lds
architects + planners

llewelyn-davies sahni is a leading architectural, planning and design firm dedicated to helping clients deliver an experience. We bring strategy that allows major corporations and public institutions to not only meet their building and design needs for today, but also gives them a vision; a way to think beyond the present.

Markets

- Aviation
- Civic
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- Residential
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Services

3D Animation

Adaptive Reuse

Architecture + Interiors

Development Advisory

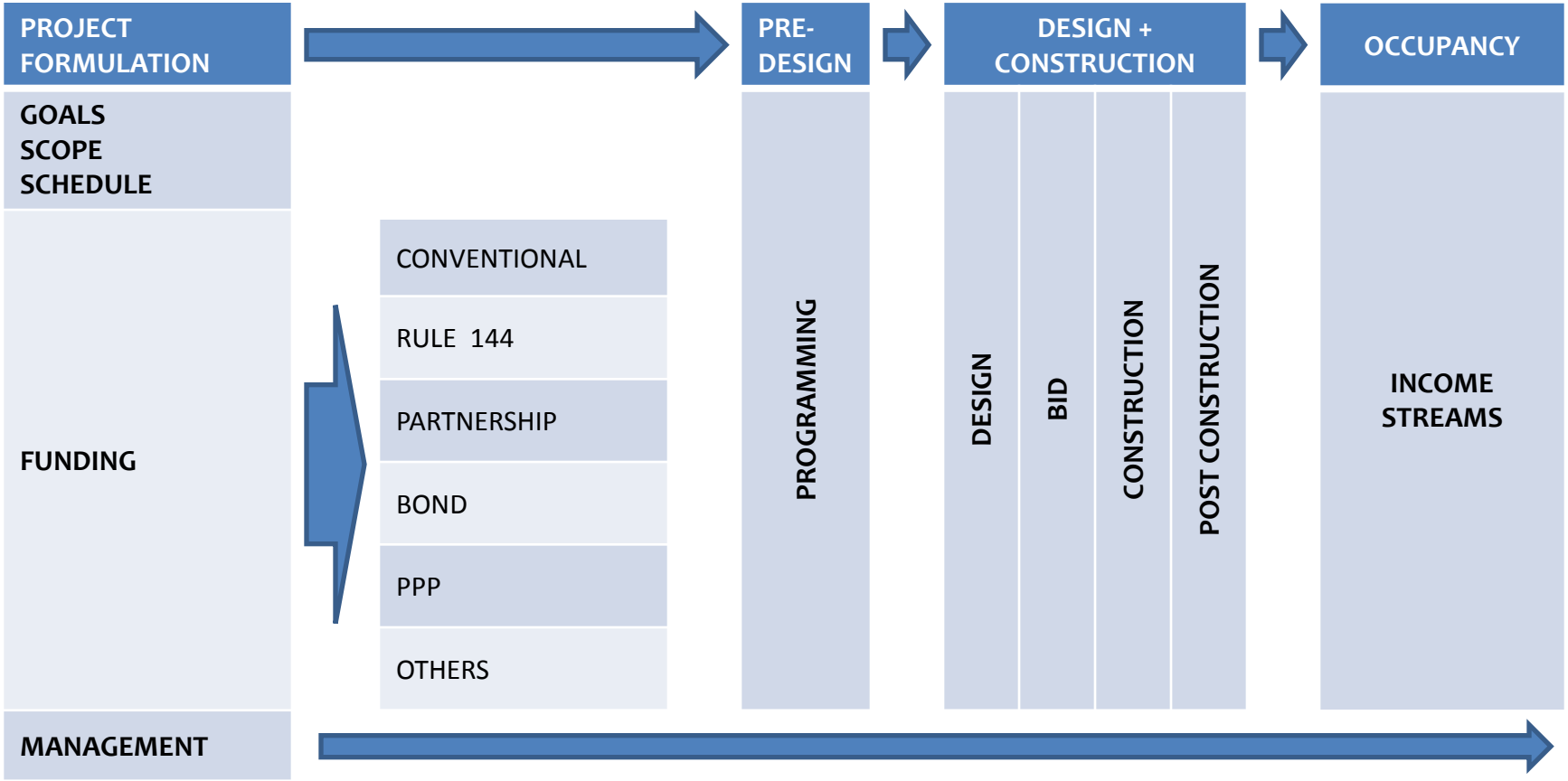
Planning + Urban Design

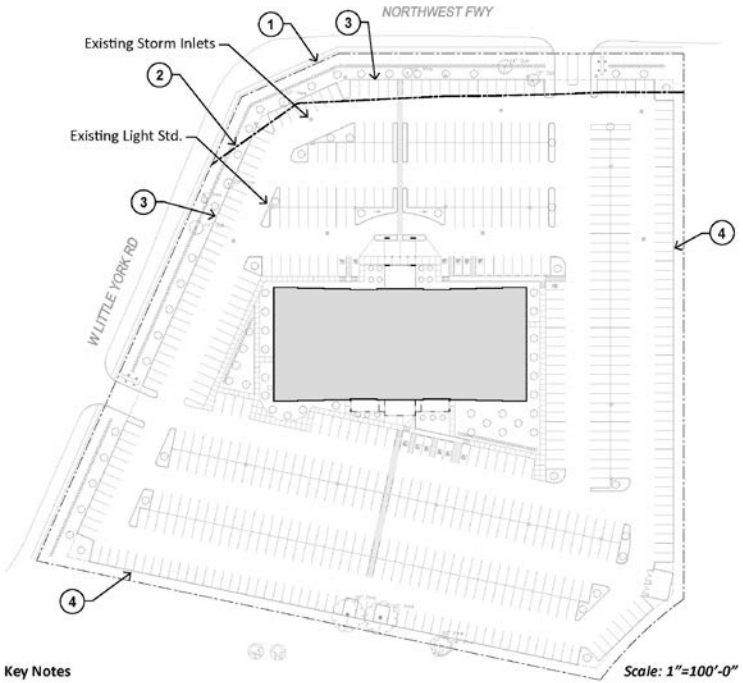
Program + Project Management

Programming

Public Process

Think Differently

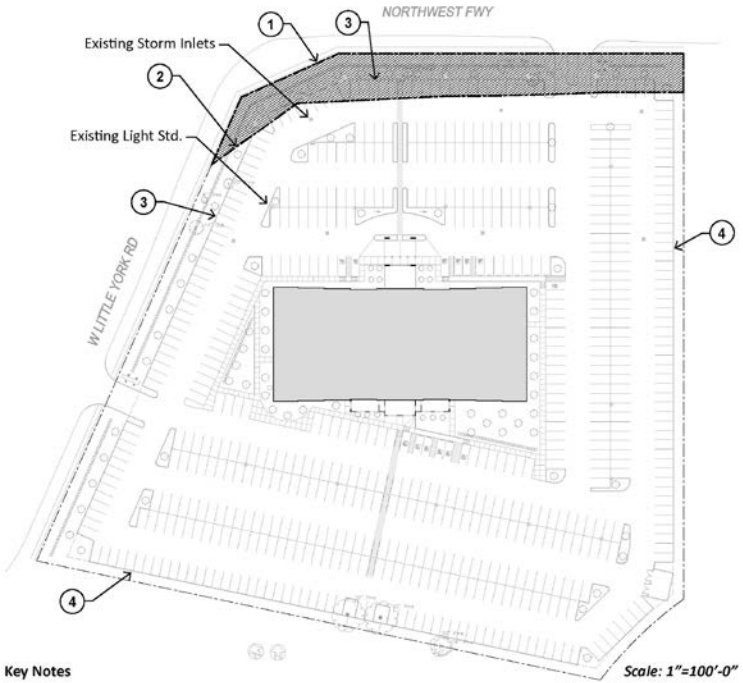




Key Notes

1. Existing ROW
2. Proposed ROW
3. 25' Landscaping Reserve
4. 10' B.L. & Parking Line

Existing Site Plan

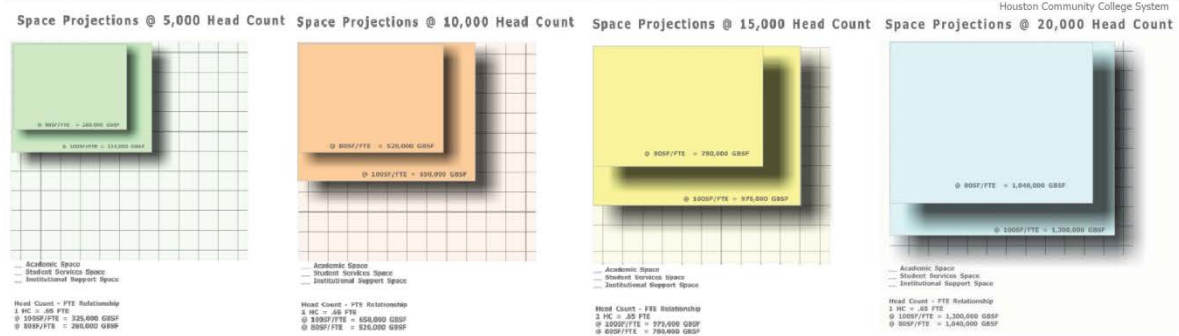


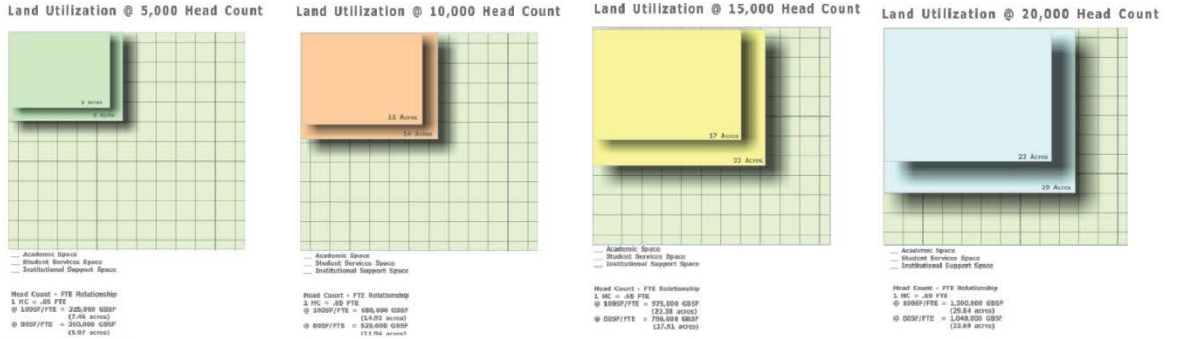
Key Notes

1. Existing ROW
2. Proposed ROW
3. 25' Landscaping Reserve
4. 10' B.L. & Parking Line

Parcel No.	Existing Acres	Taking Acres	Remainder
620	6.5000	0.3953	6.1047

Acquisition Plan





3.6.1 Needs: Built Space / Land

3.6 Available Land and Utilization Analysis

Built Space and Land Needs

- To accommodate a student population of 10,000 or 6,500 FTSEs, the built space (academic/service/support should be 520,000 to 650,000 GBSF. This translates into land-use area need of 28 acres (F.A.R of 1:1).
- To accommodate a student population of 15,000 or 9,750 FTSEs, the built space (academic/service/support should be 780,000 to 975,000 GBSF. This translates into a land- use area need of 46 acres (F.A.R of 1:1).
- To accommodate a student population of 20,000 or 13,000 FTSEs, the built space (academic/service/support should be 1,040,000 to 1,300,000 GBSF. This translates into a land-use area need of 58 acres (F.A.R of 1:1).

Summary

Available Land is 4 acres.

10,000 HC or 6,500 FTSEs:

- 1-story building = 28-30 acres
- 2-story building = 14-18 acres
- 3-story building = 7-10 acres

15,000 HC or 9,750 FTSEs:

- 1-story building = 44-48 acres
- 2-story building = 22-25 acres
- 3-story building = 12-14 acres

26,000 HC or 13,000 FTSEs:

- 1-story building = 55-65 acres
- 2-story building = 28-35 acres
- 3-story building = 16-20 acres

Conclusion

To accommodate up to 13,000 FTSEs, the Campus building should be planned for an average of two to three stories (Refer to Figure 3.6.1).

3.7.1 Area Analysis 3

3.7.2 Area Analysis 4

3.5.4 Analysis 3

A	=	3.18 Acres (Assume 50" Setback)	30%
B1	=	2.98 Acres (Assume 325 Parking[1])	28%
B2	=	2.98 Acres (Assume 325 Parking[1])	28%
C1	=	0.50 Acres (Assume 3 floors)	5%
C2	=	0.50 Acres (Assume 3 floors)	5%
D	=	0.21 Acres (Assume 2% of Site)	2%
E	=	0.72 Acres (Detention @ 6" Deep)	7%
Total	=	11.07 Acres	105%

There will be insufficient land to support a second building (Refer to Figure 3.7.1).

3.5.5 Analysis 4

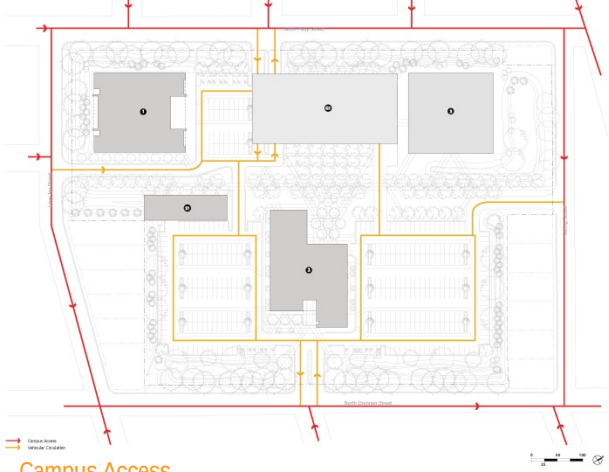
A	=	2.58 Acres (Assume 40" Setback)	23%
B1	=	2.98 Acres (Assume 325 Parking[1])	28%
B2	=	2.98 Acres (Assume 325 Parking[1])	28%
C1	=	0.50 Acres (Assume 3 Floors)	5%
C2	=	0.50 Acres (Assume 3 Floors)	5%
D	=	0.21 Acres (Assume 2% of Site)	2%
E	=	0.72 Acres (Detention @ 6" Deep)	7%
F	=	0.20 Acres (Residual Area)	2%
Total	=	10.69 Acres	100%

(Refer to Figure 3.7.2)

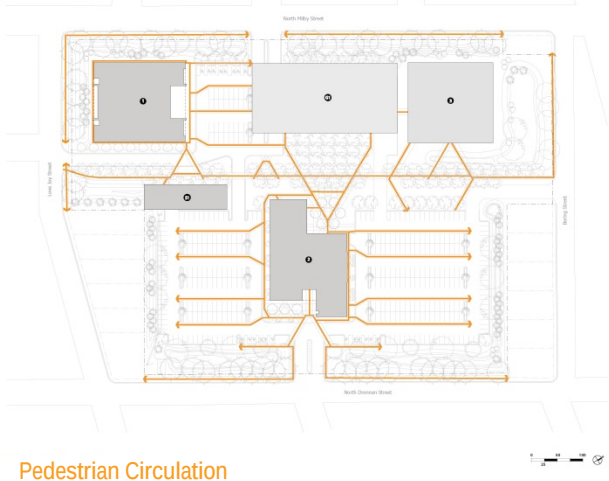
3.5.6 Conclusions

By reducing the setback requirement to 40 feet, it will be possible to support two 65,000 GSF buildings, with 650 surface parking spaces. The configuration identified in Analysis four was adopted.

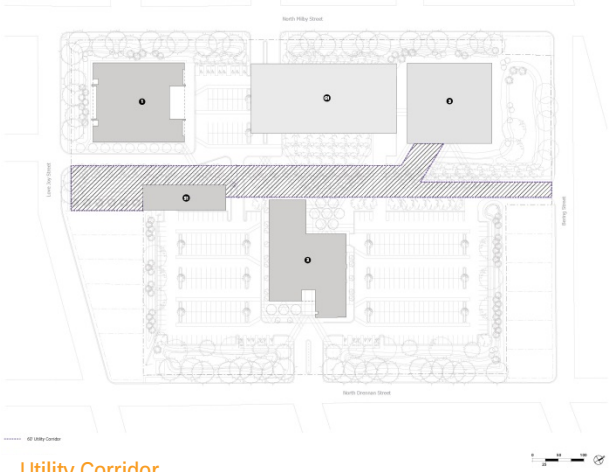
[1] Parking was calculated based on the following calculation.
No. of parking spaces = (65,000/400)*2 = 325
Area required for parking = 325*400 = 130,000 SF



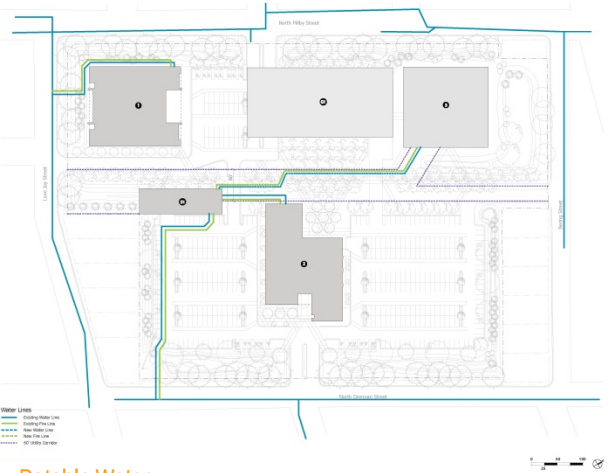
Campus Access



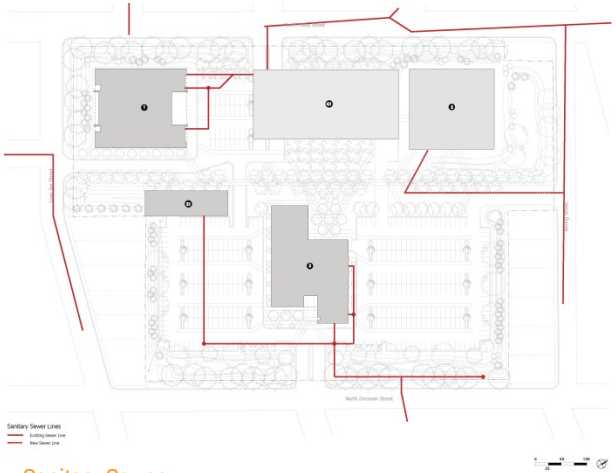
Pedestrian Circulation



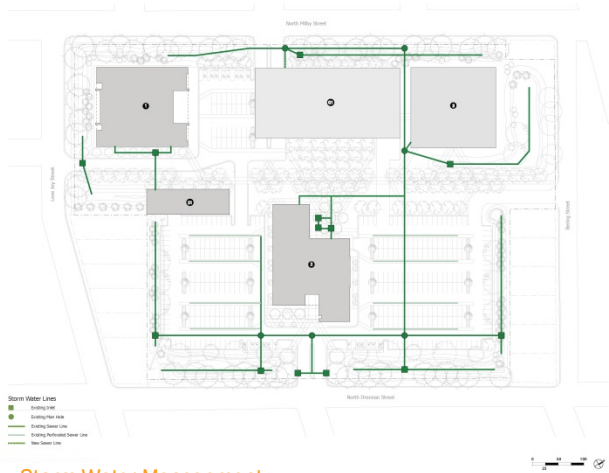
Utility Corridor



Potable Water



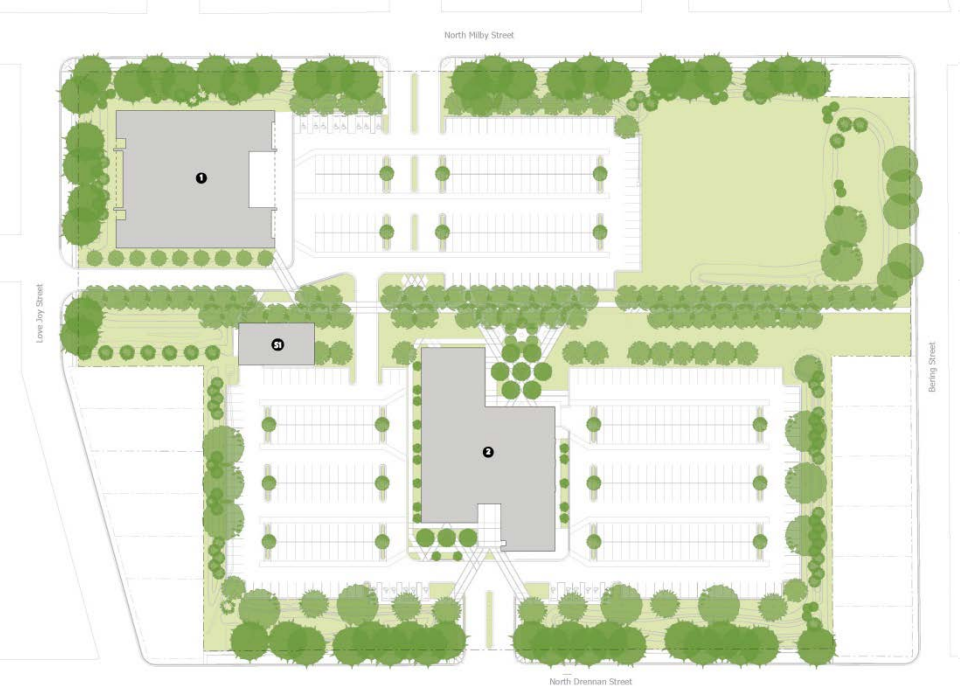
Sanitary Sewer



Storm Water Management

Houston Community College – Felix Fraga

Education

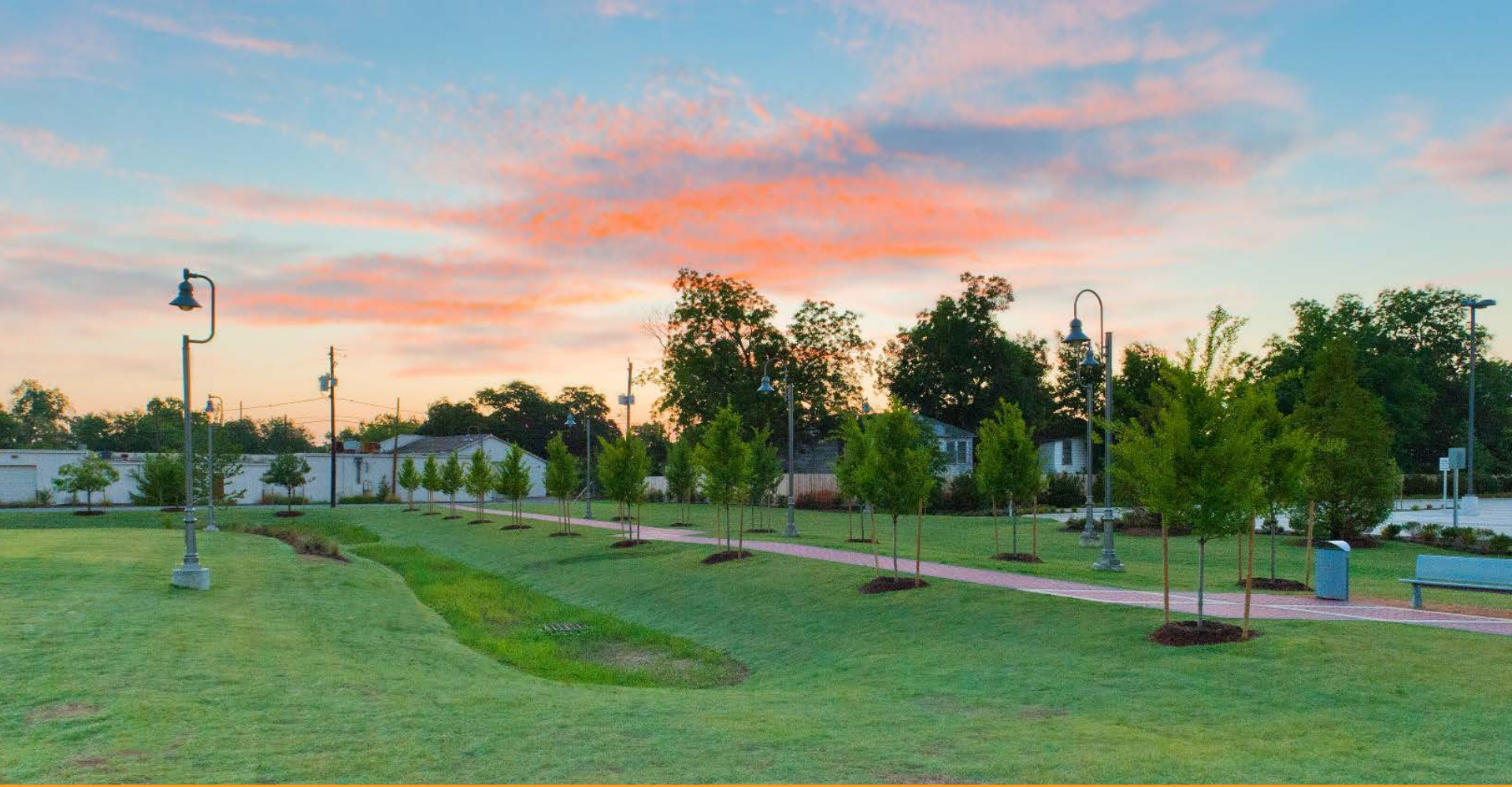


Houston Community College – Felix Fraga

Education

Houston Community College – Felix Fraga

Education



Houston Community College – Felix Fraga

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Houston Community College – Felix Fraga

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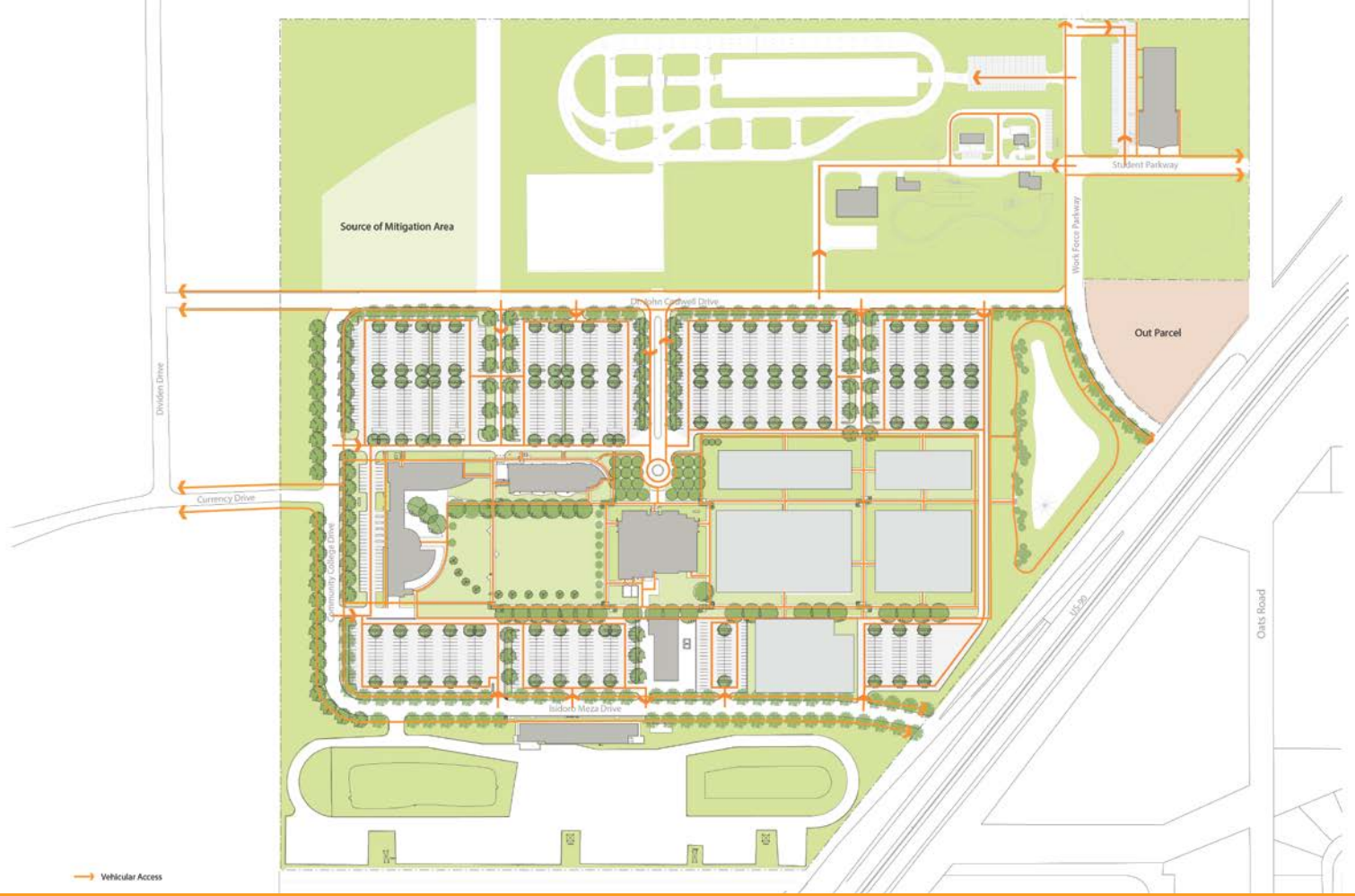
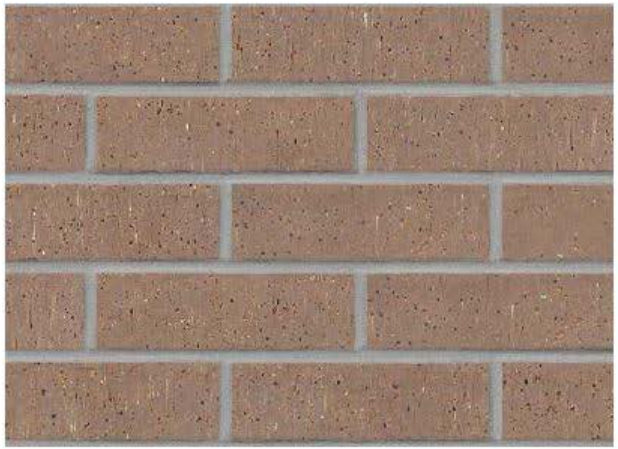
Houston Community College – Felix Fraga

Education

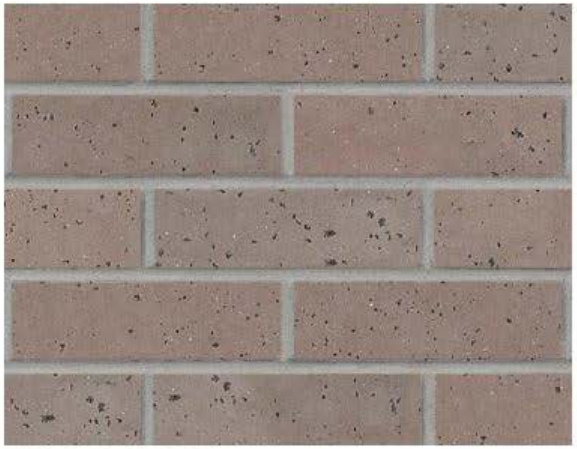


Houston Community College – Northeast

Education

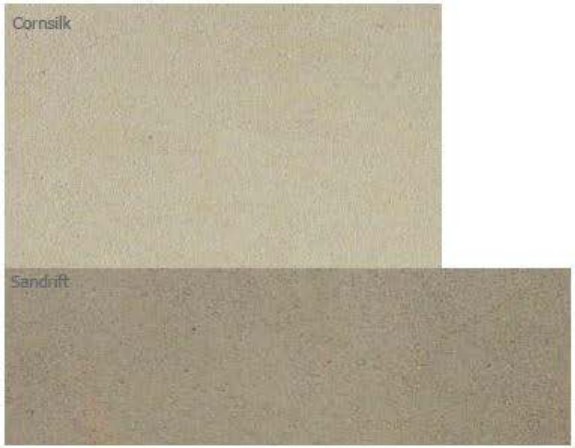


7.3.1 Face Brick - Twilight Pink



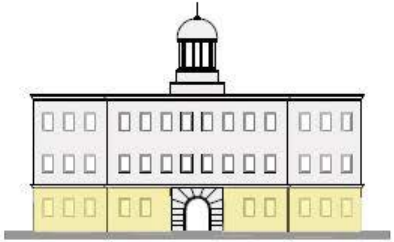
7.3.3 Soldier Course Face Brick - Royal Orchid

7.3.2 Anodized Aluminum Storefront

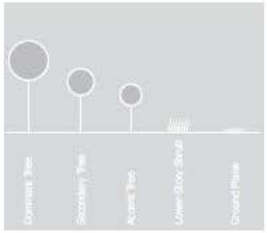


7.3.4 Calcium Silicate Masonry

7.2.1 Building Base



The first floor of the building is considered the base of the building. Color and texture samples provided in figures 7.3.1-7.3.4 should be considered.



7.9.1 Ground-Plane Treatment

7.9.2 Dominant Tree: Shumard Oak

7.9.3 Dominant Tree: Drummond Red Maple

7.9.4 Dominant Tree: Pecan Tree

7.9.5 Secondary Tree: Drake Elm

7.9.6 Secondary Tree: Allee Chinese Elm

7.9.7 Accent Tree: Shantung Maple

7.9.8 Accent Tree: Crape Myrtle 'Natchez'

7.9.9 Accent Tree: Texas Redbud

7.9.10 Lower-Story Shrub: Gulf Stream Nandina

7.9.11 Lower-Story Shrub: Petite Salmon Oleander

7.9.12 Lower-Story Shrub: Indian Princess Indian Hawthorn

7.3 Ground-Plane Treatment

7.3.1 Landscape Treatment Hierarchy

A four-level ground-plane treatment is recommended. This treatment includes: dominant trees (upper story), secondary trees, accent trees, lower-story trees and shrubs, as well as ground cover (Refer to Figure 7.9.1).

7.3.1.1 Dominant Trees

Trees should be planted where gaps exist in the present tree lined streets. These trees should also be planted to shade pedestrians moving between buildings and to buildings from parking facilities. Dominant trees should also be used in the creation of vistas (Refer to Figures 7.9.2 and 7.9.4).

Dominant Trees: Shumard Oak, Drummond Red Maple, and Pecan Tree

7.3.1.2 Secondary Trees

Secondary trees should be used as parking lot trees/shade trees and areas that are limited in space (Refer to Figures 7.9.5 and 7.9.6).

Adopted Tree: Drake Elm and Allee Chinese Elm

7.3.1.3 Accent Trees

Accent trees should be planted in people places, informal sitting areas, bosque areas, or other areas of significance (Refer to Figures 7.9.7-7.9.9).

Adopted Tree: Shantung Maple, Crape Myrtle 'Natchez', and Texas Redbud

7.3.1.4 Lower-Story Shrubs

Lower-story planting should be used to define pedestrian traffic routes and protection barriers in areas where it is a natural tendency for users to walk across corners of lawns or cut across landscaped areas.

Lower-story shrubs should also be used to screen elements such as parking, delivery, and storage yards. Their placement should be informal, creating charm and interest (Refer to Figures 7.9.1-7.9.12).

Adopted Trees: Gulf Stream Nandina, Petite Salmon Oleander, and Indian Princess Indian Hawthorn

7.11.1 Landscape Forms- Stay Bench

7.11.2 Landscape Forms- Parc Centre Tables & Chairs

7.11.3 Wassau Tile, Inc.-MF3006 - Waste Receptacle

7.11.4 Landscape Forms- PI Bike Rack

7.11.5 Wausau Tile, Inc.- TF6091 - Bollard

7.11.6 Wassau Tile, Inc.- TF60221 - Bollard

7.11.7 Wassau Tile, Inc.- TF4106 - Planter

7.11.8 Landscape Forms- Robert - Railing

7.11.9 Seating Shelter

7.11.10 Entry Canopy

7.11.11 Seating Shelter

7.11.12 Entry Canopy

7.11.13 Seating Shelter

7.4 Site Amenities

To allow for and to encourage outdoor activity and informal inaction of the Campus population, amenities were selected and approved by the Administration. These are described briefly below; however a separate document containing details of every item was produced for use and reference when necessary.

7.4.1 Benches

Landscape Forms - Stay Bench with back (Refer to Figure 7.11.1)

7.4.2 Table Seating

Landscape Forms - Parc Centre Tables & Chairs (Refer to Figure 7.11.2)

7.4.3 Receptacles

Wassau Tile, Inc. – MF3006 (Refer to Figure 7.11.3)

7.4.4 Bike Racks

Landscape Forms – PI Bike Rack (Refer to Figure 7.11.4)

7.4.5 Bollards

Wassau Tile, Inc. – TF6091 Bollard (Refer to Figure 7.11.5)
Wassau Tile, Inc. - TF60221 Bollard (Refer to Figure 7.11.6)

7.4.6 Planters

Wassau Tile, Inc. - TF4106 (Refer to Figure 7.11.7)

7.4.7 Railings

Landscape Forms - Robert (Refer to Figure 7.11.8)

7.4.8 Shelters/Entry Canopies

Figures 7.11.9 to 7.11.13 show samples of different shelters and entry canopies. However, none of these designs have been selected for this particular Campus.

Source: Houston Community College Site Amenities Book

Houston Community College – Northeast

Education

Houston Community College – Northeast

Education

Houston Community College – Northeast

Education

Houston Community College – Northeast

Education

Houston Community College – Northeast

Education

HCC – Northeast Drilling Training Center

Education

		Category			Committed/ Spent	Balance	Remarks
A	1	General Requirements		$143,011	$0.00	$143,011	
	2	Site/Demolition		$166,966	$0.00	$166,966	Landscape/Irrigation-infrastructure budget
	3	Concrete		$991,844	$0.00	$991,844	
	4	Masonary		$363,091	$0.00	$363,091	
	5	Metals		$1,066,259	$0.00	$1,066,259	
	6	Wood & Plastic		$257,745	$0.00	$257,745	
	7	Thermal & Plastic		$368,587	$0.00	$368,587	
	8	Doors/windows		$766,500	$0.00	$766,500	
	9	Finishes		$891,410	$0.00	$891,410	
	10	Specilities		$98,450	$0.00	$98,450	
	11	Equipment		$0	$0.00	$0	Separate budget
	12	Furnishings		$48,860	$0.00	$48,860	
	13	Special construction		$0	$0.00	$0	
	14	Conveying		$115,000	$0.00	$115,000	
	15	Mechanical(Plumbing)		$435,601	$0.00	$435,601	
	16	Mechanical (HVAC)		$1,356,954	$0.00	$1,356,954	
	17	Electrical		$1,075,427	$0.00	$1,075,427	
	18	Slab		$0	$0.00	$0	to receive from A/E-**included in line # 3**
	19	Smoke control		$0	$0.00	$0	to receive from A/E-**included in line #17**
	20	Genertor		$300,000	$0.00	$300,000	To be confirmed by A/E
B	21	**Subtotal**		**$8,445,705**	$0.00	$8,445,705	
	22	Contractor's General Conditions		$326,868	$0.00	$326,868	4% of B19-per A/E estimate
	23	Contractor's Fee/Bond/Insurance		$382,436	$0.00	$382,436	4.5% of B19+B20-per A/E estimate
	31	Owner/Contractor contengency		$888,101	$0.00	$888,101	10% of b19+B20+B21-per A/E estimate
	32	Escalation		$195,382	$0.00	$195,382	2% of B19+B20+B21+E**22** (6 months to mid-construction by A/E Estimates)
C	33	**Compounded Hard Cost**		$10,538,492	$0	$10,538,492	Floor 1&2-=40,500BSF @ $175/SF Floor 3 no improvements-20,000SF @ $80/SF
D	34	Infrastrucutre cost	LS	$50,000	$0.00	$50,000	Included in site infrastrucuture cost
E	35	IT Building cabling & ionfrastructure		$2,000,000	$0.00	$2,000,000	Cabling+PM+Markup=$344.101& AV $556,500-per GD May 2009
F	36	Soft cost Construction contengency		$0	$0.00	$0	Included in line B21
G	37	FF&E cost		$995,021	$64,000.00	$931,021	Preliminary budget received from GK May 2009
H	38	Demolition		$50,000	$0.00	$50,000	Estimate to remove houses and infrastructure
I	39	A/E fee allowence		$600,000	$596,871.00	$3,129	
	40	Program management fee		$374,067	$374,067.00	$0	
	41	Prgm/MP/SD/DD reviewas		$180,000	$135,000.00	$45,000	
	42	Infrastructure Design fee		$120,000	$120,000.00	$0	
	43	IT design fee		$140,000	$103,787.00	$36,213	**Included in B32-$103,787**
	44	Site master plan update		$20,000	$20,000.00	$0	
	45	Survey work		$20,000	$46,620.00	-$26,620	Landtech consultants
	45	Impact fees/Service Units-Natural Gas/CenterPoint		$20,000	$0.00	$20,000	SU in place. Gas Service & electrical service
	47	Inspectors		$306,378	$306,378.00	$0	
	48	Project software		$0	$0.00	$0	NA
	49	Design standards		$0	$0.00	$0	NA
	50	Geotech analysis		$30,000	$9,000.00	$21,000	Earth elgnneering
	51	Material testing		$60,000	$0.00	$60,000	
	51	Traffic impact		$0	$0.00	$0	NA
	53	Building construction permit fee		$30,000	$0.00	$30,000	
	54	design / CD fees beyond the bldg.& signage & coordination		$105,000	$0.00	$105,000	A/E not providing this service-LDS providing service
	55	Soft cost contengency		$150,000	$0.00	$150,000	
	56	Signage		$30,000	$0.00	$30,000	A/E budget-$18K
	57			$15,818,958	$1,775,723	$14,043,235	
F	58	**Various Maint. costs not part of Workforce Bldg.**		$0	$0.00	$898,593	
G	59	**Total budget**		**$15,818,958**	**$1,775,723**	**$14,941,828**	

Sample Budget – Hard/Soft Costs

Education

Houston Community College – Central Campus

Education

Houston Community College – Central Campus

Education

HCC – San Jacinto Memorial Green

Education

Houston Community College – Central Campus

Education

Houston Community College – Central Campus

Education

HCC – San Jacinto Memorial Green

Education

HCC – San Jacinto Memorial Green

Education

HCC – San Jacinto Memorial Green

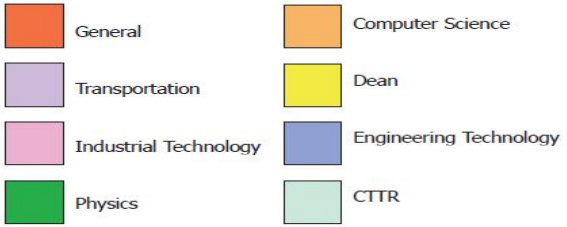
Education

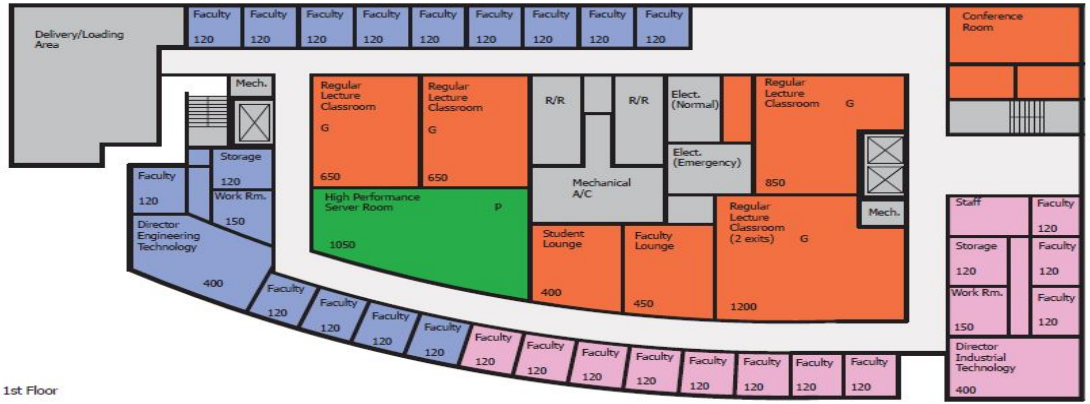
HCC – Central Campus Bookstore

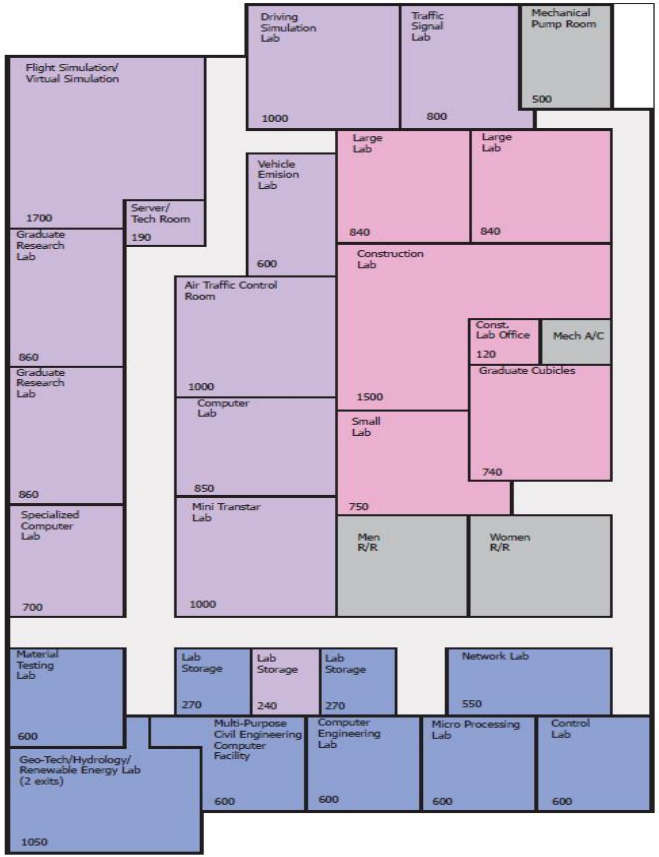
Education

HCC – Central Campus Bookstore

Education


General
Transportation
Industrial Technology
Physics
Computer Science
Dean
Engineering Technology
CTTR


Delivery/Loading Area
Faculty 120
Mech.
Storage 120
Work Rm. 150
Director Engineering Technology 400
Regular Lecture Classroom G 650
Regular Lecture Classroom G 650
High Performance Server Room P 1050
R/R
R/R
Elect. (Normal)
Elect. (Emergency)
Mechanical A/C
Regular Lecture Classroom G 850
Student Lounge 400
Faculty Lounge 450
Regular Lecture Classroom (2 exits) G 1200
Conference Room
Staff
Storage 120
Work Rm. 150
Director Industrial Technology 400
1st Floor


Flight Simulation/ Virtual Simulation 1700
Graduate Research Lab 860
Graduate Research Lab 860
Specialized Computer Lab 700
Server/ Tech Room 190
Driving Simulation Lab 1000
Traffic Signal Lab 800
Mechanical Pump Room 500
Vehicle Emision Lab 600
Large Lab 840
Large Lab 840
Air Traffic Control Room 1000
Computer Lab 850
Mini Transtar Lab 1000
Construction Lab 1500
Const. Lab Office 120
Mech A/C
Graduate Cubicles 740
Small Lab 750
Men R/R
Women R/R
Material Testing Lab 600
Lab Storage 270
Lab Storage 240
Lab Storage 270
Network Lab 550
Geo-Tech/Hydrology/ Renewable Energy Lab (2 exits) 1050
Multi-Purpose Civil Engineering Computer Facility 600
Computer Engineering Lab 600
Micro Processing Lab 600
Control Lab 600

Texas Southern University - Technology Building

Education

Lone Star College – Cypress Center

Education

Lone Star College – Cypress Center

Education

Lone Star College – Cypress Center

Education

Lone Star College – Cypress Center

Education

Lone Star College – Cypress Center

Education

Lone Star College – Cypress Center

Education

Lone Star College – Cypress Center

Education

Lone Star College – Cypress Center

Education

Houston Community College – Fashion School

Education

Houston Community College – Fashion School

Education

Houston Community College – Fashion School

Education

Ben Taub General Hospital

Healthcare

Ben Taub General Hospital

Healthcare

Houston Eye – Ambulatory Surgery Center

Healthcare

Houston Eye – Ambulatory Surgery Center

Healthcare

Houston Eye – Ambulatory Surgery Center

Healthcare

Houston Eye – Ambulatory Surgery Center

Healthcare

Yale New Haven

Healthcare

University of Texas Health Science Center

Education | Healthcare

University of Texas Health Science Center

Education | Healthcare

University of Texas Health Science Center

Education | Healthcare

1985

Post Oak Park

Planning + Urban Design

2017
Amegy
Amegy

Houston Spaceport

Aviation

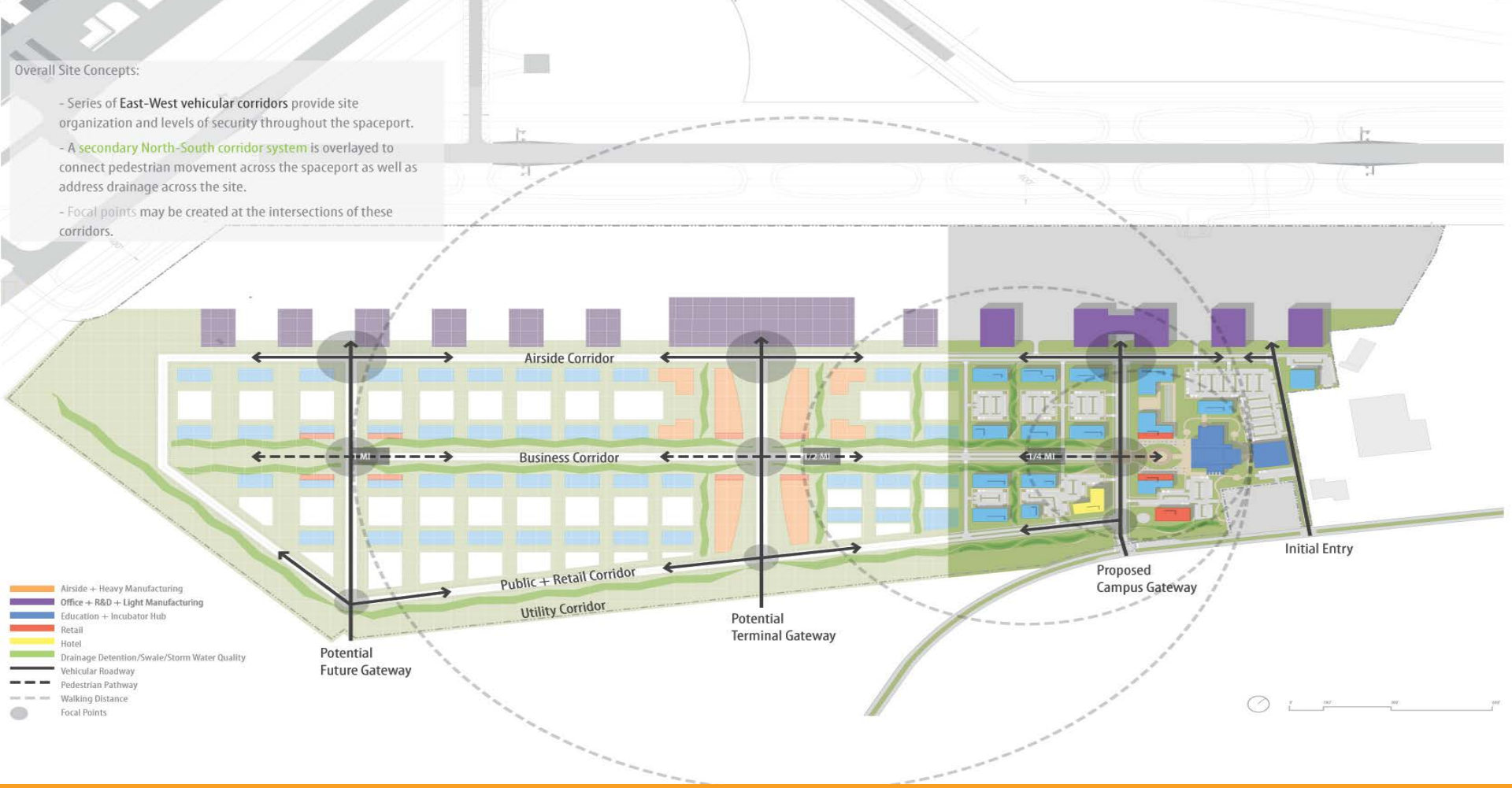
Houston Spaceport

Aviation

Summary of Ellington Airport
Master Plan Update

Overall Site Concepts:

- Series of **East-West vehicular corridors** provide site organization and levels of security throughout the spaceport.
- A **secondary North-South corridor system** is overlayed to connect pedestrian movement across the spaceport as well as address drainage across the site.
- **Focal points** may be created at the intersections of these corridors.



City of Houston – Wastewater Operations Lab

Civic

City of Houston – Wastewater Operations Lab

Civic

City of Houston – Wastewater Operations Lab

Civic

City of Houston – Wastewater Operations Lab

Civic

City of Houston – Wastewater Operations Lab

Civic

Gas & Power Company

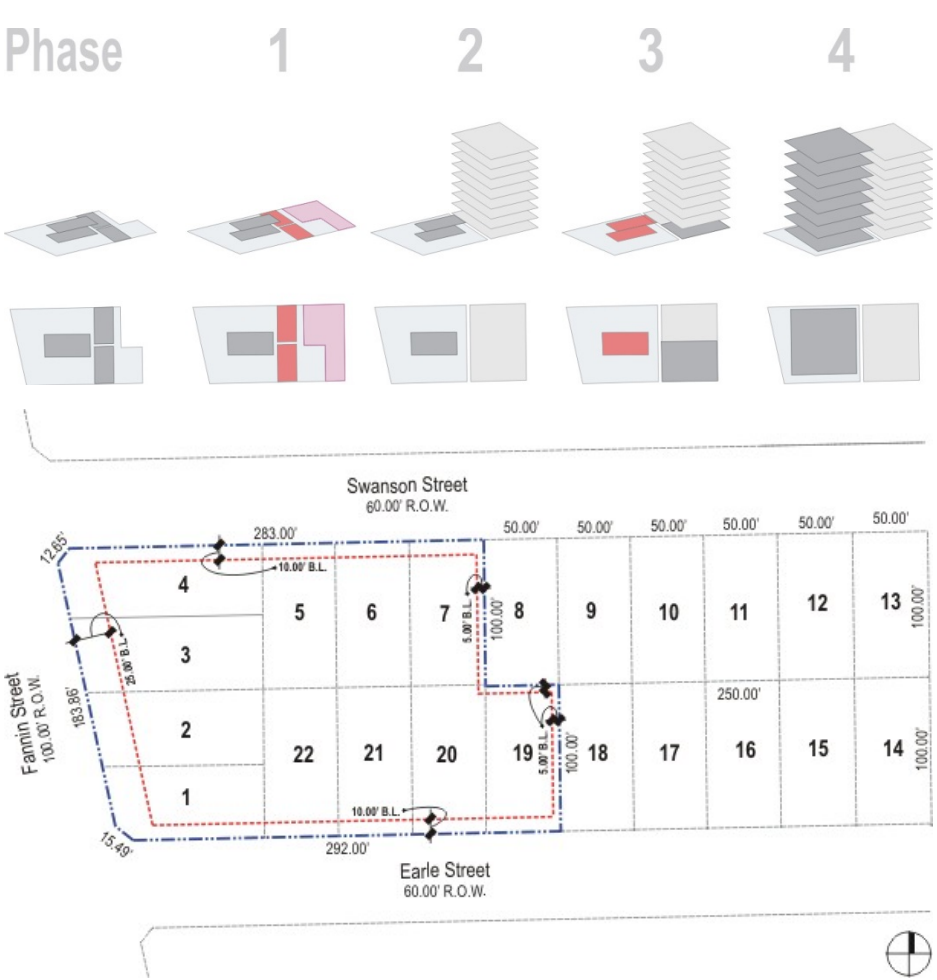
Commercial

Gas & Power Company

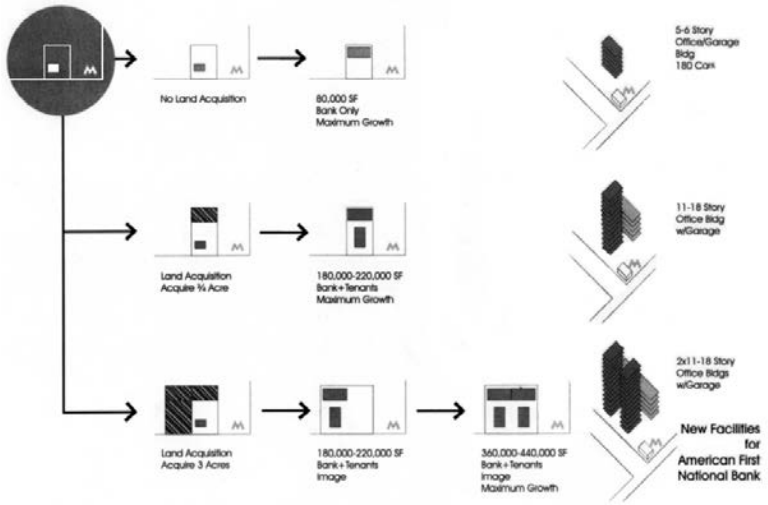
Commercial

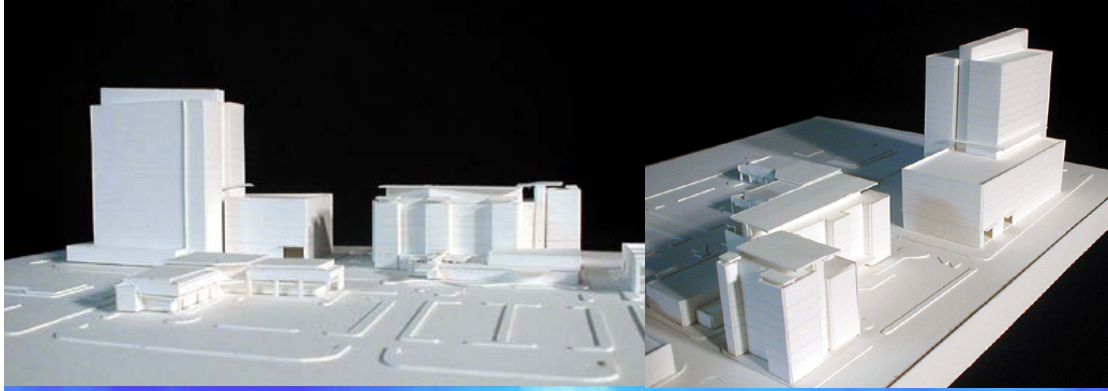
Gas & Power Company

Commercial



	One Building-Garage Office Space Detached		
	Components	**Cost**	**Remarks**
A.	**Building Cost- Class B**		
	Lease Space- 8 floors- 24,200sf- Shell Only	$15,488,000.00	$80/sf Shell Space
	Lease Space in garage- 1 Floors- 20,000sf	$1,600,000.00	$80/sf Shell Space
	Build out allownce- 174,240@$20	$3,484,800.00	Allowance of $20/sf- Prefabricated Structure
	Sub total	***$20,572,800.00***	
	Parking Garage-580cars @350sf=203,000sf	$3,045,000.00	$20/sf
		$23,617,800.00	
B.	**Site Development**		
	3 Acres-Say 100,000sf@$5/sf	$500,000.00	Landscape work/paving
	Utility Impact fee- Lump Sum 0.20/sf	$42,600.00	if required
	Sub total	***$542,600.00***	
C.	**Fixed Equipment**		
	Elevators	*$240,000.00*	6 elevators
	Sub total	***$240,000.00***	
D.	**Construction Cost**	**$24,400,400.00**	
E.	**Site Cost**	$0.00	Owned
F.	**Movable & Special Equipment**	$150,000.00	Medical related infrastructure
	Sub total	***$150,000.00***	
G.	**Professional Fee**		
	A/E- 8% of D	$1,952,032.00	Prgm/Arch/MEP/Civil/Structural/Landscape Arch
	Construction Management- 4.5% of D	$1,098,018.00	If needed(alternate to H)
	Sub total	***$3,050,050.00***	
H.	**Feasibility Studies-Mortgage Package**	$20,000.00	if required
	Legal Consulting	$25,000.00	if required
	Other consultants	$50,000.00	if required
	Insurance	$122,002.00	if required-0.5%
	Sub total	***$217,002.00***	
I.	**Contingency**	**$2,440,040.00**	10% of construction cost
J.	**Pre-Development costs**	**$50,000.00**	if required
K.	**Total Project Cost**	**$30,307,492.00**	Not including: Leasing Comm.,Admin cost,





American First National Bank

Commercial

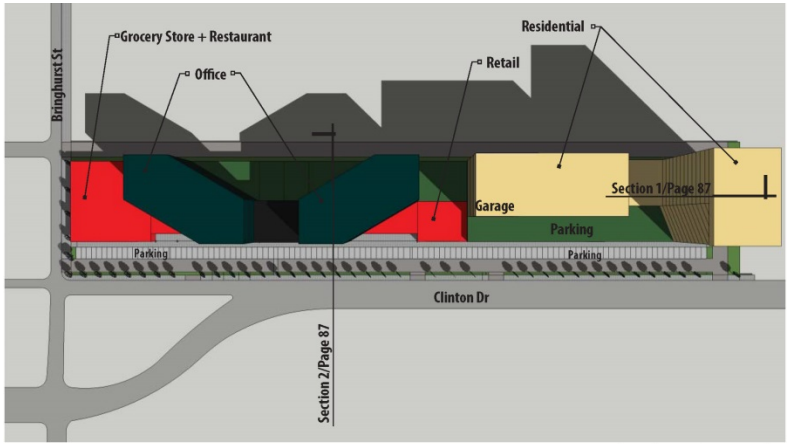


Figure 141 : Proposed Development Massing Plan

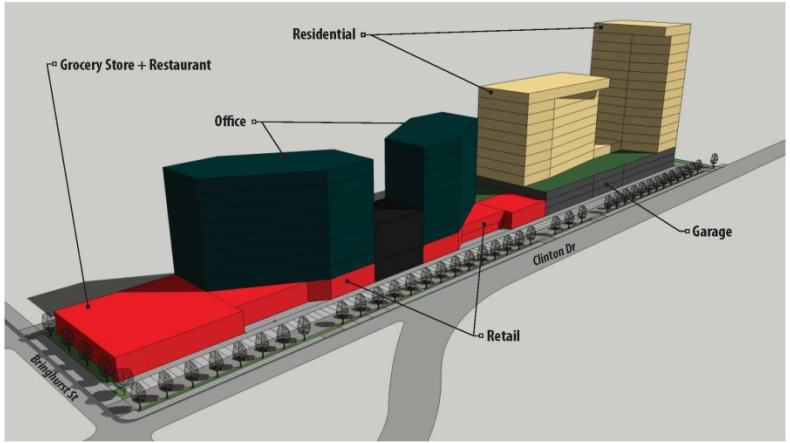


Figure 142 : Proposed Development Massing Model Looking North

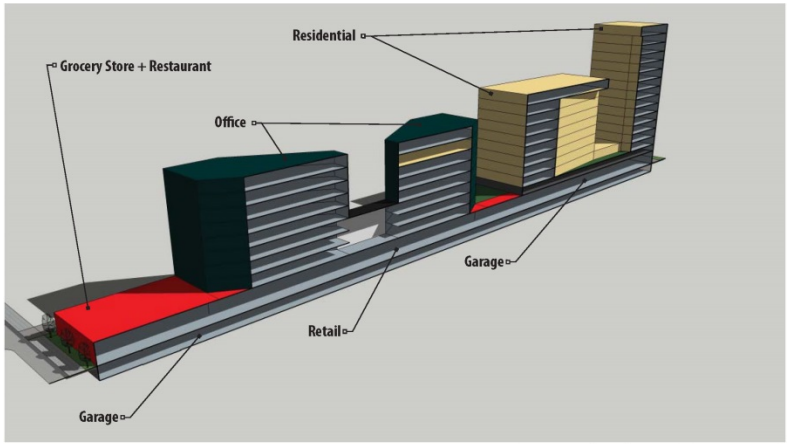


Figure 143 : Proposed Development Massing Section 1

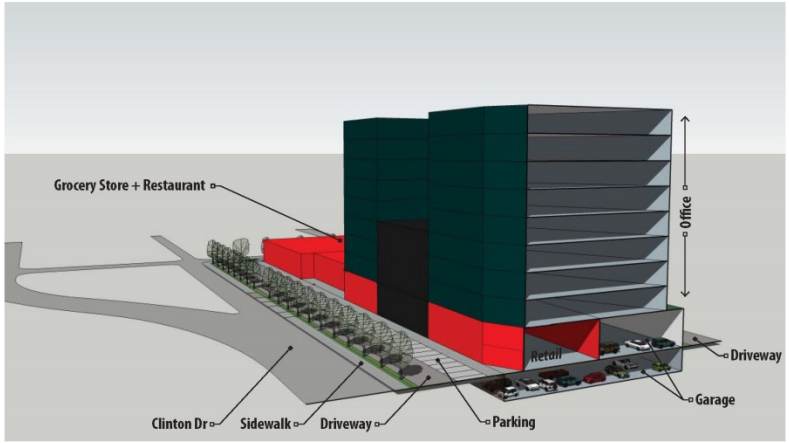


Figure 144 : Proposed Development Massing Section 2

5.2 Land Value Program

Figure 132 describes the land value program.

	Development Component	Units / SF	Average SF	Total SF	Hard Cost PSF	Soft Cost PSF	Total Cost PSF	Total Cost	Annual Income PSF or Unit	Gross income	Assumed Margin	Net Income
1	**Retail**			45,000	$95.00	$31.35	$126.35	$5,685,750	$20.00	$900,000	75.0%	$675,000
2	**Office**			250,000	$120.00	$39.60	$159.60	$39,900,000	$25.00	$6,250,000	75.0%	$4,687,500
3	**Residential**											
		180	1,000	180,000	$120.00	$39.60	$159.60	$28,728,000	$24.00	$4,320,000	75.0%	$3,240,000
		80	2,000	160,000	$180.00	$59.40	$239.40	$38,304,000	$24.00	$3,840,000	75.0%	$2,880,000
4	**Parking**											
	Retail: 4/1,000SF	180	300	54,000			$43.33	$2,340,000				
	Office: 2.5/1000SF	625	300	187,500			$43.33	$8,125,000	$240.00	$72,000	75.0%	$54,000
	Residential: 2/unit	520	300	156,000			$43.33	$6,760,000	$240.00	$72,000	75.0%	$54,000
	Surface	100	350	35,000			$11.43	$400,000				
5	**Total Project Cost**							**$130,242,750**				
6	**Project Contingency**						10%	$13,024,275				
7	**Total Project Cost w/ Contingency**							**$143,267,025**				
8	**Total Project Income**									**$15,454,000**	**75.0%**	**$11,590,500**
9	**Project Market Value (Cap Rate on Net Income)**										6%	**$193,175,000**
10	**Implied Residual Land Value**											**$49,907,975**
11	**Land Value PSF**	5.8	43,560	254,000								**$196.49**

construction Cost source: Fixr.com

Implied Land Value PSF Sensitivity

Cap Rate	Net Income Margin 60.0%	65.0%	70.0%	75.0%
6.0%	$44.38	$95.08	$145.79	$196.49
6.5%	($2.42)	$44.38	$91.18	$137.99
7.0%	($42.54)	$0.92	$44.38	$87.84
7.5%	($77.30)	($36.74)	$3.82	$44.38
8.0%	($107.72)	($69.70)	($31.67)	$6.36

** Program based on current market conditions as of April 2015.*

1987

UPTOWN Christmas Lighting Celebration

Planning + Urban Design

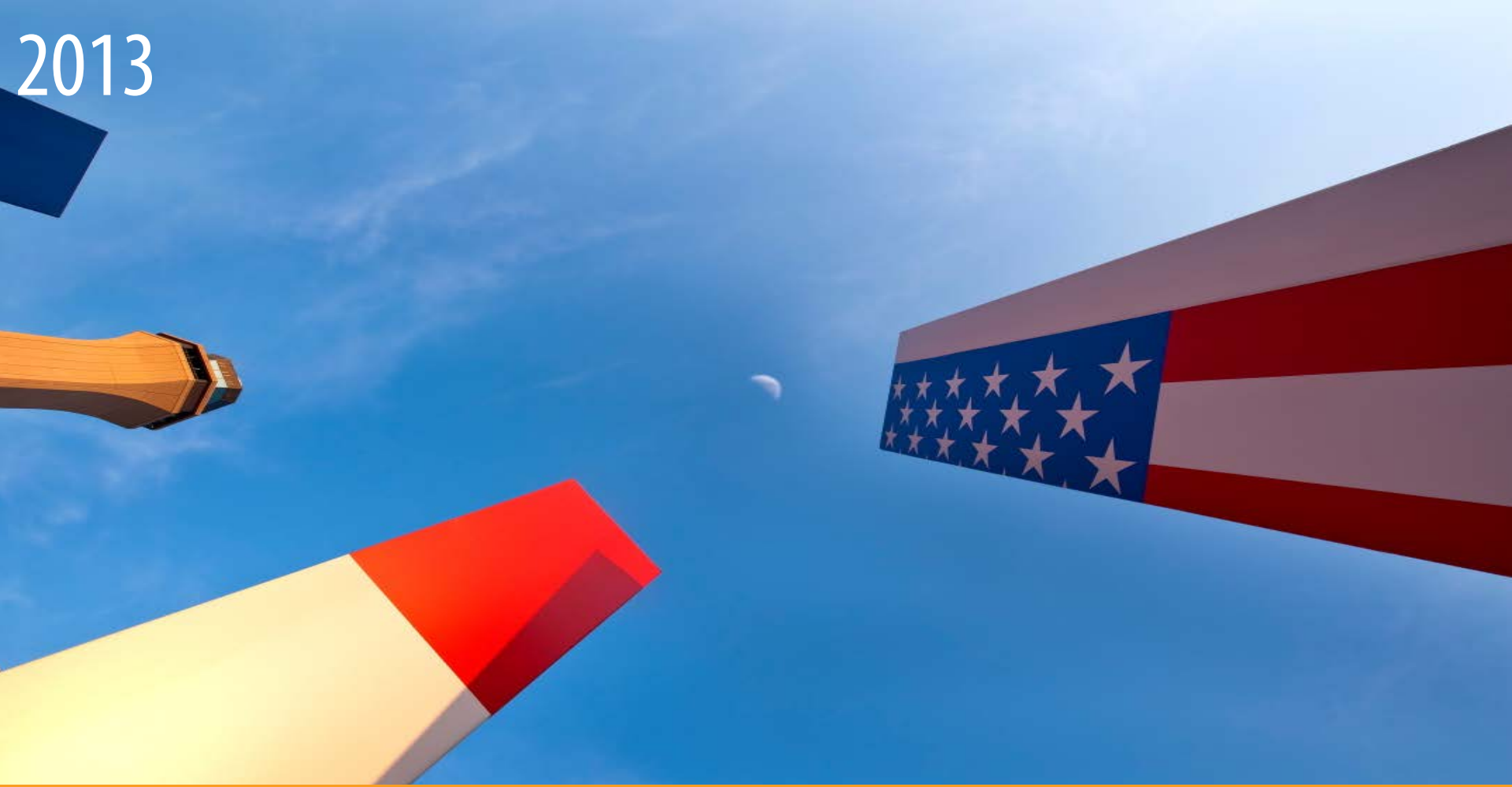
1990

City of Houston – Light Spikes

Aviation

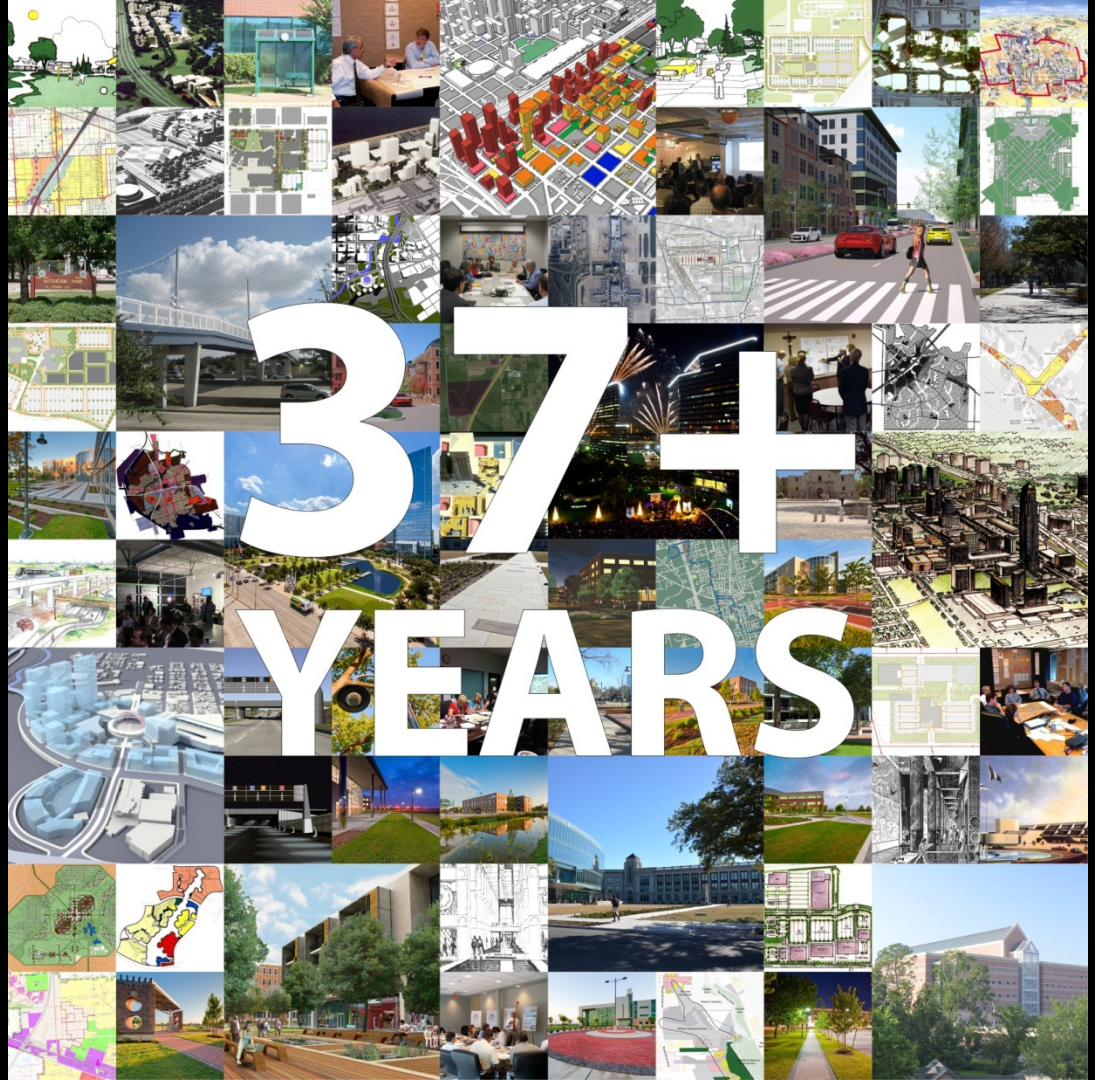
City of Houston – Light Spikes

Aviation



City of Houston – Light Spikes

Aviation


37+
YEARS