

Final

# APPLICATION TO PLANNING COMMISSION

## Subdivision

Bourbon County Joint Planning Commission

525 High Street, Paris, KY 40361 • (859) 987-2150 • Fax (859) 987-2136

**Office Use only:**

Application No. MS18-11 Fee Amount: \$ 150<sup>00</sup> Date Fee Received: 7/16/18

1. APPLICANT Centrust Capital Homes LLC

MAILING ADDRESS 1010 Monarch Street, Suite 250B, Lexington, KY 40513

PHONE NO. N/A (HOME) (859) 621 - 6281 (WORK)

2. TYPE OF REQUEST (Check one)  MINOR SUBDIVISION  MAJOR SUBDIVISION  
 AMENDED SUBDIVISION PLAT  CONSOLIDATION

3. PLEASE CIRCLE: (Paris) Bourbon County/ North Middletown/ Millersburg

4. SUBDIVISION NAME: Houston's Station TOTAL ACREAGE: 32.21 NUMBER OF LOTS: 121

5. EXISTING USE: Vacant Lot ZONING DISTRICT: R-7

6. LOT INFORMATION (as it pertains to individual application):

Acreege of Original Lots: Property 1- 32.21 2- N/A 3- N/A 4- N/A 5- N/A

Acreege of Parcel to be divided: 32.21

7. FEE: Refer to Fee Schedule

8. SUPPLEMENTAL INFORMATION: Refer to Article VI of the Subdivision Regulations.

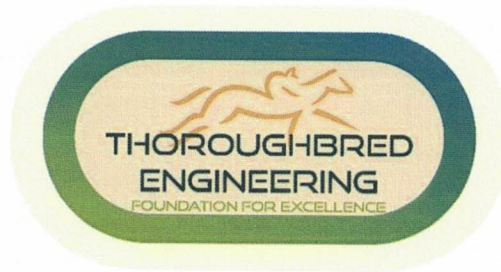
**CHECKLIST:**

- Attach a Legal Description of the Property(include deed book and page number for all tracts comprising the plat)
- Attach a plan of the proposed use (as described above)
- Attach a narrative of the proposed use (as described above)
- Attach a narrative describing any prior actions taken by the Board of Adjustment on this property
- Attach a list of adjoining property owners (name and address)

PK Neal Pres 7/12/18  
APPLICANT SIGNATURE DATE

Applications under zoning regulations involve legal procedures and the satisfaction of legal requirements, often complex, based up the written information in your application and the facts presented at your hearing. If you fail to comply with the procedures, or to satisfy the requirements your application will be subject to denial. Even if your application is approved it could be subject to a neighboring landowners appeal to the Circuit Court. You are not required to employ an attorney but you are encouraged to do so.





HOUSTON'S STATION SUBDIVISION  
CROSS CREEK DRIVE  
PARIS, KENTUCKY

# DETENTION ANALYSIS

August 1, 2018

Prepared By:  
Dylan Durbin, EIT & Brent Combs, PE  
Thoroughbred Engineering  
110 East Main Street, Suite 206  
Georgetown, Kentucky 40324  
502-863-1756

## Overview

The Houston's Station Subdivision is a 35-acre vacant property located at the intersection of Bethlehem Road and Cross Creek Drive in Paris, KY. The vacant property has 121 residential lots proposed with an average lot size of about 0.20 acres. Approximately 25.7-acres of the property currently drains to the low-lying area on the northeast side of the property at the intersection of Cross Creek Drive and Bethlehem Road. A stream runs through the south side of the low-lying area flowing from Bethlehem Road to Cross Creek Drive that captures the 25.7-acre watershed runoff. This watershed (watershed 1) also includes a portion of Bethlehem Road. The remaining runoff on the property (about 9.5-acres) drains to the southwest side of the property through sheet and shallow concentrated flow. The overall watershed that supplies the on-site stream is contained on the east side of Bethlehem Road and is approximately 439 acres in size (463 acres including the development area). Rolling pastures make up the vast majority of the area with some gravel farm roads, wooded areas, and farm houses/buildings.

Hydroflow Hydrograph Extensions for Autodesk Civil 3D 2019 was used to analysis the storm drainage with the Soil Conservation Service (SCS) method. The drainage system was analyzed with three major watersheds. Due to the creek flowing through the low-lying area, the entire watershed flowing into the low-lying area was analyzed. Watershed 2 and 3 was also analyzed in conjunction with this area since the runoff from both areas drain to the box culvert crossing Cross Creek Drive. The box culvert with an invert elevation of 815' consists of a 6' x 12' opening and spans about 90' under the roadway. A concrete berm also exists before the water reaches the box culvert with a top elevation of 858.60' and an 18" pipe flows through the berm with an invert elevation of 856'. A 6' x 10' box culvert crosses under Bethlehem Road with an approximate invert of 840'. The third watershed area is watershed 1 on the property that drains separately to the west side of the property. Watershed 1 will have its own detention basin.

## Pre-Developed Watershed Configuration

The overall watershed that flows to the low-lying area consists of 463 acres including the development. Curve numbers used for the area were based on hydrologic soil types specified by the USDA soil survey maps. A curve number of 61 was used for type B soils. A curve number of 74 was used for Type C soils and a curve number of 80 was used for Type D soils. The USDA hydrologic soils map is attached. The time of concentration value was calculated using the longest hydraulic path and the average basin slope due to the large watershed area. The time of concentration was calculated to be 105 minutes. The second pre-developed watershed was the area containing 9.5 acres that drains to the west side of the property. A curve number of 69 was used for the existing area based on the short, dense grasses in the watershed. Time of concentration was calculated to be 19.9 minutes over 651 feet using the TR-55 method using sheet (100 ft at 3.60% slope) and concentrated flow (551 ft at 1.0%).

## Post Developed Watershed Configuration

After the subdivision has been fully developed, three watersheds will make up the property. One of the three watersheds will have a detention basin to control storm water runoff. The remaining area will run off to the existing low-lying area with additional storage. Watershed 1 totals 8.87 acres with 3.54-acres of impervious area including roadway structures and 36 residential lots. Watersheds 2 and 3 shown on the map drain to the same low-lying area so they were treated as one watershed. This watershed contains 26.28 acres with 8.82 acres of impervious surface and contains 85 lots. Curve numbers produced for the area are based on a weighted average using

a curve number of 69 for the grassed and landscaped areas and a curve number of 95 for the impervious areas. Impervious areas include the roadway, curb, 1500 square feet average house, and a 600 square feet driveway within each watershed. Weighted curve numbers range from 77 to 81 for the post development watersheds. The 439 acres on the east side of Bethlehem Road will remain the same as described in the pre-development stage. For the analysis, a weighted curve number was used and the 439 acre watershed was combined with on site watersheds 2 and 3. Since the overall 463 acre watershed was analyzed together, the time of concentration for the existing large watershed because this route was still the longer path.

### Detention Analysis

An existing detention area exists within the low-lying area that originates from the east side of Bethlehem Road and extends to the box culvert at Cross Creek Drive. The detention area is shown in the attached exhibit. To keep flow through the box culvert at Cross Creek Drive from increasing, the proposal is to increase the storage capacity of the low-lying area. The onsite watershed with increased curve numbers was combined with the watershed area on the east side of Bethlehem Road to perform the analysis. For both the existing and proposed detention areas, the 6' x 12' box culvert was used as the detention outlet. The existing concrete berm and 18" pipe was modeled as an inlet control to the box culvert. A cross section of the model is attached.

The computer model contains several hydrograph models for the development. Hydrograph 1 is the overall 463 acre existing watershed. Hydrograph 2 is the overall 463 acre post development watershed. Hydrograph 3 is the existing detention (Detention area 2) or low-lying area on the northeast corner of the property. Hydrograph 4 is the detention area 2 with added volume to accommodate the additional flow. Hydrograph 5 is the watershed for detention area 1 or watershed 1 on the east side of the property. Hydrograph 6 is the same hydrograph as hydrograph 2. Hydrograph 7 is the same hydrograph as hydrograph 3. Hydrograph 8 is the pre-development watershed for watershed area 1. Hydrograph 9 is the detention pond for watershed 1. The hydrograph numbers are included in the summary table below for clarity.

Based on the computer model, detention pond 1 (hydrograph 9) will reduce the flow to levels below those to development. A 24" pipe with an invert elevation of 875' along with a 36" pipe at invert elevation of 877.30' will be placed in detention pond 1 to regulate the flow. A schematic of the pipes as well as the overall detention pond is attached. Table 1 below shows the outflows and peak storage elevations for storm events at 2, 10, 25 and 100 years.

With additional volume added to detention area 2, the flow and peak storage elevation will be reduced. With the additional volume, the existing 6' x 12' box culvert, concrete berm, and 18" pipe will not need to be altered. A schematic of how detention area 2 was modeled as well as the proposed grading is attached. Tables 2 and 3 show the outflows and peak stage storage elevations for the four storm events.

All output reports from the Hydraflow Hydrographs program are attached.

**Table 1: Watershed 1 Pre and Post Development**

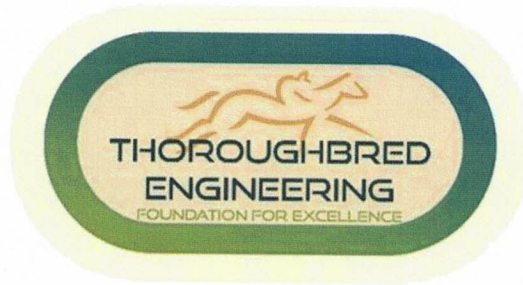
Storm Event	Pre-Watershed 1 (Hydrograph 8)	Post-Watershed 1 (Hydrograph 5)	Post Watershed 1 with Pond (Hydrograph 9)	Pond 1 Peak Stage Elevation
2 Year, 24 Hour	2.07 cfs	7.12 cfs	1.89 cfs	875.64'
10 Year, 24 hour	15.14 cfs	27.31 cfs	12.77 cfs	877.30'
25 Year, 24 Hour	27.70 cfs	44.45 cfs	26.09 cfs	878.20'
100 Year, 24 Hour	47.57 cfs	69.91 cfs	40.11 cfs	879.50'

**Table 2: Remaining Watershed and Overall Watershed Pre-Development**

Storm Event	Overall Pre- Development Watershed (Hydrograph 1)	Existing Detention Pre- Development (Hydrograph 3)	Peak Stage Elevation
2 Year, 24 Hour	36.89 cfs	36.71 cfs	838.92'
10 Year, 24 hour	238.65 cfs	235.77 cfs	840.04'
25 Year, 24 Hour	439.58 cfs	414.19 cfs	841.43'
100 Year, 24 Hour	757.96 cfs	704.10 cfs	843.23'

**Table 3: Remaining Watershed and Overall Watershed Post Development**

Storm Event	Overall Post Development Watershed (Hydrograph 2,6)	Proposed Detention Post Development (Hydrograph 4)	Peak Stage Elevation
2 Year, 24 Hour	37.08 cfs	34.11 cfs	838.90'
10 Year, 24 hour	239.82 cfs	235.41 cfs	840.04'
25 Year, 24 Hour	441.74 cfs	411.96 cfs	841.40'
100 Year, 24 Hour	761.69 cfs	703.13 cfs	843.22'



HOUSTON'S STATION SUBDIVISION  
CROSS CREEK DRIVE  
PARIS, KENTUCKY

# STORM SEWER ANALYSIS

August 1, 2018

Prepared By:  
Dylan Durbin, EIT & Brent Combs, PE  
Thoroughbred Engineering  
110 East Main Street, Suite 206  
Georgetown, Kentucky 40324  
502-863-1756

## Overview

The **Houston's Station** Subdivision is a 32-acre vacant property located at the intersection of Bethlehem Road and Cross Creek Drive in Paris, KY. The vacant property has 121 residential lots proposed with an average lot size of about 0.20 acres. Six streets make up the subdivision. Two storm networks make up the subdivision. One network drains to the low lying area on the northeast corner of the property while the second network drains to a detention pond on the west side of the property. Pipe sizes range from 12 inches to 42 inches and all curb inlet throat lengths are 10 feet. Seven sag inlet locations have double boxes.

## Analysis

Hydraflow Storm Sewers Extension for Autodesk Civil 3D, which uses the rational method, was used to model the storm sewer system. A catchment area was drawn for each curb inlet based on the design grade. A map is attached showing the drainage areas for each catchment. Runoff Coefficients were weighted for each catchment area based on the amount of impervious area and grass/landscaped area. A runoff coefficient of 0.95 was used for the impervious area and a runoff coefficient of 0.22 was used for the grassed areas based on a type B soil. For each lot, a 1500 square feet house and 600 square feet driveway was assumed when computing the runoff coefficients. A table is attached showing the runoff coefficient computations. Since the watershed areas are so small, a 10 minute time of concentration was assumed for each area.

The output report below shows the inventory of the piping system, and routing of the 10 year storm with hydraulic grade line computations and grade line profiles for each pipe along with the gutter spread. The routing for the 100 year storm is also shown which also includes the hydraulic grade line and gutter spread report for the curb inlets.



## COMMISSIONER'S DEED

WHEREAS, in the action of ALLIANCE BANKING COMPANY; SADDLEBROOK FARM, LLC; JAMES NUTI; ANGELA NUTI; RONALD NUTI; and CATHY NUTI, Civil Action No. 09-CI-004 in the Bourbon Circuit Court, a Judgment and Order of Sale was entered on AUGUST 3, 2009 directing the Master Commissioner of said Court to expose for sale at public auction, to the highest and best bidder, the real estate described herein; and

WHEREAS, said property was sold in accordance with said Judgment and Order of Sale on the 10<sup>th</sup> day of SEPTEMBER, 2009, for the sum of SEVEN HUNDRED FORTY-FIVE THOUSAND DOLLARS (\$745,000.00), when ALLIANCE BANKING COMPANY, became the purchaser thereof; and

WHEREAS, by an Order dated that 3<sup>rd</sup> day of November, 2009, the Court directed that the conveyance of the property be made by the Master Commissioner to ALLIANCE BANKING CORPORATION, its successors and assigns, 695 Bullion Boulevard, Winchester, KY 40391; and

WHEREAS, for greater certainty, the record and proceedings in the action described above are hereby referred to;

NOW, THEREFORE, THIS DEED OF CONVEYANCE, made and entered into this 5<sup>th</sup> day of November, 2009, by and between WILLIAM J. FOOKS, Master Commissioner of the Bourbon Circuit Court, who conveys for and on behalf of ALLIANCE BANKING COMPANY; SADDLEBROOK FARM, LLC; JAMES NUTI; ANGELA NUTI; RONALD NUTI; and CATHY NUTI, hereinafter collectively referred to as party of the first part, and ALLIANCE BANKING CORPORATION, its successors and assigns forever, party of the second part.

Transfer year taxes should be sent in care of ALLIANCE BANKING CORPORATION, 695 Bullion Boulevard, Winchester, KY 40391.

## WITNESSETH:

THAT FOR AND IN CONSIDERATION of the premises, and the further consideration of full payment of the purchase price of SEVEN HUNDRED FORTY-FIVE THOUSAND DOLLARS (\$745,000.00), the party of the first part, by William J. Fooks, Master Commissioner, has bargained and sold and does hereby bargain, grant, sell, and convey unto the party of the second part, ALLIANCE BANKING CORPORATION, its successors and assigns forever, said real estate located in Bourbon County, Kentucky, and more particularly described as follows, to-wit:

Being all of Parcel 1A and Parcel 2A as shown on the Minor Subdivision and Consolidation Plat of Houston Oaks, Inc and Rosa Lee Rankin and Bobby Rankin

property of record in Plat Cabinet C, Slide 242 in the Bourbon County Clerk's office.

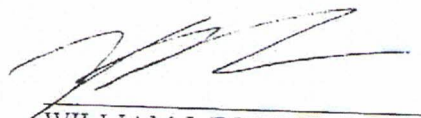
Being part of the same property conveyed to Saddle Brook Farm, LLC, a Kentucky Limited Liability Company, from Houston Oaks Development, Inc., a Kentucky Corporation, f/k/a Houston Oaks, Inc., a Kentucky Corporation RLR Hunt Farm, LLC, and Kentucky Limited Liability Company and Bobby Rankin, a single person, by deed dated October 18, 2006, and recorded on November 1, 2006, in Deed Book 268, page 158, Bourbon County Clerk's Office.

TO HAVE AND TO HOLD the same together with all and singular the rights, privileges, appurtenances, and improvements thereunto belonging, or in anyway appertaining unto the party of the second part, its successors and assigns forever. The Master Commissioner conveys all right, title, and interest, legal and equitable of said party of the first part and in and to the said property so far as he is authorized by the orders and proceedings in this case and no further, but he does not bind himself personally by anything contained in any event whatever.


Provided however, that pursuant to KRS 426.530 a lien in favor of the Defendants is hereby retained for a period of one (1) year from the date of sale during which time the Defendants may redeem the property pursuant to the aforementioned statute.

It is understood between the parties hereto that second party shall assume and pay the 2009 ad valorem property taxes and all taxes due thereafter.

IN TESTIMONY WHEREOF, the said William J. Fooks, Master Commissioner, has hereunto subscribed his name this day and year first above written.

  
WILLIAM J. FOOKS  
MASTER COMMISSIONER  
BOURBON CIRCUIT COURT

ACKNOWLEDGED BY THE MASTER COMMISSIONER, examined and approved by this Court this 3<sup>rd</sup> day of November, 2009.

  
JUDGE, BOURBON CIRCUIT COURT

COMMONWEALTH OF KENTUCKY  
COUNTY OF BOURBON

I, Shirley Smith, Clerk of the Bourbon Circuit Court, do hereby certify that the foregoing Deed of Conveyance from William J. Fooks, Master Commissioner of the Bourbon Circuit Court, to ALLIANCE BANKING CORPORATION, was this day produced and was by him acknowledged to be his act and deed, and this deed having been examined and endorsed by the Judge of the Bourbon Circuit Court and ordered to be certified to the Clerk of the Bourbon County Court for record, same is now done accordingly.

This 3 day of November, 2009.

Shirley Smith  
CLERK, BOURBON CIRCUIT COURT

CONSIDERATION CERTIFICATE

We, the undersigned, hereby certify that the consideration reflected in this deed is the full consideration paid for the property. The Master Commissioner executes this consideration certificate as authorized by the Orders and proceedings in this case and no further, but does not bind himself personally by anything contained in any event whatsoever.

William J. Fooks  
WILLIAM J. FOOKS  
MASTER COMMISSIONER  
GRANTOR

ALLIANCE BANKING CORPORATION  
BY: Steph Stone  
ITS: President

COMMONWEALTH OF KENTUCKY )  
COUNTY OF BOURBON )

The foregoing Consideration Certificate was subscribed, sworn and acknowledged before me this 3<sup>rd</sup> day of November, 2009, by WILLIAM J. FOOKS, MASTER COMMISSIONER.

My Commission expires: 10/31/2011

Kevin B. Huston  
NOTARY PUBLIC

STATE OF Kentucky )  
COUNTY OF Clark )

The foregoing Consideration Certificate was subscribed, sworn and acknowledged before me this 24 day of November, 2009, by Stephen D Fern as President - CEO of Alliance Banking Company

My Commission expires: 1/22/2010

Stephen D Fern  
NOTARY PUBLIC

PREPARED BY:

William J. Fooks

WILLIAM J. FOOKS  
BOURBON COUNTY MASTER COMMISSIONER  
P.O. Box 149  
Paris, Kentucky 40362-0149  
859/987-9111

\*Exempt from transfer tax under KRS 142.050(8)(j).

State of Kentucky, County of Bourbon, Sct.  
I, RICHARD STIFF EADS, Clerk of Bourbon  
County Court, do certify that the foregoing

Book  
was, on the 24 day of Nov., 2009  
at 12:57 P. M., lodged in my office for record,  
and that it has been duly recorded in my said  
office, together with this and the certificate thereon  
endorsed. Given under my hand.

Richard Stiff Eads, BCE

09 NOV 24 PM 12:57

BOURBON COUNTY CLERK  
RICHARD STIFF EADS  
1000 BOURBON COUNTY COURTHOUSE  
PARIS, KY 40362-0001