



Technology  
Empowered  
Estimating

# PRESENTERS

- Mike Gillum; Product Manager, Viewpoint for Estimating



- Karl Rajotte; Product Manager, Viewpoint for Estimating MEP



# WEBINAR OBJECTIVES

- To Gain a better understanding of the estimating technologies available today
- Integrated Platforms (BIM, Project Management, Accounting)
- Benefits of Cloud Technology



# CURRENT STATUS???

- Are you having to stay late at the office or work weekends to finish your work?
- Are you having subcontractor coverage anxiety?
- Is your extra work affecting your marriage or home life?
- Are you losing sleep at night?
- If you answered yes to any of the above.....



# THE PROGNOSIS IS GOOD!

- Best-In-Class Firms Leverage Technology Resources to Enhance the Estimating Function...
  - Effectively and consistently use available technology
  - Create & Use a consistent set of forms and templates
  - Inter Company Collaboration is **KEY** to successfully implementing automated software
  - Understand which functions need to integrate w/ estimating
    - Use technology to ease integration



# TESTIMONIALS

- *"The MEP solution allows me to build assemblies on the fly as I'm going, and that's very easy and simple from the digital takeoff, Elmer W. Pittman Jr., CPE, Owner/Estimator, EWP Group, LLC*
- *"Being exact is a must. There is no room for mistakes. The Viewpoint solution is user-friendly and highly customizable and allows me to go in and do things according to how I want them to be done." Carlos Santoyo, Electrical Estimator, Border Electric/Mechanical.*
- *"It has made a huge difference for us going from the handwritten method; and, I would say it has cut my time in half moving away from the spreadsheets." Matt Elfreich, Estimator and Project Mgr., Klenck Company*
- *"A \$500,000 bid, depending on the intricacy and unit prices, would have taken four or five days before, and now we can complete it in about two days – a 50% time-savings. Overall, I probably turnout 30% more bids than before because of the increased efficiency of the process with Viewpoint Estimating. There was no other program out there that would take earthwork and estimating and allow the users to go back and forth from one to the other. Viewpoint's solution was the only one that would let me do that and eliminate transferring data between two programs." Kim Freitag, Estimator, PIPCO Company.*



# FOOD FOR THOUGHT...

- An Estimator has to be a strategic thinker...
- Knock down the Silos between estimators & PM's
- It is critical to have strong estimators and strong processes
- Chase the “right” work—Bid In Your Sweet Spot!
- Good job cost integrity is important to feed the model



# POLL QUESTION #1

## WHAT TECHNOLOGY ARE YOU CURRENTLY USING FOR TAKEOFF?

- Paper and Pen
- Spreadsheets (e.g. Excel)
- Automated Software
  - Paper Plans & Digitizers
- Automated Software
  - Digital Takeoff (PDF, CAD, BIM)





# CONSTRUCTION TECHNOLOGY TRENDS

- Construction Industry is underspending other industries by 75% regarding technology (JBKNOWLEDGE 2015 Construction Technology Report)
- A recent KPMG survey found that 50 percent of industry leaders who experience underperforming projects say poor estimating practices are a major factor in problematic developments. This data is a clear indication of the lack of quality estimating procedures that is negatively impacting construction work across the world.
- According to Constructech, companies that use state-of-the-art estimating technology have seen improved development efficiency and increased accuracy. Additionally, users of digital estimating tools are able to reduce the risk associated with creating an inaccurate cost projection.



# TECHNOLOGY EMPOWERED ESTIMATING

**VIEWPOINT**  
— FOR —  
ESTIMATING™



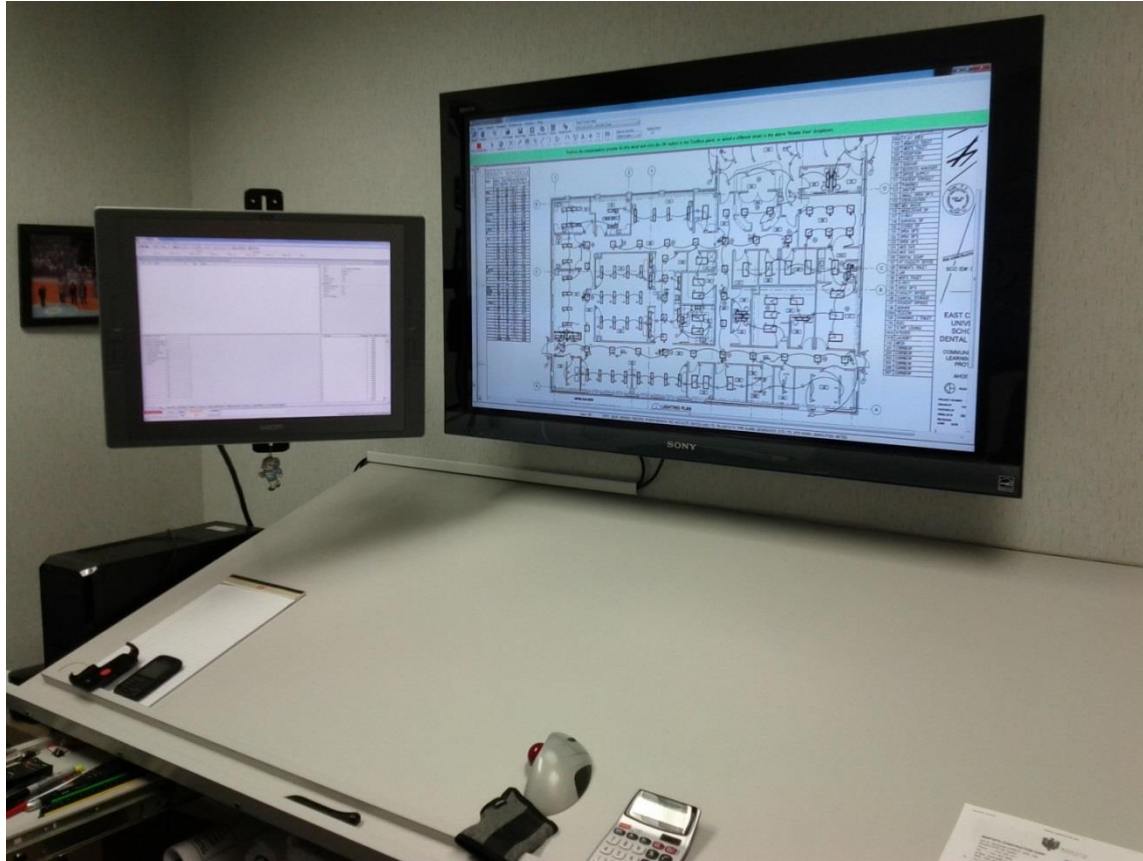
# TAKEOFF DEVICES

## EVOLUTION OF TOOLS



# TAKEOFF DEVICES

## EVOLUTION OF TOOLS





# ELECTRONIC DRAWINGS

## DIGITAL DRAWINGS AND PLANS



Adobe Document Cloud /

Adobe Acrobat DC



Advanced Image Manager



# ADVANCED IMAGE MANAGER

- Breakdown of Multi-Sheet PDFs.
- Linked directly with Digital Takeoffs & Estimating
- Multi-Layer breakdowns
- Redline Capability



File

View Documents

Redline / Markup

Watermarks

First

Prev

Next

Last

Select Page

Current

Selected

All

Page Rotation

Print

Quick Export for DTO

Exit AIM

Layers Pages

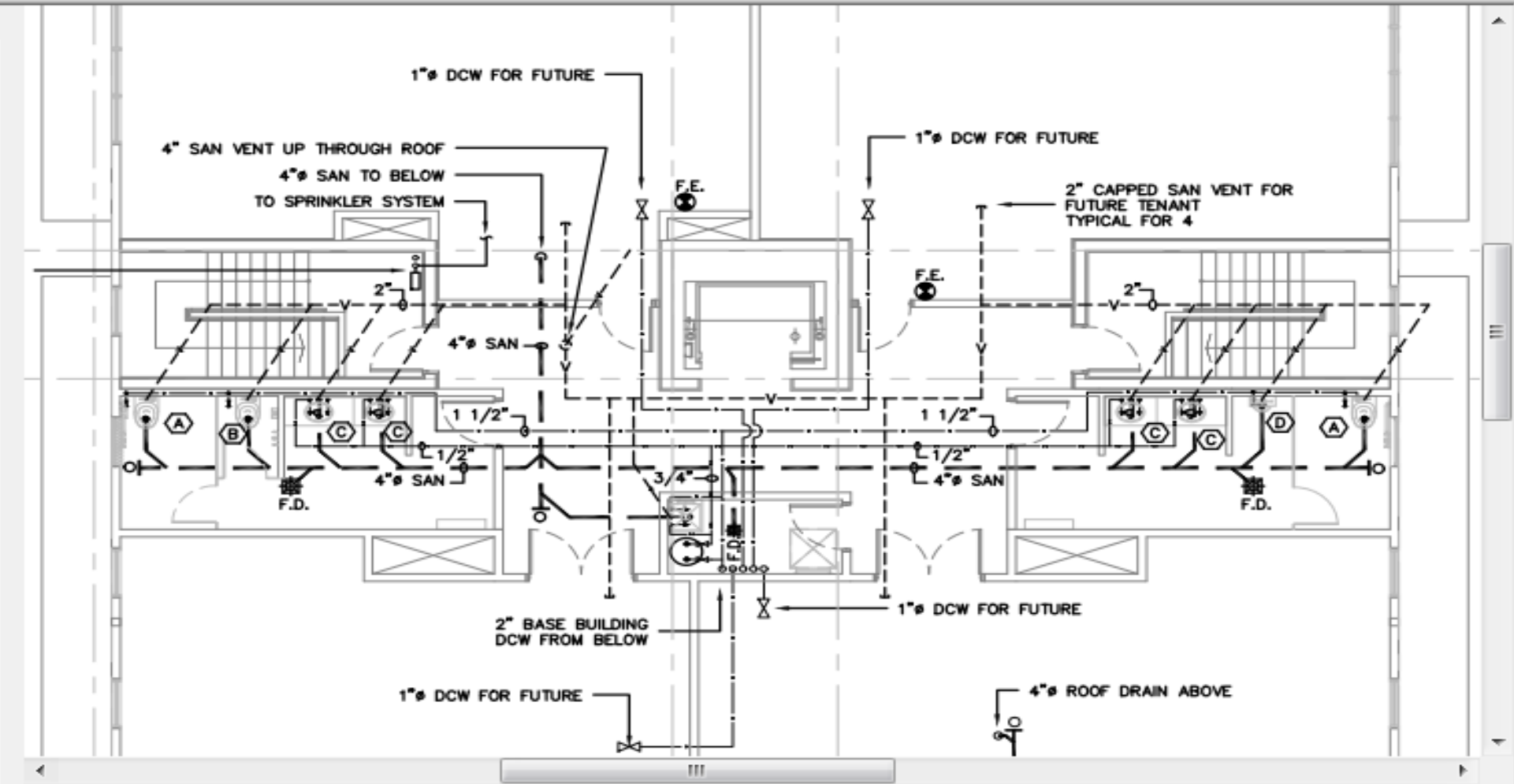
View All

1

2

3

4



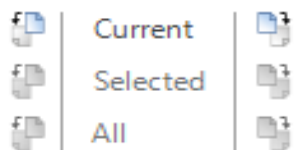
File

View Documents

Redline / Markup

Watermarks

DTO Preview / Adjust



Page Rotation



Drag/Drop

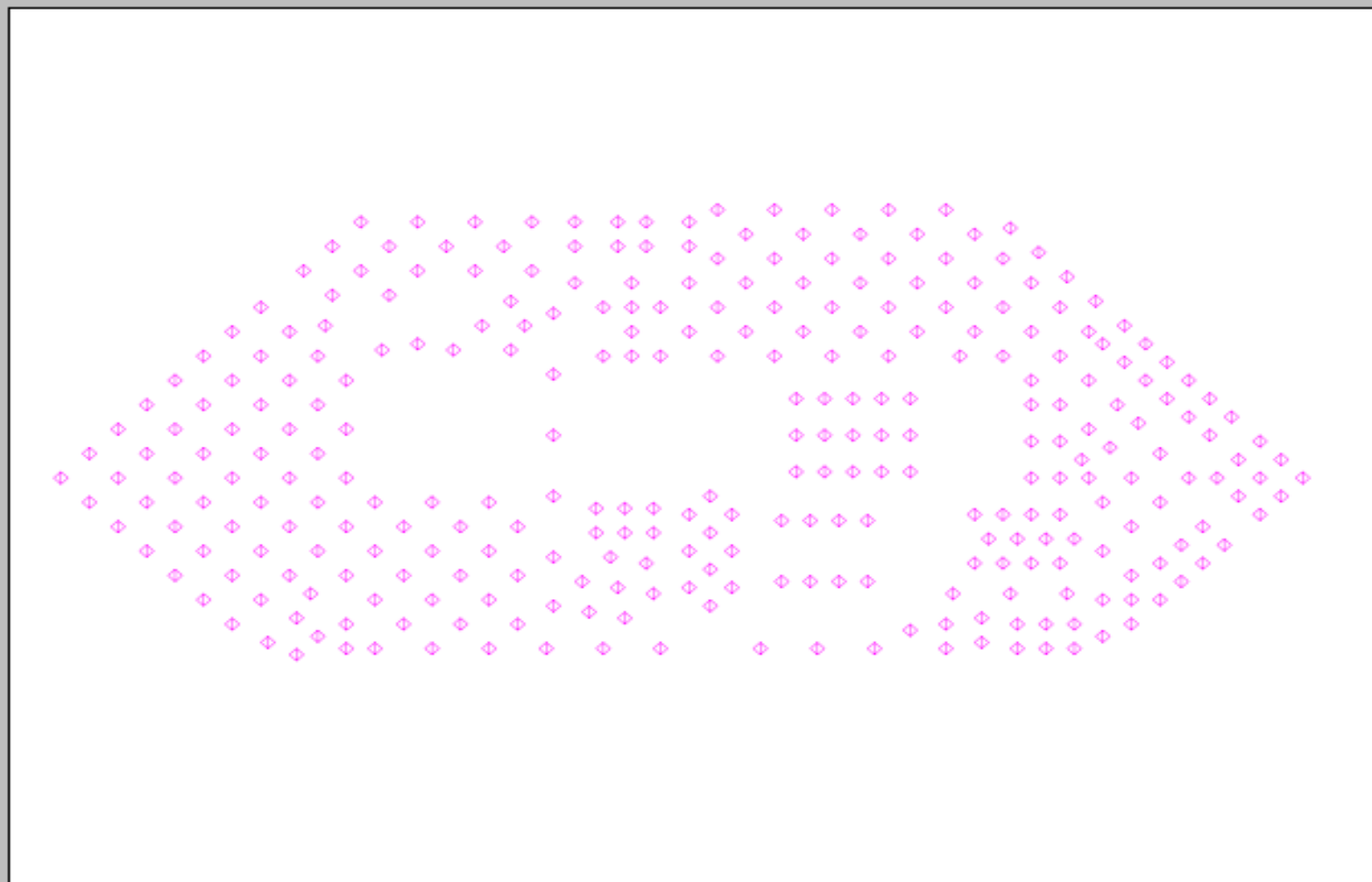


Print

Quick Export  
for DTOExit  
AIM

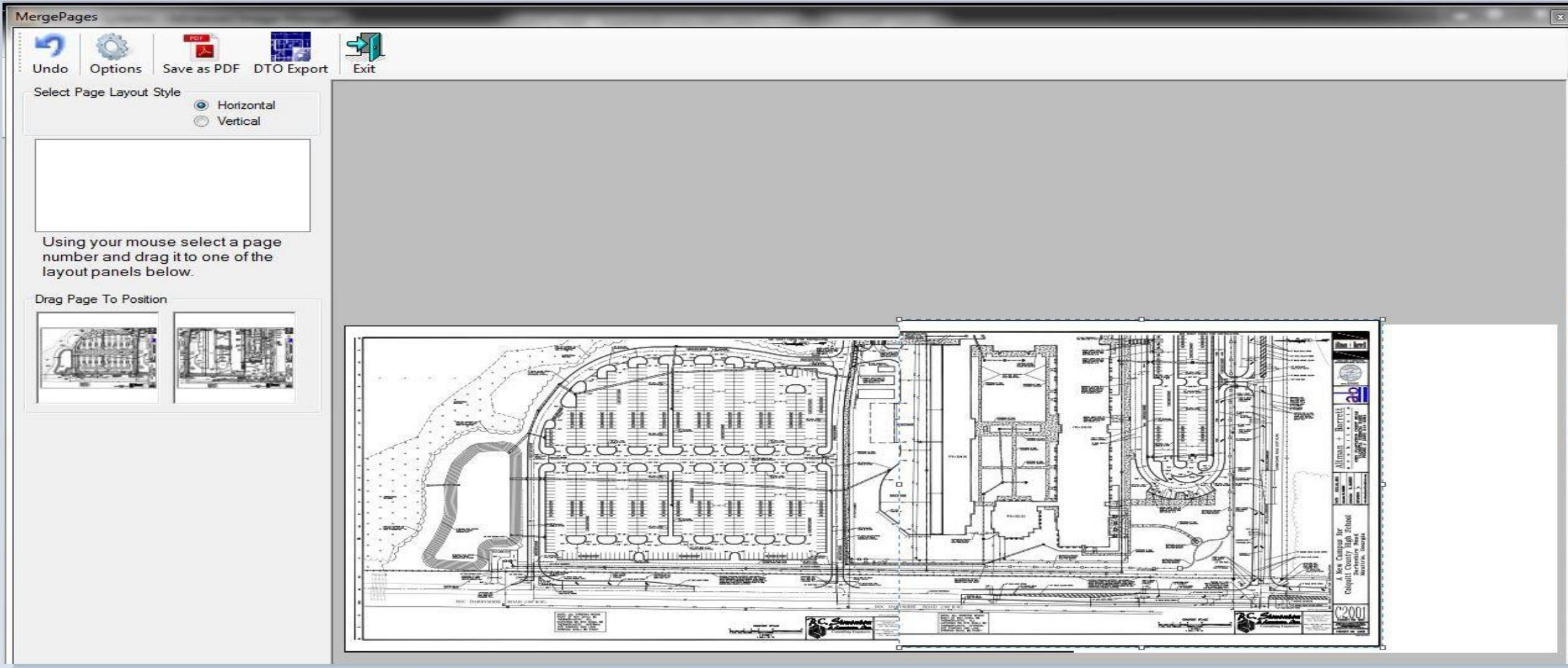
Layers

- ☐ A-RAILING
- ☐ A-SOFFIT
- ☐ A-STAIR-RAIL
- ☐ A-STAIR-T
- ☐ A-STUD
- ☐ A-TPART
- ☐ A-WALL-CONC
- ☐ A-WALL-GYP
- ☐ A-WALL-INT-OPT
- ☐ A-WALL-INT-OPT2
- ☐ A-WALL-MASONRY
- ☐ A-WALLINT
- ☐ AWD-GLAZE
- ☐ AWD-MULL
- ☐ AWD-SILL
- ☐ CONDUIT
- ☐ DOORS
- ☐ E-DEVC-TEXT
- ☐ E-JBOX-TEXT
- ☐ E-LITE-CIRC-EXST
- ☐ E-LITE-CIRC-NEWW
- ☐ E-LITE-EXIT-NEWW
- ☐ E-LITE-FIXT-EXST
- ☐ E-LITE-FIXT-FLUO-EXST
- ☒ E-LITE-FIXT-Fluo-NEWW
- ☐ E-LITE-FIXT-NEWW
- ☐ E-LITE-JBOX-EXST
- ☐ E-LITE-JBOX-NEWW





# ADVANCED IMAGE MANAGER - MERGE



# TAKEOFF

## EARTHWORK

- Cut and Fill Takeoff solution
- Increased Accuracy, valuable time
- Minimize the possibility of costly mistakes





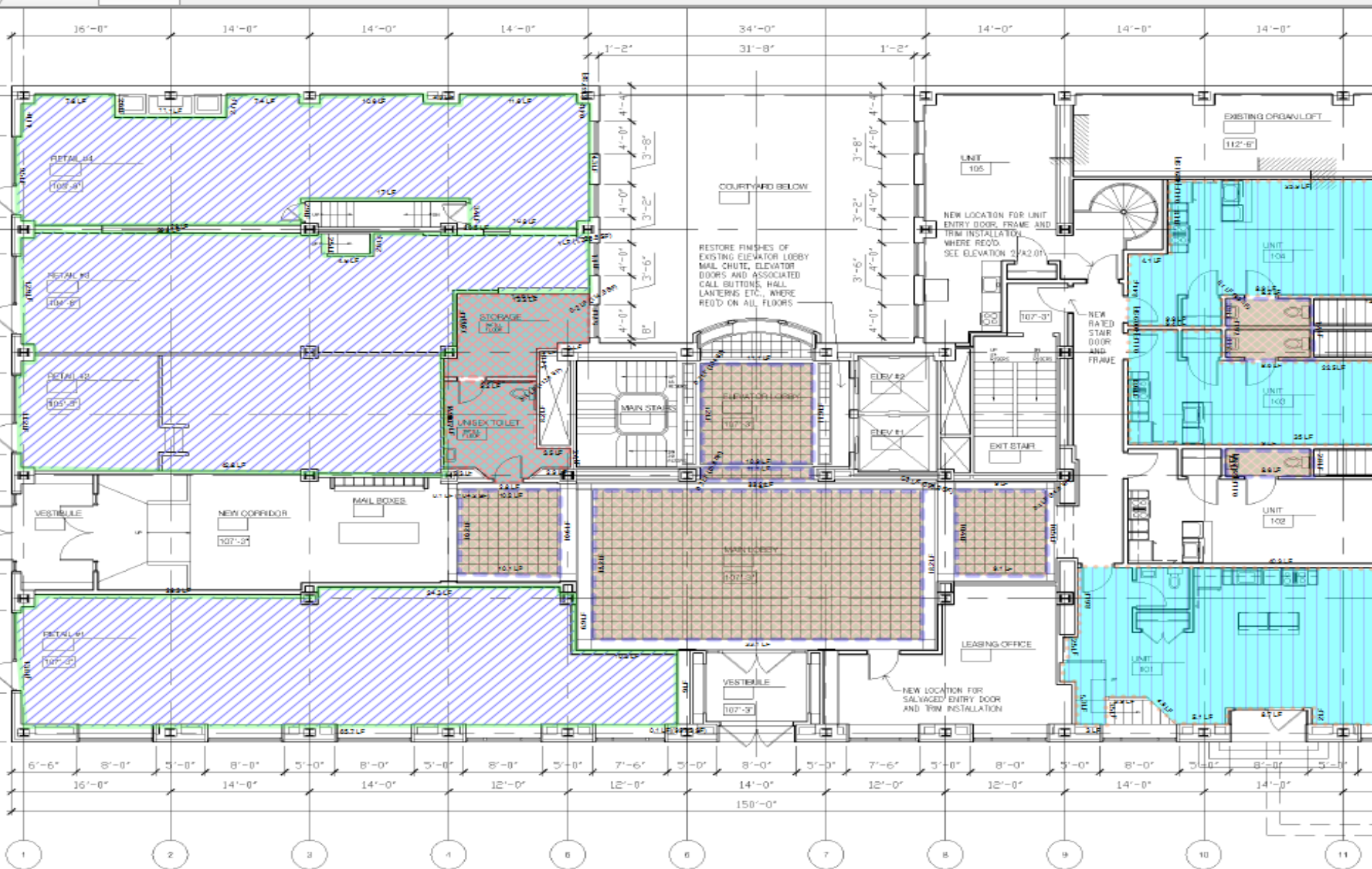
	Reference	Type	Desc	Comment	Qty	Units	UnitCost	XtdCost
Annotation		N/A						

Estimate

Insert

- ☐ Admin Requirements (1.56 LS)
- ☐ Office Trailer (6.00 MO)
- ☐ Field Office Move in/out (1.00 ALW)
- ☐ Job Cleanup (4,654.00 SF)
- ☐ Site Grading (1.00 LS)
- ☐ Storm Drainage (-122.82 LF)
- ☐ Domestic Water (60.00 LF)
- ☐ Fire Line (249.66 LF)
- ☐ Concrete Paving (0.00 SF)
- ☐ Asphalt Paving (2,131.67 SY)
- ☐ Lineal Footings 2' x 1' Interior (5,405.85 LF)
- ☐ Lineal Footings 4' x 2' Interior (2,621.67 LF)
- ☐ Slab On Grade UDA (0.00 SF)
- ☐ Site Perimeter - Subtotal [Proposed] Excluding encls
- ☐ Floors (1.00 LS)
- ☐ Paints and coatings (1.00 LS)
- ☐ Sub Quote - Ceramic Tile (1.00 LS)
- ☐ Sub Quote - EIFS Repair (1.00 LS)
- ☐ Sub Quote - Plumbing (1.00 LS)
- ☐ Sub Quote- Metal doors and frames (1.00 EA)
- ☐ Sub Quote - Wood and plastic doors (1.00 LS)
- ☐ Lighting (1.00 LS)
- ☐ Plumbing fixtures and equipment (1.00 LS)
- ☐ HVAC equipment (1.00 LS)
- ☐ PROFIT (non-Subs) (15.00 %)

Takeoff Sheets





# VERTICAL TAKEOFF

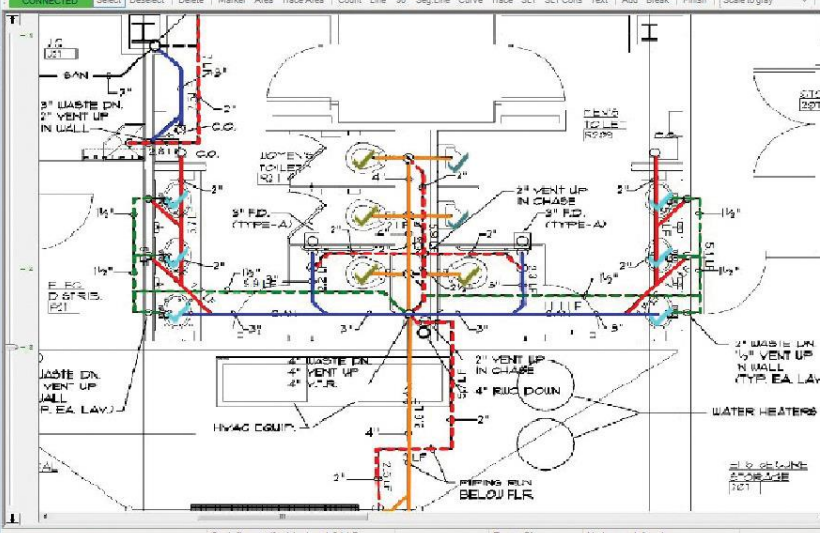
## MEP ESTIMATE AND DIGITAL TAKEOFF

Estimation Digital Takeoff - [Estimate: FT McHenry Visitor Center (FTMC) Section:11-DOMESTIC WATER A/G]

File View Takeoff Notepad Preferences Window Help

Current Sheet: Mechanical w/Annot

CONNECTED Select Deselect Delete Marker Area Trace Area Count Line 90 Seg Line Curve Trace SLT Cons Text Add Break Finish Display Quality Scale to gray



Category	Size	Key	Quantity
COPPER KLM-L	1"	LHARD TUBE	110.000
COPPER KLM-L	3/4"	LHARD TUBE	156.000
COPPER KLM-L	3/4"	LHARD TUBE	31.000
COPPER KLM-L	3/4"	LHARD TUBE	27.000
COPPER KLM-L	3/4"	45 ELBOW Cx	2.000
COPPER KLM-L	3/4"	GT/V SWT.125/...	1.000
COPPER KLM-L	3/4"	CROSS CAST-C...	1.000
COPPER KLM-L	3/4"	REDUCED TEE	1.000
COPPER KLM-L	3/4"	LHARD TUBE	11.000
COPPER KLM-L	3/4"	90 ELBOW Cx	1.000
COPPER KLM-L	3/4"	LHARD TUBE	8.000
COPPER KLM-L	3/4"	45 ELBOW Cx	1.000
COPPER KLM-L	3/4"	LHARD TUBE	15.000
COPPER KLM-L	3/4"	LHARD TUBE	20.000
COPPER KLM-L	3/4"	90 ELBOW Cx	1.000
COPPER KLM-L	3/4"	LHARD TUBE	37.000
COPPER KLM-L	3/4"	LHARD TUBE	93.000
COPPER KLM-L	3/4"	LHARD TUBE	122.000
SCH 40 BCI T&C...	2"	A53 540 BK T&C...	1.000
SCH 40 BCI T&C...	2"	90 ELBOW	1.000
SCH 40 BCI T&C...	2"	45 ELBOW	1.000
SCH 40 BCI T&C...	2"	A53 540 BK T&C...	1.000
SCH 40 BCI T&C...	2"	GB/V THD 150...	1.000
SCH 40 BCI T&C...	2"	GT/V THD 150...	1.000
SCH 40 BCI T&C...	2"	TEE	1.000
FKTURE ASSE...	(R)	WC-RND F...	1.000
FKTURE ASSE...	(R)	WC-ELNG...	1.000
FKTURE ASSE...	UR	WALL MT...	2.000


Connected Connect Mode AUTOFOCUS

Show Selected Disconnect Qty: 0.0000

Ready Level Breakout \ DTO \ Insul and Hanger h

Scale[Imperial]: 1 Inch = 1.34 LF Zoom: 5% No layers defined

Category



Calc Back 7 8 9

Alt Menu Esc 4 5 6

Yes NO 1 2 3

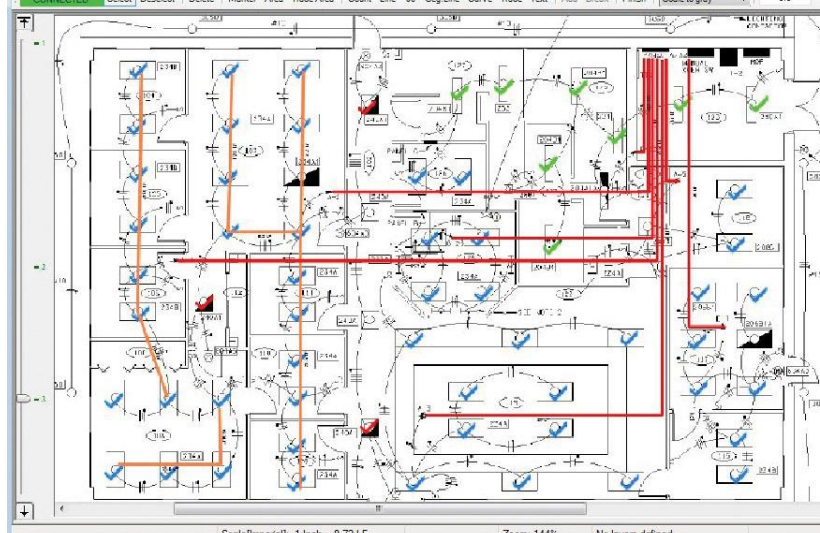
OK Cancel +/- 0

Estimation Digital Takeoff - [Estimate: Fort McHenry Visitor Center (FT-MCHVC) Section:2-BRANCH LIGHTING]

File View Takeoff Notepad Preferences Window Help

Current Sheet: Elec Room Shape

CONNECTED Select Deselect Delete Marker Area Trace Area Count Line 90 Seg Line Curve Trace Add Break Finish Display Quality Scale to gray Added Drop 0.0



#	Icon	Item	Qty
1		(OPT) BRANCH TAKEOFF: EMT DROPCL	100
2		3/4" EMT	100
3		3/4" EMT STEEL SS COUP	10
4		CADDY K-12 KON CLIP	13
5		12 THHN STR CU	315
6		(OPT) BRANCH TAKEOFF: EMT DROPCL	100
7		3/4" EMT	100
8		3/4" EMT STEEL SS COUP	10
9		CADDY K-12 KON CLIP	13
10		12 THHN STR CU	315
11		(OPT) BRANCH TAKEOFF: EMT CONCE	43
12		3/4" EMT	43
13		3/4" EMT STEEL SS COUP	5
14		3/4" CADDY 35012P MTL STD	6
15		12 THHN STR CU	355
16		(OPT) BRANCH TAKEOFF: EMT DROPCL	20
17		3/4" EMT	20
18		3/4" EMT STEEL SS COUP	3
19		(OPT) BRANCH TAKEOFF: EMT DROPCL	43
20		3/4" EMT	43
21		3/4" EMT STEEL SS COUP	5
22		CADDY K-12 KON CLIP	6
23		12 THHN STR CU	130
24		FX-SW-REC-COND-ASSEM: FIXTURE AS	14
25		(LABOR ITEM) 2X4 LAY-IN	14
26		DISASTER CLIP	56
27		6" FIXTURE WHIP	14
28		4 SQ BOX 1-1/2D 1/2 KO	7
29		4 SQ 4 SQ BLANK COVER	7
30		1/2" EMT STEEL SS CONN	14


Connected Connect Mode AUTOFOCUS

Show Selected Disconnect Qty: 0.00

Ready Levels/Specs \ On Screen Keypad/

Scale[Imperial]: 1 Inch = 8.72 LF Zoom: 144% No layers defined

(OPT) BRANCH TAKEOFF



Calc Back 7 8 9

Alt Menu Esc 4 5 6

Yes NO 1 2 3

OK Cancel +/- 0

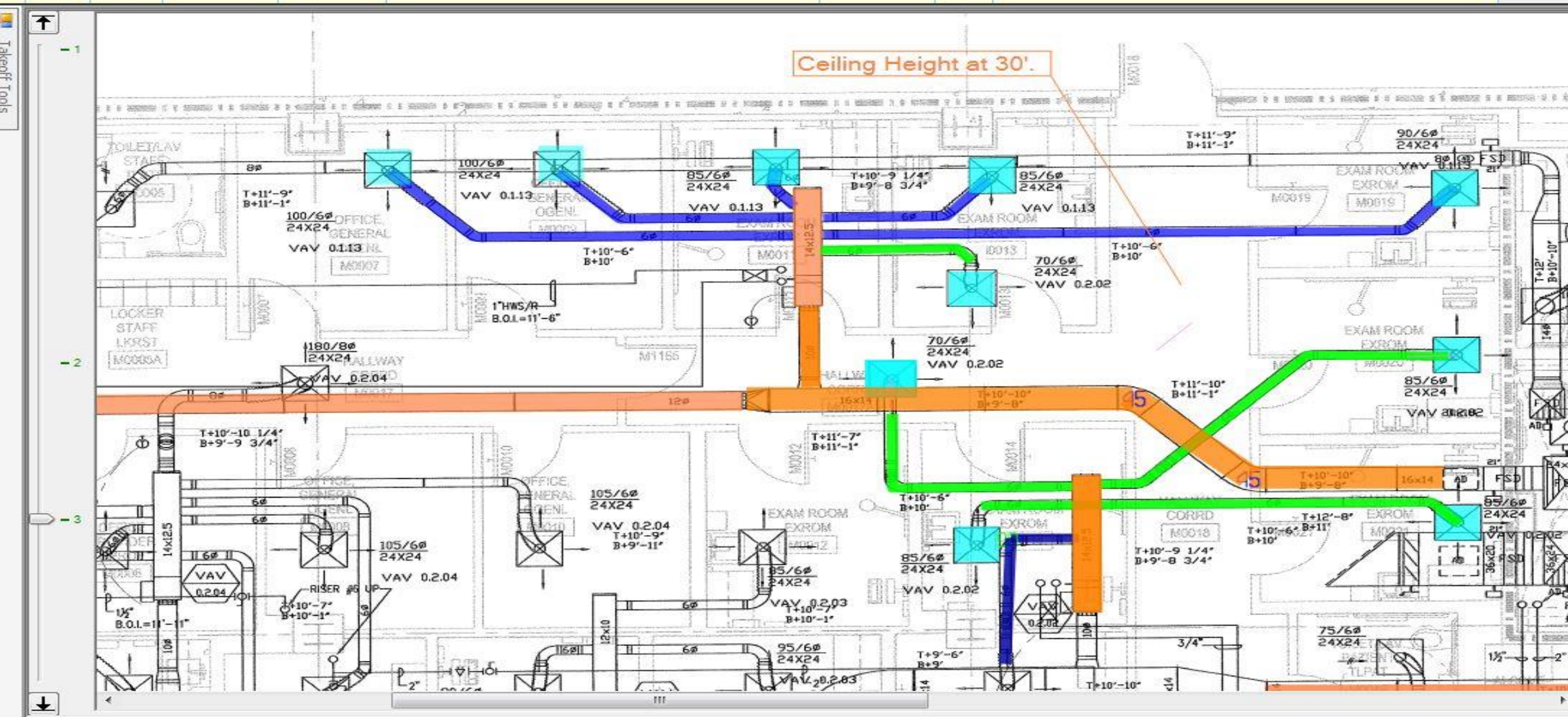


File Edit View Takeoff Notepad Preferences Window Help

Takeoff Notepad Crop Image Pan Image Print Image Save Image Sheets Revisions Layers Assign Layers M2-Original

CONNECTED Select Deselect Delete Marker Area Trace Area Count Line 90 Seg.Line Cont.Line Curve Trace SLT Text Add Break Add Drop Finish Add Rise Add Run Finish w/Drop Finish w/Rise Finish w/Run

#	Type	Sec #	Layer	Takeoff Id	Item Description	Quantity	UOM	Sheet Name
0								

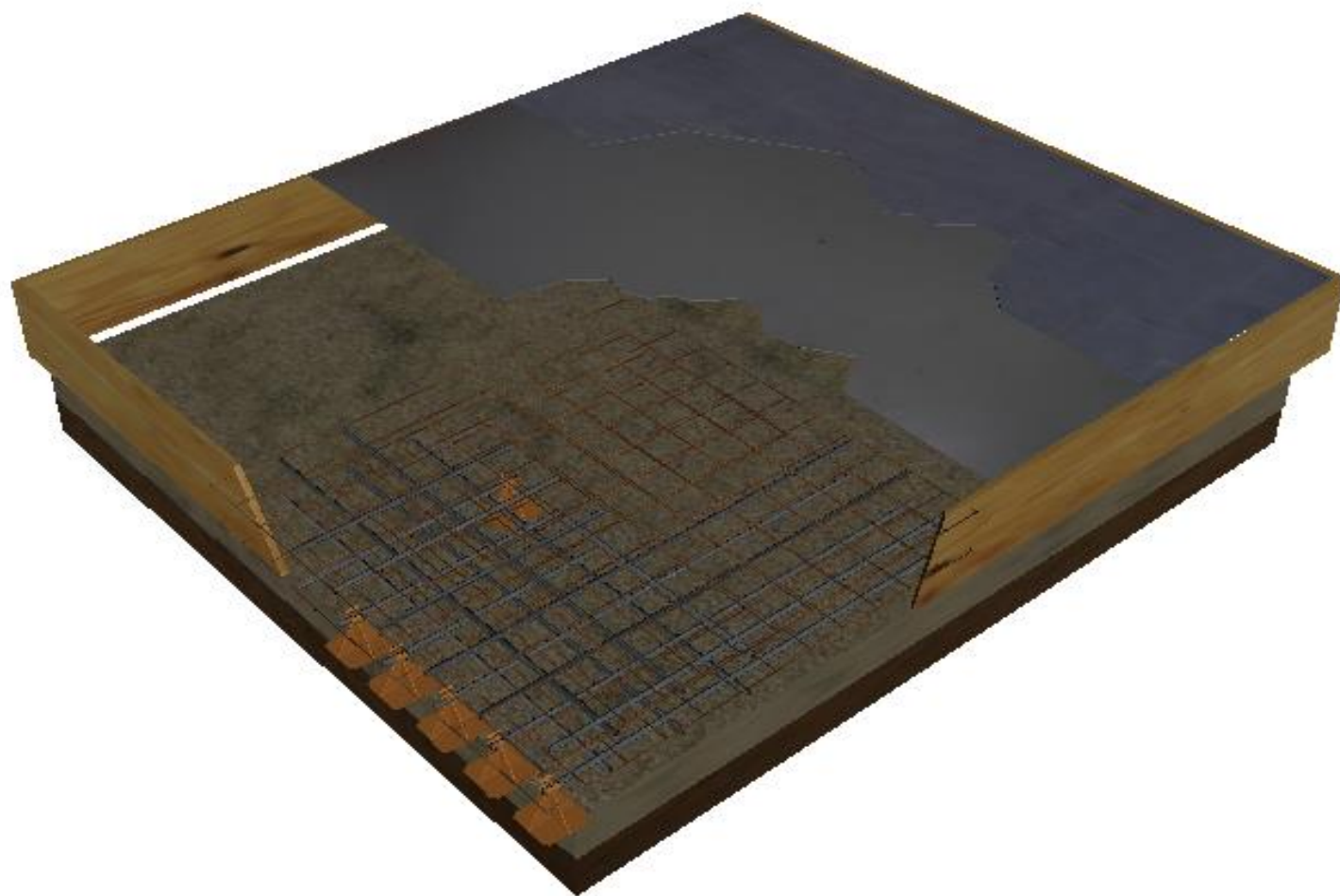


# VERTICAL TAKEOFF

## ASSEMBLIES

- MEP Assemblies
  - Quick
  - Detailed (Custom on-the-fly)
  - Size Table
- GC and Sub Specialty Assemblies
  - List
  - Enterprise (Customized Detail)
  - Visual Assembly





Concrete :

&lt;none&gt;



Cure / Seal :

CURING COMPOUND



SF

Finishing :

SEALER, 1 COAT



GA

Paint :

RESIDENTIAL, ECON, 1 FLAT, 2 ENAM



SF



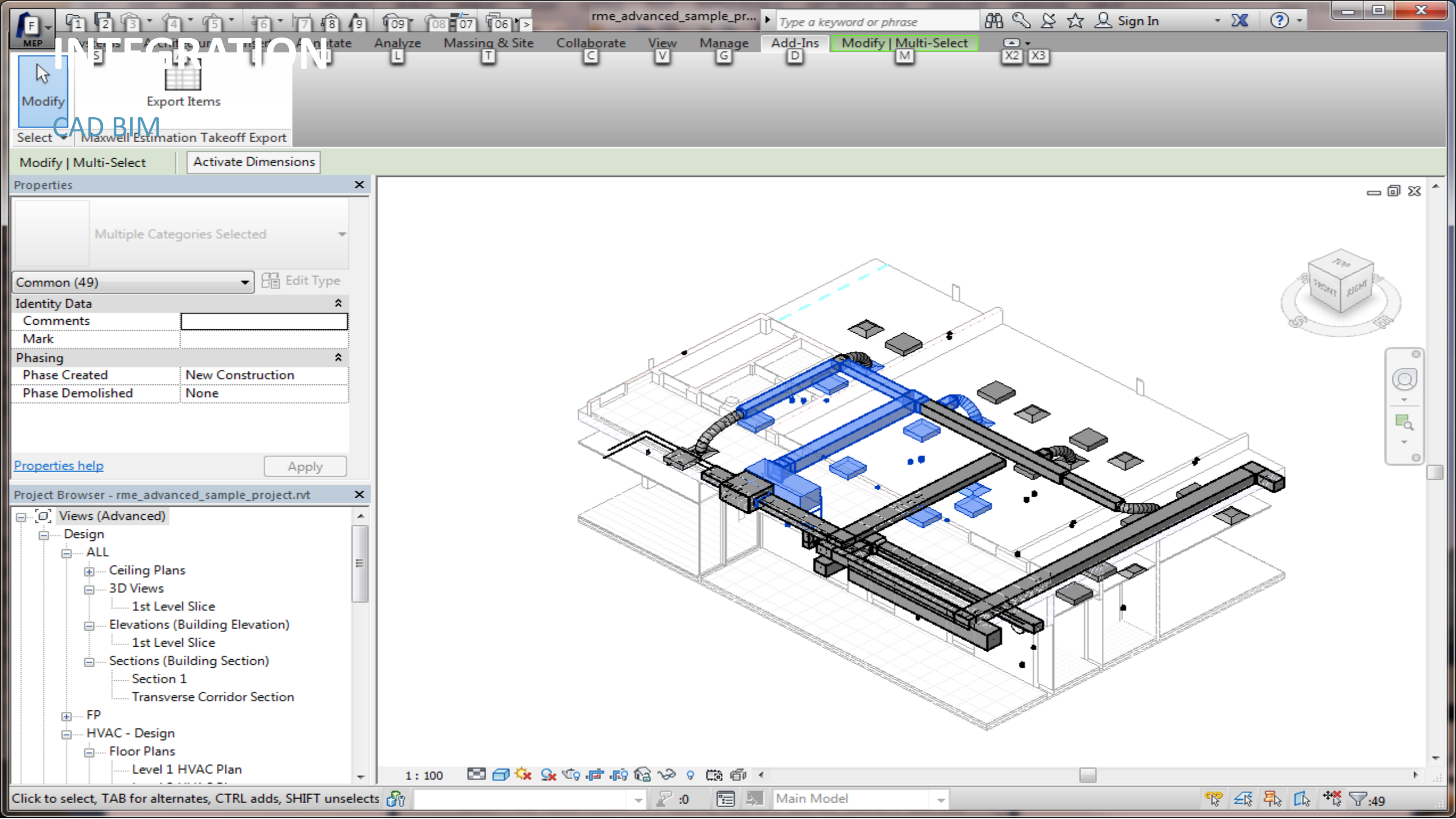
# POLL QUESTION #2

DO YOU HAVE AN ON PREMISE ENGINEER/ARCHITECT?

- Outsource
- CAD On Premise
- CAD/BIM On Premise







# BIM Data Integration

BIM Column Mapping

Select cost item column mapping for file: 090827 HCC-A1-Ceiling.txt

Cost Item Type: Material

Details WBS Codes

Please select an option for Reference, Description, and Quantity:

**Reference**

☐ Use Data Column

Family  
Type  
Count  
Area  
Volume

☐ Use Schedule Name as Prefix

HCC-A1-Ceiling

**Description**

Family  
Type  
Count  
Area  
Volume

**Quantity/Units**

Family  
Type  
Count  
Area  
Volume

Default units:

"HCC-A1-Ceiling"	"Family"	"Type"	"Count"	"Area"	"Volume"
"Basic Ceiling"	"APC-1 2' x 2'"	"14"	"4298"	"0.00"	"0.00"
"Basic Ceiling"	"APC-2 2' x 4'"	"1"	"55"	"0.00"	"0.00"
"Basic Ceiling"	"APC-3 2' x 2'"	"2"	"1445"	"0.00"	"0.00"
"Basic Ceiling"	"APC-4 2' x 5'"	"1"	"731"	"0.00"	"0.00"
"Basic Ceiling"	"APC-4 2' x 6'"	"1"	"289"	"0.00"	"0.00"
"Basic Ceiling: 19"	"19"	"19"	"6817"	"0.00"	"0.00"

☐ Use this mapping for all subsequent files

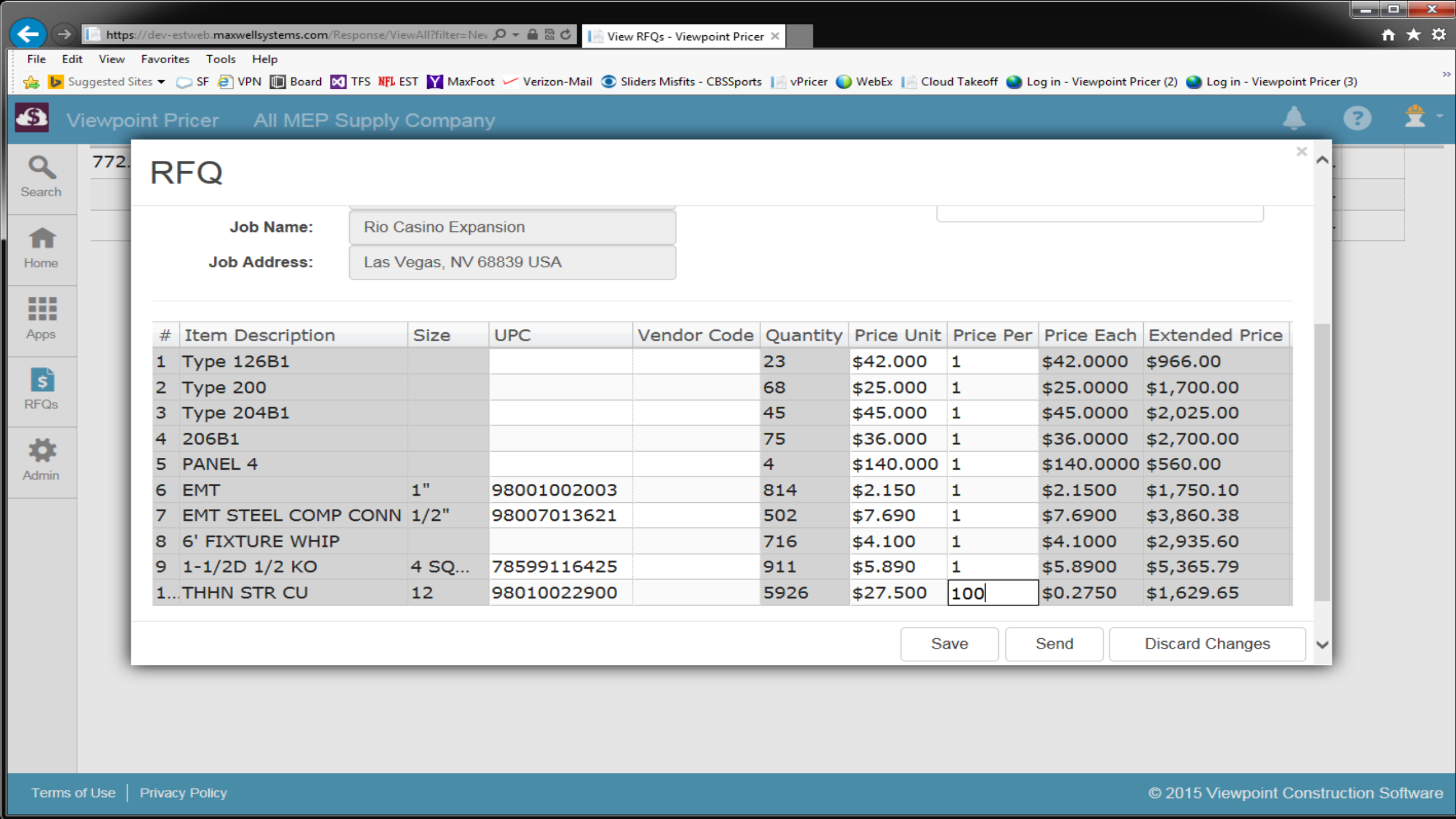
Import Skip Cancel

# PRICING AND LABOR

## MEP RSMEANS

- MEP Price Updating Services
  - Harrison, Trade Service, NetPricer, etc.
- MEP National Labor Associations
  - SMACNA, PHCC, NECA, MCAA, etc.
- RSMeans
- Local Supplier Pricing
  - Viewpoint Pricer





## RFQ

Job Name:

Rio Casino Expansion

Job Address:

Las Vegas, NV 68839 USA

#	Item Description	Size	UPC	Vendor Code	Quantity	Price Unit	Price Per	Price Each	Extended Price
1	Type 126B1				23	\$42.000	1	\$42.0000	\$966.00
2	Type 200				68	\$25.000	1	\$25.0000	\$1,700.00
3	Type 204B1				45	\$45.000	1	\$45.0000	\$2,025.00
4	206B1				75	\$36.000	1	\$36.0000	\$2,700.00
5	PANEL 4				4	\$140.000	1	\$140.0000	\$560.00
6	EMT	1"	98001002003		814	\$2.150	1	\$2.1500	\$1,750.10
7	EMT STEEL COMP CONN	1/2"	98007013621		502	\$7.690	1	\$7.6900	\$3,860.38
8	6' FIXTURE WHIP				716	\$4.100	1	\$4.1000	\$2,935.60
9	1-1/2D 1/2 KO	4 SQ...	78599116425		911	\$5.890	1	\$5.8900	\$5,365.79
1...	THHN STR CU	12	98010022900		5926	\$27.500	100	\$0.2750	\$1,629.65

Save

Send

Discard Changes

# BID AND PROPOSAL

JD Construction, Inc  
1000 First Avenue  
Suite 200  
King of Prussia, PA 19406  
jdconstruction.com

Phone: 800-688-8226  
Fax: 610-277-3515

## Proposal



**Proposal:** 1000  
**Date:**

To:	Project
Westmark Construction Attn: David Linden 7006 27th St. West Suite A Tulare, CA 95466	Lordsburg Water Improvements 1500 W. State Road 4 Norristown, PA 19406

Salesperson		
Sam Smith		

### Scope of Work

Provide all work as outlined in bid documents

**Proposal Total:** 524,431.15

Acceptance	
Accepted by:	
Title:	
Date:	

JD Construction, Inc  
1000 First Avenue  
Suite 200  
King of Prussia, PA 19406  
jdconstruction.com

Phone: 800-688-8226  
Fax: 610-277-3515

## Proposal



**Proposal:** FTMCH  
**Date:**

To:	Project
Eagle Development Corp. Attn: Alan F Freeborn 2343 Leaf Way Mulberry, CA 95046	Ft. McHenry 100 Harbour Road Baltimore, MD 22533

Salesperson		
Sam Smith		

Reference	Extended Price
099 General Conditions	6,270.00
101 High Pressure Supply Air	10,576.53
102 Low Pressure Supply Air	4,694.86
105 Return Air	4,968.76
110 Exhaust Air	4,968.76
125 Grilles Registers Diffusers	8,571.01
130 Equipment	119,646.10
150 Balancing Dampers	1,128.00

**Proposal Total:** 160,824.01

Acceptance
------------

# BEYOND THE BID

## VISTA AND OTHER PM AND MOBILE

- Viewpoint's Accounting & Project Management
  - ProContractor
  - PC Connect (ProContractor Connect)
  - CPM (Construction Project Management)
  - Vista
  - VCM (Viewpoint for Content Management)
  - VFM (Viewpoint for Mobile)
  - VPC (Viewpoint for Project Collaboration)
- Other 3<sup>rd</sup> Party PM and ERP systems

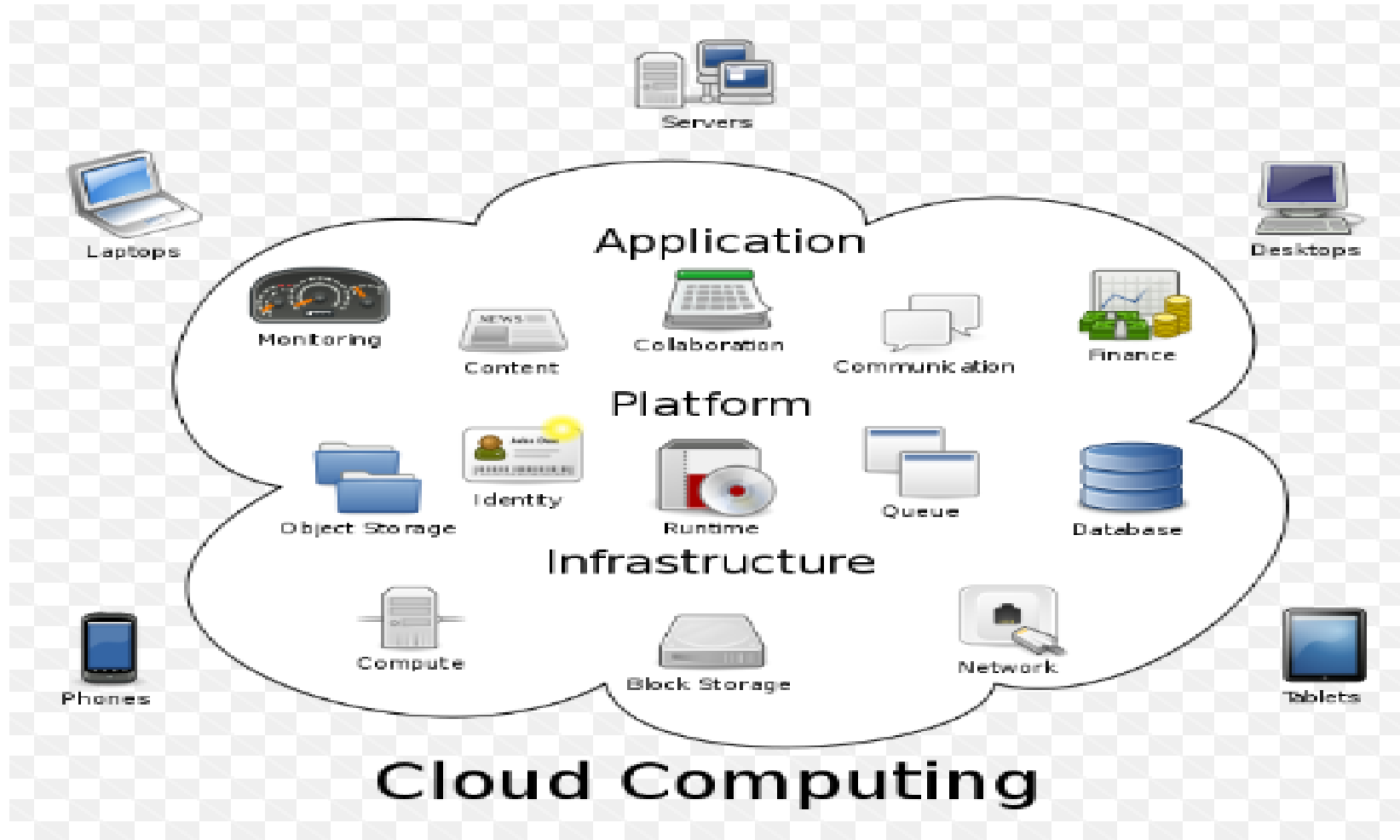
**ProContractor**<sup>TM</sup>  
*by Viewpoint*

**Vista**<sup>TM</sup>  
*by Viewpoint*



# CLOUD

## VIEWPOINT FOR CLOUD





# POLL QUESTION #3

ARE YOU CURRENTLY DEPLOYING ESTIMATING TECHNOLOGY IN THE CLOUD?

- Yes
- No
- Current Initiative
- No, but Interested





# CONSTRUCTION TECHNOLOGY

- More Construction Apps than Ever(JBKNOWLEDGE 2015 report)



# EMPOWER

Q & A



# THANK YOU

- Mike Gillum; Product Manager, Viewpoint for Estimating



[Mike.Gillum@viewpoint.com](mailto:Mike.Gillum@viewpoint.com)

- Karl Rajotte; Product Manager, Viewpoint for Estimating MEP



[Karl.Rajotte@viewpoint.com](mailto:Karl.Rajotte@viewpoint.com)

