WILDWOOD

CITY COUNCIL

COUNCIL CHAMBERS

MONDAY, NOVEMBER 14, 2016

7:30 P.M.

AGENDA

I. CALL TO ORDER

II. ROLL CALL

III. PLEDGE OF ALLEGIANCE

IV. APPROVAL OF MINUTES – October 24, 2016 Work Session & Regular Agenda Minutes

Documents:

10-24-16 DRAFT CITY COUNCIL MINUTES.PDF

V. MAYOR APPOINTMENTS AND ANNOUNCEMENTS

A. Planning And Zoning Commission Appointment – David Beattie (Ward Eight) Filling Unexpired Term Until June, 2017

Documents:

APPOINTMENT MEMO PZ BEATTIE.PDF

VI. PUBLIC PARTICIPATION

VII. PUBLIC HEARING(S)/HEARING(S)

A. (Postponed At The January 11, 2016 City Council Meeting – To Be Postponed Indefinitely And Removed From Agenda) A. A Response To A Communication From Jenny Mitchell, Director Of Property Management For The Desco Group, Which Is Dated October 20, 2015, Regarding St. Louis County's P.C. 219-85 Alfred L. Hicks And J.L. Mason Of Missouri, Inc.

Amended MXD Mixed-Use Development District; south side of Manchester Road, east of Old Fairway Drive (Street Address: 16506 Manchester Road/Locator Number: 23U120480); seeking modifications to an existing site-specific ordinance that governs the Schnucks Wildwood Crossing Center to allow for a third freestanding monument sign along the property's Manchester Road frontage. (Ward – Seven)

B. B. P.Z. 15-15 City Of Wildwood Planning And Zoning Commission, C/O Department Of Planning, 16860 Main Street, Wildwood, Missouri 63040

A request to amend Chapter 415 of the City of Wildwood's Code of Ordinances by adding new requirements to Section 415.380 Miscellaneous Regulations to ensure the use of drones in all zoning district designations complies with air space rights associated with public and privately-owned properties in the City of Wildwood. (Wards – All)

Documents:

PUBLIC HEARING - PZ 15-15 CITY OF WW-DRONES.PDF

VIII. LEGISLATION

A. UNFINISHED BUSINESS

1. BILL #2218

AN ORDINANCE AUTHORIZING THE APPROVAL OF A RECORD PLAT, TRUST INDENTURE, GENERAL WARRANTY DEED, AND A DEPOSIT AGREEMENT, WITH ASSOCIATED LETTERS OF CREDIT GUARANTEEING CERTAIN REQUIRED IMPROVEMENTS THEREIN, FOR A TWELVE (12) LOT RESIDENTIAL SUBDIVISION THAT IS LOCATED ON A TRACT OF LAND IN THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 12, TOWNSHIP 44 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI AND, MORE SPECIFICALLY, SITUATED ON THE WEST SIDE OF CENTER AVENUE, SOUTH OF MANCHESTER ROAD, TO BE KNOWN AS *"STONE MILL SUBDIVISION." Recommended by the Department of Planning* (Second Reading) (Ward – Eight)

Documents:

BILL 2218.PDF

B. NEW BUSINESS

1. BILL # 2219

AN ORDINANCE OF THE CITY OF WILDWOOD, MISSOURI, AUTHORIZING THE MAYOR OF THE CITY TO NEGOTIATE AND EXECUTE A JOINT FUNDING AGREEMENT WITH THE U. S. GEOLOGICAL SURVEY, UNITED STATES DEPARTMENT OF THE INTERIOR, FOR THE DEVELOPMENT OF FLOOD INUNDATION MAPPING OF THE LOWER MERAMEC RIVER BASIN. *Recommended by the Department of Public Works* (First Reading) (Ward - Six)

Direct Budgetary Impact: $5,000.00

Documents:

BILL 2219.PDF

2. BILL #2220

AN ORDINANCE AUTHORIZING THE MAYOR OF THE CITY OF WILDWOOD, MISSOURI, TO EXECUTE A SUPPLEMENTAL AGREEMENT ON BEHALF OF THE CITY OF WILDWOOD WITH HR GREEN, INC. FOR ADDITIONAL DESIGN SERVICES REQUIRED FOR IMPROVEMENTS TO STATE ROUTE 109 WITHIN THE CITY OF WILDWOOD. *Recommended by the Administration/Public Works Committee* (First Reading) (Wards - One and Eight)

Direct Budgetary Impact: $181,358.54

Documents:

BILL 2220.PDF

3. BILL #2221

AN ORDINANCE AUTHORIZING THE MAYOR OF THE CITY OF WILDWOOD, MISSOURI, TO EXECUTE NEW AND RENEWED CONTRACTS ON BEHALF OF THE CITY OF WILDWOOD WITH CERTAIN CONTRACTORS FOR PUBLIC ROADS, RIGHTS-OF-WAY AND PARKS MAINTENANCE WITHIN THE CITY OF WILDWOOD. *Recommended by the Administration/Public Works Committee* (First Reading) (Wards – All)

Direct Budgetary Impact: $1,745,100.00

Documents:

BILL 2222.PDF

4. BILL #2222

AN ORDINANCE AUTHORIZING THE CITY ADMINISTRATOR OF THE CITY OF WILDWOOD, MISSOURI, TO ISSUE A PURCHASE ORDER ON BEHALF OF THE CITY OF WILDWOOD WITH CORPORATE INTERIORS, INC., d/b/a CI SELECT, FOR THE PURCHASE, DELIVERY AND INSTALLATION OF AUDIO VISUAL SYSTEMS FOR THE WILDWOOD MUNICIPAL BUILDING. *Recommended by the Administration/Public Works Committee* (First Reading) (Ward – Eight)

Direct Budgetary Impact: $25,160.02

Documents:

BILL 2222.PDF

5. BILL #2223

AN ORDINANCE BY THE CITY COUNCIL OF THE CITY OF WILDWOOD, MISSOURI AUTHORIZING A BOUNDARY ADJUSTMENT PLAT OF *ADJUSTED LOTS 1 AND 2 OF WILDWOOD TOWN CENTER - PLAT TWO* [RECORDED IN PLAT BOOK 356, PAGES 485-486], WHICH IS SITUATED WITHIN THE SOUTHEAST QUARTER OF SECTION 1, TOWNSHIP 44 NORTH, RANGE 3 EAST, OF THE 5TH PRINCIPAL MERIDIAN, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, AND MORE SPECIFICALLY, LOCATED ON THE WEST SIDE OF FOUNTAIN PLACE, BETWEEN STATE ROUTE 100 TO THE NORTH AND PLAZA DRIVE TO THE SOUTH, FOR THE PURPOSE OF CONSOLIDATING THESE TWO (2) SUBJECT PROPERTIES INTO A SINGLE 1.65-ACRE LEGAL LOT OF RECORD. *Recommended by the Department of Planning* (First Reading) (Ward – Eight)

Documents:

BILL 2223.PDF

6. BILL # 2224

AN ORDINANCE BY THE CITY COUNCIL OF THE CITY OF WILDWOOD, MISSOURI AUTHORIZING A BOUNDARY ADJUSTMENT PLAT OF *495 & 501 N. EATHERTON RD* [DEED BOOK 13816, PAGE 1 AND DEED BOOK 1399, PAGE 1665, RESPECTIVELY], ALL OF WHICH ARE LOCATED IN U.S. SURVEY 132, TOWNSHIP 45 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, AND MORE SPECIFICALLY, SITUATED ON THE WEST SIDE OF NORTH EATHERTON ROAD, NORTH OF CENTAUR ROAD; THEREBY, RECONFIGURING THESE TWO (2) TRACTS OF LAND AND TRANSFERRING APPROXIMATELY NINE (9) ACRES FROM THE LARGER LOT TO THE SMALLER PROPERTY. *Recommended by the Department of Planning* (First Reading) (Ward – One)

Documents:

BILL 2224.PDF

7. BILL #2225

AN ORDINANCE APPROVING THE ADJUSTMENT OF CERTAIN COMMON BOUNDARY LINES BETWEEN TWO (2) EXISTING PARCELS OF GROUND, KNOWN AS PARCEL 1 [DEED BOOK 20550, PAGE 3749] AND ADJUSTED PARCEL 2 OF THE "CHRISTMAS VALLEY- YULETIDE TRAIL BOUNDARY ADJUSTMENT PLAT" [PLAT BOOK 364, PAGE 243]; BOTH OF WHICH ARE LOCATED IN PART OF SECTION 24, TOWNSHIP 45 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, AND MORE SPECIFICALLY SITUATED WEST OF CHRISTMAS VALLEY ROAD AND NORTH OF YULETIDE TRAIL, FOR THE PURPOSES OF TRANSFERRING APPROXIMATELY 0.37 ACRES BETWEEN THE TWO (2) SUBJECT PROPERTIES. *Recommended by the Department of Planning* (First Reading) (Ward – Three)

Documents:

BILL 2225.PDF

IX. RESOLUTIONS

A. RESOLUTION #2016-34

A RESOLUTION AUTHORIZING THE PURCHASE OF ONE 2017 FORD ESCAPE FROM JOE MACHENS FORD, INC., d/b/a JOE MACHENS FORD LINCOLN THROUGH THE STATE OF MISSOURI COOPERATIVE PURCHASING PROGRAM. *Recommended by the Administration/Public Works Committee* (Wards – All)

Direct Budgetary Impact: $21,677.00

Documents:

RES 2016-34.PDF

X. OTHER

XI. ADJOURNMENT

City Council Will Consider and Act Upon the Matters Listed Above, and Such Others as May Be Presented at the Meeting and Determined to Be Appropriate for Discussion at That Time.

Notice is hereby given that the City Council may also hold a closed meeting for the purpose of dealing with matters relating to one or more of the following: Legal Actions, Causes of Action, Litigation or Privileged Communications Between the City's Representatives and its Attorneys [RSMO 610.021(1) 1994]; Lease, Purchase or Sale of Real Estate [RSMO 610.021 (2) 1994]; hiring, firing, disciplining or promoting employees by a public governmental body [RSMO 610.021 (3) 1994]; bidding specification [RSMO 610.021 (11) 1994]; sealed bids and related documents, until the bids are opened' and sealed proposals and related documents or any documents related to a negotiated contract until a contract is executed, or all proposals are rejected [RSMO 610.021 (12) 1994]; and/or individually identifiable personnel records, performance ratings or records pertaining to employees or applicants for employment [RSMO 610.021 (13) 1994.]

The City of Wildwood will provide reasonable accommodations for persons attending City Council meetings. Requests for reasonable accommodations should be made by contacting Liz Weiss, City Clerk at 636-458-0440 or email atliz@cityofwildwood.com at least 48 hours prior to the start of the meeting."

CITY OF WILDWOOD

OCTOBER 24, 2016 RECORD OF PROCEEDINGS

CITY OF WILDWOOD
MEETING OF CITY COUNCIL
WILDWOOD CITY HALL
16860 MAIN STREET
WILDWOOD, MO 63040

The meeting was called to order at 7:30 P.M.

A roll call was taken, with the following results:

Present at Roll Call:	Mayor Jim Bowlin Council Member Larry McGowen Council Member Glen DeHart Council Member Raymond Manton Council Member Ed Marshall Council Member Jim Baugus Council Member Sue Cullinane Council Member Marc Cox Council Member Katie Dodwell Council Member Debra Smith McCutchen Council Member Dave Bertolino Council Member Jerry Porter Council Member Greg Alexander Council Member Greg Stine Council Member Jeff Levitt Council Member Larry Goodson Council Member Joe Garritano
Absent:	None

A quorum was present

Also present:	Mr. Ryan Thomas, City Administrator Mr. John Young, City Attorney Mr. Joe Vujnich, Director of Planning and Parks Mr. Rick Brown, Director of Public Works Ms. Liz Weiss, City Clerk

DRAFT

PLEDGE OF ALLEGIANCE

Mayor Bowlin led the Pledge of Allegiance.

APPROVAL OF MINUTES

The minutes of the October 10, 2016 City Council meeting were submitted for approval. A motion was made by Council Member Baugus, seconded by Council Member Garritano, to approve the minutes. A voice vote was taken with a unanimous affirmative result and the motion was declared passed.

MAYOR APPOINTMENTS/ANNOUNCEMENTS

Introduction of Stephen Eagleton, Candidate for Missouri State Senate, District 15 (D) (Wards – All)

Stephen Eagleton (D) introduced himself to the City Council and those in attendance. Mayor Bowlin thanked him for taking the time to attend tonight's meeting.

Recognition of Matt and Jessica Hardecke – Selected as the St. Louis County Farm Family and Honored during Missouri Farm Family Day on August 15 - 2016 at the Missouri State Fair (Wards – All)

Mayor Bowlin recognized Matt and Jessica Hardecke for being selected as the St. Louis County Farm Family.

Acknowledgement of Abel Carrier for Completing the Junior Trailblazer Program (Wards – All)

Mayor Bowlin welcomed Abel Carrier to the City Council Meeting and acknowledged his achievement in completing the Junior Trailblazer Program.

Recognition of the Annual Woodchopper's Ball Competition and Host, Bill Ballard (Wards – All)

Mayor Bowlin welcomed Bill Ballard the City Council Meeting and thanked him for hosting the Annual Woodchopper's Ball Competition. He also noted the City of Wildwood won the tug-of-war competition and retains the Woodchopper's Ball Trophy until next year, which he displayed.

Recognition of Michele R. Bauer, Former Planning and Zoning Commissioner (Ward - Eight)

Mayor Bowlin recognized and thanked Michele Bauer for her years of service on the Planning and Zoning Commission with a plaque.

Historic Preservation Commission Reappointment – Greg Barth (Ward Four) - Three Year Term

Mayor Bowlin asked the City Council to approve his recommendation to reappoint Mr. Greg Barth to the Historic Preservation Commission. A motion was made by Council Member Dodwell, seconded by Council Member Cullinane, to approve the Mayor's recommendation to reappoint Greg Barth to the Historic Preservation Commission. A voice vote was taken with a unanimous affirmative result and the motion was declared passed.

PUBLIC PARTICIPATION - NONE

PUBLIC HEARING(S)

(Postponed at the January 11, 2016 City Council Meeting – to remain postponed)

A response to a communication from Jenny Mitchell, Director of Property Management for the Desco Group, which is dated October 20, 2015, regarding St. Louis County's P.C. 219-85 Alfred L. Hicks and J.L. Mason of Missouri, Inc.; Amended MXD Mixed-Use Development District; south side of Manchester Road, east of Old Fairway Drive (Street Address: 16506 Manchester Road/Locator Number: 23U120480); seeking modifications to an existing site-specific ordinance that governs the Schnucks Wildwood Crossing Center to allow for a third freestanding monument sign along the property's Manchester Road frontage. (Ward - Seven)

UNFINISHED BUSINESS

BILL #2216 **AN ORDINANCE AUTHORIZING THE APPROVAL OF A SECOND REPLACEMENT DEPOSIT AGREEMENT FOR "THE ESTATES AT DEER HOLLOW" SUBDIVISION [PB 354; PG 894]; A ONE HUNDRED TWENTY-FIVE (125) ACRE, TWENTY-SEVEN (27) LOT RESIDENTIAL SUBDIVISION LOCATED UPON A TRACT OF LAND BEING PART OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER AND THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 20, TOWNSHIP 44 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, AND, MORE SPECIFICALLY, SITUATED ON THE SOUTH SIDE OF STATE ROUTE 100, WEST OF HENCKEN ROAD. *Recommended by the Department of Planning* (Second Reading) (Ward Six)**

A motion was made by Council Member Alexander, seconded by Council Member Porter, for the second reading of Bill #2216. A voice vote was taken with a unanimous affirmative result and the motion was declared passed. Bill #2216 was read for the second time by title only.

A roll call vote was taken for approval of the Bill #2216 with the following results:
Ayes – McGowen, DeHart, Marshall, Manton, Baugus, Cullinane, Dodwell, Cox, McCutchen, Bertolino, Porter, Alexander, Stine, Levitt, Goodson, and Garritano
Nays – None
Absent – None
Abstain – None
Whereupon Mayor Bowlin declared the motion passed and it became **ORDINANCE #2216**.

BILL #2217 **AN ORDINANCE OF THE CITY OF WILDWOOD, MISSOURI AUTHORIZING THE MAYOR OF THE CITY TO NEGOTIATE AND EXECUTE A SUBLICENSE AGREEMENTS WITH BAYS-ET HIGH SPEED, LLC, AND WISPER ISP, INC., FOR THE PURPOSE OF PROVIDING CONTINUOUS INTERNET SERVICES FOR CITY RESIDENTS. *Recommended by the Rural Internet Access Committee* (Second Reading) (Wards – All)**
DIRECT BUDGETARY IMPLICATION: Revenue Neutral

A motion was made by Council Member Manton, seconded by Council Member McGowen, for the second reading of Bill #2217. A voice vote was taken with a unanimous affirmative result and the motion was declared passed. Bill #2217 was read for the second time by title only.

A roll call vote was taken for approval of the Bill #2217 with the following results:
Ayes – McGowen, DeHart, Marshall, Manton, Baugus, Cullinane, Dodwell, Cox, McCutchen, Bertolino, Porter, Alexander, Stine, Levitt, Goodson, and Garritano
Nays – None
Absent – None
Abstain – None
Whereupon Mayor Bowlin declared the motion passed and it became **ORDINANCE #2217**.

NEW BUSINESS

PROPOSED AMENDED

BILL # 2214-A AN ORDINANCE AUTHORIZING THE REAPPROVAL OF A MINOR SUBDIVISION PLAT, TO BE KNOWN AS *2461 EATHERTON RD SUBDIVISION* [FORMERLY APPROVED AS *SCHNEIDER SUBDIVISION],* FOR A THIRTY-FOUR (34) ACRE TRACT OF LAND THAT IS PART OF THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 1 AND PART OF LOT 2 OF 'DREINHOEFER ESTATE' [PLAT BOOK 1, PAGE 63] IN THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 2, BOTH OF WHICH ARE LOCATED IN TOWNSHIP 44 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI AND, MORE SPECIFICALLY, SITUATED BETWEEN STATE ROUTE 109 TO THE WEST AND EATHERTON ROAD TO THE EAST, ALL BEING NORTH OF VIOLA GILL LANE, FOR THE PURPOSES OF CREATING THREE (3) LOTS FOR FUTURE DEVELOPMENT AND DEDICATION OF A PORTION OF PUBLIC RIGHT-OF-WAY FOR THE EXTENSION OF MAIN STREET. (Ward Eight) *Recommended by the Department of Planning* (First Reading) (Ward – Eight)

A motion was made by Council Member Garritano, seconded by Council Member Goodson, for the first reading of Bill #2214-A. A voice vote was taken with a unanimous affirmative result and the motion was declared passed. Bill #2214-A was read for the first time by title only.

A motion was made by Council Member Stine, seconded by Council Member Goodson, for the second reading of Bill #2214-A. A voice vote was taken with a unanimous affirmative result and the motion was declared passed. Bill #2214-A was read for the second time by title only.

A roll call vote was taken for passage and approval of Bill #2214-A, with the following results:
Ayes – McGowen, DeHart, Marshall, Manton, Baugus, Cullinane, Dodwell, Cox, McCutchen, Bertolino, Porter, Alexander, Stine, Levitt, Goodson, and Garritano
Nays – None
Absent – None
Abstain – None
Whereupon Mayor Bowlin declared Bill #2214-A approved, passed and it became **ORDINANCE #2214-A**.

BILL #2218 AN ORDINANCE AUTHORIZING THE APPROVAL OF A RECORD PLAT, TRUST INDENTURE, GENERAL WARRANTY DEED, AND A DEPOSIT AGREEMENT, WITH ASSOCIATED LETTERS OF CREDIT GUARANTEEING CERTAIN REQUIRED IMPROVEMENTS THEREIN, FOR A TWELVE (12) LOT RESIDENTIAL SUBDIVISION THAT IS LOCATED ON A TRACT OF LAND IN THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 12, TOWNSHIP 44 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI AND, MORE SPECIFICALLY, SITUATED ON THE WEST SIDE OF CENTER AVENUE, SOUTH OF MANCHESTER ROAD, TO BE KNOWN AS "*STONE MILL SUBDIVISION.*" (*Recommended by the Department of Planning* (First Reading) (Ward – Eight)

A motion was made by Council Member Goodson, seconded by Council Member Garritano, for the first reading of Bill #2218. A voice vote was taken with a unanimous affirmative result and the motion was declared passed. Bill #2218 was read for the first time by title only.

RESOLUTION(S)

RESOLUTION #2016-32 A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WILDWOOD, MISSOURI, AUTHORIZING THE CITY ADMINISTRATOR TO EXECUTE A PURCHASE ORDER FOR PAYMENT

TO MITCHELL, INC. D/B/A MITCHELL LAWN & LANDSCAPE FOR LANDSCAPE IMPROVEMENTS AT THE ENTRANCE OF PINE CREEK SUBDIVISION. (Ward – One)
DIRECT BUDGETARY IMPLICATION: Revenue Neutral

A motion was made by Council Member McGowen, for the adoption of Resolution #2016-32, which motion was seconded by Council Member DeHart. Resolution #2016-32 was read into the record. A voice vote was taken for the approval of Resolution #2016-32 with a unanimous affirmative result.

RESOLUTION #2016-33 A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WILDWOOD, MISSOURI, CONSENTING TO THE MAYOR'S APPOINTMENT OF STEPHEN V. CROSS TO THE BOARD OF DIRECTORS OF THE CROSSINGS COMMUNITY IMPROVEMENT DISTRICT. (Wards – All)

A motion was made by Council Member Cullinane, for the adoption of Resolution #2016-33 which motion was seconded by Council Member Baugus. Resolution #2016-33 was read into the record. A voice vote was taken for the approval of Resolution #2016-33 with a unanimous affirmative result.

OTHER

Receive & File – Recommendation Report for the Payne Family Homes Appeal Process regarding P.Z. 19-15 1971 Pond Road, Payne Family Homes L.L.C., 10407 Baur Boulevard, Suite B, St. Louis, Missouri 63132 – A request for the application of a Planned Residential Development Overlay District (PRD), within the NU Non-Urban Residence District for a 78.0 acre tract of land that is located on the north side of State Route 100, west of Pond Road (Locator Number: 23W520053/Street Address: 1971 Pond Road). Proposed Use: A total of twenty-six (26) individual lots, with common ground, and required public space areas. Lots would range in size from one (1) acre to four and one-half (4.5) acres. (Ward - One)

Director of Planning and Parks Vujnich noted the Planning and Parks Committee followed the required regulations regarding the review and consideration of an appeal by a petitioner from an action by the Planning and Zoning Commission, all in accordance with the City's Zoning Ordinance. These regulations included conducting a public hearing on the matter, providing time for the submittal of new materials, and discussion of all pertinent topics in preparation of a written recommendation report by the Committee with its formal action. This action was to forward this report, with the recommendation to uphold the Planning and Zoning Commission's action of denial of this application on the subject tract of land, to the City Council.

Update Report on Community Park – Phase 2 Project (Wards – All)

Director of Planning and Parks Vujnich provided the first update report on the Phase 2 Project of the Community Park.

Approval of Expenditures (Wards – All)

A motion was made by Council Member Cullinane, seconded by Council Member McGowen, to approve the October 2016 Expenditures. A voice vote was taken with a unanimous affirmative result and the motion was declared passed.

ADJOURNMENT

A motion was made by Council Member Levitt, seconded by Council Member Baugus, to adjourn the meeting. A voice vote was taken with a unanimous affirmative result and the motion was declared passed. There being no further business to come before the City Council; the meeting was adjourned at 8:24 p.m.

DRAFT

Approved this _____ day of _____, 2016.

_____
James R. Bowlin, Mayor

ATTEST:

_____
Liz Weiss, City Clerk

DRAFT

COUNCIL WORK SESSION MINUTES
COUNCIL CHAMBERS

WILDWOOD CITY HALL
16860 Main Street
City of Wildwood, Missouri 63040

MONDAY, OCTOBER 24, 2016
6:30 P.M.

Present	Absent
Bowlin	
McGowen	
DeHart	
Marshall	
Manton	
Baugus	
Cullinane	
Dodwell	
Cox	
McCutchen	
Bertolino	
Porter	
Stine	
Alexander	
Levitt	
Goodson	
Garritano	

MAYOR'S COMMENTS/ANNOUNCEMENTS/APPOINTMENTS - NONE

FOR INFORMATION

Rural Internet Access Committee Update (Wards – All)

Mayor Bowlin stated a memorandum had been provided for the City Council's review and asked if there were any comments or questions.

Discussion was held among City Council Members regarding the following item: expenditures relating to rural internet access.

PLANNING/PARKS COMMITTEE UPDATE

Recommendation Report for Payne Family Homes Appeal Process regarding 1971 Pond Road (Ward – One)

Mayor Bowlin stated a memorandum had been provided for the City Council's review and asked if there were any comments or questions.

Reservation and Registration Update (Wards – All)

Mayor Bowlin stated a memorandum had been provided for the City Council's review and asked if there were any comments or questions.

Ongoing and Long-Term Maintenance Costs for Parks and Trail Facilities (Wards – All)

Mayor Bowlin stated a memorandum had been provided for the City Council's review and asked if there were any comments or questions.

Construction Project Update (Wards – All)

Mayor Bowlin stated a memorandum had been provided for the City Council's review and asked if there were any comments or questions.

FOR ACTION

PLANNING/PARKS COMMITTEE

Financial Accounting of City's Contribution to the Pond Athletic Association – 2015 Season (Ward – One)

Director of Planning and Parks Vujnich noted the Committee Members, in voting on the release of the funding, understood the City Council's directive provided to the PAA, when the contribution was allocated by it for 2015, to allocate the entire $10,000.00 on Wildwood residents had not been directly met. However, he noted, it was the Committee Members' belief the indirect benefits of the City's support to the four hundred forty-eight (448) Wildwood residents who play at this facility was in keeping with the City Council's direction. As a result, the Committee voted on a motion regarding the allocation of funding to PAA, and by a vote of 5-1 (Council Member Baugus voted nay), recommending to the City Council the full 2016 allocation of the $10,000.00 be forwarded to PAA.

A motion was made by Council Member Levitt, seconded by Council Member Manton, to authorize the full allocation of $10,000 be forwarded to Pond Athletic Association. A voice vote was taken with a unanimous affirmative result and the motion was declared passed.

EXECUTIVE [CLOSED] SESSION with regard to individually identifiable personnel records, performance ratings or records pertaining to employees or applicants for employment [RSMO 610.021 (13) 1994].

A motion was made by Council Member Marshall, seconded by Council Member Garritano, to go into Executive Session at 6:58 p.m. with regard to individually identifiable personnel records, performance ratings or records pertaining to employees or applicants for employment [RSMO 610.021 (13) 1994].

A roll call vote was taken with the following results:
Ayes – McGowen, DeHart, Marshall, Manton, Baugus, Cullinane, Dodwell, Cox, McCutchen, Bertolino, Porter, Alexander, Stine, Levitt, Goodson, and Garritano
Nays – None
Absent – None
Whereupon Mayor Bowlin declared the motion passed.

A motion was made by Council Member Stine, seconded by Council Member Levitt, to go out of Executive Session at 7:38 p.m. with regard to individually identifiable personnel records, performance ratings or records pertaining to employees or applicants for employment [RSMO 610.021 (13) 1994].

A roll call vote was taken with the following results:
Ayes – McGowen, DeHart, Marshall, Manton, Baugus, Cullinane, Dodwell, Cox, McCutchen, Bertolino, Porter, Alexander, Stine, Levitt, Goodson, and Garritano
Nays – None
Absent – None
Whereupon Mayor Bowlin declared the motion passed.

OTHER - NONE

A motion was made by Council Member Manton, seconded by Council Member McGowen, to adjourn the Work Session. A voice vote was taken with a unanimous affirmative result and the motion was declared passed. There being no further business; the meeting was adjourned at 7:40 p.m.

DRAFT

WILDWOOD

M E M O R A N D U M

TO: Council Members

FROM: Jim Bowlin, Mayor

DATE: November 10, 2016

RE: Appointment – Planning & Zoning (P&Z) Commission – Mr. David Beattie

BACKGROUND

Ms. Michelle Bauer, recently resigned from her position as the P&Z Commissioner for Ward 8, resulting in the need to fill the vacancy for the remainder of her term.

I am pleased to appoint Mr. David Beattie to the position. He received his Bachelor's Degree from Missouri State University. He has been active in his Ward, and previously served on our Master Plan Advisory Committee.

Mr. Beattie's volunteer form is attached for your reference.

I have discussed this appointment with Council Members Garritano and Goodson, and they are in support.

RECOMMENDATION

I recommend the appointment of Mr. Beattie as the Ward 8 Commissioner to P&Z be approved at our November 14, 2016 City Council meeting.

Please let me know if you have any questions, or if you would like to discuss this.

Att. - 1

RECEIVED
CITY CLERK'S OFFICE
DATE 11/8/16 TIME 12:04 pm.
SIGNED E.M. Weiss

Elizabeth Weiss

From: noreply@cityofwildwood.com
Sent: Tuesday, November 08, 2016 11:54 AM
To: Elizabeth Weiss; Laura Rechtin
Subject: Online Form Submittal: Apply to Serve on Boards and Commissions

Apply to Serve on Boards and Commissions

Name:	David Beattie
Address:	2548 Viola Gill Lane
City, state, and zip code:	Wildwood, MO 63040
Phone number:	314-680-3974
Work phone number:	636-368-4430
Email address:	daveb@surdex.com
Ward:	8
Occupation:	Estimator
Education:	BS Cartography, Missouri State University
Volunteer experience:	Served on the Master Plan Update Committee, Trustee for the Towns at Windrush,
Select the board or commission you are applying for:	Planning and Zoning Commission
List any questions or comments you may have:	*Field not completed.*
Nominating city official:	*Field not completed.*

Email not displaying correctly? View it in your browser.

WILDWOOD

November 7, 2016

The Honorable City Council
City of Wildwood, Missouri
16860 Main Street
Wildwood, Missouri 63040

Council Members:

The Planning and Zoning Commission has completed its review of this posted request regarding the proposed consideration of new regulations governing the use of Unmanned Aircraft Systems in the City of Wildwood, which are intended to ensure compliance to federal requirements. Accordingly, the members have prepared the following recommendation regarding this subject for City Council's consideration. This recommendation was completed in accordance with the requirements of Chapter 89 of Missouri Revised Statutes and those regulations of the City relating to public notice, publications, and amendments to the City's codes (Chapter 415.560 of the City of Wildwood Zoning Ordinance). This recommendation and associated action are as follows:

Petition No.:	**P.Z. 15-15**
Petitioner:	City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040
Request:	A request to amend Chapter 415 of the City of Wildwood's Code of Ordinances by adding new requirements to Section 415.380 Miscellaneous Regulations to ensure the use of drones in all zoning district designations complies with air space rights associated with public and privately-owned properties in the City of Wildwood.
Location:	Citywide
Public Hearing Date:	August 3, 2015
Information Report Decision Date and Vote:	October 17, 2016 – Approval by a vote of 9 to 0 (Voting Aye – Renner, Lee, Archeski, Gragnani, Bertolino, Kohn, Manton, Bowlin, and Bopp)
Letter of Recommendation Decision Date and Vote:	November 7, 2016 - Approval by a vote of 9 to 0 (Voting Aye – Renner, Lee, Archeski, Gragnani, Bertolino, Kohn, Manton, Bowlin, and Bopp)
Report:	Attachment A
Background Information:	Attachment B
School District:	Rockwood

Fire Districts: Eureka, Metro West, and Monarch
Wards: All

Copies of the City of Wildwood's Master Plan, Charter, and Zoning Ordinance are all on file with the City Clerk's Office.

Respectfully submitted,
CITY OF WILDWOOD PLANNING AND ZONING COMMISSION

R. Jon Bopp, Chair

ATTEST:

Joe Vujnich, Director
Department of Planning

cc: The Honorable James R. Bowlin, Mayor
Ryan S. Thomas, P.E., City Administrator
John A. Young, City Attorney
Kathy Arnett, Assistant Director of Planning and Parks
Travis Newberry, Planner

ATTACHMENT A - REPORT

BACKGROUND

The use of Unmanned Aircraft Systems, or as they are more commonly known, drones, in airspace across the world is not a new phenomenon, but has surprisingly changed from defense-related activities and governmental services to commercial applications, and now personal use much more quickly than many had anticipated. The use of drones for commercial purposes is being addressed by the federal government, albeit somewhat slowly, which has led to the individual States and local governments creating legislative initiatives to better protect private properties from a number of potential privacy issues. This approach on the part of the federal government mirrors to a degree its response to the telecommunications industry and the development of its network of towers and other facilities in the mid-1980's, within St. Louis County.

CURRENT REGULATIONS

Unmanned Aircraft Systems come in a variety of shapes and sizes and serve diverse purposes. It should be noted that there are three different types: Public (Government), Civil Operations (Commercial), and Model Aircraft. In 2012, under Public Law 112-95, the FAA Modernization and Reform Act (FMRA), the Federal Aviation Administration (FAA) is required to develop a comprehensive plan to safely accelerate the integration of civil, Unmanned Aircraft Systems into the national airspace system. After many months of work, the Federal regulations for small Unmanned Aircraft Systems were released to the public.

Small UAS Rules

Since the Congress ordered the Department of Transportation's Federal Aviation Administration in 2012 to develop rules governing how drones would share the sky with passenger planes, the FAA has worked diligently to propose a framework of regulations that would allow routine use of certain small Unmanned Aircraft Systems in today's aviation system, while maintaining flexibility to accommodate future technological innovations. In that regard, the FAA posted proposed rules last winter for comment by the public and industry. The initial 60-day comment period closed on April 24, 2015, after which the final FAA rules were made official on June 23, 2016.

The FAA's 624-page rulebook allows commercial drones weighing up to 55 pounds to fly during daylight hours and lower than four hundred (400) feet in the air, or higher if within four hundred (400) feet of a taller building or tower. The aircraft must remain within sight of the operator or an observer, who is in communication with the operator. The operators must be at least sixteen (16) years old and pass an aeronautics test every twenty-four (24) months for a certificate and a background check by the Transportation Security Administration (TSA). Evening flight is allowed, if the aircraft carries lights visible for three (3) miles. Drone operators who want to conduct night flights, flights beyond what the operator can see, or flights over people not associated with the operation, would need to demonstrate specific safety measures and seek a waiver through the FAA.

The rules govern commercial flights, such as for aerial photography or utilities inspection. The new rules do not apply to model aircraft. However, model aircraft operators must continue to satisfy all of the criteria specified in Sec. 336 of Public Law 112-95, including the stipulation they be operated only for hobby or recreational purposes.

Model Aircraft Operations

Model aircraft operations are for hobby or recreational purposes only. As noted above, the statutory parameters of a model aircraft operation are outlined in Section 336 of Public Law 112-95 (the FAA Modernization and Reform Act of 2012). Individuals who fly within the scope of these parameters do not require permission to operate their Unmanned Aircraft Systems; however, any flight outside these parameters (including any non-hobby, non-recreational operation) requires FAA authorization. For example, using an Unmanned Aircraft System to take photos for your personal use is recreational; using the same device to take photographs or videos for compensation or sale to another individual would be considered a non-recreational operation.

Organizations have partnered with the Federal Aviation Administration (FAA) to promulgate supplemental rules under a combined campaign named "Know Before You Fly", and these components include the following:

a. Follow community-based safety guidelines, as developed by organizations such as the Academy of Model Aeronautics (AMA).
b. Fly no higher than 400 feet and remain below any surrounding obstacles, when possible.
c. Keep Unmanned Aircraft System in eyesight at all times, and use an observer to assist, if needed.
d. Remain well clear of and do not interfere with manned aircraft operations, and you must see and avoid other aircraft and obstacles at all times.

e. Do not intentionally fly over unprotected persons or moving vehicles, and remain at least twenty-five (25) feet away from individuals and vulnerable property.
f. Contact the airport and control tower before flying within five (5) miles of an airport or heliport.
g. Do not fly in adverse weather conditions, such as in high winds or reduced visibility.
h. Do not fly under the influence of alcohol or drugs.
i. Ensure the operating environment is safe and that the operator is competent and proficient in the operation of the Unmanned Aircraft Systems.
j. Do not fly near or over sensitive infrastructure or property, such as power stations, water treatment facilities, correctional facilities, heavily traveled roadways, government facilities, etc.
k. Check and follow all local laws and ordinances before flying over private property.
l. Do not conduct surveillance or photograph persons in areas, where there is an expectation of privacy without the individual's permission.

While these guidelines have been applauded by the hobby industry for their relative reasonableness, there may be concerns about the extent of flexibility that might exist therein and enforcement effectiveness. Several federal legislators expressed concerns about how the privacy issues were not addressed. Some of these guidelines reflect the regulations and rules of the federal government, but all of them, regardless of origins, define a hobby or enterprise that needs to be appropriately regulated to protect the public's health, safety, and general welfare.

Summary of the FAA's Small UAS Rules (6/23/16)

Operational Limitations

- Unmanned aircraft must weigh less than 55 lbs. (25 kg).
- Visual line-of-sight (VLOS) only; the unmanned aircraft must remain within VLOS of the remote pilot in command and the person manipulating the flight controls of the small UAS. Alternatively, the unmanned aircraft must remain within VLOS of the visual observer.
- At all times the small unmanned aircraft must remain close enough to the remote pilot in command and the person manipulating the flight controls of the small UAS for those people to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses.
- Small, unmanned aircraft may not operate over any persons not directly participating in the operation, not under a covered structure, and not inside a covered stationary vehicle.
- Daylight-only operations, or civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time) with appropriate anti-collision lighting.
- Must yield right of way to other aircraft.
- May use visual observer (VO), but not required.
- First-person view camera cannot satisfy "see-and-avoid" requirement, but can be used as long as requirement is satisfied in other ways.
- Maximum groundspeed of 100 mph (87 knots).
- Maximum altitude of 400 feet above ground level (AGL) or, if higher than 400 feet AGL, remains within 400 feet of a structure.
- Minimum weather visibility of 3 miles from control station.
- Operations in Class B, C, D and E airspace are allowed with the required ATC permission.
- Operations in Class G airspace are allowed without ATC permission.
- No person may act as a remote pilot in command or VO for more than one unmanned aircraft operation at one time.

- No operations from a moving aircraft.
- No operations from a moving vehicle, unless the operation is over a sparsely populated area.
- No careless or reckless operations.
- No carriage of hazardous materials.
- Requires preflight inspection by the remote pilot in command.
- A person may not operate a small, unmanned aircraft if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS.
- Foreign-registered small, unmanned aircraft are allowed to operate under part 107 if they satisfy the requirements of part 375.
- External load operations are allowed if the object being carried by the unmanned aircraft is securely attached and does not adversely affect the flight characteristics or controllability of the aircraft.
- Transportation of property for compensation or hire allowed provided that -
    - The aircraft, including its attached systems, payload and cargo weigh less than 55 pounds total;
    - The flight is conducted within visual line of sight and not from a moving vehicle or aircraft; and
    - The flight occurs wholly within the bounds of a State and does not involve transport between (1) Hawaii and another place in Hawaii through airspace outside Hawaii; (2) the District of Columbia and another place in the District of Columbia; or (3) a territory or possession of the United States and another place in the same territory or possession.
- Most of the restrictions discussed above are waivable, if the applicant demonstrates that his or her operation can safely be conducted under the terms of a certificate of waiver.

Remote Pilot in Command Certification and Responsibilities

- Establishes a remote pilot in command position.
- A person operating a small UAS must either hold a remote pilot airman certificate with a small UAS rating or be under the direct supervision of a person who does hold a remote pilot certificate (remote pilot in command).
- To qualify for a remote pilot certificate, a person must:
- Demonstrate aeronautical knowledge by either:
- Passing an initial aeronautical knowledge test at an FAA-approved knowledge testing center; or
- Hold a part 61 pilot certificate other than student pilot, complete a flight review within the previous 24 months, and complete a small UAS online training course provided by the FAA.
- Be vetted by the Transportation Security Administration (TSA).
- Be at least 16 years old.
- Part 61 pilot certificate holders may obtain a temporary remote pilot certificate immediately upon submission of their application for a permanent certificate. Other applicants will obtain a temporary remote pilot certificate upon successful completion of TSA security vetting. The FAA anticipates that it will be able to issue a temporary remote pilot certificate within 10 business days after receiving a completed remote pilot certificate application.
- Until international standards are developed, foreign-certificated UAS pilots will be required to obtain an FAA issued remote pilot certificate with a small UAS rating.

A remote pilot in command must:

- Make available to the FAA, upon request, the small UAS for inspection or testing, and any associated documents/records required to be kept under the rule.
- Report to the FAA within 10 days of any operation that results in at least serious injury, loss of consciousness, or property damage of at least $500.
- Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is in a condition for safe operation.
- Ensure that the small, unmanned aircraft complies with the existing registration requirements specified in § 91.203(a)(2).
- A remote pilot in command may deviate from the requirements of this rule in response to an in-flight emergency.

Aircraft Requirements

- FAA airworthiness certification is not required. However, the remote pilot in command must conduct a preflight check of the small UAS to ensure that it is in a condition for safe operation.

Model Aircraft

- Part 107 does not apply to model aircraft that satisfy all of the criteria specified in section 336 of Public Law 112-95.
- The rule codifies the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the National Airspace System (NAS).

FAA Requirements for UAS Registration

Anyone who owns a small, unmanned aircraft that weighs more than 0.55 lbs. (250g) and less than 55 lbs. (25kg) must register with the Federal Aviation Administration's Unmanned Aircraft System Registry before they fly outdoors. People who do not register could face civil and criminal penalties.

Who must register a UAS?

- The owner must be:
  - 13 years of age or older. (If the owner is less than 13 years of age, a person 13 years of age or older must register the small unmanned aircraft.)
  - A U.S. citizen or legal permanent resident.

Which unmanned aircraft do I have to register?

- Owners must register their UAS online if it meets the following guidelines:
  - Weighs more than 0.55 lbs. (250 g) and less than 55 lbs. (25 kg). Unmanned Aircraft weighing more than 55 lbs. cannot use this registration process and must register using the Aircraft Registry process.
- Owners must register their Unmanned Aircraft System by paper, if it meets the following guidelines:
  - Your aircraft weighs more than 55 lbs.
  - You intend to operate your aircraft outside of the United States
  - Your aircraft is owned by a trustee
  - The aircraft owner uses a voting trust to meet U.S. Citizenship requirements

CURRENT REQUEST

When this particular request was presented to the Planning and Zoning Commission at public hearing, there was a limited amount of discussion, but the members sought the City's Board of Public Safety[i] review of the matter and have it provide a recommendation. The intent of the Planning and Zoning Commission's request was to have this Board assist in determining whether Wildwood should memorialize the appropriate regulations and rules, as part of its Zoning Ordinance, and, thereby, add a local enforcement component to their application for the public's health, safety, and general welfare. Principal among the issues of discussion on this matter are individuals' right to privacy and security from trespass. These rights, although not viewed by hobbyists as being effected by the use of small drones, remain one (1) of the major focus points of discussion across the country.

ANALYSIS

The general public, a wide variety of organizations, including private sector (e.g., commercial companies), non-governmental (e.g., volunteer organizations), and governmental entities (e.g., local agencies) continue to demonstrate significant interest in Unmanned Aircraft Systems. The benefits offered by this type of aircraft are substantial and the FAA is committed to integrating them into the National Airspace System (NAS). This introduction, however, appears focused primarily on safety and security considerations with regard to that system by commercial operators, and less so the everyday use of the Unmanned Aircraft Systems by the hobbyist, and without any concern for privacy issues.

There is evidence of a considerable increase in the unauthorized use of small, inexpensive Unmanned Aircraft Systems by individuals and organizations, including companies. It is important to note the FAA retains the responsibility for enforcing Federal Aviation Regulations, including those applicable to the use of all Unmanned Aircraft Systems. The FAA recognizes that State and local Law Enforcement Agencies (LEA) are often in the best position to deter, detect, immediately investigate, and, as appropriate, pursue enforcement actions to stop unauthorized or unsafe operations.

Model Aircraft Operations

An important distinction to be aware of is whether the system is being operated for hobby or recreational purposes or for some other type. This distinction is important because there are specific requirements in the FAA Modernization and Reform Act of 2012, Public Law 112-95, (the Act) that pertains to "Model Aircraft" operations, which are conducted solely for hobby or recreational purposes. While flying model aircraft for hobby or recreational purposes does not require FAA approval, all model aircraft operators must operate safely and in accordance with the law. The FAA provides guidance and information to individual Unmanned Aircraft System operators (for hobby or recreational purpose) about how they can operate safely under current regulations and laws.

Model Aircraft that Operate in a Careless or Reckless Manner

Section 336(b) of the Act, however, makes it clear that the FAA has the authority under its existing regulations to pursue legal enforcement action against persons operating model aircraft, when it endangers the safety of the National Airspace System (NAS), even if they are operating in accordance with Section 336(a) and 336(c). So, for example, a model aircraft operation conducted in accordance with Section 336(a) and (c) may be subject to an enforcement action for violation of 14 C.F.R. § 91.13, if the operation is conducted in a careless or reckless manner so as to endanger the life or property of another.

Safety

The use of drones continues to be in the news, with frequently cited reports of unauthorized operations in close proximity to airports, encroaching into commercial airlines' flight paths, trespassing onto individuals' properties, or crashing into buildings. Collectively, the instances appear to be limited, but the discussion of needed regulations and rules in this regard should be considered sooner rather than later, so as to prevent, not react to, potential issues in the City of Wildwood, if such is determined to be appropriate by the Planning and Zoning Commission and the City Council.

In the identified list of regulations and rules regarding the hobbyists' use of drones, the important factor is controlling the aircraft and ensuring the operator maintains line of sight with it at all times. Observers, in cooperation with the operator, can be used for this purpose as well. Additionally, a consensus seems to exist that drones should not be flown over people/crowds, unless participating in the event and aware of it as well. Also creating concerns is the distraction a drone can create to the unsuspecting and unaware public. For example, a driver on a busy roadway, not expecting to encounter a drone may react in an unsafe manner, when distracted by it.

Right to Privacy / Nuisance Concerns

An additional concern is the reasonable presumption of individuals of privacy on private property. This assumption can easily be violated when a drone is flying overhead potentially with photographic or video capabilities. At the same time, a significant concern also exists with regard to the nuisance created by the operation of drones over both private and public property. It seems likely that both complaints will become common, as the use of drones is expected to increase significantly in the future.

SUMMARY AND RECOMMENDATION

The numerous benefits and potential applications of drones easily justify their popularity; however, the management of them does appear to be necessary to ensure their respective applications in the City are respectful of property rights and public safety. This need for public protection exists with regard to the use of imaging technology for aerial surveillance with radio control model aircraft having the capability of obtaining high-resolution photographs and/or video, or using any types of sensors, for the collection, retention, or dissemination of surveillance data information on individuals, homes, businesses, or property at locations where there is a reasonable expectation of privacy, the Commission recommends that this be strictly prohibited unless written express permission is obtained from the individual property owners or managers.

To this end, and based upon the report of the Board of Public Safety, which supports the creation of regulations, the Planning and Zoning Commission is recommending the following regulations be added to Title II of the City of Wildwood Municipal Code (Public Health, Safety and Welfare), by specifically enacting a new Section 236 Regulation of Unmanned Aircraft Systems, to read as follows:

DEFINITIONS:

UNMANNED AIRCRAFT - A high-powered, aerial vehicle that:

(a) Does not carry a human operator and is operated without the possibility of direct human intervention from within or on the aircraft;

(b) Uses aerodynamic forces to provide vehicle lift;

(c) Can fly autonomously or be piloted remotely; and
(d) Can be expendable or recoverable.

UNMANNED AIRCRAFT SYSTEMS (UAS) - An unmanned aircraft and associated elements (including communication links and the components that control the unmanned aircraft) that are required for the pilot in command to operate safely and efficiently in the national airspace system. To be part of a UAS, the unmanned aircraft must be:
(a) Capable of sustained flight in the atmosphere;
(b) Flown within the visual line of sight of the person operating the aircraft; and
(c) Flown for hobby or recreational purposes

VISUAL OBSERVER - A person who is designated by the operator of an Unmanned Aircraft System to assist the operator to see and avoid other air traffic or objects aloft or on the ground.

1.) All operators of Unmanned Aircraft Systems shall adhere to applicable federal and State regulations, rules, and laws regarding their use, and as may be amended from time to time, and implemented thereafter.
2.) Unmanned Aircraft Systems must remain below any surrounding obstacles within the airspace, when possible.
3.) The Unmanned Aircraft System must remain within visual line of sight of the operator of the Unmanned Aircraft System. Alternatively, the unmanned aircraft must remain within the visual line of sight of a visual observer.
4.) Operators of Unmanned Aircraft Systems shall not intentionally operate Unmanned Aircraft Systems over persons unprotected by shelter or moving vehicles, and shall remain at least twenty-five (25) feet away from any person, building, or vehicle.
5.) Operators of Unmanned Aircraft Systems shall not operate an Unmanned Aircraft System within five (5) miles of an airport or heliport without first notifying the airport and control tower.
6.) Operators of Unmanned Aircraft Systems shall not operate an Unmanned Aircraft System in adverse weather conditions, such as in high winds or reduced visibility.
7.) Operators of Unmanned Aircraft Systems shall not operate an Unmanned Aircraft System, nor shall a visual observer observe the operation of an Unmanned Aircraft System, under the influence of alcohol or controlled substances.
8.) Operators of Unmanned Aircraft Systems shall ensure the operating environment is safe and shall not operate Unmanned Aircraft Systems in a reckless or negligent manner so as to endanger the life or property of another.
9.) Operators of Unmanned Aircraft Systems shall not without the consent of the owner of the property, public utility, or appropriate governmental entity operate an Unmanned Aircraft System within twenty-five (25) feet of or over sensitive infrastructure or property, such as power stations, water treatment facilities, correctional facilities, heavily traveled roadways, government facilities, or other public utility facilities
10.) It shall be unlawful to knowingly operate an Unmanned Aircraft System directly over the private property of another without, the property owner's consent, if such operation of the Unmanned Aircraft System (a) enters into the immediate reaches of the air space next to private property, and (b) if it interferes substantially with the property owner's use and enjoyment of his/her property.

11.) All Unmanned Aircraft Systems shall be limited to daylight-only operations, or civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time), with appropriate anti-collision lighting. Notwithstanding the foregoing, a person may, with the consent of the property owner, operate an Unmanned Aircraft System between civil twilight and 10:00 p.m. directly above the areas of property that are fully lit by one or more outdoor light fixture provided that each light fixture is at a height no less than sixty (60) feet above the surface of the ground and conforms to the lighting standards set forth by City Code Section 415.

12.) Except as may be otherwise expressly permitted by federal or state law, it shall be unlawful to operate any Unmanned Aircraft Systems weighing in excess of fifty-five (55) pounds. (25 kilograms) in the City.

In addition, to address the privacy concerns addressed above, it is recommended that the following provision be added to Title II Health, Safety and Welfare, Chapter 210 Offenses, Article VII Offenses Concerning Property, by specifically enacting a new Section 210.275 Constructive Invasion of Property, to read as follows:

> "Regardless of whether there is a physical trespass pursuant to Section 210.270 of this Code, a person is liable for constructive invasion of property when a person knowingly attempts to capture or knowingly captures, in a manner that is offensive to a reasonable person, any type of visual image, visual recording, sound recording, or other physical impression of another engaging in private, personal, or familial activity in a place in which that person has a reasonable expectation of privacy and that impression could not have been achieved without a trespass unless the device was used. This section shall not be construed to impair or limit any otherwise lawful activities of law enforcement personnel or employees of governmental agencies or other entities, either public or private, who, in the course and scope of their employment, and supported by an articulable suspicion, attempt to capture any type of visual image, sound recording, or other physical impression of a person during an investigation, surveillance, or monitoring of any conduct to obtain evidence of suspected illegal activity or other misconduct, the suspected violation of any administrative rule or regulation, a suspected fraudulent conduct, or any activity involving a violation of law or business practices or conduct of public officials adversely affecting the public welfare, health, or safety."

With these basic regulations, the City can ensure the operation of Unmanned Aircraft Systems and their respective operators have the necessary direction to ensure their use does not create safety concerns or privacy considerations. Additionally, these regulations preserve the private air space of each property owner in Wildwood and set forth criteria for the use of Unmanned Aircraft Systems over private lands. Although enforcement may be interpretative at times, the promulgation of these regulations will provide a basis for addressing most cases of trespass or operators foregoing safe use of these systems.

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[i] The City's Board of Public Safety, with direct assistance from the Department of Public Works, prepared much of this report's content, while the Department of Planning added information for the purposes of the Planning and Zoning Commission's required review and action.

Note: Additions that have been made to the draft Letter of Recommendation from comments provided at Commission's meeting on October 17, 2016 are indicated by red text.

ATTACHMENT B
Background Information

From: **svcross** svcross@att.net
Subject: RE: Letter of Recommendation on UAS
Date: November 3, 2016 at 4:51 PM
To: Joe Vujnich JVujnich@cityofwildwood.com

Joe,

Thanks for the opportunity to review this document. It is very well-written and accurately documents the current issues we in the model aviation community are dealing with regarding the advent of drones. I agree with and support the recommendations contained in this document.

As a member of the model aviation community for almost 30 years, chairman of the safety committee for our private flying club and owner of 24 airplanes and 5 helicopters/drones, please let me know if I can assist in any way, now or in the future.

Thanks.

Steve

CITY OF WILDWOOD
NOV 03 2016
DEPT OF PLANNING & PARKS

Sent from my Verizon Wireless 4G LTE Smartphone

------ Original message ------
From: Joe Vujnich
Date:11/03/2016 3:33 PM (GMT-06:00)
To: svcross
Subject: Letter of Recommendation on UAS

Steve:

Please let me know what you think.

Thank you,

Joe

WILDWOOD®

INFORMATION REPORT

Prepared by the Department of Public Works

July 7, 2016 Meeting

BACKGROUND

The use of Unmanned Aerial Systems (UAS), or as they are more commonly known, drones, in airspace across the world is not a new phenomenon, but has surprisingly changed from defense-related activities and governmental services to commercial applications and now personal use much more quickly than many had anticipated. The use of drones for commercial purposes is being addressed by the federal government, albeit somewhat slowly, which has led to the individual States and local governments creating legislative initiatives to better protect private properties from a number of potential privacy issues. This approach on the part of the federal government mirrors to a degree its response to the telecommunications industry and the development of its network of towers and other facilities in the mid-1980, within St. Louis County.

UAS's come in a variety of shapes and sizes and serve diverse purposes. It should be noted that there are three different types of UAS's:

- Public (Government)
- Civil Operations (Commercial)
- Model Aircraft

CURRENT REGULATIONS

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The FAA's 624-page rulebook allows commercial drones weighing up to 55 pounds to fly during daylight hours and lower than 400 feet in the air, or higher if within 400 feet of a taller building or tower. The

aircraft must remain within sight of the operator or an observer who is in communication with the operator. The operators must be at least 16 years old and pass an aeronautics test every 24 months for a certificate and a background check by the Transportation Security Administration. Evening flight is allowed if the aircraft carries lights visible for three (3) miles. Drone operators who want to conduct night flights, flights beyond what the operator can see, or flights over people not associated with the operation, would need to demonstrate specific safety measures and seek a waiver through the FAA.

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b. Fly no higher than 400 feet and remain below any surrounding obstacles when possible.
c. Keep UAS in eyesight at all times, and use an observer to assist if needed.
d. Remain well clear of and do not interfere with manned aircraft operations, and you must see and avoid other aircraft and obstacles at all times.
e. Do not intentionally fly over unprotected persons or moving vehicles, and remain at least 25 feet away from individuals and vulnerable property.
f. Contact the airport and control tower before flying within five miles of an airport or heliport.
g. Do not fly in adverse weather conditions such as in high winds or reduced visibility.
h. Do not fly under the influence of alcohol or drugs.
i. Ensure the operating environment is safe and that the operator is competent and proficient in the operation of the UAS.
j. Do not fly near or over sensitive infrastructure or property such as power stations, water treatment facilities, correctional facilities, heavily traveled roadways, government facilities, etc.
k. Check and follow all local laws and ordinances before flying over private property.
l. Do not conduct surveillance or photograph persons in areas where there is an expectation of privacy without the individual's permission).

While, these guidelines have been applauded by the hobby industry for their relative reasonableness, there may be concerns about the extent of flexibility that might exist therein and enforcement effectiveness. Several federal legislators expressed concerns about how the privacy issues were not addressed. Some of these guidelines reflect the regulations and rules of the federal government, but all of them, regardless of origins, define a hobby or enterprise that needs to be appropriately regulated to protect the public's health, safety, and general welfare.

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- At all times the small unmanned aircraft must remain close enough to the remote pilot in command and the person manipulating the flight controls of the small UAS for those people to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses.
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- Maximum groundspeed of 100 mph (87 knots).
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- Minimum weather visibility of 3 miles from control station.
- Operations in Class B, C, D and E airspace are allowed with the required ATC permission.
- Operations in Class G airspace are allowed without ATC permission.
- No person may act as a remote pilot in command or VO for more than one unmanned aircraft operation at one time.
- No operations from a moving aircraft.
- No operations from a moving vehicle unless the operation is over a sparsely populated area.
- No careless or reckless operations.
- No carriage of hazardous materials.

- Requires preflight inspection by the remote pilot in command.
- A person may not operate a small unmanned aircraft if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS.
- Foreign-registered small unmanned aircraft are allowed to operate under part 107 if they satisfy the requirements of part 375.
- External load operations are allowed if the object being carried by the unmanned aircraft is securely attached and does not adversely affect the flight characteristics or controllability of the aircraft.
- Transportation of property for compensation or hire allowed provided that -
    - The aircraft, including its attached systems, payload and cargo weigh less than 55 pounds total;
    - The flight is conducted within visual line of sight and not from a moving vehicle or aircraft; and
    - The flight occurs wholly within the bounds of a State and does not involve transport between (1) Hawaii and another place in Hawaii through airspace outside Hawaii; (2) the District of Columbia and another place in the District of Columbia; or (3) a territory or possession of the United States and another place in the same territory or possession.
- Most of the restrictions discussed above are waivable if the applicant demonstrates that his or her operation can safely be conducted under the terms of a certificate of waiver.

Remote Pilot in Command Certification and Responsibilities

- Establishes a remote pilot in command position.
- A person operating a small UAS must either hold a remote pilot airman certificate with a small UAS rating or be under the direct supervision of a person who does hold a remote pilot certificate (remote pilot in command).
- To qualify for a remote pilot certificate, a person must:
- Demonstrate aeronautical knowledge by either:
- Passing an initial aeronautical knowledge test at an FAA-approved knowledge testing center; or
- Hold a part 61 pilot certificate other than student pilot, complete a flight review within the previous 24 months, and complete a small UAS online training course provided by the FAA.
- Be vetted by the Transportation Security Administration.
- Be at least 16 years old.
- Part 61 pilot certificate holders may obtain a temporary remote pilot certificate immediately upon submission of their application for a permanent certificate. Other applicants will obtain a temporary remote pilot certificate upon successful completion of TSA security vetting. The FAA anticipates that it will be able to issue a temporary remote pilot certificate within 10 business days after receiving a completed remote pilot certificate application.

- Until international standards are developed, foreign-certificated UAS pilots will be required to obtain an FAA issued remote pilot certificate with a small UAS rating.

A remote pilot in command must:

- Make available to the FAA, upon request, the small UAS for inspection or testing, and any associated documents/records required to be kept under the rule.
- Report to the FAA within 10 days of any operation that results in at least serious injury, loss of consciousness, or property damage of at least $500.
- Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is in a condition for safe operation.
- Ensure that the small unmanned aircraft complies with the existing registration requirements specified in § 91.203(a)(2).

A remote pilot in command may deviate from the requirements of this rule in response to an in-flight emergency.

Aircraft Requirements

- FAA airworthiness certification is not required. However, the remote pilot in command must conduct a preflight check of the small UAS to ensure that it is in a condition for safe operation.

Model Aircraft

- Part 107 does not apply to model aircraft that satisfy all of the criteria specified in section 336 of Public Law 112-95.
- The rule codifies the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the National Airspace System (NAS).

FAA Requirements for UAS Registration

Anyone who owns a small unmanned aircraft that weighs more than 0.55 lbs. (250g) and less than 55 lbs. (25kg) must register with the Federal Aviation Administration's UAS registry before they fly outdoors. People who do not register could face civil and criminal penalties.

Who must register a UAS?

- The owner must be:
  - 13 years of age or older. (If the owner is less than 13 years of age, a person 13 years of age or older must register the small unmanned aircraft.)
  - A U.S. citizen or legal permanent resident.

Which unmanned aircraft do I have to register?

  - Owners must register their UAS online if it meets the following guidelines:
    - Weighs more than 0.55 lbs. (250 g) and less than 55 lbs. (25 kg). Unmanned Aircraft weighing more than 55 lbs. cannot use this registration process and must register using the Aircraft Registry process.
  - Owners must register their UAS by paper if it meets the following guidelines:
    - Your Aircraft weighs more than 55 lbs
    - You intend to operate your aircraft outside of the United States

- Your aircraft is owned by a trustee
- The aircraft owner uses a voting trust to meet U.S. Citizenship requirements

CURRENT REQUEST

The Planning and Zoning Commission is seeking the direction of the Board of Public Safety on whether Wildwood should memorialize the appropriate regulations and rules, as part of its Zoning Ordinance, and, thereby, add a local enforcement component to their application for the public's health, safety, and general welfare. Principal among the issues of discussion on this matter are individuals' right to privacy and security from trespass. These rights, although not viewed by hobbyists as being effected by the use of small drones, remain one (1) of the major focus points of discussion across the country.

ANALYSIS

The general public, a wide variety of organizations, including private sector (e.g., commercial companies), non-governmental (e.g., volunteer organizations), and governmental entities (e.g., local agencies) continue to demonstrate significant interest in UAS. The benefits offered by this type of aircraft are substantial and the FAA is committed to integrating UAS into the NAS. This introduction, however, appears focused primarily on safety and security considerations with regard to the NAS by commercial UAS operators, and less so the everyday use of UAS by the hobbyist, and without any concern for privacy issues.

There is evidence of a considerable increase in the unauthorized use of small, inexpensive Unmanned Aircraft Systems (UAS) by individuals and organizations, including companies. It is important to note that the FAA retains the responsibility for enforcing Federal Aviation Regulations, including those applicable to the use of UAS. The FAA recognizes though that State and local Law Enforcement Agencies (LEA) are often in the best position to deter, detect, immediately investigate, and, as appropriate, pursue enforcement actions to stop unauthorized or unsafe UAS operations.

Model Aircraft Operations

An important distinction to be aware of is whether the UAS is being operated for hobby or recreational purposes or for some other purpose. This distinction is important because there are specific requirements in the FAA Modernization and Reform Act of 2012, Public Law 112-95, (the Act) that pertain to "Model Aircraft" operations, which are conducted solely for hobby or recreational purposes. While flying model aircraft for hobby or recreational purposes does not require FAA approval, all model aircraft operators must operate safely and in accordance with the law. The FAA provides guidance and information to individual UAS operators (for hobby or recreational purpose) about how they can operate safely under current regulations and laws.

Model Aircraft that Operate in a Careless or Reckless Manner

Section 336(b) of the Act, however, makes it clear that the FAA has the authority under its existing regulations to pursue legal enforcement action against persons operating Model Aircraft when the operations endanger the safety of the NAS, even if they are operating in accordance with section 336(a) and 336(c). So, for example, a Model Aircraft operation conducted in accordance with section 336(a) and (c) may be subject to an enforcement action for violation of 14 C.F.R. § 91.13, if the operation is conducted in a careless or reckless manner so as to endanger the life or property of another.

Safety

The use of drones continues to be in the news with frequently cited reports of unauthorized UAS operations in close proximity to airports, encroaching into commercial airlines' flight paths, trespassing onto individuals' properties, or crashing into buildings. Collectively, the instances appear to be limited, but the discussion of needed regulations and rules in this regard should be considered sooner rather than later, so as to prevent, not react to, potential issues in the City of Wildwood, if such is determined to be appropriate by the Planning and Zoning Commission and the City Council.

In the identified list of regulations and rules regarding the hobbyists' use of drones, the important factor is controlling the aircraft and ensuring the operator maintains line of sight with it at all times. Observers, in cooperation with the operator, can be used for this purpose as well. Additionally, a consensus seems to exist that drones should not be flown over people/crowds, unless participating in the event and aware of it as well. Also creating concerns is the distraction a drone can create to the unsuspecting and unaware public. For example, a driver on a busy roadway, not expecting to encounter a UAS may react in an unsafe manner when distracted by a drone.

Right to Privacy / Nuisance Concerns

An additional concern is the reasonable presumption of individual of privacy on private property. This can easily be violated when an UAS is flying overhead potentially with photographic or video capabilities. At the same time, a significant concern also exists with regard to the nuisance created by the operation of UAS's over both private and public property. It seems likely that both complaints will become common as the use of UAS is expected to increase significantly in the future.

SUMMARY AND RECOMMENDATION

The numerous benefits and potential applications of drones easily justify their popularity; however, the management of them does appear to be an appropriate topic for discussion by the Planning and Zoning Commission.

Because a significant concern exists with regard to the use of imaging technology for aerial surveillance with radio control model aircraft having the capability of obtaining high-resolution photographs and/or video, or using any types of sensors, for the collection, retention, or dissemination of surveillance data information on individuals, homes, businesses, or property at locations where there is a reasonable expectation of privacy, the Board recommends that this be strictly prohibited unless written expressed permission is obtained from the individual property owners or managers.

Therefore the Board of Public Safety is supportive of PZ15-15, which proposes to amend Chapter 415 of the City of Wildwood's Code of Ordinances by adding new requirements to Section 415.380, Miscellaneous Regulations, to ensure the use of drones in all zoning district designations complies with air space rights associated with public and privately-owned properties in the City of Wildwood.

CITY OF WILDWOOD, MISSOURI
RECORD OF PROCEEDINGS

MEETING OF THE PLANNING AND ZONING COMMISSION
CITY HALL, 16860 MAIN STREET, WILDWOOD, MISSOURI
AUGUST 3, 2015

The Planning and Zoning Commission meeting was called to order by Chair Bopp, at 7:30 p.m., on Monday, August 3, 2015, at Wildwood City Hall, 16860 Main Street, Wildwood, Missouri.

I. Welcome to Attendees and Roll Call of Commission Members

Chair Bopp requested a roll call be taken. The roll call was taken, with the following results:

PRESENT – (9)	ABSENT - (1)
Chair Bopp	Commissioner Gragnani
Commissioner Archeski	
Commissioner Peasley	
Commissioner Renner	
Commissioner Lee	
Commissioner Bauer	
Commissioner Liddy	
Council Member Manton	
Mayor Woerther	

Other City Officials present: Director of Planning Vujnich, City Attorney Golterman, and Senior Planner Arnett.

II. Review Tonight's Agenda / Questions or Comments

There were no questions or comments on the agenda.

III. Approval of Minutes from the July 20, 2015 Meeting

A motion made by Commissioner Bauer, seconded by Council Member Manton, to approve the minutes from the July 20, 2015 meeting. A voice vote was taken regarding the motion for approval of the minutes. Hearing no objections, Chair Bopp declared the motion approved.

IV. Department of Planning Opening Remarks

The Department did not have any opening remarks.

V. Public Hearings – One (1) Item for Consideration

(a.) **P.Z. 15-15 City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040** - A request to amend Chapter 415 of the City of Wildwood's Code of Ordinances by adding new requirements to Section 415.380 Miscellaneous Regulations to ensure the use

of drones in all zoning district designations complies with air space rights associated with public and privately-owned properties in the City of Wildwood. **(Wards – All)**

Chair Bopp gave an overview of the public hearing process for all in attendance and officially opened the public hearing.

Senior Planner Arnett read the request into the record.

Director of Planning Vujnich noted the Department has prepared a primer with background information on the issue of Unmanned Aircraft Systems UMAS (drones). The primer includes the Missouri State Statute, information from the federal government, and a number of articles on the topic. He noted the federal government has spent a great deal of time discussing these items, but has not adopted formal legislation. Its goal is to allow flexibility through use, while still maintaining safety. He then outlined the "Know Before You Fly" Campaign. Director Vujnich stated the intent of the public hearing is to seek input from the public and the Commission on whether the use of drones on private property should be governed by additional regulations. He outlined a recent story in the news regarding wild fires in California, where drones were causing danger to pilots attempting to extinguish a wildfire because of the number of them that were being flown in the area by hobbyists. Finally, he noted the Department is not intending to support any regulation from four hundred (400) feet in height and above, since such is commercial airspace.

Vicki Chubb, 1615 Misty Hollow Court, 63038, noted that a neighbor was flying a drone with video and photographic capabilities over where her daughter was sunbathing on the back deck of her property. She noted that it was her belief this drone is violating a privacy issue and that there should be some type of ordinance or permit that addresses these issues.

Discussion was then held by the Commissioners regarding the following: the expectation for privacy; the lack of something specific in our current codes to address invasion of privacy, which is addressed in State Statute but would be considered a civil matter; the consideration of how the Zoning Code would address this issue; the Supreme Court case from the 1940's, which noted that homeowners owned from their home up to eighty-three (83) feet into the air; the concern with drones in right-of-ways causing safety issues; the control of radio-controlled aircraft by the Federal Communications Commission (FCC) and Federal Aviation Administration (FAA), but does not currently address drones; the distance of eighty-three (83) to four hundred (400) feet being operable space that currently the FAA has determined drones can operate within; the concern with stories of drones being flown and neighbors shooting at it; the concern with the general loss of privacy, once outside; the concern with how the eighty-three (83) foot distance would be measured and enforced; the standards that will vary based upon the type of use; the existence of any existing municipal regulations that address this item in neighboring municipalities; the degrees of privacy; the difficulty with enforcement; the issue of who would be the permitting authority and how would those be managed; the potential for future federal government regulations that apply to drones; and the similarity to this issue with the telecommunications codes.

A motion was made by Mayor Woerther, seconded by Commissioner Archeski, to send this item to the Board of Public Safety of the City Council for review and discussion. This motion was approved by a voice vote.

A motion was made by Commissioner Peasley, seconded by Council Member Manton, to close the public hearing. A voice vote was taken regarding the motion. Hearing no objections, Chair Bopp declared the motion approved.

VI. Old Business – Two (2) Items for Consideration

Letters of Recommendation – One (1) Item for Consideration

(a.) **P.Z. 11-15 Ladd Faszold, 16514 Meadow Hawk Drive, Wildwood, Missouri, 63038, c/o StraightUp Solar, Charles Melton, Jr., 10330 Page Industrial Boulevard St. Louis, Missouri, 63132** – A request for a Conditional Use Permit (CUP) in the NU Non-Urban Residence District for the installation of roof-mounted solar panels, which are to be placed on the dwelling, so as to be visible from the adjoining roadway, and located at 16514 Meadow Hawk Drive (Locator Number 25V330174). This request is to be reviewed in accordance with Chapter 415.090 NU Non-Urban Residence District Regulations of the City of Wildwood Zoning Code, which establishes standards and requirements for the installation of solar panels. The permit is required due to the panels' placement on the front facing area of the subject dwelling's roof. **(Ward Six)**

Director of Planning Vujnich read the request into the record.

Senior Planner Arnett provided the Department's recommendation noting it was for approval due to the petitioner's compliance with the criteria in the Zoning Code for issuing a Conditional Use Permit and the requirements for solar panels that are visible from the abutting roadway.

A motion was made by Council Member Manton, seconded by Commissioner Renner, to approve the Conditional Use Permit.

Ladd Faszold, 16514 Meadow Hawk Drive, noted that his only neighbor, who passes his property to get to their home, submitted a letter in support of his request for the installation of the solar panels.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Bauer, Commissioner Archeski, Commissioner Renner, Commissioner Lee, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: Commissioner Gragnani
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 9-0.

(b.) **P.Z. 7-15 James Edward Hardy, Trustee, 826 Babler Park Drive, Wildwood, Missouri 63005** - A request for a Conditional Use Permit (CUP) within the NU Non-Urban Residence District and FPNU Floodplain Non-Urban Residence District for a fourteen (14) acre tract of land that is located on the southeast side of Babler Park Drive, north of Pond Road (Locator Number 20X320136/Street Address: 826 Babler Park Drive). Proposed Use: A horse boarding and training (lessons) facility. The petitioner is not planning any additional structures or buildings in conjunction with this requested permit. **(Ward Three)**

Senior Planner Arnett read the request into the record.

Director of Planning Vujnich reviewed the Department's recommendation for approval, which noted the history of the request and its public hearing held last month. He provided information on the character of the land surrounding the request; the proposed conditions of the permit; the restriction on the number of

horses that could be boarded there - twenty-six (26) in total; the adherence to the two (2) criteria relative to land use issues and the four (4) criteria relative to issuance of a Conditional Use Permit; the existence of the use for over twenty-five (25) years at this location; the retention of the rural nature of this property, with the issuance of this permit; and the prior approval to waive the Preliminary Development Plan requirement at the time of application, but the need for a Site Development Plan, if the permit is approved.

A motion was made by Commissioner Peasley, seconded by Commissioner Lee, to approve the Conditional Use Permit.

Discussion was held regarding the following: the length of time the permit is issued for; the lack of a limit on the number of horses the owner can have; the lack of a residency requirement for the operator; the concerns of the couple who submitted an online comment form in opposition of this request; the restrictions on disturbance within the floodplain; and the requirement for a waste management plan.

James Hardy, 826 Babler Park Drive, noted he only has two (2) personal horses left and that there is plenty of space on the property for feeding and exercising the horses. He also stated that manure is placed in a dumpster and hauled away every couple of weeks and the area near the creek is fenced, so the horses cannot go into it.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Bauer, Commissioner Archeski, Commissioner Renner, Commissioner Lee, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: Commissioner Gragnani
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 9-0.

VII. New Business – No Items for Consideration

VIII. Site Development Plans-Public Space Plans-Record Plats – Two (2) Items for Consideration

(a.) A request by **McBride and Son Homes**, via the submittal of a Preliminary Plat, for the Wildhorse Ridge Estates Subdivision, which seeks its approval. This proposed subdivision is located in the NU Non-Urban Residence District, on three (3) parcels of ground totaling approximately thirty-nine (39) acres in size, and situated on the west side of State Route 100, north and south of its intersection with Wild Horse Creek Road (Street Addresses: 2230, 2300, and 2339 Wild Horse Creek Road/Locator Numbers: 23X220060, 23X240062, and 23X240071). Proposed Use: Seven (7) single family dwellings on individual lots, common ground, and public space. **(Ward One)**

Senior Planner Arnett read the request into the record.

Director of Planning Vujnich provided an overview of the project, which included the following: the draft recommendation report supporting the approval of the Preliminary Plat of the Wildhorse Ridge Estates Subdivision; the intent of the plat to authorize the property's division into seven (7) lots; the fact that all lots exceed the three (3) acre minimum; the maximum of twelve (12) lots, which could have been requested by the petitioner, based upon the lot's existing acreage; the five (5) lots, which are served by a proposed

internal cul-de-sac from Wild Horse Creek Road, which would have to be constructed to the City's Rural Roadway Standards and meet sight distance requirements; the surrounding land use pattern; the Department of Public Works' review of the development and its decision to not request improvements to Wild Horse Creek Road; the retention of fourteen (14) acres of woodlands and the protection of nine (9) acres by the Natural Resource Protection Standards; the undergrounding of all utilities; the minimal amount of traffic generation; the Department's concerns with the amount of associated clearing and the amount of Natural Resource Protected Area, recommending both be modified to reflect more protected area and less clearing, along with concerns with the width of Lot 3; the retention of the existing pond on the property; the three (3) important items identified by the Department in their review, including the adherence to the Master Plan, the compatibility of the proposed use with the surrounding development pattern, and the consistency with the Subdivision and Development Regulations. Finally, he noted that the City's Master Plan identified these properties in the Non-Urban Residential Area (three (3) acre minimum, single-family detached lots) and the Department's review found the proposal to be in compliance with the five (5) elements of the Master Plan.

Tom Fischer, 18142 Country Trails Estates, noted he was the head trustee of the Country Trails Subdivision and questioned if drainage calculations, from the additional impervious surface from this subdivision, had been completed. He also requested a copy of the Improvement Plans, when they are available.

Discussion was held regarding the following: the Tree Preservation and Restoration Code and the Natural Resource Protection Standards, which were created to address stormwater issues and both work to manage stormwater in unique ways; the amount of preservation on this site, which will address stormwater runoff; and the fact that the development is only seven (7) lots on thirty-eight (38) acres.

Jeremy Roth, with McBride and Son Homes, noted the development meets the City's requirements and that they will also be submitting Improvement Plans, which will have more specific calculations on each site.

Mike Boerding, Sterling Engineering, noted that final runoff calculations will be done as part of the Improvement Plan process, but runoff from the street will be managed in roadside ditches, as part of the Rural Roadway Standards, and rainfall events will be managed at 15-year, 20 minute storm capacities. Additionally, he commented that stormwater detention is not warranted on five (5) acre lots and the subdivision is designed using a low-impact approach, as required by the City, through the Natural Resource Protection Plan and the Tree Preservation Plan to encourage water to reabsorb into the ground.

Ken Heitkamp, 5509 Rolling Meadows Court, representing Heitkamp Farms, noted he is the property owner bordering this subdivision to the north, and that he owns fifty (50) acres. He is not opposed to the development, given the property has been in disrepair, but he wants to ensure that the existing house, which has asbestos, and the old farm equipment, that has been abandoned on the property, will all be removed properly.

Joe Grass, 1304 Kiefer Bluffs Drive, commented that he believes the tree preservation area should be cleared and replanted, because it is not woodlands, but overgrown weeds.

Robert Heitkamp, 2208 Wild Horse Creek Road, noted he supports the previously made comments.

Jeremy Roth, McBride and Sons, spoke again, and noted they are excited about the development and have the opportunity to build their highest luxury line of homes in Wildwood. He explained the product line includes approximately seven (7) or eight (8) different floor plans, including ranch, 1 ½-story, and 2-story

designs. The future homes will range in size from 2,500 to over 5,000 square feet and will be semi-custom builds. The home prices will range from $600,000 to over $1,000,000. Additionally, he explained an environmental report has been done on property and they will demolish the home, in compliance with laws on asbestos removal, and are aware of other waste on the property and it will all be removed, and not buried. Finally, he commented on the newer vegetation growth on the property, noting the home buyers who move into these units will improve the property to their own liking and increase their already high property values.

Discussion was then held among the Commissioners regarding the following: the areas of clearing; the removal of the pond; the number of structures on the property; the existence of the property outside of the Metropolitan St. Louis Sewer District (MSD) jurisdiction; and the City's enforcement of MSD's requirements, even outside of their boundary.

Steve Kummer, 2121 Wild Horse Creek Road, questioned what improvements could be installed on the two (2) acre piece along State Route 100, south of Wild Horse Creek Road, and asked if it could be commercial.

Director of Planning Vujnich noted the two (2) acre property along State Route 100 will be common ground, that is collectively owned by the seven (7) homeowners, and public space in perpetuity. He also noted this property is outside of the Town Center Area, and, therefore, could not be used for commercial activities.

A motion was made by Mayor Woerther, seconded by Commissioner Lee, to approve the Preliminary Plat for the Wild Horse Ridge Estates Subdivision.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Bauer, Commissioner Archeski, Commissioner Renner, Commissioner Lee, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: Commissioner Gragnani
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 9-0.

(b.) A recommendation report on the Landscape Plan for the redevelopment of the Cambury Subdivision (**P.Z. 3-15 Cambury Subdivision, McBride and Son Companies, L.L.C.**), now with single family detached units on forty-two (42) lots; R-6A 4,000 square foot Residence District, with a Planned Residential Development Overlay District (PRD); east side of State Route 109, south of State Route 100; which supports the submitted design, as reflected on the attached plan sheets. **(Ward Eight)**

Director of Planning Vujnich read the request into the record.

Senior Planner Arnett provided an overview of the project, noting the approval of the Landscape Plan was the final element of the Site Development Plan package for this project. She stated the Department was recommending approval of the Landscape Plan, given its compliance with the approved site-specific ordinance and applicable City Codes.

A motion was made by Mayor Woerther, seconded by Commissioner Archeski, to approve the Landscape Plan for the Cambury Subdivision.

Discussion was held regarding the following: the amount of landscaping proposed within the common ground areas; the desire to relocate the landscaping shown at the terminus of Kilare Lane; the access points to the common ground; the desire to remove white pines from the planting list; and the type of plantings proposed in different areas of the development.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Bauer, Commissioner Archeski, Commissioner Renner, Commissioner Lee, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: Commissioner Gragnani
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 9-0.

IX. Other – One (1) Item for Consideration –READY FOR ACTION

(a.) Nominating Committee's Recommendation for Officers of the Commission for Year 2015/2016 **(Wards – All)**

Commissioner Archeski noted the Nominating Committee met earlier this evening and recommended the following officers for the Commission for the year 2015 - 2016:
Chair – Bopp
Vice-Chair – Archeski
Secretary – Peasley

A motion was made by Commissioner Archeski, seconded by Council Member Manton, to approve the nominations, as proposed by the Nominating Committee.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Bauer, Commissioner Archeski, Commissioner Renner, Commissioner Lee, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: Commissioner Gragnani
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 9-0.

James Schmidt, 2470 Eatherton Road, noted he was disappointed by the Commissioner's treatment of the Lafayette High School Principal, who wanted to work with the Commission on the sign issue, especially when the City uses electronic message boards.

X. Closing Remarks and Adjournment

A motion was made by Commissioner Archeski, seconded by Commissioner Peasley, to adjourn the meeting. A voice vote was taken. Hearing no objections, Chair Bopp adjourned the meeting at 9:30 p.m.

Approved by: _____

Secretary – City of Wildwood Planning and Zoning Commission

Note: Recordation of the opinions, statements, and/or other meeting participation in these minutes shall not be deemed to be an acknowledgement or endorsement by the Commission of the factual accuracy, relevance, or propriety thereof.

* If comment cards were submitted indicating they did not wish to speak at tonight's meeting, they have been attached and made part of the official record.

WILDWOOD

PRIMER

Prepared by the Department of Planning
for the
PLANNING AND ZONING COMMISSION
August 3, 2015 Executive Meeting
"Planning Tomorrow Today"

Nature of Request >>> P.Z. 15-15 City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040 - A request to amend Chapter 415 of the City of Wildwood's Code of Ordinances by adding new requirements to Section 415.380 Miscellaneous Regulations to ensure the use of drones in all zoning district designations complies with air space rights associated with public and privately-owned properties in the City of Wildwood. **(Wards – All)**

Introduction >>> The use of drones in airspace across the world is not a new phenomenon, but has surprisingly changed from defense-related activities and governmental services to commercial applications and now personal use much quicker than many had anticipated. The use of drones for commercial purposes is being addressed by the federal government, albeit somewhat slowly, which has led to the individual States and local governments creating legislative initiatives to better protect private properties from a number of potential privacy issues. This approach on the part of the federal government mirrors to a degree its response to the telecommunications industry and the development of its network of towers and other facilities in the mid-1980, within St. Louis County.

Although the Federal Aviation Administration (FAA) has promulgated regulations through its register process, these items have been applauded by the hobby industry for their relative reasonableness, which leads to concerns about the extent of flexibility that might exist therein and enforcement effectiveness. Several federal legislators expressed concerns about how the privacy issues were not addressed. A summary of the rules is as follows:

a. Fly below 400 feet and remain clear of surrounding obstacles.
b. Keep the aircraft within visual line of sight at all times.
c. Remain well clear of and do not interfere with manned aircraft operations.
d. Don't fly within 5 miles of an airport unless you contact the airport and control tower before flying.
e. Don't fly near people or stadiums.
f. Don't fly an aircraft that weighs more than 55 pounds.
g. Don't be careless or reckless with your unmanned aircraft – you could be fined for endangering people or other aircraft.

Additionally, other organizations have partnered with the Federal Aviation Administration (FAA) to promulgate supplemental rules under a combined campaign named "Know Before You Fly" and these components include the following:

a. Follow community-based safety guidelines, as developed by organizations such as the Academy of Model Aeronautics (AMA).
b. Fly no higher than 400 feet and remain below any surrounding obstacles when possible.

c. Keep your sUAS[1] in eyesight at all times, and use an observer to assist if needed.
d. Remain well clear of and do not interfere with manned aircraft operations, and you must see and avoid other aircraft and obstacles at all times.
e. Do not intentionally fly over unprotected persons or moving vehicles, and remain at least 25 feet away from individuals and vulnerable property.
f. Contact the airport or control tower before flying within five miles of an airport.
g. Do not fly in adverse weather conditions such as in high winds or reduced visibility.
h. Do not fly under the influence of alcohol or drugs.
i. Ensure the operating environment is safe and that the operator is competent and proficient in the operation of the sUAS.
j. Do not fly near or over sensitive infrastructure or property such as power stations, water treatment facilities, correctional facilities, heavily traveled roadways, government facilities, etc.
k. Check and follow all local laws and ordinances before flying over private property.
l. Do not conduct surveillance or photograph persons in areas where there is an expectation of privacy without the individual's permission (see AMA's privacy policy).

Some of these guidelines reflect the regulations and rules of the federal government, but all of them, regardless of origins, define a hobby or enterprise that needs to be appropriately regulated to protect the public's health, safety, and general welfare.

Current Request >>> To this end, the City is seeking the direction of the Planning and Zoning Commission on whether Wildwood should memorialize the appropriate regulations and rules, as part of its Zoning Ordinance, and, thereby, add a local enforcement component to their application for the public's health, safety, and general welfare. Principal among the issues of discussion on this matter are individuals' right to privacy and security from trespass. These rights, although not viewed by hobbyists as being effected by the use of small drones, remain one (1) of the major focus points of discussion across the country.

The use of drones has also been in the news lately with regards to obstructing emergency personnel and their access for equipment needed to extinguish a wildfire in California. Other instances that have been reported in the news describe drones crashing into buildings, encroaching into commercial airlines' flight paths, and trespassing onto individuals' properties. Collectively, the instances appear to be limited, but the discussion of needed regulations and rules in this regard should be considered sooner rather than later, so as to prevent, not react to, potential issues in the City of Wildwood, if such is determined to be appropriate by the Planning and Zoning Commission and the City Council.

In the identified list of regulations and rules regarding the hobbyists' use of drones, the important factor is controlling the aircraft and ensuring the operator maintains line of sight with it at all times. Observers, in cooperation with the operator, can be used for this purpose as well. Additionally, a consensus seems to exist that drones should not be flown over people/crowds, unless participating in the event and aware of it as well. Also creating concerns is the distraction a drone can create on a busy roadway, when drivers do not expect to encounter such in that type of setting. The numerous benefits and potential applications of drones easily justify their popularity, however, the management of them does appear to be an appropriate topic for discussion by the Planning and Zoning Commission and is being addressed in many locales around the country.

[1] sUAS – small unmanned aircraft system

Resources >>> The Department has provided several resources in support of this planned discussion of drones and they include the following items:

1. Missouri House Bill NO. 46 – Aerial Surveillance
2. Federal Register- Operation and Clarification of Small Unmanned Aircraft Systems – Proposed Rule
3. Overview of Small UAS Notice of Proposed Rulemaking
4. Collection of Articles and Publications on Unmanned Aircraft Systems

These resources are intended to provide needed background on this emerging and changing issue.

Next Steps >>> At tonight's public hearing, the City Attorney and the Department of Planning are seeking input on this matter in preparation of a recommendation on whether to amend the Zoning Ordinance to address this advertised matter. If any of the Commission members should have questions or comments in this regard, please feel free to contact the City Attorney (Rob Golterman) at (314) 444-7500 or the Department of Planning at (636) 458-0440. Thank you for your review of this information in preparation of tonight's hearing on this topic.

From: vwild1@aol.com [mailto:vwild1@aol.com]
Sent: Wednesday, July 01, 2015 8:44 AM
To: Brian Gramlich
Subject: Re: Online Form Submittal: Code Enforcement Request Form

Brian - We were told to take pictures of him flying it over houses and contact police. We feel the city should have an ordinance for this. Vicki Chubb

-----Original Message-----
From: Brian Gramlich <Brian@cityofwildwood.com>
To: vwild1 <vwild1@aol.com>; Frank Laughlin <frank@cityofwildwood.com>
Cc: Reiter, Jamie (JReiter@stlouisco.com) (JReiter@stlouisco.com) <JReiter@stlouisco.com>
Sent: Wed, Jul 1, 2015 8:12 am
Subject: RE: Online Form Submittal: Code Enforcement Request Form

It seems that you have been told to contact the police with some evidence of such actions. Have you followed through with the direction given to you by the Police Officer? I am forwarding this onto St. Louis County Police.

From: noreply@cityofwildwood.com [mailto:noreply@cityofwildwood.com]
Sent: Tuesday, June 30, 2015 3:17 PM
To: Brian Gramlich; Frank Laughlin
Subject: Online Form Submittal: Code Enforcement Request Form

Code Enforcement Request Form

First Name	Vicki
Last Name	Chubb
Address1	1615 Misty Hollow Ct.
Address2	*Field not completed.*
City	Wildwood
State	MO
Zip	63038
Phone Number	636-399-6260
Email	vwild1@aol.com
	(Section Break)
Description of Code Violation	I live in the Garden Valley Subdivision. My neighbor Bill Barnard has a drone with a camera on it and is flying it over our

homes and hovering. This has happened to me at least 3 times. On 2 occasions my 19 year old daughter has been sunbathing on our deck. If this drone has a camera and videotaping capabilities he could easily be able to make photo graphs of my daughter. Homeowners here feel it is an invasion of our privacy. He flies this during the day and after 10 pm. I spoke to the resource officer from Lafayette who was in our subdivision and he said he would have to speak to his sargent regarding this. He advised us to call the police and take photos of it hoovering over backyards. I feel this issue needs attention and laws to protect our privacy!

Attach An Image	*Field not completed.*

Email not displaying correctly? View it in your browser.

FIRST REGULAR SESSION

[PERFECTED]

HOUSE COMMITTEE SUBSTITUTE FOR

HOUSE BILL NO. 46

97TH GENERAL ASSEMBLY

0371H.02P D. ADAM CRUMBLISS, Chief Clerk

AN ACT

To amend chapter 305, RSMo, by adding thereto four new sections relating to aerial surveillance, with an emergency clause.

Be it enacted by the General Assembly of the state of Missouri, as follows:

Section A. Chapter 305, RSMo, is amended by adding thereto four new sections, to be
2 known as sections 305.635, 305.637, 305.639, and 305.641, to read as follows:

305.635. 1. Sections 305.635 to 305.641 shall be known and may be cited as the
2 **"Preserving Freedom from Unwarranted Surveillance Act".**

3 **2. As used in sections 305.635 to 305.641, the following terms shall mean:**

4 **(1) "Drone", any powered, aerial vehicle that:**

5 **(a) Does not carry a human operator;**

6 **(b) Uses aerodynamic forces to provide vehicle lift;**

7 **(c) Can fly autonomously or be piloted remotely;**

8 **(d) Can be expendable or recoverable; and**

9 **(e) Can carry a lethal or non-lethal payload.**

10 **(2) "Unmanned aircraft", an aircraft that is operated without the possibility of**
11 **direct human intervention from within or on the aircraft.**

12 **(3) "Manned Aircraft", an aircraft that is operated by a human on board the**
13 **aircraft.**

14 **(4) "Model aircraft", an unmanned aircraft that is:**

15 **(a) Capable of sustained flight in the atmosphere;**

16 **(b) Flown within visual line of sight of the person remotely operating the aircraft;**
17 **and**

18 **(c) Flown for hobby or recreational purposes.**

EXPLANATION — Matter enclosed in bold-faced brackets [thus] in the above bill is not enacted and is intended to be omitted from the law. Matter in **bold-face** type in the above bill is proposed language.

19 **(5) "Law enforcement agency", any state, county, or municipal law enforcement**
20 **agency in the state. The term law enforcement agency shall not include the Missouri**
21 **department of corrections, or any state, county, or municipal fire department.**

305.637. 1. No person, entity, or state agency shall use a manned aircraft, drone,
2 **or unmanned aircraft to gather evidence or other information pertaining to criminal**
3 **conduct or conduct in violation of a statute or regulation except to the extent authorized**
4 **in a warrant.**

5 **2. No person, entity, or state agency shall use a manned aircraft, drone, or**
6 **unmanned aircraft to conduct surveillance or observation under the doctrine of open fields**
7 **of any individual, property owned by an individual, farm, or agricultural industry without**
8 **the consent of that individual, property owner, farm or agricultural industry.**

9 **3. No person, group of persons, entity, or organization, including, but not limited**
10 **to, journalists, reporters, or news organizations, shall use a drone or other unmanned**
11 **aircraft to conduct surveillance of any individual or property owned by an individual or**
12 **business without the consent of that individual or property owner.**

305.639. 1. This act does not prohibit the use of a manned aircraft, drone, or
2 **unmanned aircraft by:**

3 **(1) A law enforcement agency when exigent circumstances exist. For the purposes**
4 **of this section, exigent circumstances exist if a law enforcement agency possesses**
5 **reasonable suspicion that, under particular circumstances, swift action to prevent**
6 **imminent danger to life is necessary; or**

7 **(2) A Missouri-based higher education institution conducting educational, research,**
8 **or training programs within the scope of its mission, grant requirements, curriculum or**
9 **collaboration with the United States Department of Defense.**

10 **2. This act does not prohibit the use of a model aircraft.**

305.641. 1. Any aggrieved party may in a civil action obtain all appropriate relief
2 **to prevent or remedy a violation of this act.**

3 **2. No information obtained or collected in violation of this act may be admissible**
4 **as evidence in a criminal proceeding in any court of law in the state or in an administrative**
5 **hearing.**

6 **3. Sovereign immunity for the state of Missouri is waived for any civil action**
7 **resulting from a violation of sections 305.635 to 305.641.**

Section B. Because of the need to protect Missourians from invasions of privacy in the
2 state, section A of this act is deemed necessary for the immediate preservation of the public
3 health, welfare, peace and safety, and is hereby declared to be an emergency act within the
4 meaning of the constitution, and section A of this act shall be in full force and effect July 1,
5 2013, or upon its passage and approval, whichever later occurs.

✓

FEDERAL REGISTER

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Part III

Department of Transportation

Federal Aviation Administration

14 CFR Parts 21, 43, 45, et al.

Operation and Certification of Small Unmanned Aircraft Systems; Proposed Rule

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 21, 43, 45, 47, 61, 91, 101, 107, and 183

[Docket No.: FAA–2015–0150; Notice No. 15–01]

RIN 2120–AJ60

Operation and Certification of Small Unmanned Aircraft Systems

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA is proposing to amend its regulations to adopt specific rules to allow the operation of small unmanned aircraft systems in the National Airspace System. These changes would address the operation of unmanned aircraft systems, certification of their operators, registration, and display of registration markings. The proposed rule would also find that airworthiness certification is not required for small unmanned aircraft system operations that would be subject to this proposed rule. Lastly, the proposed rule would prohibit model aircraft from endangering the safety of the National Airspace System.

DATES: Send comments on or before April 24, 2015.

ADDRESSES: Send comments identified by docket number FAA–2015–0150 using any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov* and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to Docket Operations, M–30; U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE., Room W12–140, West Building Ground Floor, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* Fax comments to Docket Operations at 202–493–2251.

Privacy: In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its rulemaking process. DOT posts these comments, without edit, including any personal information the commenter provides, to *www.regulations.gov,* as described in the system of records notice (DOT/ALL–14 FDMS), which can be reviewed at *www.dot.gov/privacy.*

Docket: Background documents or comments received may be read at *http://www.regulations.gov* at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: For technical questions concerning this action, contact Lance Nuckolls, Office of Aviation Safety, Unmanned Aircraft Systems Integration Office, AFS–80, Federal Aviation Administration, 490 L'Enfant Plaza East, SW., Suite 3200, Washington, DC 20024; telephone (202) 267–8447; email *UAS-rule@faa.gov.*

For legal questions concerning this action, contact Alex Zektser, Office of Chief Counsel, International Law, Legislation, and Regulations Division, AGC–220, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone (202) 267–3073; email *Alex.Zektser@faa.gov.*

SUPPLEMENTARY INFORMATION:

Authority for This Rulemaking

This rulemaking is promulgated under the authority described in the FAA Modernization and Reform Act of 2012 (Public Law 112–95). Section 333 of Public Law 112–95 directs the Secretary of Transportation [1] to determine whether "certain unmanned aircraft systems may operate safely in the national airspace system." If the Secretary determines, pursuant to section 333, that certain unmanned aircraft systems may operate safely in the national airspace system, then the Secretary must "establish requirements for the safe operation of such aircraft systems in the national airspace system." [2]

This rulemaking is also promulgated pursuant to 49 U.S.C. 40103(b)(1) and (2), which charge the FAA with issuing regulations: (1) To ensure the safety of aircraft and the efficient use of airspace; and (2) to govern the flight of aircraft for purposes of navigating, protecting and identifying aircraft, and protecting individuals and property on the ground. In addition, 49 U.S.C. 44701(a)(5), charges the FAA with prescribing regulations that the FAA finds necessary for safety in air commerce and national security.

Finally, the model-aircraft component of this rulemaking incorporates the statutory mandate in section 336(b) that preserves the FAA's authority, under 49 U.S.C. 40103(b) and 44701(a)(5), to pursue enforcement "against persons operating model aircraft who endanger the safety of the national airspace system."

[1] The primary authority for this rulemaking is based on section 333 of Public Law 112–95 (Feb. 14, 2012). In addition, this rulemaking also relies on FAA statutory authorities. Thus, for the purposes of this rulemaking, the terms "FAA," "the agency," "DOT," and "the Secretary," are used synonymously throughout this document.

[2] Public Law 112–95, section 333(c). In addition, Public Law 112–95, section 332(b)(1) requires the Secretary to issue "a final rule on small unmanned aircraft systems that will allow for civil operation of such systems in the national airspace system, to the extent the systems do not meet the requirements for expedited operational authorization under sections 333 of [Pub. L. 112–95]."

List of Abbreviations and Acronyms Frequently Used in This Document

AC Advisory Circular
AGL Above Ground Level
ACR Airman Certification Representative
ARC Aviation Rulemaking Committee
ATC Air Traffic Control
CAFTA–DR Dominican Republic-Central America-United States Free Trade Agreement
CAR Civil Air Regulation
CFI Certified Flight Instructor
CFR Code of Federal Regulations
COA Certificate of Waiver or Authorization
DPE Designated Pilot Examiner
FR Federal Register
FSDO Flight Standards District Office
ICAO International Civil Aviation Organization
NAFTA North American Free Trade Agreement
NAS National Airspace System
NOTAM Notice to Airmen
NPRM Notice of Proposed Rulemaking
NTSB National Transportation Safety Board
PIC Pilot in Command
Pub. L. Public Law
PMA Parts Manufacturer Approval
TFR Temporary Flight Restriction
TSA Transportation Security Administration
TSO Technical Standard Order
UAS Unmanned Aircraft System
U.S.C. United States Code

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I. Executive Summary

A. Purpose of the Regulatory Action

This rulemaking proposes operating requirements to allow small unmanned aircraft systems (small UAS) to operate for non-hobby or non-recreational purposes. A small UAS consists of a small unmanned aircraft (which, as defined by statute, is an unmanned aircraft weighing less than 55 pounds [3]) and equipment necessary for the safe and efficient operation of that aircraft. The FAA has accommodated non-recreational small UAS use through various mechanisms, such as special airworthiness certificates, exemptions, and certificates of waiver or authorization (COA). This proposed rule would be the next phase of integrating small UAS into the NAS.

The following are examples of possible small UAS operations that could be conducted under this proposed framework:

- Crop monitoring/inspection;
- Research and development;
- Educational/academic uses;
- Power-line/pipeline inspection in hilly or mountainous terrain;
- Antenna inspections;
- Aiding certain rescue operations such as locating snow avalanche victims;
- Bridge inspections;
- Aerial photography; and
- Wildlife nesting area evaluations.

Because of the potential societally beneficial applications of small UAS, the FAA has been seeking to incorporate the operation of these systems into the national airspace system (NAS) since 2008. In April 2008, the FAA chartered the small UAS Aviation Rulemaking Committee (ARC). In April 2009, the ARC provided the FAA with recommendations on how small UAS could be safely integrated into the NAS. Since that time, the FAA has been working on a rulemaking to incorporate small UAS operations into the NAS.

In 2012, Congress passed the FAA Modernization and Reform Act of 2012 (Pub. L. 112–95). Section 333 of Public Law 112–95 directed the Secretary to determine whether UAS operations posing the least amount of public risk and no threat to national security could safely be operated in the NAS and if so, to establish requirements for the safe operation of these systems in the NAS, prior to completion of the UAS comprehensive plan and rulemakings required by section 332 of Public Law 112–95. As part of its ongoing efforts to integrate UAS operations in the NAS in accordance with section 332, and as authorized by section 333 of Public Law 112–95, the FAA is proposing to amend its regulations to adopt specific rules for the operation of small UAS in the NAS.

Based on our experience with the certification, exemption, and COA process, the FAA has developed the framework proposed in this rule to enable certain small UAS operations to commence upon adoption of the final rule and accommodate technologies as they evolve and mature. This proposed framework would allow small UAS operations for many different non-recreational purposes, such as the ones discussed previously, without requiring airworthiness certification, exemption, or a COA.

[3] Public Law 112–95, sec. 331(6).

B. Summary of the Major Provisions of the Regulatory Action

Specifically, the FAA is proposing to add a new part 107 to Title 14 Code of Federal Regulations (14 CFR) to allow for routine civil operation of small UAS in the NAS and to provide safety rules for those operations. Consistent with the statutory definition, the proposed rule defines small UAS as those UAS weighing less than 55 pounds. To mitigate risk, the proposed rule would limit small UAS to daylight-only operations, confined areas of operation, and visual-line-of-sight operations. This proposed rule also addresses aircraft registration and marking, NAS operations, operator certification, visual observer requirements, and operational limits in order to maintain the safety of the NAS and ensure that they do not pose a threat to national security. Below is a summary of the major provisions of the proposed rule.

SUMMARY OF MAJOR PROVISIONS OF PROPOSED PART 107

Operational Limitations	• Unmanned aircraft must weigh less than 55 lbs. (25 kg). • Visual line-of-sight (VLOS) only; the unmanned aircraft must remain within VLOS of the operator or visual observer. • At all times the small unmanned aircraft must remain close enough to the operator for the operator to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses. • Small unmanned aircraft may not operate over any persons not directly involved in the operation. • Daylight-only operations (official sunrise to official sunset, local time). • Must yield right-of-way to other aircraft, manned or unmanned. • May use visual observer (VO) but not required. • First-person view camera cannot satisfy "see-and-avoid" requirement but can be used as long as requirement is satisfied in other ways. • Maximum airspeed of 100 mph (87 knots). • Maximum altitude of 500 feet above ground level. • Minimum weather visibility of 3 miles from control station. • No operations are allowed in Class A (18,000 feet & above) airspace. • Operations in Class B, C, D and E airspace are allowed with the required ATC permission. • Operations in Class G airspace are allowed without ATC permission • No person may act as an operator or VO for more than one unmanned aircraft operation at one time. • No operations from a moving vehicle or aircraft, except from a watercraft on the water. • No careless or reckless operations. • Requires preflight inspection by the operator. • A person may not operate a small unmanned aircraft if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS. • Proposes a microUAS category that would allow operations in Class G airspace, over people not involved in the operation, and would require airman to self-certify that they are familiar with the aeronautical knowledge testing areas.
Operator Certification and Responsibilities	• Pilots of a small UAS would be considered "operators". • Operators would be required to: o Pass an initial aeronautical knowledge test at an FAA-approved knowledge testing center. o Be vetted by the Transportation Security Administration. o Obtain an unmanned aircraft operator certificate with a small UAS rating (like existing pilot airman certificates, never expires). o Pass a recurrent aeronautical knowledge test every 24 months. o Be at least 17 years old. o Make available to the FAA, upon request, the small UAS for inspection or testing, and any associated documents/records required to be kept under the proposed rule. o Report an accident to the FAA within 10 days of any operation that results in injury or property damage. o Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is safe for operation.
Aircraft Requirements	• FAA airworthiness certification not required. However, operator must maintain a small UAS in condition for safe operation and prior to flight must inspect the UAS to ensure that it is in a condition for safe operation. Aircraft Registration required (same requirements that apply to all other aircraft). • Aircraft markings required (same requirements that apply to all other aircraft). If aircraft is too small to display markings in standard size, then the aircraft simply needs to display markings in the largest practicable manner.
Model Aircraft	• Proposed rule would not apply to model aircraft that satisfy all of the criteria specified in section 336 of Public Law 112–95. • The proposed rule would codify the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the NAS.

Operator Certification: Under the proposed rule, the person who manipulates the flight controls of a small UAS would be defined as an "operator." A small UAS operator would be required to pass an aeronautical knowledge test and obtain an unmanned aircraft operator certificate with a small UAS rating from the FAA before operating a small UAS. In order to maintain his or her operator certification, the operator would be

required to pass recurrent knowledge tests every 24 months subsequent to the initial knowledge test. These tests would be created by the FAA and administered by FAA-approved knowledge testing centers. Although a specific distant vision acuity standard is not being proposed, this proposed rule would require the operator to keep the small unmanned aircraft close enough to the control station to be capable of seeing that aircraft through his or her unaided (except for glasses or contact lenses) visual line of sight. The operator would also be required to actually maintain visual line of sight of the small unmanned aircraft if a visual observer is not used.

Visual Observer: Under the proposed rule, an operator would not be required to work with a visual observer, but a visual observer could be used to assist the operator with the proposed visual-line-of-sight and see-and-avoid requirements by maintaining constant visual contact with the small unmanned aircraft in place of the operator. While an operator would always be required to have the capability for visual line of sight of the small unmanned aircraft, this proposed rule would not require the operator to exercise this capability if he or she is augmented by at least one visual observer. No certification requirements are being proposed for visual observers. A small UAS operation would not be limited in the number of visual observers involved in the operation, but the operator and visual observer(s) must remain situated such that the operator and any visual observer(s) are all able to view the aircraft at any given time. The operator and visual observer(s) would be permitted to communicate by radio or other communication-assisting device, so they would not need to remain in close enough physical proximity to allow for unassisted oral communication.

Since the operator and any visual observers would be required to be in a position to maintain or achieve visual line of sight with the aircraft at all times, the proposed rule would effectively prohibit a relay or "daisy-chain" formation of multiple visual observers by requiring that the operator must always be capable of seeing the small unmanned aircraft. Such arrangements would potentially expand the area of a small UAS operation and pose an increased public risk if there is a loss of aircraft control.

Operational Scope: A small UAS operator would be required to see and avoid all other users of the NAS in the area in which the small UAS is operating. The proposed rule contains operating restrictions designed to help ensure that the operator is able to yield right-of-way to other aircraft at all times.

The proposed rule would limit the exposure of small unmanned aircraft to other users of the NAS by restricting small UAS operations in controlled airspace. Specifically, small UAS would be prohibited from operating in Class A airspace, and would require prior permission from Air Traffic Control to operate in Class B, C, or D airspace, or within the lateral boundaries of the surface area of Class E airspace designated for an airport. The risk of collision with other aircraft would be further reduced by limiting small UAS operations to a maximum airspeed of 87 knots (100 mph) and a maximum altitude of 500 feet above ground.

Further, in order to enable maximum visibility for small UAS operation, the proposed rule would restrict small UAS to daylight-only operations (sunrise to sunset), and impose a minimum weather-visibility of 3 statute miles (5 kilometers) from the small UAS control station.

Aircraft Maintenance: Under the proposed rule, the operator of a small UAS would be required to conduct a preflight inspection before each flight operation, and determine that the small UAS (aircraft, control station, launch and recovery equipment, etc.) is safe for operation.

Airworthiness: Pursuant to section 333(b)(2) of Public Law 112–95, the Secretary has determined that small UAS subject to this proposed rule would not require airworthiness certification because the safety concerns associated with small UAS operation would be mitigated by the other provisions of this proposed rule. Rather, this proposed rule would require the operator to ensure that the small UAS is in a condition for safe operation by conducting an inspection prior to each flight.

Registration and Marking: This proposed rule would apply to small unmanned aircraft the current registration requirements that apply to all aircraft. Once a small unmanned aircraft is registered, this proposed rule would require that aircraft to display its registration marking in a manner similar to what is currently required of all aircraft.

C. Costs and Benefits

This proposed rule reflects the fact that technological advances in small UAS have led to a developing commercial market for their uses by providing a safe operating environment for them and for other aircraft in the NAS. In time, the FAA anticipates that the proposed rule would provide an opportunity to substitute small UAS operations for some higher risk manned flights, such as inspecting towers, bridges, or other structures. The use of small unmanned aircraft would avert potential fatalities and injuries to those in the aircraft and on the ground. It would also lead to more efficient methods of performing certain commercial tasks that are currently performed by other methods. The FAA has not quantified the benefits for this proposed rulemaking because we lack sufficient data. The FAA invites commenters to provide data that could be used to quantify the benefits of this proposed rule.

For any commercial operation occurring because this rule is enacted, the operator/owner of that small UAS will have determined the expected revenue stream of the flights exceeds the cost of the flights operation. In each such case this rule helps enable new markets to develop.

The costs are shown in the table below.

TOTAL AND PRESENT VALUE COST SUMMARY BY PROVISION

[Thousands of current year dollars]

Type of cost	Total costs (000)	7% P.V. (000)
Applicant/small UAS operator:		
Travel Expense	$151.7	$125.9
Knowledge Test Fees	2,548.6	2,114.2
Positive Identification of the Applicant Fee	434.3	383.7
Owner:		
Small UAS Registration Fee	85.7	70.0
Time Resource Opportunity Costs:		

TOTAL AND PRESENT VALUE COST SUMMARY BY PROVISION—Continued

[Thousands of current year dollars]

Type of cost	Total costs (000)	7% P.V. (000)
Applicants Travel Time	296.1	245.3
Knowledge Test Application	108.9	90.2
Physical Capability Certification	20.0	17.7
Knowledge Test Time	1,307.1	1,082.9
Small UAS Registration Form	220.5	179.7
Change of Name or Address Form	14.9	12.3
Knowledge Test Report	154.9	128.5
Pre-flight Inspection	Not quantified	
Accident Reporting	Minimal cost	
Government Costs:		
TSA Security Vetting	1,026.5	906.9
FAA—sUAS Operating Certificate	39.6	35.0
FAA—Registration	394.3	321.8
Total Costs	6,803.1	5,714.0

* Details may not add to row or column totals due to rounding.

II. Background

This NPRM addresses the operation, airman certification, and registration of civil small UAS.

A small UAS consists of a small unmanned aircraft and associated elements that are necessary for the safe and efficient operation of that aircraft in the NAS. Associated elements that are necessary for the safe and efficient operation of the aircraft include the interface that is used to control the small unmanned aircraft (known as a control station) and communication links between the control station and the small unmanned aircraft. A small unmanned aircraft is defined by statute as "an unmanned aircraft weighing less than 55 pounds." [4] Due to the size of a small unmanned aircraft, the FAA envisions considerable potential business and non-business applications, particularly in areas that are hard to reach for a manned aircraft.

The following are examples of possible small UAS operations that could be conducted under this proposed framework:

- Crop monitoring/inspection;
- Research and development;
- Educational/academic uses;
- Power-line/pipeline inspection in hilly or mountainous terrain;
- Antenna inspections;
- Aiding certain rescue operations such as locating snow avalanche victims;
- Bridge inspections;
- Aerial photography; and
- Wildlife nesting area evaluations.

The following sections discuss: (1) The public risk associated with small UAS operations; (2) the current legal framework governing small UAS operations; and (3) the FAA's ongoing efforts to incorporate small UAS operations into the NAS.

A. Analysis of Public Risk Posed by Small UAS Operations

Small UAS operations pose risk considerations that are different from the risk considerations associated with manned-aircraft operations. On one hand, certain operations of a small unmanned aircraft, discussed more fully in section III.D of this preamble, have the potential to pose significantly less risk to persons and property than comparable operations of a manned aircraft. The typical total takeoff weight of a general aviation aircraft is between 1,300 and 6,000 pounds. By contrast, the total takeoff weight of a small unmanned aircraft is less than 55 pounds. Consequently, because a small unmanned aircraft is significantly lighter than a manned aircraft, in the event of a mishap, the small unmanned aircraft would pose significantly less risk to persons and property on the ground. As such, a small UAS operation whose parameters are well defined so it does not pose a significant risk to other aircraft would also pose a smaller overall public risk or threat to national security than the operation of a manned aircraft.

However, even though small UAS operations have the potential to pose a lower level of public risk in certain types of operations, the unmanned nature of the small UAS operations raises two unique safety concerns that are not present in manned-aircraft operations. The first safety concern is whether the person operating the small unmanned aircraft, who would be physically separated from that aircraft during flight, would have the ability to see manned aircraft in the air in time to prevent a mid-air collision between the small unmanned aircraft and another aircraft. As discussed in more detail below, the FAA's regulations currently require each person operating an aircraft to maintain vigilance "so as to see and avoid other aircraft." [5] This is one of the fundamental principles for collision avoidance in the NAS.

For manned-aircraft operations, "see and avoid" is the responsibility of persons on board an aircraft. By contrast, small unmanned aircraft operations have no human beings physically on the unmanned aircraft with the same visual perspective and the ability to see other aircraft in the manner of a manned-aircraft pilot. Thus, the challenge for small unmanned aircraft operations is to ensure that the person operating the small unmanned aircraft is able to see and avoid other aircraft.

In considering this issue, the FAA examined to what extent existing technology could provide a solution to this problem. The FAA notes that advances in technologies that use ground-based radar and aircraft sensors to detect the reply signals from aircraft ATC transponders have provided significant improvement in the ability to detect other aircraft in close proximity to each other. The Traffic Collision Avoidance System also has the ability to provide guidance to flight crews to maneuver appropriately to avoid a mid-air collision. Both of these technologies have done an excellent job in reducing the mid-air collision rate between manned aircraft. Unfortunately, the equipment required to utilize these widely available technologies is

[4] Sec. 331(6) of Public Law 112–95.

[5] 14 CFR 91.113(b).

currently too large and heavy to be used in small UAS operations. Until this equipment is miniaturized to the extent necessary to make it viable for use in small UAS operations, existing technology does not appear to provide a way to resolve the "see and avoid" problem with small UAS operations without maintaining human visual contact with the small unmanned aircraft during flight.

The second safety concern with small UAS operations is the possibility that, during flight, the person operating the small UAS may become unable to use the control interface to operate the small unmanned aircraft due to a failure of the control link between the aircraft and the operator's control station. This is known as a loss of positive control. This situation may result from a system failure or because the aircraft has been flown beyond the signal range or in an area where control link communication between the aircraft and the control station is interrupted. A small unmanned aircraft whose flight is unable to be directly controlled could pose a significant risk to persons, property, or other aircraft.

B. Current Statutory and Regulatory Structure Governing Small UAS

Due to the lack of an onboard pilot, small unmanned aircraft are unable to see and avoid other aircraft in the NAS. Therefore, small UAS operations conflict with the FAA's current operating regulations codified in 14 CFR part 91 that apply to general aviation. Specifically, at the heart of the part 91 operating regulations is § 91.113(b), which requires each person operating an aircraft to maintain vigilance "so as to see and avoid other aircraft."

The FAA created this requirement in a 1968 rulemaking that combined two previous aviation regulatory provisions, Civil Air Regulations (CAR) §§ 60.13(c) and 60.30.[6] Both of the provisions that were combined to create the "see and avoid" requirement of § 91.113(b) were intended to address aircraft collision-awareness problems by requiring that a pilot on board the aircraft look out of the aircraft during flight to observe whether other aircraft are on a collision path with his or her aircraft. Those provisions did not contemplate the use of technology to substitute for the human vision of a pilot on board the aircraft. Similarly, there is no evidence that those provisions contemplated a pilot fulfilling his or her "see and avoid" responsibilities from outside the aircraft. To the contrary, CAR section 60.13(c) stated that one of the problems it intended to address was "preoccupation by the pilot with cockpit duties," which indicates that the regulation contemplated the presence of a pilot on board the aircraft.

Because the regulations that resulted in the see-and-avoid requirement of § 91.113(b) did not contemplate that this requirement could be complied with by a pilot who is outside the aircraft, § 91.113(b) currently requires an aircraft pilot to have the perspective of being inside the aircraft as that aircraft is moving in order to see and avoid other aircraft. Since the operator of a small UAS does not have this perspective, operation of a small UAS could not meet the see and avoid requirement of § 91.113(b) at this time.

In addition to currently being prohibited by § 91.113(b), there are also statutory considerations that apply to small UAS operations. Specifically, even though a small UAS is different from a manned aircraft, the operation of a small UAS still involves the operation of an aircraft. This is because the FAA's statute defines an "aircraft" as "any contrivance invented, used, or designed to navigate or fly in the air." 49 U.S.C. 40102(a)(6). Since a small unmanned aircraft is a contrivance that is invented, used, and designed to fly in the air, a small unmanned aircraft is an aircraft for purposes of the FAA's statutes.[7]

Because a small UAS involves the operation of an "aircraft," this triggers the FAA's registration and certification statutory requirements. Specifically, subject to certain exceptions, a person may not operate a civil aircraft that is not registered. 49 U.S.C. 44101(a). In addition, a person may not operate a civil aircraft in air commerce without an airworthiness certificate. 49 U.S.C. 44711(a)(1). Finally, a person may not serve in any capacity as an airman on a civil aircraft being operated in air commerce without an airman certificate. 49 U.S.C. 44711(a)(2)(A).[8]

The term "air commerce," as used in the FAA's statutes, is defined broadly to include "the operation of aircraft within the limits of a Federal airway, or the operation of aircraft that directly affects, or may endanger safety in foreign or interstate air commerce." 49 U.S.C. 40102(a)(3). Because of this broad definition, the National Transportation Safety Board (NTSB) has held that "any use of an aircraft, for purpose of flight, constitutes air commerce."[9] Courts that have considered this issue have reached similar conclusions that "air commerce," as defined in the FAA's statute, encompasses a broad range of commercial and non-commercial aircraft operations.[10]

Accordingly, because "air commerce" encompasses such a broad range of aircraft operations, a civil small unmanned aircraft cannot currently be operated, for purposes of flight, if: (1) It is not registered (49 U.S.C. 44101(a)); (2) it does not possess an airworthiness certificate (49 U.S.C. 44711(a)(1)); and (3) the airman operating the aircraft does not possess an airman certificate (49 U.S.C. 44711(a)(2)(A)). However, the FAA's current processes for issuing airworthiness and airman certificates were designed to be used for manned aircraft and do not take into account the considerations associated with civil small UAS.

Specifically, obtaining a type certificate and a standard airworthiness certificate, which permits the widest range of aircraft operation, currently takes about 3 to 5 years. Because the pertinent existing regulations do not differentiate between manned and unmanned aircraft, a small UAS is currently subject to the same airworthiness certification process as a manned aircraft. However, it is not practically feasible for many small UAS manufacturers to go through the certification process required of manned aircraft. This is because small UAS technology is rapidly evolving at this time, and consequently, if a small UAS manufacturer goes through a 3-to-5-year process to obtain a type certificate, which enables the issuance of a standard airworthiness certificate, the small UAS would be technologically outdated by the time it completed the certification process. For example, advances in lightweight battery technology may allow new lightweight transponders and power sources within the next 3 to 5 years that are currently unavailable for small UAS operations.

The FAA notes that there are several other certification options available to

[6] *Pilot Vigilance*, 33 FR 10505 (July 24, 1968).

[7] Public Law 112–95 reaffirmed that an unmanned aircraft is indeed an aircraft by defining an unmanned aircraft as "an *aircraft* that is operated without the possibility of direct human intervention from within or on the aircraft." Sec. 331(8), Public Law 112–95 (emphasis added).

[8] The statutes also impose other requirements that are beyond the scope of this rulemaking. For example, 49 U.S.C. 44711(a)(4) prohibits a person from operating as an air carrier without an air-carrier operating certificate.

[9] *Administrator* v. *Barrows*, 7 N.T.S.B. 5, 8–9 (1990).

[10] *See, e.g., United States* v. *Healy*, 376 U.S. 75, 84–85 (1964) (holding that "air commerce" is not limited to commercial airplanes); *Hill* v. *NTSB*, 886 F.2d 1275, 1280 (10th Cir. 1989) ("[t]he statutory definition of "air commerce" is therefore clearly not restricted to interstate flights occurring in controlled or navigable airspace"); *United States* v. *Drumm*, 55 F. Supp. 151, 155 (D. Nev. 1944) ("any operation of any aircraft in the air space either directly affects or may endanger safety in, interstate, overseas, or foreign air commerce").

small UAS manufacturers and operators who do not wish to go through the process of obtaining a type certificate and standard airworthiness certificate. However, because each of these options has significant limitations, these options do not provide flexibility for most routine small UAS operations. These certification options are as follows:

- A special airworthiness certificate in the experimental category may be issued to UAS pursuant to 14 CFR 21.191–21.195. This certificate is time-limited, and cannot be used for any activities other than research and development, market surveys, and crew training.
- A special flight permit may be issued pursuant to 14 CFR 21.197. At this time, however, a special flight permit for a UAS is limited to production flight testing of new production aircraft.[11]
- A special airworthiness certificate in the restricted category is issued pursuant to 14 CFR 21.25(a). There are two options for obtaining this certificate.

First, pursuant to § 21.25(a)(2), a certificate may be issued for aircraft accepted by an Armed Force of the United States and later modified for a special purpose.

Second, pursuant to § 21.25(a)(1), a certificate may be issued for aircraft used in special purpose operations, which consist of:

(1) agricultural operations;
(2) forest and wildlife conservation;
(3) aerial surveying;
(4) patrolling (pipelines, power lines, and canals);
(5) weather control;
(6) aerial advertising; and
(7) any other operation specified by the FAA.

As can be seen from the above list, the current certification options are limited to very specific purposes. Accordingly, they do not provide sufficient flexibility for most routine civil small UAS operations within the NAS.

In addition to obtaining an airworthiness certificate, any person serving as an airman in the operation of a small UAS must obtain an airman certificate. 49 U.S.C. 44711(a)(2)(A). The statute defines an "airman" to include an individual who is "in command, or as pilot, mechanic, or member of the crew, who navigates aircraft when under way." 49 U.S.C. 40102(a)(8)(A). Because the person operating the small UAS is in command and is a member of the crew who navigates the aircraft, that person is an airman and must obtain an airman certificate.

Under current pilot certification regulations, depending on the type of operation, the operator of the small UAS currently must obtain either a private pilot certificate or a commercial pilot certificate. A private pilot certificate cannot be used to operate a small UAS for compensation or hire unless the flight is only incidental to the operator's business or employment.[12] Typically, to obtain a private pilot certificate, the small UAS operator currently has to: (1) Receive training in specific aeronautical knowledge areas; (2) receive training from an authorized instructor on specific areas of aircraft operation; (3) obtain a minimum of 40 hours of flight experience; and (4) obtain a third-class airman medical certificate.[13] Conversely, holding at least a commercial pilot certificate allows the small UAS to generally be used for compensation or hire, but is more difficult to obtain. In addition to the requirements necessary to obtain a private pilot certificate, applicants for a commercial pilot certificate currently need to also obtain 250 hours of flight time, satisfy extensive testing requirements, and obtain a second-class airman medical certificate.[14]

While these airman certification requirements are necessary for manned aircraft operations, they impose an unnecessary burden for many small UAS operations. This is because a person typically obtains a private or commercial pilot certificate by learning how to operate a manned aircraft. Much of that knowledge would not be applicable to small UAS operations because a small UAS is operated differently than a manned aircraft. In addition, the knowledge currently necessary to obtain a private or commercial pilot certificate would not equip the certificate holder with the tools necessary to safely operate a small UAS. Specifically, applicants for a private or commercial pilot certificate currently are not trained in how to deal with the "see-and-avoid" and loss-of-positive-control safety issues that are unique to small unmanned aircraft. Thus, requiring persons wishing to operate a small UAS to obtain a private or commercial pilot certificate imposes the cost of certification on those persons, but does not result in a significant safety benefit because the process of obtaining the certificate does not equip those persons with the tools necessary to mitigate the public risk posed by small UAS operations.

Recognizing the problem of applying the operating rules of part 91 to small UAS operations and the cost imposed on small UAS operations by existing certification processes, the FAA fashioned a temporary solution. Specifically, the FAA issued an advisory circular (AC) 91–57 and a policy statement elaborating on AC 91–57, which provide guidance for the safe operation of "model aircraft." The policy statement defines a "model aircraft" as a UAS that is used for hobby or recreational purposes.[15] The policy statement explains that AC 91–57:

> [E]ncourages good judgment on the part of operators so that persons on the ground or other aircraft in flight will not be endangered. The AC contains among other things, guidance for site selection. Users are advised to avoid noise sensitive areas such as parks, schools, hospitals, and churches. Hobbyists are advised not to fly in the vicinity of spectators until they are confident that the model aircraft has been flight tested and proven airworthy. Model aircraft should be flown below 400 feet above the surface to avoid other aircraft in flight. The FAA expects that hobbyists will operate these recreational model aircraft within visual line-of-sight.[16]

Neither AC 91–57 nor the associated policy statement contains any registration or certification requirements.[17]

To date, the FAA has used its discretion[18] to not bring enforcement action against model-aircraft operations that comply with AC 91–57. However, the use of discretion to permit continuing violation of FAA statutes and regulations is not a viable long-term solution for incorporating UAS operations into the NAS. Additionally, because AC 91–57 and the associated policy statement are limited to model aircraft, they do not apply to non-recreational UAS operations. Thus, even with the use of enforcement discretion, because of the difficulty of obtaining the

[11] A special flight permit for production flight testing is not limited to small UAS and can be obtained for unmanned aircraft weighing more than 55 pounds. We emphasize, however, that a special flight permit is limited at this time to production flight testing and will include operational requirements and limitations.

[12] *See* 14 CFR 61.113.

[13] *See* 14 CFR part 61, Subpart E and § 61.23(a)(3)(i).

[14] *See* 14 CFR part 61, Subpart F and § 61.23(a)(2).

[15] *See Unmanned Aircraft Operations in the National Airspace System*, 72 FR 6689, 6690 (Feb. 13, 2007) (explaining how AC 91–57 functions).

[16] *Id.*

[17] The policy statement did, however, explain the COA process that is currently used to allow public aircraft operations with UAS. This process is discussed in detail in section III.C of this preamble. As discussed in that section, this proposed rule would allow public aircraft operations with UAS to voluntarily comply with proposed part 107, but would otherwise leave the existing public aircraft operations COA process unchanged.

[18] As used in this context, "discretion" refers to the FAA's power to decide whether to commence an enforcement action.

requisite certification for a small UAS and because operation of a small UAS would violate the see-and-avoid requirement of § 91.113(b), non-recreational civil small UAS operations are effectively prohibited at this time.

C. Integrating Small UAS Operations Into the NAS

To address the issues discussed above, the FAA chartered the small UAS Aviation Rulemaking Committee (ARC) on April 10, 2008. On April 1, 2009, the ARC provided the FAA with recommendations on how small UAS could be safely integrated into the NAS.[19] In 2013, the U.S. Department of Transportation issued a comprehensive plan and subsequently the FAA issued a roadmap of its efforts to achieve safe integration of UAS operations into the NAS.[20]

In 2012, Congress passed the FAA Modernization and Reform Act of 2012 (Pub. L. 112–95). In section 332(b) of Public Law 112–95, Congress directed the Secretary to issue a final rule on small unmanned aircraft systems that will allow for civil operations of such systems in the NAS.[21] In section 333 of Public Law 112–95, Congress also directed the Secretary to determine whether "certain unmanned aircraft systems may operate safely in the national airspace system." To make a determination under section 333, we must assess "which types of unmanned aircraft systems, if any, as a result of their size, weight, speed, operational capability, proximity to airports and populated areas, and operation within visual line of sight do not create a hazard to users of the national airspace system or the public or pose a threat to national security." Public Law 112–95, Sec. 333(b)(1). The Secretary must also determine whether a certificate of waiver or authorization, or airworthiness certification is necessary to mitigate the public risk posed by the unmanned aircraft systems that are under consideration. Public Law 112–95, Sec. 333(b)(2). If the Secretary determines that certain unmanned aircraft systems may operate safely in the NAS, then the Secretary must "establish requirements for the safe operation of such aircraft systems in the national airspace system." Public Law 112–95, Sec. 333(c). The flexibility provided for in section 333 did not extend to airman certification and security vetting, aircraft marking, or registration requirements.

As noted above, section 333(b)(2) provided the Secretary of Transportation with discretionary power as to whether airworthiness certification should be required for certain small UAS.[22] As discussed previously, the FAA's statute normally requires an aircraft being flown outdoors to possess an airworthiness certificate.[23] However, subsection 333(b)(2) allows for the determination that airworthiness certification is not necessary for certain small UAS. The key determinations that must be made in order for UAS to operate under the authority of section 333 are: (1) The operation must not create a hazard to users of the national airspace system or the public; and (2) the operation must not pose a threat to national security.[24] In making these determinations, we must consider the following factors: Size, weight, speed, operational capability, proximity to airports and populated areas, and operation within visual line of sight. Of these factors, operation within visual line of sight is a primary factor for evaluation. At this point in time, we have determined that technology has not matured to the extent that would allow small UAS to be used safely in lieu of visual line of sight without creating a hazard to other users of the NAS or the public, or posing a threat to national security.

This construction of section 333 is a reasonable interpretation that is consistent with the statutory text and reflects Congressional intent in adopting the provision. We invite comments on whether there are well-defined circumstances and conditions under which operation beyond the line of sight would pose little or no additional risk to other users of the NAS, the public, or national security. Finally, we invite comments on the technologies and operational capabilities or procedures needed to allow UAS flights beyond visual line of sight, and how such technologies, capabilities and procedures could be accommodated under this rule or in a future rulemaking.

As a result of its ongoing integration efforts, the FAA seeks to change its regulations to take the first step in the process of integrating small UAS operations into the NAS. This proposal would utilize the airworthiness-certification flexibility provided by Congress in section 333 of Public Law 112–95, and allow some small UAS operations to commence in the NAS.[25]

In addition, to further facilitate the integration of UAS into the NAS, the FAA has selected six test sites to test UAS technology and operations. As of August 2014, all of the UAS test sites, which were selected based on geographic and climatic diversity, are operational and will remain in place for the next 5 years to help us gather operational data to foster further integration, as well as evaluate new technologies. In addition, the FAA is in the process of selecting a new UAS Center of Excellence which will also serve as another resource for these activities. The FAA invites comments on how it can improve or further leverage its test site program to encourage innovation, safe development and UAS integration into the NAS.

III. Discussion of the Proposal

As discussed in the previous section, in order to determine whether certain UAS may operate safely in the NAS pursuant to section 333, the Secretary must find that the operation of the UAS would not: (1) Create a hazard to users of the NAS or the public; or (2) pose a threat to national security. The Secretary must also determine whether small UAS operations subject to this proposed rule pose a safety risk sufficient to require airworthiness certification. The following preamble sections discuss the specific components of this proposed rule, and in section III.J below, we explain how these components work together and allow the Secretary to make the statutory findings required by section 333.

A. Incremental Approach and Privacy

The FAA began its small UAS rulemaking in 2005. In its initial approach to this rulemaking, which the FAA utilized from 2005 until November 2013, the FAA attempted to implement the ARC's recommendations and craft a rule that encompassed the widest possible range of small UAS operations. This approach utilized a regulatory structure similar to the one that the FAA uses for manned aircraft. Specifically, small UAS operations that pose a low risk to people, property, and other

[19] A copy of the small UAS ARC Report and Recommendations can be found in the docket for this rulemaking.

[20] *http://www.faa.gov/about/initiatives/uas/media/uas_roadmap_2013.pdf*

[21] As discussed in more detail further in the preamble, the FAA Modernization and Reform Act of 2012 also contained a provision prohibiting the FAA from issuing rules and regulations for model aircraft meeting certain criteria specified in section 336 of the Act.

[22] Public Law 112–95, sec. 333(b)(2).

[23] 49 U.S.C. 44711(a)(1).

[24] Public Law 112–95, sec. 333(b)(1).

[25] As discussed in section III.B.6 below, 14 CFR part 107 that would be created by this proposed rule would not apply to model aircraft that satisfy all of the statutory criteria specified in section 336 of Public Law 112–95. The FAA has recently published an interpretive rule for public comment explaining the statutory criteria of section 336. *See Interpretation of the Special Rule for Model Aircraft*, 79 FR 36172, 36175 (June 25, 2014).

aircraft would have been subject to less stringent regulation while small UAS operations posing a greater risk would have been subject to more stringent regulation in order to mitigate the greater risk.

In exploring this approach, the FAA found that, as discussed previously, there are two unique safety issues associated with UAS: (1) Extending "see and avoid" anti-collision principles to a pilot that is not physically present on the aircraft; and (2) loss of positive control of the unmanned aircraft. In addition, at the time that it was considering this approach, the FAA did not have the discretion necessary to exempt these aircraft from the statutory requirement for airworthiness certification, as the section 333 authority did not come into effect until February 14, 2012. As a result of these issues, the FAA's original broadly-scoped approach to the rulemaking effort took significantly longer than anticipated. Consequently, the FAA decided to proceed with multiple incremental UAS rules rather than a single omnibus rulemaking in order to utilize the flexibility with regard to airworthiness certification that Congress provided in section 333.

Accordingly, at this time, the FAA is proposing a rule that, pursuant to section 333 of Public Law 112–95, will integrate small UAS operations posing the least amount of risk. Because these operations pose the least amount of risk, this proposed rule would treat the entire spectrum of operations that would be subject to this rule in a similar manner by imposing less stringent regulatory burdens that would ensure that the safety and security of the NAS would not be reduced by operation of these UAS. In the meantime, the FAA will continue working on integrating UAS operations that pose greater amounts of risk, and will issue notices of proposed rulemaking for those operations once the pertinent issues have been addressed, consistent with the approach set forth in the UAS Comprehensive Plan for Integration and FAA roadmap for integration.[26] Once the entire integration process is complete, the FAA envisions the NAS populated with UAS that operate well beyond the operational limits proposed in this rule. Those UAS will be regulated differently than the UAS that would be integrated through this rule, and will be addressed in subsequent rulemakings. The FAA has selected this approach because it would allow lower-risk small UAS operations to be incorporated into the NAS immediately instead of waiting until the issues associated with higher-risk UAS operations are resolved.

The approach of this proposal is meant to address low risk operations; to the greatest extent possible, it takes a data-driven, risk-based approach to defining specific regulatory requirements for small UAS operations. It is well understood that regulations that are articulated in terms of the desired outcomes (*i.e.*, "performance standards") are generally preferable to those that specify the means to achieve the desired outcomes (*i.e.*, "design" standards). According to Office of Management and Budget Circular A–4 ("Regulatory Analysis"), performance standards "give the regulated parties the flexibility to achieve the regulatory objectives in the most cost-effective way."[27]

Design standards have a tendency to lock in certain approaches that limit the incentives to innovate and may effectively prohibit new technologies altogether. The distinction between design and performance standards is particularly important where technology is evolving rapidly, as is the case with small UAS.

In this proposal, the regulatory objectives are to enable integration of small UAS into the NAS in a manner that does not impose unacceptable risk to other aircraft, people, or property. The FAA seeks comment on whether there are additional requirements that could be specified in ways that are more performance-oriented in order to minimize any disincentives to develop new technologies that achieve the regulatory objectives at lower cost.

Recently, the FAA, with the approval of the Secretary, has been issuing exemptions in accordance with 14 CFR part 11 and section 333 of Public Law 112–95 to accommodate an increasing number of small UAS operations that are not for hobby or recreational purposes. If adopted, this rule will eliminate the need for the vast majority of these exemptions. The exemption process will continue to be available for UAS operations that fall outside the parameters of this rule. Such operations may involve the use of more advanced technologies that are not yet mature at the time of this rulemaking.

The FAA also notes that, because UAS-associated technologies are rapidly evolving at this time, new technologies could come into existence after this rule is issued or existing technologies may evolve to the extent that they establish a level of reliability sufficient to allow those technologies to be relied on for risk mitigation. These technologies may alleviate some of the risk concerns that underlie the provisions of this rulemaking like the line of sight rule. Accordingly, the FAA invites comments as to whether the final rule should relax operating restrictions on small UAS equipped with technology that addresses the concerns underlying the operating limitations of this proposed rule, for instance through some type of deviation authority (such as a letter of authorization or a waiver).

The FAA also notes that privacy concerns have been raised about unmanned aircraft operations. Although these issues are beyond the scope of this rulemaking, recognizing the potential implications for privacy and civil rights and civil liberties from the use of this technology, and consistent with the direction set forth in the Presidential Memorandum, *Promoting Economic Competitiveness While Safeguarding Privacy, Civil Rights, and Civil Liberties in Domestic Use of Unmanned Aircraft Systems* (February 15, 2015), the Department and FAA will participate in the multi-stakeholder engagement process led by the National Telecommunications and Information Administration (NTIA) to assist in this process regarding privacy, accountability, and transparency issues concerning commercial and private UAS use in the NAS. We also note that state law and other legal protections for individual privacy may provide recourse for a person whose privacy may be affected through another person's use of a UAS.

The FAA conducted a privacy impact assessment (PIA) of this rule as required by section 522(a)(5) of division H of the FY 2005 Omnibus Appropriations Act, Public Law 108–447, 118 Stat. 3268 (Dec. 8, 2004) and section 208 of the E-Government Act of 2002, Public Law 107–347, 116 Stat. 2889 (Dec. 17, 2002). The assessment considers any impacts of the proposed rule on the privacy of information in an identifiable form. The FAA has determined that this proposed rule would impact the FAA's handling of personally identifiable information (PII). As part of the PIA that the FAA conducted as part of this rulemaking, the FAA analyzed the effect this impact might have on collecting, storing, and

[26] Section 332(a) of Public Law 112–95 requires the Secretary of Transportation to develop a comprehensive plan to safely accelerate the integration of civil UAS into the NAS. This plan must be developed in consultation with representatives of the aviation industry, federal agencies that employ UAS technology in the NAS, and the UAS industry. Section 332(a) also requires the Secretary of Transportation to develop a 5-year roadmap for the introduction of civil UAS into the NAS. Both the comprehensive plan and the roadmap were published in November 2013.

[27] *http://www.whitehouse.gov/sites/default/files/omb/assets/regulatory_matters_pdf/a-4.pdf*

disseminating PII and examined and evaluated protections and alternative information handling processes in developing the proposed rule in order to mitigate potential privacy risks.

As proposed, the process for granting unmanned aircraft operator certificates with a small UAS rating would be brought in line with the process for granting traditional airman certificates. Thus, the privacy implications of this rule to the privacy of the information that would be collected, maintained, stored, and disseminated by the FAA in accordance with this rule are the same as the privacy implications of the FAA's current airman certification processes. These privacy impacts have been analyzed by the FAA in the following Privacy Impact Assessments for the following systems: Civil Aviation Registry Applications (AVS Registry); the Integrated Airman Certification and Ratings Application (IACRA); and Accident Incident Database. These Privacy Impact Assessments are available in the docket for this rulemaking and at *http://www.dot.gov/individuals/privacy/privacy-impact-assessments#Federal* Aviation Administration (FAA).

B. Applicability

To integrate small UAS operations into the NAS, this proposed rule would create a new part in title 14 of the CFR: Part 107. Subject to the exceptions discussed below, proposed part 107 would prescribe the rules governing the registration, airman certification, and operation of civil small UAS within the United States. As mentioned previously, a small UAS is a UAS that uses an unmanned aircraft weighing less than 55 pounds. This proposed rule would allow non-recreational small UAS to operate in the NAS. The operations enabled by this proposed rule would include business, academic, and research and development flights, which are hampered by the current regulatory framework.

Under this proposal, the regulations of part 107, which are tailored to address the risks associated with small UAS operations, would apply to small UAS operations in place of certain existing FAA regulations that impede civil small UAS operations. Specifically, for small UAS operations, the requirements of proposed part 107 would generally replace the airworthiness provisions of part 21, the airman certification provisions of part 61, and the operating limitations of part 91.

However, proposed part 107 would not apply to all small UAS operations. For the reasons discussed below, proposed part 107 would not apply to: (1) Air carrier operations; (2) external load and towing operations; (3) international operations; (4) foreign-owned aircraft that are ineligible to be registered in the United States; (5) public aircraft; (6) certain model aircraft; and (7) moored balloons, kites, amateur rockets, and unmanned free balloons.

1. Air Carrier Operations

When someone is transporting persons or property by air for compensation, that person is considered an air carrier by statute and is required to obtain an air carrier operating certificate.[28] Because there is an expectation of safe transportation when payment is exchanged, air carriers are subject to more stringent regulations to mitigate the risks posed to persons or non-operator-owned property on the aircraft.

The FAA notes that some industries may desire to transport property via UAS.[29] Proposed part 107 would not prohibit this type of transportation so long as it is not done for compensation and the total weight of the aircraft, including the property, is less than 55 pounds. For example, research and development operations transporting property could be conducted under proposed part 107, as could operations by corporations transporting their own property within their business under the other provisions of this proposed rule.

The FAA seeks comment on whether UAS should be permitted to transport property for payment within the other proposed constraints of the rule, *e.g.*, the ban on flights over uninvolved persons, the requirements for line of sight, and the intent to limit operations to a constrained area. The FAA also seeks comment on whether a special class or classes of air carrier certification should be developed for UAS operations.

2. External Load and Towing Operations

The FAA considered allowing small unmanned aircraft to conduct external-load operations and to tow other aircraft or objects. These operations involve a greater level of public risk due to the dynamic nature of external-load configurations and inherent risks associated with the flight characteristics of a load that is carried, or extends, outside the aircraft fuselage and may be jettisonable. These types of operations may also involve evaluation of the aircraft frame for safety performance impacts, which may require airworthiness certification.

Given the risks associated with external load and towing operations, the FAA cannot find that a certification is not required. However, the FAA invites comments, with supporting documentation, on whether external-load UAS operations and towing UAS operations should be permitted, whether they would require airworthiness certification, whether they would require higher levels of airman certification, whether they would require additional operational limitations, and on other relevant issues.

3. International Operations

At this time, the FAA also proposes to limit this rulemaking to small UAS operations conducted entirely within the United States. The International Civil Aviation Organization (ICAO) recognizes that:

> The safe integration of UAS into non-segregated airspace will be a long-term activity with many stakeholders adding their expertise on such diverse topics as licensing and medical qualification of UAS crew, technologies for detect and avoid systems, frequency spectrum (including its protection from unintentional or unlawful interference), separation standards from other aircraft, and development of a robust regulatory framework.[30]

ICAO has further stated that "[u]nmanned aircraft . . . are, indeed aircraft; therefore existing [ICAO standards and recommended practices] SARPs apply to a very great extent. The complete integration of UAS at aerodromes and in the various airspace classes will, however, necessitate the development of UAS-specific SARPs to supplement those already existing."[31] ICAO has begun to issue and amend SARPs to specifically address UAS operations. For example, the standard contained in paragraph 3.1.9 of Annex 2 (Rules of the Air) to the Convention on International Civil Aviation states that "A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the conditions specified in Appendix 4." This appendix sets forth detailed conditions ICAO Member States must require of civil UAS operations for the ICAO Member State to comply with the Annex 2, paragraph 3.1.9 standard. ICAO standards in Annex 7 (Aircraft Nationality and Registration Marks) to the Convention also require remotely

[28] 49 U.S.C. 44711(a)(4).

[29] Property that is transported as an external load is discussed in the next section of the preamble.

[30] *ICAO Circular 328 (Unmanned Aircraft Systems (UAS))* (2011).

[31] *Id.*

piloted aircraft to "carry an identification plate inscribed with at least its nationality or common mark and registration mark" and be "made of fireproof metal or other fireproof material of suitable physical properties." For remotely piloted aircraft, this identification plate must be "secured in a prominent position near the main entrance or compartment or affixed conspicuously to the exterior of the aircraft if there is no main entrance or compartment."

While we embrace the basic principle that UAS operations should minimize hazards to persons, property or other aircraft, we believe that it is possible to achieve this goal with respect to certain small UAS operations in a much less restrictive manner than current ICAO standards require. Accordingly, the FAA proposes, for the time being, to limit the applicability of proposed part 107 to small UAS operations that are conducted entirely within the United States. The FAA envisions that international operations would be dealt with in a future FAA rulemaking. The FAA believes that the experience that the FAA will gain with UAS operations under this rule will assist with future rulemakings. The FAA also anticipates that ICAO will continue to revise and more fully develop its framework for UAS operations to better reflect the diversity of UAS operations and types of UAS and to distinguish the appropriate levels of regulation in light of those differences.

The FAA notes that under Presidential Proclamation 5928, the territorial sea of the United States, and consequently its territorial airspace, extends to 12 nautical miles from the baselines of the United States determined in accordance with international law. Thus, UAS operating in the airspace above the U.S. territorial sea would be operating within the United States for the purposes of this proposed rule.

The FAA also emphasizes that proposed part 107 would not prohibit small UAS operators from operating in international airspace or in other countries; however, the proposed rule also would not provide authorization for such operations. UAS operations that do not take place entirely within the United States would need to obtain all necessary authorizations from the FAA and the relevant foreign authorities outside of the part 107 framework, as that framework would not apply to operations that do not take place entirely within the United States. It is important to note that Article 8 of the Convention on International Civil Aviation, to which the U.S. is a party, provides:

> No aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting State without special authorization by that State and in accordance with the terms of such authorization. Each contracting State undertakes to insure that the flight of such aircraft without a pilot in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft.

Accordingly, UAS operations in foreign countries may not take place without the required authorizations and permission of that country.

4. Foreign-Owned Aircraft That Are Ineligible for U.S. Registration

The FAA proposes to limit the scope of this rulemaking to U.S.-registered aircraft. Under 49 U.S.C. 44103 and 14 CFR 47.3, an aircraft can be registered in the United States only if it is not registered under the laws of a foreign country and meets one of the following ownership criteria:

- The aircraft is owned by a citizen of the United States;
- The aircraft is owned by a permanent resident of the United States;
- The aircraft is owned by a corporation that is not a citizen of the United States, but that is organized and doing business under U.S. Federal or state law and the aircraft is based and primarily used in the United States; or
- The aircraft is owned by the United States government or a state or local governmental entity.

An aircraft that does not satisfy the above criteria is typically owned by a foreign person or entity and is subject to special operating rules.[32] As previously noted, the ICAO framework for international UAS operations is at a relatively early stage in its development. Accordingly, proposed part 107 would only apply to small unmanned aircraft that meet the criteria specified in § 47.3, which must be satisfied in order for an aircraft to be eligible for U.S. registration. The FAA notes existing U.S. international trade obligations do permit certain kinds of operations, known as specialty air services. Specialty air services are generally defined as any specialized commercial operation using an aircraft whose primary purpose is not the transportation of goods or passengers, including but not limited to aerial mapping, aerial surveying, aerial photography, forest fire management, firefighting, aerial advertising, glider towing, parachute jumping, aerial construction, helilogging, aerial sightseeing, flight training, aerial inspection and surveillance, and aerial spraying services. The FAA will consult with the Secretary to determine the process through which it might permit foreign-owned small unmanned aircraft to operate in the United States. The FAA invites comments on the inclusion of foreign-registered small unmanned aircraft in this new framework.

As provided by 49 U.S.C. 40105(b)(1)(A), the FAA Administrator must carry out his responsibilities under Part A (Air Commerce and Safety) of title 49, United States Code, consistently with the obligations of the U.S. Government under international agreements. The FAA invites comments regarding whether the proposed rule needs to be modified to ensure that it is consistent with any relevant obligations of the United States under international agreements.

5. Public Aircraft Operations

This proposed rule would also not apply to public aircraft operations with small UAS that are not operated as civil aircraft. This is because public aircraft operations, such as those conducted by the Department of Defense, the National Aeronautics and Space Administration, and the National Oceanic and Atmospheric Administration, are not required to comply with civil airworthiness or airman certification requirements to conduct operations. However, these operations are subject to the airspace and air-traffic rules of part 91, which include the "see and avoid" requirement of § 91.113(b). Because unmanned aircraft operations currently are incapable of complying with § 91.113(b), the FAA has required public aircraft operations that use unmanned aircraft to obtain an FAA-issued Certificate of Waiver or Authorization (COA) providing the public aircraft operation with a waiver/deviation from the "see and avoid" requirement of § 91.113(b).

The existing COA system has been in place for over eight years, and has not caused any significant human injuries or other significant adverse safety impacts.[33] Accordingly, this proposed rule would not abolish the COA system. However, this proposed rule would provide public aircraft operations with greater flexibility by giving them the option to declare an operation to be a civil operation and comply with the provisions of proposed part 107 instead

[32] *See, e.g.*, 14 CFR part 91, subpart H (specifying operating rules for foreign civil aircraft).

[33] The FAA has been issuing COAs to public aircraft operations using UAS for over 20 years; however, prior to 2005, those COAs were issued using different processes.

of seeking a COA from the FAA. Because proposed part 107 would address the risks associated with small UAS operations, there would be no adverse safety effects from allowing public aircraft operations to be voluntarily conducted under proposed part 107.[34]

6. Model Aircraft

Proposed part 107 would not apply to model aircraft that satisfy all of the criteria specified in section 336 of Public Law 112–95. Section 336 of Public Law 112–95 defines a model aircraft as an "unmanned aircraft that is—(1) capable of sustained flight in the atmosphere; (2) flown within visual line of sight of the person operating the aircraft; and (3) flown for hobby or recreational purposes." [35] Because section 336 of Public Law 112–95 defines a model aircraft as an "unmanned aircraft," a model aircraft that weighs less than 55 pounds would fall into the definition of small UAS under this rule.

However, Public Law 112–95 specifically prohibits the FAA from promulgating rules regarding model aircraft that meet all of the following statutory criteria: [36]

- The aircraft is flown strictly for hobby or recreational use;
- The aircraft is operated in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization;
- The aircraft is limited to not more than 55 pounds unless otherwise certified through a design, construction, inspection, flight test, and operational safety program administered by a community-based organization;
- The aircraft is operated in a manner that does not interfere with and gives way to any manned aircraft; and
- When flown within 5 miles of an airport, the operator of the aircraft provides the airport operator and the airport air traffic control tower (when an air traffic facility is located at the airport) with prior notice of the operation.

Because of the statutory prohibition on FAA rulemaking regarding model aircraft that meet the above criteria, model aircraft meeting these criteria would not be subject to the provisions of proposed part 107. Likewise, operators of model aircraft excepted from part 107 by the statute would not need to hold an unmanned aircraft operator's certificate with a small UAS rating. However, the FAA emphasizes that because the prohibition on rulemaking in section 336 of Public Law 112–95 is limited to model aircraft that meet all of the above statutory criteria, model aircraft weighing less than 55 pounds that fail to meet all of the statutory criteria would be subject to proposed part 107.

In addition, although Public Law 112–95 excepted certain model aircraft from FAA rulemaking, it specifically states that the law's exception does not limit the Administrator's authority to pursue enforcement action against those model aircraft operators that "endanger the safety of the national airspace system." [37] This proposed rule would codify the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the NAS.

The FAA also notes that it recently issued an interpretive rule explaining the provisions of section 336 and concluding that "Congress intended for the FAA to be able to rely on a range of our existing regulations to protect users of the airspace and people and property on the ground." [38] In this interpretive rule, the FAA gave examples of existing regulations the violation of which could subject model aircraft to enforcement action. Those regulations include:

- Prohibitions on careless or reckless operation and dropping objects so as to create a hazard to persons or property (14 CFR 91.13 and 91.15);
- Right-of-way rules for converging aircraft (14 CFR 91.113);
- Rules governing operations in designated airspace (14 CFR part 73 and §§ 91.126 through 91.135); and
- Rules relating to operations in areas covered by temporary flight restrictions and notices to airmen (NOTAMs) (14 CFR 91.137 through 91.145).[39]

The FAA notes that the above list is not intended to be an exhaustive list of all existing regulations that apply to model aircraft meeting the statutory criteria of Public Law 112–95, section 336. Rather, as explained in the interpretive rule, "[t]he FAA anticipates that the cited regulations are the ones that would most commonly apply to model aircraft operations." [40]

7. Moored Balloons, Kites, Amateur Rockets, and Unmanned Free Balloons

Lastly, proposed part 107 would not apply to moored balloons, kites, amateur rockets, and unmanned free balloons. These types of aircraft currently are regulated by the provisions of 14 CFR part 101. Because these aircraft are already incorporated into the NAS through part 101 and because the safety risks associated with these specific aircraft are already mitigated by the regulations of part 101, there is no need to make these aircraft subject to the provisions of proposed part 107.

C. Definitions

Proposed part 107 would create a new set of definitions to address the unique aspects of a small UAS. Those proposed definitions are as follows.

1. Control Station

Proposed part 107 would define a "control station" as an interface used by the operator to control the flight path of the small unmanned aircraft. In a manned aircraft, the interface used by the pilot to control the flight path of the aircraft is a part of the aircraft and is typically located inside the aircraft flight deck. Conversely, the interface used to control the flight path of a small unmanned aircraft is typically physically separated from the aircraft and remains on the ground during aircraft flight. Defining the concept of a control station would clarify the interface that is considered part of the small UAS under this regulation.

2. Corrective Lenses

Proposed part 107 would also define "corrective lenses" as spectacles or contact lenses. As discussed in the Operating Rules section of this preamble, this proposed rule would require the operator and/or visual observer to have visual line of sight of the small unmanned aircraft with vision that is not enhanced by any device other than corrective lenses. This is because spectacles and contact lenses do not restrict a user's peripheral vision while other vision-enhancing devices may restrict that vision. Because peripheral vision is necessary in order for the operator and/or visual observer to be able to see and avoid other air traffic in the NAS, this proposed rule would limit the circumstances in which vision-enhancing devices other than spectacles or contact lenses may be used.

[34] The FAA notes that section 334(b) of Public Law 112–95 requires the FAA to develop standards regarding the operation of public UAS by December 31, 2015.

[35] Sec. 336(c) of Public Law 112–95.

[36] Sec. 336(a) of Public Law 112–95.

[37] Sec. 336(b) of Public Law 112–95.

[38] *Interpretation of the Special Rule for Model Aircraft*, 79 FR 36172, 36175 (June 25, 2014). This document was issued as a notice of interpretation and has been in effect since its issuance on June 25, 2014. However, we note that the FAA has invited comment on this interpretation, and may modify the interpretation as a result of comments that were received.

[39] *Id.* at 36175–76.

[40] *Id.* at 36176.

3. Operator and Visual Observer

Because of the unique nature of small UAS operations, this proposed rule would create two new crewmember positions: The operator and the visual observer. These positions are discussed further in section III.D.1 of this preamble.

4. Small Unmanned Aircraft

Public Law 112–95 defines a "small unmanned aircraft" as "an unmanned aircraft weighing less than 55 pounds." [41] This statutory definition of small unmanned aircraft does not specify whether the 55-pound weight limit refers to the total weight of the aircraft at the time of takeoff (which would encompass the weight of the aircraft and any payload on board), or simply the weight of an empty aircraft.

This proposed rule would define a small unmanned aircraft as an unmanned aircraft weighing less than 55 pounds, including everything that is on board the aircraft. The FAA proposes to interpret the statutory definition of small unmanned aircraft as referring to total weight at the time of takeoff because heavier aircraft generally pose greater amounts of public risk in the event of an accident. In the event of a crash, a heavier aircraft can do more damage to people and property on the ground. The FAA also notes that this approach would be similar to the approach that the FAA has taken with other aircraft, such as large aircraft, light-sport aircraft, and small aircraft.[42]

5. Small Unmanned Aircraft System (Small UAS)

This proposed rule would define a small UAS as a small unmanned aircraft and its associated elements (including communication links and the components that control the small unmanned aircraft) that are required for the safe and efficient operation of the small unmanned aircraft in the NAS. Except for one difference, this proposed definition would be similar to the definition of "unmanned aircraft system" provided in Public Law 112–95.[43] The difference between the two definitions is that the proposed definition in this rule would not refer to a pilot-in-command because, as discussed further in this preamble, this proposed rule would create a new position of operator to replace the traditional manned-aviation positions of pilot and pilot-in-command for small UAS operations.

6. Unmanned Aircraft

Lastly, this proposed rule would define an unmanned aircraft as an aircraft operated without the possibility of direct human intervention from within or on the aircraft. This proposed definition would codify the definition of "unmanned aircraft" specified in Public Law 112–95.[44]

D. Operating Rules

As discussed earlier in this preamble (section III.A), instead of a single omnibus rulemaking that applies to all small UAS operations, the FAA has decided to proceed incrementally and issue a rule governing small UAS operations that pose the least amount of risk. Subpart B of this proposed rule would specify the operating constraints of these operations. The FAA emphasizes that it intends to conduct future rulemaking(s) to incorporate into the NAS small UAS operations that pose a greater level of risk than the operations that would be permitted by this proposed rule. However, those operations present additional safety issues that the FAA needs more time to address. In the meantime, under this proposed rule, operations that could be conducted within the proposed operational constraints would be incorporated into the NAS.

The FAA also considered whether to further subdivide small UAS into different categories of unmanned aircraft that would be regulated differently based on their weight, operational characteristics, and operating environment. This subdivision would have been based on five category groups (Groups A through E). Each of these groups would have been regulated based on its specific weight and operating characteristics.

This is the framework that the FAA used in its initial approach to this rulemaking. However, because this framework attempted to integrate a wide range of UAS operations posing different risk profiles whose integration raised policy questions on which data was either limited or unavailable, the FAA's initial approach would have been unduly burdensome on all UAS groups that would have been covered under that approach. For example, UAS in Group A, which posed the least safety risk under the FAA's initial framework, would have been required to: (1) Obtain a permit to operate (PTO) from the FAA, which would have to be renewed after one year; (2) file quarterly reports with the FAA providing their operational data; (3) establish a level of airworthiness that would be sufficient to obtain an airworthiness certification (the initial approach would have merged airworthiness certification into the PTO); (4) obtain a pilot certificate by passing a knowledge test, a practical test, and completing required ground training with an FAA-certificated instructor; (5) obtain a NOTAM from the FAA prior to conducting certain UAS operations (the operator would do this by filing notice with the FAA); and (6) maintain records documenting the complete maintenance history of the UAS.

After extensive deliberation, the FAA ultimately determined that such a regulatory framework was too complex, costly, and burdensome for both the public and the FAA. The FAA then examined the entire small UAS category of aircraft (unmanned aircraft weighing less than 55 pounds) in light of the new authority provided for under section 333 of Public Law 112–95 and determined that appropriate operational risk mitigations could be developed to allow the entire category of small UAS to avoid airworthiness certification and be subject to the least burdensome level of regulation that is necessary to protect the safety and security of the NAS. Furthermore, the FAA decided to also substantially simplify the operational limitations and airman (operator) certification requirements in a manner that would equally accommodate all types of small UAS business users with the least amount of complexity and regulatory burden.

The FAA believes that treating small UAS as a single category without airworthiness certification would accommodate a large majority of small UAS businesses and other non-recreational users of UAS. The operational limits in this proposed rule would mitigate risk associated with small UAS operations in a way that would provide an equivalent level of safety to the NAS with the least amount of burden to business and other non-recreational users of even the smallest UAS. The FAA invites comments, with supporting documentation, on whether the regulation of small UAS should be further subdivided based on the size, weight, and operating environment of the small UAS.

1. Micro UAS Classification

In addition to part 107 as proposed, the FAA is considering including a

[41] Sec. 331(6) of Public Law 112–95.

[42] *See* 14 CFR 1.1 (referring to "takeoff weight" for large, light-sport, and small aircraft in the definitions for those aircraft).

[43] Sec. 331(9) of Public Law 112–95. Public Law 112–95 defines an "unmanned aircraft system" as "an unmanned aircraft and associated elements (including communication links and the components that control the unmanned aircraft) that are required for the pilot in command to operate safely and efficiently in the national airspace system."

[44] Sec. 331(8) of Public Law 112–95.

micro UAS classification. This classification would be based on the UAS ARC's recommendations, as well as approaches adopted in other countries that have a separate set of regulations for micro UAS.

In developing this micro UAS classification, the FAA examined small UAS policies adopted in other countries. In considering other countries' aviation policies, the FAA noted that each country has its unique aviation statutory and rulemaking requirements, which may include that country's unique economic, geographic, and airspace density considerations. Canada is our only North American neighbor with a regulatory framework for small UAS. The chart below summarizes Transport Canada's operational limitations for micro UAS (4.4 pounds (2 kilograms) and under) and compares it with the regulatory framework in proposed part 107 as well as the micro UAS classification that the FAA is considering.

COMPARISON OF CANADIAN RULES GOVERNING MICRO UAS CLASS WITH PROVISIONS OF PROPOSED PART 107 AND MICRO UAS SUB-CLASSIFICATION

Provision	Canada	Small UAS NPRM	Micro UAS Sub-classification
Definition of Small UAS	Up to 4.4 lbs (2 kg)	Up to 55 lbs (24 kg)	Up to 4.4 lbs (2 kg).
Maximum Altitude Above Ground	300 feet	500 feet	400 feet.
Airspace Limitations	Only within Class G airspace	Allowed within Class E in areas not designated for an airport. Otherwise, need ATC permission. Allowed within Class B, C and D with ATC permission. Allowed in Class G with no ATC permission.	Only within Class G airspace.
Distance from people and structures	100 feet laterally from any building, structure, vehicle, vessel or animal not associated with the operation and 100 feet from any person.	Simply prohibits UAS operations over any person not involved in the operations (unless under a covered structure).	Flying over any person is permitted.
Ability to extend operational area	No	Yes, from a waterborne vehicle	No.
Autonomous operations	No	Yes	No.
Aeronautical knowledge required	Yes; ground school	Yes; applicant would take knowledge test.	Yes; applicant would self-certify.
First person view permitted	No	Yes, provided operator is visually capable of seeing the small UAS.	No.
Operator training required	Yes, ground school	No	No.
Visual observer training required	Yes	No	No.
Operator certificate required	No	Yes (must pass basic UAS aeronautical test).	Yes (no knowledge test required).
Preflight safety assessment	Yes	Yes	Yes.
Operate within 5 miles of an airport	No	Yes	No.
Operate in a congested area	No	Yes	Yes.
Liability insurance	Yes, $100,000 CAN	No	No.
Daylight operations only	Yes	Yes	Yes.
Aircraft must be made out of frangible materials.	No	No	Yes.

The FAA is considering the following provisions for the micro UAS classification:

- The unmanned aircraft used in the operation would weigh no more than 4.4 pounds (2 kilograms). This provision would be based on the ARC's recommendations and on how other countries, such as Canada, subdivide their UAS into micro or lightweight UAS;
- The unmanned aircraft would be made out of frangible materials that break, distort, or yield on impact so as to present a minimal hazard to any person or object that the unmanned aircraft collides with. Examples of such materials are breakable plastic, paper, wood, and foam. This provision would be based on the ARC's recommendations;
- During the course of the operation, the unmanned aircraft would not exceed an airspeed of 30 knots. This provision would be based on the ARC's recommendation, which was concerned with damage that could be done by unmanned aircraft flying at higher speeds;
- During the course of the operation, the unmanned aircraft would not travel higher than 400 feet above ground level (AGL). This provision would be based on the ARC's recommendations;
- The unmanned aircraft would be flown within visual line of sight; first-person view would not be used during the operation; and the aircraft would not travel farther than 1,500 feet away from the operator. These provisions would be based on ARC recommendations and Canada's requirements for micro UAS;
- The operator would maintain manual control of the flight path of the unmanned aircraft at all times, and the operator would not use automation to control the flight path of the unmanned aircraft. This provision would be based on ARC recommendations and Canada's requirements for micro UAS;
- The operation would be limited entirely to Class G airspace. This provision would be based on Canada's requirements for micro UAS; and
- The unmanned aircraft would maintain a distance of at least 5 nautical miles from any airport. This provision would be based on Canada's requirements for micro UAS.

The operational parameters discussed above may provide significant additional safety mitigations. Specifically, a very light (micro) UAS operating at lower altitudes and at lower speeds, that is made up of materials that break or yield easily upon impact, may pose a much lower risk to persons, property, and other NAS users than a UAS that does not operate within these

parameters. Additionally, limiting the micro UAS operation entirely to Class G airspace, far away from an airport, and in close proximity to the operator (as well as limiting the unmanned aircraft's flight path to the operator's constant manual control) would significantly reduce the risk of collision with another aircraft. Accordingly, because the specific parameters of a micro UAS operation described above would provide additional safety mitigation for those operations, the FAA's micro UAS approach would allow micro UAS to operate directly over people not involved in the operation. Under the FAA's micro UAS approach, the operator of a micro UAS also would be able to operate using a UAS airman certificate with a different rating (an unmanned aircraft operator certificate with a micro UAS rating) than the airman certificate that would be created by proposed part 107. No knowledge test would be required in order to obtain an unmanned aircraft operator certificate with a micro UAS rating; instead, the applicant would simply submit a signed statement to the FAA stating that he or she has familiarized him or herself with all of the areas of knowledge that are tested on the initial aeronautical knowledge test that is proposed under part 107.

The FAA is also considering whether to require, as part of the micro UAS approach, that the micro UAS be made out of frangible material. A UAS that is made out of frangible material presents a significantly lower risk to persons on the ground, as that UAS is more likely to shatter if it should impact a person rather than injuring that person. Without the risk mitigation provided by frangible-material construction, the FAA would be unable to allow micro UAS to operate directly over a person not involved in the operation. The FAA notes that, currently, a majority of fixed-wing small UAS are made out of frangible materials that would satisfy the proposed requirement. The FAA invites comments on whether it should eliminate frangibility from the micro UAS framework.

The FAA also invites commenters to submit data and any other supporting documentation on whether the micro UAS classification should be included in the final rule, and what provisions the FAA should adopt for such a classification. The FAA invites further comments, with supporting documentation, estimating the costs and benefits of implementing a micro UAS approach in the final rule. Finally, the FAA invites comments to assess the risk to other airspace users posed by the lesser restricted integration of micro UAS into the NAS. The FAA notes, however, that due to statutory constraints, the FAA would be unable to eliminate the requirement to hold an airman certificate and register the unmanned aircraft even if it were to adopt a micro UAS approach in the final rule.

During the course of this rulemaking, the FAA also received a petition for rulemaking from UAS America Fund LLC. This petition presented the FAA with an alternative approach to regulating micro UAS, complete with a set of regulatory provisions that would be specific to micro UAS operations. Because the FAA was already in the process of rulemaking at the time this petition was filed, pursuant to 14 CFR 11.73(c), the FAA will not treat this petition as a separate action, but rather, will consider it as a comment on this rulemaking. Accordingly, the FAA has placed a copy of UAS America Fund's rulemaking petition in the docket for this rulemaking and invites comments on the suggestions presented in this petition. Any comments received in response to the proposals in the petition will be considered in this rulemaking.

2. Operator and Visual Observer

As briefly mentioned earlier, this proposed rule would create two new crewmember positions: An operator and a visual observer. The FAA proposes these positions for small UAS operations instead of the traditional manned-aircraft positions of pilot, flight engineer, and flight navigator. This is being proposed because, by their very nature, small UAS operations are different from manned aircraft operations, and this necessitates a different set of qualifications for crewmembers.

i. Operator

The FAA proposes to define an operator as a person who manipulates the flight controls of a small UAS. Flight controls include any system or component that affects the flight path of the aircraft. The position of operator would be somewhat analogous to the position of a pilot who controls the flight of a manned aircraft. However, the FAA proposes to create the position of an operator rather than expand the existing definition of pilot to emphasize that, even though the operator directly controls the flight of the unmanned aircraft, the operator is not actually present on the aircraft.

The FAA notes that even though a small UAS operator is not a pilot, the operator would still be considered an airman and statutorily required to obtain an airman certificate. The statutory flexibility provided in section 333 of Public Law 112–95 is limited to airworthiness certification and does not extend to airman certification. Thus, as mentioned previously, the FAA's statute prohibits a person without an airman certificate from serving in any capacity as an airman with respect to a civil aircraft used or intended to be used in air commerce.[45] The statute defines an "airman," in part, as an individual who, as a member of the crew, navigates the aircraft when under way.[46] Because under this proposed rule the operator would be a member of the crew and would navigate the small unmanned aircraft when that aircraft is under way, an operator would be an airman as defined in the FAA's statute. Accordingly, the operator would statutorily be required to obtain an airman certificate in order to fly the small unmanned aircraft.

The FAA proposes to codify this statutory requirement in § 107.13(a), which would require a person who wishes to serve as an operator to obtain an unmanned aircraft airman certificate with a small UAS rating. An unmanned aircraft airman certificate would be a new type of airman certificate that would be created by this proposed rule specifically for UAS operators to satisfy the statutory requirement for an airman certificate. The certificate necessary to operate small UAS would have a small UAS rating. The FAA anticipates that certificates used to operate UAS not subject to this proposed rule would have different certification requirements. The specific details of this certificate are discussed further in section III.E of this preamble.

The FAA also proposes to give each operator the power and responsibility typically associated with a pilot-in-command (PIC) under the existing regulations. Under the existing regulations, the PIC "is directly responsible for, and is the final authority as to the operation of [the] aircraft."[47] The PIC position provides additional accountability for the safety of an operation by: (1) Ensuring that a single person on board the aircraft is accountable for that operation; and (2) providing that person with the authority to address issues affecting operational safety.

An accountability system, such as the existing PIC concept, would provide similar benefits for small UAS operations. Accordingly, the FAA proposes, in § 107.19(a), to make each operator: (1) Directly responsible for the

[45] 49 U.S.C. 44711(a)(2)(A).

[46] 49 U.S.C. 40102(a)(8)(A).

[47] 14 CFR 91.3(a).

small UAS operation, and (2) the final authority as to the small UAS operation. To provide further clarity as to the operator's authority over the small UAS operation, proposed § 107.49(b) would require that each person involved in the small UAS operation perform the duties assigned by the operator.

The FAA also considered providing the operator with the emergency powers available to the PIC under 14 CFR 91.3(b). Under § 91.3(b), a PIC can deviate from FAA regulations to respond to an in-flight emergency. However, the FAA does not believe that this power is necessary for the operator because a small unmanned aircraft is highly maneuverable and much easier to land than a manned aircraft. Thus, in an emergency, an operator should be able to promptly land the small unmanned aircraft in compliance with FAA regulations. Accordingly, the FAA proposes not to provide an operator with the emergency powers available to the PIC under § 91.3(b). The FAA invites comments on this issue.

The FAA also does not believe that it is necessary to create a separate "operator-in-command" position for small UAS operations. The existing regulations create a separate PIC position because many manned aircraft are operated by multiple pilots. Thus, it is necessary to designate one of those pilots as the accountable authority for the operation. By contrast, only one operator is needed for a small UAS flight operation even though additional non-operator persons could be involved in the operation. Thus, at this time, it is not necessary to create an operator-in-command position. The FAA invites comments on whether a separate operator-in-command position should be created for small UAS operations.

The FAA finally notes that the term "operate" is currently a defined term in 14 CFR 1.1 that is used in manned-aircraft operations. While, for purposes of proposed part 107, the proposed definition of "operator" would supersede any conflicting definitions in § 1.1, the FAA invites comments as to whether defining a new crewmember position as an "operator" would cause confusion with the existing terminology. If so, the FAA invites suggestions as to an alternative title for this crewmember position.

ii. Visual Observer

To assist the operator with the proposed see-and-avoid and visual-line-of-sight requirements discussed in the next section of this preamble, the FAA proposes to create the position of a visual observer. Under this proposed rule, a visual observer would be defined as a person who assists the small unmanned aircraft operator in seeing and avoiding other air traffic or objects aloft or on the ground. The visual observer would do this by augmenting the operator as the person who must satisfy the see-and-avoid and visual-line-of-sight requirements of this proposed rule. As discussed in more detail below, an operator must always be capable of seeing the small unmanned aircraft. However, if the operation is augmented by at least one visual observer, the operator is not required to exercise this capability, as long as the visual observer maintains a constant visual-line-of-sight of the small unmanned aircraft.

The FAA emphasizes that, as proposed, a visual observer is not a required crewmember, as the operator could always satisfy the pertinent requirements him- or herself. Under this proposed rule, an operator could, at his or her discretion, use a visual observer to increase the flexibility of the operation. The FAA notes, however, that as discussed in III.D.3.i of this preamble, even if a visual observer is used to augment the operation, a small unmanned aircraft would still be required by § 107.33(c) to always remain close enough to the control station for the operator to be capable of seeing that aircraft.

To ensure that the visual observer can carry out his or her duties, the FAA proposes, in § 107.33(b), that the operator be required to ensure that the visual observer is positioned in a location where he or she is able to see the small unmanned aircraft in the manner required by the proposed visual-line-of-sight and see-and-avoid provisions of §§ 107.31 and 107.37. The operator can do this by specifying the location of the visual observer. The FAA also proposes to require, in § 107.33(d), that the operator and visual observer coordinate to: (1) Scan the airspace where the small unmanned aircraft is operating for any potential collision hazard; and (2) maintain awareness of the position of the small unmanned aircraft through direct visual observation. This would be accomplished by the visual observer maintaining visual contact with the small unmanned aircraft and the surrounding airspace and then communicating to the operator the flight status of the small unmanned aircraft and any hazards which may enter the area of operation so that the operator can take appropriate action.

To make this communication possible, this proposed rule would require, in § 107.33(a), that the operator and visual observer maintain effective communication with each other at all times. This means that the operator and visual observer must work out a method of communication prior to the operation that allows them to understand each other, and utilize that method in the operation. The FAA notes that this proposed communication requirement would permit the use of communication-assisting devices, such as radios, to facilitate communication between the operator and visual observer from a distance. The FAA considered requiring the visual observer to be stationed next to the operator to allow for unassisted oral communication, but decided that this requirement would be unduly burdensome, as it is possible to have effective oral communication through a communication-assisting device. The FAA invites comments on whether the visual observer should be required to stand close enough to the operator to allow for unassisted verbal communication.

Under this proposed rule, the visual observer would not be permitted to manipulate any controls of the small UAS, share in operational control, or exercise operation-related judgment independent of the operator. Because the visual observer's role in the small UAS operation would be limited to simply communicating what he or she is seeing to the operator, the visual observer would not be an "airman" as defined in the FAA's statute.[48] Consequently, as proposed, the visual observer would not statutorily be required to obtain an airman certificate.[49]

While an airman certificate for a visual observer is not statutorily mandated, the FAA considered requiring that the visual observer obtain an airman certificate.[50] However, due to the fact that this proposed rule would not permit the visual observer to

[48] 49 U.S.C. 40102(a)(8). This statute defines an "airman" as an individual: "(A) in command, or as pilot, mechanic, or member of the crew, who navigates aircraft when under way; (B) except to the extent the Administrator of the Federal Aviation Administration may provide otherwise for individuals employed outside the United States, who is directly in charge of inspecting, maintaining, overhauling, or repairing aircraft, aircraft engines, propellers, or appliances; or (C) who serves as an aircraft dispatcher or air traffic control-tower operator." The visual observer's limited role in the operation of a small UAS would not meet any of these criteria.

[49] *See* 49 U.S.C. 44711(a)(2)(A) (prohibiting a person without an airman certificate from serving in any capacity as an airman with respect to a civil aircraft used or intended to be used in air commerce).

[50] This requirement would be imposed pursuant to 49 U.S.C. 44701(a)(5), which gives FAA the power to prescribe regulations that it finds necessary for safety in air commerce.

manipulate the small UAS controls or exercise any independent judgment or operational control, the FAA believes that certification of visual observers would not result in significant safety benefits. Accordingly, the FAA is not proposing to require airman certification for visual observers. The FAA invites comments on whether an airman certificate should be required to serve as a visual observer. If so, what requirements should an applicant meet in order to obtain a visual observer airman certificate? The FAA also invites comments regarding the costs and benefits of requiring airman certification for visual observers.

3. See-and-Avoid and Visibility Requirements

Turning to the see-and-avoid and visibility requirements mentioned in the previous section, one of the issues with small UAS operations is that the small UAS operator cannot see and avoid other aircraft in the same manner as a pilot who is inside a manned aircraft. Because at this time there is no technology that can provide an acceptable see-and-avoid replacement for human vision for small UAS operations, this proposed rule would limit small UAS operations to within the visual line of sight of the operator and a visual observer. This proposed rule would also impose requirements to ensure maximum visibility for the operation of the small UAS and ensure that small unmanned aircraft always yield the right-of-way to other users of the NAS.

i. See-and-Avoid

Currently, 14 CFR 91.113(b) imposes a requirement on all aircraft operations that, during flight, "vigilance shall be maintained by each person operating an aircraft so as to see and avoid other aircraft." This see-and-avoid requirement is at the heart of the FAA's regulatory structure mitigating the risk of aircraft colliding in midair. As such, in crafting this proposed rule, the FAA sought a standard under which the small UAS operator would have the ability to see and avoid other aircraft similar to that of a manned-aircraft pilot.

The FAA considered proposing that a UAS operator be permitted to exercise his or her see-and-avoid responsibilities through technological means, such as onboard cameras. We recognize that technology is developing that could provide an acceptable substitute for direct human vision in UAS operations. FAA does not, however, believe this technology has matured to the extent that would allow it to be used safely in small UAS operations in lieu of visual line of sight. The FAA has not identified an acceptable technological substitute for the safety protections provided by direct human vision in small UAS operations at this time. For these reasons and consistent with the statutory direction provided for in section 333, the FAA proposes to require, in §§ 107.31 and 107.37(a)(1), that the operator (and visual observer, if used) must be capable of maintaining a visual line of sight of the small unmanned aircraft throughout that aircraft's entire flight with human vision that is unaided by any device other than spectacles or contact lenses.

If a visual observer is not used, the operator must exercise this capability and maintain watch over the small unmanned aircraft during flight. However, if an operation is augmented by at least one visual observer, then the visual observer can be used to satisfy the visual-line-of-sight requirements, as long as the operator always remains situated such that he or she can exercise visual-line-of-sight capability.

The FAA notes that this proposed requirement does not require the person maintaining visual line of sight to constantly watch the unmanned aircraft for every single second of that aircraft's flight. The FAA understands and accepts that this person may lose sight of the unmanned aircraft for brief moments of the operation. This may be necessary either because the small UAS momentarily travels behind an obstruction or to allow the person maintaining visual line of sight to perform actions such as scanning the airspace or briefly looking down at the small UAS control station. The visual-line-of-sight requirement of this proposed rule would allow the person maintaining visual line of sight brief moments in which he or she cannot directly see the small unmanned aircraft provided that the person is able to see the surrounding operational area sufficiently well to carry out his or her visual-line-of-sight-related responsibilities. Anything more than brief moments during which the person maintaining visual line of sight is unable to see the small unmanned aircraft would be prohibited under this proposed rule.

To ensure that the operator's vision (and that of a visual observer, if used) of the small unmanned aircraft is sufficient to see and avoid other aircraft in the NAS, the proposed rule would require that the operator's or visual observer's vision of the small unmanned aircraft must be sufficient to allow him or her to: (1) Know the small unmanned aircraft's location; (2) determine the small unmanned aircraft's attitude, altitude, and direction; (3) observe the airspace for other air traffic or hazards; and (4) determine that the small unmanned aircraft does not endanger the life or property of another. Because maintaining this type of awareness in real-time is a concentration-intensive activity, proposed § 107.35 would limit an operator or visual observer to operating no more than one small UAS at the same time.[51]

Binoculars, onboard cameras, and other vision-enhancing devices (aside from spectacles or contact lenses) cannot be used to satisfy this proposed requirement because those devices restrict the user's peripheral field of vision. Since a pilot often uses peripheral vision to identify other aircraft in the NAS,[52] a device that restricts peripheral vision hinders the user's ability to see other aircraft. However, the FAA recognizes that there are advantages to using vision-enhancing devices, such as those used when utilizing camera video transmitted to a screen at the operator's station (also known as first person view) when conducting inspections of bridges or towers. This proposed rule is not intended to prohibit the use of those devices. Rather, the proposed visual-line-of-sight requirement requires simply that at least one person involved in the operation, either the operator or a visual observer, must maintain an unenhanced visual line of sight of the small unmanned aircraft. Anyone else involved in the operation may use a vision-enhancing device (including first-person view) so long as that device is not used to meet the proposed requirements of §§ 107.31 and 107.37. The FAA invites comments on this proposed visual-line-of-sight requirement. The FAA also invites suggestions, with supporting documentation, for other ways in which a first-person-view device could be used by the operator without compromising the risk mitigation provided by the proposed visual-line-of-sight requirement. The FAA also invites comments on whether it should permit operations beyond visual line of sight in its final rule, for example through deviation authority, once the pertinent technology matures to the extent that it

[51] The use of a visual observer would not be sufficient to allow an operator to operate more than one small UAS because the operator would still need to maintain sufficient concentration to react to the information provided to him or her by the visual observer.

[52] Pilot Safety brochure: "Pilot Vision." *http://www.faa.gov/pilots/safety/pilotsafetybrochures/media/pilot_vision.pdf.* A copy of this document is also available in the docket for this rulemaking.

can be used to safely operate beyond visual line of sight. If so, what level of validation should the technology be subject to in order to demonstrate reliability? For example, should the FAA use its existing certification or validation methodologies to evaluate UAS technology?

ii. Additional Visibility Requirements

To further ensure that a small UAS operator/visual observer can see and avoid other aircraft, the FAA proposes (1) to limit the operation of small UAS to daylight-only operations, and (2) to impose weather-minimum visibility requirements

First, the FAA proposes, in § 107.29, to prohibit the operation of a small UAS outside the hours of official sunrise and sunset. The Federal Air Almanac provides tables which are used to determine sunrise and sunset at various latitudes. The FAA considered proposing to allow small UAS operations outside the hours of official sunrise and sunset, recognizing that this would integrate a greater quantity of small UAS operations into the NAS. However, the FAA has decided to propose limiting small UAS use to daylight-only operations due to the relatively small size of the small unmanned aircraft and the difficulty in being able to see it in darker environments to avoid other airspace users. The FAA also notes that most small unmanned aircraft flights under this proposed rule would take place at low altitudes, and flying at night would limit the small UAS operator's ability to see people on the ground and take precautions to ensure that the small unmanned aircraft does not pose a hazard to those people. Moreover, allowing small UAS operations outside of daylight hours would require equipage specifications (such as a lighting system emitting a certain minimum amount of light) and airworthiness certification requirements that are contrary to the FAA's goal of a minimally burdensome rule for small unmanned aircraft. The FAA also notes that, for manned aircraft operations, the regulations provide for very specific lighting systems necessary to safely operate in the NAS. Those regulations require, among other things: (1) Lighting system angles; (2) lighting system intensity; (3) lighting system color and position; (4) lighting system installation; and (5) lighting system configuration.[53] This level of regulation and airworthiness certification would be beyond the level of a minimally burdensome rule encompassing low-risk operation that is contemplated by section 333 of Public Law 112–95.

The FAA realizes the proposed daylight-only operations requirement may affect the ability to use small unmanned aircraft in more northern latitudes (specifically Alaska), and is willing to consider any reasonable mitigation which would ensure that an equivalent level of safety is maintained while operating in low-light areas. The FAA welcomes public comments with suggestions on how to effectively mitigate the risk of operations of small unmanned aircraft during low-light or nighttime operations.

In addition, to ensure that small UAS operators and visual observers have the ability to see and avoid other aircraft, the FAA is proposing to require, in § 107.51(c), a minimum flight visibility of 3 statute miles (5 kilometers) from the control station for small UAS operations. A visibility of 3 statute miles currently is required for aircraft operations in controlled airspace.[54] The FAA also requires a 3-mile visibility in the context of other unmanned aircraft operations (moored balloons and kites).[55] The reason for the increased visibility requirement is to provide the small UAS operator with additional time after seeing a manned aircraft to maneuver and avoid an accident or incident with the manned aircraft.

In addition, the FAA is proposing to require, in § 107.51(d), that the small unmanned aircraft must be no less than: (1) 500 feet (150 meters) below clouds; and (2) 2,000 feet (600 meters) horizontal from clouds. This is similar to the requirements imposed by 14 CFR 91.155 on aircraft operating in controlled airspace under visual flight rules. The FAA proposes to impose these cloud-clearance requirements on small UAS operations because, as mentioned previously, small UAS operators do not have the same see-and-avoid capability as manned-aircraft pilots.

iii. Yielding Right of Way

Now that we have discussed how a small UAS operator sees other users of the NAS, we turn to how that operator avoids those users. In aviation, this is accomplished through right-of-way rules, which pilots are required to follow when encountering other aircraft. These rules specify how pilots should respond to other NAS users based on the types of aircraft or the operational scenario.

The operation of small UAS presents challenges to the application of the traditional right-of-way rules. The smaller visual profile of the small unmanned aircraft makes it difficult for manned pilots to see and, therefore, avoid the unmanned aircraft. This risk is further compounded by the difference in speed between manned aircraft and the often slower small unmanned aircraft. Because of these challenges, the FAA proposes to require, in § 107.37(a)(2), that the small UAS operator must always be the one to initiate an avoidance maneuver to avoid collision with any other user of the NAS. Optimally, the small UAS operator should give right-of-way to all manned aircraft in such a manner that the manned aircraft is never presented with a see-and-avoid decision or the impression that it must maneuver to avoid the small UAS.

When a small UAS operator encounters another unmanned aircraft, each operator must exercise his or her discretion to avoid a collision between the aircraft. In extreme situations where collision is imminent, the small UAS operator must always consider the safety of people, first and foremost, over the value of any equipment, even if it means the loss of the unmanned aircraft. To further mitigate the risk of a mid-air collision, the FAA also proposes to codify, in § 107.37(b), the existing requirement in 14 CFR 91.111(a), which prohibits a person from operating an aircraft so close to another aircraft as to create a collision hazard.

4. Containment and Loss of Positive Control

As discussed above, one of the issues unique to UAS operations is the possibility that during flight, the UAS operator may become unable to directly control the unmanned aircraft due to a failure of the control link between the aircraft and the operator's control station. This failure is known as a loss of positive control. Because the UAS operator's direct connection to the aircraft is funneled through the control link, a failure of the control link could have significant adverse results.

To address this issue, the FAA proposes a performance-based operator-responsibility standard built around the concept of a confined area of operation. Confining the flight of a small unmanned aircraft to a limited area would allow the operator to become familiar with the area of operation and to create contingency plans for using the environment in that area to mitigate the risk associated with possible loss of positive control. For example, the operator could mitigate loss-of-control risk to people on the ground by setting up a perimeter and excluding people

[53] *See* 14 CFRs 23.1381 through 23.1401.

[54] *See* 14 CFR 91.115.

[55] 14 CFR 101.13(a)(3).

not involved with the operation from the operational area. The operator could also mitigate risk to other aircraft by notifying the local air traffic control of the small UAS operation and the location of the confined area in which that operation will take place. As a result of risk-mitigation options that are available to the operator in a confined area of operation, the FAA proposes to mitigate the risk associated with loss of aircraft control by confining small unmanned aircraft to a limited area of operation.

As an alternative method of addressing this issue, the FAA considered technological approaches such as requiring a flight termination system that would automatically terminate the flight of the small unmanned aircraft if the operator lost positive control of that aircraft. However, as previously discussed, due to the size and weight of a small UAS, operations subject to this proposed rule would not pose the same level of risk as other operations regulated by the FAA. Since small UAS operations subject to this rule posé a lower level of risk, there are operational alternatives available to mitigate their risk to an acceptable level without imposing an FAA requirement for technological equipage and airworthiness certification requirements. Therefore, this proposed rule would not mandate the use of a flight termination system nor would this proposed rule mandate the equipage of any other navigational aid technology. Instead, the FAA invites comments on whether a flight termination system or other technological equipage should be required and how it would be integrated into the aircraft for small UAS that would be subject to this proposed rule. The FAA also invites comments, with supporting documentation, as to the costs and benefits of requiring a flight termination system or other technological equipage.

i. Confined Area of Operation Boundaries

The FAA notes that the proposed visual-line-of-sight requirement in § 107.31 would create a natural horizontal boundary on the area of operation. Due to the distance limitations of human vision, the operator or visual observer would be unable to maintain visual line of sight of the small unmanned aircraft sufficient to satisfy proposed § 107.31 if the aircraft travels too far away from them. Accordingly, the proposed visual-line-of-sight requirement in proposed § 107.31 would effectively confine the horizontal area of operation to a circle around the person maintaining visual contact with the aircraft with the radius of that circle being limited to the farthest distance at which the person can see the aircraft sufficiently to maintain compliance with proposed § 107.31.

The FAA notes that there are two issues with defining the horizontal boundary of the area of operation in this manner. First, a small UAS operation could use multiple visual observers to expand the outer bounds of the horizontal circle created by the visual-line-of-sight requirement. To address this issue, the FAA proposes to require, in § 107.33(c), that if an operation uses a visual observer, the small unmanned aircraft must remain close enough to the operator at all times during flight for the operator to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses. This approach would prevent the use of visual observers to expand the horizontal outer bounds of the confined area of operation. This approach would also create a safety-beneficial redundancy in that, while the operator is not required to look at the small unmanned aircraft in an operation that uses a visual observer, should something go wrong, the operator would be able to look up and see for him- or herself what is happening with the aircraft.

As an alternative method of addressing this issue, the FAA considered imposing a numerical limit on how far away a small unmanned aircraft can be from the operator. The FAA ultimately decided not to propose this approach, as it currently lacks sufficient data to designate a specific numerical limit. However, the FAA invites comments on whether the horizontal boundary of the contained area of operation should be defined through a numerical limit. If the boundary is defined through a numerical limit, what should that limit be?

The second way that the horizontal boundary of the confined operational area could be expanded is by stationing the operator on a moving vehicle or aircraft. If the operator is stationed on a moving vehicle, then the horizontal area-of-operation boundary tied to the operator's line of sight would move with the operator, thus increasing the size of the small unmanned aircraft's area of operation. To prevent this scenario, the FAA proposes, in § 107.25, consistent with the ARC recommendations,[56] to prohibit the operation of a small UAS from a moving aircraft or land-borne vehicle. However, proposed § 107.25 would make an exception for water-borne vehicles. This is because there are far less people and property located over water than on land. Consequently, a loss of positive control that occurs over water would have a significantly smaller chance of injuring a person or damaging property than a loss of positive control that occurs over land. Allowing use of a small UAS from a water-borne vehicle would also increase the societal benefits of this proposed rule without sacrificing safety by incorporating small UAS operations such as bridge inspections and wildlife nesting area evaluations into the NAS.

The FAA is considering alternatives for regulation of the operation of small UAS from moving land vehicles, while protecting safety. It invites comments, with supporting documentation, on whether small UAS operations should be permitted from moving land-based vehicles, and invites comment on a regulatory framework for such operations. The FAA specifically invites comments as to whether distinctions could be drawn between different types of land-based vehicles or operating environments such that certain operations from moving land-based vehicles could be conducted safely. The FAA also invites comments on whether deviation authority should be included in the final rule to accommodate these types of operations.

Next, we turn to the vertical boundary of the confined area of operation. With regard to the vertical boundary, the FAA proposes, in § 107.51(b), to set an altitude ceiling of 500 feet above ground level (AGL) for small UAS operations that would be subject to this proposed rule. The FAA chose to propose 500 feet as the vertical area-of-operation boundary because most manned aircraft operations take place above 500 feet. Specifically, most manned aircraft operations conducted over uncongested areas must be flown at an altitude above 500 feet AGL, while most manned aircraft operations conducted over congested areas must be flown at an even higher altitude.[57] Thus, a 500-foot altitude ceiling for small UAS operations would create a buffer between a small unmanned aircraft and most manned aircraft flying in the NAS.

The FAA notes that while most manned aircraft operations fly above the 500-foot ceiling proposed in this rule, there are some manned-aircraft operations that could fly below this altitude. For example, aerial applicators, helicopter air ambulance services, and military operations conducted on military training routes often fly at an

[56] ARC report and recommendations, Sec. 6.11

[57] *See* 14 CFR 91.119(b) and (c).

altitude below 500 feet. However, even though some manned aircraft operations take place at an altitude below 500 feet, there is significantly less air traffic at or below 500 feet than there is above 500 feet altitude. As a result of this difference in air-traffic density, the FAA has determined that small UAS operations would not pose a significant risk to manned aircraft operations taking place below 500 feet altitude if proper precautions are taken by the small UAS operator.

The FAA also considered whether the vertical boundary should be set at a higher level. However, because most manned-aircraft operations transit the airspace above the 500-foot level, UAS operations at that altitude would likely require greater levels of operator training, aircraft equipage, and some type of aircraft certification in order to avoid endangering other users of the NAS. Since these provisions would be contrary to the goal of this rulemaking, which is to regulate the lowest-risk small UAS operations while imposing a minimal regulatory burden on those operations, this proposed rule would not allow small UAS to travel higher than 500 feet AGL. The FAA invites comments, with supporting documentation, on whether this proposed 500-foot ceiling should be raised or lowered.

ii. Mitigating Loss-of-Positive-Control Risk

Now that we have defined the confined area of operation, we turn to the question of how loss-of-positive-control risk can be mitigated within that area of operation. The FAA notes that there is significant diversity in both the types of small UAS that are available and the types of operations that those small UAS can be used in. Accordingly, small UAS operators need significant flexibility to mitigate hazards posed by their individual small UAS operation, as a mitigation method that works well for one type of small UAS used in one type of operation may not work as well in another operation that uses another type of small UAS. For example, in a loss-of-positive-control situation, a rotorcraft that loses operator inputs or power to its control systems would tend to descend straight down or at a slight angle while a fixed wing aircraft would glide for a greater distance before landing. Since the loss-of-positive-control risk posed by different types of small unmanned aircraft in various operations is different, the FAA proposes to create a performance-based standard under which, subject to certain broadly-applicable constraints, small UAS operators would have the flexibility to create operational and aircraft-specific loss-of-control mitigation measures.

The broadly applicable constraints that the FAA proposes to impose on a small UAS operator's risk-mitigation decisions are as follows. First, the FAA proposes to require, in § 107.49(a)(3), that prior to flight, the operator must ensure that all links between the control station and the small unmanned aircraft are working properly. The operator can do this by verifying control inputs from the control station to the servo actuators [58] in the small unmanned aircraft. If the operator finds, during this preflight check, that a control link is not functioning properly, the operator would not commence flight until the problem with the control link is resolved. This proposed constraint would significantly mitigate the risk of a loss-of-positive-control scenario by reducing the possibility that small unmanned aircraft flight commences with a malfunctioning control link.

Second, the FAA proposes to impose a speed limit of 87 knots (100 miles per hour) on small unmanned aircraft calibrated airspeed at full power in level flight. This is because, if there is a loss of positive control, an aircraft traveling at a high speed poses a higher risk to persons, property, and other aircraft than an aircraft traveling at a lower speed. A speed limit would also have safety benefits outside of a loss-of-positive-control scenario because a small unmanned aircraft traveling at a lower speed is generally easier to control than a higher-speed aircraft.

In determining the specific speed limit, the FAA decided to propose 87 knots (100 mph) as the limit. This proposed speed limit is based on the ARC recommendation of a 100 mph speed limit for small UAS operations. The ARC determined that "aircraft flying faster than 100 mph are considered a high performance aircraft" that "are perceived as having greater risks." [59] Accordingly, the FAA proposes to limit the speed of small unmanned aircraft to 87 knots (100 mph). The FAA invites comments on whether this speed limit should be raised or lowered or whether a speed limit is necessary.

Third, the FAA proposes, in § 107.39, to prohibit the operation of a small unmanned aircraft over a person who is not directly participating in the operation of that small unmanned aircraft. One of the possible consequences of loss-of-positive-control is that the aircraft will immediately crash into the ground upon loss of control inputs from the operator. Because a loss of positive control can happen at any moment, the FAA's proposed prohibition on operating small unmanned aircraft over most persons will minimize the risk that a person is standing under a small unmanned aircraft if that aircraft terminates flight and returns to the surface. This prohibition would not apply to persons inside or underneath a covered structure that would protect the person from a falling small unmanned aircraft.

The FAA's proposed prohibition on operating over people would provide an exception for persons directly participating in the operation of the small unmanned aircraft. The FAA considered prohibiting the operation of a small unmanned aircraft over any person, but rejected this approach as unduly burdensome because the operator or visual observer may, at some points of the operation, need to stand under the small unmanned aircraft in order to maintain visual line of sight and/or comply with other provisions of this proposed rule. As an alternative to prohibiting these persons from standing under the small unmanned aircraft, the FAA proposes, in § 107.49(a)(2), that prior to flight, the operator must ensure that all persons directly involved in the small unmanned aircraft operation receive a briefing that includes operating conditions, emergency procedures, contingency procedures, roles and responsibilities, and potential hazards. A person is directly involved in the operation when his or her involvement is necessary for the safe operation of the small unmanned aircraft. By receiving a pre-flight briefing on the details of the operation and the hazards involved, the persons involved in the operation would be made aware of the small unmanned aircraft's location at all times and would be able to avoid the flight path of the small unmanned aircraft if the operator were to lose control or the aircraft were to experience a mechanical failure.

Within these constraints, the FAA proposes the following performance-based standards for mitigating loss-of-positive-control risk. First, the FAA proposes, in § 107.49(a)(1), that, prior to flight, the operator must become familiar with the confined area of operation by assessing the operating environment and assessing risks to persons and property in the immediate vicinity both on the surface and in the air. As part of this preflight assessment, the operator would need to consider conditions that could pose a hazard to

[58] A "servo actuator" is generally defined as a device used to provide a wide range of remote movement based on signals from the system on which it is used.

[59] ARC Report, p. 20, section 6.12.

the operation of the small UAS as well as conditions in which the operation of the small UAS could pose a hazard to other aircraft or persons or property on the ground. Accordingly, the FAA proposes to require that the preflight assessment include the consideration of: (1) Local weather conditions; (2) local airspace and any flight restrictions; (3) the location of persons and property on the ground; and (4) any other ground hazards.

Second, the FAA proposes that, after becoming familiar with the confined area of operation and conducting a preflight assessment, the operator be required, by § 107.19(b), to ensure that the small unmanned aircraft will pose no undue hazard to other aircraft, people, or property in the event of a loss of control of the aircraft for any reason. This proposed requirement would provide the operator with significant flexibility to choose how to mitigate the hazards associated with loss of aircraft control. For example, in addition to the examples mentioned previously, if the operation takes place in a residential area, the operator could ask everyone in the area of operation to remain inside their homes while the operation is conducted.[60] If the operation takes place in an area where other air traffic could pose a hazard, the operator would advise local air traffic control as to the location of his or her area of operation and add extra visual observers to the operation so that they can notify the operator if other aircraft are approaching the area of operation.

The above are just some examples of mitigation strategies that could be employed by the operator to ensure that the small unmanned aircraft will pose no hazard to other aircraft, people or property in the event of lost positive control. These examples are not intended to provide an exhaustive list, as there are different ways to mitigate loss of positive control. The proposed requirement in § 107.19(b) would provide the operator with the flexibility to choose which mitigation method is appropriate for his/her specific operation to ensure any hazards posed by loss of positive aircraft control are sufficiently mitigated. The FAA also anticipates creating guidance that provides additional examples of how operators can mitigate loss of positive control in small UAS operations. However, the FAA emphasizes that no matter what mitigation option(s) the operator employs under this proposed rule, the operator must strive to always maintain positive control of the small unmanned aircraft. The operator would be in violation of proposed § 107.19(b) if he or she intentionally operates the small unmanned aircraft in a location where he or she will not have positive control over that aircraft.

5. Limitations on Operations in Certain Airspace

This proposed rule would place limitations small UAS operations in three areas related to airspace: (1) Controlled airspace (airspace other than Class G); (2) prohibited or restricted airspace; and (3) airspace where aviation activity is limited by a Notice to Airmen (NOTAM). The FAA is proposing these requirements to reduce the threat to other users of the NAS in busy airspace or where most or all aviation activities would otherwise be limited.

i. Controlled Airspace

The FAA is seeking to limit the exposure of the small unmanned aircraft to other users of the NAS to minimize the risk of collision, which can occur both during controlled flight of the UAS or if the operator loses positive control of the small unmanned aircraft. This proposed rule would prohibit small unmanned aircraft operations in Class A airspace. Class A airspace starts at 18,000 feet mean sea level and extends up to 60,000 feet (Flight Level 600). As discussed above, this rule would prohibit small UAS operations above 500 feet AGL and outside of visual line of sight. Operations in Class A airspace would be inconsistent with that requirement, and therefore this proposed rule would prohibit operations in Class A airspace.

Small UAS operations would also be prohibited in Class B, Class C, Class D, and within the lateral boundaries of the surface area of Class E airspace designated for an airport without prior authorization from the ATC facility having jurisdiction over the airspace. The FAA factors information such as traffic density, the nature of operations, and the level of safety required when determining whether to designate controlled airspace.[61] Pilots must have an ATC clearance to enter certain controlled airspace. In other words, the FAA requires ATC to have knowledge of aviation operations in the airspace due to the greater amount of activity in that area compared to uncontrolled airspace.

The FAA believes that restricting use of controlled airspace to approved operations would reduce the risk of interference with other aircraft activities. Interference could occur for many reasons, including the location of the proposed small UAS operation in the airspace, or how the small unmanned aircraft would behave if there is a loss of positive control. These limitations would also be consistent with the general requirement for aircraft operating in controlled airspace to have ATC approval prior to entering the airspace. Therefore, the FAA proposes that small UAS receive approval from the ATC facility with jurisdiction over the airspace in which the operator would like to conduct operations. That ATC facility would have the best understanding of local airspace, its usage, and traffic patterns and would be in the best position to ascertain whether the proposed small UAS operation would pose a hazard to other users or the efficiency of the airspace, and procedures to implement to mitigate hazards. This proposed rule would not establish equipment requirements for small UAS operating in controlled airspace as the FAA does for other users of controlled airspace. Rather, the FAA believes that local ATC approval would provide a safer and more efficient operating environment at less cost to the operator.

The FAA notes that normal aircraft operations inside controlled airspace in the vicinity of an airport require prior authorization from ATC. Per part 91, ATC currently requires two-way radio communication for departures, through flights, arrivals, and operations inside the airspace. The FAA understands that not all small UAS will be able to comply with the provisions of part 91, and that is why this proposed rule would not require strict compliance with part 91. However, because the air-traffic provisions of part 91 are intended to ensure safe operation in the NAS, a small UAS operator that intends to operate in controlled airspace must ensure that the proposed operations are planned and conducted in the safest manner possible. The small UAS operator can do this by working closely with the ATC facility that controls the airspace.

The ATC facility has the authority to approve or deny aircraft operations based on traffic density, controller workload, communication issues, or any other type of operations that could potentially impact the safe and expeditious flow of air traffic in that airspace. The more that a small UAS is able to show that it would satisfy the provisions of part 91 and comply with

[60] The FAA notes that this proposed requirement would not require people not involved with the operation to comply with the operator's warnings. The operator would simply be unable to commence the operation until the pertinent area has been made safe for operation.

[61] *See* FAA Aeronautical Information Manual, Para. 3–1–1.

the local operating procedures, the easier the access to the airspace would be. These items should be outlined in a prior agreement with the ATC facility to identify shortfalls and establish operating procedures for small UAS to integrate into the existing air traffic operation. This agreement would ensure all parties involved are aware of limitations and special interest items and would enable the safe flow of aircraft operations in that airspace. The FAA seeks comments related to part 91 compliance issues small UAS operators may encounter.

ii. Prohibited or Restricted Areas

The proposed rule would prohibit small UAS operations in prohibited and restricted areas without permission from the using or controlling agency as applicable. Prohibited and restricted areas are designated in 14 CFR part 73. Prohibited areas are established when necessary to prohibit flight over an area on the surface in the interest of national security or welfare. No person may operate an aircraft without permission of the using agency in a prohibited area.[62] Restricted areas are areas established when determined necessary to confine or segregate activities considered hazardous to non-participating aircraft. Although aircraft flight is not wholly prohibited in these areas, it is subject to restriction.[63] The proposed provision concerning prohibited and restricted areas would be similar to the part 91 restriction on operations in these areas.[64]

iii. Areas Designated by Notice to Airmen

This proposed rule would also prohibit operation of small UAS in airspace restricted by NOTAMs unless authorized by ATC or a certificate of waiver or authorization. This would include NOTAMs issued to designate a temporary flight restriction (TFR). NOTAMs contain time-critical aeronautical information that is either temporary in nature, or not sufficiently known in advance to permit publication on aeronautical charts or other publications.[65] For example, NOTAMs may be used to limit or restrict aircraft operations during emergency situations or presidential or VIP movements. They may also be used to limit aircraft operations in the vicinity of aerial demonstrations or sporting events. NOTAMs are available to the public on the FAA's Web site.[66]

Like other users of the airspace, small UAS operators would be required to review and comply with NOTAMs. As with other airspace restrictions in this rule, an operator could seek authorization from ATC or through a certificate of waiver or authorization to conduct operations in otherwise restricted airspace. The FAA believes that this process would permit an assessment of the operation in relation to the airspace restriction to determine whether the operation can be safely conducted.

6. Airworthiness, Inspection, Maintenance, and Airworthiness Directives

i. Inspections and Maintenance

As discussed in section III.J.3 of this preamble, pursuant to section 333(b)(2) of Public Law 112–95, we have determined that a small UAS should not be required to obtain airworthiness certification if satisfying the provisions of this proposal. However, without an airworthiness certification process, the FAA still needs to ensure that a small UAS is in a condition for safe operation. In considering how to address this issue, the FAA notes that the current regulations applicable to manned civil aircraft generally require an annual aircraft inspection every 12 months.[67] The inspection and any maintenance that might be necessary as a result of the inspection currently are governed by the provisions of 14 CFR part 43. Part 43 requires that the inspection examine every component of the aircraft in detail to determine whether any hazardous characteristics are present that would render the aircraft unairworthy.[68] If the inspection reveals any hazardous characteristics that would render the aircraft unairworthy, then maintenance, conducted pursuant to the regulations of part 43, must be performed in order to return the aircraft to an airworthy condition.

In addressing the issue of airworthiness for small UAS, the FAA considered several approaches, including requiring small UAS operators to comply with the existing inspection and maintenance requirements of this chapter. The FAA also considered requiring a separate permit to operate (PTO) in addition to aircraft registration and airman certification. A PTO would have included airworthiness certification requirements that would have required an applicant to:

- Describe the entire small UAS, including airframe, control station, and communications link;
- Comply with a set of unvalidated consensus standards;
- Test the design features required by the unvalidated consensus standards and determine that the UAS satisfies those standards;
- Inspect the aircraft for compliance with the manufacturer's requirements;
- Determine whether the aircraft has been manufactured in compliance with unvalidated production acceptance and quality assurance consensus standards acceptable to the FAA;
- Complete ground and flight testing of required UAS components and determine whether they demonstrated acceptable performance and safe operation.
- Create a process for addressing unsafe conditions in the aircraft; and
- Create a monitoring program to identify and correct safety-of-flight issues.

After further consideration, the FAA decided that neither of these approaches is proportionate to the risk posed by small UAS. FAA noted that, as mentioned previously, due to their light weight, small unmanned aircraft generally pose a significantly lower risk to people and property on the ground than manned aircraft. This relatively low risk is mitigated even further by the see-and-avoid and loss-of-positive-control provisions of this proposed rule, which are discussed above. Accordingly, based on existing information, the FAA believes that requiring small UAS operators to conduct inspection and maintenance of the small UAS pursuant to the existing regulations of part 43, or to obtain a PTO, would not result in significant safety benefits. As a result, this proposed rule would not require small UAS compliance with part 43 or the application for, or issuance of, a PTO.

Instead, this proposed rule would require, in § 107.21(b), that prior to each flight, the operator must inspect the small UAS to ensure that it is in a condition for safe operation. The operator could do this by, for example, performing a manufacturer-

[62] *See* 14 CFR 1.1.

[63] *See id.*

[64] *See* 14 CFR 91.133.

[65] *See* FAA Aeronautical Information Manual, para. 5–1–3.

[66] See, *e.g.*, *https://www.notams.faa.gov/dinsQueryWeb/* and *http://www.faa.gov/pilots/flt_plan/notams/*.

[67] *See* 14 CFR 91.609. Different components of the aircraft are also currently subject to additional component-specific inspection schedules. For example, in addition to the above general inspection requirements, altimeter instruments on airplanes and helicopters operating in controlled airspace under instrument flight rules must be inspected every 24 months. *See* 14 CFR 91.411(a)(1).

[68] *See* 14 CFR part 43, Appendix D (listing aircraft components that must be inspected and the hazardous characteristics that the inspection should look for).

recommended preflight inspection or performing an on-the-ground test of the small UAS to determine whether safety-critical systems and components are working properly.

If, as a result of the inspection, the operator determines that the small UAS is no longer in a condition for safe operation, then proposed §§ 107.21(a) and 107.15(a) would prohibit the operation of the small UAS until the necessary maintenance has been made and the small UAS is once again in a condition for safe operation. First, proposed § 107.21(a) would require that the operator must maintain the small UAS in a condition for safe operation. An example of how the operator could satisfy this proposed requirement would be performing the manufacturer's recommended maintenance at manufacturer-recommended regular intervals. Second, § 107.15(a) would prohibit a person from operating a small UAS unless that UAS is in a condition for safe operation. Thus, if an operator notices during inspection, maintenance, or preflight action, that the small UAS is not in a condition for safe operation, then the operator would be in violation of § 107.15(a) if he or she flies the small unmanned aircraft while the UAS is not in a condition safe for operation.

The FAA also notes that a small UAS that appears to be in a condition for safe operation prior to flight may become unsafe for operation during flight. For example, the small unmanned aircraft could sustain damage during flight rendering that aircraft unsafe for continuing the flight. As such, this proposed rule would require, in § 107.15(b), that the operator must discontinue the flight of the small unmanned aircraft when he or she knows or has reason to know that continuing the flight would pose a hazard to other aircraft, people, or property. This proposed requirement is similar to a requirement that currently exists in § 91.7(b), which requires the PIC to "discontinue the flight [of an aircraft] when unairworthy mechanical, electrical, or structural conditions occur."

The FAA invites comments on the issues discussed in this section. The FAA also invites comments as to the costs and benefits of requiring small UAS operators to perform maintenance and inspections pursuant to existing regulations.

ii. Airworthiness Directives

The FAA typically issues airworthiness directives to correct an existing unsafe condition in a product when the condition is likely to exist or develop in other products of the same type design. Airworthiness directives currently are issued for engines, propellers, and other products that are either: (1) Approved under a type certificate or a supplemental type certificate; or (2) that are manufactured under a production certificate, a parts manufacturer approval (PMA), or technical standard order (TSO) authorization.

As discussed in section III.J of this preamble, the FAA does not propose to require a type certificate, a production certificate, a PMA or TSO authorization for small UAS or any part installed on the small UAS. However, to provide manufacturers with flexibility, manufacturers would not be prohibited from installing parts that are FAA-certificated, have received PMA, or are TSO-authorized for manned-aircraft use on the small UAS, provided the small unmanned aircraft remains under 55 pounds after the installation of the part. The FAA anticipates that some manufacturers may choose to use these parts on the small UAS in order to obtain a higher level of reliability associated with a certificate, approval, or authorization.

However, because parts that are FAA-certificated, have received PMA, or are TSO-authorized may have airworthiness directives that are applicable to those parts, the FAA proposes to require, in § 107.13(d), that the owner or operator of the small UAS must comply with all applicable airworthiness directives. The FAA notes that it used a similar approach in its 2004 light-sport aircraft rulemaking. In that rulemaking, the FAA did not require a type or production certificate for light-sport aircraft but allowed the installation on the aircraft of parts that are FAA-certificated, have received PMA, or are TSO-authorized as long as the owner or operator complied with all applicable airworthiness directives.[69]

7. Miscellaneous Operating Provisions

i. Careless or Reckless Operation

The existing FAA regulations prohibit a person from operating an aircraft in a careless or reckless manner so as to endanger the life or property of another.[70] These regulations also prohibit the PIC from allowing any object to be dropped from an aircraft in flight if doing so would create a hazard to persons or property.[71] The FAA proposes to apply similar regulations to small UAS operations, in § 107.23 to ensure that a small UAS is not operated in a hazardous manner.

ii. Drug and Alcohol Prohibition

Proposed § 107.27 would require small UAS operators and visual observers to comply with the alcohol and drug use prohibitions that are currently in place in part 91 of the FAA's regulations. Small UAS operators and visual observers would also be subject to the existing regulations of § 91.19, which prohibit knowingly carrying narcotic drugs, marijuana, and depressant or stimulant drugs or substances.

The purpose of these regulations is to ensure that the safety of small UAS operations are not impeded by alcohol or drug use and to prohibit the use of aircraft for drug trafficking. Section 91.17 specifically prohibits use of alcohol or drugs during or for a time period prior to an operation. Moreover, operators and visual observers would need to submit to testing to determine alcohol concentration in the blood due to a suspected violation of law or § 91.17. Operators or visual observers would be required to submit these tests to the FAA if the FAA has a reasonable basis to believe that the person has violated § 91.17.

This section would also subject persons operating small UAS who knowingly carry illegal substances to FAA enforcement action, which could include certificate revocation. An exception exists for substances authorized by or under any Federal or State statute or by any Federal or State Agency.

iii. Medical Conditions

As discussed in section III.E of this preamble, this proposed rule would not require a small UAS operator or visual observer to hold an airman medical certificate. However, the FAA recognizes the possibility that a person acting as an operator or visual observer may have a medical condition that could interfere with the safe operation of the small UAS. Accordingly, the FAA proposes, in § 107.17, to prohibit a person from acting as an operator or visual observer if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS. This proposed provision is similar to the regulatory provision of 14 CFR 61.53(b), which currently applies to operations that do not require a medical certificate.

iv. Sufficient Power for the Small UAS

Proposed § 107.49(a)(4) would require a small UAS operator to ensure that, if

[69] *Certification of Aircraft and Airmen for the Operation of Light-Sport Aircraft Final Rule*, 69 FR 44772, 44855 (July 27, 2004).

[70] 14 CFR 91.13(a).

[71] 14 CFR 91.15.

powered, the small UAS has enough power to operate for its intended operational time and an additional five minutes. The 5-minute buffer would ensure that the small UAS has sufficient power to return to the operator, or another location, and be able to make a controlled landing. Additionally, control inputs to a small UAS may degrade as batteries lose charge because power to the flight control system(s) may be lost. Accordingly this proposed rule would help to ensure that the small UAS remains controllable throughout its intended operational time. The FAA notes that a small UAS travelling at 10 miles per hour would be able to cover nearly one mile in 5 minutes.

v. Registration and Marking

As mentioned earlier, the FAA's statute prohibits a person from operating a civil aircraft that is not registered.[72] The FAA proposes to codify this statutory requirement in § 107.13(b). In addition, all aircraft currently are required to display their registration number on the aircraft.[73] The FAA proposes to impose a similar requirement, in § 107.13(c), on small unmanned aircraft subject to this proposed rule. The specific manner in which the small unmanned aircraft would register and display its registration number is discussed in section III.G of this preamble.

E. Operator Certificate

As discussed earlier in this preamble, the FAA proposes to satisfy the statutory requirement for an airman to possess an airman certificate[74] by requiring small UAS operators to obtain and hold an unmanned aircraft operator certificate with a small UAS rating in order to operate a small UAS. An unmanned aircraft operator certificate would be a new type of airman certificate created by this proposed rule, and this section explains the FAA's proposal concerning this certificate.

1. Applicability

The FAA is proposing to require that individuals obtain an unmanned aircraft operator certificate with a small UAS rating as a prerequisite to operating a small UAS. As with airman certificates that the FAA requires for operating other aircraft, an operator certificate would ensure that the operator is able to safely operate the small UAS. The FAA notes that airman certificates are currently issued to pilots who engage in commercial and non-commercial activities. The FAA is proposing to issue a new type of certificate for UAS operators, rather than require a private or commercial pilot certificate with UAS type rating, because many of the requirements for private and commercial pilots are not necessary for the types of operations that would be permitted under this rule.

Moreover, the FAA wants to maintain a distinction between an unmanned aircraft operator certificate and the airman certificates issued under parts 61, 63 and 65.[75] As such, proposed § 61.8 would prohibit activities under this rule from being used to meet part 61 requirements. Activities would include any training, certification, or flights associated with small UAS under proposed part 107. This proposal is consistent with the FAA's statement in the 2013 Pilot Certification and Qualification Requirements for Air Carrier Operations Final Rule that "regulations do not currently permit the time acquired while operating [a UAS] to be logged to meet aeronautical experience requirements for FAA [manned-aircraft] certification."[76] Additionally, that rule did not extend an exception from a flight time standard to graduates of training programs designed to qualify a military pilot solely for operation of UAS to qualify for a reduced flight time.[77]

The FAA considered proposing to require an individual to obtain a commercial pilot certificate with a UAS type endorsement before operating a small UAS. Issuance of such a certificate would require that the applicant obtain a Class II airman medical certificate, pass an aeronautical knowledge test, and demonstrate flight proficiency and aeronautical experience with a certificated flight instructor. However, given the lower level of public risk posed by small UAS operations, the FAA decided that imposing such requirements would be unduly burdensome to small UAS operators. Moreover, as explained in further detail in preamble section III.E.2.iii.a below, the FAA believes that the training, testing, proficiency and experience requirements for obtaining a commercial pilot license have limited relevance to the nature of small UAS operations. The FAA invites public comment on its proposal to create a new category of airman certificate for small UAS operators.

2. Unmanned Aircraft Operator Certificate—Eligibility & Issuance

This rule would establish the eligibility requirements to apply for an unmanned aircraft operator certificate with a small UAS rating and specify when a certificate would be issued. Military and former military pilots would be able to apply based on experience operating unmanned aircraft in the United States Armed Forces.

i. Minimum Age

Proposed § 107.61 would establish the eligibility requirements for an unmanned aircraft operator certificate with a small UAS rating. First, an applicant would need to be at least 17 years of age. This minimum age is consistent with existing FAA minimum age requirements for the Sport Pilot, Recreational Pilot, and Private Pilot airman certificates—the base-level certificates authorizing pilots to operate aircraft while not under the supervision of an instructor. Because this rule would permit commercial small UAS operations, the FAA considered setting the minimum age at 18 years, consistent with the Commercial Pilot Certificate requirements which permit carrying persons or property for compensation or hire. However, the FAA determined that the higher age limit was not necessary because the proposed operational limitations will create an environment that minimizes risk to persons and property.

The FAA notes that the minimum age necessary to apply for an airman certificate to operate a glider or a balloon category aircraft is 16 years old. The FAA invites comments on whether the minimum age necessary to apply for an unmanned aircraft operator certificate should similarly be reduced to 16 years old in the final rule. The FAA also invites comments as to whether reducing the minimum applicant age to 16 years old would further enable academic use of small UAS.

ii. English Language Proficiency

A person would need to be able to read, speak, write and understand the English language to be eligible for an unmanned aircraft operator certificate with a small UAS rating. This requirement is consistent with all other airman certificates issued by the FAA.[78] The English language has generally been

[72] 49 U.S.C. 44101(a).

[73] *See* 14 CFR part 45.

[74] 49 U.S.C. 44711(a)(2)(A).

[75] Parts 61, 63, and 65 currently apply to all airman certificates, which include small UAS airmen. However, under this proposed rule, these parts would no longer apply to small UAS airmen. Thus, the distinction discussed in this paragraph would segregate experience acquired while operating a small UAS from experience acquired while operating a manned aircraft.

[76] 78 FR 42324 (July 15, 2013).

[77] *Id.*

[78] *See, e.g.*, 14 CFR 61.83(c).

accepted as the international standard for aircraft operations by ICAO.

However, this proposed rule would create an exception for people who are unable to meet one of the English language requirements due to medical reasons, as is the case for other airman certificates. Such a person would still be eligible for a certificate; however, the FAA would be able to specify limitations on that person's small UAS operator certificate to account for the medical condition. For example, if an applicant is unable to communicate using speech then the FAA may impose a limitation that the operator may not conduct a small UAS operation requiring more than one person.

iii. Pilot Qualification

The third proposed requirement to obtain an unmanned aircraft operator certificate with a small UAS rating would be to pass an initial aeronautical knowledge test. To ensure that a pilot is qualified to control an aircraft, the FAA generally requires that the applicant for a pilot certificate demonstrate the following three things: (1) Aeronautical knowledge; (2) flight proficiency (*i.e.* that the applicant has the requisite piloting skills); and (3) aeronautical experience.[79] For the reasons stated below, the FAA has determined that a flight proficiency demonstration and aeronautical experience should not be required for issuance of an unmanned aircraft operator certificate with a small UAS rating. Instead, the FAA proposes to require that applicants for this certificate simply demonstrate their aeronautical knowledge by passing an initial knowledge test and then passing a recurrent knowledge test every 24 months thereafter.

a. Flight Proficiency and Aeronautical Experience

As mentioned in the previous paragraph, the FAA currently requires applicants for a pilot certificate to demonstrate that they have the requisite flight proficiency and aeronautical experience to properly control the flight of an aircraft. These existing regulations are intended to ensure that an aircraft can take off safely and arrive back on the ground: (1) With everyone on board the aircraft unharmed; (2) without harming people on the ground; and (3) without interfering with other users of the NAS.

The first consideration for requiring a flight-proficiency demonstration and aeronautical experience (to prevent possible harm to people on board the aircraft) does not apply to small UAS operations because if a small unmanned aircraft was to crash, there would be no one on board the aircraft to be harmed by that crash. The second consideration for these requirements (to prevent harm to people on the ground) is addressed by the operating requirements of this rule, which limit the operation of the small unmanned aircraft to a confined area and require the operator to ensure that the aircraft will pose no hazard to people on the ground if there is a loss of positive control. An operator does not necessarily need special operating skills or aeronautical experience to ensure that the aircraft will not pose a hazard to people on the ground. For example, if an operator plans to fly the small unmanned aircraft in a residential area, the operator could approach the people who live in that area prior to the operation, inform them of the details of the operation, and ask them to either stay out of the area or stay indoors during the operation. Doing this would ensure the safety of people on the ground but would not require the use of special operating skills or aeronautical experience.

The third consideration for requiring a flight-proficiency demonstration and aeronautical experience (to avoid interference with other users of the NAS) is mitigated by the fact that a small unmanned aircraft is generally: (1) Relatively easy to control; (2) highly maneuverable; and (3) much easier to terminate flight than a manned aircraft. Specifically, the control station for a small UAS is typically less complex than the interface used to control the flight of a manned aircraft. Many small UAS control stations currently consist of a basic two-joystick interface where one joystick controls the aircraft's altitude and the other joystick controls the aircraft's speed and direction. Other control stations utilize basic programs, such as smart-phone or tablet applications, to control the small unmanned aircraft. These programs are generally easy to learn and utilize. By contrast, the flight deck interface used to control a manned aircraft requires coordinated use of flight control inputs, interpretation of aircraft instrumentation, and onboard equipment operation. Some of this equipment includes communication and sophisticated navigation equipment. A manned-aircraft pilot must learn to properly use all of these flight-deck-interface components in order to control the flight of the manned aircraft.

In addition, because a small unmanned aircraft is highly maneuverable and easy to land, an operator who finds the small unmanned aircraft to be difficult to control would still be able to easily land the aircraft. For instance, in the two-joystick control station example provided above, the operator could land a small unmanned rotorcraft simply by pressing the altitude joystick down until the rotorcraft descends to the ground. By contrast, a manned aircraft pilot would need to go through a significantly more complex process that includes adjusting aircraft attitude with flight controls, reducing engine power, and scanning for other traffic, in order to land the aircraft on the ground after takeoff.

There are two additional considerations for not requiring a flight proficiency demonstration or aeronautical experience for small UAS operators. First, unlike the pilot of a manned aircraft, the small UAS operator has the option to sacrifice the small unmanned aircraft in response to an emergency. Second, as discussed previously, proposed §§ 107.19(b) and 107.39 would require the operator to control the confined area of operation in order to ensure that the small unmanned aircraft will not pose a hazard to people on the ground in an emergency situation. Other operating rules proposed in this NPRM, such as the prohibition on operating within restricted areas without permission, the requirement to give way to manned aircraft, and the 500 feet AGL height limitation, would also mitigate the risk that a small unmanned aircraft interferes with other users of the NAS or poses a hazard to people on the ground.

Because the considerations underlying the current flight proficiency demonstration and aeronautical experience requirements have, at best, a limited applicability to small UAS operations that would be subject to this proposed rule, the FAA proposes not to require that applicants for an unmanned aircraft operator certificate with a small UAS rating demonstrate flight proficiency or aeronautical experience. The FAA invites comments on whether these applicants should be required to demonstrate flight proficiency and/or aeronautical experience. If so, what flight proficiency and/or aeronautical experience requirements should the FAA impose? The FAA also invites comments as to the costs and benefits of imposing these requirements.

b. Initial Aeronautical Knowledge Test

Turning to the remaining component of airman certification (aeronautical knowledge), the FAA proposes to require that applicants for an unmanned aircraft operator certificate with a small UAS rating pass an initial knowledge test to demonstrate that they have

[79] *See, e.g.*, 14 CFR 61.105–61.109.

sufficient aeronautical knowledge to safely operate a small UAS. The FAA proposes a knowledge test rather than a required training course in order to provide applicants with flexibility as to the method that they use to acquire aeronautical knowledge. For example, some individuals who wish to become small UAS operators may also hold a pilot certificate, and those individuals would already have acquired extensive aeronautical knowledge in order to obtain a pilot certificate. Other individuals may be able to acquire the necessary knowledge through self-study. Still other individuals may choose to use a commercial training course designed to provide them with the knowledge necessary to pass the initial knowledge test. In any case, passage of a knowledge test would ensure that the applicant has demonstrated the aeronautical knowledge necessary to safely operate a small UAS regardless of how the applicant happened to acquire that knowledge. The FAA invites comments as to whether other requirements, such as passage of an FAA-approved training course, should be imposed either instead of or in addition to the proposed knowledge test.

c. Areas of Knowledge Tested on the Initial Knowledge Test

This proposed initial knowledge test would test the following areas of knowledge. First, the knowledge test would test whether the applicant knows the regulations applicable to small UAS operations. By testing the applicant's knowledge of the applicable regulations, the proposed initial knowledge test would ensure that the applicant understands what those regulations require and does not violate them through ignorance.

Second, the initial knowledge test would test whether the applicant understands how to determine the classification of specific airspace and what the requirements are for operating in that airspace. To comply with the proposed airspace operating requirements, a small UAS operator would need to know how to determine the classification of the airspace in which he or she would like to operate.

Third, the initial knowledge test would test whether the applicant understands flight restrictions affecting small unmanned aircraft operations. The proposed initial knowledge test would test whether the applicant knows how to determine which areas are prohibited, restricted, or subject to a TFR in order to comply with the proposed flight restrictions in §§ 107.45 and 107.47.

Fourth, the initial knowledge test would test whether the applicant understands how to clear an obstacle during flight. As discussed previously, proposed § 107.37(b) prohibits a person from creating a collision hazard with, among other things, a ground structure. The proposed initial knowledge test would test whether the applicant understands what types of small unmanned aircraft maneuvers would create a collision hazard with a ground structure.

Fifth, the initial knowledge test would test whether the applicant understands the effects of weather and micrometeorology (weather on a localized and small scale) on small unmanned aircraft operation. Knowledge of weather is necessary for safe operation of a small unmanned aircraft because, due to the light weight of the small unmanned aircraft, weather could have a significant impact on the flight of that aircraft. For example, space around buildings, smokestacks and trees, which is safe during clear weather, could easily become hazardous in a windy situation. Accordingly, the proposed initial knowledge test would test whether an applicant understands the effect that different types of weather have on small unmanned aircraft performance and how to react to that weather. The proposed knowledge test would also test whether an applicant has knowledge of official sources that he or she can use to obtain weather information and predictions in order to plan the operation of the small UAS.

Sixth, the proposed knowledge test would test whether an applicant understands how to calculate the weight and balance of the small unmanned aircraft to determine impacts on performance. In order to operate safely, operators need knowledge and understanding of some fundamental aircraft performance issues, which include load balancing and weight distribution as well as available power for the operation.

Seventh, the operator of a small UAS may be presented with an emergency situation during an operation. Accordingly, the proposed initial knowledge test would test whether the applicant understands how to properly respond to an emergency.

Eighth, the proposed initial knowledge test would test the applicant's understanding of aeronautical decision-making/judgment and crew resource management. Even though this proposed rule would limit the flight of a small unmanned aircraft to operations at or below 500 feet AGL, some manned aircraft will still operate in the same airspace as the small unmanned aircraft. Accordingly, the small UAS operator would need to understand the aeronautical decision-making and judgment that manned-aircraft pilots engage in so that he or she can anticipate how the manned aircraft will react to the small unmanned aircraft. The small UAS operator would also need to understand how to function in a team environment (this is known as crew resource management) because this proposed rule would permit the use of visual observers to assist the small UAS operator and would place the operator in charge of those observers.

Ninth, the proposed initial knowledge test would test the applicant's understanding of airport operations and radio communication procedures, which would include standard terminology. While this proposed rule would limit small UAS operations in the vicinity of an airport, there are some instances where these operations would be permitted. For example, this proposed rule would allow a small unmanned aircraft to operate in Class B, C, or D airspace if the operator obtains prior ATC authorization. In order to operate safely near an airport, the operator would need to have knowledge of airport operations so that the small unmanned aircraft does not interfere with those operations. The operator would also need to have knowledge of radio communication procedures so that the operator can communicate with ATC.

Lastly, the proposed initial knowledge test would test whether the applicant understands the physiological effects of drugs and alcohol. Many prescription and over-the-counter medications can significantly reduce an individual's cognitive ability to process and determine what is happening around him or her. Accordingly, an operator needs to understand how drugs and alcohol can impact his or her ability to safely operate the small UAS.

The FAA invites comments on the proposed areas of knowledge to be tested on the initial knowledge test. The FAA also invites comments as to whether the initial knowledge test should test any other areas of knowledge. If so, what additional areas of knowledge should be tested? What would be the costs and benefits of testing these other areas of knowledge?

d. Administration of the Initial Knowledge Test

Knowledge tests currently administered to prospective pilots under 14 CFR part 61 are created by the FAA and administered by FAA-approved knowledge testing centers. A knowledge testing center is a private

entity that has received FAA approval to administer airman knowledge tests. These centers are all certificated and regularly evaluated to ensure that the testing center meets FAA certification requirements. There are currently about 650 knowledge testing center spread throughout the country. The FAA proposes to apply its existing knowledge development and administration framework to knowledge tests that would be administered to prospective small UAS operators. Under this framework, the initial knowledge test would be created by the FAA and administered by an FAA-approved knowledge testing center. Just as it does now, the FAA will specify the minimum grade necessary to pass the knowledge test,[80] and applicants who take the test will be issued an airman knowledge test report showing the results of the knowledge test.

To ensure that the knowledge test is properly administered, this proposed rule would also impose the following requirements. First, proposed § 107.69 would prohibit an applicant from cheating or engaging in unauthorized conduct during a knowledge test. This would include: (1) Copying or intentionally removing a knowledge test; (2) giving a copy of a knowledge test to another applicant or receiving a copy of the knowledge test from another applicant; (3) giving or receiving unauthorized assistance while the knowledge test is being administered; (4) taking any part of a knowledge test on behalf of another person; (5) being represented by or representing another person for a knowledge test; and (6) using any material not specifically authorized by the FAA while taking a knowledge test. Cheating or engaging in unauthorized conduct during a knowledge test in violation of proposed § 107.69 would be grounds for suspending or revoking the certificate or denying an application for a certificate. In addition, a person who engages in unauthorized conduct would be prohibited from applying for a certificate or taking a knowledge test for a period of one year after the date of the unauthorized conduct.

Second, to ensure that the person taking the knowledge test is correctly identified, proposed § 107.67 would require an applicant for a knowledge test to have proper identification at the time of the application. To ensure correct identification, the applicant for an unmanned aircraft operator certificate would have to have his or her identification verified in person just like any other applicant for an FAA-issued airman certificate. The proposed requirements for proper identification would be the same as the identification requirements currently imposed on applicants who wish to take a knowledge test.[81] Specifically, an applicant's identification would need to include the applicant's: (1) Photograph; (2) signature; (3) date of birth, which shows the applicant meets or will meet the proposed age requirements for an operator certificate; and (4) the applicant's current residential address if the permanent mailing address is a post office box number.

Finally, proposed § 107.71 would address circumstances in which an applicant wishes to retake a knowledge test after failure. To ensure that an applicant receives additional training after failing a knowledge test, the FAA currently requires an applicant who fails a knowledge test to receive additional training from a flight instructor and an endorsement from that instructor indicating that the instructor has determined that the applicant is now proficient to pass the test.[82] However, as discussed previously, this proposed rule would not require any specific form of training or studying in order to pass a knowledge test. Accordingly, the FAA proposes to require that a person who fails a knowledge test wait 14 calendar days before retaking the knowledge test. This 14-day waiting period would provide sufficient time for an applicant who fails a knowledge test to obtain additional training of his or her choice.

The FAA also considered whether to offer an option for the knowledge test to be administered online. However, in examining this approach the FAA ultimately determined that there would be significant risk in the integrity of a knowledge test becoming compromised if that test was to be administered outside of a controlled environment. This could be accomplished through someone copying and circulating the test questions, using unauthorized materials to take the test, or even taking the test for another person. Using the identity of another person to take the knowledge test may also allow an applicant to manipulate the security vetting procedures that take place once the applicant's identity is verified.

In addition, the FAA determined that it would be more difficult to safeguard the personally identifiable information (PII) of a test-taker that would be collected online rather than in-person at a knowledge testing center. Accordingly, the FAA has decided against proceeding with an online test-taking option. The FAA invites comments on whether the small UAS aeronautical knowledge test should have an option for online test-taking and, if so, what safeguards should be implemented to protect the integrity of the small UAS knowledge test, assure the FAA of the identity of the test taker, and protect the test-taker's PII that would be provided online. The FAA also invites comment on different UAS testing location options that might provide the lowest cost option for individuals, while protecting the integrity of the test and the information provided as part of the test-taking process.

e. Recurrent Aeronautical Knowledge Test

i. General Requirement and Administration of the Recurrent Knowledge Test

The FAA also proposes to require small UAS operators to pass a recurrent aeronautical knowledge test after they receive their operator certificate. The FAA proposes this requirement because this proposed rule would not require small UAS operators to regularly conduct small UAS operations, and consequently, some operators may conduct small UAS operations infrequently and may not fully retain some of the knowledge that they acquired in order to pass the initial knowledge test. The FAA also notes that even operators who regularly conduct small UAS operations may not fully retain pieces of knowledge that they do not use during their regular operations. For example, a small UAS operator who conducts operations only in Class G airspace may not retain the knowledge that he or she needs ATC authorization in order to conduct operations in Class B, C, or D airspace. Some aeronautical knowledge that the small UAS operator learned for the initial knowledge test may also become outdated over time.

Accordingly, the FAA proposes to require that the operator pass a recurrent knowledge test every 24 months. The FAA proposes 24 months as the appropriate recurrent testing frequency because that is the frequency of the recurrent flight review that pilots currently complete under 14 CFR 61.56. This requirement has been in place for approximately 40 years. Based on the FAA's experience with the existing 24-month flight review cycle, a recurrent knowledge test that is given every 24 months would ensure that the small UAS operator properly maintains the pertinent aeronautical knowledge. The

[80] *See* 14 CFR 61.35(b).

[81] The current knowledge-test identification requirements can be found at 14 CFR 61.35(a)(2).

[82] 14 CFR 61.49(a).

FAA invites comments on this proposed requirement.

The FAA also proposes that the recurrent aeronautical knowledge test be administered using the same framework as the initial aeronautical knowledge test. Specifically, under this proposed rule, the recurrent knowledge test would be created by the FAA and administered by FAA-approved knowledge testing centers. An applicant would be required to have proper identification in order to take the test, and he or she would be required to wait 14 days after failure before retaking the knowledge test. A certificate holder or applicant[83] would also be prohibited from cheating or engaging in unauthorized conduct during the recurrent knowledge test.

Just as with the initial knowledge test, the FAA invites comments on whether the small UAS recurrent aeronautical knowledge test should have an option for online test-taking and, if so, what safeguards should be implemented to protect the integrity of the small UAS knowledge test, assure the FAA of the identity of the test taker, and protect the test-taker's PII that would be provided online.

ii. Recurrent Test Areas of Knowledge

Under this proposed rule, the recurrent knowledge test would test the following areas of knowledge. First, the knowledge test would test the operator's knowledge of the regulations that govern small UAS operation to ensure that his or her knowledge is up to date regarding all aspects of small UAS operations permitted under the certificate, as the operator may not encounter all of these aspects in his or her regular operation. In the example provided earlier, an operator who regularly conducts small UAS operations in Class G airspace may not retain the knowledge concerning regulations governing operation in other classes of airspace.

Second, the recurrent knowledge test would test the operator's knowledge of airspace classification and operating requirements, obstacle clearance requirements, and flight restrictions. This is because: (1) Airspace that the operator is familiar with could become reclassified over time; (2) the location of existing flight restrictions could change over time; (3) new ground-based obstacles could be created as a result of new construction; and (4) some operators may not regularly encounter these issues in their regular operations.

Third, the recurrent knowledge test would ensure that the operator has the latest knowledge concerning sources of weather and airport operations. This is because the official sources of weather could change over time. Market turnover could also affect a change in airport operations as new airports are built and old airports are demolished or repurposed. The FAA notes that airports can also change their operations in response to changes in operating environment by, for example, changing the approaches that manned aircraft use to line up for a landing. The recurrent knowledge test would ensure that the small UAS operator is familiar with the latest sources of weather and the latest information concerning airport operations.

Fourth, the recurrent knowledge test would test the operator's knowledge of emergency procedures, crew resource management, and aeronautical decision-making/judgment. A small UAS operator may not encounter any of these situations over a 24-month operating period because: (1) An emergency situation may not present itself; (2) the operator may be involved in operations that do not use visual observers; and (3) the operator may be involved in operations that do not take place in the vicinity of any manned aircraft. Accordingly, including these areas of knowledge on the recurrent knowledge test would ensure that the operator retains knowledge on these areas even if he or she does not regularly encounter them in his or her small UAS operations.

iv. Issuance of an Unmanned Aircraft Operator Certificate with Small UAS Rating

Proposed § 107.63 specifies that the FAA will issue the certificate to an airman eligible under § 107.61 if the airman submits an application including an airman knowledge test report showing that he or she passed the initial aeronautical knowledge test required for the certificate. The certificate will not have an expiration date, and once issued, it will remain valid until surrendered, suspended, or revoked. The FAA invites comments as to whether this certificate should expire after a certain period of time. If so, when should the certificate expire?

The method of submission of the application is discussed further in section III.E.5.i of this preamble. The FAA notes that, as discussed in that section, all applicants for an airman certificate will be vetted by the Transportation Security Administration (TSA) pursuant to 49 U.S.C. 46111 to determine whether they pose a security threat. An applicant will not be issued an unmanned aircraft operator certificate until the TSA determines that the applicant will not pose a security threat.

v. Not Requiring an Airman Medical Certificate

The FAA also considered whether to require an applicant seeking an unmanned aircraft operator certificate with a small UAS rating to obtain an airman medical certificate as part of the application process. With certain exceptions, under 14 CFR part 61, the FAA currently requires an airman medical certificate for a student pilot certificate, a recreational pilot certificate, a private pilot certificate, a commercial pilot certificate, and an airline transport pilot certificate.[84] Flight instructors are also required to have a valid medical certificate when required to act as pilot in command.

The primary reason for medical certification is to determine if the airman has a medical condition that is likely to manifest as subtle or sudden incapacitation that could cause a pilot to lose positive control of the aircraft, or impair the pilots ability to "see and avoid."

The FAA has determined that traditional FAA medical certification may not be warranted for small UAS operators subject to this proposed rule mainly because small UAS operators and visual observers are operating within a "confined area of operation," and subject to other operational limitations, discussed previously in this preamble. This is because the proposed visual-line-of-sight requirement for the operator and/or visual observer to be able to see the aircraft's direction and attitude of flight in the proposed rule is preferable to a vision standard. Even with normal vision it is foreseeable that a small unmanned aircraft may be so small that the operational space must be reduced to meet the operational requirements proposed in this rule. As such, prescriptive medical standards may not be as critical as they are for individuals exercising pilot privileges and therefore are not proposed under this action.

Rather, the FAA is proposing that operators self-certify, at the time of their airman application, that they do not have a medical condition that could interfere with the safe operation of a small UAS. As proposed in § 107.61(d), an applicant for an unmanned aircraft operator certificate with a small UAS

[83] As discussed in more detail further in the preamble, proposed § 107.75 would allow military or former military UAS operator applicants to take the recurrent test instead of the initial test in order to obtain an FAA-issued unmanned aircraft operator certificate.

[84] 14 CFR 61.23(a).

rating would be ineligible for the certificate if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS. The FAA also proposes, in § 107.63(a), that the applicant be required to make a certification to that effect. Both of these proposed requirements are similar to the regulatory provision of § 61.53(b), which prohibits operations during medical deficiency for individuals conducting operations that do not require a medical certificate. FAA also considered proposing to require a medical certificate for a visual observer, but decided not to propose this requirement for the same reason a medical certificate for an operator is not being proposed. The FAA, however, does invite public comment as to whether an FAA medical certificate should be required. The FAA also invites comments as to the costs and benefits of requiring an airman medical certificate for an operator or visual observer.

4. Military Equivalency

This proposed rule would allow pilots with military experience operating unmanned aircraft to take the recurrent knowledge test in lieu of the initial knowledge test in order to be eligible for an unmanned aircraft operator certificate with a small UAS rating. The U.S. Armed Forces use many types and sizes of UAS in combat and non-combat operations, both in the United States and abroad, and have done so for many years. During that time, many servicemen and women have been trained to operate UAS. The FAA has established special rules for current or former military pilots allowing them to be issued FAA pilot certificates based on their military flight experience and passing a military knowledge check.[85]

Accordingly, the FAA is proposing to allow current or former military operators of unmanned aircraft to take a more limited recurrent aeronautical knowledge test rather than the initial aeronautical knowledge test to obtain an unmanned aircraft operator certificate with a small UAS rating. They may not rely on that experience if they were subject to certain disciplinary action described in § 107.75(a).

The FAA also considered whether to allow individuals who have been conducting UAS operations under a COA as a non-military UAS operator to take a recurrent test instead of an initial test in order to obtain an unmanned aircraft operator certificate with a small UAS rating. However, the FAA decided not to include this provision in the proposed rule because: (1) There is no formally recognized recordation system for non-military COA pilots as there is for military pilots; and (2) non-military COA pilots are currently subject to different requirements than military COA pilots for operations above 400 feet AGL. The FAA invites comments on whether non-military COA pilots should be permitted to take the recurrent knowledge test instead of the initial knowledge test in order to obtain an unmanned aircraft operator certificate.

5. Unmanned Aircraft Operator Certificate: Denial, Revocation, Suspension, Amendment, and Surrender

This rule would establish specific instances for when an unmanned aircraft operator certificate with a small UAS rating can be denied, revoked, suspended, amended, or surrendered. This rule would allow the FAA to deny, suspend, or revoke the certificate for reasons including security risk posed by the applicant, drug or alcohol offenses, refusal to submit to an alcohol test or furnish the results. Certificate holders would also be able to voluntarily surrender certificates.

i. Transportation Security Administration Vetting and Positive Identification

The FAA will deny an application for a certificate or take certificate action if the TSA determines that a person poses a security threat. Specifically, under 49 U.S.C. 46111, once an unmanned aircraft operator certificate application is received, the FAA will verify compliance and the accuracy of the application and provide the applicant's information to TSA for security vetting prior to certificate issuance. Under this proposed rule, the FAA would transmit a student pilot's biographic information for security vetting to TSA and issue an unmanned aircraft operator certificate only after receiving a successful response from TSA. However, if the TSA determines that an airman certificate applicant poses a security risk, section 46111 requires the FAA to deny the application for a certificate or amend, modify, suspend, or revoke (as appropriate) any part of an airman certificate based on the TSA's security findings.

The FAA may issue certificates to individuals who have first successfully completed a security threat assessment (STA) conducted by the TSA.[86] TSA would conduct STAs of applicants for a UAS certificate and notify the applicant and/or the FAA when the STA is complete. The STA would consist of a check of intelligence-related databases, including Interpol and international databases, terrorist watch lists, and other sources relevant to determining whether an individual poses or may pose a threat to transportation security, and that confirm the individual's identity. A successful STA is generally valid for five years, but may be revoked during that time if TSA's recurrent vetting reveals that the individual poses or may pose a security threat.

Congress requires TSA to recover the costs of vetting and credentialing services through user fees.[87] The fees for vetting UAS certificate applicants would cover TSA's costs for enrolling, processing, and replying to the application, as well as the costs of conducting the intelligence-related checks themselves. TSA is developing a process, through rulemaking, by which TSA's vetting fees can be collected from applicants during the application process, as TSA currently does in other vetting and credentialing programs, and used to cover the cost of the security screening. Thus, while this rulemaking projects that these costs are currently governmental costs, these costs would be passed on to individuals in the future.

As a result of the processes that go into the issuance of an airman certificate, the FAA estimates that it could take about 6 to 8 weeks after receipt of an application for the FAA to issue an applicant an unmanned aircraft operator certificate with a small UAS rating. The FAA invites comments with suggestions for how this period could be reduced. The FAA also notes that the TSA will continue to examine certificate holders after FAA issuance of a certificate.

In addition, in order for the TSA to be able to make the security assessments specified in 49 U.S.C. 46111, the agency must be sure of the identity of the person that it is assessing. Otherwise, a person who poses a security threat could evade TSA scrutiny simply by using someone else's identity. To address this issue, the FAA currently requires all applicants for a pilot certificate to apply in person and present positive identification at the time of application.[88] The identification must include an official photograph of the applicant, the applicant's signature, and the applicant's residential address,

[85] *See* 14 CFR 61.73.

[86] See 49 U.S.C. 44903(j)(2)(D).

[87] See 6 U.S.C. 469.

[88] FAA Order 8900.1, vol. 5, ch. 1, sec. 3, para. 5–54; FAA Order 8900.2, ch. 7, sec. 2, para. 25, pg. 7–36.

if different from the mailing address.[89] Acceptable methods of identification currently include, but are not limited to, U.S. driver's licenses, government identification cards, and passports.[90]

Because positive identification of the applicant is necessary for TSA to be able to determine whether the applicant poses a security threat, this proposed rule would require an applicant for a small unmanned aircraft operator certificate with a small UAS rating to submit the application to a Flight Standards District Office (FSDO), a designated pilot examiner (DPE), an airman certification representative (ACR) for a pilot school, a certificated flight instructor (CFI), or other persons authorized by the Administrator. The person accepting the application submission would be required to verify that the identity of the applicant matches the identity that is provided on the application.

This proposed rule would allow a DPE, an ACR for a pilot school, or a CFI to accept an application and verify the identity of the applicant because to do otherwise would severely limit the number of locations where an applicant for a certificate could submit his or her application. This is because of the limited number of FSDOs and qualified personnel in each FSDO needed to accept the anticipated number of application submissions each year. There are only 81 FDSOs in the United States, which are only open 5 days per week (excluding Federal holidays). However, there are an approximate combined total of 100,000 DPEs, ACRs, and CFIs potentially available to accept an application 7 days per week. Though there is no fee required to submit an application to a FSDO, there may be a nominal processing fee charged by the authorized FAA representative, none of which goes to the FAA. The FAA believes that this nominal fee (estimated average of $50), if charged by the FAA representative, would offset the average cost of travelling to a FSDO as well as the delay in submitting the application (measured possibly in weeks) due to having to make an appointment with the FSDO during the work week.

DPEs represent the FAA, and are already required to positively identify an applicant for certification when the applicant takes the practical test for the certificate. ACRs are also currently required to positively identify the student/applicant for airman certification as part of the responsibility of the part 141 flight school with which the ACR is affiliated.

CFIs are currently required to verify a pilot-certificate applicant's identity pursuant to TSA regulations codified at 49 CFR 1552.3(h)(1). That section requires a flight school[91] to endorse a pilot logbook verifying that a student is a U.S. citizen and presented identification prior to flight training, which likely would be at the same time that a person would apply for a student pilot certificate.

Because DPEs, ACRs, and CFIs already have experience verifying an applicant's identity, this proposed rule would allow these persons to accept an application for an unmanned aircraft operator certificate with a small UAS rating and verify the identity of the applicant. Sections 61.193, 61.413, and 183.23 would be revised accordingly.

The FAA has also considered allowing knowledge testing centers to verify an applicant's identity and accept an application for an unmanned aircraft operator certificate. However, the FAA is proposing to limit positive identification and acceptance of an application to those persons who are either: (1) Already authorized to accept and sign airman applications (FAA personnel, DPEs, and ACRs); or (2) are already required to verify identity under the TSA's regulations (CFIs). Knowledge testing centers do not fit into either of these categories, and thus, this proposed rule would not allow them to accept airman applications. The FAA invites comments on whether knowledge testing centers should be allowed to accept airman applications.

ii. Drugs and Alcohol Violations

Proposed § 107.57 would authorize the FAA to deny a certificate application or take other certificate action for violations of Federal or State drug laws. Certificates could also be denied, suspended or revoked for committing an act prohibited by § 91.17 or § 91.19—which are discussed in section III.D.6 of this document. Specifically, proposed § 107.59 specifies that certificate action could be taken for: (1) Failure to submit for a blood alcohol test or to release test results to the FAA as required by § 91.17; or (2) carriage of illegal drugs in violation of § 91.19. This proposal mirrors current regulations that apply to all airman certificates.[92]

iii. Change of Name

The FAA recognizes that individuals who hold airman certificates may change their names. Accordingly, the regulations governing pilot certificates currently issued under part 61 allow the holder of a pilot certificate to change the name on a certificate by submitting appropriate paperwork to the FAA.[93] This proposed rule would provide operators with the same opportunity in § 107.77(a). Specifically, proposed § 107.77(a) would allow a person holding an unmanned aircraft operator certificate with a small UAS rating to change the name on the certificate by submitting a name-change application to the FAA accompanied by the applicant's: (1) Operator certificate; and (2) a copy of the marriage license, court order, or other document verifying the name change. After reviewing these documents, the FAA would return them to the applicant.

iv. Change of Address

To ensure that the FAA has an airman certificate holder's proper contact information, part 61 currently requires the holder of a pilot, flight instructor, or ground instructor airman certificate who has made a change in permanent mailing address to notify the FAA within 30 days of making the address change.[94] Failure to do so prohibits the certificate holder from exercising the privileges of the airman certificate until he or she has notified the FAA of the changed address.[95] Because this regulatory provision helps ensure that the FAA is able to contact airman certificate holders, proposed § 107.77(c) would extend the existing change-of-mailing-address requirement to holders of an unmanned aircraft operator certificate with a small UAS rating.

v. Voluntary Surrender of Certificate

The FAA also recognizes that some individuals who obtain an unmanned aircraft operator certificate with a small UAS rating may decide to stop serving as a small UAS operator. Accordingly, proposed § 107.79 would allow a holder of an unmanned aircraft operator certificate to voluntarily surrender it to the FAA for cancellation. However, the FAA emphasizes that cancelling the operator certificate pursuant to § 107.79 would mean that the certificate no longer exists, and the individual who surrendered the certificate would need to again go through the entire certification process (including passing the initial aeronautical knowledge test) if he/she subsequently changes his/her mind. Accordingly, proposed § 107.79(b) would require the individual surrendering the certificate to include

[89] *Id.*

[90] *Id.*

[91] TSA defines a flight school as any pilot school, flight training center, air carrier training facility, or flight instructor certificated under 14 CFR parts 61, 121, 135, 141, or 142.49 CFR 1552.1(b).

[92] *See* 14 CFR 61.15(a) and (b), 63.12, and 65.12.

[93] 14 CFR 61.25.

[94] 14 CFR 61.60.

[95] *Id.*

the following signed statement (or an equivalent) in his or her cancellation request:

I voluntarily surrender my unmanned aircraft operator certificate with a small UAS rating for cancellation. This request is made for my own reasons with full knowledge that my certificate will not be reissued to me unless I again complete the requirements specified in §§ 107.61 and 107.63.

F. Registration

As mentioned earlier, the FAA's statute prohibits a person from operating a civil aircraft that is not registered,[96] and this proposed rule would codify this statutory requirement. The registration of aircraft and the assignment of an identifying registration number to be displayed on the aircraft are primary foundation blocks in the regulatory structures that provide for safe and orderly aircraft activity within the NAS. The registration number provides a quick call-sign for communications between air traffic control and aircraft in flight. It also provides a link to information about the aircraft and the owner responsible for its operations. This information may assist the FAA and law enforcement agencies to respond to inappropriate behavior, to share safety information, respond to emergency situations, and populate data fields for studies that track trends and help shape future management decisions.

Part 47 of 14 CFR currently governs the registration process applicable to aircraft that are not registered under the laws of a foreign country and that meet one of the following ownership criteria:

- The aircraft is owned by a citizen of the United States;
- The aircraft is owned by a permanent resident of the United States;
- The aircraft is owned by a corporation that is not a citizen of the United States, but that is organized and doing business under U.S. Federal or State law and the aircraft is based and primarily used in the United States; or
- The aircraft is owned by the United States government or a state or local governmental entity.[97]

This proposed rule would not apply to UAS operations that have certain international ownership components. This would exclude any aircraft whose ownership fails to meet the criteria for registration under part 47. Because this proposed rule would apply only to aircraft that are eligible for registration under part 47, the FAA proposes to satisfy the statutory aircraft-registration requirement by requiring all small unmanned aircraft subject to this proposed rule to be registered pursuant to the existing registration process of part 47.

The FAA also proposes to make a single change to part 47 to accommodate small unmanned aircraft registration. Specifically, small unmanned aircraft, which can easily be obtained for as low as several hundred dollars, are significantly smaller assets than manned aircraft, which can cost hundreds of thousands or millions of dollars. Because small unmanned aircraft are small assets, the FAA proposes to exempt small unmanned aircraft which have not previously been registered anywhere from the regulatory requirements of § 47.15, which were designed to apply to large-asset manned aircraft.

Thus, under this proposed rule, a small unmanned aircraft would generally be registered as follows. The aircraft's owner would send the following items to the FAA: (1) An Aircraft Registration Application providing information about the aircraft and contact information for the aircraft owner; (2) evidence of ownership (such as a bill of sale); and (3) the $5.00 registration fee. If the application and supporting materials satisfy the criteria of part 47, the FAA would then assign a registration number ("N" number) to the aircraft and issue a Certificate of Aircraft Registration to the applicant. If the aircraft was last previously registered in the U.S., once the new application has been sent to the Registry, its second copy (pink copy) may be used to operate the aircraft for a reasonable time while the application is being processed and the new certificate issued.

The FAA also notes that a Certificate of Aircraft Registration issued under part 47 currently expires every three years.[98] This is because ownership of the aircraft may change hands or the aircraft owner could move after registering. A requirement to periodically reregister the aircraft increases the likelihood that the FAA's registration database contains the latest information concerning each registered aircraft. The aircraft owner can easily reregister the aircraft by submitting to the FAA: (1) An application for registration renewal containing updated information about the aircraft and its owner; and (2) a $5.00 reregistration fee.[99] Because the current three-year registration expiration provision in part 47 would increase the likelihood that the FAA's registration database contains the latest information on small unmanned aircraft and their owners, the FAA proposes to retain this requirement for small unmanned aircraft registration.

In addition, the FAA notes that because most manned aircraft are type-certificated, the FAA currently possesses a significant amount of information about each aircraft type (as a result of the type-certification process) that it can use to supplement information in an individual registration application. This results in the current registration requirements of part 47 asking for a minimal amount of information for most manned aircraft.

However, small unmanned aircraft, which would not be type-certificated under this proposed rule, come in a variety of forms, many of which are not currently standardized. This situation is likely to continue as the small UAS market will continue broad innovation until designs emerge that are well balanced against the tasks found to be best served by this segment of aviation. To enable the FAA to both identify particular aircraft against a stated description as well as to identify and share safety related information as it develops, the FAA invites comments as to whether small unmanned aircraft owners should be required to provide additional information during the registration process. The FAA anticipates that the additional information requirement imposed on small unmanned aircraft could be similar to the requirements imposed on amateur-built aircraft under 14 CFR 47.33(c), as amateur aircraft pose the same lack-of-standardization issues as a small UAS.

G. Marking

1. Display of Registration Number

Subpart C of 14 CFR part 45 currently requires an aircraft to display its registration number on the aircraft. This requirement is intended to allow aircraft identification for oversight purposes. The number must generally be: (1) Painted on the aircraft or affixed to the aircraft by some other permanent means; (2) have no ornamentation; (3) contrast in color with the background; and (4) be legible.[100]

To increase the likelihood of aircraft identification during flight, part 45, Subpart C specifies highly visible surfaces on the aircraft where the aircraft registration number must be displayed. Those surfaces differ based on the type of aircraft that is used. For

[96] 49 U.S.C. 44101(a).

[97] 14 CFR 47.3. This limitation on the applicability of part 47 stems from a statute (49 U.S.C. 44103), which allows the FAA to only register aircraft that meet the above criteria.

[98] *See* 14 CFR 47.40.

[99] *Id.*

[100] 14 CFR 45.21(c).

example, a rotorcraft is required to display its registration number horizontally on the fuselage, boom or tail.[101] Conversely, a fixed wing unmanned aircraft is generally required to display its registration number on either the vertical tail surfaces or the sides of its fuselage.[102]

To ensure maximum visibility, Subpart C also specifies a minimum size for the registration number display.[103] For fixed-wing aircraft and rotorcraft, the registration number display must generally be at least 12 inches high.[104] Characters in the display must also be: (1) Generally two thirds as wide as they are high; (2) formed by solid lines that are one-sixth as thick as the character is high; and (3) spaced out so that the space between the characters is at least one-fourth of the character width.[105] Because some aircraft subject to part 45 may be small, § 45.29(f) allows aircraft that are too small to comply with the size requirements to display the registration number on the aircraft in as large a manner as practicable.[106]

This proposed rule would require a small unmanned aircraft to display its registration number in the manner specified in Subpart C of part 45. For unmanned aircraft that are not too small to comply with the display-size requirements discussed above, this proposed rule would require compliance with all of those requirements. This is because small unmanned aircraft present the same identification and oversight concerns as manned aircraft. For example, if a bystander was to observe a small unmanned aircraft being flown in a dangerous manner, the FAA would be able to determine the aircraft's owner if the bystander is able to see the aircraft's registration number. Because the current requirements in Subpart C of part 45 are intended to provide for the maximum visibility of an aircraft's registration number, compliance with those requirements would greatly increase the probability of a small unmanned aircraft being identified during a small UAS operation.

The FAA acknowledges that some small unmanned aircraft may be too small to comply with the minimum-display-size requirements of part 45. However, as mentioned previously, part 45 already contains a provision, § 45.29(f), that would address this issue by allowing the too-small aircraft to simply display its registration number in as large a manner as practicable. Accordingly, the size of the small unmanned aircraft would not be a barrier to compliance with the provisions of Subpart C of part 45.

The FAA also notes that, as discussed above, the registration-display-location requirements of part 45, Subpart C are specific to different types of aircraft.[107] Under this proposed rule, the FAA would expect small unmanned aircraft to comply with the display-location provisions that apply to the specific type of small unmanned aircraft being used. For example, rotorcraft small unmanned aircraft would be expected to comply with the display-location provisions that are applicable to rotorcraft. Conversely, fixed-wing small unmanned aircraft would be expected to comply with the provisions that are applicable to fixed-wing aircraft.

The FAA invites comments on whether a small unmanned aircraft should be required to display its registration number in accordance with Subpart C of part 45. If compliance with Subpart C should not be required, what standard should the FAA impose for how a small unmanned aircraft displays its registration number in order to fulfill its safety oversight obligation regarding small unmanned aircraft operations? The FAA invites comments with supporting documentation on this issue.

2. Marking of Products and Articles

The FAA also considered requiring small unmanned aircraft to comply with the marking of products and articles requirement of Subpart B of part 45. This subpart requires the manufacturer of an aircraft or aircraft component to attach a fireproof identification plate to the aircraft and/or component containing the manufacturer's name, model designation, serial number, and, if applicable, the type certificate. The purpose of these requirements is to allow the FAA to trace the pertinent aircraft and/or aircraft parts back to the manufacturer if an issue arises with the aircraft and/or aircraft parts.

The FAA does not believe that requiring small unmanned aircraft manufacturers to comply with the requirements of Subpart B of part 45 would be cost-justified. Under Executive Orders 12866 and 13563, the FAA may "propose or adopt a regulation only upon a reasoned determination that [the regulation's] benefits justify its costs."[108] As discussed elsewhere in this preamble, the FAA's primary safety concerns with regard to small UAS operations are: (1) The ability to "see and avoid" other aircraft with no pilot on board; and (2) the operator losing positive control of the small unmanned aircraft. Here, both of these safety concerns would be mitigated by the other provisions of this proposed rule. Accordingly, the FAA does not believe that the safety benefits of requiring small UAS manufacturers to install fireproof plating with their identification information would be sufficient to justify the costs of doing so.

The FAA invites comments, with supporting documentation, as to the costs and benefits of mandating compliance with Subpart B of part 45. The FAA also invites comments, with supporting documentation, on whether alternative methods of small-UAS manufacturer marking should be required.

H. Fraud and False Statements

Currently, the U.S. criminal code prohibits fraud and falsification in matters within the jurisdiction of the executive branch.[109] The FAA too may impose civil sanctions in instances of fraud and falsification in matters within its jurisdiction.[110]

Similarly, in § 107.5(a), this proposed rule would prohibit a person from making a fraudulent or intentionally false record or report that is required for compliance with the provisions of this proposed rule. Proposed § 107.5(a) would also prohibit a person from making any reproduction or alteration, for a fraudulent purpose, of any certificate, rating, authorization, record, or report that is made pursuant to proposed part 107. Finally, proposed § 107.5(b) would specify that the commission of a fraudulent or intentionally false act in violation of § 107.5(a) could result in the suspension or revocation of a certificate or waiver issued by the FAA pursuant to this proposed rule. This proposed civil sanction would be similar to the sanctions that the FAA currently imposes on fraudulent and false statements pursuant to §§ 61.59(b), 67.403(c), and 121.9(b).

[101] 14 CFR 45.27(a). Section 45.27(a) also allows the number to be displayed on both surfaces of the cabin, but an unmanned aircraft will not have a cabin.

[102] 14 CFR 45.25(a).

[103] 14 CFR 45.29(f).

[104] 14 CFR 45.29(b)(1) and (3).

[105] 14 CFR 45.29(c)–(e).

[106] *See* 14 CFR 45.29(f).

[107] *See, e.g.*, 14 CFR 45.25(a) and 45.27(a).

[108] Executive Order 13563, section 1(b) (summarizing and reaffirming Executive Order 12866).

[109] 18 U.S.C. 1001

[110] The FAA has exercised this power in 14 CFR 61.59, 67.403, 121.9, and 139.115, which currently impose civil prohibitions on fraud and false statements made in matters within the FAA's jurisdiction.

I. Oversight

1. Inspection, Testing, and Demonstration of Compliance

The FAA's oversight statutes, codified at 49 U.S.C. 44709 and 46104, provide the FAA with broad investigatory and inspection authority for matters within the FAA's jurisdiction. Under section 46104, the FAA may subpoena witnesses and records, administer oaths, examine witnesses, and receive evidence at a place in the United States that the FAA designates. Under section 44709, the FAA may "reinspect at any time a civil aircraft, aircraft engine, propeller, appliance, design organization, production certificate holder, air navigation facility, or agency, or reexamine an airman holding a certificate issued [by the FAA]."

This rule would codify the FAA's oversight authority in proposed § 107.7. Proposed § 107.7(b) would require the operator, visual observer, or owner of a small UAS to, upon FAA request, allow the FAA to make any test or inspection of the small unmanned aircraft system, the operator, and, if applicable, the visual observer to determine compliance with the provisions of proposed part 107.

Section 107.7(a) would require an operator or owner of a small UAS to, upon FAA request, make available to the FAA any document, record, or report required to be kept by the provisions of proposed part 107. This would include the operator's unmanned aircraft operator certificate with a small UAS rating and the certificate of aircraft registration for the small UAS being operated.

2. Accident Reporting

The FAA notes that UAS is a relatively new industry and that operators of small UAS may not have prior experience with aviation regulations or FAA oversight. In addition, because of the newness of the small UAS industry, the FAA currently does not have the oversight experience with small UAS that it has with manned aircraft operations. Accordingly, to ensure proper oversight of small UAS operations, this proposed rule, in § 107.9, would require a small UAS operator to report to the FAA any small UAS operation that results in: (1) Any injury to a person; or (2) damage to property other than the small unmanned aircraft. The report would have to be made within 10 days of the operation that resulted in injury or damage to property.[111] After receiving this report, the FAA may conduct further investigation to determine whether any FAA regulations were violated.

The FAA emphasizes that this proposed reporting requirement would be triggered only during operations that result in injury to a person or property damage. The FAA invites comments as to whether this type of accident-reporting should be required. The FAA also invites suggestions for alternative methods of ensuring compliance with the regulations governing small UAS operations. The FAA specifically invites comments as to whether small UAS accidents that result in minimal amounts of property damage should be exempted from the reporting requirement. If so, what is the threshold of property damage that should trigger the accident reporting requirement?

J. Section 333 Statutory Findings

As mentioned previously, in order to determine whether certain UAS may operate safely in the NAS pursuant to section 333 of Public Law 112–95, the Secretary must find that the operation of the UAS would not: (1) Create a hazard to users of the NAS or the public; or (2) pose a threat to national security. The Secretary must also determine whether small UAS operations subject to this proposed rule pose a safety risk sufficient to require airworthiness certification.

1. Hazard to Users of the NAS or the Public

Section 333 of Public Law 112–95 requires the Secretary to determine whether the operation of the UAS subject to this proposed rule would create a hazard to users of the NAS or the public. As discussed in the Background section of this preamble, due to their extremely light weight, small UAS could pose a significantly smaller public risk than do manned aircraft.

Two primary safety concerns associated with small UAS operations are: (1) The ability to "see and avoid" other aircraft with no pilot on board; and (2) the operator losing positive control of the small unmanned aircraft. Here, both of these safety concerns would be mitigated by the other provisions of this proposed rule. Specifically by requiring operations to be conducted within visual line of sight; limiting maximum gross weight of the small unmanned aircraft to be below 55 pounds; limiting the operating altitude to below 500 feet AGL; requiring operators to be certificated; defining the area of operation; and prohibiting operations over any person not directly participating in the operation, the risk associated with this group of aircraft would be significantly reduced when compared with other categories of aircraft that weigh more, fly higher, and faster.

Accordingly, the Secretary proposes to find that small UAS operations subject to this proposed rule would not create a hazard to users of the NAS or the public. We invite comments on this proposed finding.

2. National Security

Section 333 of Public Law 112–95 also requires the Secretary to determine whether the operation of UAS subject to this proposed rule would pose a threat to national security. Proposed part 107 would expand small UAS operations in the NAS to include commercial operations. Under proposed part 107, these operations would be subject to specific requirements, such as being able to operate only during daylight and only within visual line of sight of the operator and, if applicable, a visual observer. The small unmanned aircraft would also have to be registered with the FAA and display its FAA-issued registration marking prominently on the aircraft.

In addition, the operator of the small unmanned aircraft would be required to obtain an FAA-issued unmanned aircraft operator certificate with a small UAS rating. The process for obtaining this certificate would include the same TSA-review procedures that are currently used under 49 U.S.C. 46111 in order to screen out airman-certificate applicants who pose a security risk.

Because the above provisions would limit the security risk that could be posed by small UAS operations subject to this proposed rule, the Secretary proposes to find that these small UAS operations would not pose a threat to national security. We invite comments on this proposed finding.

3. Airworthiness Certification

Finally, section 333(b)(2) of Public Law 112–95 requires the Secretary to determine whether small UAS operations subject to this proposed rule pose a safety risk sufficient to require airworthiness certification. The Secretary has determined that airworthiness certification should not be required for small UAS subject to this proposed rule due to their low-risk operational characteristics. Specifically, as mentioned previously, because of the other provisions in this proposed rule, the risk associated with small UAS

[111] The proposed 10-day timeframe to submit a report is similar to the 10-day timeframe that is currently required by the NTSB for accident reporting. *See* 49 CFR 830.15(a).

subject to this proposed rule is significantly reduced.

The FAA emphasizes that, under this proposed rule, the operator would not need to determine design conformity or reliability probabilities when evaluating the airworthiness of small UAS. Instead, the operator would need to make a determination of whether the small UAS is in a safe condition during flight operations and ground operations conducted for the purpose of flight. During preflight and post flight inspections, a small UAS operator should look for simple inspection items such as dents, corrosion, mis-alignment, loose wires, binding controls, loose fasteners, and excessive wear. This simple but not all-inclusive list will identify most problems that could impact the airworthiness and reliability of the aircraft.

Another inspection method unique to small UAS that would be governed by this proposed rule would be a check of the control link. This check can be accomplished by using the control station to verify proper flight control deflection prior to flight. The check can also be used to ensure the flight controls deflect freely, without binding. Like the aforementioned inspection items, this too is a simple visual inspection that should not require any specialized training.

Because the proposed airworthiness provisions discussed above would sufficiently ensure that the small UAS is in a condition for safe operation and because the other provisions of this rule would ensure that the risk posed by small unmanned aircraft is significantly smaller than public risk posed by other groups of aircraft, the Secretary finds, pursuant to section 333(b)(2) of Public Law 112–95, that airworthiness certification would be unnecessary for small UAS subject to this proposed rule. We invite comments on this finding.

IV. Regulatory Notices and Analyses

A. Regulatory Evaluation

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 and Executive Order 13563 direct that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96–354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Public Law 96–39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of $100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this proposed rule. Readers seeking greater detail can read the full regulatory evaluation, a copy of which has been placed in the docket for this rulemaking.

In conducting these analyses, FAA has determined that this proposed rule: (1) Has benefits that justify its costs; (2) is an economically "significant regulatory action" as defined in section 3(f) of Executive Order 12866; (3) is "significant" as defined in DOT's Regulatory Policies and Procedures; (4) would have a significant positive economic impact on a substantial number of small entities; (5) would not create unnecessary obstacles to the foreign commerce of the United States; and (6) would not impose an unfunded mandate on state, local, or tribal governments, or on the private sector by exceeding the threshold identified above. These analyses are summarized below.

1. Total Benefits and Costs of This Rule

This proposed rule reflects the fact that technological advances in small unmanned aircraft systems (small UAS) have led to a developing commercial market for their uses by providing a safe operating environment for them and for other aircraft in the NAS. In time, the FAA anticipates that the proposed rule would provide an opportunity to substitute small UAS operations for some risky manned flights, such as photographing houses, towers, bridges, or parks, thereby averting potential fatalities and injuries. It would also lead to more efficient methods of performing certain commercial tasks that are currently performed by other methods.

For any commercial operation occurring because this rule is enacted, the operator/owner of that small UAS will have determined the expected revenue stream of the flights exceeds the cost of the flights' operation. In each such case this rule helps enable new markets to develop. The FAA identified how the proposed rule would improve the safety of the NAS when small UAS are operated in place of a hazardous manned operation or a laborer working at heights.

The estimated out-of-pocket cost for a small UAS operator to be FAA-certified is less than $300. As this proposal enables new businesses to be established, the private sector benefits would exceed private sector costs when new entrepreneurs earn a profit. As more profitable opportunities increase, so will the social benefits. Therefore, each new small UAS operator will have determined that their expected benefits exceed their costs. In addition, if the use of a small UAS replaces a dangerous non-UAS operation and saves one human life, that alone would result in benefits outweighing the costs of this proposed rule. The costs are shown in the table in the "Cost Summary" section below.

2. Who is potentially affected by this rule?

Manufacturers and operators of small unmanned aircraft systems.

3. Assumptions

- Because the commercial small UAS industry is not yet established and may evolve differently from current expectations, the FAA determined that a five-year time frame of analysis would be appropriate.
- The base year is 2014.
- The FAA uses a seven percent discount rate for the benefits as prescribed by OMB in Circular A–4.[112]
- Since the year that the proposed rule is published is unknown, the FAA uses Year 1 as the current year so that the first discounting occurs in Year 2.
- In the small UAS future fleet forecast, the FAA assumes that 20 percent of the fleet would retire or leave the fleet every year.[113]
- Because only one operator is required to operate a small UAS, the FAA assumes that there would be one qualified FAA-approved operator per

[112] *http://www.whitehouse.gov/omb/circulars_a004_a-4*

[113] A copy of the forecast can be found in the rulemaking docket. The FAA notes that a small UAS could incur a cost for registration and then retire or leave the fleet during the analysis interval. The FAA also notes that our small UAS forecast may be understated if operators choose to own more than one FAA-registered aircraft (for example, as a backup in case one aircraft is disabled). To account for this possibility, as a sensitivity analysis, if there were an additional 20 percent increase in our small UAS forecast, then the costs in Table 7 and Table 10, found in the regulatory evaluation accompanying this NPRM, would increase by 20 percent. The FAA requests comments, with supporting documentation, on this sensitivity analysis.

registered and operating small UAS. Even though 20 percent of the small UAS equipment leaves the fleet each year, the FAA expects that small UAS operators, once tested and certificated, would remain employable and some would take jobs as small UAS operators in the following years of the analysis interval. Also, operators would incur a cost for recurrent knowledge testing every 24 months. This will be explained in detail in the "Costs" section below.

- The FAA assumes that the failure rate of applicants [114] taking the small UAS initial and recurrent knowledge based test would be 10 percent.[115] However, applicants and operators who fail are assumed to pass the knowledge test on the second attempt.
- Since this proposed rule allows knowledge test centers (KTC) to administer small UAS operator initial or recurrent knowledge tests, the FAA assumes that the KTC would collocate themselves with a Designated Pilot Examiner (DPE), Certificated Flight Instructor (CFI) or Other Designated Authority to validate an applicant's identity, accept the knowledge test results and the small UAS operator application for review and submission to the FAA AFS–760 Airman Certification Branch for processing.
- The cost to administer an FAA approved small UAS knowledge test, including compliance fees, to a small UAS applicant or operator is $150.[116]
- The FAA estimates that a small UAS operator applicant would need to travel 19 miles one way to reach their closest KTC location.[117]
- The 2014 published IRS variable cost mileage rate of $0.235 per mile is used to estimate the cost of Vehicle usage.[118]
- The FAA assigns the hourly value for personal time to equal $25.09 for Year 1.[119]
- The FAA assigns the hourly value for travel time to equal $24.68 for Year 1.[120]
- The FAA assigns the hourly value of FAA or KTC clerical time to $20.06 by calculating the mean for a Level 2 (FG 5/6) Clerical Support person from the Core Compensation Plan Pay Bands, effective January 12, 2014 working in the Washington DC locality.[121] The FAA then divides the mean of the annual salaries by 2,080 for an hourly rate.
- The FAA assigns the value of $28.00 as the estimate for the FAA's cost to register an aircraft. This estimate is based on an internal cost model developed in September 2014 by the FAA civil aviation registry to use for managerial estimates.
- The FAA uses a $50 fee to validate the identity of an applicant.

The FAA requests comments, with supporting documentation, on each of these assumptions and data values.

4. Benefit Summary

The potential benefits from this proposed rule would arise from improved safety and from opening up new commercial aviation activities. The FAA currently does not permit commercial activity involving small UAS due to the potential hazards they could pose to other aircraft and to the civilian population. This proposed rule would allow certain types of unmanned aerial observational operations to replace manned aerial observational operations that are currently being conducted under potentially hazardous conditions. The proposed rule would also allow small UAS to replace laborers inspecting high towers or in certain other hazardous locations. This proposed rule would allow the creation and development of new industries able to operate with minimal potential risks to operators and the public.

Specifically, with respect to the potential safety benefits from substituting small unmanned aircraft for aerial photography, the FAA reviewed 17 aerial aviation photography accidents and incidents that occurred between 2005 and 2009. Of these accidents, the FAA determined that a small UAS could have substituted for the manned operation in two cases. If the use of a small UAS replaces a dangerous non-UAS operation and saves one human life, that alone would result in benefits outweighing the costs of this proposed rule.

The potential benefits would be driven by the market and small UAS airspace availability. In the Regulatory Evaluation, the FAA explores only four of the many potential small UAS markets this proposal could enable. The four potential small UAS markets are:

1. Aerial photography,
2. Precision agriculture,
3. Search and rescue/law enforcement, and
4. Bridge inspection.

The FAA estimates that the proposed rule could not only enable numerous new industries, but also provide safety benefits and create a safe operating environment. The FAA has not quantified the specific benefits due to a lack of data. The FAA invites commenters to provide data that could be used to quantify benefits of this proposed rule.

5. Cost Summary

Several provisions in the proposed rule would impose compliance costs on potential commercial small UAS operators. However, the FAA assumes that commercial small UAS operators would incur these costs only if they anticipated revenues that would more than offset these costs. The business decision to enter a previously non-existent market is borne by each operator who knowingly chooses to operate a small UAS within the regulated environment of this proposal. In the Regulatory Evaluation, the FAA estimates these costs by provision. As summarized in the following table, the FAA estimates the total cost of the proposed rule for the 5 year period of analysis.

[114] The FAA notes that a person first must apply to become a small UAS operator. During the application process, this analysis will refer to a person applying to become a small UAS operator as an applicant. After the applicant has successfully passed the application process, this analysis will refer to the person as a small UAS operator.

[115] The FAA has not yet created or administered the knowledge test proposed in the NPRM. However, the weighted average failure rate for all categories of airman taking knowledge tests in 2013 was 10%. See Appendix 3 of the regulatory evaluation accompanying this NPRM for details.

[116] *http://www.catstest.com/airman-testing-exams/recreational-private-pilot.php*

[117] See "Travel Expense" section for methodology and source information.

[118] *http://www.irs.gov/2014-Standard-Mileage-Rates-for-Business,-Medical-and-Moving-Announced*

[119] Source: Revised Departmental Guidance on The Valuation of Travel time in Economic Analysis (published June 9, 2014). Per this guidance, median Household income divided by 2,080 hours is used to establish a wage rate (see Table 3). This wage rate, as noted in this guidance, serves as an approximate value for leisure time. Consistent with this guidance wage rates are augmented by 1.2 percent per year to reflect projected annual growth of real median household income. Year 1 (2012$) wage rates estimates are calculated as $24.50 * 1.012^2 = $25.09; Year 2 as $24.50 * 1.012^3 = $25.39; Year 3 as $24.50 * 1.012^4 = $25.70; Year 4 as $24.50 * 1.012^5 = $26.01; and Year 5 as $24.50 * 1.012^6 = $26.32.

[120] Source: Revised Departmental Guidance on The Valuation of Travel time in Economic Analysis (published June 9, 2014)-Local Travel (Business). Per this guidance future Travel Time Saving estimates are also augmented by 1.2 percent per year to reflect projected annual growth of real median household income. Year 1 (2012$) travel time savings estimates are calculated as $24.10 * 1.012^2 = $24.68; Year 2 as $24.10 * 1.012^3 = $24.98; Year 3 as $24.10 * 1.012^4 =$25.28; Year 4 as $24.10 * 1.012^5 = $25.58; and Year 5 as $24.10 * 1.012^6 = $25.89. See table 4.

[121] *https://my.faa.gov/content/dam/myfaa/org/staffoffices/ahr/program_policies/policy_guidance/hr_policies/hrpm/comp/comp_ref/media/core_salary_with_conversion.xls.*

TOTAL AND PRESENT VALUE COST SUMMARY BY PROVISION

[Thousands of current year dollars]

Type of cost	Total costs (000)	7% P.V. (000)
Applicant/small UAS operator:		
Travel Expense	$151.7	$125.9
Knowledge Test Fees	$2,548.6	2,114.2
Positive Identification of the Applicant Fee	$434.3	383.7
Owner:		
Small UAS Registration Fee	$85.7	70.0
Time Resource Opportunity Costs:		
Applicants Travel Time	$296.1	245.3
Knowledge Test Application	$108.9	90.2
Physical Capability Certification	$20.0	17.7
Knowledge Test Time	$1,307.1	1,082.9
Small UAS Registration Form	$220.5	179.7
Change of Name or Address Form	$14.9	12.3
Knowledge Test Report	$154.9	128.5
Pre-flight Inspection	Not quantified	
Accident Reporting	Minimal cost	
Government Costs:		
TSA Security Vetting	$1,026.5	906.9
FAA—sUAS Operating Certificate	$39.6	35.0
FAA—Registration	$394.3	321.8
Total Costs	$6,803.1	5,714.0

* Details may not add to row or column totals due to rounding.

B. Initial Regulatory Flexibility Determination (IRFA)

The Regulatory Flexibility Act of 1980 (Pub. L. 96–354) (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration." The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA.

The FAA believes that this proposed rule would have a significant impact on a substantial number of entities. Therefore, under section 603(b) of the RFA, the initial analysis must address:

- Description of reasons the agency is considering the action.
- Statement of the legal basis and objectives for the proposed rule.
- Description of the record keeping and other compliance requirements of the proposed rule.
- All federal rules that may duplicate, overlap, or conflict with the proposed rule.
- Description and an estimated number of small entities to which the proposed rule will apply.
- Describe alternatives considered.

1. Description of Reasons the Agency Is Considering the Action

The FAA is proposing to amend its regulations to adopt specific rules to allow the operation of small unmanned aircraft system (small UAS) operations in the National Airspace System (NAS). These changes would address the operation of small UAS, certification of their operators, registration, and display of registration markings. The proposed requirements would allow small UAS to operate in the NAS while minimizing the risk they may pose to manned aviation operations and the general public.

If the proposed rule were adopted, operators would be permitted to participate in certain commercial activities from which they are currently prohibited. The proposed requirements are intended to enable the opportunity for the private sector to develop commercial small UAS businesses and facilitate legal and safe operations. Currently commercial activity using a small UAS is prohibited by federal regulation unless the civil aircraft has an airworthiness certificate in effect and operations are approved by the FAA on a case by case basis via an exemption from the pertinent regulations.

2. Statement of the Legal Basis and Objectives for the Proposed Rule

This rulemaking is promulgated under the authority described in the FAA Modernization and Reform Act of 2012 (Pub. L. 112–95). Section 333 of Public Law 112–95 directs the Secretary of Transportation to determine whether "certain unmanned aircraft systems may operate safely in the national airspace system." If the FAA determines, pursuant to section 333, that certain unmanned aircraft systems may operate safely in the NAS, then the FAA must "establish requirements for the safe operation of such aircraft systems in the national airspace system." [122]

This rulemaking is also promulgated pursuant to 49 U.S.C. 40103(b)(1) and (2), which charge the FAA with issuing regulations: (1) To ensure the safety of aircraft and the efficient use of airspace; and (2) to govern the flight of aircraft for purposes of navigating, protecting and identifying aircraft, and protecting individuals and property on the ground. In addition, 49 U.S.C. 44701(a)(5)

[122] Public Law 112–95, section 333(c). In addition, Public Law 112–95, section 332(b)(1) requires the FAA to issue "a final rule on small unmanned aircraft systems that will allow for civil operation of such systems in the national airspace system, to the extent the systems do not meet the requirements for expedited operational authorization under section 333 of [Pub. L. 112–95]."

charges the FAA with prescribing regulations that the FAA finds necessary for safety in air commerce and national security.

Finally, the model-aircraft component of this rulemaking is promulgated pursuant to Public Law 112–95, section 336(b), which clarifies that the FAA's existing authority, under 49 U.S.C. 40103(b) and 44701(a)(5), provides the FAA with the power to pursue enforcement "against persons operating model aircraft who endanger the safety of the national airspace system."

3. Description of the Record Keeping and Other Compliance Requirements of the Proposed Rule

The FAA's statute[123] prohibits a person from serving as an airman without an airman certificate. This proposed rule would create a new airman certificate for small UAS operators to satisfy the statutory requirement. The airman certificate would be called an unmanned aircraft operator certificate with a small UAS rating, and in order to obtain it, a person would have to: (1) Take and pass an aeronautical knowledge test; and (2) submit an application for the certificate.

To take and pass an aeronautical knowledge test, a person would have to: (1) Apply to take the test at an FAA-approved Knowledge Testing Center; (2) spend time taking the test; and (3) obtain an airman knowledge test report showing that he or she passed the test. After passing a knowledge test, the person would then apply for the certificate by: (1) Filling out and submitting an application for the certificate, which would include a certification stating that the applicant is physically capable of safely operating a small UAS; and (2) attaching a copy of the airman knowledge test report to the application. This proposed rule would also require a small UAS operator to report to the FAA any accident that results in: (1) Any injury to a person; or (2) damage to property other than the small unmanned aircraft.

The FAA's statute also prohibits the operation of an aircraft that is not registered.[124] Consequently this proposed rule would require owners of a small unmanned aircraft to register that aircraft with the FAA. The owner of a small unmanned aircraft can do this simply by sending the following items to the FAA: (1) An Aircraft Registration Application providing information about the aircraft and contact information for the aircraft owner; (2) evidence of ownership (such as a bill of sale); and (3) the $5.00 registration fee.

4. All Federal Rules That May Duplicate, Overlap, or Conflict With the Proposed Rule

The FAA is unaware that the proposed rule will overlap, duplicate or conflict with existing federal rules.

5. Description and an Estimated Number of Small Entities To Which the Proposed Rule Will Apply

The FAA believes that the proposed rule would enable numerous new industries, while maintaining a safe operating environment in the NAS.

Because the commercial small UAS industry is not yet established and legal operation of commercial small UAS in the NAS constitutes a new market, available data for these operations is sparse. Accordingly, the FAA has not quantified number of small entities to which the proposed rule would apply because the FAA cannot reasonably predict how the market will develop for individual commercial uses of small UAS.

With respect to the potential operator costs, the FAA assumes that each operator would be a new entrant into the commercial market and that each operator would have one small UAS. The following table shows the proposed rule's estimated out-of-pocket startup and recurrent direct compliance costs for a new small UAS operator or owner.

SMALL UAS OPERATOR STARTUP AND RECURRENT COSTS

[Current dollars]

Type of cost	Cost	
	Initial	Recurrent
Applicant/small UAS operator:		
Travel Expense	$9	$9
Knowledge Test Fees	150	150
Positive Identification of the Applicant Fee	50	
Total applicant/small UAS operator	209	159
Owner:		
Small UAS Registration Fee	5	5
Total Owner	5	5
Total	214	164

*Details may not add to row or column totals due to rounding.

The FAA does not believe that $214 per operator would be a significant negative economic impact to small entity operators because $214 is relatively inexpensive to be licensed for operation of a commercial vehicle.

The FAA expects this proposed rule would be a significant positive economic impact because it enables new businesses to operate small UAS for hire and would stimulate a manufacturing support industry. The FAA believes that most, if not all, of these new commercial activities would be conducted by operators of small UAS who are small business entities. Therefore, the FAA believes that this proposed rule would have a positive significant impact on a substantial number of entities.

6. Alternatives Considered

The FAA considered both more costly and less costly alternatives as part of its NPRM. The FAA rejected the more costly alternatives due to policy considerations and undue burden that would be imposed on small UAS operators. The less costly alternatives and the FAA's reasons for rejecting

[123] 49 U.S.C. 44711(a)(2)(A).

[124] 49 U.S.C. 44101.

those alternatives in the NPRM are discussed below.

• Allowing knowledge testing centers to verify ID and accept airman applications. The FAA decided, as part of its proposal, to limit positive identification and acceptance of an application to those persons who are either: (1) Already authorized to accept and sign airman applications (FAA personnel, DPEs, and ACRs); or (2) are already required to verify identity under the TSA's regulations (CFIs). Knowledge testing centers do not fit into either of these categories, and thus, after considering the alternative of allowing them to accept airman applications, the FAA decided not to include this alternative in the NPRM.

• Allowing individuals who have been conducting UAS operations under a COA as a non-military UAS operator to take a recurrent test instead of an initial test in order to obtain an unmanned aircraft operator certificate with a small UAS rating. However, the FAA decided not to include this provision in the proposed rule because: (1) There is no formally recognized recordation system for non-military COA pilots as there is for military pilots; and (2) non-military COA pilots are currently subject to different requirements than military COA pilots for operations above 400 feet AGL.

Therefore this proposed rule would have a significant positive economic impact on a substantial number of small entities. The FAA solicits comments regarding this determination.

C. International Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39), as amended by the Uruguay Round Agreements Act (Pub. L. 103–465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such as the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards.

The FAA invites comments on the inclusion of foreign-registered small unmanned aircraft in this new framework. In particular, FAA invites comments on foreign experiences with differing levels of stringency in their UAS regulation. The FAA recognizes that several other countries have adopted different standards with regard to the commercial operation of UAS in their respective airspaces. Data from their experiences regarding safety outcomes and economic activity could form the basis for studying the effect of these different regulatory approaches.

D. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of $100 million or more (in 1995 dollars) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action." The FAA currently uses an inflation-adjusted value of $151.0 million in lieu of $100 million. This proposed rule does not contain such a mandate; therefore, the requirements of Title II of the Act do not apply.

E. Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. According to the 1995 amendments to the Paperwork Reduction Act (5 CFR 1320.8(b)(2)(vi)), an agency may not collect or sponsor the collection of information, nor may it impose an information collection requirement unless it displays a currently valid Office of Management and Budget (OMB) control number.

This action contains the following proposed information collection requirements:

• Submission of an application for an unmanned aircraft operator certificate with a small UAS rating;

• submission of an application to register a small unmanned aircraft; and

• reporting any accident that results in injury to a person or damage to property other than the small unmanned aircraft.

Below, we discuss each of these information-collection requirements in more detail. As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), the FAA has submitted these proposed information collection amendments to OMB for its review.

1. Obtaining an Unmanned Aircraft Operator Certificate With a Small UAS Rating

Summary: The FAA's statute [125] prohibits a person from serving as an airman without an airman certificate. This proposed rule would create a new airman certificate for small UAS operators to satisfy the statutory requirement. The airman certificate would be called an unmanned aircraft operator certificate with a small UAS rating, and in order to obtain it, a person would have to: (1) Take and pass an aeronautical knowledge test; and (2) submit an application for the certificate.

To take and pass an aeronautical knowledge test, a person would have to: (1) Apply to take the test at an FAA-approved Knowledge Testing Center; (2) spend time taking the test; and (3) obtain an airman knowledge test report showing that he or she passed the test. After passing a knowledge test, the person would then apply for the certificate by: (1) Filling out and submitting an application for the certificate, which would include a certification stating that the applicant is physically capable of safely operating a small UAS; and (2) attaching a copy of the airman knowledge test report to the application.

The above requirements would not result in a new collection of information, but would instead expand an existing OMB-approved collection of information that is approved under OMB control number 2120–0021. This collection of information governs information that the FAA collects to certificate pilots and flight instructors. The above requirements would increase the burden of this already-existing collection of information.

Use: The above requirements would be used by the FAA to issue airman certificates to UAS operators in order to satisfy the statutory requirement that an airman must possess an airman certificate.

Estimate of Increase in Annualized Burden (there are 7,896 unique applicants):

[125] 49 U.S.C. 44711(a)(2)(A).

			Total			Annual		
Final Rule Requirement	Pages Per Application	Applicant Time (Hours)	Total Time (Hours)	Total Number of Pages	Total Cost	Annual Time (Hours)	Annual Number of Pages	Annual Cost
Application for an Operator Certificate	1	0.25	3,862	7,896	$39,598	772	1579	$7,920
Knowledge Test Application	3	0.25	4,248	46,338	$108,928	850	9268	$21,786
Physical Capability Certification	1	0.10	1,545	7,896	$20,016	309	1579	$4,003
Knowledge Test Time	70	3.00	50,972	1,081,220	$1,307,131	10194	216244	$261,426
Airman Knowledge Test Report	1	0.50	3,948	15,446	$154,923	790	3089	$30,985

* Details may not add to row or column totals due to rounding.

2. Registering a Small Unmanned Aircraft

Summary: The FAA's statute [126] prohibits the operation of an aircraft unless the aircraft is registered. Pursuant to this statutory prohibition, this proposed rule would require small unmanned aircraft to be registered with the FAA using the current registration process found in 14 CFR part 47. In order to register a small unmanned aircraft with the FAA, the aircraft's owner would have to submit to the FAA an Aircraft Registration Application providing information about the aircraft and contact information for the aircraft owner. This registration would need to be renewed every three years.

The above requirements would not result in a new collection of information, but would instead expand an existing OMB-approved collection of information that is approved under OMB control number 2120–0042. This collection of information governs information that the FAA collects in order to register an aircraft. The above requirements would increase the burden of this already-existing collection of information.

Use: The above requirements would be used by the FAA to register small unmanned aircraft in order to satisfy the statutory requirement that an aircraft must be registered in order to operate.

Estimate of Increase in Annualized Burden:

			Total			Annual		
Final Rule Requirement	Pages Per Application	Applicant Time (Hours)	Total Time (Hours)	Total Number of Pages	Total Cost	Annual Time (Hours)	Annual Number of Pages	Annual Cost
Aircraft Registration Application	1	0.5	8,571	17,142	$220,464	1,714	3,428	$44,093

* Details may not add to row or column totals due to rounding.

3. Accident Reporting

Summary: To ensure proper oversight of small UAS operations, this proposed rule would require a small UAS operator to report to the FAA any small UAS operation that results in: (1) Any injury to a person; or (2) damage to property other than the small unmanned aircraft. After receiving this report, the FAA may conduct further investigation to determine whether any FAA regulations were violated. This proposed requirement would constitute a new collection of information. However, the FAA emphasizes that this proposed reporting requirement would be triggered only during operations that result in injury to a person or property damage.

Use: The above requirements would be used by the FAA to ensure proper oversight of small UAS operations. A report of an accident that resulted in an injury to a person or property damage may serve to initiate an FAA investigation into whether FAA regulations were violated.

Annualized Burden Estimate:

There is one page of paperwork associated with reporting an accident. The FAA calculated the probability of an accident by dividing the accident rate for general aviation pilots by the total number of hours and estimated that an accident would occur .001% of the time. Applying .001% to the small UAS in the analysis interval shows that the probability of an accident where property damage, injury, or death occurs is negligible; therefore the FAA estimates that there are no costs for this provision.

4. Total Annualized Burden Estimate

The total annualized burden estimate of the information-collection requirements associated with this proposed rule is as follows:

[126] 49 U.S.C. 44101.

Final Rule Requirement	Total Number of Pages	Total Cost	Annual Cost
Operator Certificate	1,158,796	$1,630,596	$326,119
Aircraft Registration	17,142	$220,464	$44,093
Accident Reporting	Negligible	Negligible	Negligible

* Details may not add to row or column totals due to rounding.

The agency is soliciting comments to—

- Evaluate whether the proposed information requirement is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility;
- Evaluate the accuracy of the agency's estimate of the burden;
- Enhance the quality, utility, and clarity of the information to be collected; and
- Minimize the burden of collecting information on those who are to respond, including by using appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology.

Individuals and organizations may send comments on the information collection requirement to the address listed in the ADDRESSES section at the beginning of this preamble by April 24, 2015. Comments also should be submitted to the Office of Management and Budget, Office of Information and Regulatory Affairs, Attention: Desk Officer for FAA, New Executive Office Building, Room 10202, 725 17th Street NW., Washington, DC 20053.

F. International Compatibility and Cooperation

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to conform to International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to these proposed regulations.

Additionally, Executive Order 13609, Promoting International Regulatory Cooperation, promotes international regulatory cooperation to meet shared challenges involving health, safety, labor, security, environmental, and other issues and to reduce, eliminate, or prevent unnecessary differences in regulatory requirements. The FAA has analyzed this action under the policies and agency responsibilities of Executive Order 13609, and has determined that this action would have no effect on international regulatory cooperation.

G. Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this rulemaking action qualifies for the categorical exclusion identified in paragraph 312f and involves no extraordinary circumstances.

H. Regulations Affecting Intrastate Aviation in Alaska

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the Administrator, when modifying 14 CFR regulations in a manner affecting intrastate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish appropriate regulatory distinctions. Because this proposed rule would limit small unmanned aircraft operations to daylight hours only, it could, if adopted, affect intrastate aviation in Alaska. The FAA, therefore, specifically requests comments on whether there is justification for applying the proposed rule differently in intrastate operations in Alaska.

V. Executive Order Determinations

A. Executive Order 13132, Federalism

The FAA has analyzed this proposed rule under the principles and criteria of Executive Order 13132, Federalism. The agency has determined that this action would not have a substantial direct effect on the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, would not have Federalism implications.

B. Executive Order 13211, Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA analyzed this proposed rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). The agency has determined that it would not be a "significant energy action" under the executive order and would not be likely to have a significant adverse effect on the supply, distribution, or use of energy.

VI. Additional Information

A. Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. The agency also invites comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

The FAA will file in the docket all comments it receives, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, the FAA will consider all comments it receives on or before the closing date for comments. The FAA will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. The agency may change this proposal in light of the comments it receives.

B. Availability of Rulemaking Documents

An electronic copy of rulemaking documents may be obtained from the Internet by—

1. Searching the Federal eRulemaking Portal (*http://www.regulations.gov*);

2. Visiting the FAA's Regulations and Policies Web page at *http://www.faa.gov/regulations_policies* or

3. Accessing the Government Printing Office's Web page at *http://www.gpo.gov/fdsys/*.

Copies may also be obtained by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM–1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267–9680. Commenters must identify the docket or notice number of this rulemaking.

All documents the FAA considered in developing this proposed rule, including economic analyses and technical reports, may be accessed from the Internet through the Federal eRulemaking Portal referenced in item (1) above.

List of Subjects

14 CFR Part 21

Aircraft, Aviation safety, Recording and recordkeeping requirements.

14 CFR Part 43

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

14 CFR Part 45

Aircraft, Signs and symbols.

14 CFR Part 47

Aircraft, Reporting and recordkeeping requirements.

14 CFR Part 61

Aircraft, Airmen, Alcohol abuse, Aviation safety, Drug abuse, Recreation and recreation areas, Reporting and recordkeeping requirements, Security measures, Teachers.

14 CFR Part 91

Air traffic control, Aircraft, Airmen, Airports, Aviation safety, Reporting and recordkeeping requirements.

14 CFR Part 101

Aircraft, Aviation Safety.

14 CFR Part 107

Aircraft, Airmen, Aviation safety, Reporting and recordkeeping requirements, Security measures, Signs and symbols, Small unmanned aircraft, Unmanned aircraft.

14 CFR Part 183

Airmen, Authority delegations (Government agencies).

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend chapter I of title 14, Code of Federal Regulations as follows:

PART 21—CERTIFICATION PROCEDURES FOR PRODUCTS AND PARTS

■ 1. The authority citation for part 21 is revised to read as follows:

Authority: 42 U.S.C. 7572; 49 U.S.C. 106(f), 106(g), 40101 note, 40105, 40113, 44701–44702, 44704, 44707, 44709, 44711, 44713, 44715, 45303; Sec. 333 of Pub. L. 112–95.

■ 2. Amend § 21.1 by revising paragraph (a) introductory text to read as follows:

§ 21.1 Applicability and definitions.

(a) Except for aircraft subject to the provisions of part 107 of this chapter, this part prescribes—

* * * * *

PART 43—MAINTENANCE, PREVENTIVE MAINTENANCE, REBUILDING, AND ALTERATION

■ 3. The authority citation for part 43 is revised to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701, 44703, 44705, 44707, 44711, 44713, 44717, 44725.

■ 4. Amend § 43.1 by revising paragraph (b) to read as follows:

§ 43.1 Applicability.

* * * * *

(b) This part does not apply to—

(1) Any aircraft for which the FAA has issued an experimental certificate, unless the FAA has previously issued a different kind of airworthiness certificate for that aircraft;

(2) Any aircraft for which the FAA has issued an experimental certificate under the provisions of § 21.191(i)(3) of this chapter, and the aircraft was previously issued a special airworthiness certificate in the light-sport category under the provisions of § 21.190 of this chapter; or

(3) Any aircraft subject to the provisions of part 107 of this chapter.

* * * * *

PART 45—IDENTIFICATION AND REGISTRATION MARKING

■ 5. The authority citation for part 45 is revised to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40103, 40113–40114, 44101–44105, 44107–44111, 44504, 44701, 44708–44709, 44711–44713, 44725, 45302–45303, 46104, 46304, 46306, 47122.

■ 6. Add § 45.9 to subpart B to read as follows:

§ 45.9 Small unmanned aircraft systems.

Notwithstanding any other provision of this part, this subpart does not apply to aircraft subject to part 107 of this chapter.

PART 47—AIRCRAFT REGISTRATION

■ 7. The authority citation for part 47 is revised to read as follows:

Authority: 4 U.S.T. 1830; Pub. L. 108–297, 118 Stat. 1095 (49 U.S.C. 40101 note, 49 U.S.C. 44101 note); 49 U.S.C. 106(f), 106(g), 40113–40114, 44101–44108, 44110–44113, 44703–44704, 44713, 45302, 46104, 46301.

■ 8. Amend § 47.15 by revising paragraph (a) introductory text to read as follows:

§ 47.15 Registration number.

(a) *Number required.* An applicant for aircraft registration must place a U.S. registration number (registration mark) on the Aircraft Registration Application, AC Form 8050–1, and on any evidence submitted with the application. There is no charge for the assignment of numbers provided in this paragraph. This paragraph does not apply to an aircraft manufacturer who applies for a group of U.S. registration numbers under paragraph (c) of this section; a person who applies for a special registration number under paragraphs (d) through (f) of this section; a holder of a Dealer's Aircraft Registration Certificate, AC Form 8050–6, who applies for a temporary registration number under § 47.16; or an owner of a small unmanned aircraft weighing less than 55 pounds that has not previously been registered anywhere.

* * * * *

PART 61—CERTIFICATION: PILOTS, FLIGHT INSTRUCTORS, AND GROUND INSTRUCTORS

■ 9. The authority citation for part 61 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701–44703, 44707, 44709–44711, 45102–45103, 45301–45302.

■ 10. Amend § 61.1 by revising paragraph (a) introductory text to read as follows:

§ 61.1 Applicability and definitions.

(a) Except as provided in part 107 of this chapter, this part prescribes:

* * * * *

■ 11. Add § 61.8 to read as follows:

§ 61.8 Inapplicability of unmanned aircraft operations.

Any action conducted pursuant to part 107 of this chapter or Subpart E of part 101 of this chapter cannot be used to meet the requirements of this part.

■ 12. Revise § 61.193 to read as follows:

§ 61.193 Flight instructor privileges.

(a) A person who holds a flight instructor certificate is authorized within the limitations of that person's flight instructor certificate and ratings to train and issue endorsements that are required for:

(1) A student pilot certificate;
(2) A pilot certificate;
(3) A flight instructor certificate;
(4) A ground instructor certificate;
(5) An aircraft rating;
(6) An instrument rating;
(7) A flight review, operating privilege, or recency of experience requirement of this part;
(8) A practical test; and
(9) A knowledge test.

(b) A person who holds a flight instructor certificate is authorized to accept an application for an unmanned aircraft operator certificate with a small UAS rating and verify the identity of the applicant in a form and manner acceptable to the Administrator.

■ 13. Revise § 61.413 to read as follows:

§ 61.413 What are the privileges of my flight instructor certificate with a sport pilot rating?

(a) If you hold a flight instructor certificate with a sport pilot rating, you are authorized, within the limits of your certificate and rating, to provide training and endorsements that are required for, and relate to—

(1) A student pilot seeking a sport pilot certificate;
(2) A sport pilot certificate;
(3) A flight instructor certificate with a sport pilot rating;
(4) A powered parachute or weight-shift-control aircraft rating;
(5) Sport pilot privileges;
(6) A flight review or operating privilege for a sport pilot;
(7) A practical test for a sport pilot certificate, a private pilot certificate with a powered parachute or weight-shift-control aircraft rating or a flight instructor certificate with a sport pilot rating;
(8) A knowledge test for a sport pilot certificate, a private pilot certificate with a powered parachute or weight-shift-control aircraft rating or a flight instructor certificate with a sport pilot rating; and
(9) A proficiency check for an additional category or class privilege for a sport pilot certificate or a flight instructor certificate with a sport pilot rating.

(b) A person who holds a flight instructor certificate with a sport pilot rating is authorized to accept an application for an unmanned aircraft operator certificate with a small UAS rating and verify the identity of the applicant in a form and manner acceptable to the Administrator.

PART 91—GENERAL OPERATING AND FLIGHT RULES

■ 14. The authority citation for part 91 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 1155, 40101, 40103, 40105, 40113, 40120, 44101, 44111, 44701, 44704, 44709, 44711, 44712, 44715, 44716, 44717, 44722, 46306, 46315, 46316, 46504, 46506–46507, 47122, 47508, 47528–47531, 47534, articles 12 and 29 of the Convention on International Civil Aviation (61 Stat. 1180), (126 Stat. 11).

■ 15. Amend § 91.1 by revising paragraph (a) introductory text and adding paragraph (e) to read as follows:

§ 91.1 Applicability.

(a) Except as provided in paragraphs (b), (c), and (e) of this section and §§ 91.701 and 91.703, this part prescribes rules governing the operation of aircraft within the United States, including the waters within 3 nautical miles of the U.S. coast.

* * * * *

(e) Except as provided in §§ 107.27, 107.47, 107.57, and 107.59 of this chapter, this part does not apply to any aircraft or vehicle governed by part 103 of this chapter, part 107 of this chapter, or subparts B, C, or D of part 101 of this chapter.

PART 101—MOORED BALLOONS, KITES, AMATEUR ROCKETS AND UNMANNED FREE BALLOONS

■ 16. The authority citation for part 101 is revised to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40101 note, 40103, 40113–40114, 45302, 44502, 44514, 44701–44702, 44721, 46308, Sec. 336(b), Pub. L. 112–95.

■ 17. Amend § 101.1 by adding paragraph (a)(5) to read as follows:

§ 101.1 Applicability.

(a) * * *

(5) Any model aircraft that meets the conditions specified in § 101.41. For purposes of this part, a model aircraft is an unmanned aircraft that is:

(i) Capable of sustained flight in the atmosphere;

(ii) Flown within visual line of sight of the person operating the aircraft; and

(iii) Flown for hobby or recreational purposes.

* * * * *

■ 18. Add subpart E, consisting of §§ 101.41 and 101.43, to read as follows:

Subpart E—Special Rule for Model Aircraft

§ 101.41 Applicability.

This subpart prescribes the rules governing the operation of a model aircraft that meets all of the following conditions as set forth in section 336 of Public Law 112–95:

(a) The aircraft is flown strictly for hobby or recreational use;

(b) The aircraft is operated in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization;

(c) The aircraft is limited to not more than 55 pounds unless otherwise certified through a design, construction, inspection, flight test, and operational safety program administered by a community-based organization;

(d) The aircraft is operated in a manner that does not interfere with and gives way to any manned aircraft; and

(e) When flown within 5 miles of an airport, the operator of the aircraft provides the airport operator and the airport air traffic control tower (when an air traffic facility is located at the airport) with prior notice of the operation.

§ 101.43 Endangering the safety of the National Airspace System.

No person may operate model aircraft so as to endanger the safety of the national airspace system.

■ 19. Add part 107 to read as follows:

PART 107—SMALL UNMANNED AIRCRAFT SYSTEMS

Subpart A—General

Sec.
107.1 Applicability.
107.3 Definitions.
107.5 Falsification, reproduction or alteration.
107.7 Inspection, testing, and demonstration of compliance.
107.9 Accident reporting.

Subpart B—Operating Rules

107.11 Applicability.
107.13 Registration, certification, and airworthiness directives.
107.15 Civil small unmanned aircraft system airworthiness.
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Subpart D—Small Unmanned Aircraft Registration and Identification.

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107.89 Registration and identification.

Authority: 49 U.S.C. 106(f), 40101 note, 40103(b), 44701(a)(5); Sec. 333 of Pub. L. 112–95.

Subpart A—General

§ 107.1 Applicability.

(a) Except as provided in paragraph (b) of this section, this part applies to the registration, airman certification, and operation of civil small unmanned aircraft systems within the United States.

(b) This part does not apply to the following:

(1) Air carrier operations;

(2) Any aircraft subject to the provisions of part 101 of this chapter;

(3) Any aircraft conducting an external load operation;

(4) Any aircraft towing another aircraft or object; or

(5) Any aircraft that does not meet the criteria specified in § 47.3 of this chapter.

§ 107.3 Definitions.

The following definitions apply to this part. If there is a conflict between the definitions of this part and definitions specified in § 1.1 of this chapter, the definitions in this part control for purposes of this part:

Control station means an interface used by the operator to control the flight path of the small unmanned aircraft.

Corrective lenses means spectacles or contact lenses.

Operator means a person who manipulates the flight controls of a small unmanned aircraft system.

Small unmanned aircraft means an unmanned aircraft weighing less than 55 pounds including everything that is on board the aircraft.

Small unmanned aircraft system (small UAS) means a small unmanned aircraft and its associated elements (including communication links and the components that control the small unmanned aircraft) that are required for the safe and efficient operation of the small unmanned aircraft in the national airspace system.

Unmanned aircraft means an aircraft operated without the possibility of direct human intervention from within or on the aircraft.

Visual observer means a person who assists the small unmanned aircraft operator to see and avoid other air traffic or objects aloft or on the ground.

§ 107.5 Falsification, reproduction or alteration.

(a) No person may make or cause to be made—

(1) Any fraudulent or intentionally false record or report that is required to be made, kept, or used to show compliance with any requirement under this part.

(2) Any reproduction or alteration, for fraudulent purpose, of any certificate, rating, authorization, record or report under this part.

(b) The commission by any person of an act prohibited under paragraph (a) of this section is a basis for denying an application for certificate, or suspending or revoking the applicable certificate or waiver issued by the Administrator under this part and held by that person.

§ 107.7 Inspection, testing, and demonstration of compliance.

(a) An operator or owner of a small unmanned aircraft system must, upon request, make available to the Administrator:

(1) The operator's unmanned aircraft operator certificate with a small UAS rating;

(2) The certificate of aircraft registration for the small unmanned aircraft system being operated; and

(3) Any other document, record, or report required to be kept by an operator or owner of a small unmanned aircraft system under the regulations of this chapter.

(b) The operator, visual observer, or owner of a small unmanned aircraft system must, upon request, allow the Administrator to make any test or inspection of the small unmanned aircraft system, the operator, and, if applicable, the visual observer to determine compliance with this part.

§ 107.9 Accident reporting.

No later than 10 days after an operation that meets the criteria of either paragraph (a) or (b) of this section, an operator must report to the nearest Federal Aviation Administration Flight Standards District Office any operation of the small unmanned aircraft that involves the following:

(a) Any injury to any person; or

(b) Damage to any property, other than the small unmanned aircraft.

Subpart B—Operating Rules

§ 107.11 Applicability.

This subpart applies to the operation of all civil small unmanned aircraft systems to which this part applies.

§ 107.13 Registration, certification, and airworthiness directives.

No person may operate a civil small unmanned aircraft system for purposes of flight unless:

(a) That person has an unmanned aircraft operator certificate with a small UAS rating issued pursuant to subpart C of this part and satisfies the requirements of § 107.65;

(b) The small unmanned aircraft being operated has been registered with the FAA pursuant to subpart D of this part;

(c) The small unmanned aircraft being operated displays its registration number in the manner specified in subpart D of this part; and

(d) The owner or operator of the small unmanned aircraft system complies with all applicable airworthiness directives.

§ 107.15 Civil small unmanned aircraft system airworthiness.

(a) No person may operate a civil small unmanned aircraft system unless it is in a condition for safe operation. This condition must be determined during the preflight check required under § 107.49 of this part.

(b) The operator must discontinue the flight when he or she knows or has reason to know that continuing the flight would pose a hazard to other aircraft, people, or property.

§ 107.17 Medical condition.

No person may act as an operator or visual observer if he or she knows or has reason to know that he or she has a physical or mental condition that would interfere with the safe operation of a small unmanned aircraft system.

§ 107.19 Responsibility of the operator.

(a) The operator is directly responsible for, and is the final authority as to the operation of the small unmanned aircraft system.

(b) The operator must ensure that the small unmanned aircraft will pose no undue hazard to other aircraft, people, or property in the event of a loss of control of the aircraft for any reason.

§ 107.21 Maintenance and inspection.

An operator must:

(a) Maintain the system in a condition for safe operation; and

(b) Inspect the small unmanned aircraft system prior to flight to determine that the system it is in a condition for safe operation.

§ 107.23 Hazardous operation.

No person may:

(a) Operate a small unmanned aircraft system in a careless or reckless manner so as to endanger the life or property of another; or

(b) Allow an object to be dropped from a small unmanned aircraft if such action endangers the life or property of another.

§ 107.25 Operation from a moving vehicle or aircraft.

No person may operate a small unmanned aircraft system—

(a) From a moving aircraft; or

(b) From a moving vehicle unless that vehicle is moving on water.

§ 107.27 Alcohol or drugs.

A person acting as an operator or as a visual observer must comply with the provisions of §§ 91.17 and 91.19 of this chapter.

§ 107.29 Daylight operation.

No person may operate a small unmanned aircraft system except between the hours of official sunrise and sunset.

§ 107.31 Visual line of sight aircraft operation.

With vision that is unaided by any device other than corrective lenses, the operator or visual observer must be able to see the unmanned aircraft throughout the entire flight in order to:

(a) Know the unmanned aircraft's location;

(b) Determine the unmanned aircraft's attitude, altitude, and direction;

(c) Observe the airspace for other air traffic or hazards; and

(d) Determine that the unmanned aircraft does not endanger the life or property of another.

§ 107.33 Visual observer.

If a visual observer is used during the aircraft operation, all of the following requirements must be met:

(a) The operator and the visual observer must maintain effective communication with each other at all times.

(b) The operator must ensure that the visual observer is able to see the unmanned aircraft in the manner specified in §§ 107.31 and 107.37.

(c) At all times during flight, the small unmanned aircraft must remain close enough to the operator for the operator to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses.

(d) The operator and the visual observer must coordinate to do the following:

(1) Scan the airspace where the small unmanned aircraft is operating for any potential collision hazard; and

(2) Maintain awareness of the position of the small unmanned aircraft through direct visual observation.

§ 107.35 Operation of multiple small unmanned aircraft systems.

A person may not act as an operator or visual observer in the operation of more than one unmanned aircraft system at the same time.

§ 107.37 Operation near aircraft; right-of-way rules.

(a) Each operator must maintain awareness so as to see and avoid other aircraft and vehicles and must yield the right-of-way to all aircraft, airborne vehicles, and launch and reentry vehicles.

(1) In order to maintain awareness so as to see other aircraft and vehicles, either the operator or a visual observer must, at each point of the small unmanned aircraft's flight, satisfy the criteria specified in § 107.31.

(2) Yielding the right-of-way means that the small unmanned aircraft must give way to the aircraft or vehicle and may not pass over, under, or ahead of it unless well clear.

(b) No person may operate a small unmanned aircraft so close to another aircraft as to create a collision hazard.

§ 107.39 Operation over people.

No person may operate a small unmanned aircraft over a human being who is:

(a) Not directly participating in the operation of the small unmanned aircraft; or

(b) Not located under a covered structure that can provide reasonable protection from a falling small unmanned aircraft.

§ 107.41 Operation in certain airspace.

(a) A small unmanned aircraft may not operate in Class A airspace.

(b) A small unmanned aircraft may not operate in Class B, Class C, or Class D airspace or within the lateral boundaries of the surface area of Class E airspace designated for an airport unless the operator has prior authorization from the Air Traffic Control (ATC) facility having jurisdiction over that airspace.

§ 107.45 Operation in prohibited or restricted areas.

No person may operate a small unmanned aircraft in prohibited or restricted areas unless that person has permission from the using or controlling agency, as appropriate.

§ 107.47 Flight restrictions in the proximity of certain areas designated by notice to airmen.

No person may operate a small unmanned aircraft in areas designated in a Notice to Airmen under §§ 91.137 through 91.145, or § 99.7 of this chapter, unless authorized by:

(a) Air Traffic Control (ATC); or

(b) A Certificate of Waiver or Authorization issued by the FAA.

§ 107.49 Preflight familiarization, inspection, and actions for aircraft operation.

(a) Prior to flight, the operator must:

(1) Assess the operating environment, considering risks to persons and property in the immediate vicinity both on the surface and in the air. This assessment must include:

(i) Local weather conditions;

(ii) Local airspace and any flight restrictions;

(iii) The location of persons and property on the surface; and

(iv) Other ground hazards.

(2) Ensure that all persons involved in the small unmanned aircraft operation receive a briefing that includes operating conditions, emergency procedures, contingency procedures, roles and responsibilities, and potential hazards;

(3) Ensure that all links between ground station and the small unmanned aircraft are working properly; and

(4) If the small unmanned aircraft is powered, ensure that there is enough available power for the small unmanned aircraft system to operate for the intended operational time and to operate after that for at least five minutes.

(b) Each person involved in the operation must perform the duties assigned by the operator.

§ 107.51 Operating limitations for small unmanned aircraft.

An operator must comply with all of the following operating limitations when operating a small unmanned aircraft system:

(a) The airspeed of the small unmanned aircraft may not exceed 87 knots (100 miles per hour) calibrated airspeed at full power in level flight;

(b) The altitude of the small unmanned aircraft cannot be higher than 500 feet (150 meters) above ground level;

(c) The minimum flight visibility, as observed from the location of the ground control station must be no less than 3 statute miles (5 kilometers); and

(d) The minimum distance of the small unmanned aircraft from clouds must be no less than:

(1) 500 feet (150 meters) below the cloud; and

(2) 2,000 feet (600 meters) horizontally away from the cloud.

Subpart C—Operator Certification

§ 107.53 Applicability.

This subpart prescribes the requirements for issuing an unmanned aircraft operator certificate with a small UAS rating.

§ 107.57 Offenses involving alcohol or drugs.

(a) A conviction for the violation of any Federal or State statute relating to the growing, processing, manufacture, sale, disposition, possession, transportation, or importation of narcotic drugs, marijuana, or depressant or stimulant drugs or substances is grounds for:

(1) Denial of an application for an unmanned aircraft operator certificate with a small UAS rating for a period of up to 1 year after the date of final conviction; or

(2) Suspension or revocation of an unmanned aircraft operator certificate with a small UAS rating.

(b) Committing an act prohibited by § 91.17(a) or § 91.19(a) of this chapter is grounds for:

(1) Denial of an application for an unmanned aircraft operator certificate with a small UAS rating for a period of up to 1 year after the date of that act; or

(2) Suspension or revocation of an unmanned aircraft operator certificate with a small UAS rating.

§ 107.59 Refusal to submit to an alcohol test or to furnish test results.

A refusal to submit to a test to indicate the percentage by weight of alcohol in the blood, when requested by a law enforcement officer in accordance with § 91.17(c) of this chapter, or a refusal to furnish or authorize the release of the test results requested by the Administrator in accordance with § 91.17(c) or (d) of this chapter, is grounds for:

(a) Denial of an application for an unmanned aircraft operator certificate with a small UAS rating for a period of up to 1 year after the date of that refusal; or

(b) Suspension or revocation of an unmanned aircraft operator certificate with a small UAS rating.

§ 107.61 Eligibility.

Subject to the provisions of §§ 107.57 and 107.59, in order to be eligible for an unmanned aircraft operator certificate with a small UAS rating under this subpart, a person must:

(a) Be at least 17 years of age;

(b) Be able to read, speak, write, and understand the English language. If the applicant is unable to meet one of these requirements due to medical reasons, the FAA may place such operating limitations on that applicant's certificate as are necessary for the safe operation of the small unmanned aircraft;

(c) Pass an initial aeronautical knowledge test covering the areas of knowledge specified in § 107.73(a); and

(d) Not know or have reason to know that he or she has a physical or mental condition that would interfere with the safe operation of a small unmanned aircraft system.

§ 107.63 Issuance of an unmanned aircraft operator certificate with a small UAS rating.

An applicant for an unmanned aircraft operator certificate with a small UAS rating under this subpart must make the application in a form and manner acceptable to the Administrator.

(a) The application must include:

(1) An airman knowledge test report showing that the applicant passed an initial aeronautical knowledge test, or recurrent aeronautical knowledge test for those individuals that satisfy the requirements of § 107.75; and

(2) A certification signed by the applicant stating that the applicant does not know or have reason to know that he or she has a physical or mental condition that would interfere with the safe operation of a small unmanned aircraft system.

(b) The application must be submitted to a Flight Standards District Office, a designated pilot examiner, an airman certification representative for a pilot school, a certified flight instructor, or other person authorized by the Administrator. The person accepting the application submission must verify the identity of the applicant in a manner acceptable to the Administrator.

§ 107.65 Aeronautical knowledge recency.

A person may not operate a small unmanned aircraft system unless that person has completed one of the following, within the previous 24 calendar months:

(a) Passed an initial aeronautical knowledge test covering the areas of knowledge specified in § 107.73(a); or

(b) Passed a recurrent aeronautical knowledge test covering the areas of knowledge specified in § 107.73(b).

§ 107.67 Knowledge tests: General procedures and passing grades.

(a) Knowledge tests prescribed by or under this part are given at times and places, and by persons designated by the Administrator.

(b) An applicant for a knowledge test must have proper identification at the time of application that contains the applicant's:

(1) Photograph;

(2) Signature;

(3) Date of birth, which shows the applicant meets or will meet the age requirements of this part for the certificate sought before the expiration date of the airman knowledge test report; and

(4) If the permanent mailing address is a post office box number, then the applicant must provide a current residential address.

(c) The minimum passing grade for the knowledge test will be specified by the Administrator.

§ 107.69 Knowledge tests: Cheating or other unauthorized conduct.

(a) An applicant for a knowledge test may not:

(1) Copy or intentionally remove any knowledge test;

(2) Give to another applicant or receive from another applicant any part or copy of a knowledge test;

(3) Give assistance on, or receive assistance on, a knowledge test during the period that test is being given;

(4) Take any part of a knowledge test on behalf of another person;

(5) Be represented by, or represent, another person for a knowledge test;

(6) Use any material or aid during the period that the test is being given, unless specifically authorized to do so by the Administrator; and

(7) Intentionally cause, assist, or participate in any act prohibited by this paragraph.

(b) An applicant who the Administrator finds has committed an act prohibited by paragraph (a) of this section is prohibited, for 1 year after the date of committing that act, from:

(1) Applying for any certificate, rating, or authorization issued under this chapter; and

(2) Applying for and taking any test under this chapter.

(c) Any certificate or rating held by an applicant may be suspended or revoked if the Administrator finds that person has committed an act prohibited by paragraph (a) of this section.

§ 107.71 Retesting after failure.

An applicant for a knowledge test who fails that test may not reapply for the test for 14 calendar days after failing the test.

§ 107.73 Initial and recurrent knowledge tests.

(a) An initial aeronautical knowledge test covers the following areas of knowledge:

(1) Applicable regulations relating to small unmanned aircraft system rating privileges, limitations, and flight operation;

(2) Airspace classification and operating requirements, obstacle clearance requirements, and flight restrictions affecting small unmanned aircraft operation;

(3) Official sources of weather and effects of weather on small unmanned aircraft performance;

(4) Small unmanned aircraft system loading and performance;

(5) Emergency procedures;

(6) Crew resource management;

(7) Radio communication procedures;

(8) Determining the performance of small unmanned aircraft;

(9) Physiological effects of drugs and alcohol;

(10) Aeronautical decision-making and judgment; and

(11) Airport operations.

(b) A recurrent aeronautical knowledge test covers the following areas of knowledge:

(1) Applicable regulations relating to small unmanned aircraft system rating privileges, limitations, and flight operation;

(2) Airspace classification and operating requirements, obstacle clearance requirements, and flight restrictions affecting small unmanned aircraft operation;

(3) Official sources of weather;

(4) Emergency procedures;

(5) Crew resource management;

(6) Aeronautical decision-making and judgment; and

(7) Airport operations.

§ 107.75 Military pilots or former military pilots.

(a) *General.* Except for a person who has been removed from unmanned aircraft flying status for lack of proficiency or because of a disciplinary action involving any aircraft operation, a U.S. military unmanned aircraft pilot or operator or former U.S. military unmanned aircraft pilot or operator who meets the requirements of this section may apply, on the basis of his or her U.S. military unmanned aircraft pilot or operator qualifications, for an unmanned aircraft operator certificate with small UAS rating issued under this part.

(b) *Military unmanned aircraft pilots or operators and former military unmanned aircraft pilots or operators in the U.S. Armed Forces.* A person who qualifies as a U.S. military unmanned aircraft pilot or operator or former U.S. military unmanned aircraft pilot or operator may apply for an unmanned aircraft operator certificate with a small UAS rating if that person—

(1) Passes a recurrent aeronautical knowledge test covering the areas of knowledge specified in § 107.73(b); and

(2) Presents evidentiary documents that show:

(i) The person's status in the U.S. Armed Forces;

(ii) That the person is or was a U.S. military unmanned aircraft pilot or operator.

§ 107.77 Change of name or address.

(a) *Change of Name.* An application to change the name on a certificate issued under this subpart must be accompanied by the applicant's:

(1) Operator certificate; and

(2) A copy of the marriage license, court order, or other document verifying the name change.

(b) The documents in paragraph (a) of this section will be returned to the applicant after inspection.

(c) *Change of address.* The holder of an unmanned aircraft operator certificate issued under this subpart who has made a change in permanent mailing address may not, after 30 days from that date, exercise the privileges of the certificate unless the holder has notified the FAA of the change in address using one of the following methods:

(1) By letter to the FAA Airman Certification Branch, P.O. Box 25082, Oklahoma City, OK 73125 providing the new permanent mailing address, or if the permanent mailing address includes a post office box number, then the holder's current residential address; or

(2) By using the FAA Web site portal at *www.faa.gov* providing the new permanent mailing address, or if the permanent mailing address includes a post office box number, then the holder's current residential address.

§ 107.79 Voluntary surrender of certificate.

(a) The holder of a certificate issued under this subpart may voluntarily surrender it for cancellation.

(b) Any request made under paragraph (a) of this section must include the following signed statement or its equivalent: "I voluntarily surrender my unmanned aircraft operator certificate with a small UAS rating for cancellation. This request is made for my own reasons, with full knowledge that my certificate will not be reissued to me unless I again complete the requirements specified in §§ 107.61 and 107.63."

Subpart D—Small Unmanned Aircraft Registration and Identification

§ 107.87 Applicability.

This subpart prescribes the rules governing the registration and identification of all civil small unmanned aircraft to which this part applies.

§ 107.89 Registration and identification.

(a) All small unmanned aircraft must be registered in accordance with part 47 of this chapter.

(b) All small unmanned aircraft must display their nationality and registration marks in accordance with the requirements of subpart C of part 45 of this chapter.

PART 183—REPRESENTATIVES OF THE ADMINISTRATOR

■ 20. The authority citation for part 183 is revised to read as follows:

Authority: 31 U.S.C. 9701; 49 U.S.C. 106(f), 106(g), 40113, 44702, 45303.

■ 21. Amend § 183.23 by revising paragraphs (b) and (c) and adding paragraph (d) to read as follows:

§ 183.23 Pilot examiners.

* * * * *

(b) Under the general supervision of the appropriate local Flight Standards Inspector, conduct those tests;

(c) In the discretion of the appropriate local Flight Standards Inspector, issue temporary pilot certificates and ratings to qualified applicants; and

(d) Accept an application for an unmanned aircraft operator certificate with a small UAS rating and verify the identity of the applicant in a form and manner acceptable to the Administrator.

Issued under the authority provided by 49 U.S.C. 106(f), 40101 note; and Sec. 333 of

Public Law 112–95, in Washington, DC, on February 15, 2015.

Anthony R. Foxx,

Secretary of Transportation.

Michael P. Huerta,

Administrator.

[FR Doc. 2015–03544 Filed 2–18–15; 11:15 am]

BILLING CODE 4910–13–P

Overview of Small UAS Notice of Proposed Rulemaking

Summary of Major Provisions of Proposed Part 107 The following provisions are being proposed in the FAA's Small UAS NPRM.	
Operational Limitations	• Unmanned aircraft must weigh less than 55 lbs. (25 kg). • Visual line-of-sight (VLOS) only; the unmanned aircraft must remain within VLOS of the operator or visual observer. • At all times the small unmanned aircraft must remain close enough to the operator for the operator to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses. • Small unmanned aircraft may not operate over any persons not directly involved in the operation. • Daylight-only operations (official sunrise to official sunset, local time). • Must yield right-of-way to other aircraft, manned or unmanned. • May use visual observer (VO) but not required. • First-person view camera cannot satisfy "see-and-avoid" requirement but can be used as long as requirement is satisfied in other ways. • Maximum airspeed of 100 mph (87 knots). • Maximum altitude of 500 feet above ground level. • Minimum weather visibility of 3 miles from control station. • No operations are allowed in Class A (18,000 feet & above) airspace. • Operations in Class B, C, D and E airspace are allowed with the required ATC permission. • Operations in Class G airspace are allowed without ATC permission • No person may act as an operator or VO for more than one unmanned aircraft operation at one time. • No careless or reckless operations. • Requires preflight inspection by the operator. • A person may not operate a small unmanned aircraft if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS. • Proposes a microUAS option that would allow operations in Class G airspace, over people not involved in the operation, provided the operator certifies he or she has the requisite aeronautical knowledge to perform the operation.

Operator Certification and Responsibilities	• Pilots of a small UAS would be considered "operators".
	• Operators would be required to:
	  o Pass an initial aeronautical knowledge test at an FAA-approved knowledge testing center.
	  o Be vetted by the Transportation Security Administration.

	○ Obtain an unmanned aircraft operator certificate with a small UAS rating (like existing pilot airman certificates, never expires). ○ Pass a recurrent aeronautical knowledge test every 24 months. ○ Be at least 17 years old. ○ Make available to the FAA, upon request, the small UAS for inspection or testing, and any associated documents/records required to be kept under the proposed rule. ○ Report an accident to the FAA within 10 days of any operation that results in injury or property damage. ○ Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is safe for operation.
Aircraft Requirements	• FAA airworthiness certification not required. However, operator must maintain a small UAS in condition for safe operation and prior to flight must inspect the UAS to ensure that it is in a condition for safe operation. Aircraft Registration required (same requirements that apply to all other aircraft). • Aircraft markings required (same requirements that apply to all other aircraft). If aircraft is too small to display markings in standard size, then the aircraft simply needs to display markings in the largest practicable manner.
Model Aircraft	• Proposed rule would not apply to model aircraft that satisfy all of the criteria specified in Section 336 of Public Law 112-95. • The proposed rule would codify the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the NAS.

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Drone Wars: Who Owns The Air?

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STEVE HENN

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There are lots of entrepreneurs who would love to fly drones — tiny unmanned aircraft — all over the country. They dream of drones delivering packages and taking photos, but there's a battle in the courts right now standing in their way. The battle is about whether it's legal for drones to take to the sky.

The question at the core of the battle: Who owns the air?

It's a question that goes back to the Middle Ages, to a Latin phrase that translates to "he owns the soil owns up to the heavens." In England, this phrase was the law of the land for centuries, and it worked well when disputes involved simple things like overhanging tree branches and lopsided buildings.

But once hot air balloons and airplanes came into the picture, things got a lot more complicated. In 1926, Congress created what we now call the FAA, and declared that the air above 500 feet is the public domain. But what about the air below that?

Thomas Causby was a chicken farmer in North Carolina who lived near a tiny airport. During World War II, the Army took over the airport, and suddenly big military planes were flying over Causby's chicken coops all the time. The planes scared Causby's chickens. They flew into the walls of the coop and died.

PLANET MONEY
The Fight Over Drones, As Seen From A Drone

ALL TECH CONSIDERED
FAA Head: Safety, Privacy Concerns Abound In Regulating Drones

Causby sued the government, and the case went all the way to the Supreme Court. In the end, the court sided with Causby, ruling that landowners own the sky above their homes up to at least 83 feet.

But the decision still left a gap. If the air above 500 feet is public property, and the air below 83 feet is private property, what about the space in between?

This is the territory that entrepreneurs dreaming of drones have their eyes on.

Cy Brown, for example, wants to use drones to tackle the problem of feral wild pigs. In Louisiana, where Brown lives, feral pigs run around wrecking crops, causing problems for farmers.

Brown's idea was to use drones to track the pigs and then relay their locations to hunters in the fields who could kill the pigs. He tested it out, and it worked. Farmers liked it. Even the U.S. Department of Agriculture wanted to copy it.

But when I called Cy last month to ask if he'd take me hunting, he said no. His drone had been grounded. When I asked why, he referred me to his lawyer.

Cy's lawyer told me that the FAA has been sending out cease-and-desist letters to commercial drone pilots all over the country, threatening big fines for flying little

drones. The FAA says that, for safety reasons, it is regulating the airspace between 83 and 500 feet.

Drone pilots are fighting this in court, trying to reclaim that airspace.

You can find lots more drone coverage from our colleagues over at All Tech Considered.

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Congressional Research Service

Integration of Drones into Domestic Airspace: Selected Legal Issues

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April 4, 2013

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CRS Report for Congress
Prepared for Members and Committees of Congress

Summary

Under the FAA Modernization and Reform Act of 2012, P.L. 112-95, Congress has tasked the Federal Aviation Administration (FAA) with integrating unmanned aircraft systems (UASs), sometimes referred to as unmanned aerial vehicles (UAVs) or drones, into the national airspace system by September 2015. Although the text of this act places safety as a predominant concern, it fails to address significant, and up to this point, largely unanswered legal questions.

For instance, several legal interests are implicated by drone flight over or near private property. Might such a flight constitute a trespass? A nuisance? If conducted by the government, a constitutional taking? In the past, the Latin maxim *cujus est solum ejus est usque ad coelum* (for whoever owns the soil owns to the heavens) was sufficient to resolve many of these types of questions, but the proliferation of air flight in the 20th century has made this proposition untenable. Instead, modern jurisprudence concerning air travel is significantly more nuanced, and often more confusing. Some courts have relied on the federal definition of "navigable airspace" to determine which flights could constitute a trespass. Others employ a nuisance theory to ask whether an overhead flight causes a substantial impairment of the use and enjoyment of one's property. Additionally, courts have struggled to determine when a government-operated overhead flight constitutes a taking under the Fifth and Fourteenth Amendments.

With the ability to house surveillance sensors such as high-powered cameras and thermal-imaging devices, some argue that drone surveillance poses a significant threat to the privacy of American citizens. Because the Fourth Amendment's prohibition against unreasonable searches and seizures applies only to acts by government officials, surveillance by private actors such as the paparazzi, a commercial enterprise, or one's neighbor is instead regulated, if at all, by state and federal statutes and judicial decisions. Yet, however strong this interest in privacy may be, there are instances where the public's First Amendment rights to *gather* and *receive* news might outweigh an individual's interest in being let alone.

Additionally, there are a host of related legal issues that may arise with this introduction of drones in U.S. skies. These include whether a property owner may protect his property from a trespassing drone; how stalking, harassment, and other criminal laws should be applied to acts committed with the use of drones; and to what extent federal aviation law could preempt future state law.

Because drone use will occur largely in federal airspace, Congress has the authority or can permit various federal agencies to set federal policy on drone use in American skies. This may include the appropriate level of individual privacy protection, the balancing of property interests with the economic needs of private entities, and the appropriate safety standards required.

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Introduction

The integration of drones into U.S. skies is expected by many to yield significant commercial and societal benefits.[1] Drones could be employed to inspect pipelines, survey crops, and monitor the weather.[2] One newspaper has already used a drone to survey storm damage,[3] and real estate agents have used them to survey property.[4] In short, the extent of their potential domestic application is bound only by human ingenuity.

In an effort to accelerate this introduction, in the FAA Modernization and Reform Act of 2012, Congress tasked the Federal Aviation Administration (FAA) with safely integrating drones into the national airspace system by September 2015.[5] Likewise, sensing the opportunities that unmanned flight portend, lobbying groups and drone manufacturers have joined the chorus of those seeking a more rapid expansion of drones in the domestic market.[6]

Yet, the full-scale introduction of drones into U.S. skies will inevitably generate a host of legal issues. This report will explore some of those issues. To begin, this report will describe the regulatory framework for permitting the use of unmanned vehicles and the potential rulemaking that will occur over the next few years. Next, it will discuss theories of takings and property torts as they relate to drone flights over or near private property. It will then discuss the privacy interests implicated by drone surveillance conducted by private actors and the potential countervailing First Amendment rights to gather and receive news. Finally, this report will explore possible congressional responses to these privacy concerns, discuss how the FAA has approached these concerns, and identify additional potential legal issues.

Development of Aviation Law and Regulations

The predominant theory of airspace rights applied before the advent of aviation derived from the Roman Law maxim *cujus est solum ejus est usque ad coelum*, meaning whoever owns the land

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[1] A "drone" is simply an aircraft that can fly without a human operator. They are sometimes referred to as unmanned aerial vehicles (UAV), and the whole system—including the aircraft, the operator on the ground, and the digital network required to fly the aircraft—is referred to as an unmanned aircraft system (UAS). *See generally* CRS Report R42718, *Pilotless Drones: Background and Considerations for Congress Regarding Unmanned Aircraft Operations in the National Airspace System*, by Bart Elias.

[2] *See* GOV'T ACCOUNTABILITY OFFICE, UNMANNED AIRCRAFT SYSTEMS: MEASURING PROGRESS AND ADDRESSING POTENTIAL PRIVACY CONCERNS WOULD FACILITATE INTEGRATION INTO THE NATIONAL AIRSPACE SYSTEM (2012).

[3] It is reported that News Corp. has used a small drone to monitor storm damage in Alabama and flooding in North Dakota. Kashmir Hill, *FAA Looks Into News Corp's Daily Drone, Raising Questions About Who Gets to Fly Drones in the U.S.*, FORBES, (August 2, 2011 3:52 P.M.), http://www.forbes.com/sites/kashmirhill/2011/08/02/faa-looks-into-news-corps-daily-drone-raising-questions-about-who-gets-to-fly-drones-in-the-u-s/.

[4] Nick Wingfield & Somini Sengupta, *Drones Set Sights on U.S. Skies*, N.Y. TIMES (February 17, 2012), *available at* http://www.nytimes.com/2012/02/18/technology/drones-with-an-eye-on-the-public-cleared-to-fly.html?pagewanted=all&_r=0.

[5] FAA Modernization and Reform Act of 2012, P.L. 112-95, 126 Stat. 11.

[6] Groups such as the Association for Unmanned Vehicle Systems International, which boasts 7,200 members, including defense contractors, educational institutions, and government agencies, have been formed to advance the interests of the UAV community. Association for Unmanned Vehicle Systems International; http://www.auvsi.org/Home.

possesses all the space above the land extending upwards into the heavens.[7] This maxim was adopted into English common law and eventually made its way into American common law.[8] At the advent of commercial aviation, Congress enacted the Air Commerce Act of 1926[9] and later the 1938 Civil Aeronautics Act.[10] These laws included provisions stating that "to the exclusion of all foreign nations, [the United States has] complete sovereignty of the airspace" over the country.[11] Additionally, Congress declared a "public right of freedom of transit in air commerce through the navigable airspace of the United States."[12] This right to travel in navigable airspace came into conflict with the common law idea that each landowner owned the airspace above the surface in perpetuity. If the common law idea was to be followed faithfully, there could be no right to travel in navigable airspace without constantly trespassing in private property owners' airspace. This conflict was directly addressed by the Supreme Court in *United States v. Causby*, discussed extensively below.

With the passage of the Federal Aviation Act in 1958,[13] the administrator of the FAA was given "full responsibility and authority for the advancement and promulgation of civil aeronautics generally.... "[14] This centralization of responsibility and creation of a uniform set of rules recognized that "aviation is unique among transportation industries in its relation to the federal government—it is the only one whose operations are conducted almost wholly within federal jurisdiction.... "[15] The FAA continues to set uniform rules for the operation of aircraft in the national airspace. In the FAA Modernization and Reform Act of 2012 (FMRA), Congress instructed the FAA to "develop a comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system."[16] These regulations must provide for this integration "as soon as practicable, but not later than September 30, 2015."[17]

Current FAA Regulations of Navigable Airspace

Fixed-Wing Aircraft

FAA regulations define the minimum safe operating altitudes for different kinds of aircraft. Generally, outside of takeoff and landing, fixed-wing aircraft must be operated at an altitude that allows the aircraft to conduct an emergency landing "without undue hazard to persons or property on the surface."[18] In a congested area, the aircraft must operate at least "1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft."[19] The minimum safe

[7] Colin Cahoon, *Low Altitude Airspace: A Property Rights No-Man's Land*, 56 J. AIR L. & COM. 157, 161 (1990).

[8] *Id*; *see also* R. WRIGHT, THE LAW OF AIRSPACE 11-65 (1968).

[9] Air Commerce Act of 1926, P.L. 69-254, 44 Stat. 568.

[10] Civil Aeronautics Act of 1938, P.L. 75-706, 52 Stat. 973.

[11] Codified as amended at 49 U.S.C. § 40103 (2012).

[12] Codified as amended at 49 U.S.C. § 40101 (2012).

[13] P.L. 85-726; 72 Stat. 737 (1958).

[14] H. Rept. 2360, 85th Cong., 2d Sess. (1958).

[15] S. Rept. 1811, 85th Cong., 2d Sess. (1958).

[16] P.L. 112-95, §332(a)(1).

[17] *Id.* at §332(a)(3).

[18] 14 C.F.R. §91.119(a).

[19] *Id.* at §91.119(b).

operating altitude over non-congested areas is "500 feet above the surface."[20] Over open water or sparsely populated areas, aircraft "may not be operated closer than 500 feet to any person, vessel, vehicle, or structure."[21] Navigable airspace is defined in statute as the airspace above the minimum safe operating altitudes, including airspace needed for safe takeoff and landing.[22]

Helicopters

While a fixed-wing aircraft is subject to specific minimum safe operating altitudes based on where it is flying, regulation of helicopter minimum altitudes is less rigid. According to FAA regulations, a helicopter may fly below the minimum safe altitudes prescribed for fixed-wing aircraft if it is operated "without hazard to person or property on the surface."[23] Therefore, arguably a helicopter may be lawfully operated outside the zone defined in statute as navigable airspace.[24]

Drones

The FAA does not currently regulate safe minimum operating altitudes for drones as it does for other kinds of aircraft. Defining navigable airspace for drone operation may be one way that the FAA responds to Congress's instruction, in FMRA, to write rules integrating civil drones into the national airspace, which is discussed in more detail below.[25] One possibility is for the FAA to create different classes of drones based on their size and capabilities. Larger drones that physically resemble fixed-wing aircraft could be subject to similar safe minimum operating altitude requirements whereas smaller drones could be regulated similar to helicopters.

Current FAA Regulation of Drones

In 2007, the FAA issued a policy notice stating that "no person may operate a UAS in the National Airspace without specific authority."[26] Therefore, currently all drone operators who do not fall within the recreational use exemption discussed below must apply directly to the FAA for permission to fly.[27]

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[20] *Id.* at § 91.119(c).

[21] *Id.*

[22] 49 U.S.C. § 40102(32).

[23] 14 C.F.R. § 91.119(d).

[24] *See* People v. Sabo, 185 Cal. App. 3d 845, 852 (1986) ("While helicopters may be operated at less than minimum altitudes so long as no hazard results, it does not follow that such operation is conducted within navigable airspace. The plain meaning of the statutes defining navigable airspace as that airspace above specified altitudes compels the conclusion that helicopters operated below the minimum are not in navigable airspace. The helicopter hovering above the surface of the land in such fashion as not to constitute a hazard to persons or property is, however, lawfully operated.").

[25] *See id.* at § 332(b).

[26] FAA, "Unmanned Aircraft Operations in the National Airspace System," 72 Fed. Reg. 6689 (Feb. 13, 2007).

[27] *See id.*

Public and Civil Operators

Drones operated by federal, state, or local agencies must obtain a certificate of authorization or waiver (COA) from the FAA.[28] After receiving COA applications, the FAA conducts a comprehensive operational and technical review of the drone and can place limits on its operation in order to ensure its safe use in airspace.[29] In response to a directive in FMRA, the FAA recently streamlined the process for obtaining COAs, making it easier to apply on their website.[30] It also employs expedited procedures allowing grants for temporary COAs if needed for time-sensitive missions.[31]

Civil operators, or private commercial operators, must receive a special airworthiness certificate in the experimental category in order to operate.[32] These certificates have been issued on a limited basis for flight tests, demonstrations, and training. Presently, there is no other method of obtaining FAA approval to fly drones for commercial purposes. It appears these restrictions will be loosened in the coming years, since the FAA has been instructed to issue a rulemaking that will lead to the phased-in integration of civilian unmanned aircraft into national airspace.[33]

Recreational Users

The FAA encourages recreational users of model aircraft, which certain types of drones could fall under, to follow a 1981 advisory circular.[34] Under the circular, users are instructed to fly a sufficient distance from populated areas and away from noise-sensitive areas like parks, schools, hospitals, or churches. Additionally, users should not fly in the vicinity of full-scale aircraft or more than 400 feet above the surface. When flying within three miles of an airport, users should notify the air traffic control tower, airport operator, or flight service station. Compliance with these guidelines is voluntary.

Future FAA Regulation of Drones

FMRA instructs the FAA to integrate civil unmanned aircraft systems into the national airspace by the end of FY2015 and implement new standards for public drone operators. This law included provisions describing the comprehensive plan and rulemaking the agency must create to address different aspects of integrating civil drones, restricting the FAA's ability to regulate "model aircraft," and requiring the creation of drone test sites.

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[28] *Id.*

[29] *See generally* FAA "Unmanned Aircraft Systems," *available at* http://www.faa.gov/about/initiatives/uas/cert/.

[30] *See* P.L. 112-95, § 334(a) (instructing the issuance of "guidance regarding the operation of public unmanned aircraft systems to ... expedite the issuance of a certificate of authorization process ... "); *see also* "Certificates of Authorization or Waiver (COA)," *available at* http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/aaim/organizations/uas/coa/.

[31] "FAA makes progress with UAS integration," *available at* http://www.faa.gov/news/updates/?newsId=68004.

[32] 72 Fed. Reg. 6689; *see* 14 C.F.R. §§ 21.191, 21.193 (experimental certificates generally); 14 C.F.R. § 91.319 (operating limitations on experimental certificate aircraft).

[33] P.L. 112-95, § 332(2).

[34] *See* 72 Fed. Reg. 6689; Advisory Circular 91-57, "Model Aircraft Operating Standards" (June 1981), *available at* http://www.faa.gov/documentLibrary/media/Advisory_Circular/91-57.pdf.

Civil Operators

The statute instructs the FAA to create a "comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace"[35] and submit the plan to Congress within one year of enactment.[36] The statute contains a non-exhaustive list of elements that the plan must address, including predictions on how future rulemaking will address the certification process for drones; drone sense and avoid capabilities; and establishing operator or pilot standards, including a licensing and registration system.[37] The plan must also include a timeline for a phased-in approach to integration and ways to ensure the safe operation of civil drones with publicly operated drones in the airspace.[38] The FAA has not yet submitted this comprehensive plan to Congress.

FMRA also directs the FAA to promulgate a series of rules, including rules governing the civil operation of small drones in the national airspace and rules implementing the comprehensive plan described above.[39] Additionally, the FAA must update its 2007 policy statement that established the current scheme of drone authorizations.[40]

Public Operators

As noted above, the FAA has already implemented a streamlined process for public operators to obtain COAs.[41] In addition to this streamlining, FMRA instructs the FAA to "develop and implement operations and certification requirements for the operation of public unmanned aircraft systems in the national airspace."[42] Similar to the provisions governing civil users, these standards must be in place by the end of 2015.

Recreational Users

In FMRA, the FAA was prohibited from promulgating rules regarding certain kinds of model aircraft flown for hobby or recreational use.[43] This prohibition applies if the model aircraft is less than 55 pounds, does not interfere with any manned aircraft, and is flown in accordance with a community-based set of safety guidelines.[44] Additionally, the aircraft must be flown within the line of sight of the operator and be used solely for hobby or recreational purposes.[45] If flown within five miles of an airport, the operator of the model aircraft must notify both the airport operator and air traffic control tower.[46] While the FAA is prohibited from writing rules or

[35] P.L. 112-95, § 332(a)(1).
[36] *Id.* at § 332(a)(4).
[37] *Id.* at § 332(a)(2).
[38] *Id.*
[39] *Id.* at § 332(b).
[40] *Id.* at § 332(b)(3).
[41] P.L. 112-95, § 334(a), (c).
[42] *Id.* at § 334(b).
[43] *Id.* at § 336.
[44] *Id.* at § 336(a).
[45] *Id.* at § 336(c).
[46] *Id. at* § 336(a)(5).

regulations governing these aircraft, it is not prohibited from pursuing enforcement actions "against persons operating model aircraft who endanger the safety of the national airspace system."[47]

Test Ranges

As part of its efforts to integrate drones into the national airspace, FMRA also directed the FAA to establish six test ranges that will serve as integration pilot projects.[48] As part of the test range program, the FAA must designate airspace for the operation of both manned and unmanned flights, develop certification and air traffic standards for drones at the test ranges, and coordinate with both NASA and the Department of Defense during development. The test ranges should address both civil and public drone operations.[49]

In February 2013, the FAA published a notice in the Federal Register announcing the process for selection of the sites.[50] In its words, "The overall purpose of this test site program is to develop a body of data and operational experiences to inform integration and the safe operation of these aircraft in the National Airspace System."[51] As directed in the statute, factors for site selection include geographic and climactic diversity and a consideration of the location of the ground infrastructure needed to support the sites.[52] Additionally, in the notice the FAA announced privacy requirements that will be applicable to operations at test sites. These provisions are discussed in more detail below.[53]

The FAA received 50 applications spread across 37 states and is in the process of making its test range site selections.[54]

Airspace and Property Rights

Since the popularization of aviation, courts have had to balance the need for unobstructed air travel and commerce with the rights of private property owners. The foundational case in explaining airspace ownership rights is *United States v. Causby*.[55]

United States v. Causby

In *United States v. Causby*, the Supreme Court directly confronted the question of who owns the airspace above private property.[56] The plaintiffs filed suit against the U.S. government arguing

[47] *Id.* at § 336(b).

[48] *Id.* at § 332(c).

[49] *Id.* at § 332(c)(2).

[50] Unmanned Aircraft System Test Site Program, 78 Fed. Reg. 12259 (Feb. 22, 2013).

[51] *Id.*

[52] *Id.*; *see* P.L. 112-95, § 332(c)(3).

[53] *See infra* "FAA Regulation of Privacy".

[54] FAA, "UAS Test Site Map," *available at* http://www.faa.gov/about/initiatives/uas/media/UAS_testsite_map.pdf.

[55] United States v. Causby, 328 U.S. 256 (1946).

[56] *Id.*

that flights of military planes over their property constituted a violation of the Fifth Amendment Takings Clause, which states that private property shall not "be taken for public use, without just compensation." Generally, takings suits can only be filed against the government when a government actor, as opposed to a private party, causes the alleged harm.[57]

Causby owned a chicken farm outside of Greensboro, North Carolina, that was located near an airport regularly used by the military. The proximity of the airport and the configuration of the farm's structures led the military planes to pass over the property at 83 feet above the surface, which was only 67 feet above the house, 63 feet above the barn, and 18 feet above the tallest tree.[58] While this take-off and landing pattern was conducted according to the Civil Aeronautics Authority guidelines, the planes caused "startling" noises and bright glare at night.

As the Court explained, "as a result of the noise, respondents had to give up their chicken business. As many as six to ten of their chickens were killed in one day by flying into the walls from fright. The total chickens lost in this manner was about 150.... The result was the destruction of the use of the property as a commercial chicken farm."[59] The Court had to determine whether this loss of property constituted a taking without just compensation.

At the outset, the Court directly rejected the common law conception of airspace ownership: "It is ancient doctrine that at common law ownership of the land extended to the periphery of the universe—*Cujus solum ejus est usque ad coelum.* But that doctrine has no place in the modern world."[60] The Court noted that Congress had previously declared a public right of transit in air commerce in navigable airspace and national sovereignty in the airspace.[61] These statutes could not be reconciled with the common law doctrine without subjecting aircraft operators to countless trespass suits. In the Court's words, "common sense revolts at the idea."[62]

Even though it rejected the idea that the Causbys held complete ownership of the air up to the heavens, the Court still had to determine if they owned any portion of the space in which the planes flew such that a takings could occur. The government argued that flights within navigable airspace that do not physically invade the surface cannot lead to a taking. It also argued that the landowner does not own any airspace adjacent to the surface "which he has not subjected to possession by the erection of structures or other occupancy."[63]

The Court did not adopt this reasoning, finding instead that "the landowner owns at least as much space above the ground as he can occupy or use in connection with the land. The fact that he does not occupy it in a physical sense—by the erection of building and the like—is not material."[64] Therefore, it found that the landowner owns the airspace in the immediate reaches of the surface necessary to use and enjoy the land and invasions of this space "are in the same category as

[57] Takings claims filed against state government actors would not be filed under the Fifth Amendment. Rather, they would arise as state constitutional claims. For more information on takings, *see* CRS Report RS20741, *The Constitutional Law of Property Rights "Takings": An Introduction*, by Robert Meltz.

[58] *Causby*, 328 U.S. at 258.

[59] *Id.* at 259.

[60] *Id.* at 260-61.

[61] *Id.* at 260 (citing statutes then codified at 49 U.S.C. §§ 176(a), 403).

[62] *Id.*

[63] *Id.*

[64] *Id.* at 264 (citing Hinman v. Pacific Air Transport, 84 F.2d 755 (9th Cir. 1936)).

invasions of the surface."[65] Above these immediate reaches, the airspace is part of the public domain, but the Court declined to draw a clear line. The Court also noted that the government's argument regarding the impossibility of a taking based on flights in navigable airspace was inapplicable in this case because the flights over Causby's land were not within navigable airspace.[66] At the time, federal law defined navigable airspace as the space above the minimum safe flying altitudes for specific areas, but did not include the space needed to take off and land. Even though these flights were not within navigable airspace, the Court seemed to suggest that if they were, the inquiry would not immediately end. Instead, the Court would then have to determine if the regulation itself, defining the navigable airspace, was valid.[67]

Ultimately, in the context of a taking claim, the Court concluded that "flights over private land are not a taking, unless they are so low and so frequent to be a direct and immediate interference with the enjoyment and use of the land."[68] With regard to the Causbys' chicken farm, the Court concluded that the military flights had imposed a servitude upon the land, similar to an easement, based on the interference with the use and enjoyment of their property. Although the land did not lose all its economic value, the lower court's findings clearly established the flights led directly to a diminution in the value of the property, since it could no longer be used for its primary purpose as a chicken farm.

Post-*Causby* Theories of Airspace Ownership

Causby clearly abandoned the ancient idea that private landowners each owned their vertical slice of the airspace above the surface in perpetuity as incompatible with modern life. The case set up three factors to examine in a takings claim that courts still utilize today: (1) whether the planes flew directly over the plaintiff's land; (2) the altitude and frequency of the flights; and (3) whether the flights directly and immediately interfered with the plaintiff's use and enjoyment of the surface land.[69]

However, it left many questions unanswered. Where is the dividing line between the "immediate reaches" of the surface and public domain airspace? Can navigable airspace intersect with the "immediate reaches" belonging to the private property? Can aircraft flying wholly within navigable airspace, as defined by federal law, ever lead to a successful takings claim? How does one assess claims based on lawfully operated aircraft, such as helicopters, flying below navigable airspace?

Subsequent cases have been brought using many different legal claims, including trespass and nuisance, as discussed below, and various ways of describing the resulting injury. Claims could include an "inverse condemnation," another way of describing a taking, or the establishment of an avigation, air, or flying easement. While these legal claims may have different names, it appears

[65] *Id.* at 265.

[66] *Id.* at 264.

[67] *Id.* at 263.

[68] *Id.* at 266.

[69] *See e.g.*, Andrews v. United States, 2012 U.S. Claims LEXIS 1644, *10 (explaining that the "The United States Court of Appeals for the Federal Circuit (Federal Circuit) has derived from Causby three factors for consideration 'in determining whether noise and other effects from overflights ... constitute a taking.... '"). *But see* Argent v. United States, 124 F.3d 1277, 1284 (Fed. Cir. 1997) (finding a taking claim may be based on "a peculiarly burdensome pattern of activity, including both intrusive and non-intrusive flights").

that courts use *Causby* as the starting point for analyzing all property-based challenges to intrusions upon airspace. Several different interpretations of *Causby* have emerged in the attempt to articulate an airspace ownership standard, a few of which are described here.

Following *Causby*, several lower courts employed a fixed-height theory and interpreted the decision as creating two distinct categories of airspace. On the one hand, the stratum of airspace that was defined in federal law as "navigable airspace" was always a part of the public domain. Therefore, flights in this navigable airspace could not lead to a successful property-right based action like a takings or trespass claim because the property owner never owned the airspace in the public domain. On the other hand, the airspace below what is defined as navigable airspace could be "owned" by the surface owner and, therefore, intrusions upon it could lead to a successful takings or property tort claim. Since this fixed-height theory of airspace ownership relies heavily on the definition of navigable airspace, the expansion of the federal definition of "navigable airspace" to include the airspace needed to take-off and land[70] greatly impacts what airspace a property owner could claim.

This strict separation between navigable airspace and the airspace a landowner can claim seems to have been disavowed by the Supreme Court. First, in dicta in *Braniff Airways v. Nebraska State Board of Equalization & Assessment*,[71] a case primarily dealing with the question of federal preemption of state airline regulations, the Court left open the possibility of a taking based on flights occurring in navigable airspace. It summarized *Causby* as holding "that the owner of land might recover for a taking by national use of navigable air space resulting in destruction in whole or in part of the usefulness of the land property."[72] Next, in *Griggs v. Allegheny County* the Supreme Court found that the low flight of planes over the plaintiff's property, taking off from and landing at a nearby airport's newly constructed runway, constituted a taking that had to be compensated under the Fifth Amendment.[73] The noise and fear of a plane crash caused by the low overhead flights made the property "'undesirable and unbearable'" for residential use, making it impossible for people in the house to converse or sleep.[74] The Court reached this conclusion that a taking occurred based on this injury, despite the fact that the flights were operated properly under federal regulations and never flew outside of navigable airspace.[75] Despite this holding, some lower courts have continued to lend credence to a fixed-height ownership theory as a reasonable interpretation of *Causby*.[76]

Another interpretation of *Causby* essentially creates a presumption of a non-taking when overhead flights occur in navigable airspace. This presumption would recognize the importance of unimpeded travel of air commerce and that Congress placed navigable airspace in the public domain. However, the presumption could be rebutted by evidence that the flights, while in navigable airspace, interfered with the owner's use and enjoyment of the surface enough to justify compensation. As one court reasoned, "as the height of the overflight increases... the Government's interest in maintaining sovereignty becomes weightier while the landowner's

[70] 49 U.S.C. §40102(32) (2012).

[71] 347 U.S. 590 (1954).

[72] *Id.* at 596.

[73] Griggs v. Allegheny County, 369 U.S. 84, 90 (1962).

[74] *Id.* at 87.

[75] *Id.* at 86-89.

[76] *See, e.g.*, Aaron v. United States, 311 F.2d 798 (Ct. Cl. 1963); Powell v. United States, 1 Cl. Ct. 669 (1983).

interest diminishes, so that the damage showing required increases in a continuum toward showing absolute destruction of all uses of the property."[77]

Finally, some courts have concluded that the altitude of the overhead flight has no determinative impact on whether a taking has occurred. One federal court noted that the government's liability for a taking is not impacted "merely because the flights of Government aircraft are in what Congress has declared to be navigable airspace and subject to its regulation."[78] Under this approach, "although the navigable airspace has been declared to be in the public domain, 'regardless of any congressional limitations, the land owner, as an incident to his ownership, has a claim to the superjacent airspace to the extent that a reasonable use of his land involves such space.'"[79] Under this theory, the court would only need to examine the effect of the overhead flights on the use and enjoyment of the land, and would not need to determine if the flight occurred in navigable airspace.

While the definition of navigable airspace impacts each theory differently, it is clear that under each interpretation a showing of interference with the use and enjoyment of property is required. Cases have clearly established that overhead flights leading to impairment of the owner's livelihood or that cause physical damage qualify as an interference with use and enjoyment of property.[80] Additionally, flights that cause the surface to become impractical for its intended use by the current owner also satisfy the use and enjoyment requirement.[81] For example, in *Griggs*, the noise, vibration, and fear of damage caused by overhead flights made it impossible for the plaintiffs to converse with others or sleep within their house, leading to their retreat from the property, which had become "undesirable and unbearable for their residential use."[82] Some courts have recognized a reduction in the potential resale value of the property as an interference with its use and enjoyment, even if the property continues to be suitable for the purposes for which it is currently used.[83] One court explained: "Enjoyment of property at common law contemplated the entire bundle of rights and privileges that attached to the ownership of land.... Owners of fee simple estates ... clearly enjoy not only the right to put their land to a particular present use, but also to hold the land for investment and appreciation.... "[84] However, other courts have rejected the idea that restrictions on uses by future inhabitants, without showing loss of property value, are relevant to a determination of the owner's own use and enjoyment of the property.[85]

Trespass and Nuisance Claims Against Private Actors

Although *Causby* arose from a Fifth Amendment takings claim, its articulation of airspace ownership standards is also often used in determining state law tort claims such as trespass and nuisance. These state law tort claims could be used to establish liability for overhead flights

[77] Stephens v. United States, 11 Cl. Ct. 352, 362 (1986).

[78] Branning v. United States, 654 F.2d 88, 99 (1981).

[79] *Id.* at 98-99 (citing Palisades Citizens Association, Inc. v. C.A.B, 420 F.2d 188, 192 (D.C. Cir. 1969)).

[80] *See, e.g.*, *Causby*, 328 U.S. 256.

[81] *See, e.g.*, *Griggs*, 369 U.S. 84; Pueblo of Sandia v. Smith, 497 F.2d 1043 (10th Cir. 1974) ("appellant failed to show interference with actual, as distinguished from potential, use of its land.").

[82] *Griggs*, 369 U.S. at 87.

[83] *See, e.g.*, Brown v. United States, 73 F.3d 1100 (1996); *Branning*, 654 F.2d 88.

[84] *Brown*, 73 F.3d 1100.

[85] Stephens v. United States, 11 Cl. Ct. 352 (1986).

operated by private actors, where a lack of government involvement precludes a takings claim. Generally, the tort of trespass is any physical intrusion upon property owned by another. However, unlike with surface trespass claims, simply proving that an object or person was physically present in the airspace vertically above the landowner's property is generally not enough to establish a trespass in airspace. Since *Causby* struck down the common law idea of *ad coelum*, landowners generally do not have an absolute possessory right to the airspace above the surface into perpetuity. Instead, airspace trespass claims are often assessed using the same requirements laid out in the *Causby* takings claim. Arguably, these standards are used in property tort claims because there can be no trespass in airspace unless the property owner has some possessory right to the airspace, which was the same question at issue in *Causby*.

To allege an actionable trespass to airspace, the property owner must not only prove that the interference occurred within the immediate reaches of the land, or the airspace that the owner can possess under *Causby*, but also that its presence interferes with the actual use of his land. As one court explained, "a property owner owns only as much air space above his property as he can practicable use. And to constitute an actionable trespass, an intrusion has to be such as to subtract from the owner's use of the property."[86] This standard for airspace trespass was also adopted by the Restatement (Second) of Torts.[87]

Nuisance is a state law tort claim that is not based on possessory rights to property, like trespass, but is rooted in the right to use and enjoy land.[88] Trespass and nuisance claims arising from airspace use are quite similar, since trespass to airspace claims generally require a showing that the object in airspace interfered with use and enjoyment of land. However, unlike trespass, nuisance claims do not require a showing that the interference actually occupied the owner's airspace. Instead, a nuisance claim can succeed even if the interference flew over adjoining lands and never directly over the plaintiff's land, as long as the flight constitutes a substantial and unreasonable interference with the use and enjoyment of the land.

Potential Liability Arising from Civilian Drone Use

The integration of drones into domestic airspace will raise novel questions of how to apply existing airspace ownership law to this new technology. How courts may apply the various interpretations of *Causby*, discussed above, to drones will likely be greatly impacted by the FAA's definition of navigable airspace for drones.

The potential for successful takings, trespass, or nuisance claims from drone use will also be impacted by the physical characteristics of the drone, especially given that current case law heavily emphasizes the impact of the flight on use and enjoyment of the surface property. Several characteristics of drones may make their operation in airspace less likely to lead to liability for drone operators than for aircraft operators. First, the noise attributed to drone use may be significantly less than noise created by helicopters or planes powered by jet engines. Second, drones commonly used for civilian purposes could be much smaller than common aircraft used today. This decreased size is likely to lead to fewer physical impacts upon surface land such as

[86] Geller v. Brownstone Condominium, 82 Ill. App. 3d 334, 336-37 (1980).

[87] RESTATEMENT (SECOND) OF TORTS §159(2) (1965) (stating that "Flights by aircraft in the airspace above the land of another is a trespass if, but only if, (a) it enters into the immediate reaches of the airspace next to the land, and (b) it interferes substantially with the other's use and enjoyment of the land.").

[88] RESTATEMENT (SECOND) OF TORTS §821D (1979); 2 DAN B DOBBS ET AL., THE LAW OF TORTS §398 (2d ed. 2011).

vibration and dust, which are common complaints arising from overhead aircraft and helicopter flights. Finally, it is unknown at this time how most drones will be deployed into flight. Will drone "airports" be used to launch the aircraft or will they take off and land primarily from individual property? If drone use remains decentralized and is not organized around an "airport," then drones are less likely to fly repeatedly over the same piece of property, creating fewer potential takings, trespass, or nuisance claims. Additionally, the majority of drones are more likely to operate like helicopters, taking off and landing vertically, than like traditional fixed-wing aircraft. This method of takeoff reduces the amount of surface the aircraft would have to fly over before reaching its desired flying altitude, minimizing the potential number of property owners alleging physical invasion of the immediate reaches of their surface property.

Alternatively, the potential ability for drones to fly safely at much lower altitudes than fixed-wing aircraft or helicopters could lead to a larger number of property-based claims. Low-flying drones are more likely to invade the immediate reaches of the surface property, thus satisfying part of the requirement for a takings or trespass claim.

Privacy

Perhaps the most contentious issue concerning the introduction of drones into U.S. airspace is the threat that this technology will be used to spy on American citizens. With the ability to house high-powered cameras, infrared sensors, facial recognition technology, and license plate readers, some argue that drones present a substantial privacy risk.[89] Undoubtedly, the government's use of drones for domestic surveillance operations implicates the Fourth Amendment and other applicable laws.[90] In like manner, privacy advocates have warned that private actors might use drones in a way that could infringe upon fundamental privacy rights.[91] This section will focus on the privacy issues associated with the use of drones by private, non-governmental actors. It will provide a general history of privacy law in the United States and survey the various privacy torts, including intrusion upon seclusion, the privacy tort most applicable to drone surveillance. It will then explore the First Amendment right to gather news. Application of these theories to drone surveillance will be discussed in the section titled "Congressional Response."

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[89] *See* Jennifer Lynch, *Are Drones Watching You?*, ELECTRONIC FRONTIER FOUNDATION (January 10, 2012), https://www.eff.org/deeplinks/2012/01/drones-are-watching-you; M. Ryan Calo, *The Drone as Privacy Catalyst*, 64 STAN. L. REV. ONLINE 29 (December 12, 2011), http://www.stanfordlawreview.org/sites/default/files/online/articles/64-SLRO-29_1.pdf.

[90] For an analysis of the Fourth Amendment implications of government drone surveillance, see CRS Report R42701, *Drones in Domestic Surveillance Operations: Fourth Amendment Implications and Legislative Responses*, by Richard M. Thompson II.

[91] *See* Press Release, Rep. Ed Markey, Markey Releases Discussion Draft of Drone Privacy and Transparency Legislation (August 1, 2012), *available at* http://markey.house.gov/press-release/markey-releases-discussion-draft-drone-privacy-and-transparency-legislation.

> Drones are already flying in U.S. airspace – with thousands more to come – but with no privacy protections or transparency measures in place. We are entering a brave new world, and just because a company soon will be able to register a drone license shouldn't mean that company can turn it into a cash register by selling consumer information. Currently, there are no privacy protections or guidelines and no way for the public to know who is flying drones, where, and why. The time to implement privacy protections is now.

Id.

Early Privacy Jurisprudence

Although early Anglo-Saxon law lacked express privacy protections, property law and trespass theories served as proxy for the protection of individual privacy. Lord Coke pronounced in 1605 that "the house of everyone is to him as his castle and fortress, as well for his defence against injury and violence, as for his respose[.]"[92] This proposition that individuals are entitled to privacy while in their homes crossed the Atlantic with the colonists and appeared prominently in early revolutionary thinking.[93] In one early American common law decision, the court noted that "[t]he law is clearly settled, that an officer cannot justify the breaking open an outward door or window, in order to execute process in a civil suit; if he doth, he is a trespasser."[94] In cases lacking physical trespass, prosecutors relied on an eavesdropping theory, which protected the privacy of individuals' conversations while in their home.[95]

These century-old theories of trespass and eavesdropping, however, failed to keep up with a rapidly changing society fueled by advancing technologies. As with today's celebrity-obsessed society, late-19th century society experienced the birth and spread of "yellow journalism," a new media aimed at emphasizing the "curious, dramatic, and unusual, providing readers a 'palliative of sin, sex, and violence.'"[96] Faster presses and instantaneous photography enabled journalists to exploit and spread gossip.[97] Louis D. Brandeis (then a private attorney) and Samuel Warren were bothered with the press's constant intrusions into the private affairs of prominent Bostonians.[98] In 1890, they published a seminal law review article formulating a new legal theory—the right to be let alone.[99] Brandeis and Warren understood that existing tort doctrines such as trespass and libel were insufficient to protect privacy rights, as "only a part of the pain, pleasure, and profit of life lay in physical things."[100] They noted that this new right to privacy derived not from "the principle of private property, but that of an inviolate personality."[101] The authors observed that "instantaneous photographs and newspaper enterprise have invaded the sacred precincts of private and domestic life; and numerous mechanical devices threaten to make good the prediction that 'what is whispered in the closet shall be proclaimed from the house-tops.'"[102] Although this new theory had its detractors,[103] it found its way into the common law of several states.[104]

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[92] Semayne's Case, 5 Co. Rep. 91 (K. B. 1604).

[93] In contesting the use of general warrants by officials of the British Crown, known then as writs of assistance, James Otis argued that "one of the most essential branches of English liberty, is the freedom of one's house. A man's house is his castle; and while he is quiet, he is as well guarded as a prince in his castle." II LEGAL PAPERS OF JOHN ADAMS 142.

[94] *See* State v. Armfield, 9 N.C. 246, 247 (1822).

[95] Note, *The Right to Privacy in Nineteenth Century America*, 94 HARV. L. REV. 1892, 1896 (1981). In an early case from Pennsylvania, in recognizing eavesdropping as an indictable offense, the court noted: "Every man's home is his castle, where no man has a right to intrude for any purpose whatever. No man has a right to pry into your secrecy in your own house." Commonwealth v. Lovett, 4 Pa. L.J. Rpts. (Clark) 226, 226 (Pa. 1831); *see also* State v. Williams, 2 Tenn. 108, 108 (1808) (recognizing eavesdropping as an indictable offense).

[96] Ken Gromley, *One Hundred Years of Privacy*, 1992 WIS. L. REV. 1335, 1351 (1992) (quoting EDWIN EMERY & MICHAEL C. EMERY, THE PRESS AND AMERICA: AN INTERPRETATIVE HISTORY OF THE MASS MEDIA 349-50 (3d ed. 1972).

[97] *Id.* at 1350-51.

[98] William M. Prosser, *Privacy*, 48 Cal. L. Rev. 383, 383 (1960).

[99] Louis D. Brandeis & Samuel D. Warren, *The Right to Privacy*, 4 HARV. L. REV. 193, 205 (1890).

[100] *Id.* at 195.

[101] *Id.* at 205.

[102] *Id.* at 195.

[103] Herbert Spencer Hadley, *Right to Privacy*, 3 N.W. L. REV. 1, 3-4 (1894) ("The writer believes that the right to (continued...)

Privacy Torts

In 1939, the First Restatement of Torts (a set of model rules intended for adoption by the states) created a general tort for invasion of privacy.[105] By 1940, a minority of states had adopted some right of privacy either by statute or judicial decision, and six states had expressly refused to adopt such a right.[106] Twenty years later, Dean William Prosser surveyed the case law surrounding this right and concluded that the right to privacy entailed four distinct (yet, sometimes overlapping) rights: (1) intrusion upon seclusion; (2) public disclosure of private facts; (3) publicity which puts the target in a false light; and (4) appropriation of one's likeness.[107] These four categories were incorporated into the Restatement (Second) of Torts.[108]

Section 652B of the Restatement (Second) of Torts creates a cause of action for intrusion upon seclusion,[109] the privacy tort most likely to apply to drone surveillance.[110] It has been adopted either by common law or statute in an overwhelming majority of the states.[111] Section 652B provides: "One who intentionally intrudes, physically or otherwise, upon the solitude or seclusion of another or his private affairs or concerns, is subject to liability to the other for invasion of his privacy, if the intrusion would be highly offensive to a reasonable person."[112] Courts have developed a set of rules for applying Section 652B. First, it requires an objective person standard, testing whether a person of "ordinary sensibilities" would be offended by the alleged invasion.[113] Thus, someone with an idiosyncratic sensitivity—say, an aversion to cameras—could not satisfy this standard by simply having his photograph taken. Likewise, the intrusion must not only be offensive, but "*highly* offensive,"[114] or as one court put it, "outrageously unreasonable conduct."[115] Generally, a single incident will not suffice; instead, the intrusion must be "repeated with such persistence and frequency as to amount to a course of hounding" and "becomes a burden to his existence.... "[116] However, in a few cases a single intrusion was adequate.[117] The

(...continued)

privacy does not exist; that the arguments in its favor are based on a mistaken understanding of the authorities cited in its support[.]").

[104] *Compare* Roberson v. Rochester Folding Box Co., 171 N.E. 538, 542 (N.Y. 1902) (declining to adopt right of privacy), *with* Pavesich v. New England Life Ins. Co., 50 S.E. 68 (Ga. 1905) (recognizing a right to privacy).

[105] RESTATEMENT (FIRST) OF TORTS §867 (1939).

[106] *See* Louis Nizer, *Right of Privacy – A Half Century's Development*, 39 MICH. L. REV. 526, 529-30 (1940).

[107] Prosser, *supra* note 98, at 385.

[108] RESTATEMENT (SECOND) OF TORTS §§652B (intrusion upon seclusion), 652C (appropriation of name or likeness), 652D (publicity given to private fact), 652E (publicity placing person in false light).

[109] *Id.* at §652B.

[110] Because the use of drones for surveillance primarily concerns the collection, and not necessarily the dissemination, of information, this section will focus on the tort of intrusion upon seclusion, which has no publication requirement for recovery. *Id.* cmt. a.

[111] North Dakota and Wyoming are the only states not to adopt the privacy tort of intrusion upon seclusion. *See* Tigran Palyan, *Common Law Privacy in a Not So Common World: Prospects for the Tort of Intrusion Upon Seclusion in Virtual Worlds*, 38 SW. L. REV. 167, 180 n.106 (2008).

[112] *Id.*

[113] Shorter v. Retail Credit Co., 251 F. Supp. 329, 322 (D.S.C. 1966).

[114] RESTATEMENT (SECOND) OF TORTS §652B (emphasis added).

[115] N.O.C., Inc. v. Schaefer, 484 A.2d 729, 733 (N.J. Super. Ct. Law Div. 1984).

[116] RESTATEMENT (SECOND) OF TORTS §652B cmt. d.

[117] *See, e.g.*, Miller v. National Broadcasting Co., 187 Cal. App. 3d 1463 (Cal. Ct. App. 1986) (videotaping man in his (continued...)

invasion of privacy must been intentional, meaning the defendant must desire that the intrusion would occur, or as with other torts,[118] knew with a substantial certainty that such an invasion would result from his actions.[119] An accidental intrusion is not actionable. Finally, in some states, the intrusion must cause mental suffering, shame, or humiliation to permit recovery.[120]

A review of the case law demonstrates that the location of the target of the surveillance is, in many cases, determinative of whether someone has a viable claim for intrusion upon seclusion. For the most part, conducting surveillance of a person while within the confines of his home will constitute an intrusion upon seclusion.[121] The illustrations to Section 652B offer an example of a private detective who photographs an individual while in his home with a telescopic camera as a viable claim.[122] Likewise, as one court observed, "when a picture is taken of a plaintiff while he is in the privacy of his home, ... the taking of the picture may be considered an intrusion into the plaintiff's privacy just as eavesdropping or looking into his upstairs windows with binoculars are considered an invasion of his privacy."[123]

The likelihood of a successful claim is diminished if the surveillance is conducted in a public place. The comments to Section 652B explain that there is generally no liability for photographing or observing a person while in public "since he is not then in seclusion, and his appearance is public and open to the public eye."[124] Likewise, Prosser observed:

> On the public street, or in any other public place, the plaintiff has no right to be alone, and it is no invasion of his privacy to do no more than follow him about. Neither is it such an invasion to take a photograph in such a place, since this amounts to nothing more than making a record, not differing essentially from a full written description, of a public sight which anyone present would be free to see.[125]

The case law also supports this proposition. The Alabama Supreme Court dismissed a claim of wrongful intrusion against operators of a race track who photographed the plaintiffs while they were in the "winner's circle" at the track.[126] Similarly, a federal district court dismissed a claim by a husband and wife who had been photographed by Forbes Magazine while waiting in line at the Miami International Airport as it was taken in "a place open to the general public."[127] Likewise, a Vietnam veteran lost a claim for invasion of privacy based on photographs that depicted him and

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home while being resuscitated after having suffered a heart seizure); Nader v. General Motors Corp., 25 N.Y.2d 560, 570 (1970) (surveilling plaintiff in bank in an "overzealous" manner).

[118] RESTATEMENT (SECOND) OF TORTS §652B.

[119] *See* DOBBS ET AL., *supra* note 88, at §29.

[120] DeAngelo v. Fortney, 515 A.2d 594, 596 (Pa. Sup. 1986); Burns v. Masterbrand Cabinets, Inc., 369 Ill. App. 3d 1006, 1012 (Ill. App. Ct. 2007).

[121] *See, e.g.,* Wolfson v. Lewis, 924 F. Supp. 1413 (E.D. Penn. 1996).

[122] RESTATEMENT (SECOND) OF TORTS §652B cmt. b, illus. 2.

[123] Lovgren v. Citizens First Nat. Bank of Princeton, 534 N.E.2d 987 (Ill. 1989); *see also* Souder v. Pendleton Detectives, 88 So.2d 716, 718 (La. Ct. App. 1956) (peeping into plaintiff's windows); Egan v. Schmock, 93 F. Supp. 2d 1090, 1094-95 (N.D. Cal. 2000) (filming plaintiff and family while in their home).

[124] RESTATEMENT (SECOND) OF TORTS §652B cmt. c.

[125] Prosser, *supra* note 98, at 392.

[126] Schifano v. Green County, 624 So. 2d 178 (Ala. 1993).

[127] Fogel v. Forbes, 500 F. Supp. 1081, 1084, 1087 (E.D. Pa. 1980).

other soldiers during a combat mission in Vietnam—again, a public setting.[128] Other examples include the recording of license plate numbers of cars parked in a public parking lot[129] and photographing a person while walking on a public sidewalk.[130]

Indeed, even plaintiffs who were videotaped or photographed while on their own property have generally been unsuccessful in their privacy claims so long as they could be viewed from a public vantage point. Rejecting one plaintiff's claim for intrusion upon seclusion, the Supreme Court of Oregon held that even though the investigators trespassed on the plaintiff's property to film him, the investigation did not "constitute an unreasonable surveillance 'highly offensive to a reasonable man[,]'"[131] as the plaintiff could have been viewed from the road by his neighbors or passersby.[132] In another case, the wife of a prominent Puerto Rican politician sought damages from a newspaper for invasion of privacy allegedly committed when an agent of the newspaper photographed her house as part of a news story about her husband.[133] The court dismissed her claim as the photographers were not "unreasonably intrusive," and the photographs depicted only the outside of the home and no persons were photographed.[134] Similarly, in one case a couple sued a cell phone company for intrusion upon seclusion when the company's workers looked onto their property each time they serviced a nearby cell tower.[135] The court rejected their claim, holding that "[t]he mere fact that maintenance workers come to an adjoining property as part of their work and look over into the adjoining yard is legally insufficient evidence of highly offensive conduct."[136] There are many other examples.[137]

However, there have been some successful claims for intrusion upon seclusion involving surveillance conducted in public.[138] The comments to Section 652B explain: "Even in a public place, however, there may be some matters about the plaintiff, such as his underwear or lack of it, that are not exhibited to the public gaze, and there may still be invasion of privacy when there is intrusion upon these matters."[139] One of the most famous cases concerning this "public gaze" theory involved a suit for invasion of privacy against a newspaper when it published a picture of

[128] Tellado v. Time-Life, 643 F. Supp. 904, 907 (D.N.J. 1986).

[129] *See* International Union v. Garner, 601 F. Supp. 187, 191-92 (M.D. 1985); Tedeschi v. Reardon v. 5 F. Supp. 2d 40, 46 (D. Mass. 1998).

[130] Jackson v. Playboy Enterprises, Inc., 574 F. Supp. 10, 13 (S.D. Ohio 1983).

[131] McClain v. Boise Cascade Corp., 271 OR 549, 556 (1975). It should be noted that the court also relied on previous case law which held that one who seeks damages for alleged injuries "waives his right to privacy to the extent of a reasonable investigation." *Id.* at 554-555.

[132] *Id.* at 556.

[133] Mojica Escobar v. Roca, 926 F. Supp. 30, 32-33 (D.P.R. 1996).

[134] *Id.* at 35 (citing Dopp v. Fairfax Consultants, Ltd., 771 F. Supp. 494, 497 (D.P.R. 1990)).

[135] GTE Mobilnet of South Texas, LTD. Partnership v. Pascouet, 61 S.W. 3d 599, 605 (Tex. App. 2001).

[136] *Id.* at 618.

[137] *See, e.g.*, Aisenson v. American Broadcasting Co, 220 Cal. App. 3d 146, 162-63 (1990) (holding that broadcast of plaintiff while in his driveway and car was not an intrusion upon seclusion); Wehling v. Columbia Broadcasting System, 721 F.2d 506, 509 (5th Cir. 1983) (holding that broadcast of the outside of plaintiff's home taken from public street was not an invasion of privacy); Munson v. Milwaukee Bd. of School Directors, 969 F.2d 266, 271 (7th Cir. 1992) (same).

[138] *See* Kramer v. Downey, 684 S.W. 2d 524, 525 (Tex. Ct. App. 1984) ("[W]e now hold that the right to privacy is broad enough to include the right to be free of those willful intrusions into one's personal life at home and at work which occurred in this case.").

[139] RESTATEMENT (SECOND) OF TORTS §652B cmt. c.

the plaintiff with her dress blown up as she was leaving a fun house at a county fair.[140] In upholding the plaintiff's claim, the court observed: "To hold that one who is involuntarily and instantaneously enmeshed in an embarrassing pose forfeits her right of privacy merely because she happened at the moment to be part of a public scene would be illogical, wrong, and unjust."[141] In *Huskey v. National Broadcasting Co. Inc.*, a prisoner sued NBC, a television broadcasting company, alleging that by filming him without consent while he was working out in the exercise yard at the prison, NBC invaded his privacy.[142] NBC countered that depictions of persons in a "publicly visible area" could not support the claim for invasion of seclusion.[143] Ultimately, the court permitted the prisoner's claim to go forward, observing that "[o]f course [the prisoner] could be seen by guards, prison personnel and inmates, and obviously he was in fact seen by NBC's camera operator. But the mere fact a person can be seen by others does not mean that person cannot legally be 'secluded.'"[144] Although relief is available for certain cases of public surveillance, recovery seems to be the exception rather than the norm.[145]

First Amendment and Newsgathering Activities

Based on the foregoing discussion, safeguarding privacy from intrusive drone surveillance is clearly an important societal interest. However, this interest must be weighed against the public's countervailing concern in securing the free flow of information that inevitably feeds the "free trade of ideas."[146] Unmanned aircraft can improve the press and the public's ability to gather news: they can operate in dangerous areas without putting a human operator at risk of danger; can carry sophisticated surveillance technology; can fly in areas not currently accessible by traditional aircraft; and can stay in flight for long durations. However, challenges arise in attempting to find an appropriate balance between this interest in newsgathering and the competing privacy interests at stake.

The First Amendment to the United States Constitution provides that "Congress shall make no law ... abridging the freedom of speech, or of the press.... "[147] The Court has construed this phrase to cover not only traditional forms of speech, such as political speeches or polemical articles, but also conduct that is "necessary for, or integrally tied to, acts of expression,"[148] such as distribution of political literature[149] or door-to-door solicitation.[150] Additionally, the Court has pulled within

[140] Daily Times Democrat v. Graham, 276 Ala. 380, 381 (1964).

[141] *Id.* at 383.

[142] Huskey v. National Broadcasting Co., Inc., 632 F. Supp. 1282, 1285 (1986).

[143] *Id.* at 1286.

[144] *Id.* at 1287-88 (emphasis in original).

[145] Jennifer R. Scharf, *Shooting for the Stars: A Call for Federal Legislation to Protect Celebrities' Privacy Rights*, 3 BUFF. INTELL. PROP. L.J. 164, 183 (2006) ("Modifying intrusion to apply in public places would be necessary in order to provide any relief.").

[146] Abrams v. United States, 250 U.S. 616, 630 (1919) (Holmes, J., dissenting). Justice Stevens described this as a "conflict between interests of the highest order—on the one hand, the interest in the full and free dissemination of information concerning public issues, and, on the other hand, the interest in individual privacy and, more specifically, in fostering private speech." Bartnicki v. Vopper, 532 U.S. 514, 518 (2001).

[147] U.S. CONST. amend. I.

[148] Barry P. McDonald, *The First Amendment and the Free Flow of Information: Towards a Realistic Right to Gather Information in the Information Age*, 65 OHIO ST. L. J. 249, 260 (2004).

[149] Lovell v. City of Griffin, 3030 U.S. 444, 452 (1938).

[150] Watchtower Bible and Tract Soc'y of New York , Inc. v. Vill. of Stratton 536 U.S. 150, 168-69 (2002).

the First Amendment's protection other conduct that is not expressive in itself, but is "necessary to accord full meaning and substance to those guarantees."[151] For example, the Court has said that the public is entitled to a "right to receive news" as a correlative of the right to free expression.[152]

Like this right to receive news, the Court has intimated in a series of cases beginning in the 1960s that the public and the press may be entitled to *a right to gather news* under the First Amendment. Initially, in *Zemel v. Rusk*, the Court observed that the right "to speak and publish does not carry with it the unrestrained right to gather information."[153] The Court's reluctance to extend this right may have signaled its concern that an unconditional newsgathering right could subsume almost any government regulation that places a slight restriction on the ability to gather news.[154] However, several years later the Court indicated in *Branzburg v. Hayes* that although laws of general applicability apply equally to the press as to the general public, that "[n]ews gathering is not without its First Amendment protections,"[155] and that "without some protection for seeking out the news, freedom of the press could be eviscerated."[156] The Court, however, failed to clearly delineate the parameters of such a protection. In the Court's most recent case, *Cohen v. Cowles Media Co.*, the Court adhered to the "well-established line of decisions holding that generally applicable laws do not offend the First Amendment simply because their enforcement against the press has incidental effects on its ability to gather and report the news."[157] The Court noted that it is "beyond dispute 'that the publisher of a newspaper has no special immunity from the application of general laws. He has no special privilege to invade the rights of others.'"[158]

The lower federal courts have explored this right to gather news in the context of photographing or video recording. In *Dietemann v. Time, Inc.* the Ninth Circuit Court of Appeals explored the extent to which reporters could use surreptitious means to carry out their newsgathering.[159] There, defendants Time Life sent undercover reporters to a man's house where he claimed to use minerals and other materials to heal the sick. The reporters used a hidden camera to take pictures of the man, and a hidden microphone to transmit the conversation to other operatives. The defendants claimed that the First Amendment's right to freedom of the press shielded its newsgathering activities. In rejecting this claim, the court observed that although an individual accepts the risk when inviting a person into his home that the visitor may repeat the conversation to a third party, "he does not and should not be required to take the risk that what is heard and seen will be transmitted by photograph or recording, or in our modern world, in full living color and hi-fi to the public at large or to any segment of it that the visitor may select."[160] The court held that "hidden mechanical contrivances" are not indispensable tools of investigative reporting, and that the "First Amendment has never been construed to accord newsman immunity from torts

[151] McDonald, *supra* note 148, at 260.

[152] Kleindienst v. Mandel, 408 U.S. 753, 762–63 (1972).

[153] Zemel v. Rusk, 381 U.S. 1, 17 (1965).

[154] *Id.* at 16-17 ("There are few restrictions on action which could not be clothed by ingenious argument in the garb of decreased data flow. For example, the prohibition of unauthorized entry into the White House diminishes the citizen's opportunities to gather information he might find relevant to his opinion of the way the country is being run, but that does not make entry into the White House a First Amendment right.").

[155] Branzburg v. Hayes, 408 U.S. 665, 707 (1972).

[156] *Id.* at 681.

[157] *Id.* at 669.

[158] Cohen v. Cowles Media Co., 501 U.S. 663, 666 (1991).

[159] Dietemann v. Time, Inc., 449 F.2d 245 (9th Cir. 1971).

[160] *Id.* at 249.

or crimes committed during the course of newsgathering."[161] In *Galella v. Onassis*, Galella, a self-proclaimed "paparazzo," constantly followed around, harassed, and photographed Jacqueline Kennedy Onassis and her children.[162] As part of an ongoing lawsuit, Onassis sued Galella for, *inter alia*, invasion of her and her family's privacy. Galella argued that he was entitled to the absolute "wall of immunity" that protects newsmen under the First Amendment. The Second Circuit Court of Appeals quickly rejected this absolutist position: "There is no such scope to the First Amendment right. Crimes and torts committed in news gathering are not protected. There is no threat to a free press in requiring its agents to act within the law."[163] By contrast, the Seventh Circuit in *Desnick v. American Broadcast Companies, Inc.* held that surreptitious recording was not a privacy invasion because the target of the surveillance was a party to the conversation, thereby vitiating any claim to privacy in those conversations.[164]

Congressional Response

If Congress chooses to act, it could create privacy protections to protect individuals from intrusive drone surveillance conducted by private actors.[165] Such proposals would be considered in the context of the First Amendment rights to gather and receive news. Several bills have been introduced in the 113th Congress that would regulate the private use of drones. Additionally, there are other measures Congress could adopt.

Drone Aircraft Privacy and Transparency Act of 2013 (H.R. 1262)

In the 113th Congress, Representative Ed Markey introduced the Drone Aircraft Privacy and Transparency Act of 2013 (H.R. 1262).[166] This bill would amend FMRA to create a comprehensive scheme to regulate the private use of drones, including data collection requirements and enforcement mechanisms. First, this bill would require the Secretary of Transportation, with input from the Secretary of Commerce, the Chairman of the Federal Trade Commission, and the Chief Privacy Officer of the Department of Homeland Security, to study any potential threats to privacy protections posed by the introduction of drones in the national airspace. Next, the bill would prohibit the FAA from issuing a license to operate a drone unless the application for such use included a "data collection statement." This statement would require the following items: a list of individuals who would have the authority to operate the drone; the location in which the drone will be used; the maximum period it will be used; and whether the drone would be collecting information about individuals. If the drone will be used to collect personal information, the statement must include the circumstances in which such information will be used; the kinds of information collected and the conclusions drawn from it; the type of data minimization procedures to be employed; whether the information will be sold, and if so, under what circumstances; how long the information would be stored; and procedures for destroying irrelevant data. The statement must also include information about the possible impact on privacy protections posed by the operation under that license and steps to be taken to mitigate

[161] *Id.*

[162] Galella v. Onassis, 487 F.2d 986, 991-92 (2d Cir. 1973).

[163] *Id.* at 996-97 (internal citations omitted).

[164] Desnick v. American Broadcast Corporation, 44 F.3d 1345, 1353 (7th Cir. 1995).

[165] For legislation that would regulate public actors, see Thompson, *supra* note 90.

[166] H.R. 1262, 113th Cong. 1st Sess. (1st Sess. 2013).

this impact. Additionally, the statement must include the contact information of the drone operator; a process for determining what information has been collected about an individual; and a process for challenging the accuracy of such data. Finally, the FAA would be required to post the data collection statement on the Internet.

H.R. 1262 includes several enforcement mechanisms. First, the FAA may revoke any license of a user that does not comply with these requirements. The Federal Trade Commission would have the primary authority to enforce the data collection requirements just stated. Additionally, the Attorney General of each state, or an official or agency of a state, is empowered to file a civil suit if there is reason to believe that the privacy interests of residents of that state have been threatened or adversely affected. H.R. 1262 would also create a private right of action for a person injured by a violation of this legislation.

Preserving American Privacy Act of 2013 (H.R. 637)

Representative Poe introduced the Preserving American Act of 2013 (H.R. 637) which would prohibit the use of drones to capture images in a manner highly offensive to a reasonable person where the person is engaging in a personal or familial activity under circumstances in which the individual has a reasonable expectation of privacy, regardless of whether there is a physical trespass.[167]

Other Proposals

Additionally, Congress could create a cause of action for surveillance conducted by drones similar to the intrusion upon seclusion tort provided under Restatement Section 652B.[168] How would a court assess whether drone surveillance violated this type of tort? First, generally speaking, the location of the search would be determinative of whether a person is entitled to an expectation of privacy. Although courts have posited that the common law, like the Fourth Amendment, is intended to "protect people, not places[,]"[169] the *location* of an alleged intrusion factors heavily in a privacy analysis. The greatest chance for liability occurs when a person photographs or videotapes another while in the seclusion of his home. While technology has increasingly shrunk other spheres of privacy in the digital age, the home is still accorded significant legal protection. Using a drone to peer inside the home of another—whether looking through a window or utilizing extra-sensory technology such as thermal imaging—would likely constitute an intrusion upon seclusion. Moving from the home to a public space, or even a space on private property where one can be seen from a public vantage point, significantly reduces the chance of tort liability. However, certain instances of highly offensive surveillance in public may be actionable.

This leads to the second factor that will inform a reviewing court's analysis: the degree of offensiveness of the surveillance. The Ninth Circuit Court of Appeals, applying California law,

[167] H.R. 637, 113th Cong (1st Sess. 2013).

[168] As with the enactment of any federal statute, Congress must act within one of its constitutionally delegated powers when creating a federal privacy tort or a crime based on intrusion of privacy. It would appear that Congress could regulate this area under its Commerce Clause power, U.S. Const. art. I, §8, cl. 3, which it acts under when regulating similar federal airspace issues. *See* Braniff Airways v. Nebraska Bd. of Equalization and Assessment, 347 U.S. 590 (1954); United States v. Helsley, 615 F.2d 784 (9th Cir. 1979).

[169] Pearson v. Dodd, 410 F.2d 701, 704 (D.C. Cir. 1969) (quoting Katz v. United States, 389 U.S. 347, 351 (1967)).

observed that, in determining offensiveness, "common law courts consider, among other things: 'the degree of intrusion, the context, conduct and circumstances surrounding the intrusion as well as the intruder's motives and objectives, the setting into which he intrudes, and the expectations of those whose privacy is invaded.'" Several of these factors—especially, the context of the intrusion and the motive of the intruder—are fact intensive and require application in a particular case to fully understand. However, some generalizations can be made. The cases discussed above that did find an intrusion upon seclusion in a public place required highly offensive activity, such as closely following another person for an extended period or photographing another in a highly embarrassing shot. Likewise, a court might recognize liability if one were to use a drone to follow another for an extended period of time, particularly at a close distance. It is not clear, however, whether knowledge of being surveilled makes the monitoring more or less offensive. For example, one court seemed to rely on the fact that the defendant was unaware that her house was being photographed to hold that she did not have a viable privacy claim.[170] A drone flying at several thousand feet may not significantly disturb the target of the surveillance and could fall within this rationale. Nevertheless, filming someone in a compromising or embarrassing situation without his knowledge can be equally offensive. Here, the facts of the particular case would determine liability.

Congress could also create a privacy statute tailored to drone use similar to the anti-voyeurism statutes, or "Peeping Tom" laws, enacted in many states.[171] These laws prohibit persons from surreptitiously filming others in various circumstances and places.[172] Some states prohibit surreptitious surveillance of a person while on private property, usually a private residence.[173] Nevada employs this model, prohibiting a person from entering the property of another with the intent to peep through a window of the building.[174] Likewise, New Jersey prohibits a person from peering into the window of the dwelling of another "under circumstances in which a reasonable person in the dwelling would not expect to be observed."[175] Other states require a prurient intent when conducting the surveillance. Under Washington State's statute, a person commits the crime of voyeurism if, for the purpose of arousing or gratifying his sexual desire, he films or photographs (1) a person in a place where he or she would expect privacy; or (2) the intimate areas of another person, whether he or she is in a public or private place.[176]

Similarly, Congress could adopt an "anti-paparazzi" statute, like that enacted in California, to prevent intrusive drone surveillance.[177] In fact, Congress considered a similar measure in the 105th

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[170] Mojica Escobar v. Roca, 926 F. Supp. 30, 35 (D.P.R. 1996).

[171] Federal law does prohibit certain acts of voyeurism on federal property. Section 1801, Title 18 provides: "Whoever, in the special maritime and territorial jurisdiction of the United States, has the intent to capture an image of a private area of an individual without their consent, and knowingly does so under circumstances in which the individual has a reasonable expectation of privacy, shall be fined under this title or imprisoned not more than one year, or both." 18 U.S.C. §1801(a). As discussed in note 168, *supra*, it appears Congress would have the authority to extend this section to voyeurism committed not only on federal property but that committed from federal airspace.

[172] Timothy J. Hortstmann, *Protecting Traditional Privacy Rights in Brave New Digital World: The Threat Posed by Cellular Phone-Cameras and What States Should Do to Stop It*, 111 PENN. ST. L. REV. 739, 742 (2007).

[173] *See, e.g*, GA. CODE ANN. §16-11-61; MONT. CODE ANN. §45-5-223.

[174] NEV. REV. STAT. §200.603.

[175] N.J. STAT. ANN. §2C:18-3c.

[176] WASH. REV. CODE §9A.44.115; *see also* CAL. PENAL CODE §647; R.I. GEN. LAWS §11-64-2.

[177] California Civil Code §1708.8 provides:

> A person is liable for constructive invasion of privacy when the defendant attempts to capture, in a manner that is offensive to a reasonable person, any type of visual image, sound recording, or other

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Congress. The Privacy Protection Act of 1998 and the Personal Intrusion Act of 1998 would have made it unlawful to persistently follow or chase another person for the purpose of obtaining a visual image of that person if the plaintiff met the following elements: (1) the image was transferred in interstate commerce or the person taking the photograph traveled in interstate commerce; (2) the person had a reasonable expectation of privacy from such intrusion; (3) the person feared death or bodily injury from being chased; and (4) the taking of the image was for commercial purposes.[178] Also, these bills would have created a civil remedy for an individual whose privacy was intruded upon. Congress could use this model to make it unlawful to persistently monitor another person using drone surveillance.

FAA Regulation of Privacy

Some observers have questioned whether the FAA has the legal authority to create privacy protections as it begins to integrate drones in the national airspace.[179] This section will explore the FAA's legal authority to establish privacy protections when it engages in rulemaking and establishes the six drone test ranges as required under FMRA.

It is well settled that agencies do not wield inherent powers, and that any authority they do have must be delegated by Congress.[180] Thus, when engaging in rulemaking or any other administrative action, the agency must be able to identify a specific statutory source of authority. In *Chevron v. Natural Resources Defense Council*, the Supreme Court established a two-part test (now known as the *Chevron* two step) that assesses whether a federal agency should be accorded deference in interpreting and implementing its authorizing statute or a statute it administers.[181] First, this test asks "whether Congress has directly spoken to the precise question at issue."[182] If so, the analysis ends there and the court and the agency "must give effect to the unambiguously expressed intent of Congress."[183] If, however, "the statute is silent or ambiguous" the court must

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> physical impression of the plaintiff engaging in a personal or familial activity under circumstances in which the plaintiff had a reasonable expectation of privacy, through the use of a visual or auditory enhancing device, regardless of whether there is a physical trespass, if this image, sound recording, or other physical impression could not have been achieved without a trespass unless the visual or auditory enhancing device was used.

[178] H.R. 3224, H.R. 2448, 105th Cong., 2d sess. (1998).

[179] *See. e.g.,* Press Release, Association for Unmanned Vehicle Systems International, AUVSI to FAA: Focus on your Mission, Proceed with UAS Integration (Nov. 28, 2012) ("As an industry, we support a continued, civil dialogue on privacy, but any such conversations should take place concurrent with the integration. The selection process for the six test sites are a separate issue and should be treated as such. Meanwhile, the FAA should adhere to its mission and do what it does best – focus on the safety of the U.S. airspace – while other, more appropriate institutions consider privacy issues."), *available at* http://www.auvsi.org/AUVSINews/AssociationNews.

[180] *See* Louisiana Pub. Serv. Comm'n v. FCC, 476 U.S. 355, 374 (1986).

[181] Chevron v. Natural Resources Defense Council, 467 U.S. 837 (1984). It should be noted that there is a disagreement among the circuit courts as to whether *Chevron* deference should be accorded to an agency's interpretation of its own jurisdictional statute. *Compare* Hydro Res., Inc. v. EPA, 608 F.3d 1131, 1445-46 (10th Cir. 2010) (en banc) (applying *Chevron* deference) *with* N. Ill. Steel Supply Co. v. Sec'y of Labor, 294 F.3d 844, 846-47 (7th Cir. 2002) (applying de novo standard). The Supreme Court has granted a petition for writ of certiorari in *City of Arlington v. FCC*, 133 S. Ct. 524 (2012) and may potentially resolve this circuit split. *See* CRS Report WSLG373, *Can an Agency Determine the Scope of its Jurisdiction? Supreme Court Hears Argument Regarding Chevron Deference*, by Daniel T. Shedd.

[182] *Chevron*, 467 U.S. at 842.

[183] *Id.* at 843.

but appears to contain no *express* authority to regulate privacy. They may further argue that the FAA has not historically regulated privacy as it pertains to persons or things on the ground in relation to traditional air flight, and currently does not have the technical expertise to undertake such regulations. These arguments could support the theory that Congress intentionally omitted privacy regulation from the FAA's purview when conducting this required rulemaking.

Next, as to the comprehensive plan rulemaking, Congress has provided some guidance as to the factors the FAA should take into consideration, but none of the factors discuss privacy concerns.[191] Thus, like the rulemaking for small drones, under the *Chevron* first step, Congress has not spoken directly to the issue in question. Moving to the second step, would it be reasonable for the FAA to include privacy regulations in its rulemaking implementing this comprehensive plan? First, the use of the term "at a minimum" as a preface to the list of factors to be considered in this comprehensive plan and rulemaking make it illustrative, not exhaustive. This phrasing

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airspace in the interest of the safety and efficiency of both of those operations.

(5) consolidating research and development for air navigation facilities and the installation and operation of those facilities.

(6) developing and operating a common system of air traffic control and navigation for military and civil aircraft.

(7) providing assistance to law enforcement agencies in the enforcement of laws related to regulation of controlled substances, to the extent consistent with aviation safety.

49 U.S.C. § 40101(d).

[191] The "comprehensive plan" must contain, "at a minimum," recommendations on:

(A) the rulemaking to be conducted under subsection (b), with specific recommendations on how the rulemaking will—

(i) define the acceptable standards for operation and certification of civil unmanned aircraft systems;

(ii) ensure that any civil unmanned aircraft system includes a sense and avoid capability; and

(iii) establish standards and requirements for the operator and pilot of a civil unmanned aircraft system, including standards and requirements for registration

and licensing;

(B) the best methods to enhance the technologies and subsystems necessary to achieve the safe and routine operation of civil unmanned aircraft systems in the national

airspace system;

(C) a phased-in approach to the integration of civil unmanned aircraft systems into the national airspace system;

(D) a timeline for the phased-in approach described under subparagraph (C);

(E) creation of a safe

(F) airspace designation for cooperative manned and unmanned flight operations in the national airspace

system;

(G) establishment of a process to develop certification,

flight standards, and air traffic requirements for civil unmanned aircraft systems at test ranges where such systems are subject to testing;

(H) the best methods to ensure the safe operation of civil unmanned aircraft systems and public unmanned aircraft systems simultaneously in the national airspace system; and

(I) incorporation of the plan into the annual NextGen Implementation Plan document (or any successor document) of the Federal Aviation Administration.

§ 332(a).

arguably suggests that Congress understood that the FAA might address other factors, perhaps including privacy, beyond those enumerated in section 332. Second, section 332 provides that the FAA must "define the acceptable standards for operation and certification of civil unmanned aircraft systems."[192] Viewing this language in light of *Chevron* deference, a court could find that regulating requirements that protect privacy fall within the "acceptable standards for operation" of drones in the national airspace.

In sum, it appears that the open-ended nature of Congress's instructions to the FAA, coupled with the prominence of privacy concerns, would likely persuade a court that the FAA's potential regulation of privacy as part of formal rulemaking is a reasonable interpretation of FMRA that should be accorded deference under a *Chevron* analysis.

Test Ranges and Privacy

In addition to the rulemaking described above, section 332(c) of FMRA requires the FAA Administrator to "establish a program to integrate unmanned aircraft systems into the national airspace system at 6 test ranges."[193] On February 22, 2013, the FAA issued a request for comment on the privacy rules that will apply to test range operators.[194] In its request for comment, the FAA proposed several requirements that might apply to the operation of these test ranges.[195] Once the

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[192] § 332(a)(2).

[193] P.L. 112-95, § 332(c)(1), 126 Stat. 11, 74.

[194] Unmanned Aircraft System Test Site Program, 78 Fed. Reg. 12259 (Feb. 22, 2013).

[195] The FAA has proposed that the OTA include the following privacy requirements:

> (1) The Site Operator must ensure that there are privacy policies governing all activities conducted under the OTA, including the operation and relevant activities of the UASs authorized by the Site Operator. Such privacy policies must be available publically, and the Site Operator must have a mechanism to receive and consider comments on its privacy policies. In addition, these policies should be informed by Fair Information Practice Principles. The privacy policies should be updated as necessary to remain operationally current and effective. The Site Operator must ensure the requirements of this paragraph are applied to all operations conducted under the OTA.
>
> (2) The Site Operator and its team members are required to operate in accordance with Federal, state, and other laws regarding the protection of an individual's right to privacy. Should criminal or civil charges be filed by the U.S. Department of Justice or a state's law enforcement authority over a potential violation of such laws, the FAA may take appropriate action, including suspending or modifying the relevant operational authority (e.g., Certificate of Operation, or OTA), until the proceedings are completed. If the proceedings demonstrate the operation was in violation of the law, the FAA may terminate the relevant operational authority.
>
> (3) If over the lifetime of this Agreement, any legislation or regulation, which may have an impact on UAS or to the privacy interests of entities affected by any operation of any UAS operating at the Test Site, is enacted or otherwise effectuated, such legislation or regulation will be applicable to the OTA and the FAA may update or amend the OTA to reflect these changes.
>
> (4) Transmission of data from the Site Operator to the FAA or its designee must only include those data listed in Appendix B to the OTA.

78 Fed. Reg. 12260. Appendix B to the OTA is available at https://faaco.faa.gov/index.cfm/attachment/download/29581.

The FAA notes that these rules are not permanent but are intended to:

> help inform the dialogue among policymakers, privacy advocates, and the industry regarding broader questions concerning the use of UAS technologies. The privacy requirements proposed here are not intended to pre-determine the long-term policy and regulatory framework under which commercial UASs would operate. Rather, they aim to assure maximum transparency of privacy policies associated with UAS test site operations in order to engage stakeholders in discussion

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FAA selects the site operators, each must enter into an Other Transaction Agreement (OTA) with the FAA—a legally binding agreement setting out the terms and conditions under which the site will be operated. This request for comment is intended to provide the public the ability to comment on "potential privacy considerations, associated reporting requirements, and how the FAA can help ensure privacy considerations are addressed through mechanisms put in place as a result of the OTA."[196]

This FAA announcement raises another legal question: does the FAA have the authority to regulate privacy via OTA agreements entered into with the test range operators? As a threshold issue, it is not clear what level of deference a court would apply to this administrative action. In certain instances, agency actions that do not amount to formal rulemaking have not been accorded *Chevron* deference. In *Christensen v. Harris County*, the Supreme Court held that a Department of Labor opinion letter interpreting the Family Medical Leave Act was not entitled to deference under *Chevron*.[197] The Court observed that "[i]nterpretations such as those in opinion letters—like interpretations contained in policy statements, agency manuals, and enforcement guidelines, all of which lack the force of law—do not warrant *Chevron*-style deference."[198] Instead, interpretations contained in administrative pronouncements such as opinion letters are entitled to some deference under the rule pronounced in *Skidmore v. Swift & Co.*,[199] "but only to the extent that those interpretations have the 'power to persuade.'"[200] In *United States v. Mead*, the Court again ruled that *Skidmore*, not *Chevron*, deference applied to a United States Custom Service opinion letter setting tariff levels on certain imports.[201]

A reviewing court could apply the *Christensen-Mead* line of cases to hold that the lower level deference accorded under *Skidmore* should apply to the FAA's use of the OTAs in establishing the test ranges. As in those cases, the OTAs would not have the force of law and would not be the product of formal agency adjudication or rulemaking. These factors weigh against applying *Chevron*'s deferential approach.

However, *Mead* suggested that *Chevron* deference may be due when the agency conducts notice and comment procedures as part of its interpretive process, which were not utilized in either

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> about which privacy issues are raised by UAS operations and how law, public policy, and the industry practices should respond to those issues in the long run.

78 Fed. Reg. 12260.

[196] 78 Fed. Reg. 12260.

[197] Christensen v. Harris County, 529 U.S. 576, 587 (2000).

[198] *Id.*

[199] Skidmore v. Swift & Co., 323 U.S. 134 (1944). In *Skidmore*, the Court was required to determine what level of deference should be accorded the Department of Labor in its issuance of bulletins interpreting a wage provision in the Fair Labor Standard Act. *Id.* at 138. The Court ruled:

> We consider that the rulings, interpretations and opinions of the Administrator under this Act, while not controlling upon the courts by reason of their authority, do constitute a body of experience and informed judgment to which courts and litigants may properly resort for guidance. The weight of such a judgment in a particular case will depend upon the thoroughness evident in its consideration, the validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control.

Id. at 140.

[200] *Christensen*, 529 U.S. at 588 (citing *Skidmore*, 323 U.S. at 140).

[201] United States v. Mead, 533 U.S. 218 (2001).

Christensen or *Mead*.[202] Here, the FAA has issued a notice for comment on the proposed privacy regulations that will be included in the OTAs. This fact might persuade a court into applying the more deferential *Chevron* test.

Under either level of scrutiny, it is not at all clear whether the FAA would have the authority to regulate privacy as part of the OTAs. Congress did not speak to this issue in FMRA.[203] Thus, a reviewing court would have to determine if the agency's regulation of privacy is either a reasonable interpretation of the statute under *Chevron* or has the "power to persuade" under *Skidmore*. Some of the same factors that arguably support the inclusion of privacy in the formal rulemaking could apply equally to the test ranges. The idea that Congress left it to the FAA to fill in the gaps in establishing the test ranges, and that privacy is one of the primary concerns surrounding the integration of drones into U.S. airspace, could be offered as an argument to uphold the FAA's regulation of privacy. On the other side of the ledger, the act's enumerated list of factors to be addressed at these test ranges is primarily focused on safety issues and does not expressly permit the FAA to regulate privacy. One could argue that this formulation evinces Congress's intent for the FAA to focus on safety, the FAA's stock and trade, rather than privacy, an area in which the FAA appears to have little experience.

Related Legal Issues

In addition to the legal issues described above, there are a host of other issues that may arise when introducing drones into the U.S. national airspace system.

Preemption of State and Local Regulations. The increased presence of drones in domestic airspace raises the question of potential federal preemption of state or local efforts to regulate different aspects of drone use. The doctrine of preemption derives from the Supremacy Clause of the Constitution, which states that federal law, treaties, and the Constitution are the "supreme

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[202] *Mead*, 533 U.S. at 230 ("The overwhelming number of our cases applying Chevron deference have reviewed the fruits of notice-and-comment rulemaking or formal adjudication."); *Christensen*, 529 U.S. at 587 ("Here, however, we confront an interpretation contained in an opinion letter, not one arrived at after, for example, a formal adjudication or notice-and-comment rulemaking.") *See also Mead*, 533 U.S. at 231 ("The authorization for classification rulings, and Custom's practice in making them, present a case far removed ... from notice-and-comment process.... ").

[203] The FAA Reform Act provides that in setting up the test sites, the Administrator shall:

> (A) safely designate airspace for integrated manned and unmanned flight operations in the national airspace system;
>
> (B) develop certification standards and air traffic requirements for unmanned flight operations at test ranges;
>
> (C) coordinate with and leverage the resources of the National Aeronautics and Space Administration and the Department of Defense;
>
> (D) address both civil and public unmanned aircraft systems;
>
> (E) ensure that the program is coordinated with the Next Generation Air Transportation System; and
>
> (F) provide verification of the safety of unmanned aircraft systems and related navigation procedures before integration into the national airspace system.[203]The second is FAA's mandate to come up with a comprehensive plan to integrate drones in the national airspace and subsequent rule-making based on this plan.

§ 332(c)(1).

Law of the Land."[204] A federal law may preempt state or local action in one of three ways: if the statute expressly states its intent to preempt state or local action (express preemption); if a court concludes that Congress intended to occupy the regulatory field, implicitly preventing state or local action in that area (field preemption); or if the state or local action directly conflicts with or frustrates the purpose of the federal provisions (conflict preemption).[205]

With regard to traditional aviation laws, generally, state regulations of aviation safety, airspace management, and aviation noise are preempted by federal laws and regulations.[206] Congress vested sole responsibility for the aviation industry and domestic airspace with the federal government in the Federal Aviation Act of 1958.[207] According to the legislative history, the FAA was to have "full responsibility and authority for the advancement and promulgation of civil aeronautics generally, including promulgation and enforcement of safety regulations."[208] In *City of Burbank v. Lockheed Air Terminal, Inc.*, the Supreme Court struck down a local city ordinance that prohibited planes from taking off during certain hours of the day as preempted by the federal regulatory scheme.[209] Expressing its fear regarding local control of airspace, the Court stated, "If we were to uphold the Burbank ordinance and a significant number of municipalities followed suit, it is obvious that fractionalized control of the timing of takeoffs and landings would severely limit the flexibility of the FAA in controlling air traffic flow."[210] The Supreme Court has, however, upheld state regulations imposing taxes on aircraft equipment located within the state.[211]

State proposals seeking to regulate the use of drones are currently pending in many state legislatures throughout the country.[212] The Virginia General Assembly has passed a two-year moratorium on the use of drones by state and local law enforcement.[213] The bill prohibits the use of drones by agencies with jurisdiction over criminal law enforcement or regulatory violations, but includes exceptions for emergency situations. Following passage of the bill, the Governor neither signed nor vetoed the bill, but rather sent it back to the General Assembly with amendments, where it now awaits further action. Several other states have introduced bills similarly targeting the use of drones for surveillance.[214] Other states, like Texas, have introduced

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[204] U.S. CONST. art. VI, cl 2.

[205] *See, e.g.*, Crosby v. Nat'l Foreign Trade Council, 530 U.S. 363, 373 (2000); English v. Gen. Elec. Co., 496 U.S. 72, 78-79 (1990); Schneidewind v. ANR Pipeline Co., 485 U.S. 293, 300 (1988).

[206] *See, e.g.*, City of Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624 (1973); Abdullah v. American Airlines, Inc., 181 F.3d 363 (3d Cir. 1999); San Diego Unified Port Dist. v. Gianturco, 651 F.2d 1306, 1316 (9th Cir. 1981); Price v. Charter Township, 909 F. Supp. 498 (E.D. Mich. 1995).

[207] P.L. 85-726; 72 Stat. 737 (1958).

[208] H.R. Rept. No. 2360, 85th Cong. (1958).

[209] *City of Burbank*, 411 U.S. at 639..

[210] *Id.*

[211] Braniff Airways v. Nebraska Board, 347 U.S. 590 (1954). Additionally, several courts have determined that state law tort claims based on injuries caused by aircraft are not federally preempted. *See, e.g.*, Bieneman v. City of Chicago, 864 F.2d 463 (7th Cir. 1988) (overturning Luedtke v. County of Milwaukee, 521 F.2d 387 (7th Cir. 1975), which ruled that *City of Burbank* preempted application of state tort laws, such as negligence and nuisance, to flights that complied with federal laws and regulations); Greater Westchester Homeowners Association v. City of Los Angeles, 603 P.2d 1329 (Sup. Ct. Cali. 1979).

[212] *See* CRS Report WSLG447, *Congress and the States Grapple with Drones in U.S. Skies*, by Alissa M. Dolan.

[213] "An Act to place a moratorium on the use of unmanned aircraft systems," HB2012, Virginia General Assembly, *available at* http://lis.virginia.gov/cgi-bin/legp604.exe?131+ful+HB2012ER+pdf.

[214] *See, e.g.*, S. 395, South Carolina General Assembly, 120th Session; S. 524, 77th Oregon Legislative Assembly, 2013 Regular Session; SB 92, Florida Legislature, 2013 Regular Session.

bills attempting to address privacy concerns related to widespread drone use. The Texas proposal would create a new state misdemeanor when a person uses a drone to capture an image without the consent of the landowner who owns the property captured in the image.[215]

If these proposals were implemented, questions about federal preemption may be raised. It appears that field preemption or conflict preemption would be the most likely grounds for finding preemption of such state regulations based on current federal law, if at all, since FMRA does not contain an express preemption clause. The extent to which the state can regulate drone use without being preempted by federal law may depend on the scope of the forthcoming federal regulations, the nature of the state regulations, and a reviewing court's analysis of whether Congress intended to "occupy the field" of regulation on that issue. The Court has determined that field preemption can be inferred when "the pervasiveness of the federal regulation precludes supplementation by the States, where the federal interest in the field is sufficiently dominant, or where the object sought to be obtained by the federal law and the character of obligations imposed by it reveal the same purpose."[216]

Right to Protect Property from Trespassing Drones. There may be instances where a landowner is entitled to protect his property from intrusion by a drone. Under Restatement (Second) of Torts Section 260, "one is privileged to commit an act which would otherwise be a trespass to a chattel or a conversion if the act is, or is reasonably believed to be, necessary to protect the actor's land or chattels or his possession of them, and the harm inflicted is not unreasonable as compared with the harm threatened."[217] What this means is, in certain instances, a landowner would not be liable to the owner of a drone for damage necessarily or accidentally resulting from removing it from his property. However, there appear to be no cases where a landowner was permitted to use force to prevent or remove an aircraft from his property. Additionally, as discussed above, determining whether a drone in flight is trespassing upon one's property may be unusually challenging.

Stalking, Harassment, and Other Crimes. Traditional crimes such as stalking, harassment, voyeurism, and wiretapping may all be committed through the operation of a drone. As drones are further introduced into the national airspace, courts will have to work this new form of technology into their jurisprudence, and legislatures might amend these various statutes to expressly include crimes committed with a drone.

Wiretap Laws. Under the federal wiretap statute, it is unlawful to intentionally intercept an "oral communication"[218] by a person "exhibiting an expectation that such communication is not subject to interception under circumstances justifying such expectation.... "[219] Currently, commercial microphones can record sounds upwards of 300 feet.[220] Use of such a microphone on a drone to record private conversations could implicate the federal wiretap statute.

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[215] H.B. 912, Texas Legislature, 83rd Session, *available at* http://www.capitol.state.tx.us/BillLookup/History.aspx?LegSess=83R&Bill=HB912.

[216] *Schneidewind*, 485 U.S. at 300.

[217] RESTATEMENT (SECOND) OF TORTS §260.

[218] 18 U.S.C. §2511(1)(a).

[219] 18 U.S.C. §2510(2).

[220] *See, e.g.*, Electromax International, Inc., http://www.electromax.com/penmics.html.

Conclusion

The legal issues discussed in this report will likely remain unresolved until the civilian use of drones becomes more widespread. To that end, the FAA has been tasked with developing "a comprehensive plan to safely accelerate the integration" of drones into the national airspace, which focuses on the safety of the drone technology and operator certification. While the deadline for development of the plan has already elapsed, the FAA has until the end of FY2015 to implement such a plan.[221] Additionally, the FAA must identify six test ranges where it will integrate drones into the national airspace. This deadline, 180 days after enactment of the act, has also elapsed without FAA compliance. Once these regulations are tested and promulgated, the unique legal challenges that could arise based on the operational differences between drones and already ubiquitous fixed-wing aircraft and helicopters may come into sharper focus.

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[221] *See* P.L. 112-95, §332(a) (requiring development of a plan within 270 days of enactment of the act, falling in November 2012).

Federal Aviation Administration

Busting Myths about the FAA and Unmanned Aircraft

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February 26–There are a lot of misconceptions and misinformation about unmanned aircraft system (UAS) regulations. Here are some common myths and the corresponding facts.

Myth #1: The FAA doesn't control airspace below 400 feet

Fact—The FAA is responsible for the safety of U.S. airspace from the ground up. This misperception may originate with the idea that manned aircraft generally must stay at least 500 feet above the ground

Myth #2: Commercial UAS flights are OK if I'm over private property and stay below 400 feet.

Fact—The FAA published a Federal Register notice (PDF) in 2007 that clarified the agency's policy: You may not fly a UAS for commercial purposes by claiming that you're operating according to the Model Aircraft guidelines (below 400 feet, 3 miles from an airport, away from populated areas.) Commercial operations are only authorized on a case-by-case basis. A commercial flight requires a certified aircraft, a licensed pilot and operating approval. To date, only one operation has met these criteria, using Insitu's ScanEagle, and authorization was limited to the Arctic.(http://www.faa.gov/news/updates/?newsId=73981)

Myth #3: Commercial UAS operations are a "gray area" in FAA regulations.

Fact—There are no shades of gray in FAA regulations. Anyone who wants to fly an aircraft—manned or unmanned—in U.S. airspace needs some level of FAA approval. Private sector (civil) users can obtain an experimental airworthiness certificate to conduct research and development, training and flight demonstrations. Commercial UAS operations are limited and require the operator to have certified aircraft and pilots, as well as

operating approval. To date, only two UAS models (the Scan Eagle and Aerovironment's Puma) have been certified, and they can only fly in the Arctic. Public entities (federal, state and local governments, and public universities) may apply for a Certificate of Waiver or Authorization (COA)

The FAA reviews and approves UAS operations over densely-populated areas on a case-by-case basis.

Flying model aircraft solely for hobby or recreational reasons does not require FAA approval. However, hobbyists are advised to operate their aircraft in accordance with the agency's model aircraft guidelines (see Advisory Circular 91-57). In the FAA Modernization and Reform Act of 2012 (Public Law 112-95, Sec 336), Congress exempted model aircraft from new rules or regulations provided the aircraft are operated "in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization."

The FAA and the Academy of Model Aeronautics recently signed a first-ever agreement that formalizes a working relationship and establishes a partnership for advancing safe model UAS operations. This agreement also lays the ground work for enacting the model aircraft provisions of Public Law 112-95, Sec 336. Modelers operating under the provisions of P.L. 112-95, Sec 336 must comply with the safety guidelines of a nationwide community-based organization.

Myth #4: There are too many commercial UAS operations for the FAA to stop.

Fact—The FAA has to prioritize its safety responsibilities, but the agency is monitoring UAS operations closely. Many times, the FAA learns about suspected commercial UAS operations via a complaint from the public or other businesses. The agency occasionally discovers such operations through the news media or postings on internet sites. When the FAA discovers apparent unauthorized UAS operations, the agency has a number of enforcement tools available to address these operations, including a verbal warning, a warning letter, and an order to stop the operation.

Myth #5: Commercial UAS operations will be OK after September 30, 2015.

Fact—In the 2012 FAA reauthorization legislation, Congress told the FAA to come up with a plan for "safe integration" of UAS by September 30, 2015. Safe integration will be incremental. The agency is still developing regulations, policies and standards that will cover a wide variety of UAS users, and expects to publish a proposed rule for small UAS – under about 55 pounds – later this year. That proposed rule will likely include provisions for commercial operations.

Myth #6: The FAA is lagging behind other countries in approving commercial drones.

Fact – This comparison is flawed. The United States has the busiest, most complex airspace in the world, including many general aviation aircraft that we must consider when planning UAS integration, because those same airplanes and small UAS may occupy the same airspace.

Developing all the rules and standards we need is a very complex task, and we want to make sure we get it right the first time. We want to strike the right balance of requirements for UAS to help foster growth in an emerging industry with a wide range of potential uses, but also keep all airspace users and people on the ground safe.

Myth #7: The FAA predicts as many as 30,000 drones by 2030.

Fact—That figure is outdated. It was an estimate in the FAA's 2011 Aerospace Forecast. Since then, the agency has refined its prediction to focus on the area of greatest expected growth. The FAA currently estimates as many as 7,500 small commercial UAS may be in use by 2018, assuming the necessary regulations are in place. The number may be updated when the agency publishes the proposed rule on small UAS later this year.

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Federal Aviation Administration

Model Aircraft Operations

Model aircraft operations are for hobby or recreational purposes only.

The FAA has partnered with several industry associations to promote Know Before You Fly, a campaign to educate the public about using unmanned aircraft safely and responsibly. Individuals flying for hobby or recreation are strongly encouraged to follow safety guidelines, which include:

- Fly below 400 feet and remain clear of surrounding obstacles
- Keep the aircraft within visual line of sight at all times
- Remain well clear of and do not interfere with manned aircraft operations
- Don't fly within 5 miles of an airport unless you contact the airport and control tower before flying
- Don't fly near people or stadiums
- Don't fly an aircraft that weighs more than 55 lbs
- Don't be careless or reckless with your unmanned aircraft – you could be fined for endangering people or other aircraft

The statutory parameters of a model aircraft operation are outlined in Section 336 of Public Law 112-95 (the *FAA Modernization and Reform Act of 2012*) (PDF). Individuals who fly within the scope of these parameters do not require permission to operate their UAS; any flight outside these parameters (including any non-hobby, non-recreational operation) requires FAA authorization (www.faa.gov/uas/civil_operations/). For example, using a UAS to take photos for your personal use is recreational; using the same device to take photographs or videos for compensation or sale to another individual would be considered a non-recreational operation.

More about the Know Before You Fly campaign

Read the FAA's Interpretation of the Special Rule for Model Aircraft (www.faa.gov/uas/media/model_aircraft_spec_rule.pdf) (PDF)

Read the Do's and Don'ts of Model Aircraft Operations

View FAA YouTube videos on safe model aircraft operations.

The "Model Aircraft Do's and Don'ts" (www.faa.gov/uas/publications/model_aircraft_operators/assets/media/model-aircraft-infographic.pdf) (PDF)

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Federal Aviation Administration

Fact Sheet – Unmanned Aircraft Systems (UAS)

For Immediate Release

February 15, 2015
Contact: Les Dorr or Alison Duquette
Phone: (202) 267-3883

Unmanned aircraft systems (UAS (Unmanned aircraft systems)) come in a variety of shapes and sizes and serve diverse purposes. They may have a wingspan as large as a jet airliner or smaller than a radio-controlled model airplane.

Because they are inherently different from manned aircraft, introducing UAS into the nation's airspace is challenging for both the FAA and aviation community. UAS must be integrated into the busiest, most complex airspace in the world — one that is evolving from ground-based navigation aids to a GPS-based system in NextGen. And because UAS technology also continues to evolve, the agency's rules and policies must be flexible enough to accommodate that progress.

Integration of UAS has to be safe, efficient and timely. Safety is the FAA's primary mission, the agency is committed to reducing delays and increasing system reliability. This new technology has significant potential safety and economic benefits to help achieve these goals.

The FAA is taking an incremental approach to safe UAS integration as the agency acquires a better understanding of operational issues such as training requirements, operational specifications, and technology considerations.

Safety First

The FAA maintains the world's safest aviation system. As a provider of air traffic control services, the agency also must ensure the safety and efficiency of the nation's entire airspace.

Since 1990, the agency has allowed limited use of UAS for important public missions such as firefighting, disaster relief, search and rescue, law enforcement, border patrol, scientific research, and testing and evaluation. Recently, the FAA has authorized some non-recreational UAS operations in controlled, low-risk situations.

UAS operations potentially range from ground level to above 50,000 feet, depending on the specific type of aircraft. However, no operations are currently authorized in the airspace that exists over major urban areas and contains the highest density of manned aircraft.

Flying model aircraft/UAS for a hobby or recreational purpose does not require FAA approval, but all model aircraft operators must fly according to the law.

The FAA authorizes non-recreational UAS operations on a case-by-case basis, and there are several ways to gain agency approval.

Civil UAS Operations

In February 2015, the Department of Transportation and the FAA released a proposed set of regulations that will pave the way for small UAS — those under 55 pounds — to enter the mainstream of U.S. civil aviation. The rulewould allow routine use of small UAS in today's aviation system, and is flexible enough to accommodate future technological innovations.

The proposal offers safety rules addressing non-recreational small UAS operations and for model aircraft operations that do not meet the criteria in Section 336 of Public Law 112-95. The rule would limit small UAS to daylight flights and visual-line-of-sight operations. The proposed rule also addresses issues such as height restrictions, operator certification, optional use of a visual observer, aircraft registration and marking, and operational limits. The proposed rule also includes extensive discussion of a possible "micro" classification for UAS under 4.4 pounds. The FAA is asking the public to comment on whether it should include this option as part of a final rule (www.faa.gov/news/press_releases/news_story.cfm?newsId=18295).

Private sector manufacturers and technology developers currently can obtain a Special Airworthiness Certificate in the experimental category to conduct research and development, crew training, market surveys, and flight demonstrations. Experimental certificates preclude carrying people or property for compensation or hire and typically include operating limitations such as altitude and geographical area.

Commercial firms also may fly a UAS that has an FAA Restricted Category Type Certificate. The agency issues these certificates to UAS models previously flown by the military. They allow limited operations, such as wildlife conservation flights, aerial surveying, and oil/gas pipeline patrols. As of October 2014, the FAA had approved

operations using two certificated UAS.

Since June 2014, the agency has received petitions for exemptions under Section 333 of Public Law 112-95 to permit non-recreational UAS operations before the small UAS rule is finalized. Under that section of the law, the Secretary of Transportation can determine whether certain airworthiness requirements are necessary to authorize specific UAS to fly safely in narrowly-defined, controlled, low-risk situations.

Commercial entities ask for relief from airworthiness certification requirements as allowed under Section 333, in addition to relief from regulations that address general flight rules, pilot certificate requirements, manuals, and maintenance and equipment mandates.

Model Aircraft

On June 23, 2014, the FAA issued an interpretation of Public Law 112-95 providing clear guidance to model operators on the "do's and don'ts" of flying safely in accordance with the Act.

In the document, the FAA restates the law's definition of "model aircraft," including requirements that they not interfere with manned aircraft, be flown within sight of the operator, and be operated only for hobby or recreational purposes. The agency also explains that model aircraft operators flying within five miles of an airport must notify the airport operator and air traffic control tower.

The FAA reaffirms that the law's model aircraft provisions apply only to hobby or recreation operations and do not authorize the use of model aircraft for non-recreational operations.

Government (Public) UAS Operations (www.faa.gov/uas/public_operations/)

A "Certificate of Waiver or Authorization" (COA (Certificate of Waiver or Authorization)) is available to government entities that want to fly a UAS in civil airspace. Common uses include law enforcement, firefighting, border patrol, disaster relief, search and rescue, military training and other government operational missions.

Applicants must submit their COA request through an online system. The FAA then evaluates the proposed operation to see if it can be conducted safely. If granted, the COA allows an operator to use a defined block of airspace, and includes special provisions unique to the proposed operation. For instance, a COA may require flying only under Visual Flight Rules (VFR (Visual Flight Rules)) and/or only during daylight hours.

Today, the average time to obtain an authorization for non-emergency operations is less than 60 days, and the renewal period is two years. The agency has expedited procedures to grant one-time COAs for time-sensitive emergency missions such as disaster relief and humanitarian efforts — sometimes in just a few hours.

Most COAs require coordination with an appropriate air traffic control facility and may require a transponder on the UAS to operate in certain types of airspace. Because UAS technology cannot yet comply with "see and avoid" rules that apply to all aircraft, a visual observer or an accompanying "chase plane" must maintain visual contact with the UAS and serve as its "eyes" when operating outside airspace restricted from other users.

COAs Issued, by year

Year	2009	2010	2011	2012	2013	2014
COAs Issued	146	298	313	257	423	609

Operating and Certification Standards

Integrating UAS into the nation's airspace presents both opportunities and challenges. However, everything the FAA does is focused on ensuring the safety of the nation's aviation system. New policies, procedures, and approval processes are needed to deal with the increasing desire by civilian operators to fly UAS. Developing and implementing these new UAS standards and guidance is a long-term effort.

In November 2013, the Department and the FAAreleased its first annual Integration of Civil UAS in the National Airspace System (NAS) Roadmap (www.faa.gov/uas/media/UAS_Roadmap_2013.pdf) (PDF)outlining efforts needed to safely integrate unmanned aircraft into the nation's airspace. The Roadmap addresses current and future policies, regulations, technologies, and procedures that will be required as demand moves from today's limited accommodation of UAS operations to the extensive integration of UAS into the NextGen aviation system in the future.

The Department of Transportation also released a Comprehensive Plan (PDF) that dovetails with the Roadmap. This Comprehensive Plan details the multi-agency approach to the safe and timely integration of unmanned aircraft. The plan establishes goals to integrate both small and larger unmanned aircraft, and to foster America's leadership in advancing this technology.

The FAA chartered a UAS Aviation Rulemaking Committee in 2011, which is still active. The group's goal is to develop inputs and recommendations on appropriate operational procedures, regulatory standards and policies before allowing routine UAS access to the nation's airspace.

The FAA also has asked RTCA — a group that facilitates expert advice to the agency on technical issues — to work with industry to help develop UASstandards. RTCA's technical group (Special Committee 228) is addressing how UAS will handle communication, command and control and how they will "sense and avoid" other aircraft.

The FAA continues to work closely with its international aviation counterparts to harmonize standards, policies, procedures, and regulatory requirements.

UAS Test Sites (www.faa.gov/uas/legislative_programs/test_sites/)

After a rigorous selection process, the Federal Aviation Administration chose six UAS test sites on December 30, 2013. These six test sites have geographic and climatic diversity and help the FAA meet its UASresearch needs.

The six Test Sites, which were operational as of mid-August 2014, include:

- University of Alaska — Fairbanks
- State of Nevada
- Griffiss International Airport (Rome, NY)
- North Dakota Department of Commerce
- Texas A&M University — Corpus Christi
- Virginia Polytechnic Institute and State University (Virginia Tech)

Each test site operator manages the site in a way that gives access to parties interested in using the site. The FAA's role is to ensure each site sets up a safe testing environment and operates under strict safety standards.

First Responders

The FAA Modernization and Reform Act of 2012 also directed the agency to expedite the COA process for government public safety agencies that want to use small UAS. In May 2013, the FAA and the Justice Department signed an agreement to streamline the COAprocess for law enforcement — an agreement that meets the mandate. The agreement expanded the allowable UASweight up to 25 pounds, an increase from the 4.4 pounds specified in the Act.

Today, a law enforcement organization first receives a COA for training and performance evaluation. When the organization has shown proficiency in flying its UAS, it receives a "jurisdictional" COA.

Meeting the Challenge

For more than 50 years, the FAA has maintained a proven track record of introducing new technology and aircraft safely into the national airspace system. The agency will successfully meet the challenges posed by UAStechnology in a thoughtful, careful manner that ensures safety and addresses privacy issues while promoting economic growth.

While aviation is unquestionably an industry known for innovation, it is also an industry with a strong history of collaboration between government and industry. This collaboration has helped the FAA achieve a position of international leadership. By working together, government and industry will overcome the challenges UAS

integration presents and open the door to a more diverse and dynamic aviation future for both manned and unmanned aircraft.

For more information: www.faa.gov/uas/ (www.faa.gov/uas/)

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RECREATIONAL USERS

Currently, small unmanned aircraft systems (sUAS) may be operated for hobby and recreational purposes under specific safety guidelines as established by Congress. Small UAS flown for recreational purposes are typically known as model aircraft.

Under the Special Rule for Model Aircraft, recreational UAS must be operated in accordance with several requirements, including a community-based set of safety guidelines and within the programming of a nationwide community-based organization such as the Academy of Model Aeronautics (AMA). Operators not operating within the safety program of a community-based organization should follow the FAA's guidance here.

What is recreational use of sUAS?

The recreational use of sUAS is the operation of an unmanned aircraft for personal interests and enjoyment. For example, using a sUAS to take photographs for your own personal use would be considered recreational; using the same device to take photographs or videos for compensation or sale to another individual would be considered a commercial operation. You should check with the FAA for further determination as to what constitutes commercial or other non-hobby, non-recreational sUAS operations.

What are the safety guidelines for sUAS recreational users?

- Follow community-based safety guidelines, as developed by organizations such as the Academy of Model Aeronautics (AMA).
- Fly no higher than 400 feet and remain below any surrounding obstacles when possible.
- Keep your sUAS in eyesight at all times, and use an observer to assist if needed.
- Remain well clear of and do not interfere with manned aircraft operations, and you must see and avoid other aircraft and obstacles at all times.
- Do not intentionally fly over unprotected persons or moving vehicles, and remain at least 25 feet away from individuals and vulnerable property.
- Contact the airport or control tower before flying within five miles of an airport.
- Do not fly in adverse weather conditions such as in high winds or reduced visibility.
- Do not fly under the influence of alcohol or drugs.
- Ensure the operating environment is safe and that the operator is competent and proficient in the operation of the sUAS.
- Do not fly near or over sensitive infrastructure or property such as power stations, water treatment facilities, correctional facilities, heavily traveled roadways, government facilities, etc.
- Check and follow all local laws and ordinances before flying over private property.
- Do not conduct surveillance or photograph persons in areas where there is an expectation of privacy without the individual's permission (see AMA's privacy policy).

For more safety information, please download the Know Before You Fly brochure here.

Resources

Federal Aviation Administration
AMA Safety Code
Increasing Human Potential
Academy of Model Aeronautics
Why Model Aircraft

Contact

contact@knowbeforeyoufly.org

Latest Tweet

The @FAANews issues temporary flight restrictions (TFRs) through Nov. around firefighting ops in CA tfr.faa.gov/tfr2/list.html #Knowbeforeyoufly

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BILL # 2218 **ORDINANCE # 2218**

AN ORDINANCE AUTHORIZING THE APPROVAL OF A RECORD PLAT, TRUST INDENTURE, GENERAL WARRANTY DEED, AND A DEPOSIT AGREEMENT, WITH ASSOCIATED LETTERS OF CREDIT GUARANTEEING CERTAIN REQUIRED IMPROVEMENTS THEREIN, FOR A TWELVE (12) LOT RESIDENTIAL SUBDIVISION THAT IS LOCATED ON A TRACT OF LAND IN THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 12, TOWNSHIP 44 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI AND, MORE SPECIFICALLY, SITUATED ON THE WEST SIDE OF CENTER AVENUE, SOUTH OF MANCHESTER ROAD, TO BE KNOWN AS *"STONE MILL SUBDIVISION."* (Ward Eight)

WHEREAS, the City of Wildwood adopted a Master Plan and numerous ordinances to govern the use and subdivision of land that were intended to promote the implementation of "best development practices" within this community; and

WHEREAS, as part of the Planning and Zoning Commission and the City Council's action on the Master Plan, four (4) conceptual land use classifications were created for the community, one (1) of which is the "Sub-Urban Residential Area;" an area where mid-density, single-family residential land uses are encouraged due to the availability of supporting infrastructure and utilities, a comprehensive street network, favorable topography and other environmental factors, and its past and current land use patterns that favor such, which includes certain legacy sites that are suitable for redevelopment to more compatible activities; and

WHEREAS, while the original developer, Lombardo Homes, pursued and completed the rezoning of this eight (8) acre tract of land from the NU Non-Urban Residence District to the R-1A 22,000 square foot Residence District, with a Planned Residential Development Overlay District (PRD), in March 2015, which was formerly the Missouri Department of Transportation's Grover Maintenance Garage, the property was subsequently sold to Whalen Custom Homes, who submitted a Site Development Plan (Preliminary Plat) to the City for the creation of twelve (12) lots, which has since received approval from the Planning and Zoning Commission, and was recorded on May 4, 2016; and

WHEREAS, the lots will range in size from 15,015 to 37,840 square feet, all of which are served by one (1) internal public cul-de-sac road, and adhere to right-of-way dedications and Public Space Requirements (i.e. multiple-use trail; enhanced stormwater features) for this zoned development, as well as addressing Town Center Architectural Guidelines, as was a condition of Ordinance #2088, although adjacent to and not fully located in the Town Center Area; and

WHEREAS, Improvement Plans, the detailed engineering drawings, were then reviewed by the City of Wildwood, and are nearing final approval by the Department of Public Works, which depicts the design of public and private subdivision improvements for the internal roadways, stormwater management facilities, public sanitary sewers, grading and related items, and other considerations necessary for the proper integration and design of this development into the surrounding area, while a deposit agreement, with associated letters of credit, have been established for guaranteeing proper installation of said improvements and maintenance during the development phase of this project; and

WHEREAS, the twelve (12) lots that will be created by this subdivision appear to fully meet and comply with all the requirements of the *Subdivision and Development Regulations* of the City of Wildwood in regard to their lot sizes and widths, setbacks, and tree preservation requirements, as well as the other conditions of the governing site-specific ordinance; and

WHEREAS, the City of Wildwood, on September 1, 1995, adopted ordinances, codes, and regulations governing the development and use of land for the health, safety, and welfare of its residents.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF WILDWOOD, MISSOURI AS FOLLOWS:

Section One. The City Council of the City of Wildwood, Missouri hereby approves the Record Plat (attached hereto), Trust Indenture, General Warranty Deed, and Deposit Agreement, with associated Letters of Credit guaranteeing certain required improvements, for a twelve (12) lot residential subdivision that is located on a tract of land in the North Half of the Northwest Quarter of Section 12, Township 44 North, Range 3 East, City of Wildwood, St. Louis County, Missouri and, more specifically, situated on the west side of Center Avenue, south side of Manchester Road, to be known as "*Stone Mill Subdivision.*" These lots are graphically represented on the attached plat and accompanying legal descriptions and hereby adopted and made a part of this ordinance.

Section Two. The Director of Planning and the City Clerk are authorized and directed to evidence the approval of this Record Plat by affixing their signatures and the official seal of the City of Wildwood to a Certificate of Approval upon this instrument. The petitioner is required and directed to record the approved Record Plat, Trust Indenture, and General Warranty Deed (within sixty (60) days of its approval by the City Council of the City of Wildwood, Missouri) in the Office of the Recorder of Deeds of St. Louis County, Missouri, or such action on these items is voided.

Section Three. The Mayor, the City Attorney, and the Director of Planning are hereby authorized to sign the Deposit Agreement guaranteeing the installation of required subdivision improvements in this development indicating its compliance to the requirements of the City in this regard.

Section Four. This ordinance shall be in full force and effect, from and after its date of passage and approval, provided all required fees are paid to the City, all applicable provisions of the *Subdivision and Development Regulations* are met, and recorded copies of all recorded instruments are returned to the City by the petitioner.

THIS BILL WAS PASSED AND APPROVED THIS ___ DAY OF _____, 2016 BY THE COUNCIL OF THE CITY OF WILDWOOD, MISSOURI AFTER HAVING BEEN READ BY TITLE, OR IN ITS ENTIRETY, TWO (2) TIMES PRIOR TO ITS PASSAGE.

Presiding Officer	**The Honorable James R. Bowlin, Mayor**

ATTEST:

Elizabeth Weiss, City Clerk	**Elizabeth Weiss, City Clerk**

LETTER OF CREDIT DEPOSIT AGREEMENT
GUARANTEEING SUBDIVISION IMPROVEMENTS

THIS DEPOSIT AGREEMENT made and entered into by

WHALEN CUSTOM HOMES

338 S. KIRKWOOD ROAD

KIRKWOOD, MO 63122

herein called DEVELOPER and CITY OF WILDWOOD, MISSOURI, herein called CITY:

WITNESSETH:

WHEREAS, the DEVELOPER has submitted plans, information and data to the City of Wildwood Department of Planning for the creation and development of a subdivision to be known as: **STONE MILL** (the "Subdivision") and requesting approval of the same; and

WHEREAS, the subdivision plans have been approved and the City of Wildwood Director of Planning ("Director") has reasonably estimated and determined that the cost of construction, installation and completion of the subdivision improvements, all in accordance with the provisions of Chapter 420 Sections 420.010 - 420.410 of the Code of Ordinances of the City of Wildwood ("Code"); and

WHEREAS, the DEVELOPER is seeking the approval of the CITY of the record plat of the aforesaid subdivision as the same is provided in Chapter 420 of the Code; and

WHEREAS, Chapter 420, provides, inter alia, that the record plat of a subdivision may be approved by the City of Wildwood only after the DEVELOPER submits a satisfactory deposit agreement guaranteeing the construction and maintenance of the subdivision improvements in accordance with the approved improvement plans;

NOW, THEREFORE, in consideration of the covenants, promises and agreements herein provided;

IT IS HEREBY MUTUALLY AGREED:

1. That the DEVELOPER has deposited an irrevocable letter of credit and required fee with such other terms as approved by the Director and City Attorney in favor of CITY for the sum of **Two Hundred Seventy-Seven Thousand, Eight Hundred Twelve Dollars and Fifteen Cents ($277,812.15)** payable in lawful money of the United States of America, herein called CONSTRUCTION DEPOSIT, with the CITY, as a deposit guaranteeing the construction, installation, completion of the required subdivision improvements in the Subdivision, all in accordance with the approved plans therefore and in accordance with Section 420.080 of Chapter 420 and other applicable ordinances of the City.

2. That the DEVELOPER has also deposited an irrevocable letter of credit with such other terms as approved by the Director and City Attorney in favor of CITY for the sum of **Twenty-Five Thousand, Two Hundred Fifty-Five Dollars and Sixty-Five Cents ($25,255.65)**, payable in lawful money of the United States of America, herein called MAINTENANCE DEPOSIT with the CITY, as a deposit guaranteeing the maintenance obligations of the DEVELOPER for the subdivision pursuant to Section 420.080 of Chapter 420 of the Code.

3. That the CONSTRUCTION DEPOSIT and the MAINTENANCE DEPOSIT guarantee the construction, installation, completion, and maintenance of the subdivision improvements in the Subdivision in accordance with the report of the Director of Planning dated **October 13, 2016**, a copy of which is attached hereto and made a part hereof and as per improvement plans and specifications for the Subdivision which have been filed with and approved by the Director of Planning and Director of Public Works of the City of Wildwood, Missouri, all of which are incorporated herein. The CONSTRUCTION DEPOSIT shall consist of an amount equal to 110% of the estimated costs of the construction, completion, and installation of the Subdivision required improvements ("ESTIMATED COSTS"). The MAINTENANCE DEPOSIT shall consist of an additional amount equal to 10% of such ESTIMATED COSTS for maintenance guarantee obligations pursuant to Section 420.080 of Chapter 420.

4. That in the event the CONSTRUCTION DEPOSIT or MAINTENANCE DEPOSIT herein provided is determined by the Director of Planning to be insufficient to complete or maintain the Subdivision improvements as required by Section 420.080 of Chapter 420, the DEVELOPER shall deposit with the CITY that additional deposit sum of lawful money of the United States of America that will be required to complete or maintain the said improvements; such additional deposit sum to be subject to the terms of this Deposit Agreement.

5. That the DEVELOPER guarantees that all required utilities and Subdivision improvements will be installed, constructed and **completed within two (2) years of the date of City Council approval of this Agreement**, as shown on page 5, ("COMPLETION DATE"). The COMPLETION DATE may be extended unilaterally by the Director for a period of up to two (2) years in his sole discretion as provided by Section 420.080 of Chapter 420.

6. CONSTRUCTION DEPOSIT Releases.

a. That the CITY shall only release or disburse the CONSTRUCTION DEPOSIT or portions thereof upon receipt and in the amount set forth in a written authorization from the said Director of Planning, which authorization shall be given when, and only when, the improvements, or some portion of them, have been constructed, completed and installed and the Director has received the written approval of the appropriate inspecting authority. Nothing in this Agreement shall be construed to permit releases contrary to any restriction set forth in Section 420.080 of Chapter 420.

b. In order to obtain such written approval, the DEVELOPER shall make written request to the appropriate inspecting authority to inspect, with a copy to the Director of Planning.

c. Thereafter, upon receipt and written approval of the appropriate inspecting agency for any specific component or line item of a category of improvements, and after written request by the DEVELOPER for a specific release, the Director may at the Director's discretion release not more than ninety five percent (95%) of the original sum deposited within the CONSTRUCTION DEPOSIT for the construction of such component or line item applicable to a specific required improvements. Irrespective of any discretionary prior releases that may be authorized by the Director after completion of any component of the guaranteed improvements (i.e. less than all of the improvements in a given category), the remaining amount held in the CONSTRUCTION DEPOSIT for a category of improvements shall be released within thirty days of completion of all of the improvements in such category of improvement, minus a retention of five percent which shall be released only upon completion of all improvements in the subdivision. The establishment of categories, components, and line items of required improvements for the subdivision, as attached hereto, shall in no way modify or reduce the developers guarantee as to all required improvements, irrespective of any release or completion of any category, or underlying component or line item. All improvements in a category shall be deemed complete only when (1) each and every component and line item within a category for the entire subdivision has been constructed and completed as required, (2) the developer has notified the Director in writing of the completion of all components of the category, provided all necessary or requested documentation, and requests an inspection, (3) the developer is not in default or in breach of any obligation to the City under this section, including but not limited to, the Directors' demand for maintenance or for deposit of additional sums for the subdivision, (4) the inspection has been completed and the results of the inspection have been approved in writing by the Director.

d. Upon final approval of all required improvements, the Director of Planning shall release from the remaining amount of the CONSTRUCTION DEPOSIT.

7. That in the event that the DEVELOPER shall default, abandon the Subdivision or fail to satisfactorily complete the improvements by COMPLETION DATE, whichever shall occur first, the CITY may complete, or have completed, the required improvements and apply the remaining CONSTRUCTION DEPOSIT and MAINTENANCE DEPOSIT therefor. The CITY, through its Directors of Planning or Public Works, may further apply such necessary amount of the MAINTENANCE DEPOSIT to remedy any failure of the DEVELOPER to perform its maintenance obligations set forth in Section 420.080 of Chapter 420. For the purpose of this Agreement and the CITY's rights hereunder, any and all of the CONSTRUCTION DEPOSIT and MAINTENANCE DEPOSIT may be applied to completion or maintenance of any improvements in the event of default or of failure of the DEVELOPER to perform the obligations hereunder or as required by Section 420.080 of Chapter 420, and no limitation of any kind shall be implied from the line item calculations of separate improvements.

8. The MAINTENANCE DEPOSIT shall be further retained to guarantee the maintenance of the Subdivision improvements until the sooner of the (1) expiration of eighteen (18) months after acceptance for public dedication of the specific improvement by the City, or

(2) expiration of eighteen (18) months after occupancy permits have been issued on 95% of all of the lots in the subdivision plat(s) subject to this deposit agreement. This remaining amount shall be subject to the immediate order of the Directors of Planning or Public Works to defray or reimburse any cost to the City of maintenance or repair of improvements related to the subdivision which the developer fails or refuses to perform. Consistent with Section 420.080, the Director of Planning may release such amount, if any, of the remaining MAINTENANCE DEPOSIT in excess of that which he determines to be necessary to satisfy the requirements of Section 420.080 of Chapter 420. Maintenance shall include repair or replacement of all defects, deficiencies, and damage to the improvements that may exist or arise, abatement of nuisances caused by such improvements, removal of mud and debris from construction, erosion control, grass cutting, removal of construction materials (except materials to be used for construction on the lot having a valid building permit or as otherwise permitted by siteplan), and street deicing and snow removal. All repairs and replacement shall comply with City specifications and standards. Any maintenance on improvements accepted by the City for public dedication shall be completed under the supervision of and with the prior written approval of the Director of Public Works. The maintenance obligation for required improvements to existing public roads or other existing public infrastructure already maintained by a public governmental entity shall terminate on and after the date such improvements have been inspected, deposit released, and accepted by the governing body of the governmental entity for dedication. Irrespective of other continuing obligations, the developer's street deicing and snow removal obligations shall terminate on the date a street is accepted by the City for public maintenance.

9. The Developer shall further be subject to each and every provision and requirement of Chapter 420 of the Code, and as may be amended, as well as Section 89.410, Mo.Rev.Stat., as may be amended, and all such other terms that are incorporated herein as if fully set forth. This Agreement and the obligations and rights hereunder are not assignable or transferable by the DEVELOPER. Furthermore, in the event of a default, abandonment or failure of the DEVELOPER to complete the improvements, no other person, firm or entity shall acquire (whether by contract, judicial foreclosure or other means) any rights to the remaining escrow funds as a DEVELOPER without entering into a separate Deposit Agreement with the City.

10. Exercise or waiver by CITY of any enforcement action under this agreement or Chapter 420 does not waive or foreclose any other or subsequent enforcement action whatsoever. The deposit placed under this agreement shall be governed by the provisions of Section 420.080 of Chapter 420, as amended, of the Code and the DEVELOPER agrees to the provisions thereof as if set forth herein.

11. The CITY and DEVELOPER hereby accept this agreement as a lawful and satisfactory Deposit Agreement under the provisions and requirements of Chapter 420, as amended, of the Code.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals this 19 day of October A.D. 2016

WHALEN CUSTOM HOMES

ATTEST (seal): NO SEAL

JANE E. WHALEN
Notary Public - Notary Seal
State of Missouri, St Louis County
Commission # 14028374
My Commission Expires Oct 13, 2018

Michael Whalen
Title: President

Katie Whalen
Title: Vice President

NOTE: The signatures of the DEVELOPER shall be acknowledged before a Notary Public. In the case of a partnership, all partners must sign. In the case of a corporation, the affidavits of the corporation secretary setting forth the authority of the signing officer and the acknowledgement of the corporation act must be attached.

CITY OF WILDWOOD, MISSOURI

Joseph Vujnich
DIRECTOR OF PLANNING

Date

APPROVED:
CITY OF WILDWOOD COUNCIL

ATTEST (seal):

MAYOR

Date Approved:
[Completion date is 24 mo. from above]

APPROVED:

CITY ATTORNEY

Date

CORPORATE EXECUTING OFFICIAL'S ACKNOWLEDGEMENT

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

On this 19 day of October, A.D., 2016, before me appeared **Michael Whalen,** to me personally known, who, being by me duly sworn, did say that he is the President of **Whalen Custom Homes**, a Missouri Corporation and that he executed the foregoing agreement pursuant to the authority given him/her by the Board of Directors of the aforesaid corporation, and that said agreement was signed and sealed by him on behalf of the aforesaid corporation by authority of its Board of Directors and said **Michael Whalen**, as President of the said corporation, acknowledged said agreement to be a lawful, free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal, the day and year above written.

My commission expires Oct. 13, 2018

JANE E. WHALEN
Notary Public - Notary Seal
State of Missouri, St Louis County
Commission # 14028374
My Commission Expires Oct 13, 2018

Notary Public

CORPORATE EXECUTING OFFICIAL'S ACKNOWLEDGEMENT

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

On this 19 day of October, A.D., 2016, before me appeared **Katie Whalen**, to me personally known, who, being by me duly sworn, did say that she is the Vice President of **Whalen Custom Homes**, a Missouri Corporation and that **Michael Whalen** who executed the foregoing agreement as President of the aforesaid corporation is in fact the President of that Corporation and was authorized and directed by the Board of Directors of the aforesaid corporation to execute the foregoing agreement.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal, the day and year above written.

My commission expires Oct. 13, 2018

Notary Public

JANE E. WHALEN
Notary Public - Notary Seal
State of Missouri, St Louis County
Commission # 14028374
My Commission Expires Oct 13, 2018

LETTER OF ESTIMATED COST OF IMPROVEMENTS

STONE MILL (Ward 8)

12 Lots w/Public Street — *South of Manchester Rd; west of Center Ave at termius of ROW*

8.03ac - 0.65ac ROW - 0.28ac Trail/0.2ac CG

MO-AM Water; MSD — *Metro West Fire/Bonhomme Creek Watershed*

CITY OF WILDWOOD, MISSOURI — **Zoned: R-1A w/PRD #2088** — **SB=25/8/30 + 15' from NRPS**

units		description			cost/unit	total
Construction of Streets						**$94,451.06**
		95 percent (subject to initial releases)			**$89,728.51**	
		5 percent (final release)			**$4,722.55**	
642.00	cu.yd.	Grading		@	$2.80 p/cu/yd	$1,797.60
80.00	lin.ft.	Sawcutting		@	$5.75 p/lin/ft	$460.00
		Public Street at 22' wide: [548 linear ft.]				
1,339.56	sq.yd.	Concrete (7" including base)		@	$39.40 p/sq/yd	$52,778.66
1,336.00	lin.ft.	Intergral rolled curb & gutter(3")		@	$16.60 p/lin/ft	$22,177.60
1	----------	Turnaround Residential (asphalt)		@	$15,250.00 each	$15,250.00
96.00	lin.ft.	Vertical curb & gutter (6") around cds		@	$20.70 p/lin/ft	$1,987.20
Road Improvements - Other		*[Center Avenue -233' frontage; 358' dedication]*				**$24,997.98**
569.56	sq.yd.	Repair/Resurface [22'W]		@	$26.50 p/sq/yd	$15,093.34
1193.33	sq.yd.	Restoration - sod south dedication area		@	$8.30 p/sq/yd	$9,904.64
Street Trees		*[per Landscape Plan dated 12/2015]*				**$8,900.00**
2	----------	3" caliper *Ginkgo*		@	$270.00 each	$540.00
3	----------	2.5" caliper *Ginkgo*		@	$220.00 each	$660.00
20	----------	2.5" caliper *Swamp White Oak*		@	$220.00 each	$4,400.00
15	----------	2.5" caliper *Scarlet Oak*		@	$220.00 each	$3,300.00
Sidewalks						**$7,662.00**
1	Handicap Ramps	*[concrete w/truncated domes]*		@	$1,035.00 each	$1,035.00
		Falstone Mill Court - n/a				
0.00	sq.ft.	Sidewalk 4" thick - 4' wide		@	$4.70 p/sq/ft	$0.00
		Center Avenue				
1,140.00	sq.ft.	Sidewalk 4" thick - 6'W x 190' - west side		@	$4.70 p/sq/ft	$5,358.00
270.00	sq.ft.	Sidewalk 4" thick - 5'W @ terminus		@	$4.70 p/sq/ft	$1,269.00
Street Lights						
3	Street light	(16' typical height)		@	$770.00 each	**$2,310.00**
Street Signs						**$1,682.00**
2	----------	Street Name Signs	35x6"	@	$226.00 each	$452.00
4	----------	'No Parking' Signs ϕ	18x24"	@	$246.00 each	$984.00
1	----------	Stop Signs	30"	@	$246.00 each	$246.00
Storm Sewers (escrowed at 90% of below subtotal)						**$33,118.02**
		95 percent (of 90%) storm			**$31,462.12**	
		5 percent (of 90%) storm			**$1,655.90**	
191.00	lin.ft.	12" RCP		@	$34.00 p/lin/ft	$6,494.00
138.00	lin.ft.	18" RCP		@	$40.00 lin./ft.	$5,520.00
47.00	lin.ft.	24" RCP		@	$50.00 lin./ft.	$2,350.00
3	----------	Area Inlet, single		@	$2,070.00 each	$6,210.00
1	----------	Flared End Section (18")		@	$450.00 each	$450.00
1	----------	Flared End Section (24")		@	$525.00 each	$525.00
1	----------	Outfall Structure		@	$5,000.00 each	$5,000.00
160.00	sq.yd.	Riprap/Revet		@	$47.00 p/sq/yd	$7,520.00
42	sq.ft.	French Drain		@	$6.40 p/sq/ft	$268.80

Category 1

Category 2

	12 lots	Granular Fill	@	$205.00 per lot	$2,460.00
Category 2					
	Detention/Retention Basin				**$13,018.53**
	12 lots	Detention ($3,875 base + p/lot)	+	$125.00 p/unit	$5,375.00
	448.07	Raingarden/BMP Reserve Area [12,098 sq.ft.]	@	$16.60 p/cu/yd	$7,437.96
	55.56 cu.yd.	Amended soils [1,500 sq.ft.]	@	$3.70 p/cu/yd	$205.57
Category 3					
	Grading/Siltation and Erosion Control				**$16,196.00**
	12 lots	Grading ($2,175.00)	+	$344.00 p/lot	$6,303.00
	12 lots	Siltation Control ($2,030.00)	+	$130.00 p/lot	$3,590.00
	12 lots	Erosion Control ($2,175.00)	+	$344.00 p/lot	$6,303.00
Category 4					
	Landscaping Costs	[Per landscape plan dated 12/2015]			**$22,717.69**
	*******substitutions must be submitted in writing & approved prior to planting*******				
	Bufferyard B & C				
	2 trees	3" caliper *Bald Cypress*	@	$270.00 each	$540.00
	6 trees	2" caliper *Bald Cypress*	@	$180.00 each	$1,080.00
	8 trees	2" caliper *Eastern Redbud*	@	$180.00 each	$1,440.00
	4 trees	2" caliper *Dogwood*	@	$180.00 each	$720.00
	3 trees	Conifer - 8' minimum *Grn Giant AV*	@	$195.00 each	$585.00
	12 trees	Conifer - 6' minimum *Blue Spruce*	@	$145.00 each	$1,740.00
	45 shrubs	Evergreen/5 gal *Inkberry*	@	$60.00 each	$2,700.00
	69 shrubs	Deciduous/5 gal *Clethra/Hydra/Sweetspire*	@	$50.00 each	$3,450.00
	Entry - north & south of Falstone Mill Ct.				
	3 trees	2" caliper *Serviceberry*	@	$180.00 each	$0.00
	11 shrubs	Evergreen/5 gal *Inkberry*	@	$60.00 each	$660.00
	9 shrubs	Deciduous/5 gal *Clethra/Hydra/Sweetspire*	@	$50.00 each	$450.00
	49 5 gal	Ornamental Grasses *Feather reed/Fountain*	@	$38.00 each	$1,862.00
	1 gal	Ground cover	@	$25.00 each	$0.00
	Cul-de-sac				
	1 trees	2.5" caliper *London Planetree*	@	$220.00 each	$0.00
	6 shrubs	Deciduous/5 gal *Hydra*	@	$50.00 each	$300.00
	Common Ground Sod				
	667.18 sq.yds.	Trail - perimeter sodding	@	$8.30 p/sq/yd	$5,537.59
	1 ----------	Cul de sac sodding	@	$594.50 each	$594.50
	Mulch				
	268.00 cu.yd.	bark mulch	@	$3.95 p/cu/yd	$1,058.60
Category 5					
	Water Mains	**[n/a - MO-Am installation agreement]**			**$0.00**
	Monumentation	***[survey markers @ lot corners; 4 control pts in ROW]***			**$8,155.00**
	4 ----------	Survey Monuments - first 4	@	$910.00 each	$3,640.00
	21 ----------	Survey Monuments - over 4	@	$215.00 each	$4,515.00
	Public Space Amenities				**$19,348.22**
	Multi-use Trail				
	667.18 sq.yd.	Asphaltic Conc.	@	$29.00 p/sq/yd	$19,348.22
		[3" asphalt over 8"rock base @ 10'W x 600.46']			
	Fencing	**[Not required]**			
	lin.ft.	Sight Proof - PVC - 6' high	@	$38.95 p/lin/ft	**$0.00**
	ESTIMATED TOTAL COST OF IMPROVEMENTS*				$252,556.50
	TEN (10%) PERCENT INFLATION FACTOR				$25,255.65
	ESTIMATED COST OF CONSTRUCTION LETTER OF CREDIT				**$277,812.15**

ESTIMATED MAINTENANCE BOND REQUIREMENT ** **$25,255.65**
(2nd separate Letter of Credit required)

Prepared By: _____ Date: 10/7/2016
Terri Gaston, Senior Planner

Approved By: _____ Date: 10-13-2016
Joseph Vujnich, Director of Planning

* Cost estimates within categories are estimates and not for release purposes.

** The Maintenance Deposit will be held for a total of eighteen (18) months from either the date of FINAL acceptance of ALL PUBLIC IMPROVEMENTS by the City or after 95% of ALL occupancy permits have been issued.

ϕ No Parking' signs: to be located at the southeast corner of Lot 1, between Lots 2&3; on light pole at Lots 4&5; between 6&7

Category 1 = Street Improvements
Category 2 = Stormwater Improvements
Category 3 = Grading/Erosion Requirements
Category 4 = Landscaping Improvements
Category 5 = Miscellaneous Improvements

Accepted By: _____, President Date: 10/13/16
[signature]

print name: Michael Whalen, President
[developer]

representing: Whalen Custom Homes, Inc.
[development company]

Great Southern Bank
Michael J. Casnar
Relationship Manager
8235 Forsyth Blvd, Suite 150
St. Louis, MO 63105
314-889-8926
mcasnar@greatsouthernbank.com

October 19, 2016

IRREVOCABLE LETTER OF CREDIT NO. 2335

City of Wildwood, Missouri
City Hall
16860 Main Street
Wildwood, Missouri 63040
c/o Director of Planning

Dear Sir:

We hereby establish in favor of the CITY OF WILDWOOD, upon the application of and for the account of Whalen Custom Homes Inc., 338 S. Kirkwood Unit 103, Kirkwood MO 63122 (the "Account Party") our transferable irrevocable standby letter of credit (the "Letter of Credit") in the amount of $277,812.15 (the "Maximum Available Credit"), subject to the reduction as hereinafter set forth.

For information only: This letter of credit is issued with respect to a subdivision of land in the City of Wildwood, Missouri, known as Stone Mill Subdivision Plat dated November 14, 2016 issued by you for the benefit of the Account Party (the "Plat Approval").

Subject to all of the terms and conditions of this Letter of Credit, the Maximum Available Credit shall be made available by your draft(s) at sight drawn on us accompanied by this Letter of Credit and any amendments thereto for presentation and by the following documents:

1. Your signed certificate, in the form attached hereto as Exhibit A, dated not more than ten days prior to its presentation to us; or
2. Your signed certificate, in the form attached hereto as Exhibit C, dated not more than ten days prior to its presentation to us.

   *No draft will be paid if the amount thereof is in excess of the Maximum available Credit hereunder as of the date such draft is to be paid.

Multiple drawings may be presented under this Letter of Credit, which, in the aggregate and subject to the limitations set forth herein, shall not exceed the Maximum Available Credit then in effect and each such drawing honored by us hereunder shall reduce the Maximum Available Credit by the amount of such drawing. The draft(s) drawn under this Letter of Credit must be drawn and presented to our offices at Great Southern Bank 8235 Forsyth Blvd, Suite 150, St. Louis MO 63105 Attention: Michael J. Casnar (or such other officer, department or address designated in writing by us to you at your address shown above or at such other address as you shall advise us of in writing) by hand delivery or by delivery by courier between 9:00 a.m. and 4:30 p.m. (St. Louis, Missouri time) on a Business Day (as defined below). As used in this Letter of Credit, "Business Day" shall mean any day other than a Saturday, Sunday or a day on which banking institutions in the State of Missouri are authorized or required by law to close.

We hereby agree that all drafts drawn under and in compliance with the terms of this Letter of Credit will be duly honored by us upon delivery of any of the certificate(s) specified above and if presented at our aforesaid office on or before the Expiration Date (as defined below).

If demand for payment is made hereunder in strict conformity with the terms and conditions of this Letter of Credit before 11:00 a.m. (St. Louis, Missouri time) on any Business Day, payment of the amount demanded shall be made in immediately available funds not later than 1:00 p.m. (St. Louis, Missouri time) on the next succeeding Business Day.

Payment under this Letter of Credit to you shall be made by wire transfer of immediately available funds per your instructions.

Only you or a transferee may make drawings under this Letter of Credit. Upon payment as provided above of the amount specified in a sight draft drawn hereunder, the Maximum Available Credit of the Letter of Credit shall be reduced by the amount of the payment.

If demand for payment does not conform to the terms and conditions of this Letter of Credit, we will promptly notify you thereof and of the reasons therefor, such notice to be promptly confirmed in writing to you, and we shall hold all documents at your disposal or return the same to you, if directed by you.

This Letter of Credit is effective immediately and expires on the earliest of (i) 4:00 p.m. (St. Louis, Missouri time) on May 15, 2019***as such date may be extended as hereinafter provided*** (ii) when you have drawn and we have paid to you the Maximum Available Credit of this Letter of Credit or (iii) the day on which this Letter of Credit is surrendered to us for cancellation (collectively, the "Expiration Date"); provided, however, notwithstanding the termination by expiration of this Letter of Credit, our payment obligation shall survive such expiration with respect to any sight drafts accompanied by a certificate in the form of Exhibits A, or C, as the case may be, presented to us for payment prior to the expiration of this Letter of Credit; and further provided that upon such expiration, or if automatically extended upon expiration of the last extension, we shall immediately transfer the balance of the Maximum Available Credit to you at the following account:

COMMERCE BANK ID [Routing]: #101000019

CITY OF WILDWOOD OPERATING ACCOUNT #208010206

or such other account subsequently designated by you, unless you authorize in writing a release of our obligations under this Letter of Credit or authorize a replacement of the Letter of Credit. It is a condition of this Letter of Credit that it shall be deemed automatically extended, without amendment, for one year from the present or any future Expiration Date hereof, unless at least 75 days prior to any such date, we shall send you, in the form attached hereto as Exhibit D, notice that we elect not to consider this Letter of Credit renewed for such additional one-year period. Notwithstanding any automatic extensions, this letter of credit shall expire fully and finally not later than May 14, 2019.

Upon our receipt, from time to time, from you of a written reduction certificate in the form attached as Exhibit E, we are authorized to reduce the Maximum Available Credit hereunder by the amount stated in such certificate, any such reduction to be effective only at our close of business on the date on which we receive such written reduction certificate.

This Letter of Credit shall be governed by the Uniform Customs and Practice for Documentary Credits, 1993 Revision, International Chamber of Commerce Commission Publication No. 500, but excluding the provisions of Article 41 thereof (the "UCPDC").

Any communications with respect to this Letter of Credit shall be in writing and shall be addressed to us at Great Southern Bank 8235 Forsyth Blvd, Suite 150, St. Louis MO 63105 Attention: Michael J. Casnar, specifically referring thereon to Irrevocable Letter of Credit No. 2335.

You may transfer your rights under this Letter of Credit in their entirety (but not in part) to any transferee. Transfer of your rights under this Letter of Credit to any such transferee shall be effected only upon the presentation to us of this Letter of Credit accompanied by a transfer letter in the form attached hereto as Exhibit F, and we consent to such transfer without charges or fees of any kind. Upon such transfer, the transferee shall have no further rights to transfer this Letter of Credit.

This Letter of Credit sets forth in full our undertaking, and such undertaking shall not in any way be modified, amended, amplified or limited by reference to any document, instrument or agreement referred to herein (including, without limitation, the Plat Approval, but excluding the UCPDC), and any such reference shall not be deemed to incorporate herein by reference any document, instrument or agreement. Exhibits A,C,D,E and F attached hereto are incorporated herein by reference as an integral part of this Letter of Credit. (Exhibit B intentionally omitted).

Very truly yours,

Great Southern Bank

By: _____

Michael J. Casnar
Relationship Manager

EXHIBIT A

TO LETTER OF CREDIT

FORM OF CERTIFICATE FOR "A" DRAWING

Date

Name of Issuing Bank

Bank Address

Attention:

Re: Your Letter of Credit No. _____

In Favor of City of Wildwood, Missouri

Gentlemen:

The undersigned, a duly authorized official of City of Wildwood, Missouri (the "Beneficiary"), hereby certifies to ***Name of Issuing Bank*** (the "Bank"), with reference to Irrevocable Letter of Credit No. _____ (the "Letter of Credit"; any capitalized terms used herein and not defined shall have their respective meanings as set forth in the said Letter of Credit) issued by the Bank in favor of the Beneficiary, that:

1. The Account Party has failed to complete all improvements or fulfill all obligations required by the Subdivision Code, Improvement plans, or any Deposit Agreement.

2. The draft in the sum of $_____ accompanying this Certificate is not in excess of the Maximum Available Credit under the Letter of Credit and shall result in a reduction of the Maximum Available Credit under the Letter of Credit.

Transfer the funds as stated above to the credit of the City of Wildwood, Missouri to COMMERCE BANK ID [Routing]: #101000019; CITY OF WILDWOOD OPERATING ACCOUNT #208010206, Attention: Finance Officer.

IN WITNESS WHEREOF, the Beneficiary has executed and delivered this certificate this _____ day of _____.

CITY OF WILDWOOD, MISSOURI

By:

City Administrator or

Acting City Administrator

EXHIBIT C

TO LETTER OF CREDIT

FORM OF CERTIFICATE FOR "C" DRAWING

Date

Name of Issuing Bank

Bank Address

Attention:

Re: Your Letter of Credit No. _____ in Favor of City of Wildwood, Missouri

Gentlemen:

The undersigned, a duly authorized official of City of Wildwood, Missouri (the "Beneficiary"), hereby certifies to ***Name of Issuing Bank*** (the "Bank"), with reference to Irrevocable Letter of Credit No. _____ (the "Letter of Credit"; any capitalized terms used herein and not defined shall have their respective meanings as set forth in the said Letter of Credit) issued by the Bank in favor of the Beneficiary, that:

1. Funds in the amount of the accompanying draft are now due for deposit in a special transit account for the street and associated storm sewer maintenance.
2. The draft in the sum of $_____ accompanying this Certificate is not in excess of the Maximum Available Credit under the Letter of Credit and shall result in a reduction of the Maximum Available Credit under the Letter of Credit.

Transfer the funds as stated above to the credit of the City of Wildwood, Missouri to COMMERCE BANK ID [Routing]: #101000019; CITY OF WILDWOOD OPERATING ACCOUNT #208010206, Attention: Finance Officer.

IN WITNESS WHEREOF, the Beneficiary has executed and delivered this certificate this _____ day of _____.

CITY OF WILDWOOD, MISSOURI

By:

City Administrator or

Acting City Administrator

EXHIBIT D

TO LETTER OF CREDIT

FORM OF NOTICE OF EXPIRATION

Date

City of Wildwood, Missouri

City Hall

16860 Main Street

Wildwood, Missouri 63040

c/o Director of Planning

Attention: _____

Re: Our Letter of Credit No. _____ in Favor of City of Wildwood, Missouri

Amount:

Expiration Date:

Gentlemen:

Please consider this letter as the Bank's notification that the Bank does not intend to renew the above-reference letter of credit and, therefore, it will expire in full and finally on the above-mentioned date.

Very truly yours,

NAME OF ISSUING BANK

By:

Authorized Officer

cc: ***Account Party***

Account Party Address

EXHIBIT E
TO LETTER OF CREDIT
FORM OF REDUCTION CERTIFICATE
printed on City Letterhead

Date

Name of Issuing Bank
Bank Address
Attention: ***Contact @ Bank***

LETTER OF CREDIT NUMBER: _____
IN ORIGINAL AMOUNT OF: $ _____

Gentlemen:

This certificate authorizes a reduction in the amount of $_____ of the above Letter of Credit. The remaining maximum available credit for this letter of credit is $_____.

CITY OF WILDWOOD, MISSOURI

By:
Director of Finance or Designee

MEMO TO DEVELOPER: FOR INFORMATION ONLY:
We have on file a letter dated [approval date] approving construction/installation of the following improvement(s) in [Subdivision Name] Plat [#]-[Plat ID].

	Improvement	Amount
1)		
2)		
3)		

The approval was sent by the [authorizing department/agency]. If you have any questions concerning this matter, please contact Terri L. Gaston at (636) 458-0440. Thank you.

Released by:

Terri L. Gaston
Planner - Subdivision

Authorized by:

Joe Vujnich
Director of Planning

Cc: ***Developer's information***

VA6292010

EXHIBIT F

TO LETTER OF CREDIT

FORM FOR FULL TRANSFER OF LETTER OF CREDIT

Date

Name of Issuing Bank

Bank Address

Attention:

Re: Your Letter of Credit ("Letter of Credit") No. _____ in favor of City of Wildwood, Missouri

Gentlemen:

The undersigned, City of Wildwood, Missouri ("Transferor") has transferred and assigned (and hereby confirms said transfer and assignment) all of its rights in and under the Letter of Credit to [name and address of Transferee]("Transferee"). Transferor confirms that it no longer has any rights under or interest in the Letter of Credit and that you shall have no further responsibility to make payment under the Letter of Credit to Transferor.

Transferor hereby surrenders the Letter of Credit to you and requests that you note the transfer of the Letter of Credit and deliver the Letter of Credit, amended or endorsed to reflect said transfer, to Transferee.

CITY OF WILDWOO, MISSOURI	[NAME OF TRANSFEREE]
By: _____	By: _____
City Administrator or	[Name and Title of
Acting City Administrator	Authorized Officer of Transferee]

Great Southern Bank
Michael J. Casnar
Relationship Manager
8235 Forsyth Blvd, Suite 150
St. Louis, MO 63105
314-889-8926
mcasnar@greatsouthernbank.com

October 19, 2016

IRREVOCABLE LETTER OF CREDIT NO. 2336

City of Wildwood, Missouri
City Hall
16860 Main Street
Wildwood, Missouri 63040
c/o Director of Planning

Dear Sir:

We hereby establish in favor of the CITY OF WILDWOOD, upon the application of and for the account of Whalen Custom Homes Inc., 338 S. Kirkwood Unit 103, Kirkwood MO 63122 (the "Account Party") our transferable irrevocable standby letter of credit (the "Letter of Credit") in the amount of $25,255.65 (the "Maximum Available Credit"), subject to the reduction as hereinafter set forth.

For information only: This letter of credit is issued with respect to a subdivision of land in the City of Wildwood, Missouri, known as Stone Mill Subdivision Plat dated November 14, 2016 issued by you for the benefit of the Account Party (the "Plat Approval").

Subject to all of the terms and conditions of this Letter of Credit, the Maximum Available Credit shall be made available by your draft(s) at sight drawn on us accompanied by this Letter of Credit and any amendments thereto for presentation and by the following documents:

1. Your signed certificate, in the form attached hereto as Exhibit A, dated not more than ten days prior to its presentation to us; or
2. Your signed certificate, in the form attached hereto as Exhibit C, dated not more than ten days prior to its presentation to us.

   *No draft will be paid if the amount thereof is in excess of the Maximum available Credit hereunder as of the date such draft is to be paid.

Multiple drawings may be presented under this Letter of Credit, which, in the aggregate and subject to the limitations set forth herein, shall not exceed the Maximum Available Credit then in effect and each such drawing honored by us hereunder shall reduce the Maximum Available Credit by the amount of such drawing. The draft(s) drawn under this Letter of Credit must be drawn and presented to our offices at Great Southern Bank 8235 Forsyth Blvd, Suite 150, St. Louis MO 63105 Attention: Michael J. Casnar (or such other officer, department or address designated in writing by us to you at your address shown above or at such other address as you shall advise us of in writing) by hand delivery or by delivery by courier between 9:00 a.m. and 4:30 p.m. (St. Louis, Missouri time) on a Business Day (as defined below). As used in this Letter of Credit, "Business Day" shall mean any day other than a Saturday, Sunday or a day on which banking institutions in the State of Missouri are authorized or required by law to close.

We hereby agree that all drafts drawn under and in compliance with the terms of this Letter of Credit will be duly honored by us upon delivery of any of the certificate(s) specified above and if presented at our aforesaid office on or before the Expiration Date (as defined below).

If demand for payment is made hereunder in strict conformity with the terms and conditions of this Letter of Credit before 11:00 a.m. (St. Louis, Missouri time) on any Business Day, payment of the amount demanded shall be made in immediately available funds not later than 1:00 p.m. (St. Louis, Missouri time) on the next succeeding Business Day.

Payment under this Letter of Credit to you shall be made by wire transfer of immediately available funds per your instructions.

Only you or a transferee may make drawings under this Letter of Credit. Upon payment as provided above of the amount specified in a sight draft drawn hereunder, the Maximum Available Credit of the Letter of Credit shall be reduced by the amount of the payment.

If demand for payment does not conform to the terms and conditions of this Letter of Credit, we will promptly notify you thereof and of the reasons therefor, such notice to be promptly confirmed in writing to you, and we shall hold all documents at your disposal or return the same to you, if directed by you.

This Letter of Credit is effective immediately and expires on the earliest of (i) 4:00 p.m. (St. Louis, Missouri time) on May 14, 2019 ***as such date may be extended as hereinafter provided*** (ii) when you have drawn and we have paid to you the Maximum Available Credit of this Letter of Credit or (iii) the day on which this Letter of Credit is surrendered to us for cancellation (collectively, the "Expiration Date"); provided, however, notwithstanding the termination by expiration of this Letter of Credit, our payment obligation shall survive such expiration with respect to any sight drafts accompanied by a certificate in the form of Exhibits A, or C, as the case may be, presented to us for payment prior to the expiration of this Letter of Credit; and further provided that upon such expiration, or if automatically extended upon expiration of the last extension, we shall immediately transfer the balance of the Maximum Available Credit to you at the following account:

COMMERCE BANK ID [Routing]: #101000019

CITY OF WILDWOOD OPERATING ACCOUNT #208010206

or such other account subsequently designated by you, unless you authorize in writing a release of our obligations under this Letter of Credit or authorize a replacement of the Letter of Credit. It is a condition of this Letter of Credit that it shall be deemed automatically extended, without amendment, for one year from the present or any future Expiration Date hereof, unless at least 75 days prior to any such date, we shall send you, in the form attached hereto as Exhibit D, notice that we elect not to consider this Letter of Credit renewed for such additional one-year period. Notwithstanding any automatic extensions, this letter of credit shall expire fully and finally not later than May 14, 2019.

Upon our receipt, from time to time, from you of a written reduction certificate in the form attached as Exhibit E, we are authorized to reduce the Maximum Available Credit hereunder by the amount stated in such certificate, any such reduction to be effective only at our close of business on the date on which we receive such written reduction certificate.

This Letter of Credit shall be governed by the Uniform Customs and Practice for Documentary Credits, 1993 Revision, International Chamber of Commerce Commission Publication No. 500, but excluding the provisions of Article 41 thereof (the "UCPDC").

Any communications with respect to this Letter of Credit shall be in writing and shall be addressed to us at Great Southern Bank 8235 Forsyth Blvd, Suite 150, St. Louis MO 63105 Attention: Michael J. Casnar, specifically referring thereon to Irrevocable Letter of Credit No. 2336.

You may transfer your rights under this Letter of Credit in their entirety (but not in part) to any transferee. Transfer of your rights under this Letter of Credit to any such transferee shall be effected only upon the presentation to us of this Letter of Credit accompanied by a transfer letter in the form attached hereto as Exhibit F, and we consent to such transfer without charges or fees of any kind. Upon such transfer, the transferee shall have no further rights to transfer this Letter of Credit.

This Letter of Credit sets forth in full our undertaking, and such undertaking shall not in any way be modified, amended, amplified or limited by reference to any document, instrument or agreement referred to herein (including, without limitation, the Plat Approval, but excluding the UCPDC), and any such reference shall not be deemed to incorporate herein by reference any document, instrument or agreement. Exhibits A,C,D,E and F attached hereto are incorporated herein by reference as an integral part of this Letter of Credit. (Exhibit B intentionally omitted).

Very truly yours,

Great Southern Bank

By: _____

Michael J. Casnar
Relationship Manager

VA6292010

EXHIBIT A

TO LETTER OF CREDIT

FORM OF CERTIFICATE FOR "A" DRAWING

Date

Name of Issuing Bank

Bank Address

Attention:

Re: Your Letter of Credit No. _____

In Favor of City of Wildwood, Missouri

Gentlemen:

The undersigned, a duly authorized official of City of Wildwood, Missouri (the "Beneficiary"), hereby certifies to ***Name of Issuing Bank*** (the "Bank"), with reference to Irrevocable Letter of Credit No. _____ (the "Letter of Credit"; any capitalized terms used herein and not defined shall have their respective meanings as set forth in the said Letter of Credit) issued by the Bank in favor of the Beneficiary, that:

1. The Account Party has failed to complete all improvements or fulfill all obligations required by the Subdivision Code, Improvement plans, or any Deposit Agreement.
2. The draft in the sum of $_____ accompanying this Certificate is not in excess of the Maximum Available Credit under the Letter of Credit and shall result in a reduction of the Maximum Available Credit under the Letter of Credit.

Transfer the funds as stated above to the credit of the City of Wildwood, Missouri to COMMERCE BANK ID [Routing]: #101000019; CITY OF WILDWOOD OPERATING ACCOUNT #208010206, Attention: Finance Officer.

IN WITNESS WHEREOF, the Beneficiary has executed and delivered this certificate this _____ day of _____.

CITY OF WILDWOOD, MISSOURI

By:

City Administrator or

Acting City Administrator

EXHIBIT C

TO LETTER OF CREDIT

FORM OF CERTIFICATE FOR "C" DRAWING

Date

Name of Issuing Bank

Bank Address

Attention:

Re: Your Letter of Credit No. _____ in Favor of City of Wildwood, Missouri

Gentlemen:

The undersigned, a duly authorized official of City of Wildwood, Missouri (the "Beneficiary"), hereby certifies to ***Name of Issuing Bank*** (the "Bank"), with reference to Irrevocable Letter of Credit No. _____ (the "Letter of Credit"; any capitalized terms used herein and not defined shall have their respective meanings as set forth in the said Letter of Credit) issued by the Bank in favor of the Beneficiary, that:

1. Funds in the amount of the accompanying draft are now due for deposit in a special transit account for the street and associated storm sewer maintenance.
2. The draft in the sum of $_____ accompanying this Certificate is not in excess of the Maximum Available Credit under the Letter of Credit and shall result in a reduction of the Maximum Available Credit under the Letter of Credit.

Transfer the funds as stated above to the credit of the City of Wildwood, Missouri to COMMERCE BANK ID [Routing]: #101000019; CITY OF WILDWOOD OPERATING ACCOUNT #208010206, Attention: Finance Officer.

IN WITNESS WHEREOF, the Beneficiary has executed and delivered this certificate this _____ day of _____.

CITY OF WILDWOOD, MISSOURI

By:

City Administrator or

Acting City Administrator

EXHIBIT D

TO LETTER OF CREDIT

FORM OF NOTICE OF EXPIRATION

Date

City of Wildwood, Missouri

City Hall

16860 Main Street

Wildwood, Missouri 63040

c/o Director of Planning

Attention: _____

Re: Our Letter of Credit No. _____ in Favor of City of Wildwood, Missouri

Amount:

Expiration Date:

Gentlemen:

Please consider this letter as the Bank's notification that the Bank does not intend to renew the above-reference letter of credit and, therefore, it will expire in full and finally on the above-mentioned date.

Very truly yours,

NAME OF ISSUING BANK

By:

Authorized Officer

cc: ***Account Party***

Account Party Address

EXHIBIT E
TO LETTER OF CREDIT
FORM OF REDUCTION CERTIFICATE
printed on City Letterhead

Date

Name of Issuing Bank
Bank Address
Attention: ***Contact @ Bank***

LETTER OF CREDIT NUMBER: _____
IN ORIGINAL AMOUNT OF: $ _____

Gentlemen:

This certificate authorizes a reduction in the amount of $_____ of the above Letter of Credit. The remaining maximum available credit for this letter of credit is $_____.

CITY OF WILDWOOD, MISSOURI

By:
Director of Finance or Designee

MEMO TO DEVELOPER: FOR INFORMATION ONLY:
We have on file a letter dated [approval date] approving construction/installation of the following improvement(s) in [Subdivision Name] Plat [#]-[Plat ID].

	Improvement	Amount
1)		
2)		
3)		

The approval was sent by the [authorizing department/agency]. If you have any questions concerning this matter, please contact Terri L. Gaston at (636) 458-0440. Thank you.

Released by:

Terri L. Gaston
Planner - Subdivision

Authorized by:

Joe Vujnich
Director of Planning

Cc: ***Developer's information***

VA6292010

EXHIBIT F

TO LETTER OF CREDIT

FORM FOR FULL TRANSFER OF LETTER OF CREDIT

Date

Name of Issuing Bank

Bank Address

Attention:

Re: Your Letter of Credit ("Letter of Credit") No. _____ in favor of City of Wildwood, Missouri

Gentlemen:

The undersigned, City of Wildwood, Missouri ("Transferor") has transferred and assigned (and hereby confirms said transfer and assignment) all of its rights in and under the Letter of Credit to [name and address of Transferee]("Transferee"). Transferor confirms that it no longer has any rights under or interest in the Letter of Credit and that you shall have no further responsibility to make payment under the Letter of Credit to Transferor.

Transferor hereby surrenders the Letter of Credit to you and requests that you note the transfer of the Letter of Credit and deliver the Letter of Credit, amended or endorsed to reflect said transfer, to Transferee.

CITY OF WILDWOO, MISSOURI	[NAME OF TRANSFEREE]
By: _____	By: _____
City Administrator or	[Name and Title of
Acting City Administrator	Authorized Officer of Transferee]

Space above for Recorder's Use

Title of Document:	Stone Mill Declaration of Covenants, Conditions and Restrictions
Date of Document:	___ 2016
Grantor:	Whalen Custom Homes, Inc.
Grantee:	Stone Mill Homeowners Association
Legal Description:	See Record Plat for Stone Mill as recorded in St. Louis County Recorder of Deeds Book _____ Page_____ or as amended thereafter.

STONE MILL
DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS

Whalen Custom Homes, Inc., a Missouri corporation ("Declarant"), and STONE MILL HOMEOWNERS ASSOCIATION, a Missouri non-profit corporation (the "Association"), make and enter into this Declaration of Covenants, Conditions and Restrictions ("Declaration") effective as of _____, 2016.

WHEREAS, Declarant is the owner of certain real property located in the City of Wildwood, Missouri, which is more particularly described as:

> See Record Plat for Stone Mill as recorded in St. Louis County Recorder of Deeds Book _____ Page_____ or as amended thereafter and incorporated herein by this reference.

WHEREAS, Declarant desires to create on the above-described property a planned residential community to be known as "Stone Mill" with open spaces and other common ground;

WHEREAS, Declarant desires to insure compliance with those requirements and the general purposes and objectives upon which the Subdivision (as hereinafter defined) has been established;

WHEREAS, Declarant deems it desirable, for the efficient preservation of the values and amenities in the Subdivision, to form a non-profit corporation to which the Common Ground (as hereinafter defined) shall be conveyed, and which shall have the powers of maintaining, operating and administering the Common Ground and facilities and administering and enforcing the covenants and restrictions hereinafter set forth and collecting and disbursing the assessments and charges hereinafter created;

WHEREAS, Declarant has caused to be incorporated under the laws of Missouri as a non-profit corporation, Stone Mill Homeowners Association, for the purpose of exercising the functions aforesaid; and

WHEREAS, all reservations, limitations, conditions, easements and covenants herein contained (hereinafter sometimes referred to as "covenants and restrictions") are jointly and severally for the benefit of Declarant and all persons who may purchase, hold or own from time to time any of the property covered by this Declaration.

NOW, THEREFORE, Declarant hereby declares that all of the properties described above shall be held, sold and conveyed subject to the following easements, restrictions, covenants, and conditions, which are for the purpose of protecting the value and desirability of, and which shall run with, the real property and be binding on all parties having any right, title or interest in the described properties or any part thereof their respective heirs, successors and assigns, and shall inure to the benefit of each Owner thereof.

ARTICLE I
Definitions

1.1 **Definitions.** The following words when used in this Declaration (unless the context shall prohibit or clearly indicate otherwise) shall have the following meanings:

(a) "Association" shall mean and refer to Stone Mill Homeowners Association, a Missouri non-profit corporation, and its successors and assigns.

(b) "Common Ground" shall mean and refer to those areas of land owned by the Association, and/or the easement, license or other occupancy or use rights which the Association may have in any portion of the Subdivision, or in other land or properties adjacent thereto whether as an appurtenance thereto or otherwise, and which are intended to be devoted to the common use and enjoyment of the Owners of the Subdivision, including, without limitation, stormwater facilities, rain gardens and retention/detention areas and such other areas as shall exist for the benefit in common of such Owners.

(c) "County" shall mean the County of St. Louis, Missouri.

(d) "Declarant" shall mean and refer to Whalen Custom Homes, Inc., a Missouri corporation, and its successors and assigns if such successors or assigns should acquire undeveloped Lots from Declarant for the purpose of development.

(e) "Declarant's Withdrawal" shall refer to such time as Declarant has sold and conveyed all of the Lots (regardless of whether such Lots are constructed and/or sold in phases) to persons or entities other than a successor builder or developer.

(f) "Director" shall mean a member of the Board of Directors of the Association, and "Directors" shall refer to all members of the Board of Directors of the Association.

(g) "Lot" shall mean and refer to the subdivided parcels of land shown on any final recorded subdivision plat of the Subdivision (with the exception of the Common Ground as herein defined) to be improved with Single-Family Dwellings.

(h) "Mortgage" and "Mortgagee" shall mean and refer also to a deed of trust and the trustee and beneficiary under a deed of trust, respectively.

(i) "Owner" shall mean and refer to the owner of record, whether one or more persons or entities, of the fee simple title to any Lot, including but not limited to Declarant where applicable but shall not mean or refer to any Mortgagee unless and until such Mortgagee has acquired title pursuant to foreclosure or any proceeding in lieu of foreclosure.

(j) "Single-Family Dwelling" shall mean and refer to the building consisting of one dwelling unit to be constructed on each Lot.

(k) "Subdivision" shall mean those subdivided parcels known as Lot 1, Lot 2, Lot 3, Lot 4, Lot 5, Lot 6, Lot 7, Lot 8, Lot 9, Lot 10, Lot 11, Lot 12, and the "common ground" comprising that subdivision plat known as "Stone Mill" and such additions thereto as may hereafter be brought within the jurisdiction of the Association.

(l) "NPRS" shall mean Natural Resource Protection Standards. The areas identified as "Area to be Preserved" on the Record Plat shall be held in deed restricted private ownership, which shall prohibit in perpetuity, the development amd/or subsequent subdivision of the resource protected property or their use for purposes inconsistent with the intent of section 420.220 of the Wildwood Subdivision and Development Regulations of the City of Wildwood, as may be amended.

ARTICLE II
Duration

2.1 Duration. The covenants and restrictions established by this Declaration shall run with the land and continue and be binding upon Declarant, the Owners and the Association and upon their successors and assigns for the duration of the Subdivision.

2.2 Termination of Declaration. In the event this Declaration or Subdivision is terminated or vacated, the Association shall convey fee simple title to the Common Ground to the then Lot Owners as tenants in common. In such event the following provisions of this Section 2.2. shall apply: The rights of the tenants in common shall be exercisable appurtenant to and in conjunction with their Lot ownership. Any conveyance or change of ownership of any Lot shall convey with it ownership in the Common Ground, and no interest in the Common Ground shall be conveyed by a Lot Owner except in conjunction with the sale of a Lot. The sale of any Lot shall carry with it all the incidents of ownership of the Common Ground although such is not expressly mentioned in the deed; provided, however, that no right or power conferred upon the Directors shall be abrogated.

ARTICLE III
Common Ground

3.1 Common Ground. Every Owner and every resident of the Subdivision subject to this Declaration shall have a right and easement of enjoyment in and to the Common Ground, and such easement shall be appurtenant to and shall pass with the title to every Lot, subject to the following provisions:

(a) The right of the Association to take such steps as are reasonably necessary to protect the Common Ground against foreclosure; and

(b) The right of the Association to promulgate rules and regulations governing the use of Common Ground; and

(c) The right of the Association to dedicate or transfer all or part of the Common Ground, or grant such easements and rights of way in and to the Common Ground, to any public agency, authority, or utility for such purposes and subject to such conditions as may be reasonably necessary for the development of the Subdivision; provided that, subject to the foregoing exception, no conveyance or transfer of all or any of the Common Ground shall be effective unless an instrument agreeing to such conveyance or transfer signed by two-thirds (2/3) of the Owners has been recorded; and

(d) The right of the Association to annex additional residential and Common Ground to the Subdivision.

ARTICLE IV
EASEMENTS

4.1 **Utility Easements.** Every utility easement on each Lot shall constitute an easement for utility purposes to serve any other Lot or Common Ground. In the event that any utilities and connections therefor serving a Lot are located in part on a Lot other than the Lot being served by such utilities and connections, the utility company, the Owner of a Lot being served, the City of Wildwood, and the contractors and employees of such company or Owner shall have the right and easement to enter upon the Lot in which the utility line or connection is located for the repair, maintenance and replacement of such line or connection.

ARTICLE V
MEMBERS

5.1 **Members of Association.** Every Owner of a Lot shall be a member of the Association. Membership shall be appurtenant to and may not be separated from ownership of any Lot.

5.2 **Affirmative Vote.** Except as otherwise provided herein and subject to power of Board of Directors and officers to act on behalf of the Association as provided for herein, the Owners shall be entitled to vote upon any decision or resolution and the majority of votes cast in person or by proxy shall determine the passage of any decision or resolution. A vote may be cast in person or by proxy. Cumulative voting shall not be permitted. Any Owner whose voting rights have been suspended shall not be entitled to vote. If a Lot is owned by more than one person, only one person shall be entitled to vote for the Owners of that Lot and such person shall be known as the "Voting Owner." If a Lot is owned by more than one person and if one of the multiple Owners of that Lot is present at a meeting of the Association, he or she shall be entitled to cast the vote allocated to that Lot. If more than one of the multiple Owners are present, the vote allocated to that Lot may be cast only in accordance with the agreement of the majority in interest of the multiple Owners. Once the majority position has been established the Voting

Owner shall cast the vote. There is majority agreement if any one of the multiple Owners casts the vote allocated to that Lot without protest being made to the person presiding over the meeting by any of the other Owners of the Lot. A corporation, if an Owner, shall act through its president or through another officer or director as the board of directors of that corporation designates in writing. A partnership, if an Owner, shall act through a partner as designated by the partnership in writing. A trust, if an Owner, shall act through its trustee. If there is more than one such trustee for a trust, then the beneficiaries of such trust shall designate in writing which trustee shall be entitled to vote. All designations of Voting Owners shall be made by the Association. If an Owner owns more than one Lot, then such Owner is entitled to one vote for each Lot owned by such person or entity.

5.3 **Membership List.** The Secretary of the Association shall maintain an updated list of Owners and their last known post office addresses as provided by each Owner. The list shall also show opposite each Owner's name the address of the Lot(s) owned by such Owner. The list shall be revised by the Secretary to reflect changes in the ownership of Lots occurring prior to the date of the annual or special meeting. The list shall be open to inspection by all Owners and other persons lawfully entitled to inspect the list during regular business hours up to the date of the annual or special meeting. The Secretary shall also keep current and retain custody of the Association's minute book.

5.4 **Proxies.** Any vote may be cast in person or by proxy. Any designation of proxy shall be on a form approved by the Association and shall be filed with the Secretary of the Association before any meeting at which such proxy will vote.

5.5 **Place of Annual and Special Meetings.** All annual and special meetings of the Association shall be held at a suitable and convenient place located in the County, and fixed by the Directors from time to time and designated in the meeting notices.

5.6 **Annual Meetings.** Annual meetings of the Association shall be held at least once each year in the month of May on a date as shall be fixed by the Directors by written notice to the Owners, as further provided in the Declaration. The Owners may transact any business which may properly come before the meeting. At the Annual Meeting, the Directors shall report on the activities and financial condition of the Association. Subject to the rights of the Declarant described in this Declaration, at the Annual Meeting, the majority of the quorum (as described below) shall have the power to elect such Directors, who shall thereupon serve until their successors have been duly appointed or elected and qualified. The result of any election of Directors shall be certified by the persons elected as chairman and secretary at such meeting, and their certification shall be acknowledged and recorded.

5.7 **Notice of Annual Meetings.** The Secretary shall mail notice of annual meeting to each Owner directed to the last known post office address for such Owner as shown on the records of the Association, by regular mail, postage prepaid. Notices of annual meetings shall be mailed not less than ten (10) nor more than sixty (60) days before the date of the meeting and shall state the date, time and place of the meeting, the purpose or purposes thereof and the items on the agenda, including the specific nature of any proposed amendment or change to the Articles of Incorporation of the Association, Bylaws of the Association, or this Declaration, and

any proposal to remove a Director. In lieu of mailing notice as herein provided, notices of annual meetings may be delivered by hand to the Owners, left at their residences in their absence or sent by electronic mail.

5.8 **Special Meeting.** A special meeting of the Association may be called by the President, a majority of the Directors, or upon presentation to the Secretary of a petition signed by the Owners having not less than five percent (5%) of the votes entitled to be cast at such special meeting.

5.9 **Notice of Special Meetings.** The Secretary shall mail or deliver notice of any special meeting of the Association to each Owner in the manner provided in Section 5.7. The notice shall state the same items required by Section 5.7 for notices of annual meetings.

5.10 **Owner Quorum.** No business may be transacted at any meeting (special or general) of the Owners at which there is not a quorum, except as provided below. Except as otherwise provided herein, a quorum shall be deemed present at a meeting of the Association if the Owners in attendance at the beginning of the meeting represent at least fifty percent (50%) of the votes eligible to vote at the time of the meeting, either in person or by proxy. If proper notice is given and a meeting called at which the proposed business cannot be conducted because of failure to achieve a quorum, then the Directors may either: (i) give another notice of the meeting indicating the proposed business or purpose and if such meeting is held within thirty (30) days of the date of the first meeting at which here was no quorum, then there shall not be a quorum requirement to transact the proposed business at such second meeting; or (ii) take a vote of the Association on any proposed business by written ballot of the Owners in lieu of a meeting.

5.11 **Order of Business.** The order of business at all meetings of the Association shall be as follows: (a) roll call; (b) proof of notice of meeting or waiver or notice; (c) approval of the minutes of the preceding meeting; (d) reports of officers and committees; (e) election of Directors, if applicable; (f) unfinished business; (g) new business; and (h) adjournment.

5.12 **Action Without Meeting by Written Ballot.** Any action which may be taken by the vote of the Owners at a regular or special meeting may be taken without a meeting if done in compliance with relevant provisions herein and the Missouri Nonprofit Corporation Act. Any action which may be taken at any meeting of the Owners may be taken without a meeting if the Directors deliver a written ballot to each Owner entitled to vote on the matter. Such written ballot shall be sent to all Owners via first class mail, electronic mail, hand delivered or personally served. Such written ballot shall set forth each proposed action and shall provide an opportunity to vote for or against each proposed action. Approval by written ballot pursuant to this paragraph shall be valid only when the number of votes cast by ballot equals or exceeds the quorum required to be present at a meeting authorizing the action, and the number of approvals equals or exceeds the number of votes that would be required to approve the matter at a meeting at which the total number of votes cast was the same as the number of votes cast by written ballot. All solicitations for votes by written ballot shall (i) indicate then number of responses needed to meet the quorum requirements, (ii) state the percentage of approvals necessary to approve each matter other than election of Directors, and (iii) specify the time by which a ballot must be received by the Association in order to be counted.

ARTICLE VI
DIRECTORS

6.1 Board of Directors. The affairs of the Association shall be governed by the Board of Directors. The Board of Directors of the Association shall consist of three (3) members.

6.2 Original Directors.

(a) The original directors are Michael D. Whalen, Jane E. Whalen and Kathleen A. Peroutka (the "Original Directors"). During the period of service of the Original Directors, one or more shall be subject to removal by Declarant, with or without cause, and Declarant shall have the exclusive right to designate the successor to such removed Director for his or her unexpired period of service as provided for hereunder. Should any of the Original Directors die, resign, or cease to hold office as set out, or decline to act or become incompetent or unable for any reason to discharge the duties, or avail himself or herself of or exercise the rights and powers hereby granted or bestowed upon them as Directors, then Declarant shall have the exclusive right to designate the successor thereto for his or her unexpired period of service as provided for hereunder.

(b) After fifty percent (50%) of the Lots have been conveyed to an Owner other than the Declarant, one Director shall be elected by the Owners; after ninety five percent (95%) of the Lots have been conveyed to an Owner other than the Declarant, two Directors shall be elected by the Owners; upon the Declarant's Withdrawal, three Directors shall be elected by the Owners.

6.3 Election of Directors. Following Declarant's Withdrawal, each Director shall be elected by the Owners, and each such successor Director shall serve for a term of three (3) years so that the terms shall be continuously staggered, one (1) Director being elected at each annual meeting of the Owners. In the event that any Director elected hereunder shall die or become unable for any reason or unwilling, to serve as a Director or discharge the duties or avail himself or herself of or exercise the rights and powers herein granted or bestowed upon him, her or them as Directors under this Declaration, then and thereupon, it shall be the duty of the remaining Directors to select a successor.

6.4 Director Qualifications. All Directors, except the Original Directors and the Directors appointed by the Declarant prior to Declarant's Withdrawal or by the County, shall be Owners. If any Owner is a corporation, llc, partnership or trust, then any partner, officer, member, manager, director, employee or agent of such corporation, llc or partnership or trustee of such trust may be a Director.

6.5 Meetings of the Directors.

(a) All meetings of the Directors shall be held at a convenient place in the County or any other place or places designated at any time by resolution of the Directors.

Meetings may also be held by any method of communication, including electronic and telephonic, by which each Director may hear or be heard by every other Director, and any such meeting may involve consideration of any action, including any action involving a vote on a fine, damage assessment, architectural control approvals or appeals thereto, or a suspension of a right of an Owner before the Owner has an opportunity to attend a meeting of the Directors to present such Owner's position on the issue.

(b) Regular meetings of the Directors may be held from time to time as may be determined by the Directors, provided that there be at least one regular meeting of the Directors in December of each year. Notice of regular meetings of the Directors shall be given to each Director personally, by telegram, telephone, facsimile or by United States mail, with postage prepared, directed to him or her at his or her last know post office address, as the same appears on the records of the Association, at least five but not more than thirty (30) days before the date of the meeting. This notice shall state the date, time, place and purpose of the meeting.

(c) Special meetings of the Directors may be called by the President or by the President or the Secretary upon the written request of any two Directors, on two days' prior notice to each Director. Special meetings may also be held by telephone conference.

6.7 **Waiver of Notice.** Before any meeting of the Directors, whether regular or special, any Director may, in writing, waive notice of such meeting and such waiver shall be deemed equivalent to giving the required notice. All written waivers shall be filed in the minute book of the Association or made a part of the minutes of the meeting. Attendance by a Director at any meeting of the Directors shall likewise constitute a waiver by him of the required notice. If all Directors are present at any meeting of the Directors, no notice of the meeting shall be required and any business may be transacted at the meeting except as prohibited by law or this Declaration.

6.8 **Quorum.** At all duly convened meetings of the Directors, a majority of the Directors shall constitute a quorum for the transaction of business, except as otherwise expressly provided in this Declaration. The acts of a majority of the Directors present at the meeting at which a quorum is present shall be the acts of the Directors. If at any meeting of the Directors there shall be less than a quorum present, the Directors present may adjourn the meeting from time to time and, at the adjourned meeting at which a quorum is present, any business which might have been transacted at the meeting as originally called may be transacted without further notice of any Director.

6.9 **Action Without a Meeting.** Any action by the Directors, including any action involving a vote on a fine, damage assessment, or suspension of a right of a particular Owner before the Owner has an opportunity to attend a meeting of the Directors to present the Owner's position on the issue, may be taken without a meeting if all of the Directors shall unanimously consent in writing to the action. Such written consent shall be filed in the minute book of the Association. Any action taken by such written consent shall have the same force and effect as a unanimous vote of the Directors.

6.9 **Records.** The Directors shall cause a complete record of all of its acts and the corporate affairs of the Association to be kept and to present a general report thereof to the Owners at each annual meeting of the Association or at any special meeting of Owners where a general report is requested in writing by one-third (1/3) of the Owners entitled to vote. All records pertaining to subdivision matters shall be open to the review of the Owners at the office of the Association during normal business hours, unless such records pertain to personal or confidential matters, legal actions, causes of action, litigation, or matters which are subject to attorney-client privilege or work product protection. Such records shall be retained for a minimum of three (3) years unless authorized for earlier destruction by a majority vote of the Owners.

6.10 **Vacancies.** Where the provisions of this Agreement cannot be fulfilled by reason of unfilled vacancies among the Directors, the County Council of Wildwood may, upon the petition of any Lot Owner, appoint one or more Directors to fill such vacancies until such time as Directors are elected in accordance with this Agreement. Any person so appointed by the County Council of Wildwood who is not a Lot Owner shall be allowed a reasonable fee for his services by the order of appointment, which fee shall be levied as a special assessment against the property in the Subdivision, and which shall not be subject to any limitation or special assessments contained in this Agreement.

ARTICLE VII
OFFICERS

7.1 **Officers.** The officers of the Association shall be a President, Secretary and Treasurer. The offices of President and Secretary may not be held by the same person. The Secretary may be eligible to hold the office of Treasurer. A Director shall be elected as President. The Treasurer and Secretary need not be Directors.

7.2 **Election.** The officers of the Association shall be elected annually by the Board of Directors at the meeting of the Owners held pursuant to Section 5.6 of this Declaration and shall hold office until their successors are elected or appointed by the Directors; provided that each officer may be removed, either with or without cause, and his successor elected by the affirmative vote of a majority of the Directors at any annual or special meeting of the Directors called for that purpose. The Directors may, from time to time, appoint other officers which, in its judgment, are necessary. Any officer may resign at any time by giving written notice to the Directors or to the President or Secretary. Any resignation shall take effect as of the date of the receipt of the written notice or any later time specified therein; unless specified therein, the acceptance of the written notice shall not be necessary to make it effective.

7.3 **Vacancies.** A vacancy in any office because of death, resignation, removal, disqualification or any other cause shall be filled in the manner prescribed in Section 7.2.

7.4 **President**. The President shall be the chief executive officer of the Association and shall have the powers described in the Bylaws of the Association.

7.5 **Secretary**. The Secretary shall attend all meetings of the Directors and all meetings of the Owners and record all votes and the minutes of all such meetings and proceedings, including resolutions, in the minute book of the Association. The Secretary shall perform such other duties as are described in the Bylaws of the Association.

7.6 **Treasurer**. The Treasurer shall have the responsibility for the Association's funds and securities, shall keep full and accurate accounts of receipts and disbursements in books belonging to the Association, and shall deposit all monies, checks and other valuable effects in the name of and to the credit of the Association in those depositories which may be designated from time to time by the Directors. The Treasurer shall perform such other duties as are described in the Bylaws of the Association.

7.7 **Compensation**. The officers of the Association shall serve without compensation except that they shall be entitled to reimbursement for all expenses reasonably incurred in the discharge of their duties.

ARTICLE VIII
POWERS AND DUTIES OF THE ASSOCIATION

8.1 **Powers and Duties of the Association.** The Association, by and through its Board of Directors and its officers, shall have the following rights, powers, duties and obligations:

(a) To acquire and hold the Common Ground and to transfer or sell the Common Ground in accordance with the provisions provided for herein, to exercise control over the Common Ground, continuously maintain, improve and operate same with landscaping, shrubbery, decorations, buildings, and structures of any kind or description, and any and all other types of facilities in the interest of the health, welfare, safety, recreation, entertainment, education and for the general use of the Owners of the Subdivision, to grant such easements and rights-of-way over the Common Ground to such utility companies or public agencies or others as they shall deem necessary or appropriate in accordance with the provisions herein, to make rules and regulations, not inconsistent with the law and this Declaration, for the use and operation thereof and in every and all respects govern the operation, functioning and usage of the Common Ground.

(b) To maintain, repair and replace any improvements on Lots which have been neglected and to charge the Owner thereof with the reasonable expense incurred, which shall be a lien against the Lot owned by such Owner and improvements thereon pursuant to Section 9.3(c) hereof.

(c) To exercise such control over the easements and rights-of-way (except for such as have been or may hereafter be dedicated to public bodies or agencies) as is

necessary to maintain, repair, supervise and insure the proper use of said easements, streets, drives, trail systems, walkways and rights-of-way by the necessary public utilities and others, including the right (to themselves and to others to whom they may grant permission) to construct, operate and maintain on, under and over said easements, walkways and rights-of-ways, street lights, sewers, pipes, poles, wires and other facilities and public utilities for service to the Lots within the lands subject hereof, and to establish traffic regulations for the use of such streets, drives and walkways to operate and maintain a system of street lights and pay electric utility payments on the system at such time as the system is completed and delivered to the Directors, and to operate and maintain any storm water control easement and facilities, including rain gardens, lakes and other retention areas, serving any portion of the Subdivision, which have not been accepted for maintenance by any appropriate public body, agency or utility company.

(d) To plant, care for, maintain, spray, trim, protect and replace trees, shrubbery and vegetation within any rights-of-way, to decorate the entranceway to the Subdivision by appropriate landscaping or by a Subdivision sign or in such other manner as the Association shall deem appropriate.

(e) To dedicate the private streets, drives, walkways, or rights-of-way, or any portion or portions thereof, when such dedications would be accepted by an appropriate public agency.

(f) At the discretion of the Association, to designate certain parking areas for the sole and exclusive use of Owners, their occupants, guests or invitees.

(g) To clear rubbish and debris and remove grass and weeds from and trim, cut back, remove, replace and maintain trees, shrubbery and flowers upon any neglected property, and to charge the Owners thereof with the reasonable expense so incurred, which shall be a lien against such parcel of neglected property. Neither the Declarant, nor the Directors, nor the Association, nor their respective officers, directors, successors, assigns, agents, employees, affiliates or licensees, shall be deemed guilty or liable for any manner of trespass for any such abatement, removal or planting.

(h) At the discretion of the Association, to provide for the collection of trash, rubbish and garbage and otherwise to provide such services as shall be in the interest of the health, safety and welfare of the Owners and residents, and to enter into and assume contracts for such purposes covering such periods of time as they may consider advisable; provided, however, that neither Declarant, nor the Directors, nor the Association, nor their respective officers, directors, successors, assigns, agents, employees, affiliates or licensees shall provide or maintain or be responsible for providing or maintaining, in any way, security for all or any portion of the Subdivision, and for any Owners, or Owner principals, shareholders, partners, agents, family members, invitees or guests. Furthermore, each and every Owner, its principal(s), shareholder(s), partners, agents, family members, invitees and guests, hereby release and hold harmless Declarant (including any successor builder or developer) and the Association, and their respective officers, directors, successors, assigns, agents,

employees, affiliates or licensees from and against any and all claims, demands and liabilities for any damage to real or personal property or injury or death resulting in any way, due to the existence or level of security provided with respect to the Subdivision.

(i) In exercising the rights, powers and privileges granted to them, and in discharging the duties imposed upon them by the provisions of this Declaration, from time to time to enter into contracts, employ agents and other employees as the Directors deem necessary or advisable, employ counsel to advise the Directors or to institute and prosecute such suits as they deem necessary or advisable, and to defend suits brought against the Association or against the Directors individually or collectively in their capacity as Directors.

(j) To receive, hold, convey, dispose of and administer in trust for any purpose mentioned in this Declaration any gift, grant, conveyance or donation of money or real or personal property.

(k) With regard to all property, real, personal or mixed, owned or held by the Association, the full and unqualified right, power and authority to:

(i) Make all contracts and incur all liabilities necessary, related or incidental to the exercise of the Association's powers and duties hereunder, including the construction of improvements.

(ii) Purchase insurance against all risks, casualties and liabilities of every nature and description.

(iii) Borrow money, including making a permanent, temporary or construction loan, make and execute promissory notes or incur liabilities and obligations with respect thereto.

(iv) Sell, convey, trade, exchange, use, handle, manage, control, operate, hold, and deal in and with, in all respects, limited only as provided in this Declaration or by law.

(l) The Association shall deposit the funds coming into the Association in a state or national bank protected by the Federal Deposit Insurance Corporation.

(m) All rights, powers, duties, privileges, approvals, decisions, discretionary determinations and acts of every nature and description conferred upon the Association or the Directors by the terms of this Declaration may be executed and exercised by a majority of the Directors, unless otherwise provided herein. The Directors shall not be personally liable for their acts in the performance of their duties, except for dishonesty or acts criminal in nature, and the Association shall indemnify and hold the Directors harmless from all such acts to the extent permitted by law.

(n) Notwithstanding any other condition herein, the Association shall make suitable provision for compliance with all Subdivision and other ordinances, rules and regulations of all applicable governmental or quasi-governmental authorities maintaining jurisdiction or control in and to the Subdivision, including but not limited to the City of Wildwood and St. Louis County. Specifically, and not by way of limitation, the Association shall make provision for the maintenance and operation of all street lights, roadways, storm water facilities and easements not otherwise accepted by a public agency or utility.

(o) At the discretion of the Association, the Association may enter into agreements with commercial entities for the management and operation of any portion of the Common Ground for the benefit of the Owners and residents of the Subdivision.

ARTICLE IX
ASSESSMENTS

9.1 **Covenant for Assessments.** Except as set forth in Section 9.4 below, Declarant, for each Lot within the Subdivision, hereby covenants and each Owner of any Lot by acceptance of a deed therefor, whether or not it shall be so expressed in any such deed or their conveyance, shall be deemed to covenant and agree to pay to the Association:

(a) annual assessments or charges; and

(b) special assessments or charges, with such assessments or charges to be fixed, established and collected from time to time as hereinafter provided, including, but not limited to, any charges or assessments created pursuant to Section 9.3 below.

(c) The first owner of a Lot within the Subdivision (other than Declarant) and every subsequent owner thereafter who is a residential home buyer shall pay a fee equal to THREE HUNDRED Dollars ($300.00) to the Association at the closing of such purchase for such Lot.

9.2 **Annual Assessments.** On or before thirty (30) days in advance of each assessment year, as established by the Directors, the Directors shall prepare a proposed budget for the upcoming assessment year taking into consideration all anticipated items of expense, including reasonable replacement and other reserves. Based upon the proposed budget, the Directors shall establish the annual assessment for the upcoming assessment year. The assessment(s) and/or charge(s) levied under this Section 9.2 shall be used exclusively for the purpose of maintaining the common ground and promoting the recreation, health, safety and welfare of the residents of the Subdivision or for maintaining the market value of the Subdivision and in particular for the rendering of services in the furtherance of such purposes, including the carrying out of all functions herein authorized, and for the improvement, maintenance and operation of the Common Ground and all facilities thereon, including, but not limited to, the payment of taxes and insurance thereon, debt service and repair, maintenance, replacements and additions thereto and for the cost of labor, equipment, materials, management and supervision

thereof and for such other needs as may arise and for maintenance of reserves for the benefit of the Association. The Directors shall set the due date for payment of the assessment, and may provide for a periodic payment schedule if deemed desirable by the Directors. If at any time during an assessment year, the Directors determine that the annual assessment will not provide sufficient funds during the assessment year to cover the expense of items in the proposed budget and/or the expense of any items not indicated on the proposed budget which may occur and are non-extraordinary and reasonably necessary to the general operation of the Association and/or the Common Ground, then the Directors may levy an additional supplemental assessment for the remainder of the assessment year in the amount necessary to cover the anticipated revenue deficit for that assessment year. The right and power to levy a supplemental annual assessment shall extend to the Directors for the first assessment year and each assessment year thereafter. Written notice of any levy of a supplemental assessment shall be given to each Owner and payment shall be made as directed by the Directors in such notice.

9.3 **Special Assessments.** Special assessments shall be made in a manner and subject to the following procedure:

(a) In addition to the annual assessment herein authorized, there may be levied in any assessment year a special assessment for the purpose of defraying, in whole or in part, the cost of any construction or reconstruction, unexpected repair or replacement of a capital improvement within or upon the Common Ground or any easement, street, drive, walkway or other right-of-way provided for the benefit of the Lots subject hereto, and including the provision of necessary fixtures or personal property related thereto, provided that any such assessment shall have the assent of a majority of the Owners in person or by proxy (with each Lot entitled to one vote), at a special meeting duly called for such purpose, written notice of which shall have been sent to all Owners not less than thirty (30) days nor more than sixty (60) days in advance and shall set forth the purpose of the meeting.

(b) In addition to other special assessments authorized by this Section 9.3, the Association may make a separate special assessment, without a vote of the Owners, for the operation and maintenance of sewer systems and creeks and other storm water control easements and facilities including, but not limited to, retention and detention ponds. The assessment provided for by this paragraph shall be allowed and applicable until such time that all said storm water sewers and facilities are dedicated to, and accepted by the Metropolitan St. Louis Sewer District or its successors or assigns, any other appropriate public body, agency or utility company. The Association may also make a separate special assessment pursuant to this paragraph as necessary for compliance with all Subdivision and other ordinances, rules and regulations of all governmental or quasi-governmental authorities maintaining jurisdiction and control in and to the Subdivision. Specifically, but not by way of limitation, the Association may make provisions for the maintenance and operation of all street lights, roadways, easements and utilities.

(c) In addition, the Directors may levy a special assessment or charge against any Owner and/or Lot for all costs and expenses incurred, including costs of collection, interest, attorney's fees and other associated costs for purposes of making repairs or

maintenance to a Lot or improvements thereon, which repairs or maintenance the Owner has failed to make or for repairing any damage caused by an Owner or such Owner's employees, agents, invitees or tenants. Nothing herein shall be deemed to impose absolute liability without respect to fault or negligence upon the Owners for damage to the Common Ground or the Lots.

(d) Subject to requisite Owner approval to the extent required herein, special assessments shall be made by the Directors upon thirty (30) days' notice, and, at the discretion of the Directors, may be payable in a lump sum, in periodic installments or due and payable within thirty (30) days from the date of such notice.

9.4 Application of Assessments; Exemptions.

(a) Any charge or assessment imposed by the Directors, with the exception of an assessment under Section 9.3(c) hereof, shall be divided among Owners not otherwise exempt from such assessment on the basis of an equal amount per Lot.

(b) The following properties subject to this Declaration shall be exempt from the assessments, charges and liens created herein:

(i) All Common Ground; and

(ii) All Lots owned by Declarant or successor builder-developers before title to the Lot has been transferred to the first purchaser thereof at retail (as distinguished from sale in bulk or at wholesale to others for development or resale).

9.5 Notices. Notice of any assessment shall be given by the Directors, either by mail, postage prepaid, addressed to the address shown on the real estate assessment records of the County or any appropriate municipality (and notice so given shall be considered given when mailed), or by posting a notice of the assessment upon the Lot itself.

9.6 Enforcement.

(a) Any and all annual and special assessments, and charges as provided in this Article IX together with such interest thereon and costs of collection thereof shall be a charge against the title of each Lot and shall be a continuing lien upon the Lot against which such assessment or charge is made, which shall bind such Lot in the hands of the then owner, and such owner's heirs, devisees, personal representatives, successors and assigns without the need or requirement of filing any additional documentation with respect to such lien. Recording of this Declaration constitutes record notice and perfection of the lien as to assessments which become delinquent thereafter, together with interest thereon and cost of collection thereof as hereinafter provided. Further recording of a claim for assessment and/or charge under this Article IX is not required. The Association shall be entitled to enforce collection of any and all of such assessment(s) and/or charge(s), interest and costs through enforcement of such lien, whether by

foreclosure or otherwise. Each such assessment and/or charge, together with such interest thereon and cost of collection thereof as herein provided, shall also be the personal obligation of the Owner of such Lot at the time when the assessment became due. Notwithstanding anything herein to the contrary, the lien of the assessments provided for herein shall be subordinate to the lien of any first mortgage and non-payment of any such annual or special assessment shall not constitute a default under any federally insured mortgage.

(b) If any assessment or charge is not paid within thirty (30) days after the delinquency date, such assessment shall bear interest from the date of delinquency at the lesser of eighteen percent (18%) per annum or the highest rate allowed by law and the Association may bring legal action against the Owner personally obligated to pay same, and, in addition, shall be entitled to the other rights set forth herein with respect to enforcement of payment of same.

(c) The Association is hereby authorized to notify any Mortgagee that the Association is taking steps to collect unpaid assessments or to enforce a lien against said Lot. Nothing contained herein shall abridge or limit the rights or responsibilities of Mortgagees and nothing herein shall be construed to require a Mortgagee to collect the assessments provided for herein.

(d) The liability for an assessment may not be avoided by a waiver of the use or enjoyment of any Common Ground, services or recreation facilities, or by abandonment of the Lot against which the assessment was made, or by reliance upon assertion of any claim against the Directors, the Association or another Owner.

(e) This Section 9.6 does not prohibit the Association from taking a deed in lieu of foreclosure.

(f) A judgment or decree in any action brought under this Section is enforceable by execution of the judgment and shall include costs and reasonable attorney's fees and paralegal expenses for the prevailing party.

(g) Any payments received by the Association in discharge of a Lot Owner's obligation may be applied to the oldest balance due.

(h) The failure or delay of the Directors to prepare or serve any budget or any annual or special assessment shall not constitute a waiver or release in any manner of any Owner's obligation to pay such assessment whenever the same shall be made, and in the absence of any annual assessment the Owner shall continue to pay at the then existing rate established for the previous payment.

9.7 **Lateral Sewer Lines.** Each Lot Owner shall be responsible for the maintenance, repair and replacement of the lateral sewage line or lines servicing such Owner's Lot.

ARTICLE X

ARCHITECTURAL CONTROL

10.1 Architectural Control.

(a) No building, fence, wall, driveway or other structure or improvement of any sort shall be commenced, erected or maintained upon any Lot, nor shall any exterior addition or removal of all or any part thereof, or exterior change or alteration in any improvement thereon be made, nor shall any removal of any tree with a three (3) inch or greater caliper or any change in grade or slope of any Lot be made, until all plans and specifications showing the degree, nature, kind, shape, size, square footage, height, elevation, materials, colors, location of the same entrances and driveways, and configuration of all improvements upon said Lot shall have been submitted to and approved by the Directors. All decisions rendered by the Directors shall be deemed final. It is the intent of this Declaration that the restrictions of this Section shall not apply to Declarant for so long as Declarant owns a Lot in the Subdivision. With respect to architectural approvals, the Directors, at their option, may appoint and remove an architectural approval committee comprised of not less than three (3) nor more than five (5) Owners to review all proposed construction and submit recommendations of approval or disapproval of same to the Directors. All requests for approval submitted to the Directors shall be deemed automatically approved if no response is given within sixty (60) days of making submissions.

(b) A Lot Owner may not change the appearance of the improvements within or upon the Common Ground.

ARTICLE XI
USE RESTRICTIONS

11.1 Use Restrictions. The following restrictions shall apply to all portions of the Subdivision, and Declarant, for and on his behalf and on behalf of each and every subsequent Owner of any Lot therein, their grantees, lessees, successors and assigns, covenants that:

(a) No building or structure shall be used for a purpose other than that for which the building or structure was originally designed, without the approval of the Association. No residence, other than one Single-Family Dwelling, may be constructed on each Lot.

(b) No commercial activity of any kind shall be conducted on any Lot, but nothing herein shall prohibit the maintenance of such facilities as are incident to the sale of residences nor the carrying on of promotional activities by Declarant, or any successor builder-developer, nor the conduct of a home occupation in strict accordance with the provisions of the applicable zoning ordinances.

(c) No noxious or offensive activity shall be carried on upon any portion of the Subdivision, nor shall anything be done thereon that may be or become a nuisance or annoyance to the neighborhood.

(d) Each Owner shall maintain and keep his Lot in good order and repair.

(e) Unless expressly permitted by the affirmative vote of a majority of the Owners, no animals, reptiles, birds, horses, rabbits, fowl, poultry, cattle or livestock of any kind, shall be brought onto or kept on any portion of the Subdivision, except that no more than two (or such higher number as determined by the Association and allowed by the City of Wildwood) dogs, cats, or other household pets (except house pets with vicious propensities) and aquariums may be kept or maintained on any Lot. The keeping of any pet which by reason of its noisiness or other factor is a nuisance or annoyance to the neighborhood is prohibited.

(f) No signs, advertisements, billboards, or advertising structures of any kind may be erected, maintained or displayed on any Lot; provided, however, that nothing herein shall prohibit (A) Owners from placing one "For Sale" or "For Rent" sign (not to exceed 2 feet x 4 feet in dimension) on a Lot or (B) signs erected or displayed by Declarant or by a successor builder-developers in connection with the development of the Subdivision and the sale, rental, and/or construction of improvements on the Lots.

(g) No structure of a temporary character, trailer, basement, tent, shack, garage, barn or other outbuilding shall be used on any Lot at any time as a residence temporarily or permanently. No outbuildings, sheds, barns, shacks or structures whether of temporary character or not, other than the residences constructed on Lots, and garages not less than 400 square feet in size, shall be constructed or maintained on any Lot.

(h) Anything to the contrary herein notwithstanding, including without limitation Section 10.1 hereof, no fencing of any type shall be erected or maintained in front of the front building line of any Lot.

(i) Nothing contained in this Declaration shall restrict, limit, inhibit or prevent Declarant, his successors or assigns, from developing the Subdivision and building residences and selling the same.

(j) No Lot shall have an exterior solar collector system, wind generator system, or any similar type system or appliance without Director approval pursuant to Section 10.1 hereof.

(k) No Lot shall have an antenna, mast, or similar appliance, or an exterior free-standing signal receiving dish exceeding two (2) feet in diameter, provided that any such dish shall not be situated in front of the front building line of any Lot.

(l) No Lot shall be re-subdivided nor shall a fractional part of any Lot be sold. This provision shall not, however, require the consent of the Association for the sale of an entire Lot as shown on a final recorded Subdivision plat.

(m) Personal property, including, without limitation, boats, trailers, trucks, campers and recreational vehicles, shall not be placed or stored permanently or temporarily in the open or in an unenclosed carport on any Lot, nor shall they or any motor vehicle of any type or description be parked for any time on the unpaved portion of any Lot or on any street "overnight." For purposes hereof, overnight shall be defined as being any time between the hours of 12:00 midnight and 8:00 a.m. Notwithstanding the foregoing restriction, the placement or storage of any such vehicle on a permanent concrete pad or driveway extension behind the front building line shall be permitted on any Lot.

(o) No trash, garbage, rubbish, refuse, debris, trash cans or trash receptacles of any type shall be stored in the open on any Lot, but shall be kept secured within the improvements located on each Lot; provided that after sunrise on any day designated for trash pick-up, trash, garbage, rubbish, refuse and debris secured within appropriate trash cans or receptacles may be placed at the street curbing for pick-up; provided further that trash cans or receptacles shall be removed and secured within the improvements for each Lot prior to sundown of the same day.

(p) No motor vehicle or equipment shall be repaired or otherwise serviced in front of or adjacent to any residence in the Property. No abandoned cars, motorcycles, jeeps, trucks or other motor vehicles of any kind whatsoever that are unable to move under their own power and no mobile homes, campers, buses, boats or boat trailers may be stored or suffered to remain upon any of the Common Ground or the Lots other than in an enclosed garage.

(q) No activity shall be conducted or permitted on the Common Ground which would create a nuisance, disturbance or excessive noise or commotion. The Association shall have the right to prohibit, restrict and prevent such gatherings or assemblies of individuals on the Common Ground under such reasonable rules and regulations as the association in its sole discretion, may from time to time determine.

(r) No oil drilling, oil development operations, oil refining, quarrying or mining operations of any kind shall be permitted upon or in any Lot or portion of the Property. No above ground gas or propane storage tanks shall be permitted upon or in any Lot or portion of the Property.

(s) Areas identified under NRPS as "Area to be Preserved" are 100% protected from any type of disturbance. Prohibitions include grading, removal of trees or vegetation, and erection of any structures including fences, irrigation system piping, playgrounds, etc.

ARTICLE XII
DEVELOPER RIGHTS

12.1 Development of Subdivision. Declarant and/or successor builder-developers shall retain the sole and exclusive right to exercise all powers heretofore granted to it under the terms of this Declaration pertaining to or in any way related to the continuation of development of the Subdivision until such development is completed. Neither the Association nor the Directors shall interfere with the orderly development of the Subdivision or the rights of Declarant in such development. The control of the completion of the development and all rights and powers necessary and appurtenant thereto shall remain exclusively and solely in Declarant; provided however, the Association shall execute any and all documents necessary for the proper exercise of the powers and rights set forth and reserved herein to Declarant. The provisions of this subsection may not be modified or amended without the written consent of Declarant so long as Declarant owns any Lot in the Subdivision.

12.2 Specific Developer Rights. Without limiting the generality of Section 12.1 above, notwithstanding any provision of this Declaration to the contrary, the Declarant reserves the following rights, powers and exceptions regarding each and every Lot subject to the terms and provisions of this Declaration:

(a) Declarant reserves the right to add additional real property which may become subject to this Declaration, by reference in a recorded plat, which shall require only the execution and recording by Declarant, and which shall specifically subject the parcel or parcels to this Declaration; provided that the additional property shall be contiguous to the property which is already subject to this Declaration.

(b) Nothing herein shall be construed to prohibit the Declarant from establishing or erecting such promotional and/or informational signs as it shall determine necessary, in its sole discretion, on any portion of the Subdivision. Any such sign may be of a type, size and character as Declarant solely shall determine suitable to serve said purpose.

(c) Nothing herein shall be construed to prohibit the establishment or maintenance by Declarant of a temporary trailer or outbuilding for the purpose of a sales office, construction headquarters or other purpose it deems necessary, on any part or parts of the Subdivision for so long, and until, the last Lot has been conveyed by Developer to a third party purchaser. Further, nothing herein shall be construed to prohibit the establishment, construction, erection or maintenance by Declarant of a temporary parking lot or fencing on any part or parts of the Subdivision for so long, and until, the last Lot has been conveyed by Declarant to a third party purchaser.

(d) So long as any Lot shall be owned by the Declarant, such Lot shall not be subject to any restrictions herein regarding use or architectural control (including the provisions of Section 10.1 and Section 11.1), and the Declarant shall not be subject to the requirements thereof and shall in no manner whatsoever be held responsible for the

payment of any annual, special or specific assessment hereunder. Notwithstanding the foregoing, Declarant may but shall not be obligated to, in its sole and absolute discretion, loan or make contribution(s) to the Association to fund an Association budget deficit.

(e) Declarant reserves the right to receive and retain any money consideration which may be refunded or allowed on account of any sums previously expended, deposited, placed in escrow, or subsequently provided by it for utility facilities or services, streets, Subdivision fees or for any other purpose of any nature or description with respect to any subdivision or land which is now or may in the future be made subject hereto. Declarant further reserves the right to receive and retain any monies, damage payments or condemnation award for any easement or other interest granted or condemned as to any street or Common Ground within the Subdivision.

(f) Declarant reserves the right to amend this Declaration by modification, addition or deletion of any provision hereof until the last to occur of: (i) five (5) years from the date hereof, or (ii) sixty (60) days after Declarant has closed upon and conveyed all Lots in the Subdivision to third party purchasers by recording such amendment in the Recorder of Deeds of the County.

ARTICLE XIII
GENERAL PROVISIONS

13.1 Enforcement of Declaration. The Association or the Owner of any Lot subject to this Declaration, shall have the right to enforce, by any proceeding at law or in equity, all of the covenants, conditions, restrictions and provisions hereof, either to restrain or enjoin a violation or threatened violation or to recover damages. Failure or forbearance by the Association or any Owner to enforce any covenant or restriction herein contained shall in no event be deemed a waiver of the right to do so thereafter. In any legal action filed by the Association against an owner or if the Association retains legal counsel without filing a legal action in order to enforce any covenant or restriction herein contained or adopted pursuant to Association rules or regulations of any action to recover damages on account of breach of any such covenant, restriction, rule or regulation, the owner shall be personally liable for and pay the Association's reasonable attorneys fees and costs incurred with or without legal action. If the attorneys' fees and costs are not paid by the Owner within thirty (30) days after the Association has given written notice thereof to the Owner by certified mall, return receipt requested, then the fees and costs shall thereafter bear interest at the rate provided in Section 9.6 hereof and the Association may execute and acknowledge an instrument reciting the debt and causing the instrument to be recorded in the Office of the Recorder of Deeds for the County, thereupon the debt shall become a continuing lien on the Lot and the improvements thereon which shall bind the Owner, his or her heirs, successors and assigns. The lien shall be enforceable and governed by Section 9.6 of this Declaration.

13.2 Amendment of Declaration. Except as otherwise provided in Sections 12.1 and 12.2, this Declaration and any part thereof may be amended, modified or changed by a written agreement signed by not less than two-thirds (2/3) of the Owners, provided, however, that to the extend required by applicable law, any such amendment shall be subject to the review and

approval of the Director of Planning for the County; and such written and signed amendment or modification shall be recorded with the Office of the Recorder of Deeds for the County and shall become a part of the provisions and restrictions of this Declaration.

13.3 **Assignment by Declarant.** In connection with the sale of all or part of the Subdivision subject to this Declaration, Declarant shall have the right to assign to such purchaser the rights herein reserved or granted to Declarant.

13.4 **Notices.** Any notice required to be sent to any Owner under the provisions of this Declaration shall be deemed to have been properly sent when mailed, postage prepaid, to the address shown on the real estate tax assessment records of the County or any appropriate municipality for each Owner.

13.5 **Severability.** Invalidation of any one of these covenants or restrictions by judgment, decree or order shall in no way affect any other provision hereof, each of which shall remain in full force and effect.

13.6 **Eminent Domain.** In the event it shall become necessary for any public agency to acquire all or any part of the property herein conveyed to the Association, for any public purpose, the Association, during the period of this Declaration is hereby authorized to negotiate with such public agency for such acquisition and to execute instruments necessary for that purpose. Should acquisition by eminent domain become necessary, only the Association needs be made a party, and in any event, the proceeds received shall be held by the Association for the benefit of those entitled to the use of the Common Grounds, roads or easements.

[***Remainder of Page Intentionally Left Blank***]

IN WITNESS WHEREOF, the undersigned have executed this Declaration as of the day and year first above written.

WHALEN CUSTOM HOMES, INC.,
a Missouri corporation

By: _____
Name: Michael D. Whalen,
Title: President

STONE MILL HOMEOWNERS ASSOCIATION, a Missouri non-profit corporation

By: _____
Michael D. Whalen, President

STATE OF MISSOURI)
) SS
COUNTY OF _____)

On this _____ day of _____, 2015, before me personally appeared _____ to me personally known, who, being by me duly sworn, did say that s/he the President of Whalen Custom Homes, Inc. a Missouri corporation, and said _____ acknowledged said instrument to be the free act and deed of said company.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the County and State aforesaid, the day and year first above written.

_____
Notary Public

My commission expires:

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

On this ___ day of _____, 2015, before me personally appeared Michael D. Whalen, to me personally known, who, being by me duly sworn, did say that he is the President of the Stone Mill Homeowners Association, a non-profit corporation of the State of Missouri, said directors acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the County and State aforesaid, the day and year first above written.

_____
Notary Public

My commission expires:

Exhibit A

Legal Description: See Record Plat for Stone Mill as recorded in St. Louis County Recorder of Deeds Book _____ Page_____ or as amended thereafter

CONSENT OF MORTGAGEE

The undersigned, holder of the following Deeds of Trust, recorded in the Office of the Recorder of Deeds within and for St. Louis County, Missouri, at the following Books(s) and Page number(s), to-wit:

Book	Page

does hereby consent to the foregoing Stone Mill Declaration of Residential Covenants, Conditions and Restrictions and subordinate the liens of said Deeds of Trust thereto.

Dated

_____ Bank

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

On this _____ day of _____, 2015 before me personally appeared _____ President of _____ to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the County and State aforesaid, the day and year first above written.

_____
Notary Public

My commission expires:

GENERAL WARRANTY DEED

THIS DEED, made and entered into this _____ day of _____, 2016 by and between Whalen Custom Homes, Inc., a Missouri corporation, having an address at 338 S. Kirkwood Rd. Suite #103, Kirkwood, MO 63122 ("***Grantor***"), and Stone Mill Homeowners Association, a Missouri nonprofit corporation, or its successors or assigns, having an address at 338 S. Kirkwood Rd. Suite #103, Kirkwood, MO 63122 ("***Grantee***").

WITNESSETH:

That the Grantee, for and in consideration of the sum of One Dollar ($1.00) and other valuable considerations paid by the Grantee, the receipt of which is hereby acknowledged, does by these presents, GRANT, BARGAIN AND SELL, CONVEY AND CONFIRM unto the Grantee the following described real property situated in the City of Wildwood, St. Louis County, State of Missouri:

> The common ground as marked on the Recorded Plat of Stone Mill, a subdivision in the City of Wildwood, St. Louis County, State of Missouri, according to the plat thereof recorded at plat book _____ page _____ of the St. Louis County Recorder of Deeds.

TO HAVE AND TO HOLD THE SAME IN TRUST in accordance with and pursuant to the Stone Mill Declaration of Covenants, Conditions and Restrictions, together with all rights and appurtenances to the same belonging unto the Grantee and to its successors and assigns for the sole benefit, use and enjoyment of the lot owners and tenants, present and future, of all plats of Stone Mill subdivision recorded in the past, present or future until such time as all of the plats of subdivision constituting the development may be vacated by St. Louis County, State of Missouri, or its successors, at which time fee simple title shall vest in the then lot owners of all then recorded plats of Stone Mill subdivision as tenants in common.

That Grantee hereby covenants that it, and its successors and assigns, shall and will warrant and defend the title to the premises under the Grantee and its successors forever against the claims of all persons whomever, excepting, however, the general taxes becoming a lien after the date of this Deed.

In Witness Whereof, the Grantee has executed these presents the day and year first above written.

"GRANTOR"

WHALEN CUSTOM HOMES, INC.

By: _____
Michael D. Whalen, President

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

On this _____ day of _____, 2016, before me personally appeared Michael D. Whalen to me personally known, who, being by me duly sworn, did say that he is the President of WHALEN CUSTOM HOMES, INC., a Missouri corporation, and he acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the County and State aforesaid, the day and year first above written.

_____
Notary Public

My commission expires:

October 18, 2016

PERSONAL AND CONFIDENTIAL
VIA FIRST CLASS MAIL
c/o Ms. Terri Gaston
City of Wildwood Department of Planning
16860 Main Street
Wildwood, Missouri 63040

Re: Declaration for Stone Mill Subdivision and Deed for Common Ground

Dear Ms. Gaston:

I am providing this letter on behalf of Whalen Custom Homes, Inc. (the "***Declarant***") in connection with the proposed Stone Mill Declaration of Covenants, Conditions and Restrictions (the "***Declaration***") and the proposed General Warranty Deed for the common areas of Stone Mill (the "***Deed***"), copies of which are attached hereto.

Based on my examination of the Declaration and the Deed, and provided that (i) the Declaration and Deed are duly and validly authorized, executed and delivered by the Declarant and all other parties thereto; (ii) the plat prepared in connection with the Declaration is duly approved by the Director of Planning and all other necessary parties and properly recorded; (iii) the Declaration and the Deed are properly recorded; (iv) the Declarant is the owner of record of the real property as described in Exhibit A to the Declaration and the real property described in the Deed; and (v) the Declarant is a corporation validly existing and in good standing under the laws of the State of Missouri, and that each of the Declarant and all other necessary parties has all requisite organizational power and authority to execute and deliver the Deed and Declaration and to perform its obligations thereunder; I am of the opinion that each of the above-referenced documents is legally binding with respect to the real property against which it is recorded.

This opinion is directed to and may be relied upon only by the addressee.

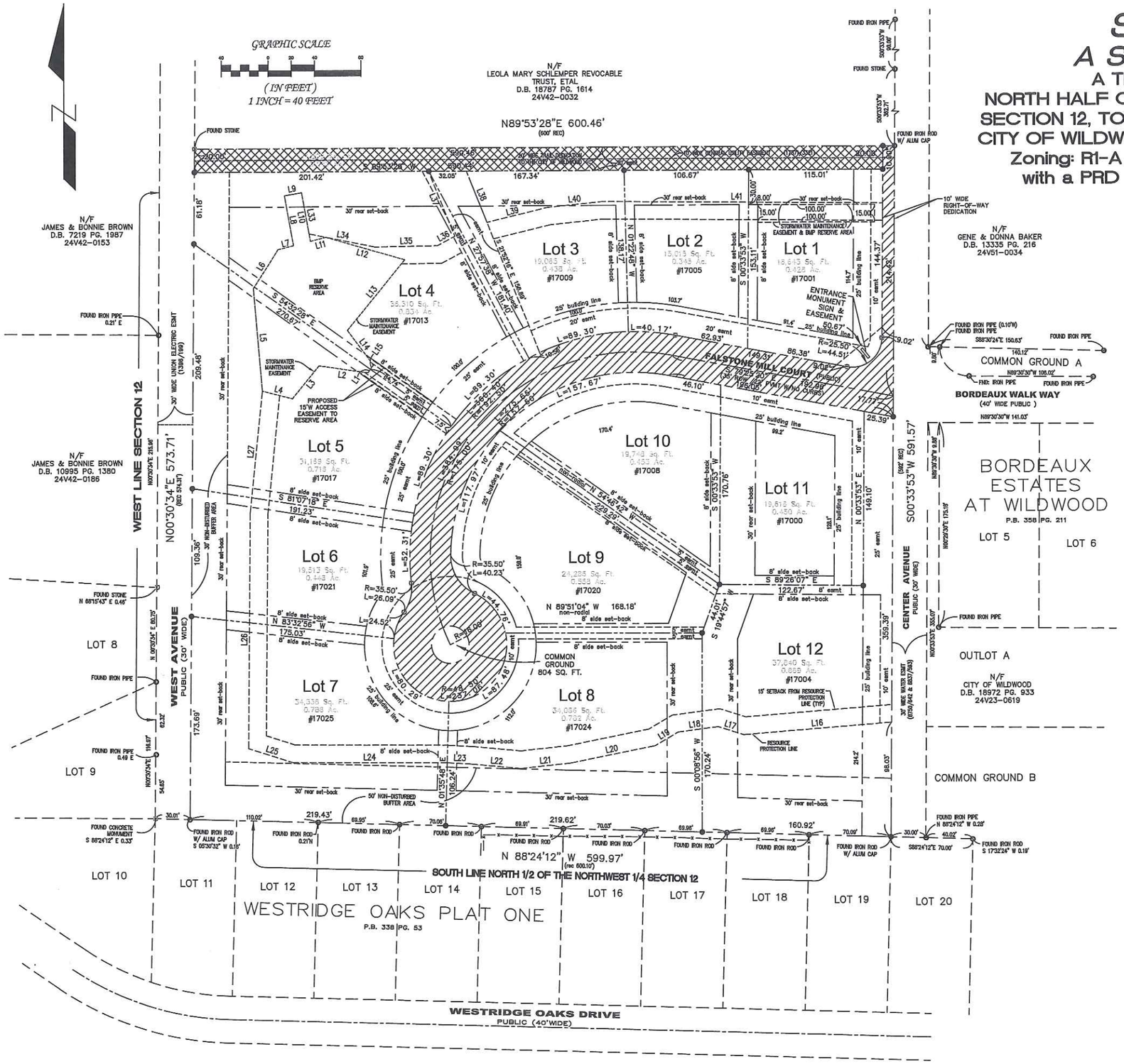
Very truly yours,

Kathleen Whalen Peroutka, Esq.

Enclosures

STONE MILL
A SUBDIVISION PLAT
A TRACT OF LAND IN THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 12, TOWNSHIP 44 NORTH, RANGE 3 EAST CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI

Zoning: R1-A 22,000 Sq.Ft. Residential District with a PRD Overlay District, Per Ord.#2088



LINE	BEARING	DISTANCE
L1	S 35°33'45" W	3.66'
L2	N 81°47'45" W	42.61'
L3	S 39°12'19" W	36.28'
L4	N 75°38'46" W	28.49'
L5	N 04°50'14" W	88.25'
L6	S 32°17'00" E	39.34'
L7	N 78°46'59" E	13.80'
L8	N 10°18'54" W	43.43'
L9	N 80°27'50" E	15.00'
L10	S 10°18'54" E	42.21'
L11	N 75°46'59" E	13.73'
L12	S 73°54'20" E	70.41'
L13	S 39°12'19" W	77.82'
L14	S 36°40'45" E	37.13'
L15	S 35°33'45" W	4.43'
L16	S 85°17'02" W	128.88'
L17	N 72°21'46" W	22.73'
L18	S 82°23'11" W	34.49'
L19	S 59°20'55" W	22.64'
L20	S 78°36'48" W	74.30'
L21	S 83°55'47" W	42.28'

LINE	BEARING	DISTANCE
L22	N 84°43'50" W	42.28'
L23	N 86°42'00" W	21.14'
L24	N 69°41'14" W	132.80'
L25	N 72°12'38" W	39.39'
L26	N 00°30'34" E	201.61'
L27	N 05°48'19" E	104.77'

L33	S 10°18'54" E	35.82'
L34	S 78°37'34" E	58.11'
L35	N 88°53'41" E	53.32'
L36	N 61°34'38" E	16.90'
L37	N 21°52'16" W	60.01'
L38	S 21°52'16" E	47.37'
L39	N 76°15'39" E	53.34'
L40	N 84°04'20" E	47.14'
L41	S 89°35'16" E	240.34'

□ : PERMANENT MONUMENT TO BE SET UPON COMPLETION OF GRADING.
● : SEMI-PERMANENT MONUMENT TO BE SET AT ALL REAR LOT CORNERS.

(NOTE: CROSSES SHALL BE CUT AT THE INTERSECTION OF THE EXTENSION OF EACH LOT LINE WITH THE CENTERLINE OF THE STREET.)

LAND DESCRIPTION:

A TRACT OF LAND IN THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 12, TOWNSHIP 44 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF A TRACT OF LAND DESCRIBED IN A DEED TO LEOLA MARY SCHLEMPER REVOCABLE TRUST RECORDED IN DEED BOOK 18787 PAGE 1614 OF THE ST. LOUIS COUNTY RECORDS, SAID POINT BEING ON THE WEST LINE OF CENTER (30' WIDE) AVENUE; THENCE WITH THE WEST LINE OF CENTER AVENUE, BEING 15' WEST OF AND PARALLEL TO THE CENTERLINE THEREOF SOUTH 00 DEGREES 33 MINUTES 53 SECONDS WEST 591.57 FEET TO THE SOUTH LINE OF THE NORTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 12, SAID POINT ALSO BEING THE NORTH LINE OF WESTRIDGE OAKS PLAT ONE AS PER THE PLAT THEREOF RECORDED IN PLAT BOOK 338 PAGE 53 OF THE ST. LOUIS COUNTY RECORDS; THENCE DEPARTING THE WEST LINE OF CENTER AVENUE WITH THE NORTH LINE OF WESTRIDGE OAKS PLAT ONE, NORTH 88 DEGREES 24 MINUTES 12 SECONDS WEST 599.97 FEET TO A POINT ON THE EAST LINE OF WEST (30'WIDE) AVENUE; THENCE WITH THE EAST LINE OF WEST AVENUE, BEING 15' EAST OF AND PARALLEL TO THE CENTERLINE THEREOF AND 30 FEET EAST OF AND PARALLEL TO THE WEST LINE OF SECTION 12, NORTH 00 DEGREES 30 MINUTES 34 SECONDS EAST 573.71 FEET TO THE SOUTHWEST CORNER OF THE AFORESAID LEOLA MARY SCHLEMPER REVOCABLE TRUST TRACT; THENCE WITH THE SOUTH LINE OF SAID LEOLA MARY SCHLEMPER REVOCABLE TRUST TRACT, NORTH 89 DEGREES 53 MINUTES 28 SECONDS EAST 600.46 FEET TO THE POINT OF BEGINNING AND CONTAINING 349,670 (8.027 ACRES). MORE OR LESS. SUBJECT TO ALL EASEMENTS, CONDITIONS AND RESTRICTIONS OF RECORD, IF ANY.

SURVEYOR'S CERTIFICATION:

THIS IS TO CERTIFY TO WHALEN CUSTOM HOMES, INC., THAT AT THEIR REQUEST, SUBURBAN LAND SURVEY, INC. HAS PREPARED A BOUNDARY SURVEY AND SUBDIVISION PLAT DATED DECEMBER , 2015, OF A TRACT OF LAND BEING IN THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 12, TOWNSHIP 44 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, THAT THIS PLAT IS BASED UPON A BOUNDARY SURVEY COMPLETED ON THE GROUND; THAT THE RESULTS OF SAID SURVEY ARE SHOWN HEREON; AND THAT THE SAID SURVEY MEETS OR EXCEEDS THE CURRENT MINIMUM STANDARDS FOR URBAN CLASS BOUNDARY SURVEYS AS ESTABLISHED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES, DIVISION OF GEOLOGY AND LAND SURVEY.

STATE OF MISSOURI
DAVID L. ROBBINS
NUMBER LS-2210
REGISTERED LAND SURVEYOR

12/19/2016

DAVID L. ROBBINS, R.L.S. 2210 — DATE
SUBURBAN LAND SURVEY, INC. LS -378-D

SLS

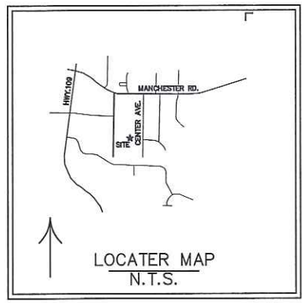
REVISED	COMMENT
01/19/16	easement script
02/02/16	non-disturbed buffer areas
10/15/16	City comments

Suburban Land Survey
2007 Bellevue Ave., St. Louis MO 63143
(314) 645-7055 Fax: (314) 644-1225
LICENSED IN MISSOURI AND ILLINOIS

PROJECT:
STONE MILL
CITY OF WILDWOOD
ST LOUIS COUNTY, MISSOURI

PREPARED FOR:
Whalen Custom Homes
338 S. Kirkwood Road
St Louis, MO 63122
(314) 821-1745

DATE: 12/21/2015
JOB NUMBER: 15072
FILE NAME: Stone Mill.dwg
FIELDWORK BY: DLR, CJK
DRAWN BY: DLR
CHECKED BY:
SHEET 1 of 2



LOCATER MAP
N.T.S.

STONE MILL
A SUBDIVISION PLAT

A TRACT OF LAND IN THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 12, TOWNSHIP 44 NORTH, RANGE 3 EAST CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI

Zoning: R1-A 22,000 Sq.Ft. Residential District with a PRD Overlay District, Per Ord.#2088

GENERAL NOTES:

1.) BASIS OF BEARING: BEARINGS ARE IN RELATION TO WESTRIDGE OAKS PLAT ONE, AS RECORDED IN PLAT BOOK 338, PAGE 53, ST LOUIS COUNTY RECORDS.

2.) SOURCE OF RECORD TITLE: LAND OF THE STATE OF MISSOURI, RECORDED IN DEED BOOK 3240, PAGE 14, ST. LOUIS COUNTY MISSOURI RECORDS.

3.) ALL DIMENSIONS ARE SHOWN IN FEET AND DECIMAL FRACTIONS THEREOF.

4.) ALL EASEMENTS AND CONDITIONS WHICH AFFECT THIS SITE AS REPORTED IN ASSURED TITLE COMPANY AS AGENT FOR COMMONWEALTH LAND TITLE INSURANCE COMPANY, FILE NO. 836695 REVISION 1, DATED FEBRUARY 20, 2013:

ITEMS 1-9: STANDARD EXCEPTIONS WITH NO COMMENT BY SURVEYOR.

ITEM 10. EASEMENT GRANTED PUBLIC WATER SUPPLY DISTRICT #1 OF ST. LOUIS COUNTY, MISSOURI RECORDED IN BOOK 8750 PAGE 642 AND ASSIGNED TO ST. LOUIS COUNTY WATER COMPANY BY INSTRUMENT RECORDED IN BOOK 8837 PAGE 593. PLOTS WITHIN THE 30 FOOT WIDE STRIP TO THE EAST KNOWN AS CENTER AVENUE AND DOES NOT ADVERSELY AFFECT THE SUBJECT TRACT.

ITEM 11. TERMS AND PROVISIONS OF MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION UTILITY EASEMENT RECORDED IN BOOK 17671 PAGE 3321, 10' WIDE EASEMENT ALONG THE NORTH LINE OF THE SUBJECT TRACT: PLOTTED HEREON.

ITEMS 12-13: STANDARD EXCEPTIONS WITH NO COMMENT BY SURVEYOR.

5.) TOTAL ACREAGE OF THIS PLAT: 8.027 ACRES.
COMMON GROUND AREA = 604 SQ.FT.
ROADWAY DEDICATION AREA = 28,251 SQ.FT.

6.) LOCATOR NO.: 24V42-0010

7.) BENCHMARK: ST. LOUIS COUNTY BM 16-109: 794.70 (NGVD129) "L" ON THE WEST SIDE OF A CONCRETE PORCH OF BUILDING AT # 16957 MANCHESTER ROAD; 21' EAST OF THE CENTERLINE OF EATHERTON ROAD AND 39' NORTH OF THE CENTERLINE OF MANCHESTER ROAD.

8.) SITE BENCHMARK: 795.68 (NGVD129) CROSS AT THE INTERSECTION OF THE CENTERLINE OF BORDEAUX WALK WAY AND THE EAST LINE OF CENTER AVENUE. SAID POINT BEING 218.08 FEET SOUTH AND 28.86 FEET EAST OF THE NORTHEAST CORNER OF SUBJECT TRACT.

9.) The site as shown hereon is in Zone X (areas determined to be outside the 2% annual chance floodplain and or Zone D (areas in which flood hazards are undetermined) as established on Flood Insurance Rate Map No.29189C0260 H, dated February 4, 2015.

10.) Six (6) permanent monuments (indicated as) and thirteen (13) semi permanent monuments at all lot corners (indicated as) will be set, with the exception that the front lot corners may be monumented by notches or crosses cut in concrete paving on the prolongation of the lot line, within twelve (12) months after the recording of this subdivision plat. In accordance with 10 CSR 30-2.090 of the Missouri Department of Natural Resources and 4 CSR 30-16.090 of the Missouri Department of Economic Development. In addition, other survey monuments indicated on this subdivision plat, required by the Subdivision Ordinance of the City of Wildwood, Missouri 1005.250 will be set.

(NOTE: CROSSES SHALL BE CUT AT THE INTERSECTION OF THE EXTENSION OF EACH LOT LINE WITH THE CENTERLINE OF THE STREET.)

SERVICE PROVIDERS LIST

a. School . . . . . Rockwood R-6
b. Fire . . . . . Metro West
c. Sewer . . . . . MSD
d. Water . . . . . Missouri-American Water Company
e. Gas . . . . . Laclede Gas
f. Phone . . . . . AT&T
g. Electric . . . . .Ameren U.E.
h. Cable . . . . . Charter Communications
i. Watershed . . Hamilton-Carr Creek
j. Creek
k. Zip Code . . . . 63040 Grover
l. Police . . . . . Wildwood Precinct
m. City Council . . Ward 8

OWNER'S CERTIFICATE:

THE UNDERSIGNED, OWNERS OF THE TRACT OF LAND HEREIN PLATTED AND FURTHER DESCRIBED IN THE FOREGOING SURVEYOR'S CERTIFICATE HAVE CAUSED THE SAME TO BE SURVEYED AND SUBDIVIDED IN THE MANNER SHOWN ON THIS PLAT, WHICH SUBDIVISION SHALL HEREINAFTER BE KNOWN AS "STONE MILL". FALSTONE MILL COURT (30' WIDE), AND THE 10' WIDE ROADWAY DEDICATION STRIP ALONG THE WEST LINE OF CENTER AVENUE , 30' WIDE, TOGETHER WITH THE CUL-DE-SAC AND ROUNDINGS LOCATED AT THE STREET INTERSECTION, WHICH FOR BETTER IDENTIFICATION ARE SHOWN HACHURED ON THIS PLAT, ARE HEREBY DEDICATED TO THE CITY OF WILDWOOD FOR PUBLIC USE FOREVER.

ALL EASEMENTS SHOWN ON THIS PLAT, UNLESS DESIGNATED FOR OTHER SPECIFIC PURPOSES, ARE HEREBY DEDICATED TO THE CITY OF WILDWOOD, MISSOURI, MISSOURI-AMERICAN WATER COMPANY, LACLEDE GAS COMPANY, AMEREN UE COMPANY, AT&T CORPORATION, METROPOLITAN ST. LOUIS SEWER DISTRICT, AND TO CHARTER COMMUNICATIONS, THEIR SUCCESSORS AND ASSIGNS AS THEIR INTERESTS MAY APPEAR FOR THE PURPOSE OF IMPROVING, CONSTRUCTING, MAINTAINING AND REPAIRING PUBLIC UTILITIES, SEWER OR SEWERS, STORM WATER IMPROVEMENTS AND DRAINAGE FACILITIES, WITH THE RIGHT OF TEMPORARY USE OF ADJACENT GROUND NOT OCCUPIED BY IMPROVEMENTS FOR THE EXCAVATION AND STORAGE OF MATERIALS DURING INSTALLATION, REPAIR OR REPLACEMENT OF SAID UTILITIES, SEWER OR SEWERS, AND STORM WATER IMPROVEMENTS AND DRAINAGE FACILITIES.

RESERVE AREAS SHOWN ON THIS PLAT ARE HEREBY ESTABLISHED FOR THE STORMWATER MANAGEMENT FEATURES ALSO KNOWN AS BMPS (BEST MANAGEMENT PRACTICE). THE RESERVED AREAS HEREBY ESTABLISHED ARE IRREVOCABLE AND SHALL CONTINUE FOREVER, SUBJECT TO A "MAINTENANCE AGREEMENT" DATED _____, 20____, AS RECORDED IN THE RECORDER OF DEEDS' BOOK _____, PAGE _____, OR AS AMENDED THEREAFTER.

THE STORMWATER MAINTENANCE EASEMENT SHOWN HEREON IS HEREBY DEDICATED TO THE TRUSTEES OF THIS SUBDIVISION, THEIR SUCCESSORS AND ASSIGNS AS THEIR INTERESTS MAY APPEAR FOR THE PURPOSE OF IMPROVING, CONSTRUCTING, MAINTAINING AND REPAIRING PUBLIC UTILITIES, SEWER OR SEWERS, STORM WATER IMPROVEMENTS AND DRAINAGE FACILITIES, WITH THE RIGHT OF TEMPORARY USE OF ADJACENT GROUND NOT OCCUPIED BY IMPROVEMENTS FOR THE EXCAVATION AND STORAGE OF MATERIALS DURING INSTALLATION, REPAIR OR REPLACEMENT OF SAID UTILITIES, SEWER OR SEWERS, AND STORM WATER IMPROVEMENTS AND DRAINAGE FACILITIES.

AN EASEMENT IS THEREBY GRANTED TO THE MISSOURI-AMERICAN WATER COMPANY, ITS SUCCESSORS AND ASSIGNS TO LAY, REPAIR, REPLACE AND FOREVER MAINTAIN ITS WATER MAINS AND HYDRANTS IN THE EASEMENT DELINEATED AND SHOWN ON THE PLAT HEREON AS "EASEMENTS TO MISSOURI-AMERICAN WATER COMPANY."

THE GRANTOR, AS HEREIN SPECIFIED, GRANTS, BARGAINS, SELLS AND CONVEYS A NON-EXCLUSIVE 20 FOOT WIDE CONSTRUCTION AND MAINTENANCE EASEMENT TO THE CITY OF WILDWOOD, MISSOURI, ITS SUCCESSORS AND ASSIGNS FOR PEDESTRIAN AND VEHICULAR ACCESS ON GRANTOR'S PROPERTY SHOWN HEREON AS CROSS-HATCHED FOR THE PURPOSE OF CONSTRUCTING AND MAINTAINING THE RECREATIONAL TRAIL LOCATED ON THE TRAIL EASEMENT. CONSTRUCTION AND MAINTENANCE EASEMENT SHALL BE PERPETUAL AND SHALL RUN WITH THE LAND. GRANTOR RESERVES THE RIGHT TO PLACE UNDERGROUND INFRASTRUCTURE UNDER SAID 20 FOOT WIDE AREA, AS LONG AS NEITHER SUCH PLACEMENT NOR SUCH INFRASTRUCTURE AFFECTS THE USE OF SUCH AREA.

ALL COMMON GROUND EASEMENTS, SUCH AS THE CUL-DE-SAC ISLAND AND THE 20' WIDE TRAIL, ARE HEREBY DEDICATED TO THE TRUSTEES OF THE AFOREMENTIONED SUBDIVISON FOR LANDSCAPE MAINTENANCE. HOWEVER, NO ABOVE GROUND STRUCTURE, OTHER THAN REQUIRED STREET LIGHTS OR OTHER PUBLIC UTILITIES IN ACCORDANCE WITH THE APPROVED IMPROVEMENT PLANS MAY BE CONSTRUCTED OR INSTALLED WITHIN A CUL-DE-SAC ISLAND, WITHOUT AUTHORIZATION BY THE CITY OF WILDWOOD DEPARTMENT OF PUBLIC WORKS THROUGH THE ISSUANCE OF A SPECIAL USE PERMIT.

BUILDING LINES AS SHOWN ON THIS PLAT ARE HEREBY ESTABLISHED. THIS SUBDIVISION IS SUBJECT TO CONDITIONS AND RESTRICTIONS RECORDED IN DEED BOOK _____, PAGE _____ IN THE ST. LOUIS COUNTY RECORDS. THE COMMON GROUND SHOWN ON THIS PLAT HAS BEEN CONVEYED TO THE TRUSTEES OF THE AFOREMENTIONED SUBDIVISION BY GENERAL WARRANTY DEED RECORDED THE _____ DAY OF _____, 20____, AS DAILY # _____ IN THE ST. LOUIS COUNTY RECORDS. THE UNDERSIGNED FUTHER STATES THAT SAID TRACCT IS NOT ENCUMBERED BY DELINQUENT TAXES OR LIENS [OR — IF LIEN(S) DO EXIST, DELETE "OR OR LIENSLINS:" AND PROVIDE LIEN HOLDER'S SCRIPT AFTER OWNER'S SIGNITURE BLOCK]. IN TESTIMONY WHEREOF, WE HAVE HEREUNTO SET OUR HAND THIS _____ DAY OF _____, 20____.

IN WITNESS HEREOF, WE HAVE HEREUNTO SET OUR HAND AND AFFIXED OUR CORPORATE SEAL THIS _____ DAY OF _____, 20____.

WHALEN CUSTOM HOMES, INC._____ (SEAL)

BY:_____

STATE OF MISSOURI)
)SS.
COUNTY OF ST. LOUIS)

ON THIS _____ DAY OF _____, 20____, BEFORE ME PERSONALLY APPEARED _____ TO ME KNOWN, WHO, BEING BY ME DULY SWORN, DID SAY THAT HE IS THE_____ OF WHALEN CUSTOM HOMES, INC., A CORPORATION OF THE STATE OF MISSOURI, AND THAT THE SEAL AFFIXED TO THE FOREGOING INSTRUMENT IS THE CORPORATE SEAL OF SAID CORPORATION, AND THAT SAID INSTRUMENT WAS SIGNED AND SEALED IN BEHALF OF SAID CORPORATION BY AUTHORITY OF ITS BOARD OF DIRECTORS AND _____ FURTHER ACKNOWLEDGED SAID INSTRUMENT TO BE THE FREE ACT AND DEED OF SAID CORPORATION. IN TESTIMONY WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY NOTARIAL SEAL ON THE DAY AND YEAR FIRST ABOVE WRITTEN.

NOTARY PUBLIC (SEAL) MY COMMISSION EXPIRES:

NATURAL RESOURCE PROTECTION STANDARDS

ALL AREAS ON THIS RECORD PLAT IDENTIFIED AS "AREA TO BE PRESERVED", SHALL BE HELD IN DEED RESTRICTED PRIVATE OWNERSHIP, WHICH SHALL PROHIBIT, IN PERPETUITY, THE DEVELOPMENT AND/OR SUBSEQUENT SUBDIVISION OF THE RESOURCE PROTECTED PROPERTY OR THEIR USE FOR PURPOSES INCONSISTENT WITH THE INTENT OF SECTION , 420.220 OF THE WILDWOOD SUBDIVISION AND DEVELOPMENT REGULATIONS OF THE CITY OF WILDWOOD, AS MAY BE AMENDED. THESE EASEMENTS AND DEEDS OF COVENANTS FOR ALL RESOURCE PROTECTED AREAS SHALL ENSURE TO THE BENEFIT OF, AND MAY BE ENFORCED BY, ALL LOT OWNERS OF RECORD OF THIS SUBDIVISON AND THE CITY OF WILDWOOD OR ITS ASSIGNEES.

THIS IS TO CERTIFY THAT DURING THE MONTH OF _____, 20____, I PREPARED A REPORT REGARDING SOILS AND NATURAL RESOURCE EVALUAION OF THE SUBJECT PROPERTY. THE REPORT AND INFORMATION CONTAINED ON THIS PLAN RELATING TO SAME IS IN COMPLIANCE WITH SECION 420.200, "NATURAL RESOURCE PROTECTION STANDARDS AND PROCEDURES" OF THE CITY OF WILDWOOD, MISSOURI.

_____ _____
SOIL SCIENTIST DATE

THE NATURAL RESOURCE PROTECTION STANDARDS AREAS THAT ARE INDICATED ON EACH OF THESE INDIVIDUAL LOTS ARE INTENDED TO PROTECT THE NATURAL OR EXISING DESIGNATED ENVIRONMENTAL FEATURES OF DEVELOPMENTS WITHIN THE CITY OF WILDWOOD. THESE AREAS ARE ON HUNDRED (100%) PERCENT PROTECTED FROM ANY TYPE OF DISTURBANCE BY ANY OWNER(S) OF THESE PROPERTIES, EXCEPT AS ALLOWED BY THE CITY'S REGULATIONS AND PRIOR AUTHORIZATION BY THE DEPARTMENT OF PLANNING. AREAS INDICATED AS ONE HUNDRED (100%) PERCENT PROTECTED CANNOT BE GRADED, NOR MAY TREES OR OTHER VEGETATION BE REMOVED. ADDITIONALLY, THE PLACEMENT OF BUILDINGS AND/OR STRUCTURES, INCLUDING PLAYGROUNDS, FENCES, AND IRRIGATION SYSTEM PIPING, IS STRICTLY PROHIBITED. SAID STANDARDS AND REQUIREMENTS APPLY IN PERPETUITY TO EACH OF THE LOTS INCLUDED ON THIS PLAT, EXCEPT AS SUCH EXCEPTION MAY BE SPECIFICALLY APPROVED OR GRANTED BY THE CITY OF WILDWOOD OR ITS REGULATIONS.

LENDER'S CERTIFICATE:

WHEREAS _____, BY A DEED OF TRUST RECORDED IN DEED BOOK _____, PAGE _____, ST. LOUIS COUNTY RECORDS, CONVEYED TO THE TRUSTEE THEREIN NAMED, CERTAIN REAL ESTATE, TO SECURE THE PAYMENT OF CERTAIN NOTE OR NOTES IN SAID DEED DESCRIBED AND SET FORTH; AND WHEREAS, SAID DEED OF TRUST AND NOTE OR NOTES HAS OR HAVE BEEN PARTLY PAID AND SATISFIED.

NOW, THEREFORE, THE UNDERSIGNED, PRESENT HOLDER AND LEGAL OWNER OF SAID DEED OF TRUST AND NOTE OR NOTES, DOES HEREBY REMISE, RELEASE AND QUIT-CLAIM UNTO THE PRESENT OWNERS, PART OF THE ESTATE IN SAID DEED OF TRUST DESCRIBED, SITUATED IN THE COUNTY OF ST. LOUIS, AND STATE OF MISSOURI, TO WIT: ALL COMMON GROUND OR COMMON LAND SHOWN ON THIS PLAT AND ALL STREETS, PUBLIC OR PRIVATE, OR ROADWAY EASEMENTS ON THIS PLAT. TO HAVE AND TO HOLD THE SAME, WITH ALL THE APPURTENANCES THERETO BELONGING FREE, CLEAR, AND DISCHARGED FROM THE ENCUMBRANCE OF SAID DEED OF TRUST.

IN WITNESS WHEREOF, THE UNDERSIGNED HAS EXECUTED THESE PRESENTS THIS _____ DAY OF _____, 20____.

BANK: _____
BY: _____ (SEAL)

STATE OF MISSOURI)
)SS.
COUNTY OF ST. LOUIS)

ON THIS _____ DAY OF _____, 20____ BEFORE ME PERSONALLY APPEARED _____ TO ME KNOWN, WHO, BEING BY ME DULY SWORN, DID SAY THAT HE IS THE_____ OF _____, A CORPORATION OF THE STATE OF MISSOURI, AND THAT THE SEAL AFFIXED TO THE FOREGOING INSTRUMENT IS THE CORPORATE SEAL OF SAID CORPORATION, AND THAT SAID INSTRUMENT WAS SIGNED AND SEALED IN BEHALF OF SAID CORPORATION BY AUTHORITY OF ITS BOARD OF DIRECTORS AND _____ FURTHER ACKNOWLEDGED SAID INSTRUMENT TO BE THE FREE ACT AND DEED OF SAID CORPORATION. IN TESTIMONY WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY NOTARIAL SEAL ON THE DAY AND YEAR FIRST ABOVE WRITTEN.

NOTARY PUBLIC (SEAL) MY COMMISSION EXPIRES:

CITY CERTIFICATE:

THIS ACKNOWLEDGEMENT CERTIFIES THIS SUBDIVISION PLAT OF "STONE MILL" HAS BEEN APPROVED BY THE CITY OF WILDWOOD, MISSOURI ON THIS _____ DAY OF _____, 20____.

CITY OF WILDWOOD DEPARTMENT OF PLANNING

_____
DIRECTOR OF PLANNING

I, _____ CITY CLERK OF THE CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI DO HEREBY CERIFY THIS SUBDIVISION PLAT WAS APPROVED BY ORDINANCE NUMBER_____, UNDER ACTION TAKEN BY THE CITY COUNCIL OF THE CITY OF WILDWOOD, MISSOURI, ON THIS _____ DAY OF _____, 20____. SAID ORDINANCE OF THE SAME APPEARS ON , RECORD IN MY OFFICE AS TESTIMONY WHEREOF, I HEREUNTO NOW SET MY HAND AND AFFIX THE OFFICIAL SEAL OF THE CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, ON THIS _____ DAY OF _____, 20____.

_____
CITY CLERK

STATE OF MISSOURI)
)SS
COUNTY OF ST. LOUIS)

I, THE UNDERSIGNED RECORDER OF DEED FOR SAID COUNTY AND STATE, DO HEREBY CERTIFY THAT THE FOREGOING AND ANNEXED INSTRUMENT OF WRITING WAS FILED FOR RECORD IN MY OFFICE ON THE _____ DAY OF _____ A.D. 20_____ AT _____O'CLOCK, AND IS TRULY RECORDED IN PLAT BOOK _____, PAGE _____.

WITNESS MY HAND AND OFFICIAL SEAL ON THE SAY AND YEAR AFORESAID.

_____
RECORDER OF DEEDS

BY:_____
DEPUTY RECORDER

STATE OF MISSOURI
DAVID L. ROBBINS
NUMBER LS-2210
REGISTERED LAND SURVEYOR

10/13/2016
DAVID L. ROBBINS, P.L.S. 2210 DATE
SUBURBAN LAND SURVEY, INC. LS -378-D

SLS

REVISED	COMMENT
01/19/16	easement script
02/03/16	non-disturbed buffer areas
10/13/16	City Comments

Suburban Land Survey
2007 Bellevue Ave., St. Louis MO 63143
(314) 645-7055 Fax: (314) 644-1225
LICENSED IN MISSOURI AND ILLINOIS

PROJECT:
STONE MILL
CITY OF WILDWOOD
ST LOUIS COUNTY, MISSOURI

PREPARED FOR:
Whalen Custom Homes
338 S. Kirkwood Road
St Louis, MO 63122
(314) 821-1745

DATE: 12/21/2015
JOB NUMBER: 15072
FILE NAME: Stone Mill.dwg
FIELDWORK BY: DLR, CJK
DRAWN BY: DLR
CHECKED BY:
SHEET 2 of 2

BILL NO. 2219 **ORDINANCE NO. 2219**

AN ORDINANCE OF THE CITY OF WILDWOOD, MISSOURI, AUTHORIZING THE MAYOR OF THE CITY TO NEGOTIATE AND EXECUTE A JOINT FUNDING AGREEMENT WITH THE U. S. GEOLOGICAL SURVEY, UNITED STATES DEPARTMENT OF THE INTERIOR, FOR THE DEVELOPMENT OF FLOOD INUNDATION MAPPING OF THE LOWER MERAMEC RIVER BASIN

WHEREAS, the provisions of Sections 70.210 to 70.320 inclusive, RSMo., as amended, empower cities to contract and cooperate with a duly authorized agency of the United States for planning, development, construction, acquisition or operation of any public improvement or for a common service; and

WHEREAS, the St. Louis region experienced record flooding on the Lower Meramec River during the last week of December 2015 after a previous record rainfall event; and

WHEREAS, during the flood there was a lack of accurate information with regard to the expected flood crest elevation, as well as the areas expected to be flooded along the Meramec River in Wildwood; and

WHEREAS, to address this need, the United States Geological Survey (USGS) has the ability to develop an internet based Flood Inundation Mapping application, which provides river basin mapping that directly indicates areas that will be flooded based on the forecast river stage from the National Weather Service (the Project); and

WHEREAS, the limits of the Project include the Lower Meramec River Basin between the Cities of Eureka and Valley park and between the City of Fenton and the mouth of the Meramec River at the confluence of the Mississippi River; and

WHEREAS, the City Council finds and determines that completion of the Project would be to the benefit of the health, safety and general welfare of City staff, emergency responders, businesses, utility providers, other agencies, and residents during times of flooding along the Meramec River in Wildwood; and

WHEREAS, in order to complete the Project, which is estimated to cost $128,000, the USGS requires a Joint Funding Agreement ("Agreement"), whereby the USGS funds 20% of the Project cost with the remaining costs to be paid by other agencies; and

WHEREAS, the USGS has received commitments for funding the Project from the St. Louis Metropolitan Sewer District, the Missouri Department of Natural Resources, and the Cities of Arnold, Fenton, and Eureka; and

WHEREAS, the City Council desires to enter into the Agreement to provide financial assistance for said Project in the amount of $5,000.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF WILDWOOD, MISSOURI, AS FOLLOWS:

Section One. That the form, terms, and provisions of the Joint Funding Agreement between the City of Wildwood, Missouri, and the USGS, relating to completion of the Project, attached hereto, marked as **Exhibit A**, and incorporated by reference herein (the "Agreement"), be and they hereby are approved and the Mayor is hereby authorized, empowered and directed to further negotiate, execute, acknowledge, deliver and administer on behalf of the City such Agreement in substantially the form attached hereto. The City Clerk is hereby authorized and directed to attest to the Agreement and other documents, certificates and instruments as may be necessary or desirable to carry out and comply with the intent of the Agreement and this Ordinance.

Section Two. The total expenses and liability of the City of Wildwood authorized herein shall not exceed Five Thousand and 00/100 Dollars ($5,000.00).

Section Three. This Ordinance shall be in full force and effect from and after its passage and approval.

Section Four. Nothing contained herein shall in any manner be deemed or construed to alter, modify, supersede, supplant or otherwise nullify any other Ordinance of the City or the requirements thereof whether or not relating to or in any manner connected with the subject matter hereof, unless expressly set forth herein.

Section Five. If any term, condition, or provision of this Ordinance shall, to any extent, be held to be invalid or unenforceable, the remainder hereof shall be valid in all other respects and continue to be effective and each and every remaining provision hereof shall be valid and shall be enforced to the fullest extent permitted by law, it being the intent of the City Council that it would have enacted this Ordinance without the invalid or unenforceable provisions. In the event of a subsequent change in applicable law so that the provision which had been held invalid is no longer invalid, said provision shall thereupon return to full force and effect without further action by the City and shall thereafter be binding.

This Bill was passed and approved this _____ day of _____, 2016, by the City Council of the City of Wildwood after having been read by title, or in full, two (2) times prior to passage.

_____	_____
Presiding Officer	The Honorable James R. Bowlin, Mayor
ATTEST:	ATTEST:
_____	_____
City Clerk	City Clerk

Exhibit A

Form 9-1366
(April 2015)

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

JOINT FUNDING AGREEMENT

Customer #:	6000005576
Agreement #:	17EMSG558000001
Project #:	SG00GGD
TIN #:	43-1719569
Fixed Cost Agreement	YES

FOR

WATER RESOURCE INVESTIGATIONS

THIS AGREEMENT is entered into as of the, 1st day of January, 2017 by the U.S. GEOLOGICAL SURVEY, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the City of Wildwood, party of the second part.

1. The parties hereto agree that subject to availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation Flood Inundation Mapping for the Lower Meramec River between the Cities of Eureka and Valley Park and between the City of Fenton and the Mouth of the Meramec River at the confluence of the Mississippi River herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50; and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) includes In-Kind Services in the amount of $0.00 .

   (a) by the party of the first part during the period

Amount	Date	to	Date
$1,000.00	January 1, 2017		June 30, 2018

   (b) by the party of the second part during the period

Amount	Date	to	Date
$5,000.00	January 1, 2017		June 30, 2018

   (c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of:

   Description of the USGS regional/national program:
   USGS DUNS 137774548
   Match Pair Code: X9

   (d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.

   (e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.

3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.

4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.

8. The maps, records, or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records, or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program and, if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at costs, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records, or reports published by either party shall contain a statement of the cooperative relations between the parties.

9. USGS will issue billings utilizing Department of the Interior Bill for Collection (form DI-1040). Billing documents are to be rendered quarterly. Payments of bills are due within 60 days after the billing date. If not paid by the due date, interest will be charged at the current Treasury rate for each 30 day period, or portion thereof, that the payment is delayed beyond the due date. (31 USC 3717; Comptroller General File B-212222, August 23, 1983).

	U.S. Geological Survey **United States** **Department of the Interior**		City of Wildwood
	USGS Point of Contact		**Customer Point of Contact**
Name:	Paul Rydlund	Name:	Rick C. Brown
Address:	US Geological Survey, MO WSC 1400 Independence Dr., MS 100 Rolla, MO 65401	Address:	16860 Main St. Wildwood, MO 63040
Telephone:	573-308-3572	Telephone:	636-405-2024
Email:	prydlund@usgs.gov	Email:	rbrown@cityofwildwood.com

Signatures and Date

Signature:	Amy Beussink 10/18/16	Date:	Signature:		Date:
Name:	Amy Beussink		Name:		
Title:	Director, MO WSC		Title:		

BILL #2220 **ORDINANCE #2220**

AN ORDINANCE AUTHORIZING THE MAYOR OF THE CITY OF WILDWOOD, MISSOURI, TO EXECUTE A SUPPLEMENTAL AGREEMENT ON BEHALF OF THE CITY OF WILDWOOD WITH HR GREEN, INC. FOR ADDITIONAL DESIGN SERVICES REQUIRED FOR IMPROVEMENTS TO STATE ROUTE 109 WITHIN THE CITY OF WILDWOOD.

WHEREAS, the City of Wildwood has entered into a Consultant Services Agreement with HR Green, Inc. for design of improvements to State Route 109, which included the design of a single lane roundabout on Route 109 at the Eastbound Route 100 Ramps; and

WHEREAS, based on traffic studies which were completed as a requirement of the Missouri Department of Transportation (MoDOT), a conceptual plan of State Route 109, between State Route 100 to Manchester Road has been developed, which includes widening State Route 109 to four lanes with the construction of a new multi-lane roundabout at Main Street and at the Eastbound Route 100 Ramps and converting the current intersection of Route 109 and Cambury / Hawthorne Village to a Right-in/Right-out configuration; and

WHEREAS, the City of Wildwood submitted an unsuccessful federal funding application earlier in 2016, for funds to construct the full conceptual plan; and

WHEREAS, the City Council finds and determines that it is to the benefit of the health, safety and general welfare of the residents of the City to move forward with the design of a scaled back project, which would include widening State Route 109 to four lanes from State Route 100 to Main Street, converting the current intersection of Route 109 and the Eastbound Route 100 Ramps into a multi-lane roundabout, converting the intersection of Route 109 and Cambury / Hawthorne Village to a Right-in/Right-out configuration, and developing a new multi-lane roundabout at Route 109 with Main Street; and

WHEREAS, the City Council further finds and determines that it is to the benefit of the health, safety and general welfare of the residents of the City to complete the design of a new sidewalk, to be located along the east side of State Route 109 between Cambury Lane and Old Manchester Road, which would include street trees and lighting; and

WHEREAS, the 2016 Road & Bridge Fund Capital Budget includes an allocation of $550,000 for the design of improvements to State Route 109; and

WHEREAS, the City of Wildwood plans to again apply for federal funding for the aforementioned improvements and desires to complete the final design of the improvements such that they will be considered “shovel ready”.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF WILDWOOD, MISSOURI, AS FOLLOWS:

Section One. That the form, terms, and provisions of the Supplemental Agreement between the City of Wildwood, Missouri, and HR Green, Inc., relating to the final design of certain improvements to Route 109, attached hereto, marked as **Exhibit A**, and incorporated by reference herein (the "Supplemental Agreement"), be and they hereby are approved and the Mayor is hereby authorized, empowered and directed to further negotiate, execute, acknowledge, deliver and administer on behalf of the City such Supplemental Agreement in substantially the form attached hereto. The City Clerk is hereby authorized and directed to attest to the Supplemental Agreement and other documents, certificates and instruments as may be necessary or desirable to carry out and comply with the intent of the Supplemental Agreement and this Ordinance.

Section Two. These additional services shall be in the amount not to exceed One Hundred Eighty One Thousand, Three Hundred Fifty Eight Dollars and Fifty Four Cents ($181,358.54) without further authorization. The total expenses and liability to the City shall not exceed the sum of Three Hundred Thirty One Thousand, Three Hundred Thirty Three Dollars and Fifty Four Cents ($331,333.54).

Section Three. HR Green's Schedule of Work will be extended to require completion of the 95% Draft Package/Plan Set for Review by the City within 8 months of notice to proceed with the design.

Section Four. This Ordinance shall be in full force and effect from and after its passage and approval.

Section Five. Nothing contained herein shall in any manner be deemed or construed to alter, modify, supersede, supplant or otherwise nullify any other Ordinance of the City or the requirements thereof whether or not relating to or in any manner connected with the subject matter hereof, unless expressly set forth herein.

Section Six. If any term, condition, or provision of this Ordinance shall, to any extent, be held to be invalid or unenforceable, the remainder hereof shall be valid in all other respects and continue to be effective and each and every remaining provision hereof shall be valid and shall be enforced to the fullest extent permitted by law, it being the intent of the City Council that it would have enacted this Ordinance without the invalid or unenforceable provisions. In the event of a subsequent change in applicable law so that the provision which had been held invalid is no longer invalid, said provision shall thereupon return to full force and effect without further action by the City and shall thereafter be binding.

This Bill was passed and approved this _____ day of _____, 2016, by the Council of the City of Wildwood, Missouri, after having been read by title or in full two times prior to passage.

_____	_____
Presiding Officer	The Honorable James R. Bowlin, Mayor
ATTEST:	ATTEST:
_____	_____
City Clerk	City Clerk

Exhibit A

SUPPLEMENTAL AGREEMENT NO. 1
TO
ENGINEERING SERVICES CONTRACT

THIS SUPPLEMENTAL AGREEMENT, made and effective this ____ day of _____, 20_____ by and between the City of Wildwood, Missouri, a municipal corporation hereinafter referred to as "City", and HR Green, Inc., hereinafter referred to as "Consultant", with a business address of: 16020 Swingley Ridge Road, Suite 205, St. Louis, MO 63017.

The parties hereto entered into an agreement on March 5, 2015 in which the Consultant has agreed to provide professional services in connection with the design of a roundabout at the intersection of State Route 109 and the Eastbound Ramps to and from State Route 100.

WITNESSETH: That the parties hereto, for the considerations hereinafter set forth, agree as follows:

I. SCOPE OF SERVICES

Additional services shall be provided by the Consultant in accordance with all the provisions of this Agreement, including the General Conditions of the original contract, for the project which are incorporated herein by reference, and which terms shall prevail over any conflicting terms that may otherwise be adopted herein as part of any attachment, or any other documents submitted by Consultant. Services to be added to the original contract are listed in Attachment A.

II. COMPENSATION

These additional services shall be in the amount not to exceed One Hundred Eighty One Thousand, Three Hundred Fifty Eight Dollars and Fifty Four Cents ($181,358.54) without further authorization. The total design services shall not exceed the sum of Three Hundred Thirty One Thousand, Three Hundred Thirty Three Dollars and Fifty Four Cents ($331,333.54). Attachment B outlines the cost breakdown for this Supplement Agreement.

IV. SCHEDULE OF WORK

The parties hereto agree to supplement the agreement by amending the Schedule of Work by extending the completion date of the contract as follows:

95% Draft PS&E: Shall be submitted to the City by a mutually agreeable date, but in no case later than eight (8) months after approval of this supplemental agreement.
Task 6 Bidding Phase: Shall be completed in accordance with the letting date established by the City and the contractor's schedule for construction.

IN WITNESS WHEREOF, the parties hereto have signed Supplemental Agreement #1 as of the effective date of Contract first above written.

HR Green, Inc.	City of Wildwood
BY: _____	BY: _____
TITLE: _____	TITLE: _____
	ATTEST: _____
	DATE: _____

ATTACHMENT A

SCOPE OF SERVICES

A. PROJECT LOCATION

This project includes the preparation of preliminary plans, right-of-way documentation, and final design plans for converting the current intersection of Route 109 and the eastbound ramps for Route 100 into a roundabout, converting the current intersections of Route 109 and Cambury / Hawthorne Village to a Right-in/Right-out configuration, and developing a new roundabout at Route 109 with a future development at the Main Street Crossing. These locations generally correspond to the magenta and yellow options shown on the conceptual strip map created for the City of Wildwood during the TIP application process (January 2016), and attached to this scope of services as Exhibit 1.

In addition, a standalone project to develop construction documents for a sidewalk along the east side of Route 109 between Cambury Lane and Old Manchester Road will be completed. This sidewalk will contain street trees and lighting matching the current sidewalk in front of the Pulte Development and complying with the requirements of pedestrian facilities within the Town Center.

B. GENERAL

The Engineer will develop detailed plans, job special provisions, and an opinion of estimated construction cost for the improvements. This scope of services includes the completion of the tasks detailed below. Plans will be developed in accordance with the procedures required by MoDOT's Engineering Policy Guide (EPG) in anticipation of federal participation, and in conjunction with any CITY requirements. The Engineer will develop plans for the following submittals to the CITY:

1. Project Management
2. Preliminary Plan Phase
3. Right-of-Way Acquisition Phase
4. Final Design Plan Phase
5. Separate Plan Set for Route 109 Sidewalk
6. Bidding Phase

C. EXCLUSIONS

Exclusions to the scope of services include the following:

1. Pavement type selection or design
2. Modular Block Retaining wall design
3. Condemnation precedings or title work
4. Design of utility adjustments or preparation and negotiation of utility agreements
5. Acquisition of new right of way or easements
6. Construction inspection or administration
7. NEPA documentation or noise studies
8. Permitting not specifically outlined herein

D. TASK 1: PROJECT MANAGEMENT

In order to provide client service and meet the needs of this project, Project Management activities will include the following:

1. External Progress Meetings – The Engineer will maintain communications with the CITY as needed to review progress, discuss specific elements of the project, and determine future needs and activities. It is assumed that one meeting will occur during each phase of the project, plus a kickoff meeting, for a total assumed number of four (4) meetings. In addition, at least three (3) additional meetings are anticipated between the CITY, the Engineer, and MoDOT. These meetings will be above and beyond the required design coordination meetings identified above, and shall be used to coordinate the various projects and schedules the CITY is proposing to undertake (roundabouts, pedestrian tunnel, Main Street Crossing Development, etc.) with the projects MoDOT is proposing (Route 109 bridge re-decking and widening, etc.). The total number of meetings expected for this overall task is seven (7). An average of two (2) members of the Engineer's staff will attend each meeting. The Engineer will prepare minutes of meetings and keep documentation of other communications.
2. Internal Team Meetings – Internal team meetings will be held as needed to ensure each team member is operating under the same directions and following the same guidance for the project.
3. Invoicing – Invoices and progress reports will be prepared monthly for the duration of the project (assume 14 months). The invoices will be prepared by the Engineer in accordance with its standard invoice generated from its accounting system, as approved by the CITY. Subconsultants will prepare monthly invoices for their work and submit the invoices to the Engineer, who will summarize all the monthly labor costs, expenses and fixed fees into one comprehensive invoice.
4. Topographic and Right of Way Surveys – The Engineer's subconsultant will complete topographic and right of way surveys of the site in accordance with MoDOT and CITY requirements and Missouri State minimum requirements. A detailed scope for this work is provided under the subconsultant scope of services later in this document. The requested surveys extend from the previous surveyed limits at the eastbound Route 100 ramps through the Old Manchester and Route 109 intersection to capture economies of scale (assuming this information will be needed in the near future).
5. Geotechnical Report – The Engineer's subconsultant will complete a geotechnical evaluation of the project. A geotechnical investigation report will be prepared which will document the course of the investigation, the field exploration and laboratory programs, and will present the boring logs, laboratory test data, and a description of the subsurface conditions encountered. A detailed scope for this work is provided under the subconsultant scope of services later in this document.
6. Quality Control – The Engineer will establish review and checking procedures for the project deliverables. Quality Assurance (or the process of executing the established Quality Control procedures) will be included in each individual task items and will be completed at appropriate points in time for that specific task. However, for major deliverables that require assembling data from many different tasks or delivery teams, an additional review will be completed by the Project Manager or his assigned Quality representative. It is

anticipated that these reviews will be completed prior to submittal of the following deliverables:

a. Preliminary Plans
b. Right of Way Plans
c. Final PS&E

F. TASK 2: PRELIMINARY DESIGN PHASE

A previous traffic study has been started for this corridor, including VISSIM and SIDRA traffic models for determining lane configurations, number of lanes, number and location of turning lanes, and performance indicators of the existing and future conditions. The following work will be necessary to complete this work:

1. Model Improvements – The Engineer will make various design refinements to the existing models in order to obtain acceptable levels of service for the design year. As a part of the analysis, the Engineer will recommend lane requirements, lane configurations, and geometrics needed for a twenty-year planning horizon. The Engineer will attempt to refine both VISSIM and SIDRA models. However, accuracy of measures of effectiveness between the two models will not be validated.
2. Documentation – After the completion of the modeling efforts, the Engineer will compile the findings and recommendations of the study in a draft report.
   a. One (1) hard copy and an electronic copy of the draft report will be provided to MoDOT and the CITY for review and comment.
   b. After MoDOT and the CITY have reviewed the report, the Engineer will meet with both entities to discuss findings, concerns, and comments which must be addressed before approval of the document can be given.
   c. After the aforementioned meeting, the Engineer compile review comments made on the draft report and make the required revisions. Two (2) copies of the final report will be provided to MoDOT and the CITY for review and approval.

The Engineer will build on the conceptual work that has been done through the conceptual stripmaps and TIP application process and build a preliminary plan set which includes the preparation of the following sheets and completion of said actions:

3. Title Sheet – The Engineer will complete a preliminary title sheet for the project.
4. Typical Section Sheets – The Engineer will prepare preliminary typical section sheets. Four (4) sheets are assumed.
5. Reference Tie / Project Control / Alignment Sheets – The Engineer will prepare preliminary tie and control sheets using information provided by the surveyor. Two (2) sheets are estimated.
6. Develop Plan Sheets – The Engineer will prepare a preliminary plan sheet based on a 20 scale in plan. The plan sheet will cover the intersection areas as well as new sidewalk connections and ancillary items to be constructed. Additionally, alignment sheets for each of the roundabouts will be prepared, detailing curve information and other necessary information for their construction. Five (5) sheets are estimated.
7. Develop Profile Sheet – The Engineer will prepare preliminary profile sheet based on a 20-inch horizontal / 5-inch vertical scale in profile. The profile sheet will detail all profiles necessary to construct the improvements. Two (2) sheets are estimated.

8. Cross Sections – Cross sections for the roundabout will be shown at fifty-foot intervals along the proposed centerline of the alignments, drawn at a scale of 1" equals 5' both horizontally and vertically. For the preliminary cross sections, only existing features and proposed pavement will be shown to generate construction limits (no labeling). Thirteen (13) sheets are assumed for this work.
9. Utility Coordination – The Engineer will coordinate utility company activities for the project by providing a preliminary plan submittal to utility providers, including a PDF of the following sheets: cover sheet, typical section sheets, plan sheet, profile sheet, and cross section sheets. Upon request, AutoCAD copies of the plans can be made available to the utilities for their use. Additionally, as a part of this work, the Engineer will attend one (1) Utility Coordination Meeting at the completion the preliminary design phase of the project to discuss existing facilities, and impacts and possible relocation corridors for impacted facilities.
10. Prepare Engineer's Estimate of Probable Cost – The Engineer will, based on the preliminary plans, complete a preliminary engineer's estimate of probable cost utilizing historical unit bid prices for construction.
11. Drainage Design – In order for an accurate and complete picture of the right of way needs for the project, the drainage design will be expedited. The drainage design during the Preliminary Phase will include:
    a. Assessment of the existing and proposed watershed and drainage areas, including existing storm sewer drainage network (condition, location, capacity, etc.) to determine the extent it can be reused.
    b. Type, size, and location of the necessary drainage features for the project, including enclosed drainage features (inlets and pipes).
    c. Assess and design water quality features meeting MSD's Phase 2 Water Quality requirements under the Clean Water Act. This includes one meeting with MSD to discuss the requirements and allowable measures to address them.
    d. MSD submittals and resubmittals are expected under this phase.
12. Submit Preliminary Plans – The Engineer will submit an electronic copy of the Preliminary Plans to MoDOT and the CITY for review and approval. One (1) half-size hard copy of the plan set will be submitted to the CITY and the submittal to MoDOT will be made electronically. The Preliminary Plan submittal will include: Title Sheet, Typical Section Sheet, Plan Sheet, Profile Sheet, and Cross Sections.
13. Public Meeting – One (1) Open House/Public Meeting will be conducted to present the preliminary plans to the affected stakeholders, elected CITY officials, and other interested parties. The hours to complete the exhibit shall reflect time to modify it for subsequent use in a future TIP application at the City's request.
    a. Up to three (3) Consultant employees shall be on hand at the public meeting to assist with presentations and answer stakeholder questions.
    b. For the public meetings, the Consultant will provide two (2) copies of the strip map of the proposed design, showing the existing topography, proposed infrastructure limited to pavement limits, curb and gutter locations, sidewalks, property information, construction limits, proposed right of way takings, and hatching. The strip maps will be mounted on display boards and will be on a high gloss paper. One (1) sample copy of the strip map will be provided one week prior to the meeting for CITY comments and questions. Consultant will work with the CITY to provide a quick fact sheet and a questionnaire/comment form for those in attendance at the public meeting.

14. NEPA Requirements – The Engineer will complete the following forms and requests in conjunction with a project with federal funds or on State Right of Way:
    a. Complete the required Section 106 Project Information Form to the State Historic Preservation Office.
    b. Provide information and complete an LPA Request for Environmental Review (RER) through the new Environmental Services webpage linked in the MoDOT EPG.

G. TASK 3: RIGHT OF WAY DESIGN PHASE

After review of the preliminary plan comments from MoDOT and the CITY's review, the Engineer will modify the plans to correspond to requested changes and proceed towards final design of the project. At this point, the Engineer will begin the preparation of Right of Way documents needed to acquire necessary property to construct the improvements.

The Right of Way Phase will not include development of detailed Right of Way Plans for the improvements. The development of the Right of Way documents will be based on the assumption that no more than five (5) parcels will require acquisition documents. If it is determined that more than five (5) parcels will require acquisition documents, the Engineer will complete this additional work by way of supplemental agreement.

For this project, all property takings and easement acquisition will be completed by the CITY, using the Right of Way documents prepared by the Engineer as follows:

1. The Engineer will provide individual Exhibits for each parcel requiring a temporary taking, but individual legal descriptions by parcel will not accompany the exhibits unless permanent takings are required. The work described herein will be limited to two (2) exhibits for temporary slope grading and restoration, and three (3) exhibits with accompanying legal descriptions for permanent sidewalk easements along the east side of Route 109. All other work is expected to remain within existing right of way.
2. The following exclusions to the Right of Way Phase are made:
    a. The Engineer will not provide any title work for any parcels for this project.
    b. Any work required for condemnation of property, once the Right of Way Plans have been submitted and approved, is excluded from this scope of services.
    c. All work under this phase will be completed under the direction and control of a Missouri Licensed Professional Land Surveyor. All exhibits and legal descriptions for permanent easement of ROW acquisition will be sealed by a Professional Land Surveyor licensed in the State of Missouri.
    d. The Engineer will not be responsible for the preparation of any Certified Land Corner documents.
    e. The Engineer will not be responsible for the physical monumentation of any proposed right of way or property corners, or the re-establishment of existing corners which may have been damaged, removed, or not found for this project.

H. TASK 4: FINAL DESIGN PHASE

The Final Design Phase shall include final design of the project as approved by the Preliminary Plan Submittal. The Engineer will undertake the following tasks in the final development of the plans.

1. Title Sheet – The Engineer will make final revisions to the title sheet.
2. Tabulation of Quantities – The Engineer will tabulate all quantities. The tabulation will be created in Excel spreadsheets. Overall quantity sheets will be summarized on an A-sheet, and subsequent sheets will break down how each quantity was tabulated by sheet and station range. Five (5) sheets are estimated.
3. Typical Section Sheets – The Engineer will detail and finalize the typical section sheet. Four (4) sheets are estimated.
4. Reference Tie / Project Control Sheet – The Engineer will make final revisions to the tie and control sheet.
5. Plan Sheet – The Engineer will finalize the plan sheets and alignment detail sheets by providing details and notes as necessary for the final design plans. Five (4) sheets are estimated.
6. Profile Sheet – The Engineer will finalize the profile sheets by providing information necessary for the final design plans. Two (2) sheets are estimated.
7. Pipe Profiles – The Engineer will detail and dimension the storm sewer (culvert) sections for all storm water drainage pipes and structures, as well as any open-ditches designed for the project. Profiles will be drawn at a scale of 1" equals to 20' horizontally and 1" equals 5' vertically. Five (5) sheets are estimated.
8. Develop Special Warping Detail Sheets – The Engineer will develop special warping sheets of the proposed intersection improvements. Three (3) sheets are anticipated.
9. Curb Ramp Plans – The Engineer will prepare details of proposed curb ramps that may be necessary for sidewalk or shared use paths. Two (2) sheets are anticipated.
10. Detail Sheets – The Engineer will prepare detail sheets for various non-standard facets of the project, including but not limited to details for street trees, curb details, barrier details, etc. Two (2) sheets are estimated.
11. Lighting Sheets – The Engineer will develop sheets required for the placement of new street lighting in and along the proposed sidewalk sections of the project, as well as lighting for the roundabouts. Seven (7) sheets are estimated of which four will be standard detail sheets from MoDOT.
12. Roundabout Detail Sheets – The Engineer will prepare special detail sheets for non-standard items at the roundabouts such as pavers, landscaping, etc. Three (3) sheets are estimated.
13. BMP Drainage Details – In order to meet the requirements of MSD, special details will be developed for the specified water quality features on the project. This may include proprietary details or special details for bioretention. Five (5) sheets are estimated.
14. Striping and Signage Plans – The Engineer will complete plans for new pavement markings as well as new or relocated ground mount signs. This task excludes overhead and truss mounted signs. Existing signs should be used in place unless they do not meet the current retroreflectivity requirements of the MUTCD. Additionally, sign cross sections will be shown and detailed for each sign proposed on the project. Sixteen (16) sheets are estimated.
15. Erosion Control Plans – The Engineer will include typical detail sheets for temporary erosion control installation around areas of new construction. The typical details and temporary erosion control will be shown on this sheet. Three (3) sheets are assumed.
16. Traffic Control Plan Sheets – The Engineer will develop traffic control plans sheets for maintaining traffic during construction. The plans will generally include standard details for lane drops or closures, as well as a detailed Traffic Control Plan indicating signage or

striping for phasing and sequencing. The worst case scenario where MoDOT's bridge, the pedestrian tunnel, and the roundabouts are all constructed at different times is assumed. This scenario will require continuous and detailed coordination between the projects to control the flow of traffic and coordinate all of the construction and design activities. Thirty-two (32) sheets are estimated.

17. Cross Sections – The Engineer will finalize the roadway cross sections included final design details and notes. Earthwork quantities and cross sections for the mainline and trails shall be provided at fifty-foot intervals along the proposed centerline of the alignments. Cross sections will be drawn at a scale of 1" equals 5' both horizontally and vertically. For each cross section, right of way, easement, and utility information will be graphically shown. Thirteen (13) sheets are assumed.
18. Prepare Engineer's Estimate of Probable Cost – The Engineer will update the engineer's estimate of probable cost based on the final design plans.
19. Utility Coordination – The Engineer will coordinate utility company activities for any adjustments required to be included in the final design plans, including a PDF submittal to each utility company with facilities within the project corridor. Upon request, AutoCAD copies of the plans will be made available to the utilities for their use, if required.
    a. The Engineer will make necessary changes required to accommodate utility plan adjustments into the final plans, however actual design of relocated or adjusted utility facilities is excluded from the scope.
    b. The CITY will be responsible for the preparation, negotiation and execution of all utility agreements as may be required to adjust existing utilities as a result of this project.
    c. The Engineer will attend one (1) a Utility Coordination Meeting in conjunction with the Final Design Plans.
20. Job Special Provisions – The Engineer will complete all Job Special provisions as necessary to supplement the standard specifications. For this project the standard specifications to be adopted shall be the Missouri Department of Transportation's Standard Specifications for Highway Construction, current edition.
21. Develop Project Manual/Bid Documents – The Engineer will incorporate the Job Special Provisions into MoDOT's Federal Boiler Plate Front End documents and make all changes needed to conform to the requirements of this project. The project manual will include all required provisions.
22. Submit 95% Draft Package/Plan Set for Review – The Engineer will submit a Draft PS&E package to MoDOT and the CITY. This submittal will include an electronic copy of the plans and electronic copy of the JSP's and Engineer's Estimate of Probable Cost by email.
23. Complete Final Revisions – The Engineer will complete revisions to the Draft PS&E in accordance with the review comments received from the final plan review by MoDOT and the CITY.
24. Submit Revised PS&E – After revising the Draft PS&E, the Engineer will resubmit final electronic copies of the PS&E to MoDOT and the CITY.

I. TASK 5: SEPARATE PLAN SET FOR ROUTE 109 SIDEWALK

In order to provide the most flexibility for construction and bidding of this work, the plans for the sidewalk along Route 109 between Route 100 and Old Manchester Road shall be assembled into a standalone set of construction documents. The specific tasks required in the design the sidewalk and coordinate it with the various other job tasks have been included in the previous

tasks of this scope. As a part of this scope, an assumption is made that no additional submittals, coordination, water quality, or other design effort is put towards MSD, and that all of said exclusions have already occurred as a part of the roadway project. However, the following will be additional scope items necessary to prepare a separate set of construction documents:

1. Plan Modification and assembly – The Engineer will pull out specific sheets, details, cross sections, quantity tabulations, and other items necessary from roadway plan set described previous to this scope item for use in a standalone set. Necessary updates to the plans to make the set buildable on its own merit shall be completed.
2. Develop Project Manual/Bid Documents – The Engineer will incorporate the necessary Job Special Provisions from the roadway specifications into the City of Wildwood's Standard Boiler Plate Front End documents and make all changes needed to conform to the requirements of this project. The project manual will include all required provisions. It is assumed that this will not be bid as a Federal project and therefore, the Project Manual will be considerably different than the roadway Project Manual.
3. Prepare Engineer's Estimate of Probable Cost – The Engineer will create an engineer's estimate of probable cost to reflect only the quantities and bid items within the standalone plan set for the sidewalk.

Should the sidewalk project be bid in conjunction with the roadway improvements, this phase shall become void, and the contract reduced corresponding to the amount of this phase.

J. TASK 6: BIDDING PHASE

Bidding Services for this project will include the following. (For the purposes of administering two separate construction packages for the roadway/roundabouts and the sidewalk, the hours in this task have been doubled.)

1. Addenda, Clarifications or Requests for Information – The Engineer will provide written clarifications in response to RFI's (in the form of addenda to the advertisement for bids).
2. Pre-Construction Meeting – The Engineer will attend one (1) preconstruction conference to be held by the CITY. The meeting will be arranged by the CITY and held at a facility chosen by the CITY. The Engineer will be on hand to answer questions about the construction, but the meeting will be run by the CITY.
3. Shop Drawing / Submittal Reviews – The Engineer will review shop drawings for compliance with the drawings and specifications and review material certifications submitted by the contractor.
4. Site Visits – The Engineer will make periodic site visits to the site to observe work progress and answer specific questions about design intent. Two (2) visits are assumed over the duration of the construction work.

PROJECT: Route 109 Improvements - Route 100 Bridge to Main Street Crossing
PROJ. NO.: 75150001
CLIENT: City of Wildwood, MO
CLIENT PM: Rick Brown, PE, PTOE - Director of Public Works
CONSULTANT PM: Jason Dohrmann, PE

ATTACHMENT B - ESTIMATE OF COST

Task	DESCRIPTION OF TASK	HR GREEN Direct Labor Task SubTotal	Direct Labor Plus Overhead (167.50%)	Labor Plus Overhead Plus Profit	Total Expenses	Task Total	HR GREEN, INC. PROJ. MNGR. Dohrmann	SENIOR PROF. Shane	JUNIOR PROF. Rauh	JUNIOR PROF. Schumann	ADMIN. ASST. Luzecky	EXPENSES Mileage Auto Unit	Mileage Auto Total	Copies Number	Copies Unit Price	Copies Total	Printing, Mounting, etc. Total	Subs Direct Total	Notes
	TOTAL HOURS						219	64	659	714	20								
	COST PER HOUR / UNIT (Direct Labor Rate)						64	58	33	30	21	0.54							
	TOTAL LABOR COST						14016	3712	21747	21420	420	200	108.00				950.00	35,909.45	
1	**PROJECT MANAGEMENT**												-			-			
1	External client progress meetings - **7** meetings assumed	729.00	1,950.08	2,223.09	60.48	2,283.57	7	2	5			112	60.48			-			Rental Car: Cheaper to rent car at $50/day than to charge mileage
2	Internal team progress meetings - **3** meetings assumed	439.00	1,174.33	1,338.73	-	1,338.73	3	1	3	3			-			-			
3	Invoices and progress reports (assume **12** months)	595.00	1,591.63	1,814.45	-	1,814.45	7				7		-			-			
4	Subcontractor Services - Surveying Services (Volz Inc.)	192.00	513.60	585.50	29,100.00	29,685.50	3						-			-		29,100.00	Add'l survey on top of that already completed (Volz) from Original Contract
5	Subcontractor Services - Geotechnical Services (TSi Engineering)	192.00	513.60	585.50	6,809.45	7,394.95	3						-			-		6,809.45	Add'l borings for fill at Main Street RAB and corings to confirm existing pavement sections
6.a.	QA/QC Preliminary Plan Submittal	256.00	684.80	780.67	-	780.67	4						-			-			Milestone Quality Check
6.b.	QA/QC Right of Way Plan Submittal	256.00	684.80	780.67	-	780.67	4						-			-			Milestone Quality Check
6.c.	QA/QC Final PS&E Plan Submittals	512.00	1,369.60	1,561.34	-	1,561.34	8						-			-			Milestone Quality Check
2	**PRELIMINARY DESIGN**	-	-	-	-	-							-			-			
1	Model Improvements to finalize traffic study	1,728.00	4,622.40	5,269.54	-	5,269.54	1	8		40			-			-			
2.a.	Submit draft traffic report to City / MoDOT	1,248.00	3,338.40	3,805.78	-	3,805.78	1	8		24			-			-			
2.b.	Address comments / meeting to discuss comments	600.00	1,605.00	1,829.70	8.64	1,838.34	2	4		8		16	8.64			-			
2.c.	Finalize traffic report and submit to City / MoDOT	416.00	1,112.80	1,268.59	-	1,268.59	1	4		4			-			-			
3	Prepare title sheet (1 sheet)	96.00	256.80	292.75	-	292.75			2	1			-			-			
4	Prepare typical sections (4 sheets)	370.00	989.75	1,128.32	-	1,128.32	1		2	8			-			-			
5	Prepare control pt, benchmarks sheets (2 sheets)	436.00	1,166.30	1,329.58	-	1,329.58	1		4	8			-			-			
6	Prepare plan sheets (5sheets; 3 PNP and 2 Alignment sheets for RABs)	3,030.00	8,105.25	9,239.99	-	9,239.99	10	5	20	48			-			-			
7	Prepare profile sheets (2 sheets)	500.00	1,337.50	1,524.75	-	1,524.75	2		4	8			-			-			
8	Prepare cross sections for mainline and sideroads (13 sheets)	822.00	2,198.85	2,506.69	-	2,506.69	3		10	10			-			-			
9	Attend Preliminary Design utility coordination meeting and prepare minutes	282.00	754.35	859.96	8.64	868.60	3			3		16	8.64			-			
10	Engineers Estimate of Probable Construction Cost - Prelim. Plans	380.00	1,016.50	1,158.81	-	1,158.81	2		4	4			-			-			
11.a.	Drainage: Assess watersheds and existing drainage areas and storm system	264.00	706.20	805.07	-	805.07			8				-			-			
11.b.	Drainage: Design type, size, and location of proposed design features	784.00	2,097.20	2,390.81	-	2,390.81	4		16				-			-			
11.c.	Drainage: Assess and design water quality treatments	3,280.00	8,774.00	10,002.36	21.60	10,023.96	16		32	40		40	21.60			-			Includes meeting with MSD regarding water quality
11.d.	Drainage: Develop report and submit to City / MSD - Assume 3 total submittals	3,200.00	8,560.00	9,758.40	650.00	10,408.40	8		40	40	8		-			-	650.00		Includes printing of full size sets for MSD submittals / approvals
12	Make Preliminary Plan Submittal to City and MoDOT	115.00	307.63	350.69	-	350.69	1			1	1		-			-			
13.a.	Pub. Involvement -attend / staff open house meeting	608.00	1,626.40	1,854.10	-	1,854.10	4	4		4			-			-			
13.b.	Pub. Involvement - prepare for open house meeting (Stripmaps, boards, TIP exhibit, etc.)	1,402.00	3,750.35	4,275.40	300.00	4,575.40	4		8	28	2		-			-	300.00		Includes printing and mounting and revisions to TIP exhibit
14.a.	Prepare Section 106 permit	198.00	529.65	603.80	-	603.80			6				-			-			
14.b.	Prepare and submit information for LPA Request for Environmental Review	132.00	353.10	402.53	-	402.53			4				-			-			
3	**RIGHT OF WAY DESIGN**	-	-	-	-	-							-			-			
1.a.	Temporary Easement Exhibits (limited to 2 total)	500.00	1,337.50	1,524.75	-	1,524.75	2		4	8			-			-			
1.b.	Permanent Easement Exhibits and Corresponding Legal Descriptions (limited to 3 total)	1,230.00	3,290.25	3,750.89	-	3,750.89	6		12	15									
2	Revisions to exhibits based on City or MoDOT driven comments	124.00	331.70	378.14	-	378.14	1			2			-			-			
4	**FINAL DESIGN**	-	-	-	-	-							-			-			
1	Modify title sheet (1 sheet)	93.00	248.78	283.60	-	283.60			1	2			-			-			
2	Tabulate quantities and prepare 2A and 2B sheets (10 sheets)	2,736.00	7,318.80	8,343.43	-	8,343.43	8	4	24	40			-			-			
3	Modify typical sections (4 sheets)	252.00	674.10	768.47	-	768.47			4	4			-			-			
4	Modify control pt, benchmarks sheets (2 sheets)	768.00	2,054.40	2,342.02	-	2,342.02			16	8			-			-			
5	Modify plan sheets (5 sheets; 3 PNP and 2 Alignment sheets for RABs)	2,924.00	7,821.70	8,916.74	-	8,916.74	4	4	32	46			-			-			
6	Modify profile sheets (2 sheets)	556.00	1,487.30	1,695.52	-	1,695.52	1		4	12			-			-			
7	Prepare pipe profile sheets (5 sheets)	1,244.00	3,327.70	3,793.58	-	3,793.58	2		12	24			-			-			
8	Prepare warping sheets (3 sheets)	1,616.00	4,322.80	4,927.99	-	4,927.99	2		16	32			-			-			
9	Prepare curb ramp detail sheets (2 sheets)	1,048.00	2,803.40	3,195.88	-	3,195.88	1		8	24			-			-			
10	Prepare special detail sheets (2 sheets)	304.00	813.20	927.05	-	927.05	1			8									
11	Prepare lighting sheets (7 sheets)	712.00	1,904.60	2,171.24	-	2,171.24		4		16									
12	Prepare roundabout sheets (3 sheets)	592.00	1,583.60	1,805.30	-	1,805.30	1		16										
13	Prepare BMP drainage details (5 sheets)	976.00	2,610.80	2,976.31	-	2,976.31		4	8	16									
14	Prepare signing and striping sheets (3 plan, 2 ramp, 4 qty, 3 det, 4 xsec)	4,328.00	11,577.40	13,198.24	-	13,198.24		8	88	32			-			-			
15	Prepare grading / erosion control sheets (3 sheets)	870.00	2,327.25	2,653.07	-	2,653.07	3		6	16			-			-			
16	Prepare TCP / Staging sheets (32 sheets)	5,424.00	14,509.20	16,540.49	-	16,540.49	6		120	36			-			-			Prepares for worst case of multiple jobs (Ped tunnel, bridge, RABs, development) and multiple construction schedules.
17	Modify x-sections / compute EW for mainline and sideroads (10 sheets)	612.00	1,637.10	1,866.29	-	1,866.29			4	16			-			-			
18	Update EEOPC for final quantities / cost indexing	560.00	1,498.00	1,707.72	-	1,707.72	1	4	8				-			-			
19	Attend final utility coordination meeting and prepare minutes	282.00	754.35	859.96	8.64	868.60	3			3		16	8.64			-			
20	Prepare JSPs and any PIFs required	656.00	1,754.80	2,000.47	-	2,000.47	2		16				-			-			
21	Develop Project Manual / Bidding Documents using Federal Boiler Plate	1,288.00	3,445.40	3,927.76	-	3,927.76	16		8				-			-			
22	Submit Draft PS&E to MoDOT / City for Review	256.00	684.80	780.67	-	780.67	1		4	2			-			-			
23	Complete MoDOT / City revisions	1,000.00	2,675.00	3,049.50	-	3,049.50	4		8	16			-			-			
24	Submit PS&E to MoDOT	166.00	444.05	506.22	-	506.22	1			2	2		-			-			

PROJECT: Route 109 Improvements - Route 100 Bridge to Main Street Crossing
PROJ. NO.: 75150001
CLIENT: City of Wildwood, MO
CLIENT PM: Rick Brown, PE, PTOE - Director of Public Works
CONSULTANT PM: Jason Dohrmann, PE

ATTACHMENT B - ESTIMATE OF COST

Task	DESCRIPTION OF TASK	HR GREEN Direct Labor Task	Direct Labor Plus Overhead	Labor Plus Overhead Plus Profit	Total Expenses	Task Total	HR GREEN, INC. PROJ. MNGR.	SENIOR PROF.	JUNIOR PROF.	JUNIOR PROF.	ADMIN. ASST.	EXPENSES Mileage Auto		Copies			Printing, Mounting, etc.	Subs Direct	Notes
	TOTAL HOURS						219	64	659	714	20								
	COST PER HOUR / UNIT (Direct Labor Rate)						64	58	33	30	21	0.54							
	TOTAL LABOR COST						14016	3712	21747	21420	420	200	108.00				950.00	35,909.45	
5	**SEPARATE PLAN SET FOR ROUTE 109 SIDEWALK**	-	-	-	-	-							-			-			
1	Required plan modifications to the roadway set for standalone bidding	**2,504.00**	**6,698.20**	**7,635.95**	-	**7,635.95**	8		24	40			-			-			
2	Develop Project Manual / Bidding Documents using Wildwood's Boiler Plate	**1,552.00**	**4,151.60**	**4,732.82**	-	**4,732.82**	16		16				-			-			
3	Prepare EEOPC for standalone project	**500.00**	**1,337.50**	**1,524.75**	-	**1,524.75**	2		4	8			-			-			
6	**BIDDING SERVICES / CONSTRUCTION SERVICES**	-	-	-	-	-							-			-			
1	Issuing written clarifications to requests for information during bidding phase	**632.00**	**1,690.60**	**1,927.28**	-	**1,927.28**	8			4			-			-			
2	Attend preconstruction conference	**388.00**	**1,037.90**	**1,183.21**	-	**1,183.21**	4		4				-			-			
3	Perform shop drawing reviews	**784.00**	**2,097.20**	**2,390.81**	-	**2,390.81**	4		16				-			-			
4	Periodic site visits during construction and answering contractor questions	**776.00**	**2,075.80**	**2,366.41**	-	**2,366.41**	8		8				-			-			

Total Design Fee: $ 223,947.54
Remaining Contract Dollars Available as of 10/4/16: $ 42,589.00
Total Supplemental Agreement: $ 181,358.54

Assumptions:
1 No right of way plan preparation is planned; Only preparing documents (exhibits) for acquisition.
2 Survey limits extend to Old Manchester so beneift from economy of scale.
3
4

BILL #2222 **ORDINANCE #2222**

AN ORDINANCE AUTHORIZING THE CITY ADMINISTRATOR OF THE CITY OF WILDWOOD, MISSOURI, TO ISSUE A PURCHASE ORDER ON BEHALF OF THE CITY OF WILDWOOD WITH CORPORATE INTERIORS, INC., d/b/a CI SELECT, FOR THE PURCHASE, DELIVERY AND INSTALLATION OF AUDIO VISUAL SYSTEMS FOR THE WILDWOOD MUNICIPAL BUILDING

WHEREAS, the Council Administration/Public Works Committee has identified the need for certain audio visual enhancements within the Council Chambers of the Wildwood Municipal Building; and

WHEREAS, the City's audio visual consultant has provided proposals for the purchase, delivery and installation of eleven built-in dais monitors, a laser projector, a table top digital document camera and a press box to the current audio visual system; and

WHEREAS, said improvements will enhance the ability to effectively conduct public meetings in the Council Chambers of the Wildwood Municipal Building.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF WILDWOOD, MISSOURI, AS FOLLOWS:

Section One. The City Administrator of the City of Wildwood is hereby authorized and empowered to, on behalf of the City, issue a Purchase Order with Corporate Interiors, Inc, d/b/a CI Select, to furnish, deliver and install audio visual systems within the Wildwood Municipal Building, consistent with the terms set forth in the Proposal attached hereto as **Exhibit A** and incorporated by reference herein..

Section Two. That the City Administrator is hereby further authorized and directed on behalf of and in the name of the City to agree to do any and all other acts and things and to execute and deliver any and all other agreements, documents, instruments and certificates, all as may be necessary and appropriate to consummate the above mentioned purchase order consistent with the Proposal. The execution by the City Administrator of any agreement, document, instrument, check or certificate referred to in this Ordinance and the Proposal shall be conclusive evidence of the approval thereof and of all of the terms, provisions and conditions contained therein. Any and all acts which the City Administrator may do or perform in conformance with the powers conferred upon him by this Ordinance are hereby expressly authorized, approved, ratified and confirmed.

Section Three. The total expenses and liability of the City of Wildwood authorized herein shall not exceed $25,160.02.

Section Four. This Ordinance shall be in full force and effect from and after its passage and approval.

This Bill was passed and approved this ____ day of _____, 2016, by the Council of the City of Wildwood, Missouri, after having been read by title or in full two times prior to passage.

_____	_____
Presiding Officer	James R. Bowlin, Mayor
ATTEST:	ATTEST:
_____	_____
City Clerk	City Clerk

EXHIBIT A

EXHIBIT A - Item 1

Customer:
City of Wildwood
16860 Main Street
Wildwood, MO 63040
Project: Video image distribution for the council members.

CI Select
11840 Westline Industrial Drive
St Louis, MO 63146
314-909-1990 phone
314-909-1911 fax

Project Description:
Install listed equipment to provide monitors for each pair of council members. Signal displayed will be the same image that is sent to the projector.

Submitted By: Tim Landwehr

EQUIPMENT:

	Product	Manufacturer	Model #	Qty.	Price	Extended Price
1	Monitor tilt mount	Chief	KOW100B	11	$109.60	$1,205.60
2	HDMI distribution amplifier 1x8	Crestron	HD-DA8-4K-E	1	$666.67	$666.67
3	HDMI distribution amplifier 1x4	Crestron	HD-DA4-4K-E	1	$333.33	$333.33
4	HDMI extender set	Liberty	DL-HD100	1	$344.73	$344.73
5	RGB to HDMI scaler	Crestron	HD-Scaler-VGA-E	1	$400.00	$400.00
6	19" Monitor	Samsung	TBD	11	$152.87	$1,681.61
7	Custom Wood mounting block for Dias monitors	custom	misc	11	$84.62	$930.77
8	Patch cables	Kramer	misc	1	$366.67	$366.67
					Equipment Sub Total	**$5,929.38**

AV SERVICES:

Installation Labor & Materials	$3,217.65
Project Management includes: Programming, Testing & Tuning, Training, Warranty, Drawings & Documentation	$426.00
Shipping & Handling	$200.45
AV Services Sub Total	**$3,844.10**

Sales tax not included

Grand Total **$9,773.48**

Proposal valid for 30 days from: 7/11/2016

"CI Select is pleased to submit this proposal for your acceptance. Unless otherwise stated, quoted prices are based on normal working hours, M-F, 8am-4pm. Buyer is subject to applicable sales tax. Seller retains a purchase money interest. By accepting this proposal, you agree to our full terms & conditions – see our website at www.ciselect.com/terms. The deposit amount below is required within 5 days of order placement. A convenience fee of 2.75% applies to credit cards."

EXHIBIT A - Item 2

Customer:
City of Wildwood
16860 Main Street
Wildwood, MO 63040

CI Select
11840 Westline Industrial Drive
St Louis, MO 63146
314-909-1990 phone
314-909-1911 fax

Project Description:
Replace existing projector and change control code for new projector. Labor is not to exceed.

Submitted By: Tim Landwehr

EQUIPMENT:

	Product	Manufacturer	Model #	Qty.	Price	Extended Price
1	Projector, 1080p, 5400 lumen, laser	Christie	DHD555-G	1	$6,742.68	$6,742.68
2	Projector lens, 1.52-2.89	Christie	140-102104--01	1	$1,735.00	$1,735.00
					Equipment Sub Total	**$8,477.68**

AV SERVICES:

Installation Labor & Materials	$385.88
Project Management includes:	$376.00
Programming, Testing & Tuning, Training, Warranty, Drawings & Documentation	
Shipping & Handling	$106.52
AV Services Sub Total	**$868.40**
Grand Total	**$9,346.09**

Proposal valid for 30 days from: 9/30/2016

Sales tax not included

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Project Description:
Replace existing document camera and reprogram the creston control system. Old Doc Cam is annalog this unit is digital.

Submitted By: Tim Landwehr

EQUIPMENT:

	Product	Manufacturer	Model #	Qty.	Price	Extended Price
1	Table top digital document camera, 1080p	Wolfvision	VZ-8light	1	$3,235.37	$3,235.37
2	HDMI cable 15'	misc	misc	1	$25.63	$25.63
					Equipment Sub Total	**$3,260.99**

AV SERVICES:

Installation Labor & Materials	$100.00
Project Management includes: Programming, Testing & Tuning, Training, Warranty, Drawings & Documentation	$265.00
Shipping & Handling	$44.11
AV Services Sub Total	**$409.11**
Grand Total	**$3,670.10**

Proposal valid for 30 days from: 9/30/2016

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EXHIBIT A - Item 4

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Project Description:

Install distribution amplifier and cabling to a wall plate to provice a program audio feed to the rear of the Council Chambers.
Labor is not to exceed, bill actual time.

Submitted By: Tim Landwehr

EQUIPMENT:

	Product	Manufacturer	Model #	Qty.	Price	Extended Price
1	Twelve microphone and two line output portable press box	Whirlwind	Pressmite	1	$1,055.49	$1,055.49
2	Distribution amplifier	RDL	ST-UMX3	1	$138.86	$138.86
3	Power supply	RDL	PS24AS	1	$23.31	$23.31
4	Wall plate for output to press box	Liberty	C63131-WQ486429	1	$36.69	$36.69
5	Patch cable	misc	misc	1	$31.25	$31.25
					Equipment Sub Total	**$1,285.60**

AV SERVICES:

Installation Labor & Materials	$1,676.47
Project Management includes: Programming, Testing & Tuning, Training, Warranty, Drawings & Documentation	$626.00
Shipping & Handling	$67.88
AV Services Sub Total	**$2,370.35**
Grand Total	**$3,655.95**

Proposal valid for 30 days from: 8/24/2016

Sales tax not included

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BILL #2222 **ORDINANCE #2222**

AN ORDINANCE AUTHORIZING THE CITY ADMINISTRATOR OF THE CITY OF WILDWOOD, MISSOURI, TO ISSUE A PURCHASE ORDER ON BEHALF OF THE CITY OF WILDWOOD WITH CORPORATE INTERIORS, INC., d/b/a CI SELECT, FOR THE PURCHASE, DELIVERY AND INSTALLATION OF AUDIO VISUAL SYSTEMS FOR THE WILDWOOD MUNICIPAL BUILDING

WHEREAS, the Council Administration/Public Works Committee has identified the need for certain audio visual enhancements within the Council Chambers of the Wildwood Municipal Building; and

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Section Three. The total expenses and liability of the City of Wildwood authorized herein shall not exceed $25,160.02.

Section Four. This Ordinance shall be in full force and effect from and after its passage and approval.

This Bill was passed and approved this ____ day of _____, 2016, by the Council of the City of Wildwood, Missouri, after having been read by title or in full two times prior to passage.

_____	_____
Presiding Officer	James R. Bowlin, Mayor
ATTEST:	ATTEST:
_____	_____
City Clerk	City Clerk

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Grand Total **$9,773.48**

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Shipping & Handling	$67.88
AV Services Sub Total	**$2,370.35**
Grand Total	**$3,655.95**

Proposal valid for 30 days from: 8/24/2016

Sales tax not included

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BILL #2223 **ORDINANCE #2223**

AN ORDINANCE BY THE CITY COUNCIL OF THE CITY OF WILDWOOD, MISSOURI AUTHORIZING A BOUNDARY ADJUSTMENT PLAT OF *ADJUSTED LOTS 1 AND 2 OF WILDWOOD TOWN CENTER - PLAT TWO* [RECORDED IN PLAT BOOK 356, PAGES 485-486], WHICH IS SITUATED WITHIN THE SOUTHEAST QUARTER OF SECTION 1, TOWNSHIP 44 NORTH, RANGE 3 EAST, OF THE 5TH PRINCIPAL MERIDIAN, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, AND MORE SPECIFICALLY, LOCATED ON THE WEST SIDE OF FOUNTAIN PLACE, BETWEEN STATE ROUTE 100 TO THE NORTH AND PLAZA DRIVE TO THE SOUTH, FOR THE PURPOSE OF CONSOLIDATING THESE TWO (2) SUBJECT PROPERTIES INTO A SINGLE 1.65-ACRE LEGAL LOT OF RECORD. (Ward Eight)

WHEREAS, the owner is seeking the consolidation of two (2) existing lots, via the provisions of Section 420.360 Boundary Adjustment – Exceptions of the *Subdivision and Development Regulations* of the City of Wildwood, St. Louis County, Missouri; and

WHEREAS, with the boundary adjustment, i.e. elimination of the common boundary line between these existing subject lots, the property will be consolidated into a single legal lot of record, totaling 1.65 acres in size; and

WHEREAS, the resulting lot, via consolidation, appears to meet the regulations prescribed by the Zoning Ordinance of the City of Wildwood for the Amended C-8 Planned Commercial District and C-8 Planned Commercial District designations, as applied to the original parcels of ground; and

WHEREAS, the proposed lot complies with the parking and boundary line setback requirements and minimum dimensions mandated by the City of Wildwood's *Subdivision and Development Regulations,* as well as the amended site-specific ordinance [#2200]; and

WHEREAS, with the consolidation of these two (2) lots, building line setbacks that were associated with the eliminated property line will also be extinguished and certain utility easements vacated, while the previously dedicated cross-access easement benefiting the City is retained; and

WHEREAS, the approval of this Boundary Adjustment Plat for consolidation complies with the standards and guidelines of the Town Center Plan and meets the requirements relating to the design for the proposed use of this lot – a senior-living, assisted-care facility contained in a single 73,000 square foot, 3-story building; and

WHEREAS, the City of Wildwood, on September 1, 1995, adopted specific ordinances, codes, and regulations enabling it to exercise and administer its zoning and subdivision authorities to promote the health, safety, and general welfare of its residents, which this action is in keeping with such intent.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF THE WILDWOOD, MISSOURI AS FOLLOWS:

Section One. The City Council of the City of Wildwood, Missouri hereby approves and authorizes the Boundary Adjustment Plat of *Adjusted Lots 1 And 2 Of Wildwood Town Center - Plat Two* [Recorded in Plat Book 356, Pages 485-486], which is situated within the Southeast Quarter of Section 1, Township 44 North, Range 3 East, of the 5th Principal Meridian, City of Wildwood, St. Louis County, Missouri, and more specifically, located on the west side of Fountain Place, between State Route 100 to the north and Plaza Drive to the south, for the purpose of consolidating these two

(2) subject properties into a single 1.65-acre legal lot of record. These lots are indicated graphically on the attached plat and accompanying legal descriptions (more specifically), now hereto adopted and made a part of this ordinance.

Section Two. The Director of Planning and the City Clerk are authorized and directed to evidence the approval of this plat by affixing their signatures and the official seal of the City of Wildwood to a Certificate of Approval upon this instrument. The petitioner is required and directed to record the approved plat (within sixty (60) days of its approval by the City Council of the City of Wildwood, Missouri) with the Office of the Recorder of Deeds of St. Louis County, Missouri, or its action in regard to this property will be voided.

Section Three. This ordinance shall be in full force and effect, from and after its date of passage and approval, provided all required fees are paid to the City, all applicable provisions of the *Subdivision and Development Regulations* are met, and a recorded copy of the plat is returned to the City by the petitioner.

THIS BILL WAS PASSED AND APPROVED THIS ___DAY OF _____2016 BY THE COUNCIL OF THE CITY OF WILDWOOD AFTER HAVING BEEN READ BY TITLE, OR IN ITS ENTIRETY, TWO (2) TIMES PRIOR TO ITS PASSAGE.

Presiding Officer	**The Honorable James R. Bowlin, Mayor**

ATTEST:

City Clerk	**City Clerk**

CONSOLIDATION OF ADJUSTED LOTS 1 AND 2 OF WILDWOOD TOWN CENTER PLAT TWO

A CONSOLIDATION OF ADJUSTED LOT 1 AND ADJUSTED LOT 2 OF
WILDWOOD TOWN CENTER PLAT TWOAS RECORDED IN PLAT BOOK 356, PAGES 485 AND486
AND LOCATED IN THE SOUTHEAST QUARTER OF SECTION 1,
TOWNSHIP 44 NORTH, RANGE 3 EAST OF THE 5TH PRINCIPAL MERIDIAN,
CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI

ZONING: C-8 (PLANNED COMMERCIAL DISTRICT) AND AMENDED C-8 (PLANNED COMMERCIAL DISTRICT)
WITH TOWN CENTER PERMITTED USES PER ORDINANCE #1175
THIS PLAT CONTAINS 166,813 SQ. FT. OR 3.829 ACRES±

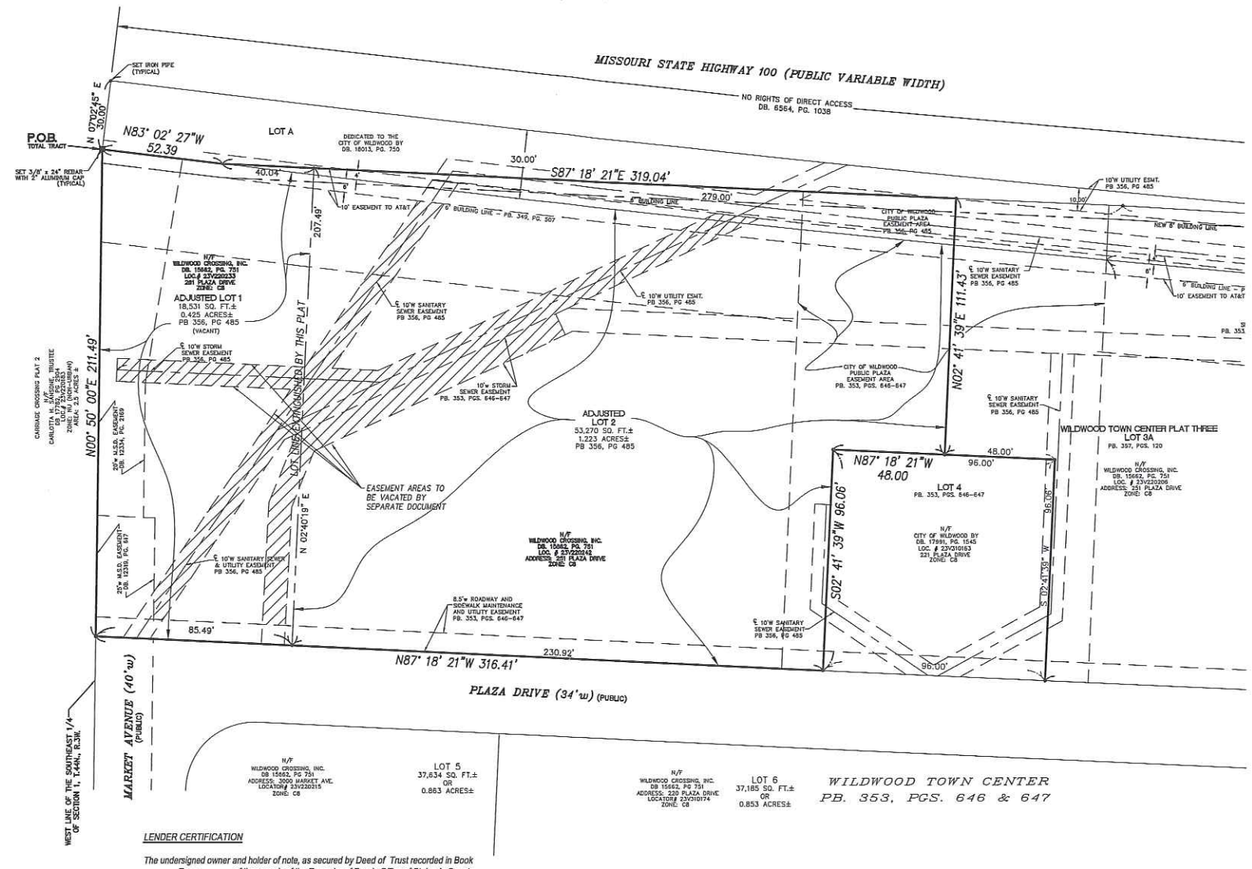
GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

LEGEND

- BENCH MARK
- FOUND IRON ROD
- FOUND IRON PIPE
- RIGHT OF WAY MARKER
- UTILITY POLE
- SUPPORT POLE
- UTILITY POLE WITH LIGHT
- LIGHT STANDARD
- ELECTRIC METER
- ELECTRIC MANHOLE
- ELECTRIC PEDESTAL
- ELECTRIC SPLICE BOX
- GAS DRIP
- GAS METER
- GAS VALVE
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TELEPHONE SPLICE BOX
- CABLE TV PEDESTAL
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER MANHOLE
- WATER METER
- WATER VALVE
- POST INDICATOR VALVE
- CLEAN OUT
- STORM MANHOLE
- GRATED MANHOLE
- STORMWATER INLET
- GRATED STORMWATER INLET
- SANITARY MANHOLE
- TREE
- BUSH
- TRAFFIC SIGNAL
- PARKING METER
- STREET SIGN
- SPRINKLER
- MAIL BOX



LOCATION MAP
(NOT TO SCALE)

NOTES:

(1) Basis of bearings adopted from Plat Book 353 Pages 346 & 647 of the St. Louis County Records.

(2) Subject property lies within Flood Zone "X" (areas determined to be outside the 500-year floodplain) according to the National Flood Insurance Program, Flood Insurance Rate Map for St. Louis County, Missouri and Incorporated Areas. The map is identified as Map No. 29189C0235 H with an effective date of August 2, 1995.

(3) Building lines and parking setbacks on this plat are subject to City of Wildwood Ordinance No. 1175.

(4) Stock and Associates Consulting Engineers, Inc. used exclusively U.S. Title Guaranty Company, Commitment No. T-08686 with an effective date of March 29, 2007 for research of easements and encumbrances. No further research was performed by Stock and Associates Consulting Engineers, Inc.

(5) Source of Record Information: Plat Book 353, Pages 646-647 and Deed Book 17074, Page 1698

SERVICE PROVIDERS

a. School ..... Rockwood
b. Fire ..... Metro West
c. Sewer ..... Metropolitan St. Louis Sewer District
d. Water ..... Missouri-American Water Company
e. Gas ..... Laclede Gas
f. Phone ..... AT&T
g. Electric ..... Ameren U.E.
h. Cable ..... Charter Communications (or none)
i. Watershed .. Caulks Creek
j. Zip Code .... 63040 Grover
k. Police ..... St. Louis County - Wildwood Precinct
l. City Council .. Ward 8

OWNER'S CERTIFICATION

We, the undersigned owners of a tract of land platted and further described in the foregoing Surveyor's Certification, have caused the same to be surveyed and resubdivided in the manner shown on this plat, which subdivision shall hereinafter be known as

"CONSOLIDATION OF ADJUSTED LOTS 1 AND 2 OF WILDWOOD TOWN CENTER PLAT TWO"

No new easements are created by this plat.

It is hereby certified that all existing easements are shown on this plat as of the time and date of the recording of this plat.

Building lines, as shown on this plat, are hereby established.

All taxes that are due and payable against this property have been paid in full.

Permanent and or semi-permanent monuments shall be set as required at all lot corners will be set within twelve (12) months of the recording of this plat according of this subdivision in accordance with NCSR 30-2.090 of the Missouri Department of Natural Resources, and 20-CSR 2030-16.090 of the Missouri Department of Insurance, Financial Institutions and Professional Registration. In addition, other survey monuments indicated on the subdivision plat required by the Subdivision and Development Regulations of Wildwood Town Center will be set.

IN WITNESS WHEREOF, the parties have hereunto set their hand this _____ day of _____, 20____.

WILDWOOD CROSSING, INC.

By:_____

Name:_____

Title:_____

STATE OF MISSOURI)
) SS.
COUNTY OF ST. LOUIS)

On this _____ day of _____, 20___ before me appeared _____ to me known, who being by me duly sworn did say that he is the _____ of WILDWOOD CROSSINGS, INC., a Missouri Corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation, and that said instrument was signed and sealed on behalf of said corporation by authority of its Board of Directors, and said _____ acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal the day and year last above written.

Notary Public_____

Print Name _____

My commission expires:_____

LENDER CERTIFICATION

The undersigned owner and holder of note, as secured by Deed of Trust recorded in Book _____ Page _____ of the records of the Recorder of Deeds Office of St. Louis County, Missouri does hereby join in and approve of the foregoing subdivision plat as shown hereon.

IN WITNESS WHEREOF, we have hereunto set our hand and affixed our corporate seal this day of , 2008.

BANK OF AMERICA, N.A.

By:_____

_____
Print Name

_____
Print Title

STATE OF MISSOURI)
) SS.
COUNTY OF ST. LOUIS)

On this _____ day of _____, 20___ before me personally appeared _____ to me known, who being by me duly sworn did say that he/she is the _____ of Bank of America N.A., and that the seal affixed to the foregoing instruments is the corporate seal of said corporation, and that said instrument was signed and sealed on behalf of said corporation by authority of its Board of Directors, and said _____ acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal on the day and year first above written.

_____
Notary Public

_____
Print Name

My commission expires: _____

CITY CERTIFICATION

This acknowledgment certifies this Consolidation Plat, has been approved by the City of Wildwood, Missouri on this _____ day of _____, 20____.

City of Wildwood Department of Planning

_____
Joe Vujnich, Director of Planning

I, Lynne Greene-Beldner, City Clerk of the City of Wildwood, St. Louis County, Missouri do hereby certify this Consolidation plat was approved by Ordinance Number _____ _____ day of _____ under action taken by the City Council of Wildwood, Missouri on the _____ _____, 20___. Said ordinance of the same appears on record in my office as testimony whereof, I hereunto set my hand and affix my seal of the City of Wildwood, St. Louis, Missouri, on this _____ day of _____ _____, 20___.

_____
Lynne Greene-Beldner, City Clerk

PROPERTY DESCRIPTION

A tract of land being Adjusted Lot 1 and Adjusted Lot 2 of "Wildwood Town Center Plat Two", a subdivision filed for record in Plat Book 356, Pages 485 and 486 of the St. Louis County, Missouri records, and being part of the Southeast Quarter of Section 11 in Township 44 North, Range 3 East of the Fifth Principal Meridian, City of Wildwood, St. Louis County, Missouri and being more particularly described as follows:

BEGINNING at the Southwest corner of Adjusted Lot 1 of "Wildwood Town Center Plat Two", a subdivision filed for record in Plat Book 356, Page 485 and 486 of the St. Louis County Records; thence along the Western line of said Adjusted Lot 1 North 00 degrees 50 minutes 00 seconds East, 211.49 feet to the Northwest corner thereof; thence along the Northern line of Adjusted Lot 1 and Adjusted Lot 2 the following: South 83 degrees 02 minutes 27 seconds East, 52.39 feet to a point; thence South 87 degrees 18 minutes 21 seconds East, 319.04 feet to the Northeast corner of Adjusted Lot 2; thence along the Eastern line of Adjusted Lot 2 South 02 degrees 41 minutes 39 seconds West, 111.43 feet to a point; thence North 87 degrees 18 minutes 21 seconds West, 48.00 feet to a point; thence South 02 degrees 41 minutes 39 seconds West, 96.06 feet to a point on the Northern right-of-way line of Plaza Drive; thence along said Northern right-of-way line North 87 degrees 18 minutes 21 seconds west, 316.41 feet to the Point of Beginning and containing 71,801 square feet or 1.646 acres more or less as per calculations by Stock & Associates Consulting Engineers, Inc. during February, 2016.

SURVEYOR'S CERTIFICATION

This is to certify that Stock & Associates Consulting Engineers, Inc. have, during April, 2007, by order of and for the use of Koman Properties executed a Property Boundary Survey and Lot Consolidation of a tract of land being Adjusted Lots 1 and 2 of Wildwood Town Center Plat Two as recorded in Plat Book 356, Pages 485 and 486 and being located in the Southeast Quarter of Section 1, Township 44 North, Range 3 East of the 5th Principal Meridian, City of Wildwood, St. Louis County, Missouri, and that the results of said survey and lot consolidation are shown hereon. We further certify that said survey meets or exceeds the current minimum standards for Property Boundary Surveys for "Class Urban Property" as defined in Chapter 16, Land Surveying 20 CSR 2030-16.040 of the Missouri Standards for Property Boundary Surveys, and adopted by The Missouri Board for Architects, Professional Engineers, Professional Land Surveyors, and Landscape Architects.

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC.
LC NO. 222-D

By: _____
Daniel Ehlmann, Missouri P.L.S. No. 2215

ABBREVIATIONS

C.O. – CLEANOUT
DB. – DEED BOOK
E – ELECTRIC
FL – FLOWLINE
FT. – FEET
FND. – FOUND
G – GAS
M.H. – MANHOLE
N/F – NOW OR FORMERLY
PB. – PLAT BOOK
PG. – PAGE
P.O.B. – POINT OF BEGINNING
P.O.C. – POINT OF COMMENCEMENT
P.V.C. – POLYVINYL CHLORIDE PIPE
R.C.P. – REINFORCED CONCRETE PIPE
SQ. – SQUARE
T – TELEPHONE CABLE
V.C.P. – VETRIFIED CLAY PIPE
W – WATER
(86'W) – RIGHT-OF-WAY WIDTH
M.B. – MAIL BOX

PREPARED FOR:
NORTHPOINT DEVELOPMENT
5015 NW CANAL STREET, SUITE 200
RIVERSIDE, MO 64150

PREPARED BY:
STOCK & ASSOCIATES Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005 Ph. (636)
530-9100 FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

CONSOLIDATION PLAT
WILDWOOD TOWN CENTER
CITY OF WILDWOOD
MISSOURI

DANIEL EHLMANN P.L.S.
MO. P.L.S. # 2215
CERTIFICATE OF AUTHORITY
LC-222-D

REVISIONS:

DRAWN BY: T.E.B.	CHECKED BY: D.M.E.
DATE: 8/03/2016	JOB NO: XXX-XXXX
M.S.D. P. #: P-XXXXX-XX	BASE MAP #: XXX
S.L.C. H&T #: XXXX	H&T S.U.P. #: XX-XXX-XX
M.D.N.R. #: MO-XXXXXXX	

SHEET TITLE:
CONSOLIDATION PLAT

SHEET NO.:
1 OF 1

BILL #2224 **ORDINANCE #2224**

AN ORDINANCE BY THE CITY COUNCIL OF THE CITY OF WILDWOOD, MISSOURI AUTHORIZING A BOUNDARY ADJUSTMENT PLAT OF *495 & 501 N. EATHERTON RD* [DEED BOOK 13816, PAGE 1 AND DEED BOOK 1399, PAGE 1665, RESPECTIVELY], ALL OF WHICH ARE LOCATED IN U.S. SURVEY 132, TOWNSHIP 45 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, AND MORE SPECIFICALLY, SITUATED ON THE WEST SIDE OF NORTH EATHERTON ROAD, NORTH OF CENTAUR ROAD; THEREBY, RECONFIGURING THESE TWO (2) TRACTS OF LAND AND TRANSFERRING APPROXIMATELY NINE (9) ACRES FROM THE LARGER LOT TO THE SMALLER PROPERTY. (Ward One)

WHEREAS, the owners prepared and submitted a plat, seeking the modification of these two (2) existing properties, via the provisions of Section 420.360 Boundary Adjustment – Exceptions of the *Subdivision and Development Regulations* of the City of Wildwood, St. Louis County, Missouri; and

WHEREAS, this adjustment will reconfigure the boundary lines between the subject properties; thereby transferring approximately nine (9) acres from the larger tract of land, Proposed Lot A, to the smaller lot, Proposed Lot B, resulting in lots in excess of forty-two (42) acres and twenty-one (21) acres, respectively; and

WHEREAS, the resulting lots, post-adjustment, appear to meet the regulations prescribed by the Zoning Ordinance of the City of Wildwood for the M-3 Planned Industrial District designations, as applied to the original parcels of ground; and

WHEREAS, Proposed Lot B will then comply with the Amended Site Development Plan recently approved by the City of Wildwood's Planning and Zoning Commission for the expansion of the business, known as Fick Supply Service, Inc., as well as M-3 Planned Industrial District Ordinance #2203 [Amended] approved by City Council on August 22, 2016, and

WHEREAS, the approval of this Boundary Adjustment Plat complies with the standards and guidelines of the Monarch-Chesterfield Levee District and its governing stormwater plan, which will require further review if and when Proposed Lot A is further developed; and

WHEREAS, the City of Wildwood, on September 1, 1995, adopted specific ordinances, codes, and regulations enabling it to exercise and administer its zoning and subdivision authorities to promote the health, safety, and general welfare of its residents, which this action is in keeping with such intent.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF THE WILDWOOD, MISSOURI AS FOLLOWS:

Section One. The City Council of the City of Wildwood, Missouri hereby approves and authorizes the Boundary Adjustment Plat of *495 & 501 N. Eatherton Rd* [Deed Book 13816, Page 1 and Deed Book 1399, Page 1665, respectively], all of which are located in U.S. Survey 132, Township 45 North, Range 3 East, City of Wildwood, St. Louis County, Missouri, and more specifically, situated on the west side of North Eatherton Road, north of Centaur Road; thereby, reconfiguring these two (2) tracts of land and transferring approximately nine (9) acres from the larger lot to the smaller property. These lots are indicated graphically on the attached plat and accompanying legal descriptions (more specifically), now hereto adopted and made a part of this ordinance.

Section Two. The Director of Planning and the City Clerk are authorized and directed to evidence the approval of this plat by affixing their signatures and the official seal of the City of Wildwood to a Certificate of Approval upon this instrument. The petitioner is required and directed to record the approved plat (within sixty (60) days of its approval by the City Council of the City of Wildwood, Missouri) with the Office of the Recorder of Deeds of St. Louis County, Missouri, or its action in regard to this property will be voided.

Section Three. This ordinance shall be in full force and effect, from and after its date of passage and approval, provided all required fees are paid to the City, all applicable provisions of the *Subdivision and Development Regulations* are met, and a recorded copy of the plat is returned to the City by the petitioner.

THIS BILL WAS PASSED AND APPROVED THIS ___DAY OF _____2016 BY THE COUNCIL OF THE CITY OF WILDWOOD AFTER HAVING BEEN READ BY TITLE, OR IN ITS ENTIRETY, TWO (2) TIMES PRIOR TO ITS PASSAGE.

Presiding Officer	**The Honorable James R. Bowlin, Mayor**

ATTEST:

City Clerk	**City Clerk**

BOUNDARY ADJUSTMENT PLAT OF
495 & 501 N EATHERTON RD

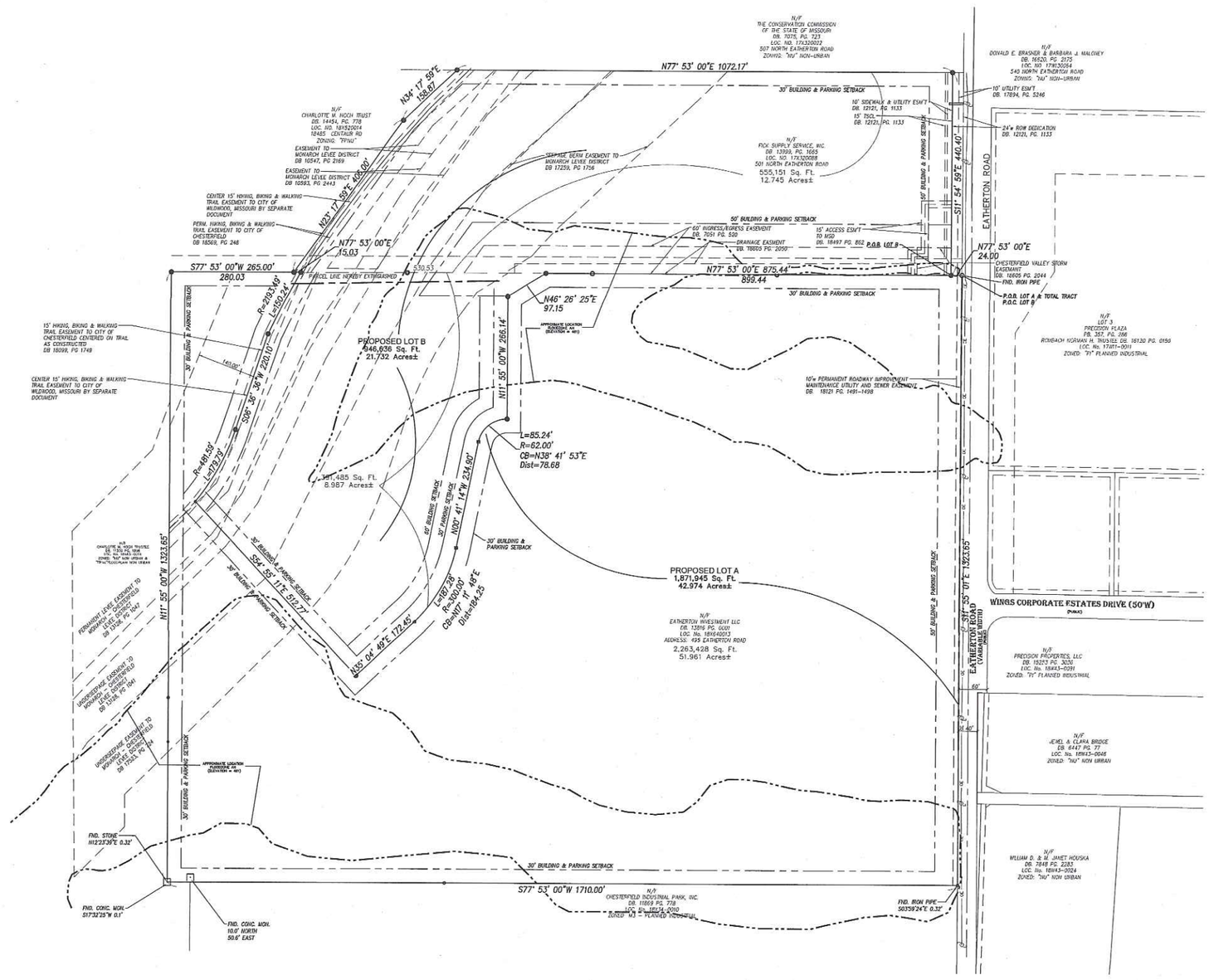
LOCATED IN U. S. SURVEY 132, TOWNSHIP 45 NORTH, RANGE 3 EAST,
CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI

ZONING: M3 Planned Industrial District, Ord. No. 1697 as amended by Ord. 2203

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.



LOCATION MAP
(NOT TO SCALE)

LEGEND

FOUND 1/2" IRON PIPE	⊙
SET IRON PIPE	⊙
FOUND SPIKE	+
SET SPIKE	+
MONUMENT	( )
REFER TO RECORD INFORMATION	
SET 5/8" x 24" IRON ROD W/ "ACHMANN CAP"	■

ABBREVIATIONS

DB.	= DEED BOOK
PG.	= PAGE
P.B.	= PLAT BOOK
PG.	= PAGE
F.P.	= FLOODPLAIN
F.F.	= FINISH FLOOR
R/W	= RIGHT OF WAY
R.O.W.	= ROW DEDICATED BY PLAT BOOK
P.O.B.	= POINT OF BEGINNING
P.O.C.	= POINT OF COMMENCEMENT
(R&M)	= BEARING OR DISTANCE PER MEASUREMENT

ST. LOUIS COUNTY BENCHMARK

MSD 11-109 ELEV. STANDARD ALUMINUM DISK STAMPED SL-41 1986. DISK IS SET ALONG THE EAST SIDE OF EATHERTON ROAD JUST NORTH OF THE SHELL PIPELINE MARKER, 10' EAST OF THE CENTERLINE OF EATHERTON AND 60' NORTH OF THE EAST PIPELINE MARKER. APPROX 1.1 MILE SOUTH OF THE INTERSECTION OF OLIVE STREET ROAD AND EATHERTON ROAD.
ELEV. 461.36 (USGS DATUM)

SITE INFORMATION

SITE ADDRESS	= 495 & 501 N. EATHERTON ROAD
SITE AREA	= 84.706 ACRES ±
OWNER	= EATHERTON INVESTMENT, L.L.C. – 495 N EATHERTON RD = FICK SUPPLY SERVICE, INC. – 501 N EATHERTON RD
ZONING	= M-3 PLANNED INDUSTRIAL DISTRICT
LOCATOR NO.	= 18V640053 & 17X320008
CITY	= CITY OF WILDWOOD
FLOOD MAP	= 29189C0145K DATED FEB. 4, 2015
SCHOOL DISTRICT	= ROCKWOOD R-6
FIRE DISTRICT	= MONARCH F.P.D.
SEWER DISTRICT	= MSD
WATER SERVICE	= MO. AMERICAN WATER CO.
GAS SERVICE	= LACLEDE GAS
PHONE SERVICE	= AT&T
ELECTRIC SERVICE	= AMEREN U.E.
CABLE SERVICE	= CHARTER COMMUNICATIONS
WATERSHED	= MISSOURI RIVER
ZIP CODE	= 63005
POLICE	= ST. LOUIS COUNTY – WILDWOOD PRECINCT
CITY COUNCIL	= WARD 1
LEVEE DISTRICT	= MONARCH–CHESTERFIELD

PREPARED FOR:
Fick Supply Service, Inc.
501 North Eatherton Road
Wildwood, MO 63005

PREPARED BY:
STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, Missouri 63005-1580
Tel. (636) 532-3550 FAX (636) 532-3552
e-mail: general@stockassoc.com
Web: www.stockassoc.com

BOUNDARY ADJUSTMENT PLAT

495 & 501 N EATHERTON RD

CITY OF WILDWOOD
ST. LOUIS COUNTY, MISSOURI

DANIEL EHLMANN P.L.S.
MO. P.L.S. # 2215
CERTIFICATE OF AUTHORITY
LC-2210

REVISIONS:

1 4/11/16 - Revised lots
2 7/20/16 - Revised per MSD Comments

DRAWN BY: J.K.	CHECKED BY: D.M.E.
DATE: 3/29/16	JOB NO. 209-4476
M.S.D. P #: P-0030875-00	BASE MAP #: 17-X/18-X
S.L.C. MAP #: XXXX	MAP SUP. #: XX-XXX-XX
M.D.N.R. #: MO-XXXXXXX	

SHEET TITLE:
BOUNDARY ADJUSTMENT PLAT

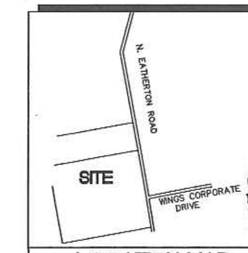
SHEET NO.:
1 OF 2

BOUNDARY ADJUSTMENT PLAT OF
495 & 501 N EATHERTON RD

LOCATED IN U. S. SURVEY 132, TOWNSHIP 45 NORTH, RANGE 3 EAST,

CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI

ZONING: M3 Planned Industrial District, Ord. No. 1697 as amended by Ord. 2203



LOCATION MAP
(NOT TO SCALE)

OWNER'S CERTIFICATION

We the undersigned owners of the tract of land as shown hereon and further described in the foregoing Surveyor's Certification have caused the same to be surveyed and subdivided in the manner shown on this plat, which plat shall hereafter be known as

"BOUNDARY ADJUSTMENT PLAT
of
495 & 501 N EATHERTON RD"

It is hereby certified that all existing easements are shown on this plat as of the time and date of recording of this plat. No easements are being established or vacated by this plat.

No title commitment was obtained as part of this boundary adjustment; therefore, these properties are subject to any and all easements of record, whether or not shown on this plat.

To the best of our knowledge, there is no record of these properties being subject to any indentures or restrictions.

The undersigned further states that said tract is not encumbered by delinquent taxes..

In testimony whereof, we have hereunto set our hand this _______ day of ____________, 20___.

EATHERTON INVESTMENTS, L.L.C.   Fick Supply Service Inc

By:______________________   By: ______________________

Print Name:__________________   Print Name: ______________

Print Title:__________________   Print Title: ______________

STATE OF _____________)
) SS
COUNTY OF ____________)

On this_________day of_______, 20____ before me appeared_____________________, to me personally known, who, being by me duly sworn did say that he is the__________________________ of Eatherton Investments, LLC, a Missouri limited liability company, by___________________, its manager, and that the seal affixed to the foregoing Instrument is the company seal of said Corporation, and that said instrument of was signed and sealed on behalf of said Corporation, by authority its Board of Directors, and said acknowledged said instrument to be the free act and deed of said Corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal in my office in the County and State aforesaid, the day and year first above written.

____
Notary Public

____
Print Name

My commission expires:_______________

STATE OF _____________)
) SS
COUNTY OF ____________)

On this_________day of_______, 20____ before me appeared_____________________, to me personally known, who, being by me duly sworn did say that he is the__________________________ of Fick Supply Services, Inc., known to me to be the person who executed the within Boundary Adjustment Plat in behalf of said corporation and acknowledged to me that he executed the same for the purposes therein stated

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal in my office in the County and State aforesaid, the day and year first above written.

____
Notary Public

____
Print Name

My commission expires:_______________

The undersigned Ownar and Holder of Note as secured by Deed of Trust recorded in Book _____, Page _____ of the records of the Recorder of Deeds Office in St. Louis County, Missouri does hereby join in and approve the foregoing Resubdivision Plat as shown hereon.

IN WITNESS WHEREOF, we have hereunto set our hand and affixed our corporate seal this __________ day of ______________ ,20__.

____

By:______________________

Print Name:__________________

Print Title:__________________

STATE OF ______________)
) SS.
COUNTY OF ____________)

On this ________ day of _____________, 20___, before me appeared _____________, to me personally known, being by me duly sworn that he is the ____________ of ___________ a ________________ bank, a Corporation in the State of ____________, and that the seal affixed to the foregoing instrument is the corporate seal of said Corporation and that said instrument was signed and sealed in behalf of said Corporation, by authority of its Board of Directors; and said acknowledged said instrument to be the free act and deed of said Corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal in the County and State aforesaid, on the day and year first above written.

Notary Public   Print Name

My commission expires:

The undersigned Owner and Holder of Note as secured by Deed of Trust recorded in Book _____, Page _____ of the records of the Recorder of Deeds Office in St. Louis County, Missouri does hereby join in and approve the foregoing Resubdivision Plat as shown hereon.

IN WITNESS WHEREOF, we have hereunto set our hand and affixed our corporate seal this __________ day of ______________ ,20__.

____

By:______________________

Print Name:__________________

Print Title:__________________

STATE OF ______________)
) SS.
COUNTY OF ____________)

On this ________ day of _____________, 20___, before me appeared _____________, to me personally known, being by me duly sworn that he is the ____________ of ___________ a ________________ bank, a Corporation in the State of ____________, and that the seal affixed to the foregoing instrument is the corporate seal of said Corporation and that said instrument was signed and sealed in behalf of said Corporation, by authority of its Board of Directors; and said acknowledged said instrument to be the free act and deed of said Corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal in the County and State aforesaid, on the day and year first above written.

Notary Public   Print Name

My commission expires:

PROPOSED LOT A

A tract of land being part of a larger tract of land as conveyed to Eatherton Investments, L.L.C. by deed recorded in Book 13816 Page 1 of the St. Louis County Records located in part of U.S. Survey 132, Township 45 North, Range 3 East of the Fifth Principal Meridian, City of Wildwood, St. Louis County, Missouri, being more particularly described as follows:

Beginning at a found iron pipe located at the northeast corner of said o Eatherton Investments, L.L.C. tract, said point also being located on the west right-of-way line of Eatherton Road; thence along said right-of-way line, South 11 degrees 55 minutes 01 seconds East, 1323.65 feet to a point, from which a found iron pipe bears South 03 degrees 59 minutes 24 seconds East, 0.32 feet; thence departing said right-of-way line, South 77 degrees 53 minutes 00 seconds West, 1710.00 feet to the west line of said Eatherton Investments, L.L.C. tract, from which a concrete monument bears, South 17 degrees 32 minutes 25 seconds West, 0.10 feet; thence along said west line, North 11 degrees 55 minutes 00 seconds West, 1323.65 feet to the north line west corner of above said Eatherton Investments, L.L.C. tract; thence along said north line, North 77 degrees 53 minutes 00 seconds East, 280.03 feet to the beginning of a non-tangential curve to the left having a radius of 2193.49 feet; thence departing said north line the following courses and distances: along said curve with an arc length of 150.24 feet and a chord which bears South 15 degrees 09 minutes 42 seconds West, 150.21 feet; South 06 degrees 36 minutes 36 seconds West, 220.10 feet to the beginning of a non-tangential curve to the right having a radius of 481.59 feet; along said curve with an arc length of 179.80 feet and a chord which bears South 16 degrees 48 minutes 42 seconds West, 178.75 feet; South 54 degrees 55 minutes 11 seconds East, 512.77 feet; North 35 degrees 04 minutes 49 seconds East, 172.45 feet to a point of curvature to the left having a radius of 300.00 feet; along said curve with an arc length of 187.28 feet and a chord which bears North 17 degrees 11 minutes 48 seconds East, 184.25 feet to a point of tangency; North 00 degrees 41 minutes 14 seconds West, 234.90 feet to a point of curvature to the right having a radius of 62.00 feet; along said curve with an arc length of 85.24 feet and a chord which bears North 38 degrees 41 minutes 53 seconds East, 78.68 feet; North 11 degrees 55 minutes 00 seconds West, 266.14 feet AND North 46 degrees 26 minutes 25 seconds East, 97.15 feet to the north line of above said Eatherton Investments, L.L.C. tract; thence along said north line, North 77 degrees 53 minutes 00 seconds East, 899.44 feet to the Point of Beginning, containing 1,871,945 square feet or 42.974 acres more or less.

PROPOSED LOT B

A tract of land being part of a larger tract of land as conveyed to Eatherton Investments, L.L.C. by deed recorded in Book 13816 Page 1 and all of a tract of land as conveyed to Fick Supply Service, Inc by instrument recorded in Book 1399, PG. 1665 both of the St. Louis County Records, located in U.S. Survey 132, Township 45 North, Range 3 East of the Fifth Principal Meridian, City of Wildwood, St. Louis County, Missouri, being more particularly described as follows:

Commencing at a found iron pipe located at the northeast corner of a tract of land conveyed to Eatherton Investments, L.L.C. by deed recorded in Book 13816 Page 1 of the St. Louis County Records, said point also being located on the west right-of-way line of Eatherton Road; thence along the north line of said Eatherton Investments, L.L.C. tract, South 77 degrees 53 minutes 00 seconds West, 24.00 feet to the POINT OF BEGINNING of the herein described tract; thence continuing along said north line, South 77 degrees 53 minutes 00 seconds West, 875.44 feet; thence departing said north line the following courses and distances: South 46 degrees 26 minutes 25 seconds West, 97.15 feet, South 11 degrees 55 minutes 00 seconds East, 266.14 feet to the beginning of a non-tangential curve to the left having a radius of 62.00 feet; along said curve with an arc length of 85.24 feet and a chord which bears South 38 degrees 41 minutes 53 seconds West, 78.68 feet to a point of tangency; South 00 degrees 41 minutes 14 seconds East, 234.90 feet to a point of curvature to the right having a radius of 300.00 feet; along said curve with an arc length of 187.28 feet and a chord which bears South 17 degrees 11 minutes 48 seconds West, 184.25 feet to a point of tangency; South 35 degrees 04 minutes 49 seconds West, 172.45 feet; North 54 degrees 55 minutes 11 seconds West, 512.77 feet to the beginning of a non-tangential curve to the left having a radius of 481.59 feet; along said curve with an arc length of 179.80 feet and a chord which bears North 16 degrees 48 minutes 42 seconds East, 178.75 feet; North 06 degrees 36 minutes 36 seconds East, 220.10 feet to the beginning of a non-tangential curve to the right having a radius of 2193.49 feet and along said curve with an arc length of 150.24 feet and a chord which bears North 15 degrees 09 minutes 42 seconds East, 150.21 feet to the north line of above said Eatherton Investments, L.L.C. tract; thence along said north line, South 77 degrees 53 minutes 00 seconds West, 15.03 feet to the east line of a tract of land as conveyed to Charlotte M. Hoch Trust tract, by instrument recorded in Book 14454, Page 778 of above said records; thence along the east lines of said Hoch tract the following courses and distances: North 23 degrees 17 minutes 59 seconds East, 406.00 feet and North 34 degrees 17 minutes 59 seconds East, 158.87 feet to the south line of a tract of land as conveyed to The Conservation Commission of the State of Missouri, by instrument recorded in Book 7075, Page 723 of above said records a point; thence along said south line, North 77 degrees 53 minutes 00 seconds East, 1072.17 feet to the west line of Eatherton Road; thence along said west right-of-way line, South 11 degrees 54 minutes 59 seconds East, 440.40 feet to the Point of Beginning and containing 944,636 square feet or 21.732 acres more or less.

FICK SUPPLY SERVICE, INC TRACT
DB. 1399, PG. 1665

A tract of land in U.S. Survey 132, Township 45 North. Range 3 East St. Louis County. Missouri and described as follows:

Beginning at a point in the Western line of Eatherton Road (40 foot wide) at the Southeast corner of a 6 acre more or less tract being South 12 degrees East, 233.04 feet from the Northeast corner thereof and the Southeast corner of a 10 acre tract conveyed to Henry Philipp by Deed Book 1915, page 170 of the St. Louis County Records; thence South 12 degrees 00 minutes East along the said Western line of Eatherton Road, 440.40 feet to an old stone; thence leaving said road line continue South 77 degrees 48 minutes West. 1445 feet to a point on the Eastern levee bank of the Missouri River; thence along the said Eastern levee bank the following: North 23 degrees 13 minutes East, 406 feet and North 34 degrees 13 minutes East 158.87 feet to a point in the South line of said 6 acre tract; thence North 77 degrees 48 minutes East along said South line, 1096.17 feet to the place of beginning

EXCEPTING THEREFROM that part conveyed to St. Louis County, Missouri, by instrument recorded in Book 12121 Page 1133.

FICK SUPPLY SERVICE, INC TRACT
Surveyors Property Description

A tract of land being located in part of U.S. Survey 132, Township 45 North, Range 3 East of the Fifth Principal Meridian, City of Wildwood, St. Louis County, Missouri, being more particularly described as follows:

Commencing at a found iron pipe located at the northeast corner of a tract of land conveyed to Eatherton Investments, L.L.C. by deed recorded in Book 13816 Page 1 of the St. Louis County Records, said point also being located on the west right-of-way line of Eatherton Road; thence along the north line of said Eatherton Investment, LLC tract, South 77 degrees 53 minutes 00 seconds East. 24.00 feet to the west line of said Eatherton Road as established by instrument recorded in Book 12121, Page 1133 of above said records, said point also being the POINT OF BEGINNING of the herein described tract; thence continuing along said north line, South 77 degrees 53 minutes 00 seconds West, 1421.00 feet to the east line of a tract of land as conveyed to Charlotte M. Hoch Trust tract, by instrument recorded in Book 14454, Page 778 of above said records; thence along the east lines of said Hoch tract the following courses and distances: North 23 degrees 17 minutes 59 seconds East, 406.00 feet and North 34 degrees 17 minutes 59 seconds East, 158.87 feet to the south line of a tract of land as conveyed to The Conservation Commission of the State of Missouri, by instrument recorded in Book 7075, Page 723 of above said records a point; thence along said south line, North 77 degrees 53 minutes 00 seconds East, 1072.17 feet to the west line of Eatherton Road; thence along said west right-of-way line, South 11 degrees 54 minutes 59 seconds East, 440.40 feet to the Point of Beginning, containing 555,150 square feet or 12.744 acres more or less.

Record Property Description
from File No. 7-15617

A tract of land being part of U.S. Survey 132, Township 45 North, Range 3 East of the Fifth Principal Meridian, St. Louis County, Missouri and being more particularly described as follows:

Beginning at the intersection of the South line of property conveyed to Louis Payne Investments, Inc. by deed recorded in Book 8322 page 1879 of the St. Louis County Records with the West line of Eatherton Road, 40 feet wide, as shown on St. Louis County Highway Department Plans, Project No. DAF ER-93-1(62): thence Southwardly along the said West line of Eatherton Road, 40 feet wide, South 11 degrees 55 minutes 00 seconds East 1323.65 feet to a point in the South line of property conveyed to Charles F. Dufour and Jean Sanford Isreal, Trustees, by deed recorded In Book 8263 page 1743 of the St. Louis County Records; thence along said South line of the Dufour and Isreal property, South 77 degrees 53 minutes 00 seconds West 1710.00 feet to a point in the East line of property conveyed to Charlotte M. Hoch by deed recorded in Book 11330 page 1996 of the St. Louis County Records; thence along said East line of the Hoch Property, North 11 degrees 55 minutes 00 seconds West 1323.65 feet to a point in the aforesaid South line of the Louis Payne Investments, Inc. property; thence along said South line, North 77 degrees 53 minutes 00 seconds East 1710.00 feet to the point of beginning.

Surveyor's Property Description
Eatherton Investments, L.L.C. DB. 13816 PG. 1

A tract of land being located in part of U.S. Survey 132, Township 45 North, Range 3 East of the Fifth Principal Meridian, City of Wildwood, St. Louis County, Missouri, being more particularly described as follows:

Beginning at a point on the West line of Eatherton Road, 60 feet wide, said point also being the Northeast corner of a tract of land conveyed to Eatherton Investments, L.L.C. by deed recorded in Book 13816 Page 1 of the above said St. Louis County Records; thence along last said West line South 11 degrees 55 minutes 00 seconds East, 1323.65 feet to the Southeast corner of said Eatherton Investments, L.L.C. property; thence departing last said West line and along the North line of a tract of land conveyed to Chesterfield Industrial Park, Inc. by deed recorded in Book 11869 Page 778 of above said St. Louis County Records South 77 degrees 53 minutes 00 seconds West, 1710.00 feet to the East line of a tract of land conveyed to Charlotte M. Hoch, trustee, by deed recorded in Book 11330 Page 1996 of above said St. Louis County Records; thence along last said East line North 11 degrees 55 minutes 00 seconds West, 1323.65 feet; thence along South line of said Hoch property and the South line of a tract of land conveyed to Fick Supply Service, Inc. by deed recorded in Book 13999 Page 1665 of the above said St. Louis County Records North 77 degrees 53 minutes 00 seconds East, 1710.00 feet to the Point of Beginning and containing 2,263,428 square feet or 51.961 acres, more or less, according to calculations performed by Stock & Associates Consulting Engineers, Inc. on April 6, 2009.

NOTES:

1) Subject property lies within Flood Zone "AH"; Flood depths of 1 to 3 feet (usually areas of ponding); Base Elevations determined BFE=461 and Shaded Zone "X" (areas of 0.2% chance flood, areas of 1% chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; area protected by levees from 1% annual chance flood.) according to the National Flood Insurance Program, Flood Insurance Rate Map for St. Louis County and Incorporated Areas. This map is identified as Map No. 29189C0145 K, with an effective date of February 4, 2015. (Plotted Graphically)

2) Basis of Bearings: Bearing system adopted from Deed Book 13816 Page 1 of the St. Louis County Records.

3) Two (2) Permanent monuments for each block created, and semi-permanent monuments at all lot corners will be set, that will aid in later recovery within twelve months after the recording of this subdivision plat, in accordance with Division 2030, Chapter 16, 20 CSR 2030-16.090 of the Missouri Minimum Standards for Property Boundary Surveys. In addition, other survey monuments indicated on this subdivision plat, required by the subdivision ordinance of the City of Wildwood, Missouri will be set.

4) Present Zoning: M3 Planned Industrial District

(Height Limitations For Structures. Unless otherwise restricted by application of regulations in Section 415.240 "Air Navigation Space Regulations" of this Chapter, the total height of any structure shall be limited by the conditions in the ordinance governing the particular Planned Industrial District or in the case of a telecommunications tower as authorized by Chapter 430 of the City Code.

Lot Area And Yard Requirements. The lot area and minimum yard requirements for land uses in this district shall be as follows:

1. Minimum lot area. The minimum lot area requirements for any use or building in a Planned Industrial District shall be as established in the conditions contained in the ordinance authorizing the establishment of the particular Planned Industrial District.

2. Minimum yard requirements per Ordinance No. 1697 as amended by Ordinance No. 2203

5) This plat contains 64.706 acres.

This acknowledgment certifies this "BOUNDARY ADJUSTMENT PLAT OF 495 & 501 N EATHERTON ROAD" has been approved by the CITY OF WILDWOOD, MISSOURI on this___________day of _____________ _____, 20____.

CITY OF WILDWOOD DEPARTMENT OF PLANNING

____
Joe Vujnich, Director of Planning.

I, Elizabeth Weiss, City Clerk of the City of Wildwood, St. Louis County, Missouri do hereby certify this Boundary Adjustment Plat was approved by Ordinance Number _____ _______, under action taken by the City Council of Wildwood, Missouri on the _________ day of __________________, 20_____. Said ordinance of the same appears on record in my office as testimony whereof, I hereunto now set my hand and affix the official seal of the City of Wildwood, St. Louis County, Missouri, on this____ day of _____________ _____, 20____.

____
Elizabeth Weiss, , City Clerk

SURVEYOR'S CERTIFICATION

This is to certify that Stock and Associates Consulting Engineers, Inc. have, during the month of March, 2016 by order of and for the use of Eatherton Investments, L.L.C. executed a Property Boundary Survey and prepared a Subdivision Plat of a tract of land being part of U.S. Survey 132 Township 45 North Range 3 East of the Fifth Principal Meridian, City of Wildwood, St. Louis, Missouri, as recorded in Deed Book 13816 Page 0001 of the St. Louis County, Missouri Records, and that the results of said survey and plat are shown hereon. We further certify that said survey meets or exceeds the current minimum standards for Property Boundary Surveys for "Class Urban Property" as defined in Chapter 16, General Land Survey Requirements, Title 20 CSR 2030-16.030 of the Missouri Standards for Property Boundary Surveys, and adopted by The Missouri Board for Architects, Professional Engineers, Professional Land Surveyors and Professional Landscape Architects.

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC.
LC NO. 222-D

By: [signature] 11/10/16
Daniel Ehlmann, Missouri P.L.S. 2215

PREPARED FOR:
Fick Supply Service, Inc.
501 North Eatherton Road
Wildwood, MO 63005

PREPARED BY:
STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005 PH. (636) 530-9100 FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

BOUNDARY ADJUSTMENT PLAT
495 & 501 N EATHERTON RD
CITY OF WILDWOOD
ST. LOUIS COUNTY, MISSOURI

[signature] 11/10/16
DANIEL EHLMANN P.L.S.
MO P.L.S. # 2215
CERTIFICATE OF AUTHORITY
LC-222-D

REVISIONS:

1	4/11/16 - Revised lots
2	7/20/16 - Revised per MSD Comments

DRAWN BY: J.K.	CHECKED BY: D.M.E.
DATE: 3/29/16	JOB NO: 209-4476
M.S.D. P #: P-0030875-00	BASE MAP #: 17-X/18-X
S.L.C. H&T #: XXXX	H&T S.U.P. #: XX-XXX-XX
M.D.N.R. #: MO-XXXXXXX	

SHEET TITLE: BOUNDARY ADJUSTMENT PLAT

SHEET NO.: 2 OF 2

BILL #2225 **ORDINANCE #2225**

AN ORDINANCE APPROVING THE ADJUSTMENT OF CERTAIN COMMON BOUNDARY LINES BETWEEN TWO (2) EXISTING PARCELS OF GROUND, KNOWN AS PARCEL 1 [DEED BOOK 20550, PAGE 3749] AND ADJUSTED PARCEL 2 OF THE "CHRISTMAS VALLEY-YULETIDE TRAIL BOUNDARY ADJUSTMENT PLAT" [PLAT BOOK 364, PAGE 243]; BOTH OF WHICH ARE LOCATED IN PART OF SECTION 24, TOWNSHIP 45 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, AND MORE SPECIFICALLY SITUATED WEST OF CHRISTMAS VALLEY ROAD AND NORTH OF YULETIDE TRAIL, FOR THE PURPOSES OF TRANSFERRING APPROXIMATELY 0.37 ACRES BETWEEN THE TWO (2) SUBJECT PROPERTIES. (WARD THREE)

WHEREAS, the owners of said properties are seeking the adjustment of these two (2) legal lots of record, which would allow for their modifications, as set forth by the *Subdivision and Development Regulations* adopted by the City of Wildwood;

WHEREAS, the reconfigurations of these parcels of ground will transfer approximately 0.37 acres between the properties, thereby resulting in the larger lot to remain five (5) acres, thus allowing the continued use of it for farming; and

WHEREAS, the newly-configured 'Adjusted Parcel 1' that is also subject of this adjustment will continue to meet the minimum three (3) acre requirement, as defined by Chapter 415.090 NU Non-Urban Residence District of the City's Zoning Ordinance;

WHEREAS, the resulting parcels of ground, post adjustment, comply with all the provisions of Chapter 420.360 of the *Subdivision and Development Regulations* (Boundary Adjustment - Exceptions) of the City of Wildwood with regard to lot widths, dimensions, and sizes, as well as related specifications regarding access; and

WHEREAS, this adjustment impacts the boundary line setback distances, thereby affecting the use of the existing frame barn on the larger, adjusted lot, which cannot be use as a private stable, since it does not meet the minimum one-hundred (100) foot setback distance for such, but may be retained for the storage of farming equipment to maintain the property; and

WHEREAS, the City of Wildwood, on September 1, 1995, adopted specific ordinances, codes, and regulations enabling it to administer its zoning and subdivision authorities to benefit the health, safety, and general welfare of its residents and property owners.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF WILDWOOD, MISSOURI AS FOLLOWS:

Section One. The City Council of the City of Wildwood hereby approves and authorizes the adjustment of certain common boundary lines between two (2) existing parcels of ground, known as Parcel 1 [Deed Book 20550, Page 3749] and Adjusted Parcel 2 of the "Christmas Valley-Yuletide Trail Boundary Adjustment Plat" [Plat Book 364, Page 243]; both of which are located in part of Section 24, Township 45 North, Range 3 East, City of Wildwood, St. Louis County, Missouri, and more specifically situated west of Christmas Valley Road and north of Yuletide Trail, for the purposes of transferring approximately 0.37 acres between the two (2) subject properties. These lots are indicated graphically and by legal description upon the Boundary Adjustment Plat accompanying the property owners' request, which is attached hereto and made a part hereof.

Section Two. The Director of Planning and the City Clerk are authorized and directed to evidence the approval of the Boundary Adjustment Plat by affixing their signatures and the official seal of the City of Wildwood to a Certificate of Approval for this instrument. The petitioner is required and directed to record this Boundary Adjustment Plat in the Office of the St. Louis County Recorder of Deeds within sixty (60) days of its approval by the City Council, or their action shall be null and void.

Section Three. This ordinance shall be in full force and effect, from and after its passage and approval, providing all required fees are paid to the City, all other applicable requirements of the City's ordinances and codes are met, and recorded copies of the plat are returned to the Department of Planning by the property owners or representatives.

THIS BILL WAS PASSED AND APPROVED THIS ___DAY OF _____2016 BY THE COUNCIL OF THE CITY OF WILDWOOD AFTER HAVING BEEN READ BY TITLE, OR IN ITS ENTIRETY, TWO (2) TIMES PRIOR TO ITS PASSAGE.

Presiding Officer	**The Honorable James R. Bowlin, Mayor**

ATTEST:

City Clerk	**City Clerk**

BOUNDARY ADJUSTMENT PLAT OF
1407 AND 1423 YULETIDE TRAIL ROAD

TWO TRACTS OF LAND BEING PART OF
SECTION 24, TOWNSHIP 45 NORTH, RANGE 3 EAST,
CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI
ZONING: "NU" NON-URBAN RESIDENCE DISTRICT

OWNERS CERTIFICATION

WE, THE UNDERSIGNED, OWNERS OF THE TRACT OF LAND HEREIN PLATTED AND FURTHER DESCRIBED IN THE FOREGOING SURVEYORS CERTIFICATION HAVE CAUSED THE SAME TO BE SURVEYED AND SUBDIVIDED IN THE MANNER SHOWN ON THIS PLAT, WHICH SUBDIVISION SHALL HEREAFTER BE KNOW AS "BOUNDARY ADJUSTMENT PLAT OF 1407 AND 1423 YULETIDE TRAIL ROAD."

THE 34 FOOT WIDE PRIVATE ACCESS EASEMENT, WHICH FOR BETTER IDENTIFICATION IS SHOWN HACHURE ON THIS PLAT, IS HEREBY DEDICATED TO THE OWNERS OF ADJUSTED PARCEL 1, THEIR SUCCESSORS AND ASSIGNS, FOR PRIVATE USE FOREVER.

ALL EASEMENTS SHOWN ON THIS PLAT, UNLESS DESIGNATED FOR OTHER SPECIFIC PURPOSES, ARE HEREBY DEDICATED TO THE CITY OF WILDWOOD, MISSOURI, MISSOURI-AMERICAN WATER COMPANY, LACLEDE GAS COMPANY, AMEREN UNION ELECTRIC COMPANY, AND THE RELEVANT TELEPHONE AND CABLE TELEVISION COMPANIES, THEIR SUCCESSORS AND ASSIGNS AS THEIR INTERESTS MAY APPEAR FOR THE PURPOSE OF CONSTRUCTING, IMPROVING, REPLACING, MAINTAINING, AND REPAIRING OF PUBLIC UTILITIES AND FACILITIES, WITH THE RIGHT OF TEMPORARY USE OF ADJACENT GROUND NOT OCCUPIED BY IMPROVEMENTS FOR THE EXCAVATION AND STORAGE OF MATERIALS DURING INSTALLATION, REPAIR, OR REPLACEMENT OF SAID UTILITIES AND FACILITIES. ANY EXCAVATIONS MADE IN THE ABOVE-DESCRIBED PROPERTY BY ANY OF THE ABOVE PARTIES, SHALL BE RESTORED AS NEARLY AS PRACTICAL TO ITS FORMER CONDITION, INCLUDING RE-VEGETATION.

NO TITLE COMMITMENT WAS PROVIDED AS PART OF THIS BOUNDARY ADJUSTMENT; THEREFORE, THESE PROPERTIES ARE SUBJECT TO ANY AND ALL EASEMENTS OF RECORD, WHETHER OR NOT SHOWN ON THIS PLAT.

BUILDING LINES ARE HEREBY ESTABLISHED AS SHOWN ON THIS PLAT.

THE UNDERSIGNED FURTHER STATES THAT SAID TRACT IS NOT ENCUMBERED BY DELINQUENT TAXES.

IN TESTIMONY WHEREOF, WE HAVE HEREUNTO SET OUR HAND THIS _____ DAY OF _____, 20__.

GREGOR A. SCHMUCKER, III AI-CHIEH LIN

OWNERS NOTARY

STATE OF MISSOURI, }
COUNTY OF ST. LOUIS } SOS

ON THIS _____ DAY OF _____, 20___, BEFORE ME PERSONALLY APPEARED TO ME KNOWN TO BE THE PERSON(S) DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED THAT GREGOR A. SCHMUCKER, III AND AI-CHIEH LIN EXECUTED THE SAME AS THEIR FREE ACT AND DEED.

IN TESTIMONY WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED THE OFFICIAL SEAL IN THE COUNTY AND STATE AFORESAID, THE DAY AND YEAR FIRST ABOVE WRITTEN.

MY TERM EXPIRES: _____.

NOTARY PUBLIC

LIENHOLDER CERTIFICATION

WHEREAS, THE UNDERSIGNED HOLDER OR LEGAL OWNER OF NOTES BY DEED IN _____, PAGE _____, OF THE ST. LOUIS COUNTY LAND RECORDS OFFICE, JOINS IN AND APPROVES IN EVERY DETAIL THIS "BOUNDARY ADJUSTMENT PLAT OF 1407 AND 1423 YULETIDE TRAIL ROAD".

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HAND AND AFFIXED OUR CORPORATE SEAL THIS _____ DAY OF _____, 20___.

[AUTHORIZED AGENT SIGNATURE] [PRINT NAME & TITLE]

LIENHOLDER NOTARY

STATE OF MISSOURI, }
COUNTY OF ST. LOUIS } SS

ON THIS ____ DAY OF _____, 20___, BEFORE ME APPEARED _____ TO ME PERSONALLY KNOWN, WHO, BEING BY ME DULY SWORN, DID SAY THAT HE IS THE _____ OF _____ A CORPORATION OF THE STATE OF MISSOURI, THAT SAID INSTRUMENT WAS SIGNED IN BEHALF OF SAID CORPORATION, AND SAID OF _____, SAID INSTRUMENT TO BE THE FREE ACT AND DEED OF SAID CORPORATION.

IN TESTIMONY WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY OFFICIAL SEAL IN THE COUNTY AND STATE AFORESAID, THE DAY AND YEAR FIRST ABOVE WRITTEN.

MY TERM EXPIRES: _____.

NOTARY PUBLIC

OWNERS CERTIFICATION

WE, THE UNDERSIGNED, OWNERS OF THE TRACT OF LAND HEREIN PLATTED AND FURTHER DESCRIBED IN THE FOREGOING SURVEYORS CERTIFICATION HAVE CAUSED THE SAME TO BE SURVEYED AND SUBDIVIDED IN THE MANNER SHOWN ON THIS PLAT, WHICH SUBDIVISION SHALL HEREAFTER BE KNOW AS "BOUNDARY ADJUSTMENT PLAT OF 1407 AND 1423 YULETIDE TRAIL ROAD."

THE 34 FOOT WIDE PRIVATE ACCESS EASEMENT, WHICH FOR BETTER IDENTIFICATION IS SHOWN HACHURED ON THIS PLAT, IS HEREBY DEDICATED TO THE OWNERS OF ADJUSTED PARCEL 1, THEIR SUCCESSORS AND ASSIGNS, FOR PRIVATE USE FOREVER.

ALL EASEMENTS SHOWN ON THIS PLAT, UNLESS DESIGNATED FOR OTHER SPECIFIC PURPOSES, ARE HEREBY DEDICATED TO THE CITY OF WILDWOOD, MISSOURI, MISSOURI-AMERICAN WATER COMPANY, LACLEDE GAS COMPANY, AMEREN UNION ELECTRIC COMPANY, AND THE RELEVANT TELEPHONE AND CABLE TELEVISION COMPANIES, THEIR SUCCESSORS AND ASSIGNS AS THEIR INTERESTS MAY APPEAR FOR THE PURPOSE OF CONSTRUCTING, IMPROVING, REPLACING, MAINTAINING, AND REPAIRING OF PUBLIC UTILITIES AND FACILITIES, WITH THE RIGHT OF TEMPORARY USE OF ADJACENT GROUND NOT OCCUPIED BY IMPROVEMENTS FOR THE EXCAVATION AND STORAGE OF MATERIALS DURING INSTALLATION, REPAIR, OR REPLACEMENT OF SAID UTILITIES AND FACILITIES. ANY EXCAVATIONS MADE IN THE ABOVE-DESCRIBED PROPERTY BY ANY OF THE ABOVE PARTIES, SHALL BE RESTORED AS NEARLY AS PRACTICAL TO ITS FORMER CONDITION, INCLUDING RE-VEGETATION.

NO TITLE COMMITMENT WAS PROVIDED AS PART OF THIS BOUNDARY ADJUSTMENT; THEREFORE, THESE PROPERTIES ARE SUBJECT TO ANY AND ALL EASEMENTS OF RECORD, WHETHER OR NOT SHOWN ON THIS PLAT.

BUILDING LINES ARE HEREBY ESTABLISHED AS SHOWN ON THIS PLAT.

THE UNDERSIGNED FURTHER STATES THAT SAID TRACT IS NOT ENCUMBERED BY DELINQUENT TAXES.

IN TESTIMONY WHEREOF, WE HAVE HEREUNTO SET OUR HAND THIS _____ DAY OF _____, 20__.

RONALD D. PEASLEY CATHERINE A. PEASLEY

OWNERS NOTARY

STATE OF MISSOURI, }
COUNTY OF ST. LOUIS } SS

ON THIS _____ DAY OF _____, 20___, BEFORE ME PERSONALLY APPEARED TO ME KNOWN TO BE THE PERSONS DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED THAT RONALD D. AND CATHERINE A. PEASLEY EXECUTED THE SAME AS THEIR FREE ACT AND DEED.

IN TESTIMONY WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED THE OFFICIAL SEAL IN THE COUNTY AND STATE AFORESAID, THE DAY AND YEAR FIRST ABOVE WRITTEN.

MY TERM EXPIRES: _____.

NOTARY PUBLIC

LIENHOLDER CERTIFICATION

WHEREAS, THE UNDERSIGNED HOLDER OR LEGAL OWNER OF NOTES BY DEED IN _____, PAGE _____, OF THE ST. LOUIS COUNTY LAND RECORDS OFFICE, JOINS IN AND APPROVES IN EVERY DETAIL THIS "BOUNDARY ADJUSTMENT PLAT OF 1407 AND 1423 YULETIDE TRAIL ROAD".

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HAND AND AFFIXED OUR CORPORATE SEAL THIS _____ DAY OF _____, 20___.

[AUTHORIZED AGENT SIGNATURE] [PRINT NAME & TITLE]

LIENHOLDER NOTARY

STATE OF MISSOURI, }
COUNTY OF ST. LOUIS } SS

ON THIS ____ DAY OF _____, 20___, BEFORE ME APPEARED _____ TO ME PERSONALLY KNOWN, WHO, BEING BY ME DULY SWORN, DID SAY THAT HE IS THE _____ OF _____ A CORPORATION OF THE STATE OF MISSOURI, THAT SAID INSTRUMENT WAS SIGNED IN BEHALF OF SAID CORPORATION, AND SAID OF _____, SAID INSTRUMENT TO BE THE FREE ACT AND DEED OF SAID CORPORATION.

IN TESTIMONY WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY OFFICIAL SEAL IN THE COUNTY AND STATE AFORESAID, THE DAY AND YEAR FIRST ABOVE WRITTEN.

MY TERM EXPIRES: _____.

NOTARY PUBLIC

LAND DESCRIPTION—ORIGINAL PARCEL 1

A TRACT OF LAND IN SECTION 24, TOWNSHIP 45 NORTH, RANGE 3 EAST, IN ST. LOUIS COUNTY, MISSOURI, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTH LINE OF A TRACT OF LAND CONVEYED TO RAY AND MARY ANN MEYERHOFF, HIS WIFE, BY DEED RECORDED IN BOOK 9103 PAGE 744 OF THE ST. LOUIS COUNTY RECORDS, SAID POINT BEING THE NORTHWEST CORNER OF A TRACT OF LAND CONVEYED TO GREGOR A. SCHMUCKER, III AND AI-CHIEH LIN, HIS WIFE, BY DEED RECORDED BY BOOK 20550 PAGE 3749 OF THE ST. LOUIS COUNTY RECORDS; THENCE, ALONG THE SOUTH LINE OF SAID MEYERHOFF TRACT, SOUTH 89 DEGREES 49 MINUTES 33 SECONDS EAST, 429.99 FEET TO A POINT ON THE SOUTH LINE OF A TRACT OF LAND CONVEYED TO ROBERT AND BARBARA AUMILLER, HIS WIFE, BY DEED RECORDED IN BOOK 17468 PAGE 1714 OF THE ST. LOUIS COUNTY RECORDS; THENCE, LEAVING SAID SOUTH LINE OF AUMILLER TRACT, SOUTH 00 DEGREES 10 MINUTES 27 SECONDS WEST, 400.08 FEET TO A POINT ON THE NORTH LINE OF A TRACT OF LAND CONVEYED TO KENNETH H. AND WENDY J. ARNESMEYER, HIS WIFE, BY DEED RECORDED IN BOOK 15974 PAGE 774 OF THE ST. LOUIS COUNTY RECORDS; THENCE, ALONG THE NORTH LINE OF SAID ARNESMEYER TRACT THE FOLLOWING COURSES AND DISTANCES: NORTH 85 DEGREES 49 MINUTES 55 SECONDS WEST, 209.00 FEET; SOUTH 48 DEGREES 40 MINUTES 01 SECONDS WEST, 82.49 FEET; THENCE, NORTH 74 DEGREES 49 MINUTES 34 SECONDS WEST, 165.36 FEET TO A POINT ON EAST LINE OF A TRACT OF LAND CONVEYED TO NARK, INC. BY DEED RECORDED IN BOOK 11514 PAGE 559 OF THE ST. LOUIS COUNTY RECORDS; THENCE, NORTH 00 DEGREES 10 MINUTES 27 SECONDS EAST, 397.39 FEET TO THE POINT OF BEGINNING AND CONTAINING 4.00 ACRES, MORE OR LESS.

LAND DESCRIPTION—ADJUSTED PARCEL 1

A TRACT OF LAND IN SECTION 24, TOWNSHIP 45 NORTH, RANGE 3 EAST, IN ST. LOUIS COUNTY, MISSOURI, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTH LINE OF A TRACT OF LAND CONVEYED TO RAY AND MARY ANN MEYERHOFF, HIS WIFE, BY DEED RECORDED IN BOOK 9103 PAGE 744 OF THE ST. LOUIS COUNTY RECORDS, SAID POINT BEING THE NORTHWEST CORNER OF A TRACT OF LAND CONVEYED TO GREGOR A. SCHMUCKER, III AND AI-CHIEH LIN, HIS WIFE, BY DEED RECORDED BY BOOK 20550 PAGE 3749 OF THE ST. LOUIS COUNTY RECORDS; THENCE, ALONG THE SOUTH LINE OF SAID MEYERHOFF TRACT, SOUTH 89 DEGREES 49 MINUTES 33 SECONDS EAST, 429.99 FEET TO A POINT, SAID POINT BEING THE NORTHWEST CORNER OF ADJUSTED PARCEL 2 OF CHRISTMAS VALLEY-YULETIDE TRAIL PARCELS 1 AND 2 BOUNDARY ADJUSTMENT PLAT, ACCORDING TO PLAT BOOK 364, PAGE 243 OF THE ST. LOUIS COUNTY RECORDS; THENCE, LEAVING SAID CORNER OF ADJUSTED PARCEL 2, SOUTH 89 DEGREES 49 MINUTES 58 SECONDS EAST, 40.04 FEET TO A POINT; THENCE, SOUTH 00 DEGREES 10 MINUTES 27 SECONDS WEST, 402.87 FEET TO A POINT ON THE NORTH LINE OF A TRACT OF LAND CONVEYED TO KENNETH H. AND WENDY J. ARNESMEYER, HIS WIFE, BY DEED RECORDED IN BOOK 15974 PAGE 774 OF THE ST. LOUIS COUNTY RECORDS; THENCE, ALONG THE NORTH LINE OF SAID ARNESMEYER TRACT THE FOLLOWING COURSES AND DISTANCES: NORTH 85 DEGREES 50 MINUTES 20 DEGREES WEST, 40.13 FEET; NORTH 85 DEGREES 49 MINUTES 55 SECONDS WEST, 209.00 FEET; SOUTH 48 DEGREES 40 MINUTES 01 SECONDS WEST, 82.49 FEET; THENCE, NORTH 74 DEGREES 49 MINUTES 34 SECONDS WEST, 165.36 FEET TO A POINT ON EAST LINE OF A TRACT OF LAND CONVEYED TO NARK, INC. BY DEED RECORDED IN BOOK 11514 PAGE 559 OF THE ST. LOUIS COUNTY RECORDS; THENCE, NORTH 00 DEGREES 10 MINUTES 27 SECONDS EAST, 397.39 FEET TO THE POINT OF BEGINNING AND CONTAINING 4.37 ACRES, MORE OR LESS.

LAND DESCRIPTION—ADJUSTED PARCEL 2

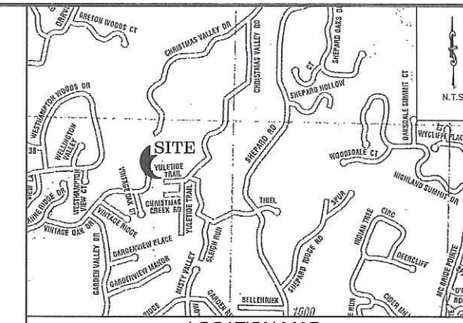
A TRACT OF LAND BEING ADJUSTED PARCEL 2 OF CHRISTMAS VALLEY-YULETIDE TRAIL PARCELS 1 AND 2 BOUNDARY ADJUSTMENT PLAT, AS RECORDED IN PLAT BOOK 364, PAGE 243 OF THE ST. LOUIS COUNTY, MISSOURI RECORDS, IN SECTION 24, TOWNSHIP 45 NORTH, RANGE 3 EAST, IN ST. LOUIS COUNTY, MISSOURI, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTH LINE OF A TRACT OF LAND CONVEYED TO ROBERT AND BARBARA AUMILLER, HIS WIFE, BY DEED RECORDED IN BOOK 17468 PAGE 1714 OF THE ST. LOUIS COUNTY RECORDS, SAID POINT BEING ALSO THE NORTHWEST CORNER OF ADJUSTED PARCEL 2 OF CHRISTMAS VALLEY-YULETIDE TRAIL PARCELS 1 AND 2 BOUNDARY ADJUSTMENT PLAT, ACCORDING TO PLAT BOOK 364, PAGE 243 OF THE ST. LOUIS COUNTY RECORDS; THENCE, ALONG THE NORTHERLY LINE OF SAID ADJUSTED PARCEL 2, SOUTH 89 DEGREES 49 MINUTES 58 SECONDS EAST, 40.04 FEET TO THE SOUTHEAST CORNER OF SAID AUMILLER TRACT; THENCE, ALONG THE EAST LINE OF SAID AUMILLER TRACT, NORTH 00 DEGREES 47 MINUTES 06 SECONDS EAST, 100.01 FEET TO THE SOUTHWEST CORNER OF ADJUSTED PARCEL 1 OF SAID CHRISTMAS VALLEY-YULETIDE TRAIL PARCELS 1 AND 2 BOUNDARY ADJUSTMENT PLAT; THENCE ALONG THE SOUTH LINE SAID ADJUSTED PARCEL 1, SOUTH 89 DEGREES 49 MINUTES 58 SECONDS EAST, 609.25 FEET TO A POINT ON THE WEST LINE OF A TRACT OF LAND CONVEYED TO CHRISTIE S. AND JEFFREY L. CHAVIS BY DEED RECORDED IN BOOK 20169 PAGE 507 OF THE ST. LOUIS COUNTY RECORDS; THENCE, ALONG SAID WEST LINE OF SAID CHAVIS TRACT AND IT'S SOUTHERLY PROLONGATION, SOUTH 00 DEGREES 13 MINUTES 49 SECONDS WEST, 100.00 FEET TO A POINT ON THE WEST LINE OF A TRACT OF LAND CONVEYED TO THOMAS AND SUSAN MITCHELL, HIS WIFE, BY DEED RECORDED IN BOOK 17117 PAGE 4474 OF THE ST. LOUIS COUNTY RECORDS; THENCE, ALONG SAID WEST LINE OF MITCHELL TRACT, SOUTH 17 DEGREES 39 MINUTES 34 SECONDS WEST, 35.07 FEET TO A POINT; THENCE, SOUTH 40 DEGREES 09 MINUTES 36 SECONDS WEST, 178.73 FEET; THENCE CONTINUING ALONG SAID WEST LINE AND IT'S WESTERLY PROLONGATION, SOUTH 54 DEGREES 09 MINUTES 36 SECONDS WEST, 277.98 FEET TO A POINT ON THE NORTH LINE OF A TRACT CONVEYED TO KENNETH H. AND WENDY J. ARNESMEYER, HIS WIFE, BY DEED RECORDED IN BOOK 15974 PAGE 774 OF THE ST. LOUIS COUNTY RECORDS; THENCE, ALONG SAID NORTH LINE OF ARNESMEYER TRACT THE FOLLOWING COURSES AND DISTANCES; NORTH 89 DEGREES 20 MINUTES 27 SECONDS WEST, 188.80 FEET; SOUTH 11 DEGREES 09 MINUTES 33 SECONDS WEST, 76.03 FEET; THENCE, NORTH 85 DEGREES 50 MINUTES 20 SECONDS WEST, 96.97 FEET TO A POINT; THENCE, LEAVING SAID NORTH LINE OF ARNESMEYER TRACT, NORTH 00 DEGREES 10 MINUTES 27 SECONDS EAST, 400.08 FEET TO THE POINT OF BEGINNING AND CONTAINING 5.44 ACRES, MORE OR LESS.

LAND DESCRIPTION—ADJUSTED PARCEL 2-A

A TRACT OF LAND BEING ADJUSTED PARCEL 2 OF CHRISTMAS VALLEY-YULETIDE TRAIL PARCELS 1 AND 2 BOUNDARY ADJUSTMENT PLAT, AS RECORDED IN PLAT BOOK 364, PAGE 243 OF THE ST. LOUIS COUNTY, MISSOURI RECORDS AND A TRACT OF LAND IN SECTION 24, TOWNSHIP 45 NORTH, RANGE 3 EAST, IN ST.LOUIS COUNTY, MISSOURI, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING ON THE SOUTH LINE OF A TRACT OF LAND CONVEYED TO ROBERT AND BARBARA AUMILLER, HIS WIFE, BY DEED RECORDED IN BOOK 17468 PAGE 1714 OF THE ST. LOUIS COUNTY RECORDS, SAID POINT BEING ALSO THE NORTHWEST CORNER OF ADJUSTED PARCEL 2 OF CHRISTMAS VALLEY-YULETIDE TRAIL PARCELS 1 AND 2 BOUNDARY ADJUSTMENT PLAT, ACCORDING TO PLAT BOOK 364, PAGE 243 OF THE ST. LOUIS COUNTY RECORDS; THENCE, ALONG THE NORTHERLY LINE OF SAID ADJUSTED PARCEL 2, SOUTH 89 DEGREES 49 MINUTES 58 SECONDS EAST, 40.04 FEET TO THE SOUTHEAST CORNER OF SAID AUMILLER TRACT AND THE POINT OF BEGINNING; THENCE, ALONG THE EAST LINE OF SAID AUMILLER TRACT, NORTH 00 DEGREES 47 MINUTES 06 SECONDS EAST, 100.01 FEET TO THE SOUTHWEST CORNER OF ADJUSTED PARCEL 1 OF SAID CHRISTMAS VALLEY-YULETIDE TRAIL PARCELS 1 AND 2 BOUNDARY ADJUSTMENT PLAT; THENCE ALONG THE SOUTH LINE SAID ADJUSTED PARCEL 1, SOUTH 89 DEGREES 49 MINUTES 58 SECONDS EAST, 609.25 FEET TO A POINT ON THE WEST LINE OF A TRACT OF LAND CONVEYED TO CHRISTIE S. AND JEFFREY L. CHAVIS BY DEED RECORDED IN BOOK 20169 PAGE 507 OF THE ST. LOUIS COUNTY RECORDS; THENCE, ALONG SAID WEST LINE OF SAID CHAVIS TRACT AND IT'S SOUTHERLY PROLONGATION, SOUTH 00 DEGREES 13 MINUTES 49 SECONDS WEST, 100.00 FEET TO A POINT ON THE WEST LINE OF A TRACT CONVEYED TO THOMAS AND SUSAN MITCHELL, HIS WIFE, BY DEED RECORDED IN BOOK 17117 PAGE 4474 OF THE ST. LOUIS COUNTY RECORDS; THENCE, ALONG SAID WEST LINE OF MITCHELL TRACT, SOUTH 17 DEGREES 39 MINUTES 34 SECONDS WEST, 35.07 FEET TO A POINT; THENCE, SOUTH 40 DEGREES 09 MINUTES 36 SECONDS WEST, 178.73 FEET; THENCE CONTINUING ALONG SAID WEST LINE AND IT'S WESTERLY PROLONGATION, SOUTH 54 DEGREES 09 MINUTES 36 SECONDS WEST, 277.98 FEET TO A POINT ON THE NORTH LINE OF A TRACT CONVEYED TO KENNETH H. AND WENDY J. ARNESMEYER, HIS WIFE, BY DEED RECORDED IN BOOK 15974 PAGE 774 OF THE ST. LOUIS COUNTY RECORDS; THENCE, ALONG SAID NORTH LINE OF ARNESMEYER TRACT THE FOLLOWING COURSES AND DISTANCES; NORTH 89 DEGREES 20 MINUTES 27 SECONDS WEST, 188.80 FEET; SOUTH 11 DEGREES 09 MINUTES 33 SECONDS WEST, 76.03 FEET; THENCE, NORTH 85 DEGREES 50 MINUTES 20 SECONDS WEST, 56.84 FEET TO A POINT; THENCE, LEAVING SAID NORTH LINE OF ARNESMEYER TRACT, NORTH 00 DEGREES 10 MINUTES 27 SECONDS EAST, 402.87 FEET TO THE POINT OF BEGINNING AND CONTAINING 5.07 ACRES, MORE OR LESS.



LOCATION MAP

DEVELOPMENT NOTES:

1. SITE ADDRESS:

   1407 & 1423 YULETIDE TRAIL ROAD
   CHESTERFIELD, MO 63005

2. OWNER INFORMATION:

   PARCEL #1 (1407) – RONALD & CATHERINE PEASLEY
   1325 CHRISTMAS VALLEY ROAD
   CHESTERFIELD, MO 63005

   PARCEL #2 (1423) – GREGOR SCHMUCKER, III & AI-CHIEH LIN
   1423 YULETIDE TRAIL ROAD
   CHESTERFIELD, MO 63005

3. AREA OF PLAT: 9.44 ACRES ±

4. ZONED: "NU" (NON-URBAN) DISTRICT

   "NU" DISTRICT SETBACK REQUIREMENTS

   FRONT YARD: 50 FEET (MEASURED FROM THE EDGE OF RIGHT-OF-WAY OR PRIVATE ROADWAY EASEMENT)
   SIDE YARD: 30 FEET.
   REAR YARD: 30 FEET.

5. ACCORDING TO THE FIRM FLOOD INSURANCE RATE MAP 29189C0260K DATED FEBRUARY 4, 2015, "ADJUSTED PARCEL 1" IS LOCATED IN ZONE X UNSHADED, AREA DETERMINED TO BE OUTSIDE THE 0.1% CHANCE ANNUAL FLOODPLAIN, PART OF "ADJUSTED PARCEL 2" IS LOCATED IN ZONE AE, AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD.

6. BASIS OF BEARINGS: BASED UPON GRID NORTH OF THE MISSOURI STATE PLANE COORDINATE SYSTEM, NAD'83 (2011), EAST ZONE.

7. A CURRENT TITLE COMMITMENT HAS NOT BEEN SUPPLIED TO THD DESIGN GROUP, INC. THEREFORE THE SURVEYED PARCELS ARE SUBJECT TO ANY DEFECTS, ENCUMBRANCES, EASEMENTS OR CLAIMS OF EASEMENT FOUND OR NOT FOUND IN THE PUBLIC RECORD.

8. ST. LOUIS COUNTY BENCHMARK SL-37 NAVD 1988

   PUBLISHED ELEVATION: 483.59
   COLLECTED ELEVATION: 483.59

   LOCATED NEAR THE SOUTHERLY CORNER OF THE ATHLETIC FIELD OF LINDA VISTA MONTESSORI CATHOLIC SCHOOL AND ON THE NW SIDE OF STRECKER RD. IT IS 34.7 FT. WEST OF AN ASPHALT NAIL AND SHINER 4" FROM THE NW EDGE OF PAVEMENT; 14.1 FT. NW OF ANOTHER ASPHALT NAIL AND SHINER 4" FROM THE NW EDGE OF PAVEMENT; 24.1 FT. NW OF THE CENTER LINE OF STRECKER RD.; 13.7 FT. NE OF CENTER OF A SOUTHWESTERN BELL TELEPHONE RISER BOX; 29.5 FT. SSE OF A NAIL AND SHINER ON THE EAST SIDE OF A POWER POLE WITH A TRANSFORMER; AND 1.1 FT. NW OF A WITNESS POST.

9. SOURCE OF RECORD:

   PLAT BOOK 364 PAGE 243; DEED BOOK 9103 PAGE 744; DEED BOOK 20550 PAGE 3749; DEED BOOK 17468 PAGE 1714; DEED BOOK 15974 PAGE 774; DEED BOOK 11514 PAGE 559; DEED BOOK 20169 PAGE 507; AND, DEED BOOK 17117 PAGE 4474, OF THE ST. LOUIS COUNTY, MISSOURI RECORDS.

UTILITY SERVICE PROVIDERS	
SCHOOL	ROCKWOOD
FIRE	METRO WEST
SEWER	PRIVATE SEPTIC
WATER	PRIVATE WELL
GAS	LACLEDE GAS
PHONE	AT&T
ELECTRIC	AMEREN U.E.
CABLE	CHARTER COMMUNICATIONS
WATERSHED	BONHOMME CREEK
ZIP CODE	63005 CHESTERFIELD
POLICE	ST LOUIS COUNTY – WILDWOOD PRECINCT
CITY COUNCIL	WARD 7

SURVEYORS CERTIFICATE

THIS IS TO CERTIFY THAT THD DESIGN GROUP, INC AT THE REQUEST AND FOR THE EXCLUSIVE USE OF GREGOR A. SCHMUCKER, III AND AI-CHIEH LIN, HIS WIFE, AND RONALD D. PEASLEY AND CATHERINE A. PEASLEY, HIS WIFE, WE HAVE DURING THE MONTH OF SEPTEMBER, 2016, EXECUTED A BOUNDARY SURVEY AND BASED UPON SAID SURVEY, DURING THE MONTH OF SEPTEMBER, 2016, PREPARED A BOUNDARY ADJUSTMENT PLAT ON TWO TRACTS OF LAND BEING PART OF SECTION 24, TOWNSHIP 45 NORTH, RANGE 3 EAST, ST. LOUIS COUNTY, MISSOURI THE RESULTS OF WHICH ARE SHOWN HEREON. ALL SURVEY MONUMENTATION WILL BE SET AS SHOWN HEREON THIS PLAT. THIS SURVEY WAS EXECUTED IN ACCORDANCE WITH CHAPTER 16 "MISSOURI MINIMUM STANDARDS FOR URBAN PROPERTY BOUNDARY SURVEYS (4CSR30 16.010–16.110)" THIS SURVEY IS BASED ON RECORD SOURCES. THD DESIGN GROUP, INC. TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THE AFOREMENTIONED RECORDS. RESULTS OF SAID SURVEY ARE SHOWN ON THE PLAT HEREON.

THD DESIGN GROUP, INC.
"your solution for engineering and surveying"
148 CHESTERFIELD INDUSTRIAL BLVD, STE G, CHESTERFIELD, MO 63005
TEL 636-394-3912
FAX 636-394-3913
WEB: THDDESIGNGROUP.COM
Corporate Certificate of Authority #2001004415

BOUNDARY ADJUSTMENT PLAT OF
1407 AND 1423 YULETIDE TRAIL ROAD
TWO TRACTS OF LAND BEING PART OF
SECTION 24, TOWNSHIP 45 NORTH, RANGE 3 EAST,
CITY OF WILDWOOD, LOUIS COUNTY, MISSOURI
ZONING: "NU" NON-URBAN RESIDENCE DISTRICT

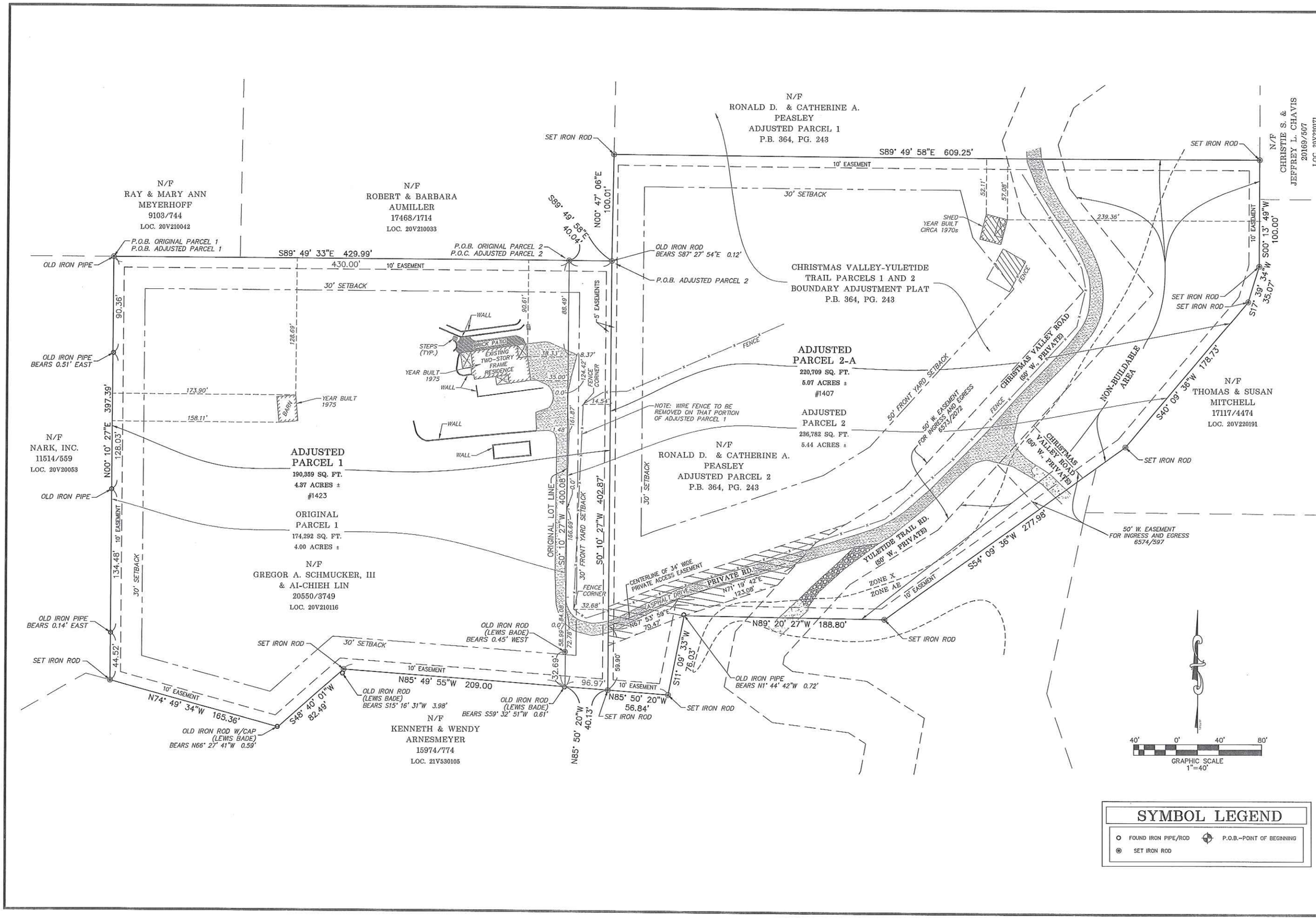
FOR REVIEW

Date: Nov 09, 2016
Brian J. Fischer
License No. MO-002584
Professional Land Surveyor

PROJECT NUMBER: 16-2403

DATE: 11/09/2016

DRAWN BY: MWM



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BOUNDARY ADJUSTMENT PLAT OF
1407 AND 1423 YULETIDE TRAIL ROAD
TWO TRACTS OF LAND BEING PART OF
SECTION 24, TOWNSHIP 45 NORTH, RANGE 3 EAST,
CITY OF WILDWOOD
ST. LOUIS COUNTY, MISSOURI

FOR REVIEW

Date: Nov 09, 2016
Brian J. Fischer
License No. MO-002584
Professional Land Surveyor

PROJECT NUMBER: 1G-2403

DATE: 11/09/2016

DRAWN BY: MWM

2 OF 2

RESOLUTION #2016-34

A RESOLUTION AUTHORIZING THE PURCHASE OF ONE 2017 FORD ESCAPE FROM JOE MACHENS FORD, INC., d/b/a JOE MACHENS FORD LINCOLN THROUGH THE STATE OF MISSOURI COOPERATIVE PURCHASING PROGRAM

WHEREAS, an additional fleet vehicle is needed to meet the transportation needs of the City's operations; and

WHEREAS, the City of Wildwood is eligible to purchase vehicles through the State of Missouri Cooperative Purchasing Program; and

WHEREAS, the City Council finds and determines that the State of Missouri Cooperative Purchasing Program offers the best value for vehicle purchases by the City.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF WILDWOOD, MISSOURI, AS FOLLOWS:

Section 1:
The City Administrator is hereby authorized and empowered to purchase on behalf of the City one 2017 Ford Escape from Joe Machens Ford. Inc. d/b/a Joe Machens Ford Lincoln through the State of Missouri Cooperative Purchasing Program, pursuant to the terms set forth in the Proposal attached hereto as **Exhibit A** and incorporated by reference herein.

Section 2:
That the City Administrator is hereby further authorized and directed on behalf of and in the name of the City to agree to do any and all other acts and things and to execute and deliver any and all other agreements, documents, instruments and certificates, all as may be necessary and appropriate to consummate the above mentioned purchase consistent with the Proposal. The execution by the City Administrator of any agreement, document, instrument, check or certificate referred to in this Resolution and the Proposal shall be conclusive evidence of the approval thereof and of all of the terms, provisions and conditions contained therein. Any and all acts which the City Administrator may do or perform in conformance with the powers conferred upon him by this Resolution are hereby expressly authorized, approved, ratified and confirmed.

Section 3:
Expenditures authorized by this Resolution shall not exceed a total sum of Twenty-one Thousand Six Hundred Seventy-seven and 00/100 Dollars ($21,677).

Section 4:
This Resolution shall be effective upon its passage.

Passed and resolved this _____ day of _____, 2016.

_____
James R. Bowlin, MAYOR

ATTEST:

_____
City Clerk

EXHIBIT A

JOE MACHENS FORD LINCOLN

1911 W. Worley • Columbia, MO 65203 • (573) 445-4411 • (800) 745-4454 • www.machens.com

October 19, 2016 **Contract # C116023001**

City of Wildwood

Subject: Joe Machens Proposal on a 2017 Ford Escape SE AWD

To: Whom it May Concern;

As per the requested quote on a 2017 Ford Escape SE AWD, Joe Machens Ford proposes the following. The Ford Escape includes the factory standard and State options. This proposed unit also has other options as noted below.

Price – Dealer Code – Option, Included Equipment

$21,332 – U9G – 2017 Ford Escape SE Trim
200A pkg
All Wheel Drive
1.5L EcoBoost Engine
Standard Rear Axle
Automatic Transmission 6 speed
Air Conditioning
LH & RH Manual Mirrors
All Season Tires plus spare
Standard GVWR
4 wheels disc brakes – ABS
Cruise control and Tilt
Carpet Flooring
Cloth Seats

Optional equipment (Price – Dealer Code – Option):

$45 – 942 – Daytime Running Lights
$150 – PTS – 3rd Key
$150 – DEL – Delivery
$0 – TBD – Exterior Color: TBD

Total
$21,677

Joe Machens Ford appreciates your business and we look forward to servicing your needs in the future. Any questions should be directed to Kelly Sells, Fleet Department Manager.

Thanks,

Kelly Sells
Fleet Manager
Joe Machens Ford
573-445-4411
ksells@machens.com