

CONSTRUCTUS

USER'S MANUAL

BTS630 Major Project Implementation

April 2008

USER'S MANUAL

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1.0 GENERAL INFORMATION

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1.1 System Overview

The Constructus system is a project management software application specifically designed for the tracking of construction projects. This is accomplished using a project as the container for phases and within phases adding lots, milestones and trades. A lot is tracked in two ways – by completions and by work orders. Completions are general building tasks that apply to all houses and are based on Milestones. Milestones are added to the system under Trades so that each Milestone is attached to the Trade responsible for it. The Work Orders are custom building tasks (eg: wine cellar) that the Buyer wishes to have added on to the base house plan. Work Orders are manually inputted and tracked through their start and end dates as well as their open/closed status.

The Constructus system also has the capability of generating several reports to aid in the tracking of a lot, project, work order or daily superintendant schedule.

Constructus has two access levels: Admin and User.

Admin access allows for all the tabs including all the items in the Admin tab which is the management of: Projects, Subcontractors, Contracts, Buyers, Users as well as all their sub-managements.

Users have access to the Home, Sites, Reports and Help tabs. Users cannot access the Admin tab of the Constructus application.

An Admin user can add and remove Users as well as change their status between Admin and User.

The Constructus system uses a web interface to interact with a MySQL database, it also depends on an Apache server with Wicket in order to display pages properly.

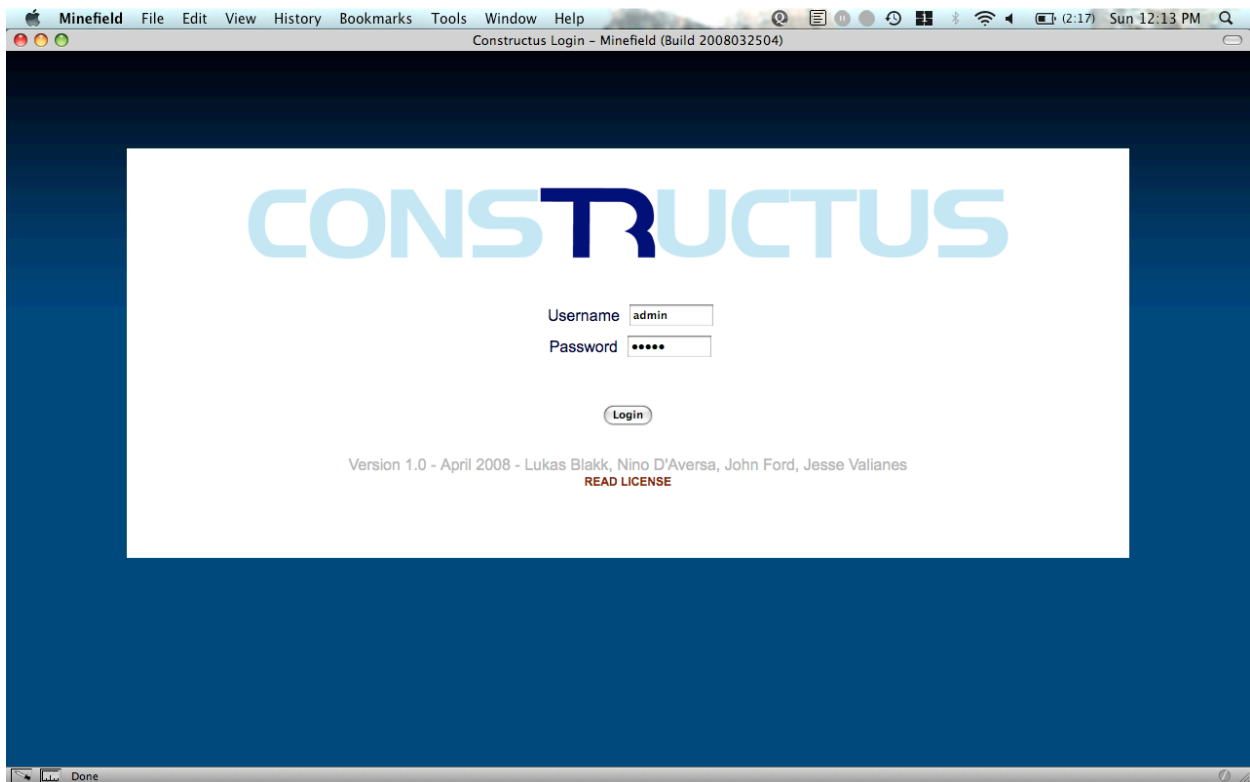
This application assumes a locally based server set-up and at this point Constructus does not use web services or any remote client access.

2.0 GETTING STARTED

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2.1 Logging On

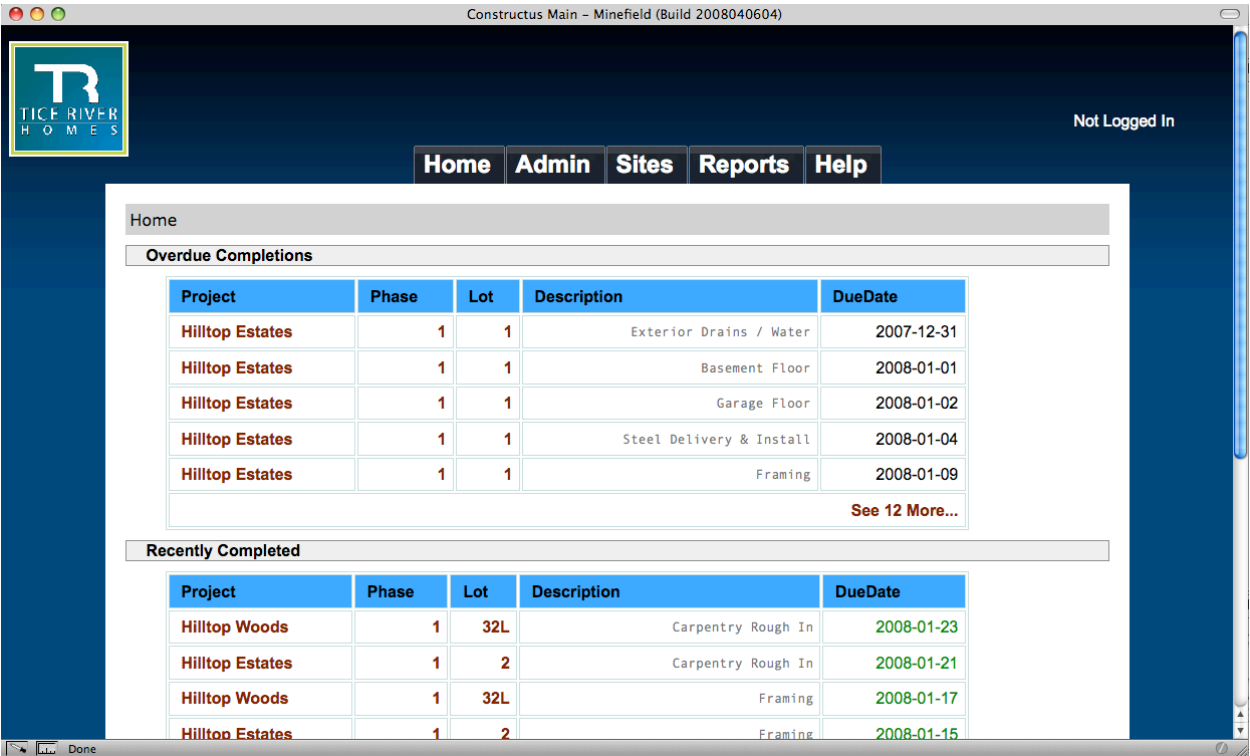
The first screen encountered upon launching Constructus is the Login Screen. You must have a username and password to access the system. Please check with your System Administrator to ensure that you have privileges. If you have a user name and password, please enter them and then select “Login” to enter the system.



2.2 System Menu

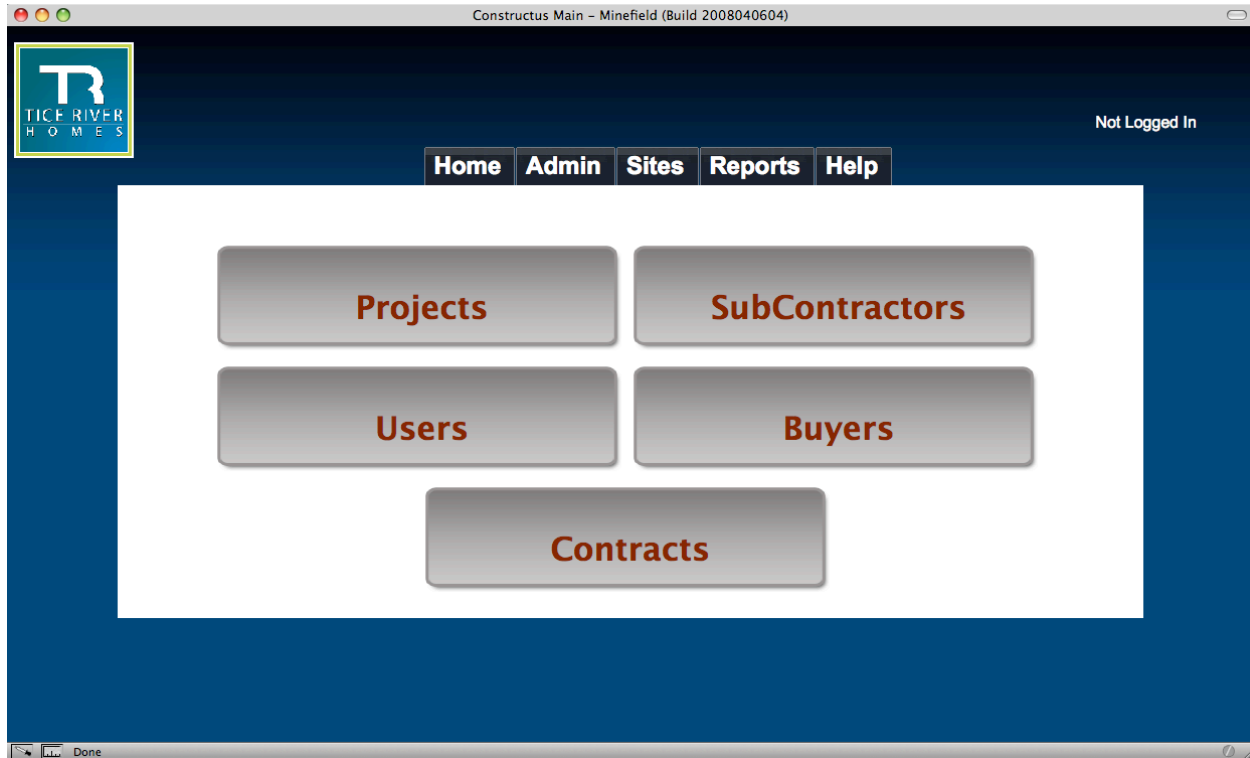
2.2.1 HOME

Home is a dashboard that displays the 5 most overdue completions, the 5 most recently completed and the 5 most current upcoming. If you select the “See {n} More” at the bottom of any of the 3 tables you will be able to view a complete list.



2.2.2 ADMIN

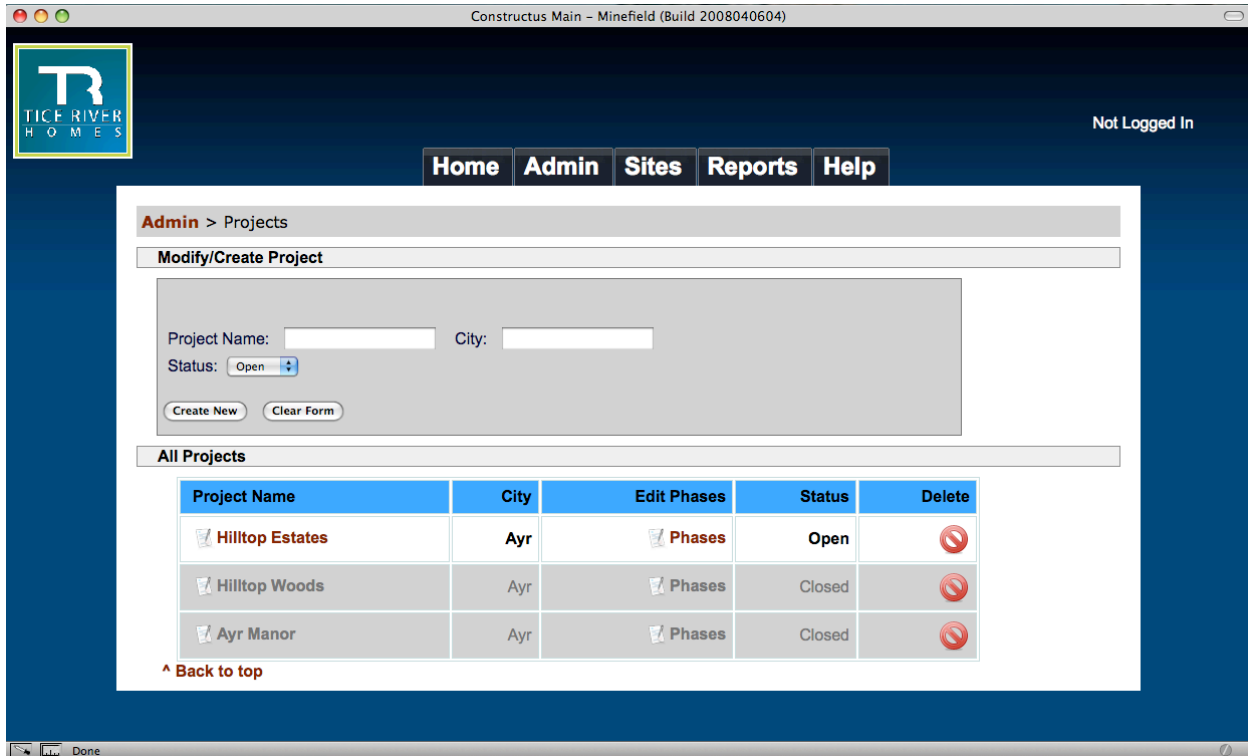
The Admin screen is the portal to 5 management areas: Projects, Sub Contractors, Buyers, Contracts and Users. Each area will be explored in more detail below.



2.2.2.1 ADMIN - PROJECTS

The Admin -> Project screen allows you to create new projects and manage existing ones. From this page you can:

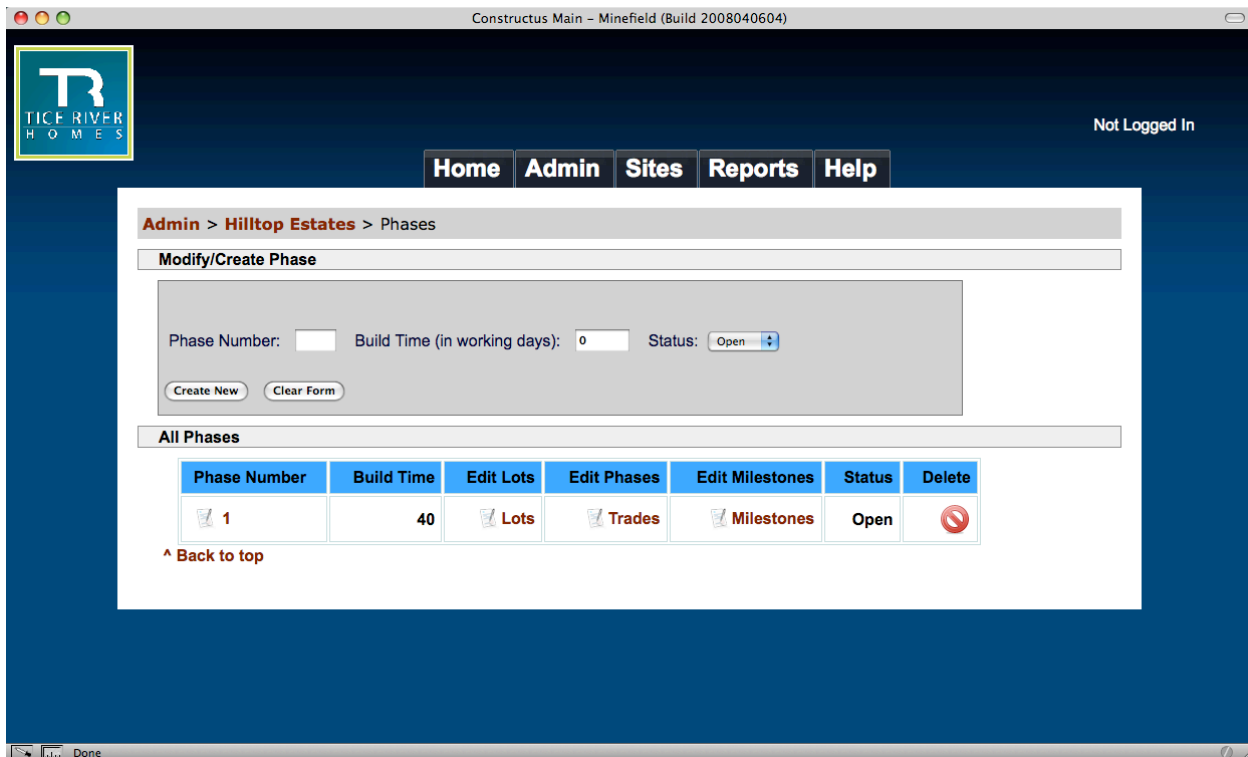
- Change the status of an existing project by clicking on the status in the project table – Clicking on “Open” will change it to “Closed” and vice versa.
- Edit information about an existing project by selecting its name from the table – the Project information will be loaded into the form at the top of the page and if this information is altered and “Save Changes” is selected, the new information will be inserted into the table.
- Create a new project by entering the necessary information into the form and selecting “Create New” – the new project will appear in the table after it is successfully created.
- Navigate to the Phases management screen for a project by selecting the Phases link on any project.
- Delete a project by selecting the Delete icon – NOTE: A project can not be deleted if it has any open Phases (and Phases cannot be deleted if any Lots are open).



2.2.2.1.1 ADMIN – PROJECTS - PHASES

Projects hold phases and to access and manage Phases – you must arrive to that page through a Project. The Phase management screen allows you to do the following:

- Edit an existing phase by clicking on the name of the phase from the table of current phases. The information about that phase will load in the form at the top of the page, any changes must be saved by selecting “Save Changes”. The results will be immediately visible in the table of phases.
- Create a new phase in the project by entering information in the fields and selecting “Create New”.
- Deleting a phase by selecting the red delete icon on the far right column. NOTE: Phases can not be deleted if there are any open lots (Nor can lots be closed if they have any open completions or work orders).
- The status of a phase can be shifted from Open to Closed or vice versa by clicking on the Open or Closed button on the table. Clicking on “Open” changes the phase to “Closed” and vice versa. NOTE: Phases cannot be closed if any of the Lots for that phase are still open.
- Lots management for a phase can be accessed by selecting the Lots link on the row of the phase you wish to alter.
- Trades management for a phase can be accessed by selecting the Trades link on the row of the phase you wish to alter.
- Milestones management for a phase can be accessed by selecting the Milestones link on the row of the phase you wish to alter.



2.2.2.1.2 ADMIN – PROJECTS – PHASES - LOTS

The Lots management screen allows for the creating and modifying of Lots in a phase. From the Lot screen you can do the following:

- Create a new Lot by filling in the fields of the form at the top of the page and selecting “Create New”. The new lot is ‘new’ by default until a contract is attached to it.
- Edit the information for an existing Lot by selecting its name from the table of current Lots. This will load up the information in the form fields. Changes can be saved by selecting “Save Changes”. The changes should be reflected in the table immediately after being saved.
- Delete a Lot from the table by clicking on the red Delete icon in the far right column. NOTE: A Lot cannot be deleted if it has any open completions or work orders.

Constructus Main - Minefield (Build 2008040604)

Not Logged In

Home Admin Sites Reports Help

Admin > Hilltop Estates > 1 > Lots

Lot Information

Lot No: Custom Build: Build Time:

Address: Model: Elevation: Grade:

Series: Frontage:

Notes:

Contract:

Create New Clear Form

All Lots

#	Build Time	Address	Model	Grade	Series	Frontage	Lot Status	Delete
1	40	186 Hilltop Dr	40-1	corner	40ft Detached	55.7	Open	
6	40	176 Hilltop Dr	43-3	standard	43ft Detached	43.8	Open	
2	30	184 Hilltop Dr	40-4	standard	40ft Detached	39.96	Closed	

2.2.2.1.3 ADMIN – PROJECTS – PHASES - TRADES

The Trades management screen allows for the creating and modifying of Trades for a phase. From the Trades screen you can do the following:

- Create a new Trade by filling in the fields of the form at the top of the page and selecting “Create New”.
- Edit the information for an existing Trade by selecting its name from the table of current Trades. This will load up the information in the form fields. Changes can be saved by selecting “Save Changes”. The changes should be reflected in the table immediately after being saved.
- Delete a Trade from the table by clicking on the red Delete icon in the far right column. NOTE: A Trade cannot be deleted if it has any open completions or work orders.

Constructus Main - Minefield (Build 2008040604)

Not Logged In

Home Admin Sites Reports Help

Admin > Hilltop Estates > 1 > Trades

Modify/Create Trade

Trade Name: Code:

SubContractor: Martin Excavating

Create New Clear Form

Current Trades

Trade Name	Code	SubContractor	Milestones	Delete
Basement Excavation	1020	Martin Excavating	Excavate	
Poured Basements	1030	Tomaz Forming	Form & Pour Footings Form & Pour Basement Wall	

2.2.2.1.4 ADMIN – PROJECTS – PHASES - MILESTONES

The Milestones management screen allows for the creating and modifying of Milestones for a phase. Milestones have two unique attributes: WEIGHT and SEQUENCE. Since the Milestones generate Completions for a Lot for that Phase, these attributes are very important to the reporting and tracking abilities of Constructus. The weight of a Milestone helps to decide how much time out of the Build Time for a Phase it will require. The Sequence of a Milestone helps to put it in the right place on the Daily Superintendent Schedule (See Reports for more information)

From the Milestones screen you can do the following:

- Create a new Milestone by filling in the fields of the form at the top of the page and selecting “Create New”.
- Edit the information for an existing Milestone by selecting its name from the table of current Trades. This will load up the information in the form fields. Changes can be saved by selecting “Save Changes”. The changes should be reflected in the table immediately after being saved.
- Delete a Milestone from the table by clicking on the red Delete icon in the far right column.
- NOTE: Milestone weight must add up to 100% - until this is the case, lots cannot be opened.
- NOTE: Milestones cannot be altered or deleted once any lot in the phase has been opened. This is to protect the integrity of completions.

Constructus Main – Minefield (Build 2008040604)

Not Logged In

Home Admin Sites Reports Help

Admin > Hilltop Estates > 1 > Milestones

Modify/Create Milestone

Name: Weight:

Sequence: Trade:

Create New Clear Form

All Milestones

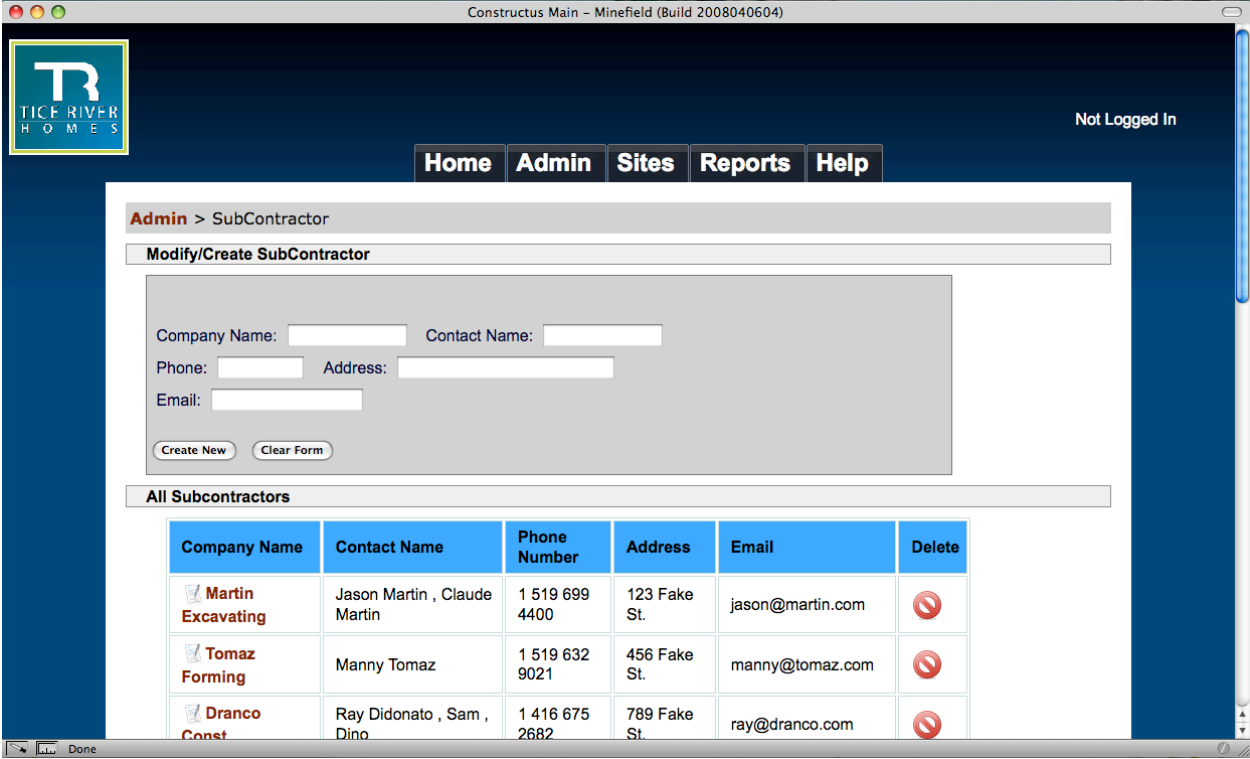
Your phase has a valid milestone weight sum of 100.0%

Name	Weight	Sequence	Trade	Delete
Excavate	0.05	1	Basement Excavation	
Form & Pour Footings	0.1	2	Poured Basements	
Form & Pour Basement Wall	0.1	3	Poured Basements	
Exterior Drains / Water	0.05	4	Concrete and Drain	

2.2.2.2 ADMIN – SUB CONTRACTORS

The Sub Contractors section is a directory of the Contact information for a Trade. When you add a Trade to a Phase, the system pulls from the Sub Contractors list to populate the options. From the Sub Contractors screen you can do the following:

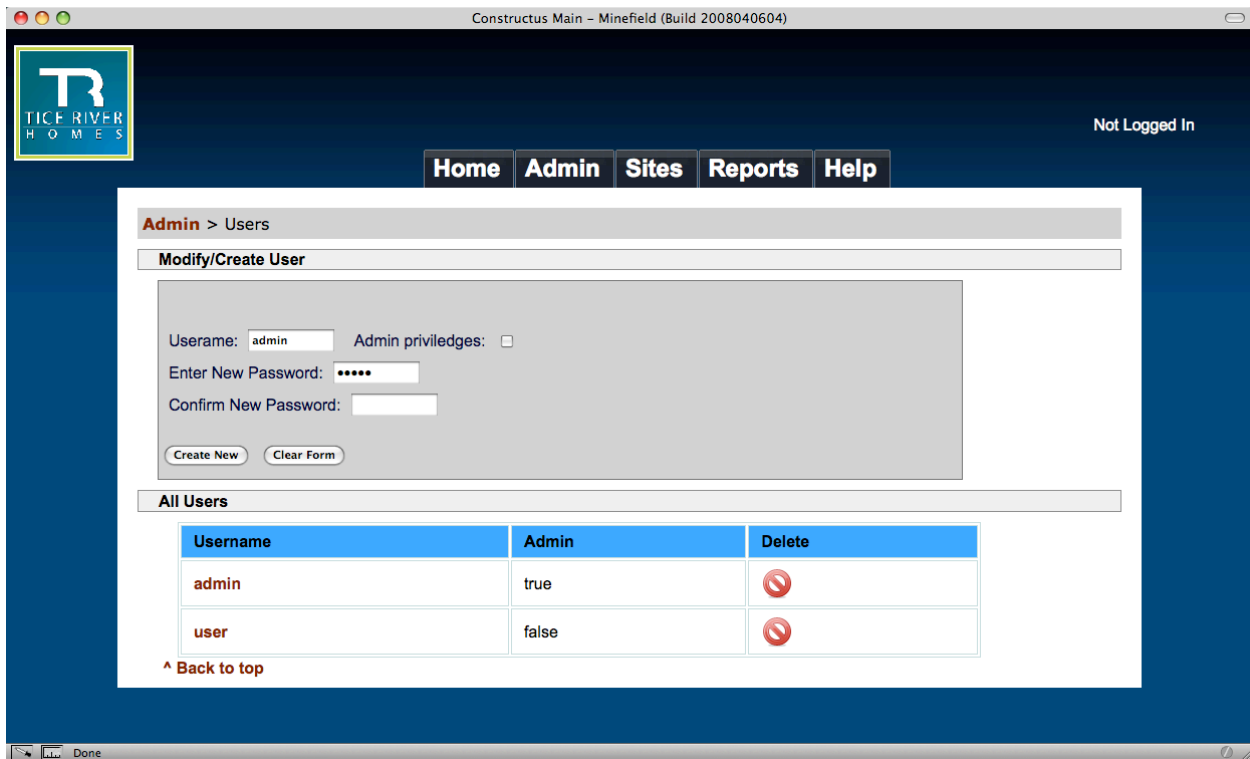
- Create a new Sub Contractor by filling in the fields of the form at the top of the page and selecting “Create New”.
- Edit the information for an existing Sub Contractor by selecting its name from the table of current Sub Contractors. This will load up the information in the form fields. Changes can be saved by selecting “Save Changes”. The changes should be reflected in the table immediately after being saved.
- Delete a Sub Contractor from the table by clicking on the red Delete icon in the far right column.



2.2.2.3 ADMIN - USERS

The User management screen allows you to create and modify users of the system. On the User screen you can do the following:

- Create a new User by filling in the fields of the form at the top of the page and selecting “Create New”.
- Edit the information for an existing User by selecting its name from the table of current Users. This will load up the information in the form fields. Changes can be saved by selecting “Save Changes”. The changes should be reflected in the table immediately after being saved.
- Delete a User from the table by clicking on the red Delete icon in the far right column.



2.2.2.4 ADMIN - BUYERS

The Buyers section is a directory of the Contract information for a Lot. When you add a Buyer to a Contract, the system pulls from the Buyers list to populate the options. From the Buyers screen you can do the following:

- Create a new Buyer by filling in the fields of the form at the top of the page and selecting “Create New”.
- Edit the information for an existing Buyer by selecting its name from the table of current Buyers. This will load up the information in the form fields. Changes can be saved by selecting “Save Changes”. The changes should be reflected in the table immediately after being saved.
- Delete a Buyer from the table by clicking on the red Delete icon in the far right column.

Constructus Main - Minefield (Build 2008040604)

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Home Admin Sites Reports Help

Admin > Buyers

Modify/Create Buyer

Buyer Name: Phone:

Address: Email:

Create New Clear Form

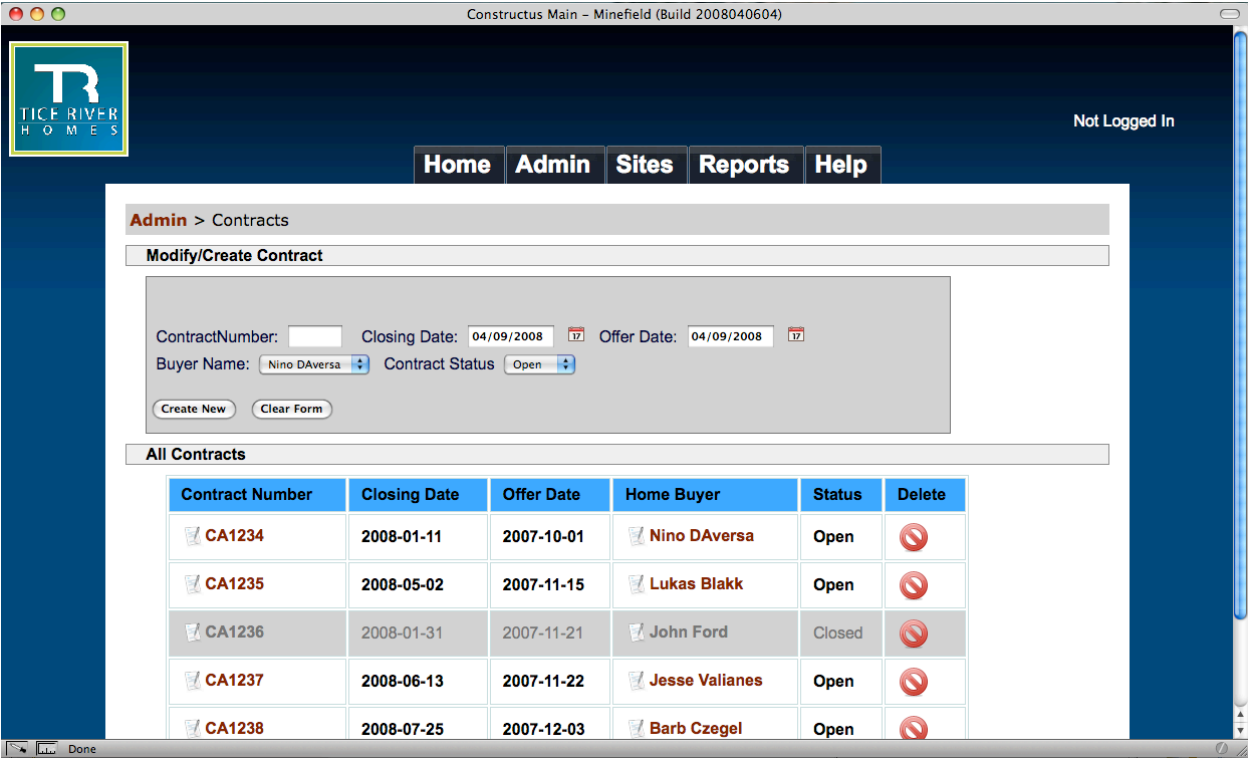
All Buyers

Buyer Name	Phone Number	Address	Email	Delete
Nino DAversa	1 647 298 8763	123 Fake St.	nino@daversa.com	
Lukas Blakk	1 519 632 1021	456 Fake St.	lukas@blakk.com	
John Ford	1 416 675 1182	789 Fake St.	john@ford.com	
Jesse Valianes	1 905 780 1288	987 Fake St.	jesse@valianes.com	
Bob Cressel	1 519 292 1234	654 Fake St.	bob@cressel.com	

2.2.2.5 ADMIN - CONTRACTS

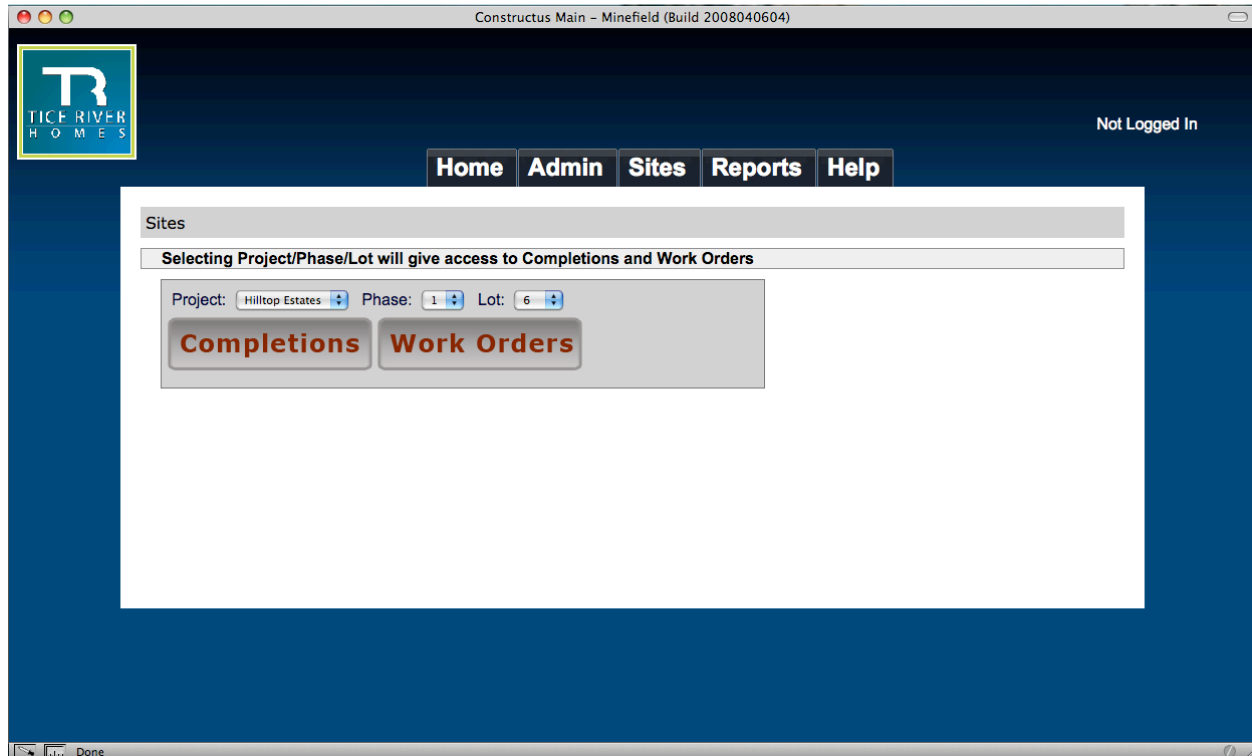
The Contracts section is a directory of the Contract information for a Lot. When you add a Contract to a Lot, the system pulls from the Contracts list to populate the options. From the Contracts screen you can do the following:

- Create a new Contract by filling in the fields of the form at the top of the page and selecting “Create New”.
- Edit the information for an existing Contract by selecting its name from the table of current Contracts. This will load up the information in the form fields. Changes can be saved by selecting “Save Changes”. The changes should be reflected in the table immediately after being saved.
- Delete a Contract from the table by clicking on the red Delete icon in the far right column.



2.2.3 SITES

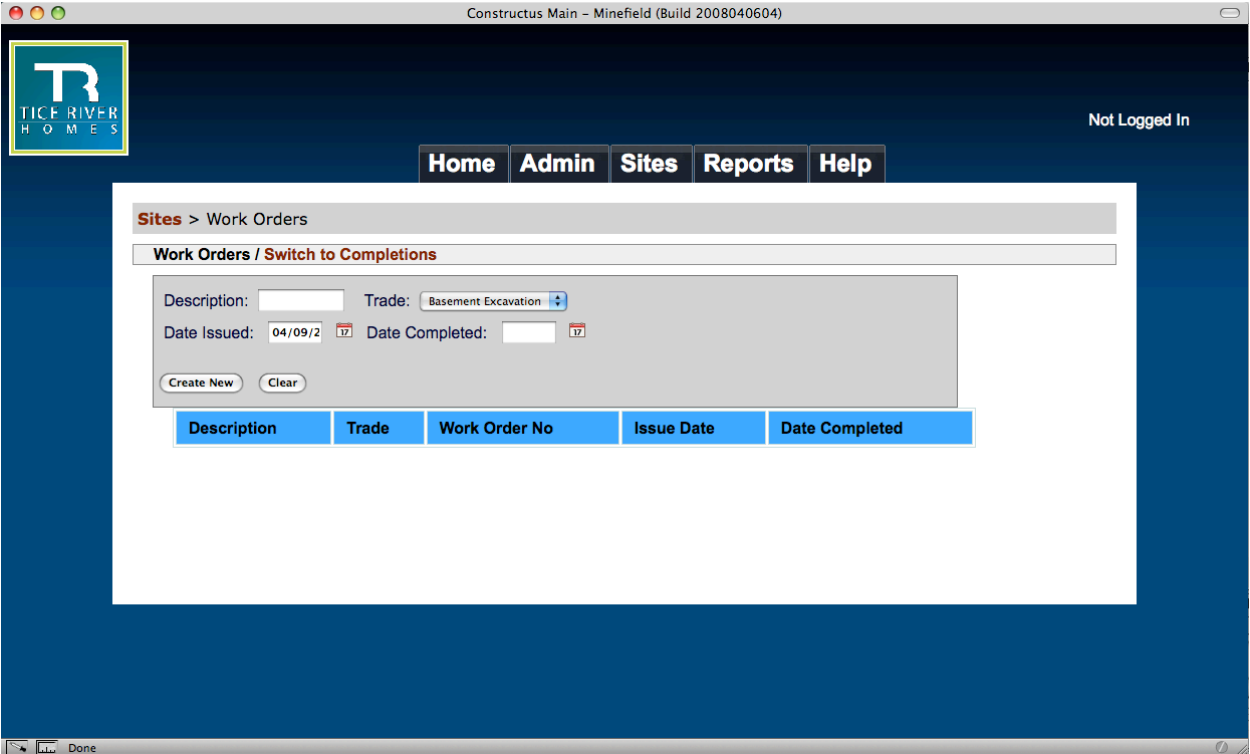
The Sites screen allows you to select the Project/Phase/Lot you wish to view. The content of the pull down menus is dynamically generated as you go. Once a Project is selected, the Phases for that project are in the Phase pull down and once the Phase has been selected the Lots for that Phase are available in the Lot pull down. Once a Lot has been chosen there will be two buttons, allowing you to choose Completions or Work Orders. You will then be taken to that screen.



2.2.3.1 SITES – WORK ORDERS

The Work Orders screen displays all the current work orders for a lot as well as a form in which to add or modify work orders. From the Work Orders screen you can do the following:

- Create a new Work Order by filling in the fields of the form at the top of the page and selecting “Create New”.
- Edit the information for an existing Work Order by selecting its name from the table of current Work Orders. This will load up the information in the form fields. Changes can be saved by selecting “Save Changes”. The changes should be reflected in the table immediately after being saved.
- Switch views to the Completions for the Lot by selecting the “Switch to Completions” link



2.2.3.2 SITES - COMPLETIONS

The Completions screen shows the list of completions and their status. Completions are automatically generated for a lot based on the Milestones of the Phase. Completions cannot be deleted they can only be opened or closed and given an actual start and end date.

Description	Trade	Status	Completion No	Estimated End Date	Actual End Date	Days Late	Actions
Excavate	Basement Excavation - Excavate	Open	C10	2008-03-11	Still Open	0	Close 04/09/2008
Form & Pour Footings	Poured Basements - Form & Pour Footings	Open	C11	2008-03-17	Still Open	0	Close 04/09/2008
Form & Pour Basement Wall	Poured Basements - Form & Pour Basement Wall	Open	C12	2008-03-21	Still Open	0	Close 04/09/2008
Exterior	Concrete and Drain						Close

2.2.4 REPORTS

The Report screen gives the user the option of 5 reports that can be pulled from the database. Each report has a setting screen which prompts for the necessary fields that will help in generating the report. The report options are as follows:

- **LOT STATUS REPORT** – Generates a document which outlines the status of the selected Lot
- **WORK ORDER REPORT** – Generates a document with a list of work orders for a lot and their status
- **DAILY SUPERINTENDANT SCHEDULE** – Generates a daily schedule based on what is to be completed on a given date
- **COMPLETION REPORT** – Generates a report on the status of the completions for a lot
- **LOT CLOSING REPORT** – Generates a report of lots that closed in a phase

(See Appendix for sample reports)

2.2.5 HELP

The Help screen contains FAQs to help a user while they are logged into the Constructus application.

2.3 Changing User ID and Password

Only the System Administrator is able to change the User ID and Password for any account. If you are the System Administrator go to Admin – Users, select the user name to be changed so that the information for that user is loaded into the form at the top of the page. After making changes (either to the User ID or the password), select “Save Changes” and the database will be updated immediately.

2.4 Exit System

To properly exit the system select “Logout” from the top left corner of the application while on any page of the Constructus system. This will log you out immediately.

