

## **10. CONSTRUCTION PHASING & MITIGATION**

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**GENERAL SITE MANAGEMENT**

The Park City Base Area Lot Redevelopment is being designed as a multi-year project consisting of four below grade parking facilities with commercial/residential structures above. Associated roadway and subsurface utility improvements will also be phased throughout the duration of the project. In the pages that follow you will find information about safety and security measures to be taken at each individual site, where vehicles will load and unload, how soil export and below grade shoring activities will take place, where and when roadway and utility improvements are anticipated to occur, how the Construction Manager proposes to operate administratively, and the timeline and phasing of the construction project overall.

**HOURS OF OPERATION**

ADMINISTRATION	7:00a – 1:00a
BUILDING CONSTRUCTION	(per Park City Municipal Code - Title 11)
	7:00a – 9:00p Monday - Saturday
	9:00a – 6:00p Sunday

No exterior work of any kind will be proposed or undertaken outside of the hours identified above. Construction will be suspended or restricted at the request of the Building Official to accommodate special events.

**SITE LOGISTICS****CONSTRUCTION ADMINISTRATION**

An administrative area will be established for the use of all construction personnel actively working on site.

Construction office – a 48' x 60' modular office structure will house the construction manager, the construction manager's trade partners, the design team, and the owners representative.

Staff facility – a 48' x 60' modular office structure will provide a designated area for construction personnel to take breaks and attend training so as not to disturb ski resort patrons or congest resort facilities. The facility will also include quarters for site safety and security personnel including a sequestered first aid area.

Restrooms – independent restroom trailers will be provided for men and women.

Storage – an area will be set aside to park a limited number of storage containers.

Parking – a parking area will be established for the use of personnel assigned to work in the construction office complex. Parking in the administrative area will be limited; all parking for trade personnel will be off-site.

**OKLAND TRADE MANAGEMENT****PARKING AND TRANSPORTATION**

Off-site parking will be provided for all trade employees. Bus service to transport employees from distal parking to the job site will be available for one hour before the start of shift and for one hour at the conclusion of the work day. Emergency transportation will be provided to employees by site safety/security personnel as needed throughout the day.

**RESTROOMS**

Separate men's, women's, and unisex accessible restrooms will be provided at individual work locations throughout the job site. Restrooms will also be available in the construction office facility, staff facility, and in restroom trailers in the administrative area parking lot. Restrooms will be maintained periodically to assure that employees have sanitary facilities at their disposal.

**BREAK ROOM**

A break room will be provided for employees. Employees will be discouraged from utilizing resort food service outlets or in any way impacting the experience of the resort guests.

**COMMUNICATIONS WITH EXTERNAL PARTIES**

***Because the active construction zone is in close proximity to adjacent landowners and resort patrons, and is of interest to members of the community, a communication tool will be established by the Construction Manager to disseminate information and receive public feedback in real time regarding the construction. With the goal being to provide an open path of information flow regarding the project, an individual will be assigned to manage all external communication and assure open interaction between the project and the public.***

**WEBCAM**

Camera locations will be established on each parcel to provide interested parties with a real time look at construction activities as they progress.

**CONSTRUCTION COMMUNICATIONS**

A Facebook page will be established for the duration of the project to keep interested parties informed about work taking place on the job site. The page will include the following:

- A link to webcams.
- A weekly schedule of activities including a rolling three week look ahead.
- Notice of road and walkway construction impacts.
- Notice of delivery activities and any associated hoisting activity adjacent to roadways.
- A blog that will provide a weekly update of work accomplished, work in progress, and work anticipated.
- A spot devoted to receiving feedback from the public.
- Project photos.
- Other items of interest to those community members or area guests that are impacted by the project.

**BI-MONTHLY PUBLIC FORUM**

The construction manager will conduct a bi-monthly public forum that is open to all interested parties. The meeting will be focused on receiving feedback from the public, discussion of mitigation measures should concerns arise, and to share directly with interested parties the course of construction for the upcoming month.

**MONTHLY PROGRESS UPDATE TO THE CITY**

The construction manager will provide a written monthly progress update to the Park City Planning Department outlining current project status. A document disclosing all public feedback received during the month will be compiled to keep city officials well-informed as to public sentiment regarding the project. Along with current progress a one month schedule look ahead focused on work to be performed during the succeeding month will be attached.

## CONSTRUCTION STAGING

### LOCATIONS

Off-site – all project participants supplying materials to the construction will be required to store their materials off site for just in time delivery. Limited local storage will be established at a site yet to be determined. Delivery zones will be established and monitored throughout the duration of the construction. Fork lift and crane service will be provided with trained rigging and flagging personnel available to assist in loading and unloading operations.

On-site – although every effort will be made to limit staging of construction materials and equipment on site, some storage will be required. Storage in the construction zone will be limited to areas with the security fence perimeter. It is inevitable that some storage will be in areas visible to resort patrons. To the extent possible every attempt will be made to keep materials and equipment shielded from view. When practical, storage will be shifted to completed portions of the building. Stored material and equipment will be kept in an orderly fashion.

### DELIVERY OF MATERIALS

Receiving areas for materials and equipment will be established for each parcel. Appropriate traffic control devices will be provided at vehicle approaches and adjacent to any delivery operations. Traffic control personnel will be provided during loading and unloading operations.

### CONSTRUCTION WASTE

Waste materials will be confined to on-site general waste and recycle containers. Containers will be of the 30 yard open roll-off type container and will be kept in good condition. Containers will be emptied periodically when containers become full.

### CONCRETE SLURRY

Concrete wash out activities for concrete delivery and placement vehicles will be confined to the construction zone within the security fence perimeter. Eco-pan concrete recycling containers will be provided, no concrete slurry will be disposed of on site.

## SITE SAFETY

### SITE

PERIMETER FENCING – for the purpose of security and safety, each location where construction activity is taking place will be enclosed with removable construction fencing. The fencing will be specifically designed for use during construction activities and will be maintained daily throughout the course of construction in any given area.

Long-term fencing – specific to the course of construction, permanent security/safety fencing will be installed at the perimeter of parcels b, c, d, and e. A long-term fence will also be established around the plaza/skier drop-off/base arrival areas during their construction. Long-term fencing will be installed with pins drilled into the ground, have permanent gates installed, with all gates lockable. Fence will be maintained in a locked condition during off hour periods.

Short-term fencing – where improvements, reconfigurations, or new site utility infrastructure is being constructed a security/safety fence perimeter will be established for the duration of the construction. This fence will be held in place with bases placed on top of the ground and weighted with sandbags. Openings in the short-term fence will be informal to allow for access options. Fence will be maintained in a locked condition during off hour periods.

### TRAFFIC

Patterns during construction – road access and circulation in areas adjacent to construction zones are not anticipated to change during the course of building construction. Periodic interruptions for utility reconfiguration or connections are anticipated at some points throughout the construction. Applications and approvals required by the city or pertinent utility providers will be requested a minimum of 30 days prior to the anticipated commencement of work. Adjacent landowners will be informed of changes to traffic patterns 30 days prior to the commencement of the work.

General maintenance – where roadways are impacted by construction activities once backfilled all road surfaces will be restored to a paved condition with line markings restored. At all times, but particularly during shoring and mass excavation activities, streets and sidewalks associated with the construction areas will be swept daily or more frequently if needed. A wheel wash will be established at all egress points where construction vehicle movements are taking place.

Snow removal – in areas not impacted by construction, roadways and walkways accessible to the public will be maintained as they would be normally. In areas where construction is present, project personnel and equipment will be utilized to keep roadways and the public way open for pedestrians and resort patrons. Snow will not be stored on site.

### PEDESTRIAN CIRCULATION

Safe pathways – to the extent possible the means of pedestrian circulation will remain as it exists currently. During periods where sidewalks and roadways are being reconfigured and the typical circulation patterns is disrupted, temporary alternate pathways will be provided. Alternate pathways will be defined by temporary safety fencing or movable concrete barricades. In areas where pedestrian circulation is proximal to ongoing construction activities a lighted covered walkway will be provided.

Way finding – temporary directional signage specifically targeted at pedestrians will be provided as the situation requires.

### CONSTRUCTION SIGNAGE

scrim will cover the long-term site security fence to provide a visual barrier between the construction and the public. “danger” signs will be placed at 50’ intervals along the entire length of the fence. Material delivery areas will have signs noting their use. All entry gates will have signs noting the name of the construction manager, requirements for proper PPE, site access requirements, and contact information.

### PHYSICAL BARRIERS

physical barriers will be provided as required at all times during the construction. Physical barriers will take the form of temporary fencing, movable concrete highway barricades, or wood framed covered walkways.

**TEMPORARY SITE LIGHTING**

As required, portable light stands will be provided to assure a safe environment for the public, resort patrons, and construction personnel. To the extent possible solar powered portable light stands will be used in lieu of fossil fueled light stands.

**FIRE PROTECTION**

A fully functional system of fire hydrants will be maintained throughout the construction site. Where it becomes necessary to reconfigure water lines, a construction mitigation plan will be developed showing temporary measures including hydrant location, materials, sequence of construction, schedule, etc. The construction mitigation plan will be submitted to the municipality for approval.

**ADDITIONAL INFORMATION****STORM WATER MITIGATION AND MANAGEMENT**

Consistent with requirements, a SWPPP program will be developed and operationalized by the excavation contractor. The construction manager will ultimately hold responsible for swPPP compliance.

**GROUNDWATER MANAGEMENT**

Investigation of subsurface conditions revealed no indication of the presence of groundwater. While not anticipated, should groundwater be present the construction manager will immediately contact the soils engineer and, in conjunction with the civil engineer, develop a groundwater mitigation plan for review and acceptance by the municipality.

**DRILLING AND BLASTING**

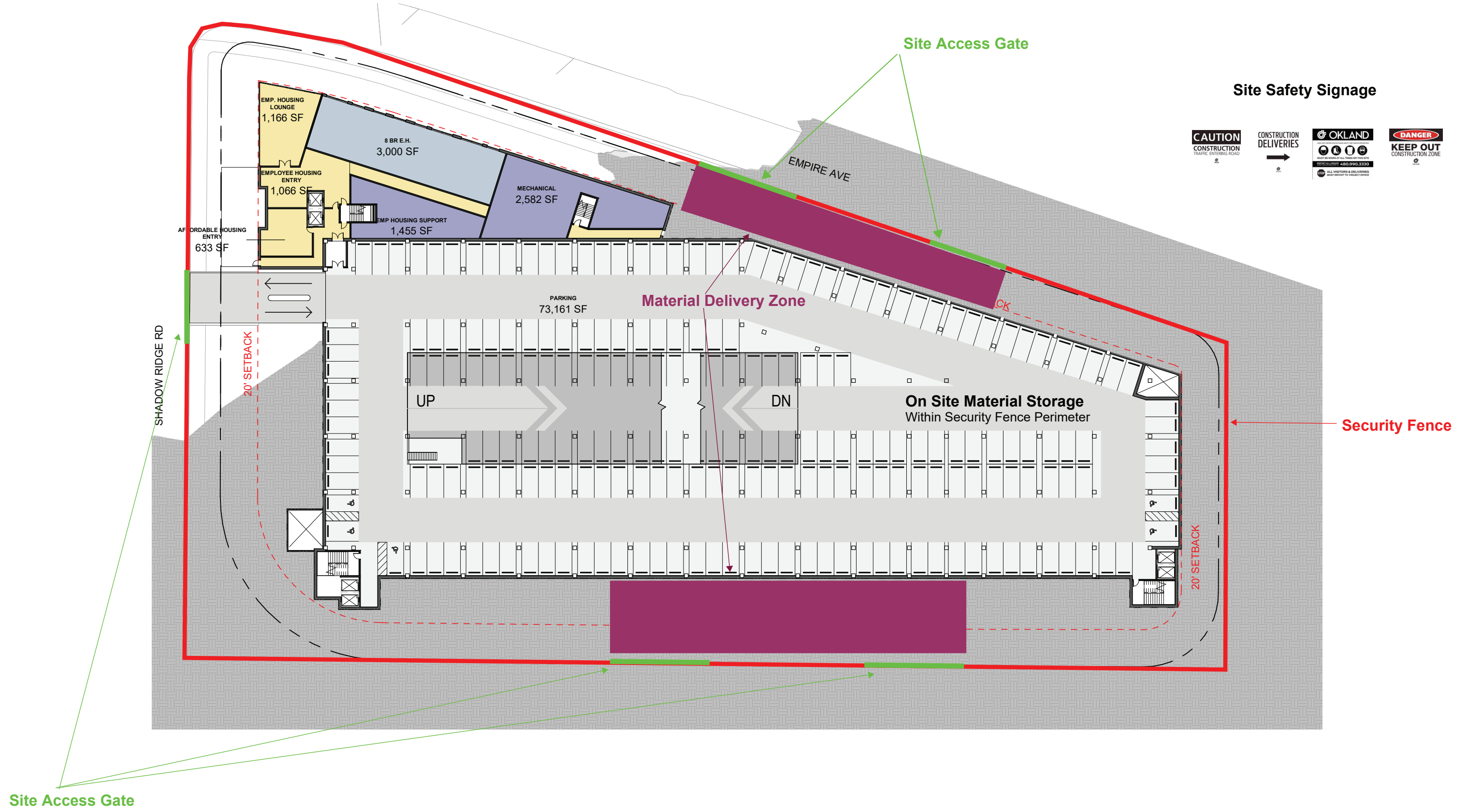
Investigation of subsurface conditions revealed nothing that would indicate a requirement to blast. While not anticipated, should blasting become necessary the construction manager will immediately contact the soils engineer and, in conjunction with the civil engineer, develop a blasting plan showing the extents of blasting, establish pay limits, and identify adjacent landowners that may be impacted by blasting activities. The construction manager will establish a seismic monitoring program and site safety protocol prior to the commencement of blasting activities. If blasting is required, a mitigation plan would be developed and presented to the municipality and adjacent landowners for review and acceptance.

**GENERAL APPROACH TO SHORING**

Shoring will be required to enable safe entry to subsurface areas of all building sites. The construction manager will utilize a pile and lagging system to shore excavations. The pile and lagging system requires the installation of a series of wide flange steel piles that are inserted vertically into the ground. Steel piles are placed in drilled holes and then grouted into place with concrete. Once piles are in place wood planks, lagging, is installed between the piles to support the side walls of the excavation. Tie backs may also be required to assure that the pile and lagging system remains vertical.

**GENERAL APPROACH TO MASS EXCAVATION AND EXPORT**

Mass excavation activities begin as the lagging is installed. Material exported from the site may be placed on mountain in fill locations identified as suitable by the resort owner. Alternatively, exported materials may be transported through the city to a fill location in brown's canyon. Where exported materials are required to transit through the city a schedule and material movement plan will be developed for approval by the municipality.



Site Access Gate

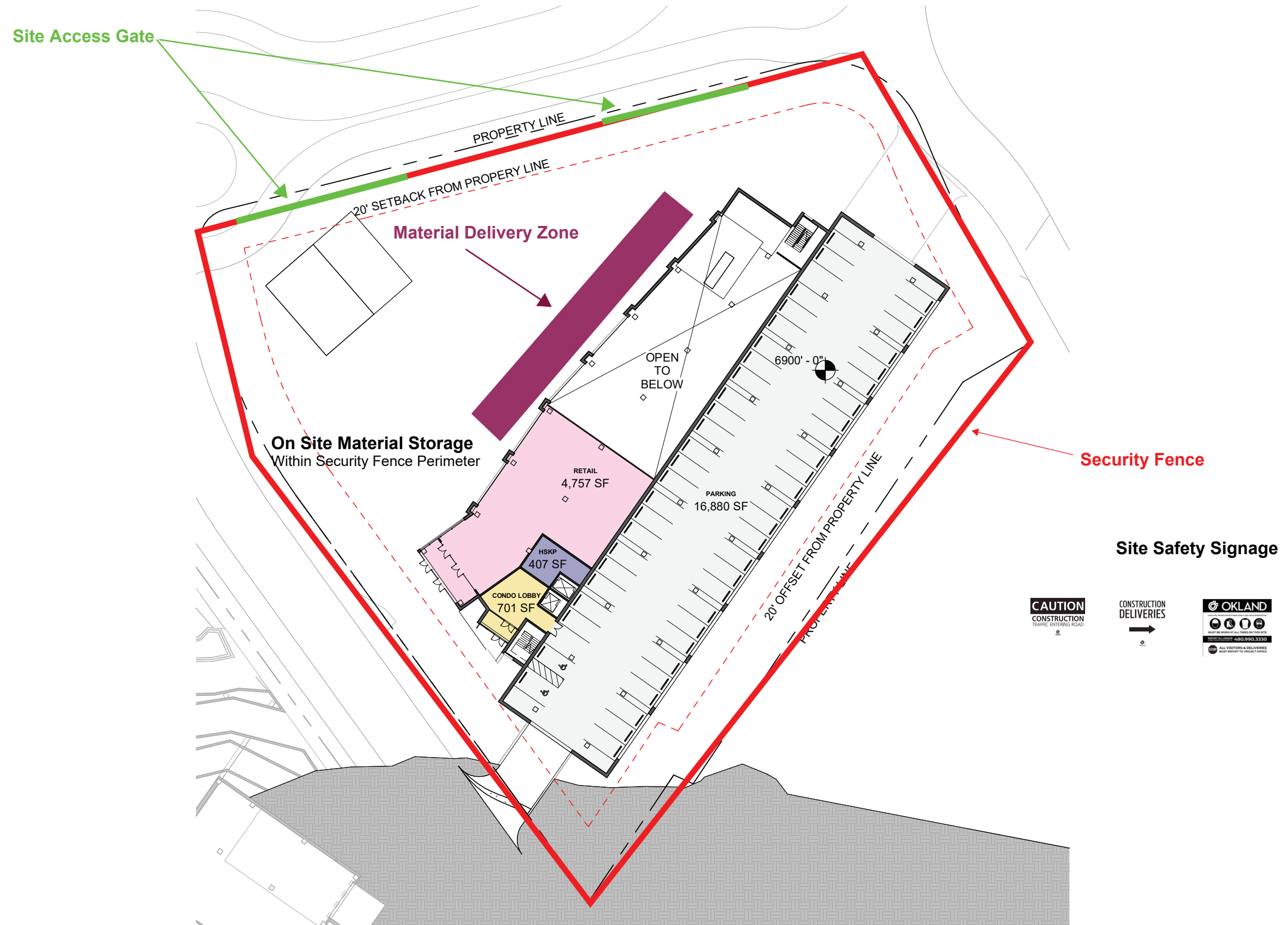


Material Delivery Zone



Site Safety Signage









PEDESTRIAN WALK WAY



PERIMETER FENCE



DEBRIS NET CATCHER

### Site Safety Signage



50' intervals security fence perimeter

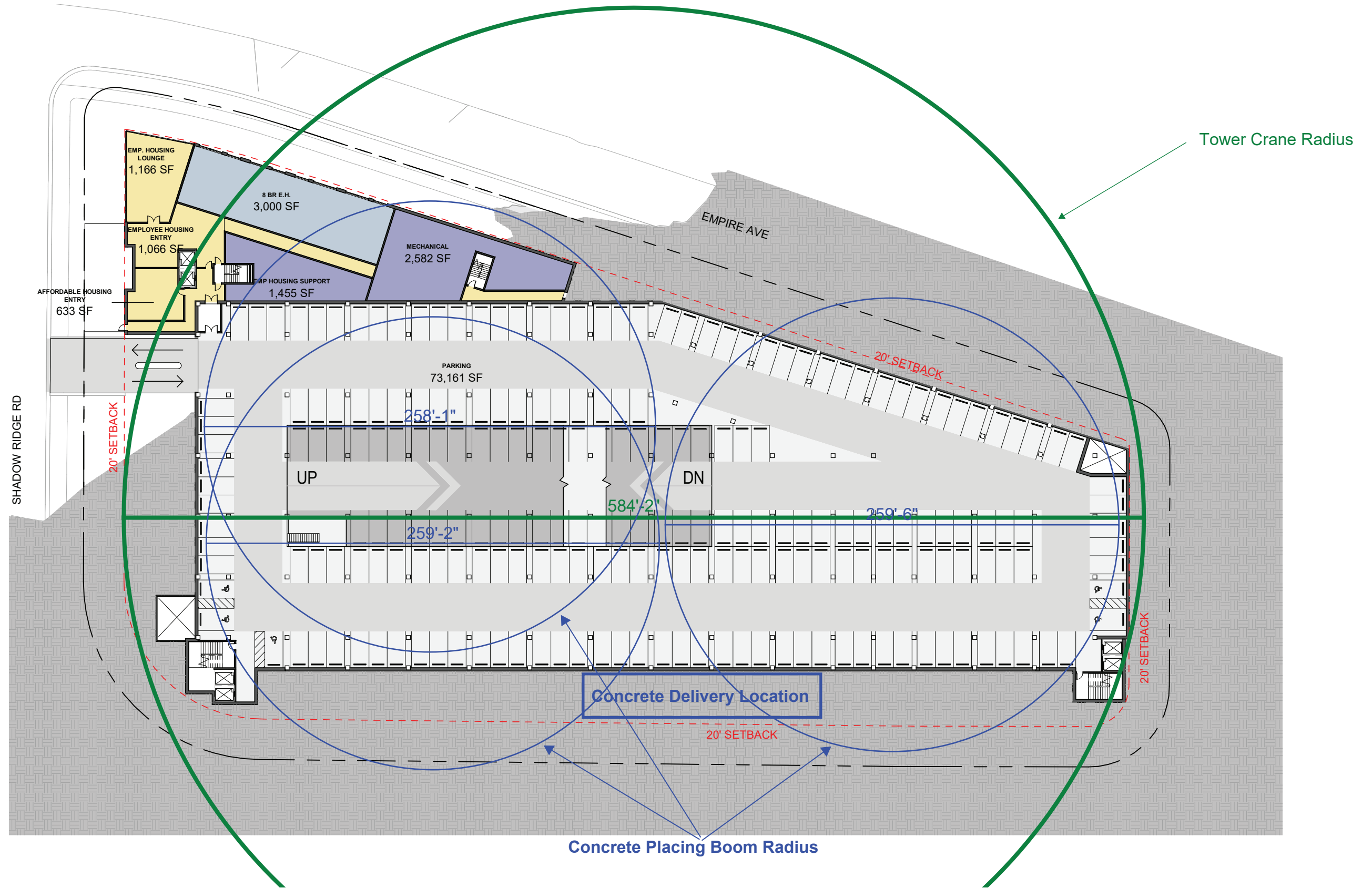
At all entry points

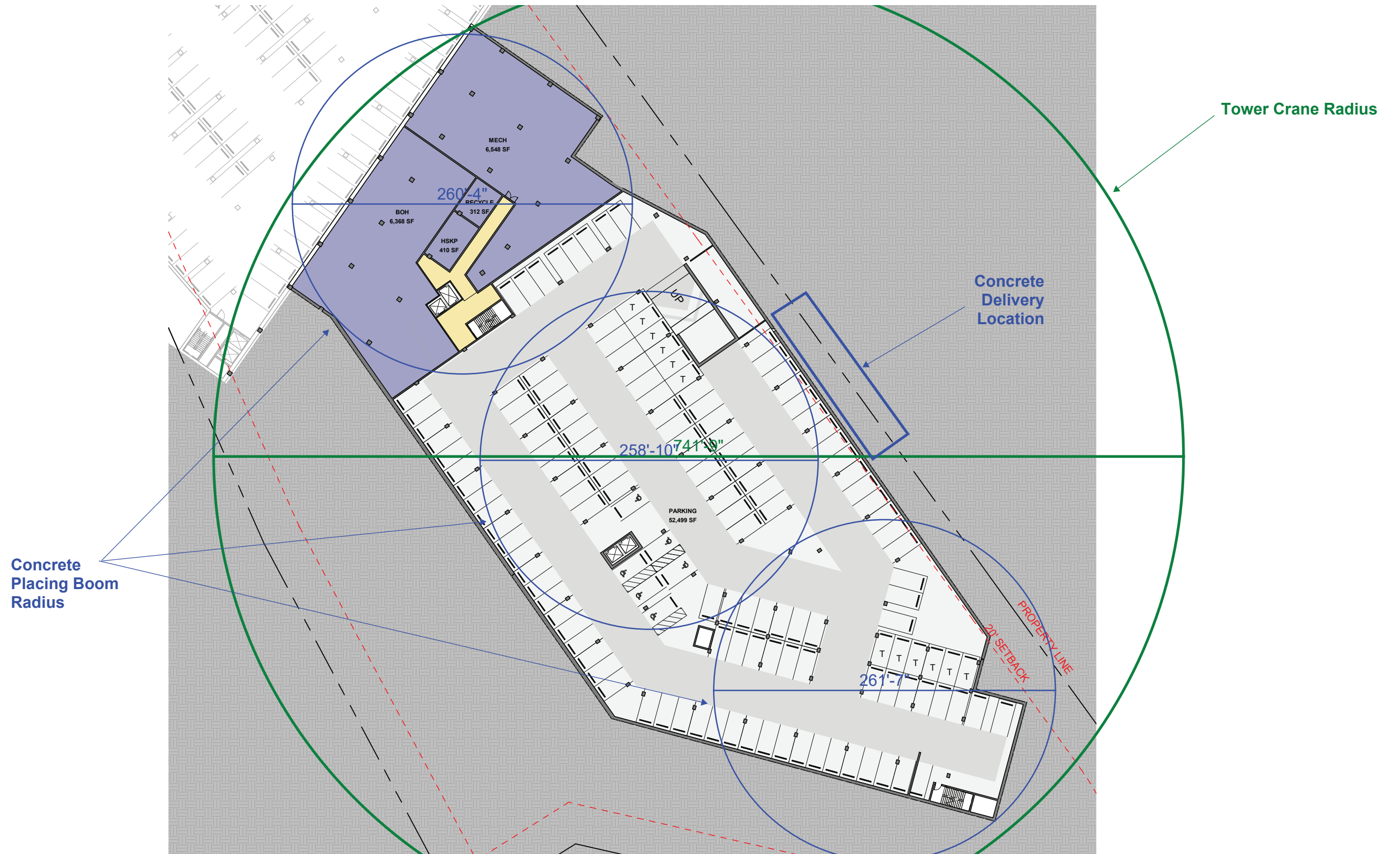


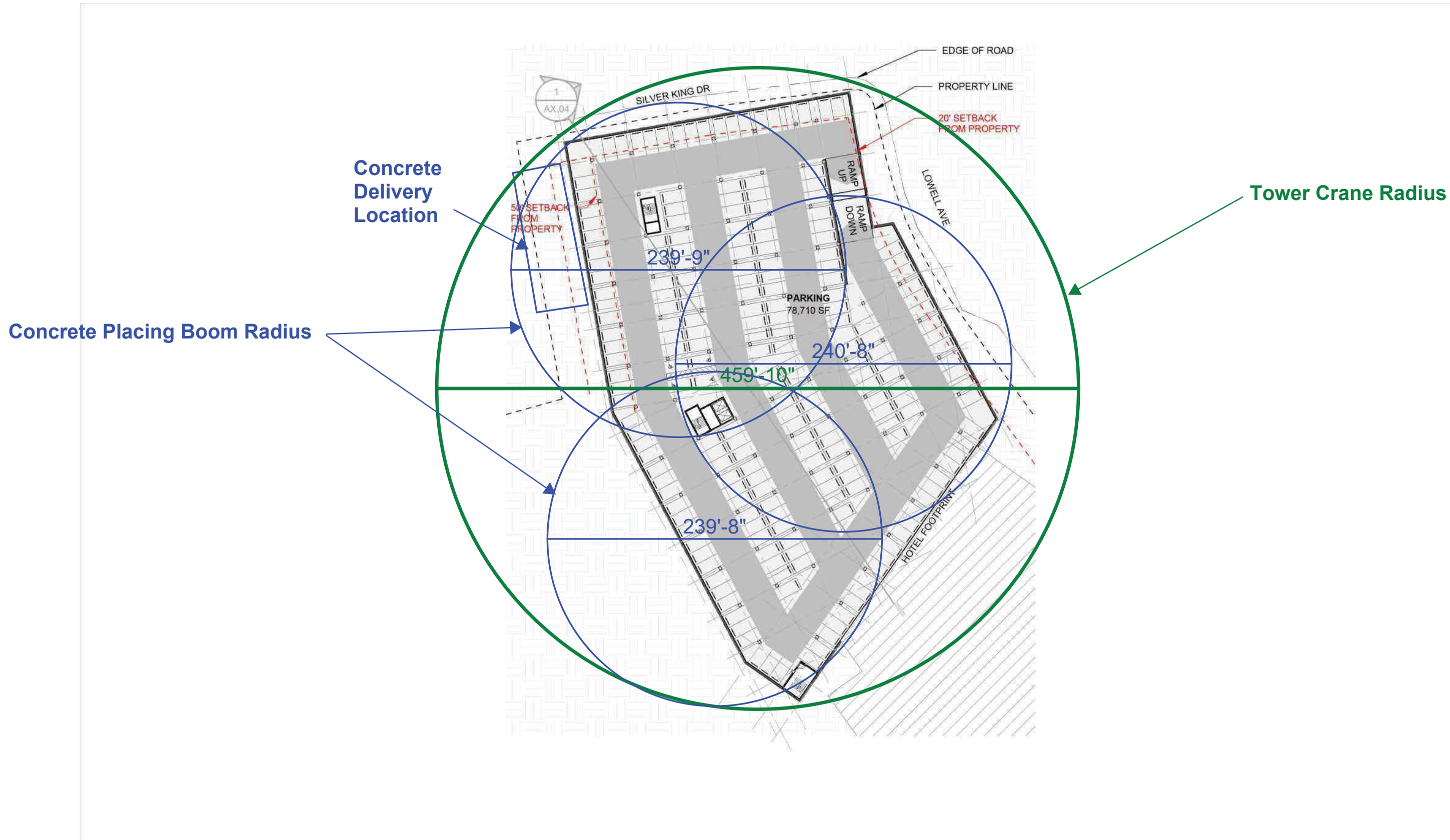
At all material delivery points

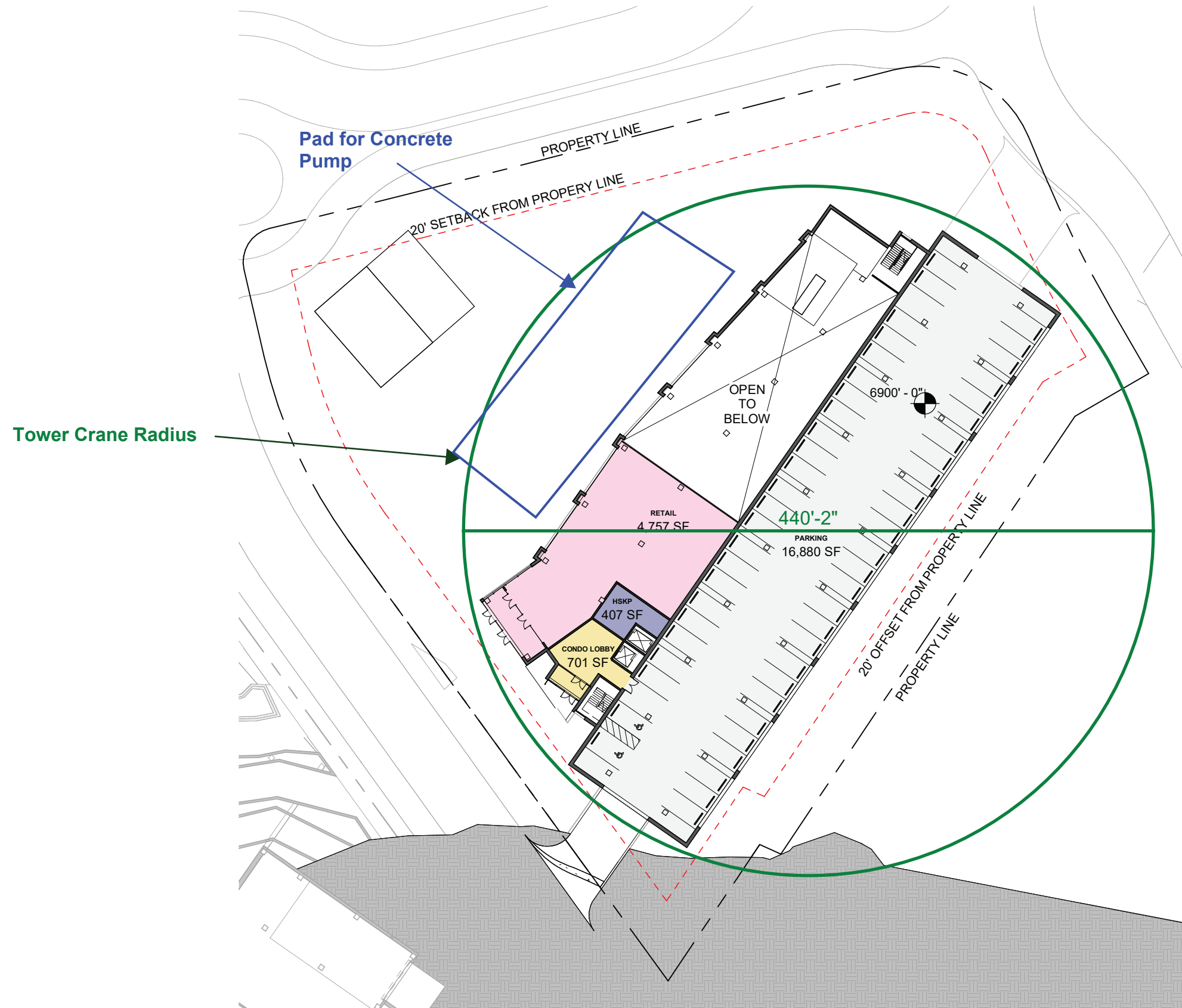


At all road entries











PLACING BOOM



TOWER CRANE



MAN & MATERIAL LIFT



Parcel E 117,555 CY - cut

Parcel D 9,183 CY - cut

Parcel C 93,894 CY - cut

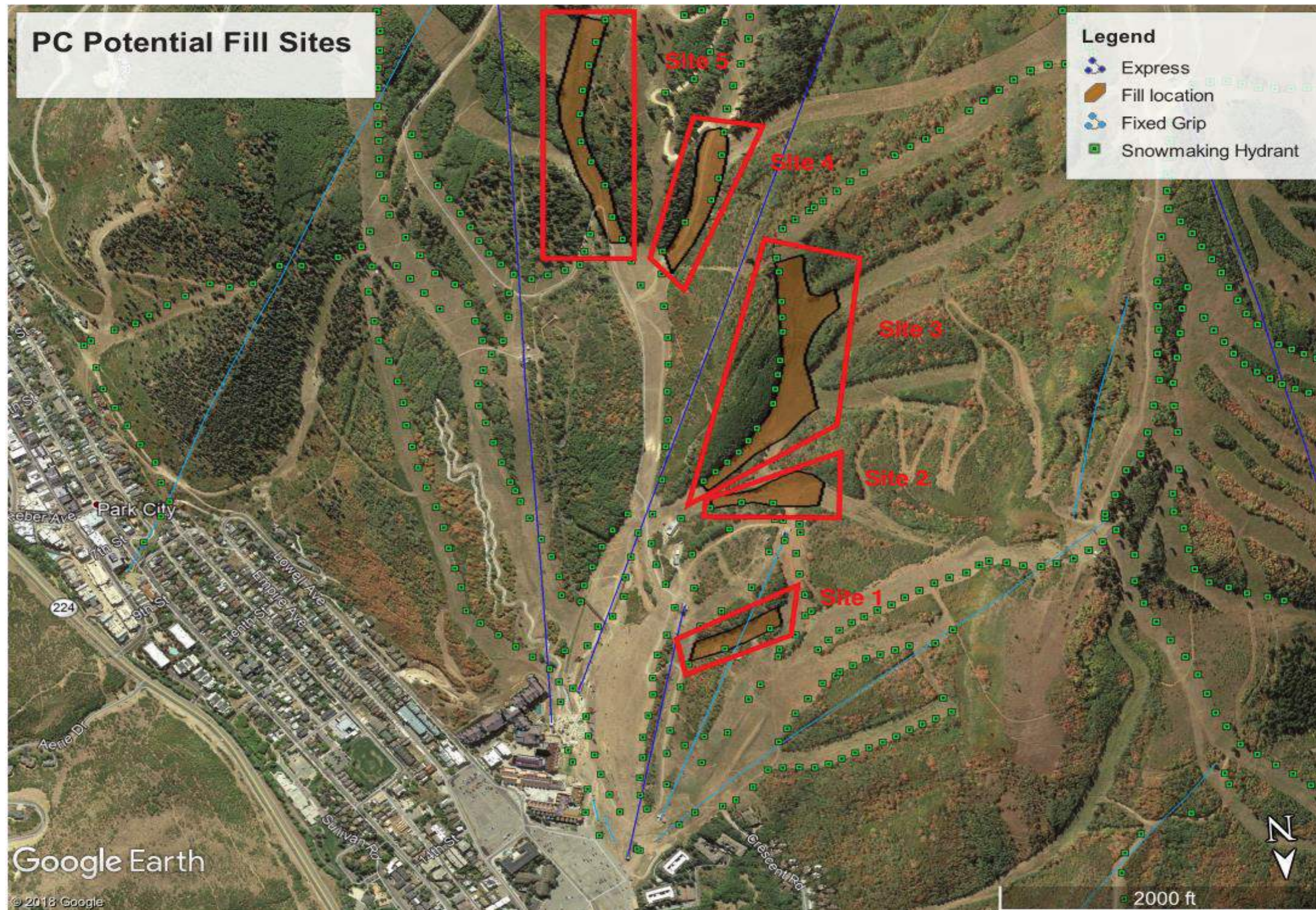
Parcel B 83,400 CY - cut





Off Site Waste Area

Brown's Canyon Road – 10.7 miles, 19 Minutes



On Site Waste Area

### Soil Export Projections

Location	CY	Tons  (2,400/CY)	ADT (35T)			Highway (32T)		
			Trips	Cycle Time (min)	Hours	Trips	Cycle Time	Hours
Parcel B	83,400	100,080	2,859	32	1,334	3,127	42	2,189
Parcel C	93,894	112,673	3,219	32	1,502	3,521	42	2,465
Parcel D	9,183	11,019	315	32	147	344	42	241
Parcel E	117,555	141,066	4,030	32	1,881	4,408	42	3,086

Total All Parcels

304,032

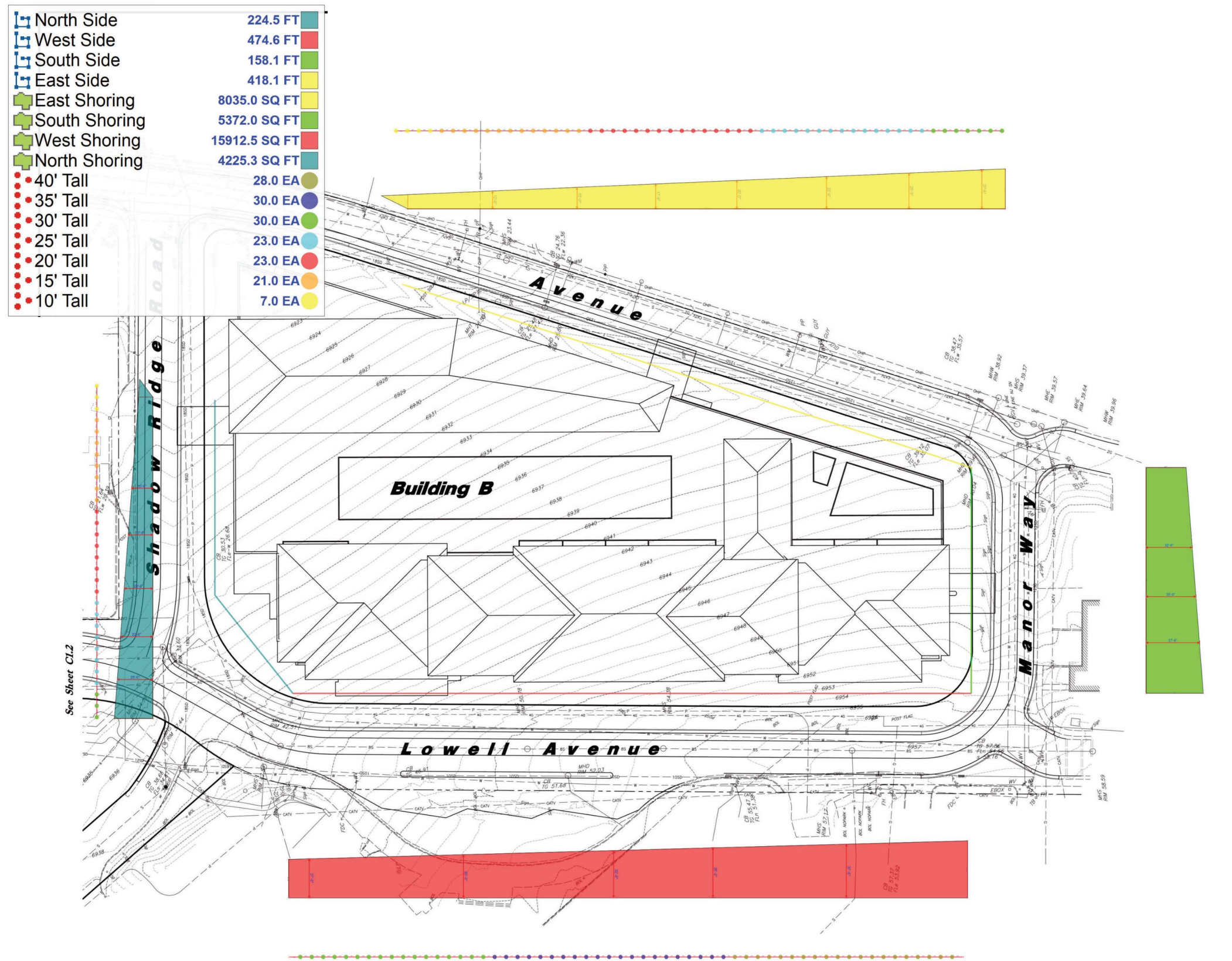
364,838

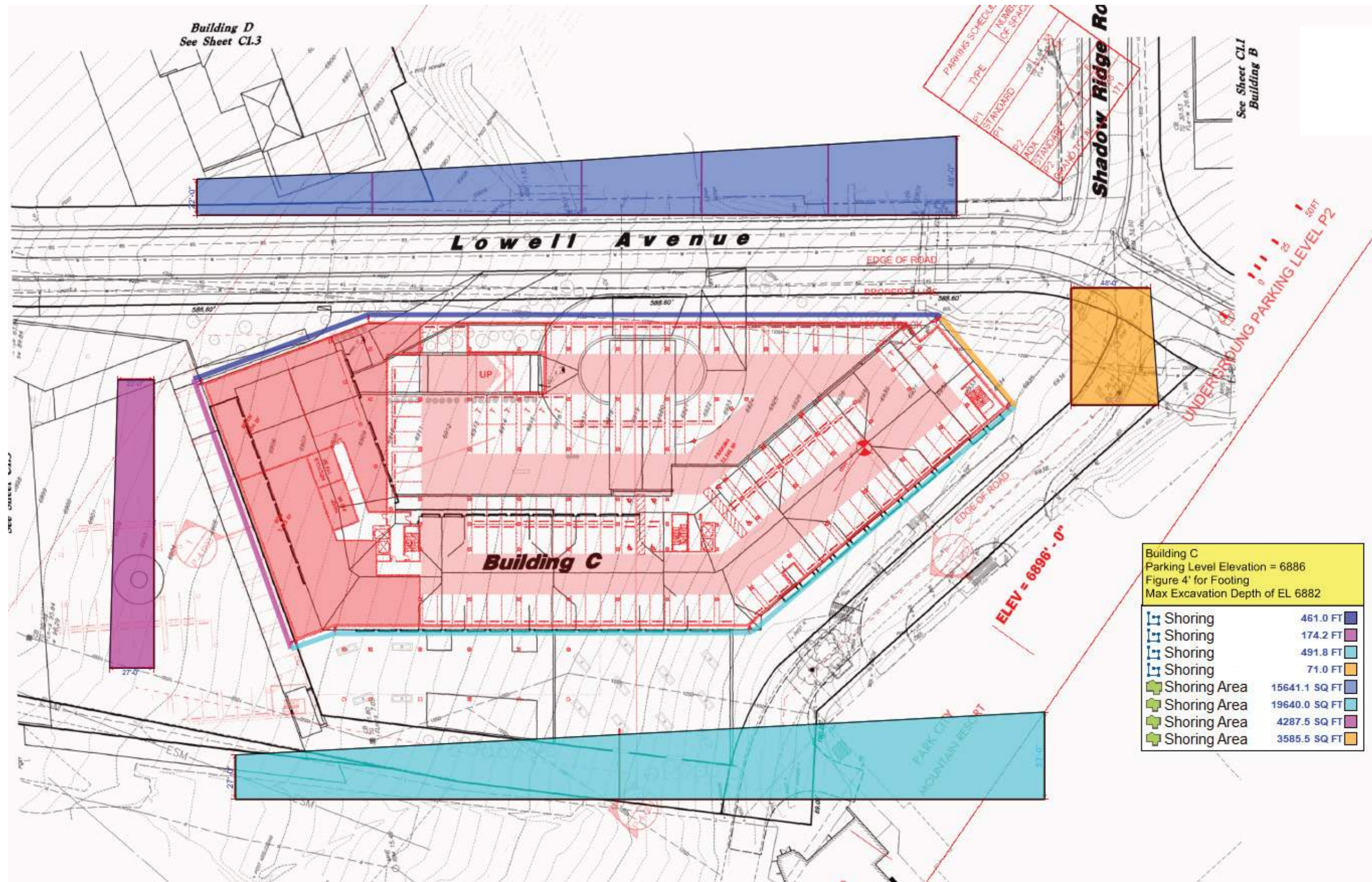
10,424

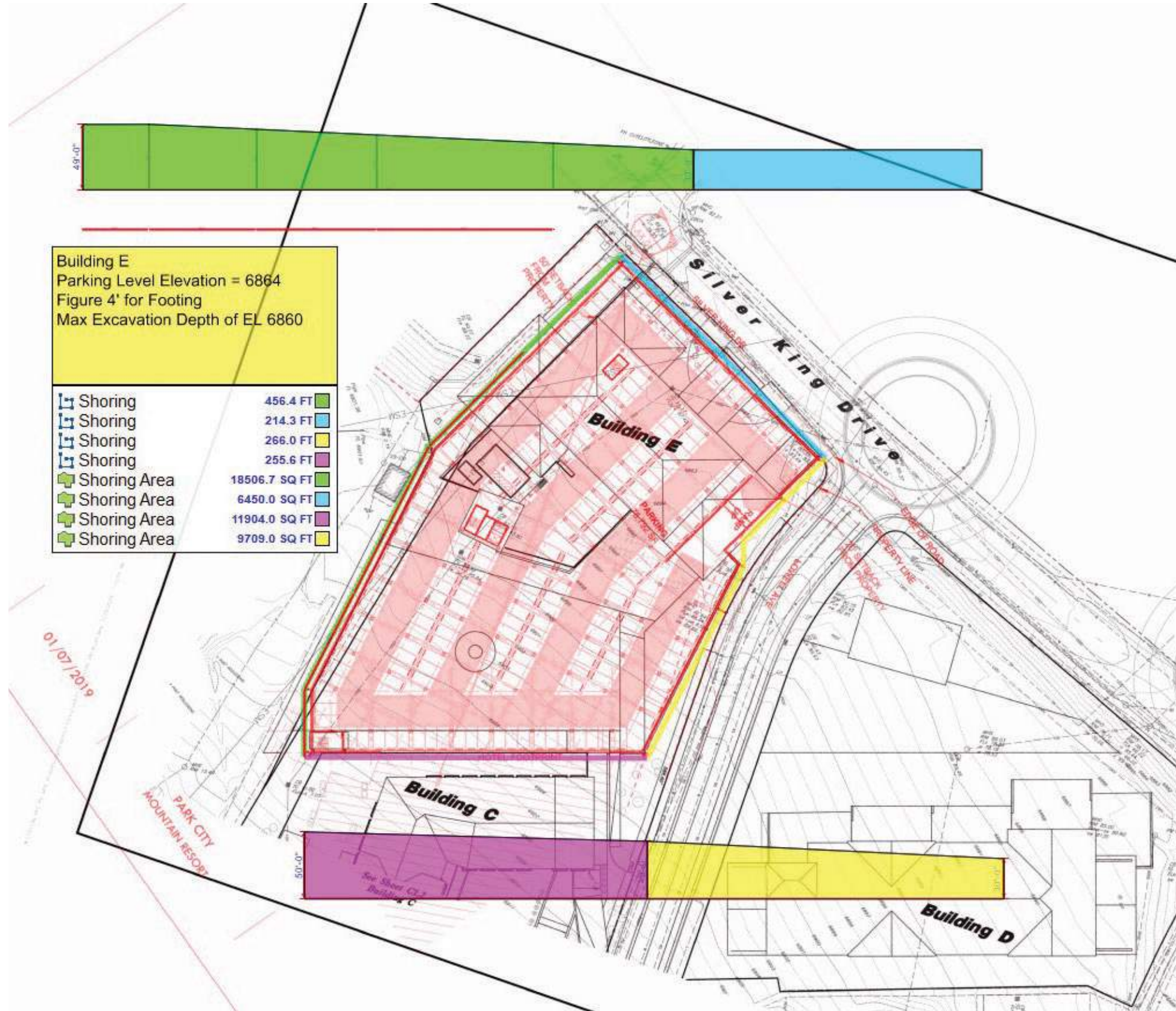
4,865

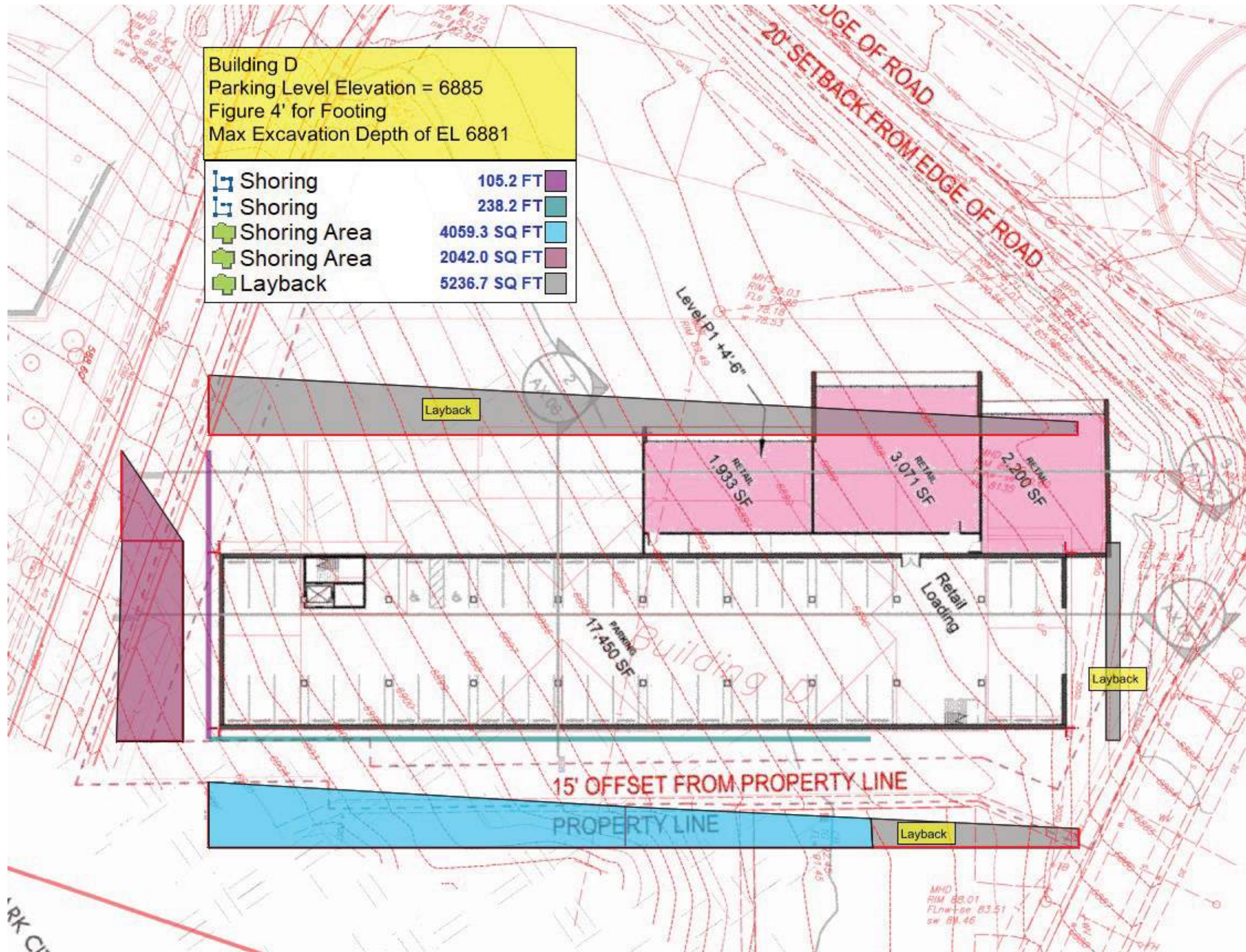
11,401

7,981

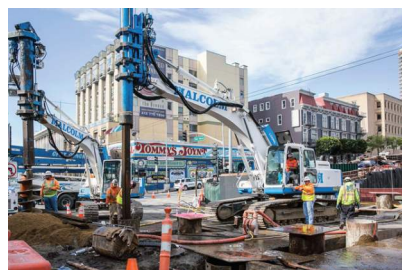








**Drill Solder Piles**



**Remove Excess Material**



**Set Soldier Pile**



**Grout**



**Install Lagging**



**Cut Pile to Length**



**Lagging and Tie Back**



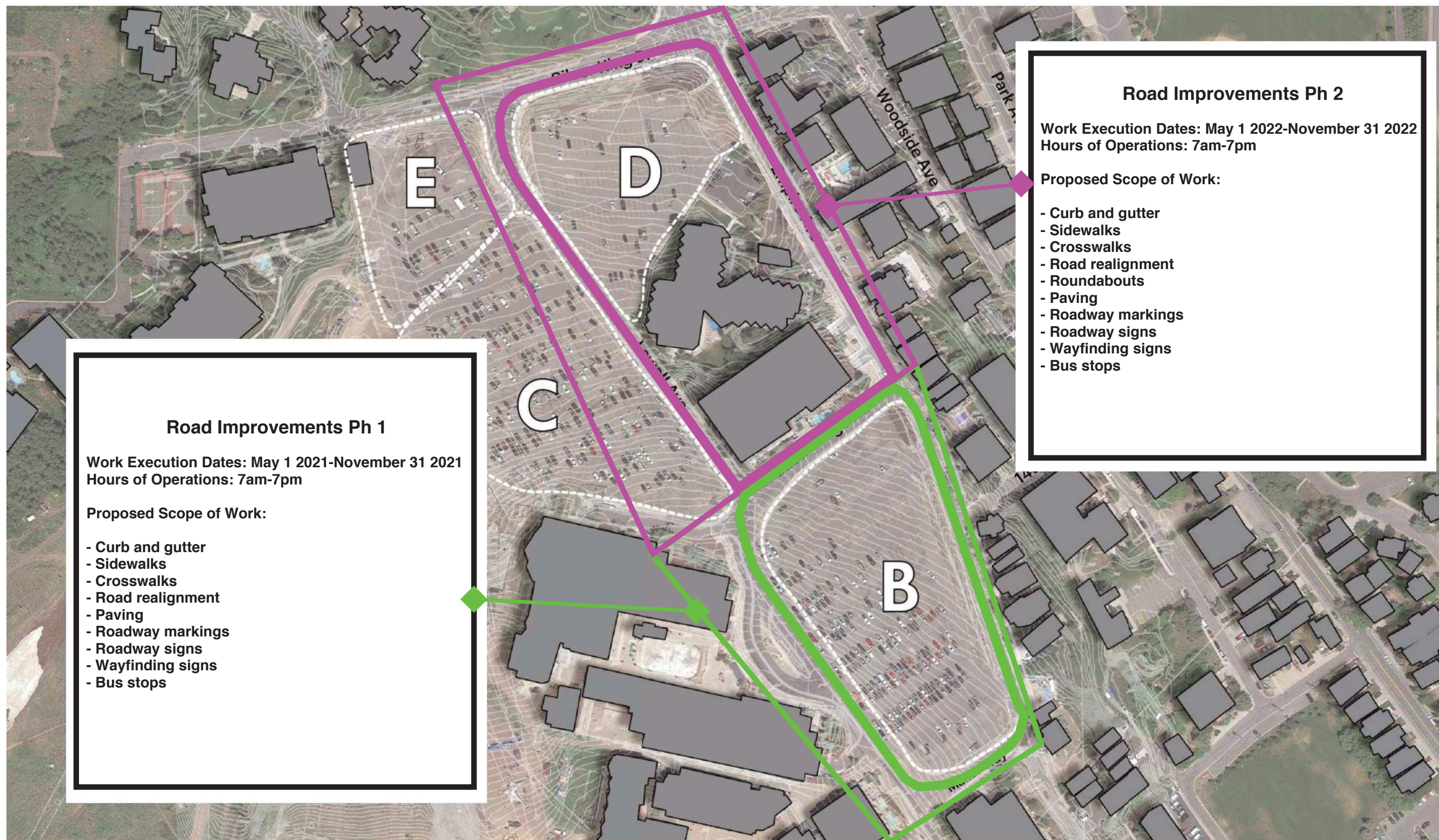
## Shoring Process

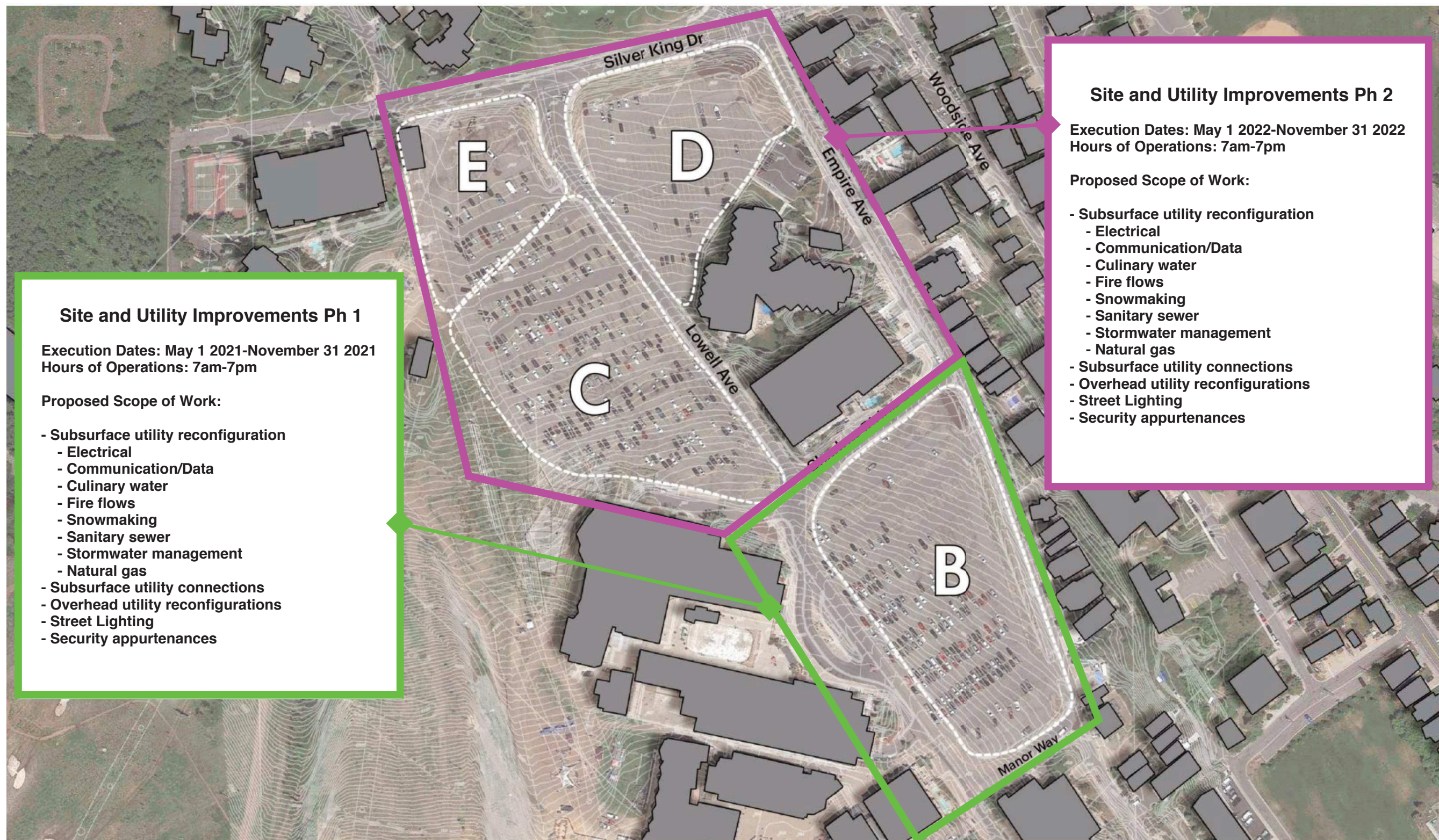
Drilled Pile with Lagging and Tie Back

**End Condition**









**Site and Utility Improvements Ph 1**

Execution Dates: May 1 2021-November 31 2021  
Hours of Operations: 7am-7pm

Proposed Scope of Work:

- Subsurface utility reconfiguration
  - Electrical
  - Communication/Data
  - Culinary water
  - Fire flows
  - Snowmaking
  - Sanitary sewer
  - Stormwater management
  - Natural gas
- Subsurface utility connections
- Overhead utility reconfigurations
- Street Lighting
- Security appurtenances

**Site and Utility Improvements Ph 2**

Execution Dates: May 1 2022-November 31 2022  
Hours of Operations: 7am-7pm

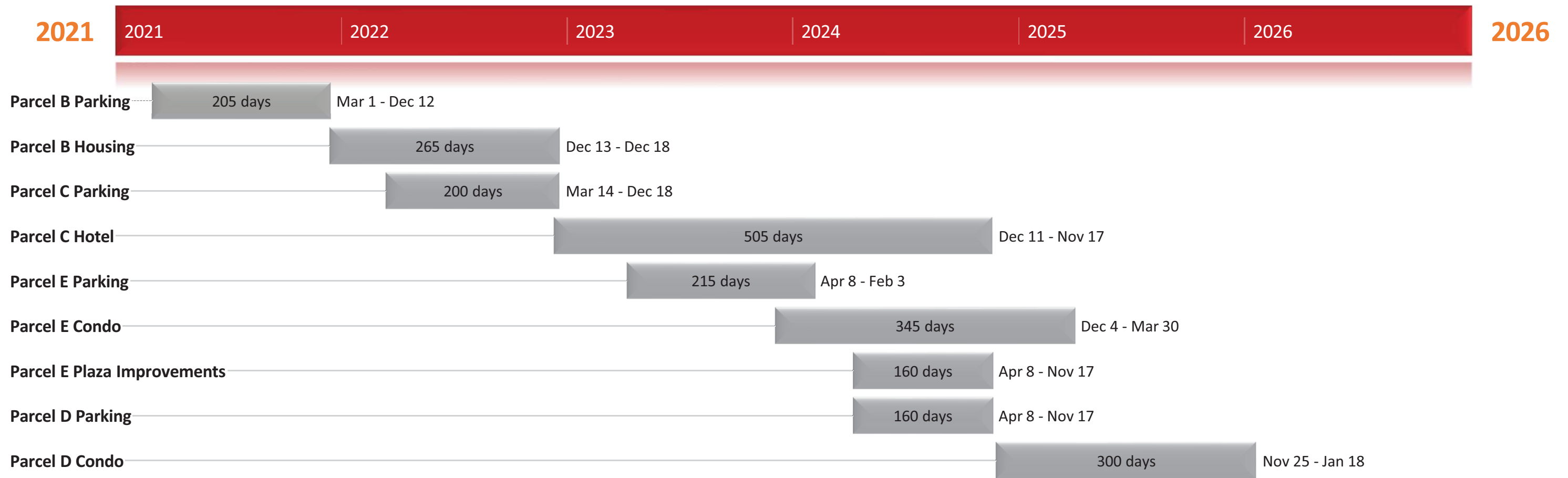
Proposed Scope of Work:

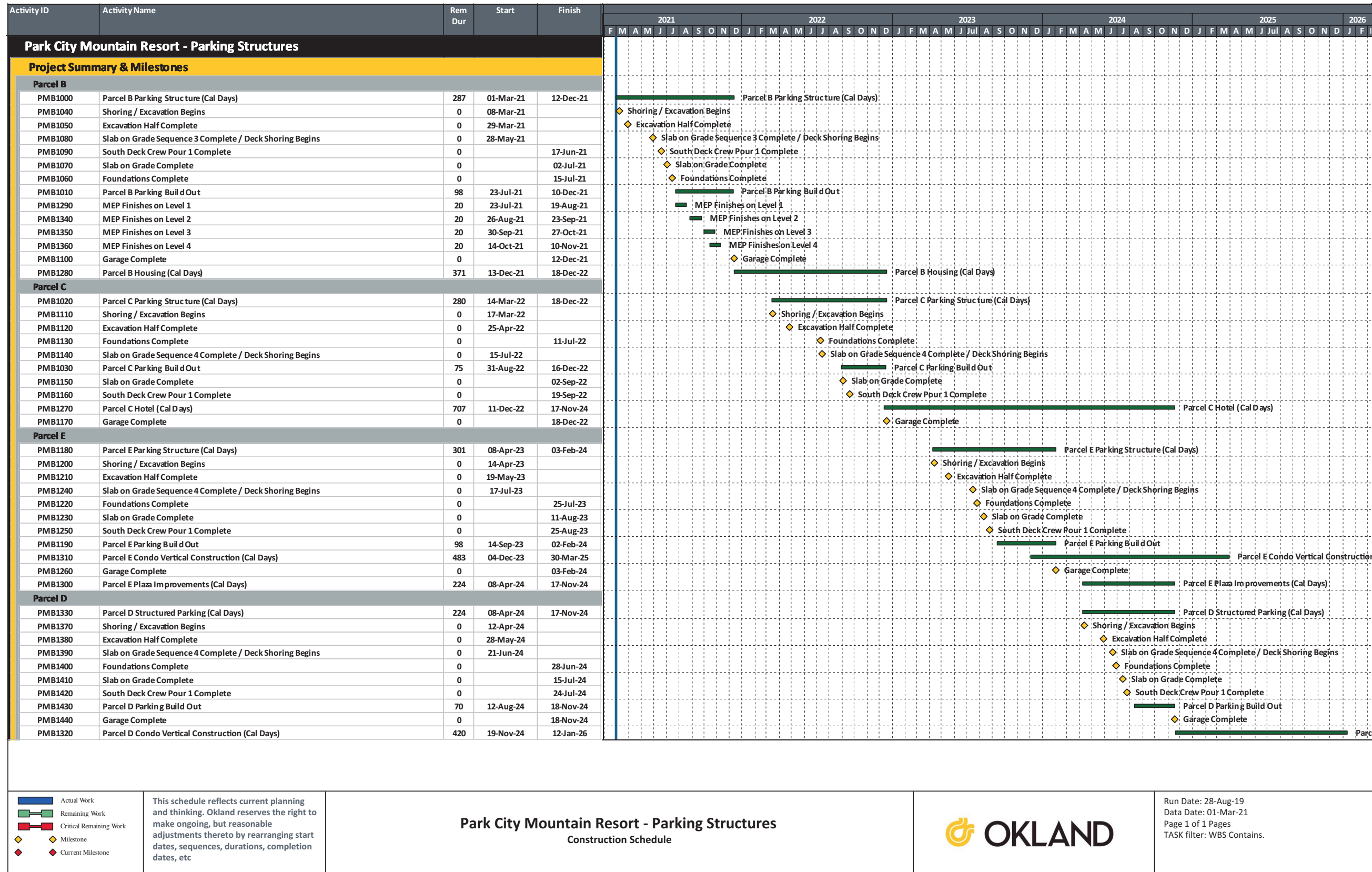
- Subsurface utility reconfiguration
  - Electrical
  - Communication/Data
  - Culinary water
  - Fire flows
  - Snowmaking
  - Sanitary sewer
  - Stormwater management
  - Natural gas
- Subsurface utility connections
- Overhead utility reconfigurations
- Street Lighting
- Security appurtenances

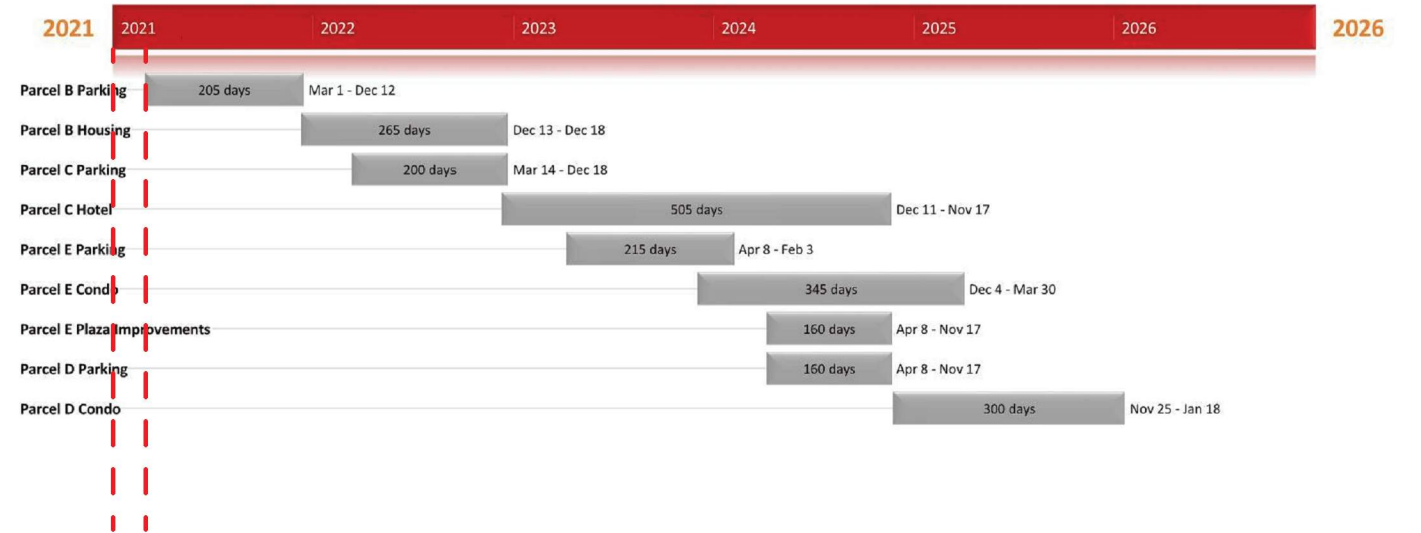


**Administrative Area: 150' x 100' (15,000sf)**

- Contractor Offices
- Administrative Parking
- Restrooms
- Safety Administration
- Training/Break Area
- First Aid
- Miscellaneous Storage

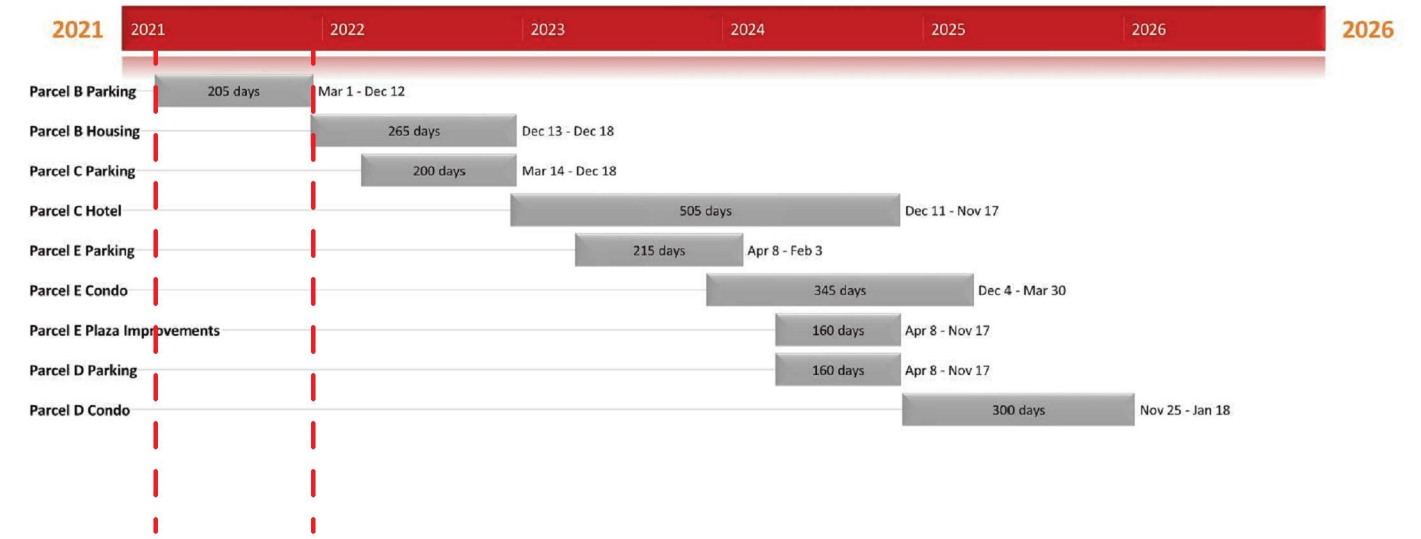






PARCEL B SHORING

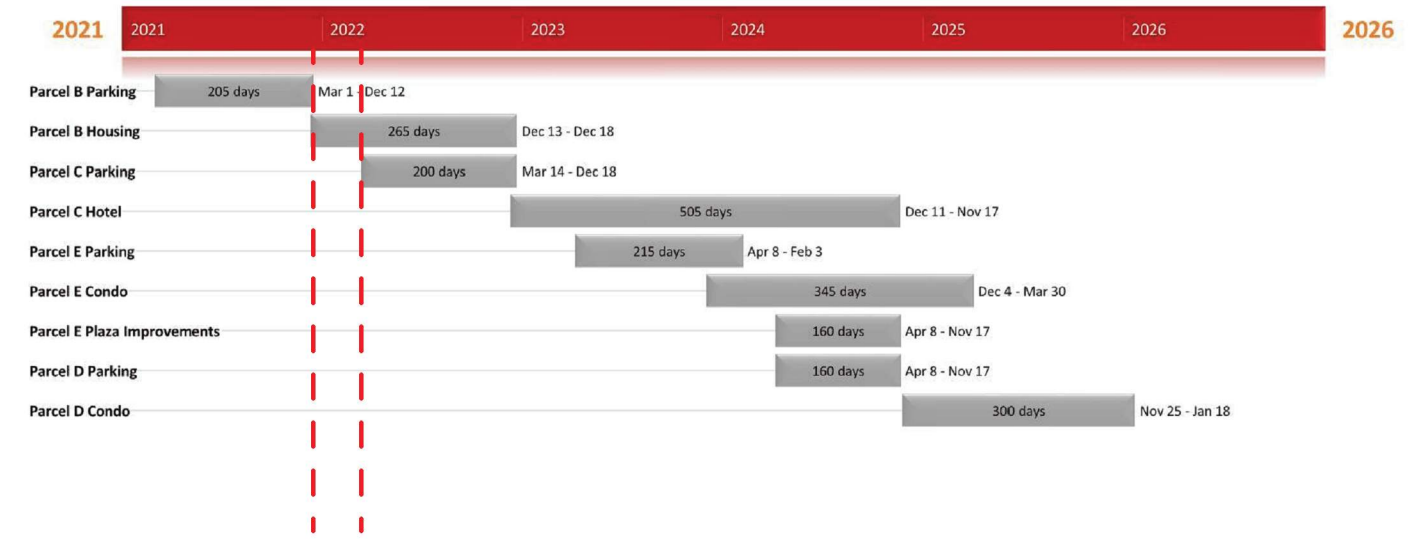
DAY SKIER PARKING	
Parking Lot	Spaces
Parcel B Surface	388
Parcel C & E Surface	564
Parcel D Surface	214
<b>Total Day Skier Parking</b>	<b>1166</b>



PHASE 1 ROAD IMPROVEMENTS

PARCEL B GARAGE EXCAVATION AND CONSTRUCTION

DAY SKIER PARKING	
Parking Lot	Spaces
Parcel B Surface	0
Parcel C & E Surface	564
Parcel D Surface	214
<b>Total Day Skier Parking</b>	<b>778</b>

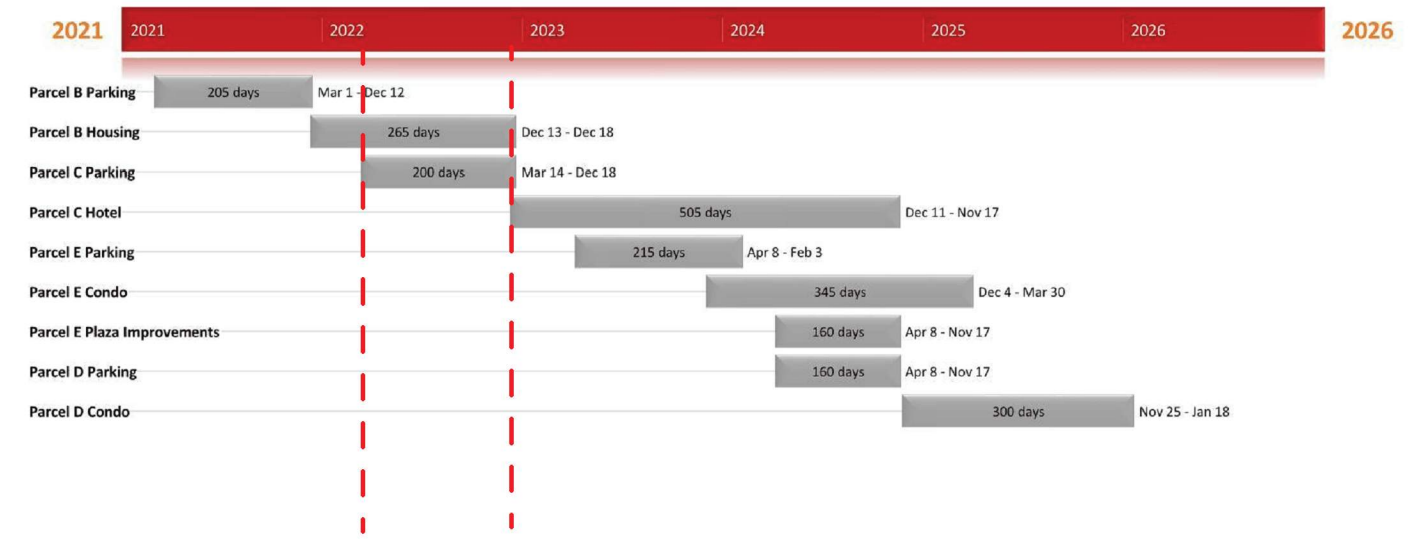


PARCEL C SHORING

PARCEL B OVER GARAGE CONSTRUCTION

DAY SKIER PARKING	
Parking Lot	Spaces
Parcel B Structured	760
Parcel C & E Surface	564
Parcel D Surface	214
<b>Total Day Skier Parking</b>	<b>1538</b>



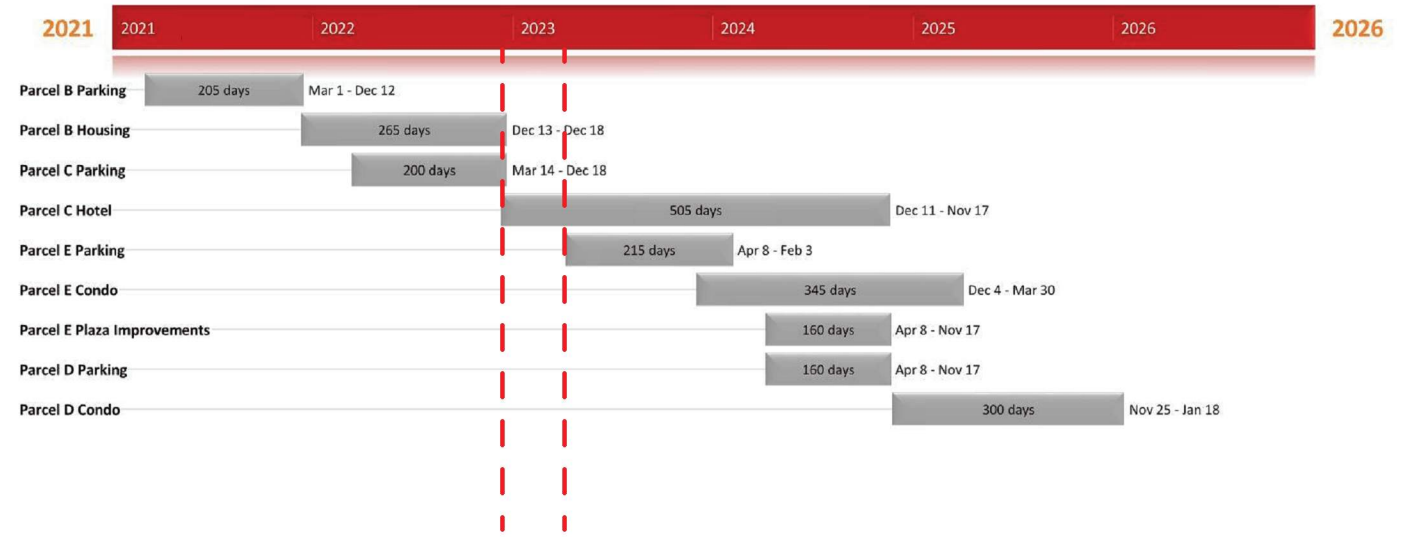


PHASE 2 ROAD IMPROVEMENTS

PARCEL C GARAGE EXCAVATION AND SHORING

PARCEL B COMPLETION

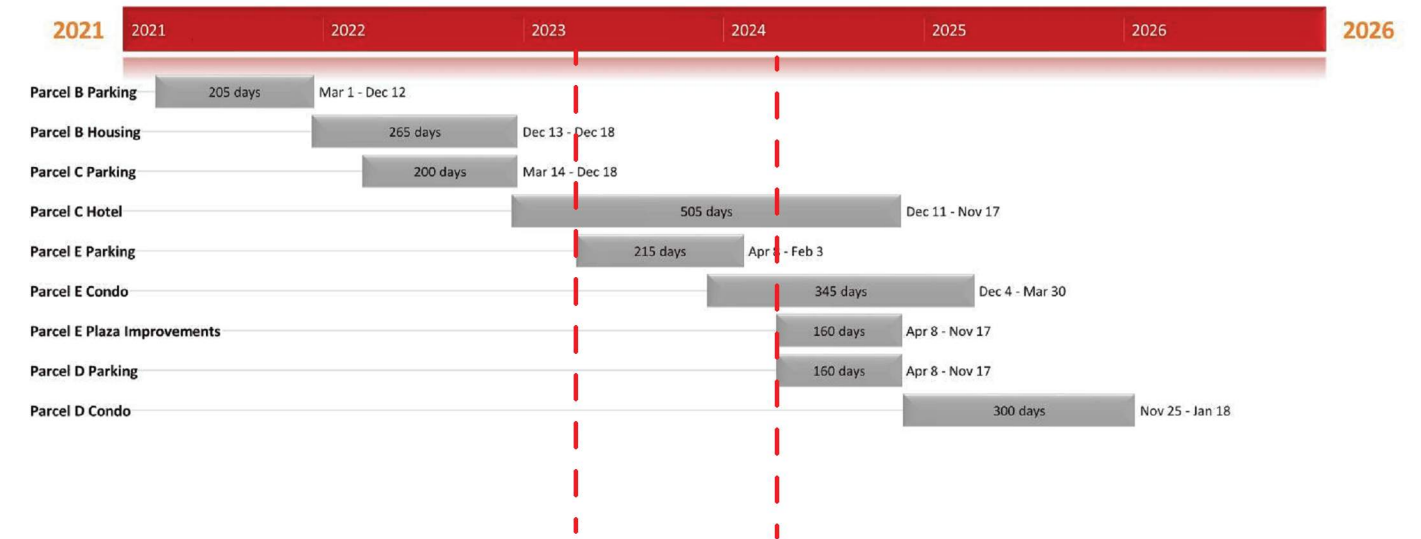
DAY SKIER PARKING	
Parking Lot	Spaces
Parcel B Structured	760
Parcel E Surface	111
Parcel D Surface	214
<b>Total Day Skier Parking</b>	<b>1196</b>



PARCEL E SHORING

PARCEL C OVER GARAGE CONSTRUCTION

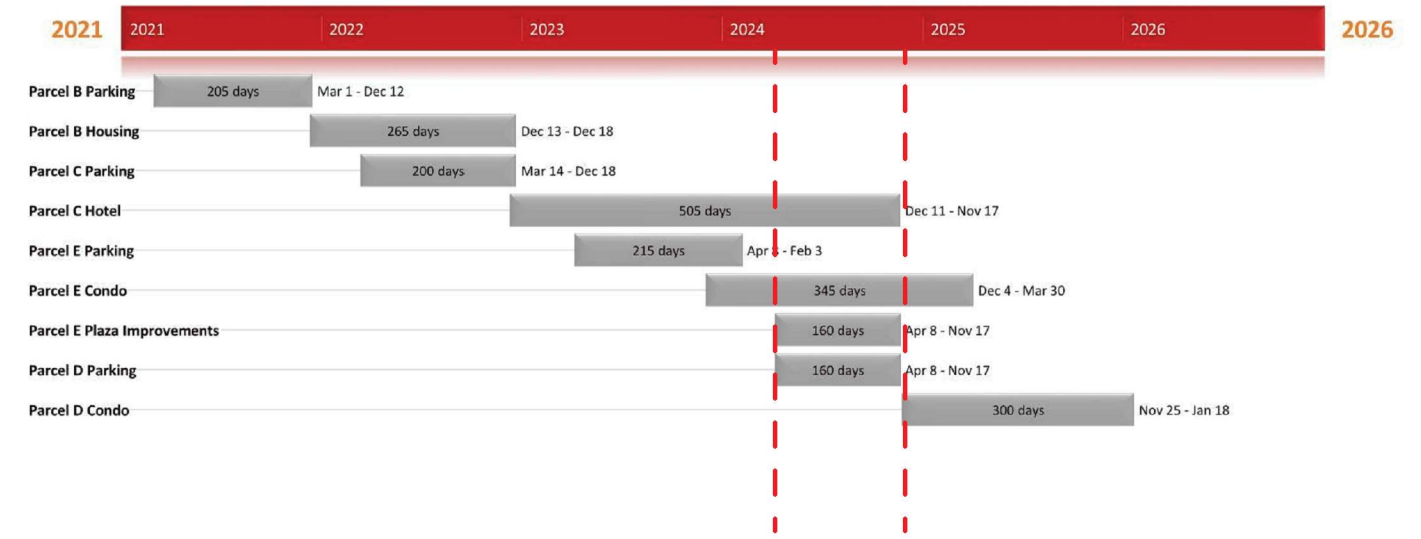
DAY SKIER PARKING	
Parking Lot	Spaces
Parcel B Structured	760
Parcel E Surface	111
Parcel D Surface	214
<b>Total Day Skier Parking</b>	<b>1196</b>



PARCEL E GARAGE EXCAVATION AND CONSTRUCTION

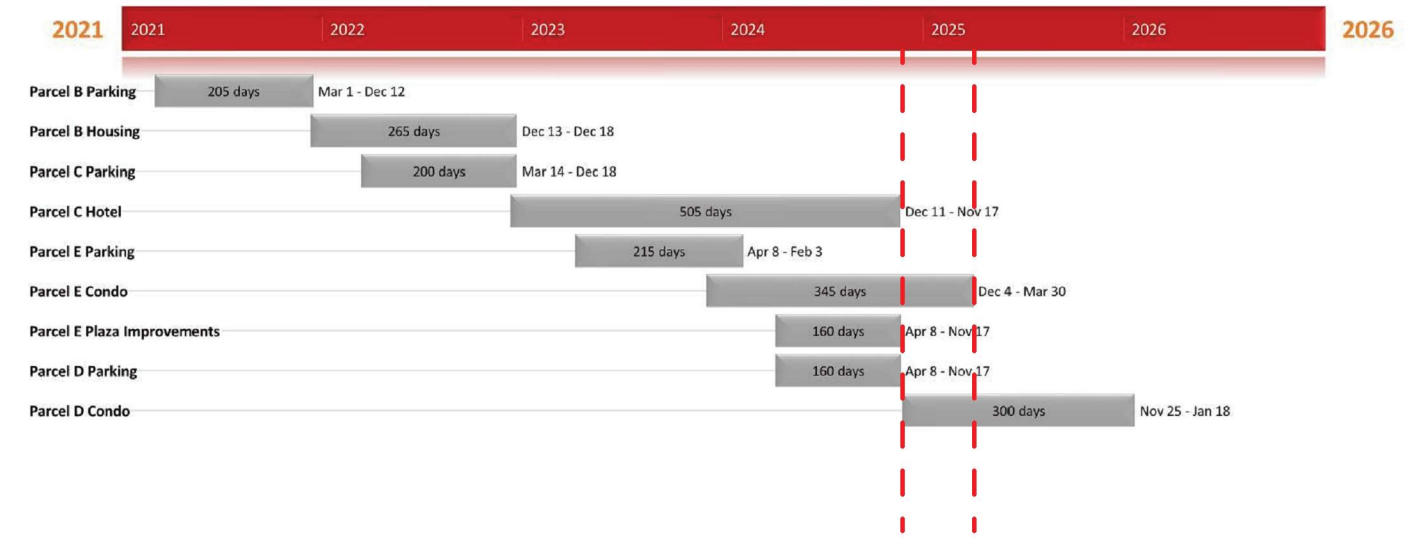
PARCEL C OVER GARAGE CONSTRUCTION

DAY SKIER PARKING	
Parking Lot	Spaces
Parcel B Structured	760
Parcel E Surface	0
Parcel D Surface	214
<b>Total Day Skier Parking</b>	<b>974</b>



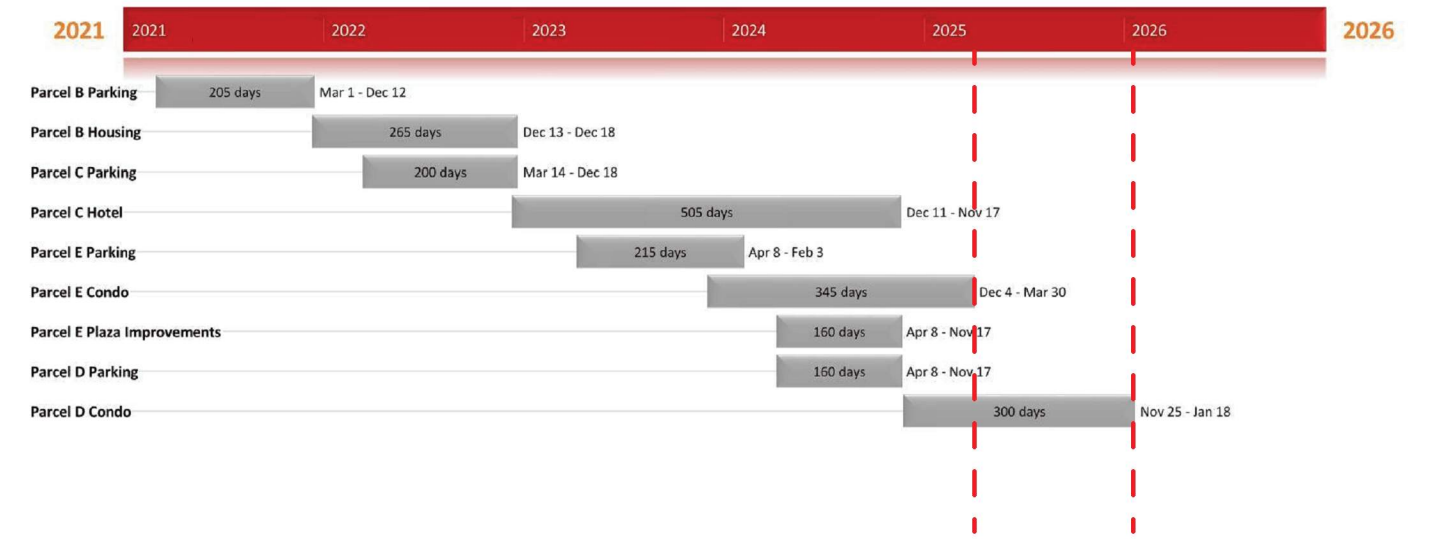
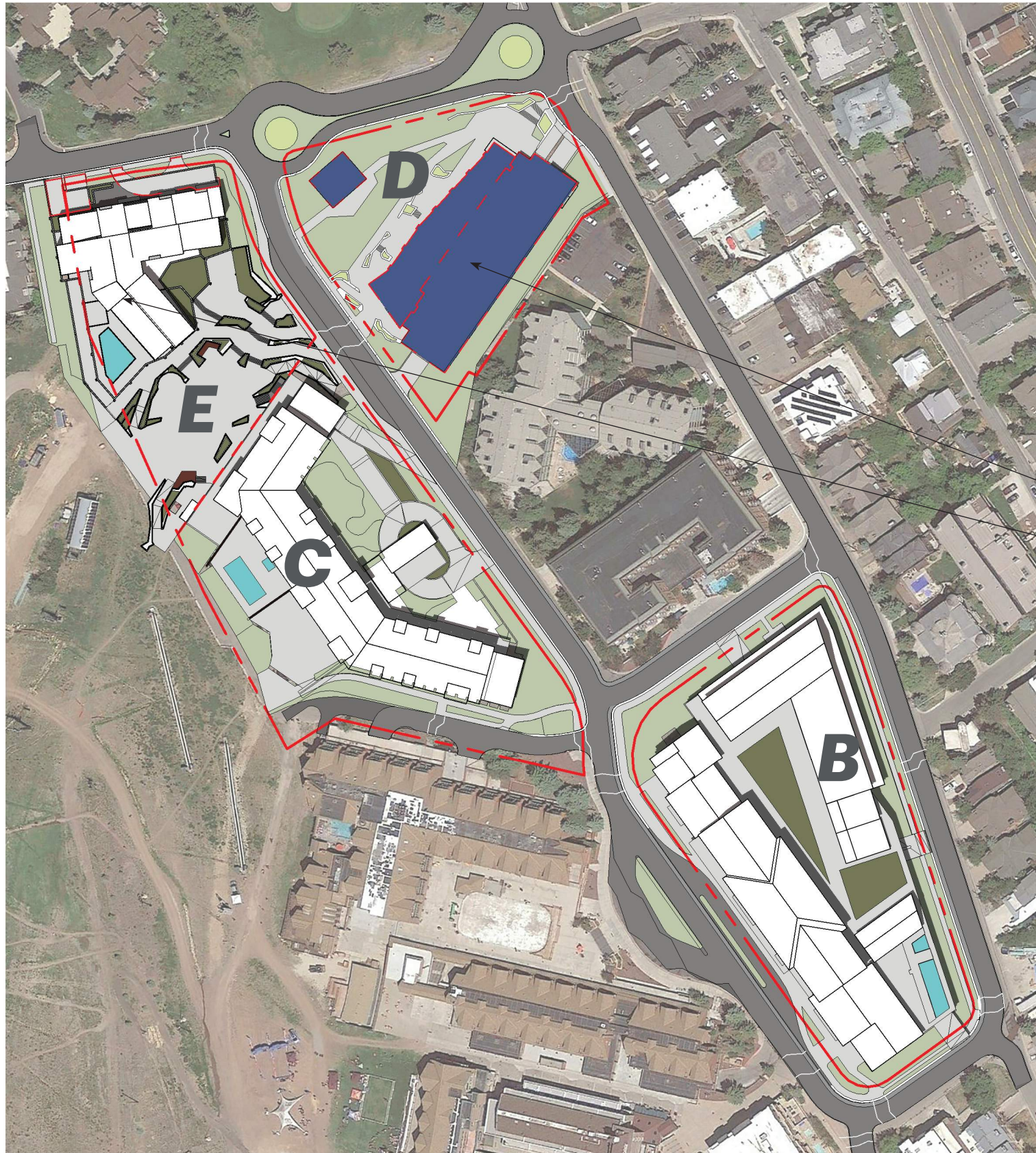
- PARCEL D GARAGE EXCAVATION AND CONSTRUCTION
- PARCEL E OVER GARAGE AND PLAZA CONSTRUCTION
- PARCEL C OVER GARAGE CONSTRUCTION

DAY SKIER PARKING	
Parking Lot	Spaces
Parcel B Structured	760
Parcel E Structured	440
Parcel D Surface	0
<b>Total Day Skier Parking</b>	<b>1200</b>



- PARCEL D OVER GARAGE CONSTRUCTION
- PARCEL E OVER GARAGE AND PLAZA CONSTRUCTION
- PARCEL C AND PARCEL E PLAZA COMPLETION

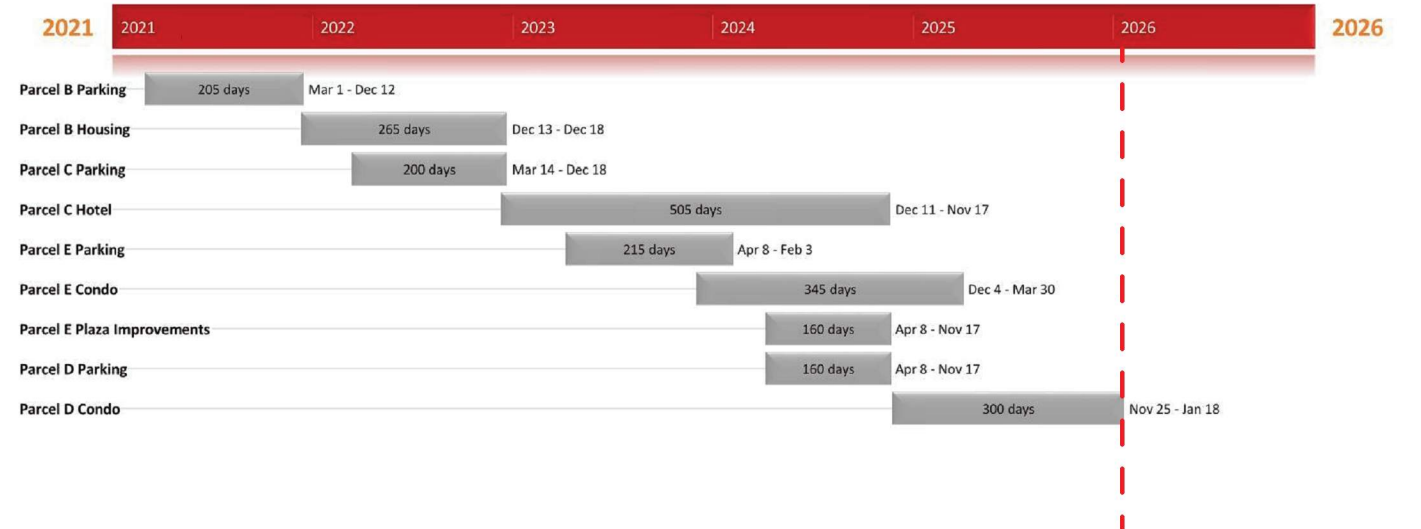
DAY SKIER PARKING	
Parking Lot	Spaces
Parcel B Structured	760
Parcel E Structured	440
<b>Total Day Skier Parking</b>	<b>1200</b>



PARCEL D OVER GARAGE CONSTRUCTION

PARCEL E COMPLETION

DAY SKIER PARKING	
Parking Lot	Spaces
Parcel B Structured	760
Parcel E Structured	440
<b>Total Day Skier Parking</b>	<b>1200</b>



PARCEL D COMPLETION

DAY SKIER PARKING	
Parking Lot	Spaces
Parcel B Structured	760
Parcel E Structured	440
<b>Total Day Skier Parking</b>	<b>1200</b>