

JO CO KS	BK:202007	PG:007246
	20200717-0007246	
Electronic Recording		7/17/2020
Pages: 16	F: \$276.00	7:49 AM
Register of Deeds		T20200046964

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Map No. 32 The Renaissance Fourth Plat STF2020-00013 \$276

Stormwater Treatment Facility Maintenance Agreement

This Agreement made and entered into this ____ day of July, 2020, by Lure Apartments, LLC, a Delaware limited liability company, (hereinafter referred to as "Property Owner")

RECITALS:

WHEREAS, the Property Owner is the owner of the following described real property (hereinafter, the "Property") located in the City of Overland Park, Johnson County, Kansas, to wit:

Lot 1, THE RENAISSANCE, FOURTH PLAT, a subdivision in the City of Overland Park, Johnson County, Kansas

WHEREAS, the Property Owner desires to develop the Property; and

WHEREAS, The Chapter 16.210 of the Overland Park Municipal Code requires that on-site stormwater treatment facilities be constructed and adequately maintained by the property owner.

WHEREAS, the term "Property Owner" as used in this document shall refer to the current owner of the Property, as well as all subsequent owners of any portion of the property contained within said Plat. Where the context requires, this shall include, without being limited to, any or all of the following: subsequent owners of individual lots developed for single family ownership, a Homes or Business Association that may own any property held in common, or any other owners of land within the Property described in said Plat.

WHEREAS, Chapter 16.210 of the Overland Park Municipal Code requires the Property Owner to place certain restrictions and responsibilities on the use and maintenance of stormwater treatment facilities; and

WHEREAS, the stormwater treatment facilities are located on the property in the locations as shown on **Attachment A (The Plan)**.

{32968 / 68365; 887966.4 } Rev. 10-30-12
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WHEREAS, if the Property Owner desires to subdivide the Property at any time, the Owner shall cause a Homes or Business Association to be duly formed in order to insure the proper and adequate maintenance of the stormwater treatment facilities in compliance with legal requirements. Owner will then cause to establish binding covenants, conditions, and restrictions applicable to the Property to be recorded with the Johnson County, Kansas, Records and Tax Administration Association covering all of the platted lots within the Property and containing in addition to other matters normally found therein, the following regulations, stipulations, easements, covenants, conditions and restrictions pursuant to Chapter 16.210 of the Overland Park Municipal Code, on the Property:

- 1.0 **Homes or Business Association Requirements:** The Property Owner hereby states that Property Owner will fulfill the following conditions which are requirements of OPMC Section 16.210.100 related to formation of a Homes or Business Association:
 - 1.1 Prior to consummation of the sale of any lot in the Subdivision, the Property Owner shall cause the Subdivision's Homes or Business Association (the "Association") to be duly formed as a Kansas corporation.
 - 1.2 Prior to the sale of any lot in the Subdivision, The Property Owner shall cause to be recorded with the Johnson County Records and Tax Administration, Johnson County, Kansas, a Homes or Business Association Declaration covering all of the platted lots within the Subdivision that includes this Agreement by reference.
 - 1.3 The Homes or Business Association Declaration shall require that the Homes or Business Association levy assessments against the lots within the Subdivision sufficient to pay for maintenance and future replacement of the Stormwater Treatment Facilities and for any costs incurred by reason of this Agreement. The Association will have an enforceable lien on any lot in the Subdivision in the event that any individual Property Owner fails to pay an assessment. All purchasers of lots will be given an outline summary of the maintenance obligations of the Association as per this Agreement.
 - 1.4 The Association Declaration shall contain a provision requiring the written consent of the City to the termination of the Association Declaration in its entirety or to any amendment, modification or termination of any provision thereto regarding the Stormwater Treatment Facilities.
 - 1.5 The Association Declaration shall name the City as a third-party beneficiary of all provisions therein relating to the Stormwater Treatment Facilities and will give the City the right to enforce all restrictions, obligations and other provisions regarding the Stormwater Treatment Facilities.
 - 1.6 Prior to the sale of any lots within any future phases of the Subdivision, The Property Owner will cause to be recorded with the Register of Deeds of Johnson County, Kansas, a Association Declaration covering all of the platted lots within such phase of the Subdivision and containing the provisions regarding the Stormwater Treatment Facilities set forth herein.

{32968 / 68365; 887966.4 } Rev. 10-30-12
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1.7 Notwithstanding the foregoing or anything else in this Agreement to the contrary, the Subdivision at present consists of only one Lot. No Association is required unless and until the current lot, Lot 1, THE RENAISSANCE, FOURTH PLAT, a subdivision in the City of Overland Park, Johnson County, Kansas is further subdivided or converted to a condominium plat with multiple units or lots. Until such time as such further subdivision or conversion to a condominium form of ownership occurs, Lot 1, THE RENAISSANCE, FOURTH PLAT, a subdivision in the City of Overland Park, Johnson County, Kansas can be sold without the formation of an Association.

2.0 **Disclosure of Maintenance Requirements:**

2.1 Minimum maintenance frequency and maintenance measures required for all stormwater treatment facilities are shown on **Attachment B (Maintenance Requirements)**.

2.2 It is understood by the Property Owner and City that actual maintenance costs and future replacement costs are variable, however for budgetary purposes, the project designer is required to estimate future maintenance and replacement costs so that the Property Owner may better plan future required expenditures. Based on the project designer's estimates, the following section tabulates anticipated maintenance and replacement costs:

Manufacturer's recommended annual maintenance; inspect the system and remove debris and silt per manufacturer recommendations (more detailed description in Attachment A). Annual expense \$1500

The life span of the system per the manufacturer is in excess of 75 years.

The replacement cost of the system is \$162,681 per Fleshman Construction estimate of July 13, 2020.

3.0 **Property Owner Responsibilities**

3.1 The Property Owner shall provide and is responsible for all maintenance of the designated stormwater treatment facilities as shown on the Property, including, but not limited to, sediment removal and disposal, maintenance of inlet and outlet works, trash and debris removal, vector control, and management of vegetation in accordance with the plan requirements in order to insure that all such facilities remain in proper working condition in accordance with approved design standards and all applicable legal requirements. In accordance with Section 16.210.100.G of the Overland Park Municipal Code, the Property Owner shall make records of the installation and of all maintenance and repairs, and shall retain the records for at least five years. These records shall be made available to the City during inspection of the facility and at other reasonable times upon request.

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- 3.2 The Property Owner agrees to actively pursue measures to prevent unauthorized activities pursuant to Chapter 16.210 of the Overland Park Municipal Code which interfere with the function of the stormwater treatment facility.
- 3.3 In Accordance with Section 16.210.100 of the Overland Park Municipal Code, the Property Owner agrees to submit an inspection report to the City at a minimum interval of one (1) year following initial certification and subsequently every two (2) years thereafter. The inspection report shall be completed and sealed by a registered professional engineer in the State of Kansas, unless the Director of Planning and Development Services approves other qualified professionals to perform these duties. Such inspection report shall document each item, including, but not limited to, the need for removal of sediment, litter, and other debris, grass cutting, removal of undesirable vegetation, and replacement of vegetation that is part of the stormwater treatment facility. Any maintenance needs found must be addressed in a timely manner and documentation submitted showing that required maintenance has been performed. Maintenance certifications shall be submitted on a form approved by the City and shall include photographs documenting the condition of the facility at the time of the inspection.

4.0 **Maintenance Access Easements:**

In consideration of the sum of one dollar (\$1.00), receipt and sufficiency of which is hereby acknowledged, the Property Owner does convey to the Homes or Business Association, forever a perpetual access easement over and through the following referenced real estate for the purpose of obtaining access for inspecting, maintaining, and repairing a stormwater treatment facility; further the City of Overland Park may utilize such access easements for purposes of enforcing maintenance requirements as set forth in Section 5.0 of this agreement.

SEE ATTACHMENT 'A'

If it is the preference of the Property Owner to provide defined access easements for the stormwater treatment facilities on site, the legal description for each easement shall be provided on **Attachment C (Access Easements)**.

This Access Easement is executed and delivered and said easement is granted upon the following conditions:

- A. It is understood by the Property Owner that the City of Overland Park shall have the right at all times to use the herein described access easement for the purpose of inspecting, maintaining, and repairing the stormwater treatment facility as provided for under Section 5.0 of this agreement.
- B. That the Property Owner shall be fully responsible for providing and maintaining the access easement and the stormwater treatment facility and shall not construct fences, walls, landscaping, structures, or other items which would prevent reasonably convenient maintenance and repair access to the facility.

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C. The rights granted herein shall not be construed to interfere with or restrict the Property Owner, his/her/its heirs, executors, administrators, successors and assigns from the use of the premises with respect to the construction and maintenance of property improvements along and over the premises herein described so long as the same are so constructed as not to impair the rights of access to a stormwater treatment facility granted herein.

This easement shall run with the land and apply to all interests now owned or hereinafter acquired to the above-described property.

5.0 Maintenance Enforcement by City

- 5.1 If, after reasonable notice to the Property Owner, the Property Owner shall fail to maintain the Stormwater Treatment Facility as set forth herein and other applicable legal requirements, the City may perform all necessary repair or maintenance work, and the City may assess the Property Owner and the Property, for the cost of the work and any applicable penalties. For the purposes of this document, "reasonable notice" shall consist of 30 days prior written notice sent to the Property Owner, unless there are exigent circumstances requiring either immediate or shorter response than said 30 days would provide, in which case the notice provided shall be whatever is reasonable under those circumstances. The Property Owner does herein grant the City, its agents and contractors, a right of entry on said property for the purpose of inspecting, installing, maintaining or repairing the Stormwater Treatment Facility, and shall execute any documents deemed necessary by the City, if any, relating thereto.
- 5.2 The City may record an Affidavit of Nonpayment of Maintenance Charges in the Office of the Johnson County Records and Tax Administration, of Johnson County, Kansas, stating (a) the legal description of the property upon which the lien is claimed, (b) the name(s) of the Owner(s) of said property as last known to the City, and (c) the amount of the Maintenance Charge which is unpaid. The Lien shall be created at the time of the filing and recording of the Affidavit and such lien shall be superior to all other charges, liens, or encumbrances which may thereafter in any manner arise or be imposed upon the subject property, whether arising from or imposed by judgment or decree or by any agreement, contract, mortgage, or other instrument, saving and excepting only such liens for taxes and other public charges as are by applicable law made superior.
- 5.3 It is understood by Property Owner that the City of Overland Park is under no past, present, or future obligation to expend public funds or take any other action whatsoever to maintain or improve the stormwater treatment facility. The City or Property Owner shall have the right to enforce, by any proceeding at law or in equity, all restrictions, conditions, covenants, reservations, liens, and charges now or hereafter imposed by the provisions of this Declaration. The City or the Property Owner shall have the right to include in their claim for relief a reasonable sum to reimburse them for their attorneys' fees and any other expenses reasonably incurred in enforcing their rights hereunder. Failure by the City or by the Property Owner to enforce any covenant or restriction herein contained shall in no event be deemed a waiver of the right to do so thereafter. Neither shall failure by the City

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to enforce the provisions hereof be deemed a waiver of any provision hereof as to any other Owner.

6.0 **Indemnification:** The Property Owner shall indemnify and hold the City harmless from any and all damage, loss, claims or liability of any kind whatsoever arising from the installation, maintenance, repair, operation or use of the stormwater treatment facility including, but not limited to, any loss occasioned by reason of damage or injury to persons or property which may occur. In addition, the Property Owner shall pay all costs and expenses involved in defending all actions arising there from.

These covenants and agreements as set forth herein, fully executed, shall be filed with the Johnson County Records and Tax Administration Office, Johnson County, Kansas, and the filing of the same shall constitute constructive notice to all heirs, successors, transferees, and assigns of the Property Owner of these covenants and agreements running with the land and notice of all stipulations made thereto. This document may not be amended or modified in any way without the prior written approval of the authorized officials of the City of Overland Park, Kansas, and that approval must be indicated on the face of any subsequently recorded document amending or modifying this document.

Notwithstanding other provisions of this document placing rights, duties, obligations and responsibilities on the Property Owner, as that term is defined herein, those rights, duties, obligations and responsibilities shall only be exercised or enforced in the following manner: when the property is owned by the current owner, or by a succeeding developer, those requirements shall only be exercised or enforced by or against those legal entities. When an approved Association takes over ownership of the Property, those rights, duties, obligations and responsibilities shall succeed to that Association as provided in the legal documents creating the same. It is not the intent of this document to create or impose any rights, duties, obligations and responsibilities directly on subsequent owners of individual lots within the subdivision, unless or until the Homes Association is unwilling or unable to exercise or comply with and enforce the terms of this document and fully meet all the duties, obligations and responsibilities set forth herein, including, without being limited to, payment of any costs imposed by this document by all means specified in the documents creating the Association, including assessment of individual lot owners when necessary. If that Association shall cease to exist or be in default of its duties, obligations or responsibilities as set forth herein, the City shall have the option of directly enforcing them against individual owners of lots within the subdivision.

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The City, at Property Owner's cost, shall cause this agreement to be filed with the Johnson County Records and Tax Administration Office, Johnson County, Kansas. Each party hereto shall receive a duly executed copy of this agreement for its official records.

IN WITNESS WHEREOF, the undersigned have caused this maintenance agreement to be duly executed the day and year first written above.

PETITIONER

LURE APARTMENTS, LLC

BY: THE SPANOS CORPORATION,
its Manager

BY: 

Name: Justin Garner

Title: Chief Financial Officer

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

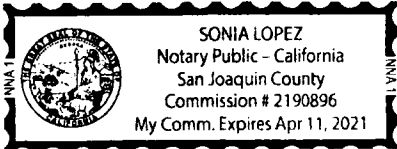
State of California
County of San Joaquin

On July 15, 2020 before me, Sonia Lopez, Notary Public
(insert name and title of the officer)

personally appeared Justin Garner,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



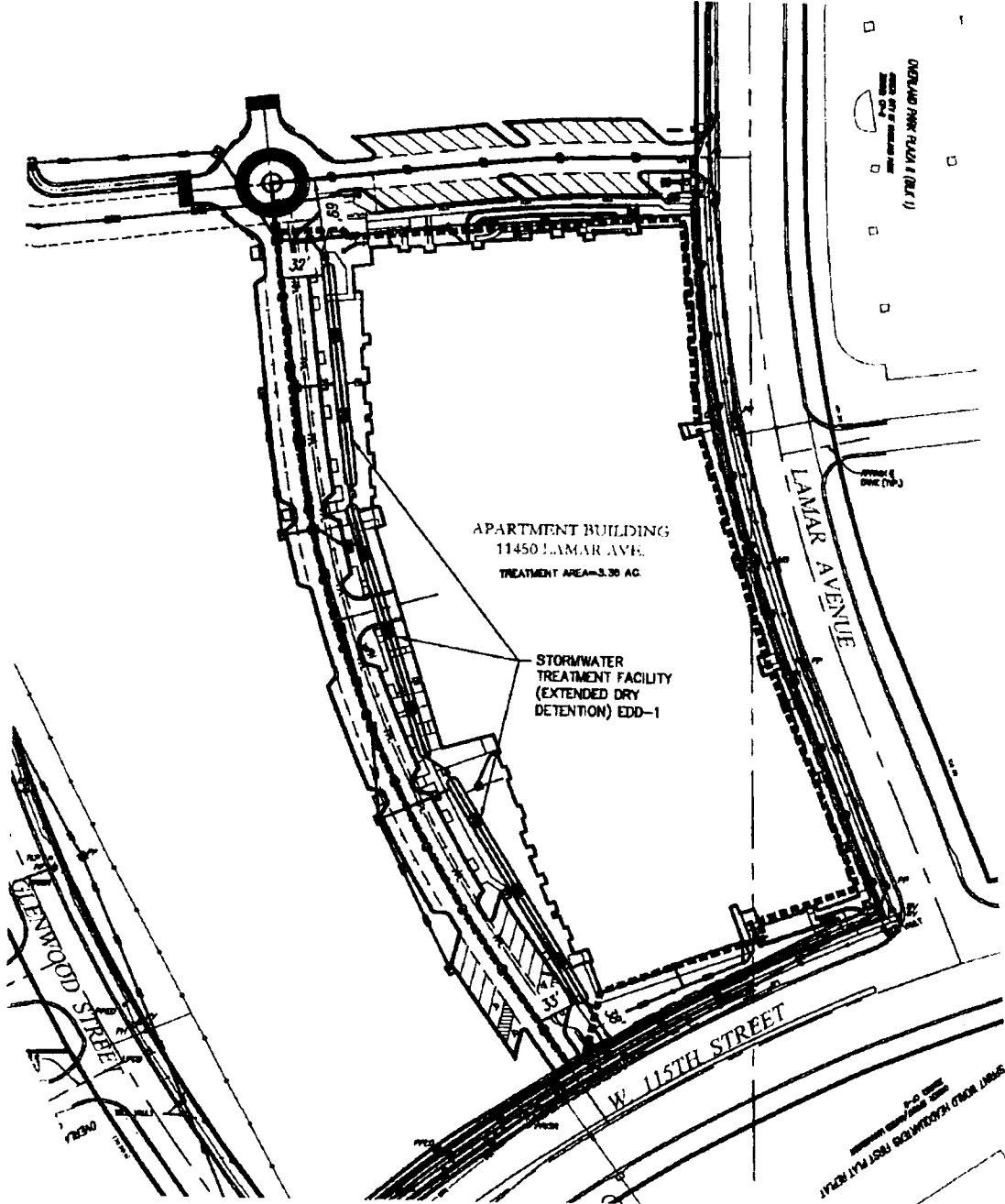
Signature *Sonia Lopez* (Seal)

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ATTACHMENT A

Lot 1, THE RENAISSANCE, FOURTH PLAT, a subdivision in the City of Overland Park, Johnson County, Kansas.

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APARTMENT BUILDING
11450 LAMAR AVE.
TREATMENT AREA=3.36 AC

STORMWATER
TREATMENT FACILITY
(EXTENDED DRY
DETENTION) EDD-1

LOT 1
THE RENAISSANCE,
FOURTH PLAT
(BK 201710, PG 010153)

10
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ATTACHMENT B

Storm Water Drain – Storm Tech System. Manufacture recommends at least an annual inspection of the Extended Dry Detention facility; in connection with annual inspection, debris and silt should be removed. .

INSPECTION AND MAINTENANCE PER APPROVED STORM SYSTEM PLANS

Step 1 Inspect Isolator Row for Sediment

- A. Inspection Ports (If Present)
 - a. Remove/Open Lid on Nyloplast Inline Drain
 - b. Remove and clean FlexStorm Filter, if installed
 - c. Using a Flashlight and Stadia Rod, measure depth of sediment and record on maintenance log
 - d. If sediment is at or above 3" (60 mm) proceed to step 2, if not proceed to step 3
- B. All isolator rows
 - a. Remove cover from structure at upstream end of isolator row
 - b. Using a flashlight, inspect down the isolator row through outlet pipe
 - i. Mirrors on poles may be used to avoid a confined space entry
 - ii. Follow OSHA regulations for confined space entry if entering manhole
 - c. If sediment is at, or above, 3" (60 mm) proceed to step 2, if not proceed to step 3

Step 2. Clean out isolator row using the Jet/Vac Process

- A. A fixed culvert cleaning nozzle with rear facing spread of 45" (1.1 meter) 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

Inspect every 6 months during the first year of operation; adjust the inspection interval based on previous observation of sediment accumulation and high water elevations.

Conduct jetting and vactoring annually or when inspection shows that maintenance is necessary

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	GARRETT KLINGLER 816-401-7559 GARRETT.KLINGLER@ADS-PIPE.COM
ADS SALES REP:	JOHN WHITWOOD 816-805-5570 JOHN.WHITWOOD@ADS-PIPE.COM
PROJECT NO:	S095345



RENAISSANCE APARTMENTS

OVERLAND PARK, KS

STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-4500.
- CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
 - STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

Project: Renaissance Job No: 12-007
Submitted to: _____

This submittal has been reviewed for general conformance with the contract documents. It shall require a review and approval from the design Architect/Engineer and their applicable consultants. Approved by A.G. Spence Construction or assigned does not relieve Contractor from their contractual obligation(s) to A.G. Spence Construction. Furthermore, nothing in this submittal will relieve Contractor of their responsibility to comply with all applicable codes and standards.

Reviewed by: _____ Date: 8/15/18

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM

- STORMTECH MC-4500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE"
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
- INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
- STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
- STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- THE USE OF EQUIPMENT OVER MC-4500 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

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

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

PROPOSED LAYOUT

134	STORMTECH MC-4500 CHAMBERS
14	STORMTECH MC-4500 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	% STONE VOID
25773	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)
6263	SYSTEM AREA (ft ²)
2057	SYSTEM PERIMETER (ft)

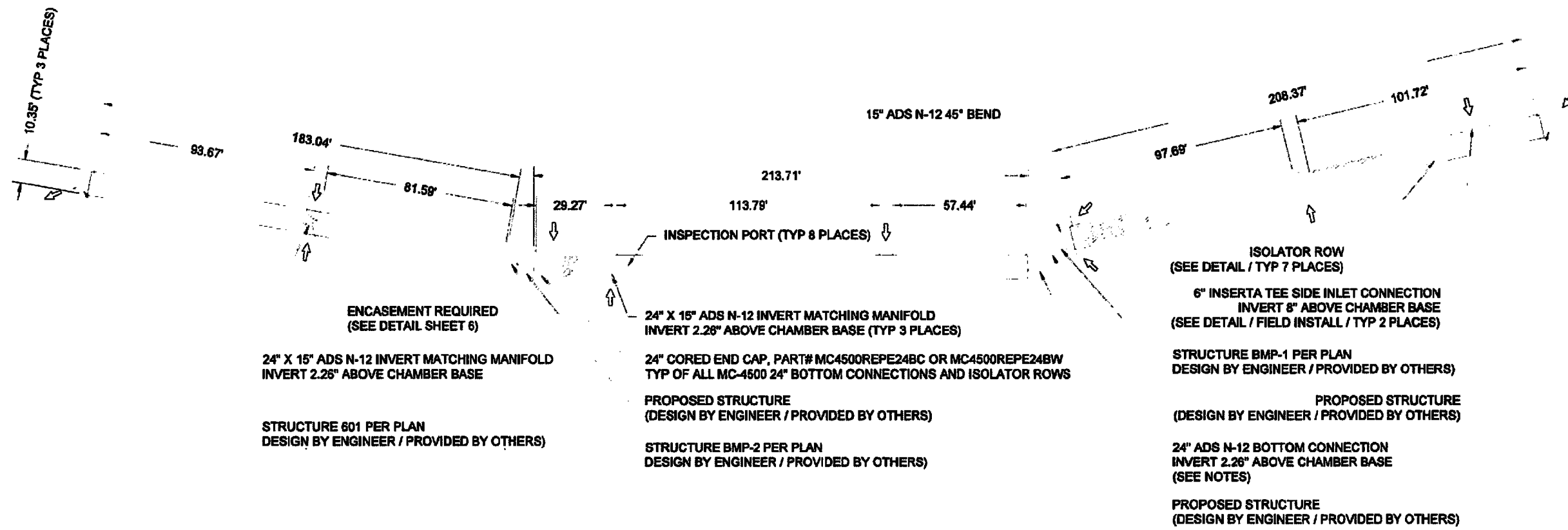
Minimum Storage Volume = 12,255 CF
(perimeter stone excluded)

PROPOSED ELEVATIONS

990.00	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
989.50	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
989.50	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
989.50	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
988.50	TOP OF STONE
987.50	TOP OF MC-4500 CHAMBER
983.17	INSERTA TEE SIDE INLET CONNECTION INVERT
982.69	24" ISOLATOR ROW CONNECTION INVERT
982.69	24" X 15" MANIFOLD INVERT
982.69	24" BOTTOM CONNECTION INVERT
982.50	BOTTOM OF MC-4500 CHAMBER
981.75	BOTTOM OF STONE

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- THE SITE DESIGN ENGINEER MUST REVIEW THE PROXIMITY OF THE CHAMBERS TO THE BUILDING/STRUCTURE. NO FOUNDATION LOADS SHALL BE TRANSMITTED TO THE CHAMBERS. THE SITE DESIGN ENGINEER MUST CONSIDER EFFECTS OF POSSIBLE SATURATED SOILS ON BEARING CAPACITY OF SOILS AND SEEPAGE INTO BASEMENTS.



RENAISSANCE APARTMENTS	
OVERLAND PARK, KS	
DATE: 08/03/18	DRAWN: JWE
PROJECT #: S095945	CHECKED: KLJ
StormTech <small>Distributor - Renaissance - Heavy Duty</small>	ADS <small>ADVANCED DRAINAGE SYSTEMS, INC.</small>
4640 TRUEMAN BLVD HILLIARD, OH 43026	70 WOOD ROAD, SUITE 3 ROCKY HILL, CT 0887 860-628-8188 860-893-3564 WWW.STORMTECH.COM
0	100'
50'	
2 SHEET OF 6	

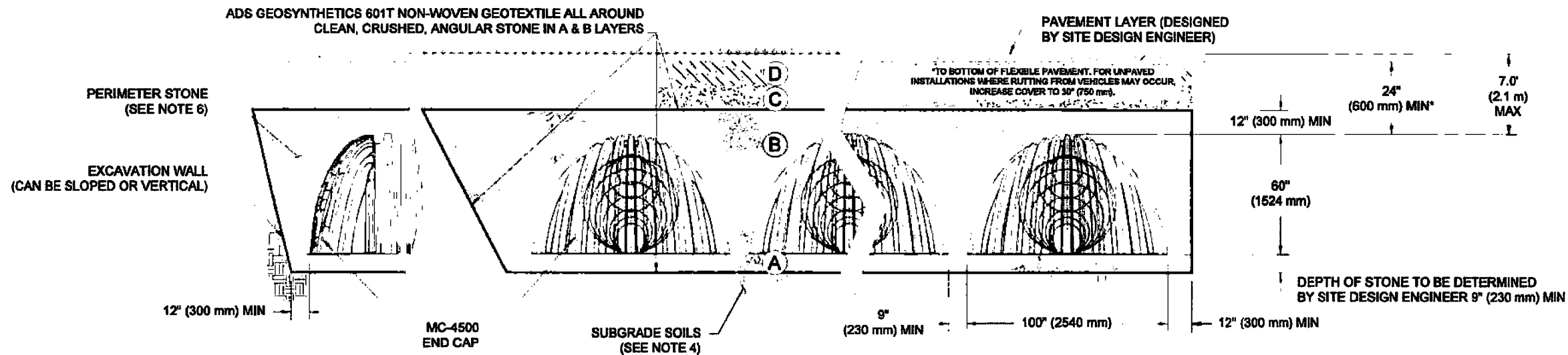
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO US. UNLESS THE PROVISION OF THE SITE DESIGN ENGINEER AS OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 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:

- 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".
- 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.
- 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.



NOTES:

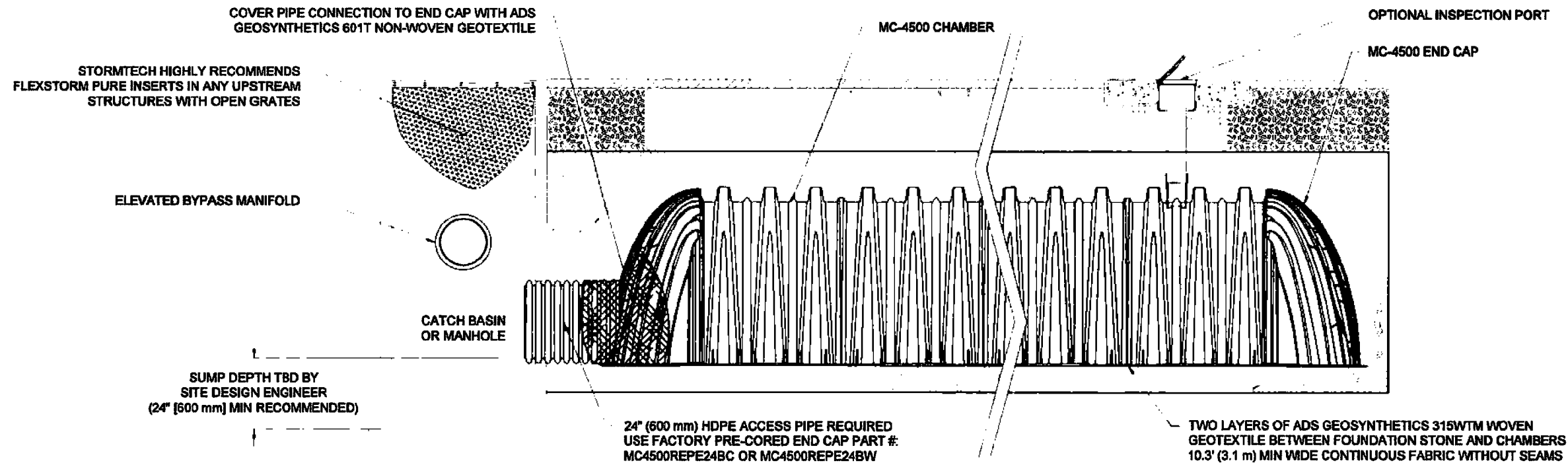
- MC-4500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- 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.
- 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.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.

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PROJECT #: S095345 CHECKED: KLJ

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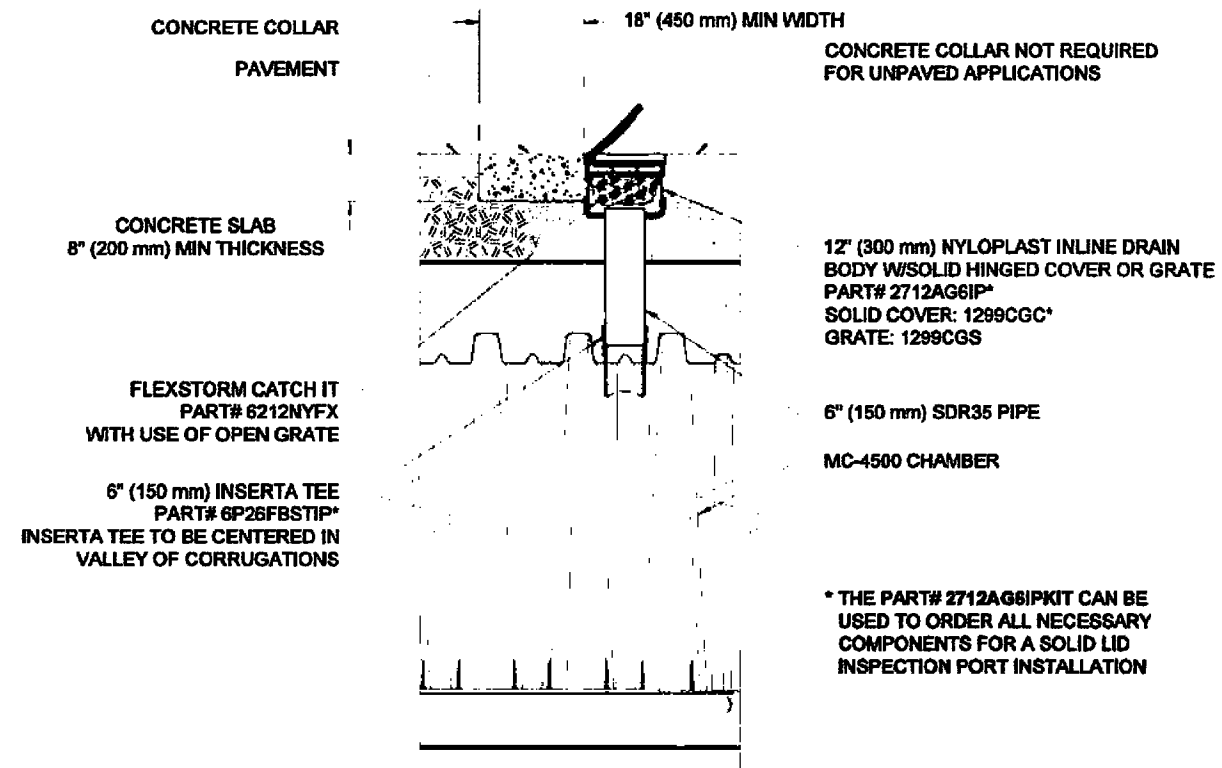
MC-4500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
 - A. INSPECTION PORTS (IF PRESENT)
 - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - B. ALL ISOLATOR ROWS
 - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
 - A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

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



MC-4500 6" (150 mm) INSPECTION PORT DETAIL
NTS

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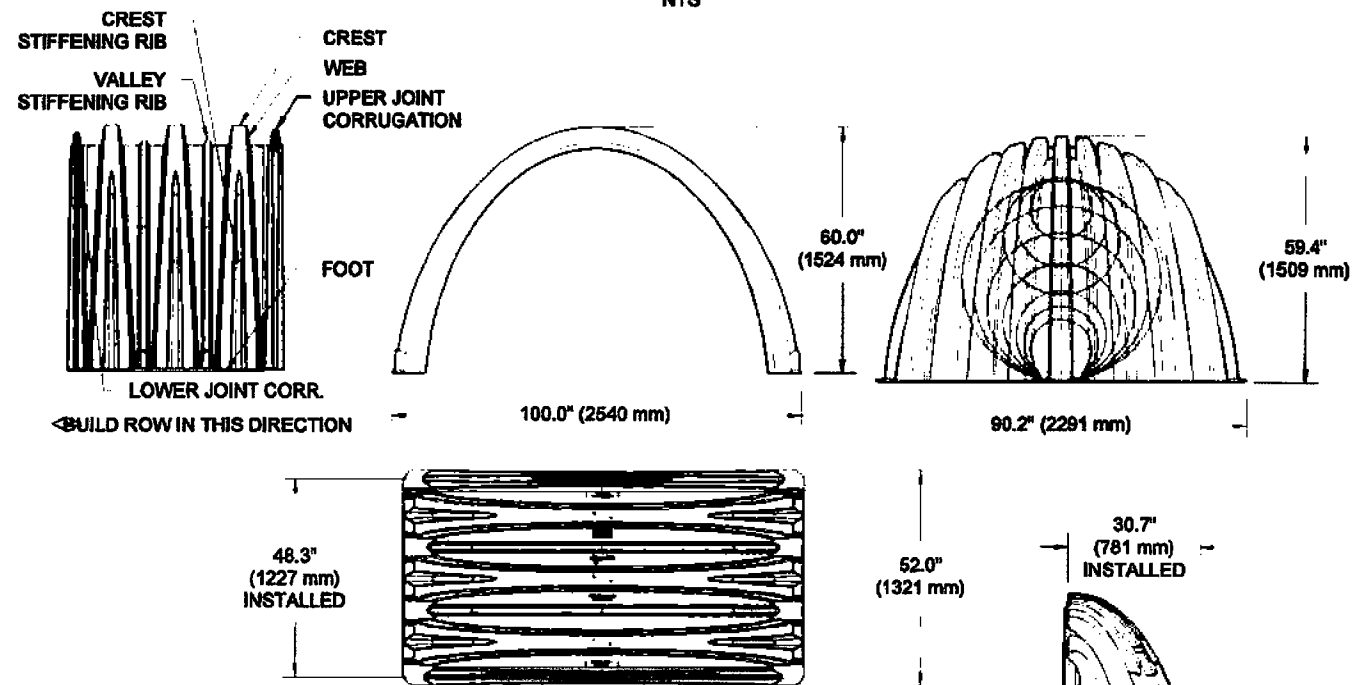
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MC-4500 TECHNICAL SPECIFICATION

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NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 48.3"	(2540 mm X 1524 mm X 1227 mm)
CHAMBER STORAGE	106.5 CUBIC FEET	(3.01 m ³)
MINIMUM INSTALLED STORAGE*	162.6 CUBIC FEET	(4.60 m ³)
WEIGHT	130.0 lbs.	(59.0 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	90.2" X 59.4" X 30.7"	(2291 mm X 1509 mm X 781 mm)
END CAP STORAGE	35.7 CUBIC FEET	(1.01 m ³)
MINIMUM INSTALLED STORAGE*	108.7 CUBIC FEET	(3.08 m ³)
WEIGHT	135.0 lbs.	(61.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 8" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

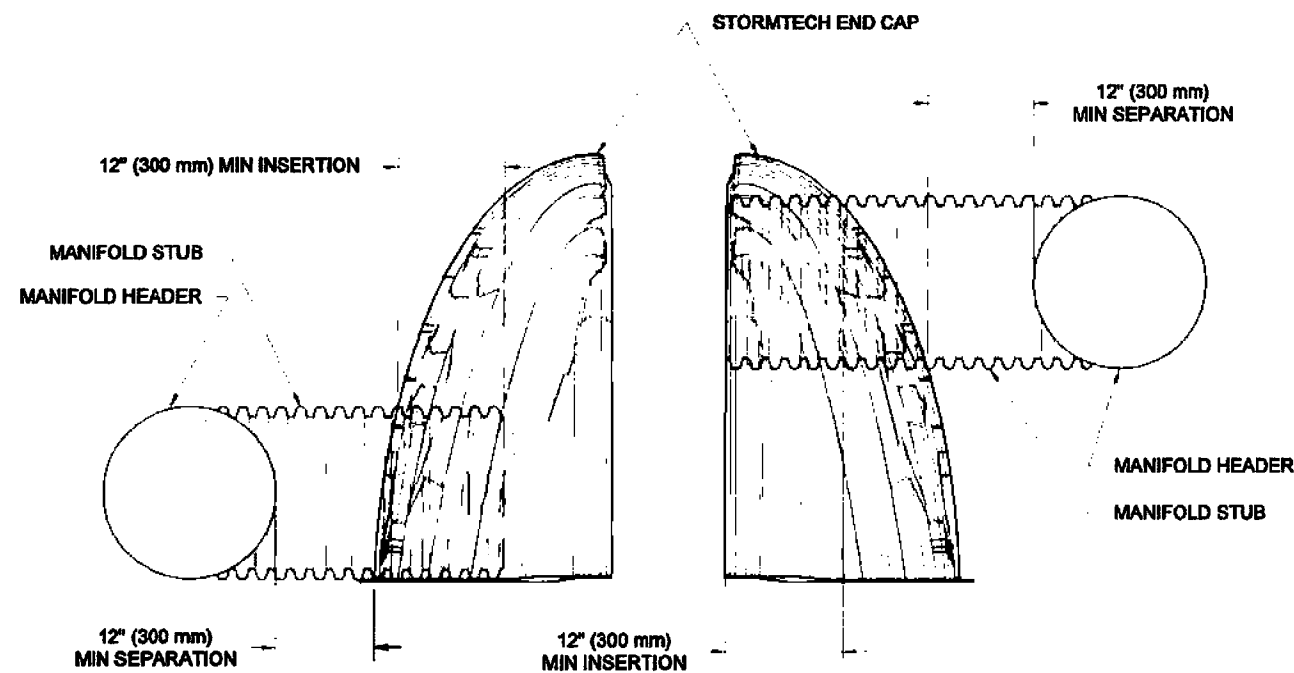
STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
 STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
 END CAPS WITH A WELDED CROWN PLATE END WITH "C"
 END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC4500REPE06T	6" (150 mm)	42.54" (1,081 mm)	—
MC4500REPE06B	—	—	0.86" (22 mm)
MC4500REPE08T	8" (200 mm)	40.50" (1,029 mm)	—
MC4500REPE08B	—	—	1.01" (26 mm)
MC4500REPE10T	10" (250 mm)	38.37" (975 mm)	—
MC4500REPE10B	—	—	1.33" (34 mm)
MC4500REPE12T	12" (300 mm)	35.69" (907 mm)	—
MC4500REPE12B	—	—	1.55" (39 mm)
MC4500REPE15T	15" (375 mm)	32.72" (831 mm)	—
MC4500REPE15B	—	—	1.70" (43 mm)
MC4500REPE18TC	18" (450 mm)	29.36" (746 mm)	—
MC4500REPE18TW	—	—	1.97" (50 mm)
MC4500REPE18BC	—	—	—
MC4500REPE18BW	—	—	—
MC4500REPE24TC	24" (600 mm)	23.05" (585 mm)	—
MC4500REPE24TW	—	—	2.26" (57 mm)
MC4500REPE24BC	—	—	—
MC4500REPE24BW	—	—	—
MC4500REPE30BC	30" (750 mm)	—	2.95" (75 mm)
MC4500REPE36BC	36" (900 mm)	—	3.25" (83 mm)
MC4500REPE42BC	42" (1050 mm)	—	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

MC-SERIES END CAP INSERTION DETAIL

NTS



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

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 OVERLAND PARK, KS

DATE: 08/03/18 DRAWN: JWE
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