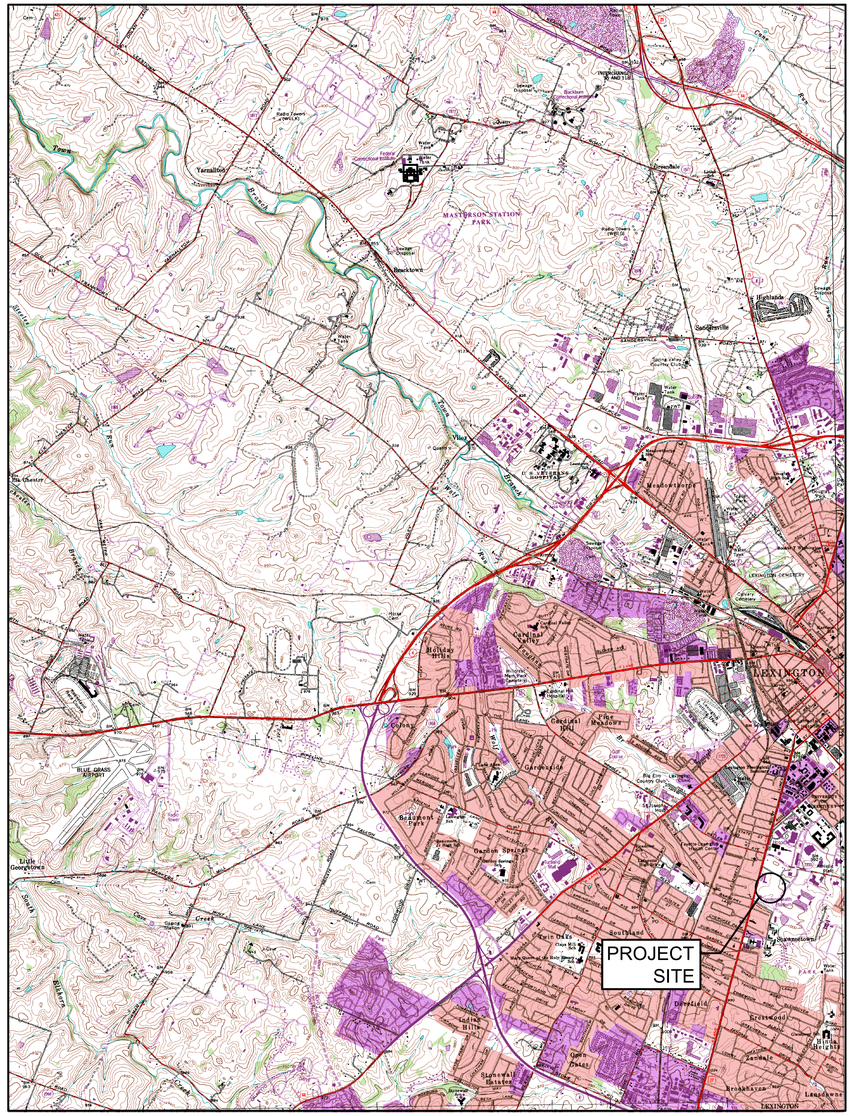
2490.0 ORANGE LOT EXPANSION PHASE 4
UNIVERSITY OF KENTUCKY

LEXINGTON, KENTUCKY

APRIL, 2018



VICINITY MAP

NOT TO SCALE

CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY

SF
Staggs and Fisher
Consulting Engineers, Inc.

STAGGS & FISHER CONSULTING ENGINEERS, INC.
3264 LOCHNESS DRIVE
LEXINGTON, KY 40517

(859) 271-3246
sfengineering.com

CONTRACT NO.
600-090
2018

2490.0 ORANGE LOT EXPANSION PHASE 4
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

BUD NOTE:

KENTUCKY STATUTES (KRS 367.4901 THROUGH 367.4917) REQUIRE THAT ALL EXCAVATORS PLANNING EXCAVATION OR DEMOLITION WORK SHALL NOTIFY ALL UTILITY COMPANIES IN THE AREA AND/OR AN UNDERGROUND PROTECTION SERVICE SUCH AS BUD (1-800-752-6007 OR 811) AT LEAST TWO (2) WORKING DAYS BEFORE COMMENCING WORK TO ALERT UTILITY COMPANIES IN THE AREA WITH UNDERGROUND FACILITIES OF THE PLANNED EXCAVATION OR DEMOLITION ACTIVITIES.

- [x] SCHEMATIC DESIGN
- [x] DESIGN DEVELOPMENT
- [x] BELL REVIEW
- [x] BID DOCUMENTS
- [x] RECORD DRAWINGS

RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

bell engineering
2480 fortune drive, suite 350
lexington, kentucky 40509
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www.hkbell.com

INDEX OF DRAWINGS

GENERAL

CIVIL

UTILITIES

LEGEND

EXISTING OVERHEAD ELECTRIC	—E—
EXISTING STORM SEWER	—STORM—
EXISTING GAS LINE	— G —
CABLE TELEVISION	—CTV—
EXISTING UNDERGROUND ELECTRIC	—UE—
EXISTING WATER LINE	— W —
EXISTING LIGHT POLE	LP
EXISTING CONTOURS	—1024—
PROPOSED CONTOURS	—1024—
DRAINAGE (direction of flow)	
EXISTING TREES	
EXISTING TREE OR BUSH TO BE REMOVED	
DRAIN INLET	DI
CURB INLET	CI
HEADWALL	HW
TOP OF STEP	TS
DO NOT DISTURB	DND
TREE PROTECTION FENCING	—TP—
SILT FENCE	—SF—
TEMPORARY DIVERSION DITCH	—TD—
LIMITS OF DISTURBANCE	
EXISTING BOLLARDS	
EXISTING RIPRAP	
PROPOSED RIPRAP	
EXISTING MANHOLE	
PROPOSED MANHOLE	
EXISTING STORM PIPE	
PROPOSED STORM PIPE	

CONTROL POINTS

SEE SHEET C30 FOR CONTROL POINTS.

BEFORE YOU DIG - CALL 811

*KENTUCKY STATUTES (KRS 367.4903 THROUGH 367.4917) REQUIRE THAT ALL EXCAVATORS PLANNING EXCAVATION OR DEMOLITION WORK SHALL CALL ALL UTILITY COMPANIES IN THE AREA AND/OR AN UNDERGROUND PROTECTIONS SERVICE SUCH AS "BUD" (1–800–752–6007) NOT LESS THAN TWO (2) BUSINESS DAYS NOR MORE THAN TEN (10) BUSINESS DAYS PRIOR TO COMMENCING WORK TO NOTIFY UTILITY COMPANIES IN THE AREA WITH UNDERGROUND FACILITIES OF THE PLANNED EXCAVATION OR DEMOLITION ACTIVITIES.

UTILITIY OWNERS

KENTUCKY AMERICAN WATER COMPANY
2300 RICHMOND ROAD
LEXINGTON, KENTUCKY 40502
PHONE: 859–268–6357

COLUMBIA GAS OF KENTUCKY
P.O. BOX 241
LEXINGTON, KENTUCKY
PHONE: 859–288–0243

KENTUCKY UTILITIES
500 STONE ROAD
LEXINGTON, KENTUCKY 40503
PHONE: 859–278–9355

LEXINGTON–FAYETTE URBAN COUNTY GOVERNMENT
DIVISION OF WATER QUALITY
125 LISLE INDUSTRIAL AVENUE, SUITE 180
LEXINGTON, KENTUCKY 40511
PHONE: 859–425–2255
859–425–2400

UNIVERSITY OF KENTUCKY PHYSICAL PLANT DIVISION
225 PETERSON SERVICE BUILDING
LEXINGTON, KENTUCKY 40506
PHONE: 859–257–5929
- WATER
- SEWER
- STORM
- POWER
- COMMUNICATION

RECORD DRAWINGS

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DESIGNER	TFH
DRAWN	DEB
CHECKED	TFH
APPROVED	RLP

DATE	BY	REVISION

GRAPHIC SCALE

SCALE:

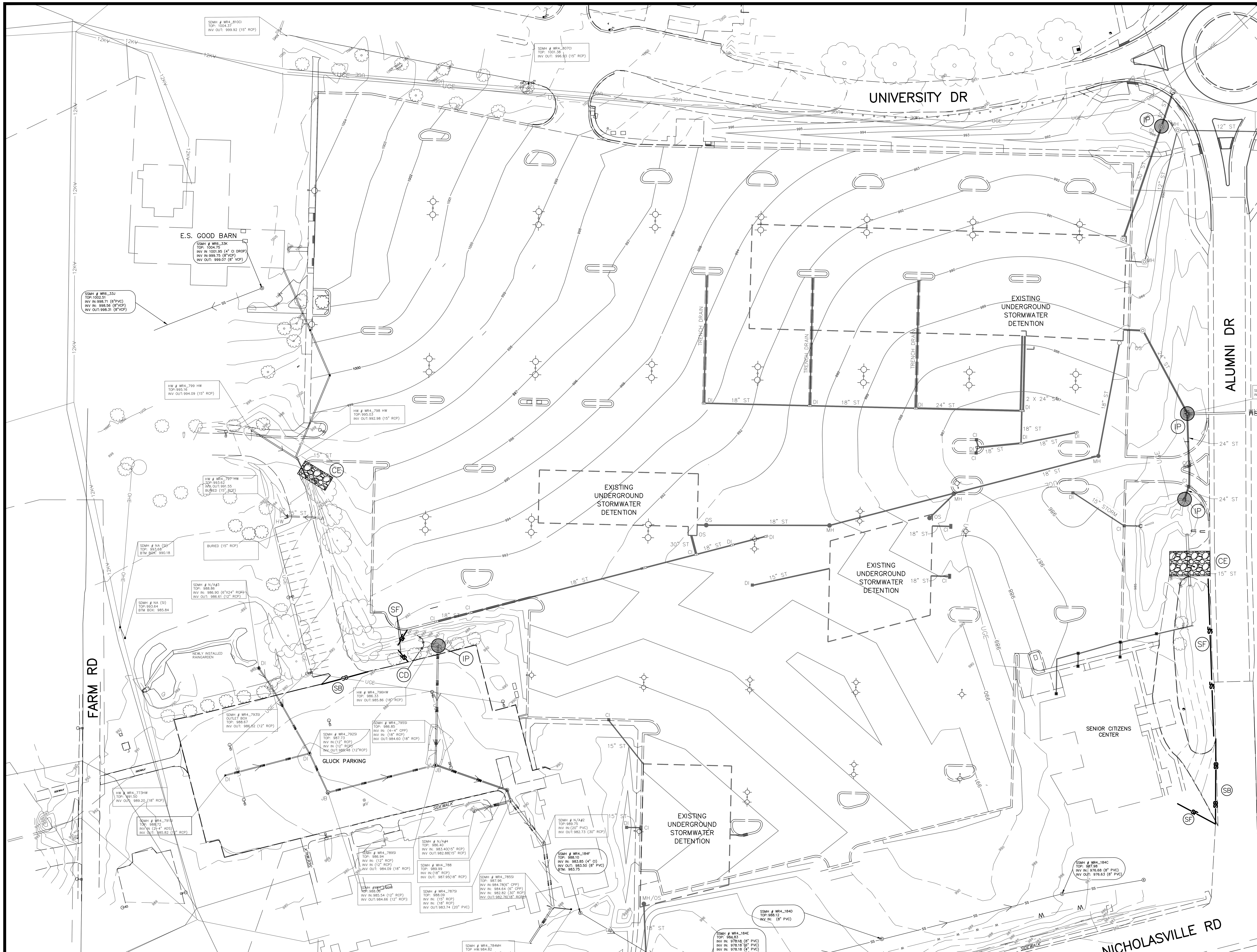
STATE OF KENTUCKY · R.L. PICKERILL · 15,052 · LICENSED PROFESSIONAL ENGINEER

bell engineering
Lexington, KY (859) 278–5412
Hopkinsville, KY (270) 886–5466
Asheville, NC (828) 774–5499

2490.0 ORANGE LOT EXPANSION PHASE 4
CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

INDEX OF DRAWINGS,
LEGEND & GENERAL NOTES

DIVISION	GENERAL
CONTRACT NO.	600–090
DATE	APRIL, 2018
SHEET NO.	G02



ORANGE LOT EXPANSION PHASE 4
EROSION & SEDIMENT CONTROL NOTES

April, 2018

1) Contractor shall prepare as a part of his construction scheduling plan an Erosion & Sediment Control plan. This plan shall indicate means of controlling erosion and sediment due to construction activities throughout the entire project. Guidance for preparing this document may be found in LFUCG Stormwater Manual, Chapter 11, and herein. Directives noted in these Plans and Specifications are not intended to dictate construction schedule. They are provided for Contractor's information and to illustrate how the project components are interrelated. Note that many erosion / sediment control BMPs require periodic inspection & maintenance. The Contractor is responsible for maintaining these BMPs throughout the course of the project. Because of the relationship between construction scheduling and erosion / sediment control, this Plan must by developed by the Contractor. This Plan will be submitted for review and approval by the Engineer, who will review for conformance with necessary erosion / sediment control performance. General requirements of the Erosion & Sediment Control Plan include the following:
   a. Control runoff around the construction sites, such that the effects of disturbing the ground surface are minimized on site and downstream.
   b. Construction is to be sequenced such that erosion and sediment transport is controlled. Some measures of accomplishing this are outlined herein.
2) Silt Fencing is to be installed to protect areas downstream from construction and must be installed prior to disturbance in an area. They may be removed once all of the disturbed areas lying upstream have been stabilized. Details are included herein for the construction of silt fences. Contractor is responsible for periodic inspection and ensuring that they are in good working order throughout the project. Where silt control is required along pavement areas, use sand bag Silt Barriers when Silt Fencing cannot be used.
3) Stabilized construction entrances are required at all points of access for construction activity. They are to be placed in order to minimize disturbance for drivers and residents near the construction site. Construction entrances are required wherever vehicles are leaving a construction site and enter onto a public road and at any unpaved entrance/exit location where there is risk of transporting mud or sediment onto paved roads. They are to be constructed of a minimum of 6" thickness of #2 crushed stone laid over KYTC Type III filter fabric. They are to be at least 20 feet long and as wide as the entire width of the access. The entrance shall be inspected weekly and after there has been a high volume of traffic or a storm event greater than 0.2 inches. The entrance shall be maintained to prevent sediments being deposited onto public rights—of—way, which may require periodic top dressing with additional stone, or other measures, as—needed.
4) Erosion control blankets shall be used on recently planted slopes to protect seedlings until they become established. Acceptable products include mulch netting and erosion control matting. In all cases, the Contractor shall perform periodic inspection to ensure proper performance & shall complete any necessary repairs. LFUCG Figures 11—1, 5, 6 & 7 provide guidance for using erosion control matting on slopes.
5) Concrete washout pits shall be constructed to minimize the discharge of pollutants into streams. They shall be sized approximately 20' x 20' x 5' and provided in sufficient quantities according to concrete placement within an area. They are to be maintained in good working order by the Contractor throughout the project and be cleaned when they reach approximately 75% of their volume.
6) Inlet protection shall be provided at all storm drain inlets. The purpose of the inlet protection is to prevent sediment from entering storm drainage systems prior to permanent stabilization of the disturbed area. They shall be constructed in a manner that will facilitate cleanout and disposal of trapped sediment and minimize interference with construction activities. LFUCG Figures 11—23 and 24 provide guidance for constructing inlet filters.
7) Check dams are small temporary dams constructed across a swale or drainage ditch. They are used to reduce the velocity off concentrated stormwater flows in order to reduce its erosion. The check dam will also trap small amounts of sediment, but is not considered as a sediment—trapping practice. Their use is limited to small, open channels that drain 5 acres or less. Check dams may be constructed of stones with filter fabric or sand bag filters and are limited in height to two feet.

EROSION CONTROL LEGEND

SYMBOLS	DESCRIPTION	DETAIL NO. AND SHEET
CE	CONSTRUCTION EXIT	SEE SHEET C1.1
SF	SILT FENCE	SEE SHEET C1.1
CD	CHECK DAM	SEE SHEET C1.1
SB	SILT BARRIER	SEE SHEET C1.1
IP	INLET PROTECTION	SEE SHEET C1.1

RECORD DRAWINGS

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DESIGNER	TFH	DATE	BY	REVISION	
DRAWN	DEB				
CHECKED	TFH				
APPROVED	RLP				

GRAPHIC SCALE

SCALE: 1"=50'

STATE OF KENTUCKY R.L. PICKERILL 15,052 LICENSED PROFESSIONAL ENGINEER

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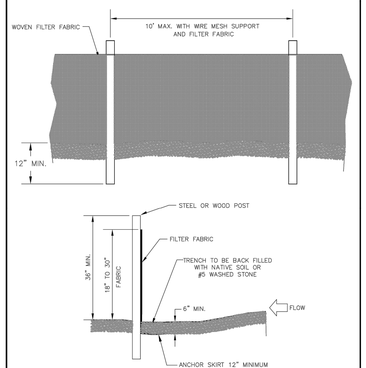
2490.0 ORANGE LOT EXPANSION PHASE 4
CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

EROSION PREVENTION AND SEDIMENT CONTROL PLAN

DIVISION	GENERAL
CONTRACT NO.	600-090
DATE	APRIL, 2018
SHEET NO.	C10

STORMWATER MANUAL

FIGURE 11-21
TEMPORARY SILT FENCE
(EFFECTIVE DATE 8/29/11)



STORMWATER MANUAL

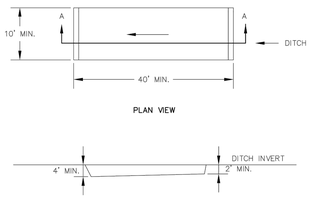
FIGURE 11-22
TEMPORARY SILT FENCE GENERAL NOTES
(EFFECTIVE DATE 8/29/11)

GENERAL NOTES

1. FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER. WHEN JOINTS CANNOT BE AVOIDED, FILTER FABRIC SHALL BE SPLICED TOGETHER ONLY AT A POST WITH 3 FOOT MIN. OVERLAP, AND SECURELY SEALED.
2. POSTS SHALL BE SPACED AT 6 FOOT INTERVALS IN AREAS OF RAPID RUNOFF.
3. POSTS SHALL BE AT LEAST 5 FEET IN LENGTH.
4. STEEL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE AND FABRIC.
5. WOOD POSTS SHALL BE 2 INCHES BY 2 INCHES OR EQUIVALENT. STEEL POSTS SHALL BE 1.33 LBS PER LINEAR FOOT.
6. A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH IN LENGTH, WIRE TIES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. WASHED STONE SHALL BE USED TO BURY SKIRT WHEN SILT FENCE IS USED ADJACENT TO A CHANNEL, CREEK, OR POND.
8. TURN SILT FENCE UP SLOPE AT ENDS.

STORMWATER MANUAL

FIGURE 11-18
SEDIMENT TRAP
(EFFECTIVE DATE 8/29/11)

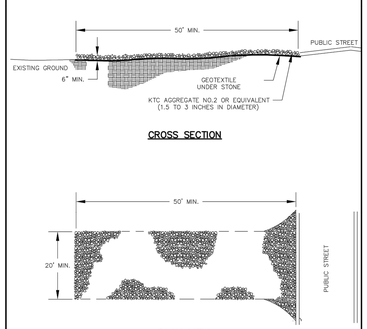


NOTES:

1) THE SIZE, SHAPE AND LOCATION OF TRAP MAY BE ADJUSTED FROM THAT SHOWN IN THE CONSTRUCTION PLANS, AS DIRECTED BY THE ENGINEER.
2) THE SEDIMENT TRAP MAY BE CONSTRUCTED AS DIRECTED BY THE ENGINEER AS LONG AS THE AREA AND DEPTH IS AT LEAST AS THAT INDICATED ON THE PLANS.
3) SEDIMENT TRAP SHALL BE CONSTRUCTED BY EXCAVATING THE BASIN IN NATURAL OR EXCAVATED CHANNELS. SEDIMENT DEPOSITS IN TRAP SHALL BE REMOVED EACH TIME THE TRAP IS APPROXIMATELY 50 PERCENT FILLED. WHEN THEIR USEFULNESS HAS ENDED, THE TRAPS SHALL BE REMOVED, SURPLUS MATERIAL DISPOSED OF AND THE ENTIRE DISTURBED AREA SHALL BE SEEDED AND PROTECTED, OR SODDED, AS DIRECTED. SEDIMENT TRAPS MAY REMAIN IN PLACE UPON COMPLETION OF THE PROJECT ONLY WHEN PERMITTED BY THE ENGINEER OR THE PLANS.

STORMWATER MANUAL

FIGURE 11-3
CONSTRUCTION ENTRANCE
(EFFECTIVE DATE 8/29/11)



STORMWATER MANUAL

FIGURE 11-4
CONSTRUCTION ENTRANCE NOTES AND SPECIFICATIONS
(EFFECTIVE DATE 8/29/11)

SPECIFICATIONS FOR GEOTEXTILE FABRIC

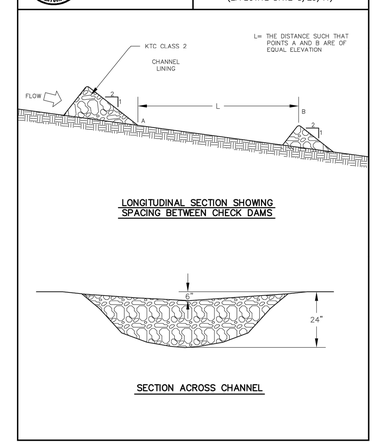
GRAB TENSILE STRENGTH	220 LBS. (MIN.) (ASTM D1682)
ELONGATION FAILURE	60% (MIN.) (ASTM D1682)
MULLEN BURST STRENGTH	430 LBS. (MIN.) (ASTM D3768)
PUNCTURE STRENGTH	125 LBS. (MIN.) (ASTM D751) (MODIFIED)
EQUIVALENT OPENING	SIZE 40-80 (US STD SIEVE) (CW-02215)

NOTES

1. A STABILIZED ENTRANCE PAD OF CRUSHED STONE SHALL BE LOCATED WHERE TRAFFIC WILL ENTER OR LEAVE THE CONSTRUCTION SITE ONTO A PUBLIC STREET.
2. SOIL STABILIZATION FABRIC SHALL BE USED AS A BASE FOR THE CONSTRUCTION ENTRANCE.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS WARRANT AND REPAIR OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
4. ANY SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC STREETS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
5. WHEN APPROPRIATE, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET. WHEN WASHING IS REQUIRED, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN.

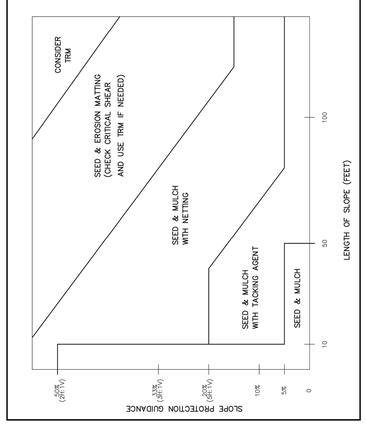
STORMWATER MANUAL

FIGURE 11-16
ROCK CHECK DAM
(EFFECTIVE DATE 8/29/11)



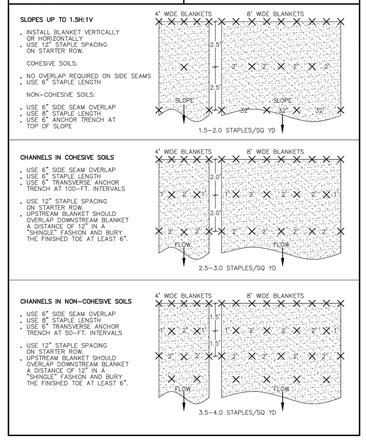
STORMWATER MANUAL

FIGURE 11-1
SLOPE PROTECTION GUIDANCE
(EFFECTIVE DATE 8/29/11)



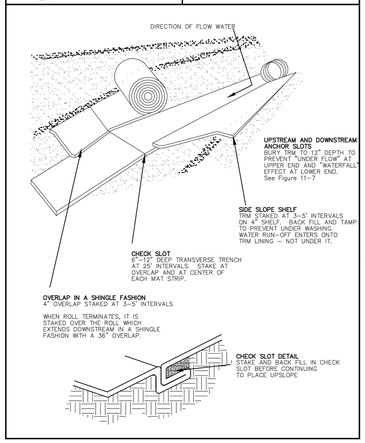
STORMWATER MANUAL

FIGURE 11-5
STAPLE PATTERN FOR STRAW OR EXCELSIOR MATS
(EFFECTIVE DATE 8/29/11)



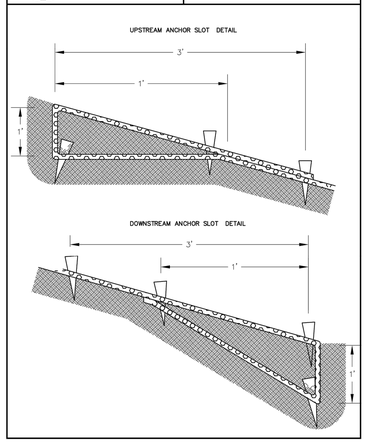
STORMWATER MANUAL

FIGURE 11-6
PLACEMENT OF TRM IN CHANNEL
(EFFECTIVE DATE 8/29/11)



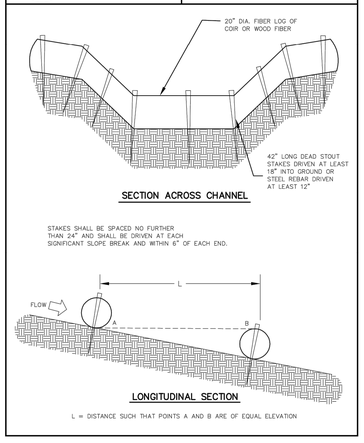
STORMWATER MANUAL

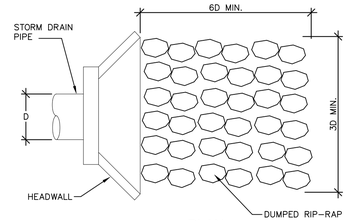
FIGURE 11-7
ANCHOR SLOT DETAILS FOR TRM
(EFFECTIVE DATE 8/29/11)

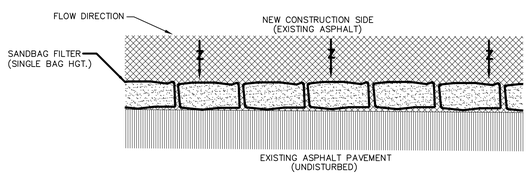


STORMWATER MANUAL

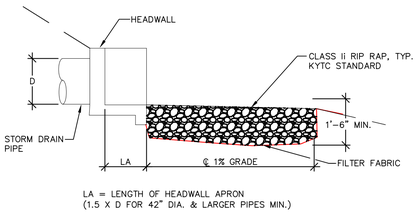
FIGURE 11-17
FIBER LOG CHECK DAM
(EFFECTIVE DATE 8/29/11)







TEMPORARY SILT BARRIER
NO SCALE



OUTLET PROTECTION
NO SCALE

RECORD DRAWINGS

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DESIGNER	TFH
DRAWN	DEB
CHECKED	TFH
APPROVED	RLP

DATE	BY	REVISION

GRAPHIC SCALE

SCALE: AS NOTED

STATE OF KENTUCKY R.L. PICKERILL 15,052 LICENSED PROFESSIONAL ENGINEER

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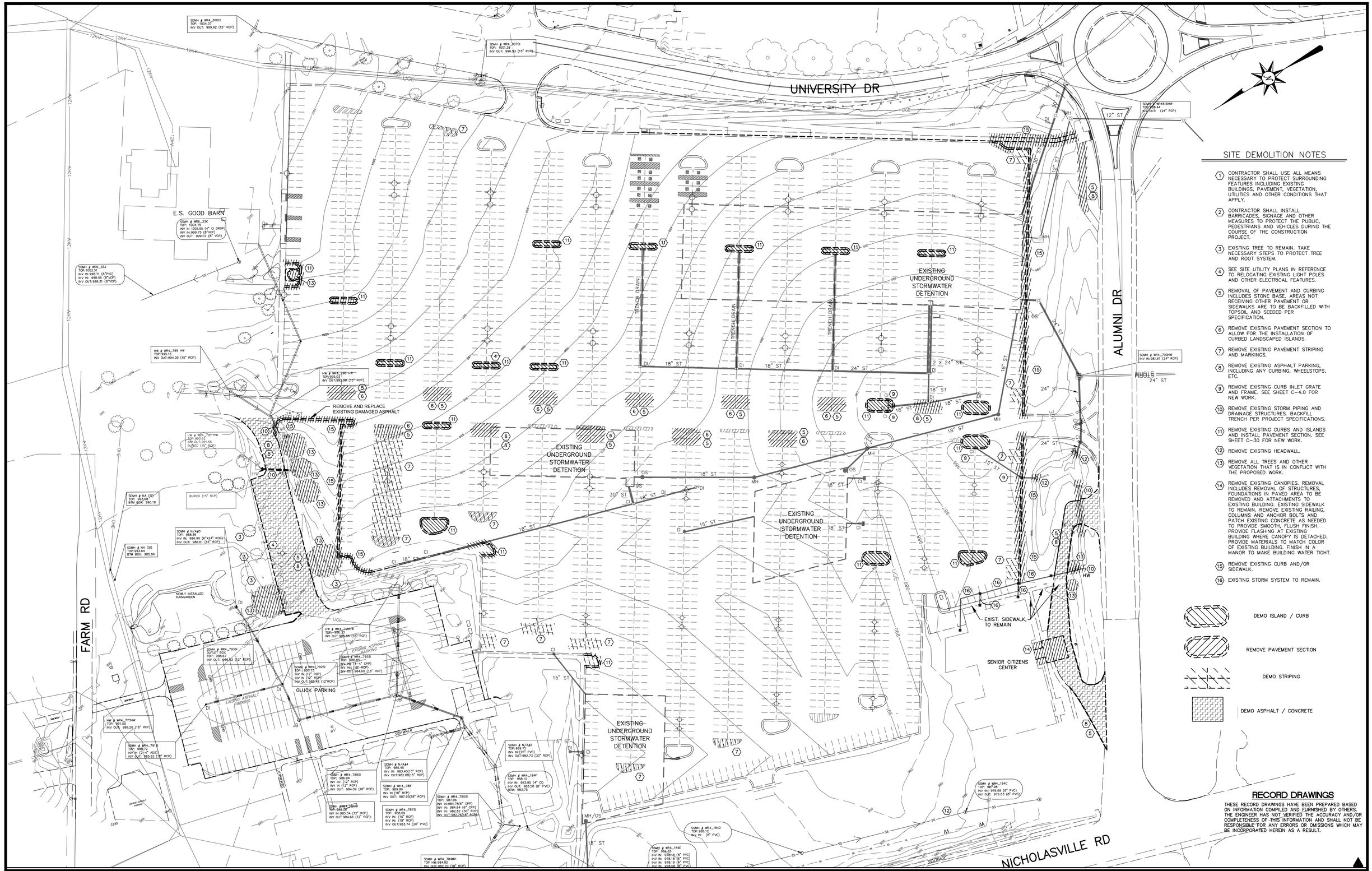
2490.0 ORANGE LOT EXPANSION PHASE 4
CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

EROSION & SEDIMENT CONTROL STANDARD DETAILS

DIVISION	CIVIL
CONTRACT NO.	600-090
DATE	APRIL, 2018
SHEET NO.	C11



SITE DEMOLITION NOTES

1. CONTRACTOR SHALL USE ALL MEANS NECESSARY TO PROTECT SURROUNDING FEATURES INCLUDING EXISTING BUILDINGS, PAVEMENT, VEGETATION, UTILITIES AND OTHER CONDITIONS THAT APPLY.
2. CONTRACTOR SHALL INSTALL BARRICADES, SIGNAGE AND OTHER MEASURES TO PROTECT THE PUBLIC, PEDESTRIANS AND VEHICLES DURING THE COURSE OF THE CONSTRUCTION PROJECT.
3. EXISTING TREE TO REMAIN. TAKE NECESSARY STEPS TO PROTECT TREE AND ROOT SYSTEM.
4. SEE SITE UTILITY PLANS IN REFERENCE TO RELOCATING EXISTING LIGHT POLES AND OTHER ELECTRICAL FEATURES.
5. REMOVAL OF PAVEMENT AND CURBING INCLUDES STONE BASE. AREAS NOT RECEIVING OTHER PAVEMENT OR SIDEWALKS ARE TO BE BACKFILLED WITH TOPSOIL AND SEEDED PER SPECIFICATION.
6. REMOVE EXISTING PAVEMENT SECTION TO ALLOW FOR THE INSTALLATION OF CURBED LANDSCAPED ISLANDS.
7. REMOVE EXISTING PAVEMENT STRIPING AND MARKINGS.
8. REMOVE EXISTING ASPHALT PARKING, INCLUDING ANY CURBING, WHEELSTOPS, ETC.
9. REMOVE EXISTING CURB INLET GRATE AND FRAME. SEE SHEET C-4.0 FOR NEW WORK.
10. REMOVE EXISTING STORM PIPING AND DRAINAGE STRUCTURES. BACKFILL TRENCH PER PROJECT SPECIFICATIONS.
11. REMOVE EXISTING CURBS AND ISLANDS AND INSTALL PAVEMENT SECTION. SEE SHEET C-30 FOR NEW WORK.
12. REMOVE EXISTING HEADWALL.
13. REMOVE ALL TREES AND OTHER VEGETATION THAT IS IN CONFLICT WITH THE PROPOSED WORK.
14. REMOVE EXISTING CANOPIES. REMOVAL INCLUDES REMOVAL OF STRUCTURES, FOUNDATIONS IN PAVED AREA TO BE REMOVED AND ATTACHMENTS TO EXISTING BUILDING. EXISTING SIDEWALK TO REMAIN. REMOVE EXISTING RAILING, COLUMNS AND ANCHOR BOLTS AND PATCH EXISTING CONCRETE AS NEEDED TO PROVIDE SMOOTH, FLUSH FINISH. PROVIDE FLASHING AT EXISTING BUILDING WHERE CANOPY IS DETACHED. PROVIDE MATERIALS TO MATCH COLOR OF EXISTING BUILDING. FINISH IN A MANOR TO MAKE BUILDING WATER TIGHT.
15. REMOVE EXISTING CURB AND/OR SIDEWALK.
16. EXISTING STORM SYSTEM TO REMAIN.

DEMO ISLAND / CURB

REMOVE PAVEMENT SECTION

DEMO STRIPING

DEMO ASPHALT / CONCRETE

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DESIGNER	TFH	DATE	BY	REVISION
DRAWN	DEB			
CHECKED	TFH			
APPROVED	RLP			

GRAPHIC SCALE

SCALE: 1"=50'

STATE OF KENTUCKY R.L. PICKERILL 15052 LICENSED PROFESSIONAL ENGINEER

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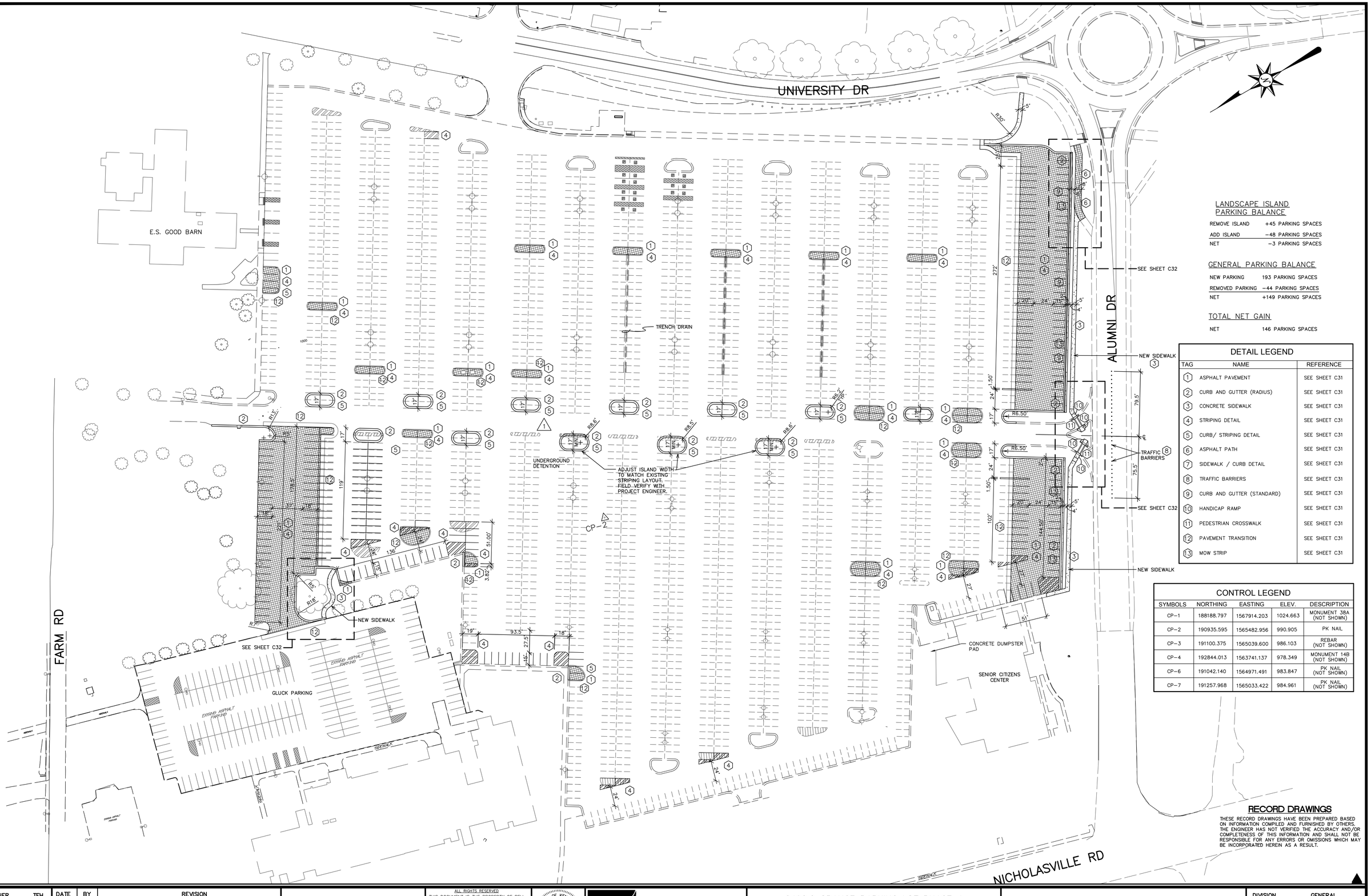
2490.0 ORANGE LOT EXPANSION PHASE 4
CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

SITE DEMOLITION PLAN

DIVISION	GENERAL
CONTRACT NO.	600-090
DATE	APRIL 2018
SHEET NO.	C20



LANDSCAPE ISLAND PARKING BALANCE

REMOVE ISLAND	+45 PARKING SPACES
ADD ISLAND	−48 PARKING SPACES
NET	−3 PARKING SPACES

GENERAL PARKING BALANCE

NEW PARKING	193 PARKING SPACES
REMOVED PARKING	−44 PARKING SPACES
NET	+149 PARKING SPACES

TOTAL NET GAIN

NET	146 PARKING SPACES

DETAIL LEGEND

TAG	NAME	REFERENCE
1	ASPHALT PAVEMENT	SEE SHEET C31
2	CURB AND GUTTER (RADIUS)	SEE SHEET C31
3	CONCRETE SIDEWALK	SEE SHEET C31
4	STRIPING DETAIL	SEE SHEET C31
5	CURB/ STRIPING DETAIL	SEE SHEET C31
6	ASPHALT PATH	SEE SHEET C31
7	SIDEWALK / CURB DETAIL	SEE SHEET C31
8	TRAFFIC BARRIERS	SEE SHEET C31
9	CURB AND GUTTER (STANDARD)	SEE SHEET C31
10	HANDICAP RAMP	SEE SHEET C31
11	PEDESTRIAN CROSSWALK	SEE SHEET C31
12	PAVEMENT TRANSITION	SEE SHEET C31
13	MOW STRIP	SEE SHEET C31

CONTROL LEGEND

SYMBOLS	NORTHING	EASTING	ELEV.	DESCRIPTION
CP-1	188188.797	1567914.203	1024.663	MONUMENT 38A (NOT SHOWN)
CP-2	190935.595	1565482.956	990.905	PK NAIL
CP-3	191100.375	1565039.600	986.103	REBAR (NOT SHOWN)
CP-4	192844.013	1563741.137	978.349	MONUMENT 14B (NOT SHOWN)
CP-6	191042.140	1564971.491	983.847	PK NAIL (NOT SHOWN)
CP-7	191257.968	1565033.422	984.961	PK NAIL (NOT SHOWN)

RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

DESIGNER	TFH
DRAWN	DEB
CHECKED	TFH
APPROVED	RLP

DATE	BY	REVISION

GRAPHIC SCALE

SCALE: 1"=50'

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Lexington, KY (859) 278-5412
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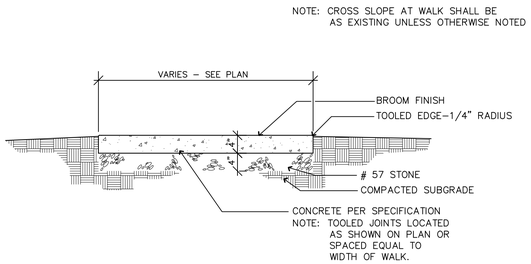
2490.0 ORANGE PARKING LOT PHASE 4
CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

LAYOUT PLAN

DIVISION	GENERAL
CONTRACT NO.	600-090
DATE	APRIL, 2018
SHEET NO.	C30



CONCRETE WALK
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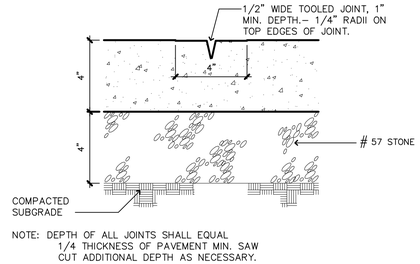
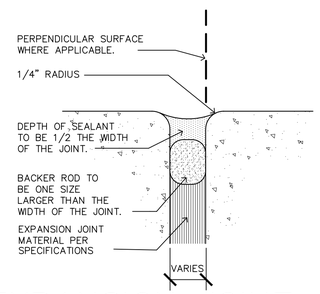


TOOLED CONTROL JOINT
N.T.S.



EXPANSION JOINT
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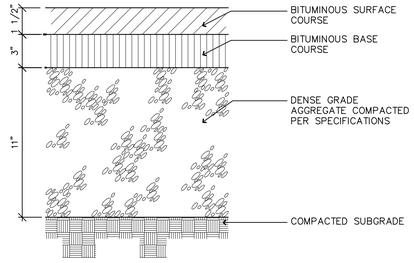

BITUMINOUS PAVING
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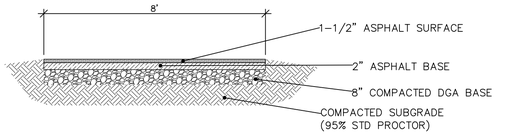
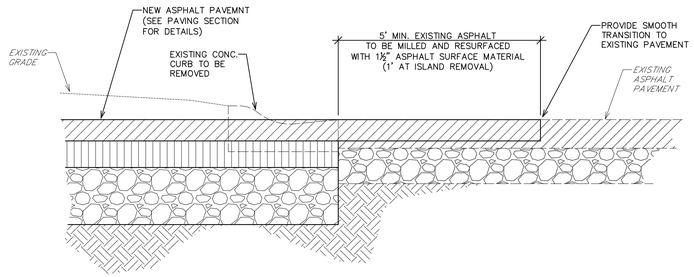
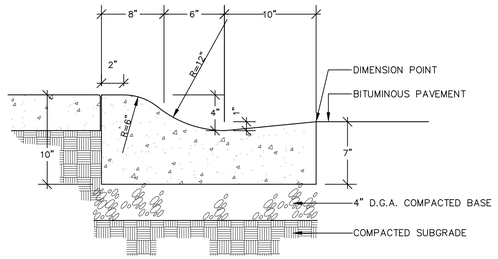


ASPHALT PATH
N.T.S.

THIS DETAIL SHALL REPLACE THE ASPHALT PATH DETAIL SHOWN ON SHEET C31



PAVEMENT TRANSITION
N.T.S.



RADIUS CONCRETE CURB & GUTTER
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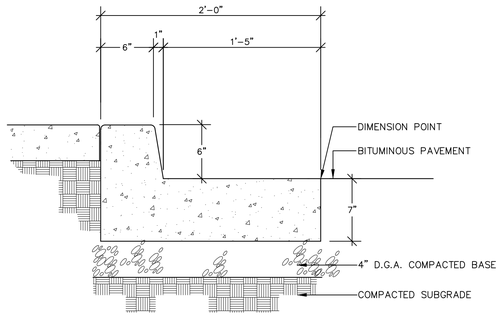
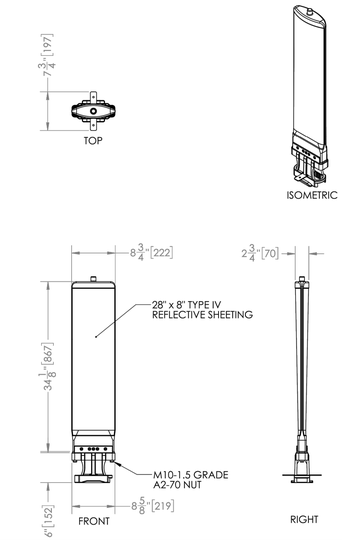
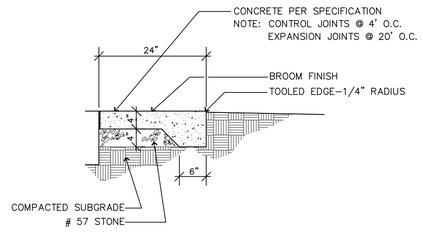


STANDARD CONCRETE CURB & GUTTER
N.T.S.

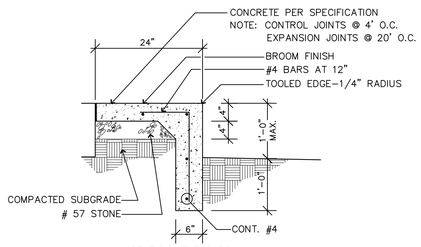


TRAFFIC BARRIER
N.T.S.



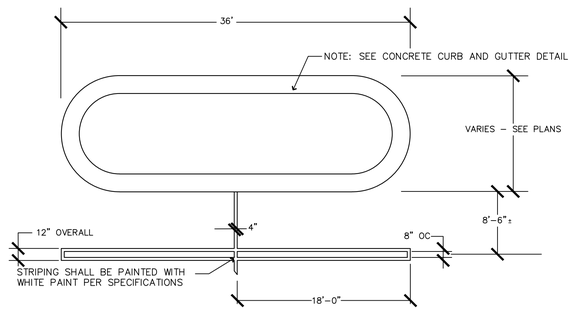
TYPICAL SECTION

CONCRETE MOW STRIP
N.T.S.

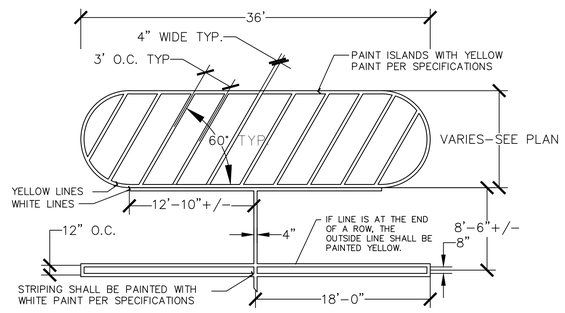


SECTION AT TURNDOWN

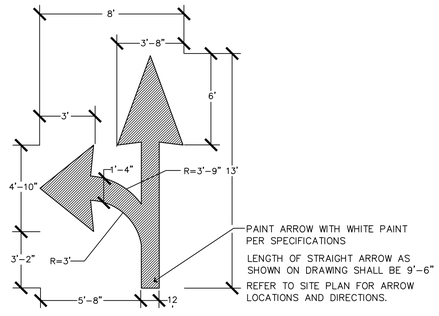
CONCRETE MOW STRIP
N.T.S.



CURB ISLAND & STALL STRIPING DETAIL
N.T.S.



PAINTED ISLAND & STALL STRIPING DETAIL
N.T.S.



TYP. DIRECTIONAL ARROW DETAIL
N.T.S.

RECORD DRAWINGS

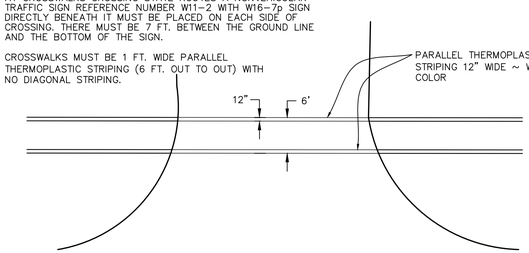
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

PAVEMENT STRIPING:
PAVEMENT STRIPING SHALL MEET KENTUCKY TRANSPORTATION CABINET STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 842.

ALL CROSSWALKS MUST BE IN WHITE THERMOPLASTIC STRIPING.

AT CROSSWALKS CROSSING STATE ROUTES A NONVEHICULAR TRAFFIC SIGN REFERENCE NUMBER W11–2 WITH W16–7p SIGN DIRECTLY BENEATH IT MUST BE PLACED ON EACH SIDE OF CROSSING. THERE MUST BE 7 FT. BETWEEN THE GROUND LINE AND THE BOTTOM OF THE SIGN.

CROSSWALKS MUST BE 1 FT. WIDE PARALLEL THERMOPLASTIC STRIPING (6 FT. OUT TO OUT) WITH NO DIAGONAL STRIPING.



CROSSWALK STRIPING
N.T.S.

DESIGNER	TFH
DRAWN	DEB
CHECKED	TFH
APPROVED	RLP

DATE	BY	REVISION
05/18/18	TFH	ADDED MOW STRIP DETAILS

GRAPHIC SCALE

SCALE: AS SHOWN

STATE OF KENTUCKY · R.L. PICKERILL · 15,058 · LICENSED PROFESSIONAL ENGINEER

bell engineering
Lexington, KY (859) 278–5412
Hopkinsville, KY (270) 886–5466
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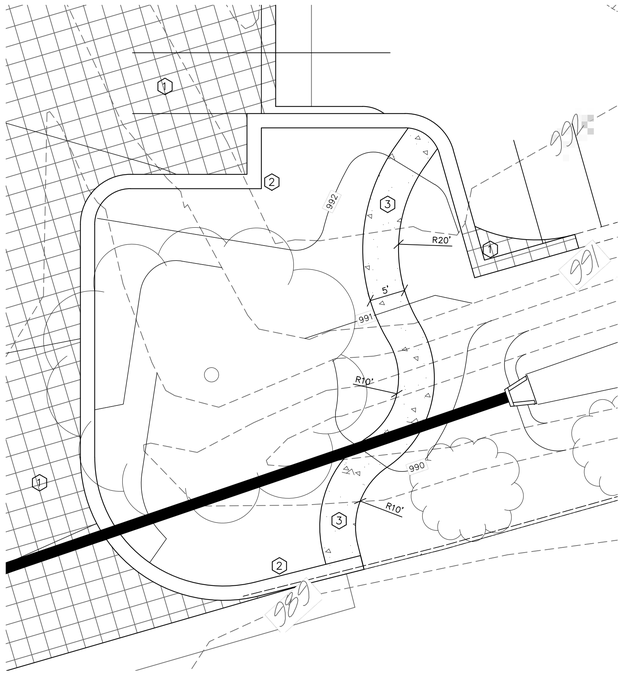
2494.0 ORANGE LOT EXPANSION PHASE 4
CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

SITE LAYOUT
DETAILS AND NOTES

DIVISION	CIVIL
CONTRACT NO.	600–090
DATE	APRIL 2018
SHEET NO.	C31



ENLARGED LAYOUT PLAN

SCALE: 1" = 10'

DETAIL LEGEND		
TAG	NAME	REFERENCE
1	ASPHALT PAVEMENT	SEE SHEET C31
2	CURB AND GUTTER (RADIUS)	SEE SHEET C31
3	CONCRETE SIDEWALK	SEE SHEET C31
4	STRIPING DETAIL	SEE SHEET C31
5	CURB/ STRIPING DETAIL	SEE SHEET C31
6	ASPHALT PATH	SEE SHEET C31
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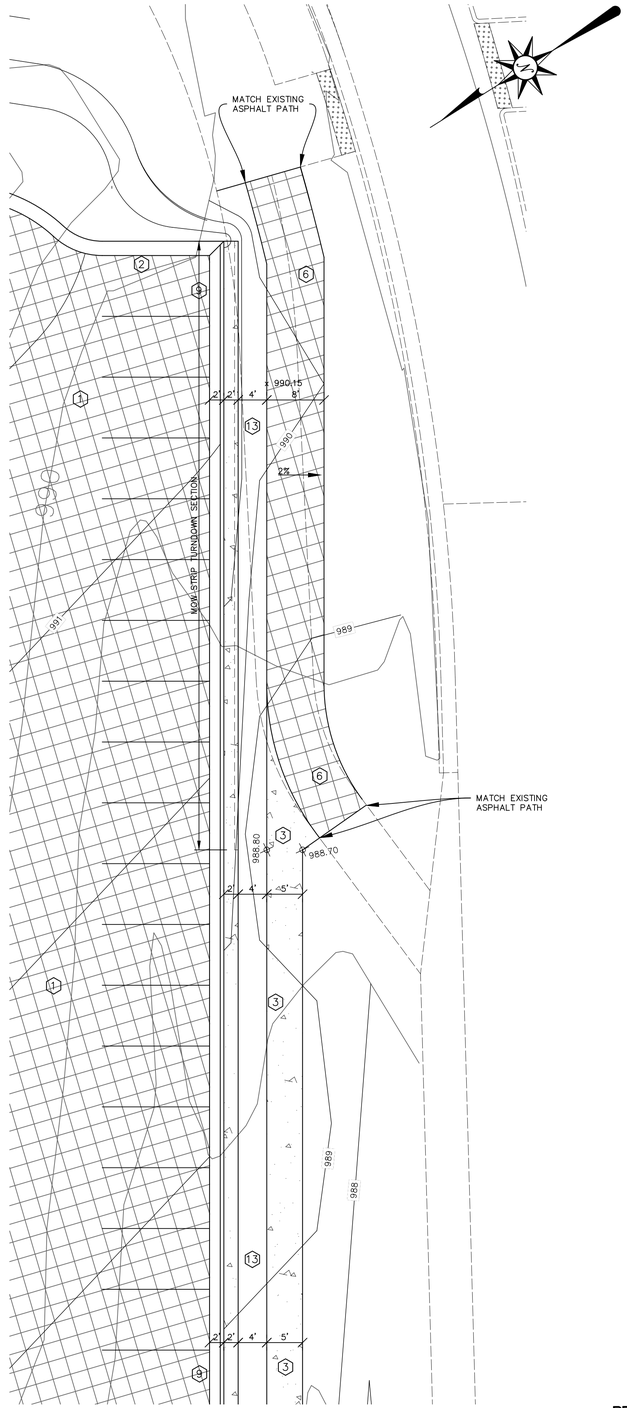
9	CURB AND GUTTER (STANDARD)	SEE SHEET C31
10	HANDICAP RAMP	SEE SHEET C31
11	PEDESTRIAN CROSSWALK	SEE SHEET C31
12	PAVEMENT TRANSITION	SEE SHEET C31
13	MOW STRIP	SEE SHEET C31

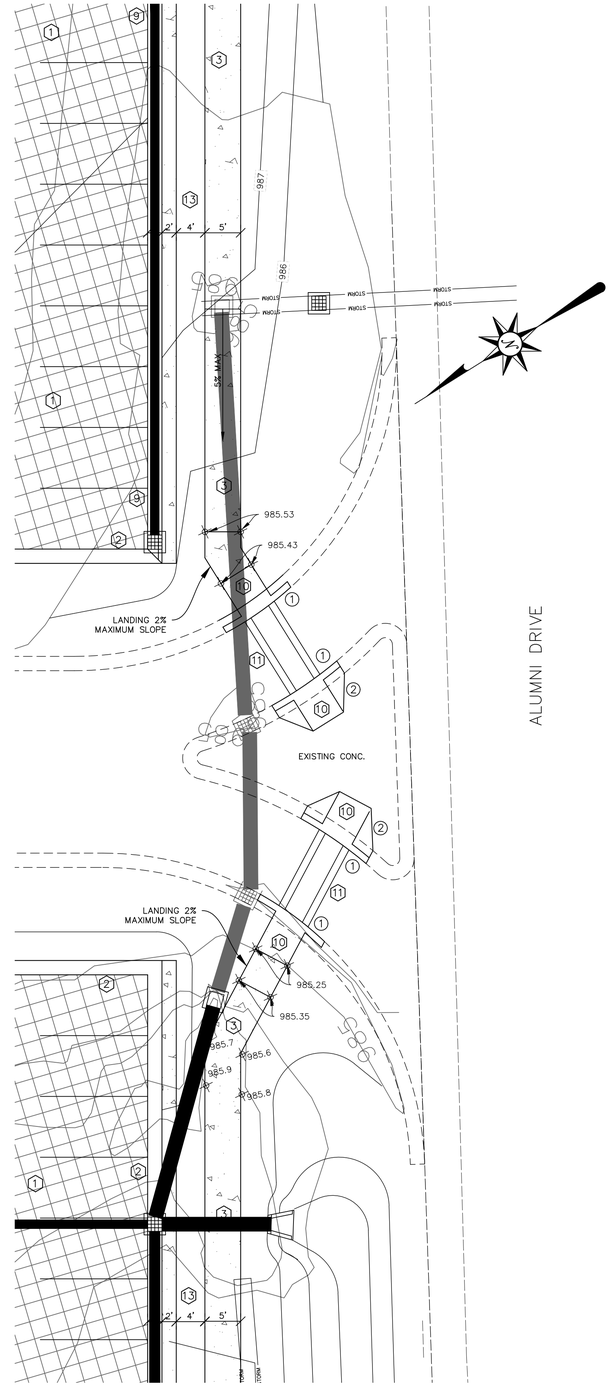
NOTES:

1. REMOVE EXISTING CURB AND GUTTER AND RE-INSTALL WITH DEPRESSED SECTION TO ALLOW HANDICAP ACCESS FROM PAVEMENT TO SIDEWALK
2. REMOVE EXISTING CONCRETE AS NEEDED TO INSTALL NEW HANDICAP RAMP



ENLARGED LAYOUT PLAN

SCALE: 1" = 10'



RECORD DRAWINGS

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ENLARGED LAYOUT PLAN

SCALE: 1" = 10'

DESIGNER	TFH	DATE	BY	REVISION
DRAWN	NFS			
CHECKED	TFH			
APPROVED	TFH			

GRAPHIC SCALE

SCALE: AS NOTED

STATE OF KENTUCKY
R.L. PICKERILL 15,052
LICENSED PROFESSIONAL ENGINEER

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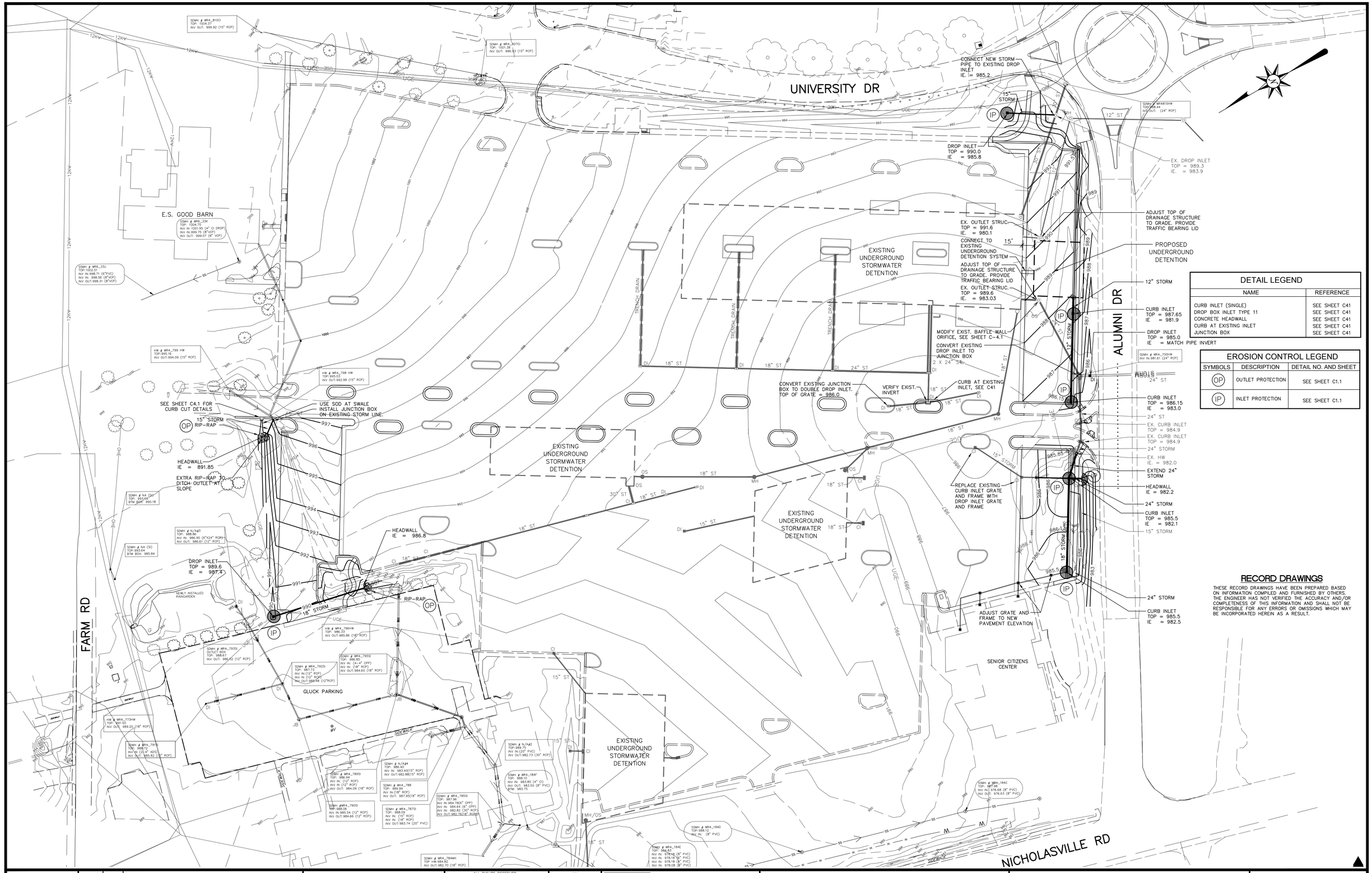
2490.0 ORANGE LOT EXPANSION PHASE 4
CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

ENLARGED LAYOUT PLANS
DETAILS

DIVISION	–
CONTRACT NO.	600-090
DATE	APRIL, 2018
SHEET NO.	C32



DETAIL LEGEND

NAME	REFERENCE
CURB INLET (SINGLE)	SEE SHEET C41
DROP BOX INLET TYPE 11	SEE SHEET C41
CONCRETE HEADWALL	SEE SHEET C41
CURB AT EXISTING INLET	SEE SHEET C41
JUNCTION BOX	SEE SHEET C41

EROSION CONTROL LEGEND

SYMBOLS	DESCRIPTION	DETAIL NO. AND SHEET
OP	OUTLET PROTECTION	SEE SHEET C1.1
IP	INLET PROTECTION	SEE SHEET C1.1

RECORD DRAWINGS

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DESIGNER	TFH		
DRAWN	DEB		
CHECKED	TFH		
APPROVED	RLP		

DATE	BY	REVISION

GRAPHIC SCALE

SCALE: 1"=50'

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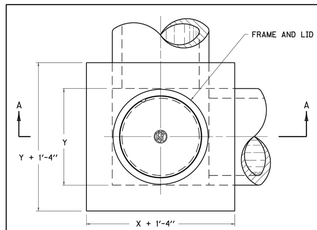
2490.0 ORANGE LOT EXPANSION PHASE 4
CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

SITE GRADING AND DRAINAGE PLAN

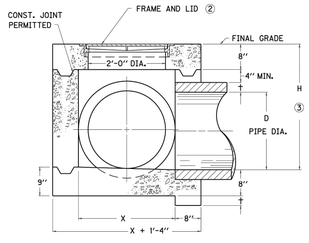
DIVISION	GENERAL
CONTRACT NO.	600-090
DATE	APRIL 2018
SHEET NO.	C40



PLAN VIEW

~ NOTES ~

1. THE CONTRACT UNIT PRICE EACH SHALL INCLUDE PAYMENT IN FULL FOR EXCAVATION, LABOR, FRAME AND LID, CONCRETE, AND ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK.
   BID ITEM: JUNCTION BOX TYPE B (☆)
   (☆) = "1" (FRAME AND LID TYPE 1)
   (☆) = "2" (FRAME AND LID TYPE 2)
2. WHEN THIS BOX IS TO BE USED IN NON-VEHICULAR TRAFFIC AREAS SEE CURRENT STD. DWG. RDM-100 "FRAME AND LID TYPE 1". WHEN THIS BOX IS TO BE USED IN VEHICULAR TRAFFIC AREAS SEE CURRENT STD. DWG. RDM-105 "FRAME AND LID TYPE 2".
3. THE MAX/MIN DEPTH OF BOX FROM FINAL GRADE TO FLOW LINE OF PIPE SHALL BE 8'-0". ANY BOXES DEEPER THAN 8'-0" SHALL BE SPECIFICALLY DESIGNED.
4. BASED ON H AS EQUAL TO D + T + 1'-0".
5. Q = CUBIC YARDS OF CONCRETE PER FOOT INCREASE OR DECREASE WHEN H VARIES FROM D + T + 1'-0".
6. NO DEDUCTIONS HAVE BEEN MADE FOR PIPE, SEE REFERENCE CHART FOR QUANTITIES TO DEDUCT.
7. THE DIMENSIONS AND QUANTITIES HAVE BEEN CALCULATED FOR ROUND CONCRETE PIPE. WHEN NON-CIRCULAR PIPE IS USED THE BOX SIZE SHALL BE DETERMINED BY CONTROLLING DIMENSIONS OF THE PIPE.
8. FOR THIS APPLICATION THE "X" DIMENSION IS ASSUMED TO BE EQUAL TO OR GREATER THAN THE "Y" DIMENSION.
9. THE BOX SIZE NUMBER TO BE SHOWN ON THE PLANS SHALL BE DETERMINED BY THE LARGEST PIPE IN THE "X" AND "Y" DIMENSION.



SECTION A-A

DIMENSIONS & ESTIMATE OF QUANTITIES

INLET SIZE			PIPE ④		CONCRETE	
NO.	X	Y	MAX. DIA.	H	CUBIC YARDS ⑤	Q
1	2'-0"	2'-0"	12"	2'-2"	0.91	0.3
2			15"	2'-5"	0.98	
3			18"	2'-9"	1.05	
4	2'-6"		21"	3'-0"	1.27	
5		2'-6"			1.43	
6		2'-0"	24"	3'-3"	1.36	
7		2'-6"			1.52	

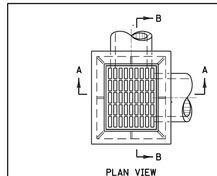
REFERENCE CHART			
DIA. OF PIPE	JUNCTION BOX		CONCRETE TO DEDUCT FOR EACH PIPE
	PIPE ON "X" SIDE OF BOX	PIPE ON "Y" SIDE OF BOX	CUBIC YARDS
0			---
12"	2'-0"	2'-0"	0.1
15"-18"			
21"-24"	2'-6"	2'-6"	

KENTUCKY DEPARTMENT OF HIGHWAYS

JUNCTION BOX TYPE B ☆

STANDARD DRAWING NO. RDX-005-02

SUBMITTED: 11-21-07
APPROVED: 11-21-07



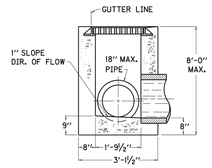
PLAN VIEW

APPROX. CONCRETE QUANTITIES

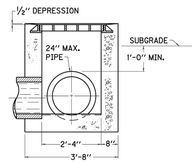
PIPE SIZE	MIN. HEIGHT	CU. YDS. CONC.
15"	2'-11"	0.89
18"	3'-3"	0.97
24"	4'-9"	1.38

APPROXIMATE WEIGHTS	
FRAME	195 LBS.
GRATE	265 LBS.

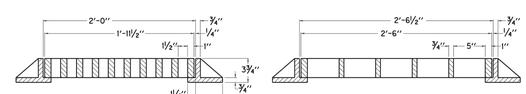
NO DEDUCTIONS HAVE BEEN MADE FOR PIPE.



SECTION A-A



SECTION B-B



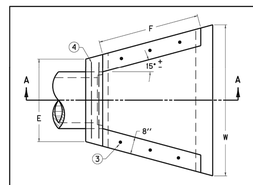
SECTIONAL VIEW OF FRAME AND GRADE

KENTUCKY DEPARTMENT OF HIGHWAYS

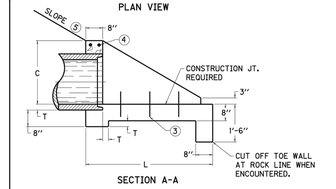
DROP BOX INLET TYPE II

STANDARD DRAWING NO. RDB-011-07

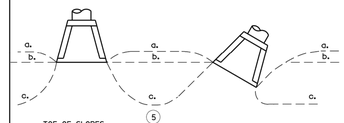
SUBMITTED: 12-1-99
APPROVED: 12-1-99



PLAN VIEW



SECTION A-A

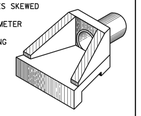


TOE OF SLOPES:
a. STEEPER THAN 2:1
b. 2:1
c. FLATTER THAN 2:1

PIPE		DIMENSIONS						CLASS A CONC	REINF STEEL
DIA. OR EQUIV. DIA.	SHAPE ⑨	C	E	F	L	W	T	C. Y.	LBS.
12"	◯	1'-9"	2'-6"	2'-3"	3'-6"	4'-0"	2"	0.58	7
15"	◯	2'-0"	2'-9"	2'-9"	4'-0"	4'-9"	2½"	0.75	
	⬭	1'-9"	3'-0"	2'-6"	3'-6"	4'-9"		0.68	
18"	◯	2'-3"	3'-0"	3'-6"	4'-6"	5'-3"	2½"	0.93	
	⬭	2'-0"	3'-6"	3'-0"	4'-0"	5'-6"		0.89	8
21"	◯	2'-6"	3'-3"	4'-0"	5'-0"	6'-0"	2¾"	1.14	
	⬭	2'-3"	3'-0"	3'-6"	4'-6"	6'-0"		1.07	9
24"	◯	2'-9"	3'-6"	4'-6"	5'-6"	6'-6"	3"	1.35	8
	⬭	2'-6"	4'-0"	4'-0"	5'-0"	6'-9"	3¼"	1.30	9
27"	◯	3'-0"	3'-9"	5'-0"	6'-0"	7'-0"		1.57	
	⬭	2'-9"	4'-6"	4'-3"	5'-3"	7'-3"	3½"	1.51	10

NOTES

1. DIMENSIONS AND QUANTITIES ARE BASED ON CONCRETE PIPE AND WILL VARY INSIGNIFICANTLY FOR CORRUGATED METAL PIPE.
2. REINFORCING STEEL ₁ MINIMUM GRADE 40, BARS EVENLY SPACED.
3. 6 - NO. 4 x 1'-0" DOWEL BARS.
4. 2 - NO. 4 x (E DIMENSION MINUS 4").
5. SLOPES SHALL BE WARPED TO FIT HEADWALL WHEN PIPE IS SKEWED AND/OR NORMAL SLOPE VARIES FROM 2:1.
6. VOLUME DISPLACED BY PIPE COMPUTED USING INSIDE DIAMETER OF PIPE.
7. WING ANGLES AND/OR DIMENSIONS MAY BE ALTERED DURING CONSTRUCTION TO ACCOMMODATE FLOW OF WATER.
8. APRON BETWEEN WINGS SHALL BE SLOPED IN DIRECTION OF FLOW EQUAL TO SLOPE OF PIPE. FRONT FACE OF HEADWALL SHALL REMAIN VERTICAL.
9. HEADWALLS ARE FOR CIRCULAR, ARCH, AND HORIZONTAL ELLIPTICAL 12"- 27" EQUIVALENT PIPE SIZES. SEE CURRENT STD. DWG. RDI-016, FOR NON-CIRCULAR PIPE EQUIVALENT SIZES.



ISOMETRIC VIEW

KENTUCKY DEPARTMENT OF HIGHWAYS

SLOPED & FLARED HEADWALLS FOR 12" TO 27" PIPE

STANDARD DRAWING NO. RDH-020-03

SUBMITTED: 12-1-99
APPROVED: 12-1-99

DIMENSIONS AND ESTIMATE OF QUANTITIES

INLET SIZE			PIPE ①		CONCRETE		REINF.
NO.	X	Y	MAX. DIA.	H	CUBIC YARDS	② Q	STEEL LBS.
1	2'-0"	2'-0"	12"	2'-2"	0.99	0.4	28
2			15"	2'-5"	1.06		
3			18"	2'-9"	1.13		
4	2'-6"		21"	3'-0"	1.35	0.3	32
5		2'-6"			1.51		37
6		2'-0"	24"	3'-3"	1.44		32
7		2'-6"			1.60		
8		2'-0"			1.68		37
9	3'-0"	2'-6"	27"	3'-6"	1.86		42
10		3'-0"			2.04	0.4	48
11		2'-0"			1.93	0.3	41
12		2'-6"	30"	3'-10"	2.13		47
13		3'-0"			2.34	0.4	54
14	3'-6"	3'-6"			2.54		60
15		2'-0"			2.02	0.3	41
16		2'-6"			2.24		47
17		3'-0"	33"	4'-1"	2.45		54
18		3'-6"			2.66		60
19		2'-0"			2.30	0.4	45
20		2'-6"			2.53		52
21	4'-0"	3'-0"	36"	4'-4"	2.76		59
22		3'-6"			2.99		66
23		4'-0"			3.22	0.5	73
24		2'-0"			2.70		50
25		2'-6"			2.95	0.4	57
26	4'-6"	3'-0"	42"	4'-11"	3.21		65
27		3'-6"			3.47		73
28		4'-0"			3.73	0.5	80
29		4'-6"			3.98		88
30		2'-0"			3.12		54
31		2'-6"			3.41	0.4	62
32		3'-0"			3.69		71
33	5'-0"	3'-6"	48"	5'-5"	3.97	0.5	79
34		4'-0"			4.26		88
35		4'-6"			4.54		96
36		5'-0"			4.83	0.6	104
37		2'-0"			3.58	0.4	58
38		2'-6"			3.89		67
39		3'-0"			4.20		76
40	5'-6"	3'-6"	54"	6'-0"	4.51	0.5	86
41		4'-0"			4.82		95
42		4'-6"			5.13		104
43		5'-0"			5.44	0.6	113
44		5'-6"			5.75		122
45		2'-0"			4.06		63
46		2'-6"			4.39	0.5	72
47	6'-0"	3'-0"	60"	6'-6"	4.73		82
48		3'-6"			5.07		92
49		4'-0"			5.40		102
50		4'-6"			5.74		111
51	6'-0"	5'-0"	60"	6'-6"	6.08	0.6	121
52		5'-6"			6.42		131
53		6'-0"			6.75	0.7	140
54		2'-0"			4.81	0.5	71
55		2'-6"			5.19		83
56		3'-0"			5.57		94
57		3'-6"			5.94	0.6	105
58		4'-0"			6.32		116
59	7'-0"	4'-6"	66"	7'-1"	6.70		127
60		5'-0"			7.07		138
61		5'-6"			7.45	0.7	149
62		6'-0"			7.83		160
63		7'-0"			8.58	0.8	182
64		2'-0"			5.37	0.5	76
65		2'-6"			5.77		88
66		3'-0"			6.17	0.6	99
67		3'-6"			6.57		111
68		4'-0"			6.98		123
69	7'-6"	4'-6"	72"	7'-7"	7.38		134
70		5'-0"			7.78	0.7	146
71		5'-6"			8.19		158
72		6'-0"			8.59		169
73		7'-0"			9.39	0.8	193
74		7'-6"			9.80		204

NOTES

1. BASED ON H AS EQUAL TO D+T+1'-0".
2. Q = CUBIC YARDS OF CONCRETE PER FOOT INCREASE OR DECREASE WHEN H VARIES FROM D+T+1'-0".
3. NO DEDUCTIONS HAVE BEEN MADE FOR PIPE, SEE REFERENCE CHART FOR QUANTITIES TO DEDUCT.
4. THE DIMENSIONS AND QUANTITIES HAVE BEEN CALCULATED FOR ROUND CONCRETE PIPE. WHEN NON-CIRCULAR PIPE IS USED THE BOX SIZE SHALL BE DETERMINED BY CONTROLLING DIMENSIONS OF THE PIPE.

REFERENCE CHART

DIA. OF PIPE	JUNCTION BOX		CONCRETE TO DEDUCT FOR EACH PIPE
	PIPE ON "X" SIDE OF BOX	PIPE ON "Y" SIDE OF BOX	CUBIC YARDS
0			---
12"	2'-0"	2'-0"	0.1
15"-18"			
21"-24"	2'-6"	2'-6"	
27"	3'-0"	3'-0"	0.2
30"-33"	3'-6"	3'-6"	
36"	4'-0"	4'-0"	0.3
42"	4'-6"	4'-6"	0.4
48"	5'-0"	5'-0"	0.5
54"	5'-6"	5'-6"	0.6
60"	6'-0"	6'-0"	0.7
66"	7'-0"	7'-0"	0.8
72"	7'-6"	7'-6"	1.0

USE WITH CUR. STD. DWG. RDX-001

KENTUCKY DEPARTMENT OF HIGHWAYS

JUNCTION BOX (DIMENSIONS & QUANTITIES)

STANDARD DRAWING NO. RDX-002-03

SUBMITTED: 12-1-99
APPROVED: 12-1-99

PLAN

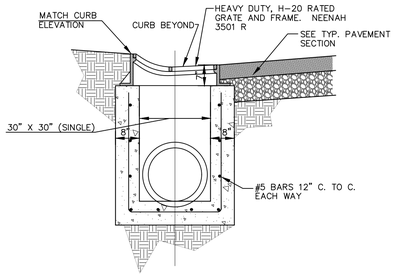
SECTION AT STANDARD CURB

SECTION

RADIUS CONCRETE CURB AND GUTTER

CURB CUT

N.T.S.



SECTION AT RADIUS CURB

CURB INLET

N.T.S.

CURB AT EXISTING INLET

AREA 2
60"ø
EXISTING MODIFIED MANHOLE (WEST)

RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

		DATE	BY	REVISION
DESIGNER	TFH			
DRAWN	DEB			
CHECKED	TFH			
APPROVED	RLP			

GRAPHIC SCALE

SCALE: AS SHOWN

STATE OF KENTUCKY R.L. PICKERILL 15,052 LICENSED PROFESSIONAL ENGINEER

bell engineering
Lexington, KY (859) 278-5412
Hopkinsville, KY (270) 886-5466
Asheville, NC (828) 774-5499

2490.0 ORANGE LOT EXPANSION PHASE 4
CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

DRAINAGE STRUCTURE DETAILS

DIVISION	CIVIL
CONTRACT NO.	600-090
DATE	APRIL, 2018
SHEET NO.	C41

SUBMITTAL

Job: CCK-2308-18 Expand Orange Lot Phase 4

Spec Section No: 02721
Submittal No: 005
Revision No:
Sent Date: 5/15/18

Spec Section Title: 02721 - STORM SEWER UNDERGROUND DETENTION SYSTEM
Submittal Title: SCHEDULE OF VALUES

Contractor:
ATS Construction
3009 Atkinson Ave
Suite 400
Lexington, KY 40509

ATS Construction
Job: 618005
By: Dylan Murphy
The data contained hereon & here within is for inspection only and is not for construction unless stamped "Approved" by the architect and/or engineer
Comments:

Engineer:
Bell Engineering
2480 Fortune Drive
Suite 350
Lexington, KY 40509

SHOP DRAWING REVIEW
BELL ENGINEERING
P.O. BOX 681, HOPKINSVILLE, KY 42241

ENGINEERS REVIEW IS FOR GENERAL CONFORMANCE WITH THE PROJECTS DESIGN CONCEPT AND INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR, AND THIS REVIEW DOES NOT INCLUDE: CONFIRMING AND CORRELATING QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING WORK WITH OTHER TRADES; AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER. CORRECTIONS OR COMMENTS MADE DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH AND REQUIREMENTS OF THE CONTRACT OR WITH RESPONSIBILITIES LISTED ABOVE.

Engineer's Stamp

APPROVED	
MAKE CORRECTIONS NOTED	✓
AMEND AND RESUBMIT	
REJECTED-SEE REMARKS	

Date 5/22/18 By [illegible]

Nyloplast A division of ADS

SHOP DRAWING

Order #
Form Created: 4/20/2018 01:47:16 PM
Basin WebID: 80389-1524246201
Customer approval

Project Name: U of K Orange Parking Lot Ph IV | Dia. 30 | Structure No. STORMTECH SYSTEM BASIN | Qty. 1

Prepared By: Nathan Tullis, ADS/Nyloplast, 678-745-6038, Nathan.Tullis@ads-pipe.com

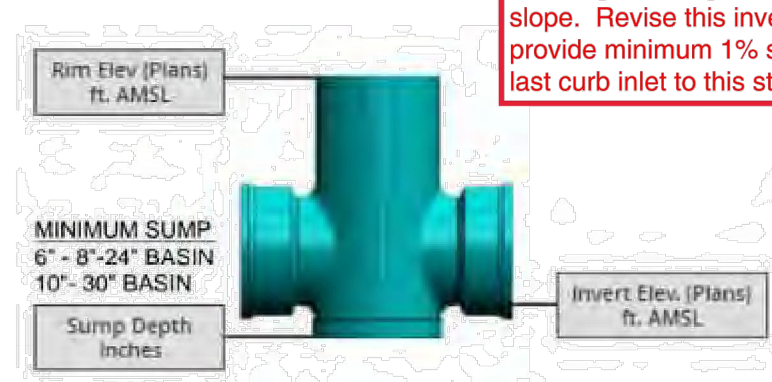
Grate: 30; Solid;

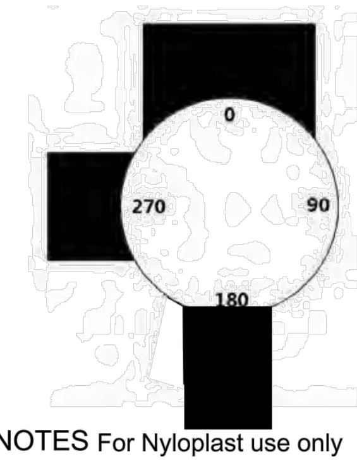
Accessories:

Rim Elev. 987.65 ft. | Basin Height 103.56 in. | Sump Depth 24.00 in.

	Stub size	Angle	Pipe Type	Invert Elev. ft. AMSL	Production Depth inches
Branch #1	24 in.	0 °	HDPE	981.02 ft.	79.56 in.
Branch #2	12 in.	~~192 °~~ 180	HDPE	981.90 ft.	69.00 in.
Branch #3	15 in.	270 °	HDPE	982.80 ft.	58.20 in.
Branch #4					
Branch #5					
Branch #6					

The curb inlet upline from this structure has an invert of 981.9' resulting in a length of pipe at 0% slope. Revise this invert to provide minimum 1% slope from last curb inlet to this structure.





CUSTOMER NOTES

VERIFY INVERT OF STUB #2 / VERIFY RIM

PRODUCTION NOTES For Nyloplast use only

NOTE: Drawings need to be Complete. This product is made to order and non-Refundable
NYLOPLAST: 3130 Verona Ave. Buford, GA 30518. (866) 888-8479
Nyloplast® is a registered trademarks of Advanced Drainage Systems®

Production Order Forms are based on interpretations of provided details. Customer is responsible for confirmation of information and final approval of order form..

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	JASON BATES 859-300-9778 JASON.BATES@ADS-PIPE.COM
ADS SALES REP:	LOGAN BUNCH 859-556-5598 LOGAN.BUNCH@ADS-PIPE.COM
PROJECT NO:	S079841

ADVANCED DRAINAGE SYSTEMS, INC.

U OF K ORANGE PARKING LOT PHASE 4

LEXINGTON, KY

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE MADE FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 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 "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
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

62	STORMTECH MC-3500 CHAMBERS
18	STORMTECH MC-3500 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	% STONE VOID
13,329	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
4,126	SYSTEM AREA (ft²)
257	SYSTEM PERIMETER (ft)

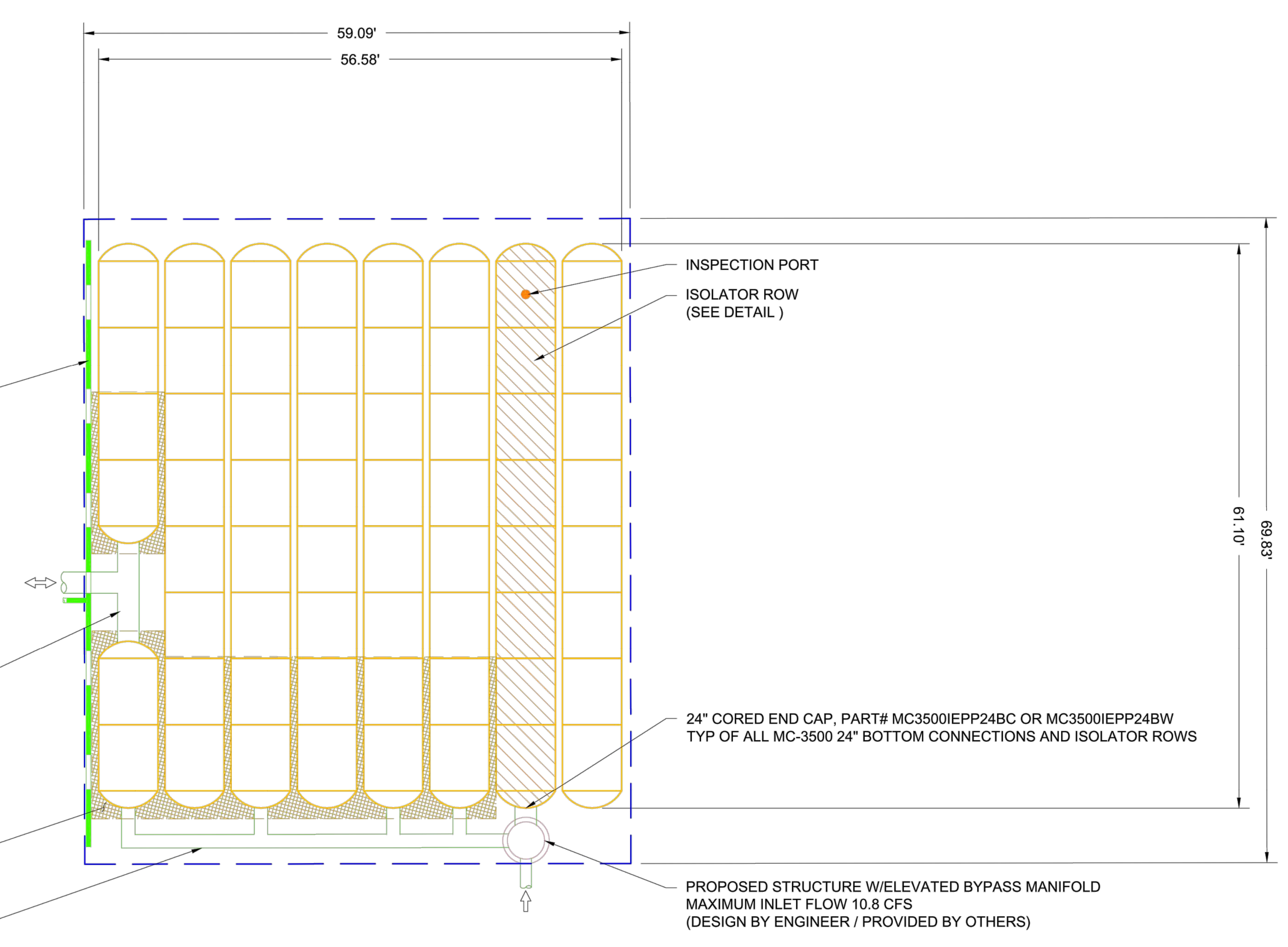
PROPOSED ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	992.60
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	987.10
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	986.60
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	986.60
MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT):	986.60
TOP OF STONE:	985.60
TOP OF MC-3500 CHAMBER:	984.60
15" TOP MANIFOLD INVERT:	982.80
24" ISOLATOR ROW INVERT:	981.02
24" BOTTOM MANIFOLD INVERT:	981.02
BOTTOM OF MC-3500 CHAMBER:	980.85
UNDERDRAIN INVERT:	980.10
BOTTOM OF STONE:	980.10

All of these elvations were raised by 5" or 0.42' due to the tie in elevation of the existing manifold

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.
- 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.



U OF K ORANGE PARKING LOT PHASE 4
LEXINGTON, KY
DATE: 04-18-18 DRAWN: KR
PROJECT #: S079841 CHECKED: DAF

REV	DWN	CKD	DESCRIPTION
05-14-18	MSW	N/A	SHIFTED ISO ROW OVER
05/18/18	MSW	RD	REVISED OUTLET SIZE / LOCATION

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

ADS® ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026

0 15' 30'

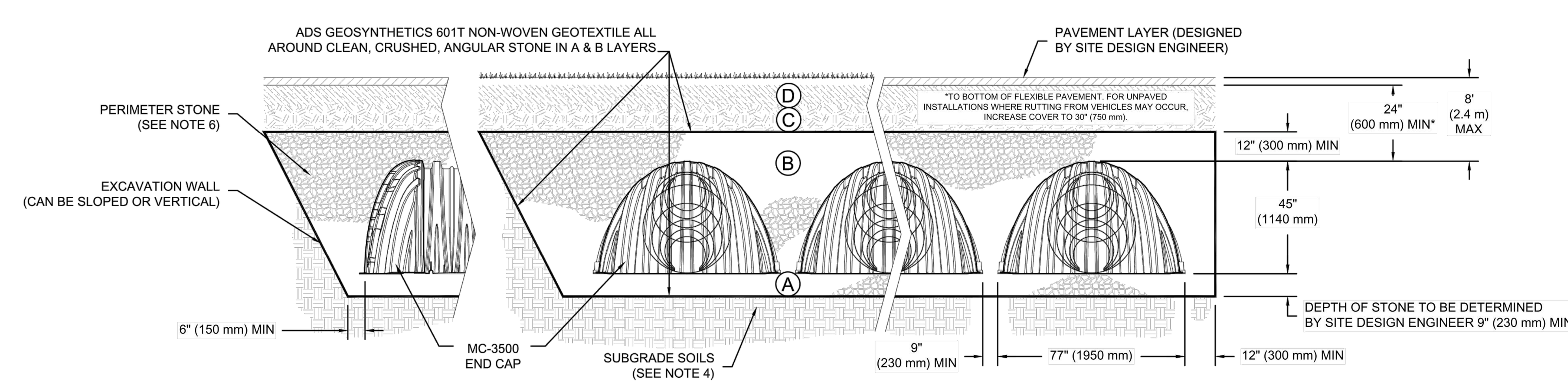
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE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

SHEET 2 OF 5

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2,3]

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



NOTES:

1. MC-3500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. 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.
5. 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.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.

RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

U OF K ORANGE PARKING LOT PHASE 4
LEXINGTON, KY
DATE: 04-18-18 DRAWN: KR
PROJECT #: S079841 CHECKED: DAF
REV DWN CKD DESCRIPTION
05-14-18 MSW N/A SHIFTED ISO ROW OVER
05/18/18 MSW RD REVISED OUTLET SIZE / LOCATION
StormTech® Detention • Retention • Water Quality
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM
ADS® ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026
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SHEET 3 OF 5

		DATE	BY	REVISION
DESIGNER	TFH			
DRAWN	DEB			
CHECKED	TFH			
APPROVED	RLP			

GRAPHIC SCALE
SCALE: AS SHOWN

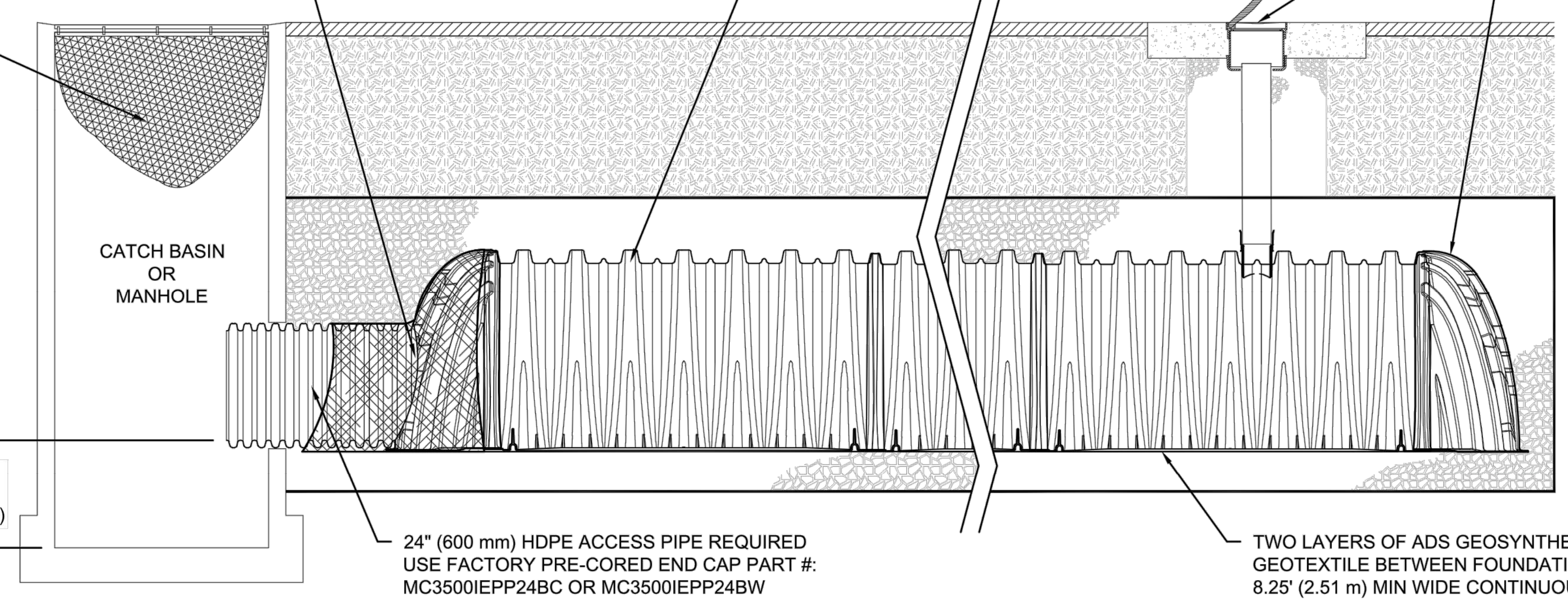
STATE OF KENTUCKY
R.L. PICKERILL
15,052
LICENSED
PROFESSIONAL ENGINEER

bell engineering
Lexington, KY (859) 278-5412
Hopkinsville, KY (270) 886-5466
Asheville, NC (828) 774-5499

2490.0 ORANGE LOT EXPANSION PHASE 4
CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

STORM SEWER UNDERGROUND DETENTION SYSTEM

DIVISION	CIVIL
CONTRACT NO.	600-090
DATE	APRIL, 2018
SHEET NO.	C42


COVER PIPE CONNECTION TO END CAP WITH ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE
STORMTECH HIGHLY RECOMMENDS FLEXSTORM PURE INSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN GRATES
MC-3500 CHAMBER
OPTIONAL INSPECTION PORT
MC-3500 END CAP
CATCH BASIN OR MANHOLE
SUMP DEPTH TBD BY SITE DESIGN ENGINEER (24" [600 mm] MIN RECOMMENDED)
24" (600 mm) HDPE ACCESS PIPE REQUIRED USE FACTORY PRE-CORED END CAP PART #: MC3500IEPP24BC OR MC3500IEPP24BW
TWO LAYERS OF ADS GEOSYNTHETICS 315WTM WOVEN GEOTEXTILE BETWEEN FOUNDATION STONE AND CHAMBERS 8.25' (2.51 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS

MC-3500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

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

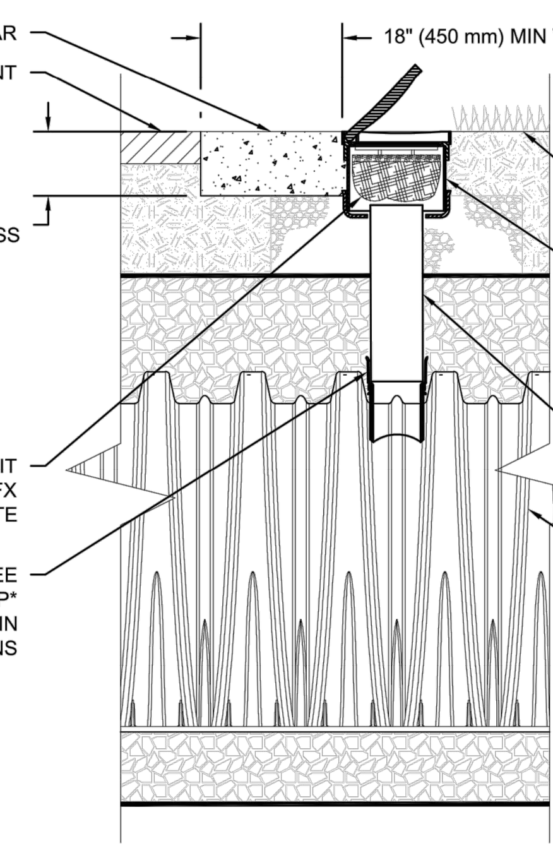
STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

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

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

NOTES

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


CONCRETE COLLAR
PAVEMENT
18" (450 mm) MIN WIDTH
CONCRETE SLAB 8" (200 mm) MIN THICKNESS
CONCRETE COLLAR NOT REQUIRED FOR UNPAVED APPLICATIONS
12" (300 mm) NYLOPLAST INLINE DRAIN BODY W/SOLID HINGED COVER OR GRATE PART# 2712AG6IP* SOLID COVER: 1299CGC* GRATE: 1299CGS
FLEXSTORM CATCH IT PART# 6212NYFX WITH USE OF OPEN GRATE
6" (150 mm) SDR35 PIPE
6" (150 mm) INSERTA TEE PART# 6P26FBSTIP* INSERTA TEE TO BE CENTERED IN VALLEY OF CORRUGATIONS
MC-3500 CHAMBER

* THE PART# **2712AG6IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

MC-3500 6" INSPECTION PORT DETAIL
NTS

U OF K ORANGE PARKING LOT PHASE 4
LEXINGTON, KY
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PROJECT #: S079841 CHECKED: DAF

REV	DWN	CKD	DESCRIPTION
05-14-18	MSW	N/A	SHIFTED ISO ROW OVER
05/18/18	MSW	RD	REVISED OUTLET SIZE / LOCATION

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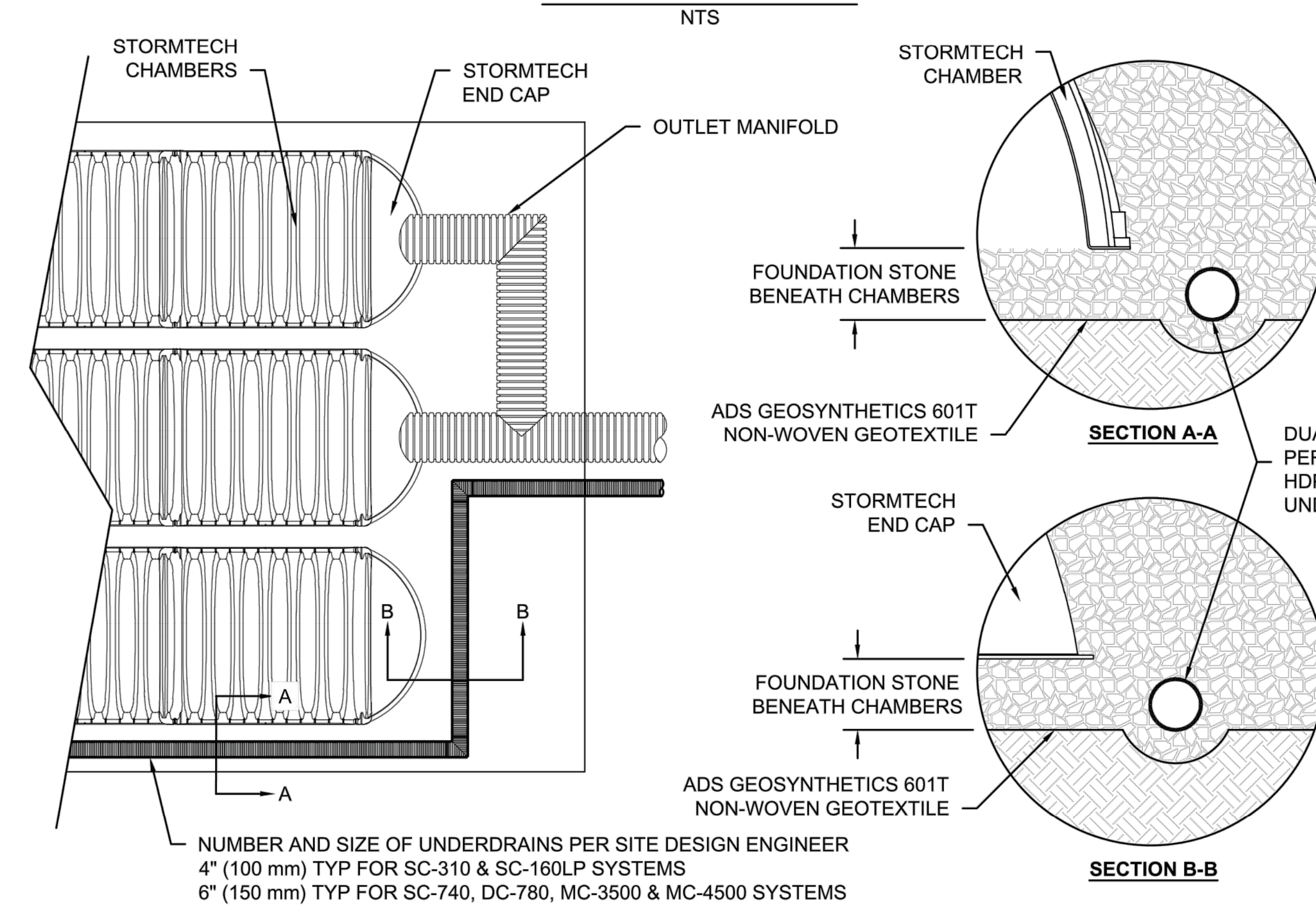
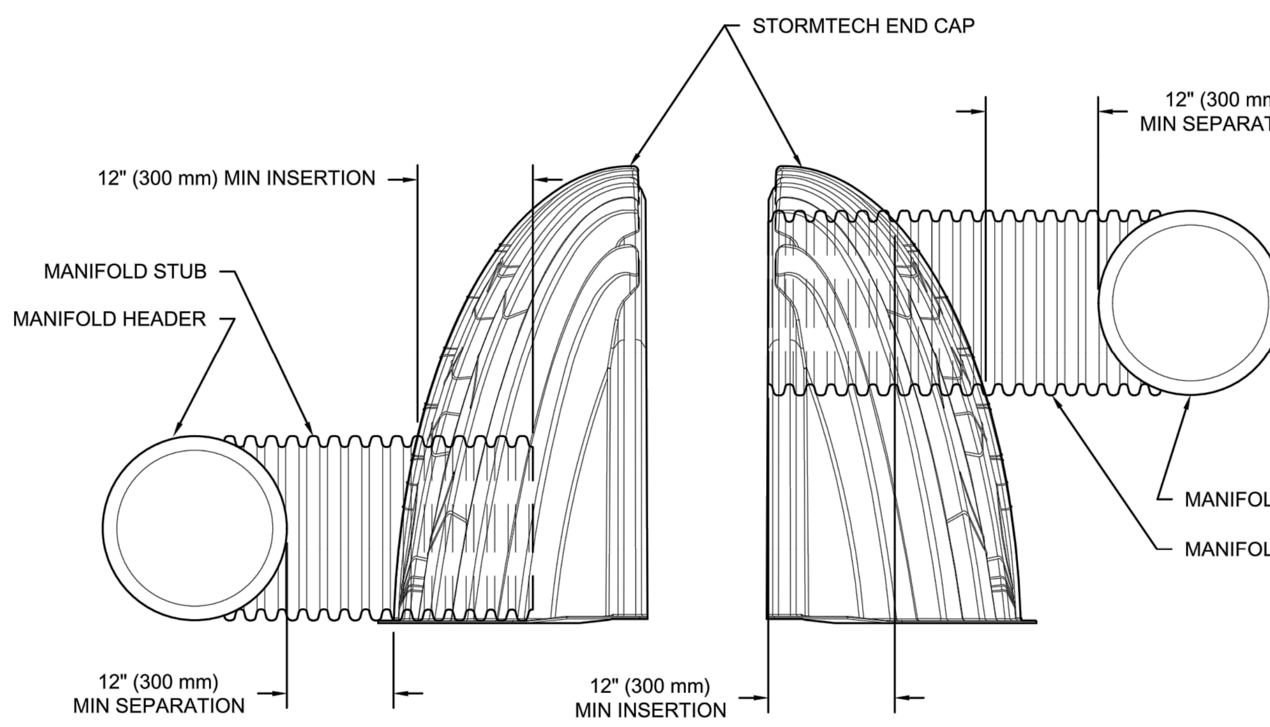
SHEET 4 OF 5

UNDERDRAIN DETAIL
NTS

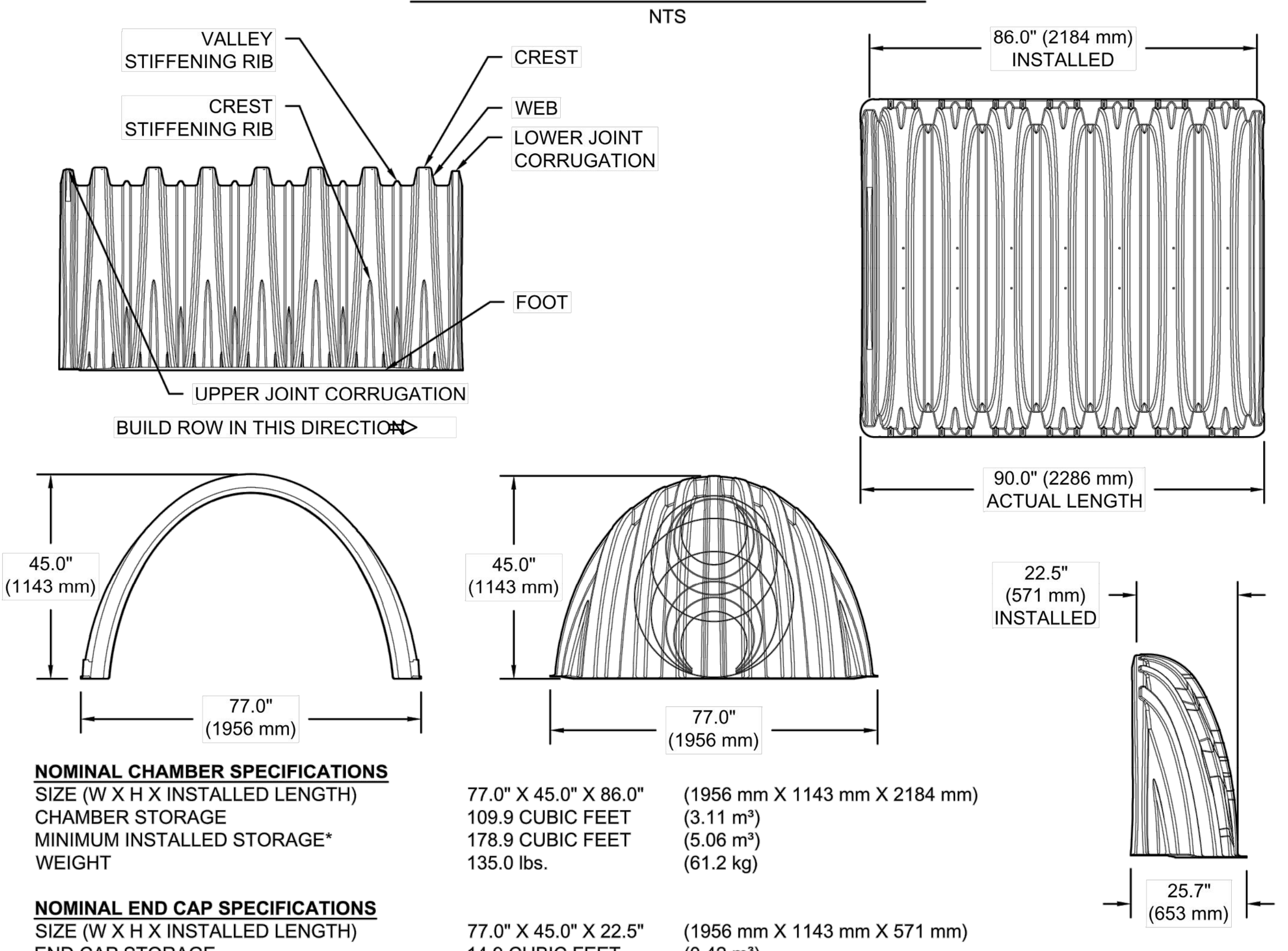

STORMTECH CHAMBERS
STORMTECH END CAP
OUTLET MANIFOLD
STORMTECH CHAMBER
FOUNDATION STONE BENEATH CHAMBERS
ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE
SECTION A-A
DUAL WALL PERFORATED HDPE UNDERDRAIN
STORMTECH END CAP
FOUNDATION STONE BENEATH CHAMBERS
ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE
SECTION B-B
NUMBER AND SIZE OF UNDERDRAINS PER SITE DESIGN ENGINEER
4" (100 mm) TYP FOR SC-310 & SC-160LP SYSTEMS
6" (150 mm) TYP FOR SC-740, DC-780, MC-3500 & MC-4500 SYSTEMS

MC-SERIES END CAP INSERTION DETAIL
NTS



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

MC-3500 TECHNICAL SPECIFICATION
NTS


VALLEY STIFFENING RIB
CREST STIFFENING RIB
CREST
WEB
LOWER JOINT CORRUGATION
FOOT
UPPER JOINT CORRUGATION
BUILD ROW IN THIS DIRECTION
86.0" (2184 mm) INSTALLED
90.0" (2286 mm) ACTUAL LENGTH
45.0" (1143 mm)
77.0" (1956 mm)
45.0" (1143 mm)
77.0" (1956 mm)
22.5" (571 mm) INSTALLED
25.7" (653 mm)

NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	178.9 CUBIC FEET	(5.06 m³)
WEIGHT	135.0 lbs.	(61.2 kg)

NOMINAL END CAP SPECIFICATIONS

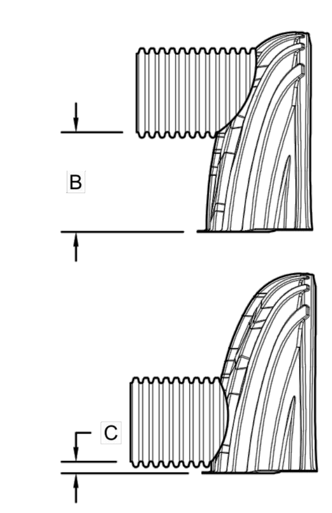
SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 22.5"	(1956 mm X 1143 mm X 571 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	46.0 CUBIC FEET	(1.30 m³)
WEIGHT	50.0 lbs.	(22.7 kg)

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

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

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

NOTE: ALL DIMENSIONS ARE NOMINAL



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

U OF K ORANGE PARKING LOT PHASE 4
LEXINGTON, KY
DATE: 04-18-18 DRAWN: KR
PROJECT #: S079841 CHECKED: DAF

REV	DWN	CKD	DESCRIPTION
05-14-18	MSW	N/A	SHIFTED ISO ROW OVER
05/18/18	MSW	RD	REVISED OUTLET SIZE / LOCATION

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SHEET 5 OF 5


DROP INLET
TOP = 990.0
IE = 985.8
EX. DROP INLET
TOP = 989.3
IE. = 983.9
ADJUST TOP OF DRAINAGE STRUCTURE TO GRADE. PROVIDE TRAFFIC BEARING LID
EX. OUTLET STRUC.
TOP = 991.6
IE. = 980.1
CONNECT TO EXISTING UNDERGROUND DETENTION SYSTEM
15'
PROPOSED UNDERGROUND DETENTION
ADJUST TOP OF DRAINAGE STRUCTURE TO GRADE. PROVIDE TRAFFIC BEARING LID
EX. OUTLET STRUC.
TOP = 989.6
IE. = 983.03
12" STORM
ALUMNI DR
CURB INLET
TOP = 987.65
IE = 981.9
DROP INLET
TOP = 985.0
IE = MATCH PIPE INVERT
SDMH # WR4_700HW
INV IN: 981.61 (24" RCP)
CONVERT EXISTING DROP INLET TO JUNCTION BOX
2 X 24" ST
DI
18" ST
24" ST
CURB AT EXISTING INLET, SEE C41
18" ST
DETAIL LEGE
NAME
CURB INLET (SINGLE)
DROP BOX INLET TYPE 11
CONCRETE HEADWALL
CURB AT EXISTING INLET
EROSION CONT
SYMBOLS
DESCRIPTION
OP
OUTLET PROTECTION
IP
INLET PROTECTION

RECORD DRAWINGS

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		DATE	BY	REVISION
DESIGNER	TFH			
DRAWN	DEB			
CHECKED	TFH			
APPROVED	RLP			

GRAPHIC SCALE

SCALE: AS SHOWN

STATE OF KENTUCKY R.L. PICKERILL 15,052 LICENSED PROFESSIONAL ENGINEER

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Hopkinsville, KY (270) 886-5466
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2490.0 ORANGE LOT EXPANSION PHASE 4
CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

STORM SEWER UNDERGROUND DETENTION SYSTEM

DIVISION	CIVIL
CONTRACT NO.	600-090
DATE	APRIL, 2018
SHEET NO.	C42

GENERAL NOTES: SITE UTILITIES

A THE CONTRACT DOCUMENTS SHOW THE APPROXIMATE LOCATION OF THE EXISTING AND NEW SUBSURFACE UTILITY LINES. THESE LINES HAVE BEEN IDENTIFIED AND LOCATED AS ACCURATELY AS POSSIBLE USING AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ACTUAL LOCATIONS. IF ANY CHARTED, UNCHARTED OR MISLOCATED UTILITY SERVICE IS INTERRUPTED FOR ANY REASON, THE CONTRACTOR WILL WORK CONTINUOUSLY TO RESTORE SERVICE TO THE SATISFACTION OF THE OWNER.

B THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO EXCAVATING. THE OWNER WILL NOT LOCATE THESE UTILITIES FOR THE CONTRACTOR. IF AN OUTSIDE SERVICE OR COMPANY IS REQUIRED TO ACCURATELY LOCATE BURIED UTILITIES THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING THIS WORK AND IS RESPONSIBLE FOR THE COSTS. THE CONTRACTOR SHOULD CONTACT APPROPRIATE UTILITY COMPANIES BEFORE DOING ANY EXCAVATING.

C LOCATIONS OF UTILITIES ARE APPROXIMATE AND SUBJECT TO MINOR CHANGES IN THE FIELD. DO NOT SCALE THE DRAWINGS.

D INSTALL UNDERGROUND BRANCH CIRCUITS WITH 2'-0' MINIMUM COVER.

E EXCAVATION: MATERIALS TO BE EXCAVATED SHALL INCLUDE EARTH AND ANY OTHER MATERIAL, INCLUDING ROCK, ENCOUNTERED IN THE TRENCH EXCAVATION.

F SITE LIGHTING CIRCUITS SHALL BE MINIMUM #6 CONDUCTORS IN 1 - 1/4" CONDUIT.

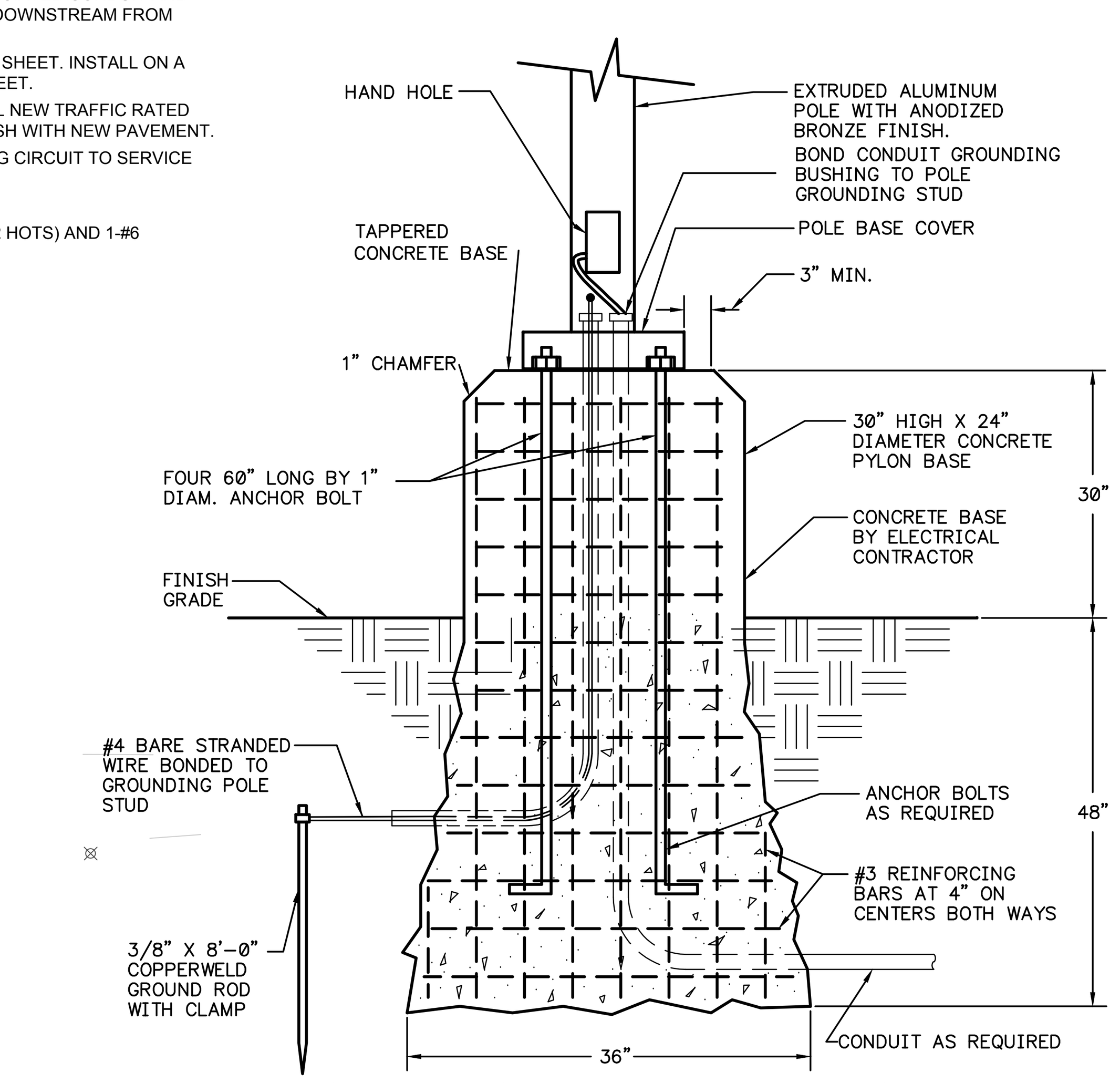
LIGHT FIXTURE SCHEDULE:

OLF-1
LED AREA LIGHT WITH LOW COPPER DIE-CAST ALUMINUM FINNED HOUSING, REMOVABLE POWER DOOR, STAINLESS STEEL LATCHES, CAST ALUMINUM ARCHITECTURAL POLE MOUNTING ARM, 100,000 HOUR L70 RATED LIFE LED LIGHT ENGINE, TYPE II MEDIUM DISTRIBUTION 24,718 DELIVERED LUMEN LED ARRAY, UL LISTED FOR WET LOCATIONS, AND LIMITED FIVE YEAR WARRANTY. ONE FIXTURE TO BE MOUNTED TO A 40' STEEL POLE. FIXTURE AND POLE TO MATCH EXISTING SOUTH PARKING LOT POLE BEING RELOCATED.

HOLOPHANE MGLED 6COB 5K IIM LA SSS40 DM28 AND HAPCO POLE

CODED NOTES:

1. REMOVE EXISTING LIGHT POLE, BASE AND ASSOCIATED CONDUIT AND WIRE. MAINTAIN CIRCUITING OF FIXTURES FED DOWNSTREAM FROM LIGHTS THAT ARE TO BE REMOVED.
2. NEW LIGHT POLE. SEE FIXTURE SCHEDULE THIS SHEET. INSTALL ON A NEW CONCRETE BASE PER THE DETAIL THIS SHEET.
3. REMOVE EXISTING QUAZITE BOXES AND INSTALL NEW TRAFFIC RATED BOXES OF SIMILAR SIZE AND LOWER TO BE FLUSH WITH NEW PAVEMENT.
4. INTERCEPT AND EXTEND THE EXISTING LIGHTING CIRCUIT TO SERVICE THE TWO NEW LIGHTS AS INDICATED.
5. EXISTING ELECTRICAL PULLBOX TO REMAIN.
6. NEW LIGHTING FEEDER CONSISTING OF 3-#6'S (2 HOTS) AND 1-#6 NEUTRAL IN 1-1/4"C.



DETAIL OF PYLON BASE FOR LIGHTING FIXTURES OLF-1
NO SCALE

RECORD DRAWINGS DATE 01/04/2019

These record drawings have been prepared, in part, on the basis of information compiled and furnished by others. The Engineer has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions that may be incorporated as a result of erroneous information provided by others.

STAGGS & FISHER CONSULTING ENGINEERS, INC.

NOTE:

IT IS NOT INTENDED THAT THE PLANS SHOW ALL OFFSETS IN PIPES, CONDUITS, AND DUCTS REQUIRED FOR INSTALLATION OF THE WORK. DETAILS AND SECTIONS ARE INCLUDED FOR SOME AREAS TO SHOW INTENDED RELATIONSHIP OF THE WORK OF VARIOUS TRADES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTORS TO COORDINATE INSTALLATION OF THE WORK AND TO PROVIDE THE NECESSARY OFFSETS, TRANSFORMATIONS AND FITTINGS REQUIRED. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CORRECTING CONFLICTS BETWEEN THE WORK OF VARIOUS TRADES. DETAILS AND SECTIONS ARE SHOWN FOR THE CONTRACTORS CONVENIENCE AND SHALL NOT BE CONSIDERED COMPLETE IN EVERY DETAIL.

Staggs and Fisher
Consulting Engineers, Inc.
3264 Lochness Drive Lexington, Kentucky 40517
(859) 271-3246

DESIGNER	DESIGNER	DATE	BY	REVISION
DRAWN	DRAWN	04/17/2018	WPW	ADDENDUM
CHECKED	CHECKED?			
APPROVED	APPROVED			

GRAPHIC SCALE

SCALE: 1"=50'

STATE OF KENTUCKY
WILLIAM P. WILSON
22074
LICENSED PROFESSIONAL ENGINEER

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Lexington, KY (859) 278-5412
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2490.0 EXPAND ORANGE PARKING LOT
CAPITAL PROJECT MANAGEMENT DIVISION
UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

ELECTRICAL SITE UTILITY PLAN

DIVISION	GENERAL
CONTRACT NO.	600-090
DATE	APRIL 2018
SHEET NO.	U1