



AGENDA
CHARTER TOWNSHIP OF MERIDIAN
PARK COMMISSION – REGULAR MEETING
May 8, 2018 6:00 pm

WORK SESSION – TOWN HALL ROOM 6 PM

1. CALL WORK SESSION TO ORDER
2. PUBLIC COMMENT
3. APPROVAL OF AGENDA
4. BID REVIEW
 - A. Central Meridian Regional Trail Connector
 - B. Central Park Gateway Footbridge and Restroom Facility
5. PROPOSED OFF-LEASH DOG AREAS IN CENTRAL PARK
6. TOWNER ROAD AUXILIARY PARKING LOT
7. OTHER
8. COMMENTS FROM THE PUBLIC
9. ADJOURNMENT OF WORK SESSION

REGULAR MEETING – TOWN HALL ROOM 7 PM

1. CALL MEETING TO ORDER
2. CITIZENS ADDRESS AGENDA ITEMS AND NON-AGENDA ITEMS
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES
 - A. April 10, 2018 Regular Minutes
 - B. April 10 13, 2018 Work Session Minutes
5. COMMUNICATIONS
6. DIRECTOR'S REPORT
7. ACTION ITEMS
 - A. Professional Services Bid Recommendation – Central Meridian Trail Connector
 - B. Professional Services Bid Recommendation – Central Park Gateway Footbridge and Restroom Facility
 - C. Emerald Ash Borer Study in Meridian Parks – Continued Research
 - D. Fencing Bid Award – Off Leash Dog Areas
8. DISCUSSION ITEMS
9. COMMENTS FROM THE PUBLIC
10. OTHER MATTERS AND COMMISSIONERS' COMMENTS
 - A. Next Park Commission Meeting: Tuesday, June 12, 2018
 - C. Meridian Farmers' Market: Saturdays May 5-October 27; 10 am – 2 pm
 - D. Event Calendar:
 - Saturday, May 12; Nature at Night Campfire, Harris Nature Center at 7 pm
 - Friday, May 18; Meridian Garden Club Annual Plant Sale, Central Park Pavilion, from 9 am-1pm
 - Friday, May 18; Howl at the Moon, Harris Nature Center, at 9 pm
 - Saturday, May 19; Love a Park Day, Township Parks and Land Preserves; 9:30am-Noon
 - Sunday, May 20; Bird Watching in Our Parks, North Meridian Road Park, at 8 am
 - Wednesday, May 30; National Senior Health and Fitness Day; Wonch Park, 11am-1pm
 - Friday, June 29; Meridian Mile Race in Central Park
 - Saturday, June 30; Celebrate Meridian 11am-11pm
11. ADJOURNMENT

All comments limited to 3 minutes, unless prior approval for additional time for good cause is obtained from the Supervisor.
Appointment of Supervisor Pro Tem and/ or Temporary Clerk if necessary.
Individuals with disabilities requiring auxiliary aids or services should contact the Meridian Township Board by contacting:
Parks & Recreation Director LuAnn Maisner, 2100 Gaylord C. Smith Court, Haslett or 517.853.4600 - Ten Day Notice is Required.
Meeting Location: 5151 Marsh Road, Okemos, MI 48864 Township Hall
Providing a safe and welcoming, sustainable, prime community.

Park Commission Meeting

May 8, 2018

WORK SESSION

4. BID REVIEW
 - A. Central Meridian Regional Trail Connector
 - B. Central Park Gateway Footbridge and Restroom Facility
5. PROPOSED OFF-LEASH DOG AREAS IN CENTRAL PARK
6. TOWNER ROAD AUXILIARY PARKING LOT



To: Park Commission
From: LuAnn Maisner, CPRP, Director of Parks and Recreation
Date: May 4, 2018
Re: Central Meridian Regional Trail Connector Project

Staff requested bid proposals to provide engineering, bidding and construction oversight services for the Central Meridian Regional Trail Connector Project. The estimated project cost is \$375,000 and the scope of the project includes but is not limited to:

- 2500 lf of 12' wide paved pathway
- Boardwalk
- Fishing pier or dock
- Landscaping
- Bench
- Bicycle fis-it station with air pump
- Bike rack
- Signage
- Electric wheelchair charging station

We are currently in the process of evaluating the proposals and will provide the recommendation on Tuesday evening.

The following motion is offered:

MOVE TO APPROVE THE BID FROM _____ IN THE AMOUNT OF \$_____ FOR THE PURPOSE OF PROVIDING DESIGN, ENGINEERING AND CONSTRUCTION OVERSITE FOR THE CENTRAL MERIDIAN TRAIL CONNECTOR PROJECT IN CENTRAL PARK.



To: Park Commission
From: LuAnn Maisner, CPRP, Director of Parks and Recreation
Date: May 4, 2018
Re: Central Park Gateway Footbridge and Restroom Facility Project

Staff requested bid proposals to provide engineering, bidding and construction oversight services for the Central Park Gateway Footbridge and Restroom Facility Project. The estimated project cost is \$285,000 and the scope of the project includes but is not limited to:

- A pre-fabricated restroom/storage building consisting of two-unisex bathrooms
- Drinking fountain
- Concrete sidewalks
- 12'x60'prefabricated footbridge
- Site utilities shall include public water, sewer and electric service

We are currently in the process of evaluating the proposals and will provide the recommendation on Tuesday evening.

The following motion is offered:

MOVE TO APPROVE THE BID FROM _____ IN THE AMOUNT OF \$_____ FOR THE PURPOSE OF PROVIDING DESIGN, ENGINEERING AND CONSTRUCTION OVERSITE FOR THE CENTRAL PARK GATEWAY FOOTBRIDGE AND RESTROOM FACILITY PROJECT IN CENTRAL PARK.



To: Park Commission
From: LuAnn Maisner, CPRP, Director of Parks and Recreation
Date: May 4, 2018
Re: Off Leash Dog Areas and Enforcement

Staff has been working on items related to development of dog parks for both small and large dogs; creating a section on the website related to appropriate use of our parks while walking dogs and stricter enforcement of pets off-leash; as well as rules and regulations for when our dog parks open. We will have them for you at the meeting on Tuesday. Kelsey Dillon will be in attendance to discuss her ideas for implementation.

Thank you.

Park Commission Meeting
May 8, 2018

4. APPROVAL OF MINUTES

- a. April 10, 2018 Work Session Minutes
- b. April 10, 2018 Regular Meeting Minutes



CHARTER TOWNSHIP OF MERIDIAN
PARK COMMISSION WORK SESSION **DRAFT** MINUTES
5151 Marsh Road, Okemos, MI 48864
Town Hall Room

Date, Time: April 10, 2018, 2018; 6 pm

PRESENT: Chair, Michael McDonald; Vice Chair Amanda Lick; Commissioner Annika Schaetzl;
Commissioner Mark Stephens; Commissioner Courtney Wisinski

EXCUSED: None

STAFF: LuAnn Maisner, Parks and Recreation Department Director

1. CALL WORK SESSION TO ORDER

Chair McDonald called the meeting to order at 6:15 pm.

2. CITIZENS ADDRESS AGENDA ITEMS

Shane Goodale reported on his progress for hosting a kickball tournament fundraiser in honor of his son Will, with music and food trucks as part of the grand opening ceremony for Towner Road Park. The funds raised will go into his foundation to fund scholarships for Haslett students wishing to pursue a career in law enforcement.

3. APPROVAL OF AGENDA

Commissioner Wisinski moved **TO APPROVE THE AGENDA AS SUBMITTED**. Seconded by Commissioner Schaetzl.

VOICE VOTE: Motion carried unanimously.

4. PARK PROJECTS SCHEDULE

Commissioners reviewed the following park projects schedule:

A. 2018 Budgeted Projects:

- Design, engineer and bid the Central Meridian Regional Trail Connector Project in Central Park. \$40,000 (construction in 2019)
- Design, engineer and bid the footbridge and restroom building in the Historical Village. \$30,000 (construction in 2019)
- New park signs with the new Township Brand to replace worn out or absent signage. \$25,000
- Pave Eastgate Park parking lot – \$40,000
- Expand parking lot at North Meridian Road Park – \$50,000
- Farmers' Market Relocation Project - \$75,000
- Dog Park – \$80,000

Total for 2018 - \$340,000 for projects

B. 2019 Proposed Projects:

- Construction of the Central Meridian Regional Trail Connector \$82,500
- Construction of the footbridge and restroom building in the Historical Village -\$120,000

- Design, engineering and planning for restroom and pavilion at HNC - \$22,000
 - Farmers' Market Relocation Project- \$90,000
 - Ottawa Hills Playground - \$75,000
- Total Project Costs for 2019 - \$389,500

C. 2020 Proposed Projects:

- Construction of Pavilion and restroom at HNC
 - Construction of Playground at Towner Road Park
 - Renovation of former Farmers' Market Pavilion in Central Park/Landscaping -
 - Nancy Moore Park Playground and Loop Trail Project - \$200,000
- Total Project Costs for 2020 - \$9,000

These projects form the planned capital expenditures for the next 2.5 years. This information important to finalize as completing and updating the six-year capital improvement plan (CIP) and the 2019 Budget Request processes will be taking place in the next 6-8 weeks. Director Maisner asked the Commissioners to review the proposed schedule for action at the May 8, 2018 meeting.

5. OTHER

Commissioner Lick inquired about the status of the dog park. Commissioner McDonald suggested the Commissioners review the program from Ottawa County and to add this topic to the next Work Session Agenda.

6. COMMENTS FROM THE PUBLIC

None

7. ADJOURNMENT OF WORK SESSION

Chair McDonald adjourned the work session at 7:05 pm.



CHARTER TOWNSHIP OF MERIDIAN
PARK COMMISSION REGULAR MEETING **DRAFT** MINUTES
5151 Marsh Road, Okemos, MI 48864
Administrative Conference Room

Date, Time April 10, 2018; 7 pm

PRESENT: Chair, Michael McDonald; Vice Chair Amanda Lick; Commissioner Annika Schaetzl;
Commissioner Mark Stephens; Commissioner Courtney Wisinski

ABSENT: None

STAFF: LuAnn Maisner, Parks and Recreation Department Director

1. CALL MEETING TO ORDER

Chair McDonald called the regular meeting to order at 7:08 pm.

2. CITIZENS ADDRESS AGENDA ITEMS AND NON-AGENDA ITEMS

None

3. APPROVAL OF AGENDA

Commissioner Schaetzl moved **TO APPROVE THE AGENDA AS SUBMITTED**. Seconded by Commissioner Wisinski.

VOICE VOTE: Motion carried unanimously.

4. APPROVAL OF MINUTES

- A. March 13, 2018 Regular Minutes
- B. March 13, 2018 Special Meeting Minutes

Commissioner Schaetzl moved **TO APPROVE THE MINUTES OF MARCH 13, 2018 WORK SESSION AND REGULAR MEETING MINUTES AS SUBMITTED**. Seconded by Commissioner Lick.

VOICE VOTE: Motion carried unanimously.

5. COMMUNICATIONS

- A. Items to/from the Public
 - 1. From: Ingham County Drain Commissioner's Office; RE: Controlled Prescribed Burn Notice Snell Towar Recreation Center/Towar Gardens area
 - 2. From: Teresa DeLisle Morgan; RE: Eastgate Park Pump Track
 - 3. From: Cecelia Kramer, President Forest Hills Homeowners Association, RE: issues in Forest Hills Natural Area Park
- B. Commission Information
 - None

C. Staff Inquiries/Response

1. From: Kelsey Dillon, RE: Stewardship Coordinator Report for March 8, 2018 Land Preservation Advisory Board Meeting

Commissioner Stephens moved **TO ACCEPT AND PLACE THE ITEMS OF COMMUNICATION ON FILE**. Seconded by Commission Schaeztl.

VOICE VOTE: Motion carried unanimously.

6. DIRECTOR'S REPORT

- Full-time Matt Foreman, Larry Bobb. Don Cuson, Ben McCann Keith Hewitt, Josh Cannon (6) (one off with a shoulder injury until August)
- Summer seasonals (6) May – August
- MDOT Youth Mentoring Development Program workers (5) mid-June-August
- Park Ranger
- Two interns
- Spring Park Work – Lead Worker Matt Foreman conducted an evaluation of all the parks and developed a list of items that require attention by staff or volunteers for action this spring and summer.
- Boundary Confirmation and markers have been ordered for Ottawa Hills Park and Forest Hills Park.
- Park trail sign progress – Kati Adams and Matt Foreman have been working on installation of trailhead signs and directional markers. The following parks have been completed: Hartrick, Brattin Woods, North Meridian Road Park, Forest Hills Park (more work to be done at western entrance from Arrowtree Apartments), and Ted Black Woods Park. In conjunction with the new signage program, a number of trail maintenance days are being planned for Saturday mornings to spread crushed limestone.
- Towner Road Park Progress – A meeting is planned for next week with the contractor to review the updated work schedule for the project.
- North Meridian Road Park Pavilion- installation is set to begin next week.
- RFP Central Park Improvements – RFP's for design and engineering were released today for the Central Park Regional Trail Connector and Gateway Footbridge/Restroom project. A bid opening is scheduled for May 1, 2018.
- Celebrate Meridian – Planning continues with live music, beer and wine tent, food truck rally, children's game area, car show, pet adoption, and Fireworks. Saturday, June 30 11am-11pm. Need Volunteers!!
- Hillbrook Vandalism – Tennis and Pickleball courts
- Pump Track Volunteers – Michigan Mountain Biking Association Spring 2010
- Wonch Park warning siren
- Cottage Inn Pizza – mural and \$300 for Friends of Historic Meridian
- Senior Health and Fitness Day Wonch Park May 30; 11-1pm
- Chief Hall Retirement June 29th – appreciate the support the Police Department has provided over the years.

7. COMMISSIONERS' COMMENTS

Commissioner Stephens outlined the 2018 salmon in the classroom release programs with the schools at Ferguson Park and Legg Park.

8. CLOSED SESSION – FOR CONSIDERATION OF PROPERTY ACQUISITION

Commissioner Stephens, moved, **TO ENTER INTO CLOSED SESSION TO DISCUSS LAND ACQUISITION ITEM.** Seconded by Commissioner Schaetzl.

Roll Call:

AYES: Vice Chair Amanda Lick; Commissioner Annika Schaetzl; Commissioner Mark Stephens;
Commissioner Courtney Wisinski; Chair Michael McDonald

NAYS: None

The Commission entered into closed session at 7:45pm.

Commissioner Stephens moved, **TO RETURN TO OPEN SESSION.** Seconded by Commissioner Schaetzl.

Roll Call:

AYES: Vice Chair Amanda Lick; Commissioner Annika Schaetzl; Commissioner Mark Stephens;
Commissioner Courtney Wisinski; Chair Michael McDonald

NAYS: None

The Commission returned to open session at 8:25 pm.

9. ACTION FROM CLOSED SESSION

Commissioner Lick moved to support such action as discussed **DURING THE CLOSED SESSION.** Seconded by Commission Schaetzl.

VOICE VOTE: Motion carried unanimously.

10. COMMENTS FROM THE PUBLIC

None

11. OTHER MATTERS AND COMMISSIONERS' COMMENTS

A. Next Park Commission Meeting: Tuesday, May 8, 2018

B. April Family Fun Events Include:

- Sunday, April 15; Explore Nature Open House, Harris Nature Center, Noon-4pm
- Saturday, April 21; Meridian Farmers' Market, JC Penney Wing, Meridian Mall, 10 am-2 pm and then Spring Farmers Market begins Saturday, May 5, Central Park Pavilion from 10 am – 2 pm
- Saturday, April 21; Song Bird Nest Box Workshop, Harris Nature Center, at 2 pm (nest boxes to take home: \$12 for a robin shelf or \$20 for a bluebird/song bird nest box)
- Sunday, April 22; Earth Day Walkabout, Harris Nature Center, 2 pm, \$3/person or \$7/family
- Friday, April 27; Howl at the Moon, Harris Nature Center, at 8:30 pm, \$3/person
- Sunday, April 29; Bird Watching in Our Parks; Hartrick Park, at 8 am

C. May Family Fun Events Include:

- Saturday, May 5; Native Plants Day and Sale, Harris Nature Center from 9 am-1 pm
- Saturday, May 5; Spring Farmers Market Opening Day, Central Park Pavilion, 8 am–2 pm
- Sunday, May 6; Bird Watching in Our Parks, meet at Harris Nature Center and will also

- visit Legg Park, at 8 am
- Sunday, May 6; Wildflower Walkabout, Harris Nature Center, at 3 pm

12. ADJOURNMENT

Commissioner Stephens moved, **TO ADJOURN THE REGULAR MEETING**. Seconded by Commissioner Schaetzl.

VOICE VOTE: Motion passed unanimously.

The meeting adjourned at 8:28 pm.

13. NEXT MEETINGS:

The next meeting is scheduled for **Tuesday, May 8, 2018** in the Town Hall Room, Meridian Municipal Building, 5151 Marsh Road, Okemos, MI. Work Session at 6 pm and Regular Meeting at 7 pm.

Park Commission Meeting

May 8, 2018

5. COMMUNICATIONS

A. Items to/from the Public

1. From: MParks, RE: Area Parks & Recreation Directors & Commissioners Forum – May 17, 2018
2. The Role of Biocontrol of Emerald Ash Borer

B. Commission Information

None

C. Staff Inquiries/Response

None

Area Parks & Recreation Directors & Commissioners Forum

**Thursday May 17th, 2018
5:30pm. – 8:00pm.**

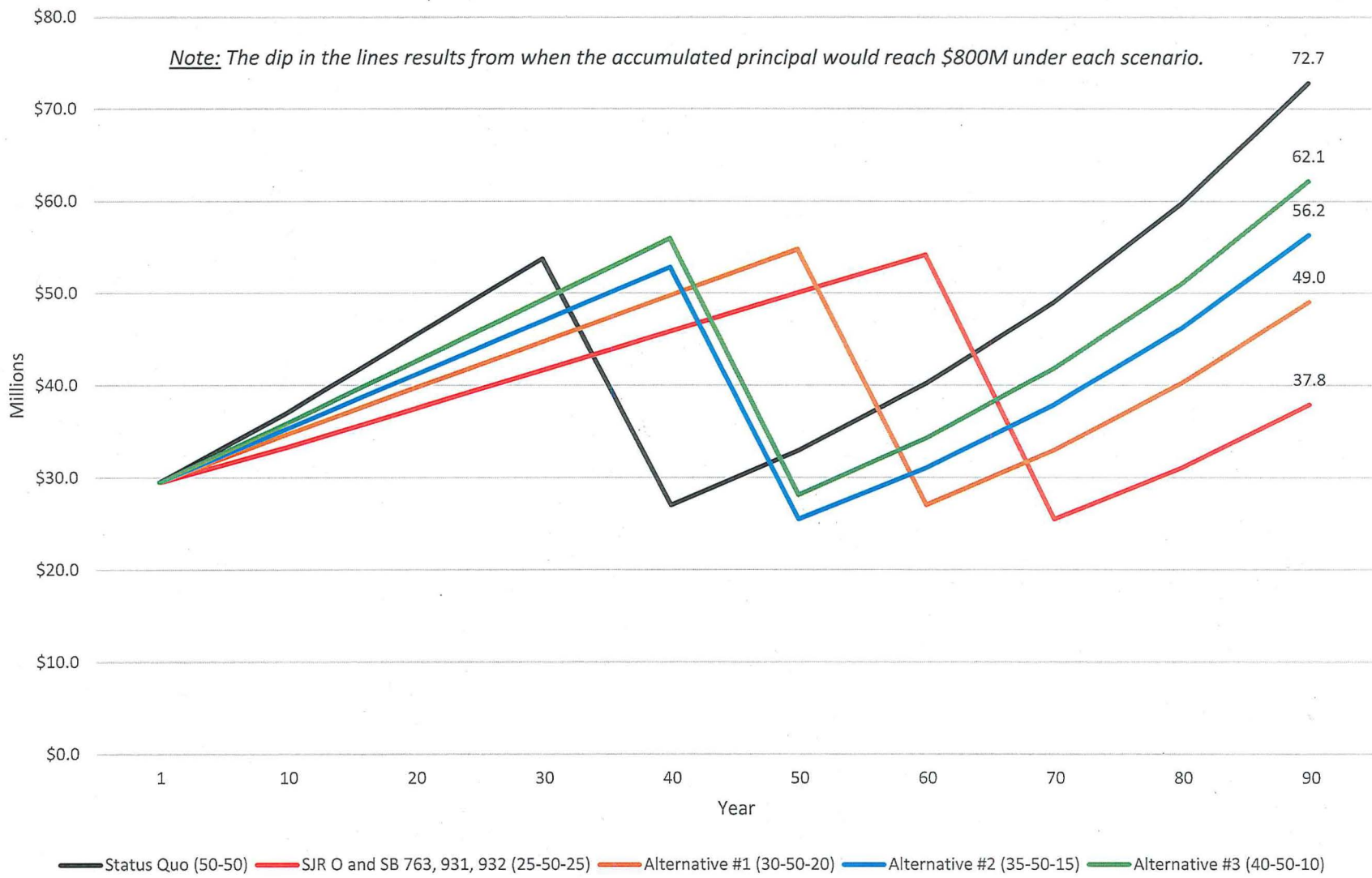
Agenda

- | | | |
|-------|--|-------------------|
| I. | Reception/Meet & Greet - Light Refreshments/Snacks | 5:30pm. – 6:00pm. |
| II. | Opening Welcome – McCaffrey | 6:00pm. – 6:05pm. |
| III. | mParks, SOA Address – Summers | 6:05pm. – 6:15pm. |
| IV. | Effective Advocacy Tips for Commissioners – Rep. Sam Singh | 6:15pm. – 6:30pm. |
| V. | Trust Fund Bills, SB 763/SJR O – Senator Curtis Hertel Jr. | 6:30pm. – 6:45pm. |
| VI. | Ingham County Trails & Parks Millage Update –
Terri Banas & Melissa Buzzard | 6:45pm. – 7:15pm. |
| VII. | Local Share – What’s going on in your community | 7:15pm. – 7:30pm. |
| VIII. | Comments, Question/Answer Section – Summers | 7:30pm. – 8:00pm. |

**E.L. Hannah Community Center
819 Abbot Road
East Lansing, MI 48823**



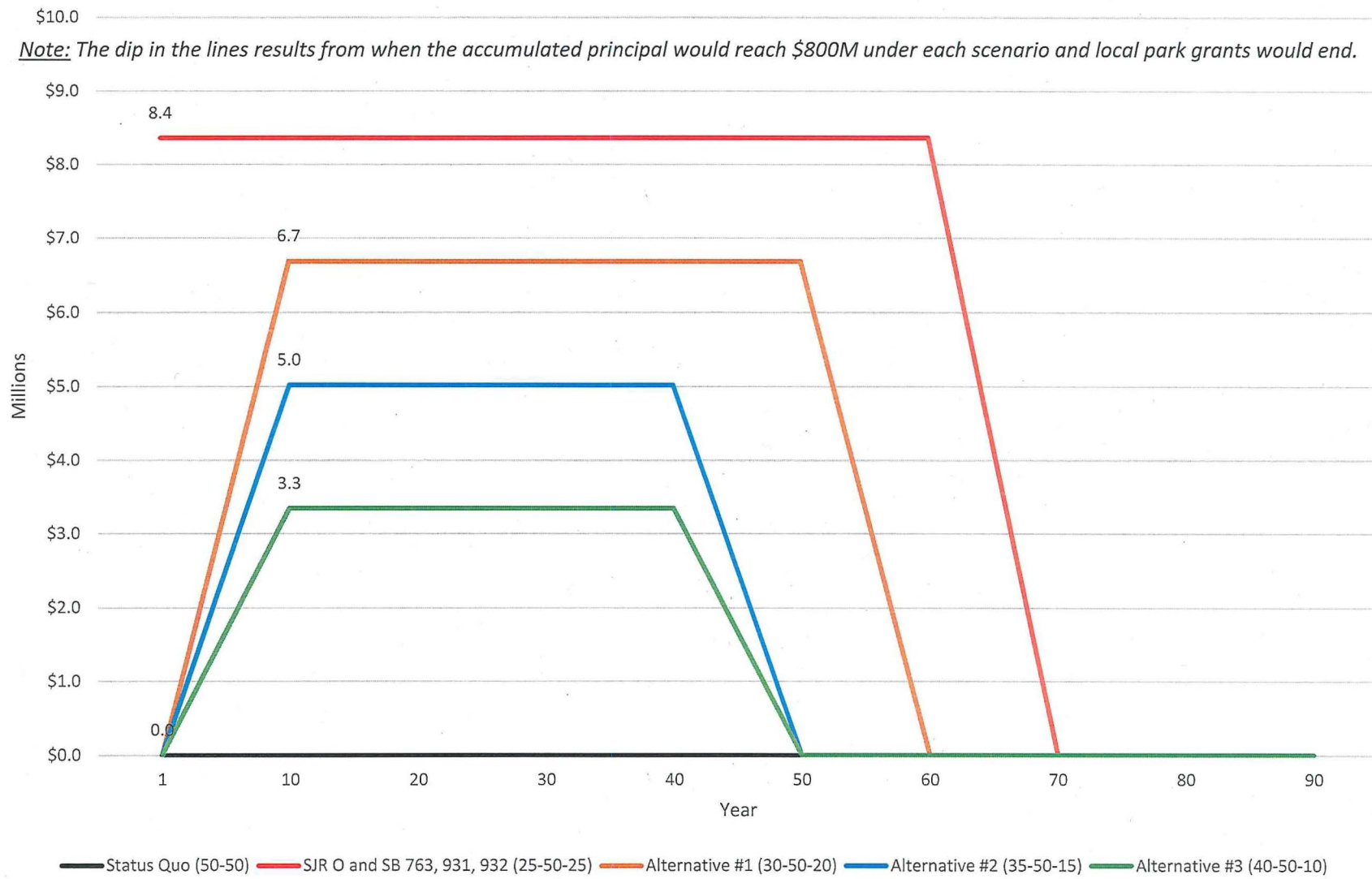
Estimated Amount Made Available Annually for State Park Spending*
 From Michigan State Park Endowment Fund
 Per Status Quo v. SJR O and SB 763, 931, 932 v. Alternatives



*For assumptions, see page 3.

Estimated Amount Made Available Annually for Local Park Grants*
 From Michigan State Park Endowment Fund
 Per Status Quo v. SJR O and SB 763, 931, 932 v. Alternatives

Note: The dip in the lines results from when the accumulated principal would reach \$800M under each scenario and local park grants would end.



*For assumptions, see page 3.

*Assumptions:

All Projections:

- \$33.4 M annually for oil, gas, and mineral royalties (based on average from 2012-2017)
- \$255.7 M beginning accumulated principal balance in Year 1 (based on FY 2017 ending balance)
- 5% average annual rate of return on each year's beginning accumulated principal balance
- 2% annual inflation on accumulated principal after reaching \$800 M

Status Quo Projections:

Until the accumulated principal reaches \$800 M, projections include the following beginning in FY 2018:

- 50% of oil, gas, and mineral royalties annually deposited in the corpus
- 50% of oil, gas, and mineral royalties available annually for state park spending, plus interest and earnings on the corpus

After the accumulated principal reaches \$800 M, the projections include the following:

- Oil, gas, and mineral royalties would no longer deposited in the Michigan State Parks Endowment Fund
- Interest and earnings used to annually adjust the corpus by 2% inflation
- Remaining interest and earnings made available annually for state park spending only

SJR O and SB 763, 931, 932 Projections (Proposed):

Until the accumulated principal reaches \$800 M, projections include the following beginning in FY 2018:

- 25% of oil, gas, and mineral royalties annually deposited in the corpus
- 50% of oil, gas, and mineral royalties available annually for state park spending, plus interest and earnings on the corpus
- 25% of oil, gas, and mineral royalties available annually for local park grants

After the accumulated principal reaches \$800 M, the projections include the following:

- Oil, gas, and mineral royalties would be deposited in the Michigan Natural Resources Trust Fund
- Interest and earnings used to annually adjust the corpus by 2% inflation
- Remaining interest and earnings made available annually for state park spending only

SJR O and SB 763, 931, 932 Projections (Alternative #1):

Until the accumulated principal reaches \$800 M, the projections include the following beginning in FY 2020:

- 30% of oil, gas, and mineral royalties annually deposited in the corpus
- 50% of oil, gas, and mineral royalties available annually for state park spending, plus interest and earnings on the corpus
- 20% of oil, gas, and mineral royalties available annually for local park grants

After the accumulated principal reaches \$800 M, the projections include the following:

- Oil, gas, and mineral royalties would be deposited in the Michigan Natural Resources Trust Fund
- Interest and earnings used to annually adjust the corpus by 2% inflation
- Remaining interest and earnings made available annually for state park spending only

SJR O and SB 763, 931, 932 Projections (Alternative #2):

Until the accumulated principal reaches \$800 M, the projections include the following beginning in FY 2020:

- 35% of oil, gas, and mineral royalties annually deposited in the corpus
- 50% of oil, gas, and mineral royalties available annually for state park spending, plus interest and earnings on the corpus
- 15% of oil, gas, and mineral royalties available annually for local park grants

After the accumulated principal reaches \$800 M, the projections include the following:

- Oil, gas, and mineral royalties would be deposited in the Michigan Natural Resources Trust Fund
- Interest and earnings used to annually adjust the corpus by 2% inflation
- Remaining interest and earnings made available annually for state park spending only

SJR O and SB 763, 931, 932 Projections (Alternative #3):

Until the accumulated principal reaches \$800 M, the projections include the following beginning in FY 2020:

- 40% of oil, gas, and mineral royalties annually deposited in the corpus
- 50% of oil, gas, and mineral royalties available annually for state park spending, plus interest and earnings on the corpus
- 10% of oil, gas, and mineral royalties available annually for local park grants

After the accumulated principal reaches \$800 M, the projections include the following:

- Oil, gas, and mineral royalties would be deposited in the Michigan Natural Resources Trust Fund
- Interest and earnings used to annually adjust the corpus by 2% inflation
- Remaining interest and earnings made available annually for state park spending only

FHAAST-2017-02
November 2017

THE ROLE OF BIOCONTROL OF EMERALD ASH BORER IN PROTECTING ASH REGENERATION AFTER INVASION

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Richard Reardon⁴
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⁵USDA, Animal and Plant Health Inspection Service, Buzzards Bay, MA



Forest Health Assessment and
Applied Sciences Team



This publication is available online at:

[https://www.fs.fed.us/foresthealth/
technology/pdfs/FHAAST-2017-02_
Biocontrol_role_EAB_regeneration.pdf](https://www.fs.fed.us/foresthealth/technology/pdfs/FHAAST-2017-02_Biocontrol_role_EAB_regeneration.pdf)

The Forest Health Technology Enterprise Team (FHTET) was created in 1995 by the Deputy Chief for State and Private Forestry, USDA Forest Service, to develop and deliver technologies to protect and improve the health of American forests.

FHTET became Forest Health Assessment and Applied Sciences Team (FHAAST) in 2016. This booklet was published by FHAAST as part of the technology transfer series.

<http://www.fs.fed.us/foresthealth/technology/>

KEY FINDINGS

THE GOAL OF THE EAB BIOCONTROL PROGRAM IS TO PROTECT ASH REGENERATION AND RESTORE CANOPY COVER OVER TIME

- Long-term monitoring in Michigan and several northeastern states has documented increasing parasitism and reduced EAB attack rates.
- Ash regeneration is currently benefiting from releases of introduced parasitoids, which now cause 20-80% parasitism of EAB larvae in ash saplings (1-2 inch dia.) and young trees (5-8 inch dia.).
- *Spathius galinae*, the most recently released EAB biocontrol agent, appears to be establishing in the northeast United States and Michigan, based on 2017 recoveries. Only 5% of ash are too big for *S. galinae* to attack EAB larvae through the bark of the main trunk. We believe that *S. galinae*, where released and established, will begin protecting most large ash trees over the next five years and may provide continuity of protection for young ash trees as they mature, allowing ash regeneration in EAB-damaged forests.



Emerald ash borer, *Agrilus planipennis* (Photo: Pennsylvania Department of Conservation and Natural Resources – Forestry Archive)

BACKGROUND INFORMATION

Emerald ash borer (EAB) is an invasive Asian beetle that is destroying ash in forests over much of eastern North America because of the high susceptibility of our native ash and a lack of effective natural enemies (**Fig. 1**). To increase mortality of EAB larvae and eggs, the USDA (FS, ARS, APHIS) is carrying out a biological control program based on importation of parasitoids from the beetle's native range in northeastern China and the Russian Far East. Four such parasitoids have been approved for release since 2007 (**Figs. 2-5**), and these species are being reared at the USDA APHIS EAB Biocontrol Facility in Brighton, Michigan, for release in the United States. Three of these natural enemies are now established at various locations and are helping lower EAB densities.

Detailed information on EAB, biocontrol, release site selection, and how to request parasitoids is in the "EAB Biocontrol Release and Recovery Guidelines," available at www.MapBiocontrol.org.



Fig. 1. Typical damage to native ash trees caused by an infestation of the invasive Asian beetle, Emerald Ash Borer (Photo: USDA FS)





Fig. 2. Egg parasitoid *Oobius agrili* (Photo: USDA ARS)



Fig. 3. Larval parasitoid *Tetrastichus planipennis* (Photo: USDA ARS)

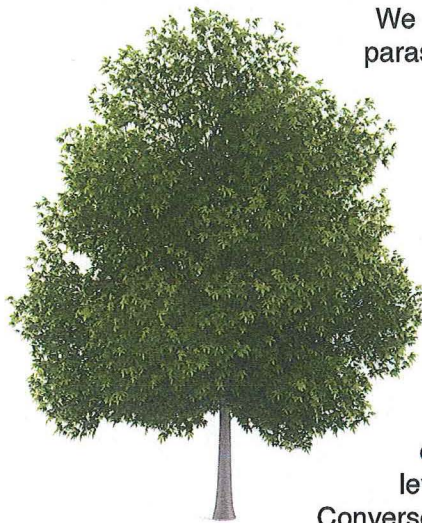


Fig. 4. Larval parasitoid *Spathius agrili* (Photo: USDA ARS)



Fig. 5. Larval parasitoid *Spathius galinae* (Photo: USDA ARS)

How Will Asian Parasitoids Help Protect Ash?



We know that in Asia, parasitoids cause high mortality of EAB, while in North America our native parasitoids only sometimes do so. While North American ash are less resistant than Asian ash, American ash can tolerate some level of EAB attack.

Conversely, woodpeckers, which are scarce in northeastern

Asia, are common in North America and kill about 30-50% of surviving large EAB larvae. The goal of the EAB biocontrol program is to lower survival of EAB eggs and larvae by establishing more effective Asian parasitoids. The combination of these introduced parasitoids, together with moderate levels of tree resistance, high woodpecker predation, and some attack by native parasitoids, will reduce EAB densities and lower the number of attacks per tree to levels that ash trees can survive. This lower attack rate is already happening at Michigan study sites and is allowing ash saplings (1-2 inch dia.) and young ash (5-8 inch dia.) to survive and produce seed for ash regeneration. We have made considerable progress over the last ten years documenting the impacts of these factors, as described below. Moreover, in the aftermath of EAB in southeast Michigan forests where *T. planipennisi* is protecting young ash, recruitment and growth of native hardwoods are favored over invasive species.



What Gains Has the EAB Biocontrol Program Made?

- **Release of four EAB parasitoids from Asia.**
 - *Oobius agrili*, egg parasitoid from China, released since 2007
 - *Tetrastichus planipennisi*, internal larval parasitoid from China, since 2007
 - *Spathius agrili*, external larval parasitoid from China, since 2007
 - *Spathius galinae*, external larval parasitoid from Russia, since 2015
- **Establishment of two parasitoid species confirmed, third likely.** *Oobius agrili* and *T. planipennisi* are established in various areas and are being widely released. *Spathius galinae* is increasingly encountered during field surveys, but it is too early to confirm establishment.
- ***Oobius agrili* causes up to 22% parasitism of EAB eggs at monitored Michigan study sites and is spreading slowly.**
- ***Tetrastichus planipennisi* is now widely established in the infested parts of North America and is spreading rapidly, causing ~20% parasitism in young ash trees (Fig. 6) and 50-80% parasitism in ash saplings (Fig. 7).**
- **90% Reduction in EAB attacks on surviving trees.** In Michigan, EAB attack on surviving ash (larvae per m² of phloem area) is now <10% of the peak in 2009 (Fig. 8).
- **Avoidance of plant invasions.** In southern Michigan, where forests are recovering from the loss of ash overstory trees, native hardwoods are favored over invasive plants where ash seedlings, saplings, and young trees are protected by *T. planipennisi*.



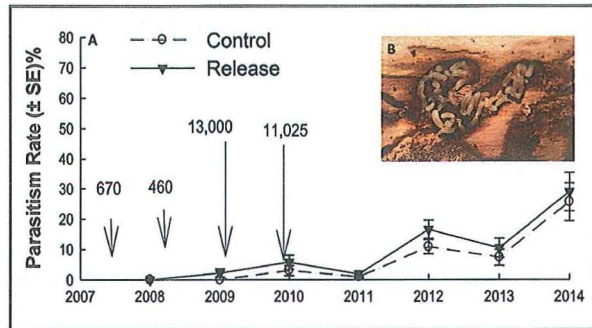


Fig. 6. (A). EAB larval parasitism by the introduced parasitoid *Tetrastichus planipennisi* in young ash trees (5-8 inch dia.) at release and non-release control plots, after parasitoid releases in monitored Michigan study sites starting in 2007 (arrows show number of adult parasitoids released by year) (Duan et al. 2015. J. Appl. Ecol. 52:1246-1254); (B). *T. planipennisi* larvae developed inside the parasitized EAB larva (Inset photo: USDA ARS)

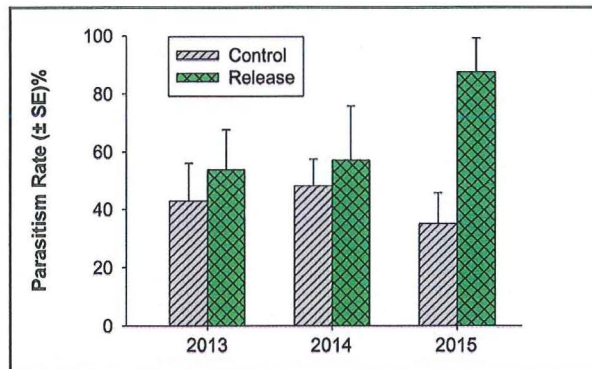


Fig. 7. EAB larval parasitism by *Tetrastichus planipennisi* in ash saplings (1-2 inch dia.) from 2013-2015 at the monitored Michigan study sites (Duan et al. 2017. For. Ecol. Manag. 394:64-72)

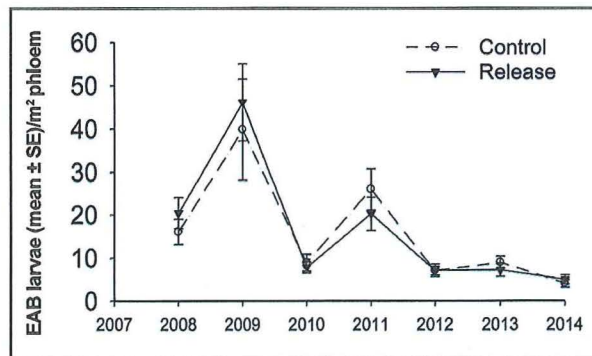


Fig. 8. EAB larval densities declined in the surviving ash trees at Michigan study sites after death of the larger ash trees (2008-2009). The parasitoids, released from 2007-2010, became established in the surviving ash and EAB parasitism increased from 2012-2014 (see Fig. 6) (Duan et al. 2015. J. Appl. Ecol. 52:1246-1254)

What is Likely to Happen in the Next Few Years?

Based on (1) our work during the past 10 years in Michigan and 3-6 years in the northeastern United States, (2) the likely imminent spread of EAB to the South and West, and (3) the species of ash in those not-yet-invaded areas, we expect

- That the newest larval parasitoid, *S. galinae*, recovered in 2017 in 11 of our 12 lifetable study plots in Michigan, Connecticut, Massachusetts, and New York, will establish and spread quickly in the northeastern and north central United States.
- That small ash (1 to 8 inch dia.), now and in the near future, will be protected by *O. agrilli* and *T. planipennisi*, allowing ash regeneration in the northeastern and central United States.
- That within 5-10 years, as current young ash reach mid-size (9-15 inch dia.), *S. galinae* may be abundant and able to protect these trees as they enter the mid-size cohort, allowing ash regeneration (Fig. 9) and regrowth to continue.



Fig. 9. Ash seedlings grow quickly after EAB kills the overstory ash trees, thereby favoring the regeneration and recruitment of native hardwoods over invasive species. (Photo: USDA FS, also used on booklet front cover)

What Do We Need for the Not-Yet-Invaded Regions in the South and West?

- **New regions may need different parasitoids.** States just now being invaded in the South (Louisiana and nearby states) or likely to be invaded soon in the West (California through Oregon) and Southwest (Arizona and nearby states) may need DIFFERENT ASIAN PARASITOIDS (due to climatic differences between these states and northeastern China or the Russian Far East, the source of the parasitoids we are now releasing). Efforts to find and collect EAB parasitoids in southern and western China are needed now.
- **South.** In 2017, work began in southern China (at about the latitude of mid-Florida) in a newly located natural ash stand in an area potentially matching Louisiana.
- **West.** In 2017, a new EAB population was found in western China in an area with a climate similar to that of the Interior Great Basin (Utah and surrounding states). This EAB population needs to be sampled for parasitoids.
- **Southwest.** Several rare species of ash are native to Arizona and surrounding southwestern states. Conservation and restoration plans should be developed before EAB invades the region as these native ash species have small distributions and are expected to suffer high mortality from EAB.

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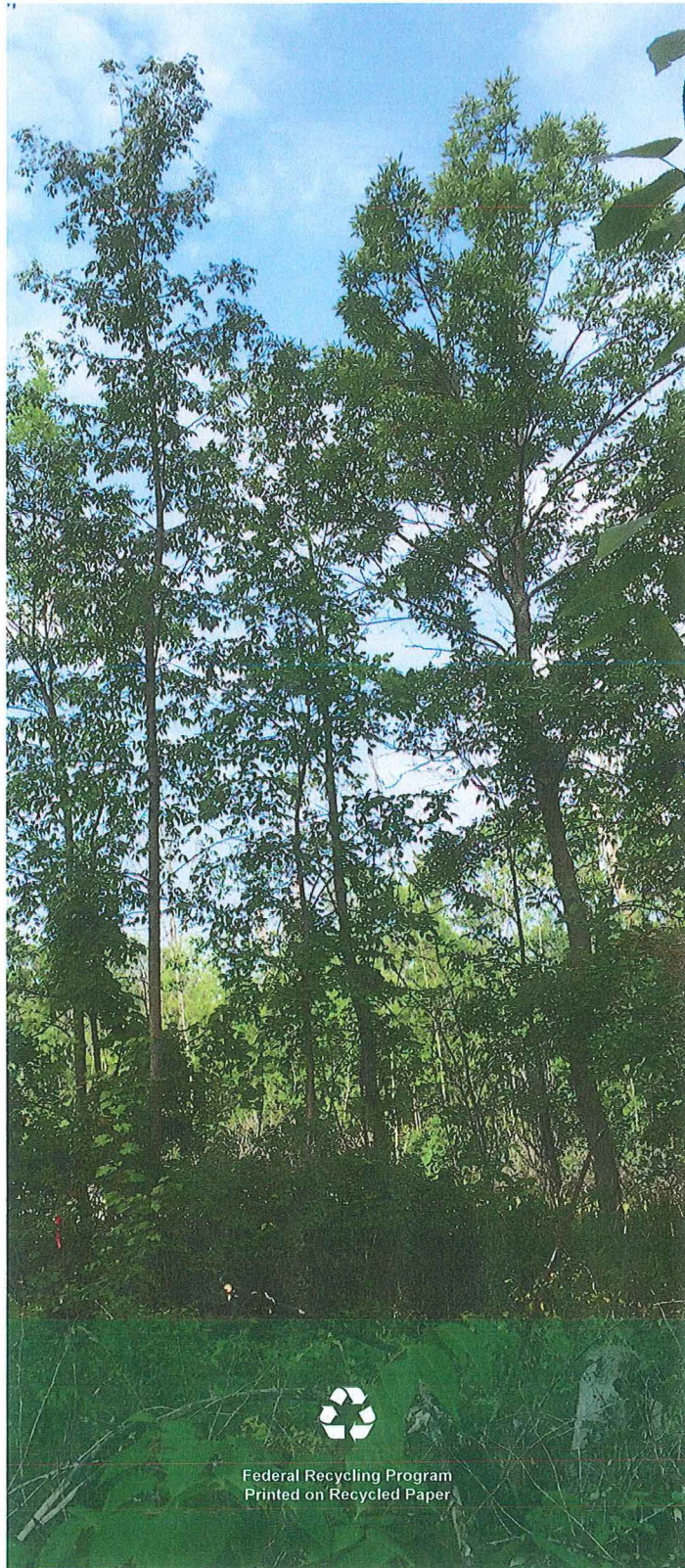
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Booklet back cover image: Young ash trees and saplings shown here are protected by introduced EAB parasitoids, especially by the larval parasitoid *Tetrastichus planipennis*, which attack about 20% of large EAB larvae in young trees (5-8 inch dia.) and 50-85% in saplings (1-2 inch dia.) (Photo: USDA FS)



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Park Commission Meeting

May 8, 2018

7. ACTION ITEMS

- A. Professional Services Bid Recommendation – Central Meridian Trail Connector
- B. Professional Services Bid Recommendation – Central Park Gateway Footbridge and Restroom Facility
- C. Emerald Ash Borer Study in Meridian Parks – Continued Research
- D. Fencing Bid Award – Off Leash Dog Areas



To: Park Commission
From: LuAnn Maisner, CPRP, Director of Parks and Recreation
Date: May 4, 2018
Re: Central Meridian Regional Trail Connector Project

Staff requested bid proposals to provide engineering, bidding and construction oversight services for the Central Meridian Regional Trail Connector Project. The estimated project cost is \$375,000 and the scope of the project includes but is not limited to:

- 2500 lf of 12' wide paved pathway
- Boardwalk
- Fishing pier or dock
- Landscaping
- Bench
- Bicycle fis-it station with air pump
- Bike rack
- Signage
- Electric wheelchair charging station

We are currently in the process of evaluating the proposals and will provide the recommendation on Tuesday evening.

The following motion is offered:

MOVE TO APPROVE THE BID FROM _____ IN THE AMOUNT OF \$_____ FOR THE PURPOSE OF PROVIDING DESIGN, ENGINEERING AND CONSTRUCTION OVERSITE FOR THE CENTRAL MERIDIAN TRAIL CONNECTOR PROJECT IN CENTRAL PARK.



To: Park Commission
From: LuAnn Maisner, CPRP, Director of Parks and Recreation
Date: May 4, 2018
Re: Central Park Gateway Footbridge and Restroom Facility Project

Staff requested bid proposals to provide engineering, bidding and construction oversight services for the Central Park Gateway Footbridge and Restroom Facility Project. The estimated project cost is \$285,000 and the scope of the project includes but is not limited to:

- A pre-fabricated restroom/storage building consisting of two-unisex bathrooms
- Drinking fountain
- Concrete sidewalks
- 12'x60'prefabricated footbridge
- Site utilities shall include public water, sewer and electric service

We are currently in the process of evaluating the proposals and will provide the recommendation on Tuesday evening.

The following motion is offered:

MOVE TO APPROVE THE BID FROM _____ IN THE AMOUNT OF \$_____ FOR THE PURPOSE OF PROVIDING DESIGN, ENGINEERING AND CONSTRUCTION OVERSITE FOR THE CENTRAL PARK GATEWAY FOOTBRIDGE AND RESTROOM FACILITY PROJECT IN CENTRAL PARK.



To: Park Commission
From: LuAnn Maisner, CPRP, Director of Parks and Recreation
Date: May 4, 2018
Re: Emerald Ash Borer Biological Control Research in Meridian Township

Leah Bauer, PhD, Research Entomologist, US Forest Service, Northern Research Station, began studying the use of biological control to manage the emerald ash borer (EAB) at Meridian Riverfront Park and Central Park South/Nancy Moore Parks in Meridian since 2007. Each year thereafter, Professor Bauer has requested to continue the research and has provided the Township with periodic updates. Professor Bauer is requesting to continue their work on ash trees and emerald ash borer biocontrol at Meridian Riverfront Park and Central Park South/Nancy Moore Parks.

Staff is recommending Professor Bauer's request be granted.

Motion for consideration:

MOVE TO APPROVE THE REQUEST FROM LEAH BAUER AND U.S. FOREST SERVICE TO CONTINUE THEIR STUDY OF EMERALD ASH BORER IN MERIDIAN RIVERFRONT PARK, CENTRAL PARK SOUTH AND NANCY MOORE PARK IN 2018.