
Lake Patricia and Lake Katherine
Underground
Utility Conversion
MIAMI LAKES
Growing Beautifully
Kimley»Horn
Expect More. Experience Better.


What is it?

Before | After


Why Do it?


Why Do it?
Increases Reliability
Increases Safety
Increases Community Aesthetics
Creates a More Resilient Community


Daytona Beach Shores
Village of Key Biscayne
Holly Hill
Ormond Beach
Long Boat Key
Town of Palm Beach
Golden Beach
Lake Worth
Have other communities
done this?
Palm Beach Shores
Jupiter Inlet Colony
South Daytona
Gulfstream
Sunny Isles Beach
Miami Beach
Daytona Beach
Hollywood Beach
Pompano Beach
Town of Jupiter Island

Things to Consider

Pros/Cons

Construction Impacts

Capital Cost

Funding and Financing

Pros and Cons

A recent FPL report showed that on average, over the course of a year:

- Overhead customers had 1.35 service interruptions, compared to 0.40 for underground customers (70% improvement).
- Overhead customers were without power for 108.1 minutes, compared to 19.4 minutes for underground customers (82% improvement).
- Outages lasted 80.0 minutes for overhead customers, compared to 48.7 for underground customers (39% improvement).
- To completely resolve an outage for all affected customers, it took 161 minutes for an overhead system, compared to 205 minutes for an underground system.

Pros and Cons

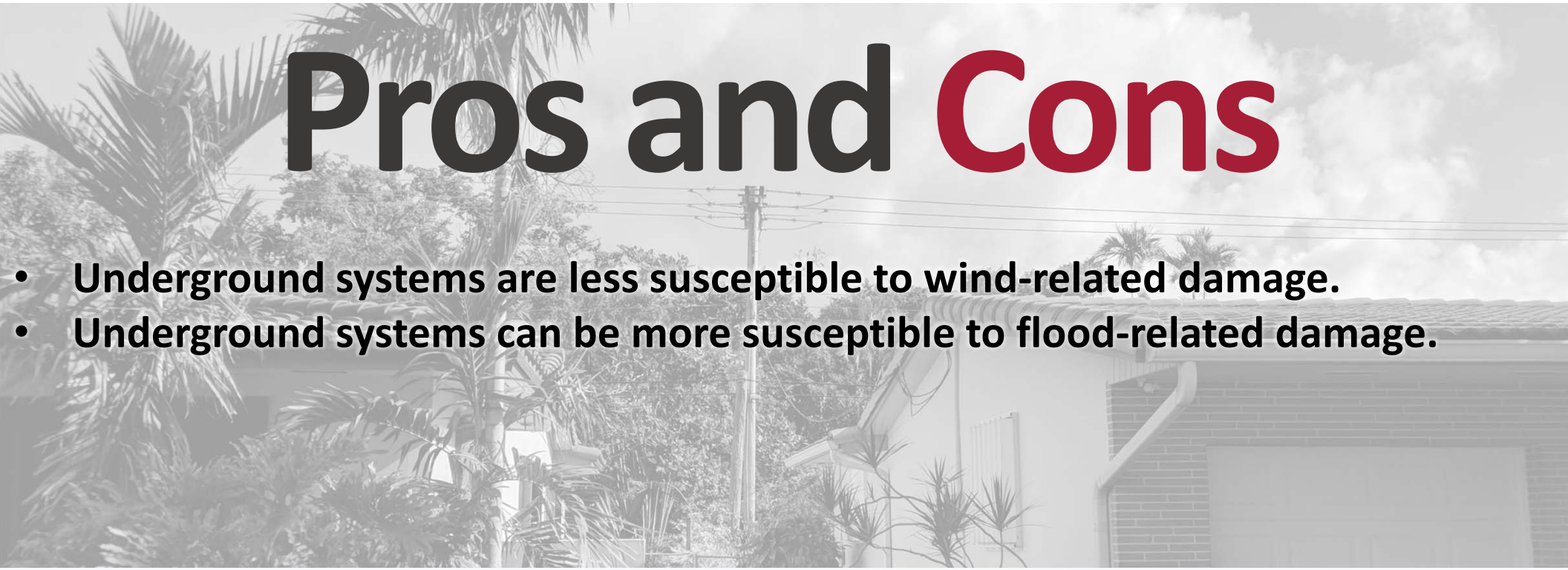
- **Underground systems are less susceptible to wind-related damage.**

Pros and Cons

Feeder Outages		
	Matthew	Irma
Hybrid vs. Underground	Underground 94% better	Underground 66% better
Overhead vs. Underground	Underground 96% better	Underground 78% better

Lateral Outages		
	Matthew	Irma
Overhead vs. Underground	Underground 95% better	Underground 83% better

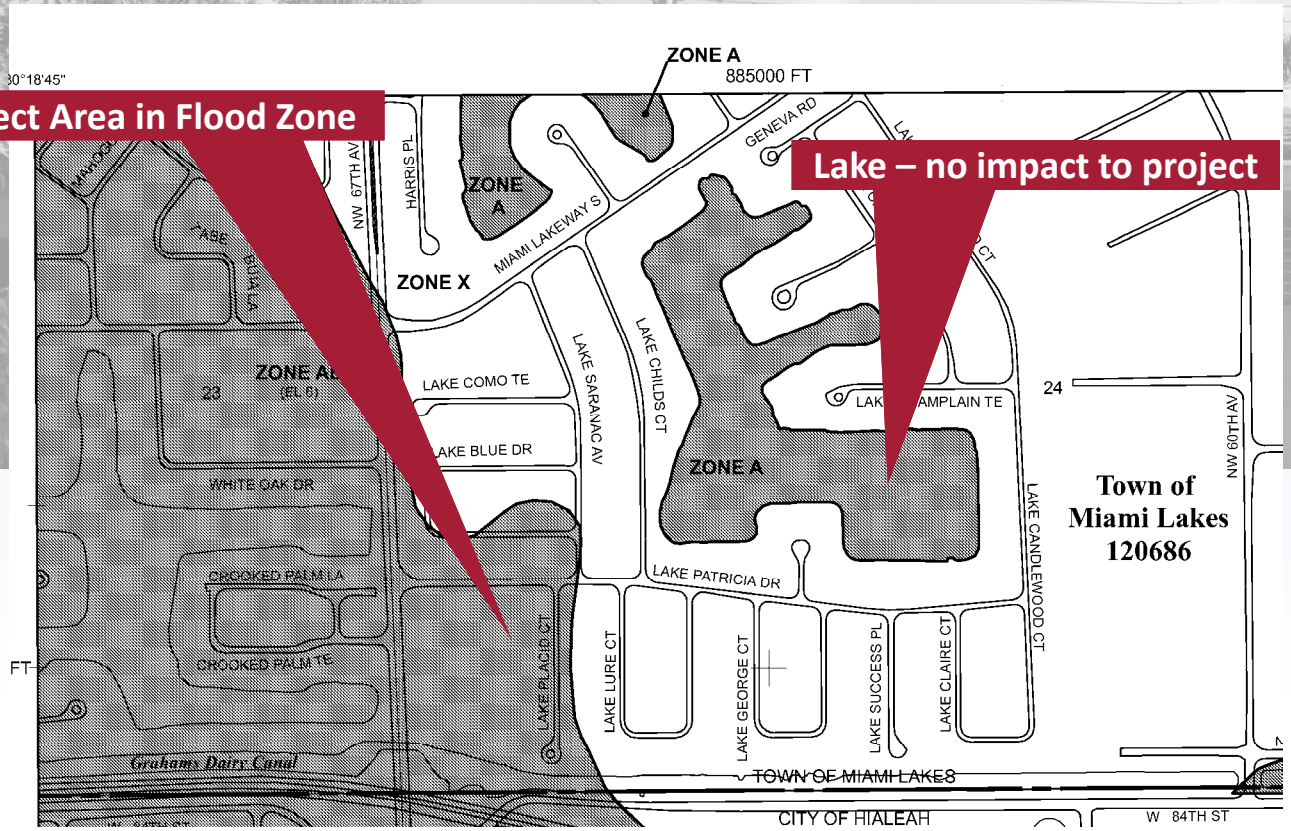
Source: Florida Power & Light



Pros and Cons

- Underground systems are less susceptible to wind-related damage.
- Underground systems can be more susceptible to flood-related damage.

Flood Map


Project Area in Flood Zone
Lake – no impact to project
ZONE A
885000 FT
ZONE X
ZONE A
ZONE A
(EL 6)
23
24
GENEVA RD
HARRIS PL
NW 67TH AV
MIAMI LAKEWAY S
LAKE COMO TE
LAKE BLUE DR
WHITE OAK DR
LAKE SARANAC AV
LAKE CHILDS CT
LAKE PATRICIA DR
LAKE CANDLEWOOD CT
NW 60TH AV
CROOKED PALM LA
CROOKED PALM TE
LAKE PLACID CT
LAKE LURE CT
LAKE GEORGE CT
LAKE SUCCESS PL
LAKE CLAIRE CT
Grahams Dairy Canal
TOWN OF MIAMI LAKES
CITY OF HIALEAH
W 84TH ST
Town of
Miami Lakes
120686

Pros and Cons

- Underground systems are less susceptible to wind-related damage.
- Underground systems can be more susceptible to flood-related damage.
- Underground issues generally take longer to fully resolve, but many customers can be brought back online before the repairs are complete because systems are looped.

Overhead vs. Underground Design

Existing - Overhead Radial

Proposed - Underground Loop

Overhead vs. Underground Design

Existing - Overhead Radial

Proposed - Underground Loop

Overhead vs. Underground Design

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- Underground systems generally are more aesthetically pleasing.
- Animal and human contact with electrified parts is less common with underground systems.
- Like all construction projects, there will be impacts to the community when the system is being built.

Construction Phase

Directional Boring

Open Cut Trench

Construction Phase

Equipment Pad Installation

Wire Terminations

Construction Phase

Service Installation

Pavement Restoration/Pole Removal

Existing Facilities

Approximately 6 miles of existing overhead lines

Number of properties: 465
Single Family: 464
Homestead Exemption: 405
Taxable Value Minimum: $142,727
Taxable Value Maximum: $2,063,782
Taxable Value Sum: $110,817,613
Approximate Linear Feet of Utilities: 25,200 ft

Anticipated Cost

Total Cost of Conversion:
$12 million to $15 million

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FPL Utility Undergrounding Conversion

Lake Patricia and Lake Katherine Area

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Town of Palm Beach Undergrounding Project

- *Met with Underground Utilities Project Manager*
  - 37 miles of infrastructure.
  - $100 million project cost.
  - Preparing to issue a “Special Assessment Bond”.
  - Planning & Design by Kimley-Horn.
  - 8 – 10 year project.
  - Project started in 2017.
  - Created an “Underground Utilities Task Force” – UUTF.
  - Created a “Utility Undergrounding Assessment”.

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Special Benefit District

- To qualify as a Special Benefit District, the project needs to improve "Safety, Reliability & Aesthetics"
- Contract with a financial consultant to create a "*Utility Undergrounding Assessment Methodology*" which must:
  - Demonstrate that the property derives a special benefit from the improvement or service provided.
  - Methodology must be fair, reasonable and properly apportioned between the properties.
- The assessment analysis considers a method of apportionment known as "Equivalent Benefit Unit" or EBU.

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Project Assessment Financing

- Issue a “Special Assessment Bond” pledging the revenue from special assessment.
- The special assessment is a “non-ad valorem assessment” collected through the annual property tax bill.
- The special assessment will only affect residents benefitted by the project.

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Lake Patricia & Lake Katherine		
Underground Utilities Assessment		
(Financing based on 465 units, 30 year bond)	***Scenario***	***Scenario***
	1	***2***
Description	**3.83%**	**4.50%**
Principal	13,000,000	13,000,000
Estimated Consulting, financial, Analysis, Legal Costs (10%	1,300,000	1,300,000
Estimated Total Cost	$14,300,000	$14,300,000
Annual Payment	1,742	1,888
Monthly Payment	145	157
Total Interest	9,999,586	12,036,972
Total Payments including interest	24,299,586	26,336,972
Prepaid Payment (no interest)	$30,753	$30,753
Total Payments (with interest)	$52,257	$56,639

Project Timeline

ID	Task Name	Duration	Start	Finish
0	**FPL Undergrounding Project Schedule**	**1622 days**	**Mon 4/2/18**	**Tue 6/18/24**
1	Start Project	0 days	Mon 4/2/18	Mon 4/2/18
2	Conduct Preliminary Research	46 days	Mon 4/2/18	Mon 6/4/18
3	Present Preliminary Research to Council	1 day	Tue 6/5/18	Tue 6/5/18
4	Conduct Resident Workshop	1 day	Tue 7/24/18	Tue 7/24/18
5	Conduct Resident Survey	60 days	Wed 7/25/18	Tue 10/16/18
6	Present Results of Workshop/Survey to Council	1 day	Tue 11/6/18	Tue 11/6/18
7	**Assessment Methodology**	**125 days**	**Wed 11/7/18**	**Tue 4/30/19**
8	Prepare RFP for Assessment Methodology	20 days	Wed 11/7/18	Tue 12/4/18
9	Advertise RFP for Assessment Methodology	21 days	Wed 12/5/18	Wed 1/2/19
10	Award Contract for Assessment Methodology	1 day	Tue 2/5/19	Tue 2/5/19
11	Prepare Assessment Methodology Report (Consultant)	60 days	Wed 2/6/19	Tue 4/30/19
12	Present Methodology Report to Council	1 day	Tue 5/7/19	Tue 5/7/19
13	Conduct Main-In Referedum	60 days	Wed 5/8/19	Tue 7/30/19
14	Form Special Assessment	180 days	Wed 7/31/19	Tue 4/7/20
15	Design & Construction	1095 days	Wed 4/8/20	Tue 6/18/24
16	End Project	0 days	Tue 6/18/24	Tue 6/18/24

Next Steps

- Approval from Council to proceed with community workshop.
- Community workshop.
- Non-binding mail in survey to homeowners.
- Report survey outcome to Council.
- If survey is satisfactory then:
  - An assessment methodology study will be needed with an estimated cost of $50-80k.
  - Send a mail-in ballot referendum.

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