ADDENDUM NUMBER 2

"The Sloper-Wesoly House" 27 Grove Hill New Britain, Connecticut

GDA Project #20810

14th of August 2008

The construction documents for the project entitled "Sloper-Wesoly House, 27 Grove Hill, New Britain, CT." as prepared by Gilley Design Associates, Architects LLC, dated the 18th of June 2008 are hereby amended in the following particulars:

<u>Item #</u>	<u>Page</u>	<u>Description</u>
Item 1		Revise Date for Addendum Number One – The date of Addendum Number One should be the 1 st of August 2008.
Item 2	000500-	Add Alternate #4 – Stainless Steel Flue Liner – Add to List of Alternates, Number 4 – Provide a price to provide a Stainless Steel Flue Liner, 9" Diameter (minimum – a 10" Liner is preferred if there is sufficient room for proper installation). Liner should be 316 or 316 Ti Alloy.
Item 3	000500-	Add Alternate #5 – Cast-In-Place Flue Liner – Add to List of Alternates, Number 5 – Provide a price to provide a Cast-In-Place Flue Liner, 9" Diameter, similar to Golden's Flue.
Item 4	000500-	Revise Page Three – Invitation to Bid – Delete Invitation to Bid - Page 3, dated the 1 st of August 2008. Add Invitation to Bid – Page 3, dated the 14 th of August 2008. The revised Page Three is attached for reference.

END OF ADDENDUM TWO

email: gilley.design@sbcglobal.net 131 Summer Street • Bristol, Connecticut 06010 • (860) 583-1333 • fax (860) 585-8251

D.	Altern	ates:			
	2. <u>Co</u> 3. <u>In</u> 4. <u>St</u>	PDM Roof over Ga opper Gutters/Dow terior Storm Wind ainless Steel Flue ast-In-Place Flue L	nspouts–Alt #2 ows-Alt #3 Liner-Alt #4	<u>-</u>	\$ \$ \$ \$
E.	Right	to Reject:			
	reject (60) d	any and all bids; a	and it is agreed of the bid open	that this bid ring or until the	reserved by the above mentioned owner to may not be withdrawn for a period of sixty next work day immediately following said ay.
F.	Time:				
	1.	The undersigned complete such w			on a date specified in the contract and to
	2.	bids, or when ex acceptance of the address given Ownership Enticounterparts as a	tended to the notes bid shall be below or at, will withing ty, where directionary be required and be made.	ext work day in telegraphed, any time the fifteen (15) of the cted, a contrad of said owned by the Owner	iod of ninety (90) days after the opening of mmediately following said period, notice of mailed or delivered to him at the business ereafter before this bid is withdrawn, days thereafter deliver to the Owner, or the act properly executed in such number of r, on the forms annexed, with such changes r, or the Ownership Entity, prior to the time
G. <u>A</u>	nti-Coll	usion Statement:			
	with a		ect to this prop	osal, or the sul	ersigned has not entered into any collusion omitting of proposals for the above project ons.
	Date .		Firm Name	:	
			Address		
			Ву		
			Title		

ADDENDUM NUMBER 1

"The Sloper-Wesoly House" 27 Grove Hill New Britain, Connecticut

GDA Project #20810

18th of June 2008

The construction documents for the project entitled "Sloper-Wesoly House, 27 Grove Hill, New Britain, CT." as prepared by Gilley Design Associates, Architects LLC, dated the 18th of June 2008 are hereby amended in the following particulars:

<u>Item #</u>	Drawing	<u>Description</u>
Item 1		Revise Specification Section – Invitation to Bid, Section 000500-1. The Invitation to Bid has been revised. Use the one dated Aug 1, 2008 in the upper right hand corner. Note that the dates have been revised for the Pre-Bid Meeting and the date when bids are due.
Item 2		Revise Specification Section – Brick Pointing, Section 000500-2. The bid breakdown has been revised. Please provide a price to re-point the chimneys as part of the roof work. (Item 7) Also provide a price to re-point brick at other areas where it is needed, especially on the south elevation. (Item 8)
Item 3		Revise Specification Section – Gutters and Downspouts, Section 000500-2. Item 6 of the bid breakdown – please provide a price for the aluminum gutters and downspouts which are part of the base bid to enable comparison in price to the Alternate #2.

END OF ADDENDUM ONE

email: gilley.design@sbcglobal.net 131 Summer Street • Bristol, Connecticut 06010 • (860) 583-1333 • fax (860) 585-8251

PART 1 - GENERAL

- 1. The Polish American Foundation of CT will receive sealed bids in <u>triplicate</u> at 4:00 PM on the 25th of August 2008 at their Office located at 27 Grove Hill, New Britain, Connecticut 06052. Please address the Bid Package to the attention of Mr. Konrad Gil, Executive Director.
- 2. The Bids shall be for the furnishing of all labor, materials, tools and equipment necessary to construct and finish complete and ready for use "Roof Replacement and Exterior Renovations to the Sloper-Wesoly House, 27 Grove Hill, New Britain, Connecticut 06052" GDA Project Number 20810, Drawings dated the 18th of June 2008, as prepared by Gilley Design Associates, Architects, LLC.
- 3. Proposed form of Contract is "AIA Document A105 & A205 Standard Form of Agreement Between Owner and Contractor, and General Conditions of the Contract for Construction-1993 Small Projects Editions, where the Basis of Payment is a Stipulated Sum." Retainage shall be 10 percent.
- 4. All bidders shall submit a fully completed copy of "AIA Document A305, Contractor's Qualification Statement." Copies shall be obtained from AIA Connecticut, 370 James Street, Suite 402, New Haven, CT 06513 (203) 865-2195.
- 5. The Owner or Ownership Entity reserves the right to reject all bids to and to waive any informalities in bidding. All bid documents must be completed and/or filled in when submitted.
- 6. This is a public bid. Bids will be opened publicly and read aloud on 25th of August 2008 at 4:00 PM in the Offices of the Polish American Foundation of CT.
- 7. No bid shall be withdrawn for period of sixty (60) days subsequent to the opening of bids or until the next work day immediately following said period, if such period ends on a weekend or State holiday, without the consent of the above mentioned owner.
- 8. All Bidders must be licensed in accordance with the provisions of Section 20-341gg of the Connecticut General Statutes as amended. Failure to comply with this requirement shall be deemed a material defect and shall result in the rejection of the bid.
- 9. There are no liquidated damages.
- 10. Insurance requirements are included in "Article 10, Contractor's Liability Insurance" in the Supplementary Conditions. The successful bidder shall provide certificates of insurance to meet these requirements.
- 11. A Bid Guarantee from each Bidder equivalent to 5 percent of the bid price will be required.
- 12. A "Pre-Bid" walk-thru will be conducted on 14th of August 2008 at 4:00 PM at 27 Grove Hill, New Britain, Connecticut 06052.
- 13. All questions shall be in writing (email accepted) to Mr. Roy Gilley, at Gilley Design Associates, Architects, LLC, 131 Summer Street, Bristol, Connecticut 06010 Email address gilley.design@sbcglobal.net.

INVITATION TO BIDDERS

000500 - 1 20810

- 15. The drawings and specifications can be obtained at the Contractor's expense from Advanced Reprographics, 50 Corporate Avenue, Plainville, CT 06062. (860) 410-1020.
- 16. The Polish American Foundation of Connecticut is an Affirmative Action/Equal Opportunity Employer. Minority/Women's Business Enterprises are encouraged to apply.

17. BID DOCUMENTS:

The General Contractor will be required to complete all of the attached forms as part of the Bid Documents. The forms include the Bid, Bid Breakdown, Unit Prices, Alternates, Time Estimate, Anti-Collusion Statement, Non-Collusion Affidavit of Prime Bidder, Non-Collusion Affidavit of subcontractor, Certificate as to Corporate Bidder, Affidavit of Bidder, Notification to Bidders, affidavit for Certification of Subcontractors

	Analysis. Print all documents or			nd the Workforce
A.	Bid:			
	conditions affect Drawings, Special Conditions, Bid Exterior Renoval Connecticut 060 June 2008, as pure denda Numbers Gilley Design Anecticut 06010, ment required for said project in the condition of the condit	eting the cost of the vifications, Invitation to Form, drawings and stions to the Sloper-Weiner GDA Project Nurrepared by Gilley Designal Associates, Architects, hereby proposes to fur or constructing and finitional finitions.	work and having carefu Bidders, Instructions to specifications for Roof esoly House, 27 Grove I mber 20810, Drawings gn Associates, Architect thereto, LLC, 131 Summer Str nish all labor, materials shing complete includin drawings and specification	lly examined the Bidders, General Replacement and Hill, New Britain, dated the 18 th of s, LLC., and Adas prepared by eet, Bristol, Contools and equipg all related work
В.	Bid Breakdown: The Bid should be broken down	using the following for	mat,	
	 Demolition/Removal Work Roof Replacement Exterior Painting Miscellaneous Items Window Repair Gutter and Downspouts Brick Pointing Other Than C 		\$ \$ \$ \$ \$ \$	
C.	Unit Prices:			
	 Removal/Replacement Rotte Roof Sheathing Replace Rotted Wood Shing Replace Rotted Wood Soffit 	les	\$(Per SF) \$(Per SF) \$(Per SF)	
INVI	TATION TO BIDDERS			000500 - 2

20810

D.	Alter	nates:				
	2. <u>C</u>	EPDM Roof over Gara Copper Gutters/Downs nterior Storm Window	pouts-Alt #2	- - -	\$ \$	
E.	Right	t to Reject:				
	reject (60)	t any and all bids; and	d it is agreed the bid openi	that this bid m	reserved by the above mentione hay not be withdrawn for a perinext work day immediately folly.	od of sixty
F.	Time	<u>:</u>				
	1.	The undersigned a complete such wor			on a date specified in the contrays.	ract and to
	2.	bids, or when exter acceptance of this dress given below Ownership Entity, terparts as may be	nded to the need to bid shall be to or at any time will within find where directed required of the been made	ext work day in elegraphed, mai thereafter befo fteen (15) day ed, a contract p said owner, o by the Owner,	od of ninety (90) days after the inmediately following said periodiled or delivered to him at the bore this bid is withdrawn, _ s thereafter deliver to the Ownoperly executed in such number the forms annexed, with such or the Ownership Entity, prior	d, notice of usiness ad- ner, or the er of counch changes
G. <u>Ar</u>	ti-Coll	lusion Statement:				
	with		to this propo	sal, or the sub	rsigned has not entered into any mitting of proposals for the abo ns.	
	Date		Firm Name			
			Address			
			Ву			
			Title	V		

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

		, being first duly sworn, deposed and says that
i.	He is	of
	the Bidder who has submitted the	e attached bid.
ii.		eting the preparation and contents of the attached Bid and
	of all pertinent circumstances res	
iii.	Such Bid is genuine and is r	
iv.	ployees or parties in interest, inconnived or agreed, directly or incollusive or sham Bid in connect indirectly, sought by agreement other bidder, firm or person to f Bidder, or to fix any overhead, pany Bidder, or to secure throu agreement any advantage against interested in the proposed Contra. The price or prices quoted in by any collusion, conspiracy, con	any of its officers, partners, owners, representatives, emcluding this affiant, has in any way colluded, conspired adirectly with any other Bidder, firm or person to submit a tion with such Contract, or has in any manner, directly or or collusion or communication or conference with any fix the price or prices in the attached Bid or of any other profit, or cost element of the Bid price or the Bid price of the Owner or the Ownership Entity, or any other personact; and in the attached Bid are fair and proper and are not tainted nnivance or unlawful agreement on the part of the Bidder ve, owners, employees or parties in interest, including this (Signature)
		(Title)
Subscribed a	and sworn to before me	
	day of	, 2008.
		_
		
	(Title)	
Mu aammia	sion expires:	
viy commus:	sion expires:	manada.

NON-COLLUSION AFFIDAVIT OF SUBCONTRACTOR

State	of)
Coun	try of)
		being first duly	sworn, deposed that:
1.	He ishereinafter referred to as	of of	·
2.	submitted by the Subcorwork in connection with	ntractor to	contents of the Subcontractor's Proposal, the Contractor for certainContract pertaining
3.	Such Subcontractor's Pr	oposal is genuine and is not a co	llusive or sham Proposal:
4.	parties in interest, included directly or indirectly with in connection with such agreement or connivance Subcontractor's Proposa said Subcontractor's Proposa sa	ding this affiant, has in any way the any other Bidder, firm or person Contract, or has in any manner, we with any other Bidder, firm on al, or to fix and overhead, profit opposal, or to secure through colinst the Owner or the Ownership	ers, agents, representatives, employees or colluded, conspired, connived or agreed, on to submit a collusive or sham Proposal directly or indirectly, sought by unlawful r person to fix the price or prices in said or cost element of the price or prices in lusion, conspiracy, connivance or agreed Entity, or any other person interested in
5.	by any collusion, consp	ed in the Subcontractor's Propositracy, connivance or agreement owners, employees, or parties in	sal are fair and proper and are not tainted ton the part of the Bidder or any of its interest, including this affiant.
		(Signature)	
		(Title)	
	cribed and sworn to before		
this _		day of	, 2008.
 Му со	(Title) ommission expires:		

INVITATION TO BIDDERS

000500 - 5 20810

	I,,	certify	that	ī	am	the
	of the corporation named					
	, who signed the said Bid Fo					
	of said corporation; t					
	nature thereto is genuine, and that said Bid Form was duly on behalf of said corporation, by authority of its governing be		aled, and	d exec	uted fo	r and
Date _	Secretary/Clerk					
	Corporate Seal ()			

<u>CERTIFICATE AS TO CORPORATE BIDDER</u> (on the bidder's letterhead)

NOTIFICATION TO BIDDERS

The contract to be awarded is subject to contract compliance requirements mandated by Section 4-114a of the Connecticut General Statutes; and, when the awarding agency is the state, Section 46a-71(d) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at Section 4-114a-1 et. seq. of the Regulations of Connecticut State Agencies which establish a procedure for the awarding of all contracts covered by Section 4-114a and 46a-71(d) of the Connecticut General Statutes.

According to Section 4-114a-3(9) of the Connecticut Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to "aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors; subcontractors and suppliers of materials". "Minority business enterprise" is defined in Section 4-114a of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: "(1) Who are active in the daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in sub-section (a) od Section 32-9n". "Minority" groups are defined in Section 32-9n of the Connecticut General Statutes as "(1) Black Americans...; (2) Hispanic Americans...; (3)Women...; (4) Asian Pacific Americans and Pacific Islanders; or American Indians...". The above definitions apply to the contract compliance requirements by virtue of Section 4-114a-1(10) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder's qualifications under the contract compliance requirements:

- a. the bidder's success in implementing an affirmative action plan;
- b. the bidder's success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 of the Connecticut General Statutes, inclusive:
- c. the bidder's promise to develop and implement a successful affirmative aftion plan;
- d. the bidder's submission of EEO-1 data indicating that the composition of its work force is at or near parity when compared to the racial and sexual composition of the work force in the relevant labor market area; and
- e. the bidder's promise to set aside a portion of the contract for legitimate minority business enterprises. See Section 4-114a-3(10) of the Contract Compliance Regulations.

*INSTRUCTION: Bidder must sign acknowledgement below, detach along dotted line and return acknowledgement to Awarding Agency along with bid proposal.						
The undersigned acknowledges receiving form.	g and reading a copy of the "Notification to Bidders"					
Signature:	Date:					
Organization Name:						

Affidavit for Certification of Subcontractors as Minority Business Enterprises (MBE)

(to be completed only for subcontractors not certified as MBE's by the Department of Administrative Services)

To document the *good faith efforts* of the below named state contractor to include minority business enterprises as subcontractors (for services and/or material suppliers) on the state contract also identified below, I certify that the following subcontractors meet the criteria for minority business enterprises set forth in <u>CONN. GEN. STAT.</u> § 4a-60(b). I attest that each named minority business enterprise will be contracted by the named state contractor to participate on the identified state.contract as a subcontractor.

The subcontractors being identified to be bona fide minority business enterprises are: Subcontractor Name Complete Address Subcontractor's Principal Officer's Name (use additional sheets as necessary) I further certify and affirm that I have read and understand the contract compliance requirements codified at CONN. GEN. STAT. Sections 4a-60 & 46a-71(d), and the Contract Compliance Regulations codified at Sections 46a-68j-21 through 43 of the Administrative Regulations of Connecticut State Agencies. I also understand that any false statements made herein are punishable by law. state contractor legal name type full printed name and title of official submitting this affidavit on behalf of contractor state contract number signature of official state contract awarding agency date of affidavit Subscribed and sworn to before me, this _____ day of ____ Notary Public/Commissioner of the Superior Court My Commission expires

WORKFORCE ANALYSIS

Contractor:			Full-	Number of Connecticut employees: Full-time: [#] Part-time: [#]									
ddress:				Emp	oloymen er [] Ex	t figures	s obtain	ed from	: Visual C	heck []	; Employr	nent Rec	ords 🗍
JOB CATEGORIES	TOTALS	(Not of	tITE Hispanic gin)	(Not of	ACK Hispanic (gin)	inic HISPANIC		ASIAN OR PACIFIC ISLANDER		AMER. INDIAN OR ALASKAN NATIVE		PERSON WITH DISABILITIES	
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PART

PART 3 - GENERAL (Not Applicable)

END OF SECTION 000500

INVITATION TO BIDDERS

000500 - 10 20810

PROJECT MANUAL

FOR THE:

SLOPER-WESOLY HOUSE

27 GROVE HILL NEW BRITAIN, CONNECTICUT



PREPARED BY:



Gilley Design Associates, Architects, LLC 131 Summer Street Bristol, CT 06010

18TH OF JUNE 2008



gilley · design · associates · architects, Ilc

LETTER OF TRANSMITTAL

DATE:

June 23, 2008

PHONE:

(860) 225-2346

TO:

Mr. Konrad Gil, Executive Director

Polish American Foundation of Connecticut

27 Grove Hill

New Britain, CT 06052

PROJECT:

Sloper-Wesoly House – Roof Repairs

27 Grove Hill New Britain, CT

GDA Project Number: 20810

PURPOSE:

For your records

VIA:

Drop off

ITEMS TRANSMITTED:

Full set and Specifications for bidding purposes

DWGS

DATE

DESCRIPTION

Project Manual For the Sloper Wesoly House

CS-1 FS-1 FS-2	June 18, 2008 June 18, 2008	Cover Sheet, Building Code Data & General Notes Existing Roof Plan Existing West Roof Elevation
FS-2 FS-3	June 18, 2008 June 18, 2008	Existing West Roof Elevation Existing North Roof Elevation
FS-4	June 18, 2008	Existing East Roof Elevation
FS-5	June 18, 2008	Existing South Roof Elevation
A-1	June 18, 2008	Roof Plan
A-2	June 18, 2008	West Roof Elevation
A-3	June 18, 2008	North Roof Elevation
A-4	June 18, 2008	East Roof Elevation
A-5	June 18, 2008	South Roof Elevation
A-6	June 18, 2008	Miscellaneous Roof Details

COMMENTS:

SIGNED BY:

Michael Sileo Senior Designer Gilley Design Associates, Architects, LLC

email: gilley.design@sbcglobal.net 131 Summer Street • Bristol, Connecticut 06010 • (860) 583-1333 • fax (860) 585-8251

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DIVISION 00 - CONTRACT DOCUMENTS

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SECTION 000500 - INVITATION TO BIDDERS

PART 1 - GENERAL

- 1. The Polish American Foundation of CT will receive sealed bids in <u>triplicate</u> at 4:00 PM on the 25th of July 2008 at their Office located at 27 Grove Hill, New Britain, Connecticut 06052. Please address the Bid Package to the attention of Mr. Konrad Gil, Executive Director.
- 2. The Bids shall be for the furnishing of all labor, materials, tools and equipment necessary to construct and finish complete and ready for use "Roof Replacement and Exterior Renovations to the Sloper-Wesoly House, 27 Grove Hill, New Britain, Connecticut 06052" GDA Project Number 20810, Drawings dated the 18th of June 2008, as prepared by Gilley Design Associates, Architects, LLC.
- 3. Proposed form of Contract is "AIA Document A105 & A205 Standard Form of Agreement Between Owner and Contractor, and General Conditions of the Contract for Construction-1993 Small Projects Editions, where the Basis of Payment is a Stipulated Sum." Retainage shall be 10 percent.
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- 7. No bid shall be withdrawn for period of ninety (90) days subsequent to the opening of bids or until the next work day immediately following said period, if such period ends on a weekend or State holiday, without the consent of the above mentioned owner.
- 8. All Bidders must be licensed in accordance with the provisions of Section 20-341gg of the Connecticut General Statutes as amended. Failure to comply with this requirement shall be deemed a material defect and shall result in the rejection of the bid.
- 9. There are no liquidated damages.
- 10. Insurance requirements are included in "Article 10, Contractor's Liability Insurance" in the Supplementary Conditions. The successful bidder shall provide certificates of insurance to meet these requirements. A Bid Guarantee from each Bidder equivalent to 5 percent of the bid price will be required.
- 11. A "Pre-Bid" walk-thru will be conducted on 15th of July 2008 at 3:00 PM at 27 Grove Hill, New Britain, Connecticut 06052.
- 12. All questions shall be in writing (email accepted) to Mr. Roy Gilley, at Gilley Design Associates, Architects, LLC, 131 Summer Street, Bristol, Connecticut 06010 Email address gilley.design@sbcglobal.net.
- 13. This is not a "Prevailing Wage Project".

14. BID DOCUMENTS:

The General Contractor will be required to complete all of the attached forms as part of the Bid Documents. The forms include the Bid, Bid Breakdown, Unit Prices, Alternates, Time Estimate, Anti-Collusion Statement, Non-Collusion Affidavit of Prime Bidder, Non-Collusion Affidavit of subcontractor, Certificate as to Corporate Bidder, Affidavit of Bidder, Notification to Bidders, affidavit for Certification of Subcontractors as Minority Business Enterprises and the Workforce Analysis. Print all documents on the Bidder's letterhead.

A.	Bid:	
	Drawings, Specifications, Invita Conditions, Bid Form, drawing Exterior Renovations to the Slo Connecticut 06052" GDA Proj June 2008, as prepared by Gi Addenda Numbers Gilley Design Associates, A Connecticut 06010, hereby pro equipment required for construct	with the local figure the work and having carefully examined the stion to Bidders, Instructions to Bidders, Generally, and specifications for Roof Replacement and per-Wesoly House, 27 Grove Hill, New Britain ect Number 20810, Drawings dated the 18 th of alley Design Associates, Architects, LLC., and thereto, as prepared by rehitects, LLC, 131 Summer Street, Bristol sposes to furnish all labor, materials, tools and the sting and finishing complete including all related ance with the drawings and specifications for the labor.
B.	Bid Breakdown: The Bid should be broken down using the follow	ving format,
	 Demolition/Removal Work Roof Replacement Exterior Painting Miscellaneous Items Window Repair ————————————————————————————————————	\$ \$ \$ \$ \$
C.	Unit Prices:	
	 Removal/Replacement Rotted Roof Sheathing Replace Rotted Wood Shingles Replace Rotted Wood Soffit Replace Rotted Wood Fascia 	\$(Per SF) \$(Per SF) \$(Per SF) \$(Per SF)
D.	Alternates:	
	 EPDM Roof over Garage-Alt #1 Copper Gutters/Downspouts-Alt #2 Interior Storm Windows-Alt #3 	\$ \$ \$

E.	Right to	Reject:

In submitting this bid, it is understood that the right is reserved by the above mentioned owner to reject any and all bids; and it is agreed that this bid may not be withdrawn for a period of ninety (90) days from the date of the bid opening or until the next work day immediately following said period if such period ends on a weekend or State holiday.

	period	if such period ends	on a weekend	or State holiday.
F.	Time:			
	1.	The undersigned complete such wor	-	mence work on a date specified in the contract and to consecutive days.
	2.	bids, or when exter acceptance of this address given be Ownership Entity counterparts as many counterparts as many counterparts.	shided to the next bid shall be selow or at a selow, will within a, where directly be required to been made	within the period of ninety (90) days after the opening of at work day immediately following said period, notice of telegraphed, mailed or delivered to him at the business any time thereafter before this bid is withdrawn, fifteen (15) days thereafter deliver to the Owner, or the ted, a contract properly executed in such number of of said owner, on the forms annexed, with such changes by the Owner, or the Ownership Entity, prior to the time sal.
G.	Anti-Collu	sion Statement:		
	with a		t to this propo	that the undersigned has not entered into any collusion sal, or the submitting of proposals for the above project. r's qualifications.
	Date _		Firm Name	
			Address	
			Ву	
			Title	

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

State of _)
Country	of)
		, being first duly sworn, deposed and says that
i	. He is	of
	the Bidder who has submi	tted the attached hid
i		respecting the preparation and contents of the attached Bid and
•	of all pertinent circumstan	
i		and is not a collusive or sham bid:
		dder nor any of its officers, partners, owners, representatives,
		terest, including this affiant, has in any way colluded, conspired,
		ly or indirectly with any other Bidder, firm or person to submit a
		connection with such Contract, or has in any manner, directly or
	,	eement or collusion or communication or conference with any
		on to fix the price or prices in the attached Bid or of any other
		head, profit, or cost element of the Bid price or the Bid price of
		e through any collusion, conspiracy, connivance or unlawful
		against the Owner or the Ownership Entity, or any other person
	interested in the proposed	
		quoted in the attached Bid are fair and proper and are not tainted acy, connivance or unlawful agreement on the part of the Bidder
		sentative, owners, employees or parties in interest, including this
	affiant.	sentative, owners, employees or parties in interest, including this
	amant.	·
		(Signature)
		, ,
		(Title)
		(Title)
Subscrib	ped and sworn to before me	
	day of	, 2008.
		
	(Title)	
	(1.00)	
My con	mission expires:	

NON-COLLUSION AFFIDAVIT OF SUBCONTRACTOR

State	of)
Count	try of		
		being first duly	sworn, deposed that:
1.	He is hereinafter referred to as the "	of 'Subcontractor."	,
2.	He is fully informed respect submitted by the Subcontractor	ing the preparation and co	ontents of the Subcontractor's Proposal, the Contractor for certainContract pertaining
3.	Such Subcontractor's Proposa	al is genuine and is not a co	llusive or sham Proposal:
 4. 5. 	parties in interest, including to directly or indirectly with any in connection with such Contragreement or connivance with Subcontractor's Proposal, or said Subcontractor's Proposal agreement any advantage againterested in the proposed contractor or prices quoted in	this affiant, has in any way other Bidder, firm or personact, or has in any manner, hany other Bidder, firm on to fix and overhead, profit sal, or to secure through gainst the Owner or the intract; and	ers, agents, representatives, employees or colluded, conspired, connived or agreed, on to submit a collusive or sham Proposal directly or indirectly, sought by unlawful r person to fix the price or prices in said tor cost element of the price or prices in a collusion, conspiracy, connivance or Ownership Entity, or any other person sal are fair and proper and are not tainted ton the part of the Bidder or any of its
			interest, including this affiant.
		(Signature)	
		(Title)	
	scribed and sworn to before me		
this		day of	, 2008.
	(Title)		
My	commission expires:		

<u>CERT</u>	IFICATE AS TO CORPORATE BIDDER (on the bidder's letterhead)
	I,, certify that I am the
	of the corporation named as the Bidder in the Bid Form; that
	, who signed the said Bid Form on behalf of the Bidder was then
	of said corporation; that I know his signature and his
	signature thereto is genuine, and that said Bid Form was duly signed, sealed, and executed for and on behalf of said corporation, by authority of its governing body.
Date _	Secretary/Clerk
	Corporate Seal (

AFFIDAVIT OF BIDDER (on the bidder's letterhead)
State)) ss. County of)
being first duly sworn, deposes and says that he is (a partner in the firm of, etc.),
Name of bidder if the bidder is an individual
Name of the bidder if the bidder is a partner
Name of the bidder if the bidder is a corporation
Subscribed and sworn to before me thisday of, 2008.
Notary Public (Seal)
My commission expires:

NOTIFICATION TO BIDDERS

The contract to be awarded is subject to contract compliance requirements mandated by Section 4-114a of the Connecticut General Statutes; and, when the awarding agency is the state, Section 46a-71(d) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at Section 4-114a-1 et. seq. of the Regulations of Connecticut State Agencies which establish a procedure for the awarding of all contracts covered by Section 4-114a and 46a-71(d) of the Connecticut General Statutes.

According to Section 4-114a-3(9) of the Connecticut Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to "aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials". "Minority business enterprise" is defined in Section 4-114a of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: "(1) Who are active in the daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in sub-section (a) od Section 32-9n". "Minority" groups are defined in Section 32-9n of the Connecticut General Statutes as "(1) Black Americans...; (2) Hispanic Americans...; (3)Women...; (4) Asian Pacific Americans and Pacific Islanders; or American Indians...". The above definitions apply to the contract compliance requirements by virtue of Section 4-114a-1(10) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder's qualifications under the contract compliance requirements:

- a. the bidder's success in implementing an affirmative action plan;
- b. the bidder's success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 of the Connecticut General Statutes, inclusive;
- c. the bidder's promise to develop and implement a successful affirmative aftion plan;
- d. the bidder's submission of EEO-1 data indicating that the composition of its work force is at or near parity when compared to the racial and sexual composition of the work force in the relevant labor market area; and
- e. the bidder's promise to set aside a portion of the contract for legitimate minority business enterprises. See Section 4-114a-3(10) of the Contract Compliance Regulations.

*INSTRUCTION: Bidder must sign acknowledgement below, detach along dotted line and return

acknowledgement to Awarding Agency along with bid proposal.									
The undersigned acknowledges rece form.	iving and reading a copy of the "Notification to Bidders'								
Signature:	Date:								
Organization Name									

Affidavit for Certification of Subcontractors as Minority Business Enterprises (MBE) (to be completed only for subcontractors not certified as MBE's by the Department of Administrative Services)

To document the *good faith efforts* of the below named state contractor to include minority business enterprises as subcontractors (for services and/or material suppliers) on the state contract also identified below, I certify that the following subcontractors meet the criteria for minority business enterprises set forth in <u>CONN. GEN. STAT.</u> § 4a-60(b). I attest that each named minority business enterprise will be contracted by the named state contractor to participate on the identified state contract as a subcontractor.

The subcontractors being identified to be bona fide minority business enterprises are: Subcontractor Name Complete Address Subcontractor's Principal Officer's Name (use additional sheets as necessary) I further certify and affirm that I have read and understand the contract compliance requirements codified at CONN. GEN. STAT. Sections 4a-60 & 46a-71(d), and the Contract Compliance Regulations codified at Sections 46a-68j-21 through 43 of the Administrative Regulations of Connecticut State Agencies. I also understand that any false statements made herein are punishable by law. type full printed name and title of official state contractor legal name submitting this affidavit on behalf of contractor signature of official state contract number date of affidavit state contract awarding agency Subscribed and sworn to before me, this _____ day of _____ Notary Public/Commissioner of the Superior Court My Commission expires_

WORKFORCE ANALYSIS

Contractor			Number of Connecticut employees: Full-time: [#] Part-time: [#]										
Address:					ploymen er [] Ex		s obtaine	ed from	: Visual C	heck 🗍	; Employn	nent Reo	ords □;
JOB CATEGORIES	TOTALS	WHITE (Not of Hispanic Origin)		BLACK (Not of Hispanic Origin)		HISPANIC		ASIAN OR PACIFIC ISLANDER		AMER. INDIAN OR ALASKAN NATIVE		PERSON WITH DISABILITIES	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Officials & Managers													
Professionals		i	1										
Technicians	 	-										1	
Service			<u> </u>		 	-			 	 	·	<u> </u>	
Workers				 		<u> </u>				<u> </u>	ļ	<u> </u>	-
Office & Clerical							ļ						
Craft Workers (Skilled)				į						}			
Operators (Semi-Skilled)													
Laborers (Unskilled)			1,			<u> </u>							1
TOTALS		İ		<u> </u>	İ	İ	1	İ					†
Totals One Year Ago													
One rearrige				FOF	RMAL ON	I-THE-J	OB-TRA	INEES					_'
Apprentices		T		1	T		T			7	T		7
Trainees		T											
 Have you successfully implemented an Affirmative Action Plan? Yes													
Yes 🗍	No 🗆	Explain	n:										
Authorized S	Signature											Date	

PART 2 - PRODUCTS (Not Applicable)

PART 3 - GENERAL (Not Applicable)

END OF SECTION 000500

SECTION 001000 - INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 AIA DOCUMENTS A701

A. The following Articles known as "Instructions To Bidders", AIA Document A701, 1997 Edition, is hereby made a part of the Contract Documents by reference and in fact.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXEUCTION (Not Applicable)

END OF SECTION 001000

SECTION 001500 - SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUPPLEMENTS TO AIA DOCUMENT A701

The following Articles known as "Supplementary Instructions to Bidders" shall modify or amend designated Articles to AIA Document A701, 1997 Edition. Where such Articles of the AIA Instructions to Bidders are inconsistent or ambiguous when read in conjunction with the Supplementary Instructions, to Bidders, the Supplementary Instructions to Bidders shall govern. The Supplementary Instructions to Bidders shall be considered as added thereto. Where any such Article is not so specifically amended, voided or superseded it shall remain in effect.

Article 2 - Bidder's Representative:

Add the Following:

- "2.1.5 All bidders MUST VISIT THE SITE and acquaint themselves with existing conditions before submitting their proposals. Each bidder must inform himself fully as to the conditions relating to the construction and labor under which the work will be performed. The failure of any bidder to visit the site, or to receive or examine any forms, drawings, specification, bulletin or other document relating to the work under this contract shall in no way relieve any bidder from any obligation in respect to his bid."
- "2.1.6 Items listed under WORK INCLUDED in these specifications are not necessarily complete. The contractor will be required to include all work usually supplied and/or necessary to the Trade whether or not specifically called for in the drawings and specifications and all appurtenant contract documents to provide for a complete job for the price originally agreed to by Owner and contractor."
- "2.1.7 All work to be performed for the project shall be subject to the Rules and Regulations of the Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor as currently in effect."
- "2.2 Before submitting a proposal, each bidder shall verify with the Architect the number of addenda, which may have been issued during the bidding period. All addenda or interpretations so issued shall become part of the contract documents."

Article 4 - Bidding Procedures

Revise paragraph 4.1.1 to read as follows:

"4.1.1 All bids shall be submitted using the format herein, but put on the Bidder's letterhead and shall be subject to all requirements of the specifications. Erasures or other changes must be explained or noted over the signature of the bidder."

Revise paragraph 4.3.1 to read as follows:

"4.3.1 Bid documents submitted by all bidders to the Owner or the Ownership Entity, shall be enclosed in outer and inner envelopes, both of which shall be sealed and clearly labeled with the words "Bid Documents", the project name, the project number, and the firm name of the bidder.

Revise paragraph 4.3.4 to read as follows:

"4.3.4 Telecommunicated bids will not be considered. A modification by telegraph, fax, email or similar transmission of a bid already submitted to the Owner will be considered if, prior to the hour set for the opening of bids, such telegraphic, faxed, emailed or similarly transmitted modification is received and a written confirmation of it, signed by the bidder, is deposited in the United States mail prior to the hour set for the opening of bids. Bidders are cautioned that, while telegraphic, faxed emailed or similarly transmitted modifications of bids may be received as provided above, such modification, if not explicit, and if, in any sense, subject to misinterpretation, shall make the bid so modified, subject to rejection."

Add the Following:

- "4.3.5 ALL BIDDERS MUST SUBMIT THREE (3) SETS OF COMPLETELY EXECUTED BID FORMS AND DOCUMENTS to the Owner or the Ownership Entity.
- "4.3.6 The above Owner may consider as informal, any general contractor's bid that contains an alteration or a departure from the bid form hereto attached. Every general bid which is conditional or obscure, or which contains any addition not called for, shall be invalid; and the Owner shall reject every such general bid."
- "4.3.7 Time for Receiving Bids:
 - A. Bids received prior to the time established herein for the receipt and opening of same, will be securely kept, unopened. The officer whose duty it is to receive and open all bids will decide when the specified time has arrived for the opening of it. No responsibility will be attached to an officer for premature opening of a bid not properly addressed and identified.
 - B. The owner will neither accept nor consider any bids which are received after the time established herein for the opening of same; regardless of the cause for delay in the arrival of a bid, the same will be returned unopened."

Article 6 - Bid Information

Add the following:

"6.1.1 The Owner may make such investigation as he deems necessary to determine the ability of the bidders to perform the work and each bidder shall furnish to the Owner all such

information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by bidder or the investigation of such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations under the contract and to complete the work contemplated therein. Conditional bids will not be accepted. The Owner reserves the right to approve or disapprove of contractor's subcontractors. Should the Owner reject any subcontract bid, the difference between the rejected bid and approved bid will be added to the general contractor's proposal and contract, if approved bid is higher, and subtracted if the approved bid lower."

<u>Article 8 – Form of Agreement Between Owner and Contractor</u>

Add the following

"8.1 Execution of Contract

A. The successful bidder shall execute the contract with the Owner in the form outlined in the Specifications and in such number of counterparts as said Owner may request.

8.2 Collusive Agreement:

A. All bidders shall submit with their bids and affidavit (see Bid Form) stating that the bidder has not colluded with any other person in regard to any bid submitted."

PART 2 - PRODUCTS (Not Applicable)

PART 3 - GENERAL (Not Applicable)

END OF SECTION 001500

SECTION 007000 - GENERAL CONDITIONS OF THE CONTRACT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 AIA DOCUMENT A205

A. The following Articles known as "General Conditions of the Contract for Construction of a Small Project", AIA Document A205, 1993 Small Projects Edition, is hereby made a part of the Contract Documents by reference and in fact.

1.3 AIA DOCUMENT A105

A. The following Document known as "Standard Form of Agreement Between Owner and Contractor for a Small Project, where the basis for payment is a Stipulated Sum", AIA Document A105, 1993 Small Projects Edition, is hereby made a part of the Contract Documents by reference and in fact.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 007000

SECTION 009100 - SUPPLEMENTARY CONDITIONS

PART 1- GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUPPLEMENTAL CONDITIONS

A. The following Articles known as "Supplementary Conditions" shall modify or amend designated Articles of the AIA Document A205, 1993 Edition. Where such Articles of the AIA General Conditions are inconsistent or ambiguous when read in conjunction with the Supplementary Conditions, the Supplementary Conditions shall govern. Supplementary Conditions shall be considered as added thereto. Where any such Article is not so specifically amended, voided or superseded it shall remain in effect.

Article 3-Contractor:

3.1 General

Add the following:

- "3.1.1 The term "Contractor" shall mean the General Contractor selected and retained by the Owner for the purpose of performing the Work. All trades specified herein shall be performed by the Sub-Contractors retained and paid for by the General Contractor. Nothing in these Specifications shall establish a relationship between the Owner and any Sub-Contractor, Sub-Sub -Contractor, or material supplier or deliverer.
- "3.1.2 The Contractor is experienced in the use and interpretation of plans and specifications such as those included in the Project Bid Documents. He has carefully reviewed the project plans and specifications and has found them to be free of ambiguity and sufficient for bid purposes. He has based his bid solely on these documents, not relying on any explanation or interpretation from any other source. The Contractor, therefore, agrees to limit liability of the Architect and the Owner for damages to him because of the negligence, errors, or omissions of the Architect to an aggregate total of \$5,000.00 or the Architect's fee for services rendered on this project, whichever is greater. In doing so, the Contractor does not assume any liability for damages to, thus caused by the negligence, errors or omissions of the Architect."

3.5 Warranty:

Add the following:

"3.5.1 The Contractor shall guarantee the work for a period of one year from the date of acceptance of the entire job by the Owner. The Contractor at no cost shall make all work, which becomes defective during the guarantee period, good to the Owner. The one year guarantee shall be extended if guarantees of longer duration are hereinafter specified for a particular trade or section thereof."

3.7 Permits, Fees and Notices

Add the following:

"3.7.3 Contractor shall pay all costs charged by utility companies for making service disconnections, service reconnections, inspections, tests, and any other related utilities company fees."

3.8 Submittals:

Add the following:

- "3.8.1 The Contractor shall check and verify all field measurements and submit required shop drawings, with such promptness as to cause no delay in his work or in that of any other Contractor."
- "3.8.2 The Architect will review shop drawings only for conformance with the design concept and for compliance with information given in the Contract Documents. Review by the Architect of shop drawings for any material, apparatus, device, or the like, will not relieve the Contractor from responsibility for furnishing same of proper dimensions, size, quantity and quality to effectively perform the work and carry out the requirements and intent of the Contract Documents Such review will not relieve the Contractor from responsibility for errors of any sort in the shop drawings, nor for the proper coordination of any submittal with all other work. If the shop drawings deviate, or are intended to deviate, from the Contract Documents, the Contractor shall so advise the Architect in writing at the time the shop drawings are submitted, stating the difference in value between the Contract requirements and that denoted by said shop drawings."

3.10 Cutting and Patching:

Add the following:

"3.10.1 Cutting, fitting, patching and related alterations on remedial operations shall be done only by workmen skilled in the trades involved in such operations and shall be supervised by the Contractor. Structural elements shall not be cut, patched, altered, or repaired without the prior written authorization of the Architect."

3.11 Cleaning Up

Supplement as follows:

- "3.11.1 At no time shall any rubbish be thrown from the building. Besides the general broom cleaning, the General Contractor shall do the following special cleaning for all trades at completion of the work:
 - 1. Remove all putty stains and paint from all glass and wash and polish same. Care shall be taken not to scratch glass.
 - 2. Remove all marks, stains, fingerprints and other soiling from all painted, decorated and stained work.
 - 3. Remove all temporary protections and wash all floors; wax and buff all resilient floors by machine.
 - 4. Clean all fixtures and equipment; removing all stains, paint, dirt and dust."

Article 4- Architect's Administration of the Contract:

Add the following:

4.10 Architect/Consultants

"4.10.1. The term "Architect" shall mean:

Gilley Design Associates, Architects, LLC 131 Summer Street Bristol, CT 06010

Telephone:

(860) 583-1333

Fax:

(860) 585-8251

Office Email gilley.design@sbcglobal.net"

Article 5 - Changes in the Work:

5.2 Change Orders

Add the following:

"5.2.1 AIA G701 shall be used for Change Orders."

Article 8 - Protection of Persons and Property:

8.1 Safety Precautions and Programs

Add the following:

- "8.1.1 The Contractor and all subcontractors shall comply with the applicable provisions of the Federal Laws, including the latest amendments of the following:
 - William-Steiger Occupational Safety and Health Act of 1970, Public Law 91-596.
 - 2. Part 1910 Occupational Safety and Health Standards, Chapter XVII Of Title 29, Code of Federal Regulations.
 - 3. Part 1518 Safety and Health Regulations for Construction, Chapter XIII of Title 29 Code of Federal Regulations."

"8.2 Safety of Persons and Property

- 8.2.1 The Contractor shall comply with recommendations of the "Manual of Accident Prevention in Construction" by the Associated General Contractors of America except where such recommendations are in contravention. Safety and protection measures shall include, without limitation, provisions for preventing and controlling fire, collapse of excavation, and the collection of damaging or undue amounts of water in and about the Work. The use of watchmen or guards is optional with the Contractor.
- 8.2.2 The Contractor shall take care of all existing pipelines, conduits, poles, wiring and other utilities that in any way interfere with the work, whether or not they are specifically shown on the drawings. He shall notify the proper authorities and see that all items to be maintained are protected, supported, or relocated as necessary to adjust them to the new work. The Contractor at no cost to the Owner shall repair any damages to active utilities.
- 8.2.3 The Contractor and all subcontractors shall comply with the applicable provisions of the Federal Laws, including the latest amendments of the following:
 - William-Steiger Occupational Safety and Health Act of 1970, Public Law 91-596.
 - 2. Part 1910 Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations.
 - 3. Part 1518 Safety and Health Regulations for Construction, Chapter XIII of Title 29 Code of Federal Regulations."

"8.3 Emergency Contacts

8.3.1 The Contractor shall furnish the Owner and the Architect, in writing, the names, addresses and telephones numbers of members of the Contractor's organization to be called in the event of an out-of-hours emergency at the project site. He also shall have this information affixed in legible form under glass or plastic to the outside of the field office."

Article 10 - Miscellaneous Provisions:

Add the following:

"10.4 Contractor's Liability Insurance:

- 10.4.1. The liability required by Subparagraph 10.4.1 shall be taken out in a company or companies authorized to do such business in the State of Connecticut satisfactory to the Owner and shall be written for not less than any limits of liability specified herein below, as required by law, whichever is greater. The Contractor shall purchase and maintain such insurance as will protect him from claims under Workmen's Compensation acts and other employee benefits acts. He shall procure and maintain during the life of his contract, Public Liability, Automobile Liability as well as Protective Liability Insurance covering all operations under his Contract with a limit of not less than \$2,000,000.00 for all damages arising out of bodily injury, including death at any time resulting therefrom, sustained by each person as the result of any one accident; and subject to the above provisions respecting each person, a total limit of not less than \$5,000,000.00 for all such damages sustained by two or more persons as a result of any one accident subject to any aggregate of \$500,000.00 for property damage.
- 10.4.2 The Contractor shall furnish the Owner satisfactory Certificates of insurance, indicating carriage of all above types of insurance. The Contractor shall not cancel any insurance nor permit any policies to lapse because of non-payment of premium. The Contractor shall notify the Owner of expiration date of each policy not less than 100 days prior to each expiration date. Each policy shall name the Owner as an insured and each policy shall contain as provision that the same may not be canceled prior to twenty (20) days written notice by the insurer to the Owner.
- 10.4.3. The Contractor shall either (1) require each of his subcontractors to procure and maintain during the life of his Subcontract, subcontractor's Public Liability and Property Damage Insurance in the amounts specified in the preceding Subparagraph 10.4.1. or (2) insure activities of his subcontractors in his policy specified in preceding Subparagraph 10.4.1. for the amounts stated herein.
- 10.4.4 The Contractor shall procure all Builders' Risk Insurance covering all Contractors' equipment with a provision for Waiver of Subrogation against the Owner.
- 10.4.5 The Contractor's Builder's Risk "All Risk" policy for this project shall name the Architect as an insured.

- 10.4.6 Indemnification Clause: The General Contractor shall indemnify and save harmless the Owner and the Architect for and against all suits, claims or liability on account of any injuries to persons or damage to property arising out of the negligent acts of the Contractor in the performance of the work covered by the Contractor and/or failure to comply with the terms and conditions of said contract whether by himself, his employees, and subcontractors, but only in respect to such injuries or damages sustained during the performance and prior to the completion and acceptance of the work covered by the Contract.
- 10.4.7 Comprehensive Automobile Liability Insurance: The Contractor shall effect and maintain Owner's Protective Liability Insurance in the Owner's name in the amounts listed above for Comprehensive General Liability Insurance.
- 10.4.8 Certificates of all policies shall be furnished in duplicate, one copy for the Owner, and one for the Architect. Certificates shall be furnished prior to the beginning of operations."

PART 2 - PRODUCTS (Not Applicable)

PART 3- EXECUTION (Not Applicable)

END OF SECTION 009100

SECTION 009500 - LIST OF DRAWINGS

Andmitocial and availed	Architectural	Drawings
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CS-1	Cover Sheet, Building Code Data & General Note
FS-1	Existing Roof Plan
FS-2	Existing West Roof Elevation
FS-3	Existing North Roof Elevation
FS-4	Existing East Roof Elevation
FS-5	Existing South Roof Elevation
A-1	Roof Plan
A-2	West Roof Elevation
A-3	North Roof Elevation
A-4	East Roof Elevation
A-5	South Roof Elevation
A-6	Miscellaneous Roof Details

LIST OF DRAWINGS 009500 - 1

DIVISION 01 - GENERAL REQUIREMENTS

011000	Summary	3
012000	Examination of Premises and Assumption of Risks	1
012200	Unit Prices	2
012300	Alternates	2
012400	Procedures and Controls	4
012600	Contract Modification Procedures	3
012900	Payment Procedures	3
013100	Project Management and Coordination	7
013300	Submittal Procedures	8
014000	Quality Requirements	7
014200	References	8
015000	Temporary Facilities and Controls	6
016000	Product Requirements	7
017300	Execution	5
017329	Cutting and Patching	3
017700	Closeout Procedures	4
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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - Work covered by the Contract Documents.
 - 2. Use of premises.
 - 3. Owner's occupancy requirements.
 - 4. Specification formats and conventions.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Roof Replacement and Exterior Renovations to the Sloper-Wesoly House, 27 Grove Hill, New Britain, Connecticut 06052" GDA Project Number 20810, Drawings dated the 18th of June 2008, as prepared by Gilley Design Associates, Architects, LLC.
 - 1. Project Location: 27 Grove Hill, New Britain, Connecticut 06052
- B. Owner: Polish American Foundation of CT
 - 1. Owner's Address: 27 Grove Hill, New Britain, Connecticut 06052
 - Owner's Representative: Mr. Konrad Gil, Executive Director
- C. Architect: Gilley Design Associates, Architects, LLC, 131 Summer Street, Bristol, Connecticut 06010.
- D. The Work consists of the following:
 - 1. Removal/disposal of the existing roof shingles, underlayment felt, flashing, gutters, downspouts.
 - 2. Removal and replacement of rotted roof sheathing on an as-needed basis. (NOTE: Price this portion of the work as a per square foot number include under Unit Costs. See Unit Costs, Specification Section 012200, Subsection 3.1A, List of Unit Prices.)

SUMMARY 011000 - 1

- Provide new roof using asphalt shingles and including, but not limited to; new 3. underlayment felt, valley flashing, ice and water shield membrane, and metal drip edges.
- Provide new gutters and downspouts include all fastening devices as required and 4. specified elsewhere in this Project Manual.
- Repair, restore, and/or paint existing windows where noted on the Drawings. 5.
- 6. Remove loose and peeling paint from exterior wood surfaces where noted on the drawings. Paint same surfaces as directed by other Sections of this Project Manual.
- E. All work listed above and contained on the referenced Construction Drawings shall be completed under a single prime contract with a single prime General Contractor.

USE OF PREMISES 1.4

- General: Contractor shall have use of premises for construction operations, including use of A. project site, during the construction period. The Contractor's use of premises is limited only to the property owned by the Sloper-Wesoly House.
- The General Contractor shall work with the Owner or the Owner's Representative to determine B. a "staging area" for storage of roofing materials and a dumpster location.
- Use of Site: Limit use of premises to areas delegated. Do not disturb portions of project site C. beyond areas in which the Work is indicated or being performed.
 - Limits: Confine constructions operations to Owner's property. Should work require use 1. of adjacent property, notify the Owner of the adjacent property before starting Work. Obtain written permission.
 - Driveways and Entrances: Keep driveways, loading areas, and entrances serving 2. premises clear and available to Owner, Owner's Employees, and Emergency Vehicles at all times. Do not use these areas for parking or storage of materials.
 - Schedule deliveries to minimize use of driveways and entrances. a.
 - Schedule deliveries to minimize space and time requirements for storage of b. materials and equipment on-site.
- Maintain existing building in a weathertight condition throughout D. Existing Buildings: construction period. Repair damage caused by construction operations. Protect building and any occupants during the construction period.
- E. Do not allow debris to accumulate on project site. Remove debris at the close of each workday.
- Repair damaged landscaped areas when work in the Building has been completed. F.

1.5 OWNER'S OCCUPANCY REQUIREMENTS

Occupancy of Building: The Building is occupied on a part-time basis and will continue to be A. occupied during and throughout the installation of the new roof and the exterior painting. The

011000 - 2 **SUMMARY**

Contractor shall take all necessary precautions to ensure that the work areas are safe and no hazardous materials are left on project site.

1.6 WORK RESTRICTIONS

Smoking: Smoking is not permitted within the building or within 25 feet of an entrance, A. operable windows, or outdoor air intakes.

SPECIFICATION FORMATS AND CONVENTIONS 1.7

- Specification Format: The Specifications are organized into Divisions and Sections using the A. 33-division format and CSI/CSC's "MasterFormat" numbering system.
 - Division 01: Sections in Division 01 govern the execution of the Work of all Sections in 1. the Specifications.
- Specification Content: The Specifications use certain conventions for the style of language and B. the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 - Imperative mood and streamlined language are generally used in the Specifications. 2. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - The words "shall," "shall be," or "shall comply with," depending on the context, a. are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

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SECTION 012000 -EXAMINATION OF PREMISES AND ASSUMPTION OF RISKS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 EXAMINATION OF PREMISES AND ASSUMPTION OF RISKS

- A. The Contractor and the subcontractors whose work is affected by site conditions shall carefully examine the site and all conditions that may be encountered in the performance thereof and shall assume all risks and bear all losses pertaining thereto. No claims for additional costs will be allowed because of a lack of full knowledge of the conditions.
- B. All subcontractors shall carefully examine the conditions of the buildings and of the work done by others before beginning their work, and any condition therein that may be detrimental to their own installation shall be reported immediately in writing to the General Contractor and the Architect.
- C. Failure to make such report constitutes acceptance of the conditions then existing and the assumption of all risks and full responsibility for any subsequent damage, injury or loss either to the subcontractor's work or to the work of others. Any damage, injury or loss shall be made good by said Contractor.
- D. All subcontractors shall carefully observe any changes in conditions prevailing upon starting their work, especially in temperature and humidity, both during and upon completing their work until final acceptance, which may be detrimental to their work.
- E. Such changes in conditions shall be promptly reported to the General Contractor and the Architect both verbally and in writing. The General Contractor shall immediately correct the condition reported. Failure of the General Contractor to correct the condition shall place responsibility for all damage incurred upon the General Contractor. Failure of the subcontractor to make such report shall constitute acceptance of responsibility for all damage, injury or loss including any damage, injury or loss of the work of others.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012000

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for unit prices.

1.3 DEFINITIONS

A. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices or Part 3 of this Section. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A list of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

A. Unit Price:

UNIT PRICES 012200 - 1

- Replacement of Rotted Roof Sheathing Material: Provide square foot pricing for the removal and replacement of rotted roof sheathing material. Replacement roof sheathing shall be of similar thickness to match adjacent conditions. Use Exterior Plywood Sheathing as a material. Price work per square foot.
- 2. Replace Rotted Wood Shingles: Provide square foot pricing for the removal and replacement of rotted wood shingles on sidewalls at attic level. Replacement wood shingles shall be of similar thickness, cut and size to match adjacent conditions. See Drawings for "approximate" locations of rotted wood shingles.
- 3. Replace Rotted Wood Soffit Material: Provide square foot pricing for the removal and replacement of rotted wood soffit material. Replacement wood soffit material shall be of similar thickness and size to match adjacent conditions. See Drawings for "approximate" locations of rotted soffit material.
- 4. Replace Rotted Wood Fascia Material: Provide square foot pricing for the removal and replacement of rotted wood fascia material. Replacement wood fascia material shall be of similar thickness and size to match adjacent conditions. See Drawings for "approximate" locations of rotted fascia material.

END OF SECTION 012200

UNIT PRICES 012200 - 2

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

ALTERNATES 012300 - 1

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

Alternate #1 - EPDM Roofing over Garage: Provide pricing to remove existing roll roofing on A. the "Garage Portion" of the Building to the existing substrate material. Remove rotted substrate material where required. Install new Fully-Adhered EPDM Membrane Roofing System including all components required for a complete roofing installation. Refer to Specification Section 075323 - EPDM Membrane Roofing, for material specifications and installation requirements.

NOTE: The EPDM Membrane (Alternate #1) is NOT in lieu of replacing the existing Roll Roofing Material. It is the Owner's option to either leave the existing roll roofing in-place or replace the existing roof with EPDM Material.

- Alternate #2 Copper Gutter and Downspouts: In lieu of the aluminum Gutters and B. Downspouts as specified in Section 076200, Flashing and Sheet Metal, provide pricing for gutters and downspouts as manufactured using copper materials. Follow standards as set forth by the Copper Industry Standards for proper fabrication and installation procedures.
- C. Alternate #3 - Magnetic Interior Storm Windows: Provide pricing to install Magnetic Operable Storm Windows on the interior of all of the attic windows. Refer to the Construction Document Drawings for approximate attic window sizing. The General Contractor will be responsible for field measuring the actual window before ordering the Storm/Sash Panel. Refer to Specification Section 085113 - Operable Storm Sash/Panel, for material specifications and installation requirements.

END OF SECTION 012300

ALTERNATES 012300 - 2

SECTION 012400 - PROCEDURES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 DESCRIPTION OF WORK

- A. The types of minimum requirements for procedures and performance or control work of a general nature include but are not limited to the following categories:
 - 1. Coordination and meetings.
 - 2. Surveys and records or reports.
 - 3. Limitations for use of site.
 - 4. Inspections, tests and reports
 - 5. General installation provisions.
 - 6. Cutting and patching
 - 7. Cleaning and protection
 - 8. Conservation and salvage.

1.3 COORDINATION AND MEETINGS

A. General: Prepare and distribute to each entity performing work at project site, a written memorandum of instructions on required coordination activities, including required notices, reports and attendance at meetings. Prepare similar memorandum for separate contractors where interfacing of work is required.

1.4 LIMITATIONS FOR USE OF SITE

A. General: In addition to site utilization limitations and requirements shown on drawings, written instructions contained in these specifications, and indicated by other contract documents, administer allocation of available space equitably among entities needing access and space, so as to produce best overall efficiency in performance of total work of project. Schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION PROVISIONS

- A. Installer's Inspection of Conditions: Require installer of each major unit of work to inspect substrate to receive work, and conditions under which work will be performed, and to report (in writing to the contractor) unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to installer.
- B. Manufacturer's Instructions: Where installations include manufactured products, comply with manufacturer's applicable instructions and recommendations for installation, to extent these are more explicit or more stringent than requirements indicated in contract documents.
- C. Inspect each item of materials or equipment immediately prior to installation, and reject damaged and defective items.
- D. Provide attachment and connection devices and methods for securing work properly as it is installed; true to tolerances if not otherwise indicated. Allow for expansions and building movements. Provide uniform joint widths in exposed work organized for best possible visual effect. Refer questionable visual effect choices to architect for final decision.
- E. Recheck measurements and dimensions of the work, as an integral step of starting each installation.
- F. Install work during conditions of temperature, humidity, exposure, forecasted weather, and status of project completion, which will ensure best possible results for each unit of work, in coordination with entire work. Isolate each unit of work from non-compatible work, as required to prevent deterioration.
- G. Coordinate enclosure (closing in) of work with required inspections and tests, so as to minimize necessity of uncovering work for that purpose.
- H. Mounting Heights: Where mounting heights are not indicated, mount individual units of work at industry recognized standard-mounting heights for applications indicated. Where applicable, mount fixtures for handicapped use in compliance with Basic Building Code. Refer questionable mounting height choices to architect for final decision.

3.2 CLEANING AND PROTECTION

A. General: During handling and installation of work at project site, clean and protect work in progress and adjoining work on a basis of perpetual maintenance. Apply suitable protective covering on newly installed work where reasonably required to insure freedom from damage or deterioration at time of substantial completion; otherwise, clean and perform maintenance on newly installed work as frequently as necessary through remainder of construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

B. Limiting Exposures of Work: To extent possible through reasonable control and protection methods, supervise performance of work in a manner and by means which will ensure that none of the work, whether completed or in progress will be subjected to harmful, dangerous, damaging, or otherwise deleterious exposures during construction period. Such exposures include (where applicable, but not by way of limitation) static loading, dynamic loading, internal pressures, external pressures, high or low temperatures, thermal shock, high or low humidity, air contamination or pollution, water, ice, solvents, chemicals, light, radiation, puncture, abrasion, heavy traffic, soiling, bacteria, insect infestation, combustion, electrical current, high speed operation, improper lubrication, unusual wear, misuse, incompatible interface, destructive testing, misalignment, excessive weathering, unprotected storage, improper shipping/handling, theft and vandalism.

C. Cleaning Materials and Equipment:

- 1. Provide all required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.
- 2. Use only the cleaning materials and equipment, which are compatible with the surface being cleaned, as recommended by the manufacturer of the material or as approved by the architect.

D. Progress Cleaning:

General:

- a. Retain all stored items in an orderly arrangement allowing maximum access, not impeding drainage or traffic, and providing the required protection of materials.
- b. Do not allow the accumulation of scrap, debris, waste material, and other items not required for construction of this work.
- c. At least once each week, and more often if necessary, completely remove all scrap, debris, and waste material from the job site.
- d. Provide adequate storage for all items awaiting removal from the job site, observing all requirements for fire protection and protection of the environment.

2. Site:

- a. Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage.
- b. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site; restack, tidy, or otherwise service all arrangements.

3. Structures:

- a. Daily, and more often if necessary, inspect the structures and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage. Remove all such items to the place designated for their storage.
- b. Daily, and more often if necessary, sweep all interior spaces clean. "Clean", for the purpose of this subparagraph, shall be interpreted as meaning free from dust and other material capable of being removed by use of reasonable effort and hand held broom.

c. As required preparatory to installation of succeeding materials clean the structures of pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using all equipment and materials required to achieve the required cleanliness.

4. Final Cleaning:

- a. Definition: Except as otherwise specifically provided, "clean" (for the purposes of this article) shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.
- b. General: Prior to completion of the work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning.
 - Site: Unless otherwise specifically directed by the architect, broom clean all
 paved areas on the site and all public paved areas directly adjacent to the
 site. Completely remove all resultant debris.

2) Structures:

- a) Exterior: Visually inspect all exterior surfaces and remove all traces of soil, waste material, smudges, and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. If necessary to achieve a uniform degree of exterior cleanliness, hose down the exterior of the structure. In the event of stubborn stains not removable with water, the architect may require other cleaning at no additional cost to the owner.
- b) Interior: Visually inspect all interior surfaces and remove all traces of soil, waste material, smudges, and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. Remove all paint droppings, spots, stains, and dirt from finished surfaces. Use only the specified cleaning materials and equipment.
- c) Glass: Clean all glass inside and outside.
- d) Polished Surfaces: To all surfaces requiring the routine application of buffed polish, apply the polish recommended by the manufacturer of the material being polished.
- e) Timing: Schedule final cleaning to enable the owner to accept a completely clean project.
- f) If surfaces cannot be restored to like-new condition by cleaning, repaint or replace them as directed by the architect.
- g) When workmen perform work after substantial completion, clean up immediately.

END OF SECTION 012400

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. See Division 01 Section 012200 "Unit Prices" for administrative requirements for using unit prices.
- C. See Division 01 Section 012300 "Alternates" for procedural requirements for handling and processing alternates.

1.3 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within fourteen (14) days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and

finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Architect.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include costs of labor and supervision directly attributable to the change.
 - 5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - Comply with requirements in Division 01 Section 016000 "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use AIA Document G709 for Proposal Requests.

1.5 ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, base each Change Order proposal on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
 - 3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
 - 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the Purchase Order amount or Contractor's handling, labor, installation, overhead, and profit. Submit claims within fourteen (14) days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. Owner will reject claims submitted later than fourteen (14) days after such authorization.
 - 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.

2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

1.6 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.3 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Submit the Schedule of Values to Architect at earliest possible date but no later than seven (7) days before the date scheduled for submittal of initial applications for Payment.
 - Sub-schedules: If required, where the Work is separated into phases requiring separately phased payments, provide sub-schedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Bid Breakdown as a guide to establish line items for the Schedule of Values.
 - 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 - Stored Materials: Money will not be released for stored materials unless approved by the Architect prior to a request for payment. This applies to materials stored both on-site and off-site.
 - 3. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 - 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Forms: Use AIA Document G702 and G703, Application and Certificate for Payment forms.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 - 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 - 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit three (3) signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One original copy shall include waivers of lien and similar attachments if required.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
 - 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 - 2. When an application shows completion of an item, submit final or full waivers.
 - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 - 1. List of subcontractors.
 - 2. Schedule of Values.
 - 3. Contractor's Construction Schedule (preliminary if not final).
 - 4. Schedule of unit prices.
 - 5. Submittals Schedule (preliminary if not final).

- 6. List of Contractor's staff assignments.
- 7. List of Contractor's principal consultants.
- 8. Copies of building permits.
- 9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
- 10. Initial progress report.
- 11. Report of preconstruction conference.
- 12. Certificates of insurance and insurance policies.
- H. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
 - 1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 - 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
 - 1. Evidence of completion of Project closeout requirements.
 - 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 - 3. Updated final statement, accounting for final changes to the Contract Sum.
 - 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 - 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 - 6. AIA Document G707, "Consent of Surety to Final Payment."
 - 7. Evidence that claims have been settled.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination Drawings.
 - 2. Project meetings.
 - 3. Requests for Interpretation (RFIs).
- B. See Division 01 Section 0017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.

1.3 DEFINITIONS

A. RFI: "Request for Information" received from Contractor seeking interpretation or clarification of the Contract Documents.

1.4 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, which depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's Construction Schedule.
 - 2. Preparation of the Schedule of Values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Preinstallation conferences.
 - 7. Project closeout activities.
 - 8. Startup and adjustment of systems.
 - 9. Project closeout activities.

1.5 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
 - 1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:
 - a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - b. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
 - 2. Sheet Size: At least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 40 inches (750 by 1000 mm).
 - 3. Number of Copies: Submit five (5) opaque copies of each submittal. Architect will return a minimum of two (2) copies.
 - 4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

1.6 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at the Project site on a periodic or asneeded basis, to be determined. Establish time/day for meeting that is agreeable to all parties.
 - Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 - 3. Minutes: The Architect will prepare the Meeting Minutes.
- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than fifteen (15) days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
 - 1. Attendees: Authorized representatives of Owner, Architect, and their consultants; General Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for RFIs.
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. LEED requirements (None Required).
 - 1. Preparation of Record Documents.
 - m. Use of the premises and existing buildings (Notification Required).
 - n. Work restrictions.
 - o. Owner's occupancy requirements.
 - p. Responsibility for temporary facilities and controls.
 - q. Construction waste management and recycling.
 - r. Parking availability.
 - s. Office, work, and storage areas.
 - t. Equipment deliveries and priorities.
 - u. First aid.
 - v. Security.
 - w. Progress cleaning.
 - x. Working hours.
 - y. Emergency numbers.
 - 3. Minutes: Architect will record and distribute meeting minutes.

- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
 - Attendees: Installer and representatives of manufacturers and fabricators involved in or
 affected by the installation and its coordination or integration with other materials and
 installations that have preceded or will follow, shall attend the meeting. Advise Architect
 of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. The Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility problems.
 - k. Time schedules.
 - Weather limitations.
 - m. Manufacturer's written recommendations.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
 - 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
 - D. Progress Meetings: Conduct progress meetings on a periodic or as-needed basis (to be determined). Coordinate dates of meetings with preparation of payment requests.

- Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
- Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Status of correction of deficient items.
 - 14) Field observations.
 - 15) RFIs.
 - 16) Status of proposal requests.
 - 17) Pending changes.
 - 18) Status of Change Orders.
 - 19) Pending claims and disputes.
 - 20) Documentation of information for payment requests.
- 3. Minutes: Architect will record and distribute to Contractor the meeting minutes.
- 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

1.7 REQUESTS FOR INTERPRETATION (RFIs)

- A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.
 - 1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
 - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
 - 1. Project name.
 - 2. Date.
 - 3. Name of Contractor.
 - 4. Name of Architect.
 - 5. RFI number, numbered sequentially.
 - 6. Specification Section number and title and related paragraphs, as appropriate.
 - 7. Drawing number and detail references, as appropriate.
 - 8. Field dimensions and conditions, as appropriate.
 - 9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 - 10. Contractor's signature.
 - 11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.

C. Hard-Copy RFIs:

- 1. Identify each page of attachments with the RFI number and sequential page number.
- D. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow seven (7) working days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
 - 1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or RFIs with numerous errors.
 - 2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
 - 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section 012600 "Contract Modification Procedures."

- a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within ten (10) days of receipt of the RFI response.
- E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven (7) days if Contractor disagrees with response.
- F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log bi-weekly. Include the following:
 - 1. Project name.
 - 2. Name and address of Contractor.
 - 3. Name and address of Architect.
 - 4. RFI number including RFIs that were dropped and not submitted.
 - 5. RFI description.
 - 6. Date the RFI was submitted.
 - 7. Date Architect's response was received.
 - 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
 - 9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. See Division 01 Section 014000 "Quality Requirements" for submitting test and inspection reports and for mockup requirements.
- C. See Division 01 Section 017700 "Closeout Procedures" for submitting warranties.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - Coordinate transmittal of different types of submittals for related parts of the Work so
 processing will not be delayed because of need to review submittals concurrently for
 coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- B. General Contractor Review: The General Contractor shall review and "sign-off" on all shop drawings before submission to Architect.
- C. Submittals Schedule: The General Contractor shall establish a schedule for submission of the required Shop Drawings. Submit copies of the schedule to the Architect.

- D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow ten (10) days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 3. Resubmittal Review: Allow ten (10) days for review of each resubmittal.
- E. Identification: Place a permanent label or title block on each submittal for identification.
 - 1. Indicate name of firm or entity that prepared each submittal on label or title block.
 - 2. Provide a space approximately 4 by 6 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
 - 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Submittal number or other unique identifier, including revision identifier.
 - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - l. Other necessary identification.
- F. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.
- G. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 - 1. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.
- H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will discard submittals received from sources other than Contractor.

- I. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked "Reviewed" or "Furnish as Corrected."
- J. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- K. Use for Construction: Use only final submittals with mark indicating, "Reviewed" or "Furnish as Corrected" taken by Architect.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Manufacturer's catalog cuts.
 - e. Wiring diagrams showing factory-installed wiring.
 - f. Printed performance curves.
 - g. Operational range diagrams.
 - h. Compliance with specified referenced standards.
 - i. Testing by recognized testing agency.
 - 4. Number of Copies: Submit five (5) copies of Product Data, unless otherwise indicated. Architect will return three (3) copies.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 - 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.

- Fabrication and installation drawings.
- d. Roughing-in and setting diagrams.
- e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
- f. Shopwork manufacturing instructions.
- g. Templates and patterns.
- h. Schedules.
- i. Notation of coordination requirements.
- j. Notation of dimensions established by field measurement.
- k. Relationship to adjoining construction clearly indicated.
- 1. Seal and signature of professional engineer if specified.
- m. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
- 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
- 3. Number of Copies: Submit five (5) copies of Shop Drawings, unless otherwise indicated. Architect will return three (3) copies.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
 - Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 - 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of appropriate Specification Section.
 - 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit two (2) full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one (1) submittal with options selected.
 - 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing

color, texture, and pattern; color range sets; and components used for independent testing and inspection.

- a. Number of Samples: Submit two (2) full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one (1) submittal with options selected.
- E. Product Schedule or List: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location.
 - 1. Number of Copies: Submit five (5) copies of product schedule or list, unless otherwise indicated. Architect will return three (3) copies.
- F. Submittals Schedule: The General Contractor shall establish a schedule for submission of the required Shop Drawings. Submit copies of the schedule to the Architect.
- G. Application for Payment: Comply with requirements specified in Division 012900 Section "Payment Procedures."
- H. Schedule of Values: Comply with requirements specified in Division 012900 Section "Payment Procedures."
- I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A.
 - 1. Number of Copies: Submit three (3) copies of subcontractor list, unless otherwise indicated, to Architect.
- J. Product Substitutions: Substitute or alternate products will be considered. Shop drawing submittal shall contain complete data for specified product and substitute products.

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
 - 1. Number of Copies: Submit two (2) copies of each submittal, unless otherwise indicated. Architect will not return copies.
 - Certificates and Certifications: Provide a notarized statement that includes signature of
 entity responsible for preparing certification. Certificates and certifications shall be
 signed by an officer or other individual authorized to sign documents on behalf of that
 entity.
 - 3. Test and Inspection Reports: Comply with requirements specified in Division 014000 Section "Quality Requirements."
- B. Coordination Drawings: Comply with requirements specified in Division 013100 Section "Project Management and Coordination."

- C. Contractor's Construction Schedule: The General Contractor shall submit a proposed construction schedule for the work outlined in these Specifications and in the Drawings.
- D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- H. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- I. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- J. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- K. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- L. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.
- M. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- N. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- O. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during

installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

- P. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- Q. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.
- R. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
 - 1. Statement on condition of substrates and their acceptability for installation of product.
 - 2. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
- S. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- T. Material Safety Data Sheets (MSDSs): Submit information directly to Owner; do not submit to Architect.
 - 1. Architect will not review submittals that include MSDSs and will return them for resubmittal.

2.3 DELEGATED DESIGN

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit three (3) copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
 - 1. "Reviewed", "Rejected", "Furnish as Corrected", "Revise and Resubmit" or "Submit Specified Item".
- C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- D. Partial submittals are not acceptable, will be considered non-responsive, and will be returned without review.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - Specified tests, inspections, and related actions do not limit Contractor's other qualityassurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. See other Divisions included in this Project Manual for specific test and inspection requirements.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples.
- D. Laboratory Mockups: Full-size, physical assemblies that are constructed at testing facility to verify performance characteristics.

- E. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
- F. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.
- G. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- H. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- I. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- J. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.
- K. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five (5) previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Reports: Prepare and submit certified written reports that include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on re-testing and re-inspecting.
- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities that are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - Requirement for specialists shall not supersede building codes and regulations governing the Work.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
 - 2. Notify Architect seven (7) days in advance of dates and times when mockups will be constructed.
 - 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
 - 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 6. Demolish and remove mockups when directed, unless otherwise indicated.
- J. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Sections of this Project Manual.

1.7 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

- Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
- Costs for retesting and re-inspecting construction that replaces or is necessitated by work
 that failed to comply with the Contract Documents will be charged to Contractor, and the
 Contract Sum will be adjusted by Change Order.
- B. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 - 1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 - 2. Notify testing agencies at least forty-eight (48) hours in advance of time when Work that requires testing or inspecting will be performed.
 - 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section 013300 "Submittal Procedures."
- D. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 - 1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 - 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 - 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 - 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 - 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 - 6. Do not perform any duties of Contractor.

- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.
 - 5. Delivery of samples to testing agencies.
 - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.8 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:
- B. Special Tests and Inspections: Conducted by a qualified testing agency as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:
 - 1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 - 2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 - 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
 - 4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
 - 5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 - 6. Retesting and re-inspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
 - 2. Comply with the Contract Document requirements for Division 017329 "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 **DEFINITIONS**

- General: Basic Contract definitions are included in the Conditions of the Contract. A.
- "Approved": When used to convey Architect's action on Contractor's submittals, applications, B. and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- "Directed": A command or instruction by Architect. Other terms including "requested," C. "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- Requirements expressed by graphic representations or in written form on "Indicated": D. Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having E. jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, F. installation, and similar operations.
- "Install": Operations at Project site including unloading, temporarily storing, unpacking, G. assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- "Project Site": Space available for performing construction activities. The extent of Project site I. is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

Unless the Contract Documents include more stringent Applicability of Standards: A. requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

REFERENCES 014200 - 1

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.
- D. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the organizations responsible for the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG Americans with Disabilities Act (ADA)

Architectural Barriers Act (ABA)

CFR Code of Federal Regulations

DOD Department of Defense Military Specifications and Standards

DSCC Defense Supply Center Columbus (See FS)

FED-STD Federal Standard (See FS)

FS Federal Specification

FTMS Federal Test Method Standard (See FS)

MILSPEC Military Specification and Standards

UFAS Uniform Federal Accessibility Standards

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

REFERENCES 014200 - 2

AA Aluminum Association, Inc. (The)

AABC Associated Air Balance Council

AAMA American Architectural Manufacturers Association

AASHTO American Association of State Highway and Transportation Officials

ACI ACI International (American Concrete Institute)

ACPA American Concrete Pipe Association

AGA American Gas Association

AGC Associated General Contractors of America (The)

AHA American Hardboard Association (Now part of CPA)

AHAM Association of Home Appliance Manufacturers

AI Asphalt Institute

AIA American Institute of Architects (The)

AISC American Institute of Steel Construction

AISI American Iron and Steel Institute

AITC American Institute of Timber Construction

ALSC American Lumber Standard Committee, Incorporated

AMCA Air Movement and Control Association International, Inc.

ANSI American National Standards Institute

APA APA - The Engineered Wood Association

ARI Air-Conditioning & Refrigeration Institute

ARMA Asphalt Roofing Manufacturers Association

ASCE American Society of Civil Engineers

ASHRAE American Society of Heating, Refrigerating and Air-Conditioning Engineers

ASTM ASTM International

(American Society for Testing and Materials International)

REFERENCES 014200 - 3

AWCI AWCI International

(Association of the Wall and Ceiling Industry International)

AWCMA American Window Covering Manufacturers Association (Now WCSC)

AWI Architectural Woodwork Institute

AWPA American Wood-Preservers' Association

AWS American Welding Society

BHMA Builders Hardware Manufacturers Association

BIA Brick Industry Association (The)

CCC Carpet Cushion Council

CDA Copper Development Association

CISCA Ceilings & Interior Systems Construction Association

CISPI Cast Iron Soil Pipe Institute

CLFMI Chain Link Fence Manufacturers Institute

CPPA Corrugated Polyethylene Pipe Association

CRI Carpet & Rug Institute (The)

CRSI Concrete Reinforcing Steel Institute

CSI Cast Stone Institute

CSI Construction Specifications Institute (The)

CSSB Cedar Shake & Shingle Bureau

DHI Door and Hardware Institute

EIA Electronic Industries Alliance

EIMA EIFS Industry Members Association

FMG FM Global (Formerly: FM - Factory Mutual System)

FMRC Factory Mutual Research (Now FMG)

FSC Forest Stewardship Council

GA Gypsum Association

REFERENCES

GANA Glass Association of North America

Ш Hydronics Institute

HMMA Hollow Metal Manufacturers Association (Part of NAAMM)

HPVA Hardwood Plywood & Veneer Association

IEC International Electrotechnical Commission

IESNA Illuminating Engineering Society of North America

IGCC Insulating Glass Certification Council

IGMA Insulating Glass Manufacturers Alliance

ISO International Organization for Standardization

KCMA Kitchen Cabinet Manufacturers Association

LPI **Lightning Protection Institute**

MBMA Metal Building Manufacturers Association

MFMA Metal Framing Manufacturers Association

Master Painters Institute MPI

NAAMM National Association of Architectural Metal Manufacturers

NAIMA North American Insulation Manufacturers Association

NCMA National Concrete Masonry Association

NECA National Electrical Contractors Association

Northeastern Lumber Manufacturers' Association **NeLMA**

National Electrical Manufacturers Association **NEMA**

NFPA (National Fire Protection Association) **NFPA**

NFRC National Fenestration Rating Council

NGA National Glass Association

National Hardwood Lumber Association **NHLA**

National Lumber Grades Authority **NLGA**

REFERENCES 014200 - 5

NOFMA NOFMA: The Wood Flooring Manufacturers Association

(Formerly: National Oak Flooring Manufacturers Association)

NRCA National Roofing Contractors Association

NRMCA National Ready Mixed Concrete Association

NWWDA National Wood Window and Door Association (Now WDMA)

PCI Precast/Prestressed Concrete Institute

PDCA Painting & Decorating Contractors of America

PDI Plumbing & Drainage Institute

PGI PVC Geomembrane Institute

RFCI Resilient Floor Covering Institute

SAE SAE International

SDI Steel Deck Institute

SDI Steel Door Institute

SGCC Safety Glazing Certification Council

SIA Security Industry Association

SIGMA Sealed Insulating Glass Manufacturers Association (Now IGMA)

SJI Steel Joist Institute

SMA Screen Manufacturers Association

SMACNA Sheet Metal and Air Conditioning Contractors' National Association

SPIB Southern Pine Inspection Bureau (The)

SPRI Single Ply Roofing Industry

SSINA Specialty Steel Industry of North America

SSPC SSPC: The Society for Protective Coatings

STI Steel Tank Institute

SWI Steel Window Institute

SWRI Sealant, Waterproofing, & Restoration Institute

REFERENCES

TCA Tile Council of America, Inc.

TMS The Masonry Society

TPI Truss Plate Institute, Inc.

UL Underwriters Laboratories Inc.

WASTEC Waste Equipment Technology Association

WCLIB West Coast Lumber Inspection Bureau

WCMA Window Covering Manufacturers Association (Now WCSC)

WDMA Window & Door Manufacturers Association

(Formerly: NWWDA - National Wood Window and Door Association)

WI Woodwork Institute (Formerly: WIC - Woodwork Institute of California)

WIC Woodwork Institute of California (Now WI)

WMMPA Wood Moulding & Millwork Producers Association

WWPA Western Wood Products Association

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and upto-date as of the date of the Contract Documents.

BOCA International, Inc. (See ICC)

IAPMO International Association of Plumbing and Mechanical Officials

ICBO International Conference of Building Officials (See ICC)

ICBO ES ICBO Evaluation Service, Inc. (See ICC-ES)

ICC International Code Council, Inc.

ICC-ES ICC Evaluation Service, Inc.

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

REFERENCES 014200 - 7

CE Army Corps of Engineers

CPSC Consumer Product Safety Commission

DOC Department of Commerce

DOD Department of Defense

DOE Department of Energy

EPA Environmental Protection Agency

FAA Federal Aviation Administration

FCC Federal Communications Commission

FDA Food and Drug Administration

GSA General Services Administration

HUD Department of Housing and Urban Development

NIST National Institute of Standards and Technology

OSHA Occupational Safety & Health Administration

PBS Public Building Service (See GSA)

PHS Office of Public Health and Science

SD State Department

USDA Department of Agriculture

USPS Postal Service

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

REFERENCES 014200 - 8

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.3 USE CHARGES

- A. General: Cost or use charges for temporary facilities (required to complete contract work) shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.
- B. Water Service: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.5 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

- B. Owners Representative will direct operations at site related to use of utilities, contractor parking and staging areas.
- C. Protection of existing pavement. Where existing pavement areas are used for staging of materials, field office trailers, storage containers or trash receptacles the pavement shall be protected from damage.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Chain-Link Fencing: Minimum 2-inch, 0.148-inch-thick, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch-OD corner and pull posts.
- B. Portable Chain-Link Fencing: Minimum 2-inch, 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch-OD corner and pull posts, with 1-5/8-inch-OD top and bottom rails. Provide concrete or galvanized steel bases for supporting posts.

2.2 TEMPORARY FACILITIES

- A. Field Offices (Trailer), General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated, with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate temporary facilities as directed by the Owner or the Owner's Representative. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service to Trailer.
 - 1. Arrange with utility company, and/or existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
 - 1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.
- C. Water Service: Use of Building's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner, the Owner's Representative or the Architect. At Substantial Completion, restore these facilities to condition existing before initial use.
 - Where installations below an outlet might be damaged by spillage or leakage, provide a
 drip pan of suitable size to minimize water damage. Drain accumulated water promptly
 from pans.
- D. Sanitary Facilities: The General Contractor shall provide temporary toilet facilities for use by all construction personnel.
- E. Ventilation and Humidity Control: Provide temporary ventilation if required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- F. Electric Power Service: Use of Building's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to the Owner, the Owner's Representative or the Architect. At Substantial Completion, restore these facilities to condition existing before initial use.
- G. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet of building lines. Comply with NFPA 241.
 - 2. Maintain support facilities until project has been completed.

- 3. Temporary Roads and Paved Areas: The General Contractor shall be permitted use of the existing service roads present at the project site. Caution should be taken to prevent damage that may be caused by the project's construction activities to the existing roadway network.
- 4. Provide dust-control treatment (if required) to the existing roadways that is nonpolluting and nontracking. Reapply treatment as required to minimize dust throughout the construction activities.
- B. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site elements scheduled to remain including landscaped areas, Planting, curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- C. Parking: Shall be as directed by the Owner or the Owner's Representative.
- D. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
 - 1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
 - 2. Remove snow and ice as required to minimize accumulations (if required).
- E. Waste Disposal Facilities: The General Contract will be responsible for providing wastecollection containers in sizes adequate to handle waste from construction operations. Wastedisposal containers should be promptly removed from the project site when full.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. All contractors, subcontractors, or utility company representatives shall comply with the following.
 - 1. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
 - 2. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.
 - 3. Stormwater Control: Comply with authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
 - 4. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

- 5. Security Enclosure and Lockup: The General Contractor shall take any necessary precautions to prevent vandalism, theft, or similar violations of security to the Contractors property or materials stored at the project site. The Owner or the Owner's Representative will not be responsible for vandalism, theft, or similar violations of security to the Contractors property or materials.
- 6. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- 7. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
- 8. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
 - a. Prohibit smoking in hazardous fire-exposure areas.
 - b. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
 - c. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
- 9. Use of Public Sidewalks and Streets: Contact City officials for rules, regulations and assistance on use of City streets and/or sidewalks for scaffolding, deliveries, parking, etc.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until project has been completed.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

 At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in Division Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. See other Divisions included in this Project Manual for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

1.4 SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use CSI Form 13.1A.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
 - j. Cost information, including a proposal of change, if any, in the Contract Sum.
 - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
 - 3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven (7) days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.
 - a. Form of Acceptance: Change Order.
 - b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.

- B. Comparable Product Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Division Section 013300 "Submittal Procedures."
 - b. Use product specified if Architect cannot make a decision on use of a comparable product request within time allocated.
- C. Basis-of-Design Product Specification Submittal: Comply with requirements in Division Section 013300 "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

B. Delivery and Handling:

- 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
- Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
- Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
- 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.

C. Storage:

- 1. Store products to allow for inspection and measurement of quantity or counting of units.
- 2. Store materials in a manner that will not endanger Project structure.
- 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
- 4. Store cementitious products and materials on elevated platforms.

- 5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
- 6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
- 7. Protect stored products from damage and liquids from freezing.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using appropriate form properly executed.
 - 3. Refer to other Divisions of this Project Manual for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 01 Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.

- 4. Where products are accompanied by the term "as selected," Architect will make selection.
- 5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
- 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.

B. Product Selection Procedures:

- 1. Product: Where Specifications name a single product and manufacturer, provide the named product that complies with requirements.
- 2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements.
- 3. Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed that complies with the requirements.
- 4. Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
- 5. Available Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
- 6. Available Manufacturers: Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or an unnamed manufacturer, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
- 7. Product Options: Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product or system. Comply with provisions in Part 2 "Product Substitutions" Article for consideration of an unnamed product or system.
- 8. Basis-of-Design Product: Where Specifications name a product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product by the other named manufacturers.
- 9. Visual Matching Specification: Where Specifications require matching an established Sample, select a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
 - a. If no product available within specified category matches and complies with other specified requirements, comply with provisions in Part 2 "Product Substitutions" Article for proposal of product.
- 10. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product that complies with other specified requirements.
 - a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.

b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 PRODUCT SUBSTITUTIONS

- A. Timing: Architect will consider requests for substitution if received within 30-days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Architect.
- B. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - Requested substitution offers Owner a substantial advantage in cost, time, energy
 conservation, or other considerations, after deducting additional responsibilities Owner
 must assume. Owner's additional responsibilities may include compensation to Architect
 for redesign and evaluation services, increased cost of other construction by Owner, and
 similar considerations.
 - 2. Requested substitution does not require extensive revisions to the Contract Documents.
 - 3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - 4. Substitution request is fully documented and properly submitted.
 - 5. Requested substitution will not adversely affect Contractor's Construction Schedule.
 - Requested substitution has received necessary approvals of authorities having jurisdiction.
 - 7. Requested substitution is compatible with other portions of the Work.
 - 8. Requested substitution has been coordinated with other portions of the Work.
 - 9. Requested substitution provides specified warranty.

2.3 COMPARABLE PRODUCTS

- A. Conditions: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - 1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 - 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - 3. Evidence that proposed product provides specified warranty.
 - 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 - 5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. General installation of products.
 - 2. Progress cleaning.
 - 3. Starting and adjusting.
 - 4. Protection of installed construction.
 - 5. Correction of the Work.
- B. See Division Section 017700 "Closeout Procedures" for submitting final Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 SUBMITTALS

A. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
 - 1. Before construction, verify the location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate

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and verify the existence and location of underground utilities and other construction affecting the Work.

- Before construction, verify the location and invert elevation at points of connection of 1. sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
- Furnish location data for work related to Project that must be performed by public 2. utilities serving Project site.
- Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or C. Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - Verify compatibility with and suitability of substrates, including compatibility with 1. existing finishes or primers.
 - Examine roughing-in for mechanical and electrical systems to verify actual locations of 2. connections before equipment and fixture installation.
 - Examine walls, floors, and roofs for suitable conditions where products and systems are 3. to be installed.
 - Proceed with installation only after unsatisfactory conditions have been corrected. 4. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 **PREPARATION**

- Existing Utility Information: Furnish information to local utility and to Owner that is necessary A. to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- Field Measurements: Take field measurements as required to fit the Work properly. Recheck B. measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- Verify space requirements and dimensions of items shown C. Space Requirements: diagrammatically on Drawings.
- Review of Contract Documents and Field Conditions: Immediately on discovery of the need for D. clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

CONSTRUCTION LAYOUT 3.3

Verification: Before proceeding to lay out the Work, verify layout information shown on A. Drawings. If discrepancies are discovered, notify Architect promptly.

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3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results.

 Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

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3.6 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

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- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. C. Replace damaged and malfunctioning controls and equipment.
- Manufacturer's Field Service: If a factory-authorized service representative is required to D. inspect field-assembled components and equipment installation, comply with qualification requirements in Division 01 Section 014000 "Quality Requirements."
- E. Perform all starting and adjusting of equipment per Manufacturer's written specifications. If required, work in conjunction with Manufacturer of equipment to ensure proper operation.

PROTECTION OF INSTALLED CONSTRUCTION 3.8

- Provide final protection and maintain conditions that ensure installed Work is without damage A. or deterioration at time of Substantial Completion.
- Comply with manufacturer's written instructions for temperature and relative humidity. В.

CORRECTION OF THE WORK 3.9

- Repair or remove and replace defective construction. Restore damaged substrates and finishes. A. Comply with requirements in Division 01 Section 017329 "Cutting and Patching."
 - Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- Restore permanent facilities used during construction to their specified condition. B.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- Repair components that do not operate properly. Remove and replace operating components D. that cannot be repaired.
- Remove and replace chipped, scratched, and broken glass or reflective surfaces. E.

END OF SECTION 017300

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SECTION 017329 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.
- B. See other Divisions of this Project Manual for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.3 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least ten (10) days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - 1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
 - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
 - 3. Products: List products to be used and firms or entities that will perform the Work.
 - 4. Dates: Indicate when cutting and patching will be performed.
 - 5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
 - 6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
 - 7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.4 OUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

B. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

1.5 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - Cut in-place construction to provide for installation of other components or performance
 of other construction, and subsequently patch as required to restore surfaces to their
 original condition.
- B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - 3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 017329

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Warranties.
 - 3. Final cleaning.
- B. See Division 01 Section 012900 "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
- C. See other Divisions of this Project Manual for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - As required, obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - 6. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 7. Complete final cleaning requirements, including touchup painting.
 - 8. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled

requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect that must be completed or corrected before certificate will be issued.

- 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
- 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
 - Submit a final Application for Payment according to Division 01 Section 012900 "Payment Procedures."
 - Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 - 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - 4. Submit pest-control final inspection report and warranty (if required).
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three (3) copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.

1.6 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark
 tab to identify the product or installation. Provide a typed description of the product or
 installation, including the name of the product and the name, address, and telephone
 number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.

- e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- f. Vacuum carpets or wood flooring where construction debris has been tacked into the Building and similar soft surfaces, removing debris; shampoo if visible soil or stains are present after vacuuming.
- g. Clean transparent materials, including glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
- h. Remove labels that are not permanent.
- i. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 017700

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. See other Divisions of this Project Manual for specific requirements for Project Record Documents of the Work in those Sections.

1.3 SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit three (3) sets of marked-up Record Prints.
 - 2. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal: Submit three (3) sets of marked-up Record Prints. Architect will return prints for organizing into sets, printing, binding, and final submittal.
 - b. Final Submittal: Submit three (3) sets of marked-up Record Prints, and the following:
 - 1) Copies printed from Record. Print each Drawing, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit three (3) of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit three (3) of each Product Data submittal.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
 - Preparation: Mark Record Prints to show the actual installation where installation varies
 from that shown originally. Require individual or entity that obtained record data,
 whether individual or entity is Installer, subcontractor, or similar entity, to prepare the
 marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - 2. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
 - 3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 - Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 - 2. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

- 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
- 4. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 017839

DIVISION 02 - SITE WORK

024119 Selective Structure Demolition

4

SECTION 024119 - SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and removal of selected portions of building, building materials or structure.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 SUBMITTALS

- A. Schedule of Selective Demolition Activities: Indicate detailed sequence of selective demolition and removal work, with starting and ending dates for each activity including interruption of utility services.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.5 QUALITY ASSURANCE

A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.

- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Standards: Comply with ANSI A10.6 and NFPA 241.

1.6 PROJECT CONDITIONS

- A. The Polish American Foundation of CT will continue to occupy the building during all phases of the work including the demolition. Conduct selective demolition so occupants use of the buildings is not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: If hazardous materials are found to be present in construction to be selectively demolished, the General Contractor shall notify the Architect before conducting any demolition type work. Do not disturb hazardous materials or items suspected of containing hazardous materials.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.7 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected or temporarily shut down before starting work in the location of the existing Utility connections.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Engage a professional engineer, if necessary, to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.
- F. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.
- G. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
- B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Arrange to shut off indicated utilities with utility companies.
 - 2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with residents, roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - Comply with requirements for access and protection specified in Division 01 Section 015000 Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.4 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
 - 4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 5. Dispose of demolished items and materials promptly.
- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.6 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

DIVISION 03 - CONCRETE

This Division Not Used.

DIVISION 04 - MASONRY

This Division Not Used.

DIVISION 05 - METALS

This Division Not Used.

DIVISION 06 - WOOD AND PLASTICS

066000 Plastic Fabrications

5

SECTION 066000 – PLASTIC FABRICATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY OF WORK

A. Cellular pvc trim boards for corner boards, soffits, fascias, battens, door pilasters, frieze boards, rake boards, architectural millwork and door/window trim.

1.3 RELATED SECTIONS

A. Division 06 Section 062013 – Exterior Finish Carpentry

1.4 REFERENCES

- A. ASTM D792 Density and Specific Gravity of Plastics by Displacement.
- B. ASTM D570 Water Absorption of Plastics.
- C. ASTM D638 Tensile Properties of Plastics.
- D. ASTM D790 Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- E. ASTM D1761 Mechanical Fasteners in Wood.
- F. ASTM D5420 Standard Test Method for Impace Resistance of Flat, Rigid Plastic Specimen by means of a Striker Impacted by a Falling Weight.
- G. ASTM D256 Determining the Pendulum Impact Resistance of Plastics.
- H. ASTM D696 Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C with a Vitreous silica Dilatometer.
- ASTM D635 Rate of Burning and/or Extent and Tie of Burning of Plastics in a Horizontal Position.
- J. ASTM E84 Surface Burning Characteristics of Building Materials.
- K. ASTM D648 Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.

L. ASTM D3679 - Standard Specification for Rigid Poly Vinyl Chloride (PVC) Siding.

1.5 SUBMITTALS

- A. General: Submit listed submittals in accordance with Division 01 Section 013300 "Submittal Procedures".
- B. Product Data: Submit product data, manufacturer's catalogs, SPEC-DATA® product sheet, for specified products.
- C. Samples: Submit three material samples representative of the texture, thickness and widths shown and specified herein.

1.6 QUALITY ASSURANCE

- A. Regulatory Requirements: Check with Local Building Code for installation requirements.
- B. Allowable Tolerances:
 - 1. Variation in component length: -0.00 / +1.00"
 - 2. Variation in component width: +/- 1/16"
 - 3. Variation in component thickness: +/- 1/16"
 - 4. Variation in component edge cut: +/- 2°
 - 5. Variation in Density -0% + 10%.
- C. Workmanship, Finish, and Appearance:
 - 1. Free foam cellular pvc that is homogeneous and free of voids, holes, cracks, and foreign inclusions and other defects. Edges must be square, and top and bottom surfaces shall be flat with no convex or concave deviation.
 - 2. Uniform surface free from cupping, warping, and twisting.

1.7 DELIVERY, STORAGE AND HANDLING

A. Trim materials should be stored on a flat and level surface on a full shipping pallet. Handle materials to prevent damage to product edges and corners. Store materials under a protective covering to prevent jobsite dirt and residue from collecting on the boards.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Acceptable products: AZEK® Trimboards manufactured by Vycom Corporation, 801 Corey Street, Moosic, PA 18507.

- B. Material: Free foam cellular pvc material with a small-cell microstructure and density of .55 grams/cm³.
 - 1. Material shall have a minimum physical and performance properties specified in Section C.
- C. Performance and physical characteristic requirements:

Property	<u>Units</u>	<u>Value</u>	ASTM Method
PHYSICAL			
Density	g/cm ³	0.55	D792
Water Absorption	%	0.15	D570
MECHANICAL			
Tensile Strength	psi	2256	D638
Tensile Modulus	psi	144,000	D638
Flexural Strength	psi	3329	D790
Flexural Modulus	psi	144,219	D790
Nail Hold	Lbf/in of penetration	35	D1761
Screw Hold	Lbf/in of penetration	680	D1761
Staple Hold	Lbf/in of penetration	180	D1761
Gardner Impact	in-lbs	103	D5420
Charpy Impact (@23°C)	ft-lbs	4.5	D256
THERMAL			
Coefficient of Linear Expansion	in/in/°F	3.2 x 10-5	D696
Burning Rate	in/min	No burn when flame	D635
		removed	
Flame Spread Index		25	E84
Heat Deflection Temp 264 psi	°F	150	D648
Oil Canning (@140°F)	°F	Passed	D648

D. Building Code Acceptance: Product to have "ESR 1074 Building Code Report".

2.2 ACCESSORY PRODUCTS

A. Fasteners.

- 1. Use fasteners designed for wood trim and wood siding (thinner shank, blunt point, full round head) with AZEK®.
- 2. Use a highly durable fastener such as stainless steel or hot-dipped galvanized.
- 3. Staples, small brads and wire nails must not be used as fastening members.
- 4. The Fasteners should be long enough to penetrate the solid wood substrate a minimum of 1-1/2".
- 5. Standard nail guns work well with AZEK trim products.
- 6. Use 2 fasteners per every framing member for trimboards applications. Trimboards 12" or wider, as well as sheets, will require additional fasteners.
- 7. Fasteners must be installed no more than 2" from the end of each board.
- 8. AZEK should be fastened into a flat, solid substrate. Fastening AZEK into hollow or uneven areas must be avoided.

- Pre-drilling is typically not required unless a large fastener is used or product is installed in low temperatures.
- 10. 3/8" and 1/2" sheet product is not intended to be ripped into trim pieces. These profiles must be glued to a substrate and mechanically fastened.

B. Adhesives:

- 1. Glue all AZEK to AZEK joints such as window surrounds, long fascia runs, etc. with AZEK Adhesive, a cellular pvc cement, to prevent joint separation.
- 2. The glue joint should be secured with a fastener and/or fastened on each side of the joint to allow adequate bonding time.
- 3. AZEK Adhesive has a working time of 10 minutes and will be fully cured in 24 hours.
- 4. If standard pvc cements are used, keep in mind these products typically cure quickly which will result in limited working time and may reduce adhesive strength.
- 5. Surfaces to be glued should be smooth, clean and in complete contact with each other.
- 6. To bond AZEK to other substrates, various adhesives may be used. Consult adhesive manufacturer to determine suitability.

C. Sealants:

1. Use urethane, polyurethane or acrylic based sealants without silicone.

2.3 FINISHES

- A. Finish: Provide factory finish "white", unless otherwise directed by Owner.
- B. Preparation (for surfaces to be painted):
 - 1. No special surface preparations are required prior to painting sanding is not necessary for paint adhesion.
 - 2. Surface must be clean and dry.
 - 3. If desired, nail holes may be filled with polyurethane or acrylic based caulk.
 - 4. Use a 100% acrylic latex paint with a Light Reflective Value (LRV) of 55 or higher.
 - 5. Follow the paint manufacturer's recommendations to apply.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Manufacturer's instructions:

1. Comply with manufacturer's product catalog installation instructions and product technical bulletin instructions.

B. Cutting:

- 1. AZEK products can be cut using the same tools used to cut lumber.
- 2. Carbide tipped blades designed to cut wood work well. Avoid fine tooth metal cutting blades.

3. Avoid rough edges from cutting which may be caused by excessive friction, poor board support, or worn or improper tooling.

C. Drilling:

- 1. AZEK products can be drilled using the same tools used to drill lumber.
- 2. Drilling AZEK products is similar to drilling a hardwood. Care should be taken to avoid frictional heat buildup.
- 3. Use standard woodworking drills. Do not use drills made for normal rigid pvc.
- 4. Periodic removal of AZEK shavings from the drill hole is required.

D. Milling:

- 1. AZEK products can be milled using standard milling machines used to mill lumber.
- 2. Relief Angle 20° to 30°.
- 3. Cutting speed to be optimized with the number of knives and feed rate.

E. Routing:

- 1. AZEK products can be routed using standard router bits and the same tools used to rout lumber.
- 2. Carbide tipped router bits are recommended.

F. Edge Finishing:

1. Edges can be finished by sanding, grinding or filing with traditional woodworking tools.

G. Nail Location:

- 1. Use 2 fasteners per every framing member for trimboard applications/
- 2. Trimboards over 12" or wider, as well as sheets, will require additional fasteners.
- 3. Fasteners must be installed no more than 2" from the end of each board.

H. Thermal Expansion and Contractions

- 1. Products expand and contract with changes in temperature.
- 2. Properly fastening AZEK material along its entire length will minimize expansion and contraction.
- 3. When properly fastened, allow for 1/8" per 18 foot of AZEK product for expansion and contraction.
- 4. Joints between pieces of AZEK should be glued to eliminate joint separation. WHEN gaps are glued on a long run of AZEK, allow expansion and contraction at ends of the run.

END OF SECTION 061000

DIVISION 07 - THERMAL & MOISTURE PROTECTION

073113	Asphalt Shingles	6
075323	EPDM Membrane Roofing	7
076200	Flashing and Sheet Metal	4
079200	Joint Sealants	6

SECTION 073113 - ASPHALT SHINGLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Asphalt shingles GAF Timberline Ultra (with Lifetime Warranty).
 - 2. Underlayment materials As Manufactured by GAF
 - 3. Ice and Water Shield GAF Weather Watch Leak Barrier.
 - 4. Ridge Vent Systems Cobra Snow Country
 - 5. Ridge Cap Shingles Manufactured by GAF

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each exposed product and for each color and blend specified.
- C. Product test reports.
- D. Research/evaluation reports.
- E. Maintenance data.
- F. Warranties: Sample of special warranties.

1.4 QUALITY ASSURANCE

- A. Fire-Resistance Characteristics: Where indicated, provide asphalt shingles and related roofing materials identical to those of assemblies tested for fire resistance per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing agency.
 - 1. Exterior Fire-Test Exposure: Class A, for application and roof slopes indicated.

B. Pre-installation Conference: Conduct conference at Project site. The pre-installation conference shall include Architect, Roofing Sub-Contractor, any Sub-Contractors effected by roofing work and General Contractor.

1.5 WARRANTY

- A. Special Warranty: Standard form in which manufacturer agrees to repair or replace asphalt shingles that fail in materials or workmanship within specified warranty period.
 - 1. Material Warranty Period: Lifetime from date of Substantial Completion, prorated, with first ten (10) years non-prorated.
 - 2. Smart Choice protection for the first ten (10) years.
 - 3. Algae-Discoloration Warranty Period: Asphalt shingles will not discolor ten (10) years from date of Substantial Completion.
 - 4. Installer's warranty of five (5) years covering workmanship.

PART 2 - PRODUCTS

2.1 GLASS-FIBER-REINFORCED ASPHALT SHINGLES

- A. Multitab-Strip Asphalt Shingles: ASTM D 3462, glass-fiber reinforced, mineral-granule surfaced, and self-sealing shingle with 5" exposure, 110 MPH limited Wind Warranty
 - Basis-of-Design Product: Subject to compliance with requirements, provide GAF Timberline Ultra Shingles or comparable product by one of the following:
 - a. Atlas Roofing Corporation.
 - b. CertainTeed Corporation.
 - c. GAF Materials Corporation.
 - d. IKO.
 - e. Malarkey Roofing Products.
 - f. Owens Corning.
 - g. PABCO Roofing Products.
 - h. TAMKO Building Products, Inc.
 - 2. Tab Arrangement: Five tabs, randomly spaced.
 - 3. Cutout Shape: Tapered.
 - 4. Butt Edge: Straight cut.
 - 5. Strip Size: 12" x 36-15/16".

- 6. Algae Resistance: Granules treated to resist algae discoloration.
- 7. Color and Blends: As selected by Architect from manufacturer's full range of colors.
- C. Hip and Ridge Shingles: Manufacturer's standard units to match asphalt shingles.
- D. Extra stock of 5% of area shingled.

2.2 UNDERLAYMENT MATERIALS

- A. Felt: ASTM D 226 and ASTM D 4869, GAF Shingle-Mate roof deck protection, non-perforated.
- B. Self-Adhering Sheet Underlayment, Granular Surfaced: ASTM D 1970, minimum of 55-mil-(1.4-mm-) thick sheet; glass-fiber-mat-reinforced, SBS-modified asphalt; mineral-granule surfaced; with release paper backing; cold applied. GAF Weather Watch leak barrier.

2.3 RIDGE VENTS

- A. Rigid Ridge Vent: Manufacturer's standard, rigid section high-density polypropylene or other UV-stabilized plastic ridge vent with nonwoven geotextile filter strips and external deflector baffles; for use under ridge shingles.
 - Basis-of-Design Product: Subject to compliance with requirements, provide GAF Snow Country rigid exhaust vent for roof ridges or comparable product by one of the following:
 - a. Air Vent, Inc.; a Gibraltar Industries company.
 - b. Cor-A-Vent, Inc.
 - c. GAF Materials Corporation.
 - d. Lomanco, Inc.
 - e. Mid-America Building Products.
 - f. Obdyke, Benjamin Incorporated.
 - g. Owens Corning.
 - h. RGM Products, Inc.
 - i. Trimline Building Products.
 - 3. Minimum Net Free Area: 18.5 square inches/linear foot.

2.4 ACCESSORIES

A. Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free.

- B. Roofing Nails: ASTM F 1667; aluminum, stainless-steel, copper, or hot-dip galvanized-steel wire shingle nails, minimum 0.120-inch-diameter, barbed shank, sharp-pointed, with a minimum 3/8-inch-diameter flat head and of sufficient length to penetrate 3/4 inch into solid wood decking or extend at least 1/8 inch through plywood sheathing.
 - Where nails are in contact with metal flashing, use nails made from same metal as flashing.
- C. Felt Underlayment Nails: Aluminum, stainless steel, or hot-dip galvanized-steel wire with low-profile capped heads or disc caps, 1-inch minimum diameter.

2.5 METAL FLASHING AND TRIM

- A. General: Comply with requirements in Division 07 Section "Sheet Metal Flashing and Trim."
 - 1. Sheet Metal: Zinc-tin alloy-coated copper.
- B. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of the item.

PART 3 - EXECUTION

3.1 UNDERLAYMENT INSTALLATION

- A. General: Comply with underlayment manufacturers written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
- B. Single-Layer Felt Underlayment: Install on roof deck parallel with and starting at the eaves. Lap sides a minimum of 2 inches over underlying course. Lap ends a minimum of 4 inches. Stagger end laps between succeeding courses at least 72 inches. Fasten with felt underlayment nails.
 - Install felt underlayment on roof deck not covered by self-adhering sheet underlayment. Lap sides of felt over self-adhering sheet underlayment not less than 3 inches in direction to shed water. Lap ends of felt not less than 6 inches over selfadhering sheet underlayment.
 - 2. Install fasteners at no more than 36 inch on center.

- C. Self-Adhering Sheet Underlayment: Install, wrinkle free, on roof deck. Comply with lowtemperature installation restrictions of underlayment manufacturer if applicable. Install at locations indicated on Drawings, lapped in direction to shed water. Lap sides not less than 3-1/2 inches. Lap ends not less than 6 inches staggered 24 inches between courses. Roll laps with roller. Cover underlayment within seven days.
- D. Install GAF Weather Watch Leak Barrier at the edge of the roof horizontally 36" wide from interior face of building wall. Install as per manufacturers specifications.

METAL FLASHING INSTALLATION 3.2

General: Install metal flashings according to recommendations in ARMA's "Residential A. Asphalt Roofing Manual" and asphalt shingle recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual" and as detailed on the drawings.

ASPHALT SHINGLE INSTALLATION 3.3

- General: Install asphalt shingles according to manufacturer's written instructions, A. recommendations in ARMA's "Residential Asphalt Roofing Manual," and asphalt shingle recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual."
- Install starter strip along lowest roof edge, consisting of an asphalt shingle strip with tabs B. removed with self-sealing strip face up at roof edge.
 - 1. Extend asphalt shingles 1/2 inch over fasciae at eaves and rakes.
 - 2. Install starter strip along rake edge.
- C. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.
- D. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.
- Install asphalt shingles by single-strip column or racking method, maintaining uniform E. exposure. Install full-length first course followed by cut second course, repeating alternating pattern in succeeding courses.
- F. Fasten asphalt shingle strips with a minimum of six roofing nails located according to manufacturers written instructions.

- Where roof slope is less than 4:12, seal asphalt shingles with asphalt roofing cement 1. spots.
- When ambient temperature during installation is below 50 deg F, seal asphalt 2. shingles with asphalt roofing cement spots.
- Ridge Vents: Install continuous ridge vents over asphalt shingles according to manufacturer's G. written instructions. Fasten with roofing nails of sufficient length to penetrate sheathing.
 - H. Ridge Cap Shingles: Maintain same exposure of cap shingles as roofing shingle exposure. Lap cap shingles at ridges to shed water away from direction of prevailing winds. Fasten with roofing nails of sufficient length to penetrate sheathing.
- I. Existing Storm Drains: Where storm drains exist, tie downspouts into system. Snake out all drain lines to ensure that they are clean and operate properly. Replace broken boots.
 - 1. Fasten ridge cap asphalt shingles to cover ridge vent without obstructing airflow.

END OF SECTION 073113

SECTION 075323 - EPDM MEMBRANE ROOFING - ALTERNATE #1

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

1.2 DESCRIPTION OF WORK

- A. The work under this Section consists of the furnishing of all materials, labor, tools, services and equipment required to complete single-ply membrane roofing installation on the existing "garage portion" of the building. Include in the pricing all flashing, retaining bar and metal edge coping necessary for a complete installation of the EPDM System. Follow manufacturers specifications for installation guidelines.
- B. The Roofing Manufacturer and System (basis-of-design) shall be Carlisle Sure Seal Extended Warranty system as manufactured by Carlisle.
- C. Types of roofing systems specified in this Section utilizing single ply membrane roofing include the following:
 - 1. Fully adhered ethylene propylene diene membrane (EPDM).
- D. Coping, gravel stops and related accessories are specified in this Section.
- F. Retaining Bar: Provide Carlisle's Sure-Seal Retaining Bar.

1.3 WORK INCLUDED

The work shall include, but not be limited to, the furnishing and installation of the following:

- Rubber membrane roofing and flashing.
- 2. Flashing of all roof penetrations.
- 3. Roof curbs and cants, as required.
- Roofing terminations.

1.4 QUALIFICATIONS OF MANUFACTURER

Manufacturers regularly engaged in manufacturer of similar items shall produce products used in the work of this Section.

1.5 QUALIFICATION OF THE INSTALLERS

Use adequate numbers of skilled workmen who are thoroughly trained and certified by the roofing manufacturer, experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the work of this Section.

1.6 SUBMITTALS

- A. Product data installation instructions, and general recommendations from manufacturers of single ply membrane roofing system materials, for types of roofing required. Include data substantiating that materials comply with requirements.
- B. Submit letter from membrane manufacturer acknowledging review of details and specifications as well as acceptance of design and execution procedures.
- C. Samples of finished roofing sheets, including "T-shaped" side/end-lap seam, and as follows:
 - 1. Fasteners.
 - 2. Coping.
- D. Manufacturer's recommended methods of installation. This, when approved by the Architect, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the roof application.
- E. Roof plan indicating layout of roof insulation including tapered insulation system, roof membrane and seam layout. Include shop drawings of all details.
- F. Certification that proposed applicator is a licensed applicator for the proposed system and approved for warranted work by the roof membrane manufacturer.
- G. Warranty: Submit the proposed warranty executed by the roofing membrane manufacturer indicating that all preconditions for the warranty have been met and that the manufacturer will provide a full warranty upon completion of the installation.

1.7 QUALITY CONTROL

- A. Manufacturer: Obtain primary single-ply membrane roofing from a single manufacturer. Provide secondary materials as recommended by the manufacturer of the primary single-ply membrane material.
- B. Installer: A firm with successful experience in installation of roofing systems similar to those required for this project and acceptable to or licensed by manufacturer of primary roofing materials.
- C. As a measure of quality assurance, all field seams shall require in-seam sealant or shall otherwise require a 9-inch membrane overlayment.

D. As a measure of quality assurance, all gravel stop metal edges requiring a 6-inch minimum strip flashing shall require caulking at all flashing edges, regardless of the membrane manufacturer's minimum standards.

1.8 PRECONSTRUCTION CONFERENCE

Prior to installation of roofing and associated work, meet at project site, or other mutually agreed location, with installer, roofing manufacturer, installers of related work, and other entities concerned with roofing performance, including (where applicable) Owner's insurer, test agencies, governing authorities, and the Architect. Record discussions and agreements and furnish copy to each participant. Provide at least 72 hours' advance notice to participants prior to convening preroofing conference.

1.9 UL LISTING

Provide labeled materials that have been tested and listed by UL in "Building Materials Directory" for application indicated, with "Class A" rated materials/system for roof slopes shown.

1.10 WARRANTY

- A. Provide written warranty, signed by Manufacturer of primary roofing materials and its authorized Installer, agreeing to replace/repair defective materials and workmanship as required to maintain roofing system in watertight condition. The warranty shall be in addition to and no a limitation of other rights the Owner may have against the Contractor under the Contract Documents.
- B. Warranty shall be equal to Carlisle 10-year Warranty complying with Factory Mutual I-60 Wind Up-Lift design criteria. Include warranty cost in pricing for Alternate #1.

1.11 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site in the original, unopened containers labeled with the manufacturer's name, brand name, and installation instructions. Do not use materials damaged by handling or improper storage.
- B. Store materials in the shade, under cover, and in a neat and safe manner.
- C. Store liquid materials, adhesives, thinners, and primers in well ventilated areas with temperatures maintained between 50 and 80 degrees F and away from sparks, open flames and excessive heat.
- D. Insulation NS underlayment shall be stored so it is kept dry and is protected from the elements. Store insulation on a skid and completely cover with a breathable material such as tarps or canvas. If the insulation is lightweight, it should be weighted to prevent possible wind damage.

E. Do not store adhesive containers with opened lids due to the loss of solvent, which will occur from flash off.

1.12 JOB CONDITIONS

- A. Weather: Proceed with roofing work when existing and forecasted weather conditions permit work to be performed in accordance with manufacturer's recommendations and warranty requirements.
- B. Substrate Conditions: Do not begin roofing installation until substrates have been inspected and are determined to be in satisfactory condition. Report unsatisfactory conditions to the Architect before starting re-roofing portion of the work.

C. Protection:

- 1. Protect all buildings from damage and defacing by roofing operations.
- Restore or replace adjacent work or materials damaged during handling of roofing materials.
- Provide protection and avoid traffic on completed roof surfaces.
- D. Surfaces to receive roof membrane system shall be clean, smooth, free of projections, grease, oil, and foreign material. Commence application only after surfaces are in proper condition to receive roof membrane system.
- E. Ascertain that work of other trades penetrating roof membrane system or intended to be made watertight by membrane application are in place and accepted prior to installation of roof membrane system. Schedule roofing application to minimize traffic on membrane.

PART 2 - PRODUCTS

2.1 ROOFING SYSTEM

- A. Provide Carlisle Corporation Sure-Seal fully adhered Roofing System. Equal products by GenFlex or Johns-Manville will be considered.
- B. All materials for use in the roofing system shall be as supplied and/or recommended by Carlisle Corporation.
- C. Membrane roofing system shall meet Factory Mutual and Underwriters Laboratory Class 1 fire resistant rating and Factory Mutual I-60 requirements for wind uplift.
- D. Upon completion of this portion of the work and as a condition of its acceptance, deliver to the Owner a written warranty signed by the installer and endorsed by the membrane roofing materials manufacturer, warranting that the installed membrane roofing will remain intact and

free from leaks for a period of at least ten years following date of acceptance by the Owner.

2.2 EPDM MEMBRANE

0.060 inches thick reinforced EPDM membrane, 7 feet or 10 feet wide Field sheets (verify wind load requirements and roof deck type), and 4-1/2 feet wide perimeter sheets, in the longest lengths possible as determined by job conditions, EPDM compounded elastomers conforming to the following minimum physical properties.

TEST METHOD	<u>SPECIFICATION</u>
Grey/Black	Breaking
ASTM D751	210lbf.
ASTM D751	500% min.
ASTM D751	50 lbf. (220N)
ASTM D1449	No cracks
7 days/100pphm	
104 deg. F.	
ASTM D573	Brk. Str. Min 220 lbf.
4 weeks @ 240 deg. F.	(980N) Elong. Min 250%
ASTM D2137	-75 deg. F.
	Grey/Black ASTM D751 ASTM D751 ASTM D751 ASTM D1449 7 days/100pphm 104 deg. F. ASTM D573 4 weeks @ 240 deg. F.

2.3 AUXILIARY MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.
- B. Sheet Flashing: 60-mil- (1.5-mm-) thick EPDM, partially cured or cured, according to application.
- C. Bonding Adhesive: Manufacturer's standard bonding adhesive.
- D. Seaming Material: Manufacturer's standard synthetic-rubber polymer primer and 3-inch-(75-mm-) wide minimum, butyl splice tape with release film.
- E. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.
- F. Miscellaneous Accessories: Provide lap sealant, water cutoff mastic, metal termination bars, metal battens, pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

2.4 ROOF INSULATION

A. Insulating Materials: None required, EPDM Membrane material to be installed on existing substrate materials. The existing roof structure slopes in an southerly direction.

PART 3 - EXECUTION

3.1 PREPARATION OF SUBSTRATE

Comply with manufacturers' instructions for preparation of existing substrate to receive singly ply membrane system. Clean substrate of dust, debris, and other substances detrimental to single ply membrane system work. Remove sharp projections. Install cant strips, flashing, and accessory items as shown, and as recommended by manufacturer even though not shown. Prevent materials from entering and clogging drains and conductors, and from spilling or migrating onto surfaces of other work.

3.2 MEMBRANE INSTALLATION

- A. Membrane Installation: Start installation only in presence of manufacturer's technical representative.
- B. Fully Adhered Membrane: Install all roofing membranes and flashing according to the material manufacturer's latest published instructions for a fully adhered roofing system.
- C. Attach membrane at perimeter in accord with manufacturer's product data using anchor strips or preservative-treated nailers acceptable to roof membrane system manufacturer.
- D. Base Flashing: Install in accord with manufacturer's recommended details using specified flashing sheet. Lap joints and seal. Cover top edge of flashings with metal counter-flashing.
- E. Flash at curbs and similar vertical surfaces same as base. Provide anchor strips or nailers at curbs and equipment not having integral curbs. Provide metal counter-flashing at curbs, which are not self-flashing.
- F. Pipe Penetrations: Flash to elastic membrane boots in accord with manufacturer's recommendations. Set boots over piping in manufacturer's recommended bonded adhesive and adhere to roof membrane and piping. Seal edge of collar using manufacturer's lap sealant. Install stainless steel clamping ring near top of boot and tighten snug; apply continuous bead of sealant around top of boot.
- G. At end of each day's work, provide water cut-off at exposed edges of roof membrane system. Remove cut-offs prior to beginning next day's work.
- H. Expansion Joints:

- 1. Terminate roofing sheets at each side of joint.
- 2. Place backer rod, sized at least 1/3 larger than joint opening, continuous over joint.
- 3. Form expansion joint cover using neoprene flashing sheet; bond continuous along roofing sheets with 3" wide lap joint.
- 4. Splice joints in expansion joints shall be 3" long lap joints, sealed over entire lap.
- I. Upon completion of the roof membrane system installation, an inspection shall be made by a representative of the roof membrane system manufacturer to ascertain that the roof membrane system has been installed according to manufacturer's published specifications and details. Observed defects or deviations shall be remedied as required to secure specified warranty.

3.3 INSPECTION OF SURFACES AND COORDINATION OF WORK

As required by the Owner, membrane manufacturer shall also inspect the work during roof installation and furnish a copy of his inspection reports to the Architect. Reports shall be on roofing manufacturer's standard inspection report form, dated and signed. This inspection shall be provided at no additional cost to the Owner.

3.4 PROTECTING ROOFING

- A. After completing roofing (including associated work) institute appropriate procedures for surveillance and protection of roofing during remainder of construction period. At the end of the construction period, or at a time when remaining construction will in no way affect or endanger roofing, make a final inspection of roofing and prepare a written report to Owner, describing nature and extent of deterioration or damage found.
- B. Repair or replace (as required) deteriorated or defective work found at the time of final inspection to a condition free of damage and deterioration at the time of Substantial Completion and according to the requirements of the specified warranty.
- C. Broom clean surface upon completion of construction.

END OF SECTION 075323

SECTION 076200 - FLASHING AND SHEET METAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and General provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

1.2 DESCRIPTION OF WORK

- A. Extent of each type of flashing and sheet metal work is indicated on drawings and by provisions of this section.
- B. Types of work specified in this Section include the following:
 - 1. Metal wall flashing.
 - 2. Gutters and downspouts (rain drainage).
 - 3. Miscellaneous sheet metal accessories.
 - 4. Fabric flashing.
- C. Roofing accessories that are installed integral with roofing are specified in roofing system sections as roofing work.

1.3 SUBMITTALS

- A. Product Data, Flashing, Sheet Metal, Accessories: Submit manufacturer's product data, installation instructions and general recommendations for each specified sheet material and fabricated product.
- B. Samples of sheet metal flashing, trim, gutters, downspouts and accessory items, in the specified finish.

1.4 JOB CONDITIONS

A. Coordinate work of this Section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance and durability of work and protection of materials and finishes.

PART 2 - PRODUCTS

2.1 FLASHING AND SHEET METAL MATERIALS

- A. Sheet Metal Flashing/Trim:
 - Lead-Coat Copper: ASTM B101, cold-rolled copper sheet, not less than 20 oz./sq. ft.

both sides located with lead weighing not less than 12 nor more than 15 lb./100 sq. ft.

- Factory-Painted Aluminum Sheet: ASTM B209 (ASTM B209M), 3003-H14, with a minimum thickness of 0.040 inch, 24" wide by 50' long. PVC coating is an acceptable option.
- 3. Elastic Sheet Flashing/Membrane: Manufacturer's standard flexible, elastic, black, non-reinforced, flashing sheet of 50-65 mils thickness; 50 70 Shore A hardness (ASTM D2240); 1200 psi tensile strength (ASTM D412); 120 lbs. per lin. In. tear resistance (ASTM D624, Die C); ultimate temperature of -30°F (ASTM D746); resistance to ozone aging of no cracks for 10% elongated sample for 100 hours in 50 pphm (50.5mPA) ozone at 104°F (ASTM D1149); resistance to heat aging of maximum hardness increase of 15 points, elongation reduction of 40%, and tensile strength reduction of 30%, for 70 hours at 212°F (ASTM D573).

2.2 MISCELLANEOUS MATERIALS AND ACCESSORIES

- A. Fasteners: Same metal as flashing/sheet metal or, other noncorrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being fastened.
- B. Bituminous Coating: FS TT-C-494 or SSPC Paint 12, solvent type bituminous mastic, nominally free of sulfur, compounded for 15-mil dry film thickness per coat.
- C. Epoxy Seam Sealer: 2 part noncorrosive metal seam cementing compound, recommended by metal manufacturer for exterior/interior, non-moving joints including riveted joints.
- D. Paper Slip Sheet: 5-oz. Rosin-sized building paper.
- E. Polyethylene Underlayment: 6-mil carbonated polyethylene film; FS L-P-512.
- F. Metal Accessories: Provide sheet metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive, size and gauge required for performance. Note that spike and ferrule gutter system is NOT acceptable.
- G. Gutter and Conductor-Head Guards: 20 gauge bronze or nonmagnetic stainless steel mesh or fabricated units, with salvaged edges and noncorrosive fasteners. Select materials for compatibility with gutters and downspouts.
- H. Roofing Cement: ASTM D2822, asphaltic.

2.3 FABRICATED UNITS

A. General Metal Fabrication: Shop fabricate work to greatest extent possible. Comply with details shown, and with applicable requirements of SMACNA "Architectural Sheet Metal Manual" and other recognized industry practices. Fabricate for waterproof and weather-

resistant performance; with expansion provisions for running work, sufficient to permanently prevent leakage, damage or deterioration of the work. Form work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material. Form exposed sheet metal work without excessive oil-canning, buckling and tool marks, true to line and levels indicated, with exposed edges folded back to form hems.

- B. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Form aluminum seams with epoxy seam sealer; rivet joints for additional strength where required.
- C. Separations: Provide for separation of metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact, with bituminous coating or other permanent separation as recommended by manufacturer/fabricator.
- D. Aluminum Extrusion Units: Fabricate extruded aluminum running units with formed or extruded aluminum joint covers, for installation behind main members where possible. Fabricate mitered and welded corner units.
- E. Aluminum Gutter and Downspouts: Provide aluminum gutters and downspouts complete with all accessories. Provide elbows, boots and other accessories required to extend downspouts to grade. Gutters will be .032" extra heavy gauge. Downspouts and accessories shall be .025" thick minimum. Gutters shall be 3 3/4" high by 5" wide. Downspouts shall be nominal 2 3/8" x 3 1/4". Provide continuous fascia apron and bar hangers for gutters. Spike and ferrule fasteners are not acceptable. Install new gutters and downspouts in existing locations see drawings for additional information.
- F. Shop Finish, Rain Drainage: Provide manufacturer's standard baked-on white acrylic shop finish on sheet metal rain drainage units (gutters, downspouts, and similar exposed units); 1.0 mil dry film thickness.

PART 3 - EXECUTION

3.1 INSTALLATION REQUIREMENTS

- A. General: Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations, and with SMACNA "Architectural Sheet Metal Manual". Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints and seams that will be permanently watertight and weatherproof.
- B. Underlayment: Where aluminum is to be installed directly on cementitious or wood substrates, install a slip-sheet of red rosin paper and a course of polyethylene underlayment.
- C. Bed flanges of work in a thick coat of bituminous roofing cement where required for waterproof performance.
- D. Install elastic flashing in accordance with manufacturer's recommendations. Where required,

provide for movement at joints by forming loops or bellows in width of flashing. Locate cover or filler strips at joints to facilitate complete drainage of water from flashing. Seam adjacent flashing sheets with adhesive, seal and anchor edges in accordance with manufacturer's recommendations.

3.3 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.
- B. Protection: Installer shall advise contractor of required procedures for surveillance and protection of flashings and sheet metal work during construction, to ensure that work will be without damage or deterioration, other than natural weathering, at time of Substantial Completion.

END OF SECTION 076200

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes joint sealants for the following applications, including those specified by reference to this Section:
 - Exterior joints in vertical surfaces and horizontal nontraffic surfaces. 1.
 - 2. Interior joints in vertical surfaces and horizontal nontraffic surfaces.
- B. Joint sealants for mechanical and electrical work; is not included as part of this Section.

1.3 PERFORMANCE REQUIREMENTS

- A. Provide joint sealants for interior and exterior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.
- B. General Performance: Except as otherwise indicated, joint sealers are required to establish and maintain airtight and waterproof continuous seals on a permanent basis, within recognized limitations of wear and aging as indicated for each application. Failures of installed sealers to comply with this requirement will be recognized as failures of materials and workmanship.

1.4 **SUBMITTALS**

- A. Product Data: For each joint-sealant product indicated.
- B. Samples: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch-wide joints formed between two 6-inch-long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Preconstruction field test reports.
- D. Compatibility and adhesion test reports.
- E. Product certificates or test reports.

1.5 QUALITY ASSURANCE

- A. Pre-construction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates according to the method in ASTM C 1193 that is appropriate for the types of Project joints.
- B. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.
- C. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multi-component materials.

1.7 WARRANTY

- A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Five (5) years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Fifteen (15) years from date of Substantial Completion.
- C. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
 - 1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
 - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.
 - Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.
- B. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.

2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B. VOC Content of Interior Sealants: Provide sealants and sealant primers for use that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - Architectural Sealants: 250 g/L.
 - 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 - 3. Sealant Primers for Porous Substrates: 775 g/L.
 - 4. Modified Bituminous Sealant Primers: 500 g/L.
- C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.3 MATERIALS

- A. General Sealant Requirements: Provide colors as selected by Architect from manufacturer's standard colors. Select materials for compatibility with joint surfaces and other indicated exposures, and except as otherwise indicated select modulus of elasticity and hardness or grade recommended by manufacturer for each application indicated.
- B. Sealant No. 1 shall be a one-part moisture curing, reactive oligometric, polyurethane sealant meeting Federal Specification TT-S-00230C, Call A, Type II and/or ASTM C920-79, Type S, Grade NS, Class 25, Use NT, M, A and O.
 - 1. Tremco Dymonic as manufactured by Tremco, Inc. Cleveland, OH,
 - 2. Pecora Dynatrol 1 as manufactured by Pecora Corp., Harleysville, PA or
 - 3. Sikaflex 1a by Silka Corp., Lyndhurst, NJ.
- C. Sealant No. 2 shall be a one-part solvent cure acrylic sealant meeting Federal Specification TT-S-230, such as Tremco Mono, as manufactured by Tremco Inc., Cleveland, OH; or 60+Unicrylic Acrylic as manufactured by Pecora Corp., Harleyville, PA.

2.4 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
- C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26 deg F (minus 32 deg C). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and to otherwise contribute to optimum sealant performance.
- D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide selfadhesive tape where applicable.

2.5 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants.
 - Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant.
 - a. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose

particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air.

- 2. Remove laitance and form-release agents from concrete.
 - Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.2 INSTALLATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Acoustical Sealant Application Standard: Comply with recommendations in ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform

beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

- Remove excess sealant from surfaces adjacent to joints.
- 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
- 3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
- G. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping, taking care not to pull or stretch material, producing seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures where expansion of sealant requires acceleration to produce seal, apply heat to sealant in compliance with sealant manufacturer's written instructions.
- H. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.3 INSTALLATION

- A. Comply with manufacturer's printed instructions except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.
- B. Spillage: Do not allow sealants or compounds to overflow from confines of joints, or to spill onto adjoining work, or to migrate into voids of exposed finishes. Clean adjoining work, or to migrate into voids of exposed finishes. Clean adjoining surfaces by whatever means may be necessary to eliminate of spillage.

3.4 CURE AND PROTECTION

A. Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability. Advise contractor of procedures required for cure and protection of joint sealers during construction period, so that they will be without deterioration or damage (other than normal wear and weathering) at time of substantial completion. Cure and protect sealants in a manner that will minimize increases in modulus of elasticity and other accelerated aging effects. Replace or restore sealants that are damaged or deteriorated during construction period.

END OF SECTION 079200

DIVISION 08 - OPENINGS

085113 Operable Storm/Sash Panel

3

SECTION 085113 - OPERABLE STORM SASH/PANEL - ALTERNATE #3

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. This section includes the following: Interior mounted one-lite operating storm panel. Provide storm panel with all necessary hardware, fasteners, and miscellaneous equipment as required for proper installation and operation. Provide at ALL attic window locations only.

1.3 SUBMITTALS

- A. Catalog Cuts: Before delivery of any product to the site, submit catalog cuts to the Architect in accordance with these specifications, showing details of installation and assembly and all requirements for work by other trades.
- B. Product Data: Manufacturers product specifications, standard details and recommendations for project conditions, which indicate selected sizes and installation details specific to the project.
- C. Shop Drawings: Include the following in the submission:
 - 1. Plans and Elevations to indicate location, number and type of units to be provided.
 - 2. Sections and Details of Units indicating specific project conditions, interface with adjacent construction, dimensions and tolerances.
 - 3. Products required for installation, but not supplied by the storm window manufacturer.
- D. Quality Assurance/Control: Certification that the Installer is either approved by the manufacturer or has experience with installing the product selected.

E. Close-out Submittals:

- 1. Submit operation and maintenance data.
- 2. Warranty documents from both the Manufacturer and the Installer.

1.4 QUALITY ASSURANCE

B. Qualifications:

 Manufacturer shall have a minimum of five years experience producing products specified in this section.

2. Installer to have a minimum of five years experience in installation of products specified in this section.

1.5 WARRANTY

- A. Manufacturers' five-year warranty against faulty materials, workmanship and paint.
- B. Installers' one-year warranty against workmanship.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable manufactures shall be: Allied Window, Inc., Cincinnati, Ohio (800) 445-5411. The Architect will consider alternate manufacturers when a complete substitution submission is made.

2.2 MATERIALS

- A. Alloys: Aluminum shall be of commercial quality and of proper allow for window construction free from defects impairing strength and durability. All straight extruded sections shall be of 6063-T5 allow and temper and shall have a minimum ultimate tensile strength of 22,000 p.s.i. and a yield of 16,000 p.s.i.
- B. Window Members: All sash members shall be of extruded aluminum with a 3/8" x 1" dimension. All extrusions shall be of sufficient strength to perform as designed. Window members shall have a nominal wall thickness of not less than .062". All corner keys shall be of extruded aluminum. High-energy foam-backed magnetic tape shall be applied to jamb rails of removable panel/assembly.
- C. Fasteners: All screws and other miscellaneous fastening devices incorporated shall be zinc plated, cadmium plated or other non-corrosive metals compatible with aluminum.
- D. Hardware/Magnetic Seal: Head receptor to be extruded aluminum U-channel with nominal wall thickness of not less than .046". The magnetic seal is accomplished by the use of one(1) of these jamb stop alternatives:
 - 1. Foam-backed steel tape applied to U-channel noted above.
 - 2. Foam-backed steel tape applied directly to prime window frame system.
 - 3. Foam-backed steel tape applied to aluminum angle.
 - 4. Steel angle or channel.
- E. Weather-stripping: Bottom rail of panel/assembly shall incorporate flexible "sill-seal" weather-stripping. Operating track jamb members shall be lined with pile weatherstripping equal to Stanpro #525-160.

F. Glass/Glazing:

- 1. Glazing shall be 1/8" thick polycarbonate material.
- 2. Glazing shall be held in place with removable and reusable vinyl glazing splines. Vinyl shall be manufactured from virgin polyvinyl chloride. All corners shall be neatly mitered.
- G. Sash: The operable bottom sash shall be removable and be equipped with a full bottom rail lift handle. Heavy-duty spring-loaded latches shall be provided for variable sash positions for ventilation.
- H. Finish: The exposed surfaces of all aluminum members shall be clean and free from serious surface blemishes. Finishes shall be electrostatically applied baked acrylic enamel in white. Painted finish shall meet AAMA 603.6. Optional custom color finish to be two-part polyurethane paint (air dried). Clear anodized, bronze anodized and Kynar finishes are available under appropriate circumstances.

PART 3 - EXECUTION

3.1 ASSEMBLY

A. All windows shall be assembled in a secure and workmanlike manner. The master frame and insert frames shall be of mitered head and sill. Frame rails and stiles shall be neatly joined together using extruded aluminum corner keys staked in place.

3.2 INSTALLATION

A. All interior operable storm panels shall be installed as per the manufactures specifications on the interior side at ALL attic windows locations.

END OF SECTION 085113

DIVISION 09 - FINISHES 099100 Painting

9

SECTION 099100 - PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

1.2 DESCRIPTION OF WORK

- A. Extent of painting work is indicated on drawings and schedules, and herein specified.
- B. Work includes painting and finishing of interior and exterior exposed items and surfaces throughout project, except as otherwise indicated. Note that exterior finish of new units should match materials and color of exterior finish on existing units where possible. Field verify existing conditions and prepare proposal for owner and architect to review.
- C. Surface preparation, priming and coats of paint specified are in addition to shop-priming and surface treatment specified under other sections of work.
- D. "Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.
- E. Surface to be Painted: Except where natural finish of material is specifically noted as a surface not to be painted, paint exposed surfaces whether or not colors are designed in "schedules". Where items or surfaces are not specifically mentioned, paint the same as similar adjacent materials or areas. If color or finish is not designated, Architect will select these from standard colors or finishes available.
- F. Follow categories of work are not included as part of field-applied finish work.
 - Concealed Surfaces: Unless otherwise indicated, painting in concealed areas and generally inaccessible areas, foundation spaces, furred areas, pipe spaces and duct shafts.
 - 2. Finished Metal Surfaces: Unless otherwise indicated, metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting.
 - 3. Operating Parts: Unless otherwise indicated, moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sinkages, sensing devices, motor and fan shafts will not require finish painting.
- G. Following categories of work are included under other sections of these specifications.
- H. Do not paint over any code-required labels, such as Underwriters' Laboratories and Factory Mutual, or any equipment identification, performance rating name or nomenclature plates.

1.3 QUALITY ASSURANCE

- A. Single Source Responsibility: Provide primers and other undercoat paint produced by same manufacturer as finish coats. Use only thinners approved by paint manufacturer, and use only within recommended limits.
- B. Coordination of work. Review other sections of these specifications in which primer paints are to be provided. Upon request from other trades, furnish information or characteristics of finish materials provided for use, to ensure compatible prime coats are used.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's technical information including paint label analysis and application instructions for each material proposed for use.
- B. Samples: Prior to beginning work, architect will furnish color chips for surfaces to be painted. Use representative colors when preparing samples for review. Submit samples for architect's review of color and texture only. Provide a listing of material and application for each coat of each finish sample.

1.5 DELIVERY AND STORAGE

- A. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label, and following information:
 - 1. Name or title of material
 - 2. Fed. Spec. number, if applicable
 - 3. Manufacturer's stock number, date of manufacture
 - 4. Manufacturers name
 - 5. Contents by volume for major pigment and vehicle constituents
 - 6. Thinning instructions
 - 7. Application instructions
 - 8. Color, name and number
- B. Store materials not in actual use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45°F.. Maintain containers used in storage of paint in a clean condition, free of foreign materials and residue.
- C. Protect from freezing where necessary. Keep storage area neat and orderly. Remove oily rages and waste daily. Take precautions to ensure that workmen and work areas are adequately protected from fire hazards and health hazards resulting from handling, mixing and application of paints.

1.6 JOB CONDITIONS

A. Apply water-base paints only when temperature of surfaces to be painted and surrounding air temperatures are between 50 deg. F. and 90 deg. F., unless otherwise permitted by paint manufacturer's printed instructions.

- B. Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45 deg. and 95 deg. F., unless otherwise permitted by paint manufacturer's printed instructions.
- C. Do not apply paint in snow, rain, fog or mist, or when relative humidity exceeds 85% or to damp or wet surfaces, unless otherwise permitted by paint manufacturer's printed instructions.
 - Painting may be continued during inclement weather if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer during application and drying periods.

1.7 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.
 - 1. Quantity: 5 percent, but not less than 1 gal. (3.8 L) or 1 case, as appropriate, of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Subject to compliance with requirements, provide products of one of the following:
 - 1. Benjamin Moore and Co. (Moore).
 - 2. PPG Industries, Pittsburgh Paints (PPG).
 - 3. Coronado Paint Co.
 - 4. Kelly-Moore Paint Co.
 - 5. ICI Paint Centers, Inc. (Dulux Paint).

2.2 MATERIALS

- A. Material Quality: Provide best quality grade of various types of coatings as regularly manufactured by acceptable painting materials manufacturers. Materials not displaying manufacturer's identifications as a standard, best-grade product will not be acceptable.
- B. Proprietary names used to designate colors or materials are not intended to imply that products of names manufacturers are required to exclusion of equivalent products of other manufacturers.
- C. Color Pigments: Pure, non-fading, applicable types to suit substrates and service indicated.
- D. Lead content in pigment, if any, is limited to contain not more than 0.06 percent lead, as lead metal based on the total volatile (dry film) of paint be weight. Materials shall conform to ANSI Z66.1-1964, "Specifications to Minimize Hazards to Children From Residual Surface Coating Materials".

 This limitation is extended to interior surfaces and those exterior surfaces, such as stairs, decks, porches, railings, windows, and doors, which are readily accessible to children under seven years of age.

2.3 PREPARATORY COATS

- A. Exterior Primer: Exterior alkyd or latex-based primer of finish coat manufacturer and recommended in writing by manufacturer for use with finish coat and on substrate indicated.
 - 1. Ferrous-Metal and Aluminum Substrates: Rust-inhibitive metal primer.
 - 2. Zinc-Coated Metal Substrates: Galvanized metal primer.
 - 3. Where manufacturer does not recommend a separate primer formulation on substrate indicated, use paint specified for finish coat.
- B. Interior Primer: Interior latex-based or alkyd primer of finish coat manufacturer and recommended in writing by manufacturer for use with finish coat and on substrate indicated.
 - 1. Ferrous-Metal Substrates: Quick drying, rust-inhibitive metal primer.
 - 2. Zinc-Coated Metal Substrates: Galvanized metal primer.
 - 3. Where manufacturer does not recommend a separate primer formulation on substrate indicated, use paint specified for finish coat.

2.4 EXTERIOR FINISH COATS

- A. Exterior Semi-Gloss Acrylic Enamel:
 - 1. Benjamin Moore; Moorcraft Super Spec Latex House & Trim Paint No. 170.
 - 2. Coronado; 12-Line Supreme Acrylic Semi-Gloss.
 - Dulux Paint; 2406-XXXX Dulux Professional Exterior 100 Percent Acrylic Semi-Gloss Finish.
 - 4. Kelly-Moore; 1250 Acry-Lustre Exterior Semi-Gloss Acrylic Finish.
 - 5. M.A.B. Paint; Sea Shore/Four Seasons Acrylic Latex Trim Enamel 024 Line.
 - 6. Pittsburgh Paints; 6-900 Series SpeedHide Exterior House & Trim Semi-Gloss Acrylic Latex Paint.
 - 7. Sherwin-Williams; A-100 Latex Gloss A8 Series.
- B. Exterior Full-Gloss Acrylic Enamel for Concrete, Masonry, and Wood:
 - 1. Benjamin Moore; Moore's IMC Acrylic Gloss Enamel M28.
 - 2. Coronado; 414 Super Kote 5000 Acrylic Gloss Enamel.
 - 3. Dulux Paint; 3028-XXXX Dulux Interior/Exterior Acrylic Gloss Finish.
 - 4. Kelly-Moore; 1780 Kel-Guard Acrylic Gloss Enamel.
 - 5. M.A.B. Paint; Rust-O-Lastic Gloss Acrylic (DTM) Maintenance Finish 043 Line.
 - 6. Pittsburgh Paints; 90 Line Pitt-Tech One Pack Interior/Exterior High Performance Waterborne High Gloss DTM Industrial Enamels.
 - 7. Sherwin-Williams; DTM Acrylic Coating Gloss (Waterborne) B66W100 Series.
- C. Exterior Full-Gloss Acrylic Enamel for Ferrous and Other Metals.

- 1. Benjamin Moore; Moore's IMC Acrylic Gloss Enamel M28.
- 2. Coronado; 80 Line Rust Scat Acrylic Latex High Gloss Enamel.
- 3. Dulux Paint; 3028-XXXX Dulux Interior/Exterior Acrylic Gloss Finish.
- 4. Kelly-Moore; 5780 DTM Acrylic Gloss Enamel.
- 5. M.A.B. Paint; Rust-O-Lastic Gloss Acrylic (DTM) Maintenance Finish 043 Line.
- 6. Pittsburgh Paints; 90-300 Series Pitt-Tech One Pack Interior/Exterior High Performance Waterborne High Gloss DTM Industrial Enamels.
- 7. Sherwin-Williams; DTM Acrylic Coating Gloss (Waterborne) B66W100 Series.

2.5 INTERIOR FINISH COATS

A. Interior Flat Acrylic Paint:

- 1. Benjamin Moore; Moorecraft Super Spec Latex Flat No. 275.
- 2. Coronado; 28 Line Super Kote 5000 Latex Flat Paint.
- 3. Dulux Paint; 1200-XXXX Dulux Professional Velvet Matte Interior Flat Latex Wall & Trim Finish.
- 4. Kelly-Moore; 450 Pro-Wall Interior Flat Latex Wall Paint.
- 5. M.A.B. Paint; Fresh Kote Latex Flat 402 Line.
- 6. Pittsburgh Paints; 6-70 Line SpeedHide Interior Wall Flat-Latex Paint.
- 7. Sherwin-Williams; ProMar 200 Interior Latex Flat Wall Paint B30W200 Series.

B. Interior Semi-Gloss Acrylic Paint:

- 1. Benjamin Moore; Moorecraft Super Spec Latex Semi-Gloss Enamel No. 276.
- 2. Coronado; 32 Line Super Kote 5000 Latex Semi-Gloss Enamel.
- Dulux Paint; 1406-XXXX Dulux Professional Acrylic Semi-Gloss Interior Wall & Trim Enamel.
- 4. Kelly-Moore; 450 Pro-Wall Interior Flat Latex Wall Paint.
- 5. M.A.B. Paint; Fresh Kote Latex Flat 402 Line.
- 6. Pittsburgh Paints; 6-70 Line SpeedHide Interior Wall Flat-Latex Paint.
- 7. Sherwin-Williams; ProMar 200 Interior Latex Flat Wall Paint B30W200 Series.

C. Interior Full-Gloss Alkyd Enamel for Wood and Metal Surfaces:

- 1. Benjamin Moore; Moore's IMC Urethane Alkyd Enamel No. M22.
- 2. Coronado; 123 Line Super Kote 5000 High Gloss Alkyd Enamel.
- 3. Dulux Paint; 4308-XXXX Devguard Alkyd Industrial Gloss Enamel.
- 4. Kelly-Moore; 1630-Kel-Cote Interior Alkyd Semi-Gloss Enamel.
- 5. M.A.B. Paint; Rich Lux Architectural Bright White Enamel 026-127 Line.
- 6. Pittsburgh Paints; 7-814 Series Pittsburgh Paints Industrial Gloss-Oil Interior/Exterior Enamel.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with procedures specified in PDCA P4 for inspection and acceptance of surfaces to be painted.
- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
- C. Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- D. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturers written instructions for each particular substrate condition and as specified.
 - 1. Provide barrier coats over incompatible primers or remove and reprime.
 - Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
 - a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
 - b. Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and back sides of wood, including cabinets, counters, cases, and paneling.
 - c. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on back side.
 - d. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.
 - 4. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.
 - a. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with same primer as the shop coat.
 - Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

E. Material Preparation:

1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.

- 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
- F. Exposed Surfaces: Include areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
 - 1. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 2. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
 - 3. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
 - 4. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
- G. Sand lightly between each succeeding enamel or varnish coat.
- H. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
 - 1. Omit primer over metal surfaces that have been shop primed and touchup painted.
 - 2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance.
- I. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
- J. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide total dry film thickness of the entire system as recommended by manufacturer.
- K. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.
- L. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.
- M. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

3.2 CLEANING AND PROTECTING

- A. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
- B. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
- C. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
 - 1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.3 SCHEDULE - EXTERIOR SURFACES

A. Wood - Painted

- 1. One coat latex primer sealer.
- 2. Two coats latex enamel, semi-gloss.

B. Pavement Markings

1. Two coats chlorinated rubber paint, white.

C. Steel/Iron/Metal - Unprimed

- 1. One coat zinc chromate primer.
- 2. Two coats latex enamel, semi-gloss.

D. Steel/Iron/Metal - Shop Primed

- 1. Touch-up with zinc chromate primer.
- 2. Two coats latex enamel, semi-gloss.

E. Steel - Galvanized

- 1. One coat zinc chromate primer.
- 2. Two coats latex enamel, semi-gloss.

F. Aluminum - Mill Finish

- 1. One coat etching primer.
- Two coats latex enamel.

3.4 SCHEDULE - INTERIOR SURFACES

A. Wood - Painted

- 1. One coat latex primer sealer.
- 2. Two coats latex enamel, semi-gloss, EGGSHELL.

B. Wood - Transparent

- 1. Filler coat (for open grained wood only).
- 2. Two coats stain.
- 3. Two coats Satin Polyurethane.

C. Steel/Iron/Metal - Unprimed

- 1. One coat zinc chromate primer.
- 2. Two coats latex enamel, semi-gloss.

D. Steel/Iron/Metal - Shop Primed

- 1. Touch-up with original primer.
- 2. Two coats latex enamel, semi-gloss.

E. Steel - Galvanized

- 1. One coat zinc chromate primer
- 2. Two coats latex enamel, semi-gloss.

F. Plaster, Gypsum Board

- 1. One coat latex primer sealer.
- 2. Two coats latex enamel, eggshell or washable flat.

3.5 SCHEDULE - COLORS

A. Exterior

- 1. Doors Match existing color.
- 2. Grating/Railing Match existing color
- 3. Rails Match existing color
- 4. Wood Trim, Fascia and Soffit Match existing color.

END OF SECTION 099100