

Concord-Carlisle Regional High School

Design Development Phase Meeting #7 School Building Committee

March 28, 2012

omr architects

CCHS Design Development: Work Plan Draft

	Objectives <ul style="list-style-type: none"> o Begin Design Development Drawings 	Follow-up <ul style="list-style-type: none"> o Contract Approval, User Meetings and Consultant Kick-off Meeting
Meeting #1	Review Work Pan and Design Progress	
12/7/2011	Objectives <ul style="list-style-type: none"> o Contract agreement o Work Plan o Site Survey/Geotech/Haz. Mat. 	Follow-up <ul style="list-style-type: none"> o Begin Design Development Phase o Consultant Coordination Meetings o Traffic study with civil and landscape consultants
Meeting #2	Review Permitting / Design Progress	
12/21/2011	Objectives <ul style="list-style-type: none"> o CM at Risk update o Review Permitting Process o Design Progress – Floor Plan Review 	Follow-up <ul style="list-style-type: none"> o Begin Planning Board Review Process and Permit Process with Town Authorities o Coordination review with town officials (Bldg. Dept., Fire Dept. etc) o Consultant Coordination Meetings
Meeting #3	Site Design Progress	
1/11/2012	Objectives <ul style="list-style-type: none"> o Design Development Progress – Present Site Update 	Follow-up <ul style="list-style-type: none"> o CM at Risk Interviews o Consultant Coordination Meetings o January 18th Planning Board Review
Meeting #4	Design Development - Exteriors	
1/25/2012	Objectives <ul style="list-style-type: none"> o Project Update o Present Building Sections and Daylighting Strategies o Present Exterior Elevations and Finishes 	Follow-up <ul style="list-style-type: none"> o January 31st Integrated Design Team Meeting o Register project with MA CHPS o FF&E / Technology User meetings
Meeting #5	Design Development – IDT Update / CM Interviews	
2/8/2012	Objectives <ul style="list-style-type: none"> o Short List CM at Risk 2nd Tier Interviews o Site Update o Preliminary 3D images 	Follow-up <ul style="list-style-type: none"> o OMR, KVA, and CM at Risk to review project schedule o Specification Coordination Meeting o February 15th SBC and SC Special Joint Meeting o February 17th 50% Design Development Drawings
2/15/2012		
Meeting #6	Design Development – Interiors / Sustainable Design Update	
3/14/2011	Objectives <ul style="list-style-type: none"> o Project Update o Present Interior Elevations and Finishes 	Follow-up <ul style="list-style-type: none"> o Review Early Site Packages with CM and OPM o March 26, 2011 issue DD drawings to Cost Estimator
Meeting #7	Design Development Progress	
* 3/28//2011	Objectives <ul style="list-style-type: none"> o Project Update o Review Project Schedule o Review Energy Model 	Follow-up <ul style="list-style-type: none"> o DD Cost Estimate Process
Meeting #8	Design Development Cost Estimate Review	
4/11/2011	Objectives <ul style="list-style-type: none"> o Permitting Update o Project Update 	Follow-up <ul style="list-style-type: none"> o Reconcile Budget o Submit Design Development Drawings to the MSBA o Begin Construction Documents

CCHS Design Development: Work Update

- Proposals for Building Envelope and Soils testing
 - Issue 50% Design Development Drawings to CM
 - Kick-off Meeting with Turner's CM Team
 - Review with Concord Fire, Police and Building Department
 - Early Site Package Coordination Meeting with Turner/Nitsch
 - Coordination meeting with Engineers
 - Meeting with Town Planning Director and Building Commissioner
 - Meeting with National Grid - Ripley Building
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- Consultant Coordination Meetings
 - Permitting coordination meeting with Concord DPW
 - Issued Design Development Drawings to Cost Estimator(s)
 - Board of Appeals Submission Review with Building Commissioner
 - Design Development Review
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- **April 2nd Board of Appeals submission**
 - **April 3rd Cost Estimating Coordination Meeting with Turner & DG Jones**
 - **April 3rd Meeting with Recreation Department**
 - **April 11th SBC Meeting**
 - **April 16th Estimates Due / Begin Review and Reconciliation Process**
 - **Mid May Design Development Submission to the MSBA**

MA CHPS Energy Savings Analysis

	Cost **	Energy Savings	Pay Back
MA CHPS Baseline (ASHRAE Standard 90.1-2007/IECC 2009)	-	-	-
Design System *	\$1.1m	42.4%	5.1 years
Design System with 200 kw PV System	\$1.9m	47%	7.9 years
Design System with 500 kw PV System	\$3.1m	53.9%	11.1 years
Design System with 1000 kw PV System	\$5.1m	65.5%	15.0 years
Design System with 1800 kw PV System (Architecture 2015)	\$8.3m	88.3%	18.4 years
Design System with 2000 kw PV System (Architecture Net Zero)	\$15.5m	130.5%	22.7 years

* Designed System:

1. Displacement Ventilation Diffusers w/ Terminal VAV's and Perimeter Hot Water Radiant Panels served by Hot Water Coil Heating/Chilled Water Coil Cooling 100% O.A. Ventilating Units w/ Energy Recovery
2. Hot Water Coil Heating/Chilled Water Coil Cooling AHU's w/ Terminal VAV's w/ Hot Water Reheat Coils
3. High-Efficiency Water Cooled Chillers
4. High-Efficiency Gas-Fired Condensing Boilers
5. High-Efficiency Lighting Fixtures w/ Daylighting Controls (0.3 w/s.f.)
6. Improved Envelope: Roof Insulation (R-40 c.i.), Wall Insulation (R-19 + R-15 c.i.), Double Pane Argon Filled Window Assembly w/ Heat Mirror Film (U-0.2, SHGC 0.4)

** Note: Construction cost is the investment increase above the construction of a code/ASHRAE Standard 90.1.2007 baseline Building

Architecture 2030 Energy Savings Analysis

	Cost **	Energy Savings	Pay Back
Energy Star Target Finder (Architecture 2030)	-	-	-
Design System *	\$1.1m	41.1%	5.4 years
Design System with 200 kw PV System	\$1.9m	44.2%	8.3 years
Design System with 500 kw PV System	\$3.1m	48.8%	11.6 years
Design System with 1000 kw PV System	\$5.1m	56.6%	15.5 years
Design System with 1800 kw PV System (Architecture 2015)	\$8.3m	70.5%	18.9 years
Design System with 2000 kw PV System (Architecture 2030/Net Zero)	\$15.5m	100.1%	23.1 years

* Designed System:

1. Displacement Ventilation Diffusers w/ Terminal VAV's and Perimeter Hot Water Radiant Panels served by Hot Water Coil Heating/Chilled Water Coil Cooling 100% O.A. Ventilating Units w/ Energy Recovery
2. Hot Water Coil Heating/Chilled Water Coil Cooling AHU's w/ Terminal VAV's w/ Hot Water Reheat Coils
3. High-Efficiency Water Cooled Chillers
4. High-Efficiency Gas-Fired Condensing Boilers
5. High-Efficiency Lighting Fixtures w/ Daylighting Controls (0.3 w/s.f.)
6. Improved Envelope: Roof Insulation (R-40 c.i.), Wall Insulation (R-19 + R-15 c.i.), Double Pane Argon Filled Window Assembly w/ Heat Mirror Film (U-0.2, SHGC 0.4)

** Note: Construction cost is the investment increase above the construction of a code/ASHRAE Standard 90.1.2007 baseline Building