



# CAMPUS VOLTAGE UPGRADE PROJECT

**Facilities Management – Energy Services**

Craig Spencer, PE

Director of Energy Services

2/19/2018



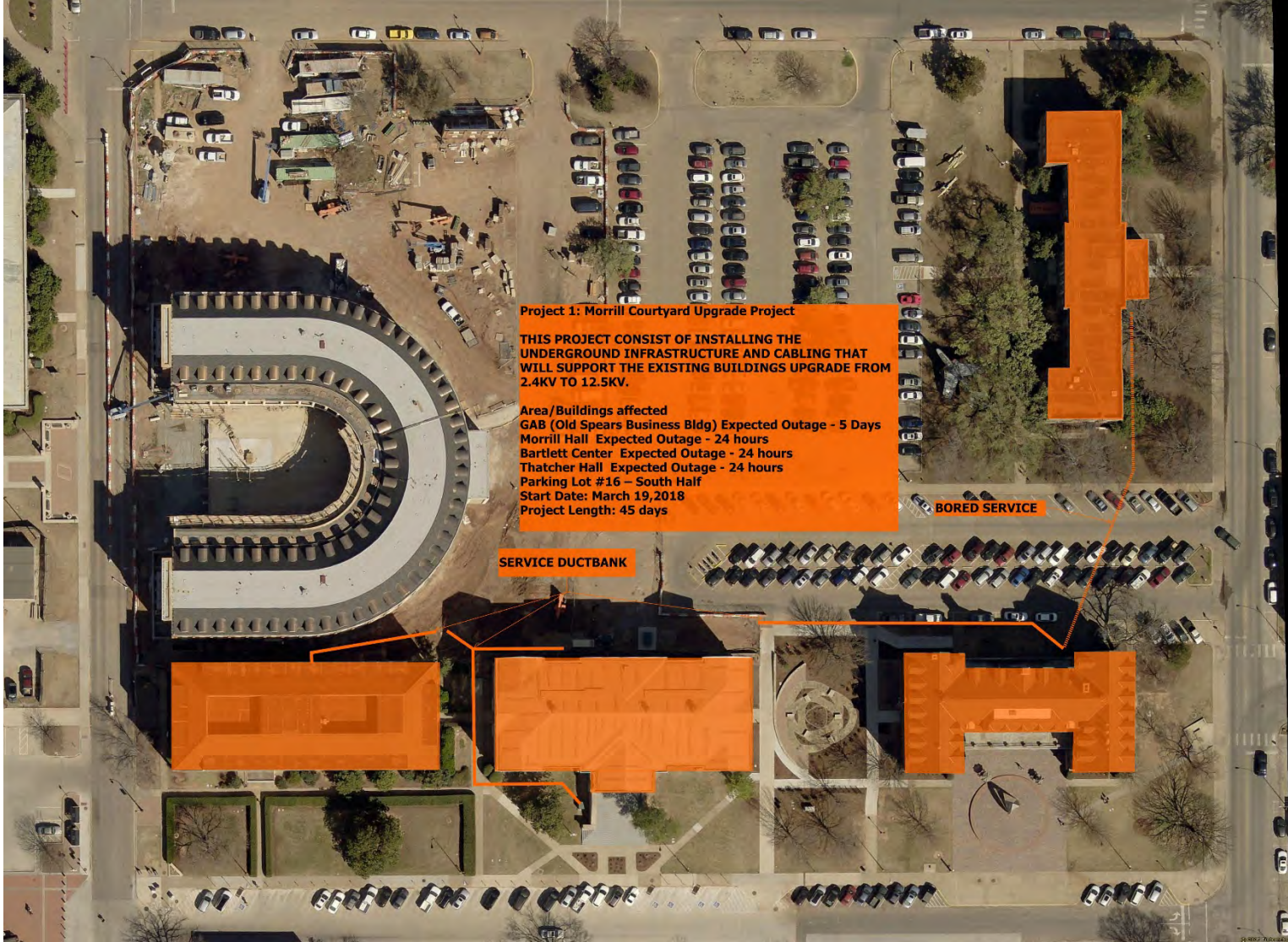
# Voltage Upgrade Background



- **Required to retire and demolish the Power Plant and Poultry Substation.**
- **Much of existing underground infrastructure has exceeded lifespan by 30-40 years.**
- **Replaces old failing underground cable pathways (Ductbanks)**
- **Replaces aged transformers, switchgear and cable.**
- **Provides redundancy and reliability in the campus distribution system.**
- **More efficient distribution with the higher voltage of 12,470V versus 2,400V.**

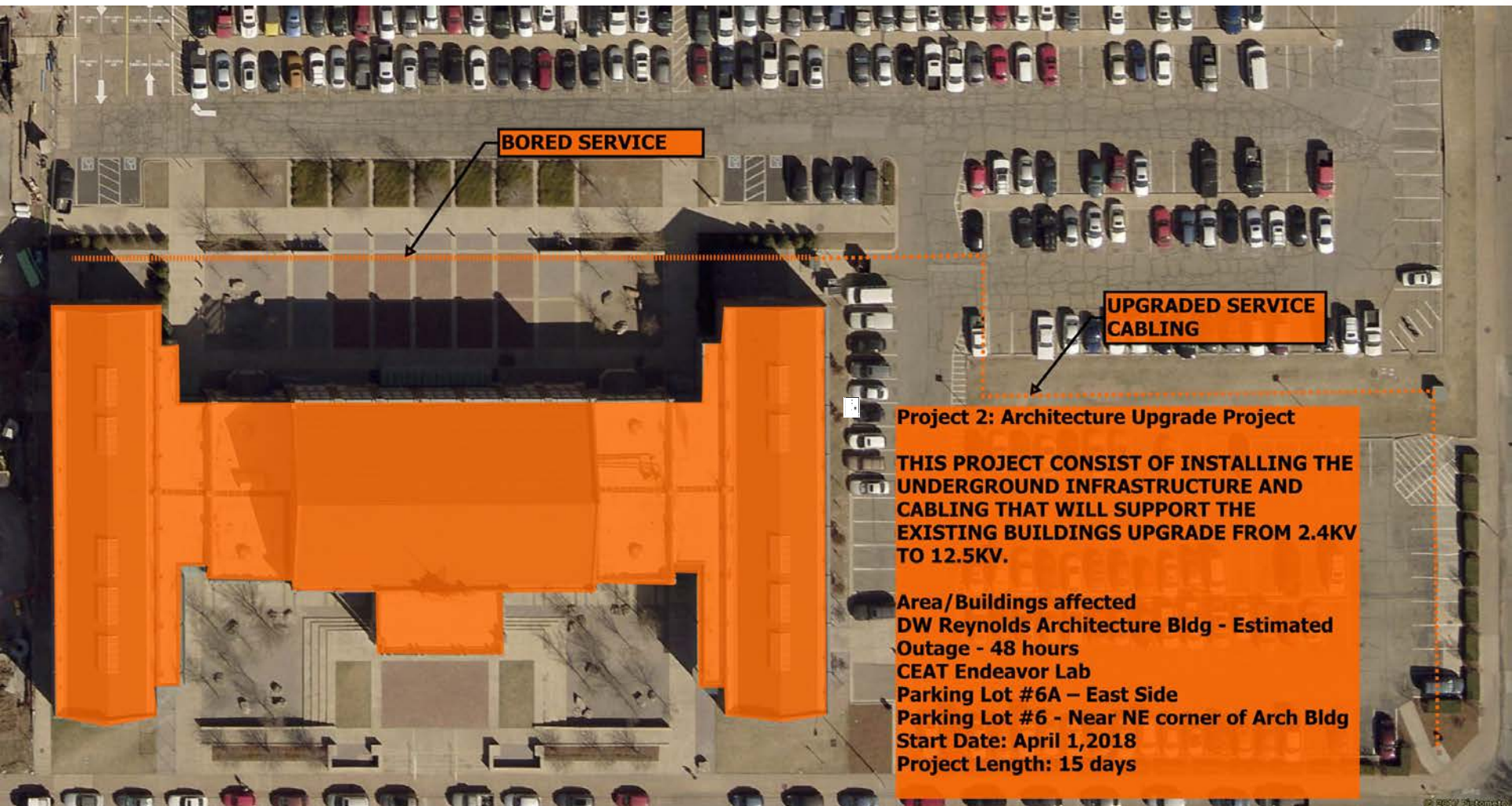


# PROJECT-1 Morrill Courtyard Upgrade





# PROJECT-2 Architecture Upgrade



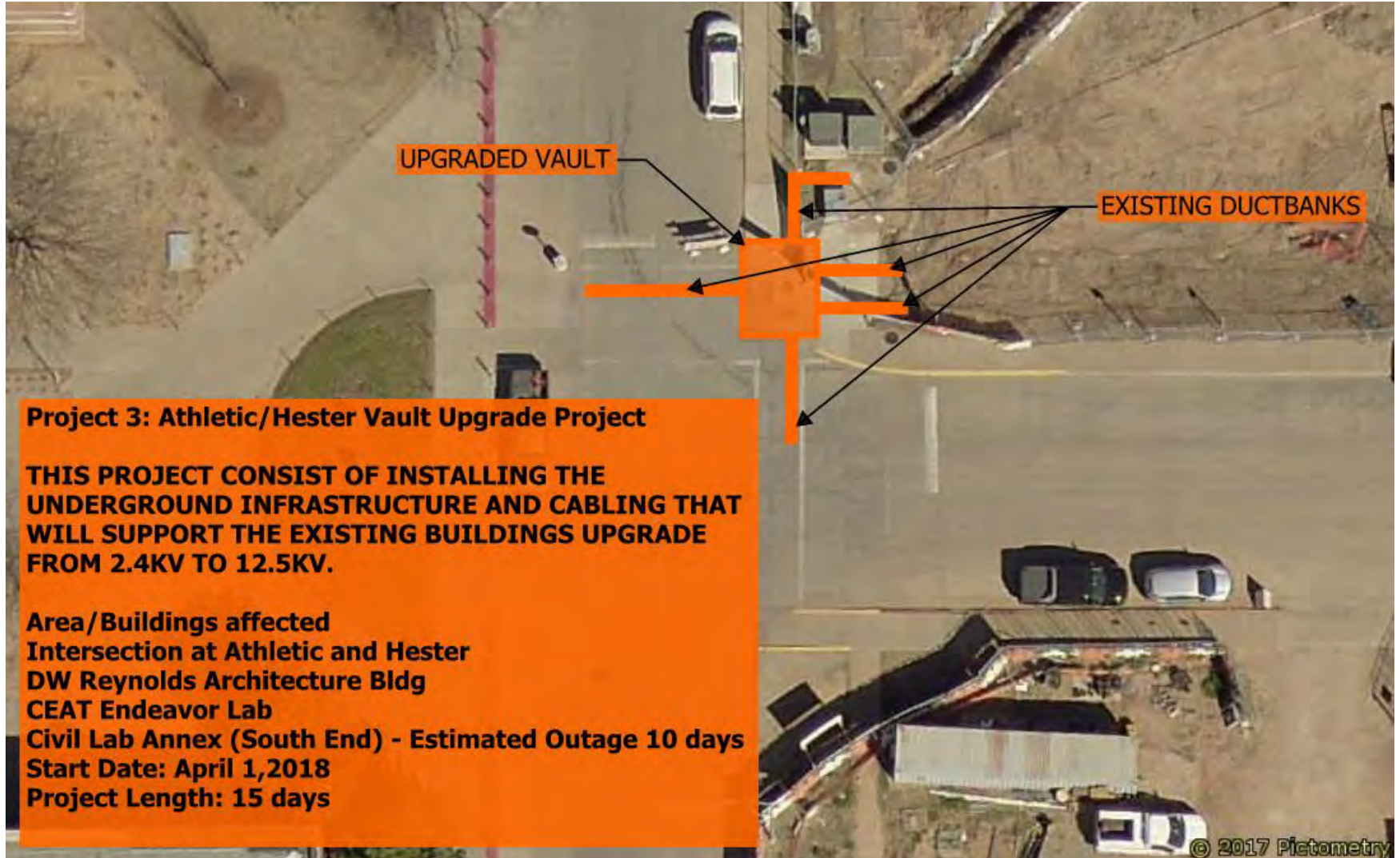
**BORED SERVICE**

**UPGRADED SERVICE CABLING**

**Project 2: Architecture Upgrade Project**  
**THIS PROJECT CONSIST OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE EXISTING BUILDINGS UPGRADE FROM 2.4KV TO 12.5KV.**  
**Area/Buildings affected**  
DW Reynolds Architecture Bldg - Estimated Outage - 48 hours  
CEAT Endeavor Lab  
Parking Lot #6A – East Side  
Parking Lot #6 - Near NE corner of Arch Bldg  
Start Date: April 1,2018  
Project Length: 15 days



# PROJECT-3 Athletic/Hester Vault Upgrade



## Project 3: Athletic/Hester Vault Upgrade Project

**THIS PROJECT CONSIST OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE EXISTING BUILDINGS UPGRADE FROM 2.4KV TO 12.5KV.**

### Area/Buildings affected

**Intersection at Athletic and Hester**

**DW Reynolds Architecture Bldg**

**CEAT Endeavor Lab**

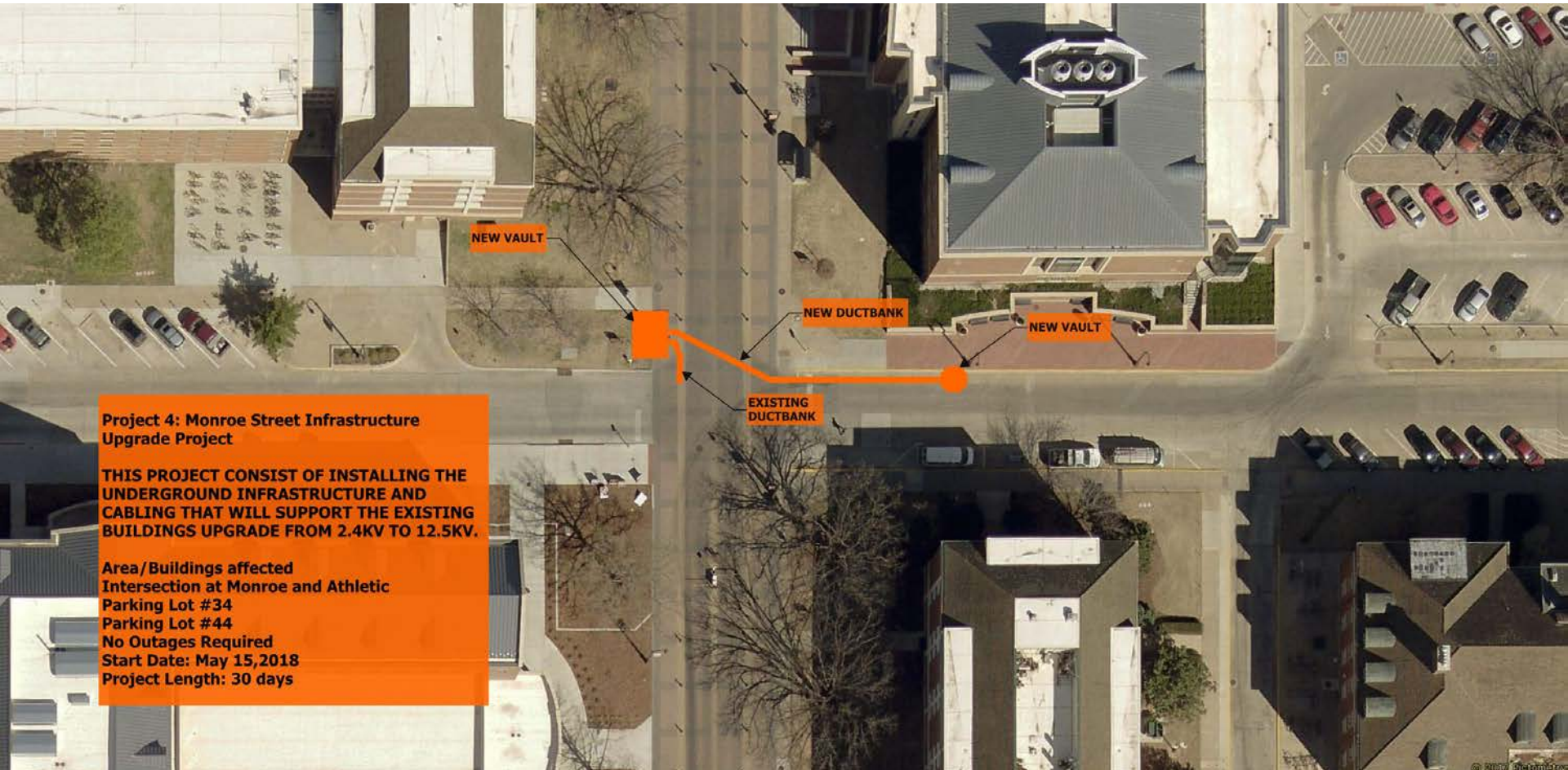
**Civil Lab Annex (South End) - Estimated Outage 10 days**

**Start Date: April 1,2018**

**Project Length: 15 days**



# PROJECT-4 Monroe Street Crossing



## Project 4: Monroe Street Infrastructure Upgrade Project

THIS PROJECT CONSIST OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE EXISTING BUILDINGS UPGRADE FROM 2.4KV TO 12.5KV.

Area/Buildings affected  
Intersection at Monroe and Athletic  
Parking Lot #34  
Parking Lot #44  
No Outages Required  
Start Date: May 15, 2018  
Project Length: 30 days



# PROJECT-5 Infrastructure Upgrade-1



## PROJECT 5: INFRASTRUCTURE UPGRADE-1

THIS PROJECT CONSISTS OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE NEW FACILITIES UPGRADED FROM 2.4KV TO 12.5KV

### Area/Buildings affected

Athletic Avenue from Monroe to Hester

Physical Sciences

Edmon Low Library - Estimated

Outage - 48 Hours

Engineering North - Estimated

Outage - 24 Hours

Engineering South - Estimated

Outage - 48 Hours

Civil Lab Annex (North End) -

Estimated Outage - Tied to

Engineering South

Parking Lot #53 - University Health Center

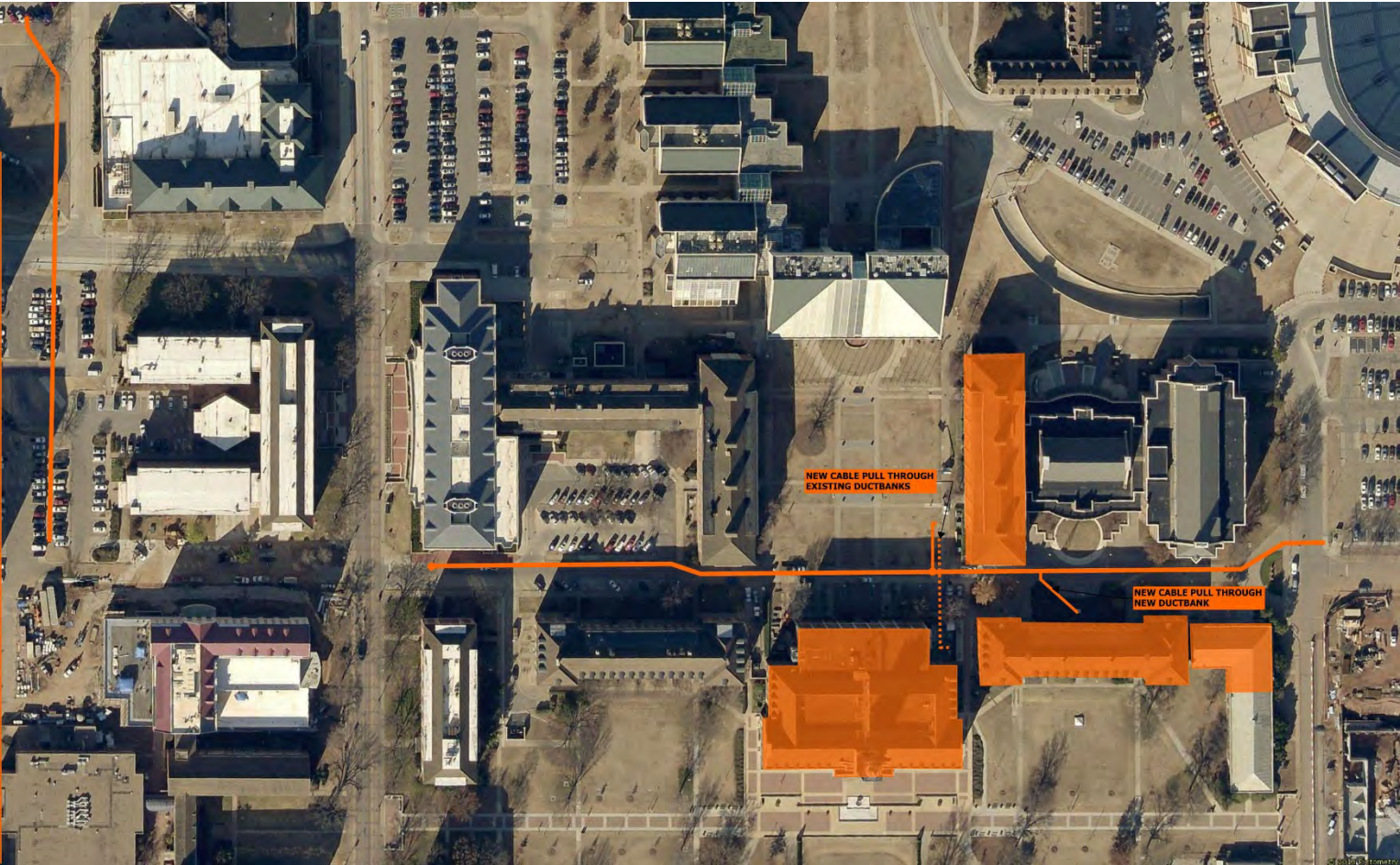
Parking Lot #46 - Near Kerr Hall

Parking Lot #45 - Near Agriculture Hall

Parking Lot #34 - Near Physical Sciences

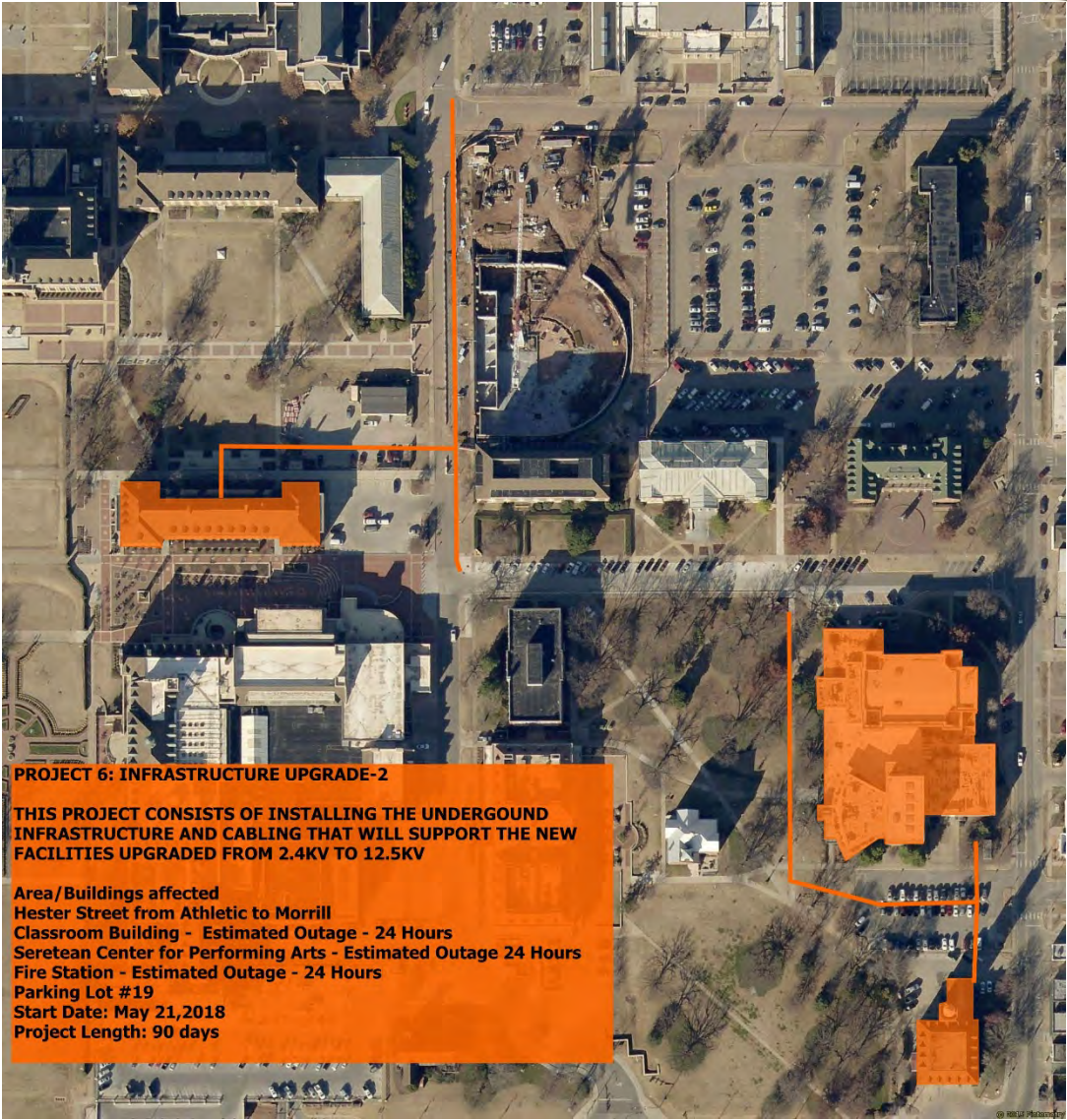
Start Date: May 21, 2018

Project Length: 90 days





# PROJECT-6 Infrastructure Upgrade-2



**PROJECT 6: INFRASTRUCTURE UPGRADE-2**

**THIS PROJECT CONSISTS OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE NEW FACILITIES UPGRADED FROM 2.4KV TO 12.5KV**

**Area/Buildings affected**  
Hester Street from Athletic to Morrill  
Classroom Building - Estimated Outage - 24 Hours  
Seretean Center for Performing Arts - Estimated Outage 24 Hours  
Fire Station - Estimated Outage - 24 Hours  
Parking Lot #19  
Start Date: May 21, 2018  
Project Length: 90 days

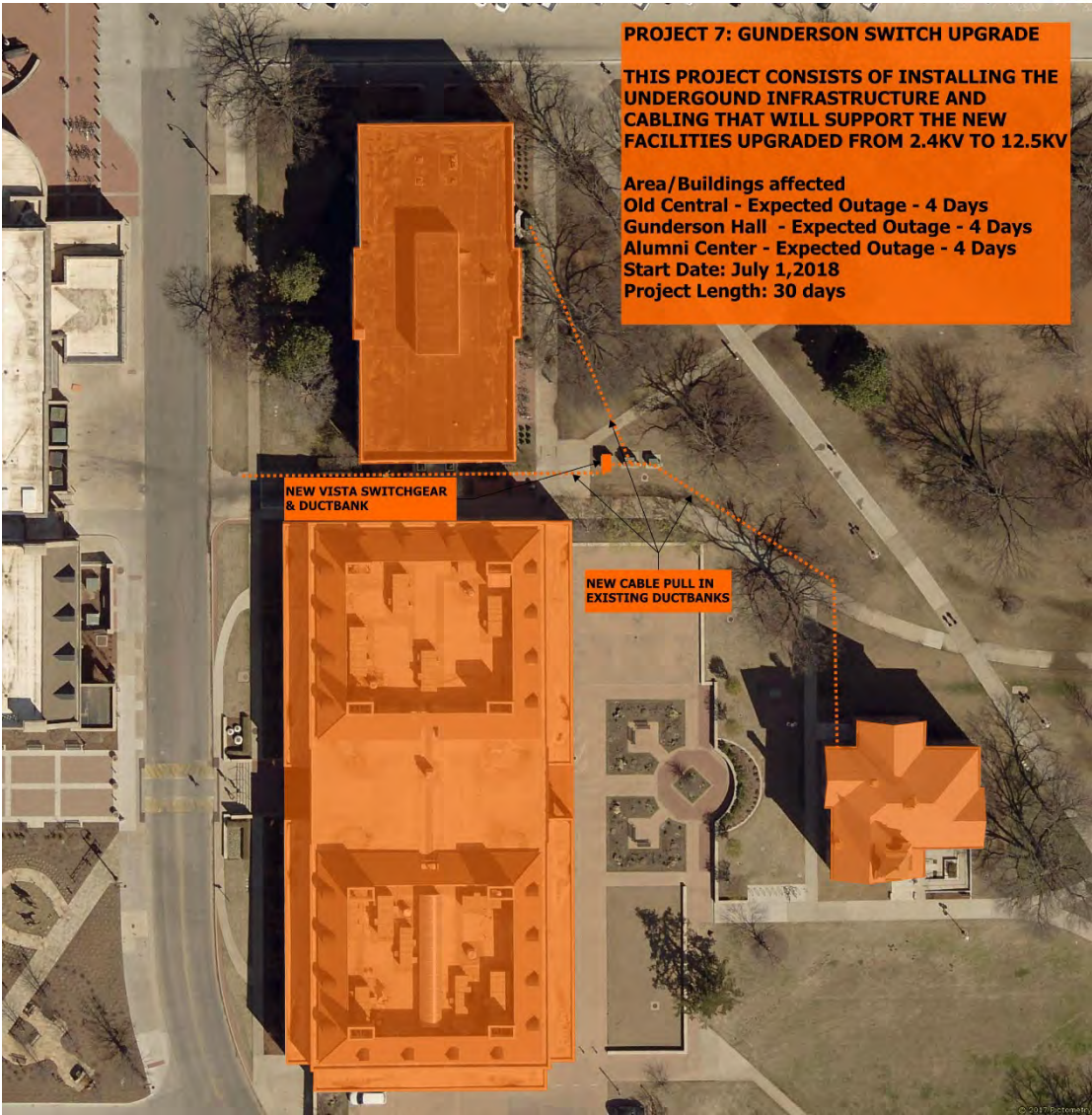


# PROJECT-7 Gunderson Upgrade

## PROJECT 7: GUNDERSON SWITCH UPGRADE

THIS PROJECT CONSISTS OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE NEW FACILITIES UPGRADED FROM 2.4KV TO 12.5KV

- Area/Buildings affected
- Old Central - Expected Outage - 4 Days
- Gunderson Hall - Expected Outage - 4 Days
- Alumni Center - Expected Outage - 4 Days
- Start Date: July 1, 2018
- Project Length: 30 days





# PROJECT-8 Math Science Upgrade



**PROJECT 8: MATH SCIENCE UPGRADE**

**THIS PROJECT CONSISTS OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE NEW FACILITIES UPGRADED FROM 2.4KV TO 12.5KV**

**Area/Buildings affected**  
PIO Building - Expected Outage - 48 Hours  
Math Sciences - Expected Outage - 48 Hours  
ITLE Building- Expected Outage - 48 Hours

**Start Date: TBD,2018**  
**Project Length: 30 days**

**NEW VISTA SWITCHGEAR & DUCTBANK**

**NEW CABLE PULL THROUGH EXISTING DUCTBANKS**

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# PROJECT-9 Murray Upgrade



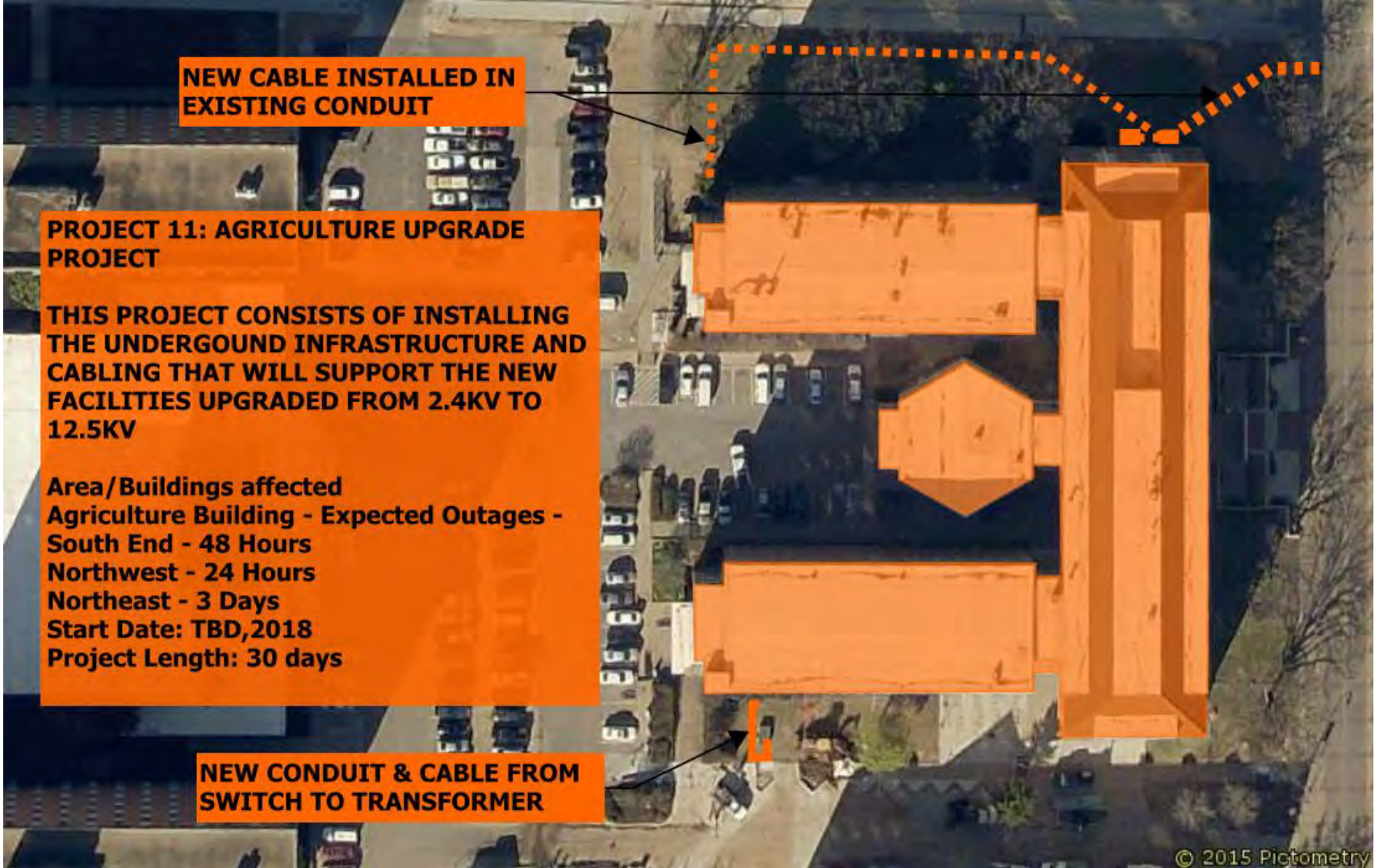


# PROJECT-10 CITD/Tennis Upgrade





# PROJECT-11 Agriculture Upgrade



**NEW CABLE INSTALLED IN EXISTING CONDUIT**

## **PROJECT 11: AGRICULTURE UPGRADE PROJECT**

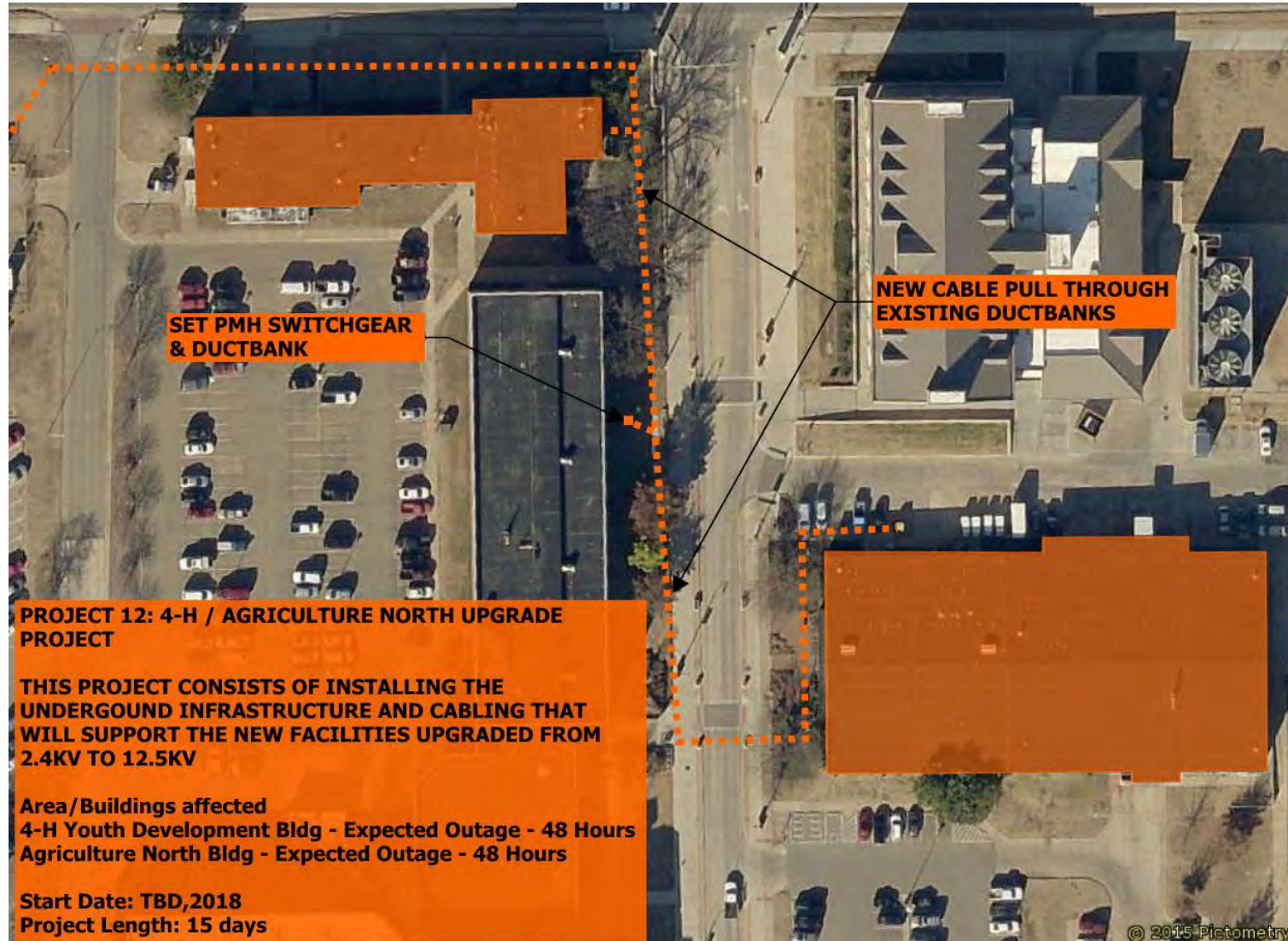
**THIS PROJECT CONSISTS OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE NEW FACILITIES UPGRADED FROM 2.4KV TO 12.5KV**

**Area/Buildings affected**  
**Agriculture Building - Expected Outages -**  
**South End - 48 Hours**  
**Northwest - 24 Hours**  
**Northeast - 3 Days**  
**Start Date: TBD, 2018**  
**Project Length: 30 days**

**NEW CONDUIT & CABLE FROM SWITCH TO TRANSFORMER**

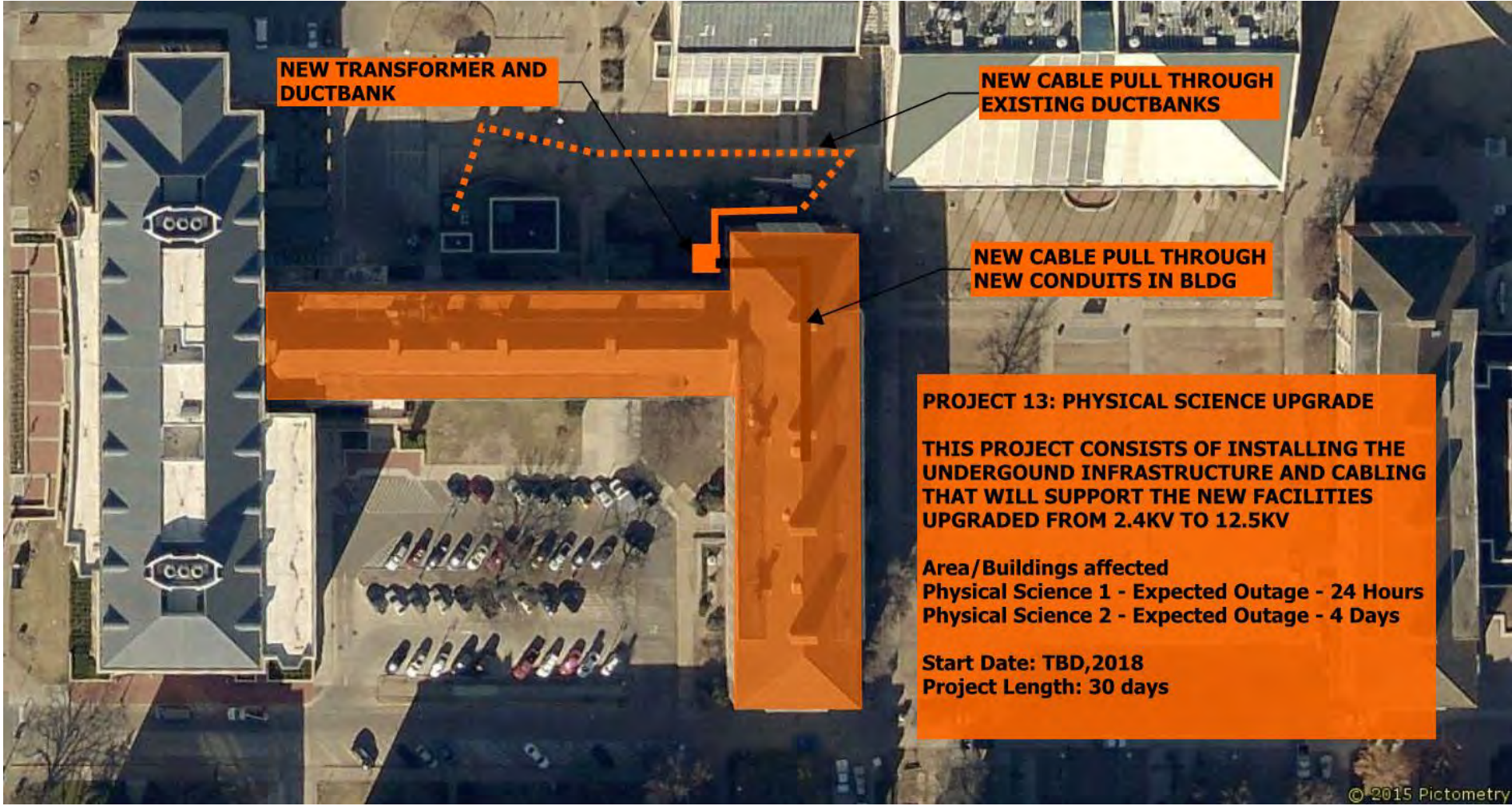


# PROJECT-12 4-H/Agriculture North Upgrade





# PROJECT-13 Physical Sciences Upgrade



**NEW TRANSFORMER AND DUCTBANK**

**NEW CABLE PULL THROUGH EXISTING DUCTBANKS**

**NEW CABLE PULL THROUGH NEW CONDUITS IN BLDG**

**PROJECT 13: PHYSICAL SCIENCE UPGRADE**

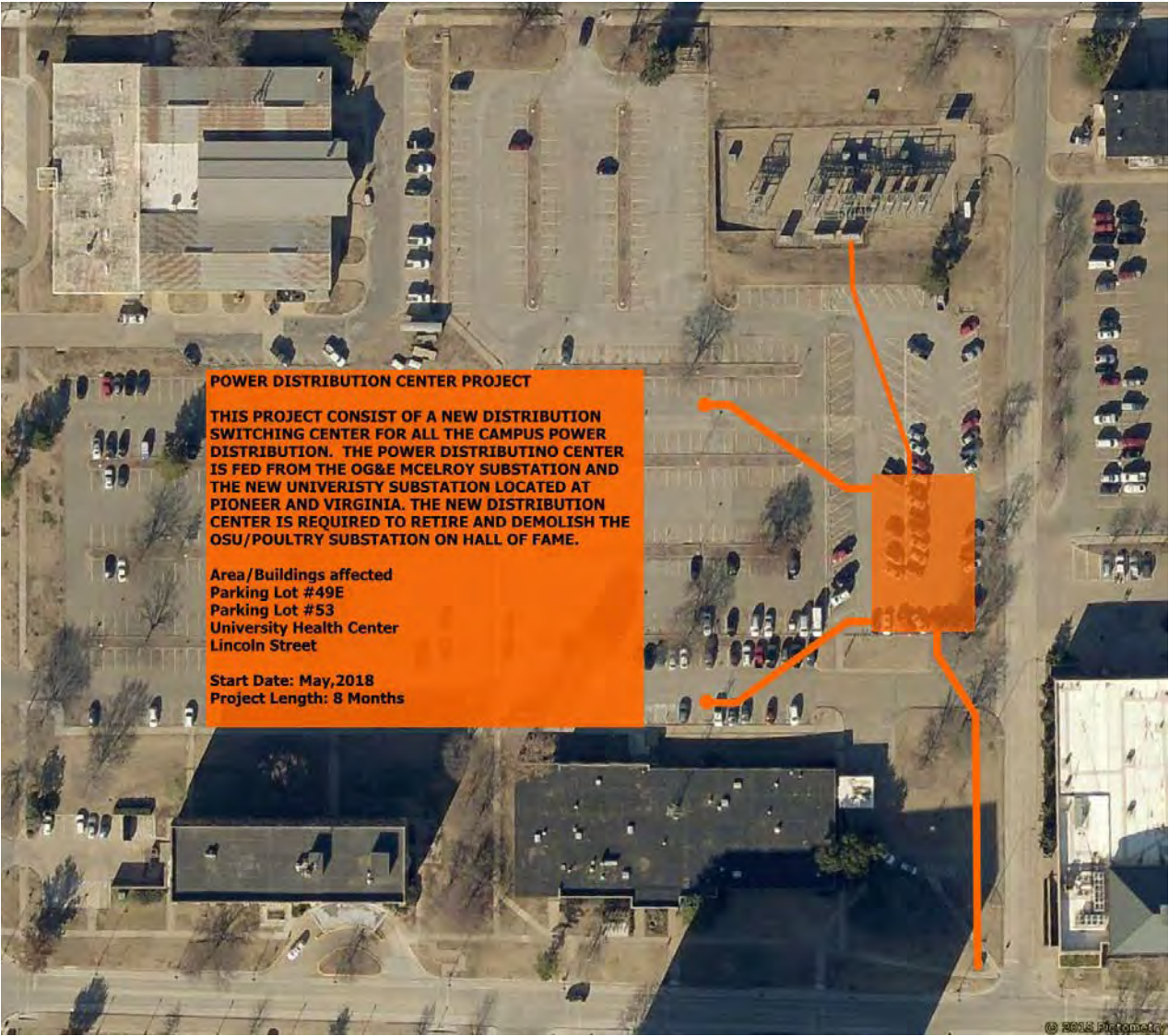
**THIS PROJECT CONSISTS OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE NEW FACILITIES UPGRADED FROM 2.4KV TO 12.5KV**

**Area/Buildings affected**  
Physical Science 1 - Expected Outage - 24 Hours  
Physical Science 2 - Expected Outage - 4 Days

**Start Date: TBD, 2018**  
**Project Length: 30 days**



# Power Distribution Center





# Phase II Overview



EXISTING FEED THAT SUPPLIES POWER TO FACILITIES DISTRIBUTED FROM POULTRY SUB-STATION

PROPOSED POWER DISTRIBUTION CENTER

**PHASE II OUTLINE:**

- PRIOR TO PHASE II, POWER DISTRIBUTION CENTER IS REQUIRED TO BE CONSTRUCTED.
- EXISTING 2400V LINES FROM POULTRY SUB WILL BE REPLACED WITH NEW FEEDS FROM POWER DISTRIBUTION CENTER.
- UPON COMPLETION, POULTRY SUBSTATION CAN BE DEMOLISHED.
- WILL RE-USE EXISTING UNDERGROUND INFRASTRUCTURE WHERE PRACTICAL AND IDENTIFIED DURING DESIGN.





# Questions