



North Chapel Hill Master Plan

Preliminary Opinion of Cost

Town of Chapel Hill

October 30, 2020



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SUMMARY

McAdams has prepared the enclosed conceptual cost estimate for the Town of Chapel Hill. This construction cost estimate represents our professional opinion of the estimated total cost of construction for the infrastructure (roads, greenway, water, sanitary sewer, stormwater conveyance) associated with the North Chapel Hill Master Plan.

Based on the conceptual plan provided, it is McAdams' opinion that the estimated total cost of construction for the Project is \$8,090,000.00. This estimate includes sales tax, general contractor jobsite overhead and general conditions, home office overhead, bonds, insurance, contingency, and fee.

The McAdams point of contact for this estimate is Fred Boone, PE. He can be reached at boone@mcadamsc.com or 919-361-5000.

PROJECT OVERVIEW

The Master Plan contemplates the redevelopment or +/- 55 Acres of undeveloped and partially developed land bounded by I-40 to the North, Chapel Hill North to the West, Weaver Dairy Road/Medical Office Development/Kensington Trace to the South and the Carol Woods and Coventry Subdivisions to the East. McAdams was tasked with developing a conceptual estimate for the infrastructure needed to support this redevelopment consisting of roads, utilities (water, sanitary sewer, stormwater conveyance) and a greenway trail.

BASIS OF ESTIMATE

This conceptual cost estimate is a professional opinion of fair market value and is not a prediction of an anticipated low bid. The opinion of the probable costs of construction are based on the experience and professional judgment of McAdams's cost estimators to reflect fair market value. As McAdams has no control over, among other things, the cost of labor, materials, equipment, the contractor's method of determining costs, or fluctuations in the market, McAdams cannot warrant or in any way guarantee that actual construction costs will not vary from this estimate.

Contract Documents

This cost estimate is based on the Master Plan drawing dates April 29, 2020 and subsequent correspondence with Town of Chapel Hill Staff from the notice proceed given, through October 30, 2020.

Pricing Adjustment Factors

Estimated direct material, labor, and/or equipment costs are adjusted by the following factors:

- 7.0% annual escalation.
- 25% design + construction contingency which is reasonable for the current level of design documents made available to McAdams

- State sales and locality tax, labor burden, subcontractor overhead and profit, general contractor general conditions, overhead, performance bond, insurance, builder's risk, and profit are all built into the line item unit prices at values typical to the Triangle Region.

Exclusions

The following items are specifically excluded from this estimate:

- Land acquisition and costs
- Design and consulting fees
- Impact and connection fees
- Construction administration and inspection
- Owner furnished equipment
- Unforeseen subsurface conditions (i.e Rock Excavation or Blasting)
- Soils and material testing
- Hazardous material abatement
- Special site security requirements
- Power Distribution
- Secondary Utilities Distribution (Telecom, Natural Gas)

ESCALATION

Rate of Escalation

Escalation of construction costs includes factors for material and labor inflation, price fluctuations, scarcity of supplies, market influences, competition, and other causes. The escalation rate in a cost estimate is, at best, a prediction of the future based on recent construction market conditions and economic forecasts. To forecast the effect of cost escalation on a project, McAdams reviews industry journals and sources such as the Bureau of Labor Statistics, RS Means, the Associated General Contractors of America (AGC), Engineering News Record (ENR), and McGraw-Hill Construction. McAdams escalates to the midpoint of construction, which represents the average material and labor prices for the project at the anticipated midpoint of purchase by the contractors.

Political and market conditions can have a sudden and significant impact on the rate of positive or negative escalation. Specifically, items such as steel and any construction input influenced by fluctuation in oil and gasoline/diesel can experience considerable price variations over short periods of time. In cases of significant changes in market conditions or the political climate, the basis of the escalation rate should be reevaluated.

For the purpose of this cost estimate, McAdams included an average annual 7.0% price escalation of the estimated costs. McAdams has therefore escalated the 2020 costs from the estimate pricing to 2022, the anticipated midpoint of construction.

ASSUMPTIONS and CLARIFICATIONS

The estimated costs in this estimate are based on quantity take-offs of materials and unit prices obtained from commercially available databases, in-house databases, historical costs, and vendor or subcontractor quotes, or a combination thereof.

McAdams provides the following assumptions or clarifications for this estimate:

General

- The estimate only contemplates the efforts needed for the installation of the onsite infrastructure components (roads, utilities, greenway trail) for the North Chapel Hill Master Plan. No offsite infrastructure improvements were included in this estimate.

Demolition and Relocation

- The estimate for the proposed clearing and grubbing of the site consisted only of the designated street right-of-way which varies from 64' to 83' widths. No estimate was included for any site work outside of these limits.
- We assume that the existing sewer main that currently traverses the site is to be abandoned in-place after the new (proposed) sewer main is active. This abandonment of the sewer main is to consist of removing all risers/cones from the existing manholes and filling the manholes bases and affected sewer lines with an "excavatable" cementitious flowable fill. Any excavations would be backfilled/compacted and temporary seeded.

Streets

- The street construction estimate is based on paved street widths ranging from 29.5' to 43' (back-to-back). The anticipated pavement design is based on 10 inches of compacted crushed aggregate, 2-inch thick asphalt base and 1-inch thick asphalt surface.
- All curb and gutter is assumed to be 30" curb and gutter per the Town of Chapel Hill detail ST-2.

Paths

- The greenway/multi-use paved trail estimate is based utilizing the existing power line easement. The estimate assumes a proposed 8 ft. wide asphalt trail at approximately 6,200 LF in length. The anticipated pavement design is based on 6 inches of compacted crushed aggregate and 2 inches of surface hot-mix asphalt. Grading for this trail is assumed to consist of minimal excavation that would allow the trail to follow the natural curvature/topography of the existing power line easement. The disturbed area would be seeded for stabilization only.

Landscaping

- Our estimate does not include any costs for permanent landscape plantings (i.e. trees, shrubs, grasses, ornamentals and/or aquatic plants).
- Temporary seeding and stabilization is included in the disturbed right-of-way for the constructed streets only.
- Our estimate does not include any costs for retaining walls or other permanent methods of lateral load slope stabilization.

SUMMARY



Engineer's Preliminary Construction Cost Opinion

Project Name: North Chapel Hill Master Plan Infrastructure

Project Number:

Date: 10/30/2020

Item No.		2020	2022
		Estimated Cost	Projected Cost
1	Grading	\$ 920,000.00	\$ 1,060,000.00
2	Utilities	\$ 4,250,000.00	\$ 4,860,000.00
3	Streets	\$ 2,570,000.00	\$ 2,940,000.00
4	Asphalt Trail	\$ 350,000.00	\$ 400,000.00
Grand Total		\$ 8,090,000.00	\$ 9,260,000.00

ESTIMATE DETAIL



Engineer's Preliminary Construction Cost Opinion

Project Name: North Chapel Hill Master Plan Infrastructure

Project Number:

Date: 10/30/2020

Item No.	Description	Quantity	Unit		
				Unit Prices	Total
Earthwork					
1	Clearing	1.00	LS	\$ 237,600.00	\$ 237,600
2	Erosion Control	1.00	LS	\$ 369,866.15	\$ 369,866
3	Site Grading	1.00	LS	\$ 126,992.30	\$ 126,992
				Subtotal	\$ 734,458
Total Site Direct Construction Cost					\$ 734,458

Total Direct Cost =	\$	734,458.45
General Contractor OH & Profit	\$	-
Subtotal A =	\$	734,458.45
Builders Risk Insurance/Railroad Protective Liability	\$	-
Subtotal B =	\$	734,458.45
Bond	\$	-
Subtotal C =	\$	734,458.45
Design & Construction Contingency @ 25%	\$	183,614.61
Subtotal D =	\$	918,073.06
Escalation to Midpoint	\$	133,028.79
Total Construction Costs =	\$	1,051,101.84



Engineer's Preliminary Construction Cost Opinion

Project Name: North Chapel Hill Master Plan Infrastructure

Project Number:

Date: 10/30/2020

Item No.	Description	Quantity	Unit		
				Unit Prices	Total
Water Distribution					
1	Water	1.00	LS	\$ 1,051,050.00	\$ 1,051,050
				Subtotal	\$ 1,051,050
Sewer					
1	Sewer	1.00	LS	\$ 1,344,915.00	\$ 1,344,915
	Abandon Existing Sewer	1.00	LS	\$ 60,665.00	\$ 60,665
				Subtotal	\$ 1,405,580
Stormwater					
1	Stormwater Conveyance	1.00	LS	\$ 936,906.36	\$ 936,906
				Subtotal	\$ 936,906
				Total Site Direct Construction Cost	\$ 3,393,536

Total Direct Cost =	\$	3,393,536.36
General Contractor OH & Profit	\$	-
Subtotal A =	\$	3,393,536.36
Builders Risk	\$	-
Insurance/Railroad Protective Liability		
Subtotal B =	\$	3,393,536.36
Bond	\$	-
Subtotal C =	\$	3,393,536.36
Design & Construction Contingency @ 25%	\$	848,384.09
Subtotal D =	\$	4,241,920.44
Escalation to Midpoint	\$	614,654.27
Total Construction Costs =	\$	4,856,574.72



Engineer's Preliminary Construction Cost Opinion

Project Name: North Chapel Hill Master Plan Infrastructure

Project Number:

Date: 10/30/2020

Item No.	Description	Quantity	Unit		
				Unit Prices	Total
Stone					
1	Stone Base	27239.00	Ton	\$ 28.60	\$ 779,035
				Subtotal	\$ 779,035
Curb & Gutter					
1	30" Curb & Gutter	15720.00	LF	\$ 19.62	\$ 308,502
				Subtotal	\$ 308,502
Asphalt					
1	3" Asphalt Paving (1" Surface + 2" Base)	37375.56	SY	\$ 17.22	\$ 643,575
				Subtotal	\$ 643,575
Sidewalks					
1	Sidewalks	83300.00	SF	\$ 3.83	\$ 318,709
				Subtotal	\$ 318,709
Total Site Direct Construction Cost					\$ 2,049,821

Total Direct Cost =	\$	2,049,821.40
General Contractor OH & Profit	\$	-
Subtotal A =	\$	2,049,821.40
Builders Risk	\$	-
Insurance/Railroad Protective Liability		
Subtotal B =	\$	2,049,821.40
Bond	\$	-
Subtotal C =	\$	2,049,821.40
Design & Construction	\$	512,455.35
Contingency @ 25%		
Subtotal D =	\$	2,562,276.75
Escalation to Midpoint	\$	371,273.90
Total Construction	\$	2,933,550.65
Costs =		



Engineer's Preliminary Construction Cost Opinion

Project Name: North Chapel Hill Master Plan Infrastructure

Project Number:

Date: 10/27/2020

Item No.	Description	Quantity	Unit		
				Unit Prices	Total
Asphalt Trail					
1	8' Asphalt Trail	5511.11	SY	\$ 50.00	\$ 275,556
				Subtotal	\$ 275,556
Total Site Direct Construction Cost					\$ 275,556

Total Direct Cost =	\$	275,555.56
General Contractor OH & Profit	\$	-
Subtotal A =	\$	275,555.56
Builders Risk	\$	-
Insurance/Railroad Protective Liability		
Subtotal B =	\$	275,555.56
Bond	\$	-
Subtotal C =	\$	275,555.56
Design & Construction Contingency @ 25%	\$	68,888.89
Subtotal D =	\$	344,444.44
Escalation to Midpoint	\$	49,910.00
Total Construction Costs =	\$	394,354.44