

**CITY OF COPPELL
PLANNING DEPARTMENT**

STAFF REPORT

CODE AMENDMENT
Noise Attenuation Requirements

P&Z HEARING DATE: April 21, 2016
C.C. HEARING DATE: May 10, 2016

STAFF REP.: Matt Steer, Sr. Planner

REQUEST: A Code Amendment establishing Noise Attenuation standards for any new residential construction located within an area 2,000 feet east of Freeport Parkway centerline.

HISTORY: In February 2016, Staff gave a presentation at the Council Work Session. At that meeting staff advised that there was not a consistent recommendation for new residential development affected by airport noise. Staff proposed a zone of 1,500 feet from an already established 65 DNL Policy Contour designated by the DFW Airport where an aviation easement would be required to be dedicated to the airport. Staff also recommended that a note placed on the plat for all new subdivisions and noise attenuation of 25 decibels would be required in the construction of a new single family home or habitable addition. The direction staff received at that meeting was to proceed with the draft ordinance.

DISCUSSION: As mentioned above, staff briefed the Council on this amendment. It was the result of a Council Goal that directed staff to review noise attenuation guidelines. Currently, the City of Coppell has an agreement with D/FW Airport to not allow residential development within the 65 DNL. The DNL is a cumulative measure of the noise exposure during a 24-hour calendar day. A 10-decibel (dB) penalty is added to noise events occurring between 10:00 p.m. and 7 a.m. to reflect their greater intrusiveness and potential for disturbing sleep. The DNL contour was included on the most recent *Comprehensive Master Plan* adopted in 2011 and a GIS file was provided to staff by DFW Airport.

The noise levels have been a concern for those developments near the contour. The noise complaints received for the years 2013-2015 are shown on an attached map. The map shows the 65 DNL, the north flow (take-offs) and south flow (landings) of the DFW airport in relation to the complaints. If a residential development is approved in close proximity to the 65 DNL, it has been the policy of the city to have the surveyor include a note on the plat. The platting note reads as follows:

NOTICE: THE PROPERTY DESCRIBED IN THIS PLAT IS LOCATED WITHIN CLOSE PROXIMITY TO THE FLIGHT APPROACH AND DEPARTURE PATHS OF DALLAS-FORT WORTH INTERNATIONAL AIRPORT AND MAY BE SUBJECT TO INCREASED NOISE LEVELS

RESULTING FROM AIRCRAFT OPERATIONS OCCURRING ABOVE OR IN CLOSE PROXIMITY TO THE PROPERTY.

In the case of a few Old Town Coppell residential rezonings, the developer was requested to ensure that noise attenuation techniques would be used to reduce outdoor noise levels to acceptable indoor noise levels. For noise reduction for the first phase of the Darling proposal (44 lots), the developer and Building Official agreed to certain Sound Transmission Class (STC) Ratings and the construction methods as required in the development agreement. These were thought to effectively attenuate the outdoor noise levels to acceptable indoor noise levels.

DARLING HOMES
AW 30s for COPPELL
STC Rating Products
05.04.2011

Category	STC Description
CURRENT SPECIFICATION:	
Framing	Standard 2x4 Wall, 16 OC
Front Door	Not Required follows 1% exclusion rule of Fenestration
Exterior Doors	Patio Door STC Rating 27-Current Door-No Change
Insulation - Attic	STC Rating 35, Spray Cellulose, R-38-Current -No Change
CHANGES IN SPECIFICATIONS for STC RATINGS	
Windows	STC Rating 27, Dual Strength Glass, Vinyl Frames
Insulation - Walls	STC Rating 35, Spray Cellulose, R-13
Sheetrock Material	5/8" Drywall Exterior Walls vs 1/2"

In the RL Hammond case, where the city was not the owner of the property, and a development agreement was not in place, airplane noise was again a major concern. The 65 DNL actually bisected the property, leaving a portion of the westernmost detention area within the 65 DNL and the residential patio home portion along Hammond Road just outside and to the east of the contour. The developer noted on the approved site plan:

While our project lies both outside the DFW Airport's 65 DNL Contour, as well as outside the DFW Airport's arrival corridor, developer will mitigate potential noise disruption with double pane glazed windows, R-38 blown in attic insulation, polyseal airtight techniques including window, door, sill and exterior wall penetration sealing.

An exhibit was submitted by the developer showing the sound reduction techniques he and his consultant explored between the zoning case and platting. During the City Council Meeting, the developer told the council that he'll do more than the zoning required and committed verbally to do blown-in insulation at R40.

Within the last five years or so, Council has approved eight subdivisions in close proximity to the 65 DNL (approximately 175 new residential lots). In an effort to be more consistent in regulating single family development and redevelopment in close proximity to the 65 DNL, staff researched noise attenuation techniques of other cities and found that the majority are consistent with Coppell and prohibit any residential development within the 65 DNL. Those that allow it only do so

conditioned upon certain levels of noise reduction. Staff also mapped the noise complaints received by the airport over recent years. An obvious correlation exists between the overflights and the complaint locations.

Although staff is still not recommending allowing residential development within the 65 DNL, we are proposing that residential development within a zone extending 2,000 feet east from the Freeport Parkway be required to reduce noise by 25 dB from exterior to interior. This was initially to be measured 1,500 feet east from the 65 DNL, but, after being advised by the city attorney, a more practical/tangible line from which to measure would be Freeport Parkway. Because Freeport is generally west of and not exactly parallel to the DNL contour, staff is recommending that 2,000 feet east of the centerline of the road create the eastern limits of the zone.

Building Code Amendment:

The Sound Attenuation Appendix of the Building Code is recommended to be added and referenced within the code. This was drafted using a similar appendix adopted in Irving, Texas and standards taken from the following:

- Wylie Report –New Construction Acoustical Design Guide for High Point, North Carolina,
- The Builders Guide Mitigating Aircraft Noise in New Residential Construction published by the Metropolitan Council representing Minneapolis-St. Paul metro area, and
- Burien, Washington - Aircraft Noise Reduction Requirements.

Per the direction of Council, staff researched prescriptive minimum standards which would attenuate noise by 25 decibels, alleviating the need for the builder to hire an acoustical consultant. A comparison of the standards in each report for a 25 decibel Noise level Reduction are listed below:

	Wylie Report	Burien, WA	Metro Minneapolis-St. Paul
Exterior Walls	36 STC, ½"	30 STC, ½"	45 STC
Roofs & Ceilings	45 STC ½" ceiling, 7/16" roof	39 STC ½" ceiling, ½" roof	45 STC
Windows	33 STC	28 STC	35 STC
Exterior Doors	24 STC	26 STC	25 STC

In addition to these standards, each of the reports addressed ventilation and air leakage in similar ways. By keeping the ventilation to a minimum, utilizing 90 degree bends where allowed and by sealing, caulking, gasketing, or weather-stripping penetration points, the sound infiltration will be greatly reduced. These standards were included in a draft of the code amendment and are attached for your reference. Staff developed these minimum standards by averaging the minimum

STC values for each category in the chart and allowed for the developer/builder to hire an acoustical consultant if they prefer to attenuate the noise in another way.

Subdivision Ordinance Amendment:

New homeowners often times are not aware of the airport noise until after purchasing and actually spending a night in the unit. One way of informing potential homeowners would be to place a note on the plat. Therefore, if platting is required within the proposed zone, then an aircraft noise note (shown above) is recommended to be placed on the plat. Staff is proposing to amend Section 13-5-6 of the *Subdivision Ordinance* to add this as a requirement.

In sum, staff is recommending that the International Residential Building Code and Subdivision Ordinance be amended to establish noise attenuation standards for new residential construction located within an area of 2,000 feet east of the centerline of Freeport Parkway.

ATTACHMENTS:

1. Noise Complaints 2003-2005
2. Draft International Residential Code Appendix
3. Map of 2,000 feet east of Freeport Parkway creating Noise Attenuation Zone.