



# Administrative Approval Action

Case File / Name: ASR-0097-2022  
DLSC - CANVAS AT PACK PLACE APARTMENTS

City of Raleigh  
Development Services Department  
One Exchange Plaza  
Raleigh, NC 27602  
(919) 996-2492  
currentplanning@raleighnc.gov  
www.raleighnc.gov

**LOCATION:** This 1.69 acre site consists of two parcels and is identified as 6019 and 6101 Hillsborough Street. This site is located north of Buck Jones Road, south of Chapel Hill Road (Highway 54), east of Singleton Street, and west of Wolf Wood Drive. It is adjacent to 403 West Apartments and near Nowell Road. The parcels are zoned NX-5-GR-CU and are located within a Frequent Transit Area. The site is outside the city limits.

**REQUEST:** This project proposes a 5-story apartment building with 56 units, including 33 1-bedroom units and 23 2-bedroom units. There are two existing residences and accessory structures on the two parcels which will be demolished. The site will be developed with 1 building and associated parking, infrastructure, amenity areas, and bicycle parking. The total proposed building area is 78,125 square feet. The plan is not utilizing the Frequent Transit Development Option.

**DESIGN ADJUSTMENT(S)/ ALTERNATES, ETC:** N/A

**FINDINGS:** City Administration finds that this request, with the below conditions of approval being met, conforms to the Unified Development Ordinance. This approval is based on a preliminary plan dated April 9, 2024 by JD SIGNATURE HOMES.

## CONDITIONS OF APPROVAL and NEXT STEPS:

*This document must be applied to the second sheet of all future submittals except for final plats. This is a preliminary plan and as such no permits have been issued with this approval. To obtain permits and/or completion of the project, the following steps are required:*

**SITE PERMITTING REVIEW** - For land disturbance of 12,000 square feet or greater, public or private infrastructure, shared stormwater devices, etc. Site Permitting Review may be submitted upon receipt of this signed approval document.

**The following items are required prior to approval of Site Permitting Review plans:**

### General

1. The public improvements need further review at time of site permitting review so to include detailed commenting on the streetscape type and NCDOT review of the site and in addition further evaluation of slope easement needs on site also.
2. The site plan for the parking lot needs to be revised to conform to parking lot landscape requirements of UDO Section 7.1.7 D requiring a minimum of 300 square feet of area for interior parking lot landscape islands. Please revise the parking lot layout to conform to that code standard.

### Engineering

3. Required NCDOT encroachment and/or driveway permits must be approved and copies provided to the City of Raleigh Transportation Department – Mobility Strategy and Infrastructure Division prior to Site Permit review approval.



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4. A Traffic Control and Pedestrian (TCPED) Plan must be approved and a right-of-way occupancy permit must be obtained from Right-of-way Services for any construction activities within the right-of-way.

## Stormwater

5. A surety equal to the cost of clearing, grubbing and reseeding a site, shall be paid to the City (UDO 9.4.4).
6. A stormwater control plan with a stormwater operations and maintenance manual and budget shall be approved (UDO 9.2).

**LEGAL DOCUMENTS** - Email to [legaldocumentreview@raleighnc.gov](mailto:legaldocumentreview@raleighnc.gov). Legal documents must be approved, executed, and recorded prior to or in conjunction with the recorded plat on which the associated easements are shown. Copies of recorded documents must be returned to the City within one business day of recording to avoid withholding of further permit issuance.

<input checked="" type="checkbox"/>	Cross Access Agreements Required
<input checked="" type="checkbox"/>	Slope Easement Deed of Easement Required

<input checked="" type="checkbox"/>	Right of Way Deed of Easement Required
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**RECORDED MAP(S)** - Submit plat to record new property lines, easements, tree conservation areas, etc.). Plats may be submitted for review when the Site Permitting Review plans, if required, have been deemed ready for mylar signature.

***The following items must be approved prior to recording the plat:***

## Engineering

1. A cross access agreement among the lots that are adjacent to the east and west shall be approved by the Development Services Department for recording in the Wake County Registry, and a copy of the recorded offer of cross access easement shall be returned to the Development Services Department within one day of plat recordation. If a recorded copy of the document is not provided within this time, further recordings and building permit issuance will be withheld.
2. A slope easement deed of easement, in addition to a plat showing the location of the easement, shall be submitted to the Planning and Development Services Department for review, and if acceptable, approved for recordation. Approved plats must be recorded at the Wake County Register of Deeds Office on or before the 14th day following approval by the City. The 14-day expiration date shall be clearly indicated on the plat. By the end of the next business day following recordation of the plat, all required legal instruments (including deeds of easement) shall be recorded, and recorded copies of the plat and all legal instruments required by the City in association with development approval shall be provided to the City. (Reference: UDO 8.1.7.A; 10.2.5.F.4.d)
3. A sight distance easement shall be approved by the Transportation Department for recording in the Wake County Registry and shown on a plat approved for recordation.





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4. A public street right-of-way deed of easement, in addition to a plat showing the location of the easement, shall be submitted to the Planning and Development Services Department for review, and if acceptable, approved for recordation. Approved plats must be recorded at the Wake County Register of Deeds Office on or before the 14th day following approval by the City. The 14-day expiration date shall be clearly indicated on the plat. By the end of the next business day following recordation of the plat, all required legal instruments (including deeds of easement) shall be recorded, and recorded copies of the plat and all legal instruments required by the City in association with development approval shall be provided to the City. (Reference: UDO 8.1.7.A; 10.2.5.F.4.d)

## Public Utilities

5. Site Permit Review plans (SPR) must be approved by the City of Raleigh Public Utilities Department for all public water, public sewer and/or private sewer extensions.
6. A Petition for Annexation into the City limits shall be submitted in accordance with City Council policy for extension of utility service to properties currently outside of the City limits. This voluntary annexation in no way obligates the City to extend utility services to the property.

**BUILDING PERMITS** - For buildings and structures shown on the approved plans. Commercial building permit plans must include the signed, approved Site Permitting Review plans attached, if applicable. Permit sets may be reviewed prior to the recordation of required plats, but cannot be approved.

***The following items must be approved prior to the issuance of building permits:***

## General

1. A recombination map shall be recorded, recombining the existing lots into a single tract.
2. A demolition permit shall be obtained.

## Engineering

3. A public infrastructure surety shall be provided to City of Raleigh Transportation – Development Engineering Division (UDO 8.1.3) in the amount of 100% of the improvement cost for the NCDOT portion and 125% of the improvement cost for the City of Raleigh infrastructure.

## Public Utilities

4. A plat must be recorded at the Wake County Register of Deeds office for all utility easement dedications.

## Stormwater

5. A surety equal to 125% of the cost of the construction of a stormwater device shall be paid to the Engineering Services Department (UDO 9.2.2.D.1.d).

## Urban Forestry



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6. A tree impact permit must be obtained for the approved streetscape tree installation in the right-of-way. This development proposes (10) trees along Hillsborough St.
7. A public infrastructure surety for (10) street trees along Hillsborough St. shall be provided to City of Raleigh Transportation – Development Engineering Division (UDO 8.1.3) in the amount of 100% of the improvement cost for the NCDOT portion and 125% of the improvement cost for the City of Raleigh infrastructure.

***The following are required prior to issuance of building occupancy permit:***

## **General**

1. Final inspection of right-of-way street trees by Urban Forestry Staff.
2. All street lights and street signs required as part of the development approval are installed.
3. Required public right-of-way infrastructure improvements shall be, at a minimum, sufficiently completed to provide the necessary, safe emergency and vehicular access.

## **Stormwater**

4. As-built drawings and associated forms for all Stormwater devices are accepted by the Engineering Services Department (UDO 9.2.2.D.3).

**EXPIRATION DATES:** The expiration provisions of UDO Section 10.2.8 E, including the ability to request extensions in the expiration date, apply to this site plan. If significant construction has not taken place on a project after administrative site review approval, that approval may expire and be declared void, requiring re-approval before permits may be issued. To avoid allowing this plan approval to expire the following must take place by the following dates:

### **3-Year Expiration Date:** June 10, 2027

Obtain a valid building permit for the total area of the project, or a phase of the project.

### **4-Year Completion Date:**

Within four years after issuance of the first building permit for the site plan, the construction of the entire site plan must be completed unless an applicant has been granted vested rights. Failure to complete construction within this specified time frame shall automatically void the approved site plan for which no building permits have been issued.



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I hereby certify this administrative decision.

Signed: \_\_\_\_\_ Date: 06/10/2024  
Development Services Dir/Designee  
Staff Coordinator: Jessica Gladwin

















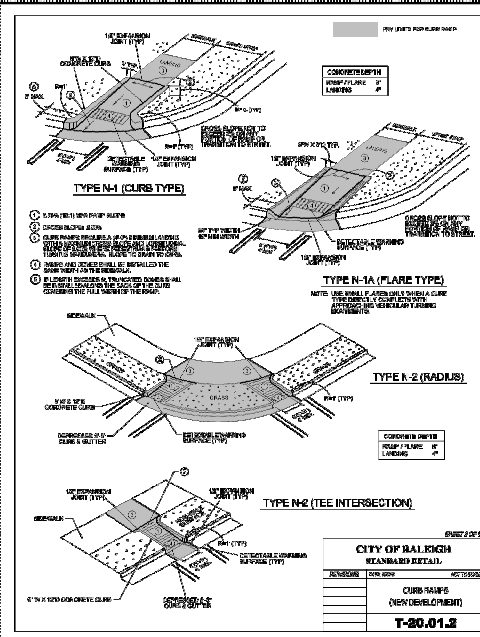
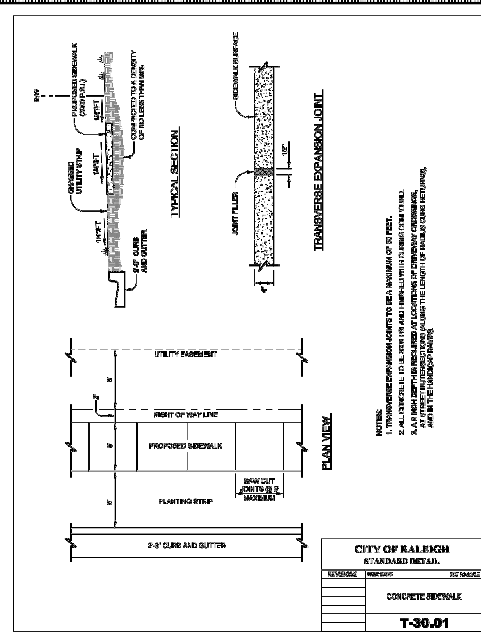
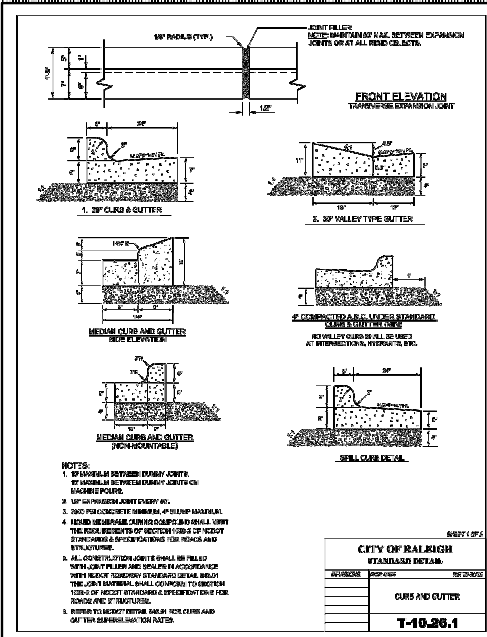












**CITY OF RALEIGH CURB RAMPS GENERAL NOTES**

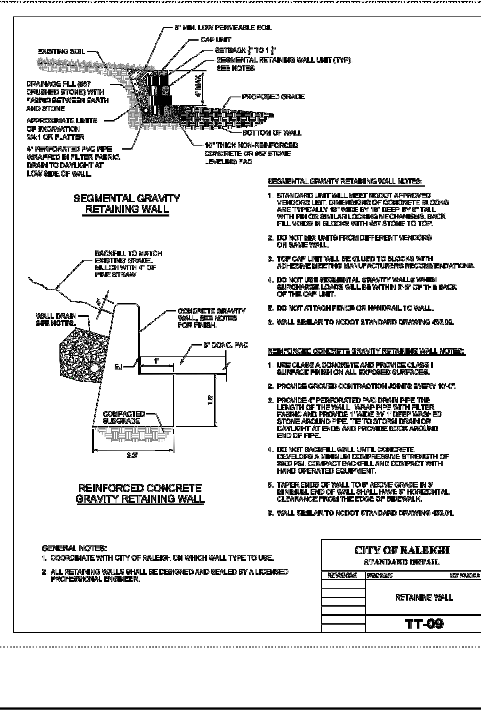
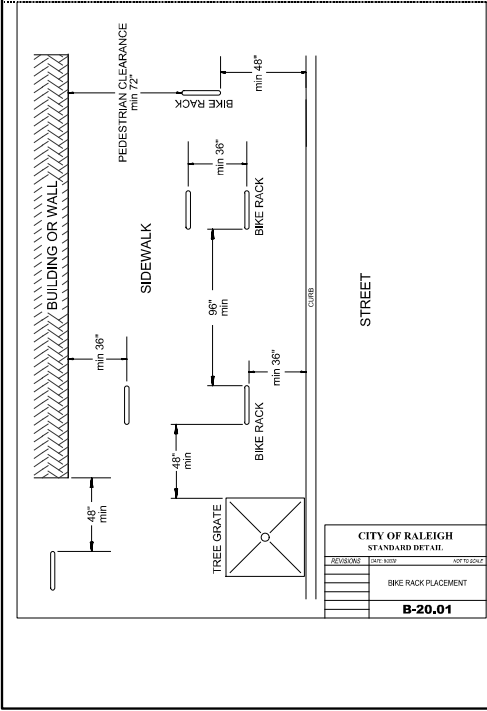
1. CITY OF RALEIGH STANDARD CURB RAMPS HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE AMERICAN WITH DISABLED ACT (ADA) AND PUBLIC RIGHT OF WAY ACCESS GUIDELINES (PROWAG).
2. CURB RAMPS SHALL BE PROVIDED AT LOCATIONS AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER. SIDEWALK ACCESS RAMPS SHALL BE LOCATED AS INDICATED IN THE DETAIL, HOWEVER, THE LOCATION MAY BE ADJUSTED IN COORDINATION WITH THE CITY OF RALEIGH WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT.
3. DOUBLE WHEELCHAIR RAMPS ARE TO BE INSTALLED AT ALL PUBLIC STREET INTERSECTIONS WHERE SIDEWALKS ARE REQUIRED.
4. THE WALKING SURFACE SHALL BE SLIP RESISTANT. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.
5. NO SLOPE ON THE SIDEWALK ACCESS RAMP SHALL EXCEED 1:12 (8.3%) IN RELATIONSHIP TO THE GRADE OF THE STREET.
6. IN NO CASE SHALL THE WIDTH OF THE SIDEWALK ACCESS RAMP BE LESS THAN 48" ALL RAMPS SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.
7. USE CLASS A 3000 PSI CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NONSKID SURFACE.
8. A 1/2" EXPANSION JOINT INSTALLED FULL DEPTH WILL BE REQUIRED WHERE THE CONCRETE SIDEWALK ACCESS RAMP JOINS THE CURB AND ALSO WHERE NEW CONCRETE ADJUTS EXISTING CONCRETE.
9. CURB RAMPS SHOULD BE PLACED PARALLEL TO THE DIRECTION OF TRAVEL.

**CITY OF RALEIGH STANDARD DETAIL**

REVISION	DATE	BY	DESCRIPTION

**CURB RAMPS**

**T-20.01.8**



**ULINE** 1-800-295-5110

**WAVE BIKE RACKS**

10000, 30000, 50000

• Storage galvanized steel or attractive powder coating.  
• 2.50" diameter bar.  
• For shuttles, posts and chain links.  
• Mounting hardware included.

MODEL NO.	DESCRIPTION	SIZE	BIKE CAP.	MS. PRICE EACH	ADD TO CART
10000	14000	22 x 7 1/2 x 34"	3	27	5200
30000	30000	48 x 7 1/2 x 34"	3	36	395
50000	50000	48 x 2 1/2 x 34"	7	86	511

**SHORT TERM BIKE RACK DETAIL**

NOT TO SCALE

**SITE DETAILS FOR CANVAS AT PACK PLACE**

RALEIGH WAKE COUNTY, NORTH CAROLINA

**MORRIS & RITCHE ASSOCIATES OF NC, PC**  
ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

530 HINTON POND RD, STE 104  
KNIGHTDALE, NC 27545  
(919) 200-2103  
MORRIS@MRA.COM  
WWW.MRACON.COM  
© 2023 MORRIS & RITCHE ASSOCIATES, INC.

**MRA**

JOB NO. 21234  
SCALE AS SHOWN  
DATE 4-11-2024  
ENGINEER: JMK  
DRAWN BY: MAC  
DESIGN BY: REDS  
REVIEW BY: FLT

**LONG TERM BIKE RACK SHELTER DETAIL**

No.	DATE	REVISIONS

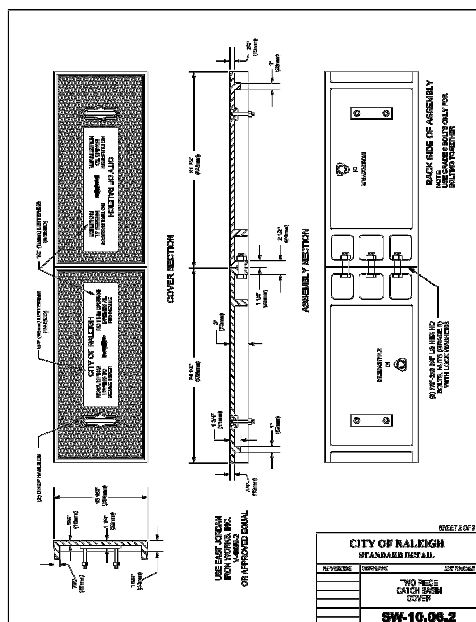
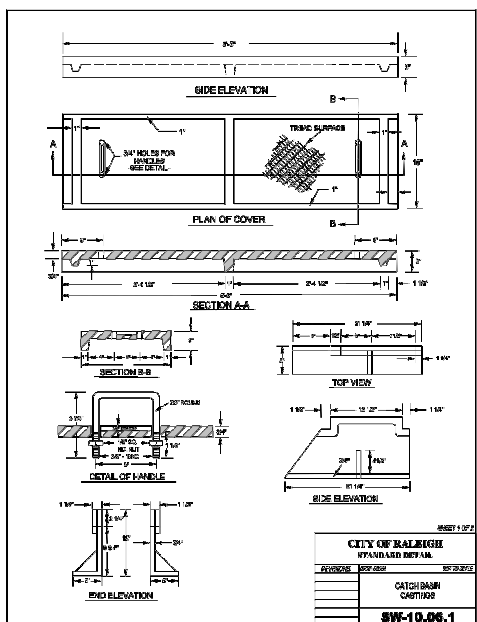
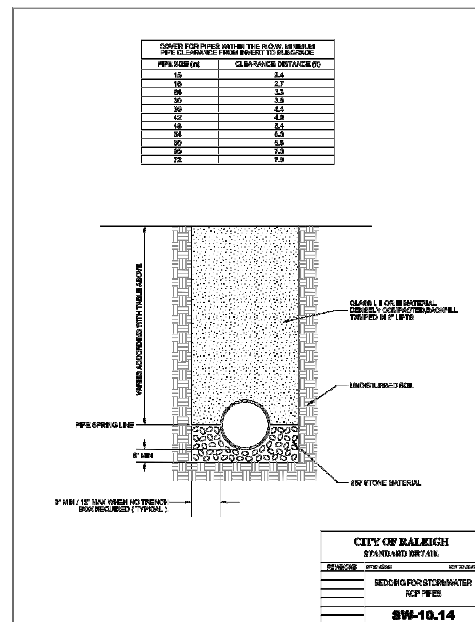
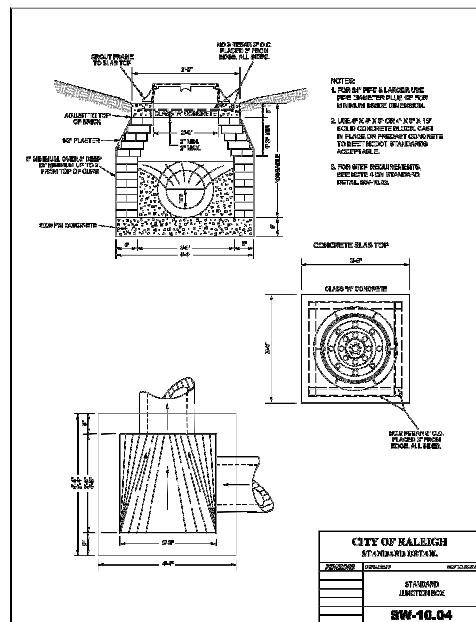
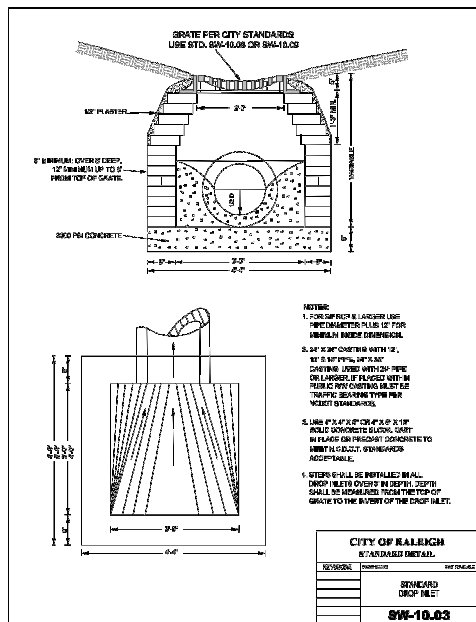
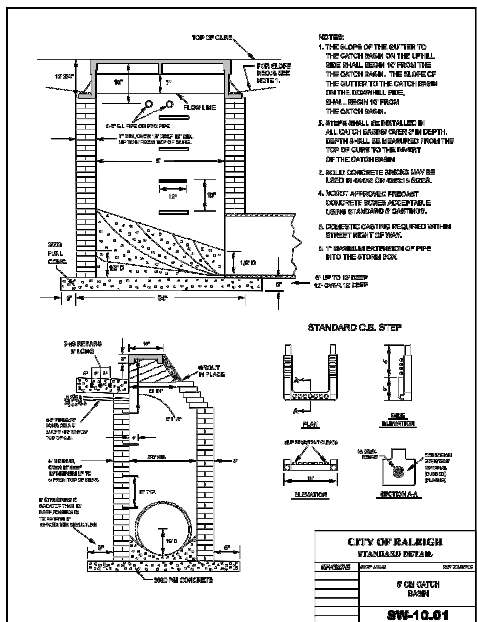
STATUS: PRELIMINARY NOT FOR CONSTRUCTION

REVISION SHEET: D1.0









No.	DATE	REVISIONS

**CATCH BASIN DETAILS FOR CANVAS AT PACK PLACE**

RALEIGH WAKE COUNTY, NORTH CAROLINA

**MORRIS & RITCHIE ASSOCIATES OF NC, PC**  
ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
530 HINTON POND RD, STE 104  
KNIGHTDALE, NC 27545  
(919) 200-2103  
WWW.MRACFTA.COM

**MRA**

JOB No. 21234  
SCALE AS SHOWN  
DATE 4-11-2024  
ENGINEER: JMK  
DRAWN BY: MAC  
DESIGN BY: REDS  
REVIEW BY: FLT

STATUS: PRELIMINARY NOT FOR CONSTRUCTION

REVISION	SHEET
	D3.0

1. MORRIS & RITCHIE ASSOCIATES OF NC, PC  
 2. ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
 3. 530 HINTON POND ROAD, STE 104, KNIGHTDALE, NC 27545  
 4. (919) 200-2103  
 5. WWW.MRACFTA.COM











6/11/19

HERBACEOUS PLANTS-Seeding recommendations for immediate establishment on eroded areas (1 to 2 weeks for developing effective grasses post 6 months to 1 year establishment)

Table 6.11.a

Table with columns: Species Name, Native Species, Seeding Rate, Establishment, etc. Lists various grasses and forbs with their respective seeding rates and establishment notes.

- NOTES: 1. Establish on a 10% slope or less unless noted. 2. Establish on a 10% slope or less unless noted. 3. Use water quality to assess soil fertility or nutrient levels. 4. Review site conditions to determine if any additional site preparation is needed. 5. Seeding rate recommendations are based on a 10% slope unless noted otherwise.

\*SOURCE: NCEM EROSION CONTROL MANUAL

6/11/19

HERBACEOUS PLANTS-Seeding recommendations for primary stabilization (immediate development depends on planting date effectiveness post 6 mos. to 1 yr. unless an ongoing maintenance program)

Table 6.11.b

Table with columns: Species Name, Native Species, Seeding Rate, Establishment, etc. Lists various grasses and forbs with their respective seeding rates and establishment notes.

\*SOURCE: NCEM EROSION CONTROL MANUAL

6/11/19

HERBACEOUS PLANTS-Seeding recommendations for primary stabilization (immediate development depends on planting date effectiveness post 6 mos. to 1 yr. unless an ongoing maintenance program)

Table 6.11.c

Table with columns: Species Name, Native Species, Seeding Rate, Establishment, etc. Lists various grasses and forbs with their respective seeding rates and establishment notes.

\*SOURCE: NCEM EROSION CONTROL MANUAL

Practice Standards and Specifications

Table 6.11.d

Seed Mixes for Native Species (Soils) When Mixed with 3, 4, or 6 Other Native Species (See Table 6.11.a for native crop species to be added to these mixes)

Table with columns: Species Group, 3 Other (total 4 species), 4 Other (total 5 species), 6 Other (total 6 species). Lists seed mix recommendations for various native species groups.

- NOTES: 1. With the native varieties, the seed mix should be in the range of 16 pounds per acre. 2. Depending on availability of native seeds available to North Carolina, the percentage of a particular variety used may be reduced or increased accordingly. 3. Although diversity is desirable, it is imperative that the primary crop develop and become an effective protective cover. 4. In addition to the native species mix, additional native crop species must be included to provide immediate stabilization and an adequate ground cover.

\*SOURCE: NCEM EROSION CONTROL MANUAL

6/11/19

6/11/19

6/11/19

HERBACEOUS PLANTS-Seeding recommendations for primary stabilization (immediate development depends on planting date effectiveness post 6 mos. to 1 yr. unless an ongoing maintenance program)

Table 6.11.e (cont'd)

Table with columns: Species Name, Native Species, Seeding Rate, Establishment, etc. Lists various grasses and forbs with their respective seeding rates and establishment notes.

\*SOURCE: NCEM EROSION CONTROL MANUAL

6/11/19

HERBACEOUS PLANTS-Seeding recommendations for primary stabilization (immediate development depends on planting date effectiveness post 6 mos. to 1 yr. unless an ongoing maintenance program)

Table 6.11.f (cont'd)

Table with columns: Species Name, Native Species, Seeding Rate, Establishment, etc. Lists various grasses and forbs with their respective seeding rates and establishment notes.

\*SOURCE: NCEM EROSION CONTROL MANUAL

LANDSCAPE DETAILS FOR CANVAS AT PAK PLACE

RALEIGH WAKE COUNTY, NORTH CAROLINA



MORRIS & RITCHIE ASSOCIATES OF NC, PC ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS 5605 CHAPEL HILL RD, STE 112 RALEIGH, NC 27607 (919) 205-2103

Table with columns: No., DATE, REVISIONS. Lists revision history for the drawing.

STATUS: PRELIMINARY NOT FOR CONSTRUCTION REVISION SHEET: D5.0

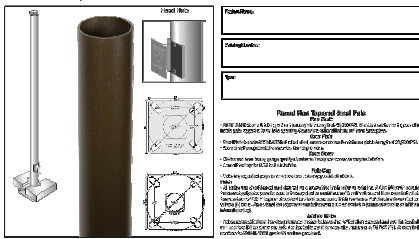
Vertical text on the far left edge of the page, likely a page number or reference code.







**RNTS Specifications**



**Features:**

- Cast aluminum housing with powder coat finish
- 100% aluminum housing with powder coat finish
- 100% aluminum housing with powder coat finish

**Ordering Information:**

Model: SHAPT SIZE GAUGE HEIGHT BASE ANCHORAGE MOUNTING FINISH OPTIONS

MODEL	SHAFT SIZE	GAUGE	HEIGHT	BASE	ANCHORAGE	MOUNTING	FINISH	OPTIONS
RNTS 48	48	11	37	SSC	SSC	ET	SS	OP
RNTS 48	48	11	37	SSC	SSC	ET	SS	OP
RNTS 48	48	11	37	SSC	SSC	ET	SS	OP
RNTS 48	48	11	37	SSC	SSC	ET	SS	OP
RNTS 48	48	11	37	SSC	SSC	ET	SS	OP

**VISIONAIRE LIGHTING**

**# EXO**  
**RNTS LINE**  
**LNC**  
 CONTRACT LED LINE

**FEATURES:**

- Cast aluminum housing with powder coat finish
- 100% aluminum housing with powder coat finish
- 100% aluminum housing with powder coat finish

**REPLACEMENT PARTS AND ACCESSORIES:**

Ordering Information: Part Number, Description, Price

**PERFORMANCE DATA:**

Model	Beam Angle	Beam Diameter @ 100'	Beam Diameter @ 200'	Beam Diameter @ 300'	Beam Diameter @ 400'	Beam Diameter @ 500'	Beam Diameter @ 600'	Beam Diameter @ 700'	Beam Diameter @ 800'	Beam Diameter @ 900'	Beam Diameter @ 1000'
48	11	11.0	22.0	33.0	44.0	55.0	66.0	77.0	88.0	99.0	110.0

**Current @**

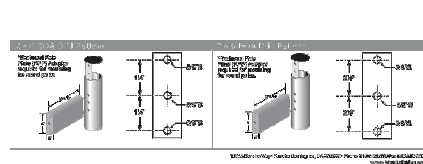
100' 200' 300' 400' 500' 600' 700' 800' 900' 1000'

**Features & Specifications**

**Table with 12 columns: Part, Model, Shaft Size, Gauge, Height, Base, Anchorage, Mounting, Finish, Options, Price, Notes.**

**For Details See RFL's Accessory Catalog:**

- CATALOG: They will show such as lamp brackets, mounting, etc.
- CATALOG: They will show such as lamp brackets, mounting, etc.



**VISIONAIRE LIGHTING**

**# EXO**  
**RNTS LINE**  
**LNC**  
 CONTRACT LED LINE

**REPLACEMENT PARTS AND ACCESSORIES:**

Ordering Information: Part Number, Description, Price

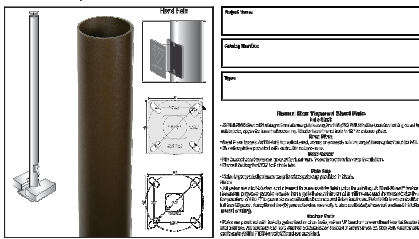
**PERFORMANCE DATA:**

Model	Beam Angle	Beam Diameter @ 100'	Beam Diameter @ 200'	Beam Diameter @ 300'	Beam Diameter @ 400'	Beam Diameter @ 500'	Beam Diameter @ 600'	Beam Diameter @ 700'	Beam Diameter @ 800'	Beam Diameter @ 900'	Beam Diameter @ 1000'
48	11	11.0	22.0	33.0	44.0	55.0	66.0	77.0	88.0	99.0	110.0

**Current @**

100' 200' 300' 400' 500' 600' 700' 800' 900' 1000'

**RNTS Specifications**



**Features:**

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**Ordering Information:**

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RNTS 48	48	11	37	SSC	SSC	ET	SS	OP
RNTS 48	48	11	37	SSC	SSC	ET	SS	OP
RNTS 48	48	11	37	SSC	SSC	ET	SS	OP
RNTS 48	48	11	37	SSC	SSC	ET	SS	OP
RNTS 48	48	11	37	SSC	SSC	ET	SS	OP

**VISIONAIRE LIGHTING**

**# EXO**  
**RNTS LINE**  
**LNC**  
 CONTRACT LED LINE

**REPLACEMENT PARTS AND ACCESSORIES:**

Ordering Information: Part Number, Description, Price

**PERFORMANCE DATA:**

Model	Beam Angle	Beam Diameter @ 100'	Beam Diameter @ 200'	Beam Diameter @ 300'	Beam Diameter @ 400'	Beam Diameter @ 500'	Beam Diameter @ 600'	Beam Diameter @ 700'	Beam Diameter @ 800'	Beam Diameter @ 900'	Beam Diameter @ 1000'
48	11	11.0	22.0	33.0	44.0	55.0	66.0	77.0	88.0	99.0	110.0

**Current @**

100' 200' 300' 400' 500' 600' 700' 800' 900' 1000'

**SITE LIGHTING DETAILS FOR CANVAS AT PAK PLACE**

RALEIGH WAKE COUNTY, NORTH CAROLINA

**MORRIS & RITCHIE ASSOCIATES OF NC, PC**  
 ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

5605 CHAPEL HILL RD, STE 112  
 RALEIGH, NC 27607  
 (919) 200-2103  
 MORRIS@MRA-NC.COM  
 WWW.MRA-NC.COM  
 © 2021 MORRIS & RITCHIE ASSOCIATES, INC.

No.	DATE	REVISIONS

**MRA**

SCALE AS SHOWN  
 DATE 4-1-2024  
 DRAWN BY JMK  
 DESIGN BY RDT/JTE  
 REVIEW BY FLT

STATUS:  
**PRELIMINARY NOT FOR CONSTRUCTION**

REVISION SHEET:  
**D6.1**

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO	



# PACK AT CANVAS PLACE

## RALEIGH, NC

### MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
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 45x76 DESIGNATION SS.
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<sup>3</sup>. 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.
9. 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-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
  - STONESHOOTER LOCATED OFF THE CHAMBER BED.
  - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
  - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 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 MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXFORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

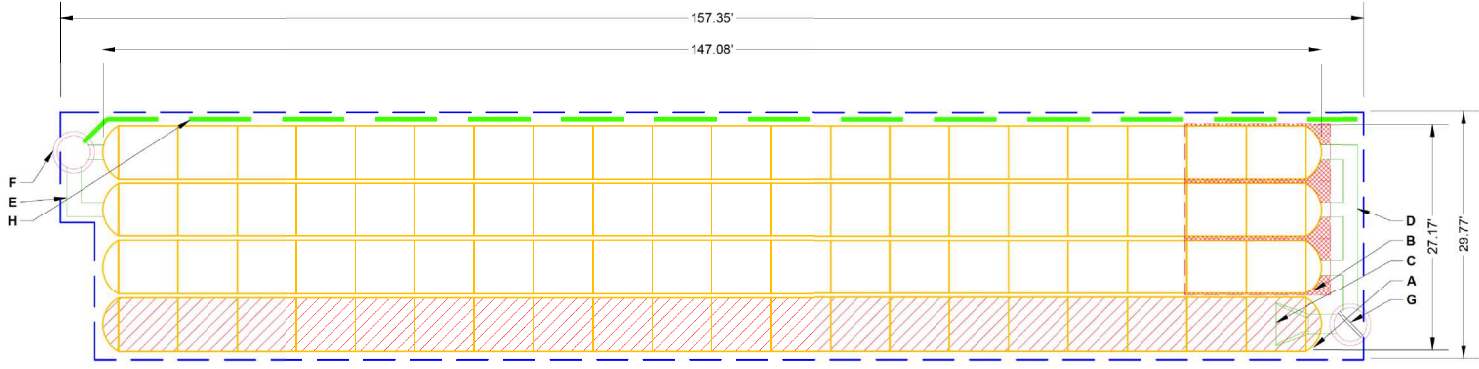
### NOTES FOR CONSTRUCTION EQUIPMENT

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

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		PROPOSED ELEVATIONS		*INVERT ABOVE BASE OF CHAMBER			
NO.	DESCRIPTION	ELEVATION	PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT	MAX FLOW
80	STORMTECH MC-3500 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):					
8	STORMTECH MC-3500 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):					
12	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):					
9	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):					
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF EXISTING PAVEMENT):					
15504	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF STONE: 478.50 TOP OF MC-3500 CHAMBER: 477.50 24" ISOLATOR ROW PLUS INVERT: 473.92 18" x 18" BOTTOM MANIFOLD INVERT: 473.90	PREFABRICATED END CAP	A	24" BOTTOM CORED END CAP, PART#: MC3500IEPP24BC / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.06'	
4616	SYSTEM AREA (SF)	18" x 18" BOTTOM MANIFOLD INVERT: 473.90	PREFABRICATED END CAP	B	18" BOTTOM CORED END CAP, PART#: MC3500IEPP18BC / TYP OF ALL 18" BOTTOM CONNECTIONS	1.77"	
374.2	SYSTEM PERIMETER (ft)	18" BOTTOM CONNECTION INVERT: 473.00 BOTTOM OF MC-3500 CHAMBER: 473.75 UNDERDRAIN INVERT: 473.00 BOTTOM OF STONE: 473.00	FLAMP	C	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: MC350024RAMP		
			MANIFOLD	D	18" x 18" BOTTOM MANIFOLD, ADS N-12	1.77"	
			MANIFOLD	E	18" x 18" BOTTOM MANIFOLD, ADS N-12	1.77"	
			CONCRETE STRUCTURE	F	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)		8.0 CFS OUT
			CONCRETE STRUCTURE	G	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		16.5 CFS IN
			W/WEIR				
			UNDERDRAIN	H	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		



**NOTES**

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #0.32 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.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- 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.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

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Chamber System

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RALEIGH, NC

DATE: \_\_\_\_\_ DRAWN: JG  
PROJECT #: \_\_\_\_\_ CHECKED: N/A

DESCRIPTION: \_\_\_\_\_

DATE: \_\_\_\_\_ DRAWN: \_\_\_\_\_ CHECK: \_\_\_\_\_

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2 OF 5

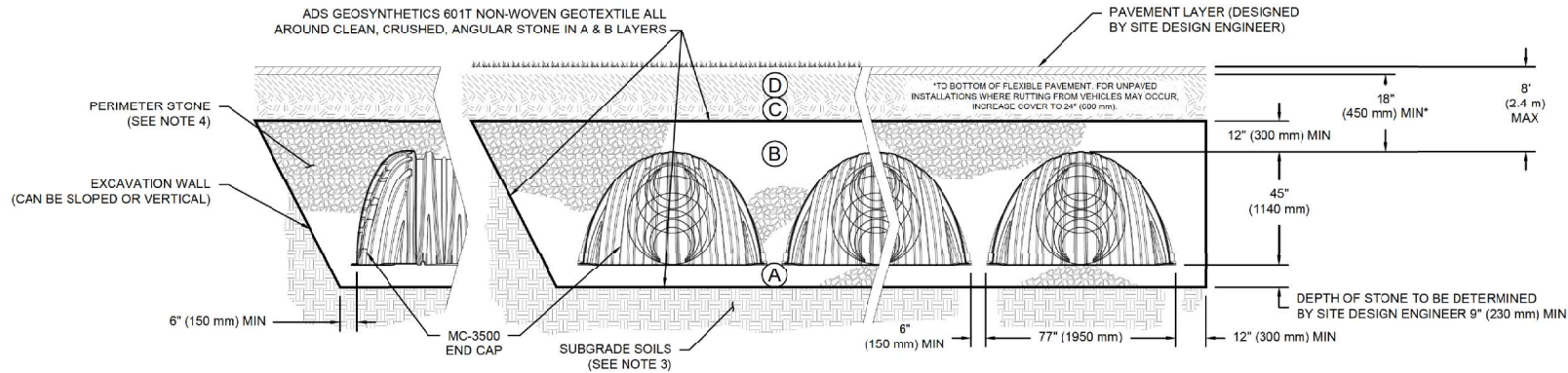


## ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	<b>FINAL FILL:</b> FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	<b>INITIAL FILL:</b> 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.	AASHTO M145 <sup>1</sup> A-1, A-2-4, A-3  OR AASHTO M43 <sup>1</sup> 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	<b>EMBEDMENT STONE:</b> FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 <sup>1</sup> 3, 4	NO COMPACTION REQUIRED.
A	<b>FOUNDATION STONE:</b> FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 <sup>1</sup> 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE <sup>23</sup>

**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.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



**NOTES:**

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 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.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- 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<sup>2</sup>. 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.

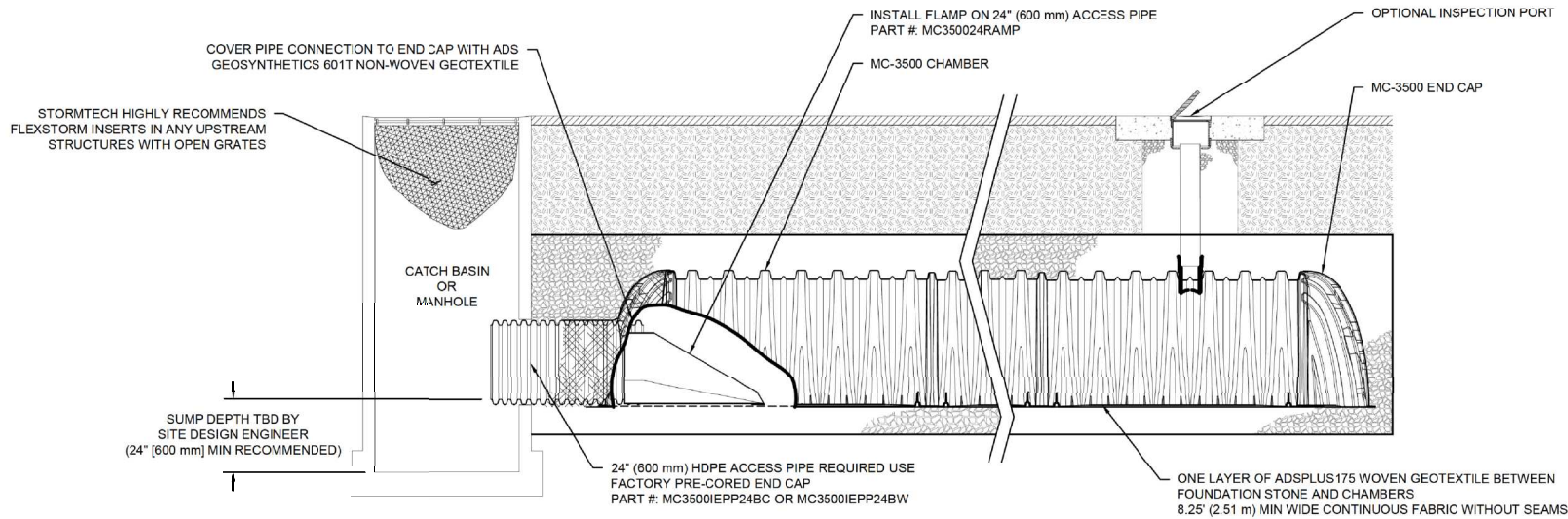
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DATE:	PROJECT #:	
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**MC-3500 ISOLATOR ROW PLUS DETAIL**  
NTS

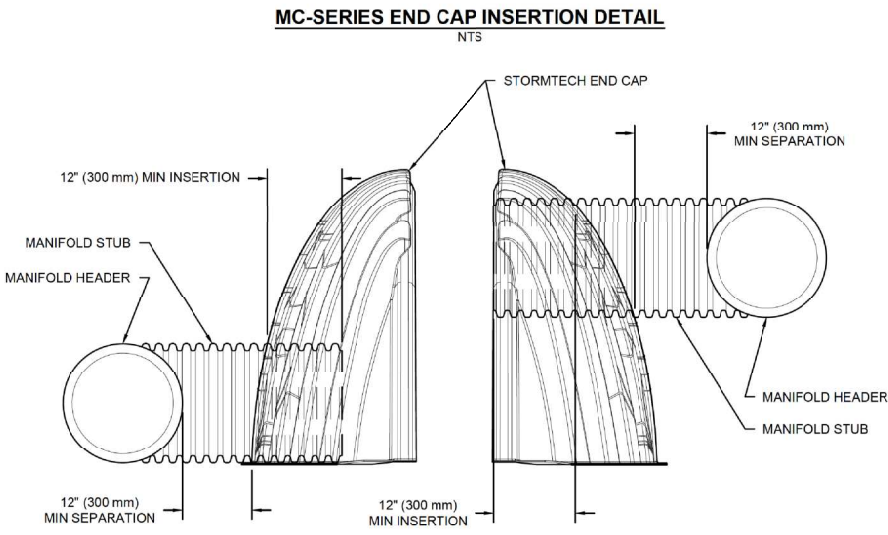
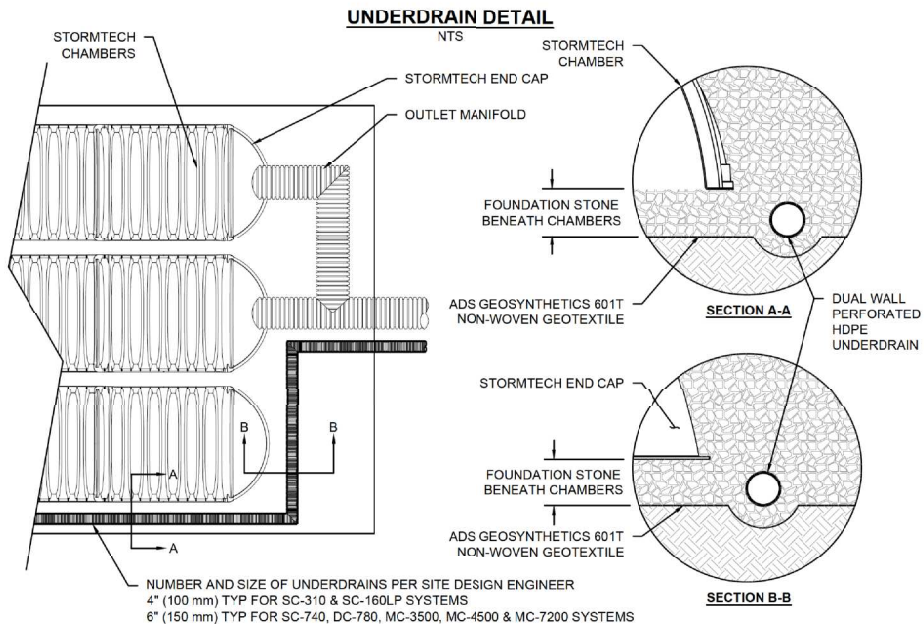
**INSPECTION & MAINTENANCE**

- 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.

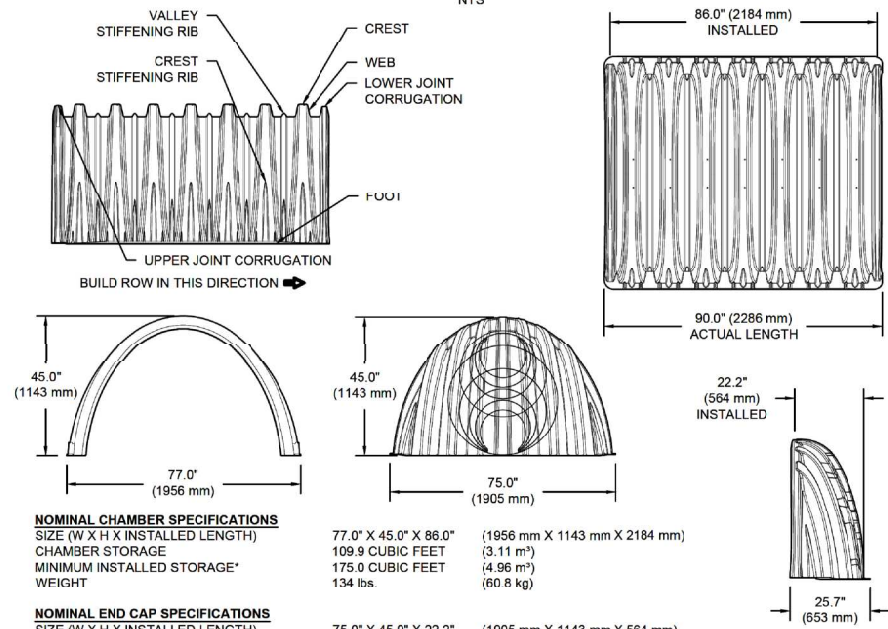
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DATE:		PROJECT #:	DATE	DRW	CHK
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NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

### MC-3500 TECHNICAL SPECIFICATION

NTS



**NOMINAL CHAMBER SPECIFICATIONS**

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m <sup>3</sup> )
MINIMUM INSTALLED STORAGE*	175.0 CUBIC FEET	(4.96 m <sup>3</sup> )
WEIGHT	134 lbs.	(60.8 kg)

**NOMINAL END CAP SPECIFICATIONS**

SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m <sup>3</sup> )
MINIMUM INSTALLED STORAGE*	45.1 CUBIC FEET	(1.28 m <sup>3</sup> )
WEIGHT	49 lbs.	(22.2 kg)

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

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

PART #	STUB	B	C
MC3500IEPP06T		33.21" (844 mm)	---
MC3500IEPP06B	6" (150 mm)	---	0.66" (17 mm)
MC3500IEPP08T		31.16" (791 mm)	---
MC3500IEPP08B	8" (200 mm)	---	0.81" (21 mm)
MC3500IEPP10T		29.04" (738 mm)	---
MC3500IEPP10B	10" (250 mm)	---	0.93" (24 mm)
MC3500IEPP12T		26.36" (670 mm)	---
MC3500IEPP12B	12" (300 mm)	---	1.35" (34 mm)
MC3500IEPP15T		23.39" (594 mm)	---
MC3500IEPP15B	15" (375 mm)	---	1.50" (38 mm)
MC3500IEPP18TC		20.03" (509 mm)	---
MC3500IEPP18TW		---	---
MC3500IEPP18BC	18" (450 mm)	---	1.77" (45 mm)
MC3500IEPP18BW		---	---
MC3500IEPP24TC		14.48" (368 mm)	---
MC3500IEPP24TW		---	---
MC3500IEPP24BC	24" (600 mm)	---	2.06" (52 mm)
MC3500IEPP24BW		---	---
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

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

PACK AT CANVAS PLACE

RALEIGH, NC

DATE: \_\_\_\_\_ PROJECT #: \_\_\_\_\_ CHECKED: N/A

DESIGNER: \_\_\_\_\_ DATE: \_\_\_\_\_ DRAWN: JG

DESCRIPTION: \_\_\_\_\_

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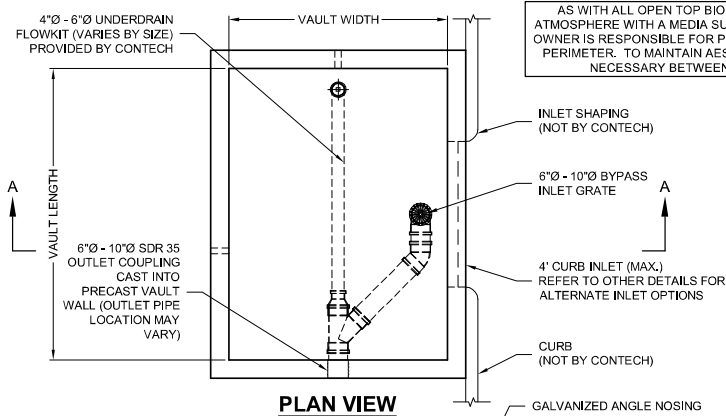
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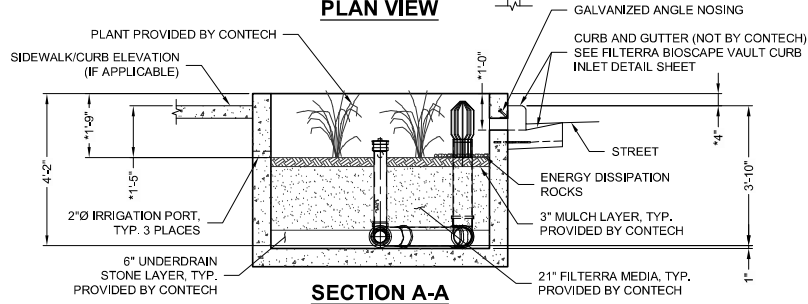
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**DIMENSIONS PRECEDED BY " \* " ARE CRITICAL AND MAY NOT BE MODIFIED WITHOUT CONSULTING CONTECH**



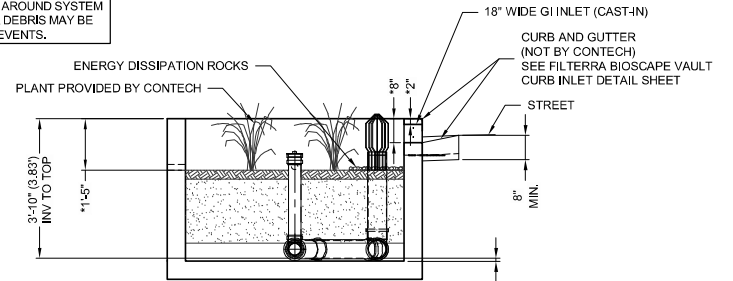
AS WITH ALL OPEN TOP BIoretention SYSTEMS, FILTERRA BIOSCAPE IS OPEN TO THE ATMOSPHERE WITH A MEDIA SURFACE RECESSED BELOW FINISHED GRADE. CONTRACTOR OR OWNER IS RESPONSIBLE FOR PROVIDING ANY REQUIRED SAFETY MEASURES AROUND SYSTEM PERIMETER. TO MAINTAIN AESTHETICS, REMOVAL OF HEAVY STORMWATER DEBRIS MAY BE NECESSARY BETWEEN REGULAR FILTERRA SYSTEM MAINTENANCE EVENTS.

**PLAN VIEW**



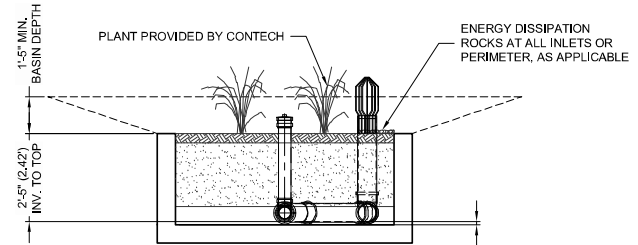
**SECTION A-A**

(SLOTTED THROAT INLET - TOP EXTENDS 4" ABOVE CURB FOR ADJACENT SIDEWALKS)



**SECTION A-A**

GREEN INFRASTRUCTURE INLET - TOP FLUSH WITH TOP OF CURB, NOT INTENDED FOR SIDEWALK APPLICATIONS



**SECTION A-A**

BASIN - CURB INLET OR PIPE INLETS OPTIONAL

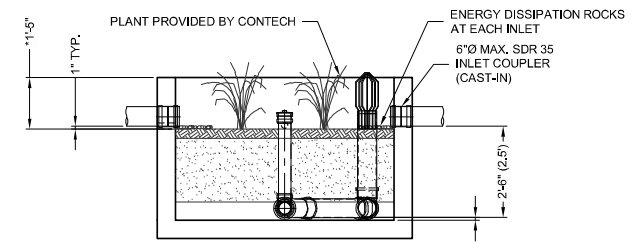
**FTBSVIB CONFIGURATION**

(OPTIONS: BASIN "B", GREEN INFRASTRUCTURE INLET "J", PIPE INLET "P", SLOTTED THROAT INLET "T")

MEDIA BAY SIZE	VAULT SIZE (L x W)	LONG SIDE INLET DESIGNATION	SHORT SIDE INLET DESIGNATION	AVAILABILITY	MAX. OUTLET / BYPASS PIPE DIA.	MAX. BYPASS FLOW (CFS)	UNDERDRAIN PIPE DIA. (PERF)	MIN. NO. OF INLET PIPES (P ONLY)
4 x 4	4 x 4	FTBSVIB0404	FTBSVIB0404	ALL	6" SDR 35	1.42	4" SDR 35	1
6 x 4	6 x 4	FTBSVIB0604	FTBSVIB0406	ALL	8" SDR 35	1.89	4" SDR 35	1
7.83 x 4.5	7.83 x 4.5	FTBSVIB078045	FTBSVIB045078	DE,MD,NJ,PA,VA,WV ONLY	8" SDR 35	1.89	4" SDR 35	1
8 x 4	8 x 4	FTBSVIB0804	FTBSVIB0408	N/A	8" SDR 35	1.89	4" SDR 35	1
8 x 6	6 x 6	FTBSVIB0606	FTBSVIB0606	ALL	8" SDR 35	1.89	4" SDR 35	1
8 x 6	8 x 6	FTBSVIB0806	FTBSVIB0608	ALL	10" SDR 35	2.37	4" SDR 35	1
10 x 6	10 x 6	FTBSVIB1006	FTBSVIB0610	ALL	10" SDR 35	2.37	6" SDR 35	2
12 x 6	12 x 6	FTBSVIB1206	FTBSVIB0612	ALL	10" SDR 35	2.37	6" SDR 35	2
13 x 7	13 x 7	FTBSVIB1307	FTBSVIB0713	ALL	10" SDR 35	2.37	6" SDR 35	2
14 x 8	14 x 8	FTBSVIB1408 <sup>†</sup>	N/A	ALL	10" SDR 35	2.37	6" SDR 35	3
16 x 8	16 x 8	FTBSVIB1608 <sup>†</sup>	N/A	N/A OR, WA	10" SDR 35	2.37	6" SDR 35	3
15 x 9	15 x 9	FTBSVIB1509 <sup>†</sup>	N/A	OR, WA ONLY	10" SDR 35	2.37	6" SDR 35	3
18 x 8	18 x 8	FTBSVIB1808 <sup>†</sup>	N/A	CALL CONTECH	10" SDR 35	2.37	6" SDR 35	3
20 x 8	20 x 8	FTBSVIB2008 <sup>†</sup>	N/A	CALL CONTECH	10" SDR 35	2.37	6" SDR 35	4
22 x 8	22 x 8	FTBSVIB2208 <sup>†</sup>	N/A	CALL CONTECH	10" SDR 35	2.37	6" SDR 35	4

<sup>†</sup>UTILIZES (2) CURB OPENINGS WITH MIN 1" SPACING

N/A = NOT AVAILABLE



**SECTION A-A**  
PIPE INLET

INTERNAL PIPE CONFIGURATION MAY VARY DEPENDING ON VAULT SIZE.

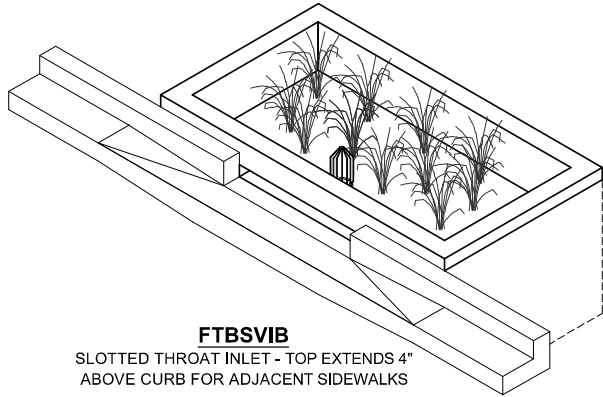


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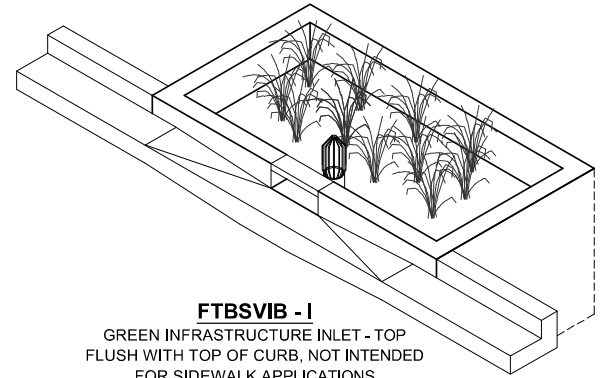
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FILTERRA BIOSCAPE VAULT INTERNAL BYPASS (FTBSVIB) CONFIGURATION DETAIL

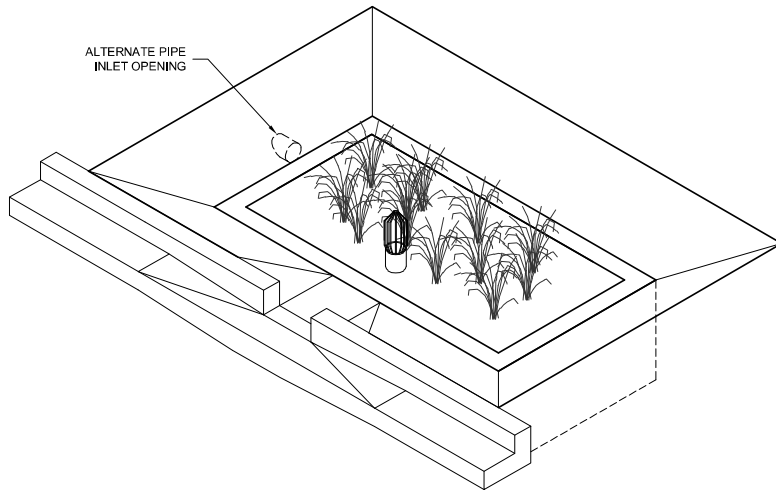
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**FTBSVIB**  
SLOTTED THROAT INLET - TOP EXTENDS 4"  
ABOVE CURB FOR ADJACENT SIDEWALKS

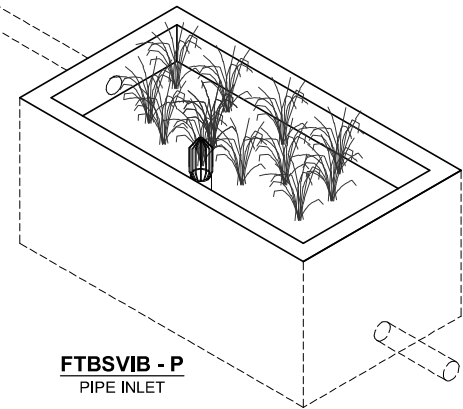
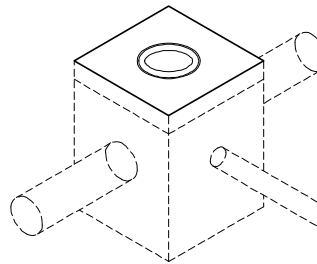


**FTBSVIB - I**  
GREEN INFRASTRUCTURE INLET - TOP  
FLUSH WITH TOP OF CURB, NOT INTENDED  
FOR SIDEWALK APPLICATIONS



ALTERNATE PIPE  
INLET OPENING

**FTBSVIB - B**  
BASIN - CURB INLET OR PIPE INLET OPTIONAL



**FTBSVIB - P**  
PIPE INLET

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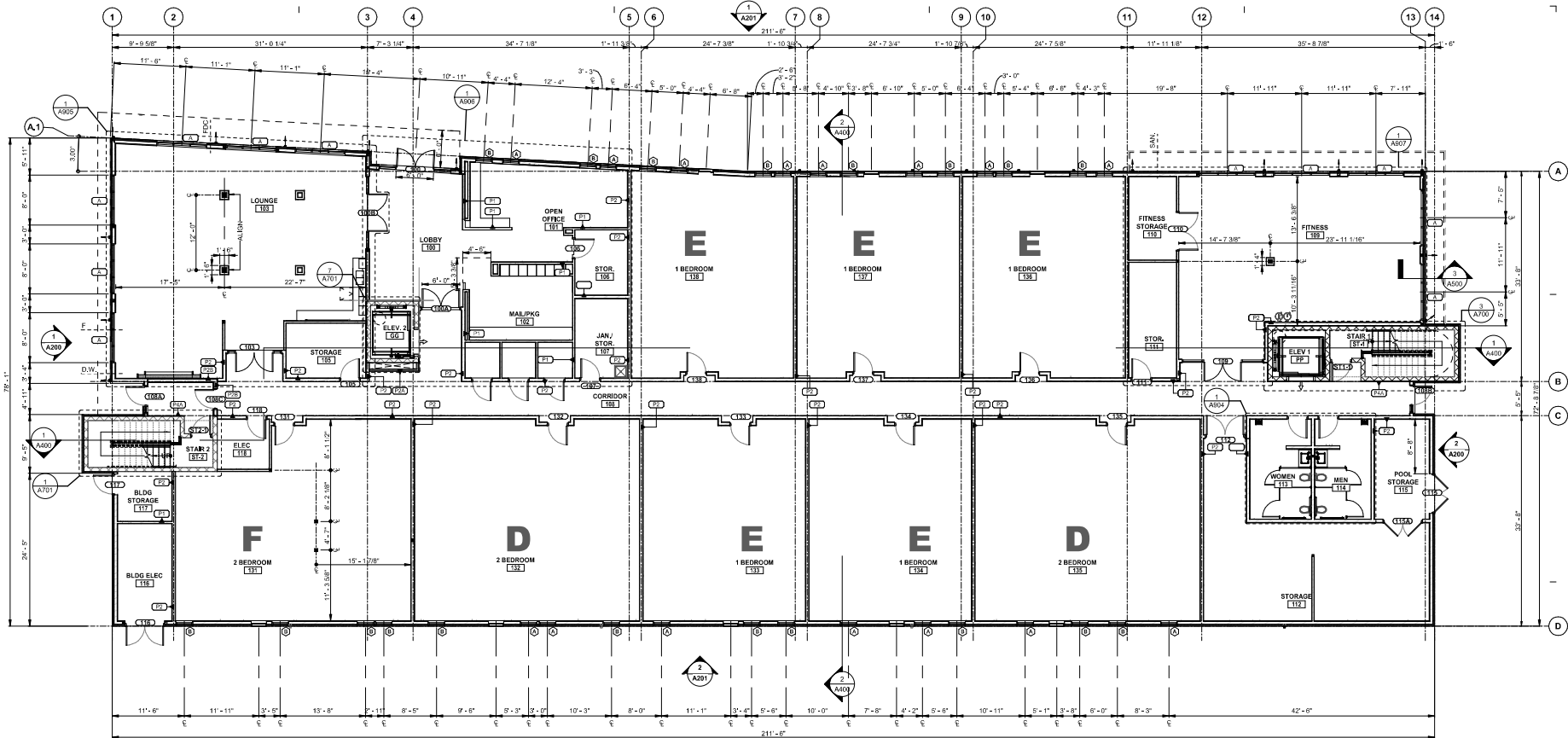
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FILTERRA BIOSCAPE VAULT INTERNAL BYPASS  
(FTBSVIB)  
SITE LAYOUTS





**1** FIRST FLOOR PLAN  
1/8" = 1'-0" REF: 1/A200

KEYNOTE

**GENERAL OVERALL FLOOR PLAN NOTES**

- ALL DIMENSIONS ARE FINISH DIMENSIONS, UNLESS OTHERWISE NOTED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SMOOTH ALL ROUGH SURFACES ON FLOORS OR PATCH, FILL OR FLOAT EXISTING FLOORS TO A SMOOTH CONDITION CAPABLE OF RECEIVING NEW FINISHED FLOOR COVERING.
- ALL WALLS TO BE P.I. UNLESS NOTED OTHERWISE.
- SEE UNIT PLAN SHEETS FOR ADDITIONAL INFORMATION.

KEY PLAN  
PROJECT NO. 22024  
OWNER  
JD SIGNATURE HOMES  
BLAYZE DIPASQUALE

PROJECT NAME  
CANVAS AT PACK PLACE  
6019 & 6101 HILLSBOROUGH ST  
RALEIGH, NC


NO.	REVISION	DATE
1	35% SUBMISSION	04/28/2023
2	65% SUBMISSION	05/09/2023
3	85% SUBMISSION	06/09/2023

NO. REVISION DATE  
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SHEET TITLE  
FLOOR PLANS

**A101**

PROJECT NO. DATE ISSUED  
22024  
2.13.24  
2/13/2024 2:37:16 PM



**2** SOUTH ELEVATION  
1/8" = 1'-0" REF: 17 A101



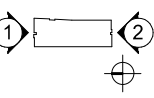
**1** NORTH ELEVATION  
1/8" = 1'-0" REF: 17 A101

TRANSPARENCY REQUIREMENTS PER UDO 3.2.4.E

E1 GROUND FLOOR	CALCULATIONS	TOTALS	CALCULATIONS	TRANSPARENCY
TOTAL FIRST FLOOR WALL AREA	78'-1" x 12'-0" = 936,996 sf	936,996 sf	184,002 + 32,252 sf = 216,254 sf	REQUIRED: 20%
FENESTRATION A (TYP OF 3)	8'-0"W x 7'-5"T = 61,234 sf	184,002 sf	216,254 sf / 936,996 sf = 0.231	PROVIDED: 23%
FENESTRATION B (TYP OF 1)	4'-6"W x 7'-2"T = 32,252 sf	32,252 sf	0.231 = 23%	

E3 BLANK WALL	REQUIRED: 35' MAX	PROVIDED 14'
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KEY PLAN  
PROJECT NO. 22024  
OWNER  
JD SIGNATURE HOMES  
BLAYZE DIPASQUALE



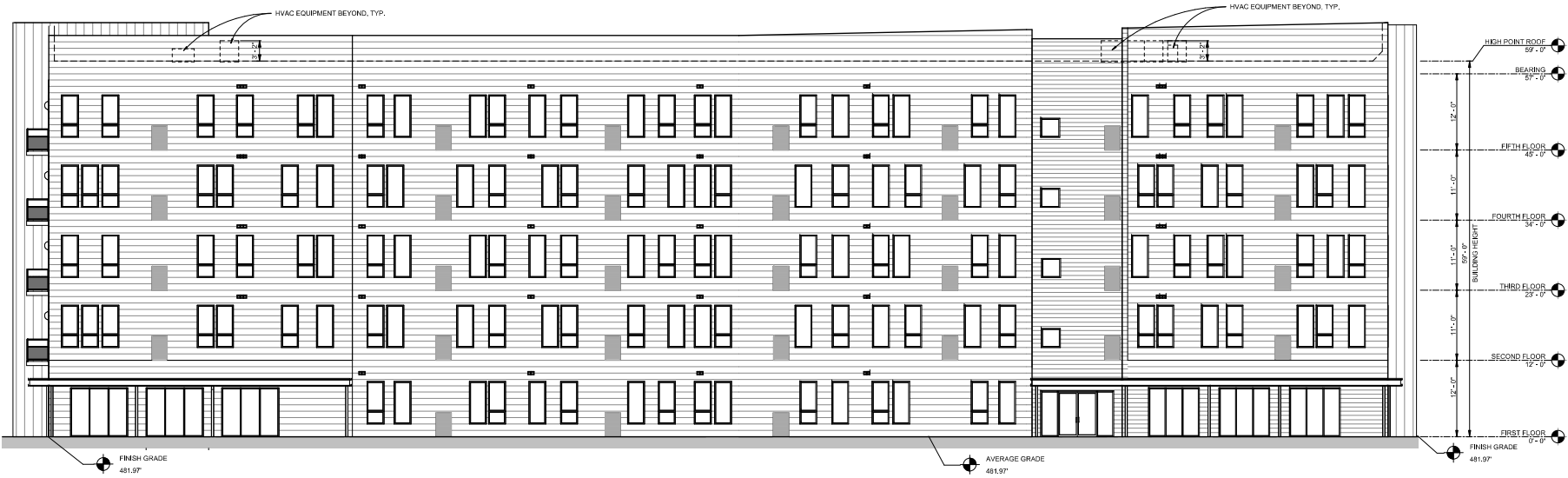
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6019 & 6101 HILLSBOROUGH ST  
RALEIGH, NC

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2	65% SUBMISSION	05/09/2022
3	85% SUBMISSION	04/09/2023

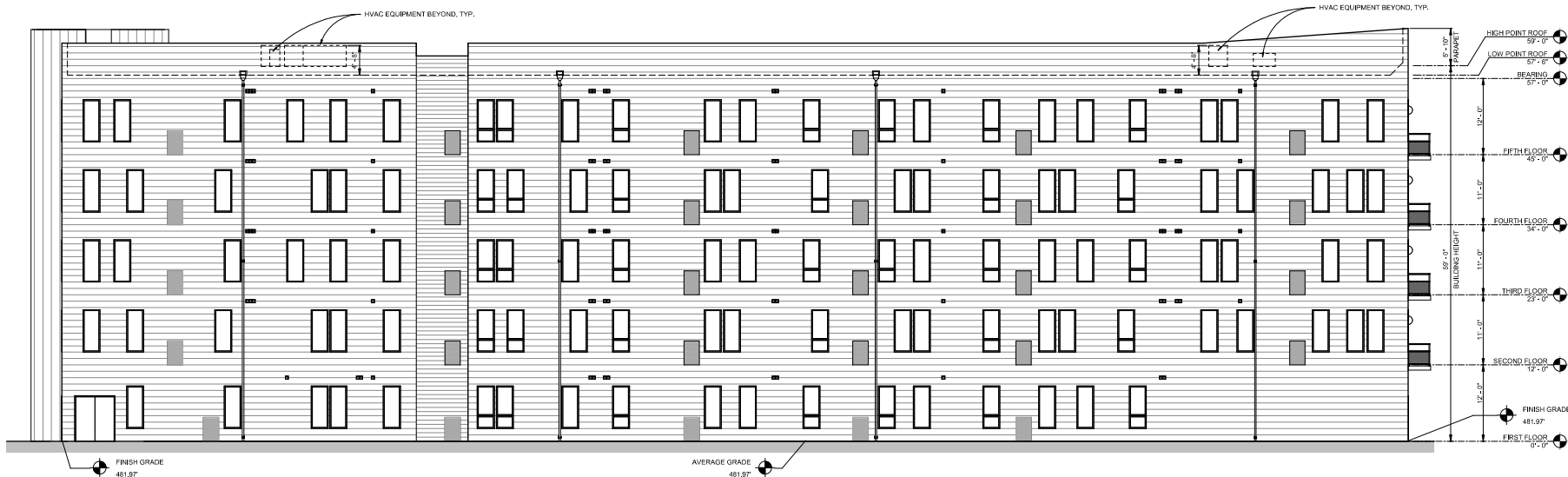
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SHEET TITLE  
ELEVATION - NORTH/SOUTH

**A200**

PROJECT NO. 22024  
DATE ISSUED 4.3.24  
4/3/2024 2:58:39 PM

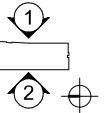


1 EAST ELEVATION  
1/8" = 1'-0" REF: 11 A101



2 WEST ELEVATION  
1/8" = 1'-0" REF: 11 A101

STAMP



KEY PLAN

PROJECT NO. 22024

OWNER  
JD SIGNATURE HOMES  
BLAYZE DIPASQUALE

PROJECT NAME

CANVAS AT PACK PLACE  
6019 & 6101 HILLSBOROUGH ST  
RALEIGH, NC

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SHEET TITLE  
ELEVATION - EAST/WEST

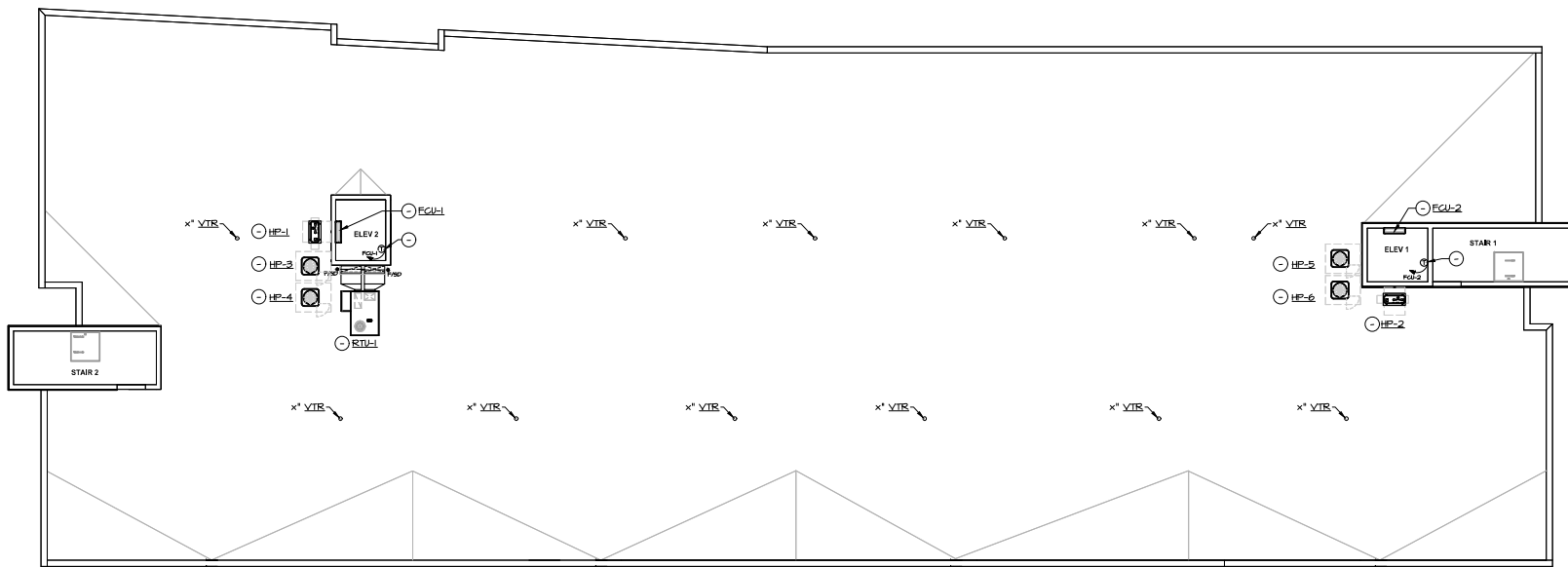
**A201**

PROJECT NO. DATE ISSUED

22024

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①③③ HVAC PLAN - ROOF   
SCALE: 1/8" = 1'-0"

**DRAWING NOTES**

- ① REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL FIXTURES AND EQUIPMENT.
- ② CONTRACTOR SHALL THOROUGHLY REVIEW THE ARCHITECTURAL DRAWINGS AND PROVIDE FIRE DAMPERS OR CEILING RADIATIONS DAMPERS, AS APPROPRIATE, AT ALL DUCT PENETRATIONS IN FIRE RATED FLOOR/CEILING ASSEMBLIES THROUGHOUT THE PROJECT AREA.
- ③ REFER TO INSULATION SCHEDULE, SHEET MXXX, FOR INSULATION REQUIREMENTS.
- ④ PROVIDE U.L. LISTED FIRESTOP/SEALANT AROUND ALL PENETRATIONS OF FIRE RATED ASSEMBLIES.
- ⑤ PROVIDE PACKAGED ROOFTOP UNIT WITH COMPLETE PERIMETER CURB, COORDINATE EXACT LOCATION WITH ROOF STRUCTURE. PROVIDE ROOF OPENINGS AS REQUIRED. REFER TO ROOFTOP AIR CONDITIONING UNIT SCHEDULE, SHEET MXXX, FOR ADDITIONAL INFORMATION.
- ⑥ MAINTAIN MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE.
- ⑦ PROVIDE DOUBLE INSULATED SHEETMETAL DUCTWORK ON ROOF EXTENDED AS SHOWN. PROVIDE DUCTWORK SUPPORTS AS REQUIRED. REFER TO DETAIL MXXX, FOR ADDITIONAL INFORMATION.
- ⑧ PROVIDE HIGH WALL MOUNTED DUCTLESS HEATPUMP SYSTEM (FCU) MOUNTED IN THE ELEVATOR SHAFT ABOVE HOIST WAY. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS, INCLUDING SERVICE CLEARANCES. CONNECT CONTROL WIRING BETWEEN INDOOR AND ASSOCIATED OUTDOOR HEAT PUMP (HP) UNIT WITH DIGITAL INVERTER. REFER TO SCHEDULE, SHEET MXXX, FOR ADDITIONAL INFORMATION.
- ⑨ PROVIDE WALL MOUNTED 1-DAY PROGRAMMABLE THERMOSTAT COMPATIBLE WITH FCU AND HP UNIT WITH HEAT/COOL/AUTO. ENTIRE THERMOSTAT SHALL BE MOUNTED IN THE ELEVATOR SHAFT ABOVE HOIST WAY. THERMOSTAT SHALL BE APPROVED BY MANUFACTURER PRIOR TO USE.
- ⑩ PROVIDE ROOF MOUNTED HEAT PUMP WITH DIGITAL INVERTER ON SNOW STANDS. FIELD COORDINATE EXACT LOCATION WITH ALL OTHER TRADES AND MAINTAIN ALL MANUFACTURER'S RECOMMENDED SERVICE CLEARANCES. REFER TO SCHEDULE, SHEET MXXX, FOR ADDITIONAL INFORMATION.
- ⑪ APPROXIMATE LOCATION OF VENT PIPING THROUGH ROOF (FOR COORDINATION ONLY). REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION. ARCHITECT.

KEY PLAN

PROJECT NO. 22174  
OWNER  
JD SIGNATURE HOMES  
BLAYZE DIPASQUALE

PROJECT NAME

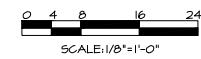
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SHEET TITLE  
HVAC PLAN  
ROOF

**M103**



65% CD SUBMISSION  
05/19/2023