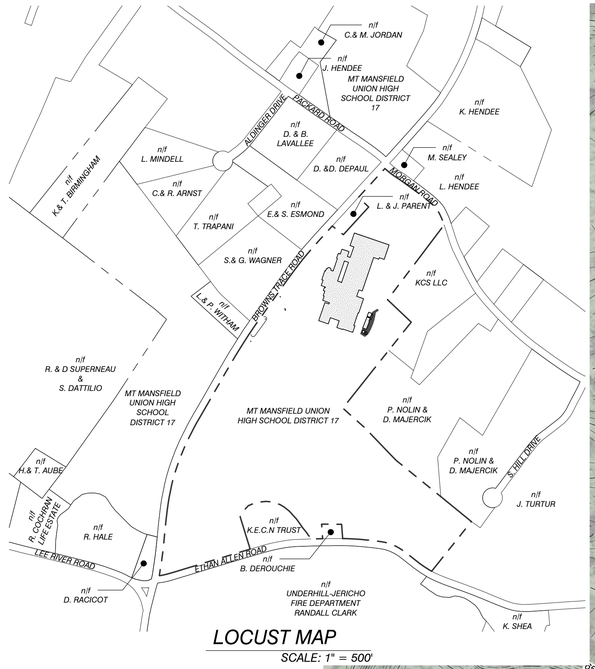


LOCUST MAP

SCALE: 1" = 500'

LEGEND

- APPROXIMATE PROPERTY LINE
- APPROXIMATE SETBACK LINE
- EXISTING CONTOUR
- EXISTING CURB
- EXISTING GRAVEL
- EXISTING PAVEMENT
- EXISTING OVERHEAD ELECTRIC
- EXISTING STORM
- EXISTING GRAVITY SEWER
- EXISTING WATER
- EXISTING SWALE
- STREAM
- EXISTING SEWER MANHOLE
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING YARD DRAIN
- EXISTING HYDRANT
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING SIGN
- EDGE OF BRUSH/WOODS

NOTES

1. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. EXISTING UTILITY LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITY CONFLICTS. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER. THE CONTRACTOR SHALL CONTACT DIG SAFE (888-344-7233) PRIOR TO ANY CONSTRUCTION.
2. PROPERTY LINE INFORMATION IS APPROXIMATE AND BASED ON EXISTING TAX MAP INFORMATION. THIS PLAN IS NOT A BOUNDARY SURVEY AND IS NOT INTENDED TO BE USED AS ONE.
3. CONTOUR INFORMATION IS BASED UPON LiDAR DATA FROM VERMONT CENTER FOR GEOGRAPHIC INFORMATION STATE WIDE 1' CONTOURS. HORIZONTAL AND VERTICAL DATUM BASED ON VCS NAD 83 AND NAVD 88. ALL OTHER SITE INFORMATION IS BASED UPON ORTHOMETRIC PHOTOGRAPHY.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

SITE ENGINEER:

CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
P: 802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

STORMWATER CONSULTANT

WATERSHED CONSULTING
208 FLYNN AVE SUITE 2H BURLINGTON, VT 05401
P: 802-497-2367 web: www.watershedca.com

DRAWN: MAB
CHECKED: DSM
APPROVED: DSM

CLIENT:

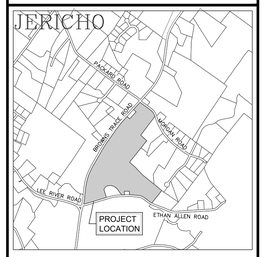
GREENPOINT PARTNERS

17 N STATE STREET
SUITE 1400
CHICAGO, IL 60602

PROJECT:

MOUNT MANSFIELD UNION HIGH SCHOOL

221 BROWNS TRACE ROAD
JERICHO, VT 05465



LOCATION MAP

1" = 2000'

DATE	CHECKED	REVISION

EXISTING CONDITIONS PLAN

DATE: 01/11/2023
SCALE: 1" = 50'
PROJ. NO.: 22241

DRAWING NUMBER: C1.0

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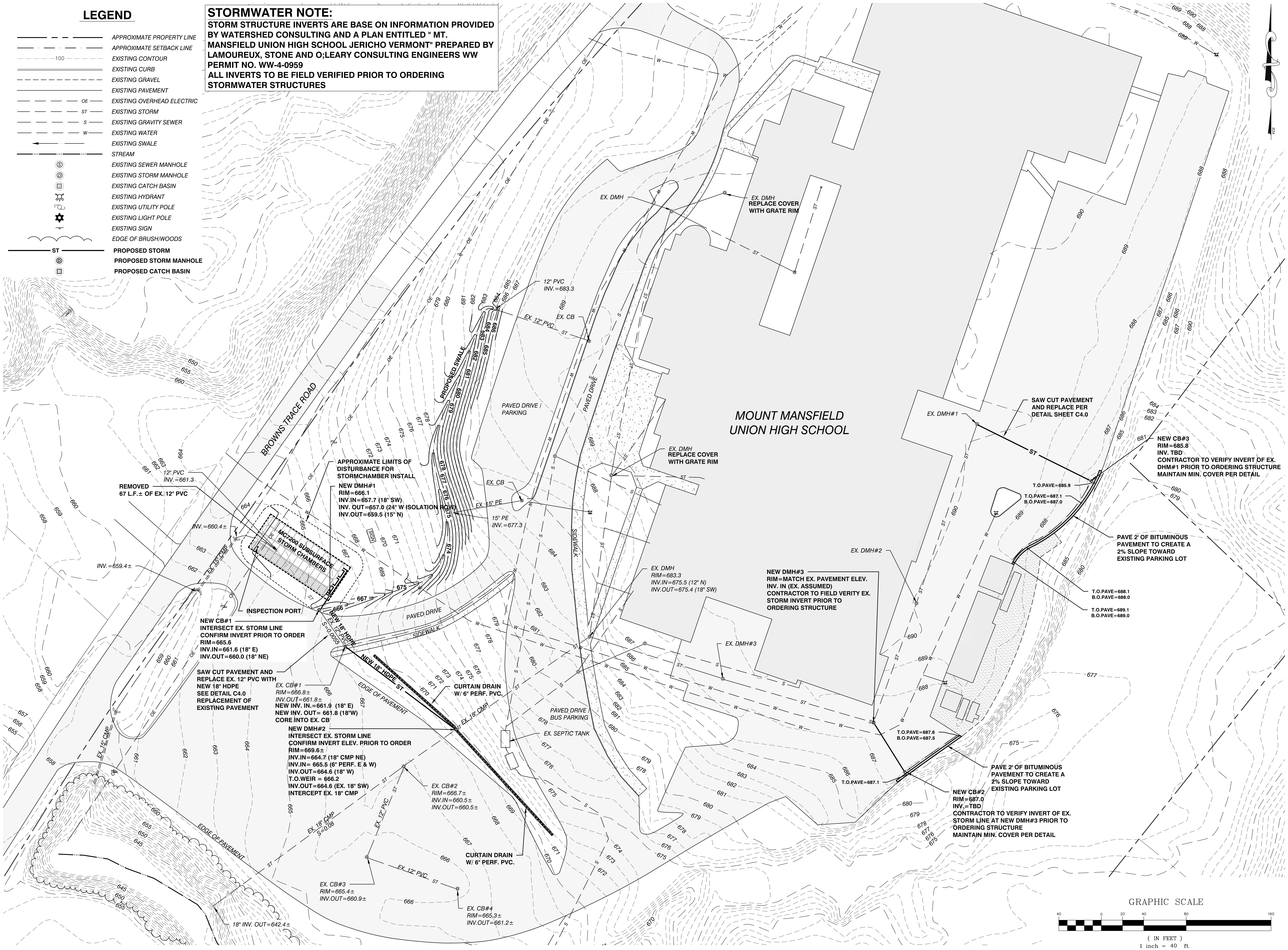
LEGEND

- APPROXIMATE PROPERTY LINE
- APPROXIMATE SETBACK LINE
- EXISTING CONTOUR (100)
- EXISTING CURB
- EXISTING GRAVEL
- EXISTING PAVEMENT
- EXISTING OVERHEAD ELECTRIC (OE)
- EXISTING STORM (ST)
- EXISTING GRAVITY SEWER (S)
- EXISTING WATER (W)
- EXISTING SWALE
- STREAM
- EXISTING SEWER MANHOLE
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING HYDRANT
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING SIGN
- EDGE OF BRUSH/WOODS
- **PROPOSED STORM (ST)**
- **PROPOSED STORM MANHOLE**
- **PROPOSED CATCH BASIN**

STORMWATER NOTE:

STORM STRUCTURE INVERTS ARE BASE ON INFORMATION PROVIDED BY WATERSHED CONSULTING AND A PLAN ENTITLED " MT. MANSFIELD UNION HIGH SCHOOL JERICHO VERMONT" PREPARED BY LAMOUREUX, STONE AND O;LEARY CONSULTING ENGINEERS WW PERMIT NO. WW-4-0959
ALL INVERTS TO BE FIELD VERIFIED PRIOR TO ORDERING STORMWATER STRUCTURES



MOUNT MANSFIELD UNION HIGH SCHOOL
BROWNS TRACE ROAD
PROPOSED SWALE
PAVED DRIVE PARKING
PAVED DRIVE
SIDEWALK
PAVED DRIVE BUS PARKING
EX. SEPTIC TANK
EDGE OF PAVEMENT
APPROXIMATE LIMITS OF DISTURBANCE FOR STORMCHAMBER INSTALL
NEW DMH#1 RIM=666.1 INV.IN=657.7 (18" SW) INV. OUT=657.0 (24" W ISOLATION ROW) INV.OUT=659.5 (15" N)
MC7200 SUBSURFACE STORM CHAMBERS
INSPECTION PORT
REMOVED 67 L.F.± OF EX. 12" PVC
12" PVC INV.=661.3
INV.=660.4±
INV.=659.4±
NEW CB#1 INTERSECT EX. STORM LINE CONFIRM INVERT PRIOR TO ORDER RIM=665.6 INV.IN=661.6 (18" E) INV.OUT=660.0 (18" NE)
SAW CUT PAVEMENT AND REPLACE EX. 12" PVC WITH NEW 18" HDPE SEE DETAIL C4.0 REPLACEMENT OF EXISTING PAVEMENT
EX. CB#1 RIM=666.8± INV.OUT=661.8± NEW INV. IN.=661.9 (18" E) NEW INV. OUT= 661.8 (18"W) CORE INTO EX. CB
NEW DMH#2 INTERSECT EX. STORM LINE CONFIRM INVERT ELEV. PRIOR TO ORDER RIM=669.6± INV.IN=664.7 (18" CMP NE) INV.IN= 665.5 (6" PERF. E & W) INV.OUT=664.6 (18" W) T.O.WEIR = 666.2 INV.OUT=664.6 (EX. 18" SW) INTERCEPT EX. 18" CMP
NEW 18" HDPE
CURTAIN DRAIN W/ 6" PERF. PVC.
EX. CB#2 RIM=666.7± INV.IN=660.5± INV.OUT=660.5±
EX. CB#3 RIM=665.4± INV.OUT=660.9±
EX. CB#4 RIM=665.3± INV.OUT=661.2±
18" INV. OUT=642.4±
EX. 12" PVC
EX. 18" CMP S=0.08
EX. 15" CMP
12" PVC INV.=683.3
EX. CB
EX. 15" PE
15" PE INV.=677.3
EX. DMH
EX. DMH REPLACE COVER WITH GRATE RIM
EX. DMH RIM=683.3 INV.IN=675.5 (12" N) INV.OUT=675.4 (18" SW)
NEW DMH#3 RIM=MATCH EX. PAVEMENT ELEV. INV. IN (EX. ASSUMED) CONTRACTOR TO FIELD VERITY EX. STORM INVERT PRIOR TO ORDERING STRUCTURE
EX. DMH#1
EX. DMH#2
EX. DMH#3
SAW CUT PAVEMENT AND REPLACE PER DETAIL SHEET C4.0
NEW CB#3 RIM=685.8 INV. TBD CONTRACTOR TO VERIFY INVERT OF EX. DHM#1 PRIOR TO ORDERING STRUCTURE MAINTAIN MIN. COVER PER DETAIL
PAVE 2' OF BITUMINOUS PAVEMENT TO CREATE A 2% SLOPE TOWARD EXISTING PARKING LOT
T.O.PAVE=685.9
T.O.PAVE=687.1 B.O.PAVE=687.0
T.O.PAVE=688.1 B.O.PAVE=688.0
T.O.PAVE=689.1 B.O.PAVE=689.0
T.O.PAVE=687.6 B.O.PAVE=687.5
T.O.PAVE=687.1
NEW CB#2 RIM=687.0 INV.=TBD CONTRACTOR TO VERIFY INVERT OF EX. STORM LINE AT NEW DMH#3 PRIOR TO ORDERING STRUCTURE MAINTAIN MIN. COVER PER DETAIL
GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.

SITE ENGINEER:

CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
P: 802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

STORMWATER CONSULTANT

WATERSHED CONSULTING
208 FLYNN AVE SUITE 2H BURLINGTON, VT 05401
P: 802-497-2367 web: www.watershedca.com

DRAWN: MAB
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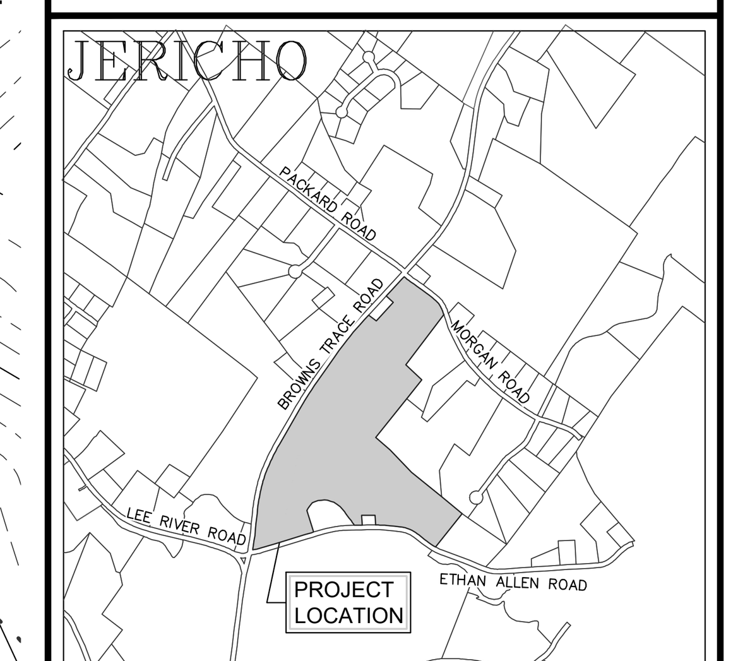
CLIENT:

GREENPRINT PARTNERS
17 N STATE STREET
SUITE 1400
CHICAGO, IL 60602

PROJECT:

MOUNT MANSFIELD UNION HIGH SCHOOL
211 BROWNS TRACE ROAD
JERICHO, VT 05465



LOCATION MAP
1" = 2000'

DATE	CHECKED	REVISION

PROPOSED CONDITIONS PLAN

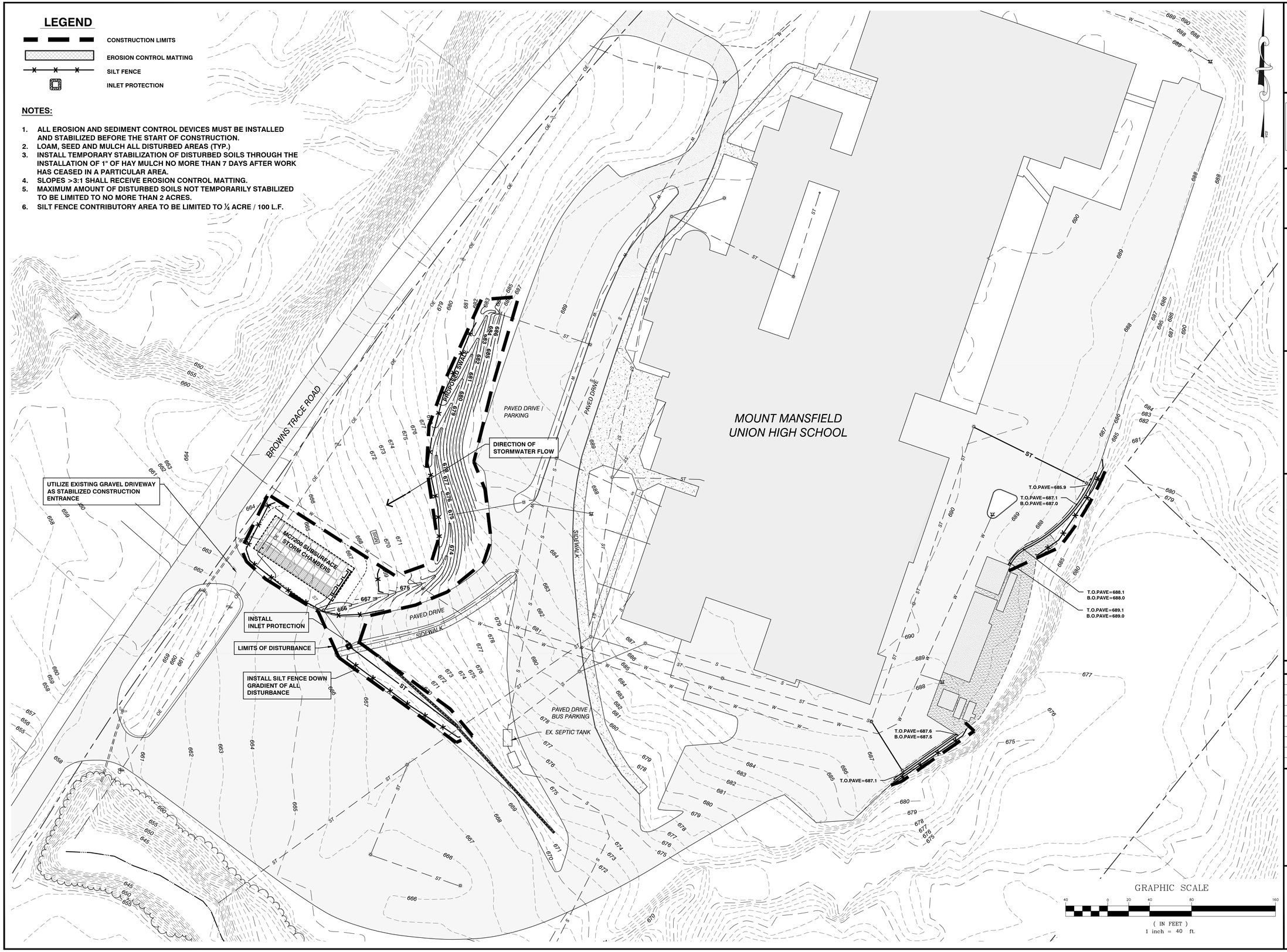
DATE: 01/11/2023
SCALE: 1" = 40'
PROJ. NO.: 22241
DRAWING NUMBER: C2.0

LEGEND

- CONSTRUCTION LIMITS
- EROSION CONTROL MATTING
- SILT FENCE
- INLET PROTECTION

NOTES:

1. ALL EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND STABILIZED BEFORE THE START OF CONSTRUCTION.
2. LOAM, SEED AND MULCH ALL DISTURBED AREAS (TYP.)
3. INSTALL TEMPORARY STABILIZATION OF DISTURBED SOILS THROUGH THE INSTALLATION OF 1" OF HAY MULCH NO MORE THAN 7 DAYS AFTER WORK HAS CEASED IN A PARTICULAR AREA.
4. SLOPES >3:1 SHALL RECEIVE EROSION CONTROL MATTING.
5. MAXIMUM AMOUNT OF DISTURBED SOILS NOT TEMPORARILY STABILIZED TO BE LIMITED TO NO MORE THAN 2 ACRES.
6. SILT FENCE CONTRIBUTORY AREA TO BE LIMITED TO ¼ ACRE / 100 L.F.



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STORMWATER CONSULTANT

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PROJECT:

MOUNT MANSFIELD UNION HIGH SCHOOL

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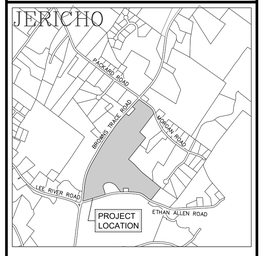
JERICHO, VT 05465



LOCATION MAP
1" = 2000'

DATE	CHECKED	REVISION

EPSC SITE PLAN

DATE: 01/11/2023
SCALE: 1" = 40'
PROJ. NO.: 22241

DRAWING NUMBER: C3.0

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Introduction
This project is subject to the terms and conditions of the authorization from the State of Vermont to discharge construction related storm water runoff.

Coverage under the State Construction General Permit 3-9020 is required for any construction activity that disturbs 1 or more acres of land, or is part of a larger development plan that will disturb 1 or more acres.

This project has been deemed to qualify as a Low Risk Site which is subject to the erosion prevention and sediment control (EPSC) standards set for in the State of Vermont's **Low Risk Site Handbook for Erosion Prevention and Sediment Control**

The following narrative and implementation requirements represent the minimum standard for which this site is required to be maintained as regulated by the State of Vermont.

Any best management practices (BMP's) depicted on the project's EPSC Site plan which go beyond the Handbook requirements are considered to be integral to the management of the site and represent components of the municipal EPSC approval for the project which shall be implemented.

The EPSC plan depicts one snap shot in time of the site. All construction sites are fluid in their day to day exposures and risks as it relates to minimizing sediment loss from the site. **It is the responsibility of the Contractor to implement the necessary BMP's to comply with the Low Risk Handbook standards outlined on this sheet based on the interim site disturbance conditions which may or may not be shown on the EPSC Site Plan.**

Specific BMP's which are critical to allowing the project to be considered a Low Risk site include the items checked below:

- Limit the amount of disturbed earth to two acres or less at any one time.
- There shall be a maximum of 7 consecutive days of disturbed earth exposure in any location before temporary or final stabilization is implemented.

1. Demarcate Limits of Disturbance
Purpose:
Delineating the site will help to: limit the area of disturbance to only what is necessary for construction, prevent unauthorized disturbance, preserve existing vegetation, and limit erosion potential on the site.

Requirement:
You must physically mark the limits of construction activity using one of the methods described below.

How to comply:
Before initiating any earth disturbing activities, install a perimeter fence, orange barrier tape, or flagging on stakes or trees to physically demarcate the approved limits of earth disturbance.

2. Pollution Prevention
Purpose:
Many construction sites require storage of chemicals and materials that have detrimental effects if released into our waterways. A storage plan for these potential pollution sources as well as a spill prevention and clean up plan are required to mitigate these risks.

Requirement:
Design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented and maintained in accordance with the following requirements.

How to comply:
1. Minimize the exposure of the following to precipitation and to stormwater: building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site.

2. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

3. Limit Concurrent Earth Disturbance
Purpose:
Limit the amount of soil exposed at one time to reduce the potential erosion on the construction site.

Requirement:
The maximum area of concurrent earth disturbance is specified on the site's written authorization to discharge. Earth disturbance at any one time cannot exceed the maximum concurrent disturbance identified in the authorization. Areas that are at final stabilization ornthat have been temporarily stabilized in accordance with Section 4 of this handbook, are not counted toward the maximum concurrent disturbance area.

How to comply:
Plan ahead and phase the construction activities to ensure that no more than the permitted maximum concurrent acreage is disturbed and unstabilized at one time. Be sure to properly stabilize exposed soil using one of the methods introduced in Section 4 of this handbook before beginning work in a new section of the site.

4. Site Stabilization
Purpose:
Seeding and mulching, applying erosion control matting, and hydroseeding are all methods to temporarily stabilize exposed soil and prevent soil erosion prior to vegetative growth. Mulches and matting protect the soil surface while grass is establishing. Areas of earth disturbance may also be stabilized with stone, such as rip-rap or gravel, or other impervious surfaces such as pavement and concrete.

Requirements for Temporary Stabilization:
All areas of earth disturbance must have temporary or final stabilization within 14 days of initial disturbance, as stated in the project authorization. After this time, disturbed areas must be temporarily stabilized or permanently stabilized in advance of any runoff producing event. A runoff producing event is an event that produces runoff from the construction site.

The following exception applies:
Temporary stabilization is not required if the work is occurring in a self-contained excavation (i.e. no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation, utility trenches), provided any dewatering, if necessary, is conducted in accordance with Part 13.

How to comply:
As required by the authorization, temporary stabilization for areas of earth disturbance shall be completed utilizing one or more of the methods below:

Straw Mulch
Mulching Rates
April 16 - Oct. 14 -- Straw: 1 inch deep (1-2 bales/1,000 s.f.)
Oct. 15 - April 15 -- Straw: 2 inch deep (2-4 bales/1,000 s.f.)
*seed may also be incorporated

Wood Chip Mulch or Stump Grindings
Cover entire area with 2-7 inches or more of wood chip mulch or stump grindings.

Hydroseed
As per manufacturer's instructions. Must include mulch component. Not acceptable stabilization for winter construction period.

Requirements for Dust Control:
Construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing during dry periods where off-site damage may occur if dust is not controlled shall be sprayed with water to prevent dust mobilization. Chemical applications, including the use of chloride, shall not be applied without written approval from the VT DEC.

Requirements for Final Stabilization:
All areas of disturbance must have permanent stabilization within 48 hours of reaching final grade. Bring the site or sections of the site to final grade as soon as possible after construction is completed. This will reduce the need for additional sediment and erosion control measures and will reduce the total disturbed area. Prepare bare soil for seeding by grading the top 4 to 6 inches of soil and removing any large rocks or debris, and apply seed per suppliers specifications.

5. Stabilized Construction Access
Purpose:
A stabilized construction access helps remove mud and sediment from vehicles and equipment to prevent tracking onto streets.

Requirements:
If there will be any vehicle or equipment traffic off of the construction site, you must install a stabilized construction access at the start of construction.

How to install:
Rock Size: Use a mix of 1 to 4 inch stone
Depth: 8 inches minimum
Width: 12 feet minimum, flared at road for vehicle turning
Length: 40 feet minimum (or length of driveway for residential projects, if shorter)
Geotextile: Place filter cloth under entire stone bed

Maintenance:
Redress with clean stone or scarify to open voids as required to keep sediment from tracking onto the street.
- Where sediment has been tracked-out from your site onto paved roads, sidewalks, or other paved areas outside of your site, remove the deposited sediment by the end of the same business day in which the track-out occurs or by the end of the next business day if track-out occurs on a non-business day.
- Remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal.
- You are prohibited from hosing or sweeping tracked out sediment into any stormwater conveyance, storm drain inlet, or water of the state.

6. Divert Upland Runoff
Purpose:
Diversion berms intercept stormwater runoff contributing from above the construction site and direct it around the disturbed area. This prevents offsite runoff from entering the construction site, thus reducing the potential for erosion and reducing the drainage area contributing to the site.

Requirements:
If stormwater runoff contributes to the construction site from upslope areas and the site meets the following two conditions, you are required to first install a diversion berm and stabilized swale before disturbing any additional soil.
1. One or more acres of soil will be disturbed at any one time.
2. Average slope of the disturbed area is 20% or steeper.*

Diversion Berm installation:
1. Construct berm to the minimum specification above.
2. Compact the berm with a shovel or earth-moving equipment.
3. Seed and mulch berm or cover with erosion control matting immediately after installation.
4. Stabilize the flow channel with seed and mulch or erosion control matting. Line the channel with 4 inch stone if the channel slope is greater than 20%.
5. Ensure the berm drains to an outlet stabilized with ripra p. Ensure that there is no erosion at the outlet.
6. The diversion berm shall remain in place until the disturbed areas are completely stabilized.

7. Install Perimeter Controls
Purpose:
Silt Fence and Erosion Control Berms intercept runoff and allow suspended sediment to settle or filter out. Filter Socks and Straw Wattles also filter construction runoff and are acceptable for use in specific situations. Silt Fence, Erosion Control Berms, Filter Socks and Straw Wattles are all acceptable perimeter controls based on site specific conditions. Permittee(s) must ensure the right practice is selected for erosion prevention and sediment control.

Requirements:
Perimeter controls must be installed:
- On the downhill side of the construction activities
- Between any ditch, swale, storm drain, or surface water and the disturbed soil
- Perimeter controls not labeled as biodegradable shall be removed once the drainage area has reached final stabilization

How to Comply:
Select and install a perimeter control from the following options: Silt Fence, Erosion Control Berms, Filter Socks, or Straw Wattles.

Where to place:
- Place perimeter controls on the downhill side of disturbed soil. If space is available, place perimeter control 10 ft from the bottom of the slope, otherwise place along the contour at the bottom of the slope.
- Ensure the perimeter control catches all runoff from distrubed soil.
- Maximum drainage area is¼ acre for 100 feet of silt fence and erosion control berm.
- Install perimeter controls across the slope (not up and down slope)
- Install multiplerows of perimeter control on long slopes to intercept flow.
- Do not install perimeter controls across ditches, channels, or streams.
- Maximum slope length (in feet) above a filter sock or straw wattle

Silt Fence
A temporary barrier of geotextile fabric installed on the contours across a project site to intercept sediment laden runoff from small drainage areas of disturbed soil.

Silt Fence Installation:
- Dig a trench 6 inches deep across the slope
- Unroll silt fence along the trench
- Ensure stakes are on the downhill side of the fence
- Join fencing by rolling the end stakes together
- Drive stakes in against downhill side of trench
- Drive stakes until 16 inches of fabric is in trench
- Push fabric into trench; spread along bottom
- Fill trench with soil and pack down
- Gravel can be used to create ground contact with filter fabric when bedrock, ledge, or nearby tree roots do not allow for trenching. (A secondary perimeter control can be effective in these locations as well.)

Silt Fence Maintenance:
Remove accumulated sediment before it is halfway up the fence. Ensure that silt fence is trenched in ground and there are no gaps. Replace any silt fence that is torn, ripped, or otherwise damaged that

8. Storm Inlet Protection
Purpose:
Existing or new storm inlets on construction sites constitute a site perimeter and must be protected from sediment laden runoff. The practices below allow stormwater to settle and filter through the practice and not bypass the in let entirely.

Requirements:
Stormwater inlets shall be 4 inches above grade or an acceptable inlet control/protection should be installed.

Inlet Protection Installation:
Proprietary Inlet Protection:
Shall provide for storage and removal of sediment and be sized appropriately for the drainage area, while allowing stormwater to filter through. These may be used if installed and maintained in accordance with the manufacturer's specifications.

Stone and Block Inlet Protection:
Concrete blocks placed around an inlet with a circle of filtering stone sloped against the blocks.
Filter Fabric and Stone Inlet Protection:
Vertical filter fabric installed around drop inlet with stone around fabric for stormwater filtering and creating ground contact with filter fabric. Alternatively, fabric may be buried below ground.

9. Water Bars
Purpose:
Some sites may benefit from the use of water bars on the construction site. When installed these may capture and redirect runoff to a stable low gradient location. Water bars limit the erosive velocity of water by diverting surface runoff at pre-designed intervals.

Requirements:
These can be constructed per the following detail, with side slopes no steeper than 4:1 where vehicles cross with a minimum design height of 12 inches, measured from channel bottom to ridge top.

Water Bar installation:
Water bars should have stable outlets, either natural or constructed. The spacing should follow Table 1:

Table 1. Water Bar Spacing

Slope (%)	Distance between structures (ft)
< 5	125
5 - 10	100
10 - 20	75
20 - 35	50
> 35	25

10. Slow Down Channelized Runoff
Purpose:
Stone check dams reduce erosion in drainage channels by slowing down the stormwater flow.

Requirements:
If there is a concentrated flow(e.g. in a ditch or channel) of stormwater on your site, then you are required to install stone check dams. Hay bales and silt fence must not be used as check dams.

Check Dam installation:
Height: No greater than 2 feet. Center of dam should be 9 inches lower than the side elevation
Side slopes: 2:1 or flatter (see p.63 for slope calculation)
Stone size: Use a mixture of 2 to 9 inch stone, the larger stone should act as armoring, while the smaller stone helps to filter the channelized runoff. The small stone should be placed primarily in the interior of the check dam and the large stone should be placed in an armoring layer on the outside.
Width: Dams should span the width of the channel and extend up the sides of the banks
Spacing: Space the dams so that the bottom (toe) of the upstream dam is at the elevation of the top (crest) of the downstream dam. This spacing is equal to the height of the check dam divided by the channel slope.

Check Dam Maintenance:
Correct all observed damage immediately after every ru naff event.
Remove all sediment accumulated behind the check dams and dispose of in an upland location. If significant erosion is observed between check dams, the channel shall be stone lined.

Rock Outlet Protection:
Waterways or outlets with concentrated stormwater runoff shall be stabilized with riprap, proprietary stabilization product or permanent material. This additional stabilization is applicable in areas where the channel slope and velocity or soil type require additional stabilization. All outlets from concentrated stormwater flows will require a stabilized bed. Stone shall be sized so it is not mobilized during high flows.

11. Slope Stabilization
Purpose:
Surface covering designed to protect and stabilize an area prone to erosion where seeding and mulching may be inadequate, generally slopes 3:1 or greater. The erosion potential may be due solely to slope angle; however,
a more gradual slope and poor soil structure can also require additional stabilization.

Requirements for Temporary Stabilization:
Use of one of the listed slope protection practices below on slopes 3:1 and greater or as needed on flatter slopes based on soil type.

Riprap: A layer of stone designed to protect and stabilize areas subject to erosion.Rolled Erosion Control Product:

A preformed protective blanket of straw or other plant residue, formed into a mat, with a supporting mesh framework on one or both sides. This mesh cannot be made of a material with welded joints.

Erosion Control Matting:
Install per manufacturer's instructions.

12. Winter Construction Requirements: October 15 - April 15
Purpose:
'Winter construction' as discussed here, describes the period from October 15 through April 15, when erosion prevention and sediment control is significantly more difficult. There are specific requirements for sites that conduct earth disturbance during the defined Winter Construction Period and for sites where disturbed areas have not reached final stabilization by October 15.

Rains in late fall, thaws throughout the winter, and spring melt and rains can produce significant flows over frozen and saturated ground, greatly increasing the potential
for erosion. A construction site can be managed to anticipate these conditions to prevent erosion and thus minimize the risk to water quality during this time period.

Requirements for Winter Shutdown:
For projects or areas of a site that will have completed earth disturbance activities prior to the winter construction period (October 15 through April 15), the following requirements must be adhered to:

1. For areas to be stabilized for the winter through the establishment of vegetation, seeding and mulching shall be completed no later than September 15 to ensure adequate growth and cover before the start of the winter period.

2. If seeding is not completed by September 15, additional non-vegetative protection must be used to stabilize the site for the winter period. Areas of disturbance not seeded and mulched by September 15 are required to temporarily stabilize by one of the following methods:

Implement Rolled Erosion Control Products (i.e. matting) over the areas of earth disturbance.

Apply a 2" mulch layer to areas of earth disturbance, equivalent to double the standard rate. Mulch should be tracked in open areas vulnerable to wind.

Seeding with winter rye is recommended to allow for early germination during wet spring conditions.

Requirements for Winter Construction
If construction activities involving earth disturbance continue into the winter construction period, the following requirements apply:

1. Enlarged access points, stabilized to provide for snow stockpiling.
2. Snow shall be managed with adequate storage and control of meltwater, requiring cleared snow to be stored down slope of all areas of disturbance and out of stormwater treatment structures.
3. For areas of disturbance within 100 ft of a waterbody, the following must be installed across the slope, down gradient of the earth disturbance: a combination of one practice from group A placed in front of a practice from group B, or two group B practices, or a single row of Reinforced Silt Fence

Group A	Group B
Filter Socks	Silt Fence
Straw Wattles	Erosion Control Berms

4. Drainage structures must be kept open and free of snow and ice dams.
5. Silt fence and other practices requiring earth disturbance must be installed ahead of frozen ground.
6. Mulch used for temporary stabilization must be applied at a minimum of 2 inches with an 80-90% cover.
7. To ensure cover of disturbed soil in advance of a precipitation or melt event, areas of disturbed soil must be stabilized prior to any runoff producing event.

Stabilization is not required if the work is occuring in a self-contained excavation (i.e. no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation, utility trenches), provided any dewatering, if necessary, is conducted in accordance with Part 13.

8. Prior to stabilization, snow or ice must be removed to the extent practicable.
9. Use stone to stabilize areas such as the perimeter of buildings under construction or where construction vehicle traffic is anticipated. Stone paths should
be sufficient width to accommodate vehicle or equipment traffic.

13. Dewatering Activities
Purpose:
To minimize and prevent discharges of sediment as a result of dewatering activities.

Requirements:
Stormwater and groundwater from dewatering activities shall be uncontaminated and shall be filtered or passed through a sediment trapping device, or both, and routed in a manner that does not result in visually turbid discharges to waters. Pump intake for dewatering must be at or near the surface of the ponding area to prevent disturbance of the settled material. Visually turbid water must not be pumped directly to storm drains or other conveyance that leads to waters without implementing one or more of the practices described below.

How to comply:
Implement one or more of the following practices when dewatering:
Implement sock filters or sediment filter bags on dewatering pump discharge hoses or pipes.
Route dewatering pump into silt fence enclosures or into staked hay bale enclosures lined with fabric.
Route dewatering pump to vegetated area at least 50 feet from surface waters and at a slope no greater than 5%. Remove accumulated sediment after the water has dispersed or infiltrated and stabilize the area with seed and mulch as necessary. A sufficient area of vegetation greatly improves the efficacy of filtering/settling of turbid water discharged from a dewatering enclosure.

14. Concrete Washout
Purpose:
Concrete wash water often contains a slurry of heavy metals, can be caustic, and has a high pH. As a result, concrete washwater is not a permitted discharge.

Requirements:
Concrete washwater and excess washout concrete should go in a lined washout. This washout should be accessible to the cement truck and at least 50 feet away from stormwater inlets and surface water.

Concrete Washout Installation:
If cement washout is going to occur on site, a lined concrete washout as shown below shall be used onsite. Care should be given to assure that the washout does not overtop during a storm event. Proprietary lined and
contained concrete washout basins may also be utilized in accordance with manufacturer's specifications.

Concrete Washout Maintenance:
Concrete washout shall be pumped to a concrete truck as necessary, for disposal or reuse at a batch plant. Washout may also be allowed to evaporate/harden for disposal in accordance with all applicable local, state, and federal regulations.

15. Permanent Controls
Permanent stormwater treatment practices are constructed to maintain water quality, preserve existing water table elevations, prevent downstream flooding, and are often required for a project under a Vermont operational stormwater discharge permit applicable to the construction or redevelopment of impervious surfaces.*

Permanent Stormwater Treatment Practices (STPs) include infiltration and filtering practices as well as detention ponds and treatment wetlands. It is critical that infiltration practices do not receive runoff until the site area has reached final stabilization.

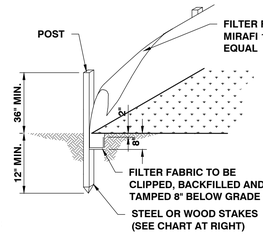
The outlet of permanent controls that are used as temporary storage and sediment basins during construction constitutes a potential discharge point and therefore must be managed to minimize and prevent sediment laden stormwater discharges. These practices will often need to be reshaped to meet the operational design criteria for volumes, grades and geometry once final grading and stabilization has occurred.

16. Inspection, Maintenance, and Discharge Reporting
Site inspections are required to ensure that all erosion prevention and sediment control practices are sufficient and functioning properly. Regular inspections and maintenance of practices will help to reduce costly repairs and minimize the risk to water quality from construction stormwater discharges.

Requirements:
Inspect the site at least once every 7 days and after every rainfall or snowmelt that results in stormwater runoff. Perform maintenance to ensure that practices are functioning according to the specifications outlined in this handbook. In the event of a visibly turbid discharge from the construction site, you must take immediate action to inspect and maintain existing erosion prevention and sediment control practices. Additional erosion prevention and sediment control measures must be installed as necessary, including temporary stabilization, to minimize and prevent the discharge of sediment laden stormwater runoff. If after maintaining and supplementing BMPs, a discharge of visibly discolored stormwater from the construction site to surface waters continues, the permittee is required to notify DEC within 24 hours.

While documentation of a routine inspection is not required, example inspection forms and forms for required discharge reporting are available at the Stormwater Program website. Permittees shall review Construction General Permit 3-9020 for all discharge reporting requirements. A copy of the Low Risk Site Handbook shall be kept on-site. Daily inspections are required from October 15 through April 15.

E-001 EC Sheet



POST SPACING	
2½ X 2½ WOOD	2.5'
METAL POST	10'
4 x 4 WOOD	10'

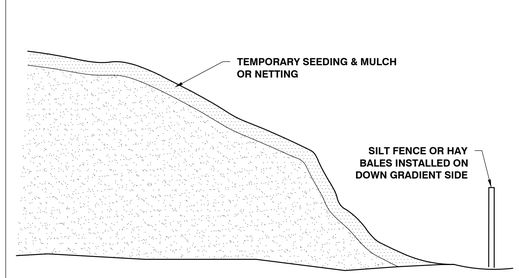
NOTES:

1. INSTALL MIRAFI ENVIROFENCE, OR APPROVED EQUAL OR AS DETAILED HEREIN.
2. INSTALL SILT FENCES AT TOES OF ALL UNPROTECTED SLOPES AND AS PARALLEL TO CONTOURS AS POSSIBLE. THIS INCLUDES ALL FILLED OR UNPROTECTED SLOPES CREATED DURING CONSTRUCTION, NOT NECESSARILY REFLECTED ON THE FINAL PLANS. CURVE THE ENDS OF THE FENCE UP INTO THE SLOPE. REMOVE SEDIMENT WHEN ACCUMULATED TO HALF THE HEIGHT OF THE FENCE. SILT FENCES ARE TO BE MAINTAINED UNTIL SLOPES ARE STABILIZED.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.

SILT FENCE DETAIL
N.T.S.

E-003 Silt Fence

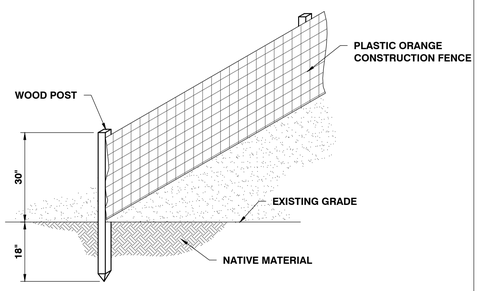
E-003 REVISED 08/01/2014



TEMPORARY STOCKPILE DETAIL
N.T.S.

E-005 Stockpile

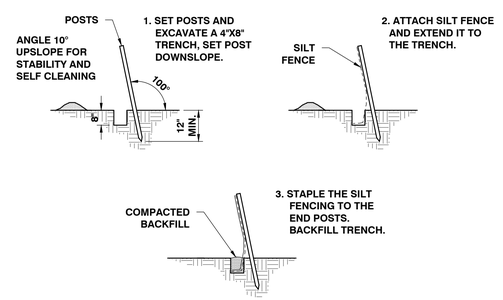
E-005 REVISED 08/01/2014



CONSTRUCTION FENCE DETAIL
N.T.S.

E-002 Constr Fence

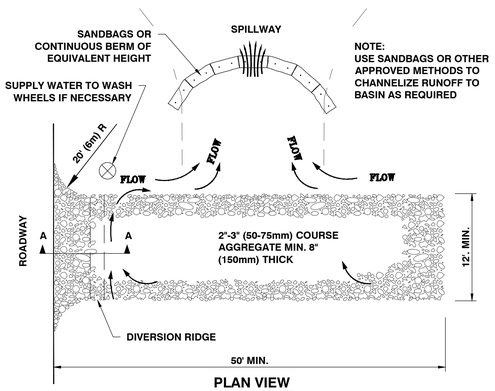
E-002 REVISED 08/01/2014



SILT FENCE CONSTRUCTION DETAIL
N.T.S.

E-007 Infill Sect

E-007 REVISED 08/01/2014



PLAN VIEW

SECTION A-A

NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

E-004 Constr. Ent

E-004 REVISED 08/01/2014

MULCH NOTE:

MULCH FOR PURPOSES OTHER THAN HYDROSEEDING WILL BE CLEAN STRAW, FREE FROM WEEDS. HAY MULCH WILL NOT BE ALLOWED TO AVOID THE SPREAD OF NON-NATIVE SPECIES SUCH AS WILD PARSNIP.

DATE	CHECKED	REVISION

EPSC DETAILS AND NOTES

DATE 01/11/2023
SCALE AS SHOWN
PROJ. NO. 22241
DRAWING NUMBER C3.1

SITE ENGINEER:
CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
P: 802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

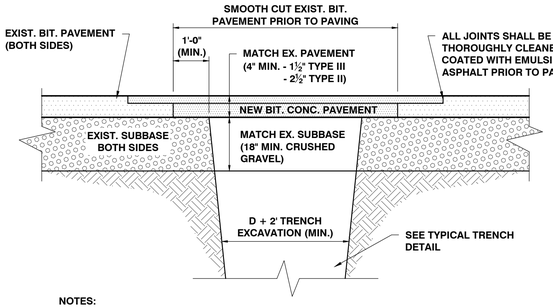
STORMWATER CONSULTANT
WATERSHED CONSULTING
208 FLYNN AVE SUITE 2H BURLINGTON, VT 05401
P: 802-497-2367 web: www.watershedca.com

DRAWN MAB
CHECKED DSM
APPROVED DSM

CLIENT:
GREENPRINT PARTNERS
17 N STATE STREET
SUITE 1400
CHICAGO, IL 60602

PROJECT:
MOUNT MANSFIELD UNION HIGH SCHOOL
211 BROWNS TRACE ROAD
JERICHO, VT 05465

P:\AutoCADD Projects\2022\22241-MMU-Watershed\1-CADD Files\dwg\22241-DETAILS.dwg, 1/19/2023 8:44:33 AM, DWG To PDF.pc3



NOTES:

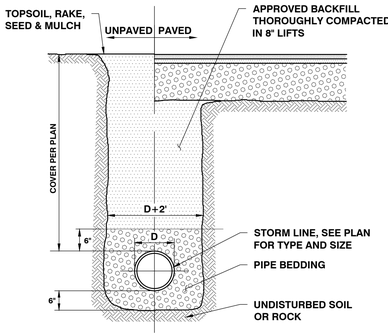
1. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE-WAY TRAFFIC AT ALL TIMES DURING WORK WITHIN THE R.O.W.
2. MAINTENANCE AND PROTECTION OF TRAFFIC DURING WORK WITHIN THE HIGHWAY R.O.W. SHALL BE PROVIDED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL NOT WORK WITHIN THE R.O.W. WITHOUT APPROPRIATE CONSTRUCTION SIGNING IN PLACE.
3. ALL BACKFILL SHALL BE MADE IN SIX INCH (6") LIFTS AND COMPACTED TO NOT LESS THAN 95% MAXIMUM DRY DENSITY ACCORDING TO ASTM D698.
4. REPLACE EXISTING ROAD STRIPING AS NECESSARY.

REPLACEMENT OF EXISTING PAVEMENT

N.T.S.

S-005 Replace Ex. Pav

S-005 REVISED 09/29/2014



NOTES:

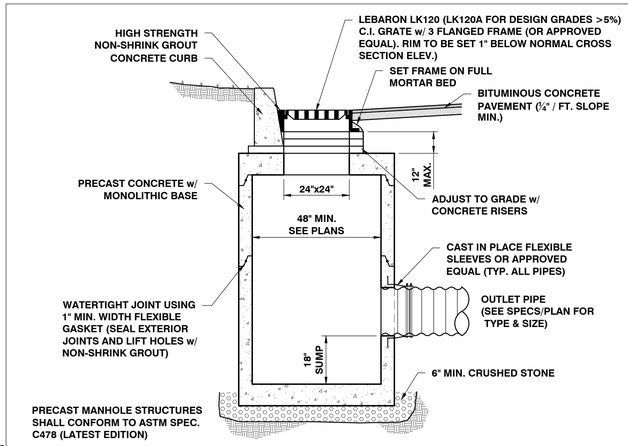
1. COMPACTION OF BACKFILL AND BEDDING SHALL BE A MINIMUM OF 90% (95% UNDER ROADWAY SURFACES) OF MAXIMUM DRY DENSITY DETERMINED IN THE STANDARD PROCTOR TEST (ASTM D698).
2. BEDDING MATERIAL SHALL NOT BE PLACED ON FROZEN SUBGRADE.
3. APPROVED BACKFILL SHALL NOT CONTAIN ANY STONES MORE THAN 12" IN LARGEST DIMENSION (6" IN ROADWAYS, 1 1/2"" MAXIMUM DIAMETER WITHIN 24" OF THE OUTSIDE OF THE PIPE), OR CONTAIN ANY FROZEN, WET, OR ORGANIC MATERIAL.
4. TRENCHES SHALL BE COMPLETELY DEWATERED PRIOR TO PLACING OF PIPE BEDDING MATERIAL AND KEPT DEWATERED DURING INSTALLATION OF PIPE AND BACKFILL.
5. IN TRENCHES WITH UNSTABLE MATERIALS OR HIGH WATER TABLE, TRENCH BOTTOM SHALL FIRST BE STABILIZED BY PLACEMENT OF FILTER FABRIC THEN CRUSHED STONE (3/4" MAXIMUM).
6. THE SIDES OF TRENCHES 4' OR MORE IN DEPTH ENTERED BY PERSONNEL SHALL BE SHEETED OR SLOPED TO THE ANGLE OF REPOSE AS DEFINED BY O.S.H.A. STANDARDS.
7. BEDDING MATERIAL SHALL CONSIST OF CRUSHED STONE, GRAVEL, OR SAND WITH A MAXIMUM SIZE OF ¾". SUBMIT A SAMPLE TO THE ENGINEER FOR APPROVAL.

TYPICAL STORM TRENCH

N.T.S.

ST-003 Storm Trench

ST-003 REVISED 12/08/2016

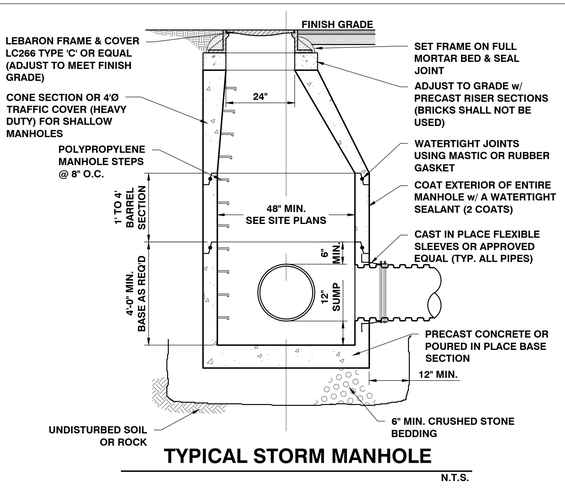


TYPICAL CATCH BASIN @ CURB

(SIMILAR WITHOUT CURB) N.T.S.

ST-002 Typ CB

ST-002 REVISED 12/03/2020

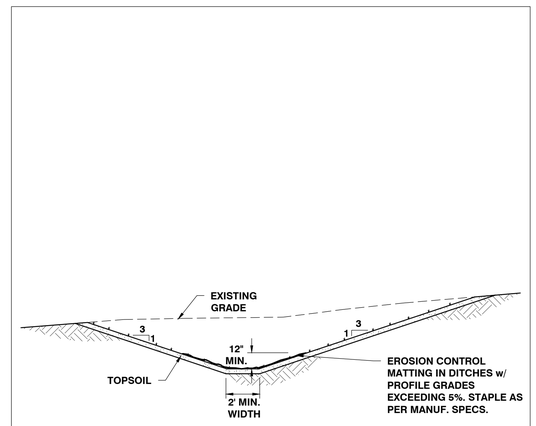


TYPICAL STORM MANHOLE

N.T.S.

ST-001 Typ. MH

ST-001 REVISED 4/2/2018

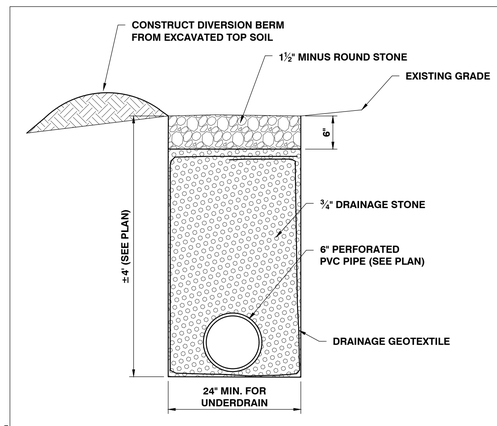


GRASS LINED SWALE

N.T.S.

ST-014 Grass Ditch

ST-014 REVISED 10/07/2015



TYPICAL CURTAIN DRAIN SECTION

N.T.S.

ST-026 Curtain Drain

ST-026 REVISED 1/28/2015

SITE ENGINEER:

CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
P: 802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

STORMWATER CONSULTANT

WATERSHED CONSULTING
208 FLYNN AVE SUITE 2H BURLINGTON, VT 05401
P: 802-497-2367 web: www.watershedca.com

DRAWN: MAB
CHECKED: DSM
APPROVED: DSM

CLIENT:

GREENPRINT PARTNERS

17 N STATE STREET
SUITE 1400
CHICAGO, IL 60602

PROJECT:

MOUNT MANSFIELD UNION HIGH SCHOOL

211 BROWNS TRACE ROAD
JERICHO, VT 05465

DATE	CHECKED	REVISION

DETAILS

DATE: 01/11/2023
SCALE: AS SHOWN
PROJ. NO.: 22241

DRAWING NUMBER: C4.0

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	AARON CHEEVER 978-302-0650 AARON CHEEVER@ADSPIPE.COM
ADS SALES REP:	BEN EWALD 470-326-9145 BEN.EWALD@ADSPIPE.COM
PROJECT NO:	--

ADS
Advanced Drainage Systems, Inc.

ADS SiteAssist
FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR APP

MOUNT MANSFIELD UNION HIGH SCHOOL

JERICHO, VT

MC-7200 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-7200.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. 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.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. 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 SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. 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.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE 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 SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-7200 CHAMBER SYSTEM

1. STORMTECH MC-7200 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
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 MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. 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-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-7200 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-7200 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

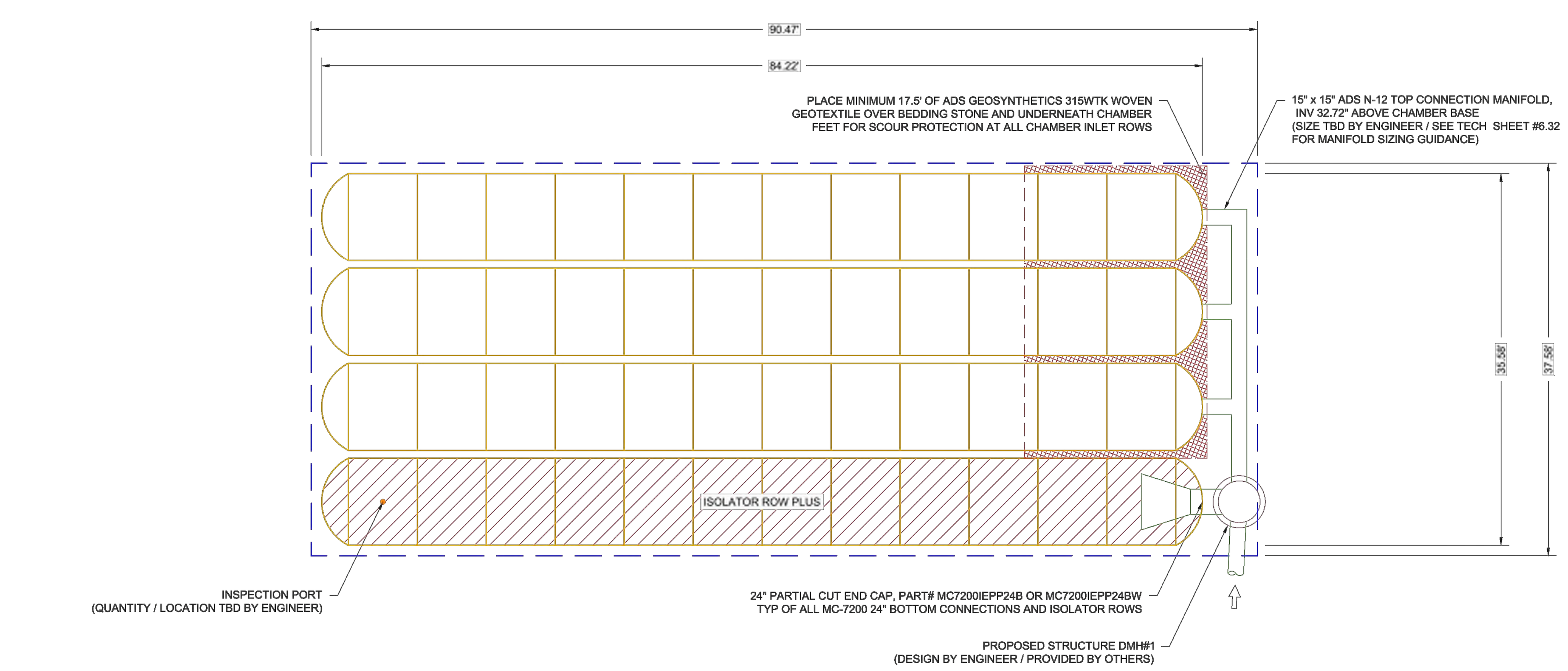
CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT

48	STORMTECH MC-7200 CHAMBERS
8	STORMTECH MC-7200 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	% STONE VOID
14,436	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
3400	SYSTEM AREA (ft²)
256	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS

668.80	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
664.30	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
663.80	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
663.80	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
663.80	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
662.80	TOP OF STONE
661.80	TOP OF MC-7200 CHAMBER
659.53	15" TOP CONNECTION INVERT
656.99	24" ISOLATOR ROW (BOTTOM) CONNECTION INVERT
656.80	BOTTOM OF MC-7200 CHAMBER
656.05	BOTTOM OF STONE

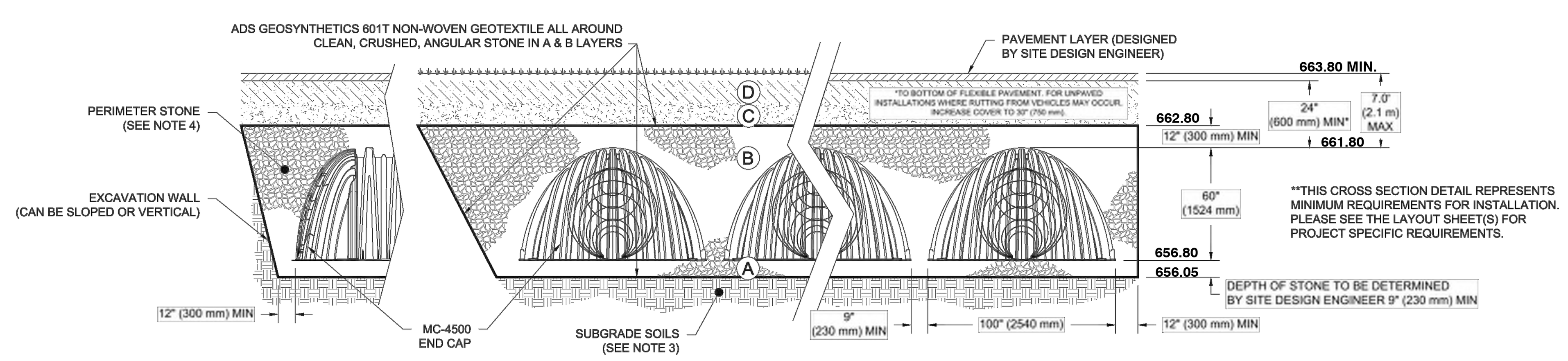


90.47'
84.22'
PLACE MINIMUM 17.5' OF ADS GEOSYNTHETICS 315WTK WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS
15" x 15" ADS N-12 TOP CONNECTION MANIFOLD, INV 32.72" ABOVE CHAMBER BASE (SIZE TBD BY ENGINEER / SEE TECH SHEET #6.32 FOR MANIFOLD SIZING GUIDANCE)
35.58'
37.58'
ISOLATOR ROW PLUS
INSPECTION PORT (QUANTITY / LOCATION TBD BY ENGINEER)
24" PARTIAL CUT END CAP, PART# MC7200IEPP24B OR MC7200IEPP24BW TYP OF ALL MC-7200 24" BOTTOM CONNECTIONS AND ISOLATOR ROWS
PROPOSED STRUCTURE DMH#1 (DESIGN BY ENGINEER / PROVIDED BY OTHERS)

ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 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]

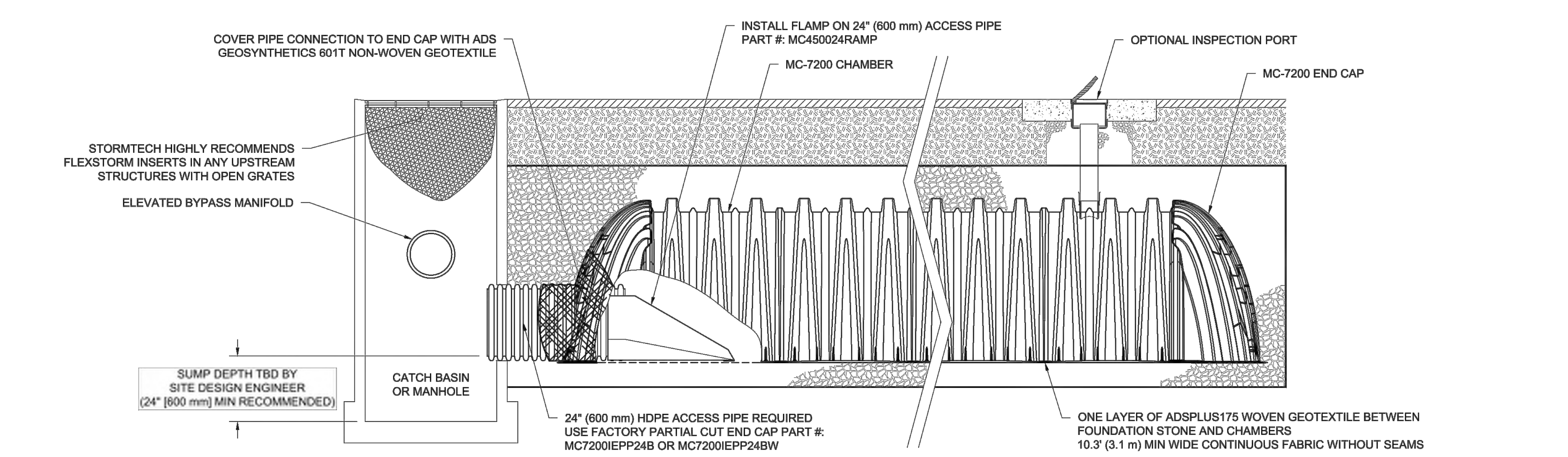
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN 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.



ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE ALL AROUND CLEAN, CRUSHED, ANGULAR STONE IN A & B LAYERS
PAVEMENT LAYER (DESIGNED BY SITE DESIGN ENGINEER)
663.80 MIN.
PERIMETER STONE (SEE NOTE 4)
EXCAVATION WALL (CAN BE SLOPED OR VERTICAL)
D
C
B
A
662.80
661.80
656.80
656.05
24" (600 mm) MIN*
7.0' (2.1 m) MAX
12" (300 mm) MIN
60" (1524 mm)
**THIS CROSS SECTION DETAIL REPRESENTS MINIMUM REQUIREMENTS FOR INSTALLATION. PLEASE SEE THE LAYOUT SHEET(S) FOR PROJECT SPECIFIC REQUIREMENTS.
DEPTH OF STONE TO BE DETERMINED BY SITE DESIGN ENGINEER 9" (230 mm) MIN
12" (300 mm) MIN
MC-4500 END CAP
SUBGRADE SOILS (SEE NOTE 3)
9" (230 mm) MIN
100" (2540 mm)
12" (300 mm) MIN

NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-7200 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/FT/%. 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.



COVER PIPE CONNECTION TO END CAP WITH ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE
INSTALL FLAMP ON 24" (600 mm) ACCESS PIPE PART #: MC450024RAMP
MC-7200 CHAMBER
OPTIONAL INSPECTION PORT
MC-7200 END CAP
STORMTECH HIGHLY RECOMMENDS FLEXSTORM INSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN GRATES
ELEVATED BYPASS MANIFOLD
SUMP DEPTH TBD BY SITE DESIGN ENGINEER (24" [600 mm] MIN RECOMMENDED)
CATCH BASIN OR MANHOLE
24" (600 mm) HDPE ACCESS PIPE REQUIRED USE FACTORY PARTIAL CUT END CAP PART #: MC7200IEPP24B OR MC7200IEPP24BW
ONE LAYER OF ADSPLUS175 WOVEN GEOTEXTILE BETWEEN FOUNDATION STONE AND CHAMBERS 10.3' (3.1 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS

MC-7200 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS 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 PLUS 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 PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS 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.

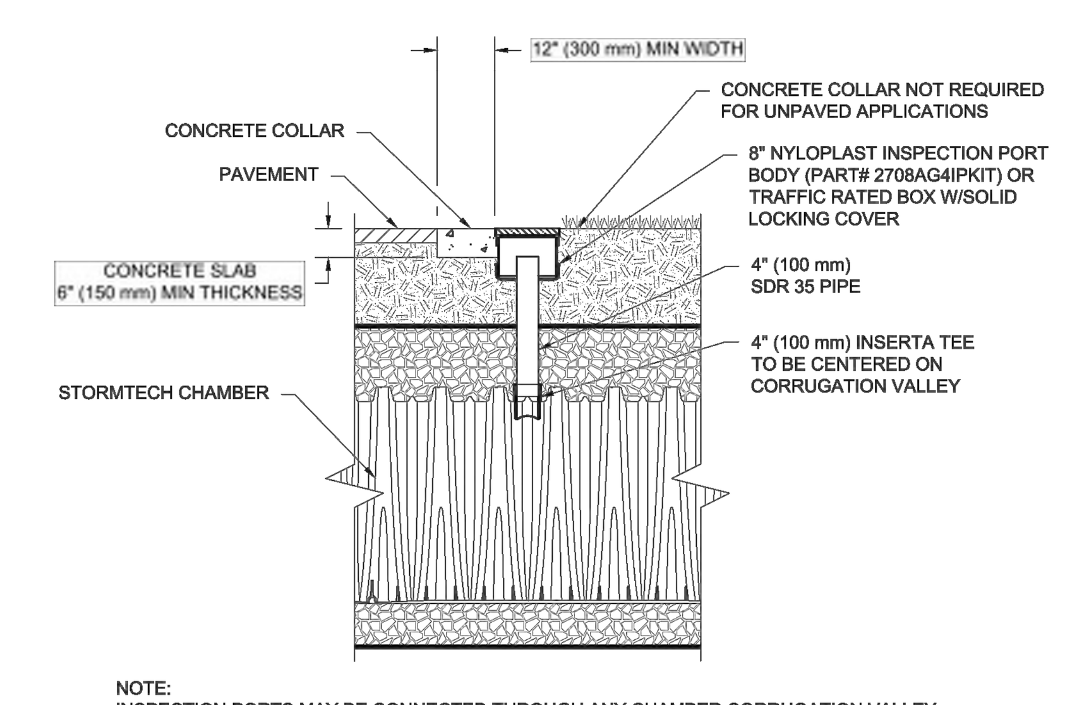
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

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.



12" (300 mm) MIN WIDTH
CONCRETE COLLAR NOT REQUIRED FOR UNPAVED APPLICATIONS
CONCRETE COLLAR
PAVEMENT
8" NYLOPLAST INSPECTION PORT BODY (PART# 2708AG4IPKIT) OR TRAFFIC RATED BOX W/SOLID LOCKING COVER
CONCRETE SLAB 6" (150 mm) MIN THICKNESS
4" (100 mm) SDR 35 PIPE
4" (100 mm) INSERTA TEE TO BE CENTERED ON CORRUGATION VALLEY
STORMTECH CHAMBER

NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

4" PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)
NTS

MOUNT MANSFIELD UNION HIGH SCHOOL — JERICHO, VT — DATE: 01/23/2023 — DRAWN: AC — PROJECT #: -- — CHECKED: XXX

StormTech® Chamber System — 888-892-2694 | WWW.STORMTECH.COM — 4640 TRUEMAN BLVD HILLIARD, OH 43026

SHEET 2 OF 5 — SHEET 3 OF 5 — SHEET 4 OF 5

SITE ENGINEER:

CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
P: 802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

STORMWATER CONSULTANT

WATERSHED CONSULTING
208 FLYNN AVE SUITE 2H BURLINGTON, VT 05401
P: 802-497-2367 web: www.watershedca.com

DRAWN: MAB
CHECKED: DSM
APPROVED: DSM

CLIENT:
GREENPRINT PARTNERS
17 N STATE STREET
SUITE 1400
CHICAGO, IL 60602

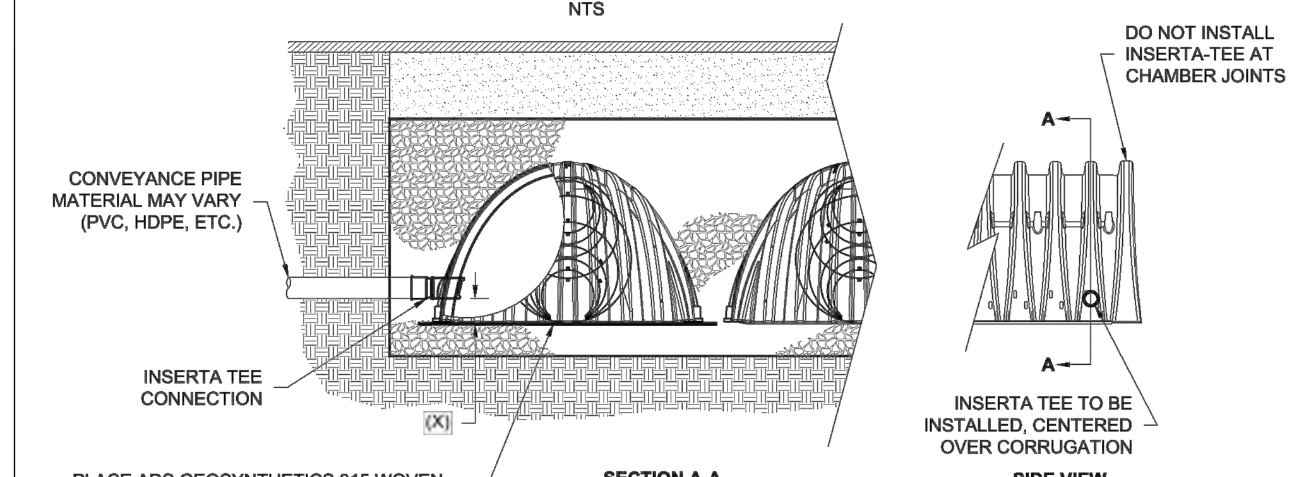
PROJECT:
MOUNT MANSFIELD UNION HIGH SCHOOL
211 BROWNS TRACE ROAD
JERICHO, VT 05465

DATE	CHECKED	REVISION

STORMWATER DETAILS

DATE: 01/11/2023
SCALE: AS SHOWN
PROJ. NO. 22241
DRAWING NUMBER: C4.1

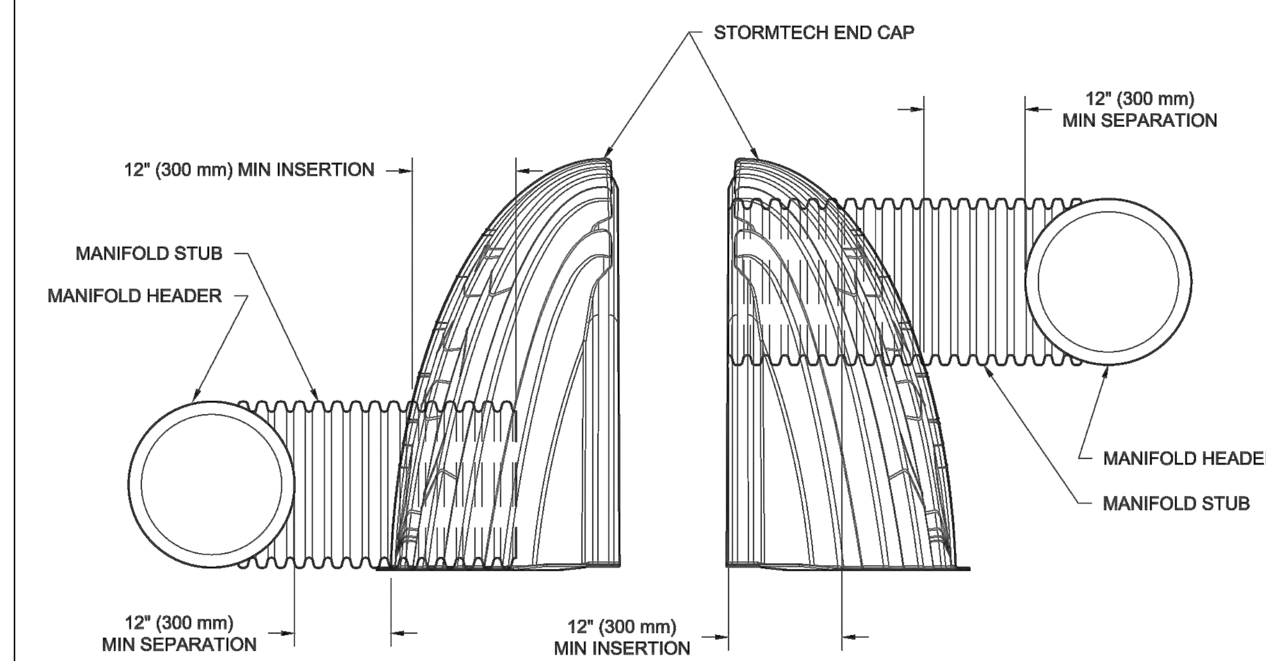
INSERTA TEE DETAIL
NTS



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)
MC-7200	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		

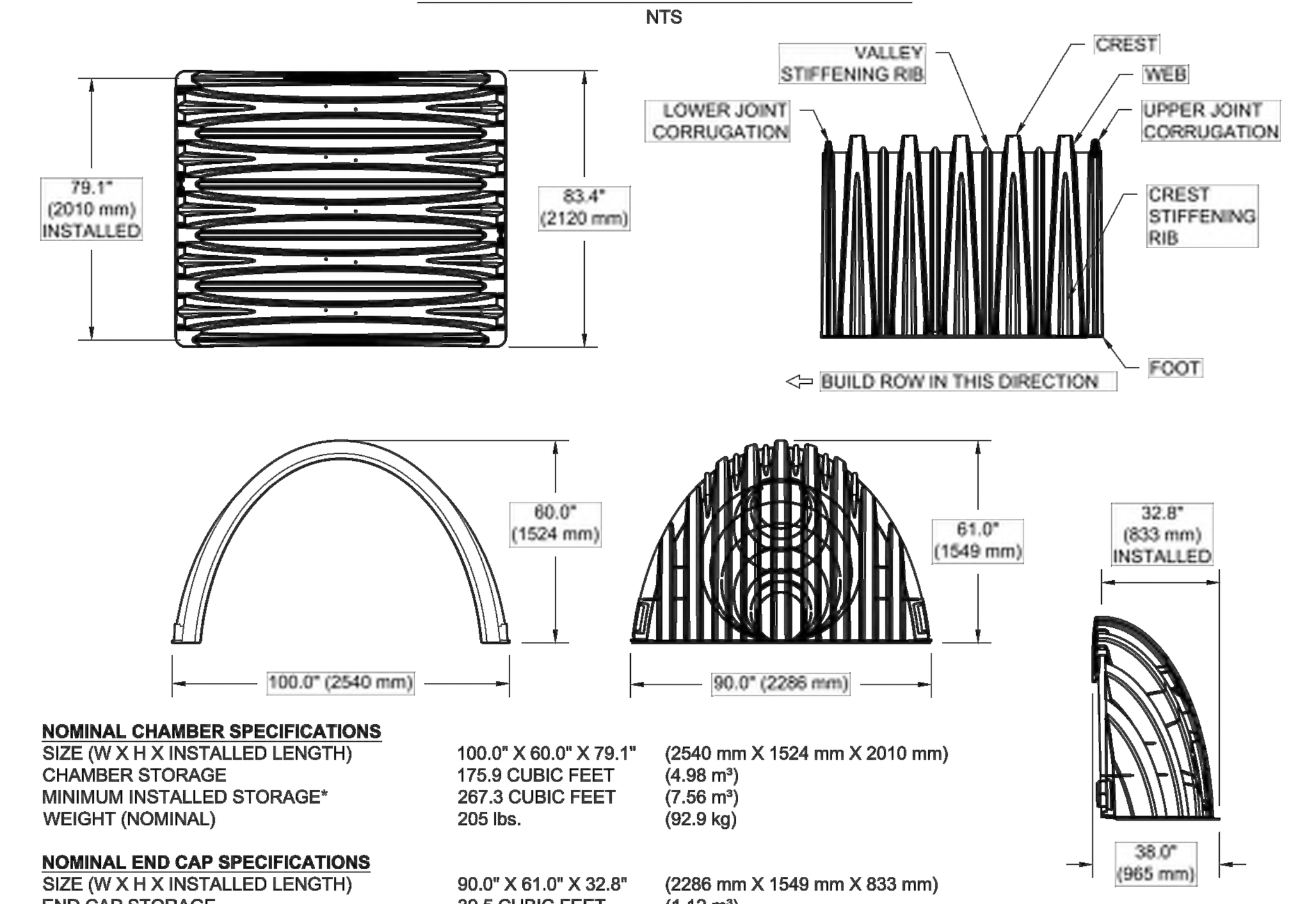
NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

MC-SERIES END CAP INSERTION DETAIL
NTS



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

MC-7200 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 79.1"	(2540 mm X 1524 mm X 2010 mm)
CHAMBER STORAGE	175.9 CUBIC FEET	(4.98 m³)
MINIMUM INSTALLED STORAGE*	267.3 CUBIC FEET	(7.56 m³)
WEIGHT (NOMINAL)	205 lbs.	(92.9 kg)

NOMINAL END CAP SPECIFICATIONS

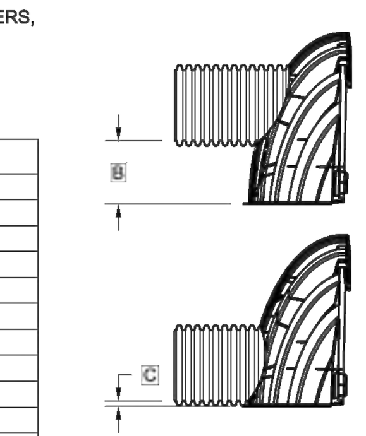
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

*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.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC7200IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC7200IEPP06B		---	0.86" (22 mm)
MC7200IEPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC7200IEPP08B		---	1.01" (26 mm)
MC7200IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC7200IEPP10B		---	1.33" (34 mm)
MC7200IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC7200IEPP12B		---	1.55" (39 mm)
MC7200IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC7200IEPP15B		---	1.70" (43 mm)
MC7200IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC7200IEPP18TW			
MC7200IEPP18B		---	1.97" (50 mm)
MC7200IEPP18BW			
MC7200IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC7200IEPP24TW			
MC7200IEPP24B		---	2.26" (57 mm)
MC7200IEPP24BW			
MC7200IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC7200IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC7200IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PREFABRICATED 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-7200 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.

MOUNT MANSFIELD UNION HIGH SCHOOL
JERICHO, VT
DATE: 01/23/2023 DRAWN: AC
PROJECT #: -- CHECKED: XXX

DATE	DRWN	CHKD	DESCRIPTION

ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026
StormTech® Chamber System
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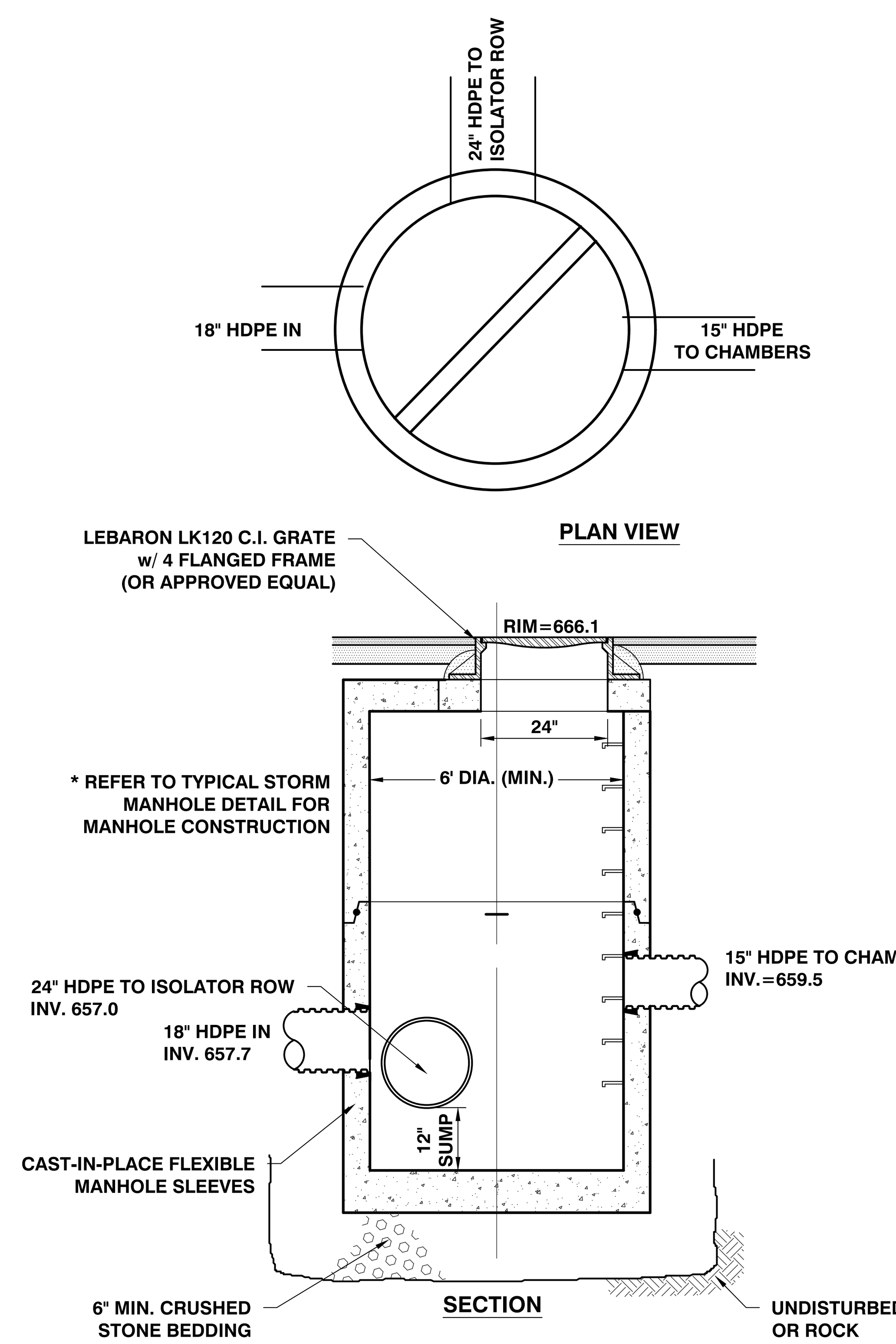
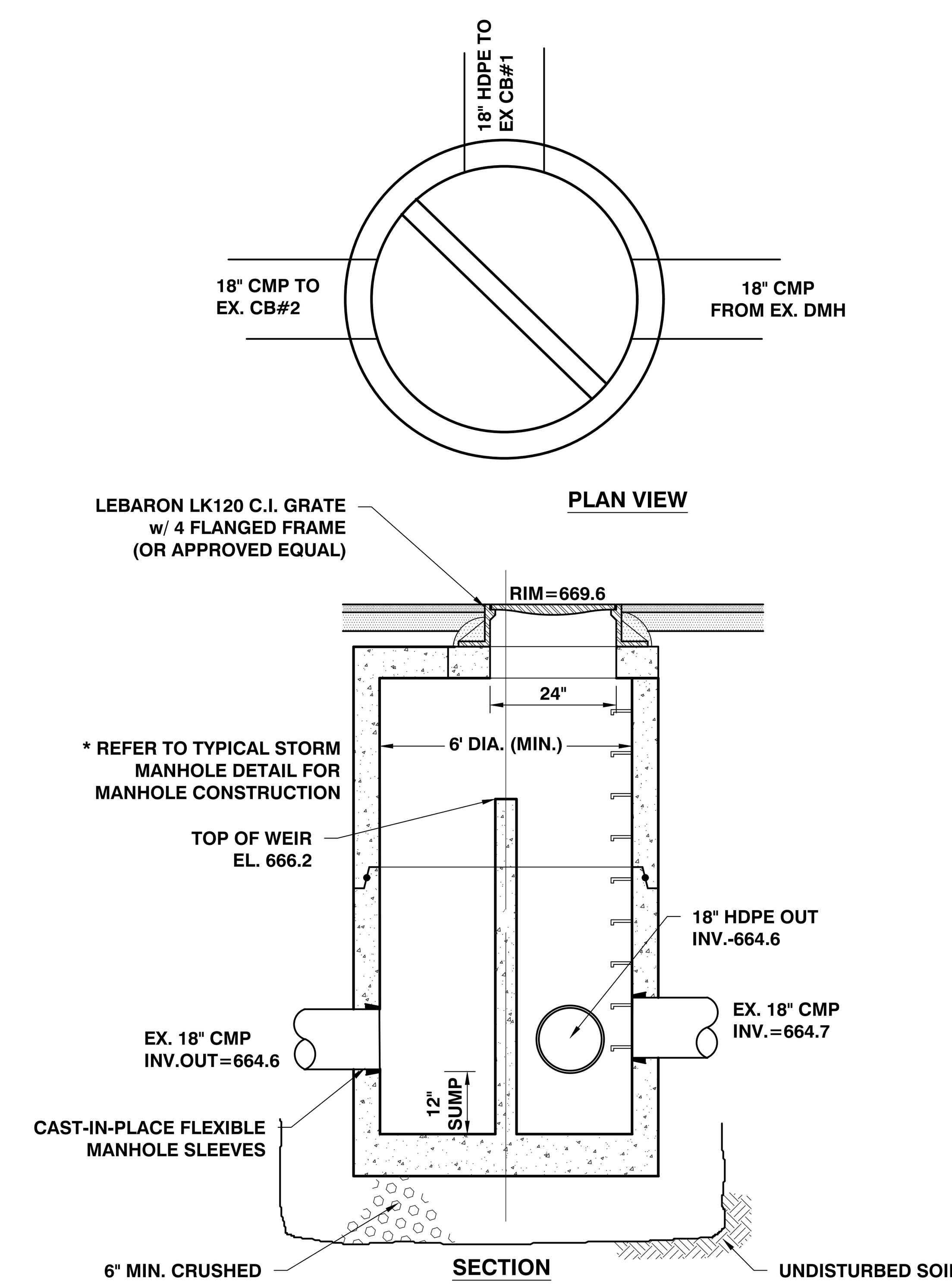
SHEET 5 OF 5



DMH #1 CONTROL STRUCTURE
N.T.S.



DMH #2
N.T.S.

SITE ENGINEER:

CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
P: 802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

STORMWATER CONSULTANT

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208 FLYNN AVE SUITE 2H BURLINGTON, VT 05401
P: 802-497-2367 web: www.watershedca.com

DRAWN MAB
CHECKED DSM
APPROVED DSM

CLIENT:
GREENPRINT PARTNERS
17 N STATE STREET
SUITE 1400
CHICAGO, IL 60602

PROJECT:
MOUNT MANSFIELD UNION HIGH SCHOOL
211 BROWNS TRACE ROAD
JERICHO, VT 05465

DATE	CHECKED	REVISION

STORMWATER DETAILS

DATE 01/11/2023
SCALE AS SHOWN
PROJ. NO. 22241
DRAWING NUMBER C4.2

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PROJECT COORDINATION

PART 1 – GENERAL

1.01 MEETINGS & PROJECT ACCESS

A. The Owner shall be notified five (5) days prior to commencement of Work by the Contractor.

B. The Contractor will coordinate with the Owner to arrange an on–site pre–construction meeting prior to commencement of any work. Job superintendents and subcontractors shall be included in this meeting.

C. The Contractor will coordinate all phases of the Work, so as not to interfere with the normal work procedures in the area.

D. The Contractor shall conduct his work in such a manner as to not interfere with or endanger work or traffic in areas adjacent to the construction area, except as permitted by the Owner. The Contractor shall so arrange his construction operations as to provide access for emergency vehicles and equipment to the work site at all times.

1.02 LABOR

A. The Contractor and subcontractors will employ mechanics skilled in their respective trades.

B. All labor will be performed in a neat and workmanlike manner.

1.03 PROTECTION OF PERSONS AND PROPERTY

A. The Contractor shall be responsible for initiating, maintaining, and supervising all O.S.H.A. safety precautions in connection with the Work.

B. Fire Protection: The Contractor shall take all necessary precautions to prevent fires adjacent to the Work and shall provide adequate facilities for extinguishing fires. The Contractor shall also prevent fires in project related buildings and shall prevent the spread of fires to areas outside the limits of the Work.

C. Safety Precautions: Prior to commencement of Work, the Contractor shall be familiar with all safety regulations and practices applicable with construction operations. No additional payments will be made for equipment and procedures necessitated by these safety precautions.

1.04 CORRECTION OF WORK

A. The Contractor shall promptly correct all Work rejected by the Owner as defective or as failing to conform to the Contract Documents. The Contractor shall bear all cost of correcting such rejected Work.

1.05 WEATHER CONDITIONS

A. No Work shall be done when, in the opinion of the Owner, the weather is unsuitable. No concrete, earth backfill, embankment, or paving shall be placed upon frozen material. If there is delay or interruption in the Work due to weather conditions, the necessary precautions must be taken to bond new Work to old.

B. Protection Against Water and Storm: The Contractor shall take all precautions to prevent damage to the Work by storms or by water entering the site of the Work directly or through the ground. In case of damage by storm or water, the Contractor, at his own expense, shall make repairs or replacements or rebuild such parts of the Work as the Engineer may require in order that the finished work may be completed as required by the Drawings and Specifications.

1.06 DISPOSAL OF DEBRIS

A. All debris and excess materials, other than that which is authorized to be reused, become the property of the Contractor and shall be promptly removed from the property. The Contractor shall receive title to all debris and/or excess material. The Owner will not be responsible for any loss or damage to debris or excess material owned by the Contractor.

1.07 PROJECT LAYOUT

A. The Contractor shall be responsible for providing all necessary survey staking.

1. Locate and protect control points before starting work on the site.

2. Preserve permanent reference points during progress of the Work.

3. Establish a minimum of two permanent benchmarks on the site, referenced to data established by survey control points.

a. Record locations, with horizontal and vertical data, on Project Record Documents.

1.08 TESTING

A. The Contractor is responsible for obtaining testing and inspection services.

SITE CLEARING

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:

1. Remove surface debris.

2. Clear site of plant life and grass.

3. Remove trees and shrubs.

4. Remove root system of trees and shrubs.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.01 PROTECTION

A. Protect utilities that remain from damage.

B. Protect trees, plant growth, and features designated to remain as final landscaping.

C. Protect bench marks and existing structures from damage or displacement.

D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.

E. Maintain access to the site at all times.

3.02 CLEARING

A. Clear areas required for access to site and execution of Work.

B. Remove trees and shrubs within marked areas. Remove stumps, roots and tap roots and other projections 1" or greater in diameter to 2'–0" below the excavated surfaces in cut areas and 2'–0" below the exposed subgrade in fill areas.

3.03 REMOVAL

A. Remove debris, rock, and extracted plant life from site unless otherwise noted on plans.

3.04 UTILITIES

A. Coordinate with utility companies and agencies as required.

SITE EARTHWORK

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:

1. All excavation (unless covered in other sections of these specifications), removal and stockpile of topsoil, stabilization fabric, and other miscellaneous and appurtenant works.

2. Site filling.

3. Roadway structural sections.

1.02 PROTECTION

A. Protect bench marks and existing structures.

B. Protect above or below grade utilities which are to remain.

1.03 SUBMITTALS

A. Testing laboratory reports indicating that material for backfill meets requirements of this Section.

B. Field density test reports of site fill in place.

C. Field density test reports for roadway structural sections in place.

D. Stabilization Fabric: Submit copies of manufacturer's specifications and installation instructions.

PART 2 – PRODUCTS

2.01 STRUCTURAL FILL – CRUSHED GRAVEL (AOT SPEC. 704.05, FINE)

A. All materials shall be secured from approved sources. This gravel shall consist of angular and round fragments of hard durable rock of uniform quality throughout, reasonably free from thin elongated pieces, soft or disintegrated stone, dirt, organic or other objectionable matter. This material shall meet the following grading requirements:

Sieve Designation	Percent by Weight Passing Square Mesh Sieve
2"	100
1 1/2"	90 – 100
No. 4	30 – 60
No. 100	0 – 12
No. 200	0 – 6

At least 50% by mass (weight) of the material coarser than the No. 4 sieve shall have at least one fractured face.

2.02 CRUSHED GRAVEL (AOT SPEC. 704.05, COARSE)

A. All materials shall be secured from approved sources. This gravel shall consist of angular and round fragments of hard durable rock of uniform quality throughout, reasonably free from thin elongated pieces, soft or disintegrated stone, dirt, organic or other objectionable matter. This material shall meet the following grading requirements:

Sieve Designation	Percent by Weight Passing Square Mesh Sieve
4"	95 – 100
No. 4	25 – 50
No. 100	0 – 12
No. 200	0 – 6

At least 50% by mass (weight) of the material coarser than the No. 4 sieve shall have at least one fractured face.

2.03 COMPACTED FILL/GRANULAR BORROW

A. All materials shall be secured from approved sources. This material shall be free of shale, clay, friable material, debris, and organic matter. This material shall meet the following grading requirements:

Sieve Designation	Percent by Weight Passing Square Mesh Sieve
3"	100
¾"	75 – 100
No. 4	20 – 100
No. 100	0 – 20
No. 200	0 – 6

2.04 DRAINAGE COURSE (AOT SPEC. 704.16)

A. All materials shall be secured from approved sources. Rock for drainage applications shall be produced from natural gravels or crushed quarried rock and shall consist of clean, hard, sound, and durable material. This material shall meet the following grading requirements:

Sieve Designation	Percent by Weight Passing Square Mesh Sieve
1"	100
¾"	90 – 100
⅜"	20 – 55
No. 4	0 – 10
No. 8	0 – 10

2.05 DENSE GRADED CRUSHED STONE (AOT SPEC. 704.06)

A. All materials shall be secured from approved sources. Dense Graded Crushed Stone shall consist of clean, hard, uniformly graded, crushed stone. It shall be sufficiently free from dirt, deleterious material, and pieces that are structurally weak. This material shall meet the following grading requirements:

Sieve Designation	Percent Finer by Weight
3½"	100
3"	90 – 100
2"	75 – 100
1"	50 – 80
½"	30 – 60
No. 4	15 – 40
No. 200	0 – 6

Source: This material shall be obtained from crushed quarried rock sources. The area from which this material is obtained shall be stripped and cleaned before blasting.

Not more than 30% by mass (weight) of the material coarser than the No. 4 sieve shall consist of thin and/or elongated pieces.

2.06 RECYCLED ASPHALT PAVEMENT (RAP) 1½" MINUS CRUSHED ASPHALT

A. All materials shall be secured from approved sources. This material shall be free of Portland Cement and approved by the engineer prior to installation. This material shall not be mixed with gravel and shall meet the following grading requirements:

Sieve Designation	Percent by Weight Passing Square Mesh Sieve
2"	100
1½"	90 – 100
No. 4	30 – 60
No. 100	0 – 12
No. 200	0 – 6

2.07 SAND BORROW AND CUSHION (AOT SPEC. 703.03)

A. All materials shall be secured from approved sources. Sand Borrow shall consist of material reasonably free from silt, loam, clay, or organic matter. This material shall meet the following grading requirements:

Sieve Designation	Percent Finer by Weight
2"	100
1½"	90 – 100
½"	70 – 100
No. 4	60 – 100
No. 100	0 – 20
No. 200	0 – 8

2.08 GEOTEXTILE

A. Subsurface Drainage Geotextile: Nonwoven needle–punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

1. Survivability: Class 3; AASHTO M 288.
2. Grab Tensile Strength: 120 lbf; ASTM D 4632.
3. Tear Strength: 50 lbf; ASTM D 4533.
4. Apparent Opening Size: No. 70 sieve, maximum; ASTM D 4751.
5. Permittivity: 1.7 per second, minimum; ASTM D 4491.
6. UV Stability: 70 percent after 500 hours' exposure; ASTM D 4355.

B. Separation Geotextile: Woven geotextile fabric, manufactured for separation applications, made from polyolefins or polyesters; with elongation less than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

1. Survivability: Class 3; AASHTO M 288.
2. Grab Tensile Strength: 200 lbf; ASTM D 4632.
3. Sewn Seam Strength: 222 lbf; ASTM D 4632.
4. Tear Strength: 75 lbf; ASTM D 4533.
5. Puncture Strength: 90 lbf; ASTM D 4833.
6. Apparent Opening Size: No. 40 sieve, maximum; ASTM D 4751.
7. Permittivity: 0.02 per second, minimum; ASTM D 4491.
8. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.
9. Weight: 4.0 oz/yd² minimum.

PART 3 – EXECUTION

3.01 PREPARATION

A. Identify required lines, levels, contours, and datum.

B. Identify known below grade utilities. Stake and flag locations.

C. Maintain and protect existing utilities remaining which pass through work area.

D. Upon discovery of unknown utility or concealed conditions, discontinue affected work; notify Engineer.

3.02 EROSION CONTROL

A. Erosion control must be installed prior to beginning any earthwork operations.

3.03 TOPSOIL EXCAVATION

A. Excavate topsoil from areas to be excavated, re–landscaped or regraded and stockpile in areas designated on site or as directed by the Engineer.

B. Maintain the stockpile in a manner which will not obstruct the natural flow of drainage.

1. Maintain stockpile free from debris and trash.

2. Keep the topsoil damp to prevent dust and drying out.

3.04 SUBSOIL EXCAVATION

A. Excavate subsoil from areas to be regraded in accordance with plans.

B. Excavate subsoil required to accommodate site structures, construction operations, roads, and parking areas.

C. Grade top perimeter of excavation to prevent surface water from draining into excavation.

D. Notify engineer of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.

E. Correct areas over–excavated by error as directed by the Engineer.

3.05 DITCHES

A. Cut accurately to the cross–sections, grades, and elevations shown.

B. Maintain excavations free from detrimental quantities of leaves, sticks, trash, and other debris until completion of the work.

C. Dispose of excavated materials as shown on the drawings or directed by the Engineer; except do not, in any case, deposit materials less than three feet from the edge of a ditch.

3.06 ROADWAY EMBANKMENTS AND BERMS

A. When embankments are to be made on a hillside, the slope of the original ground on which the embankments are to be constructed shall be stepped and properly drained as the fill is constructed so that adverse movements of the slopes do not occur.

B. Any excavated rock, ledge, boulders, and stone, except where required in the construction of other items or otherwise directed, shall be used in the construction of embankments to the extent of the project requirements and generally shall be placed so as to form the base of an embankment.

C. Frozen material shall not be used in the construction of embankments, nor shall the embankments or successive layers of the embankments be placed upon frozen material. Placement of material other than rock shall stop when the sustained air temperature, below 32 degrees Fahrenheit, prohibits the obtaining of the required compaction. If the material is otherwise acceptable, it shall be stockpiled and reserved for future use when its condition is acceptable for use in embankments.

D. When an embankment is to be constructed across a swamp, muck, or areas of unstable soils, the unsuitable material shall be excavated to reach soils of adequate bearing capacity and the embankment begun. Alternative methods, such as use of a stabilization fabric in place of excavation and backfill, may be utilized only after approval of same by the Engineer.

E. Material being placed in embankments shall be placed in horizontal layers of uniform thickness across the full width of the embankment. Stumps, trees, rubbish, and other unsuitable material shall not be placed in embankments.

F. Embankment areas shall be placed in eight–inch maximum lifts. Effective spreading equipment shall be used on each layer to obtain uniform thickness prior to compaction. Each layer shall be kept crowned to shed water to the outside edge of embankment and continuous leveling and manipulating will be required to assure uniform density. The entire area of each layer shall be uniformly compacted to at least the required minimum density by use of compaction equipment consisting of rollers, compactors, or a combination thereof. Earth–moving and other equipment not specifically manufactured for compaction purposes will not be considered as compaction equipment.

G. All fill material shall be compacted at a moisture content suitable for obtaining the required density. In no case shall the moisture content in each layer under construction be more than three percent above the optimum moisture content and shall be less than that quantity that will cause the embankment to become unstable during compaction. Sponginess, shoving, or other displacement under heavy equipment shall be considered evidence for an engineering determination of lack of stability under this requirement, and further placement of material in the area affected shall be stopped or retarded to allow the material to stabilize.

H. When the moisture content of the material in the layer under construction is less than the amount necessary to obtain satisfactory compaction by mechanical compaction methods, water shall be added by pressure distributors or other approved equipment. Water may also be added in excavation or borrow pits. The water shall be uniformly and thoroughly incorporated into the soil by disc, harrowing, blading, or by other approved methods. This manipulation may be omitted for sands and gravel. When the moisture content of the material is in excess of three percent above optimum moisture content, dry material shall be thoroughly incorporated into the wet material, or the wet material shall be aerated by disking, harrowing, blading, rotary mixing, or by other approved methods; or compaction of the layer of wet material shall be deferred until the layer has dried to the required moisture content by evaporation.

3.07 COMPACTION REQUIREMENTS

A. All backfills and fills shall be compacted in even lifts (8" maximum) to attain the required densities as follows:

Location	Modified Proctor ASTM D–1557
Subgrade and Gravel for Roads and Parking Lots	95%
General Embankments	90%

UTILITY TRENCHING AND BACKFILLING

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:

1. Trench, backfill, and compact as specified herein and as needed for installation of underground utilities.

1.02 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

B. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.

C. Comply with all requirements of governmental agencies having jurisdiction.

PART 2 – PRODUCTS

2.01 SOIL MATERIALS

A. Fill and backfill materials:

1. Provide backfill materials free from organic matter and deleterious substances, containing no rocks or lumps over 6" in greatest dimension.

2. Fill material is subject to the approval of the Engineer, and is that material removed from excavations or imported from off–site borrow areas, predominantly granular, non–expansive soil free from roots and other deleterious matter.

3. Do not permit rocks having a dimension greater than 2" within 2' of the outside of pipe.

4. Cohesionless material used for backfill: Provide sand free from organic material and other foreign matter, and as approved by the Engineer.

PART 3 – EXECUTION

3.01 PROCEDURES

A. Existing Utilities:

1. Unless shown to be removed, protect active utility lines shown on the drawings or otherwise made known to the Contractor prior to trenching. If damaged, repair or replace at no additional cost to the Owner.

2. When existing underground utilities, which are not scheduled for removal or abandonment, are encountered in the excavation, they shall be adequately supported and protected from damage. Any damage to utilities shall be repaired promptly at no additional cost to the Owner.

3. If the service is interrupted as a result of work under this section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.

4. If existing utilities are found to interfere with the permanent facilities being constructed under this section, immediately notify the Engineer and secure his instructions.

5. Do not proceed with permanent relocation of utilities until written instructions are received from the Engineer.

B. Protection of persons and property:

1. Barricade open holes and depressions occurring as part of the work, and post warning lights on property adjacent to or with public access.

2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.

3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this section.

C. Dewatering: The Contractor, at all times, shall conduct his operations so as to prevent the accumulation of water, ice, and snow in excavations or in the vicinity of excavated areas, and to prevent water from interfering with the progress of quality of the work. Under no conditions shall water be allowed to rise in open trenches after pipe has been placed.

D. Accumulated water, ice, and snow shall be promptly removed and disposed of by pumping or other approved means. Disposal shall be carried out in a manner which will not create a hazard to public health, nor cause injury to public or private property, work completed or in progress, or public streets, nor cause any interference in the use of streets and road by the public. Pipes under construction shall not be used for drainage of excavations.

E. Maintain access to adjacent areas at all time.

3.02 TRENCHING

A. Care shall be exercised by the Contractor to avoid disrupting the operation of existing facilities without prior written approval of the Engineer.

B. Provide sheeting and shoring necessary for protection of the work and for the safety of personnel.

SITE ENGINEER:

CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
P: 802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

STORMWATER CONSULTANT

WATERSHED CONSULTING
208 FLYNN AVE SUITE 2H BURLINGTON, VT 05401
P: 802-497-2367 web: www.watershedca.com

DRAWN MAB
CHECKED DSM
APPROVED DSM

CLIENT:

GREENPRINT PARTNERS

17 N STATE STREET
SUITE 1400
CHICAGO, IL 60602

PROJECT:

MOUNT MANSFIELD UNION HIGH SCHOOL

211 BROWNS TRACE ROAD
JERICHO, VT 05465

DATE	CHECKED	REVISION

SPECIFICATIONS

DATE 01/11/2023
SCALE NTS
PROJ. NO. 22241

DRAWING NUMBER C5.0

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1. Sheeting and bracing required for trenches shall be removed to the elevation of the pipe, but no sheeting will be allowed to be pulled, removed, or disturbed below the pipe.

C. A trench shall be excavated to the required depth and to a width sufficient to allow for joining of the pipe and compaction of the bedding and backfill material under and around the pipe. Where feasible, trench walls shall be vertical.

D. The completed trench bottom shall be firm for its full length and width.

E. If indicated on the plans or directed by the Engineer, poor foundation material encountered below the normal grade of the pipe bed shall be removed and replaced with granular backfill.

F. Where pipes are to be placed in embankment fill, the excavation shall be made after the embankment has been completed to a height of 3 feet plus the diameter of the pipe above the designed grade of the pipe.

G. Excavating for appurtenances:

1. Excavate for manholes and similar structures to a distance sufficient to leave at least 12" clear between outer surfaces and the embankment or shoring that may be used to hold and protect the banks.

2. Over–depth excavation beyond such appurtenances that has not been directed will be considered unauthorized. Fill with sand, gravel, or lean concrete as directed by the Engineer, and at no additional cost to the Owner.

H. Excavation shall not interfere with normal 45° bearing splay of foundations.

I. All trenching shall be in accordance with the latest OSHA requirements.

J. Where utility runs traverse public property or are subject to governmental or utility company jurisdiction, provide depth, bedding, cover, and other requirements as set forth by legally constituted authority having jurisdiction, but in no case less than the depth shown in the Contract Documents.

K. Where trenching occurs in existing lawns, remove turf in sections and keep damp. Replace turf upon completion of the backfilling.

3.03 BEDDING

A. Pipe Bedding Area: Prior to laying pipe, bedding material shall be placed to the limits of the excavation and to a depth beneath the pipe as specified. This material shall be either sand, gravel, or crushed stone and shall not contain large lumps and stones over one inch in diameter. As the pipe is laid, bedding material shall be extended to 6" above the pipe and leveled along the width of the trench.

3.04 BACKFILLING

A. Backfilling shall not be done in freezing weather, with frozen materials, or when materials already placed are frozen.

B. Unless otherwise specified or indicated on the plans, material used for backfilling trenches above the bedding area shall be suitable material which was removed during excavation or obtained from borrow and when compacted shall make a dense stable fill. The material shall not contain vegetation, porous matter, masses of roots, individual roots more than 18 inches long or ½ inch thick, or stones greater than 50 pounds or larger than six inches in the widest dimension.

C. If additional material is required, it shall be furnished from approved sources.

D. Backfill material shall be evenly spread and compacted in lifts not more than 8 inches thick or as approved by the Engineer. Previously placed or new materials shall be moistened by sprinkling, if required, to ensure proper bond and compaction.

E. Reopen trenches which have been improperly backfilled, to a depth as required for proper compaction. Refill and compact as specified, or otherwise correct to the approval of the Engineer.

F. Should any of the work be so enclosed or covered up before it has been approved, uncover all such work and, after approvals have been made, refill and compact as specified, all at no additional cost to the Owner.

G. Take special care in backfilling and bedding operations to not damage pipe and pipe coatings.

H. No compacting shall be done when the material is too wet to be compacted properly. At such times the work shall be suspended until the previously placed and new materials have dried out sufficiently to permit proper compaction, or such other precautions are taken as may be necessary to obtain proper compaction.

I. Backfill material shall be compacted to the following percentages of maximum dry density and the in–place moisture content shall not be more than 2% above the optimum moisture content, as determined by Modified Proctor ASTM D1557.

1. Around all structures, under roadway paving, shoulder and embankments – 95%.

2. All other areas – 90%.

ROCK AND BOULDER EXCAVATION

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Work included: Furnish all labor and equipment required for excavation, disposal and replacement of rock and boulders.

a. All boulders within the range boundaries shown on the site plans to be removed shall be included as part of the Contractors mass rock removal.

1.2 SUBMITTALS

A. Blasting Plan: For record purposes; approved by authorities having jurisdiction.

B. Seismic Survey Report: For record purposes; from seismic survey agency.

C. Preexcavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by earthwork operations. Submit before earthwork begins.

1.3 QUALITY ASSURANCE

A. Blasting: Comply with applicable requirements in NFPA 495, "Explosive Materials Code," and prepare a blasting plan reporting the following:

1. Types of explosive and sizes of charge to be used in each area of rock removal, types of blasting mats, sequence of blasting operations, and procedures that will prevent damage to site improvements and structures on Project site and adjacent properties.

2. Seismographic monitoring during blasting operations.

3. Explosive Firm: The company specializing in explosives for disintegration of rock with a minimum of five (5) years documented experience.

B. Seismic Survey Agency: An independent testing agency, acceptable to authorities having jurisdiction, experienced in seismic surveys and blasting procedures to perform the following services:

1. Report types of explosive and sizes of charge to be used in each area of rock removal, types of blasting mats, sequence of blasting operations, and procedures that will prevent damage to site improvements and structures on Project site and adjacent properties.

2. Seismographic monitoring during blasting operations.

3. Seismic Survey Firm: The company specializing in seismic surveys with a minimum of five (5) years documented experience.

1.4 SCHEDULING

A. Drilling operations shall be conducted Monday through Friday, from 7:00 A.M. to 4:00 P.M.

B. Blasting operations shall be conducted Monday through Friday, from 8:00 A.M. to 4:00 P.M.

C. Notification: Notify adjacent property owners and residents (within 1,500') a minimum of seven (7) days in advance of all anticipated blasting operations. Explain blasting and seismic operation and schedule.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION

3.1 EXAMINATION

A. Pre–Blast Survey and Site Examination:

1. Conduct a pre–blast survey on all adjacent buildings and individual water systems within a distance of 1,500 feet. The survey shall include pictures and notes of all signs of distress in the buildings and verification of quality and quantity of water in all individual water systems.

2. Verify site conditions and note all subsurface irregularities, which may affect any work requiring blasting.

3. Identify required lines, levels, contours and datum.

4. Obtain a seismic survey prior to rock excavation to determine maximum charges that can be used without damaging adjacent properties, other work or existing utilities.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, and other hazards created by blasting operations.

B. When ledge rock or boulders are encountered, the material shall be uncovered and the Contractor shall take cross–sections of the ledge rock surface. If the Contractor uncovers ledge but fails to cross section the undisturbed material, the Contractor shall have no right–of–claim to any classification other than that allowed by the Owner.

3.3 EXPLOSIVES

A. Explosives: Obtain written permission and all necessary permits from authorities having jurisdiction (local, state and federal) before bringing explosives to Project site or using explosives on Project site.

1. Perform blasting without damaging adjacent structures, property, or site improvements.

2. Perform blasting without weakening the bearing capacity of rock subgrade and with the least–practicable disturbance to rock to remain.

3.4 EXCAVATION, GENERAL

A. Rock excavation includes removal and disposal of rock. Remove rock to lines and subgrade elevations indicated to permit installation of permanent construction.

3.5 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavations under construction.

1. If rock below grade is shattered by blasting caused by holes drilled too deep, or too heavy charges of explosives, or any other circumstance due to blasting, and if such shattered rock does not provide suitable foundation, the rock shall be removed and the excavation refilled with screened gravel at the expense of the Contractor.

DRAINAGE

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:

1. Culvert pipe and appurtenances.

2. Stone fill.

3. Drainage Structures

1.02 REFERENCES

A. Vermont Agency of Transportation Standard Specifications, Latest Edition.

1.03 SUBMITTALS

A. Manufacturer's technical data for:

1. Pipe and appurtenances.

2. Structures.

PART 2 – PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Furnish ells, tees, reducing tees, wyes, couplings, increasers, crosses, transitions and end caps of the same type and class of material as the conduit, or of material having equal or superior physical and chemical properties as acceptable to the Engineer.

B. All culverts and storm drains shall meet the requirements of Section 601 of the Standard Specifications.

2.02 DRAINAGE PIPE & PERFORATED PIPE

A. Culvert / Drainage Pipe

1. Corrugated Polypropylene pipe and fittings (smooth interior) meeting the requirements of ASTM F2881, Section 5 and AASHTO M330, Section 6.1.

2. for drainage piping installed by directional boring techniques, use PE 3408 high density polyethylene pipe meeting ASTM D3350 Standard (SDR 11 or better)

2.03 CONCRETE STRUCTURES

A. ASTM C478, sized as indicated.

2.04 METAL ACCESSORIES

A. Manhole frames and covers:

1. Grey cast iron, ASTM A48, as shown on plans.

2.05 STONE FILL

A. Stone for stone fill shall be approved, hard, blasted angular rock other than serpentine rock containing the fibrous variety chrysotile (asbestos). The least dimension of the stone shall be greater than 1/3 of the longest dimension. The stone fill shall be reasonably well graded from the smallest to the maximum size stone specified so as to form a compact mass when in place.

1. Type I – The longest dimension of the stone shall vary from 1 inch to 12 inches, and at least 50 percent of the volume of the stone in place shall have a dimension of 4 inches.

2. Type II – The longest dimension of the stone shall vary from 2 inches to 36 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 12 inches.

3. Type III – The longest dimension of the stone shall vary from 3 inches to 48 inches and at least 50 percent of the volume of the stone in place shall have a least dimension of 16 inches.

4. Type IV – The longest dimension of the stone shall vary from 3 inches to 60 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 20 inches.

PART 3 – EXECUTION

3.01 INSPECTION

A. Examine the areas and conditions under which storm sewer system work is to be installed and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 GENERAL

A. When existing underground utilities, which are not scheduled for removal or abandonment, are encountered in the excavation, they shall be adequately supported and protected from damage. Any damage to utilities shall be repaired promptly at no additional cost to the Owner.

3.03 PREPARATION

A. Hand trim excavation (where necessary) to required elevations. Correct over–excavations with fill material.

B. The slopes shall be graded to match the grade as shown on the plans. Where required, end sections shall be placed and backfilled to prevent undermining.

C. Remove large stones or other hard matter which could damage drainage structures or impede consistent backfilling or compaction.

3.04 INSTALLATION OF PIPE

A. All pipe and fittings shall be carefully examined for defects and no pipe or fittings shall be laid which are known to be defective. If any defective piece is discovered after laying, it shall be removed and replaced at the Contractor's expense. All pipes and fittings shall be cleaned before they are laid and shall be kept clean until accepted in the completed work.

B. The pipe shall be laid to conform to the lines and grades indicated on the drawings or given by the Engineer. Each pipe shall be laid as to form a close joint with the next adjoining pipe and to bring the inverts continuously to the required grade.

C. Unless otherwise permitted by the Engineer, the Contractor shall provide for the temporary diversion of water to permit the installation of the pipe in a reasonably dry trench.

D. Where the pipe is to be laid below the existing ground line, a trench shall be excavated to the required depth and to a width sufficient to allow for joining of the pipe and compaction of the bedding and backfill material under and around the pipe.

E. The completed trench bottom shall be firm for its full length and width.

F. If indicated on the plans or directed by the Engineer, unsuitable foundation material encountered below the normal grade of the pipe bed shall be removed and replaced with Granular Backfill, or other specified or approved material.

G. The Contractor shall take all necessary precautions to prevent floatation of the pipe in the trench.

H. When pipe laying is not in progress, the open ends of the pipe shall be closed with temporary watertight plugs. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe is eliminated.

3.05 MANHOLES

A. Precast concrete structures:

1. Place precast concrete structures and covers as shown on the Drawings.

2. Where manholes occur in pavement, set tops of frames and covers flush with finish surface.

3. Provide rubber joint gasket complying with ASTM C443.

LANDSCAPE GRADING

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:

1. Finish grading; bring rough grade in areas to design elevations as shown on the drawings.

2. Topsoil: Work shall consist of furnishing, placing and shaping topsoil, or placing, spreading, and shaping topsoil form stockpiles or stripped areas.

PART 2 – PRODUCTS

2.01 TOPSOIL

A. Topsoil shall be loose, friable, reasonably free of admixtures of subsoil, free from refuses, stumps, roots, brush, weeds, rocks, and stones 1 1/4 inch in overall dimensions. The topsoil shall also be free from any material that will prevent the formation of a suitable seedbed or prevent seed germination and plant growth. It shall contain not less than three (3) nor more than twenty (20) percent organic matter. Any material which has become mixed with undue amounts of subsoil during any operation at the source or during placing or spreading will be rejected and shall be replaced by the Contractor with acceptable material.

PART 3 – EXECUTION

3.01 SUBGRADE PREPARATION

A. Clean subgrade of all stumps, stones, roots, trash or other materials which might hinder proper tillage or spreading.

B. All surfaces on which topsoil is to be placed shall be graded to a reasonably true surface and scarified by raking, discing or other approved means to a minimum depth of two inches before placing topsoil.

3.02 PLACING TOPSOIL

A. Minimum final depth of topsoil shall be 4 inches.

B. Place topsoil when seeding operations can closely follow spreading operations. Use topsoil in relatively dry state.

C. Topsoil shall be spread and shaped to the lines and grades shown on the plans, or as directed by the Engineer. The depth stated in the contract to which the topsoil is to be placed is that required after final rolling of the material has taken place. All stones, roots and debris over 1¼ inch in diameter along with any sodding weeds and other undesirable material shall be removed.

D. After shaping and grading, all trucks and other equipment shall be excluded from the topsoiled area to prevent excessive compaction. The Contractor shall perform such work as required to provide a friable surface for seed germination and plant growth prior to seeding.

E. It shall be the Contractor's responsibility to restore to the line, grade and surface all eroded areas with approved material and to keep topsoiled areas in acceptable condition until the completion of the work.

SEEDING

PART 1 – GENERAL

1.1 Section Includes:

A. Seeding.

1. Furnish all labor, materials and equipment to complete all seeding work as shown on the drawings and specified herein.

2. Except where otherwise shown or specified, the Contractor shall seed all areas where new contours are shown on the drawings and all areas where existing ground cover has been disturbed by the Contractor's operations.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

1.3 PROJECT CONDITIONS

A. Planting Restrictions: Seeding and initial fertilizing shall be done between May 1st and September 15th unless otherwise authorized. Seeding shall not be done during windy weather or when the ground is frozen, excessively wet, or otherwise untillable. If seeding is done during July or August, additional mulch material may be required. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of Substantial Completion.

PART 2 – PRODUCTS

2.1 SEED

A. Conservation Seed Mix:

Kind of Seed	Minimum Purity	Minimum Germination	Lbs/Acre
Creeping Red Fescue	98%	85%	22.5
Tall Fescue	95%	95%	22.5
Red Top	95%	90%	3
Birdsfoot Trefoil	98%	85%	9
Annual Ryegrass	95%	85%	3
		TOTAL =	60

2.2 INORGANIC SOIL AMENDMENTS

A. Lime: ASTM C 602, agricultural limestone containing a minimum of 85 percent calcium carbonate equivalent and as follows:

1. Class: T, with a minimum of 99 percent passing through No. 8 sieve and a minimum of 75 percent passing through No. 60 sieve.

2.3 FERTILIZER

A. Commercial Fertilizer: Commercial–grade complete fertilizer of neutral character, consisting of fast– and slow–release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium.

B. Slow–Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water–insoluble nitrogen, phosphorus, and potassium.

2.4 MULCHES

A. Mulch: Provide air–dry, clean, mildew– and seed–free, hay or threshed straw of wheat, rye, oats, or barley.

B. Compost Mulch: Well–composted, stable, and weed–free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1–inch sieve; soluble salt content of 2 to 5 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1. Organic Matter Content: 50 to 60 percent of dry weight.

PART 3 – EXECUTION .

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.

2. Protect grade stakes set by others until directed to remove them.

B. Provide erosion–control measures to prevent erosion or displacement of soils and discharge of soil–bearing water runoff or airborne dust to adjacent properties and walkways.

C. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 inches. Remove stones larger than 2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter.

1. Apply fertilizer directly to subgrade before loosening.
   a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
   b. Mix lime with dry soil before mixing fertilizer.

D. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.

E. Moisten prepared areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

F. Before planting, restore areas if eroded or otherwise disturbed after finish grading.

3.2 APPLICATION RATES

A. When a soil test is not available, the following minimum amounts should be applied:

1. Agricultural limestone: 2 tons/acre.

2. Nitrogen (N): 50 lbs./acre.

3. Phosphate: 100 lbs./acre.

4. Potash: 100 lbs./acre.

   a. This is the equivalent of 500 lbs./acre of 10–20–20 fertilizer or 1,000 lbs./acre of 5–10–10.

5. Hay mulch: 2 tons/acre.

3.3 SEEDING

SITE ENGINEER:
CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
P: 802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

STORMWATER CONSULTANT
WATERSHED CONSULTING
208 FLYNN AVE SUITE 2H BURLINGTON, VT 05401
P: 802-497-2367 web: www.watershedca.com

DRAWN MAB
CHECKED DSM
APPROVED DSM

CLIENT:
GREENPRINT PARTNERS
17 N STATE STREET
SUITE 1400
CHICAGO, IL 60602

PROJECT:
MOUNT MANSFIELD UNION HIGH SCHOOL
211 BROWNS TRACE ROAD
JERICHO, VT 05465

DATE	CHECKED	REVISION

SPECIFICATIONS

DATE 01/11/2023
SCALE NTS
PROJ. NO. 22241

DRAWING NUMBER C5.1

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A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.

1. Do not use wet seed or seed that is moldy or otherwise damaged.

2. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.

B. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.

C. Protect seeded areas with slopes exceeding 1:3 with erosion-control blankets installed and stapled according to manufacturer's written instructions.

D. Protect seeded areas from hot, dry weather or drying winds by applying mulch within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a depth of 3/16 inch, and roll surface smooth.

3.4 HYDROSEEDING

A. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.

1. Mix slurry with fiber-mulch manufacturer's recommended tackifier.

2. Apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry at a rate so that mulch component is deposited at not less than 1500-lb/acre dry weight, and seed component is deposited at not less than the specified seed-sowing rate.

3.5 MAINTENANCE

A. Maintain and establish seeding by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn. Provide materials and installation the same as those used in the original installation.

1. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.

2. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:

a. Seeded Areas: 90 days from date of Substantial Completion.

b. When initial maintenance period has not elapsed before end of planting season, or if seeding is not fully established, continue maintenance during next planting season.

3.6 SATISFACTORY CONDITIONS

A. Installations shall meet the following criteria as determined by Engineer/Owner:

1. Satisfactory Seeded Area: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.

B. Use specified materials to reestablish area that do not comply with requirements and continue maintenance until areas are satisfactory.

3.7 CLEANUP AND PROTECTION

A. Promptly remove soil and debris, created by work. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after lawn is established.

C. Remove nondegradable erosion-control measures after grass establishment period.

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STORMWATER CONSULTANT
WATERSHED CONSULTING
208 FLYNN AVE SUITE 2H BURLINGTON, VT 05401
P: 802-497-2367 web: www.watershedca.com

DRAWN: MAB
CHECKED: DSM
APPROVED: DSM

CLIENT:
GREENPRINT PARTNERS
17 N STATE STREET
SUITE 1400
CHICAGO, IL 60602

PROJECT:
MOUNT MANSFIELD UNION HIGH SCHOOL
211 BROWNS TRACE ROAD
JERICHO, VT 05465

DATE	CHECKED	REVISION

SPECIFICATIONS

DATE: 01/11/2023
SCALE: NTS
PROJ. NO.: 22241

DRAWING NUMBER: C5.2

LEGEND

- APPROXIMATE PROPERTY LINE
- APPROXIMATE SETBACK LINE
- 100 EXISTING CONTOUR
- EXISTING CURB
- EXISTING GRAVEL
- EXISTING PAVEMENT
- OE EXISTING OVERHEAD ELECTRIC
- ST EXISTING STORM
- S EXISTING GRAVITY SEWER
- W EXISTING WATER
- EXISTING SWALE
- STREAM
- EXISTING SEWER MANHOLE
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING HYDRANT
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING SIGN
- EDGE OF BRUSH/WOODS
- ST PROPOSED STORM
- PROPOSED STORM MANHOLE
- PROPOSED CATCH BASIN

STORMWATER NOTE:

STORM STRUCTURE INVERTS ARE BASE ON INFORMATION PROVIDED BY WATERSHED CONSULTING AND A PLAN ENTITLED " MT. MANSFIELD UNION HIGH SCHOOL JERICHO VERMONT" PREPARED BY LAMOUREUX, STONE AND O;LEARY CONSULTING ENGINEERS WW PERMIT NO. WW-4-0959
ALL INVERTS TO BE FIELD VERIFIED PRIOR TO ORDERING STORMWATER STRUCTURES

Grass-Lined Swale Inspection
Frequency: Inspect once annually
Notes: Inspect for erosion and sediment accumulation. Reshape and reseed when bare spots or signs of erosion are observed. Mow grass no shorter than 3-5" and rake leaves.

StormTech MC-7200 Chambers Inspection
Frequency: At a minimum, the system (including Isolator Row) should be inspected quarterly for the first year of operation. For subsequent years, annual inspections are recommended. Inspections can be adjusted based upon previous observation of sediment deposition.
Notes:
-Inspect via manhole (New DMH #1) for sediment accumulation. When the average depth of sediment exceeds 3 inches throughout the length of the isolator row, clean-out should be performed via JetVac.
-Surface is free from animal burrows.
-Remove leaves, trash, and debris from the system.
-No standing water above invert of the chamber system observed beyond 24 hours after storm event.
-Inlet/Outlet are free from erosion; no evidence of concentrated flow or bypass.
-Reference the StormTech Isolator Row O&M Manual for details.

Catch Basin Inspection (ALL CBs SITE-WIDE)
Frequency: Semi-annually for the first year, then on a 2-3 year schedule or as needed.
Notes: Inspect for sediment accumulation. Clean sumps with a Vactor truck when sediment reaches 50% sump depth.

BROWNS TRACE ROAD
PAVED DRIVE / PARKING
PAVED DRIVE
PAVED DRIVE BUS PARKING
SIDEWALK
MOUNT MANSFIELD UNION HIGH SCHOOL
EX. DMH
EX. DMH REPLACE COVER WITH GRATE RIM
EX. CB
EX. 12" PVC
12" PVC INV.=683.3
EX. 15" PE
15" PE INV.=677.3
PROPOSED SWALE
APPROXIMATE LIMITS OF DISTURBANCE FOR STORMCHAMBER INSTALL
NEW DMH#1 RIM=666.1 INV.IN=657.7 (18" SW) INV. OUT=657.0 (24" W ISOLATION ROW) INV.OUT=659.5 (15" N)
MC7200 SUBSURFACE STORM CHAMBERS
ISOLATOR ROW
INSPECTION PORT
NEW CB#1 INTERSECT EX. STORM LINE CONFIRM INVERT PRIOR TO ORDER RIM=665.6 INV.IN=661.6 (18" E) INV.OUT=660.0 (18" NE)
NEW 18" HDPE S=0.005
NEW 18" HDPE ST
SAW CUT PAVEMENT AND REPLACE EX. 12" PVC WITH NEW 18" HDPE SEE DETAIL C4.0 REPLACEMENT OF EXISTING PAVEMENT
EX. CB#1 RIM=666.8± INV.OUT=661.8± NEW INV. IN.=661.9 (18" E) NEW INV. OUT= 661.8 (18"W) CORE INTO EX. CB
EDGE OF PAVEMENT
CURTAIN DRAIN W/ 6" PERF. PVC.
EX. 18" CMP
NEW DMH#2 INTERSECT EX. STORM LINE CONFIRM INVERT ELEV. PRIOR TO ORDER RIM=669.6± INV.IN=664.7 (18" CMP NE) INV.IN= 665.5 (6" PERF. E & W) INV.OUT=664.6 (18" W) T.O.WEIR = 666.2 INV.OUT=664.6 (EX. 18" SW) INTERCEPT EX. 18" CMP
EX. CB#2 RIM=666.7± INV.IN=660.5± INV.OUT=660.5±
EX. 18" CMP S=0.05
EX. 12" PVC
CURTAIN DRAIN W/ 6" PERF. PVC.
EX. CB#3 RIM=665.4± INV.OUT=660.9±
EX. CB#4 RIM=665,3± INV.OUT=661.2±
18" INV. OUT=642.4±
EX. SEPTIC TANK
EX. DMH RIM=683.3 INV.IN=675.5 (12" N) INV.OUT=675.4 (18" SW)
NEW DMH#3 RIM=MATCH EX. PAVEMENT ELEV. INV. IN (EX. ASSUMED) CONTRACTOR TO FIELD VERITY EX. STORM INVERT PRIOR TO ORDERING STRUCTURE
EX. DMH#3
EX. DMH#2
EX. DMH#1
SAW CUT PAVEMENT AND REPLACE PER DETAIL SHEET C4.0
NEW CB#3 RIM=685.8 INV. TBD CONTRACTOR TO VERIFY INVERT OF EX. DHM#1 PRIOR TO ORDERING STRUCTURE MAINTAIN MIN. COVER PER DETAIL
T.O.PAVE=685.9
T.O.PAVE=687.1 B.O.PAVE=687.0
PAVE 2' OF BITUMINOUS PAVEMENT TO CREATE A 2% SLOPE TOWARD EXISTING PARKING LOT
T.O.PAVE=688.1 B.O.PAVE=688.0
T.O.PAVE=689.1 B.O.PAVE=689.0
T.O.PAVE=687.6 B.O.PAVE=687.5
T.O.PAVE=687.1
PAVE 2' OF BITUMINOUS PAVEMENT TO CREATE A 2% SLOPE TOWARD EXISTING PARKING LOT
NEW CB#2 RIM=687.0 INV.= TBD CONTRACTOR TO VERIFY INVERT OF EX. STORM LINE AT NEW DMH#3 PRIOR TO ORDERING STRUCTURE MAINTAIN MIN. COVER PER DETAIL

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

SITE ENGINEER:
CIVIL ENGINEERING ASSOCIATES, INC.
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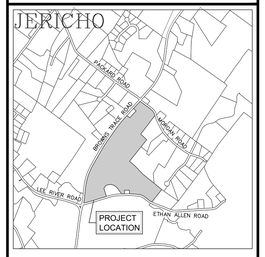

LOCATION MAP
1" = 2000'

DATE	CHECKED	REVISION

OPERATIONS AND MAINTENANCE PLAN

O&M Annotations added by Watershed Consulting on 02-02-2023.

DATE 01/11/2023
SCALE 1" = 40'
PROJ. NO. 22241
DRAWING NUMBER OM.0

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Post Construction Conditions & Soil Quality Requirements

Mount Mansfield Union High School
211 Browns Trace Road, Jericho, VT

The Post-Construction Soil Depth and Quality standards apply to all disturbed areas within the limits of the site which are not covered by an impervious surface, part of a structural stormwater treatment practice, or engineered as structural fill once development is complete.

Requirements

- Site must retain the duff layer and native topsoil in an undisturbed state to the maximum extent practicable.
- A topsoil layer with a minimum organic matter content of 4% dry weight in planting beds and turf areas except where tree roots limit the depth of incorporation or where native mapped soils indicate less than 4 inches of naturally occurring topsoil in the NRCS Official Soil Series Description.
- Compost or other materials used to amend soils must meet the definition of "compost" or meet the contaminant standards in the VT Solid Waste Management Rules and have a C:N ratio below 25:1. If Exceptional Quality (EQ) biosolids are used as a soil amendment, they must comprise no more than 35% of the total volume of soil and be well mixed before or during application.
- A dense and vigorous vegetative cover must be established over turf areas.

Post construction soil quality requirements shall be met by using one of or a combination of the following options:

Option 1
Leave undisturbed native vegetation and soil and protect from compaction during construction. Identify areas of the site that will not be stripped, logged, graded, or driven on. Fence off those areas to prevent impacts during construction. Failure to establish and maintain exclusionary controls around these areas during the construction phase may trigger the requirement to restore soils per option 2, 3, or 4.

Option 2
Amend existing site topsoil or subsoil in place based on the following steps:

1. Scarify or till subsoils to 4 inches of depth or to depth needed to achieve a total depth of 8 inches of uncompacted soil after calculated amount of amendment is added. Except for within the drip line of existing trees, the entire surface shall be disturbed by scarification.
2. Amend soil to meet organic content requirements based on either the pre-approved rate or the calculated rate.
   a. Pre-Approved Rate: Place 1 inch of composted material with an organic matter content between 40 and 65% and rototill into 3 inches of soil.
   b. Calculated Rate: Place calculated amount of composted material or approved organic material and rototill into depth of soil needed to achieve 4 inches of settled soil at 4% organic content.
3. Rake beds to smooth and remove surface rocks larger than 2 inches in diameter.
4. Water or roll to compact soil in turf areas to 85% of maximum dry density.

Option 3
All areas of pervious surfaces within the post-development drainage areas are subject to the Vermont Stormwater Treatment Standard for post-construction soil depth and quality. Soil depth and quality shall be established towards the end of construction and protected from compaction once established. Soil quality requirements shall be met by the method outlined in Subchapter 3.0 of the Vermont Stormwater Management Manual, Vermont's Stormwater Treatments Standards, described as follows:

1. Stockpile soil on site in a designated, controlled area at least 50 feet from surface waters, wetlands, floodplains, or other critical resource areas.
2. Scarify or till subgrade to a depth of 4 inches except for within the drip line of existing trees, the entire surface shall be disturbed by scarification.
3. Stockpiled topsoil shall also be amended, if needed, to meet the organic content requirements based on either the pre-approved rate or the calculated rate.
   a. Pre-Approved Rate: Compost shall be incorporated with an organic matter content between 40 and 65% into the topsoil at a ratio of 1:3.
   b. Calculated Rate: Incorporate composted material or proved organic material at a calculated rate to achieve 4 inches of settled soil at 4% organic content.
4. Replace stockpiled topsoil prior to planting, rake to level and remove surface rocks larger than 2 inches in diameter.

Option 4
Import topsoil mix, or other materials for mixing, including compost of sufficient organic content and depth. Follow steps outlined below.

1. Scarify or till subgrade to a depth of 4 inches. Except for within the drip line of existing trees, the entire surface shall be disturbed by scarification.
2. Place 4 inches of imported topsoil mix on surface. The imported topsoil mix shall contain 4% organic matter and shall be sand or sandy loam as defined by the USDA.
3. Rake beds to smooth and remove surface rocks larger than 2 inches in diameter.
4. Water or roll to compact soil in turf areas to 85% of maximum dry density.

Soil depth and quality shall be established towards the end of construction and once established, protected from compaction, such as from large machinery, vehicle traffic, and from erosion.

Soil test holes will be conducted to verify compliance with the PCSDQ standards. Possible soil sampling locations are shown on this sheet.

Test holes shall be excavated using only a shovel driven solely by inspector's weight and shall be at least 50 feet apart from each other

Area Subject to Soil Standards (0.747 acres)

Example Soil Testing Locations (7 required)

0 50 100 200 Feet

VERMONT
WATERSHED
CONSULTING

Dated: 02/02/2023
Last Revised: 02/02/2023
Sheet: SQ - 1