



## **REMAINDER OF THIS CONTRACT DOCUMENT**

- TABLE OF CONTENTS
- SCHEDULE OF WAGE RATES
- GENERAL CONDITIONS (INCLUDING SCHEDULE "A")
- GENERAL SPECIFICATIONS
- DETAILED SPECIFICATIONS

VOLUME 1 OF 2

TABLE OF CONTENTS

---

**CONTRACT CRO-334G – STRUCTURES AND EQUIPMENT  
AND CRO-334E – ELECTRICAL**

New York City Schedule of Prevailing Wages .....000001  
Westchester County Schedule of Prevailing Wages .....000115

**GENERAL CONDITIONS**

<u>Article</u>		<u>Page No.</u>
1	Scope and Intent.....	000169
2	Provisions referenced with Information for Bidders and Standard Construction Contract.....	000170
	A) Schedule “A” .....	000171
	B) Excise Taxes .....	000183
	C) Labor .....	000183
	D) Partial Payments for Materials in Advance of Their Incorporation In the Work Pursuant to Article 42 of the Standard Construction Contract.....	000183
	E) Conflicts of Interest .....	000186
3	Contract Drawings and Specifications .....	000187
4	Contractor’s Working Drawings, Design and Shop Drawings .....	000196
5	Materials and Equipment.....	000202
6	Temporary Structures.....	000209
7	Contractor’s Superintendent .....	000209
8	Temporary Services .....	000210
9	Surveys .....	000210
10	Sleeves and Hangers .....	000211
11	Cutting and Patching .....	000211
12	General Electrical and Mechanical Requirements.....	000211
13	Preliminary and Final Field Tests.....	000217
14	Cleaning.....	000217
15	Contractor’s Daily Reports.....	000217
16	Security Guards and Fire Guards on the Site .....	000217
17	Certificates of Occupancy and/or Completion .....	000218
18	Coordination Among Contractors.....	000218
19	Critical Path Method (CPM) .....	000219
20	Public Dissemination of Information.....	000221

VOLUME 1 OF 2

TABLE OF CONTENTS

**CONTRACT CRO-334G – STRUCTURES AND EQUIPMENT  
AND CRO-334E – ELECTRICAL**

**GENERAL SPECIFICATIONS**

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
<b>DIVISION 2      SITE CONSTRUCTION</b>		
02105	In-Situ Soil Sampling, Testing and Laboratory Analysis .....	000223
02222	Demolition and Removals.....	000239
02230	Site Clearing .....	000249
02240	Dewatering .....	000255
02250	Shoring and Underpinning .....	000265
02316	Excavation.....	000273
02317	Backfilling.....	000291
02318	Rock Excavation.....	000305
02371	Dust, Soil Erosion and Sedimentation Control .....	000311
02481	Footings, Foundation Piers and Foundation Walls.....	000323
02505	Leakage Tests .....	000327
02741	Asphaltic Concrete Pavements .....	000335
02771	Concrete Curbs, Headers and Sidewalks .....	000353
02821	Metal Fence .....	000359
02822	Ornamental Fences and Gates .....	000373
02841	Guide Railing .....	000383
02910	Planting .....	000391
02920	Soil Mixes .....	000417
 <b>DIVISION 3      CONCRETE</b>		
03100	Concrete Formwork .....	000433
03210	Reinforcing Steel .....	000447
03290	Joints in Concrete .....	000463
03300	Cast-in-Place Concrete.....	000479
03350	Concrete Finishes .....	000547
03600	Grout .....	000555
03931	Concrete Rehabilitation .....	000563

VOLUME 1 OF 2

TABLE OF CONTENTS

**CONTRACT CRO-334G – STRUCTURES AND EQUIPMENT  
AND CRO-334E – ELECTRICAL**

**GENERAL SPECIFICATIONS**

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
<b>DIVISION 4 MASONRY</b>		
04051	Mortar and Masonry Grout .....	000575
04901	Masonry and Stonework Restoration and Cleaning .....	000583
<b>DIVISION 5 METALS</b>		
05061	Stainless Steel Work .....	000589
05081	Galvanizing .....	000601
05091	Welding .....	000607
05092	Metal Fastening .....	000617
05120	Structural Steel .....	000627
05140	Structural Aluminum .....	000641
05210	Steel Joists .....	000653
05501	Metal Fabrications .....	000667
05521	Welded Pipe Railing .....	000679
05561	Miscellaneous Metal Castings .....	000697
05601	Aluminum Stop Log Planks .....	000703
<b>DIVISION 6 WOOD AND PLASTICS</b>		
06071	Treated Timber and Lumber .....	000709
06100	Rough Carpentry .....	000715
<b>DIVISION 7 THERMAL AND MOISTURE PROTECTION</b>		
07321	Roofing Tiles .....	000721
07620	Sheet Metal Flashing and Trim .....	000737

VOLUME 1 OF 2

TABLE OF CONTENTS

**CONTRACT CRO-334G – STRUCTURES AND EQUIPMENT  
AND CRO-334E – ELECTRICAL**

**GENERAL SPECIFICATIONS**

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
07710	Manufactured Roof Specialties .....	000747
07900	Caulking and Sealants.....	000753
<b>DIVISION 8</b>	<b>DOORS AND WINDOWS</b>	
08110	Steel Doors and Frames .....	000763
08751	Window Guards.....	000769
<b>DIVISION 9</b>	<b>FINISHES</b>	
09900	Painting .....	000777
<b>DIVISION 10</b>	<b>SPECIALTIES</b>	
10211	Fixed Metal Louvers.....	000795
<b>DIVISION 11</b>	<b>EQUIPMENT</b>	
11310	Requirements for All Pumping Units .....	000801
11321	Submersible Pumping Units for Wet Pit Service .....	000821
<b>DIVISION 13</b>	<b>SPECIAL CONSTRUCTION</b>	
13101	Lightning Protection System.....	000835
13421	Gages .....	000841
13862	Non-Metallic Ductwork.....	000851

VOLUME 1 OF 2

TABLE OF CONTENTS

**CONTRACT CRO-334G – STRUCTURES AND EQUIPMENT  
AND CRO-334E – ELECTRICAL**

**GENERAL SPECIFICATIONS**

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
<b>DIVISION 15</b>	<b>MECHANICAL</b>	
15051	Ductile and Cast Iron Pipe .....	000873
15052	Steel and Stainless Steel Pipe.....	000887
15053	Aluminum, Copper and Brass Pipe .....	000909
15054	PVC and CPVC Pipe .....	000923
15056	Pipe Couplings .....	000931
15060	Hangers and Supports .....	000941
15076	Piping and Equipment Identification .....	000957
15111	Valves - 4 Inch and Larger.....	000981
15112	Valves - Smaller Than 4 Inches .....	001033
15141	Disinfection .....	001047
15810	Ductwork and Duct Accessories .....	001051
15830	Fans.....	001071
15951	Testing, Adjusting and Balancing .....	001091
<b>DIVISION 16</b>	<b>ELECTRICAL</b>	
16010	General Electrical Requirements.....	001101
16020	Temporary Electrical System .....	001107
16035	Demolition, Electrical .....	001115
16061	Grounding .....	001121
16071	Supporting Devices.....	001125
16076	Labeling and Identification .....	001131
16121	Electric Wires and Cables .....	001135
16131	Electric Conduit System .....	001151
16133	Underground Ducts - Ducts in Concrete.....	001169
16211	Electric Service Entrance .....	001175
16221	Electric Motors.....	001185
16441	Panelboards .....	001205
16442	Electrical Control Equipment – Low Voltage A.C. Motors and Devices .....	001213
16511	Lighting Fixtures and Devices .....	001221

VOLUME 2 OF 2

TABLE OF CONTENTS

**CONTRACT CRO-334G – STRUCTURES AND EQUIPMENT  
AND CRO-334E – ELECTRICAL**

**DETAILED SPECIFICATIONS**

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
<b>DIVISION 1</b>	<b>GENERAL REQUIREMENTS</b>	
01120	Multiple Contract Summary.....	001235
01140	Work Restrictions and Working Hours .....	001255
01270	Measurement and Payment .....	001267
01271	Project Milestones and Liquidated Damages .....	001291
01321	Progress Schedule.....	001295
01322	Job Photographs.....	001313
01331	Submittal Procedures for Working Drawings and Correspondence .....	001317
01333	Records in Paper Formats .....	001325
01334	Records in Microfilm Formats .....	001329
01335	Records in Electronic Formats .....	001353
01355	Hazardous Materials Control .....	001363
01356	Safe and Healthful Working Conditions.....	001367
	Attachment D – Contractor Selection and Management Requirements.....	001377
01410	Regulatory Requirements.....	001381
01415	Miscellaneous Project Requirements.....	001389
01420	Reference Standards .....	001397
01431	Quality Assurance Inspection.....	001405
01451	Contractor’s Quality Control.....	001409
01520	Temporary Construction Facilities and Equipment.....	001417
01550	Vehicular Access and Parking.....	001429
01560	Temporary Barriers and Enclosures .....	001435
01570	Temporary Controls.....	001439
01631	Equivalent Materials and Equipment.....	001449
01651	Transportation and Handling of Materials and Equipment .....	001453
01661	Protection of Materials and Equipment .....	001457
01732	Installation of Equipment.....	001459
01733	Construction Waste Management.....	001467
01740	Cleaning and Site Maintenance .....	001471
01750	Spare Parts and Maintenance Materials.....	001475

VOLUME 2 OF 2

TABLE OF CONTENTS

---

**CONTRACT CRO-334G – STRUCTURES AND EQUIPMENT  
AND CRO-334E – ELECTRICAL**

**DETAILED SPECIFICATIONS**

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
01781	Project Closeout.....	001477
01811	Preliminary and Final Field Tests.....	001483
01821	Equipment Start-Up and Training .....	001489
01831	Operations and Maintenance Manuals.....	001499

VOLUME 2 OF 2

TABLE OF CONTENTS

**CONTRACT CRO-334G – STRUCTURES AND EQUIPMENT**

**DETAILED SPECIFICATIONS**

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
<b>DIVISION 2 SITE CONSTRUCTION</b>		
02105G	In-Situ Soil Sampling, Testing and Laboratory Analysis .....	001505
02200	Mobilization and Surface Site Preparation .....	001507
02222G	Demolition and Removals.....	001521
02230G	Site Clearing .....	001523
02240G	Dewatering .....	001533
02250G	Shoring and Underpinning .....	001537
02316G	Excavation.....	001539
02317G	Backfilling.....	001543
02318G	Rock Excavation.....	001545
02371G	Dust, Soil Erosion and Sedimentation Control .....	001547
02401	Shaft Covers and Gratings .....	001549
02402	Shaft Hoisting Systems and Logistical Support .....	001555
02403	Aqueduct Washing and Preparation for Rehabilitation ...	001561
02405	Aqueduct Utilities.....	001565
02411	Pumping .....	001569
02428	Joint/Crack Repair and Brick Replacement .....	001573
02432	Contact and Consolidation Grouting .....	001581
02481G	Footings, Foundation Piers and Foundation Walls.....	001595
02505G	Leakage Tests .....	001597
02506	Drilling and Installation of Weep Holes and Routing of Existing Drain Pipes.....	001599
02741G	Asphaltic Concrete Pavements.....	001601
02744	Permeable Concrete Pavers.....	001603
02771G	Concrete Curbs, Headers and Sidewalks .....	001611
02821G	Metal Fence .....	001613
02822G	Ornamental Fences and Gates.....	001615
02824	Noise Attenuation Fencing.....	001619
02841G	Guide Railing .....	001625
02890	Bollard Barrier System .....	001627
02910G	Planting .....	001629
02920G	Soil Mixes .....	001649
02951	Aqueduct Clean Up and Disinfection .....	001651

VOLUME 2 OF 2

TABLE OF CONTENTS

**CONTRACT CRO-334G – STRUCTURES AND EQUIPMENT**

**DETAILED SPECIFICATIONS**

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
02952	Sediment and Debris Removal .....	001665
02953	Site Restoration .....	001673
<b>DIVISION 3</b>	<b>CONCRETE</b>	
03100G	Concrete Formwork .....	001679
03210G	Reinforcing Steel .....	001681
03300G	Cast-in-Place Concrete.....	001683
03303	Underwater Concrete for Shaft No. 25 .....	001687
03350G	Concrete Finishes .....	001693
03510	Steel Edged Concrete Roof Plank .....	001695
03600G	Grout .....	001703
03931G	Concrete Rehabilitation .....	001705
<b>DIVISION 4</b>	<b>MASONRY</b>	
04051G	Mortar and Masonry Grout .....	001707
04901G	Masonry and Stonework Restoration and Cleaning .....	001715
<b>DIVISION 5</b>	<b>METALS</b>	
05061G	Stainless Steel Work .....	001723
05081G	Galvanizing .....	001725
05091G	Welding .....	001727
05092G	Metal Fastening .....	001731
05120G	Structural Steel .....	001733
05140G	Structural Aluminum .....	001735
05210G	Steel Joists.....	001737
05501G	Metal Fabrications .....	001739
05521G	Welded Pipe Railing .....	001741
05561G	Miscellaneous Metal Castings.....	001743
05601G	Aluminum Stop Log Planks .....	001745

VOLUME 2 OF 2

TABLE OF CONTENTS

**CONTRACT CRO-334G – STRUCTURES AND EQUIPMENT**

**DETAILED SPECIFICATIONS**

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
<b>DIVISION 6 WOOD AND PLASTICS</b>		
06071G	Treated Timber and Lumber .....	001749
06100G	Rough Carpentry .....	001751
<b>DIVISION 7 THERMAL AND MOISTURE PROTECTION</b>		
07171	Bentonite Geotextile Waterproofing.....	001753
07321G	Roofing Tiles.....	001763
07512	Waterproofing for Shaft No. 33 .....	001769
07575	Built-Up Coal Tar Roofing System .....	001771
07592	Preparation for Roofing .....	001781
07620G	Sheet Metal Flashing and Trim .....	001785
07622	Roof Drain System .....	001789
07710G	Manufactured Roof Specialties .....	001791
07900G	Caulking and Sealants.....	001793
<b>DIVISION 8 DOORS AND WINDOWS</b>		
08110G	Steel Doors and Frames .....	001797
08751G	Window Guards.....	001801
<b>DIVISION 9 FINISHES</b>		
09880	Protective Waterproofing Coating.....	001807
09900G	Painting .....	001811
09981	Epoxy Mortar Protective Coating System .....	001825
<b>DIVISION 10 SPECIALTIES</b>		
10211G	Fixed Metal Louvers.....	001835

VOLUME 2 OF 2

TABLE OF CONTENTS

**CONTRACT CRO-334G – STRUCTURES AND EQUIPMENT**

**DETAILED SPECIFICATIONS**

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
<b>DIVISION 11</b>	<b>EQUIPMENT</b>	
11310G	Requirements for All Pumping Units .....	001839
11321G	Submersible Pumping Units for Wet Pit Service .....	001841
<b>DIVISION 13</b>	<b>SPECIAL CONSTRUCTION</b>	
13281	Asbestos Removal and Disposal .....	001845
13421G	Gages .....	001859
<b>DIVISION 14</b>	<b>CONVEYING SYSTEMS</b>	
14622	Dedicated Hoist System.....	001861
<b>DIVISION 15</b>	<b>MECHANICAL</b>	
15010	General Mechanical Requirements.....	001865
15011	Temporary Ventilation.....	001867
15051G	Ductile and Cast Iron Pipe .....	001873
15052G	Steel and Stainless Steel Pipe.....	001875
15053G	Aluminum, Copper and Brass Pipe .....	001877
15054G	PVC and CPVC Pipe .....	001879
15056G	Pipe Couplings .....	001881
15060G	Hangers and Supports .....	001883
15076G	Piping and Equipment Identification .....	001885
15111G	Valves - 4 Inch and Larger.....	001887
15112G	Valves - Smaller Than 4 Inches .....	001889
15141G	Disinfection .....	001891
15810G	Ductwork and Duct Accessories .....	001893
15830G	Fans.....	001895
15951G	Testing, Adjusting and Balancing .....	001897

VOLUME 2 OF 2

TABLE OF CONTENTS

---

CONTRACT CRO-334G – STRUCTURES AND EQUIPMENT

DETAILED SPECIFICATIONS

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
<b>DIVISION 16</b>	<b>ELECTRICAL</b>	
16020G	Temporary Electrical System .....	001899
16121G	Electric Wires and Cables .....	001903
16131G	Electric Conduit System .....	001907
16221G	Electric Motors .....	001909

VOLUME 2 OF 2

TABLE OF CONTENTS

**CONTRACT CRO-334E – ELECTRICAL**

**DETAILED SPECIFICATIONS**

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
<b>DIVISION 2 SITE CONSTRUCTION</b>		
02105E	In-Situ Soil Sampling, Testing and Laboratory Analysis .....	001911
02201	Mobilization .....	001913
02222E	Demolition and Removals.....	001917
02240E	Dewatering .....	001919
02250E	Shoring and Underpinning .....	001923
02316E	Excavation.....	001925
02317E	Backfilling.....	001929
02955	Soil Removal and Disposal .....	001931
 <b>DIVISION 3 CONCRETE</b>		
03100E	Concrete Formwork .....	001937
03210E	Reinforcing Steel .....	001939
03300E	Cast-in-Place Concrete.....	001941
 <b>DIVISION 5 METALS</b>		
05091E	Welding .....	001943
05120E	Structural Steel .....	001947
 <b>DIVISION 9 FINISHES</b>		
09900E	Painting .....	001949
 <b>DIVISION 11 EQUIPMENT</b>		
11310E	Requirements for All Pumping Units .....	001963
11321E	Submersible Pumping Units for Wet Pit Service .....	001965

VOLUME 2 OF 2

TABLE OF CONTENTS

**CONTRACT CRO-334E – ELECTRICAL**

**DETAILED SPECIFICATIONS**

<u>Division and Section</u>	<u>Title</u>	<u>Page No.</u>
<b>DIVISION 13 SPECIAL CONSTRUCTION</b>		
13101E	Lightning Protection System.....	001967
 <b>DIVISION 16 ELECTRICAL</b>		
16010E	General Electrical Requirements.....	001969
16035E	Demolition, Electrical.....	001973
16061E	Grounding.....	001975
16071E	Supporting Devices.....	001977
16076E	Labeling and Identification.....	001979
16121E	Electric Wires and Cables.....	001981
16131E	Electric Conduit System.....	001985
16133E	Underground Ducts - Ducts in Concrete.....	001987
16211E	Electric Service Entrance.....	001989
16221E	Electric Motors.....	001991
16441E	Panelboards.....	001993
16442E	Electric Control Equipment – Low Voltage A.C. Motors and Devices.....	001995
16511E	Lighting Fixtures and Devices.....	001997
16998	Field Inspection and Acceptance Tests.....	002001