Parking Alternatives to Expand Lionshead Parking Garage
Design Charrette

Date of Charrette: 7 April 2010
Date of Report: 17 May 2010

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“Summary of Design”

A: Summary of Design

Lionshead Parking Garage Expansion Charrette

Existing Conditions

Greg Hall, Town of Vail, provided information on the current conditions for available parking in Lionshead. Over the 150 day ski season, there has been up to a maximum of 50 "overflow" days when parking occurs along South Frontage Road. The last two seasons have had overflow days in the mid 20's. It is the town's goal to have 15 overflow days during the ski season. In these overflow conditions there are an average of 400 cars parked along South Frontage Road with up to a maximum exceeding 1000 cars. The parking situation is not as challenged in the summer when the town's goal is to have only three overflow days. The last two years the town has exceeded 20 days in the summer, even though there were additional spaces in a garage further away from where the parking demand was being generated. The Town has a long-term goal of gaining 1,000 additional spaces by expanding parking at the existing Lionshead garage (+/-400 additional spaces), Ford Park (+/-200 additional spaces), and Ever Vail (+/-400 additional spaces).

The existing Lionshead parking structure is in an area already identified for civic uses. It is adjacent to Dobson Arena and the library. Other intended uses in this area would include a civic building for conferences/events and civic functions. The predicted remaining useful life of the existing parking structure is approximately 20 years. Currently, 25-30% of users in the parking garage are there for 1-1/2 hours. When exiting, 70% exit east, and 30% exit west. As Vail experiences greater growth and development to the west of Lionshead, more users will be exiting to the west, changing this percentage to 60% exit east and 40% exit west.

Goals for Charrette

The charrette is to focus on the following for the existing garage:

- Increase parking
- Update construction costs to current dollars
- Update feasibility/scheduling with current design
- Keep existing parking structure open during construction
- Improve vehicular access and egress onto South Frontage Road
- Allow parking structure to fill from the bottom instead of the top
- Improve circulation through existing garage (too many attendants required to control access through garage to get to open parking spaces)
- Allow for future civic use

"Givens" for Charrette

Parameters for the design of the additional parking:

- Traffic can peak with long waits to get in for a half hour in the morning; afternoon peaks to leave can create long waits as well.
- Majority Arrival time: 8:30am-1:00pm
- Majority Exit time: 1:00 pm-4:00pm
- With expansion of parking to approximately 1525 spaces, morning traffic will need 3 inbound transaction stations and 1 outbound station; afternoon traffic will need 6 outbound transaction spaces and 1 inbound station
- Current snow storage is critical to Operations; loss of it will be hard to overcome
- The study for the charrette excludes transit solutions and charter bus parking

A: Summary of Design

(continued)

Civic Use parameters include:

- Sense of arrival to building for cars and pedestrians
- Accommodate loading and delivery at podium level (assumes north parking deck of existing structure has been modified for transit, and will have turning room and structural capacity for loading and delivery to move across top deck)
- Elevators will be located in southeast corner to connect down to East Lionshead Circle and will not be within the footprint of the parking structure
- Program for one story space to be developed
- When Civic building is added, it will share parking within the structure. While there is the opportunity for shared parking, there will be coinciding demands that will reduce available skier parking by approximately 150 spaces (spaces are not "lost", they are re-allocated). The creation of a loading/valet curb at the entrance to the civic podium within the parking structure could result in the loss of 15 spaces.

Option 1: Build Level 4 South - Add +/-200 Parking Spaces

Provide an additional parking deck above the existing level 3 South parking deck. This will add approximately 200 parking spaces. To accomplish this, the four existing exit stairs must be extended, the two elevators at the Auxiliary Building will need to be extended one stop, and existing mechanical extended one level. In the central atrium, provide two new elevators to serve all levels, and restrooms on level 2. A new monumental stair will be located on the southwest and southeast corners, connecting to the existing stairs. Add a two gate exit out only from level 2 South to supplement the existing gates. Keep 400 spaces open in the summer on the north side of the structure, while the south side construction occurs. Provide snowmelt on the top new car ramps and along the sidewalk to the south of the parking structure. Snow storage will have to be pushed across a chute to the west spanning across the pedestrian access to the Frontage Road Transit Station.

<u>Option 1 – Structural Considerations:</u>

Add new precast concrete framing similar to the level 3 existing, consisting of double tee members, spandrel panels, columns, and spaced light wall panels long the existing center grid line. Add new jump ramps.

Enhancement of the existing framing will be required at the south tray to bring structure to the current building code due to the magnitude of the addition. The existing columns and foundation will require enhancements. The columns may require additional concrete and reinforcing on three sides, thickness is assumed to be an additional 5 inches each side, reinforcing estimate of 350#/cy. The foundations (existing pad footings) will require extensions (on at least two sides) and drilled in reinforcing to the existing concrete.

An option to place new columns and foundations at mid grid between the existing columns can be reviewed. The exterior elevations would appear to have twice the columns (13'-6 on center). The jointing of the bearing spandrel will not align with the existing.

A: Summary of Design

(continued)

The lateral resisting elevations will require enhancement such as additional concrete and reinforcing tied to the existing concrete decks and anchored to the foundations.

The foundations below the lateral elements may require enhancements to resist the new tension forces imposed. The use of micro-piers may be a solution at these locations.

Option 1 – Basic MEP Considerations

1. Extend existing floor/storm drain system to serve new south top deck.
2. Extend existing exhaust shafts vertically to new upper deck level.
3. Expand 'interior' lighting system to serve former south top deck to match existing.
4. Remove the existing south top deck lighting and provide lighting for new south top deck.
5. Snowmelt system to be provided for the intermediate ramps, the south sidewalk, and the southeast stairs. Hydronic PEX tubing embedded in the concrete topping slab would be served from a central snowmelt boiler plant located in the basement of the proposed Frontage Road Transit Building north of the existing structure.

Option 1A – Existing Parking Garage Enhancements – No Parking Spaces Added
Provide code upgrades to existing parking structure including life safety, proper guardrails, etc. Allow for painting interior and exterior, signage upgrades.

Option 1B – Build Level 4 North - Add an Additional +/-388 Parking Spaces
Provide another level of parking above existing level 3 north, adding approximately 188 spaces at this deck. The height of this tray should be tall enough to accommodate transit below. Access to this taller tray will require longer ramps and will slightly reduce the available parking. The cost estimate does include the upgrades to the structure to accommodate transit, as this would be the only time such work could take place to preserve the ultimate transit center solution. There is concern with how the entry/exit of the garage would function efficiently. The final concern is investing large costs into a structure with a limited life span. The MEP will be more difficult as the venting won't be a continuation of the existing on this deck as the transit center will be in the way.

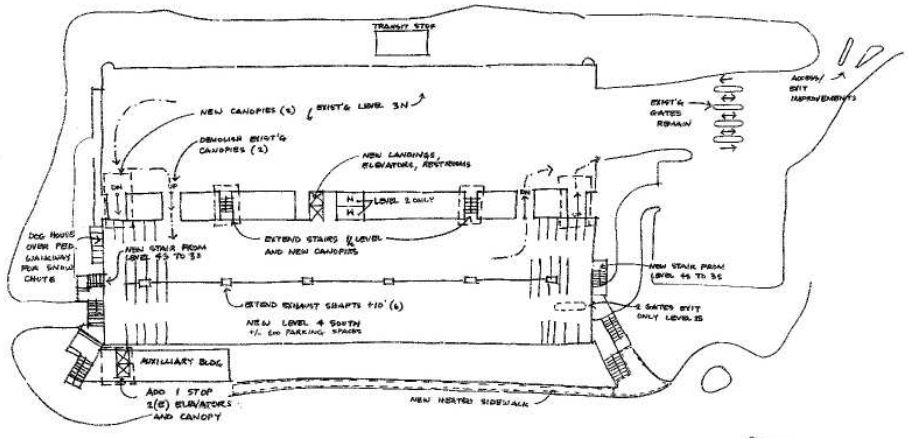
Option 1C – Build Level 5 South – Add an Additional +/-588 Parking Spaces
Adding level 5 south will not be considered nor priced, as operations and snow removal would be very difficult. It would only be considered if the ultimate transit center were implemented. The transit center results in a loss of 180 spaces that may need to be made up.

Option 1 – Construction Approach and Revenue Impacts
The impact to the operation of the existing booth pay station system and ability to maintain access to the garage varies depending on the number of Options being constructed. Option 1 is limited to the South deck. Staging for this will occur either to the west side or the east side of the south deck, allowing the pay stations and access to the north deck to remain unaffected. On-site construction is estimated at 6 months, beginning in April, and coinciding with the time frame of free parking. The expansion would be complete prior to the ski season.

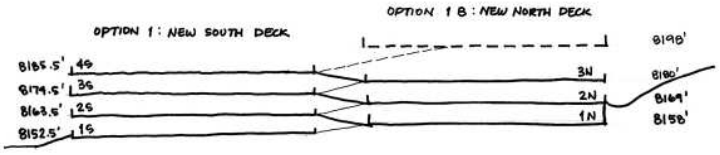
A: Summary of Design

(continued)

Option 1B extends the time of construction an additional three months, completing in January. An option to minimize impact to cost revenue includes constructing the north deck first, allowing for this deck and the pay stations to be open at the beginning of ski season. Access through the parking garage will have to be controlled to maintain separation of the visitor and construction.



Option 1 Parking Garage Plan



Option 1 Section Looking West

Option 2 Add +/- 370 Parking Spaces

To expand the parking garage to the east, what would be the most efficient, best circulation to design? The solution is to orient the plates north-south instead of east-west. The plates do match to the existing plates at the north and south landings from level 3 South and down. Level 3 North will not be built, as there is no headroom below the podium level. Entry will be at level 3 South with seven gates and will circulate down the west aisle. When filling the garage, the access to the existing garage could be "coned" off, immediately sending traffic down to the lowest level. The ramps connecting to the existing garage will have a 3% or less slope – barely discernable. The entry outside of the parking garage will require snowmelt.

Due to the grades on the east side of new garage, a large retaining wall (15-25 feet tall) will be needed at the point of vehicular access off of South Frontage Road. East Lionshead Circle will be reconstructed slightly east to allow for the full parking plate. A retaining wall along South Frontage Road will be about 20 feet tall for a length of 600 feet. A new monumental stair to the south will be added. Restrooms will be located on levels one and three, each with three water closets. Two elevators will also be provided in this area. The shuttle turn-around would be relocated to the west, in front of the existing parking garage.

A: Summary of Design

(continued)

During construction, access to existing parking structure will be via bridge connection from South Frontage Road to the existing level 3 North. This bridge would remain and be designed as part of transit access to the existing level 3 North. When the podium building is constructed, it will close off the sides of the parking structure, so the garage will be designed as a closed garage. Should the existing garage be torn down to build a new garage, the new garage would continue the north-south bays.

Option 2 – Structural Considerations:

The new structure will be designed for the current IBC per the Town of Vail. The proposed new framing will be founded on a pad footing system bearing on the native bearing material per the recommendations of the geotechnical consultant. The exterior foundation and retaining walls will be cast-in-place concrete on continuous footings.

Construction of the parking garage can be either a precast concrete system similar to the existing Lionshead parking structure, or cast-in-place concrete. The precast product can be in fabrication while earthwork and foundations are being constructed. This will help with the short construction schedule. Cast-in-place concrete does not add significant time to the construction schedule, and allows the mobilization of one concrete contractor instead of two. The cost estimate has been priced as cast-in-place concrete, as its pricing is more reliable at this time. We would recommend a value analysis be completed at the end of Schematic Design before proceeding with one system or the other.

The new structure should be designed for future options such as podium level loading to accommodate both the gravity and lateral load requirements.

Option 2 – Basic MEP Impacts

1. Provide new floor/storm drain system similar to existing to serve expanded area. A new sand & oil interceptor will likely be necessary.
2. Fire suppression system is anticipated since the ultimate design of the parking structure will be enclosed. System could be installed at future date.
3. Space heating is not anticipated.
4. Snowmelted area will include the vehicular entrance/exit to the garage. Hydronic PEX tubing embedded in the concrete topping slab would be served from a central snowmelt boiler plant located in the basement of the proposed Frontage Road Transit Building north of the existing structure.
5. Provide exhaust/ventilation system to include exhaust fans with some architectural louvered housing. Intake air would be pulled in through base architectural/structural openings. The system would be controlled from a distributed carbon monoxide sensor system. System capacity would be approximately 0.75 cfm/sf.
6. Expand existing fire alarm system to serve new area.
7. A new electrical service would provide power to new mechanical equipment, new elevators, and new lighting.
8. Lighting systems similar to the existing structure to serve the expanded area.
9. Four new restrooms:
    a. 12 low flow toilets/urinals total
    b. 4 low flow lavatories total
    c. Floor drains in each restroom

d. New domestic cold water, sanitary/waste, and vent services
e. Central 20-gallon electric water heater to serve all restrooms
f. Ventilation/exhaust via 1,000cfm heat recovery ventilator. A single unit is anticipated to serve all restrooms
g. Flush mounted wall/ceiling electric unit heaters in each restroom.
h. Fluorescent lighting
i. Convenience receptacles

Option 2A
Provide improvements to the existing parking structure to match option 1B. The code improvements will be desirable due to increased access. Aesthetic improvements will provide a cohesive look and design.

A: Summary of Design

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Option 2B – Add +/- 450 Parking Spaces
Excavate one level down on the north to become level 0 north. This would allow an additional 80 spaces. An exit stair will need to be extended down to this level. At Level 1, along the east face of the existing structure, underpinning and modifications to the existing foundations and concrete wall will be required. The existing footings bear approximately four foot below the existing slab elevations. The new elevation of the footing enhancement will be a minimum of three feet below the elevation of the new slab-on-grade.

Option 2C - Podium Design with future Civic Use – Add 405 Parking Spaces
A podium is proposed over the new parking structure to house Vail civic uses, including a banquet hall for receptions, entertainment, and conferences, and additional meeting rooms. The podium could be built at the same time the parking garage is constructed, as this will provide protection to the parking structure and eliminate the need to snowplow the top level of the structure. Due to the slope of the site at the garage access, the podium is not the size of the entire garage footprint. The approximate size of the podium is 49,000+ square feet. The actual square footage will have to be verified with the final elevation set for the podium and depth of structure to support the podium.

When the Civic Building is built on top of the podium, it is proposed that the building overlap the south face of the parking structure, creating an enclosed parking garage. This will also bring an entry and some functions down to East Lionshead Circle. Within the parking structure at level 1 South, a passenger drop-off/valet curb could be created, but will eliminate 15 parking spaces. Loading and delivery would occur on the existing level 3 North, resulting in the loss of 30 parking spaces. The loss of spaces will not occur until the Civic Building is constructed.

Should the Town elect to build the podium prior to constructing the civic building, there are several design issues that will have to be considered. The structure will have to be designed with minimal camber yet be able to take the additional load of the future building. A temporary roof will be needed to protect the structure. A "green roof" of native grasses could provide an aesthetic and sustainable option but will require temporary irrigation to establish the grasses, and will require drainage. Planting the native grasses on 2 feet of soil will replicate the future live load and will help minimize curling of the structure. A fence with gate at the existing level 3 North parking deck would provide protection and access to the podium. The remaining open sides will need a guardrail to provide protection during roof maintenance.

A: Summary of Design

(continued)

It is recommended to wait to construct the podium. This allows for the most efficient structure to be designed and built. Code requirements will continue to change, and the design for the podium may no longer meet code. If it were not constructed at the same time as the parking garage, the podium would need to be built during the summer, allowing the parking garage to be open again for ski season. This would require a temporary access point during construction. The construction would require shoring from the lower levels of the garage.

Option 2 – Construction Approach and Revenue Impacts

The impact to the operation of the existing pay station system and ability to maintain access to the garage varies depending on the number of parking spaces to be constructed. Option 2 requires access to be provided to the north side of the existing parking structure, off of South Frontage Road. This will be the access to the parking structure while the new garage is being constructed, and it will also provide the loading and delivery access once the civic building is constructed. On-site construction is estimated at seven and a half months, beginning in April and concluding at the beginning of December. The pay stations could be temporarily located to the existing level 3 North, reducing the available parking until early December.

Option 2B extends the time of construction an additional two months, completing in February. This is due to the additional excavation required. The pay stations could be temporarily located to the existing level 3 North, reducing the available parking until early February.

Option 2C extends the time of construction an additional two months, completing in April. An additional month would be needed for cure time prior to surcharging the podium with topsoil. This would allow the native grasses to be planted in May, with the opportunity to mature through the summer. The pay stations would continue to operate on the existing level 3 North, reducing the available parking on this deck until April. It may be possible to access the lower levels of the new parking garage during construction of the podium.

A: Summary of Design

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Town of Vail Civic Building Program — 27 April 2010

Description	Occupants	S.F./Occ.	Program Area	Quantity	Subtotal
Event/Banquet Hall					
Banquet	1000	18	18,000	1	18,000
Lecture	1285	14	17,990		
Reception	2000	9	18,000		
divisible into smaller group functions					
Prefunction/Exhibit Space			6000	1	6,000
Meeting Rooms					
seating 75 professionals	75	18	1,350	4	5,400
state of the art AV					
divisble by three					
Subtotal Function Spaces					**29,400**
Support Functions					
Storage					2,750
A/V Storage					850
Banquet/Warming Kitchen					6,000
Restrooms					1,200
Business Center					500
Facilities Manager					600
Circulation					4,500
Loading and Delivery					6,000
3 berths/1 trash bay					
Subtotal Function and Support Spaces					**45,800**
Exterior Functions					
Outdoor Terrace					4,500
Loading and Delivery					1,000
Subtotal Exterior Spaces					**5,500**
Total Program Area					**51,300**
Developable Square Footage for Civic Building					
Area Available at Podium Elevation					49,000
factor to reduce developeable area to accommodate bldg setbacks as req'd by Master Plan				0.9	44,100
Addt'l Area South of Garage					7,800
Total Developable Square Footage					51,900

A: Summary of Design

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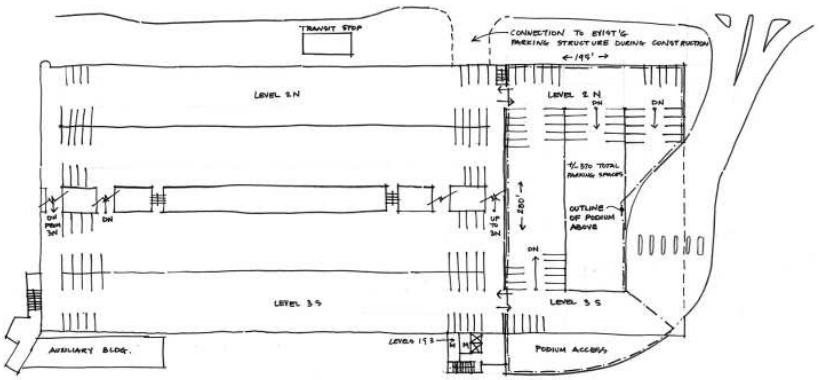
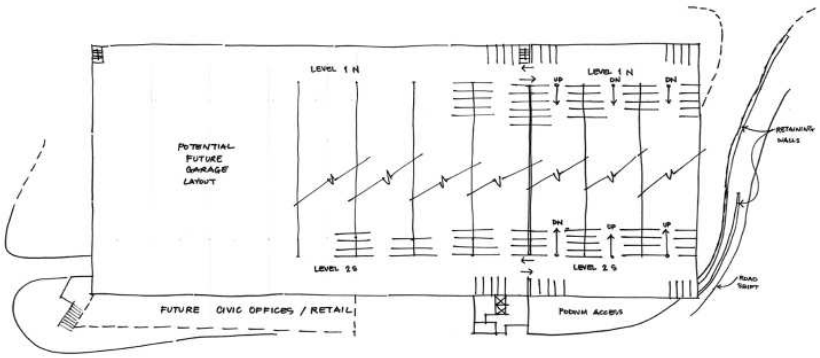
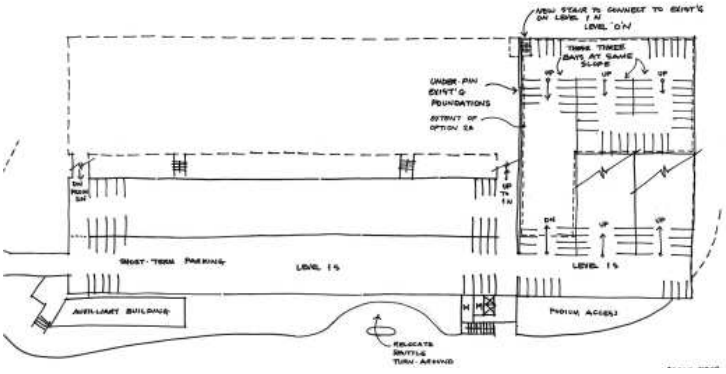


Option 2 Vehicle Entry Level 3 South
During construction, pay kiosks will be relocated to existing level 3 North, as shown in Convention Center design.



Option 2 Level 2 South



Option 2 Level 1 South

A: Summary of Design

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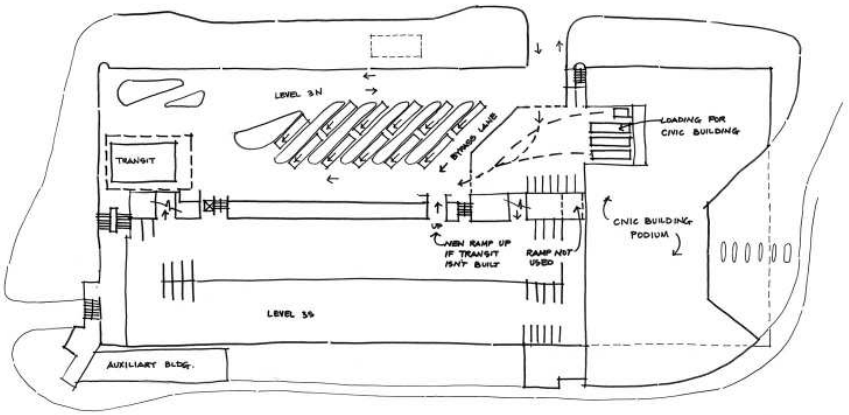
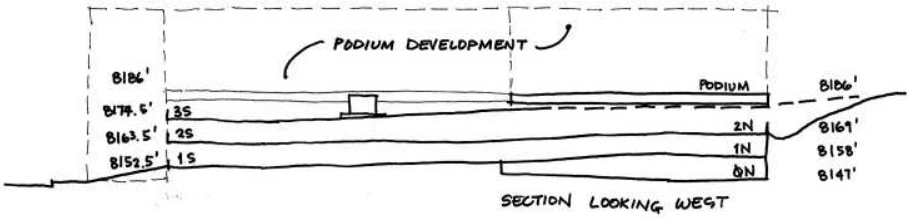


Option 2 C showing podium design, the ¨ultimate transportation center" located on level 3 North, and loading/delivery for future civic building.



Option 2 Section Looking West

Option 3

This option explores extending the existing parking level plates to the east. Access will be at level 3 south. This does not improve circulation, and does not encourage filling the garage from the bottom. This option was not priced, as it is not an improvement on Option 2.

ToV's LH East Parking Addition Options
Option Summary (Average)

Updated 17 MAY 10
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Description		Hard Costs	Soft Costs	Total Cost	Spaces	$/Space
Option 1						
Option 1	**Add Deck @ Level 4S @ Existing (w/o Code Upgrades @ Existing)**	15,054,606	3,010,921	**18,065,527**	**200**	**90,328**
Option 1A	**Add Deck @ Level 4S @ Existing Plus Code Upgrades to Existing Structure**	18,783,161	3,756,632	**22,539,793**	**200**	**112,699**
Option 1B	**Add Deck @ Level 4S & Level 4N @ Existing (w/ Code Upgrades @ Existing Structure)**	32,122,013	6,424,403	**38,546,416**	**388**	**99,346**
Option 2						
Option 2	**New East Parking Structure (w/o Code Upgrades @ Existing)**	23,490,073	4,698,015	**28,188,088**	**370**	**76,184**
Option 2A	**New East Parking Structure Plus Code Upgrades @ Existing Structure**	27,254,789	5,450,958	**32,705,747**	**370**	**88,394**
Option 2B	**Add Below Grade Parking Level 0N (w/ Code Upgrades @ Existing Structure)**	30,150,275	6,030,055	**36,180,330**	**450**	**80,401**
Option 2C	**Additional Podium @ New East Parking Structure Plus Option 2B**	36,827,611	7,365,522	**44,193,133**	**450**	**98,207**

Clarifications:

1. All costs are in Q1/2010 Dollars.
2. The estimate excludes: escalation, improvements to infrastructure not adjacent to the existing parking structure, purchase of land or easements, and financing costs.
3. Option 1 assumes completion of the Transit Center, Auxiliary Building and "West In / West Out" scope of work is with other budgets.
4. Option 2C does not include hard or soft costs for the Transit Center, and assumes structural grid from parking structure is at this level (no transfer girders included).
5. When the civic building is constructed on the podium, 45 spaces will be lost for loading/delivery and pedestrian drop-off, in addition to the reallocation of 150 spaces for civic use.

ToV's LH East Parking Addition Options
Scenario Summary

Updated 17 MAY 10
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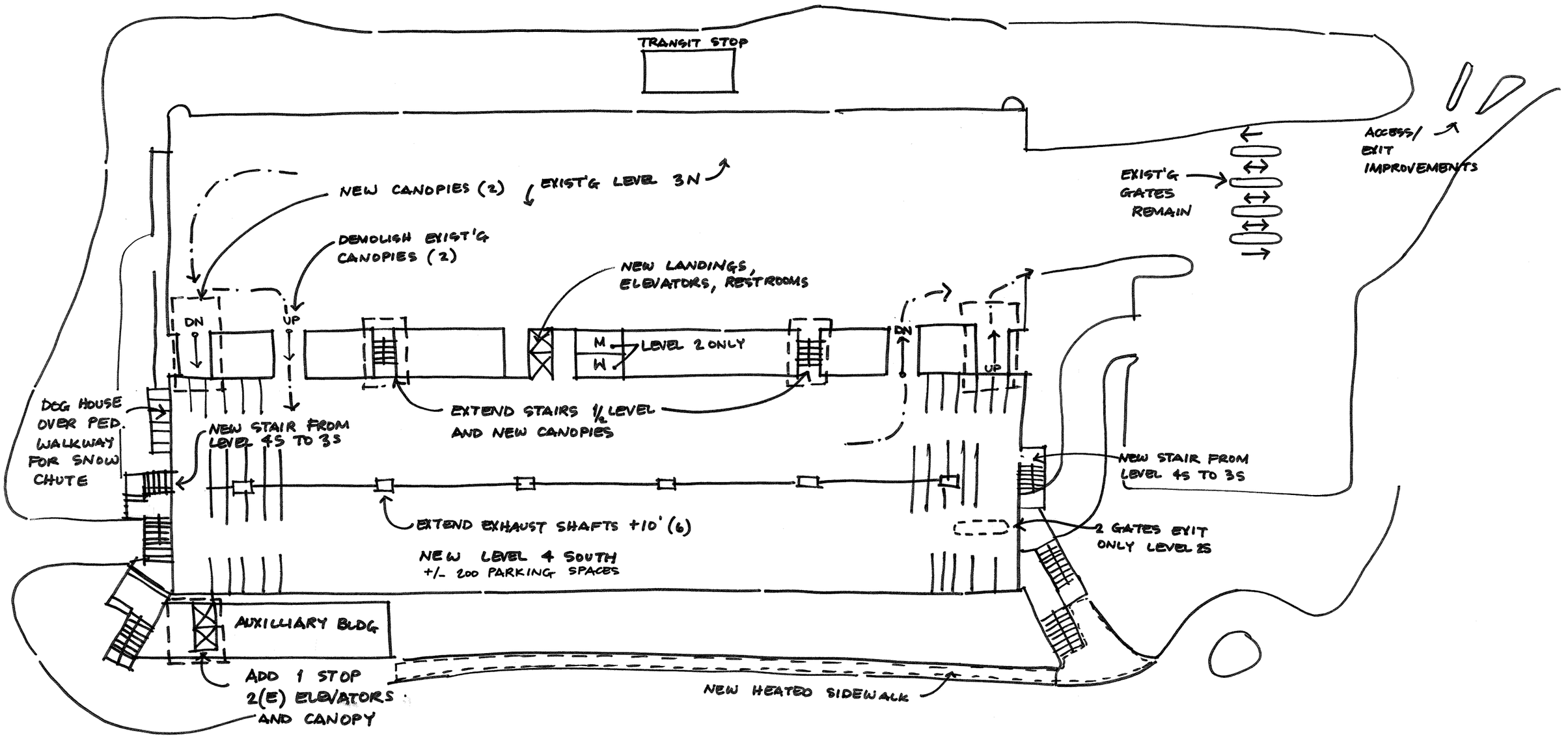
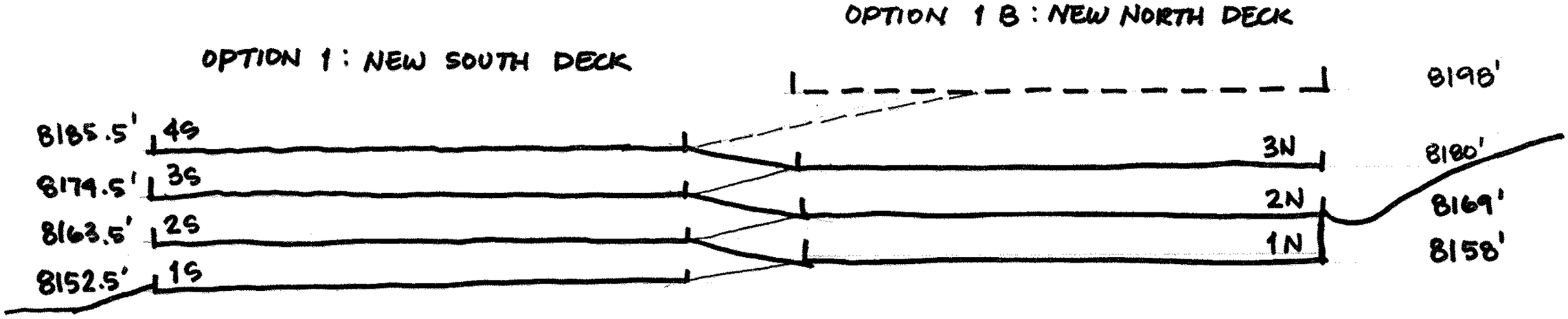
Scope of Work	Scenario													
	Option 1 Add Deck @ Level 4S @ Existing (w/o Code Upgrades @ Existing)		**Option 1A** Add Deck @ Level 4S @ Existing Plus Code Upgrades to Existing Structure		**Option 1B** Add Deck @ Level 4S & Level 4N @ Existing (w/ Code Upgrades @ Existing Structure)		**Option 2** New East Parking Structure (w/o Code Upgrades @ Existing)		**Option 2A** New East Parking Structure Plus Code Upgrades @ Existing Structure		**Option 2B** Add Below Grade Parking Level 0N (w/ Code Upgrades @ Existing Structure)		**Option 2C** Additional Podium @ New East Parking Structure Plus Option 2B	
	Low Range	High Range	Low Range	High Range	Low Range	High Range	Low Range	High Range	Low Range	High Range	Low Range	High Range	Low Range	High Range
Hard Construction Cost	10,490,694	11,802,031	13,040,257	14,670,290	22,456,178	25,263,200	16,223,402	18,251,327	18,762,965	21,108,336	20,710,593	23,299,417	25,455,251	28,637,157
GC Onsite Overhead, Off Site Overhead & Fee	1,071,297	1,991,593	1,471,297	2,475,611	2,086,028	4,263,165	2,074,276	3,079,912	2,574,276	3,562,032	2,974,276	3,931,777	3,195,883	4,832,520
Contingency @ 20%	2,098,139	2,655,457	2,608,051	3,300,815	4,491,236	5,684,220	3,244,680	4,106,549	3,752,593	4,749,376	4,142,119	5,242,369	5,091,050	6,443,360
Construction Cost Total	**13,660,131**	**16,449,081**	**17,119,606**	**20,446,716**	**29,033,441**	**35,210,585**	**21,542,359**	**25,437,788**	**25,089,834**	**29,419,743**	**27,826,988**	**32,473,563**	**33,742,184**	**39,913,038**
Escalation (All Costs in 2010 Dollars)	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded
Offsite Improvements to Infrastructure	Adjacent Upgrades Only		Adjacent Upgrades Only		Adjacent Upgrades Only		Adjacent Upgrades Only		Adjacent Upgrades Only		Adjacent Upgrades Only		Adjacent Upgrades Only	
Purchase of Land or Easements	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded
Architecture + S\M\E Engineering Fees	1,024,510	1,233,681	1,283,970	1,533,504	2,177,508	2,640,794	1,615,677	1,907,834	1,881,738	2,206,481	2,087,024	2,435,517	2,530,664	2,993,478
Civil Engineering and Landscape Architecture	w/ Above	w/ Above	w/ Above	w/ Above	w/ Above	w/ Above	w/ Above	w/ Above	w/ Above	w/ Above	w/ Above	w/ Above	w/ Above	w/ Above
Geotechnical Engineering & Mat'l Testing	341,503	411,227	427,990	511,168	725,836	880,265	538,559	635,945	627,246	735,494	695,675	811,839	843,555	997,826
Other Owner Soft Costs (Project Controls, Legal, Etc.)	819,608	986,945	1,027,176	1,226,803	1,742,006	2,112,635	1,292,542	1,526,267	1,505,390	1,765,185	1,669,619	1,948,414	2,024,531	2,394,782
Permits, Tap Fees or other Government Costs	409,804	493,472	513,588	613,401	871,003	1,056,318	646,271	763,134	752,695	882,592	834,810	974,207	1,012,266	1,197,391
Financing Costs	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded
Site Furnishings, IT & Equipment	136,601	164,491	171,196	204,467	290,334	352,106	215,424	254,378	250,898	294,197	278,270	324,736	337,422	399,130
Public Art @ 1% of Construction Cost Total	136,601	164,491	171,196	204,467	290,334	352,106	215,424	254,378	250,898	294,197	278,270	324,736	337,422	399,130
Project Total	**16,528,758**	**19,903,388**	**20,714,724**	**24,740,526**	**35,130,464**	**42,604,808**	**26,066,254**	**30,779,723**	**30,358,700**	**35,597,889**	**33,670,655**	**39,293,011**	**40,828,043**	**48,294,776**

Insert Tab B here

“Option 1”



A. **Option 1** Parking Garage Plan



A. **Option 1** Section Looking West

ToV's LH East Parking Addition Options
Option 1 Detail

Updated 17 MAY 10
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Scope of Work	Cost		
	Quantity	Unit Cost	Total Price
Option 1: Base Design			
Sitework			
Demolish Existing Canopies	2 EA	25,000.00	50,000
Demo Tourist Info Building	1 LS	50,000.00	50,000
Pedestrian Hardscape @ South Side of Parking (Allowance) (Includes Snowmelt)	5,157 SF	48.00	247,536
Vehicular Paving & Pedestrian Paving @ SFR (Allowance)	1 LS	500,000.00	500,000
Wet & Dry Utility Relocations (Allowance)	1 LS	150,000.00	150,000
Landscaping (Allowance)	1 LS	150,000.00	150,000
16'-0"H Retaining Wall @ East Side of Existing Parking (ELC)	600 LF	3,890.03	2,334,017
Parking Ticket Booth, Ticket Equipment & Exit Only Gates (Allowance)	2 EA	75,000.00	150,000
Existing Building			
Add New Stairs @ East Side of Level 3S (120 LF Riser)	1 EA	50,000.00	50,000
Add New Stairs @ West Side of Level 3S (130 LF Riser)	1 EA	50,000.00	50,000
Wing Walls @ Stairs	800 SF	24.15	19,320
Spread Footers @ Wing Walls @ 4'-0" OC	5 EA	325.00	1,625
ToV Spec Stone Veneer @ New Wing Walls	800 SF	42.10	33,680
Extend Existing Stairs 1/2 Level	2 EA	20,000.00	40,000
Landings @ New Elevators @ Center of Parking Structure	4 EA	50,000.00	200,000
Snow Shed "Dog House" @ West End Pedestrian Walkway	400 SF	80.00	32,000
Canopy @ 1-Stop Elevator	1 EA	15,000.00	15,000
Canopy @ SW Corner of Level 3N	2 EA	15,000.00	30,000
Restrooms @ Center of Parking Structure @ Level 2	2 EA	150,000.00	300,000
Extend Existing Elevator (1-Stop) @ New Auxiliary Building	2 EA	200,000.00	400,000
Elevators @ Center of Parking Structure	2 EA	400,000.00	800,000
Extend Exhaust Shafts 10'	60 LF		w/ Mechanical
Mechanical Allowance (See 'OP1 Mechanical Detail')	1 LS	128,160.72	128,161
Electrical System (See 'OP1 Electrical Detail')	1 LS	165,343.30	165,343
New Parking Deck			
12" Perforated CIP Concrete Bearing Wall @ Level 3S to Include:			
Dowel Rebar @ Existing Perforated Wall	960 EA	150.00	144,000
Rebar (90#/CY)	10,133 LBS	1.15	11,653
Formwork @ Wall	9,600 SFCA	8.10	77,760
Formwork @ 5'-6" Dia. Perforations	7,699 SFCA	16.13	124,188
Concrete Material	107 CY	125.00	13,333
Place Concrete	107 CY	35.00	3,733
1'-0" x 2'-6" CIP Concrete Beam @ Perforated Wall to Match Existing @ Level 3S to Include:			
Formwork	2,880 SFCA	15.00	43,200
Rebar (70#/CY)	747 LBS	1.15	859

Scope of Work	Cost		
	Quantity	Unit Cost	Total Price
Concrete Material	11 CY	190.00	2,027
Place Concrete	11 CY	150.00	1,600
Structural Upgrades @ Existing Concrete Pads Below Level 1S to Include:			
Sawcut Existing Deck	52 EA	1,200.00	62,400
Excavation	52 CY	50.00	2,600
Dowel Rebar @ Existing Pads	208 EA	150.00	31,200
Rebar (50#/CY)	1,733 LBS	1.15	1,993
Formwork @ Existing Pad Extension	1,300 SFCA	19.32	25,116
Concrete Material	35 CY	150.00	5,200
Place Concrete	35 CY	85.00	2,947
Structural Upgrades @ Existing Columns Below New Level 4S to Include:			
Sawcut Existing Deck	156 EA	800.00	124,800
Dowel Rebar @ Existing Columns	2,808 EA	150.00	421,200
Formwork @ Existing Columns	17,160 SFCA	25.00	429,000
Rebar (350#/CY)	33,367 LBS	1.55	51,718
Concrete Material	95 CY	150.00	14,300
Place Concrete	95 CY	85.00	8,103
2'-6"x 2'-6" Structural Columns @ Level 4S to Include:			
Sawcut Existing Deck	52 EA	800.00	41,600
Dowel Rebar @ Existing Columns	208 EA	150.00	31,200
Formwork	5,720 SFCA	20.00	114,400
Rebar (350#/CY)	11,122 LBS	1.55	17,239
Concrete Material	32 CY	150.00	4,767
Place Concrete	32 CY	85.00	2,701
New Deck Level 4S @ South Parking to Include:			
New CIP Concrete PT Cap Slab	60,000 SF	26.14	1,568,400
New CIP Concrete Structural Ramp System	1,200 SF	34.21	41,052
Snowmelt @ Above CIP Concrete Ramp			w/ Mechanical
Waterproof System @ Above Slab	60,000 SF	7.75	465,000
Railings, Striping & Signage (Allowance)	1 LS	487,872.00	487,872
Architectural Detailing (Allowance)	1 LS	200,000.00	200,000
Expansion Joints	420 LF	40.12	16,850
Subtotal Option 1: Base Design			**10,490,694**
Add Alternate #1 - Option 1A: Existing Parking Upgrades			
Life Safety Upgrades (Allowance)	1 LS	500,000.00	500,000
Ventilation Upgrades (Allowance)	1 LS	400,000.00	400,000
CO2 Detection	1 LS	15,000.00	15,000
Clean & Restripe Existing North & South Garage	369,600 SF	1.20	443,520
Re-Caulk & Reseal Existing North & South Garage	369,600 SF	2.65	979,440
Wash & Paint Existing Garage Walls w/ Epoxy Paint	68,730 SF	1.10	75,603
Add for Graphics @ Walls (Allowance)	30 EA	2,000.00	60,000
Add for New Signage (Allowance)	600 EA	110.00	66,000

Scope of Work	Cost		
	Quantity	Unit Cost	Total Price
New FA Panel @ Existing Structure to Replace Existing	1 LS	10,000.00	10,000
Subtotal Add Alternate A			**2,549,563**
Subtotal Option 1A: Existing Parking Upgrades Plus Option 1			**13,040,257**
Add Alternate #2 - Option 1B: Additional Deck @ Levels 4N & 4S			
12" Perforated CIP Concrete Wall @ Level 3N to Include:			
Dowel Rebar @ Existing Perforated Wall	960 EA	150.00	144,000
Rebar	10,133 LBS	1.15	11,653
Formwork @ Wall	9,600 SFCA	8.10	77,760
Formwork @ 5'-6" Dia. Perforations	7,699 SFCA	16.13	124,188
Concrete Material	107 CY	125.00	13,333
Place Concrete	107 CY	35.00	3,733
2'-0" x 2'-6" CIP Concrete Beam @ Perforated Wall @ Level 3N to Include:			
Formwork	3,360 SFCA	15.00	50,400
Rebar (70#/CY)	747 LBS	1.15	859
Concrete Material	11 CY	190.00	2,027
Place Concrete	11 CY	150.00	1,600
Structural Upgrades @ Existing Concrete Pads Below Level 1N to Include:			
Sawcut Existing Deck	52 EA	1,200.00	62,400
Excavation	52 CY	50.00	2,600
Dowel Rebar @ Existing Columns	208 EA	150.00	31,200
Formwork @ Existing Pad	1,300 SFCA	1.15	1,495
Rebar (90#/CY)	3,120 LBS	19.32	60,278
Concrete Material	35 CY	150.00	5,200
Place Concrete	35 CY	85.00	2,947
Structural Upgrades @ Existing Columns Below New Level 4N to Include:			
Sawcut Existing Deck	156 EA	800.00	124,800
Dowel Rebar @ Existing Columns	2,808 SF	150.00	421,200
Formwork @ Existing Columns	17,160 SFCA	25.00	429,000
Rebar (350#/CY)	33,367 LBS	1.55	51,718
Concrete Material	95 CY	150.00	14,300
Place Concrete	95 CY	85.00	8,103
2'-6"x 2'-6" Structural Columns @ Level 4N to Include:			
Sawcut Existing Deck	52 EA	800.00	41,600
Dowel Rebar @ Existing Columns	208 EA	150.00	31,200
Formwork	5,720 SFCA	20.00	114,400
Rebar (350#/CY)	11,122 LBS	1.55	17,239
Concrete Material	32 CY	150.00	4,767
Place Concrete	32 CY	85.00	2,701
New Deck Level 4N @ North Parking to Include:			
New CIP Concrete PT Cap Slab	60,000 SF	26.14	1,568,400
New CIP Concrete Structural Ramp System	1,200 SF	34.21	41,052
Snowmelt @ Above CIP Concrete Ramp			w/ Mechanical
Waterproof System @ Above Slab	60,000 SF	7.75	465,000
Railings, Striping & Signage (Allowance)	1 LS	487,872.00	487,872
Top Deck Replacement / Structural Upgrades @ Level 3N (Per Fall 2009 Estimate)	1 LS	4,486,539.52	4,486,540

ToV's LH East Parking Addition Options
Option 1 Detail

Updated 17 MAY 10
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Scope of Work	Cost		
	Quantity	Unit Cost	Total Price
Architectural Detailing (Allowance)	1 LS	200,000.00	200,000
Expansion Joints	420 LF	40.12	16,850
Mechanical System (Allowance)	1 LS	128,160.72	128,161
Electrical System (Allowance)	1 LS	165,343.30	165,343
Transit Center, Vehicular Paving & Other Associated Improvements			Excluded
Subtotal Add Alternate B			**9,415,920**
Subtotal Option 1B: Additional Deck @ Levels 4N & 4S			**22,456,178**

Description	Quantity		Unit Cost	Total Cost
Division 15000 - Mechanical				
Division 15300 - Fire Protection				
Fire Protection (Allowance)	60,000	SF	2.50	150,000.00
			Subtotal Division 15300	**150,000**
Division 15400 - Plumbing				
Below ground waste and vent	210	LF	52.45	11,014.33
Above ground waste and vent	595	LF	39.99	23,796.33
Domestic waster piping	200	LF	30.35	6,069.14
Gas Piping	15	LF	49.14	737.10
4" Water Service	1	EA	2,133.43	2,133.43
Misc Fixture material	1	LS	255.76	255.76
Water Closet	1	EA	909.45	909.45
Water Closet (Handicap)	2	EA	938.94	1,877.88
Lavatories	2	EA	715.27	1,430.53
Waterless Urinal	1	EA	857.83	857.83
20 gallon elec water heater	1	EA	678.40	678.40
Circulation pump	1	EA	247.03	247.03
Elevator Sump Pump	1	EA	764.41	764.41
Restroom floor drains	2	EA	164.69	329.37
Parking garage drains	10	EA	322.00	3,220.01
Excavation and backfill	1	LS	3,264.00	3,264.00
Mechanical Insulation	1	LS	2,266.67	2,266.67
Plumbing Controls	1	LS	400.00	400.00
Test & Balance	1	LS	173.33	173.33
Startup	1	LS	286.67	286.67
			Subtotal Division 15400	**60,712**
Division 15500 - HVAC				
Heating water piping	735	LF	45.87	33,712.54
Misc Piping	1	LS	176.58	176.58
Added Boiler Capacity	1	EA	26,396.16	26,396.16
heating circulation pump	1	EA	644.17	644.17
Low pressure exhaust ductwork	99	LBS	8.71	861.46
Misc Sheetmetal	1	LS	780.09	780.09
HRV exh / ventilation	1	EA	1,252.49	1,252.49
Elec unit heaters	2	EA	1,086.74	2,173.49
Hydronic snowmelt	1	LS	318,479.00	318,479.00
Exhaust Registers	2	EA	116.10	232.20

Description	*Quantity*	*Unit Cost*	*Total Cost*
Intake / exhaust grilles	2 EA	128.19	256.37
Intake louvers	20 SF	69.36	1,387.19
Piping Insulation	1 LS	7,044.00	7,044.00
CO Detection System			Excluded
Hydronic Controls	1 LS	600.00	600.00
HVAC Controls	1 LS	300.00	300.00
Hydronic Startup	1 LS	346.67	346.67
HVAC Startup	1 LS	173.33	173.33
Hydronic Test and Balance	1 LS	433.33	433.33
HVAC Test and Balance	1 LS	733.33	733.33
SYSTEM COMMISSIONING	1 LS	15,716.64	15,716.64
		Subtotal Division 15500	**411,699**
Division 15000 - Deduct			
Deduct for Mechanical Scope in Allowances Elsewhere	1 LS	(347,250.00)	(347,250.00)
Delete Add'l Snowmelt Not Required	1 LS	(147,000.00)	(147,000.00)
		Subtotal Division 15000	**128,161**

Total Construction Costs	**128,161**

Description	*Quantity*		*Unit Cost*	*Total Cost*
Division 16000 - Electrical				
Ground Fault Receptacle	6	EA	63.19	379.12
Connection to gate	2	EA	157.59	315.18
1/2" EMT With 3-#12	1,800	FT	5.12	9,224.82
Dual Head Shoe Box Pole Light	8	EA	1,904.54	15,236.30
Metal Halide Garage Light	130	EA	425.84	55,358.88
Emergency Frog-Eye Fixture	20	EA	89.55	1,790.96
8" Recess Downlight, Open Alzak Trim, PL Lamp	22	EA	183.83	4,044.27
Open Channel 4' Staggered Strip	10	EA	101.85	1,018.48
4' Wall Bracket Surface Light	4	EA	157.01	628.02
Exit Light LED w/ battery X1	8	EA	160.11	1,280.86
Occupancy sensor	2	EA	258.18	516.36
1/2" EMT WITH 3-#12	6,200	FT	5.12	31,774.38
1/2" EMT WITH 6-#12	1,500	FT	5.82	8,728.43
Demo	1	LOT	2,695.80	2,695.80
New Breakers in existing panels	1	LOT	1,971.60	1,971.60
ADA Speaker Strobe Light	12	EA	177.04	2,124.50
ADA Strobe Only	2	EA	145.69	291.38
Smoke Detector	2	EA	181.48	362.97
Pull Station	2	EA	136.80	273.61
Testing/Drawings	1	LOT	1,277.51	1,277.51
16-2 Plenum Cable for Data Loop	1,200	FT	0.75	903.27
14-2 Plenum Cable for Horns	1,200	FT	0.79	951.56
1/2" EMT	1,200	FT	2.28	2,735.93
Exhaust Fan 1ph 20 amp	2	EA	505.96	1,011.92
Electric Cabinet Unit Heater 3ph 40 amp	2	EA	812.25	1,624.50
Electric Water Heater 3 ph 40 amp	1	EA	601.01	601.01
Return Pump 3 ph 20 amp	4	EA	929.93	3,719.73
Tools	1	EA	485.91	485.91
Fork lift	1	EA	603.56	603.56
Project Management	1	EA	13,412.50	13,412.50
			Subtotal Division 16000	**165,343**

Total Construction Costs	**165,343**

ToV's LH East Parking Addition Options
New Deck Summary

Updated 17 MAY 10
Printed on 5/17/2010 at 10:51 AM

Project: Lionshead Transit Station Top Deck Replacement

Estimate By: NJV
Date: 17-May-10

Reviewed By: CS
Date: 17-May-10

Division	Description	Total Costs	Total Net	
A10	Foundations	7,760	11,349	
B10	Superstructure	1,683,959	2,462,810	
B20	Exterior Enclosure	409,140	598,372	
D20	Plumbing	35,235	51,532	
D50	Electrical	383,460	560,815	
G10	Site Preparation	97,180	142,127	
G90	Other Site Construction/Demolition	450,960	659,535	
	Subtotal Direct Construction Costs	**3,067,694**	**4,486,540**	
	Location Factor (6.0 Percent)	190,197		
	Design Contingency (15 Percent)	460,154		
	Total Direct Construction Cost	**3,718,045**		
	Additional General Conditions	768,495		
	Subtotal Net Construction Cost	**4,486,540**		
	Overhead (10 Percent)	w/ Summary		
	Profit (3 Percent)	w/ Summary		
	Estimated Net Construction Cost	**4,486,540**		
	Inflation Escalation (6 Months)	w/ Summary		
	Total Estimated Net Cost of Construction @ Full Plate	**4,486,540**		**< Option 1B**
	Total Estimated Net Cost of Construction @ 33% Only	**1,495,513**		**< Option 2C**

ToV's LH East Parking Addition Options
New Deck Detail

Updated 17 MAY 10
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Description	Quantity		Total	
			Unit Cost	Total
A10. Foundations				
Ramp Walls	160	SF	48.50	7,760
Subtotal A10. Foundations				7,760
B10. Floor Construction				
Repair Columns	184	MH	112.50	20,700
Repair Wall Column	432	LF	250.00	108,000
Reinstall Embeds	63	EA	150.00	9,450
New Beams	116	LF	224.00	25,984
New Double Tees	60,750	SF	14.75	896,063
Field Finishing	320	MH	93.75	30,000
Paint Connections	120	MH	78.75	9,450
Caulking	1	Allow	30,375.00	30,375
Sealing	60,750	Allow	1.02	61,965
8" Topping Slab	60,750	SF	7.27	441,410
Striping	60,750	SF	0.75	45,563
Signage	1	LS	5,000.00	5,000
Subtotal B10. Floor Construction				1,683,959
B20. Superstructure: Exterior Enclosure				
Spandrels	9,092	SF	45.00	409,140
Subtotal B1020. Exterior Enclosure				409,140
D20. Plumbing				
Drain Piping	60,750	SF	0.58	35,235
Subtotal D20. Plumbing				35,235
D50. Electrical				
Light Poles	24	EA	790.00	18,960
Fluorescent Fixtures (54 fixtures/5000SF)	60,750	SF	4.75	288,563
Electrical Wiring	60,750	SF	1.25	75,938
Subtotal D50. Electrical				383,460
G10. Site Preparation				
Shoring/Guying	300	MH	170.87	51,260
Drill Holes - Lifting	656	EA	70.00	45,920
	-			
Subtotal G10. Site Preparation				97,180
G90. Other Site Construction/Demolition				

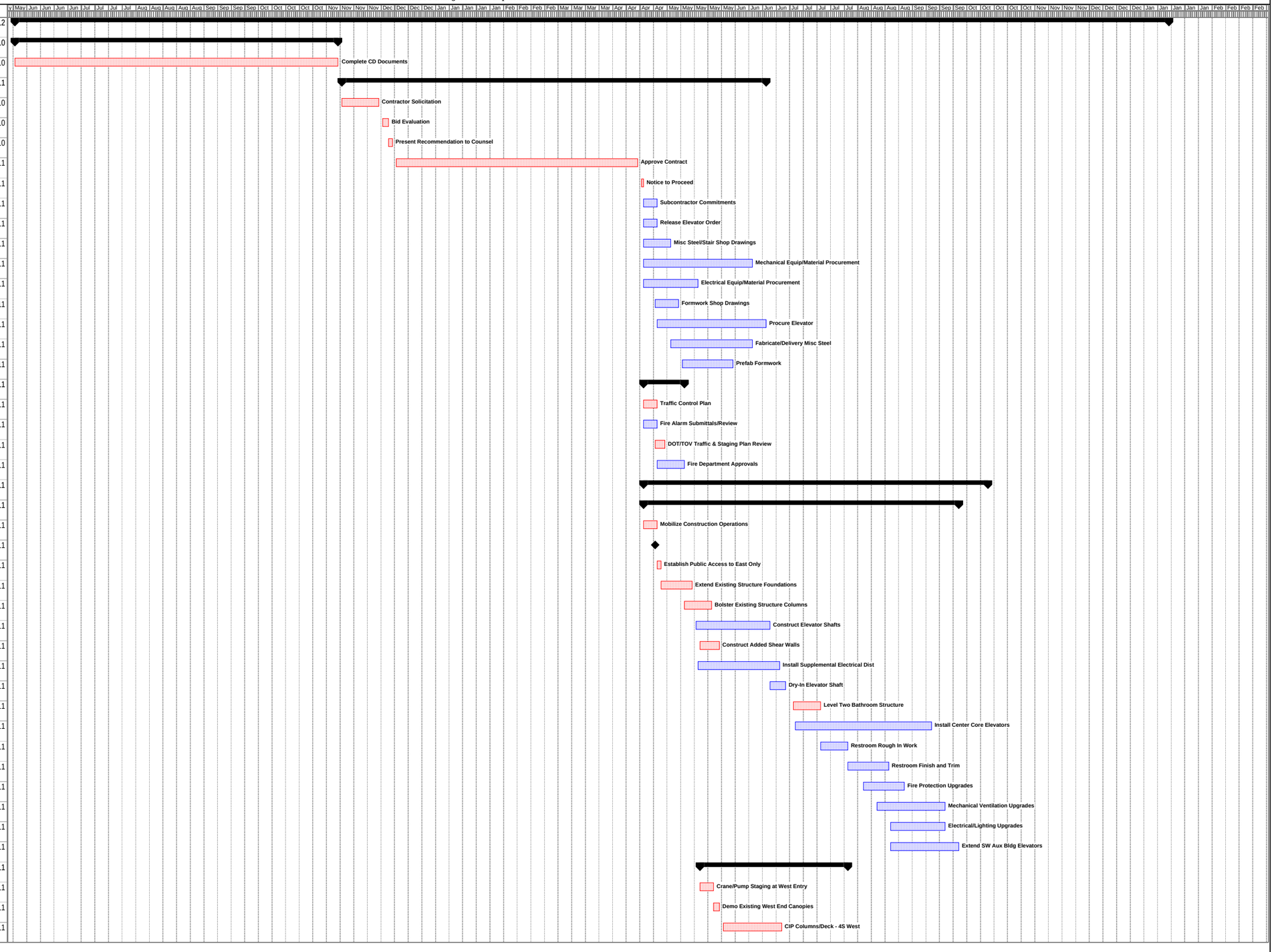
New Deck Detail

Saw Joints	11,447	LF	5.00	57,235
Jack Hammer	1,944	LF	50.00	97,200
Demolition Crew	1,288	MH	103.53	133,350
Remove Existing Product	184	MH	450.00	82,800
Misc Demo	1	Allow	50,000.00	50,000
MEP Demo	1	Allow	30,375.00	30,375
Subtotal G90. Other Site Construction/Demolition				450,960

Option 1 - New Level 4 South Tray

Lionshead Parking Structure Expansion

ID	Task Name	Duration	Start	Finish
1	Lionshead Parking Structure Expansion - Option 1	425 days	Mon 5/31/10	Fri 1/13/12
2	Design	120 days	Mon 5/31/10	Fri 11/12/10
3	Complete CD Documents	120 days	Mon 5/31/10	Fri 11/12/10
4	Contract & Procurement	156 days	Mon 11/15/10	Mon 6/20/11
5	Contractor Solicitation	15 days	Mon 11/15/10	Fri 12/3/10
6	Bid Evaluation	3 days	Mon 12/6/10	Wed 12/8/10
7	Present Recommendation to Counsel	2 days	Thu 12/9/10	Fri 12/10/10
8	Approve Contract	90 days	Mon 12/13/10	Fri 4/15/11
9	Notice to Proceed	1 day	Mon 4/18/11	Mon 4/18/11
10	Subcontractor Commitments	5 days	Tue 4/19/11	Mon 4/25/11
13	Release Elevator Order	5 days	Tue 4/19/11	Mon 4/25/11
14	Misc Steel/Stair Shop Drawings	10 days	Tue 4/19/11	Mon 5/2/11
16	Mechanical Equip/Material Procurement	40 days	Tue 4/19/11	Mon 6/13/11
17	Electrical Equip/Material Procurement	20 days	Tue 4/19/11	Mon 5/16/11
11	Formwork Shop Drawings	10 days	Mon 4/25/11	Fri 5/6/11
18	Procure Elevator	40 days	Tue 4/26/11	Mon 6/20/11
15	Fabricate/Delivery Misc Steel	30 days	Tue 5/3/11	Mon 6/13/11
12	Prefab Formwork	20 days	Mon 5/9/11	Fri 6/3/11
19	Municipal	15 days	Tue 4/19/11	Mon 5/9/11
20	Traffic Control Plan	5 days	Tue 4/19/11	Mon 4/25/11
22	Fire Alarm Submittals/Review	5 days	Tue 4/19/11	Mon 4/25/11
21	DOT/TOV Traffic & Staging Plan Review	5 days	Mon 4/25/11	Fri 4/29/11
23	Fire Department Approvals	10 days	Tue 4/26/11	Mon 5/9/11
24	Construction Option 1	127 days	Tue 4/19/11	Wed 10/12/11
25	General Area Operations	116 days	Tue 4/19/11	Tue 9/27/11
26	Mobilize Construction Operations	5 days	Tue 4/19/11	Mon 4/25/11
27	Close West Entry Portal	1 day	Mon 4/25/11	Mon 4/25/11
28	Establish Public Access to East Only	2 days	Tue 4/26/11	Wed 4/27/11
30	Extend Existing Structure Foundations	12 days	Thu 4/28/11	Fri 5/13/11
31	Bolster Existing Structure Columns	10 days	Tue 5/10/11	Mon 5/23/11
32	Construct Elevator Shafts	28 days	Mon 5/16/11	Wed 6/22/11
42	Construct Added Shear Walls	8 days	Wed 5/18/11	Fri 5/27/11
29	Install Supplemental Electrical Dist	30 days	Tue 5/17/11	Mon 6/27/11
33	Dry-In Elevator Shaft	6 days	Thu 6/23/11	Thu 6/30/11
35	Level Two Bathroom Structure	10 days	Tue 7/5/11	Mon 7/18/11
34	Install Center Core Elevators	50 days	Wed 7/6/11	Tue 9/13/11
36	Restroom Rough In Work	10 days	Tue 7/19/11	Mon 8/1/11
37	Restroom Finish and Trim	15 days	Tue 8/2/11	Mon 8/22/11
39	Fire Protection Upgrades	15 days	Wed 8/10/11	Tue 8/30/11
38	Mechanical Ventilation Upgrades	25 days	Wed 8/17/11	Tue 9/20/11
40	Electrical/Lighting Upgrades	20 days	Wed 8/24/11	Tue 9/20/11
41	Extend SW Aux Bldg Elevators	25 days	Wed 8/24/11	Tue 9/27/11
43	West Structure Specific	54 days	Wed 5/18/11	Mon 8/1/11
44	Crane/Pump Staging at West Entry	5 days	Wed 5/18/11	Tue 5/24/11
45	Demo Existing West End Canopies	3 days	Wed 5/25/11	Fri 5/27/11
48	CIP Columns/Deck - 4S West	22 days	Mon 5/30/11	Tue 6/28/11



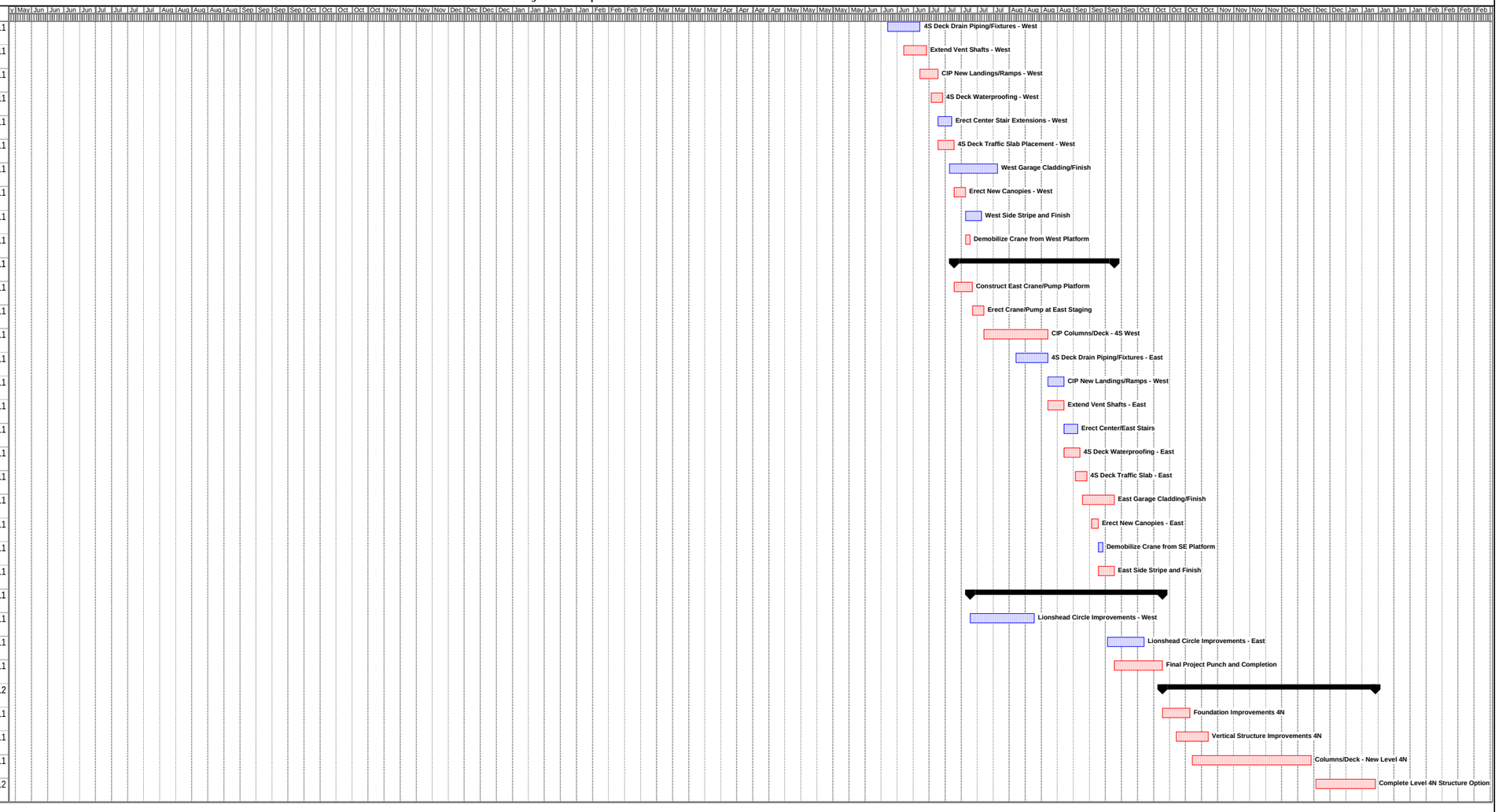
Date: Wed 4/28/10

Task · Critical Task · Progress · Milestone · Summary · Rolled Up Task · Rolled Up Critical Task · Rolled Up Milestone · Rolled Up Progress · Split · External Tasks · Project Summary · Group By Summary · Deadline

Option 1 - New Level 4 South Tray

Lionshead Parking Structure Expansion

ID	Task Name	Duration	Start	Finish
53	4S Deck Drain Piping/Fixtures - West	10 days	Wed 6/15/11	Tue 6/28/11
46	Extend Vent Shafts - West	8 days	Wed 6/22/11	Fri 7/1/11
47	CIP New Landings/Ramps - West	6 days	Wed 6/29/11	Wed 7/6/11
54	4S Deck Waterproofing - West	5 days	Mon 7/4/11	Fri 7/8/11
52	Erect Center Stair Extensions - West	4 days	Thu 7/7/11	Tue 7/12/11
55	4S Deck Traffic Slab Placement - West	5 days	Thu 7/7/11	Wed 7/13/11
56	West Garage Cladding/Finish	15 days	Tue 7/12/11	Mon 8/1/11
49	Erect New Canopies - West	3 days	Thu 7/14/11	Mon 7/18/11
50	West Side Stripe and Finish	5 days	Tue 7/19/11	Mon 7/25/11
51	Demobilize Crane from West Platform	2 days	Tue 7/19/11	Wed 7/20/11
57	East Structure Specific	50 days	Thu 7/14/11	Wed 9/21/11
58	Construct East Crane/Pump Platform	6 days	Thu 7/14/11	Thu 7/21/11
59	Erect Crane/Pump at East Staging	3 days	Fri 7/22/11	Tue 7/26/11
60	CIP Columns/Deck - 4S West	20 days	Wed 7/27/11	Tue 8/23/11
65	4S Deck Drain Piping/Fixtures - East	10 days	Wed 8/10/11	Tue 8/23/11
61	CIP New Landings/Ramps - West	5 days	Wed 8/24/11	Tue 8/30/11
66	Extend Vent Shafts - East	5 days	Wed 8/24/11	Tue 8/30/11
64	Erect Center/East Stairs	4 days	Wed 8/31/11	Mon 9/5/11
67	4S Deck Waterproofing - East	5 days	Wed 8/31/11	Tue 9/6/11
68	4S Deck Traffic Slab - East	5 days	Mon 9/5/11	Fri 9/9/11
69	East Garage Cladding/Finish	10 days	Thu 9/8/11	Wed 9/21/11
62	Erect New Canopies - East	3 days	Mon 9/12/11	Wed 9/14/11
63	Demobilize Crane from SE Platform	2 days	Thu 9/15/11	Fri 9/16/11
70	East Side Stripe and Finish	5 days	Thu 9/15/11	Wed 9/21/11
71	Final Completion Requirements	60 days	Thu 7/21/11	Wed 10/12/11
72	Lionshead Circle Improvements - West	20 days	Thu 7/21/11	Wed 8/17/11
73	Lionshead Circle Improvements - East	12 days	Mon 9/19/11	Tue 10/4/11
74	Final Project Punch and Completion	15 days	Thu 9/22/11	Wed 10/12/11
75	Construction Option 1B	67 days	Thu 10/13/11	Fri 1/13/12
76	Foundation Improvements 4N	8 days	Thu 10/13/11	Mon 10/24/11
77	Vertical Structure Improvements 4N	10 days	Wed 10/19/11	Tue 11/1/11
78	Columns/Deck - New Level 4N	38 days	Wed 10/26/11	Fri 12/16/11
79	Complete Level 4N Structure Option	20 days	Mon 12/19/11	Fri 1/13/12



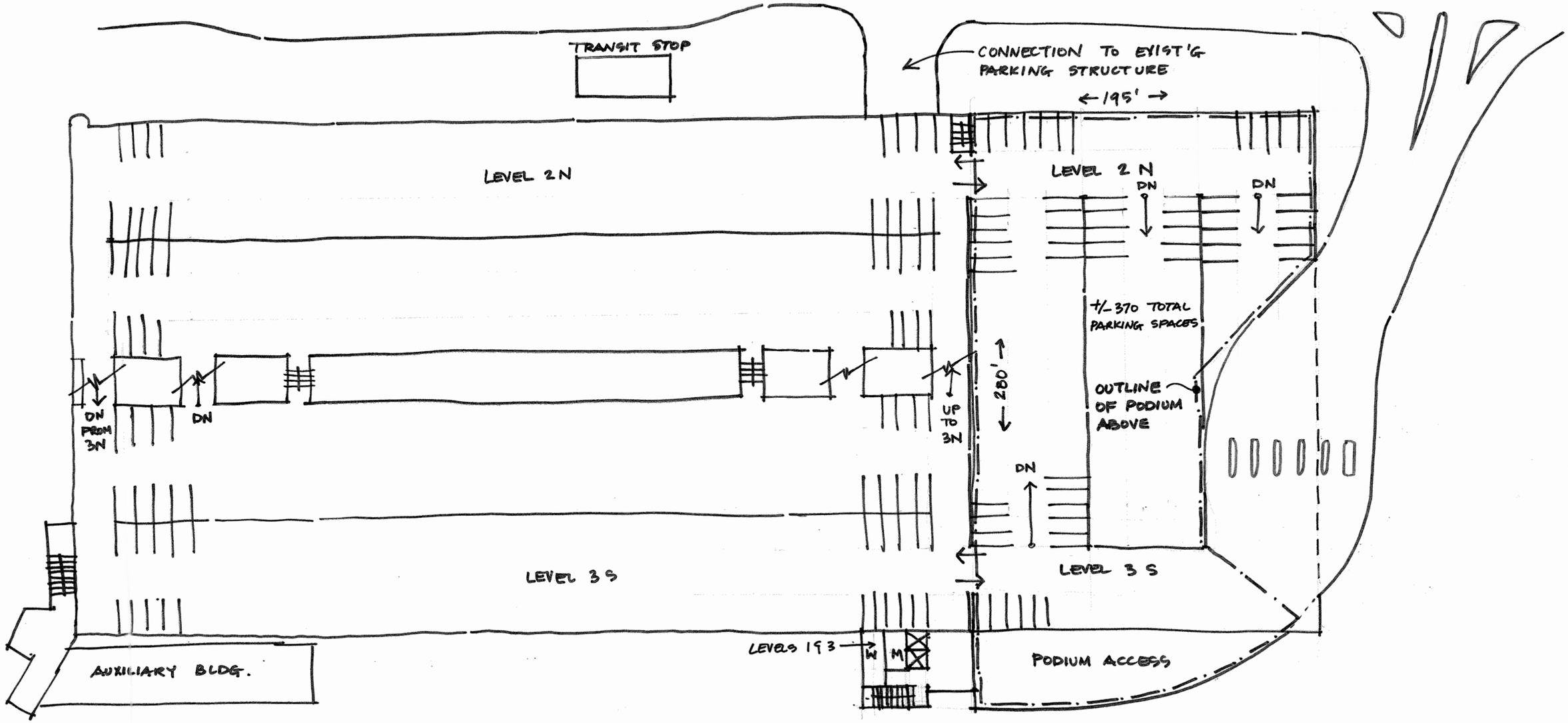
Date: Wed 4/28/10

Task | Progress | Summary | Rolled Up Critical Task | Rolled Up Progress | External Tasks | Group By Summary

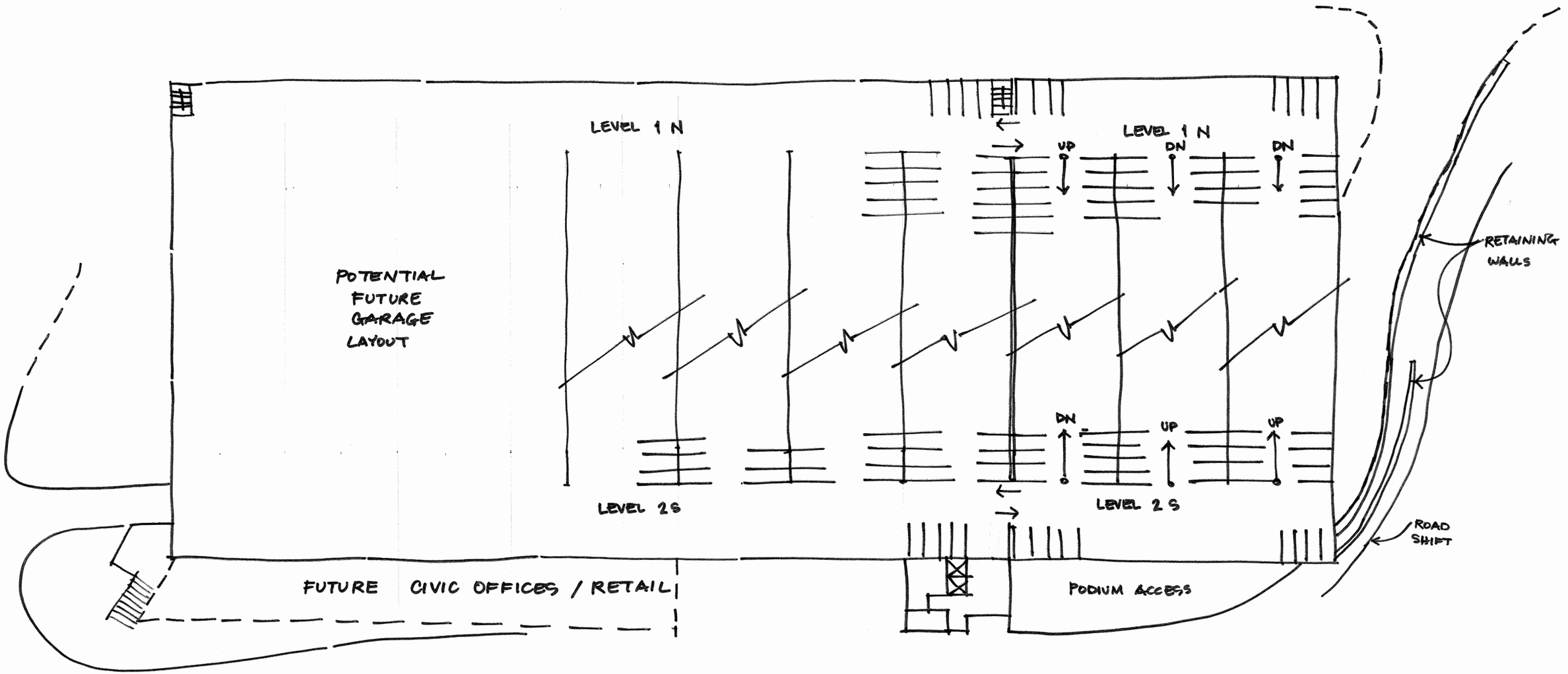
Critical Task | Milestone | Rolled Up Task | Rolled Up Milestone | Split | Project Summary | Deadline

Insert Tab C

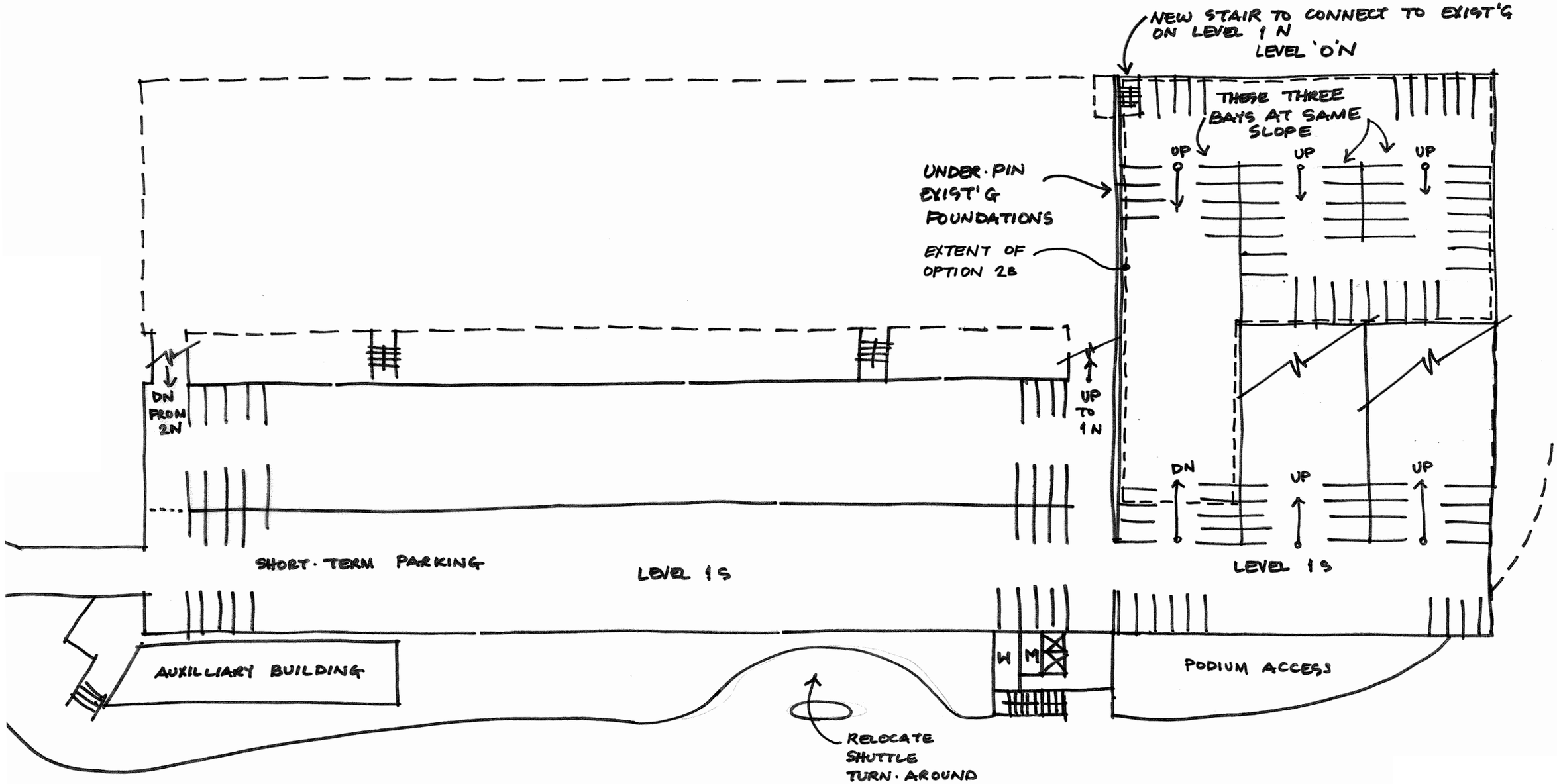
“Option 2”



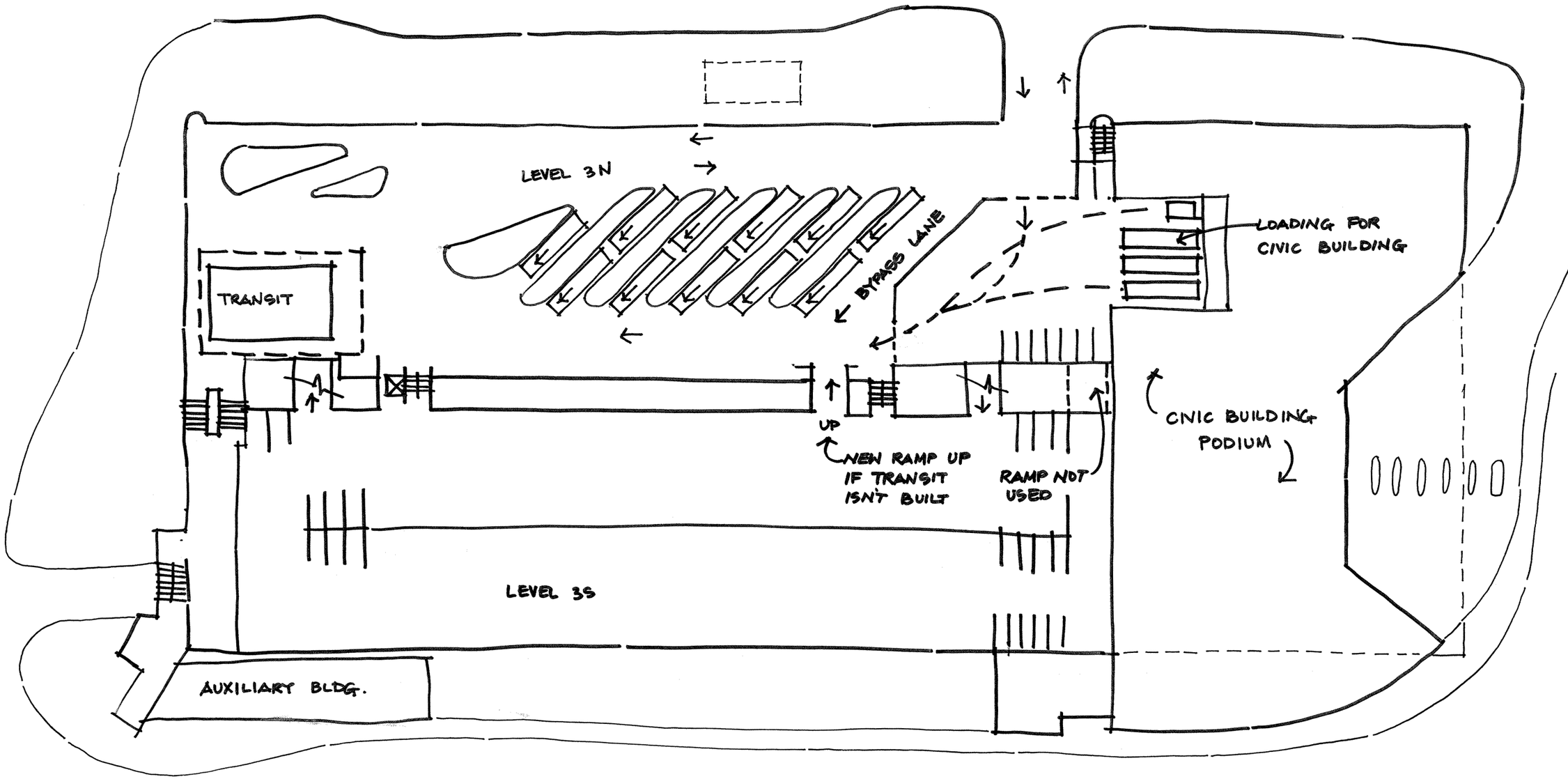
A. **Option 2** Vehicle Entry Level 3 South



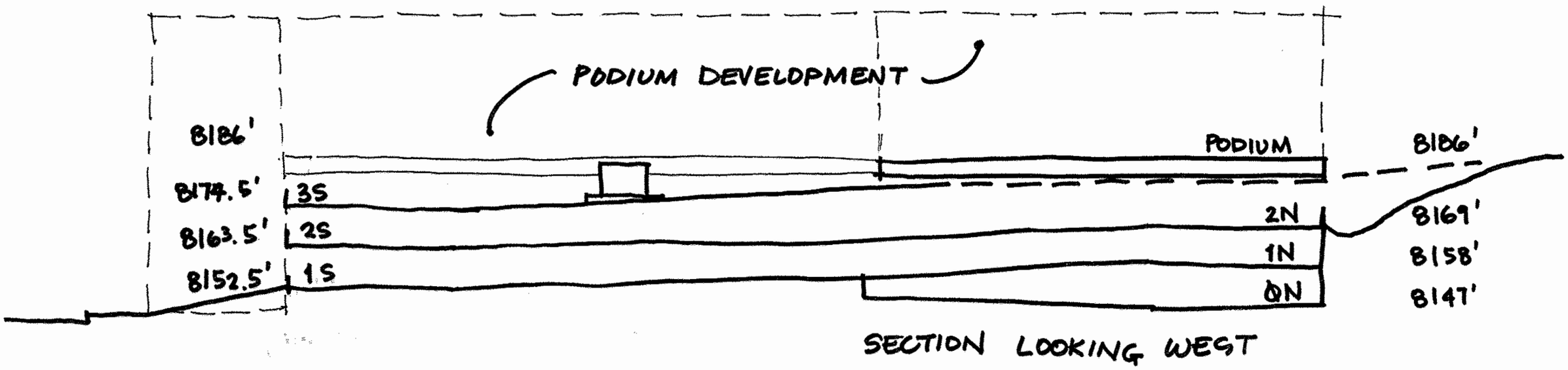
A. **Option 2** Level 2 South



A. **Option 2** Level 1 South



A. **Option 2** Podium Level



A. **Option 2** Section Looking West

ToV's LH East Parking Addition Options
Option 2 Detail

Updated 17 MAY 10
Printed on 5/17/2010 at 10:50 AM

Scope of Work	Cost		
	Quantity	Unit Cost	Total Price
Option 2: Base Design			
Sitework			
Demo Tourist Info Building	1 LS	50,000.00	50,000
Vehicular Paving & Pedestrian Paving @ SFR (Allowance)	1 LS	750,000.00	750,000
Pedestrian Hardscape @ South Side of Parking (Allowance) (Includes Snowmelt)	5,157 SF	48.00	247,536
Wet & Dry Utility Relocations (Allowance)	1 LS	150,000.00	150,000
Landscaping (Allowance)	1 LS	300,000.00	300,000
Relocate Shuttle Turnaround (Allowance)	1 LS	250,000.00	250,000
Restrooms @ Southeast Corner (Allowance)	4 EA	150,000.00	600,000
Elevators @ Southeast Corner (Allowance)	2 EA	400,000.00	800,000
16'-0"H Retaining Wall @ Frontage Road	600 LF	3,890.03	2,334,017
Add New Stairs @ Southeast Corner to Include:			
Add New Stairs	1 EA	106,560.00	106,560
Wing Walls @ Stairs	3,960 SF	24.15	95,634
Spread Footers @ Wing Walls @ 4'-0" OC	6 EA	325.00	1,950
ToV Spec Stone Veneer @ New Wing Walls	3,960 SF	42.10	166,716
Parking Ticket Booth, Ticket Equipment & Reversible Gates (Allowance)	6 EA	110,000.00	660,000
Snowmelt @ Entry Drive	12,150 SF	30.00	364,500
New Building			
New Parking Structure (See "Parking Structure Detail")	1 LS	7,933,746.79	7,933,747
20% Up-Charge for Increased Columns, Foundations & Lateral Loads @ Podium	1 LS	523,630.43	523,630
Mechanical Allowance @ New Parking Structure (See "OP2 Mechanical Detail")	1 LS	600,354.76	600,355
Electrical Allowance @ New Parking Structure (See "OP2 Electrical Detail")	1 LS	288,757.58	288,758
Subtotal Option 2: Base Design			**16,223,402**
Add Alternate A - Option 2A: Existing Parking Upgrades			
Life Safety Upgrades (Allowance)	1 LS	500,000.00	500,000
Ventilation Upgrades (Allowance)	1 LS	400,000.00	400,000
CO2 Detection	1 LS	15,000.00	15,000
Clean & Restripe Existing North & South Garage	369,600 SF	1.20	443,520
Re-Caulk & Reseal Existing North & South Garage	369,600 SF	2.65	979,440
Wash & Paint Existing Garage Walls w/ Epoxy Paint	68,730 SF	1.10	75,603
Add for Graphics @ Walls (Allowance)	30 EA	2,000.00	60,000
Add for New Signage (Allowance)	600 EA	110.00	66,000
Subtotal Add Alternate A			**2,539,563**

Scope of Work	Cost		
	Quantity	Unit Cost	Total Price
Subtotal Option 2A: Base Building + Existing Parking Upgrades			**18,762,965**
Add Alternate B - Option 2B: Add Level 0N Parking			
New Stairs @ Level 0N	1 EA	5,000.00	5,000
Add Level 0N Parking (See "Level 0N Detail")	1 LS	1,754,805.33	1,754,805
Mechanical System (Allowance)	1 LS	120,070.95	120,071
Electrical System (Allowance)	1 LS	57,751.52	57,752
New FA Panel @ Existing Structure to Replace Existing	1 LS	10,000.00	10,000
Subtotal Add Alternate B			**1,947,628**
Subtotal Option 2B: Base Building + Life Safety + Add Level 0N Parking			**20,710,593**
Add Alternate C: Podium @ New Parking Structure			
New Podium Above Level 3S & 3N @ New Parking Structure to Include:			
New CIP 2'-6"x 2'-6"x 14'-0" Concrete Columns	70 EA	7,169.00	501,830
New CIP Concrete PT Cap Slab	54,600 SF	26.14	1,427,244
Architectural Detailing	1 LS	200,000.00	200,000
Stiffening of Level 3N (East 1/3)	1 LS	1,495,513.17	1,495,513
"Green Roof" @ New Podium to Include:			
New Temporary Railings for Roof Maintenance (Allowance) (3 Sides Only)	755 LF	200.00	151,000
Removeable Waterproof Membrane System	54,600 SF	9.23	503,958
Drainage System for Native Seed	54,600 SF	2.50	136,500
2'-0"H Topsoil Layer	4,044 CY	30.00	121,333
Native Seed	54,600 SF	0.15	8,190
Irrigation System	54,600 SF	1.50	81,900
Mechanical System Below Podium	1 LS	45,000.00	45,000
Electrical System Below Podium	1 LS	72,189.39	72,189
Additional Ramping, Bridges or SFR Work (Not w/ Above)			Excluded
Transit Center Building			Excluded
Subtotal Add Alternate C			**4,744,658**
Subtotal Option 2C: Building + Life Safety + Level 0N + Podium @ New Parking Structure			**25,455,251**

Description	Quantity		Unit Cost	Total Cost
Division 02000 - Sitework				
Demolish Existing Stairs	1	EA	50,000.00	50,000.00
"Punch-Out" @ Level 1S	1	LS	25,000.00	25,000.00
"Punch-Out" @ Level 1N	1	LS	25,000.00	25,000.00
"Punch-Out" @ Level 2S	1	LS	25,000.00	25,000.00
"Punch-Out" @ Level 2N	1	LS	25,000.00	25,000.00
"Punch-Out" @ Level 3S	1	LS	25,000.00	25,000.00
On-Site Cuts, Fills, and Pad Preparation	6,000	SY	2.00	12,000.00
Excavate / Remove Existing Asphalt and Concrete	2,200	CY	24.00	52,800.00
Additional Excavation & Shoring (Allowance)	36,400	CY	15.00	546,000.00
Excavate / Backfill for Dry Utilities (Electric / Data)	1,000	LF	10.00	10,000.00
8" DIP Watermain w/ Fittings and 1 - Hot Tap Connection.	500	LF	88.00	44,000.00
Footing / Pier Excavation / Backfill	2,500	LF	10.00	25,000.00
Underpinning @ Existing Parking Structure	2,240	SF	96.12	215,308.80
Retaining Wall @ East Side of Podium Access (19'-6"H Average)	**325**	**LF**	**4,714.15**	**1,532,098.65**
SOG Prep - 6"T - 3/4" Screened Rock	1,000	TON	38.00	38,000.00
Perimeter Drain Including Rock Envelope / Fabric.	600	LF	22.00	13,200.00
Road Prep Including 6" of Roadbase (1350 SY)	420	TON	40.00	16,800.00
4"T Asphalt Paving.	1,350	SY	30.00	40,500.00
Import 6" Minus Pitrun for Structural Backfill Between Proposed Retaining Walls / New Building.	13,365	TON	34.50	461,092.50
Silt Fence	1,000	LF	2.00	2,000.00
Entrance Pad	1	EA	2,500.00	2,500.00
			Subtotal Division 02000	**3,186,300**

Division 03000 - Concrete				
Division 3300 - Cast-In-Place Concrete				
3'-0"W x 1'-0"H CIP Concrete Continuous Footings to Include:				
Formwork	670	SFCA	5.20	3,484
Re-bar	4,920	LBS	0.85	4,182
Concrete Material	82	CY	104.51	8,570
Place Concrete	82	CY	27.51	2,256
1'-0W x 1'-0L CIP Concrete Pilaster (Full Height) @ Above to Include:				
Formwork	5,940	SFCA	5.20	30,888
Re-bar (60#/CY)	5,280	LBS	0.85	4,488
Concrete Material	88	CY	104.51	9,197
Place Concrete	88	CY	51.25	4,510
Cure & Protect	5,940	SF	0.35	2,079
12" Thick CIP Concrete Wall @ Perimeter of Level 1S to Include:				
Formwork	18,200	SFCA	5.20	94,640
Re-bar (80#/CY)	32,356	LBS	0.85	27,502
Concrete Material	404	CY	104.51	42,268
Place Concrete	404	CY	51.25	20,728
Cure & Protect	9,100	SF	0.35	3,185

Description	*Quantity*		*Unit Cost*	*Total Cost*
12" Thick CIP Concrete Slab on Grade @ Level 1S to Include:				
Formwork	670	SFCA	5.20	3,484
Re-bar (60#/CY)	30,794	LBS	0.85	26,175
Concrete Material	506	CY	104.51	52,836
Place & Finish Concrete	506	CY	51.25	25,910
Cure & Protect	27,300	SF	0.35	9,555
12" Thick CIP Concrete Wall @ Level 1S to Include:				
Formwork	6,160	SFCA	5.20	32,032
Re-bar (80#/CY)	10,951	LBS	0.85	9,308
Concrete Material	137	CY	104.51	14,306
Place Concrete	137	CY	51.25	7,016
Cure & Protect	3,080	SF	0.35	1,078
1'-0" Thick CIP Concrete Structural Slab Ramps @ Level 1S to Level 1N to Include:				
Formwork	19,500	SFCA	17.21	335,595
Re-bar (80#/CY)	29,328	LBS	0.85	24,929
Concrete Material	722	CY	104.51	75,479
Place & Finish Concrete	722	CY	95.00	68,611
Cure & Protect	19,500	SF	0.35	6,825
12" Thick CIP Concrete Slab on Grade @ Level 1N to Include:				
Formwork	670	SFCA	5.20	3,484
Re-bar (60#/CY)	6,599	LBS	0.85	5,609
Concrete Material	217	CY	104.51	22,644
Place & Finish Concrete	217	CY	51.25	11,104
Cure & Protect	5,850	SF	0.35	2,048
12" Thick CIP Concrete Wall @ Level 1N & 2S to Include:				
Formwork	14,520	SFCA	5.20	75,504
Re-bar (80#/CY)	25,813	LBS	0.85	21,941
Concrete Material	323	CY	104.51	33,722
Place Concrete	323	CY	51.25	16,537
Cure & Protect	7,260	SF	0.35	2,541
12" Thick CIP Concrete Wall @ Perimeter of Level 1N & 2S to Include:				
Formwork	20,900	SFCA	5.20	108,680
Re-bar (80#/CY)	37,156	LBS	0.85	31,582
Concrete Material	464	CY	104.51	48,539
Place Concrete	464	CY	51.25	23,803
Cure & Protect	10,450	SF	0.35	3,658
1'-0" Thick CIP Concrete Structural Slab Ramps @ Level 1N to Level 2S to Include:				
Formwork	7,800	SFCA	17.21	134,238
Re-bar (80#/CY)	11,731	LBS	0.85	9,972
Concrete Material	289	CY	104.51	30,192
Place & Finish Concrete	289	CY	95.00	27,444
Cure & Protect	7,800	SF	0.35	2,730
12" Thick CIP Concrete Structural Slab @ Level 2S to Include:				
Formwork	5,850	SFCA	15.81	92,489
Re-bar (60#/CY)	6,599	LBS	0.85	5,609
Concrete Material	217	CY	104.51	22,644
Place & Finish Concrete	217	CY	95.00	20,583
Cure & Protect	5,850	SF	0.35	2,048
1'-0" Thick CIP Concrete Structural Slab Ramps @ Level 2S to Level 2N to Include:				
Formwork	15,600	SFCA	17.21	268,476
Re-bar (80#/CY)	23,462	LBS	0.85	19,943

Description	Quantity		Unit Cost	Total Cost
Concrete Material	578	CY	104.51	60,384
Place & Finish Concrete	578	CY	95.00	54,889
Cure & Protect	15,600	SF	0.35	5,460
12" Thick CIP Concrete Structural Slab @ Level 2N to Include:				
Formwork	5,850	SFCA	15.81	92,489
Re-bar (60#/CY)	6,599	LBS	0.85	5,609
Concrete Material	217	CY	104.51	22,644
Place & Finish Concrete	217	CY	95.00	20,583
Cure & Protect	5,850	SF	0.35	2,048
1'-0" Thick CIP Concrete Structural Slab Ramps @ Level 2N to Level 3S to Include:				
Formwork	7,800	SFCA	17.21	134,238
Re-bar (80#/CY)	11,731	LBS	0.85	9,972
Concrete Material	289	CY	104.51	30,192
Place & Finish Concrete	289	CY	95.00	27,444
Cure & Protect	7,800	SF	0.35	2,730
12" Thick CIP Concrete Structural Slab @ Level 3S to Include:				
Formwork	5,850	SFCA	15.81	92,489
Re-bar (60#/CY)	6,599	LBS	0.85	5,609
Concrete Material	217	CY	104.51	22,644
Place & Finish Concrete	217	CY	95.00	20,583
Cure & Protect	5,850	SF	0.35	2,048
Expansion Joints	180	LF	40.12	7,221.60
			Subtotal Division 03000	**2,618,152**

Division 04000 - Masonry				
ToV Spec Stone Veneer Masonry @ Exterior of Building	4,505	SF	42.10	189,639.45
CMU Stair Core				Excluded
			Subtotal Division 04000	**189,639**

Division 05000 - Metals				
Railings & Miscellaneous Metals (Allowance)	1	LS	487,872.00	487,872.00
Stairs @ Interior				Excluded
			Subtotal Division 05000	**487,872**

Division 06000 - Woods & Plastics				
			Subtotal Division 06000	**Excluded**

Division 07000 - Thermal & Moisture Protection				
Division 7110 - Damproofing & Waterproofing				
Waterproofing Membrane @ Foundation	16,396	SF	7.75	127,065.13
Waterproofing Membrane @ Masonry @ Exterior	4,505	SF	4.60	20,720.70
Traffic Topping / Waterproofing @ Parking Decks	110,000	SF	6.21	683,100.00

Description	Quantity		Unit Cost	Total Cost
Vapor Barrier @ SOG	27,300	SF	0.35	9,555.00
			Subtotal Division 7110	**840,441**
Division 7900 - Caulking & Sealants				
Sealant & Caulking @ Exterior (Allowance)	110,000	SF	0.78	85,800.00
Caulking @ Interior (Allowance)	110,000	SF	1.78	195,800.00
Fire Stopping (Allowance)	110,000	SF	0.40	44,000.00
			Subtotal Division 7900	**325,600**
			Subtotal Division 07000	**1,166,041**
Division 08000 - Doors & Windows				
Division 8110 - Metal Doors				
3'-0" x 6'-8" HM Door w/ Hm Frame & Hardware (Allowance)	12	EA	2,745.15	32,941.80
			Subtotal Division 8110	**32,942**
			Subtotal Division 08000	**32,942**
Division 09000 - Finishes				
Division 9900 - Painting & Wall Covering				
Striping (Allowance)	110,000	SF	0.15	16,500.00
Graphics per Level	3	EA	65,000.00	195,000.00
			Subtotal Division 9900	**211,500**
Division 9965 - Concrete Floor Stain & Sealing				
Self-Leveling Pourable Epoxy Sealer w/ Traction Additive @ Stairs	800	SF	6.72	5,376.00
			Subtotal Division 9965	**5,376**
			Subtotal Division 09000	**216,876**
Division 10000 - Specialties				
Division 10800 - Accessories				
Fire Extinguisher / Hose Cabinets	20	EA	806.23	16,124.60
Signage	300	EA	66.00	19,800.00
			Subtotal Division 10800	**35,925**
			Subtotal Division 10000	**35,925**
Division 11000 - Equipment				
Parking Ticket Booth, Ticket Equipment & Reversible Gates (Allowance)				w/ Option 2 Detail
			Subtotal Division 11000	
Division 13000 - Special Construction				

Description	Quantity	Unit Cost	Total Cost
		Subtotal Division 13000	Excluded

Division 14000 - Conveying			
		Subtotal Division 14000	Excluded

	Total Construction Costs	7,933,747

Description	*Quantity*		*Unit Cost*	*Total Cost*
Division 02000 - Sitework				
SOG Preparation - 6"T - 3/4"T screened rock.	870	TON	38.00	33,060.00
Footing / Pier Excavation / Backfill	1,500	LF	10.00	15,000.00
Underpinning @ Existing Parking Structure	1,540	SF	96.12	148,024.80
Perimeter drain including rock envelope / fabric.	400	LF	22.00	8,800.00
			Subtotal Division 02000	**204,885**
Division 03000 - Concrete				
Division 3300 - Cast-In-Place Concrete				
3'-0"W x 1'-0"H CIP Concrete Continuous Footings to Include:				
Formwork	670	SFCA	5.20	3,484
Re-bar	4,920	LBS	0.85	4,182
Concrete Material	82	CY	104.51	8,570
Place Concrete	82	CY	27.51	2,256
12" Thick CIP Concrete Slab on Grade @ Level 0N				
Formwork	27,300	SFCA	15.81	431,613
Re-bar (60#/CY)	30,794	LBS	0.85	26,175
Concrete Material	1,011	CY	104.51	105,671
Place & Finish Concrete	1,011	CY	95.00	96,056
Cure & Protect	27,300	SF	0.35	9,555
12" Thick CIP Concrete Wall @ Level 0N				
Formwork	4,840	SFCA	5.20	25,168
Re-bar (80#/CY)	8,604	LBS	0.85	7,314
Concrete Material	108	CY	104.51	11,241
Place Concrete	108	CY	51.25	5,512
Cure & Protect	2,420	SF	0.35	847
12" Thick CIP Concrete Wall @ Perimeter of Level 1S				
Formwork	17,920	SFCA	5.20	93,184
Re-bar (80#/CY)	31,858	LBS	0.85	27,079
Concrete Material	398	CY	104.51	41,618
Place Concrete	398	CY	51.25	20,409
Cure & Protect	8,960	SF	0.35	3,136
1'-0" Thick CIP Concrete Structural Slab Ramps @ Level 1S to Level 1N				
Formwork	3,900	SFCA	17.21	67,119
Re-bar (80#/CY)	5,866	LBS	0.85	4,986
Concrete Material	144	CY	104.51	15,096
Place & Finish Concrete	144	CY	95.00	13,722
Cure & Protect	3,900	SF	0.35	1,365
12" Thick CIP Concrete Slab on Grade @ Level 1N to Include: (Removed & Replace w/ Below)				
Formwork	(670)	SFCA	5.20	(3,484)
Re-bar (60#/CY)	(6,599)	LBS	0.85	(5,609)
Concrete Material	(217)	CY	104.51	(22,644)
Place & Finish Concrete	(217)	CY	51.25	(11,104)
Cure & Protect	(5,850)	SF	0.35	(2,048)
12" Thick CIP Concrete Structural Slab @ Level 1N to Include:				
Formwork	5,850	SFCA	15.81	92,489
Re-bar (60#/CY)	6,599	LBS	0.85	5,609

Description	Quantity	Unit Cost	Total Cost
Concrete Material	217 CY	104.51	22,644
Place & Finish Concrete	217 CY	95.00	20,583
Cure & Protect	5,850 SF	0.35	2,048
		Subtotal Division 03000	**1,123,841**
Division 05000 - Metals			
Railings (Allowance)	1 LS	50,000.00	50,000.00
		Subtotal Division 05000	**50,000**
Division 06000 - Woods & Plastics			
		Subtotal Division 06000	**Excluded**
Division 07000 - Thermal & Moisture Protection			
Division 7110 - Damproofing & Waterproofing			
Waterproofing Membrane @ Foundation	2,145 SF	7.75	16,623.75
Traffic Topping / Waterproofing @ Parking Dekcs	27,300 SF	7.75	211,575.00
Vapor Barrier @ SOG	27,300 SF	0.35	9,555.00
		Subtotal Division 7110	**237,754**
Division 7900 - Caulking & Sealants			
Sealant & Caulking @ Exterior (Allowance)	39,200 SF	1.78	69,776.00
Caulking @ Interior (Allowance)	39,200 SF	0.78	30,576.00
Fire Stopping (Allowance)	39,200 SF	0.40	15,680.00
		Subtotal Division 7900	**116,032**
		Subtotal Division 07000	**353,786**
Division 08000 - Doors & Windows			
Division 8110 - Metal Doors			
3'-0" x 6'-8" HM Door w/ Hm Frame & Hardware	5 EA	2,745.15	13,725.75
		Subtotal Division 8110	**13,726**
		Subtotal Division 08000	**13,726**
Division 09000 - Finishes			
Division 9900 - Painting & Wall Covering			
Striping (Allowance)	39,200 SF	0.15	5,880.00
		Subtotal Division 9900	**5,880**
Division 9965 - Concrete Floor Stain & Sealing			
Self-Leveling Pourable Epoxy Sealer w/ Traction Additive @ Stairs	400 SF	6.72	2,688.00
		Subtotal Division 9965	**2,688**
		Subtotal Division 09000	**8,568**

Description	Quantity	Unit Cost	Total Cost
Division 10000 - Specialties			
		Subtotal Division 10000	**Excluded**
Division 11000 - Equipment			
		Subtotal Division 11000	**Excluded**
Division 13000 - Special Construction			
		Subtotal Division 13000	**Excluded**
Division 14000 - Conveying			
		Subtotal Division 14000	**Excluded**
		Total Construction Costs	**1,754,805**

Description	Quantity		Unit Cost	Total Cost
Division 15000 - Mechanical				
Division 15300 - Fire Protection				
Fire Protection (Allowance)	110,000	SF	2.50	275,000.00
			Subtotal Division 15300	**275,000**
Division 15400 - Plumbing				
Below ground waste and vent	180	LF	53.93	9,707.59
Above ground waste and vent	1,100	LF	36.89	40,584.25
Domestic waster piping	320	LF	28.49	9,118.06
Gas Piping	15	LF	46.36	695.34
4" Water Service	1	EA	2,120.76	2,120.76
Misc Fixture material	1	LS	524.78	524.78
Water Closet	2	EA	887.76	1,775.52
Water Closet (Handicap)	4	EA	917.47	3,669.88
Lavatories	4	EA	699.24	2,796.98
Waterless Urinal	2	EA	835.77	1,671.53
20 gallon elec water heater	1	EA	662.11	662.11
Circulation pump	1	EA	238.21	238.21
Elevator sump pump	1	EA	755.84	755.84
Restroom floor drains	4	EA	158.80	635.22
Parking garage drains	20	EA	310.18	6,203.61
Sand and oil interceptor	1	EA	4,620.63	4,620.63
Excavation and backfill	1	LS	2,448.00	2,448.00
Mechanical Insulation	1	LS	2,950.67	2,950.67
Plumbing Controls	1	LS	400.00	400.00
Test & Balance	1	LS	173.33	173.33
Startup	1	LS	286.67	286.67
			Subtotal Division 15400	**92,039**
Division 15500 - HVAC				
Heating water piping	735	LF	45.45	33,406.04
Misc Piping	1	LS	176.00	176.00
Added Boiler Capacity	1	EA	26,302.59	26,302.59
heating circulation pump	1	EA	639.74	639.74
Low pressure exhaust ductwork	198	LBS	8.66	1,713.28
Misc Sheetmetal	1	LS	2,799.78	2,799.78
HRV exh / ventilation	1	EA	1,236.31	1,236.31
Elec unit heaters	4	EA	1,072.07	4,288.28
Hydronic snowmelt	1	LS	314,821.00	314,821.00

Description	*Quantity*	*Unit Cost*	*Total Cost*
Garage Ventilation Fans	2 EA	14,463.17	28,926.34
Exhaust Registers	4 EA	114.84	459.35
Intake / exhaust grilles	4 EA	126.74	506.94
Intake louvers	30 SF	68.61	2,058.17
Piping Insulation	1 LS	7,044.00	7,044.00
CO Detection System	1 LS	20,000.00	20,000.00
Hydronic Controls	1 LS	600.00	600.00
HVAC Controls	1 LS	500.00	500.00
Hydronic Startup	1 LS	346.67	346.67
HVAC Startup	1 LS	260.00	260.00
Hydronic Test and Balance	1 LS	433.33	433.33
HVAC Test and Balance	1 LS	3,520.00	3,520.00
SYSTEM COMMISSIONING	1 LS	18,277.95	18,277.95
Deduct for Mechanical Scope in Allowances Elsewhere	1 LS	(235,000.00)	(235,000.00)
		Subtotal Division 15500	**233,316**
		Subtotal Division 15000	**600,355**

Total Construction Costs	**600,355**

Description	*Quantity*	*Unit Cost*	*Total Cost*
Division 16000 - Electrical			
Ground Fault Receptacle	12 EA	63.19	758.23
Connection to gate	6 EA	157.59	945.53
1/2" EMT With 3-#12	3,500 FT	5.12	17,937.15
Dual Head Shoe Box Pole Light	6 EA	1,904.54	11,427.23
Metal Halide Garage Light	180 EA	425.84	76,650.75
Emergency Frog-Eye Fixture	30 EA	89.55	2,686.44
8" Recess Downlight, Open Alzak Trim, PL Lamp	20 EA	183.83	3,676.61
Open Channel Strip Light In 4'	8 EA	77.59	620.71
Open Channel 4' Staggered Strip	20 EA	101.85	2,036.96
4' Wall Bracket Surface Light	12 EA	157.01	1,884.07
Exit Light LED w/ battery X1	20 EA	160.11	3,202.15
Occupancy sensor	8 EA	258.18	2,065.45
1/2" EMT WITH 3-#12	5,400 FT	5.12	27,674.46
1/2" EMT WITH 6-#12	2,200 FT	5.82	12,801.69
Demo	1 LOT	2,092.24	2,092.24
Elevator	2 EA	1,213.78	2,427.55
Cab Lights And Fan	2 EA	269.41	538.83
1" C WITH 3-#6	200 FT	4.54	907.28
400A, 42 Circuit Electrical Panel	2 EA	1,351.26	2,702.53
800 Amp, 208V Service	1 EA	8,463.18	8,463.18
PSCo CT Can	1 EA	829.88	829.88
Meter Housing	1 EA	308.47	308.47
400a 4 W Feed	40 FT	51.93	2,077.39
800a 4 W Feed	150 FT	99.32	14,898.39
Trench And Tamping	150 FT	2.81	421.22
Service Grounding	1 EA	855.00	855.00
Data/Telephone Wall Box	2 EA	31.38	62.77
1" Data Conduit	500 FT	3.78	1,887.67
ADA Speaker Strobe Light	24 EA	177.04	4,248.99
ADA Strobe Only	4 EA	145.69	582.76
Smoke Detector	4 EA	181.48	725.94
Pull Station	6 EA	136.80	820.82
Control Modules	2 EA	118.87	237.73
Monitor Modules	2 EA	118.87	237.73
Modify existing FA Panel	1 EA	4,077.33	4,077.33
Testing/Drawings	1 LOT	1,277.51	1,277.51

Description	*Quantity*	*Unit Cost*	*Total Cost*
16-2 Plenum Cable for Data Loop	2,700 FT	0.75	2,032.36
14-2 Plenum Cable for Horns	2,700 FT	0.79	2,141.00
1/2" EMT	2,700 FT	2.28	6,155.83
Exhaust Fan 1ph 20 amp	4 EA	505.96	2,023.85
Electric Cabinet Unit Heater 3ph 40 amp	7 EA	812.25	5,685.75
Electric Water Heater 3 ph 40 amp	2 EA	601.01	1,202.03
Return Pump 3 ph 20 amp	4 EA	929.93	3,719.73
Tools	2 EA	775.96	1,551.92
Trencher	1 EA	1,086.41	1,086.41
Tamper	1 EA	368.84	368.84
Temporary power	1 EA	4,439.43	4,439.43
Fork lift	1 EA	603.56	603.56
Office trailer	1 EA	536.50	536.50
Permit	1 EA	1,924.27	1,924.27
Project Management	1 EA	40,237.50	40,237.50
		Subtotal Division 16000	**288,758**

Total Construction Costs	**288,758**

ToV's LH East Parking Addition Options
New Deck Summary

Updated 17 MAY 10
Printed on 5/17/2010 at 10:51 AM

Project: Lionshead Transit Station Top Deck Replacement

Estimate By: NJV
Date: 17-May-10

Reviewed By: CS
Date: 17-May-10

Division	Description	Total Costs	Total Net	
A10	Foundations	7,760	11,349	
B10	Superstructure	1,683,959	2,462,810	
B20	Exterior Enclosure	409,140	598,372	
D20	Plumbing	35,235	51,532	
D50	Electrical	383,460	560,815	
G10	Site Preparation	97,180	142,127	
G90	Other Site Construction/Demolition	450,960	659,535	
	Subtotal Direct Construction Costs	**3,067,694**	**4,486,540**	
	Location Factor (6.0 Percent)	190,197		
	Design Contingency (15 Percent)	460,154		
	Total Direct Construction Cost	**3,718,045**		
	Additional General Conditions	768,495		
	Subtotal Net Construction Cost	**4,486,540**		
	Overhead (10 Percent)	w/ Summary		
	Profit (3 Percent)	w/ Summary		
	Estimated Net Construction Cost	**4,486,540**		
	Inflation Escalation (6 Months)	w/ Summary		
	Total Estimated Net Cost of Construction @ Full Plate	**4,486,540**		**< Option 1B**
	Total Estimated Net Cost of Construction @ 33% Only	**1,495,513**		**< Option 2C**

ToV's LH East Parking Addition Options
New Deck Detail

Updated 17 MAY 10
Printed on 5/17/2010 at 10:51 AM

Description	Quantity		Total	
			Unit Cost	Total
A10. Foundations				
Ramp Walls	160	SF	48.50	7,760
Subtotal A10. Foundations				7,760
B10. Floor Construction				
Repair Columns	184	MH	112.50	20,700
Repair Wall Column	432	LF	250.00	108,000
Reinstall Embeds	63	EA	150.00	9,450
New Beams	116	LF	224.00	25,984
New Double Tees	60,750	SF	14.75	896,063
Field Finishing	320	MH	93.75	30,000
Paint Connections	120	MH	78.75	9,450
Caulking	1	Allow	30,375.00	30,375
Sealing	60,750	Allow	1.02	61,965
8" Topping Slab	60,750	SF	7.27	441,410
Striping	60,750	SF	0.75	45,563
Signage	1	LS	5,000.00	5,000
Subtotal B10. Floor Construction				1,683,959
B20. Superstructure: Exterior Enclosure				
Spandrels	9,092	SF	45.00	409,140
Subtotal B1020. Exterior Enclosure				409,140
D20. Plumbing				
Drain Piping	60,750	SF	0.58	35,235
Subtotal D20. Plumbing				35,235
D50. Electrical				
Light Poles	24	EA	790.00	18,960
Fluorescent Fixtures (54 fixtures/5000SF)	60,750	SF	4.75	288,563
Electrical Wiring	60,750	SF	1.25	75,938
Subtotal D50. Electrical				383,460
G10. Site Preparation				
Shoring/Guying	300	MH	170.87	51,260
Drill Holes - Lifting	656	EA	70.00	45,920
	-			
Subtotal G10. Site Preparation				97,180
G90. Other Site Construction/Demolition				

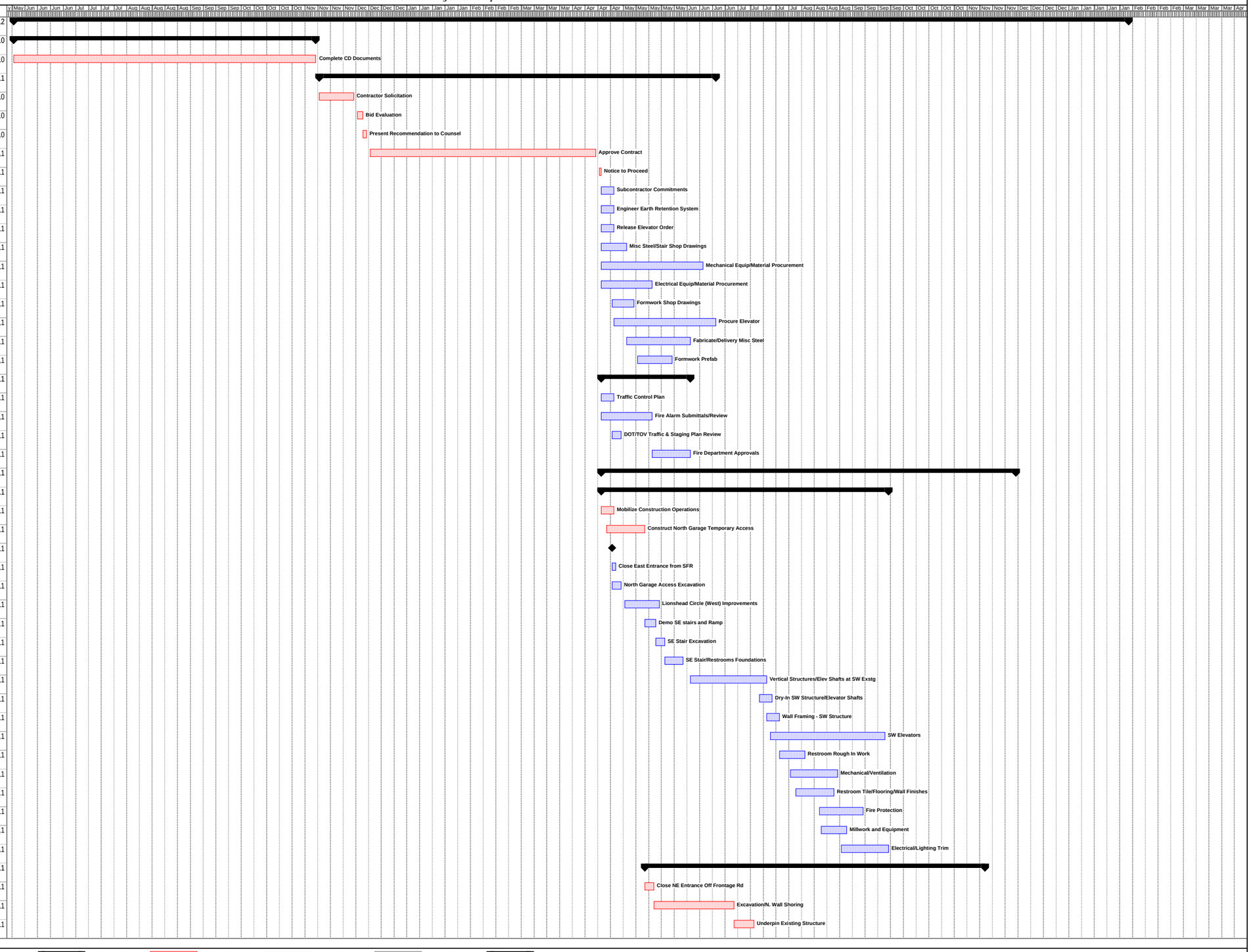
New Deck Detail

Saw Joints	11,447	LF	5.00	57,235
Jack Hammer	1,944	LF	50.00	97,200
Demolition Crew	1,288	MH	103.53	133,350
Remove Existing Product	184	MH	450.00	82,800
Misc Demo	1	Allow	50,000.00	50,000
MEP Demo	1	Allow	30,375.00	30,375
Subtotal G90. Other Site Construction/Demolition				450,960

Option 2 - New East Structure

Lionshead Parking Structure Expansion

ID	Task Name	Duration	Start	Finish
1	Lionshead Parking Structure Expansion - Option 2	439 days	Mon 5/31/10	Thu 2/2/12
2	Design	120 days	Mon 5/31/10	Fri 11/12/10
3	Complete CD Documents	120 days	Mon 5/31/10	Fri 11/12/10
4	Contract & Procurement	156 days	Mon 11/15/10	Mon 6/20/11
5	Contractor Solicitation	15 days	Mon 11/15/10	Fri 12/3/10
6	Bid Evaluation	3 days	Mon 12/6/10	Wed 12/8/10
7	Present Recommendation to Counsel	2 days	Thu 12/9/10	Fri 12/10/10
8	Approve Contract	90 days	Mon 12/13/10	Fri 4/15/11
9	Notice to Proceed	1 day	Mon 4/18/11	Mon 4/18/11
10	Subcontractor Commitments	5 days	Tue 4/19/11	Mon 4/25/11
13	Engineer Earth Retention System	5 days	Tue 4/19/11	Mon 4/25/11
14	Release Elevator Order	5 days	Tue 4/19/11	Mon 4/25/11
16	Misc Steel/Stair Shop Drawings	10 days	Tue 4/19/11	Mon 5/2/11
18	Mechanical Equip/Material Procurement	40 days	Tue 4/19/11	Mon 6/13/11
19	Electrical Equip/Material Procurement	20 days	Tue 4/19/11	Mon 5/16/11
11	Formwork Shop Drawings	10 days	Mon 4/25/11	Fri 5/6/11
15	Procure Elevator	40 days	Tue 4/26/11	Mon 6/20/11
17	Fabricate/Delivery Misc Steel	25 days	Tue 5/3/11	Mon 6/6/11
12	Formwork Prefab	15 days	Mon 5/9/11	Fri 5/27/11
20	Municipal	35 days	Tue 4/19/11	Mon 6/6/11
21	Traffic Control Plan	5 days	Tue 4/19/11	Mon 4/25/11
23	Fire Alarm Submittals/Review	20 days	Tue 4/19/11	Mon 5/16/11
22	DOT/TOV Traffic & Staging Plan Review	5 days	Mon 4/25/11	Fri 4/29/11
24	Fire Department Approvals	15 days	Tue 5/17/11	Mon 6/6/11
25	Construction Option 2	164 days	Tue 4/19/11	Fri 12/2/11
26	Existing Structure Improvements	114 days	Tue 4/19/11	Fri 9/23/11
27	Mobilize Construction Operations	5 days	Tue 4/19/11	Mon 4/25/11
31	Construct North Garage Temporary Access	15 days	Fri 4/22/11	Thu 5/12/11
28	Direct Traffic to West Portal Only	1 day	Mon 4/25/11	Mon 4/25/11
29	Close East Entrance from SFR	2 days	Mon 4/25/11	Tue 4/26/11
30	North Garage Access Excavation	5 days	Mon 4/25/11	Fri 4/29/11
32	Lionshead Circle (West) Improvements	15 days	Mon 5/2/11	Fri 5/20/11
33	Demo SE stairs and Ramp	4 days	Fri 5/13/11	Wed 5/18/11
34	SE Stair Excavation	3 days	Thu 5/19/11	Mon 5/23/11
45	SE Stair/Restrooms Foundations	8 days	Tue 5/24/11	Thu 6/2/11
35	Vertical Structures/Elev Shafts at SW Exstg	30 days	Tue 6/7/11	Mon 7/18/11
36	Dry-In SW Structure/Elevator Shafts	5 days	Fri 7/15/11	Thu 7/21/11
38	Wall Framing - SW Structure	5 days	Tue 7/19/11	Mon 7/25/11
37	SW Elevators	45 days	Thu 7/21/11	Wed 9/21/11
39	Restroom Rough In Work	10 days	Tue 7/26/11	Mon 8/8/11
42	Mechanical/Ventilation	20 days	Mon 8/1/11	Fri 8/26/11
40	Restroom Tile/Flooring/Wall Finishes	15 days	Thu 8/4/11	Wed 8/24/11
43	Fire Protection	18 days	Wed 8/17/11	Fri 9/9/11
41	Millwork and Equipment	10 days	Thu 8/18/11	Wed 8/31/11
44	Electrical/Lighting Trim	20 days	Mon 8/29/11	Fri 9/23/11
46	East Structure - Levels One through Three	133 days	Fri 5/13/11	Tue 11/15/11
47	Close NE Entrance Off Frontage Rd	3 days	Fri 5/13/11	Tue 5/17/11
48	Excavation/N. Wall Shoring	32 days	Wed 5/18/11	Thu 6/30/11
49	Underpin Existing Structure	7 days	Fri 7/1/11	Mon 7/11/11



Date: Thu 4/29/10

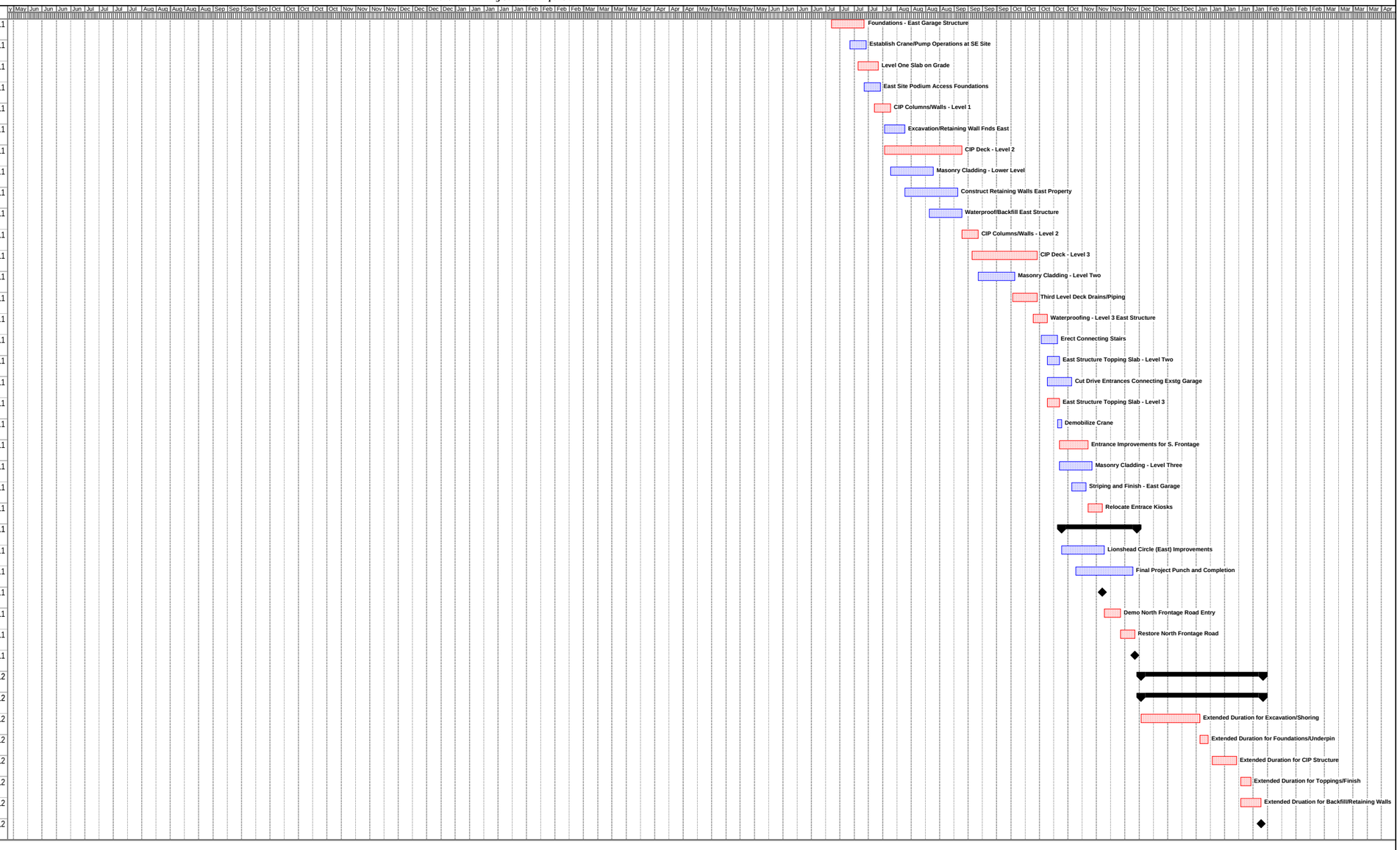
Task | Progress | Summary | Rolled Up Critical Task | Rolled Up Progress | External Tasks | Group By Summary

Critical Task | Milestone | Rolled Up Task | Rolled Up Milestone | Split | Project Summary | Deadline

Option 2 - New East Structure

Lionshead Parking Structure Expansion

ID	Task Name	Duration	Start	Finish
50	Foundations - East Garage Structure	12 days	Wed 7/6/11	Thu 7/21/11
54	Establish Crane/Pump Operations at SE Site	6 days	Fri 7/15/11	Fri 7/22/11
51	Level One Slab on Grade	8 days	Tue 7/19/11	Thu 7/28/11
53	East Site Podium Access Foundations	6 days	Fri 7/22/11	Fri 7/29/11
57	CIP Columns/Walls - Level 1	6 days	Wed 7/27/11	Wed 8/3/11
52	Excavation/Retaining Wall Fnds East	8 days	Mon 8/1/11	Wed 8/10/11
58	CIP Deck - Level 2	28 days	Mon 8/1/11	Wed 9/7/11
59	Masonry Cladding - Lower Level	15 days	Thu 8/4/11	Wed 8/24/11
55	Construct Retaining Walls East Property	18 days	Thu 8/11/11	Mon 9/5/11
64	Waterproof/Backfill East Structure	12 days	Tue 8/23/11	Wed 9/7/11
60	CIP Columns/Walls - Level 2	6 days	Thu 9/8/11	Thu 9/15/11
61	CIP Deck - Level 3	24 days	Tue 9/13/11	Fri 10/14/11
63	Masonry Cladding - Level Two	12 days	Fri 9/16/11	Mon 10/3/11
70	Third Level Deck Drains/Piping	10 days	Mon 10/3/11	Fri 10/14/11
71	Waterproofing - Level 3 East Structure	5 days	Thu 10/13/11	Wed 10/19/11
56	Erect Connecting Stairs	6 days	Mon 10/17/11	Mon 10/24/11
62	East Structure Topping Slab - Level Two	4 days	Thu 10/20/11	Tue 10/25/11
69	Cut Drive Entrances Connecting Exstg Garage	8 days	Thu 10/20/11	Mon 10/31/11
72	East Structure Topping Slab - Level 3	4 days	Thu 10/20/11	Tue 10/25/11
68	Demobilize Crane	2 days	Tue 10/25/11	Wed 10/26/11
66	Entrance Improvements for S. Frontage	10 days	Wed 10/26/11	Tue 11/8/11
73	Masonry Cladding - Level Three	12 days	Wed 10/26/11	Thu 11/10/11
65	Striping and Finish - East Garage	5 days	Tue 11/1/11	Mon 11/7/11
67	Relocate Entrace Kiosks	5 days	Wed 11/9/11	Tue 11/15/11
74	Final Completion Requirements	27 days	Thu 10/27/11	Fri 12/2/11
75	Lionshead Circle (East) Improvements	15 days	Thu 10/27/11	Wed 11/16/11
76	Final Project Punch and Completion	20 days	Thu 11/3/11	Wed 11/30/11
77	Open East Garage Addition to Public	1 day	Wed 11/16/11	Wed 11/16/11
78	Demo North Frontage Road Entry	6 days	Thu 11/17/11	Thu 11/24/11
79	Restore North Frontage Road	5 days	Fri 11/25/11	Thu 12/1/11
80	Project Complete - Base Condition	1 day	Fri 12/2/11	Fri 12/2/11
81	Construction Option 2B	44 days	Mon 12/5/11	Thu 2/2/12
82	Option 2B with Level Zero Tray	44 days	Mon 12/5/11	Thu 2/2/12
83	Extended Duration for Excavation/Shoring	21 days	Mon 12/5/11	Mon 1/2/12
84	Extended Duration for Foundations/Underpin	4 days	Tue 1/3/12	Fri 1/6/12
85	Extended Duration for CIP Structure	10 days	Mon 1/9/12	Fri 1/20/12
86	Extended Duration for Toppings/Finish	5 days	Mon 1/23/12	Fri 1/27/12
87	Extended Druation for Backfill/Retaining Walls	8 days	Mon 1/23/12	Wed 2/1/12
88	Revised Completion Date w/ Tray Zero	1 day	Thu 2/2/12	Thu 2/2/12



Date: Thu 4/29/10

Task | Progress | Summary | Rolled Up Critical Task | Rolled Up Progress | External Tasks | Group By Summary

Critical Task | Milestone | Rolled Up Task | Rolled Up Milestone | Split | Project Summary | Deadline