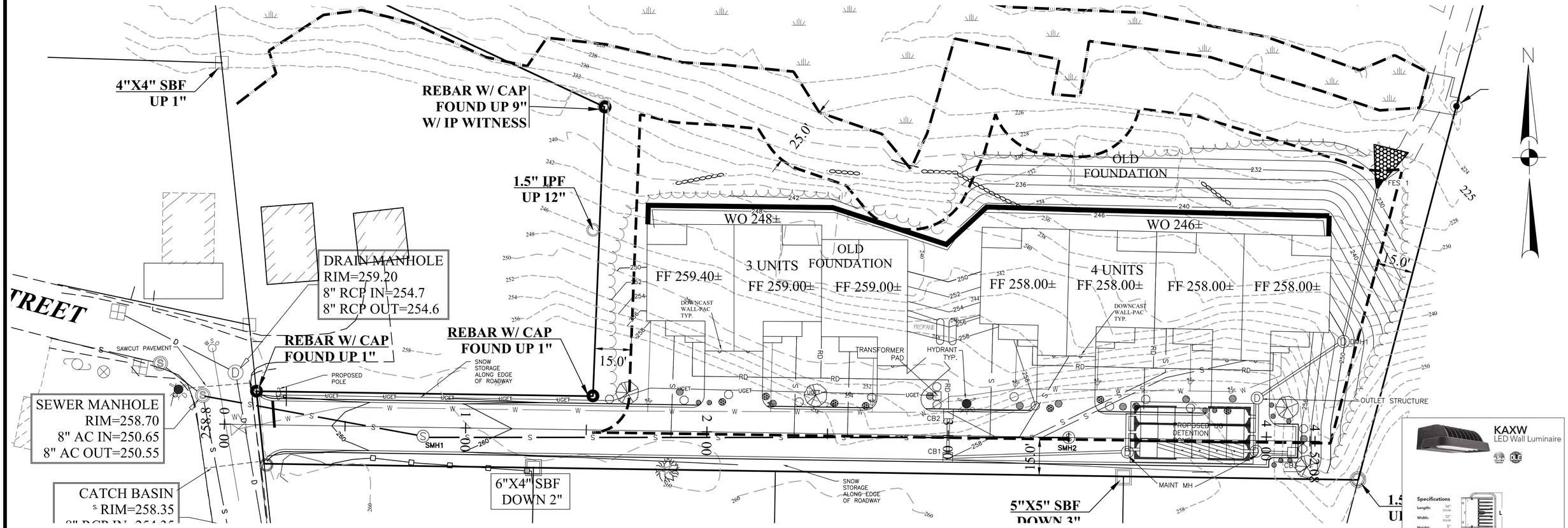
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

REVISIONS

DATE	DESCRIPTION	DWN BY	CK BY

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

SCALE: 1" = 20'
DATE: JULY 7, 2020
DR. BY: JR
JOB NO.



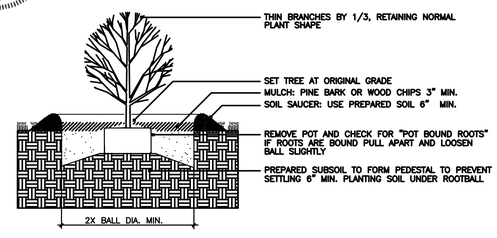
GARAGE WALL PACKS

KEY	LATIN NAME	COMMON NAME	QUANTITY
	Acer saccharum	SUGAR MAPLE 2 ½" CAL.	4
	Euonymus alatus 'Compacta'	DWARF BURNING BUSH 2–3' 8' O.C.	9
	Taxus 'Greenwave'	GREENWAVE YEW 2 ½–3' B&B 8' O.C.	14
	Rhododendron 'Purpureum Elegans'	ELEGANT PURPLE RHODODENDRON 2 ½–3' B&B 3' O.C.	7
	Rhododendron 'P.J.M.'	PJM RHODODENDRON 18–24" B&B 2' O.C.	10
	LAWN	30% KENTUCKY BLUEGRASS 45 % CREEPING FESCUE 10% RED TOP 15% DOMESTIC RYE	
	BARK MULCH PLANTING BED	DEPTH OF BARK MULCH 3" (SEE NOTES ON DETAIL SHEET)	

GENERAL LANDSCAPE NOTES:

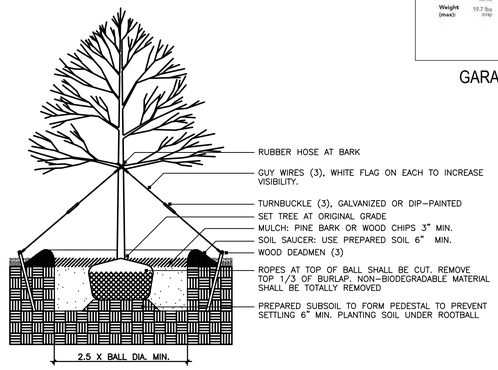
1. LANDSCAPE CONTRACTOR SHALL PROVIDE A CERTIFIED SOIL ANALYSIS PRIOR TO ANY PLANT INSTALLATION TO DETERMINE ANY NECESSARY AMENDMENTS TO THE EXISTING SOIL CONDITIONS FOR SEEDING AND PLANTINGS. THE ANALYSIS WILL ALSO BE REQUIRED TO ESTABLISH THE FERTILIZER PROGRAM.
2. ALL PLANTING METHODS WILL BE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
3. PLANT LIST: A COMPLETE LIST OF PLANTS INCLUDING A SCHEDULE OF QUANTITIES, SIZES, TYPES AND NAMES IS INCLUDED IN THIS SET OF DRAWINGS. IN THE EVENT OF DISCREPANCIES BETWEEN QUANTITIES OF PLANTS IN THE PLANT LIST AND THE DRAWINGS, THE PLAN SHALL GOVERN. WHEN MULTIPLE PLANT SPECIES ARE LISTED IN ONE PLANT CATEGORY, THE GOAL IS TO PROVIDE THE BEST PLANT AVAILABLE AT THE TIME OF INSTALLATION.
4. ALL TREES AND SHRUBS SHALL BE NURSERY GROWN WITHIN A U.S.D.A. PLANT HARDINESS ZONE WHICH IS THE SAME AS, OR COLDER THAN, THE ZONE IN WHICH THE PROJECT IS LOCATED.
5. PLANT SUBSTITUTIONS ARE NOT ALLOWED UNLESS APPROVED BY ERIC MITCHELL & ASSOC. INC.
6. ALL PLANTS 3' OR GREATER IN HEIGHT OR SPREAD TO BE BALLED AND BURLAPED.
7. ALL DISTURBED AREAS TO BE LOAMED @ A DEPTH OF 4" AND SEEDED AND BLENDED INTO EXISTING
8. ALL PLANTING AREAS ARE TO BE SURROUNDED BY BARK MULCH AT A DEPTH OF 3".

STATE OF NEW HAMPSHIRE
JON
ROKEH
No. 11660
LICENSED
PROFESSIONAL ENGINEER



SHRUB PLANTING–POTTED

NOT TO SCALE



DECIDUOUS TREE PLANTING

NOT TO SCALE

20' 0 10' 20' 40'

(IN FEET)
1 inch = 20 ft.
GRAPHIC SCALE

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

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

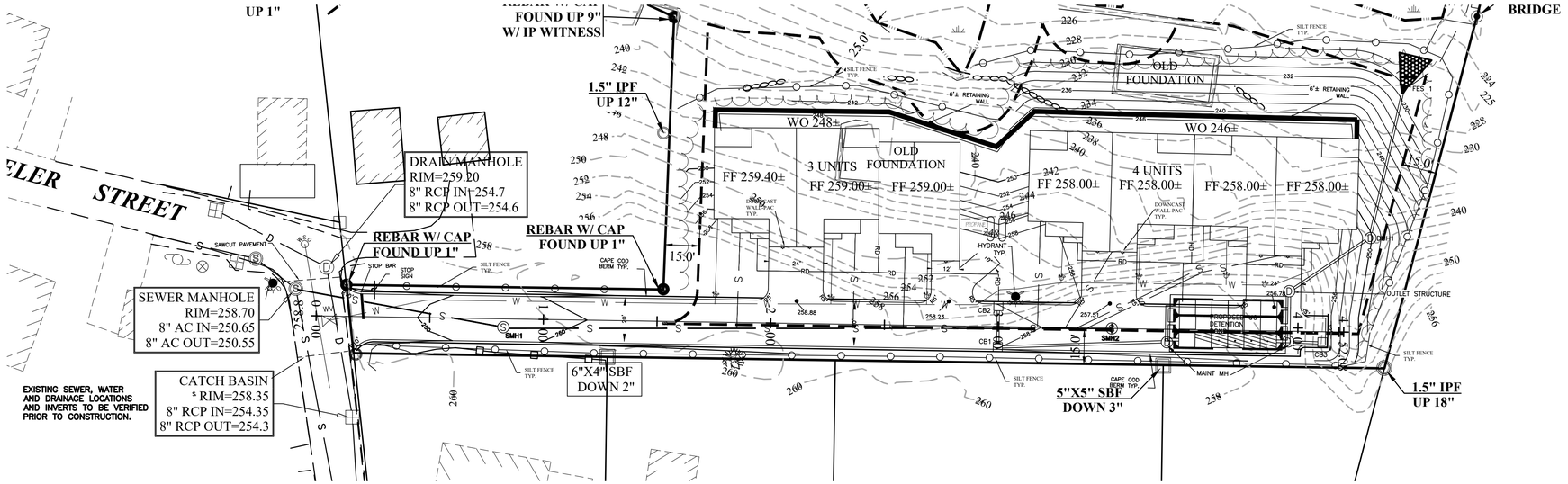
REVISIONS

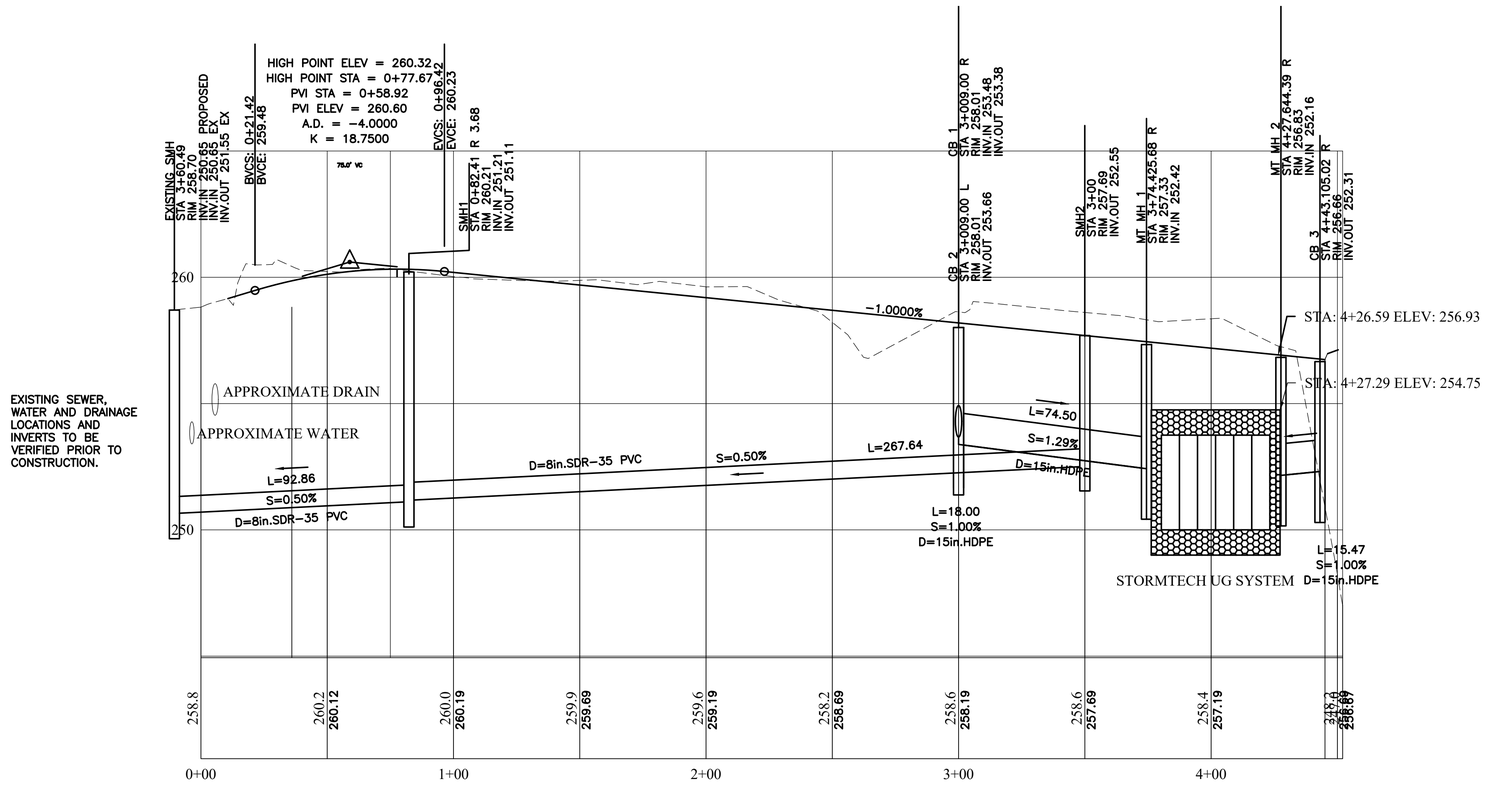
DATE	DESCRIPTION	DWN BY	CK BY

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

SCALE: 1" = 20'
DATE: JULY 7, 2020
DR. BY: JR
JOB NO.

SHEET
6 of 19





JON ROKEH No. 11660 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

30' 0 15' 30' 60'
(IN FEET)
1 inch = 30 ft.
GRAPHIC SCALE

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

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

REVISIONS

DATE	DESCRIPTION	DWN BY	CK BY

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

SCALE: 1" = 30'
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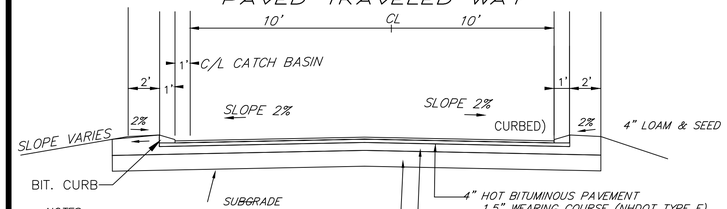
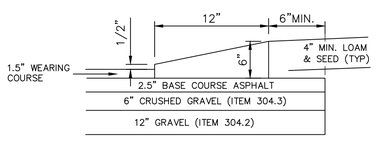


NOTES

1. ALL ROADWAY CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH THE LATEST N.H.D.O.T. SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2010 INCLUDING SUBSEQUENT AMENDMENTS AND EDITIONS.
2. PROVIDE 4" (MIN.) COMPACTED LOAM AND SEED ON ALL SIDE SLOPES AND DRAINAGE SWALES UNLESS OTHERWISE NOTED.
3. ALL LEDGE AND ROCK SHALL BE REMOVED TO 6" BELOW SUBGRADE.

TYPICAL ROADWAY SECTION

(NOT TO SCALE)

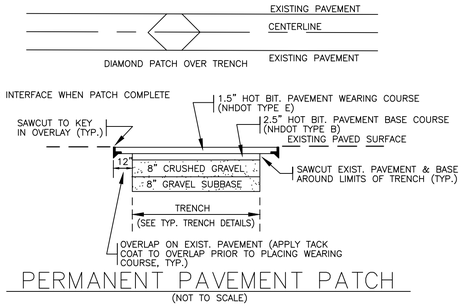


NOTE

1. APPLY TACK COAT PRIOR TO PLACEMENT OF CURB.
2. BITUMINOUS CURB MATERIAL SHALL MEET THE REQUIREMENTS OF NHDOT SECTION 609.
3. CAPE COD BERM TYP. DIMENSIONS SHALL MATCH THOSE GIVEN IN THIS DETAIL.

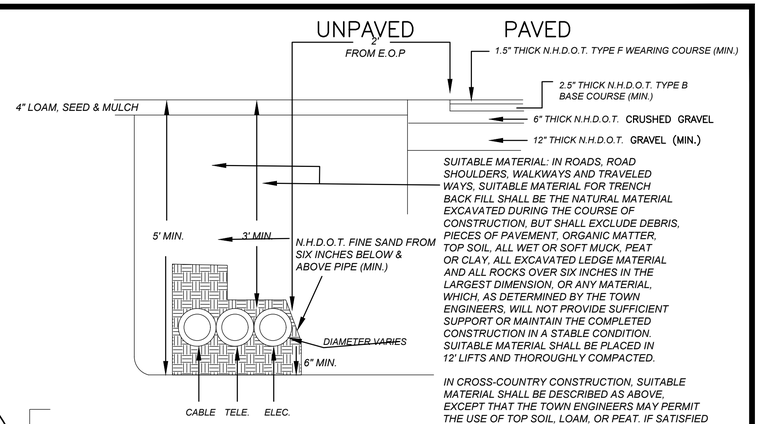
TYPICAL CAPE COD BERM TYP.

NOT TO SCALE



PERMANENT PAVEMENT PATCH

(NOT TO SCALE)

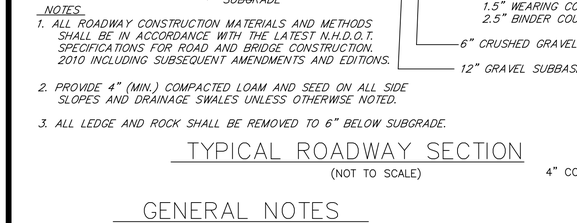


UTILITIES TRENCH

(NOT TO SCALE)

GENERAL NOTES

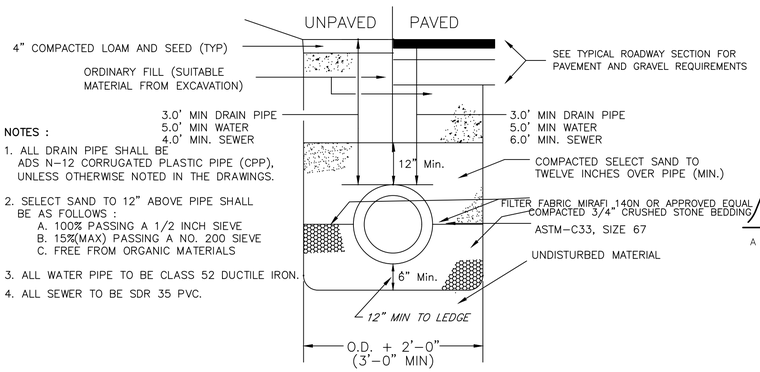
1. MINIMUM ACCEPTABLE STANDARDS FOR ALL CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT), STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION, (AND ALL SUBSEQUENT AMENDMENTS) AND THE TOWN OF HOOKSETT REGULATIONS. DRAINAGE DESIGN IS BASED ON THE "STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK VOLUME II
2. ALL ELEVATIONS AND LOCATIONS OF EXISTING UTILITY AND DRAINAGE STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO UTILIZATION OF DESIGN ELEVATIONS ON THIS PLAN.
3. BACKFILL OF TRENCHES AND ALL PAVED AREAS SHALL BE COMPACTED IN ACCORDANCE WITH NH DOT–STANDARD SPECIFICATIONS–SECTION 304.
4. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES AND SHALL PROVIDE ALL NECESSARY CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE AND STRENGTH TO PREVENT ACCESS TO ALL OPEN EXCAVATIONS AT THE COMPLETION OF EACH DAYS WORK.
5. ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.
6. THE CONTRACTOR SHALL BE AWARE OF HIS RESPONSIBILITY TO CONTACT "DIG SAFE" AT 111 SO. BEDFORD STREET, BURLINGTON, MA (1–888–344–7233) AT LEAST 72 WORKING HOURS PRIOR TO THE START OF ANY EXCAVATION.
7. SHORING AND STABILIZING OF TRENCH SIDEWALLS DURING EXCAVATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. ALL WORK ADJACENT TO UNION ROAD SHALL BE PERFORMED IN WITH THE STREET OPENING REQUIREMENTS OF THE TOWN OF MILFORD AND NH DOT STANDARD SPECIFICATIONS.
9. ALL CULVERTS, DRAINAGE STRUCTURES AND ROAD CONSTRUCTION SHALL BE SUBJECT TO PARTIAL AND FINAL INSPECTION PRIOR TO ACCEPTANCE BY THE TOWN OF CHICHESTER. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND COORDINATING INSPECTION BY THE TOWN ENGINEER.
10. UTILITY PLANS SHALL BE SUBMITTED TO THE TOWN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
11. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 4" TOPSOIL AND SEED OVER ALL DISTURBED UNPAVED AREAS UNLESS OTHERWISE SPECIFIED.
12. CORRUGATED PLASTIC PIPE (CPP) WITH SMOOTH INTERIOR – ADS N–12 OR APPROVED EQUAL MAY BE SUBSTITUTED FOR REINFORCED CONCRETE DRAINAGE PIPE (RCP) WITH APPROVAL OF THE CHIHOOKSETT DEPARTMENT OF PUBLIC WORKS AND TOWN ENGINEER.
13. CONCRETE END SECTIONS, (FLARED ENDS) SHALL COMPLY WITH NHDOT STANDARD SPECIFICATIONS, HIGHWAY DESIGN MANUAL, PLATES 5 & 6, OF STANDARD 11 DATED 1979 AND ALL SUBSEQUENT AMENDMENTS.
14. ALL DRIVEWAY GRADING IS SUBJECT TO DEPARTMENT OF PUBLIC WORKS REVIEW PRIOR TO DRIVEWAY CONSTRUCTION ON INDIVIDUAL LOTS. DRIVEWAY CULVERTS, LOCATED OUTSIDE OF THE TOWNS RIGHT OF WAY, MAY BE NECESSARY DEPENDING ON THE ACTUAL PROPOSED LOT DEVELOPMENT.
15. ALL PAVEMENT MARKERS SHOWN CONFORM TO THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARDS PLANS FOR ROAD AND BRIDGE CONSTRUCTION.



RIP–RAP SPECIFICATIONS

NOT TO SCALE

DESCRIPTION	LENGTH L	INVERT WIDTH Wi	END WIDTH We	CLASS C STONE FILL	DEPTH OF STONE– D
FES 1	12'	4.5'	16'	6"	1.5'

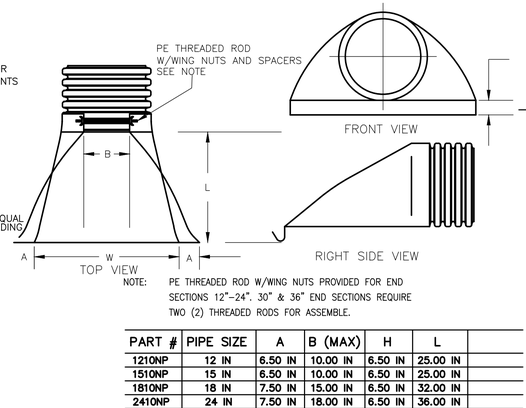


NOTES :

1. ALL DRAIN PIPE SHALL BE ADS N–12 CORRUGATED PLASTIC PIPE (CPP), UNLESS OTHERWISE NOTED IN THE DRAWINGS.
2. SELECT SAND TO 12" ABOVE PIPE SHALL BE AS FOLLOWS :
   A. 100% PASSING A 1/2 INCH SIEVE
   B. 15%(MAX) PASSING A NO. 200 SIEVE
   C. FREE FROM ORGANIC MATERIALS
3. ALL WATER PIPE TO BE CLASS 52 DUCTILE IRON.
4. ALL SEWER TO BE SDR 35 PVC.

TYPICAL SEWER/ DRAIN PIPE TRENCH

(NOT TO SCALE)

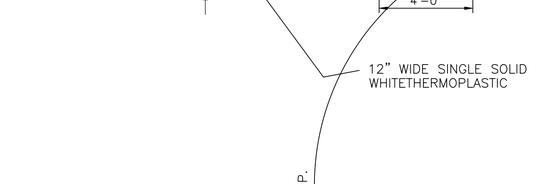


NOTE: PE THREADED ROD W/WING NUTS PROVIDED FOR END SECTIONS 12"–24". 30" & 36" END SECTIONS REQUIRE TWO (2) THREADED RODS FOR ASSEMBLE.

PART #	PIPE SIZE	A	B (MAX)	H	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	

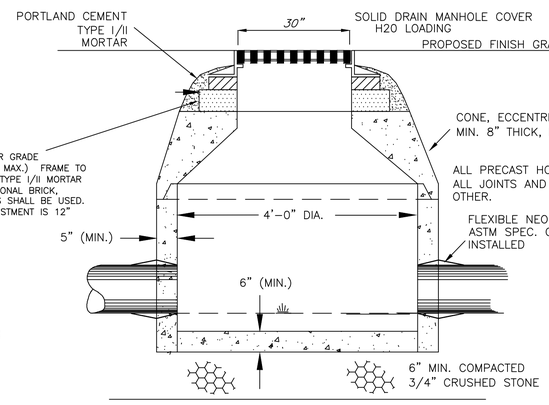
ADS
ADVANCED DRAINAGE SYSTEMS, INC.

HDPE FLARED END SECTION

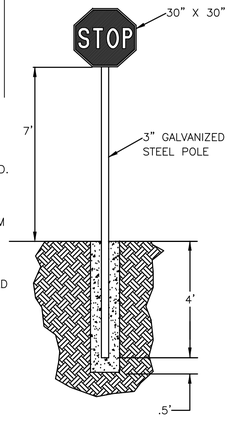


STOP BAR

NOT TO SCALE



DRAIN MANHOLE



STOP SIGN R1–1

NOT TO SCALE

REVISIONS

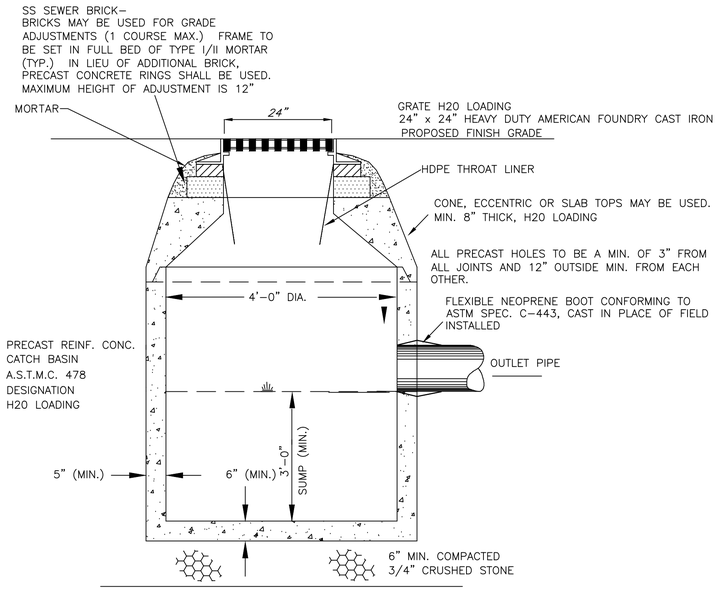
DATE	DESCRIPTION	DWN BY	CK BY

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

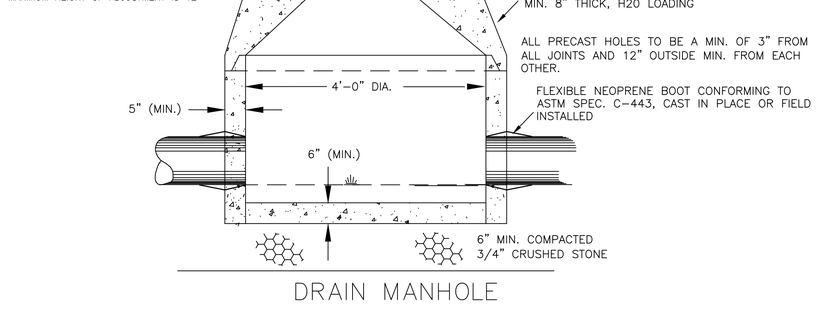
CONSTRUCTION DETAILS
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

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

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

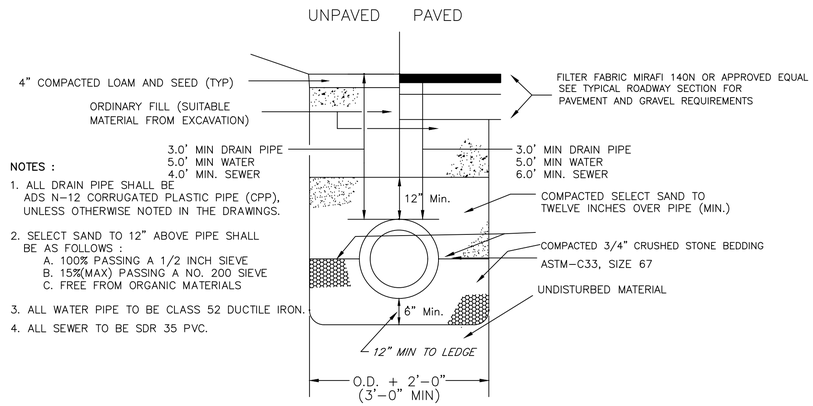


TYPICAL PRECAST
CONCRETE CATCH BASIN DETAIL



DRAIN MANHOLE

FORBAY SECTION

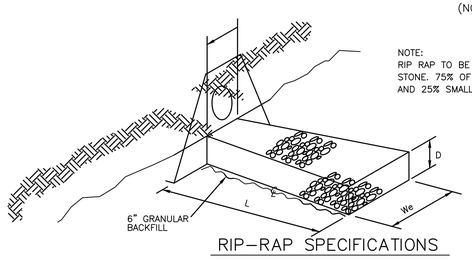


NOTES :

1. ALL DRAIN PIPE SHALL BE ADS N–12 CORRUGATED PLASTIC PIPE (CPP), UNLESS OTHERWISE NOTED IN THE DRAWINGS.
2. SELECT SAND TO 12" ABOVE PIPE SHALL BE AS FOLLOWS :
   A. 100% PASSING A 1/2 INCH SIEVE
   B. 15%(MAX) PASSING A NO. 200 SIEVE
   C. FREE FROM ORGANIC MATERIALS
3. ALL WATER PIPE TO BE CLASS 52 DUCTILE IRON.
4. ALL SEWER TO BE SDR 35 PVC.

TYPICAL SEWER/ DRAIN PIPE TRENCH

(NOT TO SCALE)

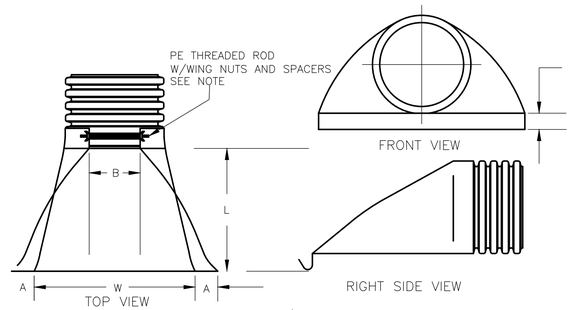


RIP–RAP SPECIFICATIONS

NOT TO SCALE

% OF PASSING	REQUIRED RIPRAP GRADATION FOR D50 SELECTED	THICKNESS (D)
100	18" TO 24"	1.5x(D–50 MAX)
85	15.6" TO 21.6"	
50	12" TO 18"	
15	9.6" TO 15.6"	

DESCRIPTION	LENGTH L	INVERT WIDTH Wi	END WIDTH We	STONE FILL	DEPTH OF STONE– D
FES 1	17'	6'	19'	17"	3'



NOTE: PE THREADED ROD W/WING NUTS PROVIDED FOR END SECTIONS 12"–24". 30" & 36" END SECTIONS REQUIRE TWO (2) THREADED RODS FOR ASSEMBLE.

PART #	PIPE SIZE	A	B (MAX)	H	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

STATE OF NEW HAMPSHIRE – JON ROKEH No. 11666 – LICENSED PROFESSIONAL ENGINEER

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

REVISIONS

DATE	DESCRIPTION	DWN BY	CK BY

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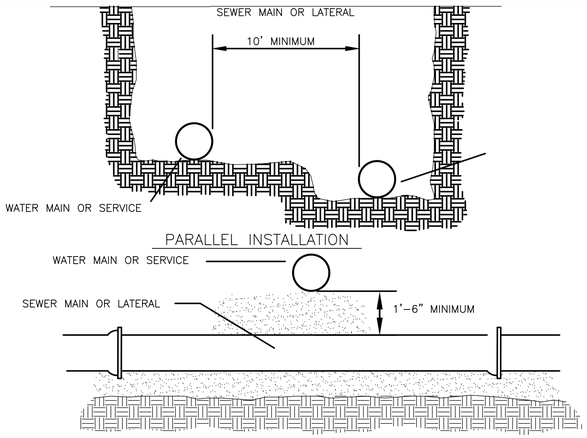
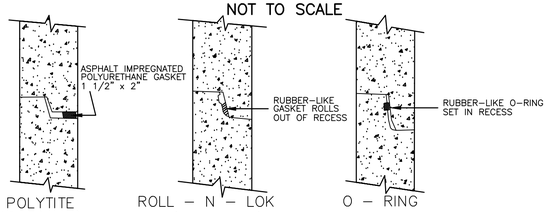


MAIN CROSSINGS

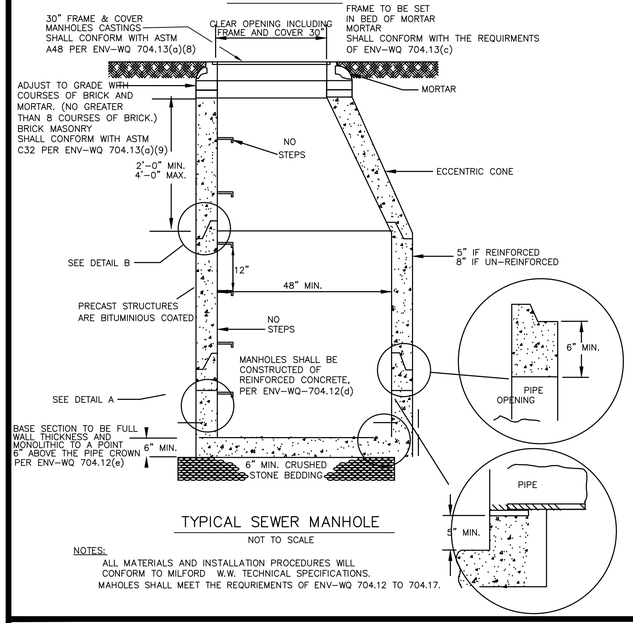
WATER MAIN/SEWER MAIN SEPARATION

NOT TO SCALE



NOTE: ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS

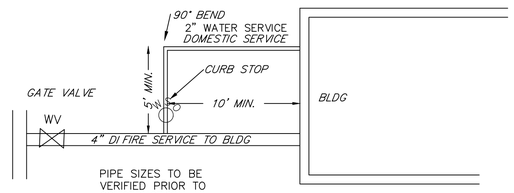
DETAIL - B



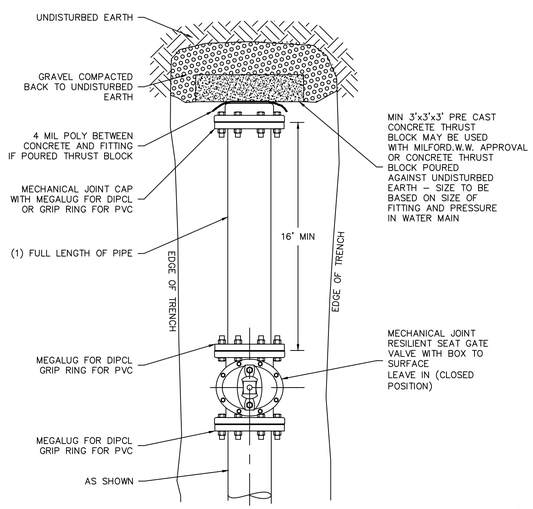
TYPICAL SEWER MANHOLE

NOT TO SCALE

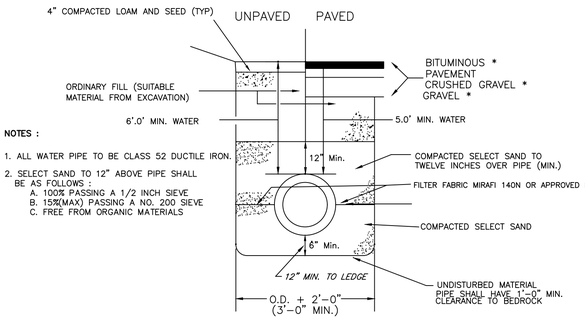
NOTES:
ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO MILFORD W.W. TECHNICAL SPECIFICATIONS.
MAHOLES SHALL MEET THE REQUIREMENTS OF ENV-WQ 704.12 TO 704.17.



TYPICAL DOMESTIC SERVICE AND FIRE SERVICE



* A 2" TEMPORARY PATCH WITH 60 DAY SETTLEMENT TIME WILL BE PROVIDED. A MINIMUM OF 24" DEPTH OF STRUCTURAL GRAVEL AND 4" DEPTH (2 ½" BASE, 1 ½" TOP) PERMANENT PATCH WILL BE PROVIDED. PER TOWN REGULATIONS
* PER TOWN SPECIFICATION



NOTES :

1. ALL WATER PIPE TO BE CLASS 52 DUCTILE IRON.
2. SELECT SAND TO 12" ABOVE PIPE SHALL BE AS FOLLOWS :
   A. 100% PASSING A 1/2 INCH SIEVE
   B. 15%(MAX) PASSING A NO. 200 SIEVE
   C. FREE FROM ORGANIC MATERIALS

TYPICAL WATER TRENCH

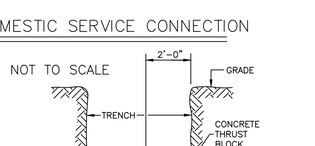
(NOT TO SCALE)

CORPORATIONS SHALL BE TAPPED DIRECTLY TO THE MAIN IN SIZES UP TO 1" ø (INCLUSIVE).

CORPORATIONS 1-1/2"ø AND GREATER SHALL BE INSTALLED USING A TAPPING SADDLE AND SHELL CUTTER

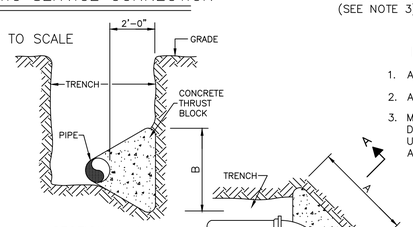
CURB BOX NOT SET IN GREEN SPACES SHALL BE PLACED INSIDE A GATE BOX TOP WITH COVER

CURB BOX AND ROD SET TO FINISHED GRADE @ 25" FROM CL



TYPICAL DOMESTIC SERVICE CONNECTION

NOT TO SCALE



SECTION A-A

PLAN

NOTE:
INSTALL THRUST BLOCKS AT EVERY CHANGE IN DIRECTION FOR WATER DISTRIBUTION PIPING 4" AND LARGER AND AT FIRE HYDRANTS.

STONE BACKING MAY BE SUBSTITUTED FOR CONCRETE THRUST BLOCKS PROVIDED THE STONE(S) ARE OF EQUAL SIZE AND BEAR ON UNDISTURBED EARTH

THRUST BLOCK REQUIREMENTS (WHERE POSSIBLE)
USE OF JOINT RESTRAINT SYSTEMS SHALL NOT ELIMINATE REQUIREMENTS (WHERE POSSIBLE)

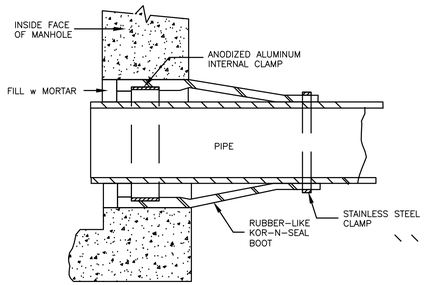
AxB = BEARING AREA					
MINIMUM THRUST BLOCK BEARING AREA REQ'D. AGAINST UNDISTURBED MATERIAL (S.F.)					
PIPE SIZE	90° BEND	TEE	PLUG	45° BEND	22 1/2° & SMALLER
16"	28	22	20	15	8
12"	16	14	11	9	4
8"	7	6	5	4	2
6"	5	4	3	2	2
SIZE OF THRUST BLOCK MAY BE INCREASED BY THE ENGINEER TO MEET SOIL CONDITIONS FOUND DURING CONSTRUCTION					
FOR PIPES SMALLER THAN 6" USE THRUST BLOCK FOR 6" PIPE					

TYPICAL THRUST BLOCK DETAILS

(NOT TO SCALE)

NOTE: SEE ALSO "TYPICAL PIPE TRENCH" DETAIL

TYPICAL END OF MAIN INSTALLATION



KOR - N - SEAL JOINT SLEEVE (OR EQUAL)

NOT TO SCALE

DETAIL - A

MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE SIX INCHES.

PIPE AND JOINT MATERIALS

A. PLASTIC PIPE:

1. - PVC SEWER PIPE AND FITTINGS SHALL CONFORM TO ASTM D2412 (SDR 35 MINIMUM). METHODS OF SHIPPING AND STORAGE ON SITE SHALL BE SUCH AS TO AVOID INJURY TO THE PIPE. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.

2. - ALL FITTINGS SHALL BE INJECTION MOLDED FITTINGS. FABRICATED FITTINGS ARE NOT ALLOWED EXCEPT AS PERMITTED BY THE TOWN ENGINEER.

3. - JOINTS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D3212. MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION SHALL BE FOLLOWED. SOLVENT CEMENT JOINTS SHALL NOT BE PERMITTED.

4. DUCTILE IRON PIPE:

DUCTILE IRON PIPE SHALL CONFORM TO AWWA C151/A21.50 & A21.51. PIPE SHALL HAVE EITHER THE RUBBER-RING TYPE, PUSH-ON JOINT, OR STANDARD MECHANICAL JOINT.

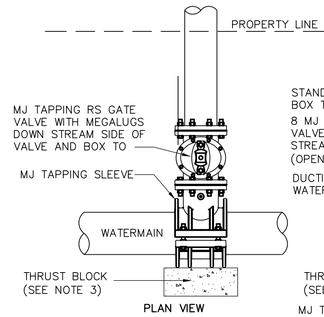
5. FORCE MAIN

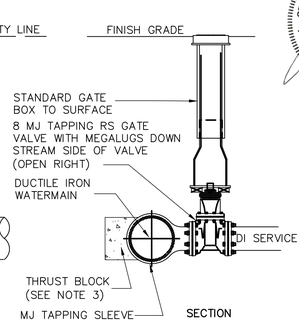
HDPE FORCE MAIN SEWER PIPE SHALL CONFORM WITH ASTM D3035. PVC FORCE MAIN PIPE SHALL CONFORM WITH ASTM D2241 OR ASTM D1785. FORCE MAIN CLEANOUT VALVES AND FITTINGS SHALL BE INSTALLED IN MAHOLES MEETING THE REQUIREMENTS OF ENV-WQ 704.12 TO 704.17.

REFERENCE: "STANDARDS OF DESIGN AND CONSTRUCTION FOR SEWERAGE AND WASTE WATER TREATMENT FACILITIES", DEPT OF ENVIRONMENTAL SERVICES.

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN CONFORMANCE WITH THE TOWN OF MILFORD REGULATIONS; AND ALL ROAD AND DRAINAGE STRUCTURES SHALL MEET NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT), STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1990, (AND ALL SUBSEQUENT AMENDMENTS).
   DRAINAGE DESIGN IS BASED ON THE "STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE" AUGUST 1992, WHICH IS AVAILABLE FROM THE ROCKINGHAM COUNTY CONSERVATION DISTRICT OFFICE.
2. BACKFILL OF TRENCHES SHALL BE IN 6" LIFTS, COMPACTED TO 95% MAX. DRY DENSITY UNDER ALL PAVED AND SHOULDER AREAS AND 92% MAX. DRY DENSITY UNDER OTHER ALL AREAS IN ACCORDANCE WITH NH DOT-STANDARD SPECIFICATIONS-SECTION 304.
3. THE CONTRACTOR SHALL BE AWARE OF HIS RESPONSIBILITY TO CONTACT "DIG SAFE" AT 111 SO. BEDFORD STREET, BURLINGTON, MA (1-800-225-4977) AT LEAST 72 WORKING HOURS PRIOR TO THE START OF ANY EXCAVATION.
4. ALL WORK ADJACENT TO A STREET SHALL BE PERFORMED IN ACCORDANCE WITH THE STREET OPENING REQUIREMENTS OF THE TOWN OF MILFORD
5. ALL CULVERTS, DRAINAGE STRUCTURES, WATER LINE, SEWER, AND ROAD CONSTRUCTION SHALL BE SUBJECT TO PARTIAL AND FINAL INSPECTION PRIOR TO ACCEPTANCE BY THE TOWN OF MILFORD. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND COORDINATING INSPECTION BY THE TOWN ENGINEER.
6. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 4" TOPSOIL AND SEED OVER ALL DISTURBED UNPAVED AREAS UNLESS OTHERWISE SPECIFIED.



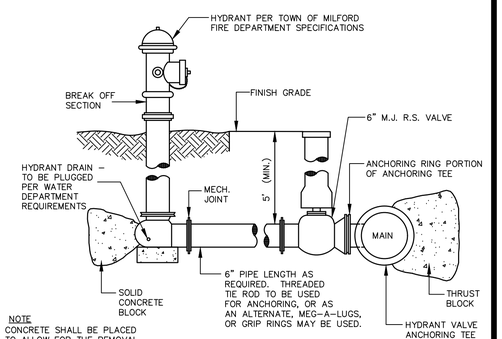


NOTE:

1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO D.P.W. TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTHS OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. MIN 2'x2'x4' PRECAST CONCRETE THRUST BLOCK MAY BE USED WITH D.P.W. APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH - SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATERMAIN.

WET TAP TEE INSTALLATION

(NOT TO SCALE)



NOTE
CONCRETE SHALL BE PLACED TO ALLOW FOR THE REMOVAL OF NUTS AND BOLTS.

HYDRANT INSTALLATION DETAIL

NOT TO SCALE

JON ROKEH No. 11660 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE

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

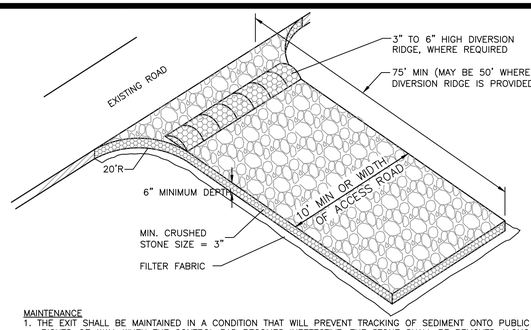
CONSTRUCTION DETAILS
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

REVISIONS

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.



MAINTENANCE

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 RECONSTRUCTED.

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 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 SEDIMENT.

6. STONE FOR A TEMPORARY CONSTRUCTION EXIT SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.

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 PROJECT SITE.

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

NOT TO SCALE

CONSTRUCTION SEQUENCES:

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

NOTE:
- 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 OF CONSTRUCTION.**
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;
   C.) 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 PROPOSED ROADWAY
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 EROSION, 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 VEGETAITVE COVER HAS BEEN ESTABLISHED ON ALL DISTURBED AREAS.
12. SILT FENCES AND HAY BALE BARRIERS TO BE REMOVED ONCE THE SITE HAS STABILIZED.

MAINTENANCE REQUIREMENTS

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 THE WINTER PERIOD.
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.

SPECIFICATIONS

SITE PREPARATION:

5. INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
6. GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
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.

SEEDBED PREPARATION:

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–P2O5–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 SQUARE FEET).
    – 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.

SEEDING:

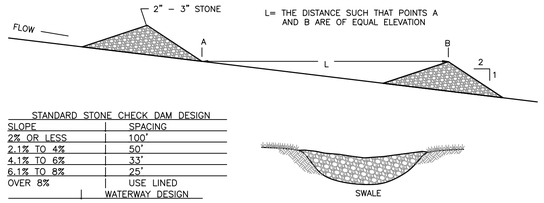
12. SELECT SEED FROM RECOMMENDATIONS IN TABLE 4–1.
13. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM ¼ TO ½ INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10 % WHEN HYDROSEEDING.
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 RECOMMENDATIONS FOR TEMPORARY VEGETATION

SPECIES	PER ACRE BUSHELS (BU) OR POUNDS (LBS)	PER 1,000 FT2	REMARKS
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 RYEGRASS. SEED BETWEEN APRIL 1 AND JUNE 1 AND/OR BETWEEN AUGUST 15 AND SEPTEMBER 15. MULCHING WILL ALLOW SEEDING THROUGHOUT THE GROWING SEASON. SEED TO A DEPTH OF APPROXIMATELY 0.5 INCH.

TEMPORARY VEGETATION

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.



STANDARD STONE CHECK DAM DESIGN	
SLOPE	SPACING
2% OR LESS	100'
2.1% TO 4%	50'
4.1% TO 6%	33'
6.1% TO 8%	25'
OVER 8%	USE LINED WATERWAY DESIGN

CONSIDERATIONS

1. 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 WASHED DOWNSTREAM.

MAINTENANCE REQUIREMENTS

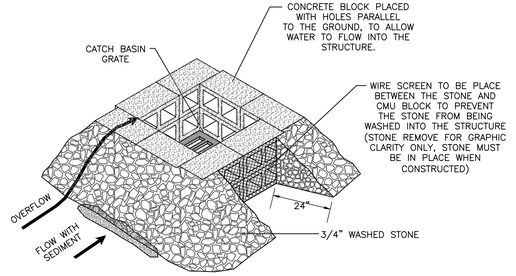
4. CHECK DAMS SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL AND NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY.
5. INSPECTIONS SHALL VERIFY THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.
6. EROSION CAUSED BY HIGH FLOWS AROUND THE EDGES OF THE DAM MUST BE CORRECTED 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.

SPECIFICATIONS

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



MAINTENANCE REQUIREMENTS

1. 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.

SPECIFICATIONS

5. 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

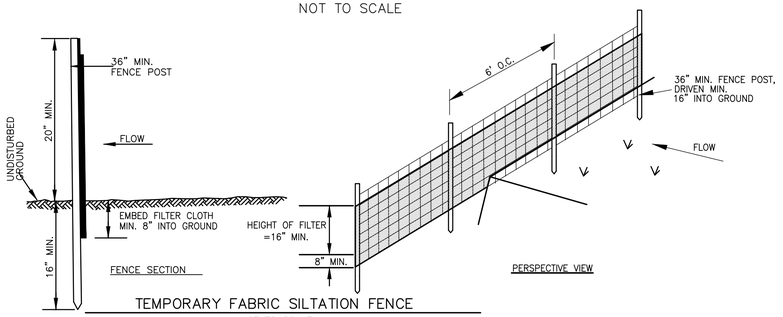
15. MANUFACTURED SEDIMENT BARRIERS ARE NOW AVAILABLE THAT COULD BE FUNCTIONALLY EQUIVALENT TO THE BARRIERS LISTED ABOVE. THESE MEASURES ARE ACCEPTABLE AS LONG AS THEY ARE INSTALLED, USED, AND MAINTAINED AS SPECIFIED BY THE VENDOR OR MANUFACTURER, AND PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM. 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

NOT TO SCALE



TEMPORARY FABRIC SILTATION FENCE

NOT TO SCALE

NOTES:

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.

STATE OF NEW HAMPSHIRE – JON BOKEH – No. 11660 – LICENSED PROFESSIONAL ENGINEER

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

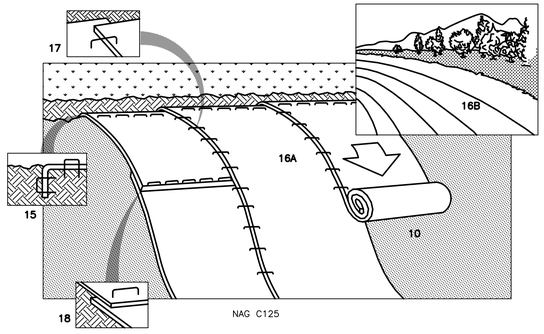
CONSTRUCTION DETAILS
CONDOMINIUM SITE PLAN
MAP 30, LOT 19
WHEELER STREET, MILFORD NH

REVISIONS

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.



NAG C125

CONSIDERATIONS
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.

MAINTENANCE 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 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

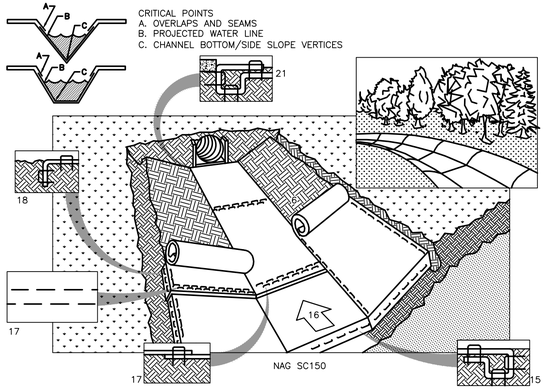
NOT TO SCALE

TEMPORARY EROSION CONTROL BLANKETS NHFG WILDLIFE FRIENDLY REQUIREMENTS

CONSIDERATIONS
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.



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NAG SC150

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.

MAINTENANCE 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 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 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:
11. 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 MATERIALS.

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 THAN OTHER AREAS.

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.

EROSION CONTROL MIX:
20. 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

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 PURITY (%)	MINIMUM GERMINATION (%)	POUNDS/ACRE
CREEPING FESCUE	96	85	40
PERENNIAL RYEGRASS	98	90	50
KENTUCKY BLUEGRASS	97	85	25
REDTOP	95	80	5
		TOTAL	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 PURITY (%)	MINIMUM GERMINATION (%)	POUNDS/ACRE
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
		TOTAL	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:
      - 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 (P_2O_5): 100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT.
      - POTASH (K_2O): 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 ACRE OF 5-10-10)
   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
   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

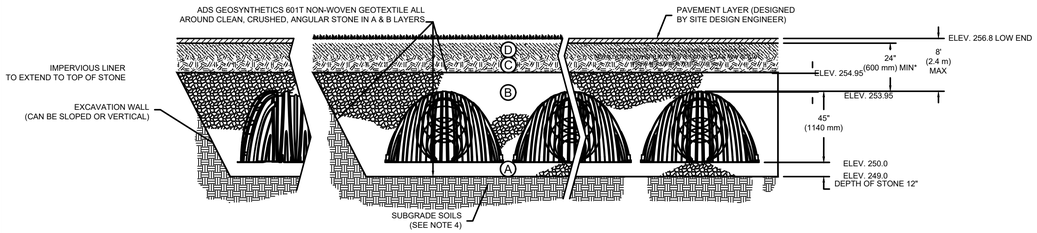
REVISIONS

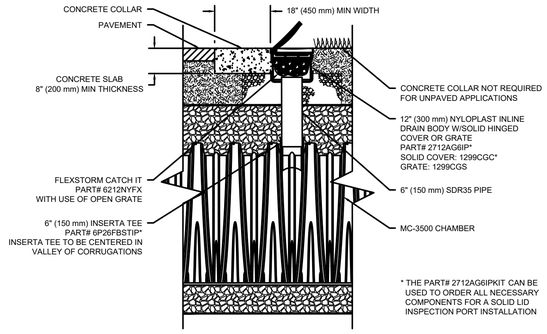
DATE	DESCRIPTION	GRATE H20 LOADING DWN BY	CK BY

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

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

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.





MC-3500 6" INSPECTION PORT DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

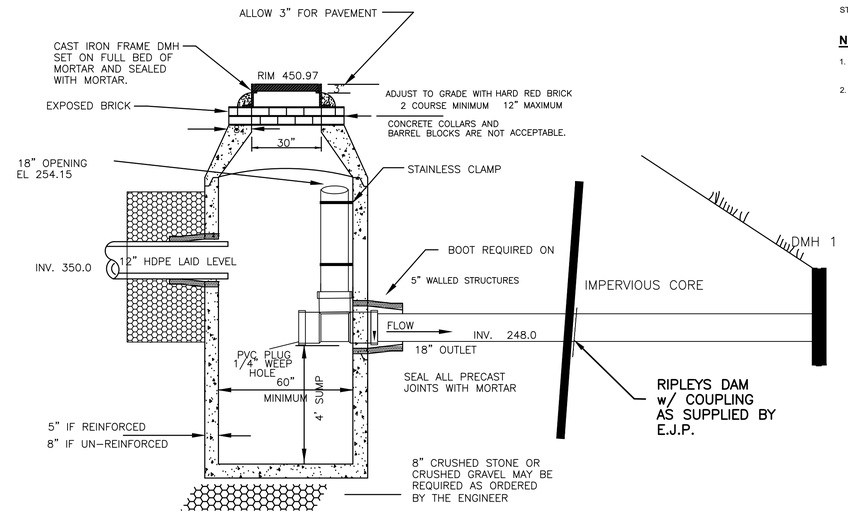
STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

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

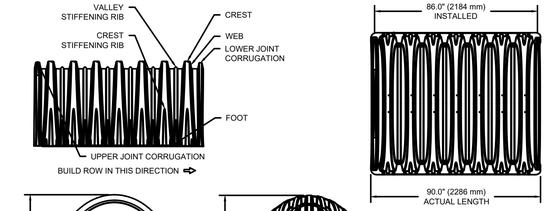
STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

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.



OUTLET STRUCTURE DETAIL



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	(3.11 m³)
MINIMUM INSTALLED STORAGE*	178.9 CUBIC FEET	(5.06 m³)
WEIGHT	135.0 lbs.	(61.2 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 22.5"	(1956 mm X 1143 mm X 571 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	46.0 CUBIC FEET	(1.30 m³)
WEIGHT	50.0 lbs.	(22.7 kg)

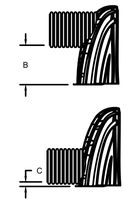
*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

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	B	C
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		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24BC		---	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
NTS

NOTE:

SEE ADS SHOP DRAWINGS FOR UNDERGROUND DETENTION DETAILS AND CONSTRUCTION

STATE OF NEW HAMPSHIRE
JON BOKEH
No. 11868
LICENSED
PROFESSIONAL ENGINEER

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	GRATE H20 LOADING DWN BY	CK BY

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

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

ADVANCED DRAINAGE SYSTEMS, INC.

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WHEELER STREET

MILFORD, NH

STORMTECH CHAMBER SPECIFICATIONS

1. 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.

STATE OF NEW HAMPSHIRE
JON BOKEH
No. 11660
LICENSED
PROFESSIONAL ENGINEER

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
10. 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.

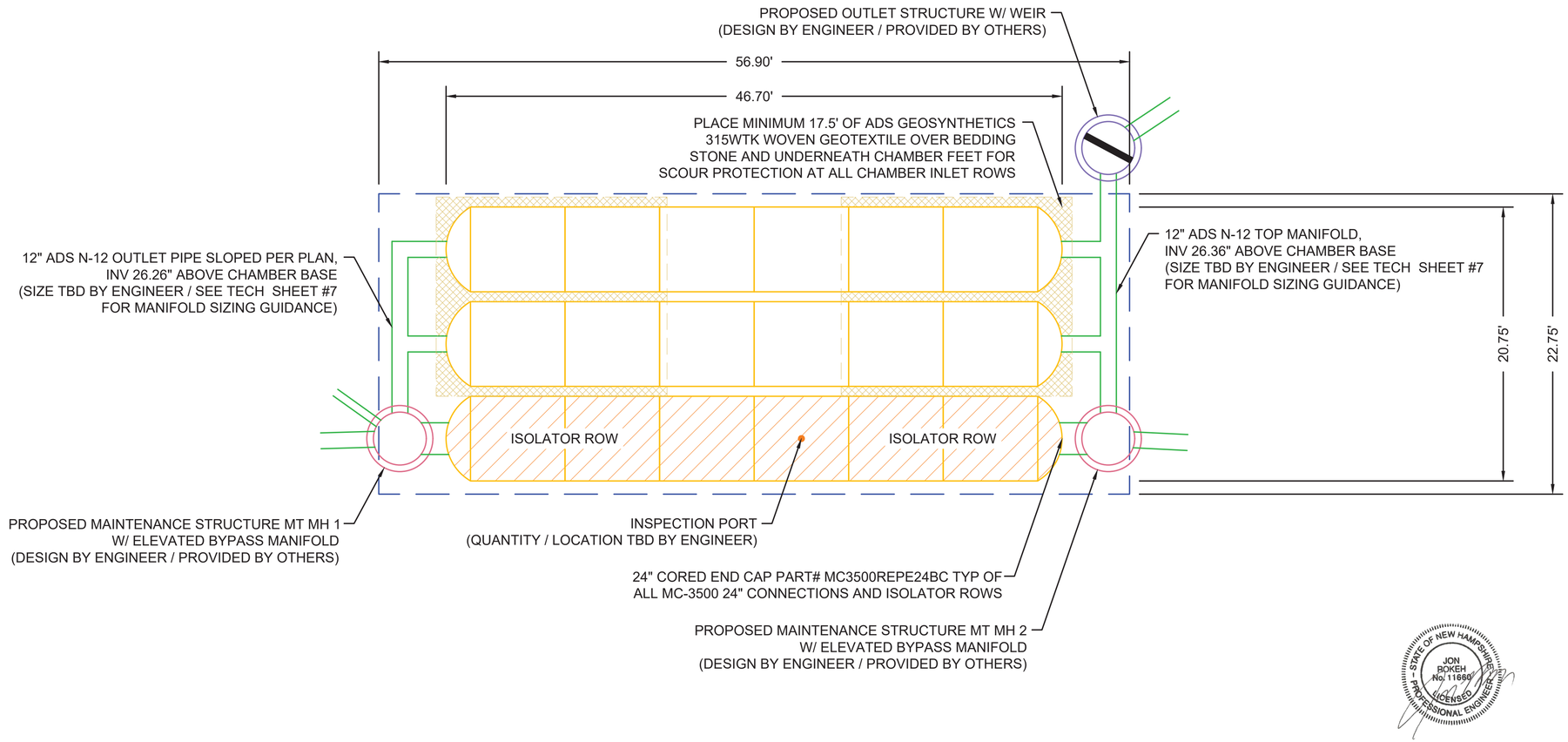
CONCEPTUAL LAYOUT

(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**
PERIMETER OF SYSTEM: 159 **FT**

PROPOSED ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	261.75
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	255.75
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	255.25
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	255.25
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	255.25
TOP OF STONE:	255.00
TOP OF CHAMBER:	253.75
12" TOP CONNECTION INVERT:	252.20
24" BOTTOM CONNECTION INVERT (ISOLATOR ROW):	250.17
BOTTOM OF CHAMBER:	250.00
BOTTOM OF STONE:	249.00

COMPUTER GENERATED CONCEPTUAL LAYOUT
NOT FOR CONSTRUCTION



WHEELER STREET
MILFORD, NH

DATE: 08/12/2020 | DRAWN: AC | CHECKED: ---
PROJECT #: Tool

REV	DRW	CHK	DESCRIPTION

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860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

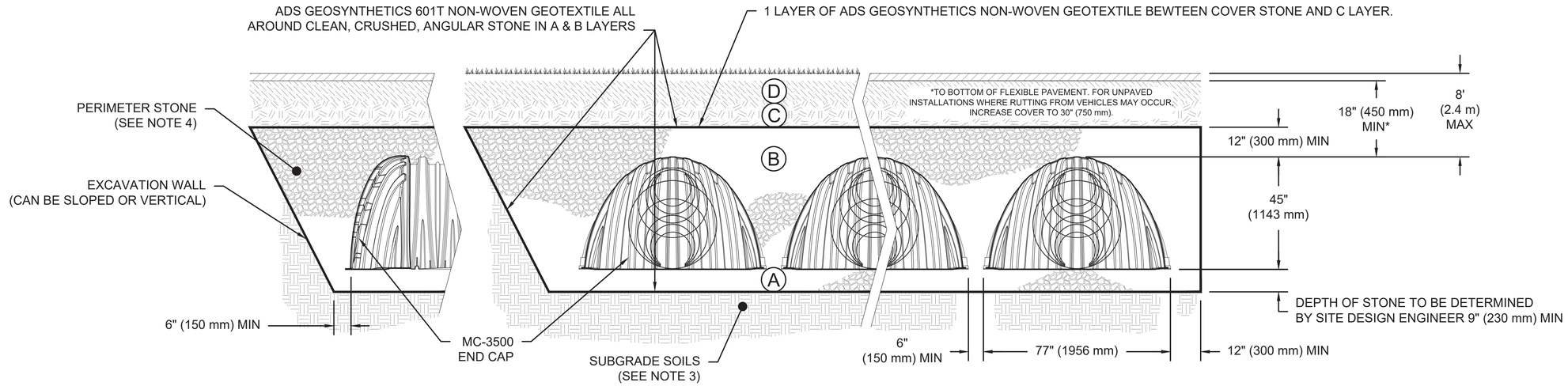
ADS®
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

NOT TO SCALE

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.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. 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.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

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

WHEELER STREET
MILFORD, NH

DATE: 08/12/2020 | DRAWN: AC | CHECKED: --- | PROJECT #: Tool

REV	DESCRIPTION	DRW	CHK

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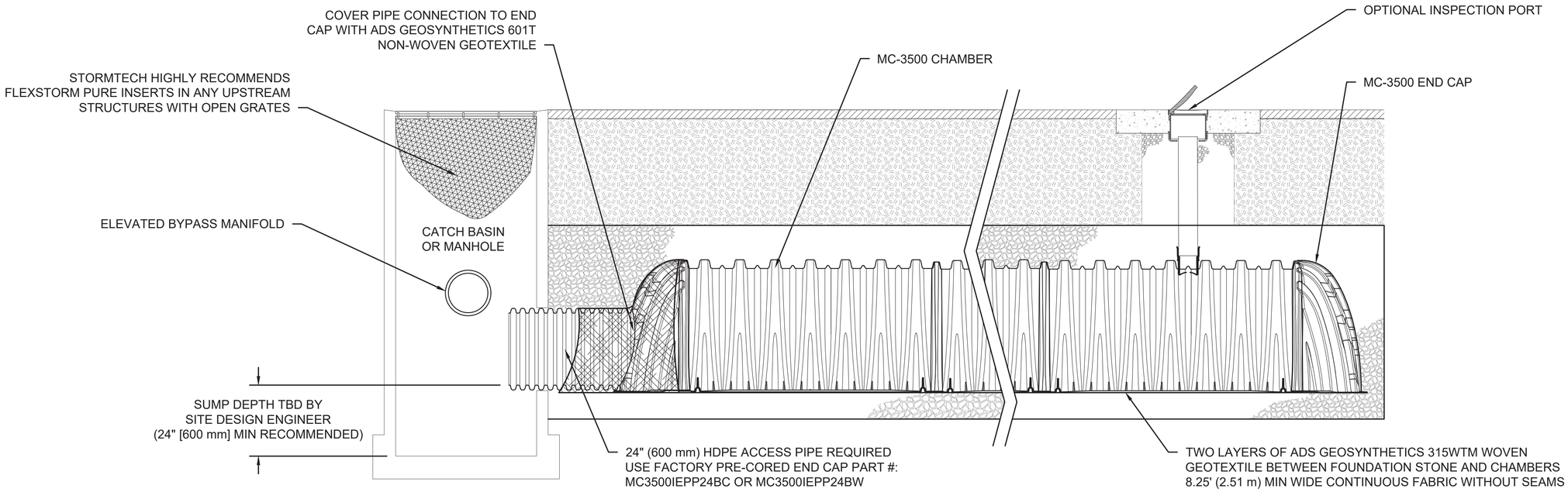


MC-3500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

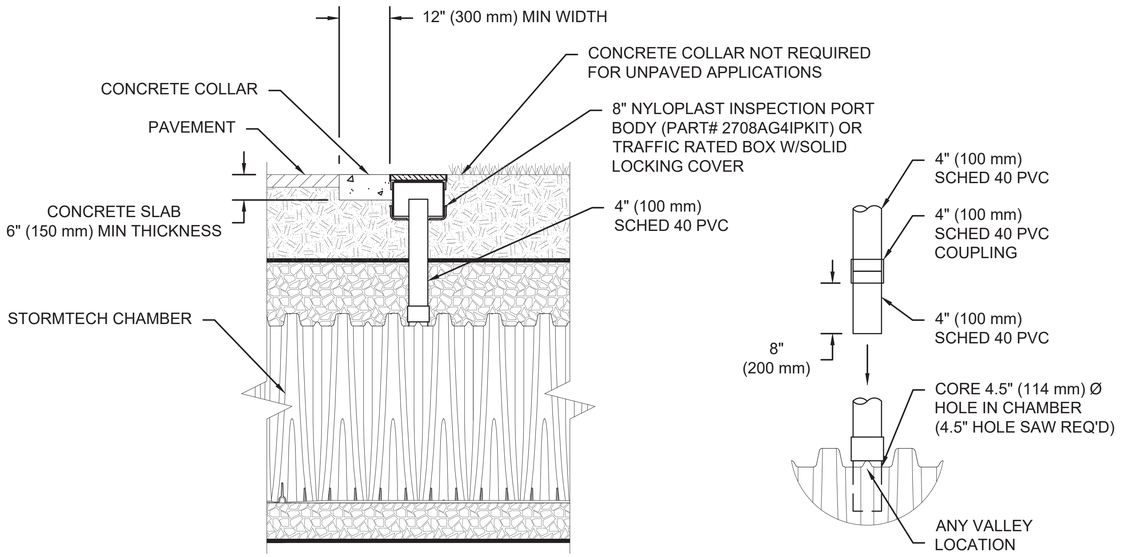
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

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:
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
NTS

CONNECTION DETAIL
NTS

WHEELER STREET
MILFORD, NH

DATE: 08/12/2020 | DRAWN: AC | CHECKED: ---
PROJECT #: Tool

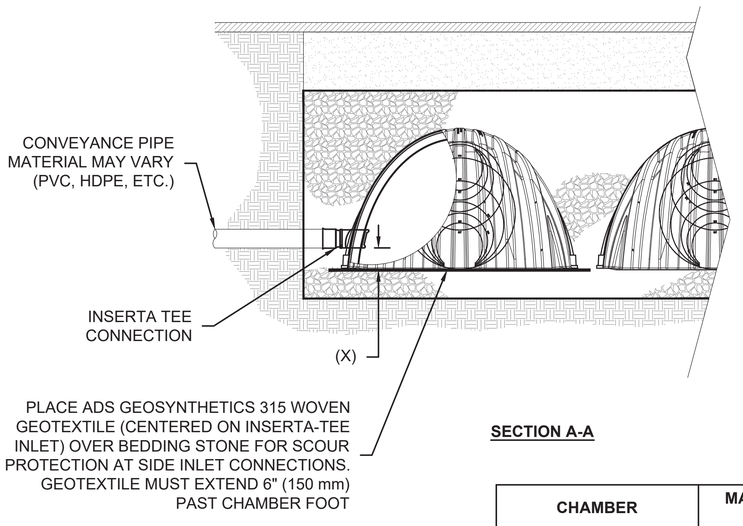
REV	DRW	CHK	DESCRIPTION

StormTech®
Detention+Retention+Water Quality
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

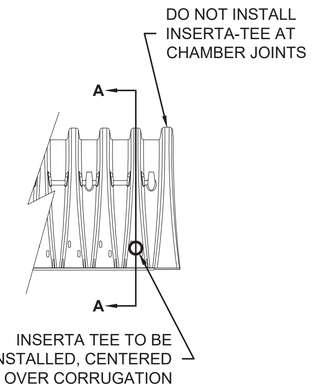
ADS®
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

INSERTA TEE DETAIL

NTS



SECTION A-A



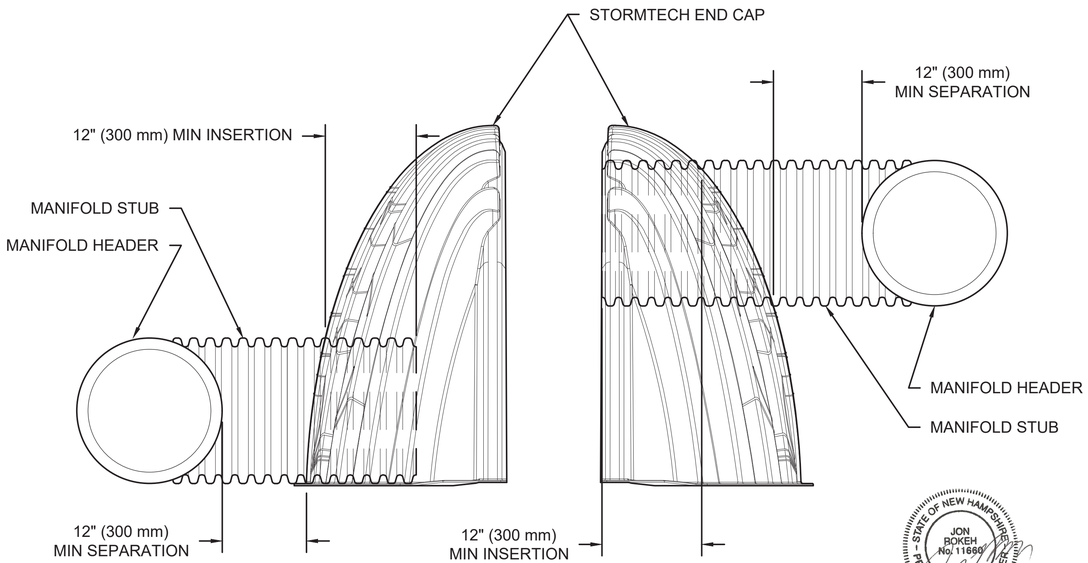
SIDE VIEW

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		

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

MC-SERIES END CAP INSERTION DETAIL

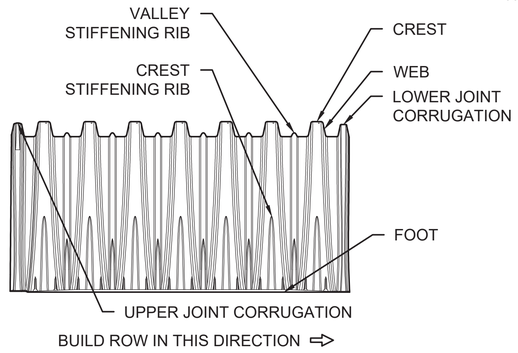
NTS

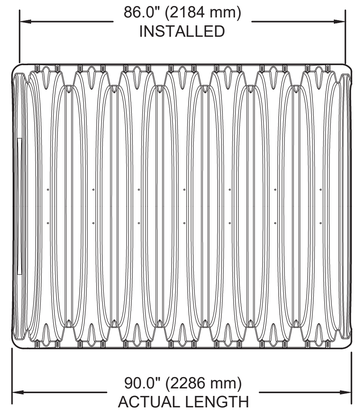


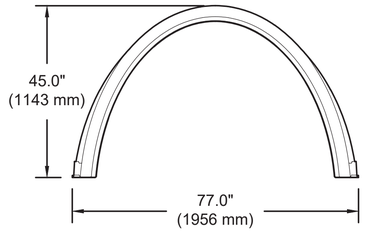
NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

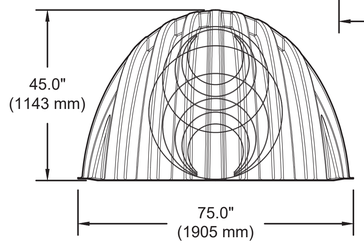
MC-3500 TECHNICAL SPECIFICATION

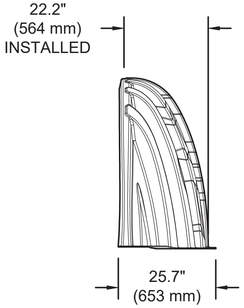
NTS











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	(3.11 m³)
MINIMUM INSTALLED STORAGE*	178.9 CUBIC FEET	(5.06 m³)
WEIGHT	134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS

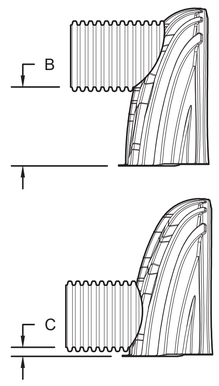
SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	46.0 CUBIC FEET	(1.30 m³)
WEIGHT	49 lbs.	(22.2 kg)

*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

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

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
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		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18TW			
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP18BW			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW			
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP24BW			
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 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 HIGHEST POSSIBLE FOR THE PIPE SIZE.

WHEELER STREET
MILFORD, NH

DATE: 08/12/2020 | DRAWN: AC | CHECKED: ---
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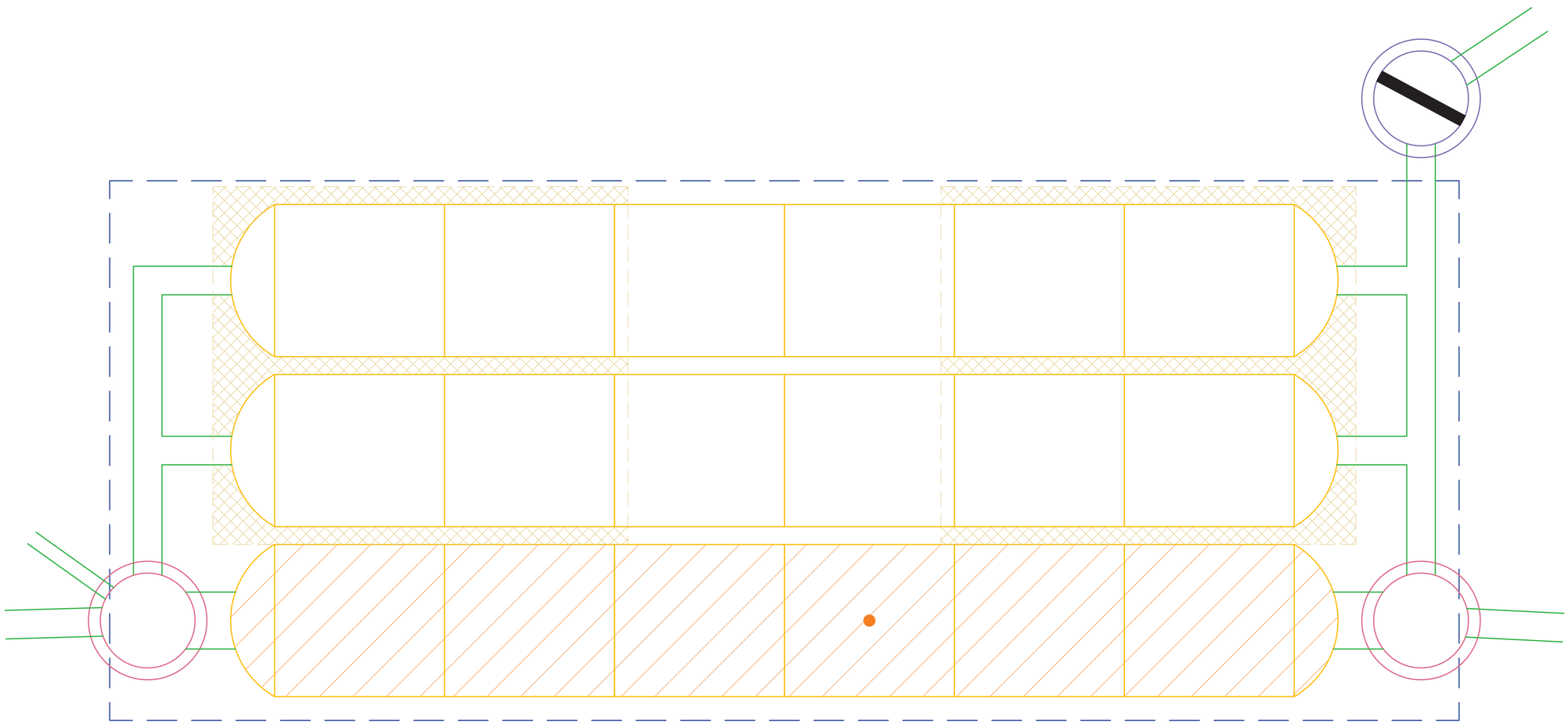
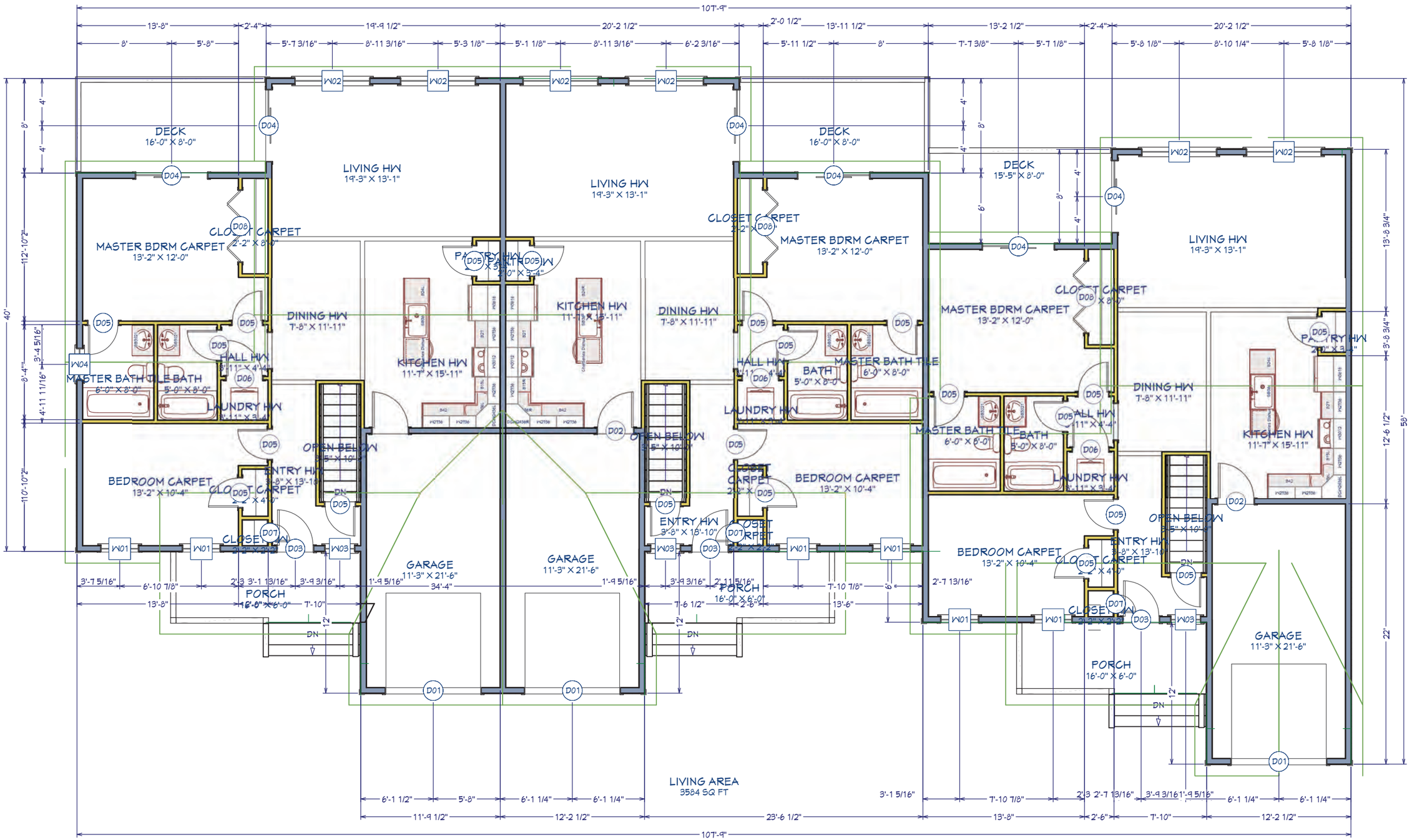


JON BOKEH
No. 11680
LICENSED
PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE

DOOR SCHEDULE					
NUMBER	LABEL	QTY	WIDTH	HEIGHT	DESCRIPTION
D01	8080	3	96 "	96 "	GARAGE-C12-REC13
D02	3068	3	36 "	80 "	EXT. HINGED-DOOR P04
D03	3068	3	36 "	80 "	EXT. HINGED-DOOR E21
D04	6068	9	72 "	80 "	EXT. SLIDER-GLASS PANEL
D05	2668	21	30 "	80 "	HINGED-DOOR P04
D06	3068	3	36 "	80 "	HINGED-DOOR P04
D07	1668	3	18 "	80 "	HINGED-DOOR P04
D08	6068	3	72 "	80 "	4 DR. BIFOLD-DOOR P04

WINDOW SCHEDULE					
NUMBER	LABEL	QTY	WIDTH	HEIGHT	DESCRIPTION
W01	3355DH	6	38 5/8 "	65 "	DOUBLE HUNG
W02	6455MU	12	76 1/4 "	65 "	MULLED UNIT
W03	2755DH	3	30 5/8 "	65 "	DOUBLE HUNG
W04	2940DH	1	32 5/8 "	48 "	DOUBLE HUNG



REVISION TABLE

NUMBER	DATE	REVISED BY	DESCRIPTION

3 Unit Condos
Lot 30-19 Wheeler Road
Milford, NH 03055

DATE:	8/7/2020
SCALE:	1/8" = 1'
SHEET:	A-1