



**TOWN OF SHADY SHORES  
PLANNING AND ZONING COMMISSION  
MARCH 16, 2016, 7:00 PM  
SHADY SHORES COMMUNITY CENTER  
101 S. SHADY SHORES ROAD  
SHADY SHORES ROAD, TX 76208**

**AGENDA**

1. CALL TO ORDER

2. ROLL CALL

Establish a quorum

3. MINUTES

Consider and act on approval of the February 11, 2016, Planning and Zoning Commission meeting minutes.

Documents: [PLANNING AND ZONING COMMISSION MINUTES 02.11.2016.DOCX](#)

4. STEINBRUNNER REPLAT

Consider and take action relative to an application for a replat made by David Steinbrunner for a replat of Lots 155 and 156 into the proposed 155S in Hidden Valley Air Park.

Documents: [MEMO STEINBRUNNER REPLAT REQUEST 03.10.2016.PDF](#),  
[151201\\_REPLAT 01-06-16 - COMMENTS - 2-23-16 REV \(3\).PDF](#), [PRELIM CONCEPT - COMMENTS - 2-23-16 REV \(3\).PDF](#), [PRELIM DRAINAGE - COMMENTS - 2-23-16 REV \(2\).PDF](#)

5. SUBDIVISION ORDINANCE AMENDMENTS:

Conduct a worksession relative to amending the subdivision ordinance to address the proper sizing of culverts.

Documents: [CULVERT SIZING MEMO.PDF](#), [CULVERT AND DRIVE APPROACH CHECKLIST - MESQUITE TEXAS.PDF](#)

6. ADJOURN

I, Wendy Withers, Town Secretary of the Town of Shady Shores do hereby certify that the above notice of the Planning and Zoning Commission Meeting was posted on the bulletin board at the Community Center, 101 S. Shady Shores Road, Shady Shores, Texas on \_\_\_\_\_ day of \_\_\_\_\_, 2016 at \_\_\_\_\_.

Approved:

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Wendy Withers, Town Secretary

IN ADDITION, A QUORUM OF CITY COUNCIL MEMBERS MAY CHOOSE TO ATTEND THE PLANNING AND ZONING MEETING POSTED ABOVE. THEREFORE, THIS IS NOTICE OF A CITY COUNCIL MEETING AT THE SAME TIME AND PLACE, WITH THE SAME AGENDA AS THE P&Z MEETING. IN THE EVENT A QUORUM OF COUNCIL IS PRESENT AT THE MEETING, NO ACTION OF THE COUNCIL WILL BE TAKEN. THIS NOTICE IS POSTED AT THE TIME STATED ABOVE.



**PLANNING AND ZONING COMMISSION  
FEBRUARY 11, 2016, 7:00 PM  
SHADY SHORES COMMUNITY CENTER  
101 S. SHADY SHORES ROAD  
SHADY SHORES, TX 76208**

**MINUTES**

Allen Lea	Chairman	Present
Tom Spencer	Commissioner	Absent
Jack Nelson	Commissioner	Present
Rebecca Morgan	Commissioner	Present
Paul Brown	Commissioner	Present
Tillman Strahan	Commissioner, Alternate	Present

**Also Present: Wendy Withers, Town Secretary; Jim Shepherd, Town Attorney**

**1. CALL TO ORDER**

Chairman Allen Lea called the meeting to order at 7:00 pm.

**2. ROLL CALL**

Establish a quorum

Chairman Lea called the roll and a quorum was established for the record.

**3. MINUTES**

Consider and act on approval of the December 10, 2015, Planning and Zoning Commission meeting minutes.

Rebecca Morgan made a motion to approve the minute of the December 10, 2015 Planning and Zoning Commission minutes. Jack Nelson seconded the motion.

DISCUSSION: None

AYES: Strahan, Nelson, Lea, Morgan, Brown

NAYS: None

The motion passed unanimously.

**4. OVERNIGHT PARKING**

Consider and act on amending the Town of Shady Shores Code of Ordinance Article 12.02, Section 12.03.006 clarifying the definition of overnight parking.

Documents: [MEMO OVERNIGHT PARKING ORDINANCE 02.11.2016.PDF](#)

Paul Brown made a motion to define overnight parking as the hours between 1 am and 5 am. Rebecca Morgan seconded the motion.

Paul Brown made an amendment to the motion, replacing the definition of overnight parking the hours of 1 am and 5 am. Rebecca Morgan seconded the motion.

DISCUSSION: None  
AYES: Strahan, Nelson, Lea, Morgan, Brown  
NAYS: None

The motion passed unanimously.

**5. WORKSESSION:**

Conduct a worksession relative to developing a priority schedule for review and amendment of certain sections of the Code of Ordinances as well as the development of new Ordinances:  
Security Alarm Ordinance  
Illicit Discharge Ordinance  
Post Construction Management  
Building Permit Regulations (Trash, Bins, Port-a Potty, Erosion Controls, Culvert Review)  
Impact Fees

Commissioners conducted a worksession relative to determining what ordinances to work on. Town Attorney Jim Shepherd gave a presentation relative to Impact Fees. Other topics of discussion included development of a thoroughfare plan, a mater traffic plan, a security alarm ordinance.

The next Planning and Zoning Commission meeting will be held on March 16, 2016 at 7:00 pm.

**6. ADJOURN**

Tillman Strahan made a motion to adjourn. Rebecca Morgan seconded the motion.

DISCUSSION: None  
AYES: Strahan, Nelson, Lea, Morgan Brown  
NAYS: NONE

The motion passed unanimously and the meeting was adjourned at 8:14 pm.

PASSED AND APPROVED THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 2016

APPROVED:

\_\_\_\_\_  
Allen Lea, Chairman

ATTEST:

\_\_\_\_\_  
Wendy Withers, Town Secretary



**To:** Allen Lea, Chairman and Commissioners  
**From:** Wendy Withers, Town Secretary  
**CC:** Jim Shepherd, Town Attorney  
**Date:** 03/10/2016  
**Re:** Steinbrunner Replat

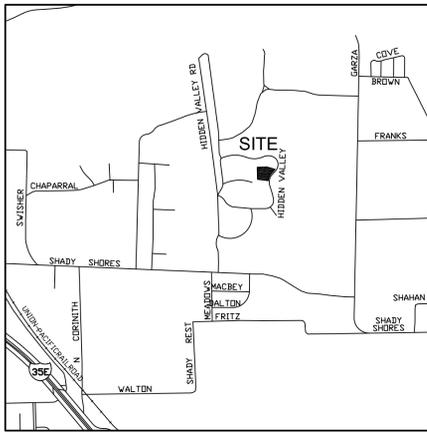
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**ACTION REQUESTED:** Consider and take action relative to a request for replat made by David Steinbrunner.

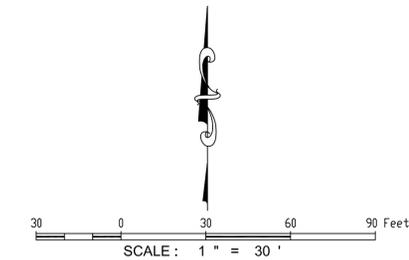
**BACKGROUND INFORMATION:** Mr. Steinbrunner has requested a replat of Lots 155 and 156 in Hidden Valley Airpark. The replat would combine two lots into one smaller lot. After review of the project Town Engineer Richard Arvizu has requested the following additional information before he will approve the replat:

- Include a private drainage easement for the north and south swales each of a sufficient width to contain the proposed swales (min. 15-foot wide recommended)
- Secure topographic cross sections along the existing drainage easement along the west property line to confirm the existing ditch has sufficient capacity to handle all the flow that it is designed to accept and convey (recall we did this for the recent replat of 126SA downstream of 155S-R and the owner ended up coordinating with HVAA which assisted in making the improvements (re-grading) once the plat was approved and site grading began, I believe).

Mr. Steinbrunner is requesting that the Planning and Zoning Commission waive this requirement and recommend approval of the plat to the town council.



VICINITY MAP 1" = 2000'



Lot 107S, Block A  
Hidden Valley Airpark  
Phase III  
Cab. V, Pg. 650  
P.R.D.C.T.

Lot 116S, Block A  
Hidden Valley Airpark  
Phase III  
Cab. V, Pg. 650  
P.R.D.C.T.

Lot 117S, Block A  
Hidden Valley Airpark  
Phase III  
Cab. V, Pg. 650  
P.R.D.C.T.

Lot 153S  
Hidden Valley Airpark  
Phase V  
Cab. Y, Pg. 673  
P.R.D.C.T.

Lot 154S  
Hidden Valley Airpark  
Phase V  
Cab. Y, Pg. 673  
P.R.D.C.T.

Lot 155S-R  
2.251 Acres

Lot 156S

Lot 157S  
Hidden Valley Airpark  
Phase V  
Cab. Y, Pg. 673  
P.R.D.C.T.

**LEGEND:**

- IRF - IRON ROD FOUND
- IRS - IRON ROD SET
- ROW - RIGHT-OF-WAY
- CM - CONTROL MONUMENT
- PUE - PUBLIC UTILITY EASEMENT
- DE - DRAINAGE EASEMENT
- BL - BUILDING LINE
- RYSB - REAR YARD SET BACK
- SYSB - SIDE YARD SET BACK
- UE - UTILITY EASEMENT

**NOTES:**

1. Bearings shown are based on Hidden Valley Airpark, Phase V, recorded in Cabinet Y, Page 673, Plat Records of Denton County, Texas.
2. All corners are 1/2 inch iron rods found with a cap stamped "Coleman", unless otherwise noted.
3. It is my opinion that the property described hereon is not within the 100 year flood zone area according to the Federal Emergency Management Agency, Flood Insurance Rate Map Community Panel No. 481135 0395 G, dated April 18, 2011, Zone "X".
4. The purpose of this replat is to combine two (2) lots into one (1) singular lot for development.

Include the following notes:  
 - All private drainage easements are to be maintained by property owners  
 - Private plumbing will not be allowed across property lines  
 - No cross lot drainage will be allowed between Lots 155S-R and 157S  
 - Lot owner to connect to sewage collection system when made available  
 - Add note for and show site bench mark and reference to NAVD88 or as applicable

State of Texas §  
 County of Denton §  
 Surveyor's Certificate:

This is to certify that I, F. H. Westphal, a Registered Professional Land Surveyor in the State of Texas, have platted the above subdivision from an actual survey, performed on the ground, and that this plat correctly represents that survey made by Arthur Surveying Company, Inc.

**PRELIMINARY**  
 THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT DATED 02/25/2016  
 F. H. Westphal, R.P.L.S.  
 No. 5832

**OWNER**  
 David & Maggie Steinbrunner  
 13917 Lost Spur Road  
 Roanoke, TX 76262  
 Phone: (214)400-3279  
 Contact: David Steinbrunner

**Arthur Surveying Co., Inc.**  
 Professional Land Surveyors  
 (972) 221-9439 ~ Fax (972) 221-4675  
 220 Elm Street, Suite 200 ~ P.O. Box 54  
 Lewisville, Texas 75067 ~ TFRN No: 10063800  
 Established 1986  
 www.arthursurveying.com

State of Texas §  
 County of Denton §  
**Owner's Certificate and Dedication**

WHEREAS David and Maggie Steinbrunner are the owners of that all that certain lot, tract or parcel of land situated in the W. Durham Survey, Abstract Number 330, Town of Shady Shores, Denton County, Texas, and being all of Lots 155S and 156S, of Hidden Valley Airpark, Phase V, an addition to the Town of Shady Shores, Denton County, Texas, according to the plat thereof recorded in Cabinet Y, Page 673 of the Plat Records of Denton County, Texas, and being more particularly described as follows:

**BEGINNING** at a 1/2 inch iron rod with a cap stamped "Coleman" found for the common east corner of said Lot 156S and Lot 157S, said Phase V, being in the westerly line of Hidden Valley Road;

**THENCE** North 77 degrees 52 minutes 21 seconds West, with the common line of said Lot 156S and said Lot 157S, a distance of 255.60 feet to a 1/2 inch iron rod with a cap stamped "Coleman" found for the common west corner of said Lot 156S and said Lot 157S, being in the east line of Lot 116S, Block A, Hidden Valley Airpark, Phase III, an addition to the Town of Shady Shores, Denton County, Texas, according to the plat thereof recorded in Cabinet V, Page 650 of the Plat Records of Denton County, Texas,

**THENCE** North 03 degrees 53 minutes 03 seconds East, with the common line of said Block A and said Lot 156S and 155S, a distance of 286.05 feet to a 1/2 inch iron rod with a cap stamped "Coleman" found for the common west corner of said Lot 155S and Lot 153S of said Phase V;

**THENCE** South 86 degrees 07 minutes 34 seconds East, with the common line of said Lot 155S and Lot 153S, a distance of 230.00 feet to a 1/2 inch iron rod with a cap stamped "Coleman" found for the common corner of said Lot 153S, Lot 154S and Lot 155S;

**THENCE** South 68 degrees 59 minutes 20 seconds East, with the common line of said Lot 154S and said Lot 155S, a distance of 195.50 feet to a 1/2 inch iron rod with a cap stamped "Coleman" found for the common east corner of said Lot 155S and Lot 154S, being in the westerly line of said Hidden Valley Road, and being at the beginning of a non-tangent curve to the right having a radius of 200.00 feet, with a delta angle of 22 degrees 06 seconds, whose chord bears South 42 degrees 47 minutes 23 seconds West, a distance of 79.18 feet;

**THENCE** with the westerly line of said Hidden Valley Road and with said curve an arc length of 79.71 feet to a 1/2 inch iron rod with a cap stamped "Coleman" found for corner, at the beginning of a reverse curve to the left having a radius of 325.00 feet, having a delta angle of 42 degrees 04 minutes 51 seconds, whose chord bears South 33 degrees 10 minutes 01 seconds West, a distance of 233.37 feet;

**THENCE** continuing with the westerly line of said Hidden Valley Road and with said curve an arc length of 238.70 feet to the **POINT OF BEGINNING**, and containing 2.251 acres of land, more or less.

**NOW, therefore, know all men by these presents:**

That, David and Maggie Steinbrunner, do hereby adopt this plat designated herein as **HIDDEN VALLEY AIRPARK, PHASE V, LOT 155S-R**, an addition to the Town of Shady Shores, Denton County, Texas, and do hereby dedicate to the public use forever all road and utility easements, drainage easements, and streets as shown hereon. Any public utility, including the Town of Shady Shores, shall have the right to move and keep moved all or part of any buildings, fences, trees, shrubs, other growths, or improvements which in any way endanger or interfere with the construction, maintenance, or efficiency of its respective system on any of the easements shown on the Plat. Any public utility, including the Town of Shady Shores, shall have the right at all times of ingress and egress to and from and upon said easements for the purposes of constructing, reconstructing, inspection, patrol, maintaining, and adding to or removing all or part of its respective systems without the necessity at any time of procuring the permission of anyone.

WITNESS MY HAND this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

By: \_\_\_\_\_  
 David Steinbrunner

By: \_\_\_\_\_  
 Maggie Steinbrunner

State of Texas §  
 County of Denton §

BEFORE me, the undersigned authority, on this day personally appeared David Steinbrunner, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purpose and consideration therein expressed, in the capacity therein stated, and as the act and deed of said partnership.

GIVEN under my hand and seal of office on the \_\_\_\_\_ day of \_\_\_\_\_, 2016.

Notary Public in and for the State of Texas

State of Texas §  
 County of Denton §

BEFORE me, the undersigned authority, on this day personally appeared Maggie Steinbrunner, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purpose and consideration therein expressed, in the capacity therein stated, and as the act and deed of said partnership.

GIVEN under my hand and seal of office on the \_\_\_\_\_ day of \_\_\_\_\_, 2016.

Notary Public in and for the State of Texas

RECOMMENDED FOR APPROVAL

Recommended for approval this \_\_\_\_\_ day of \_\_\_\_\_ A. D. 2016 by the Planning and Zoning Commission, Town of Shady Shores.

Chairperson, Planning and Zoning, Town of Shady Shores

APPROVED

Approved this \_\_\_\_\_ day of \_\_\_\_\_ A. D. 2016 by the Town Council, Town of Shady Shores.

Mayor, Town of Shady Shores

ATTESTED

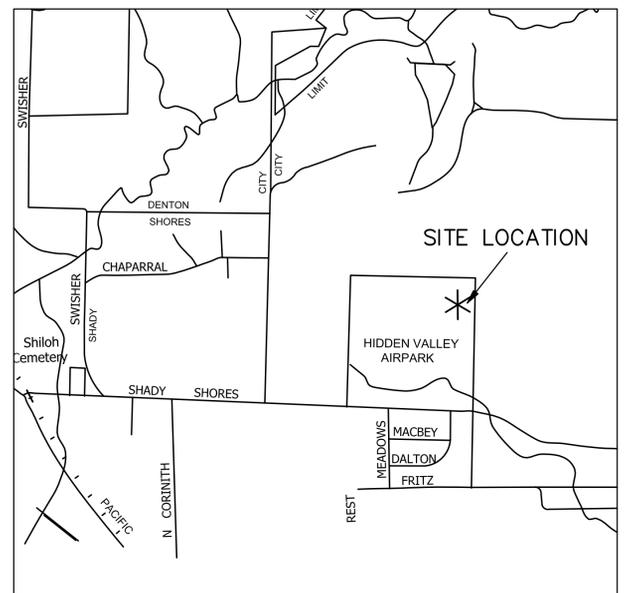
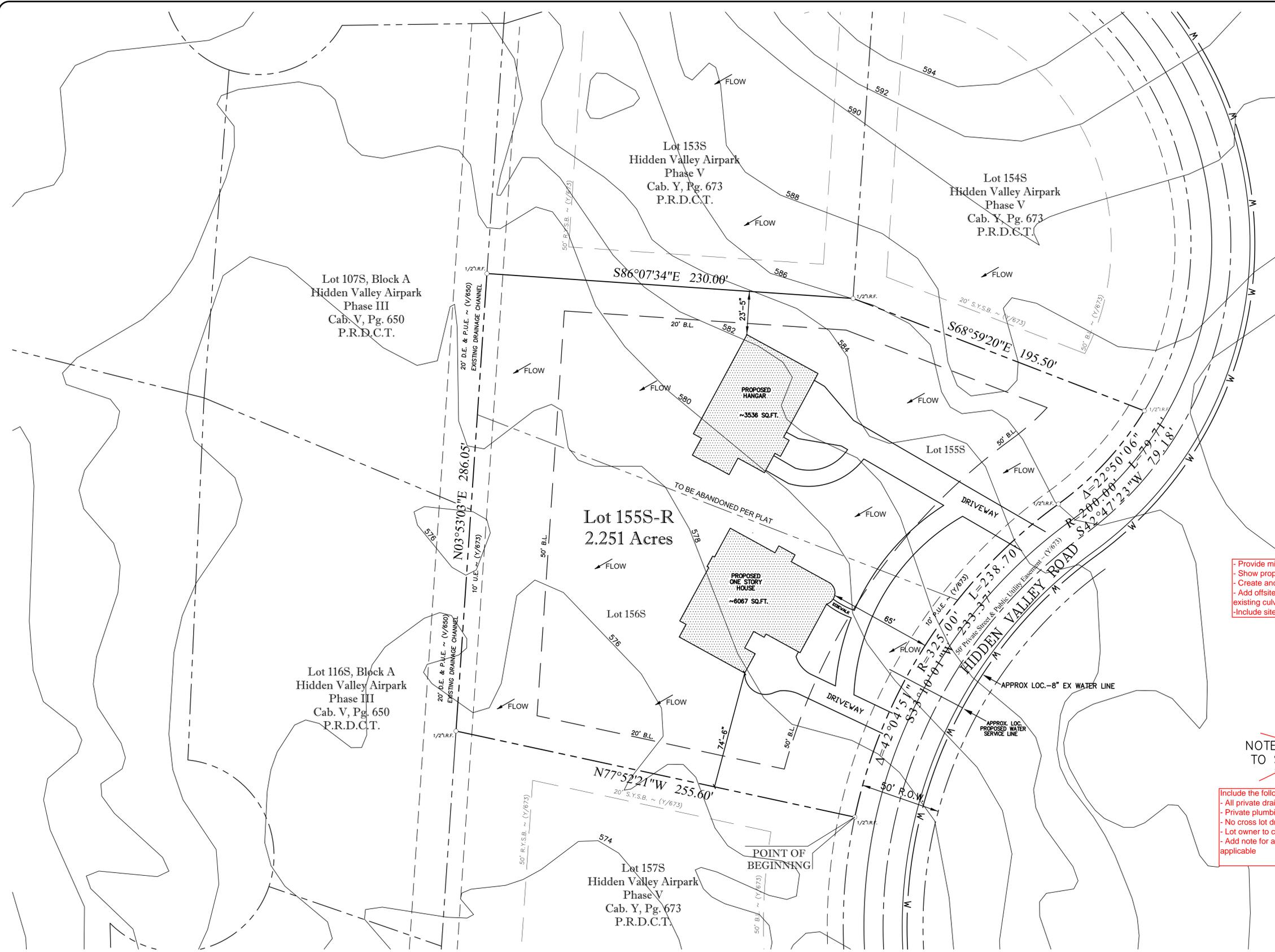
Town Secretary

**MINOR REPLAT**  
**HIDDEN VALLEY AIRPARK, PHASE V**  
**LOT 155S-R**  
 being a replat of Lots 155S and 156S of  
 Hidden Valley Airpark, Phase V, recorded in  
 Cabinet Y, Page 673, Plat Records, Denton County, Texas  
 2.251 acres out of the  
 W. Durham Survey, Abst. No. 330  
 Town of Shady Shores, Denton County, Texas

- 2016 -

DRAWN BY: Jav DATE: 12/08/15 SCALE: 1"=30' CHECKED BY: F.H.W. ASC NO: 151201

FOR DENTON COUNTY USE ONLY



VICINITY MAP  
N.T.S.



- Provide minimum FF recommendation for both buildings
- Show proposed flow arrows to demonstrate proposed grading
- Create and label private drainage easements (15' min. width)
- Add offsite flow arrows and indicate roadside ditches and existing culverts
- Include site benchmark (NAVD88)

**LEGEND**

- 684 — EXISTING CONTOUR
- W — EX. WATER MAIN
- ← DIRECTION OF FLOW (EX.)

**NOTE: THE OWNER WILL CONNECT TO SEWAGE COLLECTION SYSTEM "WHEN MADE AVAILABLE"**

- Include the following notes:
- All private drainage easements are to be maintained by property owners
- Private plumbing will not be allowed across property lines
- No cross lot drainage will be allowed between Lots 155S-R and 157S
- Lot owner to connect to sewage collection system when made available
- Add note for and show site bench mark and reference to NAVD88 or as applicable

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF DALE E. HOELTING, P.E. NO. 67096 ON FEBRUARY 15, 2016 IT IS NOT TO BE USED FOR CONSTRUCTION BIDDING OR PERMIT PURPOSES.

FLOOD STATEMENT: I HAVE REVIEWED THE FEMA FLOOD INSURANCE RATE MAP FOR THE TOWN OF SHADY SHORES, MAP PANEL # 4811350395G, DATED 4-18-2011, AND FIND THAT MAP PANEL INDICATES THAT ALL PORTIONS OF THE PROPERTY ARE WITHIN ZONE "X" DEFINED AS "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD (500-YEAR)"

- THE PURPOSE OF THE REPLAT IS TO COMBINE 2 PREVIOUSLY PLATTED LOTS INTO 1 RESIDENTIAL LOT
- ALL PROPERTY LINES, BEARINGS, DISTANCES, AND LABELS FOR PROPERTY BOUNDARIES ARE SHOWN AS PROVIDED BY ARTHUR SURVEYING
- BASIS OF BEARING PER ARTHUR SURVEYING IS THE WEST LINE OF HIDDEN VALLEY AIRPARK PHASE V
- WATER AND SANITARY SEWER MAIN LINE LOCATIONS ARE SHOWN AS PROVIDED BY LCMUA

FYI - ALL HVAA PH V SEWER IS SEPTIC SYSTEM

SOURCE OF TOPOGRAPHY MAP IS NCTCOG 2007

DEH CONSULTING, LTD  
2513 MOSSWOOD DR.  
CARROLLTON, TEXAS 75010  
PHONE: (972) 345-1231 FIRM NO. 5663

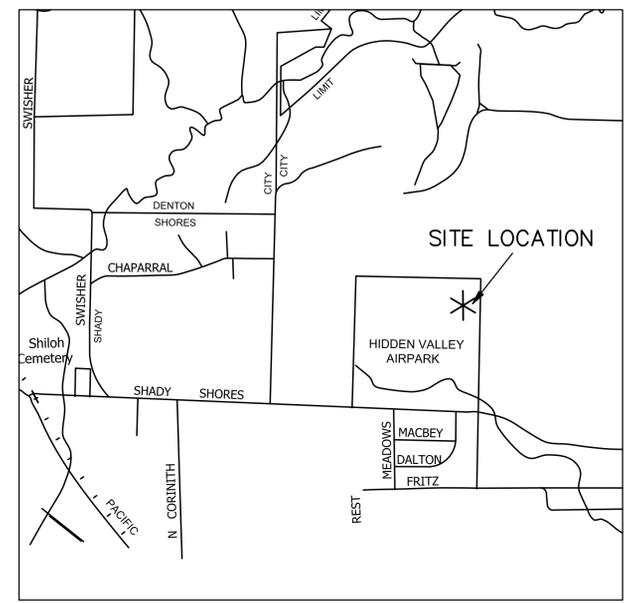
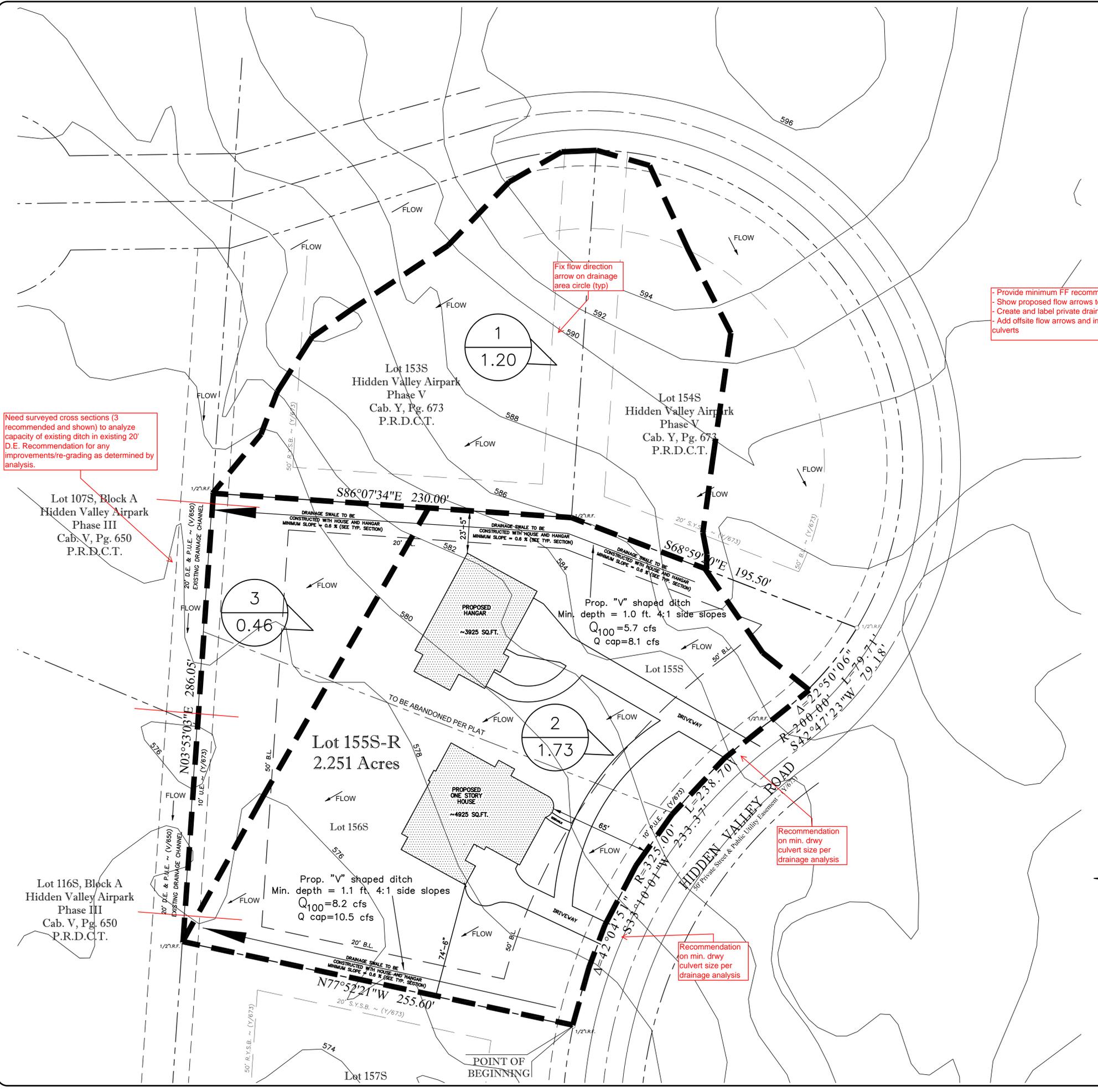
SCALE	DATE	JOB NO.	DESIGN
1"=30'	2/16/2016	1605	DEH

CONCEPT PLAN  
HIDDEN VALLEY  
LOT 155S-R

SITUATED IN THE

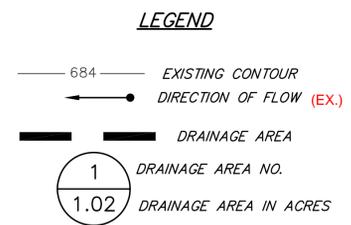
TOWN OF SHADY SHORES, DENTON COUNTY, TEXAS

OWNERS: JASON AND MAGGIE STEINBRUNNER  
13917 LOST SPUR ROAD  
ROANOKE, TEXAS 76262



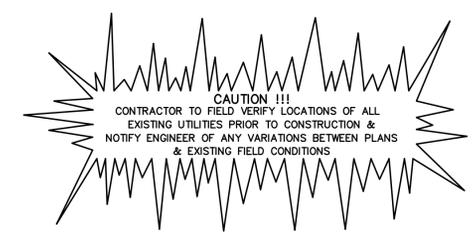
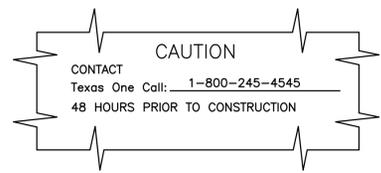
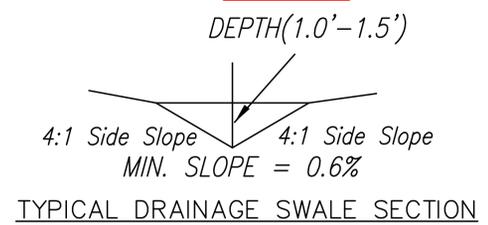
PROPOSED CONDITIONS FOR DRAINAGE DITCH

DRAINAGE CALCULATIONS Q=CfCIA 100-YEAR							
DRAINAGE AREA	AREA (Acres)	C	"C" Factor Adjust.	Time of Conc. (Min.)	$I_{100}$	$Q_{100}$	COMMENTS
1	1.20	0.50	1.25	15	7.6	5.7	FLOW TO PROPOSED DRAINAGE DITCH
2	1.73	0.50	1.25	15	7.6	8.2	FLOW TO PROPOSED DRAINAGE DITCH
3	0.46	0.50	1.25	15	7.6	2.2	FLOW TO EXISTING DRAINAGE DITCH



0.45 per Table 1.6 (+ acres lots)

7.91 per Table 5.3 (Denton County)



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DEH CONSULTING, LTD  
 2513 MOSSWOOD DR.  
 CARROLLTON, TEXAS 75010 FIRM NO. 5663  
 PHONE: (972) 345-1231

SCALE	DATE	JOB NO.	DESIGN
1"=30'	2/16/2016	1605	DEH

PROPOSED DRAINAGE DITCH PLAN  
 HIDDEN VALLEY AIRPARK  
 LOT 155S-R

SITUATED IN THE  
 TOWN OF CITY OF SHADY SHORES, DENTON COUNTY, TEXAS

OWNERS: JASON AND MAGGIE STEINBRUNNER  
 13917 LOST SPUR ROAD  
 ROANOKE, TEXAS 78262

2



**To:** Allen Lea, Chairman and Commissioners  
**From:** Wendy Withers, Town Secretary  
**CC:** Jim Shepherd, Town Attorney  
**Date:** 03/10/2016  
**Re:** Amendments to the Subdivision Ordinance

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**ACTION REQUESTED:** Conduct a worksession relative to developing a policy for determining the size of culverts.

**BACKGROUND INFORMATION:** Currently the Town of Shady Shores Subdivision Ordinance calls for a "minimum" 18' culvert. Town Engineer Richard Arvizu has indicated that this can be problematic in certain situations because a larger or smaller culvert may be needed to properly handle drainage flow.

# Culvert and Drive Approach Only Project Checklist

Revised: June 8, 2015

Engineering Plans are required for new drive approaches and new culverts or culvert extensions under existing driveways in the City of Mesquite. If you need to replace an existing culvert under an existing driveway, the City may require increasing its size to meet current standards.

**The minimum pipe is 18-inch diameter, class III reinforced concrete pipe (RCP).** All driveway culverts require headwalls designed to City Standards. If your existing pipe is not at least this size and material, it will be required to be upgraded and engineering plans are required. Replacing an existing broken pipe or resetting an existing pipe does not require engineering plans.

**New commercial building projects may be required to go through the Site Plan Process to obtain an approved site plan prior to submission of Engineering Plans. Grading and drainage plans may be required on new home sites.** This checklist is intended to assist a land owner who desires to install a drive approach from a roadway with a parallel drainage ditch with requirements for engineering plan submittal.

Closely following this checklist will help minimize the number of comments returned and speed the overall process of engineering plan review. Please read the **Engineering Plan Submittal Requirements** thoroughly for more detailed explanation of requirements listed below. Refer to the City of Mesquite **Driveway Ordinance** available on the City of Mesquite Web Site at the following link at <http://www.cityofmesquite.com/DocumentCenter/Home/View/166>

It is strongly suggested that a meeting be held with a City Project Engineer prior to starting design of the culvert and drive approach.

## **Submittal – Administrative Requirements:**

- Letter of transmittal listing everything included in submittal
- Engineering Plan Submittal Application form – See page 9 of <http://www.cityofmesquite.com/DocumentCenter/Home/View/406> for application form.
- Two sets of Engineering Plans (Generally 22" x 34", but 11"x17" may be allowed on small projects)
- Engineering Plan Submittal Application Review Fee- Discuss with City Engineer

## **Engineering Plan Set Will Generally Include the Following Sheets:**

**(Read *Engineering Plan Submission Requirements* and *Engineering Plan Checklist* for detailed requirements)**

- Cover Sheet
- Driveway Plan showing:
  - Drainage area map to culvert of catchment area to culvert with flow calculations based on City Drainage Ordinance.
  - Existing site feature in the area of the proposed driveway including structures, trees, pipes, signs or other utilities.
  - Property address, plat name lot and block.
  - Existing contour lines in the driveway area and within the ROW along the entire property frontage and preferably to the next downstream and upstream culverts.
  - Existing water and sewer mains (to ensure no conflicts with installation of culvert and headwalls)
  - R.O.W. and easement lines

- Property address, plat name lot and block
  - Proposed culvert and headwalls with pipe size, material (RCP), pipe class (Class III min.). Required headwalls are generally TXDOT SET Precast – See <http://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/standard/bridge/psetspse.pdf>. These headwalls can generally be installed without the safety pipe runner bars for single culverts with pipe sizes up to 30-inches in diameter.
  - Proposed drive approach with dimensions on width and curb return radii.
  - Distance to nearest driveways on either side of proposed drive.
  - Proposed grading of upstream and downstream ditch. (ditch must drain properly to next downstream culvert and have maximum 4:1 side slopes. (4-horizontal to 1-vertical))
- Appropriate Standard Details
- Required headwalls are generally TXDOT SET Precast Headwalls – See <http://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/standard/bridge/psetspse.pdf>. These headwalls can generally be installed without the safety pipe runner bars for single culverts with pipe sizes up to 30-inches in diameter.
  - RCP Embedment Details – see <http://www.cityofmesquite.com/DocumentCenter/Home/View/455>

**An Engineering Inspection Fee payment is required based on the estimate cost of improvements. See the Engineering Fees document located at:**  
<http://www.cityofmesquite.com/DocumentCenter/Home/View/408>