DEPT OF BLDGS 121324290 Job Number

ES581553640 Scan Code

NYC Buildings

TR3: Technical Report
Concrete Design Mix

Must be typewritten.

Orient and affix BIS job number label here

The TR3 is required prior to permit

1 Location Information *Required for **all** applications.*

House No(s) 501 Street Name West 30th Street

Borough Manhattan Block 702 Lot 50 BIN CB No.

2 Applicant Information - Licensed Concrete Testing Lab *Required for **all** applications.*

Director Last Name Banerjee Director First Name Debabrata Director Middle Initial

Business Name Impact Concrete & Control Inspection Inc Business Telephone (718) 939-7774

Business Address 15-46 129th Street Business Fax (718) 939-6444

City College Point State NY Zip 11356 Mobile Telephone (917) 577-7540

E-Mail dbaner@gmail.com

Director's Lic. Number 081431 [X] P.E. [ ] R.A. Concrete Testing Lab Lic. Number 000064

3 Strength Requirements and Design *Required for **all** applications. Attach Trial Mixture Reports and/or Field Experience Results.*

	Mix #1	Mix #2	Mix #3
Method of Determining Proportions (Trial Mixture and/or Field Experience)	[X] Trial Mix [ ] Field Experience	[X] Trial Mix [ ] Field Experience	[ ] Trial Mix [ ] Field Experience
Date Trial Mixture Performed	10-19-12	1-3-13	
Specified Strength (f'_c)	10000 PSI	12000 PSI	PSI
Required Strength (f'_{cr})	11700 PSI	13900 PSI	PSI
Specified Test Age (Days)	28	28	

	Material Type	Material Source	ASTM Standard	Mix #1	Mix #2	Mix #3
Cementitious #1 (lbs)	Cement	Lehigh-II	C-150	570 lbs.	650 lbs.	lbs.
Cementitious #2 (lbs)	Slag	Allcem	C-989	380 lbs.	230 lbs.	lbs.
Cementitious #3 (lbs)	Silica Fume	Euclid Microsilica	C-1240	20 lbs.	75 lbs.	lbs.
Fine Aggregate (lbs)	Sand	LI NATURAL	C-33	1000 lbs.	1100 lbs.	lbs.
Coarse Aggregate #1 (lbs)	Stone #67	NYSAND & STON	C-33	1425 lbs.	1425 lbs.	lbs.
Coarse Aggregate #2 (lbs)	Stone #8	NYSAND & STON	C-33	475 lbs.	475 lbs.	lbs.
Coarse Aggregate #3 (lbs)				lbs.	lbs.	lbs.
Amount of Water (gals)	Water	NYC	C94	32.3 gals.	27.5 gals.	gals.
Admixture #1 (oz)				oz	oz	oz
Admixture #2 (oz)		Euclid- Plastol 5000	C464	90.0 oz	143.3 oz	oz
Admixture #3 (oz)	HRWR	Eucon WO		22.0 oz	40.0 oz	oz
Other						
Water-Cement Ratio	Supplier can adjust	admixture per NYC		0.29	0.26	
Slump (inches ± tolerance)	DOB bulletin	2010-018		8" ± 1"	8 ± 1	±
Air Content (% ± tolerance)	dated 06/18/10			2% ± 1.0	2 % ± 1.0	% ±
Unit Weight (lbs./ft^3)				147. lbs./ft^3	147 lbs./ft^3	lbs./ft^3

TR-3

4 Concrete Testing Lab Director's Statement and Signature *Required for **all** applications.*

I hereby state that the information reported in section 3 above is correct and complete and that the tests reported in section 3 above were performed under my supervision in accordance with all applicable New York City Construction Code provisions, and Departmental rules.

Falsification of any statement is a misdemeanor and is punishable by a fine or imprisonment, or both.

It is unlawful to give to a city employee, or for a city employee to accept, any benefit, monetary or otherwise, either as a gratuity for properly performing the job or in exchange for special consideration. Violation is punishable by imprisonment or fine or both.

Name (please print) Debabrata Banerjee PE

Signature Date 07-10-13

STATE OF NEW YORK DEBABRATA BANERJEE 081431 LICENSED PROFESSIONAL ENGINEER

P.E. / R.A. Seal *(apply seal, then sign and date over seal)*

5 Concrete Producer's Statement and Signature *Required for **all** applications. Must be filled out by Owner of Production Facility.*

I certify that the material type and source specified in section 3 above are available at my facility and that I will use such materials to produce the concrete mix(es) specified in section 3. I further certify that I will produce and deliver such mix(es) to the project site in accordance with the applicable code provisions of the NYC construction codes and that such mix(es) are appropriate for the placement conditions for the project identified in section 1 above (BC 1905.8.2).

Name (print) ANGELO DEPERINO Title OPER. MGR.

Signature Date 7/30/13 NRMCA Certification Expiration Date (BC 1905.8.2) 9/19/13

Business Name Empire transit Mix Business Telephone (718) 384-3000

Business Address 430 Maspeth Avenue Business Fax: 718 384 3113

City Brooklyn State NY Zip 11211

6 Design Applicant's Statement and Signature *Required for **all** applications. Must be filled out by P.E./R.A. responsible for plans.*

☐ I certify I have reviewed the concrete design mix(es) reported by the licensed testing lab and found them to be in compliance with the approved construction documents (BC 1905.6.3.3).

Name (please print) AINE BRAZIL

Signature Date 8/1/13

STATE OF NEW YORK AINE BRAZIL No. 062540 LICENSED PROFESSIONAL ENGINEER

P.E. / R.A. Seal *(apply seal, then sign and date over seal)*

7 Building Owner's Statement and Signature *Required for **all** applications.*

Falsification of any statement is a misdemeanor and is punishable by a fine or imprisonment, or both. It is unlawful to give to a city employee, or for a city employee to accept, any benefit, monetary or otherwise, either as a gratuity for properly performing the job or in exchange for special consideration. Violation is punishable by a fine or imprisonment, or both. I understand that if I am found after hearing to have knowingly or negligently made a false statement or to have knowingly or negligently falsified or allowed to be falsified any certificate, form, signed statement, application, report or certification of the correction of a violation required under the provisions of this code or of a rule of any agency, I may be barred from filing further applications or documents with the Department.

Name (print) Title

Signature Date

IMPACT

Concrete & Control Inspections, INC.
15-46 129th Street, College Point, New York 11356
Tel: (718) 939-7774 Fax: (718) 939-6444

CONCRETE MIX DESIGN REPORT

CLIENT:	Tutor Perini Building Corp 360 West 31 Street - Suite 1510 New York, NY 10001	**DATE:**	**10/19/12**
		LAB NO.:	**2012-10-19-12**
		MIX TYPE:	**NO Air Pump**
Project:	501 West 30 th Street	**METHOD:**	**Trial**
		SAMPLED BY:	Empire
Supplier:	Empire Transit Mix	**Expire on:**	10/19/2013

10000 PSI +1700 Psi Normal wt Concrete/ Pump Mix @28 Days

Product	Source & Type	ASTM	S.G.	NYS Source No.
Cement	Lehigh-II	ASTM C150	3.15	
Slag	Lehigh- Allcem	ASTM C989	2.88	-
Silica Fume	Euclid	ASTM C1240	2.20	-
Fine Agg.	L I Natural	ASTM C33	2.63	-
Coarse Agg.	NY Stand & Stone(#67)	ASTM C33	2.66	-
Coarse Agg.	NY Stand & Stone(#8)	ASTM C33	2.69	-
Water	NYC Potable	ASTM C94	1.00	-
Admixture 1		ASTM C260	1.03	-
Admixture 2	Euclid- Plastol 5000	ASTM C494	1.20	-
Admixture 3	Eucon WO	-	-	-

	Recommended Mix Design	#3
	Cement (lbs.)	570
	Slag (lbs.)	380
	Microsilica (lbs.)	20
	Fine Agg. (lbs)	1000
#67	Coarse Agg. (lbs)	1425
#8	Coarse Agg. (lbs)	475
	Water (gals.)	32.3
	Admixture 1 (oz.)	0.0
	Admixture 2 (oz.)	90.0
	Admixture 3 (oz.)	**22.0**
	Slump (in.)	8"+-1"
	Air Content (%)	2 % +/-1.0%
	U. Wt. P.C.F.	147.6
	W/C Ratio	0.29

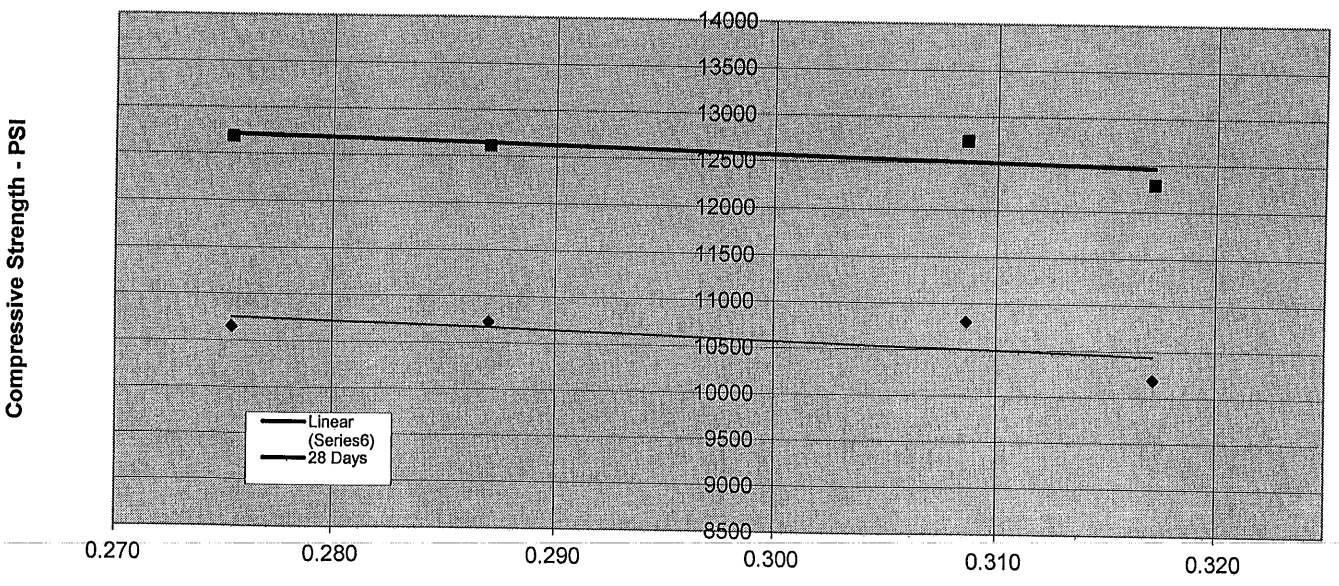
Supplier Can adjust Admixture per NYC DOB Bulletin 2010-018 Dated 6/18/10
Air Entrainment Admixture can be adjusted by supplier per NYC DOB bulletin 2010-018

STATE OF NEW YORK · DEBABRATA BANERJEE · 076431 · LICENSED PROFESSIONAL ENGINEER

Not Valid without original Signature

Debabrata Banerjee, P.E.

Compressive Strength vs. Water Cement Ratio



IMPACT

Concrete & Control Inspections, INC.
15-46 129th Street, College Point, New York 11356
Tel: (718) 939-7774 Fax: (718) 939-6444

CONCRETE MIX DESIGN REPORT

CLIENT:	Tutor Perini Building Corp	**DATE:**	**10/19/12**
	360 West 31 Street - Suite 1510	**LAB NO.:**	**2012-10-19-12**
	New York, NY 10001	**MIX TYPE:**	**NO Air Pump**
PROJECT:	501 West 30 th Street	**METHOD:**	**Trial**
	0	**SAMPLED BY:**	Empire
SUPPLIER:	Empire Transit Mix	**DELIVERED BY:**	10/19/2013

10000 PSI +1700 Psi Normal wt Concrete/ Pump Mix @28 Days

Aggregate Gradiation
Passing Percent Finer

Sieve Size	F.A.	C.A. #67	C.A. #8
2"			
1 1/2"		100.00	
1"		100.0	
3/4"		95.10	
1/2"		60.30	100
3/8"	100.0	44.40	91.1
# 4	95.5	9.7	18.5
# 8	87.9	2.6	3.9
# 16	80.4		2.4
# 30	56.8		
# 50	14.0		
# 100	1.6		
FM	2.64	6.48	5.841
Unit Weight Dry Rodded	102.0	101.4	102.2
Specific Gravity	2.63	2.66	2.689
Colometric Test	Plate # 1	ed 75% #67 and 25% #8 Sto	

STATE OF NEW YORK ... LICENSED PROFESSIONAL ENGINEER ... 081431

TRIAL MIXES - DRY BATCH WEIGHTS (lbs./Cubic Yards)

Point	Yield	Cement	Slag	Silica	F.A.	C.A.	C.A.	Water	Adx 1	Adx 2	Adx 3	Unit Wt.	Slump(in)	W/C	Air %
1	27.0	495	330	0	1065	1425	475	31.0	0.0	80.0	18.0	150.4	8.50	0.317	2.1
2	27.0	525	350	0	1000	1425	475	32.0	0.0	83.2	20.0	148.4	9.00	0.309	2.1
3	**27.6**	**570**	**380**	**20**	**1000**	**1425**	**475**	**32.3**	**0.0**	**90.0**	**22.0**	**147.6**	**8.75**	**0.287**	**2.4**
4	27.5	570	380	30	1000	1425	475	31.0	0.0	91.4	20.0	149.0	8.25	0.275	2.1

COMPRESSIVE STRENGTH RESULTS (ASTM C39) - P.S.I. (4" x8" Cylinders)---

Point	w/c ratio	7 Days Results		Average	28 Days Results				Average	MOE (PSI)
1	0.317	10223	10158	10191	12056	12335	12488		12293	63198954.2
2	0.309	10839	10771	10805	12374	12971	12880		12742	64341928.0
3	**0.287**	**11055**	**10403**	**10729**	**13330**	**12927**	**11594**		**12617**	64026388.1
4	0.275	11026	10289	10658	12770	12006	13297		12691	64213874.2
Point	w/c ratio	3 Days Results		Average	56 Days Results				Average	
1	0.317	8067	7818	7943	12691	13141	12624		12819	
2	0.309	8281	8442	8362	11239	13030	12533		12267	
3	**0.309**	**8640**	**9096**	**8868**	13779	12791	14175		13582	
4	0.275	8852	9251	9052	13627	13562	13332		13507	

Tag Used: 52721-60

IMPACT

Concrete & Control Inspections, INC.
15-46 129th Street, College Point, New York 11356
Tel: (718) 939-7774 Fax: (718) 939-6444

CONCRETE MIX DESIGN REPORT

CLIENT:	Tutor Perini Building Corp 360 West 31 Street - Suite 1510 New York, NY 10001	**DATE:**	**1/3/13**
		LAB NO.:	**2013-1-3-13**
Project:	501 West 30 th Street	**MIX TYPE:**	**12000 Pump**
		METHOD:	**Trial**
Supplier:	Empire Transit Mix	**SAMPLED BY:**	Empire
		Expire on:	1/3//14

12000 psi + 1900 A.E. Concrete Pump @ 56 Days

Product	Source & Type	ASTM	S.G.	NYS Source No.
Cement	Lehigh-II	ASTM C150	3.15	
Slag	Lehigh- Allcem	ASTM C989	2.88	-
Fly Ash	-	ASTM C618	2.20	-
Silica Fume	Euclid	ASTM C1240	2.20	-
Fine Agg.	L I Natural	ASTM C33	2.63	-
Coarse Agg.	NY Stand & Stone(#67) 75% + #8 Stone 25%	ASTM C33	2.66	-
Water	NYC Potable	ASTM C94	1.00	-
Admixture 1		ASTM C260	1.03	-
Admixture 2	Euclid- Plastol 5000	ASTM C494	1.20	-
Admixture 3	Eucon WO	-	-	-

Recommended Mix Design		**#4**	
Cement (lbs.)	650	Sacks	10.16
Slag (lbs.)	230		
Fly Ash (lbs.)	0		
Microsilica (lbs.)	75		
Fine Agg. (lbs.)	1100		
Coarse Agg. (lbs)	1900	(1425 Lb #67 Stone and 475 LB #8 stone)	
Water (gals.)	27.5		
Admixture 1 (oz.)	0.0		
Admixture 2 (oz.)	143.3		
Admixture 3 (oz.)	**40.0**		
Slump (in.)	8"+-1"		
Air Content (%)	2 % +-1.0%		
U. Wt. P.C.F.	147.6		
W/C Ratio	0.26		

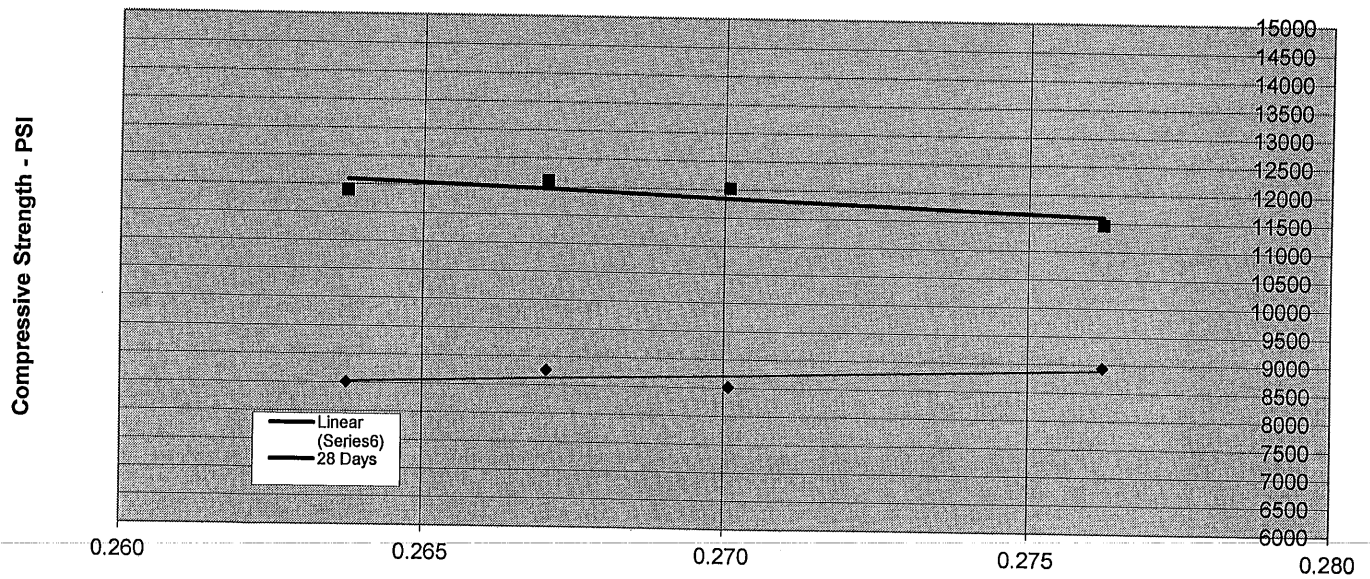
Supplier Can adjust Admixture per NYC DOB Bulletin 2010-018 Dated 6/18/10
Air Entrainment Admixture can be adjusted by supplier per NYC DOB bulletin 2010-018

Not Valid without original Signature

Debabrata Banerjee, P.E.

STATE OF NEW YORK · DEBABRATA BANERJEE · 081431 · LICENSED PROFESSIONAL ENGINEER

Compressive Strength vs. Water Cement Ratio



IMPACT

Concrete & Control Inspections, INC.
15-46 129th Street, College Point, New York 11356
Tel: (718) 939-7774 Fax: (718) 939-6444

CONCRETE MIX DESIGN REPORT

CLIENT: Tutor Perini Building Corp
360 West 31 Street - Suite 1510
New York, NY 10001
PROJECT: 501 West 30 th Street
0
SUPPLIER: Empire Transit Mix

DATE: 1/3/13
LAB NO.: 2013-1-3-13
MIX TYPE: 12000 Pump
METHOD: Trial
SAMPLED BY: Empire
DELIVERED BY: 1/3//14

12000 psi + 1900 A.E. Concrete Pump @ 56 Days

Aggregate Gradiation
Passing Percent Finer

Sieve Size	F.A.	#67 stone	#8 Stone
2"	-	-	
1 1/2"		100.0	
1"		100.0	
3/4"		95.4	
1/2"		60.0	100
3/8"	100.0	33.3	89.6
# 4	97.7	4.4	14.4
# 8	93.9	1.6	3.2
# 16	80.9		1.7
# 30	60.0		
# 50	13.2		
# 100	1.4		
FM	2.53	6.65	5.991
Unit Weight Dry Rodded	100.0	102.0	102
Specific Gravity	2.63	2.66	2.689
Colometric Test	Plate # 1		

TRIAL MIXES - DRY BATCH WEIGHTS (lbs./Cubic Yards)

Point	Yield	Cement	Slag	FlyAsh	Silica	F.A.	C.A.	Water	Adx 1	Adx 2	Adx 3	Unit Wt.	Slump(in)	W/C	Air %
1	26.9	625	200	0	25	1150	1900	27.0	0.0	127.5	32.0	147.6	8.50	0.276	2.5
2	27.0	650	225	0	75	1100	1900	28.0	0.0	142.5	36.0	147.2	7.50	0.270	2.6
3	27.0	650	235	0	75	1000	1900	28.0	0.0	144.0	38.0	146.8	8.50	0.267	2.6
4	27.0	650	230	0	75	1100	1900	27.5	0.0	143.3	40.0	146.0	8.25	0.264	2.0

COMPRESSIVE STRENGTH RESULTS (ASTM C39) - P.S.I. (4" x8" Cylinders)---

Point	w/c ratio	7 Days Results		Average	28 Days Results				Average
1	0.276	9013	8878	8946	11165	11945	10527	12273	11478
2	0.270	8536	8509	8523	11629	12237	12301	11948	12029
3	0.267	8792	8742	8767	12057	12593	11645	12150	12111
4	0.264	8533	8504	8519	11431	12327	11869	11977	11901
Point	w/c ratio	14 Days Results		Average	56 Days Results				Average
1	0.276	10966	11092	11029	13180	12717	13201		13033
2	0.270	10593	10695	10644	13887	12489	13370		13249
3	0.270	11144	11384	11264	13123	13373	13309		13268
4	0.264	10897	11367	11132	13921	13845	14090		13952

Point	w/c Ratio	Columb	Reslut		MoE@ 28 Da	MOE@56 Day
1	0.276	562	Very Low		6106586	6507160
2	0.270	289	Very Low		6251513	6560863
3	0.267	258	Very Low		6272914	6565730
4	0.264	351	Very Low		6218227	6732759

Agf 1%