

**CITY OF SANTA FE
PURCHASING**

“REQUEST FOR BID”

**SANTA FE TRAILS BUS SHELTER PHASE 3
CIP# 665B**

BID # ‘20/09/B

BID DUE:

November 13, 2019

2:00 P.M.

PURCHASING OFFICE

CITY OF SANTA FE

200 LINCOLN AVENUE RM. 122

SANTA FE, NEW MEXICO 87501

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**ADVERTISEMENT FOR BIDS
BID NO. '20/09/B**

Bids will be received by the City of Santa Fe and will be delivered to City of Santa Fe, Purchasing Office, 200 Lincoln Avenue Room 122, Santa Fe, New Mexico 87501 until **2:00 P.M. local prevailing time November 13, 2019. Any bid received after this deadline will not be considered.** This bid is for the purpose of procuring:

SANTA FE TRAILS BUS SHELTER PHASE 3 CIP# 665B

The bidder's attention is directed to the fact that all applicable Federal Laws, State Laws, Municipal Ordinances, and the rules and regulations of all authorities having jurisdiction over said item shall apply to the bid throughout, and they will be deemed to be included in the bid document the same as though herein written out in full.

The City of Santa Fe is an Equal Opportunity Employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation or national origin. The successful bidder will be required to conform to the Equal Opportunity Employment regulations.

Bids may be held for sixty (60) days subject to action by the city. The city reserves the right to reject any or all bids in part or in whole. Bid packets are available by contacting: Fran Dunaway, City of Santa Fe, Purchasing Office, 200 Lincoln Avenue Room 122 Santa Fe, New Mexico 87501, (505) 955-6432.

ATTEST:

 10/30/19
Fran Dunaway, CPO

Received by the Santa Fe New Mexican on: **10/25/2019**

To be published on: **10/30/2019**

Received by the Albuquerque Journal on: **10/25/2019**

To be published on: **10/30/2019**

BID SCHEDULE BID # '20/09/B

- | | | |
|----|--|---|
| 1. | ADVERTISEMENT | October 30, 2019 |
| 2. | ISSUANCE OF BID'S | October 30, 2019 |
| 3. | RECEIPT OF BID: | November 13, 2019 at 2:00 P.M.
local prevailing time. Purchasing
Office, 200 Lincoln Avenue Santa
Fe, New Mexico 87501
(505) 955-5711 |
| 4. | RECOMMENDATION OF AWARD
TO FINANCE COMMITTEE: | December 3, 2019 |
| 5. | RECOMMENDATION OF AWARD
TO PUBLIC WORKS
COMMITTEE: | December 3, 2019 |
| 6. | RECOMMENDATION OF AWARD
TO CITY COUNCIL: | December 11, 2019 |

DATES OF CONSIDERATION BY FINANCE COMMITTEE AND CITY COUNCIL ARE TENTATIVE AND SUBJECT TO CHANGE WITHOUT NOTICE.

INFORMATION TO BIDDERS

1. **RECEIPT AND OPENING OF BIDS**

The City of Santa Fe (herein called "City"), invites bids on the form attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the City Purchasing Office until **2:00 P.M. local prevailing time, November 13, 2019**. At this time the City Purchasing Director will publicly open and read bid(s) aloud.

Bids shall be submitted in a sealed envelope, addressed to the Purchasing Office, City of Santa Fe, 200 Lincoln Avenue Rm 122, Santa Fe, New Mexico 87501. No late bids will be accepted whether hand delivered, mailed or special delivery. Do not rely on "overnight delivery" without including some lead-time. "Overnight delivery" will be determined to be non-responsive if delivered late, no matter whose fault it was. It is recommended that extra days be included in the anticipated delivery date to ensure delivery is timely. The Purchasing Office is closed 12:00 p.m. to 1:00 p.m. The outside of the envelope should clearly indicate the following information:

Bid number: '20/09/B
Title of the bid: Santa Fe Trails Bus Shelters Phase 3
Name and address of the bidder:

The Owner may consider informal any bids not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids.

Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 60 days after the actual date of the opening thereof.

2. **PREPARATION OF BID**

All blank spaces for bid prices must be filled in, ink or type written. If the bid is forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in the bid form. No alternate bids will be considered unless pre-approved (5) five days prior to the bid opening date by the Purchasing Officer.

3. **BID SECURITY**

Bid Security in the amount of 5% of the amount of the bid shall accompany the bid submittal and must be in the form of a certified or bank cashier's check made payable to the City or a bid bond issued by a surety licensed to conduct business in the State of New Mexico, or other supplied in a form satisfactory to the City. The Bid Security of the successful bidder will be retained until he/she has

executed the Construction Agreement and furnished the required Contract Security, whereupon it will be returned. If he/she fails to execute and deliver the Construction Agreement and furnish the required Contract Security within 10 days of the Notice of Award, the City may annul the Notice of Award and the Bid Security of that bidder will be forfeited. The Bid Security of any bidder whom the City believes to have a reasonable chance of receiving the award may be retained by the City until either the seventh day after the executed Construction Agreement is delivered by the City to Contractor and the required Contract Security is furnished or the sixty-first day after the bid opening, whichever is earlier. Bid Security of other bidders will be returned within thirty days of the bid opening, or sooner.

4. **LIQUIDATED DAMAGES FOR FAILURE TO ENTER IN TO CONTRACT** Liquidated Damages are not applicable to this bid.

5. **ADDENDA AND INTERPRETATIONS**

No oral interpretations of the meaning of the specifications or other pre-bid documents will be binding. Oral communications are permitted in order to make an assessment of need for an addendum. **ANY QUESTIONS CONCERNING THE BID SHOULD BE ADDRESSED PRIOR TO BID OPENING DATE.**

Every request for such interpretations should be in writing addressed to the Purchasing Officer, 200 Lincoln Avenue Rm 122, Santa Fe, New Mexico 87501 and to be given consideration must be received at least (5) five days prior to the date fixed for the opening of bids.

Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be delivered to all prospective bidders not later than three days prior to the date fixed for the opening of the bids. Failure of any bidder to receive any such addendum or interpretations shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents.

The City reserves the right to not comply with these time frames if a critical addendum is required or if the proposal deadline needs to be extended due to a critical reason in the best interest of the City of Santa Fe.

6. **POWER OF ATTORNEY**

Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

7. **LAWS AND REGULATIONS**

The bidders attention is directed to the fact that all applicable Federal Laws, State Laws, Municipal Ordinances, and the rules and regulations of all authorities having jurisdiction over said item shall apply to the bid throughout, and they will be deemed to be included in the bid document the same as though herein written out in full. In particular bidder is notified that criminal laws shall apply prohibiting bribes, gratuity and kick-backs.

8. METHOD OF AWARD

The award of the purchase agreement will be made to multiple vendors who meet or exceeds all specifications and provides the lowest total bid amount. However, delivery date, availability of stock, and complete analysis and comparison of specification details along with past experience of the City of Santa Fe with similar or related units, will be weighed in making a final decision of award.

If a bid item has been discontinued substitutions may be made only with the approval of the Purchasing Officer.

No important deviation from the terms of this specification is acceptable. It is understood and agreed that the City of Santa Fe reserves the right to reject any and all bids, as authorized by law, and to award to other than the lowest bidder at its discretion, provided that it is in the best interest of the City of Santa Fe, if the

CITY PURCHASING MANUAL and pertinent State Statutes are thereby served. The City may extend the purchase of goods under the Bid at the option of the City for a period of four (4) years from the date of the executed purchase order, subject to the agreement of the offeror.

PERFORMANCE AND LABOR BONDS SHALL BE REQUIRED IF WORK EXCEEDS \$25,000. APPROVED WAGE DECISION IS REQUIRED IF WORK EXCEEDS

9. PUBLIC INFORMATION

All portions of the bid submittals will become public information. Proprietary information may be marked confidential, however, the City Purchasing Officer will make the final determination as to whether the portion of the bid is legitimately confidential information. Sections to be confidential should be clearly marked as such and readily separable from rest of the bid. In no case will a request for the entire bid to be confidential be considered.

10. BRAND NAMES

All brand names specified in this bid are to imply "or equal." Bidder should include enough information with the bid submitted so this determination can be made. The determination of the Purchasing Officer will make the final determination as to whether the portion of the bid is legitimately confidential information. Sections to be confidential should be clearly marked as such and readily separable from rest of the bid. In no case will a request for the entire bid to be confidential be considered.

11. TAX EXEMPT

The City of Santa Fe is tax exempt for state gross receipts taxes for the procurement of tangible personal property, but not for labor or services. A tax exempt certificate will be issued upon written request to the Purchasing Office.

12. **COMPLIANCE WITH CITY'S MINIMUM WAGE RATE ORDINANCE (LIVING WAGE ORDINANCE)**

A copy of the City of Santa Fe Ordinance No. 2003-8, passed by the Santa Fe City Council on February 26, 2003 is attached. The proponent or bidder will be required to submit the proposal or bid such that it complies with the ordinance to the extent applicable. The recommended Contractor will be required to comply with the ordinance to the extent applicable, as well as any subsequent changes to the Ordinance throughout the term of this contract.

13. **FEDERAL CONTRACT CLAUSES**

As this is a federal grant funded project, **the federal contract clauses included in this document must be signed by the Contractor and submitted with the bid.**

SPECIAL CONDITIONS

1. GENERAL

When the City's Purchasing Officer issues a purchase order document in response to the vendor's bid, a binding contract is created.

2. ASSIGNMENT

Neither the order, nor any interest therein, nor claim under, shall be assigned or transferred by the vendor, except as expressly authorized in writing by the City Purchasing Officer's Office. No such consent shall relieve the vendor from its obligations and liabilities under this order.

3. VARIATION IN SCOPE OF WORK

No increase in the scope of work of services or equipment after award will be accepted, unless means were provided for within the contract documents. Decreases in the scope of work of services or equipment can be made upon request by the city or if such variation has been caused by documented conditions beyond the vendor's control, and then only to the extent, as specified elsewhere in the contract documents.

4. DISCOUNTS

Any applicable discounts should be included in computing the bid submitted. Every effort will be made to process payments within 30 days of satisfactory receipt of goods or services. The City Purchasing Officer shall be the final determination of satisfactory receipt of goods or services.

5. TAXES

The price shall include all taxes applicable. The city is exempt from gross receipts tax on tangible personal property. A tax exempt certificate will be issued upon written request.

6. INVOICING

The vendor's invoice shall be submitted in duplicate and shall contain the following information: invoice number and date, description of the supplies or services, quantities, unit prices and extended totals. Separate invoices shall be submitted for each and every complete order.

Invoice must be submitted to ACCOUNTS PAYABLE and NOT THE CITY PURCHASING AGENT.

7. METHOD OF PAYMENT

Every effort will be made to process payments within 30 days of receipt of a detailed invoice and proof of delivery and acceptance of the products hereby contracted or as otherwise specified in the compensation portion of the contract documents.

8. DEFAULT

The city reserves the right to cancel all or any part of this order without cost to the city if the vendor fails to meet the provisions for this order, and except as

otherwise provided herein, to hold the vendor liable for any excess cost occasioned by the city due to the vendor's default. The vendor shall not be liable for any excess cost if failure to perform the order arises out of causes beyond the control and with the fault or negligence of the Vendor and these causes have been made known to the City of Santa Fe in written form within five working days of the vendor becoming aware of a cause which may create any delay; such causes include, but are not limited to, acts of God or the public enemy, acts of the State or of the Federal Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather and defaults of sub-contractors due to any of the above unless the city shall determine that the suppliers or services to be furnished by the sub-contractor are obtainable from other sources in sufficient time to permit the vendor to meet the required delivery schedule. The rights and remedies of the city are not limited to those provided for in this paragraph and are in addition to any other rights provided for by law.

9. NON-DISCRIMINATION

By signing this City of Santa Fe bid or proposal, the vendor agrees to comply with the Presidents Executive Order No. 11246 as amended.

10. NON-COLLUSION

In signing this bid or proposal, the vendor certifies he has not, either directly or indirectly, entered into action in restraint of full competition in connection with this bid or proposal submittal to the City of Santa Fe.

SPECIFICATIONS
20/09/B

See Specification Index, attachments and Appendix

CITY OF SANTA FE BID FORM
BID # '20/09/B

EXCEPTIONS TO SPECIFICATIONS

Bidder is required to return **two (2) complete copies** of these specifications, completely furnishing all information requested. All requested information, data, literature, drawings, etc. must be included with the bid submitted.

Bidder must check one of the following:

- a. (_____) All specifications, terms and conditions are met.
- b. () Exceptions have been taken and noted on attached sheet (s).

All variations and/or exceptions to the specifications must be documented, referencing applicable paragraph (s) and explained in detail. Attach as many pages as necessary. If no exceptions are taken, it will be assumed that the bid meets all specifications and terms and conditions as stated in this complete bid package. Failure to list exceptions may disqualify bid. Delivery of non-conforming goods is at the expense of the bidder and/or other penalties.

All other specifications not detailed herein shall be as listed in the manufacturer's printed literature for the current standard model. Manufacturer's printed literature and specifications sheets shall be submitted with the bid.

Exceptions will not necessarily eliminate the bid. City staff shall determine acceptance or non-acceptance of exceptions. Unless otherwise noted and approved, it is assumed that delivery of the unit shall be as stated.

Signed submission of this bid represents that the bidder has accepted all terms, conditions and requirements of the bid unless a written exception is made and, if awarded, the bid will represent the agreement between the parties. Additionally, by signing this bid, the bidder warrants that there was no collusion of any kind in submission of this bid.

WARRANTIES

Warranty required for material and workmanship for minimum of one year unless otherwise stated in the bid. Warranties shall begin when the City accepts satisfactory delivery of equipment from the bidder. The warranty contract shall be solely with the bidder and the bidder shall be responsible for ensuring all warranty work is satisfactorily completed on any component of the unit. All details of warranties shall be included with the bid.

State name, address and phone number of nearest authorized maintenance representative:

DELIVERY

Bids shall include all costs of delivery to the City of Santa Fe, the specific location to be as designated by City staff. Units shall be completely operational and ready for use.

Date of delivery after notice to proceed:

110 calendar days.

Bidder SHALL INCLUDE descriptive material such as plans, drawings, photographs, diagrams, illustrations, written descriptions and manufacturer's literature with specifications with the bid. Additional information or details may be required after the bid opening. Bids may be disqualified if such information is not adequate to make a reasonably informed decision as to qualify, design, capabilities, etc.

The City reserves the right to alter quantities based on availability of budget. If this will alter the bid amount, the bidder must note the percent increase for lesser quantities.

BIDDER'S:

Firm

Address

Authorized Signature

Print Name

Position

Phone Number

Fax Number

DATE

N.M. RESIDENT PREFERENCE NUMBER (if applicable): _____

TWO COMPLETE COPIES OF THE BID SUBMITTAL IS REQUIRED

BD FORM (CONTINUED)

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the Owner in the form included in the Bidding Documents to perform and furnish all work as specified or indicated in the Bidding Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. The Bidder accepts all of the terms and conditions of the Invitation for Bid and Instructions to Bidders, including, without limitation, those dealing with the disposition of Bid security and other Bidding Documents. This Bid will remain subject to acceptance for *60 days after the day of Bid opening. The Bidder shall sign and submit the City of Santa Fe Contract (hereinafter called Agreement) with the bonds and other documents required by the Bidding Requirements within fifteen (15) calendar days after the date of the Owner's Notice to Award.
3. In submitting this Bid, the Bidder represents, as more fully set forth in the Agreement, that:
 - A. The Bidder has examined copies of all the Bidding Documents and of the following Addenda (receipt of all of which is hereby acknowledged):

No. _____	Date _____	No. _____	Date _____
No. _____	Date _____	No. _____	Date _____
No. _____	Date _____	No. _____	Date _____
No. _____	Date _____	No. _____	Date _____
 - B. The Bidder has familiarized himself with the nature and extent of the Bidding Documents, work, site, locality, and all local condition, laws, and regulations that in any manner may affect cost, progress, performance, or furnishing of the work.
 - C. The Bidder has carefully studied all reports and drawings of subsurface conditions which are identified in the Information Available to Bidders and accepts the determination set forth in the Information Available to Bidders of the extent of the technical data contained in such reports and drawings upon which the Bidder is entitled to rely.
 - D. The Bidder has correlated the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Bidding Documents.
 - E. The Bidder has given the Owner written notice of all conflicts, errors, or discrepancies that he has discovered in the Bidding Documents, and the written resolution thereof by the Owner is acceptable to the Bidder.
 - F. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporations, the Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; the Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and the Bidder has not sought by collusion to obtain for himself any advantage over any other Bidder or over the Owner. It is understood that the Owner reserves the right to reject any or all Bids and to waive any technical irregularities in the bidding.
 - G. It is the intent of the City to award a Contract to the responsible Bidder submitting the lowest total option, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and is in the best interest of the City.
4. The Bidder will complete the work designated as CIP Project No: 665B – SANTA FE TRAILS BUS SHELTERS PHASE 3, which consists of custom steel fabrication of Seventy-Five (75) Product Package 'A' shelters (panels), including artistic panels, powder coating, anti-graffiti coating, bases and anchor bolts. The work also includes delivery to Santa Fe and off-loading at designated location, for the following price(s):
(All prices listed below are for a complete product and includes all labor, materials, equipment, bonding, insurance, overhead & profit, etc.)

Base Bid: _____ (\$ _____)

(use words)

Gross Receipts Tax (8.4375%)

_____ (\$ _____)

(use words)

Total Base Bid and Plus Tax

_____ (\$ _____)
(use words)

Additive Alternate No. 1: Fabrication of additional five (5) units of Product Package 'A' shelters (panels) as stated above, including delivery to Santa Fe and off-loading.

Additive _____ (\$ _____)
(use words – including gross receipt tax @ 8.4375%)

Additive Alternate No. 2: Fabrication of additional five (5) units of Product Package 'A' shelters (panels) as stated above, including delivery to Santa Fe and off-loading.

Additive _____ (\$ _____)
(use words – including gross receipt tax @ 8.4375%)

5. The Bidder agrees that:

- A. The work to be performed under the Contract shall commence not later than ten (10) consecutive calendar days after the date of written Notice to Proceed, and that completion of the Base Bid shall be achieved not later than one hundred ten (110) calendar days after the date of written "Notice to Proceed", except as hereafter extended by valid written "Change Order" by the Owner.
- B. The above process shall include all labor, profit, insurance, taxes, etc., to cover the finished work of the several kinds called for. Changes shall be processed in accordance with the Contract Documents.
- C. It is understood that the Owner reserves the right to reject any or all Bids and to waive any technical irregularities in the bidding.

6. The following documents are attached to and made a condition of this Bid:

- A. Check for the Bid Bond.
- B. This Bid Form, properly filled out and executed, including acknowledgement of Addenda, if any
- C. Non-Collusion Affidavit of Prime Bidder
- D. Equal Employment Opportunity
- E. Certificate of Non-Segregated Facilities
- F. Certificate of Registration with New Mexico Dept. of Workforce Solutions
- G. Subcontractors Listing
- H. Signed Federal Contract Clauses

If any of the above requirements have not been met, the bid shall not be read.

7. The terms used in this Bid and the Bidding and Contract Documents which are defined in the Conditions of the Construction Contract (General, Supplementary, and Other Conditions)

8. If the Bidder is:

A. AN INDIVIDUAL:

By: _____
(Individual's Name)

doing business as:

Business address: _____

Telephone: _____

(SEAL)

B. A PARTNERSHIP:

By: _____
(Firm Name)

(General Partner)

Business Address: _____

Telephone: _____

(SEAL)

C. A CORPORATION

By: _____
(Corporation Name)

(State of Incorporation)

By: _____
(Name of person authorized to sign)

(Title)

If a New Mexico
Corporation: _____
Certificate of Incorporation No.

If a Foreign Corporation: _____
Certificate of Authority No.

Attest: _____
(Secretary)

Business address: _____

Telephone: _____

D. A JOINT VENTURE

By: _____
(Name)

Address: _____

By: _____
(Name)

Address: _____

Each joint venture must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated in the appropriate category.

Bidder must fill in the following: (If none, write none)

NM License No.: _____ Classification: _____

NM Taxation and Revenue CRS No.: _____

City of Santa Fe Business Registration No.: _____

NM Resident Preference Number (if applicable): _____

One Original and one copy of the Bid Submittal is required

SUPPLEMENT TO BID FORMS
(00 4300-4500)

(00 4313) BID SECURITY FORM

Review and Approval: This Bond has been executed by a Surety named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, United States Treasury Department.

Approved:

DATE:

Owner's Representative or Governing Authority

THIS FORM MUST ACCOMPANY THE BID BOND

(00 4517) AGENT'S AFFIDAVIT

BID SECURITY FORM

(To be filled in by Agent)

STATE OF)
) ss.
COUNTY OF)

_____ being first duly
sworn deposes and says:

that he is the duly appointed agent for

_____ and licensed in the State of New Mexico. Deponent further states that a certain bond given to indemnify the State of New Mexico

in connection with the construction of

_____ dated _____ day of _____, 20____, executed by

contractor, as principal and _____, as surety, signed by this
deponent; and deponent further states that said bond was written, signed, and delivered by him; that the premium on the same has
been or will be collected by him; and that the full commission thereon has been or will be retained by him.

Subscribed and sworn to before me, a notary public in and for the County of _____, this
_____ day of _____, 20_____.

My Commission expires: _____

Agent's Address: _____

Telephone: _____

(00 4518) SUBCONTRACTOR LISTING

Note: A subcontractor that submits a bid valued at more than fifty thousand dollars (\$60,000) for a city project that is subject to the Public Works Minimum Wage Act 13-4-10 NMSA 1978) shall be registered with the labor and industrial division of the labor department. For this project, list below all subcontractors with more than \$5,000 work.

Section 00430

TRADE	NAME	ADDRESS	TELEPHONE#	LICENSE #	NM DEPT. OF LABOR REGISTRATION #	SUBCONTRACTOR SIGNATURE - TO BE OBTAINED AFTER AWARD OF CONTRACT
-------	------	---------	------------	-----------	-------------------------------------	---

(00 4519) NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

STATE OF _____)
)ss.
COUNTY OF _____)

_____, being first duly sworn, deposes and says that:

- 1) He is the _____ of _____,
the Bidder that has submitted and attached Bid;
- 2) He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;
- 3) Such Bid is genuine and is not a collusive or sham Bid;
- 4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with the Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract or has in any manner directly or indirectly, sought by agreement or collusion or communications or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Santa Fe, or any person interested in the proposed Contract; and
- 5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affront.

By: _____

Title: _____

Subscribed and sworn to before me this _____ day of _____, 20__.

Notary Public

My Commission expires: _____

(00 4533) CERTIFICATION OF NONSEGREGATED FACILITIES

(Applicable to construction contracts and related subcontracts exceeding \$10,000 which are not exempt from the Equal Opportunity Clause.)

The construction contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The construction contractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract. As used in this certification, the term "segregated facilities" means: any waiting room, work areas, rest rooms and wash rooms, restaurants and other eating areas; time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin because of habit, local custom, or otherwise. The construction contractor agrees that (except where he has obtained identical certifications from proposed Subcontractors for specific time periods) he will obtain identical certifications from proposed SUBCONTRACTORS prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provision of the Equal Opportunity Clause and that he will retain such certifications in his files.

By: _____
Title: _____

Subscribed and sworn to before me this _____ day of _____, 20__.

Notary Public

My Commission expires: _____

(00 4546) CERTIFICATION OF EQUAL EMPLOYMENT OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F.R. 12319-25). The implementing rules and regulations provide that any Bidder or perspective contractor, or any of their proposed Subcontractors, shall state as an initial part of the Bid or negotiations of the Contract whether he has participated in any previous Contract or subcontract subject to the equal opportunity clause; and, if so, whether he has filed all compliance reports due under applicable instructions.

Where the certification indicates that the Bidder has not filed a compliance report due under applicable instructions, such Bidder shall be required to submit a compliance report within seven calendar days after Bid opening. No Contract shall be awarded unless such report is submitted.

CERTIFICATION BY BIDDER

Bidder's Name: _____

Address: _____

1. Bidder has participated in a previous Contract or subcontract subject to the equal Opportunity Clause.

_____ Yes _____ No

2. Compliance reports were required to be filed in connection with such Contract or subcontract.

_____ Yes _____ No

Certification - The information above is true and complete to the best of my knowledge and belief.

Name and Title of Signer (please type)

Signature

Date

INDEX TO FEDERAL CONTRACT CLAUSES

Federal Contract Clause

Access to Records and Reports

Clean Air Act and Federal Water Pollution Control Act

Civil Rights Laws and Regulations

Disadvantaged Business Enterprise (DBE)

Employee Protections

Energy Conservation

Government-Wide Debarment and Suspension

Lobbying Restrictions

No Government Obligation to Third Parties

Program Fraud and False or Fraudulent Statements
And Related Acts

Violation and Breach of Contract

A.1 ACCESS TO RECORDS AND REPORTS

49 U.S.C. § 5325(g)

2 C.F.R. § 200.333

49 C.F.R. part 633

Access to Records and Reports

- a. Record Retention. The Contractor will retain, and will require its subcontractors of all tiers to retain, complete and readily accessible records related in whole or in part to the contract, including, but not limited to, data, documents, reports, statistics, sub-agreements, leases, subcontracts, arrangements, other third party agreements of any type, and supporting materials related to those records.
- b. Retention Period. The Contractor agrees to comply with the record retention requirements in accordance with 2 C.F.R. § 200.333. The Contractor shall maintain all books, records, accounts and reports required under this Contract for a period of at not less than three (3) years after the date of termination or expiration of this Contract, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case records shall be maintained until the disposition of all such litigation, appeals, claims or exceptions related thereto.
- c. Access to Records. The Contractor agrees to provide sufficient access to FTA and its contractors to inspect and audit records and information related to performance of this contract as reasonably may be required.
- d. Access to the Sites of Performance. The Contractor agrees to permit FTA and its contractors access to the sites of performance under this contract as reasonably may be required.

A.7 CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

42 U.S.C. §§ 7401 – 7671q

33 U.S.C. §§ 1251-1387

2 C.F.R. part 200, Appendix II (G)

The Contractor agrees:

- 1) It will not use any violating facilities;
- 2) It will report the use of facilities placed on or likely to be placed on the U.S. EPA “List of Violating Facilities;”
- 3) It will report violations of use of prohibited facilities to FTA; and
- 4) It will comply with the inspection and other requirements of the Clean Air Act, as amended, (42 U.S.C. §§ 7401 – 7671q); and the Federal Water Pollution Control Act as amended, (33 U.S.C. §§ 1251-1387).

A.8 CIVIL RIGHTS LAWS AND REGULATIONS

Civil Rights and Equal Opportunity

The AGENCY is an Equal Opportunity Employer. As such, the AGENCY agrees to comply with all applicable Federal civil rights laws and implementing regulations. Apart from inconsistent requirements imposed by Federal laws or regulations, the AGENCY agrees to comply with the requirements of 49 U.S.C. § 5323(h) (3) by not using any Federal assistance awarded by FTA to support procurements using exclusionary or discriminatory specifications.

Under this Agreement, the Contractor shall at all times comply with the following requirements and shall include these requirements in each subcontract entered into as part thereof.

1. **Nondiscrimination.** In accordance with Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, sex, disability, or age. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.
2. **Race, Color, Religion, National Origin, Sex.** In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e *et seq.*, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. chapter 60, and Executive Order No. 11246, "Equal Employment Opportunity in Federal Employment," September 24, 1965, 42 U.S.C. § 2000e note, as amended by any later Executive Order that amends or supersedes it, referenced in 42 U.S.C. § 2000e note. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, national origin, or sex (including sexual orientation

2. and gender identity). Such action shall include, but not be limited to, the following: employment, promotion, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
3. **Age.** In accordance with the Age Discrimination in Employment Act, 29 U.S.C. §§ 621-634, U.S. Equal Employment Opportunity Commission (U.S. EEOC) regulations, "Age Discrimination in Employment Act," 29 C.F.R. part 1625, the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6101 *et seq.*, U.S. Health and Human Services regulations, "Nondiscrimination on the Basis of Age in Programs or Activities Receiving Federal Financial Assistance," 45 C.F.R. part 90, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
4. **Disabilities.** In accordance with section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, the Americans with Disabilities Act of 1990, as amended, 42 U.S.C. § 12101 *et seq.*, the Architectural Barriers Act of 1968, as amended, 42 U.S.C. § 4151 *et seq.*, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against individuals on the basis of disability. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

A.9 DISADVANTAGED BUSINESS ENTERPRISE (DBE)

49 C.F.R. part 26

Overview

It is the policy of the AGENCY and the United States Department of Transportation (“DOT”) that Disadvantaged Business Enterprises (“DBE’s”), as defined herein and in the Federal regulations published at 49 C.F.R. part 26, shall have an equal opportunity to participate in DOT-assisted contracts. It is also the policy of the AGENCY to:

1. Ensure nondiscrimination in the award and administration of DOT-assisted contracts;
2. Create a level playing field on which DBE’s can compete fairly for DOT-assisted contracts;
3. Ensure that the DBE program is narrowly tailored in accordance with applicable law;
4. Ensure that only firms that fully meet 49 C.F.R. part 26 eligibility standards are permitted to participate as DBE’s;
5. Help remove barriers to the participation of DBEs in DOT assisted contracts;
6. To promote the use of DBEs in all types of federally assisted contracts and procurement activities; and
7. Assist in the development of firms that can compete successfully in the marketplace outside the DBE program.

This Contract is subject to 49 C.F.R. part 26. Therefore, the Contractor must satisfy the requirements for DBE participation as set forth herein. These requirements are in addition to all other equal opportunity employment requirements of this Contract. The AGENCY shall make all determinations with regard to whether or not a Bidder/Offeror is in compliance with the requirements stated herein. In assessing compliance, the AGENCY may consider during its review of the Bidder/Offeror’s submission package, the Bidder/Offeror’s documented history of non-compliance with DBE requirements on previous contracts with the AGENCY.

Contract Assurance

The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 C.F.R. part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible. 49 C.F.R. § 26.13(b).

DBE Participation

For the purpose of this Contract, the AGENCY will accept only DBE's who are:

1. Certified, at the time of bid opening or proposal evaluation, by the [*certifying agency or the Unified Certification Program (UCP)*]; or
2. An out-of-state firm who has been certified by either a local government, state government or Federal government entity authorized to certify DBE status or an agency whose DBE certification process has received FTA approval; or
3. Certified by another agency approved by the AGENCY.

DBE Participation Goal

The DBE participation goal for this Contract is set at %. This goal represents those elements of work under this Contract performed by qualified Disadvantaged Business Enterprises for amounts totaling **not less than** % of the total Contract price. Failure to meet the stated goal at the time of proposal submission **may** render the Bidder/Offeror non-responsive.

Proposed Submission

Each Bidder/Offeror, as part of its submission, shall supply the following information:

1. A completed **DBE Utilization Form** (see below) that indicates the percentage and dollar value of the total bid/contract amount to be supplied by Disadvantaged Business Enterprises under this Contract.
2. A list of those qualified DBE's with whom the Bidder/Offeror intends to contract for the performance of portions of the work under the Contract, the agreed price to be paid to each DBE for work, the Contract items or parts to be performed by each DBE, a proposed timetable for the performance or delivery of the Contract item, and other information as required by the **DBE Participation Schedule** (see below). No work shall be included in the Schedule that the Bidder/Offeror has reason to believe the listed DBE will subcontract, at any tier, to other than another DBE. If awarded the Contract, the Bidder/Offeror may not deviate from the DBE Participation Schedule submitted in response to the bid. Any subsequent changes and/or substitutions of DBE firms will require review and written approval by the AGENCY.
3. An original **DBE Letter of Intent** (see below) from each DBE listed in the **DBE Participation Schedule**.
4. An original **DBE Affidavit** (see below) from each DBE stating that there has not been any change in its status since the date of its last certification.

Good Faith Efforts

If the Bidder/Offeror is unable to meet the goal set forth above (DBE Participation Goal), the AGENCY will consider the Bidder/Offeror's documented good faith efforts to meet the goal in determining responsiveness. The types of actions that the AGENCY will consider as part of the Bidder/Offeror's good faith efforts include, but are not limited to, the following:

1. Documented communication with the AGENCY's DBE Coordinator (questions of IFB or RFP requirements, subcontracting opportunities, appropriate certification, will be addressed in a timely fashion);
2. Pre-bid meeting attendance. At the pre-bid meeting, the AGENCY generally informs potential Bidder/Offeror's of DBE subcontracting opportunities;

3. The Bidder/Offeror's own solicitations to obtain DBE involvement in general circulation media, trade association publication, minority-focus media and other reasonable and available means within sufficient time to allow DBEs to respond to the solicitation;
4. Written notification to DBE's encouraging participation in the proposed Contract; and Efforts made to identify specific portions of the work that might be performed by DBE's.

The Bidder/Offeror shall provide the following details, at a minimum, of the specific efforts it made to negotiate in good faith with DBE's for elements of the Contract:

1. The names, addresses, and telephone numbers of DBE's that were contacted;
2. A description of the information provided to targeted DBE's regarding the specifications and bid proposals for portions of the work;
3. Efforts made to assist DBE's contacted in obtaining bonding or insurance required by the Bidder or the Authority.

Further, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted when a non-DBE subcontractor was selected over a DBE for work on the contract. 49 C.F.R. § 26.53(b) (2) (VI). In determining whether a Bidder has made good faith efforts, the Authority may take into account the performance of other Bidders in meeting the Contract goals. For example, if the apparent successful Bidder failed to meet the goal, but meets or exceeds the average DBE participation obtained by other Bidders, the Authority may view this as evidence of the Bidder having made good faith efforts.

Administrative Reconsideration

Within five (5) business days of being informed by the AGENCY that it is not responsive or responsible because it has not documented sufficient good faith efforts, the Bidder/Offeror may request administrative reconsideration. The Bidder should make this request in writing to the AGENCY's [Contact Name]. The [Contact Name] will forward the Bidder/Offeror's request to a reconsideration official who will not have played any role in the original determination that the Bidder/Offeror did not document sufficient good faith efforts.

As part of this reconsideration, the Bidder/Offeror will have the opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so. The Bidder/Offeror will have the opportunity to meet in person with the assigned reconsideration official to discuss the issue of whether it met the goal or made adequate good faith efforts to do so. The AGENCY will send the Bidder/Offeror a written decision on its reconsideration, explaining the basis for finding that the Bidder/Offeror did or did not meet the goal or make adequate good faith efforts to do so. The result of the reconsideration process is not administratively appealable to the Department of Transportation.

Termination of DBE Subcontractor

The Contractor shall not terminate the DBE subcontractor(s) listed in the **DBE Participation Schedule** (see below) without the AGENCY's prior written consent. The AGENCY may provide such written consent only if the Contractor has good cause to terminate the DBE firm. Before transmitting a request to terminate, the Contractor shall give notice in writing to the DBE subcontractor of its intent to terminate and the reason for the request. The Contractor shall give the DBE five days to respond to the notice and advise of the reasons why it objects to the proposed termination. When a DBE subcontractor is terminated or fails to complete its work on the Contract for any reason, the Contractor shall make good faith efforts to find another DBE subcontractor to substitute for the original DBE and immediately notify the AGENCY in writing of its efforts to replace the original DBE. These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the Contract as the DBE that was terminated, to the extent needed to meet the Contract goal established for this procurement. Failure to comply with these requirements will be in accordance with Section 8 below (Sanctions for Violations).

Continued Compliance

The AGENCY shall monitor the Contractor's DBE compliance during the life of the Contract. In the event this procurement exceeds ninety (90) days, **it will be the responsibility of the Contractor to submit quarterly written reports to the AGENCY that** summarize the total DBE value for this Contract. These reports shall provide the following details:

- DBE utilization established for the Contract;
- Total value of expenditures with DBE firms for the quarter;
- The value of expenditures with each DBE firm for the quarter by race and gender;
- Total value of expenditures with DBE firms from inception of the Contract; and
- The value of expenditures with each DBE firm from the inception of the Contract by race and gender.

Reports and other correspondence must be submitted to the DBE Coordinator with copies provided to the [Agency Name1] and [Agency Name2]. Reports shall continue to be submitted quarterly until final payment is issued or until DBE participation is completed.

The successful Bidder/Offeror shall permit:

- The AGENCY to have access to necessary records to examine information as the AGENCY deems appropriate for the purpose of investigating and determining compliance with this provision, including, but not limited to, records of expenditures, invoices, and contract between the successful Bidder/Offeror and other DBE parties entered into during the life of the Contract.
- The authorized representative(s) of the AGENCY, the U.S. Department of Transportation, the Comptroller General of the United States, to inspect and audit all data and record of the Contractor relating to its performance under the Disadvantaged Business Enterprise Participation provision of this Contract.
- All data/record(s) pertaining to DBE shall be maintained as stated in Section [insert reference to record keeping requirements for the Project.]

Sanctions for Violations

If at any time the AGENCY has reason to believe that the Contractor is in violation of its obligations under this Agreement or has otherwise failed to comply with terms of this Section, the AGENCY may, in addition to pursuing any other available legal remedy, commence proceedings, which may include but are not limited to, the following:

- Suspension of any payment or part due the Contractor until such time as the issues concerning the Contractor's compliance are resolved; and
- Termination or cancellation of the Contract, in whole or in part, unless the successful Contractor is able to demonstrate within a reasonable time that it is in compliance with the DBE terms stated herein.

DBE UTILIZATION FORM

The undersigned Bidder/Offeror has satisfied the requirements of the solicitation in the following manner (please check the appropriate space):

_____ The Bidder/Offer is committed to a minimum of _____% DBE utilization on this contract.

_____ The Bidder/Offeror (if unable to meet the DBE goal of ____%) is committed to a minimum of _____% DBE utilization on this contract and submits documentation demonstrating good faith efforts.

DBE PARTICIPATION SCHEDULE

The Bidder/Offeror shall complete the following information for all DBE's participating in the contract that comprises the DBE Utilization percent stated in the DBE Utilization Form. The Bidder/Offeror shall also furnish the name and telephone number of the appropriate contact person should the Authority have any questions in relation to the information furnished herein.

DBE IDENTIFICATION AND INFORMATION FORM

Name and Address	Contact Name and Telephone Number	Participation Percent (Of Total Contract Value)	Description Of Work To Be Performed	Race and Gender of Firm

A.10 EMPLOYEE PROTECTIONS

49 U.S.C. § 5333(a)

40 U.S.C. §§ 3141 – 3148

29 C.F.R. part 5

18 U.S.C. § 874

29 C.F.R. part 3

40 U.S.C. §§3701-3708

29 C.F.R. part 1926

Contract Work Hours and Safety Standards

For all contracts in excess of \$100,000 that involve the employment of mechanics and guards, on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. § 3704 are applicable to construction work and provide that no laborer or mechanic be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchase of supplies or materials or articles ordinarily available on the open market, or to contracts for transportation or transmission of intelligence.

In the event of any violation of the clause set forth herein, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, the Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of this clause in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by this clause.

The FTA shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the same prime Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in this section.

The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in this agreement.

Contract Work Hours and Safety Standards for Awards Not Involving Construction

The Contractor shall comply with all federal laws, regulations, and requirements providing wage and hour protections for non-construction employees, in accordance with 40 U.S.C. § 3702, Contract Work Hours and Safety Standards Act, and other relevant parts of that Act, 40 U.S.C. § 3701 *et seq.*, and U.S. DOL regulations, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Non-construction Contracts Subject to the Contract Work Hours and Safety Standards Act),” 29 C.F.R. part 5.

The Contractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three (3) years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid.

Such records maintained under this paragraph shall be made available by the Contractor for inspection, copying, or transcription by authorized representatives of the FTA and the Department of Labor, and the Contractor will permit such representatives to interview employees during working hours on the job.

The contractor shall require the inclusion of the language of this clause within subcontracts of all tiers.

A.11 ENERGY CONSERVATION

42 U.S.C. 6321 *et seq.*

49 C.F.R. part 622, subpart C

Energy Conservation

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency, which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

A.13 GOVERNMENT-WIDE DEBARMENT AND SUSPENSION

2 C.F.R. part 180

2 C.F.R part 1200

2 C.F.R. § 200.213

2 C.F.R. part 200 Appendix II (I)

Executive Order 12549

Executive Order 12689

Debarment, Suspension, Ineligibility and Voluntary Exclusion

The Contractor shall comply and facilitate compliance with U.S. DOT regulations, “Nonprocurement Suspension and Debarment,” 2 C.F.R. part 1200, which adopts and supplements the U.S. Office of Management and Budget (U.S. OMB) “Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement),” 2 C.F.R. part 180. These provisions apply to each contract at any tier of \$25,000 or more, and to each contract at any tier for a federally required audit (irrespective of the contract amount), and to each contract at any tier that must be approved by an FTA official irrespective of the contract amount. As such, the Contractor shall verify that its principals, affiliates, and subcontractors are eligible to participate in this federally funded contract and are not presently declared by any Federal department or agency to be:

- a) Debarred from participation in any federally assisted Award;
- b) Suspended from participation in any federally assisted Award;
- c) Proposed for debarment from participation in any federally assisted Award;
- d) Declared ineligible to participate in any federally assisted Award;
- e) Voluntarily excluded from participation in any federally assisted Award; or
- f) Disqualified from participation in any federally assisted Award.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by the AGENCY. If it is later determined by the AGENCY that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to the AGENCY, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 2 C.F.R. part 180, subpart C, as supplemented by 2 C.F.R. part 1200, while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

A.14 LOBBYING RESTRICTIONS

31 U.S.C. § 1352

2 C.F.R. § 200.450

2 C.F.R. part 200 appendix II (J)

49 C.F.R. part 20

Lobbying Restrictions

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

_____ Signature of Contractor's Authorized Official

_____ Name and Title of Contractor's Authorized Official

_____ Date

A.15 NO GOVERNMENT OBLIGATION TO THIRD PARTIES

No Federal Government Obligation to Third Parties.

The Recipient and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying Contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this Contract and shall not be subject to any obligations or liabilities to the Recipient, Contractor or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying Contract. The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by the FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

A.18 PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND RELATED ACTS

49 U.S.C. § 5323(l) (1)

31 U.S.C. §§ 3801-3812

18 U.S.C. § 1001

49 C.F.R. part 31

Program Fraud and False or Fraudulent Statements or Related Acts

The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 *et seq.* and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. chapter 53, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5323(l) on the Contractor, to the extent the Federal Government deems appropriate.

The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

A.26 VIOLATION AND BREACH OF CONTRACT

2 C.F.R. § 200.326

2 C.F.R. part 200, Appendix II (A)

Rights and Remedies of the AGENCY

The AGENCY shall have the following rights in the event that the AGENCY deems the Contractor guilty of a breach of any term under the Contract.

1. The right to take over and complete the work or any part thereof as agency for and at the expense of the Contractor, either directly or through other contractors;
2. The right to cancel this Contract as to any or all of the work yet to be performed;
3. The right to specific performance, an injunction or any other appropriate equitable remedy; and
4. The right to money damages.

For purposes of this Contract, breach shall include [AGENCY to define].

Rights and Remedies of Contractor

Inasmuch as the Contractor can be adequately compensated by money damages for any breach of this Contract, which may be committed by the AGENCY, the Contractor expressly agrees that no default, act or omission of the AGENCY shall constitute a material breach of this Contract, entitling Contractor to cancel or rescind the Contract (unless the AGENCY directs Contractor to do so) or to suspend or abandon performance.

Remedies

Substantial failure of the Contractor to complete the Project in accordance with the terms of this Agreement will be a default of this Agreement. In the event of a default, the AGENCY will have all remedies in law and equity, including the right to specific performance, without further assistance, and the rights to termination or suspension as provided herein. The Contractor recognizes that in the event of a breach of this Agreement by the Contractor before the AGENCY takes action contemplated herein, the AGENCY will provide the Contractor with sixty (60) days written notice that the AGENCY considers that such a breach has occurred and will provide the Contractor a reasonable period of time to respond and to take necessary corrective action.

Disputes

- **Example 1:** Disputes arising in the performance of this Contract that are not resolved by agreement of the parties shall be decided in writing by the authorized representative of AGENCY's [title of employee]. This decision shall be final and conclusive unless within [10] days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to the [title of employee]. In connection with any such appeal, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of the [title of employee] shall be binding upon the Contractor and the Contractor shall abide by the decision.
- **Example 2:** The AGENCY and the Contractor intend to resolve all disputes under this Agreement to the best of their abilities in an informal manner. To accomplish this end, the parties will use an Alternative Dispute Resolution process to resolve disputes in a manner designed to avoid litigation. In general, the parties contemplate that the Alternative Dispute Resolution process will include, at a minimum, an attempt to resolve disputes through communications between their staffs, and, if resolution is not reached at that level, a procedure for review and action on such disputes by appropriate management level officials within the AGENCY and the Contractor's organization.

In the event that a resolution of the dispute is not mutually agreed upon, the parties can agree to mediate the dispute or proceed with litigation. Notwithstanding any provision of this section, or any other provision of this Contract, it is expressly agreed and understood that any court proceeding arising out of a dispute under the Contract shall be heard by a Court de novo and the court shall not be limited in such proceeding to the issue of whether the Authority acted in an arbitrary, capricious or grossly erroneous manner.

Pending final settlement of any dispute, the parties shall proceed diligently with the performance of the Contract, and in accordance with the AGENCY's direction or decisions made thereof.

Performance during Dispute

Unless otherwise directed by AGENCY, Contractor shall continue performance under this Contract while matters in dispute are being resolved.

Claims for Damages

Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the party or of any of its employees, agents or others for whose acts it is legally liable, a claim for damages therefor shall be made in writing to such other party within a reasonable time after the first observance of such injury or damage.

Remedies

Unless this Contract provides otherwise, all claims, counterclaims, disputes and other matters in question between the AGENCY and the Contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which the AGENCY is located.

Rights and Remedies

The duties and obligations imposed by the Contract documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by the AGENCY or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

Purpose:

The City of Santa Fe Living Wage Ordinance was adopted to establish minimum hourly wages.

Who it affects:

- All profit and nonprofit businesses required to have a business license or business registration with the City of Santa Fe.

Compliance:

- Affected businesses are required to pay employees an hourly wage of \$10.84 effective March 1, 2015.
- Beginning January 1, 2009, and each year thereafter, the minimum wage shall be adjusted upward by an amount corresponding to the previous year's increase, if any, in the Consumer Price Index for the Western Region for Urban Wage Earners and Clerical Workers.
- For workers who customarily receive more than \$100 per month in tips or commissions, any tips or commissions received and retained by a worker shall be counted as wages and credited toward satisfaction of the minimum wage provided that, for tipped workers, all tips received by such workers are retained by the workers, except that the pooling of tips among workers shall be permitted.
- The value of health care benefits and child care shall be considered as an element of wages.
- Nonprofit organizations whose primary source of funds is from Medicaid waivers are *exempt*.

Prohibitions against retaliation and circumvention:

- It shall be unlawful for any business, employer or employer's agent or representative to take any action against an individual in retaliation for exercising or communicating rights under this ordinance. This includes retaliation against individuals who mistakenly but in good faith allege noncompliance with the ordinance.
- Taking adverse action against an individual within 60 days of the individual's assertion of or communication of information regarding rights raises a rebuttable presumption of retaliation for assertion of rights.
- It shall be unlawful for any business or employer to intentionally circumvent the requirements of this ordinance by contracting portions of its operations or leasing portions of its property.

Enforcement and Remedies:

- Administrative Enforcement—The city manager, or his/her designee, is authorized, as appropriate and as resources permit, to enforce this ordinance.
- Criminal Penalty—A person violating this ordinance shall be guilty of a misdemeanor and, upon conviction, for each offense may be subject to fines and imprisonment as set forth in Section 1-3 SFCC 1987. A person violating any of the requirements of this ordinance shall be guilty of a separate offense for each day or portion thereof and for each worker or person to whom any such violation occurred.
- Other Remedies—The city, any individual aggrieved by a violation of this ordinance, or any entity the members of which have been aggrieved by a violation of this ordinance, may bring a civil action in a court of competent jurisdiction to restrain, correct, abate or remedy any violation of this ordinance and, upon prevailing, shall be entitled to such legal or equitable relief as may be appropriate to remedy the violation including, without limitation, reinstatement, the payment of any wages due and an additional amount as liquidated damages equal to twice the amount of any wages due, injunctive relief, and reasonable attorney's fees and costs.

Nonexclusive Remedies and Penalties—The remedies provided in this section are not exclusive, and nothing in this ordinance shall preclude any person from seeking any other remedies, penalties, or relief provided by law.

Posting and Publication:

- Any business subject to the provisions of this ordinance shall as a condition to obtaining and holding a City of Santa Fe business license or registration, post and display in a prominent location next to its business license or registration on the business premises a notice, in English and Spanish, that the business is in compliance with the provisions of this ordinance and post the text of this notice. Failure to comply with this section shall be construed a violation of this ordinance and, in addition, shall be considered grounds for suspensions, revocation, or termination of the business license or registration.

For more information, please contact: Constituent Services at 955-6949 Email: constituentservices@santafenm.gov

Ordenanza Respecto al Sueldo Mínimo

Ordenanza Numero §28-1 28-1.12 SFCC 1987

Propósito:

La ordenanza respecto al Sueldo Mínimo fue adoptada por la Ciudad de Santa Fe con el fin de establecer un sueldo mínimo que determinadas empresas tienen que pagar.

A Quién Afecta la Ordenanza:

- A toda empresa con o sin fines de lucro se requiere que tenga una licencia comercial o estar registrada con la ciudad de Santa Fe.

Cómo Se Tiene que Cumplir lo que Dispone la Ordenanza:

- A partir del día primero de Marzo del 2015, las empresas que tienen que pagar el sueldo mínimo tienen la obligación de pagar un sueldo de \$10.84 la hora.
- A partir del día primero de enero del 2009, y cada año que sigue, el sueldo mínimo será ajustado de acuerdo con la inflación.
- Para trabajadores/as que regularmente reciben propinas o comisiones que sumen más de \$100 por mes, todas esas propinas o comisiones que reciban contarán como si fueran sueldo y serán acreditadas para satisfacer la ordenanza, siempre y cuando los trabajadores se queden con todas sus propinas. También se permitirá acreditar propinas que se juntan y se comparten.
- El valor de beneficios de seguro médico y de cuidado de niños se considerará como parte del sueldo mínimo.
- Las organizaciones sin fines de lucro que reciben la mayoría de sus fondos de (*Medicaid*) no tienen que pagar el sueldo mínimo de la ciudad.

Se Prohíben Represalias o Evasiones:

- Es en contra de la ley que una empresa o persona que emplea trabajadores o que el apoderado o persona que representa a la empresa tome represalias en contra del trabajador porque el o ella ejerce sus derechos o comunica sus derechos a otra persona. También es en contra de la ley tomar represalias contra un trabajador que erróneamente, pero de buena fe, alega que la empresa no ha cumplido con la ordenanza.
- Se presume como represalia, tomar cualquier acción dentro de los 60 días después de que un individuo quiso ejercer sus derechos.
- Es en contra de la ley que un empresario o empleador intencionalmente trate de evadir los requisitos de esta ordenanza contratando parte de su negocio a otra empresa o rentando partes de su propiedad, con el fin de no cumplir con la ordenanza.

Remedios Legales Para Implementar la Ley:

- Medidas Administrativas - El Administrador de la ciudad o su representante está autorizado a hacer cumplir la ordenanza hasta donde los recursos lo permitan.
- Castigo Judicial - El empleador que no cumpla con esta ordenanza será condenado por cada infracción. Pudiera estar sujeto a multas o encarcelamiento según dispone la sección 1-3 del Código Civil de Santa Fe de 1987. El empleador que no cumpla cualquiera de los requisitos en esta ordenanza será culpable de una infracción por cada trabajador afectado, por cada día o parte del día que no se cumpla la ordenanza.
- Otros Recursos Judiciales - La Ciudad de Santa Fe, cualquier individuo o cualquier grupo de individuos que han sido afectados porque no se cumplió la ordenanza, podrán presentar una queja en la corte civil que tiene jurisdicción para restringir, corregir, suprimir, o remediar toda infracción de esta ordenanza. La persona que gane el caso tiene derecho a un remedio legal o equitativo que sea adecuado para remediar la violación. Los remedios incluyen y sin limitar, que lo/la vuelvan a emplear, que le paguen el sueldo que le deben más una cantidad por daños determinados que son el igual a doble cantidad del sueldo que le deben, protección judicial y cuotas razonables que cobra el abogado más costos del caso.

Remedios Legales, Daños y Perjuicios No Exclusivos Los remedios legales en esta sección no son exclusivos. Eso quiere decir que esta ordenanza no prohíbe que el trabajador trate de plantear otros remedios en la corte, demandar por daños y perjuicios que la ley permite.

Colocación de Anuncios y Publicación de los Anuncios:

- Como condición para obtener y mantener una licencia o registro comercial toda empresa tendrá que colocar en un lugar prominente al lado de su licencia o registro en el lugar de trabajo este aviso en inglés y en español indicando que el negocio está cumpliendo con la ordenanza y con el texto de este aviso. Si la empresa no cumple lo que esta sección ordena se considerará como violación a esta ordenanza y se podrá suspender, revocar o dar por terminada la licencia o registro de la empresa.

Para obtener más información, favor de comunicarse con la oficina de: Constituent Services al número (505) 955-6949 o por

Correo electrónico a: constitutentservices@santafenm.gov.

City of Santa Fe Contract

For Goods

Invitation for Bids

THIS AGREEMENT is made and entered into by and between the City of Santa Fe, herein after referred to as the "City", and <_____> herein after referred to as the "Contractor."

IT IS MUTUALLY AGREED BETWEEN THE PARTIES:

1. Definitions

A. "Products and Services Schedule" refers to the complete list of products and services offered under this Agreement and the price for each. Product and service descriptions may be amended with the prior approval of the Agreement Administrator. New products and services shall not be added to the Products and Services Schedule.

B. "Business Hours" means 8:00 a.m. to 5:00 p.m. Mountain Time.

C. "Products and Services schedule" refers to the complete list of products and services offered under this Agreement and the price for each. Product and service descriptions may be amended with the prior approval of the Agreement Administrator. New products and services shall not be added to the Products and Services Schedule.

D. "You" and "your" refers to (TBD). "We," "us" or "our" refers to the City and whose accounts are created under this Agreement.

2. Scope of Work

Fabrication of Santa Fe Trails – Product Package 'A', quantity of 'TBD' and to include delivery to Santa Fe and off-loading. Fabrication shall be as per specifications and details as indicated by the bid documents.

3. Compensation

The City shall pay to the Contractor based upon fixed prices for each Deliverable item as listed here.

Deliverable item:	U/I (unit of issue)		Price
01 Santa Fe Trails – Product Package 'A'	(75 units)	\$	TBD
02 Alternate #1: Santa Fe Trails – Product Package 'A' (5 units)		\$	TBD
03 Alternate #2: Santa Fe Trails – Product Package 'A' (5 units)		\$	TBD

The total compensation under this Agreement shall not exceed [\$_____], including New Mexico Gross Receipts Tax.

4 Payment Provisions

All payments under this Agreement are subject to the following provisions.

- A. Acceptance - In accordance with Section 13-1-158 NMSA 1978, the City shall determine if the product or services provided meet specifications. Until the products or services have been accepted in writing by the City, the City shall not pay for any products or services. Unless otherwise agreed upon between the City and the Contractor, within thirty (30) days from the date the City receives written notice from the Contractor that payment is requested for services or within thirty (30) days from the receipt of products, the City shall issue a written certification (by letter or email) of complete or partial acceptance or rejection of the products or services. Unless the City gives notice of rejection within the specified time period, the products or services will be deemed to have been accepted.
- B. Payment of Invoice - Upon acceptance that the products or services have been received and accepted, payment shall be tendered to the Contractor within thirty (30) days after the date of invoice. After the thirtieth day from the date that written certification of acceptance is issued, late payment charges shall be paid on the unpaid balance due on the contract to the Contractor at the rate of 1.5 % per month. Contractor may submit invoices for payment no more frequently than monthly. Payment will be made to the Contractor's designated mailing address. Payment on each invoice shall be due within 30 days from the date of the acceptance of the invoice. The City agrees to pay in full the balance shown on each account's statement, by the due date shown on said statement.

5 Term

THIS AGREEMENT SHALL NOT BECOME EFFECTIVE UNTIL APPROVED IN WRITING BY THE CITY. This Agreement shall begin on date approved by the City, and end on TBD. The City reserves the right to renew the contract on an annual basis by mutual Agreement not exceed a total of four years in accordance with NMSA 1978, §§ 13-1-150 through 152.

6 Default and Force Majeure

The City reserves the right to cancel all or any part of any orders placed under this contract without cost to the City, if the Contractor fails to meet the provisions of this contract and, except as otherwise provided herein, to hold the Contractor liable for any excess cost occasioned by the City due to the Contractor's default. The Contractor shall not be liable for any excess costs if failure to perform the order arises out of causes beyond the control and without the fault or negligence of the Contractor; such causes include, but are not restricted to, acts of God or the public enemy, acts of the State or Federal Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather and defaults of sub-contractors due to any of the above, unless the City shall determine that the supplies or services to be

furnished by the sub- contractor were obtainable from other sources in sufficient time to permit the Contractor to meet the required delivery scheduled. The rights and remedies of the City provided in this paragraph shall not be exclusive and are in addition to any other rights now being provided by law or under this contract.

7. Termination

A. Grounds. The City may terminate this Agreement for convenience or cause. The Contractor may only terminate this Agreement based upon the City's uncured, material breach of this Agreement.

B. Notice; City Opportunity to Cure.

1. Except as otherwise provided in Paragraphs 7.A and 17, the City shall give Contractor written notice of termination at least thirty (30) days prior to the intended date of termination.

2. Contractor shall give City written notice of termination at least thirty (30) days prior to the intended date of termination, which notice shall (i) identify all the City's material breaches of this Agreement upon which the termination is based and (ii) state what the City must do to cure such material breaches. Contractor's notice of termination shall only be effective (i) if the City does not cure all material breaches within the thirty (30) day notice period or (ii) in the case of material breaches that cannot be cured within thirty (30) days, the City does not, within the thirty (30) day notice period, notify the Contractor of its intent to cure and begin with due diligence to cure the material breach.

3. Notwithstanding the foregoing, this Agreement may be terminated immediately upon written notice to the Contractor (i) if the Contractor becomes unable to perform the services contracted for, as determined by the City; (ii) if, during the term of this Agreement, the Contractor is suspended or debarred by the City; or (iii) the Agreement is terminated pursuant to Paragraph 17, "Appropriations", of this Agreement.

C. Liability. Except as otherwise expressly allowed or provided under this Agreement, the City's sole liability upon termination shall be to pay for acceptable work performed prior to the Contractor's receipt or issuance of a notice of termination; provided, however, that a notice of termination shall not nullify or otherwise affect either party's liability for pre-termination defaults under or breaches of this Agreement. The Contractor shall submit an invoice for such work within thirty (30) days of receiving or sending the notice of termination. THIS PROVISION IS NOT EXCLUSIVE AND DOES NOT WAIVE THE CITY'S OTHER LEGAL RIGHTS AND REMEDIES CAUSED BY THE CONTRACTOR'S DEFAULT/BREACH OF THIS AGREEMENT.

8. Amendment

A. This Agreement shall not be altered, changed or amended except by instrument in writing executed by the parties hereto and all other required signatories.

B. If the City proposes an amendment to the Agreement to unilaterally reduce funding due to budget or other considerations, the Contractor shall, within thirty (30) days of receipt of the proposed Amendment, have the option to terminate the Agreement, pursuant to the termination provisions as set forth in Paragraph 7 herein, or to agree to the reduced funding.

9. Status of Contractor

The Contractor, and Contractor's agents and employees, are independent Contractors for the City and are not employees of the City. The Contractor, and Contractor's agents and employees, shall not accrue leave, retirement, insurance, bonding, use of City vehicles, or any other benefits afforded to employees of the City as a result of this Agreement. The Contractor acknowledges that all sums received hereunder are personally reportable by the Contractor for income tax purposes, including without limitation, self-employment tax and business income tax. The Contractor agrees not to purport to bind the City unless the Contractor has written authority to do so, and then only within the strict limits of that authority.

10. Assignment

The Contractor shall not assign or transfer any interest in this Agreement or assign any claims for money due or to become due under this Agreement without the prior written approval of the City.

11. Subcontracting

The Contractor shall not subcontract any portion of the services to be performed under this Agreement without the prior written approval of the City. No such subcontract shall relieve the primary Contractor from its obligations and liabilities under this Agreement, nor shall any subcontract obligate direct payment from the City.

12. Non-Collusion

In signing this Agreement, the Contractor/Contractor certifies the Contractor/Contractor has not, either directly or indirectly, entered into action in restraint of free competitive bidding in connection with this offer submitted to the City.

13. Inspection of Plant

The City may inspect, at any reasonable time during Contractor's regular business hours and upon prior written notice, the Contractor's plant or place of business, or any subcontractor's plant or place of business, which is related to the performance of this contract.

14. Commercial Warranty

The Contractor agrees that the tangible personal property or services furnished under this Agreement shall be covered by the most favorable commercial warranties the Contractor gives to any customer for such tangible personal property or services, and that the rights and remedies provided herein shall extend to the City and are in addition to and do not limit any rights afforded to the City by any other clause of this order. Contractor agrees not to disclaim warranties of fitness for a particular purpose or merchantability.

15. Condition of Proposed Items

Where tangible personal property is a part of this Agreement, all proposed items are to be NEW and of most current production, unless otherwise specified.

16. Records and Audit

During the term of this Agreement and for three years thereafter, the Contractor shall maintain detailed records pertaining to the services rendered and products delivered. These records shall be subject to inspection by the City, the State Auditor and other appropriate state and federal authorities. The City shall have the right to audit billings both before and after payment. Payment under this Agreement shall not foreclose the right of the City to recover excessive or illegal payments.

17. Appropriations

The terms of this Agreement, and any orders placed under it, are contingent upon sufficient appropriations and authorization being made by the City Council for the performance of this Agreement. If sufficient appropriations and authorization are not made by the legislature, this Agreement, and any orders placed under it, shall terminate upon written notice being given by the City to the Contractor. The City's decision as to whether sufficient appropriations are available shall be accepted by the Contractor and shall be final. If the City proposes an amendment to the Agreement to unilaterally reduce funding, the Contractor shall have the option to terminate the Agreement or to agree to the reduced funding, within thirty (30) days of receipt of the proposed amendment.

18. Release

The Contractor, upon final payment of the amount due under this Agreement, releases the City, its officers and employees, from all liabilities, claims and obligations whatsoever arising from or under this Agreement. The Contractor agrees not to purport to bind the City, unless the Contractor has express written authority to do so, and then only within the strict limits of that authority.

19. Confidentiality

Any confidential information provided to or developed by the Contractor in the performance of this Agreement shall be kept confidential and shall not be made available to any individual or organization by the Contractor without prior written approval by the City.

20. Conflict of Interest

A. The Contractor represents and warrants that it presently has no interest and, during the term of this Agreement, shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance or services required under the Agreement.

The Contractor shall comply with any applicable provisions of the New Mexico Governmental Conduct Act and the New Mexico Financial Disclosures Act.

B. The Contractor further represents and warrants that it has complied with, and, during the term of this Agreement, will continue to comply with, and that this Agreement complies with all applicable provisions of the Governmental Conduct Act, Chapter 10, Article 16 NMSA 1978.

C. Contractor's representations and warranties in Paragraphs A and B of this Paragraph are material representations of fact upon which the City relied when this Agreement was entered into by the parties. Contractor shall provide immediate written notice to the City if, at any time during the term of this Agreement, Contractor learns that Contractor's representations and warranties in Paragraphs A and B of this Paragraph 20 were erroneous on the effective date of this Agreement or have become erroneous by reason of new or changed circumstances. If it is later determined that Contractor's representations and warranties in Paragraphs A and B of this Paragraph 20 were erroneous on the effective date of this Agreement or have become erroneous by reason of new or changed circumstances, in addition to other remedies available to the City and notwithstanding anything in the Agreement to the contrary, the City may immediately terminate the Agreement.

D. All terms defined in the Governmental Conduct Act have the same meaning in this section.

21. Approval of Contractor Representative(s)

The City reserves the right to require a change in Contractor representative(s) if the assigned representative(s) are not, in the opinion of the City, adequately serving the needs of the City.

22. Scope of Agreement; Merger

This Agreement incorporates all the agreements, covenants, and understandings between the parties hereto concerning the subject matter hereof, and all such covenants, agreements and understandings have been merged into this written Agreement. No prior agreements or understandings, verbal or otherwise, of the parties or their agents shall be valid or enforceable unless embodied in this Agreement.

23. Notice

The Procurement Code, Sections 13-1-28 through 13-1-199 NMSA 1978, imposes civil and criminal penalties for its violation. In addition, the New Mexico criminal statutes impose felony penalties for bribes, gratuities and kickbacks.

24. Equal Opportunity Compliance

The Contractor agrees to abide by all federal and state laws, and local Ordinances, pertaining to equal employment opportunity. In accordance with all such laws, rules, and regulations, the Contractor agrees to assure that no person in the United States shall on the grounds of race, religion, color, national origin, ancestry, sex, age, physical or mental handicap, or serious medical condition, spousal affiliation, sexual orientation or gender identity, be

excluded from employment with or participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity performed under this Agreement. If Contractor is found not to be in compliance with these requirements during the life of this Agreement, Contractor agrees to take appropriate steps to correct these deficiencies.

25. Indemnification

The Contractor shall hold the City and its employees harmless and shall indemnify the City and its employees against any and all claims, suits, actions, liabilities and costs of any kind, including attorney's fees for personal injury or damage to property arising from the acts or omissions of the Contractor, its agents, officers, employees or subcontractors. The Contractor shall not be liable for any injury or damage as a result of any negligent act or omission committed by the City, its officers or employees.

26. New Mexico Tort Claims Act

Any liability incurred by the City of Santa Fe in connection with this Agreement is subject to the immunities and limitations of the New Mexico Tort Claims Act, Section 41-4-1, et. seq. NMSA 1978, as amended. The City and its "public employees" as defined in the New Mexico Tort Claims Act, do not waive sovereign immunity, do not waive any defense and do not waive any limitation of liability pursuant to law. No provision in this Agreement modifies or waives any provision of the New Mexico Tort Claims Act.

27. Applicable Law

The laws of the State of New Mexico shall govern this Agreement, without giving effect to its choice of law provisions. Venue shall be proper only in a New Mexico court of competent jurisdiction in accordance with NMSA 1978, § 38-3-1 (G). By execution of this Agreement, Contractor acknowledges and agrees to the jurisdiction of the courts of the State of New Mexico over any and all lawsuits arising under or out of any term of this Agreement.

28. Limitation of Liability

The Contractor's liability to the City, for any cause whatsoever shall be limited to the purchase price paid to the Contractor for the products and services that are the subject of the City's, claim. The foregoing limitation does not apply to paragraph 25 of this Agreement or to damages resulting from personal injury caused by the Contractor's negligence.

29. Incorporation by Reference and Precedence

If this Agreement has been procured pursuant to a request for proposals, this Agreement is derived from (1) the request for proposal, (including any written clarifications to the request for proposals and any City response to questions); (2) the Contractor's best and final offer; and (3) the Contractor's response to the request for proposals.

In the event of a dispute under this Agreement, applicable documents will be referred to for the purpose of clarification or for additional detail in the following order of precedence: (1) amendments to the Agreement in reverse chronological order; (2) the Agreement, including the

scope of work and all terms and conditions thereof; (3) the request for proposals, including attachments thereto and written responses to questions and written clarifications; (4) the Contractor's best and final offer if such has been made and accepted by the City; and (5) the Contractor's response to the request for proposals.

30. Workers' Compensation

The Contractor agrees to comply with state laws and rules applicable to workers' compensation benefits for its employees. If the Contractor fails to comply with the Workers' Compensation Act and applicable rules when required to do so, this Agreement may be terminated by the City.

31. Inspection

If this contract is for the purchase of tangible personal property (goods), final inspection and acceptance shall be made at Destination. Tangible personal property rejected at Destination for non-conformance to specifications shall be removed at Contractor's risk and expense promptly after notice of rejection and shall not be allowable as billable items for payment.

32. Inspection of Services

If this contract is for the purchase of services, the following terms shall apply.

A. Services, as used in this Article, include services performed, workmanship, and material furnished or utilized in the performance of services.

B. The Contractor shall provide and maintain an inspection system acceptable to the City covering the services under this Agreement. Complete records of all inspection work performed by the Contractor shall be maintained and made available to the City and for as long thereafter as the Agreement requires. The City has the right to inspect and test all services contemplated under this Agreement to the extent practicable at all times and places during the term of the Agreement. The City shall perform inspections and tests in a manner that will not unduly delay or interfere with Contractor's performance.

C. If the City performs inspections or tests on the premises of the Contractor or a subcontractor, the Contractor shall furnish, and shall require subcontractors to furnish, at no increase in contract price, all reasonable facilities and assistance for the safe and convenient performance of such inspections or tests.

D. If any part of the services do not conform with the requirements of this Agreement, the City may require the Contractor to re-perform the services in conformity with the requirements of this Agreement at no increase in contract amount. When the defects in services cannot be corrected by re-performance, the City may:

(1) require the Contractor to take necessary action(s) to ensure that future performance conforms to the requirements of this Agreement; and

(2) reduce the contract price to reflect the reduced value of the services performed.

E. If the Contractor fails to promptly re-perform the services or to take the necessary action(s) to ensure future performance in conformity with the requirements of this Agreement, the City may:

(1) by contract or otherwise, perform the services and charge to the Contractor any

cost incurred by the City that is directly related to the performance of such service; or
(2) terminate the contract for default.

33. Insurance

If the services contemplated under this Agreement will be performed on or in City facilities or property, Contractor shall maintain in force during the entire term of this Agreement, the following insurance coverage(s), naming the City as additional insured.

F. Workers Compensation (including accident and disease coverage) at the statutory limit. Employers liability: \$100,000.

G. Comprehensive general liability (including endorsements providing broad form property damage, personal injury coverage and contractual assumption of liability for all liability the Contractor has assumed under this contract). Limits shall not be less than the following:

- a. Bodily injury: \$1,000,000 per person /\$1,000,000 per occurrence.
- b. Property damage or combined single limit coverage: \$1,000,000.
- c. Automobile liability (including non-owned automobile coverage): \$1,000,000.
- d. Umbrella: \$1,000,000.

H. Contractor shall maintain the above insurance for the term of this Agreement and name the City as an additional insured and provide for 30 days cancellation notice on any Certificate of Insurance form furnished by Contractor. Such certificate shall also specifically state the coverage provided under the policy is primary over any other valid and collectible insurance and provide a waiver of subrogation.

34. Impracticability of Performance

A party shall be excused from performance under this Agreement for any period that the party is prevented from performing as a result of an act of God, strike, war, civil disturbance, epidemic, or court order, provided that the party has prudently and promptly acted to take any and all steps that are within the party's control to ensure performance. Subject to this provision, such non-performance shall not be deemed a default or a ground for termination.

35. Invalid Term or Condition

If any term or condition of this Agreement shall be held invalid or unenforceable, the remainder of this Agreement shall not be affected and shall be valid and enforceable.

36. Enforcement of Agreement

A party's failure to require strict performance of any provision of this Agreement shall not waive or diminish that party's right thereafter to demand strict compliance with that or any other provision. No waiver by a party of any of its rights under this Agreement shall be effective unless express and in writing, and no effective waiver by a party of any of its rights shall be effective to waive any other rights.

37. Patent, Copyright and Trade Secret Indemnification

A. The Contractor shall defend, at its own expense, the City against any claim that any product or service provided under this Agreement infringes any patent, copyright to trademark in the United States or Puerto Rico, and shall pay all costs, damages and attorneys' fees that a court finally awards as a result of any such claim. In addition, if any third party obtains a judgment against the City based upon Contractor's trade secret infringement relating to any product or services provided under this Agreement, the Contractor agrees to reimburse the City for all costs, attorneys' fees and amount of the judgment. To qualify for such defense and or payment, the City shall:

- i. give the Contractor prompt written notice within 48 hours of any claim;
- ii. allow the Contractor to control the defense of settlement of the claim; and
- iii. cooperate with the Contractor in a reasonable way to facilitate the defense or settlement of the claim.

B. If any product or service becomes, or in the Contractor's opinion is likely to become the subject of a claim of infringement, the Contractor shall at its option and expense:

- i. provide the City the right to continue using the product or service and fully indemnify the City against all claims that may arise out of the City's use of the product or service;
- ii. replace or modify the product or service so that it becomes non-infringing; or,
- iii. accept the return of the product or service and refund an amount equal to the value of the returned product or service, less the unpaid portion of the purchase price and any other amounts, which are due to the Contractor. The Contractor's obligation will be void as to any product or service modified by the City to the extent such modification is the cause of the claim.

38. Survival

The Agreement paragraphs titled "Patent, Copyright, Trademark, and Trade Secret Indemnification; Indemnification; and Limit of Liability" shall survive the expiration of this Agreement. Software licenses, leases, maintenance and any other unexpired Agreements that were entered into under the terms and conditions of this Agreement shall survive this Agreement.

39. Disclosure Regarding Responsibility

A. Any prospective Contractor and any of its Principals who enter into a contract greater than sixty thousand dollars (\$60,000.00) with any City for professional services, tangible personal property, services or construction agrees to disclose whether the Contractor, or any principal of the Contractor's company is presently debarred, suspended, proposed for debarment, or declared ineligible for award of contract by any federal entity, state agency or local public body.

B. Principal, for the purpose of this disclosure, means an officer, director, owner, partner, or a person having primary management or supervisory responsibilities within a business entity or related entities.

C. The Contractor shall provide immediate written notice to the City if, at any time

during the term of this Agreement, the Contractor learns that the Contractor's disclosure was at anytime erroneous or became erroneous by reason of changed circumstances.

D. A disclosure that any of the items in this requirement exist will not necessarily result in termination of this Agreement. However, the disclosure will be considered in the determination of the Contractor's responsibility and ability to perform under this Agreement. Failure of the Contractor to furnish a disclosure or provide additional information as requested will be grounds for immediate termination of this Agreement pursuant to the conditions set forth in Paragraph 7 of this Agreement.

E. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the disclosure required by this document. The knowledge and information of a Contractor is not required to exceed that which is the normally possessed by a prudent person in the ordinary course of business dealings.

F. The disclosure requirement provided is a material representation of fact upon which reliance was placed when making an award and is a continuing material representation of the facts during the term of this Agreement. If during the performance of the contract, the Contractor is indicted for or otherwise criminally or civilly charged by any government entity (federal, state or local) with commission of any offenses named in this document the Contractor must provide immediate written notice to the City. If it is later determined that the Contractor knowingly rendered an erroneous disclosure, in addition to other remedies available to the Government, the City may terminate the involved contract for cause. Still further the City may suspend or debar the Contractor from eligibility for future solicitations until such time as the matter is resolved to the satisfaction of the City.

40. Suspension, Delay or Interruption of Work

The City may, without cause, order the Contractor, in writing, to suspend, delay or interrupt the work in whole or in part for such period of time as the City may determine. The contract sum and contract time shall be adjusted for increases in cost and/or time associated with Contractor's compliance therewith. Upon receipt of such notice, Contractor shall leave the jobsite and any equipment in a safe condition prior to departing. Contractor must assert rights to additional compensation within thirty (30) days after suspension of work is lifted and return to work is authorized. Any compensation requested for which entitlement is granted and the contract sum adjusted, shall have profit included (for work completed) and for cost only (not profit) for Contractor costs incurred directly tied to the suspension itself and not otherwise covered by Contract remedy. Any change in Total Compensation must be reflected in an Amendment executed pursuant to Section 8 of this Agreement.

41. Notification

Either party may give written notice to the other party in accordance with the terms of this Paragraph. Any written notice required or permitted to be given hereunder shall be deemed to have been given on the date of delivery if delivered by personal service or hand delivery or three (3) business days after being mailed.

Anson Rane, Project Administrator
City of Santa Fe
aerane@santafenm.gov
505-955-5935
2651 Siringo Rd., Bldg. E
Santa Fe, NM 87505

To Contractor: TBD

Either party may change its representative or address above by written notice to the other in accordance with the terms of this Paragraph. The carrier for mail delivery and notices shall be the agent of the sender.

42. Succession

This Agreement shall extend to and be binding upon the successors and assigns of the parties.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date of the signature by the required approval authorities below.

CITY OF SANTA FE:

CONTRACTOR:

ALAN WEBBER, MAYOR
Date: _____

NAME AND TITLE
Date: _____
CRS# _____
Registration # _____

ATTEST:

YOLANDA Y. VIGIL, CITY CLERK

APPROVED AS TO FORM REQUEST FOR BIDS ONLY:

 10/16/19
ERIN K. MCSHERRY, CITY ATTORNEY

APPROVED:

MARY MCCOY, FINANCE DIRECTOR

Business Unit Line Item

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SELECTED APPROVED SUBMITTALS FROM FIRST PHASE OF SANTA FE TRAILS PROJECT FOR REFERENCE:

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SECTION 01330 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.
- B. Related Sections include the following:
 - 1. Division 01 Section "Project Management and Coordination".
 - 2. Divisions 02 through 49 Sections for specific requirements for submittals in those Sections.

1.3 DEFINITIONS

- A. Action Submittals: Information that requires Owner's responsive action.
- B. Informational Submittals: Information that does not require Owner's approval. Submittals may be rejected for not complying with requirements.

1.4 PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Documents will not be provided by Owner for Contractor's use with the exception of the following:
 - 1. Dwg/Dxf file of the decorative metal panel pattern.
- B. 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.
 - 2. 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. Owner reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

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- C. Submittal Schedule: Four copies of each submittal must be transmitted to the Owner's representative within 15 days of Notice to Proceed. In addition to hard copies, an electronic copy must be submitted as well.
- D. Processing Time: Allow enough time for submittal review, including time for re-submittals, as follows. Time to review shall commence on the Owner's receipt of submittal.
 - 1. Initial Review: 15 days. Allow additional time if coordination with subsequent submittals is required. Owner will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Intermediate Review: 7 days. If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 3. Resubmittal Review: 7 days.
 - 4. Sequential Review: 15 days.
 - 5. Concurrent Consultant Review: 15 days. Submittal will be returned to Owner before being returned to Contractor.
 - 6. No extension of Contract time will be authorized because of failure to transmit submittal enough in advance of the Work to permit processing.
- 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 6 by 8 inches (150 by 200 mm) on label or beside title block to record Contractor's review and approval markings and action taken by Owner.
 - 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Owner.
 - d. 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 Owner observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

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1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Owner.
 2. 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. Owner will return submittals, without review, received from sources other than Contractor.
1. Transmittal Form: Use AIA Document G810.
 2. Transmittal Form: Provide locations on form for the following information:
 - a. Project name.
 - b. Date.
 - c. Destination (To:).
 - d. Source (From:).
 - e. Names of subcontractor, manufacturer, and supplier.
 - f. Category and type of submittal.
 - g. Submittal purpose and description.
 - h. Specification Section number and title.
 - i. Drawing number and detail references, as appropriate.
 - j. Transmittal number, numbered consecutively.
 - k. Submittal and transmittal distribution record.
 - l. Remarks.
 - m. Signature of transmitter.
 3. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Owner on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same label information as related submittal.
- 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, "Approved" or "Approved as Noted."
- 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 "Approved" or "Approved As Noted" taken by Owner.
- 1.5 CONTRACTOR'S USE OF OWNER'S CAD FILES
- A. General: At Contractor's written request, copies of Owner's CAD files will be provided to Contractor for Contractor's use in connection with Project.

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PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
 - 1. Submit electronic submittals directly to Owner.
- 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. Standard color charts.
 - e. Manufacturer's catalog cuts.
 - f. Wiring diagrams showing factory-installed wiring.
 - g. Printed performance curves.
 - h. Operational range diagrams.
 - i. Mill reports.
 - j. Standard product operation and maintenance manuals.
 - k. Compliance with specified referenced standards.
 - l. Testing by recognized testing agency.
 - m. Application of testing agency labels and seals.
 - n. Notation of coordination requirements.
 - 4. Submit Product Data before or concurrent with Samples.
 - 5. Number of Copies: Submit four copies of Product Data, unless otherwise indicated. Owner will return two copies. Mark up and retain one returned copy as a Project Record Document.
- 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, unless submittal of Owner's CAD Drawings are otherwise permitted.
 - 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Shopwork manufacturing instructions.
 - f. Templates and patterns.
 - g. Schedules.

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- h. Design calculations.
 - i. Compliance with specified standards.
 - j. Notation of coordination requirements.
 - k. Notation of dimensions established by field measurement.
 - l. Relationship to adjoining construction clearly indicated.
 - m. Seal and signature of professional engineer if specified.
 - 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 (215 by 280 mm) but no larger than 30 by 40 inches (750 by 1000 mm).
 - 3. Number of Copies: Submit two opaque (bond) copies of each submittal. Owner will return one copy.
 - 4. Number of Copies: Submit three opaque copies of each submittal, unless copies are required for operation and maintenance manuals. Submit five copies where copies are required for operation and maintenance manuals. Owner will retain two copies; remainder will be returned. Mark up and retain one returned copy as a Project Record Drawing.
- 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.
- 1. 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 an approved location, 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.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 - 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 full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Owner will return 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

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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 three sets of Samples. Owner will retain two Sample sets; remainder will be returned.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- 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. Include the following information in tabular form:
 1. Type of product. Include unique identifier for each product.
 2. Number and name of room or space.
 3. Location within room or space.
 4. Number of Copies: Submit three copies of product schedule or list, unless otherwise indicated. Owner will return two copies.
 - a. Mark up and retain one returned copy as a Project Record Document.
- F. Contractor's Construction Schedule: Comply with requirements specified in Owner's General Requirements.
- G. Submittals Schedule: Comply with requirements specified in Owner's General Requirements.
- H. Application for Payment: Comply with requirements specified in Owner's General Requirements.
- I. Schedule of Values: Comply with requirements specified in Owner's General Requirements.
- J. 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. Include the following information in tabular form:
 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 2. Number and title of related Specification Section(s) covered by subcontract.
 3. Drawing number and detail references, as appropriate, covered by subcontract.
 4. Number of Copies: Submit three copies of subcontractor list, unless otherwise indicated. Owner will return two copies.
 - a. Mark up and retain one returned copy as a Project Record Document.

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
 - 1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Owner will not return copies.
 - 2. 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 01 Section "Quality Requirements."
- B. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."
- C. 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.
- D. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- E. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- F. 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.
- G. 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.
- H. 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. Include the following information:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- I. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements."

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- J. 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.
- K. 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.
- L. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."
- M. 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.
- N. 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. Include the following, as applicable:
 - 1. Preparation of substrates.
 - 2. Required substrate tolerances.
 - 3. Sequence of installation or erection.
 - 4. Required installation tolerances.
 - 5. Required adjustments.
 - 6. Recommendations for cleaning and protection.
- O. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
- P. Material Safety Data Sheets (MSDSs): Submit information directly to Owner; do not submit to Owner.
 - 1. Owner will not review submittals that include MSDSs and will return the entire submittal for resubmittal.

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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 Owner.
- 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 OWNER'S ACTION

- A. General: Owner will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Owner will review each submittal, make marks to indicate corrections or modifications required, and return it. Owner will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
 - 1. "Approved"
 - 2. "Approved as Noted"
 - 3. "Revise and Resubmit"
 - 4. "Not Approved"
 - 5. "No Action Required."
- C. Informational Submittals: Owner will review each submittal and will not return it, or will return it if it does not comply with requirements. Owner will forward each submittal to appropriate party.
- D. Partial submittals are not acceptable, will be considered nonresponsive, 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 01400 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. 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.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Owner, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections include the following:
 - 1. Division 1 Section "Cutting and Patching".
 - 2. Divisions 2 through 49 Sections 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 Owner.
- 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,

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or operation; they are not Samples. Approved mockups establish the standard by which the Work will be judged.

- 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.
 - 1. 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 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 Owner 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 Owner for a decision before proceeding.

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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. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Description of test and inspection.
 - 3. Identification of applicable standards.
 - 4. Identification of test and inspection methods.
 - 5. Number of tests and inspections required.
 - 6. Time schedule or time span for tests and inspections.
 - 7. Entity responsible for performing tests and inspections.
 - 8. Requirements for obtaining samples.
 - 9. Unique characteristics of each quality-control service.
- C. 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 retesting and re-inspecting.
- D. 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.

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- 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 products 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 who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. 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. **Preconstruction Testing:** Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
 - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.

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- f. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on Project.
- 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Owner, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- J. 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 Owner.
 - 2. Notify Owner seven days in advance of dates and times when mockups will be constructed.
 - 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 4. Obtain Owner's approval of mockups before starting work, fabrication, or construction.
 - a. Allow seven days for initial review and each re-review of each mockup.
 - 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.
- K. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Sections in Divisions 2 through 16.

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.
 - 1. 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.
 - 2. Payment for these services will be made from testing and inspecting allowances, as authorized by Change Orders.
 - 3. Costs for retesting and reinspecting 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.

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- a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 2. Notify testing agencies at least 24 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.
 5. 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 1 Section "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 Owner and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Owner, 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.

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- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and 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.
- H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within 30 days of date established for the Notice to Proceed.
 - 1. Distribution: Distribute schedule to Owner, Owner, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.8 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency or special inspector 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 or special inspector 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 Owner 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 Owner, 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 TEST AND INSPECTION LOG

- A. Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Owner.
 - 4. Identification of testing agency or special inspector conducting test or inspection.

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- B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 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 1 Section "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 01400

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SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to 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. Related Sections include the following:
 - 1. Divisions 02 through 49 Sections 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, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. 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. Product List: Submit a list, in tabular form, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.
1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
 2. Form: Tabulate information for each product under the following column headings:
 - a. Specification Section number and title.
 - b. Generic name used in the Contract Documents.
 - c. Proprietary name, model number, and similar designations.
 - d. Manufacturer's name and address.
 - e. Supplier's name and address.
 - f. Installer's name and address.
 - g. Projected delivery date or time span of delivery period.
 - h. Identification of items that require early submittal approval for scheduled delivery date.
 3. Initial Submittal: Within 21 days after date of commencement of the Work, submit 3 copies of initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.
 - a. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.
 4. Completed List: Within 30 days after date of commencement of the Work, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
 5. Owner's Action: Owner will respond in writing to Contractor within 7 days of receipt of completed product list. Owner's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Owner's response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.
- B. 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

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- 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 Owners 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.
 - l. 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. Owner's Action: If necessary, Owner will request additional information or documentation for evaluation within 7 days of receipt of a request for substitution. Owner will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
- a. Form of Acceptance: Written approval of product substitution from Owner if there is no difference in project cost. Change Order if there is a difference in Project Cost.
 - b. Use product specified if Owner cannot make a decision on use of a proposed substitution within time allocated.
- C. 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. Owner's Action: If necessary, Owner will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Owner will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
- a. Form of Approval: As specified in Division 01 Section "Submittal Procedures."
 - b. Use product specified if Owner cannot make a decision on use of a comparable product request within time allocated.

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- D. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 01 Section "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.
 - 2. 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.
 - 3. 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.
 - 8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

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.

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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 Divisions 02 through 49 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Owner's General Requirements.

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," Owner will make selection.
 5. Where products are accompanied by the term "match sample," sample to be matched is Owner's.
 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
 7. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in Part 2 "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures:
1. Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
 2. Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.

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3. 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.
4. 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.
5. 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.
6. 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.
7. Visual Matching Specification: Where Specifications require matching an established Sample, select a product that complies with requirements and matches Owner's sample. Owner'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.
8. 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, Owner 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, Owner 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: Owner will consider requests for substitution if received within 15 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Owner.
- B. Conditions: Owner will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Owner will return requests without action, except to record noncompliance with these requirements:

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1. Requested substitution offers Owner a substantial advantage in cost, time, warranty, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Owner 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.
6. Requested substitution is compatible with other portions of the Work.
7. Requested substitution has been coordinated with other portions of the Work.
8. Requested substitution provides specified warranty or better.
9. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2.3 COMPARABLE PRODUCTS

- A. Conditions: Owner will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Owner 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 Owners and owners, if requested.
 5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

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SECTION 05 10 00 - STRUCTURAL STEEL

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. This section includes the fabrication and erection of structural steel.

1.3 QUALITY ASSURANCE

- A. Qualifications of Fabricator: Fabricator shall have a minimum of 5 years experience in the fabrication of structural steel of structures similar in size to those in this project.
- B. Qualifications of Erector: Erector shall have a minimum of 5 years experience in the erection of structural steel of structures of similar size.
- C. Qualifications of Field Welders: Welders shall be certified in accordance with AWS D1.1 within the last 12 months.

D. Reference Standards:

1. ASTM International (ASTM)

- | | | |
|----|--------------------------|---|
| a. | ASTM A 36/
A36M-08 | Standard Specification for Carbon Structural Steel |
| b. | ASTM A 53/
A 53M-10 | Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-coated Welded and Seamless |
| c. | ASTM A 61/
A6M-11 | Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling. |
| d. | ASTM A 307-10 | Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength |
| e. | ASTM A 325-10 | Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength |
| f. | ASTM A 490-11 | Specification for Structural Bolts, Alloy Steel, Heat Treated, 150 ksi Minimum Tensile Strength |
| g. | ASTM A 500/
A500M-10a | Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes |
| h. | ASTM A 992/
A 992M-11 | Standard Specification for Structural Steel Shapes |

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- i. ASTM C 1107/ C1107M-11 Standard Specification for Packaged Dry, Hydraulic-Cement Grout (non-shrink)
 - j. ASTM F1554-07ae1 Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength.
- 2. American Welding Society (AWS), latest edition.
 - a. AWS D1.1 Structural Welding Code-Steel
- 3. American Institute of Steel Construction (AISC), Steel Construction Manual, latest edition.
 - a. Specification for Structural Steel Buildings
 - b. AISC Code of Standard Practice
 - c. Specification for Structural Joints Using ASTM A 325 or A 490 Bolts.

1.4 SUBMITTALS

- A. Shop Drawings: Submit shop drawings including complete details and schedules for fabrication and assembly of structural steel members. Include details of cuts, connections, camber, holes, and other pertinent data. Indicate welds by standard AWS symbols, and show size, length, and type of each weld. Shop drawings shall not be made by reproduction of the Contract Drawings.
- B. Welder Certification: Submit affidavit stating that all welders are certified in accordance with AWS and provide copies of welder's certificates.
- C. Provide the following full size and fully powder coated mock-ups:
 - 1. Adjustable foot – details 1/2.0 & 4/2.0

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Support structural steel above ground on skids, pallets, platforms, or other supports.
- B. Protect steel from damage.
- C. Store packaged materials in original unbroken package or container.
- D. Do not store materials on structure in a manner that might cause distortion or damage to members or supporting structures.
- E. Replace damaged shapes or members.

PART 2 - PRODUCTS

2.1 MATERIALS

REV. 9/29/15

STRUCTURAL STEEL

05 10 00-2

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- A. All Angles, Channels, Plates, and Bars: ASTM A 36.
- B. Rectangular or Square Hollow Structural Section: ASTM A 500, Grade B, $F_y = 46$ ksi.
- C. Anchor Bolts: ASTM F1554, Grade 36
- D. Break Away Anchor Bolts: Drop in Anchor with 6220 dent Bolt, by DentBreakaway Industries, or equivalent
- E. High Strength Tension Control Threaded Fasteners: Meet requirements of ASTM A 325 or ASTM A 490.
- F. Welding Electrodes: E 70 Series.
- G. Shop Primer Paint: Fabricators standard rust inhibitive primer.
- H. Non-Metallic, Non-Shrink Grout: Meets the requirements of ASTM C 1107.
- I. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, non-staining, mixed with water to consistency suitable for application and a 30-minute working time. Grout shall have a minimum 28 day compressive strength of 6,000 psi.
 - 1. Subject to compliance with requirements, provide products by one of the following or an approved equal:
 - a. Five Star Fluid Grout 100; Five Star Products, Inc., Fairfield, Connecticut.
 - b. Crystex; L&M Construction Chemicals, Inc. Omaha, Nebraska.
 - c. Sure-Grip High Performance Grout; Dayton superior Corp., Miamisburg, Ohio.
 - d. Sonnogrout 10K; Sonneborn Building Products, Shakopee, Minnesota.
 - e. Sealight Pac-It Grout; W.R. Meadows, Inc., Hampshire, Illinois.
 - f. Enduro 50; Conspec Marketing & Manufacturing Co., Inc, Kansas City, Kansas.

2.2 FABRICATION

- A. Fabrication shall be in accordance with the AISC "Code of Standard Practice for Buildings and Bridges".
- B. Connections: Weld or bolt shop connections as indicated on the approved shop drawings. Design connections to support reactions and forces where indicated on the drawings.
- C. Shop Welds: Shall be visually inspected by the Fabricator's quality control department.

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2.3 POWDER COAT

- A. General: Powder coat structural steel. Refer to Section 09960
- B. Bench Seats: Bench seats to be finished with a thermoplastic coating. Refer to Section 09960
- C. All metals surfaces, except bench seats will be coated with a clear anti-graffiti top coat. Refer to section 09960.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean surfaces to receive structural steel prior to erection.

3.2 ERECTION

- A. General: Erect structural steel in accordance with AISC "Code of Standard Practice for Steel Buildings and Bridges".
- B. Field Assembly: Assemble structural steel accurately to the lines and elevations shown on the drawings. Align and adjust components accurately before fastening.
- C. Temporary Bracing: Provide temporary bracing or guys to secure structural steel against wind, seismic, or construction loads. It is the responsibility of the Contractor to maintain stability of the structure during erection.
- D. Bolted Connections: Install high strength tension control bolts in accordance with AISC Specifications for Structural Joints Using ASTM A325 and A490 Bolts and the manufacturer's instructions. Where clearance within a connection does not permit the use of tension control bolts, standard A325 bolts shall be used and inspected in accordance with the AISC Specification for Structural Joints.
- E. Welding: Perform all welds in accordance with AWS.
- F. Inspection of Welds: Perform visual inspection of all welds. If any welds appear to be unsatisfactory, they shall be tested in accordance with ASTM E160 and/or replaced at the expense of the Contractor.
- G. Gas Cutting: Do not use gas-cutting torches in field to cut structural framing.
- H. Do not enlarge unfair holes by burning. Ream holes that must be enlarged to admit bolts. Use waterproof neoprene washers, 1/4" thick, with hardware if holes are enlarged after powder coating.
- I. Grout Placement: Comply with the manufacturer's instructions.

END OF SECTION 05 10 00

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SECTION 05730 - ORNAMENTAL FORMED METAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Exterior decorative steel panels.
- B. Related Sections include the following:
 - 1. Division 5 Section "Structural Steel".
 - 2. Division 7 Section "Sheet Metal Flashing and Trim".
 - 3. Division 9 Section "High Performance Coatings".

1.3 PERFORMANCE REQUIREMENTS

- A. Structural Loads: Capable of withstanding the following structural loads without exceeding the allowable design working stress of materials involved, including anchors and connections, and without exhibiting permanent deformation in any components:
 - 1. Wind Loads on Exterior Items: As indicated on Drawings
- B. Thermal Movements: Provide exterior ornamental formed-metal assemblies that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- C. Corrosion Control: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated, including finishes.

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- B. Shop Drawings: Detail fabrication and installation of ornamental formed metal. Include plans, elevations, sections, and details of components and their connections. Show anchorage and accessory items. Show decorative pattern as indicated on drawings, AutoCAD files are available at manufacturer's request.
- C. Samples for Initial Selection: Manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available for each type of ornamental formed-metal product indicated.
- D. Mockup for Verification: For decorative steel panel required, prepare one full size mockup of decorative steel panel of same thickness and material and finish indicated for the Work.
- E. Qualification Data: For powder-coating applicator.

1.5 QUALITY ASSURANCE

- A. Powder-Coating Applicator Qualifications: A firm experienced in successfully applying powder coatings of type indicated to metals of types indicated and employing competent control personnel to conduct continuing, effective quality-control program to ensure compliance with requirements.
- B. Source Limitations: Obtain each ornamental formed-metal item through one source from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver ornamental formed-metal products wrapped in protective coverings and strapped together in suitable packs or in heavy-duty cartons. Remove protective coverings before they stain or bond to finished surfaces.
- B. Store products on elevated platforms in a dry location.

1.7 PROJECT CONDITIONS

- A. Verify actual construction contiguous with ornamental formed metal by measurements before fabrication and indicate measurements on Shop Drawings.

1.8 COORDINATION

- A. Coordinate installation of anchorages for ornamental formed-metal items. Furnish setting drawings, templates, and directions for installing anchorages. Deliver such items to Project site in time for installation.
- B. Coordinate installation of ornamental formed metal with adjacent construction.

1.9 EXTRA MATERIALS

- A. Furnish five extra finished decorative steel panels from same production run. Deliver extra materials to Owner.

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PART 2 - PRODUCTS

2.1 SHEET METAL

- A. General: Provide sheet metal without pitting, seam marks, roller marks, stains, discolorations, or other imperfections where exposed to view on finished units.
- B. Custom Perforated Sheet Steel Panels: Uncoated, cold-rolled, ASTM A 1008/A 1008M, commercial steel, Type B, exposed.
- C. Bench Top Perforated Sheet Steel: Hot rolled, plain steel ASTM A 1008, 11 gauge, square hole $\frac{3}{4}$ " square on 1" centers, straight row hole pattern, 56% open area, mill finish.
- D. Tamper Proof Nuts: Conically shaped with three driving slots formed into the outer periphery, to match tamper proof nuts on existing bus shelters. Basis of design: Trident Nuts by Tanner Bolt & Nut Corporation.

2.2 MISCELLANEOUS MATERIALS

- A. Fasteners: Use fasteners fabricated from same basic metal and alloy as fastened metal, unless otherwise indicated. Do not use metals that are corrosive or incompatible with materials joined.
 - 1. Provide concealed fasteners for interconnecting ornamental formed-metal items and for attaching them to other work, unless otherwise indicated.
 - 2. Provide Phillips flat-head machine screws for exposed fasteners, unless otherwise indicated.
 - 3. Provide tamperproof nuts unless otherwise indicated
 - 4. Provide neoprene washers on both sides unless otherwise indicated.

2.3 PAINTS AND COATINGS

- A. Shop Primers: Provide primers that comply with Division 9 Section "High-Performance Coatings".
- B. Shop Primer for Ferrous Metal: Per Manufacturer's recommendations.

2.4 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble ornamental formed-metal items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.
- B. Coordinate dimensions and attachment methods of ornamental formed-metal items with those of adjoining construction to produce integrated assemblies with closely fitting joints and with edges and surfaces aligned, unless otherwise indicated.
- C. Form metal to profiles indicated, in maximum lengths to minimize joints. Produce flat, flush surfaces without cracking or grain separation at bends. Fold back exposed edges of unsupported sheet metal to form a 1/2-inch- (12-mm-) wide hem on the concealed side, or ease edges to a radius of approximately 1/32 inch (1 mm) and support with concealed stiffeners.

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- D. Provide support framing, mounting and attachment clips, splice sleeves, fasteners, and accessories needed to install ornamental formed-metal items.
- E. Decorative pattern may be performed by punching, plasma cutting, water jet cutting or other standard procedures in order to achieve the pattern indicated on the drawings.

2.5 FINISHES, GENERAL

- A. Complete mechanical finishes of flat sheet metal surfaces before fabrication where possible. After fabrication, finish all joints, bends, abrasions, and other surface blemishes to match sheet finish.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Finish items indicated on Drawings after assembly.
- D. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.6 STEEL SHEET FINISHES

- A. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning," to remove dirt, oil, grease, or other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."
- B. Pretreatment: Immediately after cleaning, apply a conversion coating of type suited to organic coating applied over it.
- C. Factory Priming for Field-Painted Finish: Immediately after cleaning and pretreating, apply shop primer.
- D. Powder-Coat Finish: Immediately after cleaning and pretreating, apply manufacturer's standard thermosetting polyester or acrylic urethane powder coating with cured-film thickness not less than 1.5 mils (0.04 mm). Prepare, treat, and coat metal to comply with resin manufacturer's written instructions.
 - 1. Color and Gloss: Anodized Silver (Per TIGER Drylac Powder Coatings)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of ornamental formed metal.

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1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Locate and place ornamental formed-metal items level and plumb and in alignment with adjacent construction.
- B. Use concealed anchorages where possible. Provide neoprene washers fitted to screws where needed to protect metal surfaces.
- C. Form tight joints with exposed connections accurately fitted together.
- D. Corrosion Protection: Apply nonmelting/nonmigrating-type bituminous coating or other permanent separation materials on concealed surfaces where metals would otherwise be in direct contact with substrate materials that are incompatible or could result in corrosion or deterioration of either material or finish.

3.3 ADJUSTING

- A. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit or provide new units.

3.4 PROTECTION

- A. Protect finishes of ornamental formed-metal items from damage during construction period. Remove temporary protective coverings at time of Substantial Completion.

END OF SECTION 05730

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SECTION 07620 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Formed roof flashing and trim.
- B. Related Sections include the following:
 - 1. Division 5 Section "Ornamental Formed Metal".
 - 2. Division 5 Section "Structural Steel"

1.3 PERFORMANCE REQUIREMENTS

- A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, and fastener disengagement.
- B. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal and trim thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Show layouts of sheet metal flashing and trim, including plans and elevations. Distinguish between shop- and field-assembled work. Include the following:
 - 1. Identify material, thickness, weight, and finish for each item and location in Project.

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2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
3. Details for fastening, joining, supporting, and anchoring sheet metal flashing and trim, including fasteners, clips, cleats, and attachments to adjoining work.
4. Details of special conditions.
5. Details of connections to adjoining work.

1.5 QUALITY ASSURANCE

- A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.
- B. Unload, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.

1.7 COORDINATION

- A. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leakproof, secure, and noncorrosive installation.

PART 2 - PRODUCTS

2.1 SHEET METALS

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 (Z275) coating designation; structural quality.

2.2 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads.

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1. Exposed Fasteners: Heads matching color of sheet metal by means of plastic caps or factory-applied coating.
2. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.

2.3 FABRICATION, GENERAL

- A. General: Custom 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 item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.
- B. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
- C. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
- D. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with elastomeric sealant concealed within joints.
- E. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.
- F. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
 1. Thickness: As recommended by SMACNA's "Architectural Sheet Metal Manual" for application but not less than thickness of metal being secured.

2.4 SHEET METAL FABRICATIONS

- A. Eave, Rake Flashing: Fabricate from the following material:
 1. Galvanized Steel: 0.0217 inch (0.55 mm) thick.

2.5 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

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PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.
 - 1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

3.2 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 1. Torch cutting of sheet metal flashing and trim is not permitted.
 - 2. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
- C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
- D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams.
- E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- F. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (600 mm) of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with elastomeric sealant concealed within joints.
- G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.
 - 1. Galvanized or Prepainted, Metallic-Coated Steel: Use stainless-steel fasteners.

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3.3 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal roof flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.
- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49 for specified wind zone and as indicated.

3.4 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials.
- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.
- D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07620

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SECTION 09960 - HIGH-PERFORMANCE COATINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Surface preparation and application of high-performance coating systems.
 - 2. Powder Coating
 - 3. Thermoplastic Powder Coating
 - 4. Anti-Graffiti Powder Coating
- B. Related Sections include the following:
 - 1. Division 5 Section "Structural Steel"
 - 2. Division 5 Section "Ornamental Formed Metal"
- C. The following submittal uses Tiger Drylac Series 38 Specification data for powder coating applied to metal surfaces.
- D. Tiger Drylac Series 38 shall be used as a basis of design. An equal product meeting all general specifications can be substituted and shall be provided as a submittal for review.
- E. The following submittal uses Innotek Polyarmor G17 technical data for thermoplastic powder coating applied to metal surfaces.
- F. Innotek Polyarmor G17 shall be used as a basis of design. An equal product meeting all general specifications can be substituted and shall be provided as a submittal for review.
- G. The following submittal uses Tiger Drylac Series 44 Anti-Graffiti Specification data for powder coating applied to metal surfaces or other substrates.
- H. Tiger Drylac Series 44 Anti-Graffiti shall be used as a basis of design. An equal product meeting all general specifications can be substituted and shall be provided as a submittal for review.

1.3 REFERENCES

1.3.1 POWDER COATING

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A. American Society for Testing and Materials (ASTM)

1. ASTM B117 – Practice for Operating Salt Spray (Fog) Apparatus.
2. ASTM D522 – Test Methods for Mandrel Bend Test of Attached Organic Coatings.
3. ASTM D523 – Test Method for Specular Gloss.
4. ASTM D714 – Test Method for Evaluating Degree of Blistering of Paints.
5. ASTM D968 – Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.
6. ASTM D1400 – Test Method for Nondestructive Measurement of Dry Film Thickness of Nonconductive Coatings Applied to a Nonferrous Metal Base.
7. ASTM D1654 – Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
8. ASTM D1730 – Practices for Preparation of Aluminum and Aluminum-Alloy Surfaces for Painting.
9. ASTM D2247 – Practice for Testing Water Resistance of Coatings in 100% Relative Humidity.
10. ASTM D2794 – Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
11. ASTM D3359 – Test Methods for Measuring Adhesion by Tape Test.
12. ASTM D3363 – Test Method for Film Hardness by Pencil Test.
13. ASTM D3451 – Practices for Testing Polymeric Powders and Powder Coatings.
14. ASTM D4214 – Test Method for Evaluating Degree of Chalking of Exterior Paint Films.
15. ASTM D5382 – A Guide to Evaluation of Optical Properties of Powder Coatings.
16. ASTM D5861 – Guide to Significance or Particle Size Measurements of Coating Powders.
17. ASTM D6441 – Test Methods for Measuring the Hiding Power of Powder Coatings.

B. American Architectural Manufacturer's Association (AAMA)

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1. AAMA 2604-05 – Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.

C. International Organization for Standardization (ISO)

1. ISO 1519 - Paints and varnishes - Bend test (cylindrical mandrel).
2. ISO 1520 - Paints and varnishes - Cupping test.
3. ISO 2409 - Paints and varnishes - Cross-cut test.
4. ISO 2815 - Paints and varnishes - Buchholz indentation test.

1.3.2 THERMOPLASTIC POWDER COATINGS

A. American Society for Testing and Materials (ASTM)

1. ASTM D 792
2. ASTM D 4541
3. ASTM D 2240
4. ASTM D 2794
5. ASTM D 1525
6. ASTM D 638
7. ASTM D 2247
8. ASTM D 117
9. ASTM D 53
10. ASTM D 4060
11. ASTM D 522
12. ASTM D 523
13. ASTM D 1238

1.3.3 ANTI-GRAFFITI POWDER COATING

A. American Society for Testing and Materials (ASTM)

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1. ASTM B117 – Practice for Operating Salt Spray (Fog) Apparatus.
2. ASTM D522 – Test Methods for Mandrel Bend Test of Attached Organic Coatings.
3. ASTM D523 – Test Method for Specular Gloss.
4. ASTM D609 – Practice for preparation of Cold-Rolled Steel Panels for Testing Paint, Varnish, Coatings, and related Coating Products
5. ASTM D610 – Test method for Evaluating Degree of Rusting on Painted Steel Surfaces
6. ASTM D714 – Test Method for Evaluating Degree of Blistering of Paints.
7. ASTM D870 – Test Method for Testing Water Resistance of Coatings Using Water Immersion
8. ASTM D968 – Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.
9. ASTM D1014 – Practice for Conducting Exterior Exposure Tests of Paints on Steel.
10. ASTM D1186 – Test Methods for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to a Ferrous Base
11. ASTM D1400 – Test Method for Nondestructive Measurement of Dry Film Thickness of Nonconductive Coatings Applied to a Nonferrous Metal Base.
12. ASTM D1654 – Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
13. ASTM D1729 – Practice for Visual Appraisal of Colors and Color Differences of Diffusely Illuminated Opaque Materials.
14. ASTM D1730 – Practices for Preparation of Aluminum and Aluminum-Alloy Surfaces for Painting.
15. ASTM D1735 – Practice for Testing Water Resistance of Coatings Using Water Fog Apparatus
16. ASTM D2244 – Test Method for Calculation of Color Differences from Instrumentally Measured Coordinates.
17. ASTM D2247 – Practice for Testing Water Resistance of Coatings in 100% Relative Humidity.
18. ASTM D2794 – Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).

19. ASTM D3359 – Test Methods for Measuring Adhesion by Tape Test.
20. ASTM D3363 – Test Method for Film Hardness by Pencil Test.
21. ASTM D3451 – Practices for Testing Polymeric Powders and Powder Coatings.
22. ASTM D4214 – Test Method for Evaluating Degree of Chalking of Exterior Paint Films.
23. ASTM D5382 – A Guide to Evaluation of Optical Properties of Powder Coatings.
24. ASTM D5861 – Guide to Significance or Particle Size Measurements of Coating Powders.
25. ASTM D6441 – Test Methods for Measuring the Hiding Power of Powder Coatings.
26. ASTM E284 – Terminology of Appearance
27. ASTM E1164 – Practice for Obtaining Spectrophotometric Data for Object-color Evaluation
28. D6578-00 - Standard Practice for Determination of Graffiti Resistance

B. American Architectural Manufacturer's Association (AAMA)

1. AAMA 2603-02 – Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.

C. International Organization for Standardization (ISO)

1. ISO 1519 - Paints and varnishes - Bend test (cylindrical mandrel).
2. ISO 1520 - Paints and varnishes - Cupping test.
3. ISO 2409 - Paints and varnishes - Cross-cut test.
4. ISO 2815 - Paints and varnishes - Buchholz indentation test.
5. ISO 8130-7 Determination of loss of mass on stoving
6. ISO 8130-12 Determination of compatibility

1.4 SUBMITTALS

- A. Submit full records of all products used. List each product in relation to finish formula and include the following:

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1. Product type and use.
 2. Manufacturer's product number.
 3. Color numbers or descriptions.
 4. Manufacturer's Material Safety Data Sheets (MSDS).
- B. Submit manufacturer's application instructions for each product specified.
- C. Submit certification that all materials have been applied in accordance with the coating manufacturer's recommendations.

1.5 SAMPLES

- A. Submit 12" x 8" mm sample panels of each finish type, color, and texture specified.
- B. Submit full range of available colors where color availability is restricted.
- C. Use 1.5 mm (14 gage) aluminum or steel q-panels for sample finish.

1.6 QUALITY ASSURANCE

1. Standard of Acceptance:
 - a. Final coat to exhibit uniformity of color and uniformity of gloss across full surface area.
 - b. Quality of coated products to conform to specified requirements.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver and store materials in original packaging, sealed, with labels intact. (see Product Descriptions)
- B. Indicate on containers or wrappings:
 1. Manufacturer's name and address.
 2. Type of coating.
 3. Color number in accordance with established color schedule.
 4. Batch number.
- C. Provide and maintain dry, temperature controlled, secure storage.

1.8 ENVIRONMENTAL REQUIREMENTS

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- A. Maintain substrate and ambient temperature limits required by coating manufacturer.
- B. Apply coating only when surface to be coated is dry and adequately pre-treated.

1.9 SCHEDULING

- A. Submit work schedule for various stages of coating application.
- B. Submit schedule minimum 48 hours in advance of operations.

PART 2 PRODUCTS

2.1 POWDER COATING

2.1.1 MANUFACTURER

- A. TIGER Drylac® U.S.A., Inc., 1261 East Belmont Street, Ontario, California 91761; Phone (909)-930-9100, Fax (909) 930-9111; E-mail address: tiger@drylac.com. Web site address: www.tigerdrylac.com
- B. Substitutions: Allowed. Meet all general specifications included.

2.1.2 MATERIALS

- A. Powder Coating: Super Durable Polyester resin-based thermosetting powder, Tiger Drylac Series 38 High Performance Architectural Coating.

2.1.3 COLORS

- A. Selection of colors:
 - 1. Frame: 038/90018 Argento 314 Metallic.
 - 2. Panels: 038/91020 Anodized Silver

2.1.4 COATING FINISHES

- A. Shop primed ferrous metal surfaces:
 - 1. Thermosetting Polyester Resin-based Powder.
- B. Galvanized and zinc coated metal surfaces:
 - 1. Thermosetting Polyester Resin-based Powder.

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2.2 THERMOPLASTIC POWDER COATING

2.2.1 MANUFACTURER

- A. Innotek Powder Coatings, LLC
- B. Substitutions: Allowed. Meet all general specifications included.

2.2.2 MATERIALS

- A. Thermoplastic Powder Coating: Polyarmor G17 polyethylene copolymer thermoplastic powder coating.

2.2.3 COLORS

- A. Selection of colors:
 - 1. Benchtops: H101 Black.

2.3 ANTI-GRAFFITI POWDER COATING

2.3.1 MANUFACTURER

- A. TIGER Drylac® U.S.A., Inc., 1261 East Belmont Street, Ontario, California 91761; Phone (909)-930-9100, Fax (909) 930-9111; E-mail address: tiger@drylac.com. Web site address: www.tigerdrylac.com
- B. Substitutions: Allowed. Meet all general specifications included.
- C. Coating to be applied by an applicator with the appropriate facilities (spray equipment, oven, controlled environment, etc...)

2.3.2 MATERIALS

- A. Powder Coating: Polyester resin-based thermosetting powder, Series 44 – Anti-Graffiti, weather resistant Polyester Urethane for Exterior or Interior applications.

2.3.3 COLORS

- A. Selection of colors:
 - 1. All Powder Coated Surfaces: Smooth Glossy Finish Color: 44/10008 – Clear

2.3.4 COATING FINISHES

- A. Shop primed ferrous metal surfaces:
 - 1. Thermosetting Polyester Resin-based Powder.
- C. Galvanized and zinc coated metal surfaces:
 - 1. Thermosetting Polyester Resin-based Powder.

PART 3 EXECUTION

3.1 PREPARATION

- A. Grind fabrication welds smooth.
- B. Clean surfaces prior to pretreatment coating.
- C. Surfaces to Receive Finishes: Dry and free of debris, oils, dust, or other deleterious materials.

3.2 CLEANING

- A. Clean surfaces to be coated as follows:
 - 1. Remove all dust, dirt, and other surface debris by vacuuming, wiping dry with clean cloths or compressed air.
 - 2. Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.
 - 3. Allow surfaces to drain completely and allow to thoroughly dry.
- B. If the above procedures do not clean the substrate surfaces, clean the surfaces with high pressure water washing.
- C. Apply pretreatment as soon as possible after cleaning and before surface deterioration occurs.
- D. Pre-treat iron phosphate for steel, zinc phosphate for galvanized or steel structures and yellow or green chromating, or approved chrome-free for aluminum substrates.

3.3 APPLICATION

3.3.1 POWDER COATING

- A. Apply coating to requirements of coating manufacturer's written application instructions.
- B. Method of Application: Applicator to submit information regarding preferred method of application for review. Application types include the following: Electrostatic manual spraying. Electrostatic automatic spraying. Tribo/Airstatic manual spraying. Tribo/Airstatic automatic spraying. Metallic powder coating by electrostatic processing.
- C. Spray application.
 - 1. Provide and maintain equipment that is suitable for intended purpose, capable of properly fluidizing powder coating to be applied.
 - 2. Apply coating materials to clean surfaces to minimum 2.5 - 3.5 mil dry film thickness or as specified by manufacturer.
 - 3. Ensure coating adheres to internal corners and recessed areas.
- D. Allow surfaces to cure for minimum time period as required by manufacturer.
- E. Cure in accordance with manufacturer's cure curves.

3.3.1 THERMOPLASTIC POWDER COATING

- A. Apply coating to requirements of coating manufacturer's written application instructions.
- B. Method of Application: Applicator to submit information regarding preferred method of application for review. Application types include the following: Electrostatic manual spraying. Electrostatic automatic spraying. Fluidized bed dip coating.
- C. Spray application per manufacturer's recommendations.
 - 1. Provide and maintain equipment that is suitable for intended purpose, capable of properly fluidizing powder coating to be applied.
 - 2. Apply coating materials to clean surfaces to minimum 2.5 - 3.5 mil dry film thickness or as specified by manufacturer.
 - 3. Ensure coating adheres to internal corners and recessed areas.
- D. Allow surfaces to cure for minimum time period as required by manufacturer.
- E. Cure in accordance with manufacturer's cure curves.

3.3.2 ANTI-GRAFFITI POWDER COATING

- A. Apply coating to requirements of coating manufacturer's written application instructions.
- B. Method of Application: Applicator to submit information regarding preferred method of application for review. Application types include the following: Electrostatic manual spraying. Electrostatic automatic spraying. Tribo/Airstatic manual spraying. Tribo/Airstatic automatic spraying. Metallic powder coating by electrostatic processing.
- C. Spray application per manufacturer's recommendations.
 - 1. Provide and maintain equipment that is suitable for intended purpose, capable of properly fluidizing powder coating to be applied.
 - 2. Apply coating materials to clean surfaces to minimum 2.5 - 3.5 mil dry film thickness or as specified by manufacturer.
 - 3. Ensure coating adheres to internal corners and recessed areas.
- D. Allow surfaces to cure for minimum time period as required by manufacturer.
- E. Cure in accordance with manufacturer's cure curves.
- F. Apply Anti-Graffiti Coating as a final coating over previously applied powder coating.

3.4 FIELD QUALITY CONTROL

- A. Advise when each applied coating is ready for review.

END OF SECTION 09960

APPENDIX

The following pages include the pertinent approved submittals from Phase 1 of the Bus Shelters and Amenities project. **It is intended to be utilized as reference information for the Phase 3 scope which consists of the fabrication and delivery of Product Package 'A' in the quantities specified.** Bidders are to disregard any information not pertaining to Product Package 'A'. In the event of a conflict between the Drawings & Specifications and the appendix information, the drawings & specifications govern. The contractor shall notify the City of Santa Fe of any discrepancy between the Drawings & Specifications and Appendix information, prior to performing any work affected by the discrepancy.

BUS SHELTERS & AMENITIES PHASE 1

Santa Fe, NM

PROJECT MANUAL APPENDIX

July 14, 2015

Autotroph Inc.

422 Greg Ave
Santa Fe, NM 87501
phone: 505.216.7555



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Santa Fe Bus Shelters

SUBMITTALS:

TECHNICAL INFORMATION RELATING TO:
PRODUCT PACKAGE A
COMPONENTS: W, B, F

COLOR SAMPLES TO BE DELIVERED VIA FEDEX ASAP
MOCK UPS WILL BE PROVIDED ONCE DRAWINGS ARE APPROVED

LNI CUSTOM MANUFACTURING, Inc.

Project No. 13017
05/06/2013



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TABLE OF CONTENTS

SHOP DRAWINGS:

- COMPONENT B1
- COMPONENT B2, W1, W2, W3
- COMPONENT F1,F2
- PRODUCT PACKAGE A
- PRODUCT PACKAGE B

BOLT/ FASTENER SCHEDULE

QUALITY ASSURANCE CERTIFICATE

MATERIAL DESCRIPTION & PRODUCT DATA

POWDER COATING APPLICATION & QUALIFICATION

SUBMITTAL REVIEWED BY CHAVEZ-GRIEVES ENGINEERING. THE REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND FOR GENERAL COMPLIANCE WITH THE PLANS AND SPECIFICATIONS AND SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF THE FULL RESPONSIBILITY FOR PROVIDING MATERIALS, EQUIPMENT, AND WORK REQUIRED BY THE CONTRACT, THE PROPER FITTING AND CONSTRUCTION OF THE WORK, ACCURACY AND COMPLETENESS OF THE SUBMITTAL, SELECTING FABRICATION PROCESS AND TECHNIQUES OF CONSTRUCTION AND PERFORMING THE WORK IN A SAFE MANNER.

[] PLEASE CORRECT AND RESUBMIT

[x] RESUBMITTAL IS NOT REQUIRED, CORRECTIONS, IF ANY ARE NOTED

**CHAVEZ-GRIEVES
CONSULTING ENGINEERS, INC.**

ACCT NO.: J21-110-11

BY: GB

DATE: 05/15/13

autotroph

☐ APPROVED

☐ NOT APPROVED

☒ APPROVED AS NOTED ☐ NO ACTION REQUIRED

☐ REVISE AND RESUBMIT ☐

Architect's review and action is only for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents. Architect's approval does not indicate approval of the accuracy and completeness of other details such as dimensions and quantities, or of instructions for installation or performance of equipment or systems, or of an assembly of which a specific item is a component.

 **DATE:** 5/15/2013



custom manufacturing

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SHOP DRAWINGS:

COMPONENT B1
COMPONENT B2,W1,W2,W3
PRODUCT PACKAGE A
PRODUCT PACKAGE B

Suproph

Santa Fe Trails

Product Package "A"

4/15/2013

Qty. 25



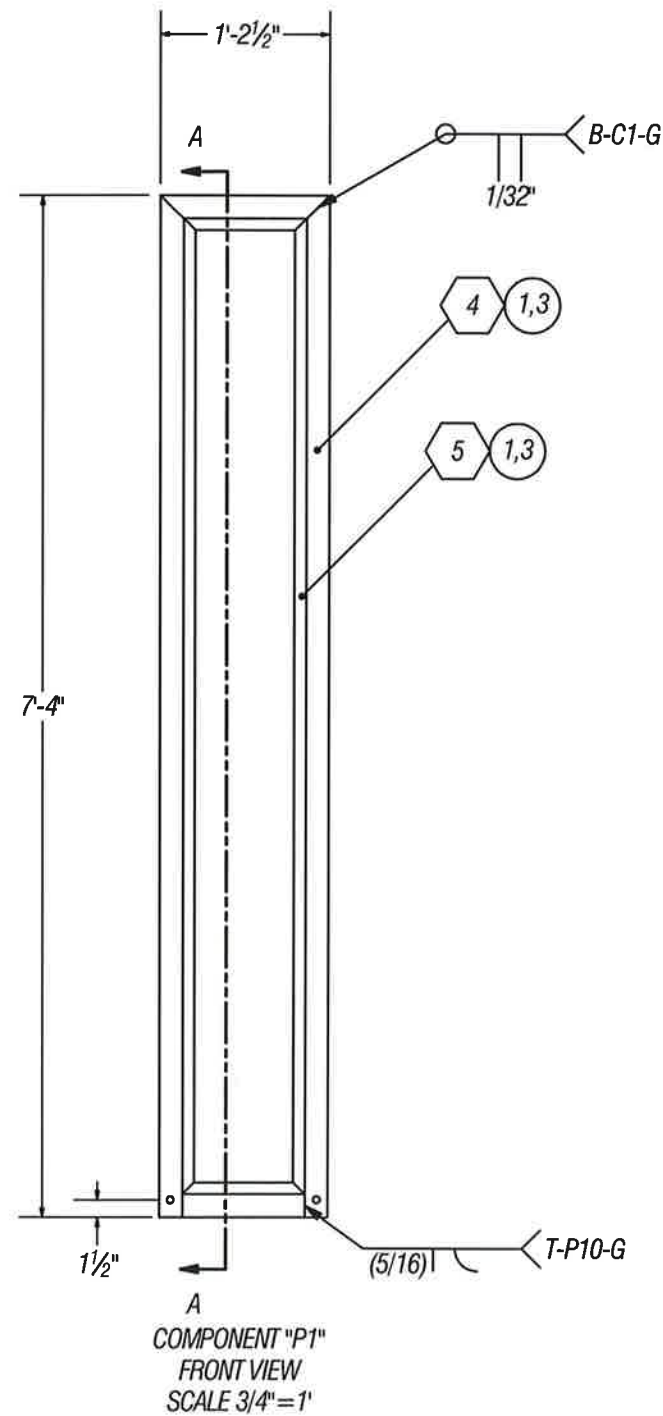
 5/1/13 Welding Symbols

CUSTOM MANUFACTURING
SINCE 1952

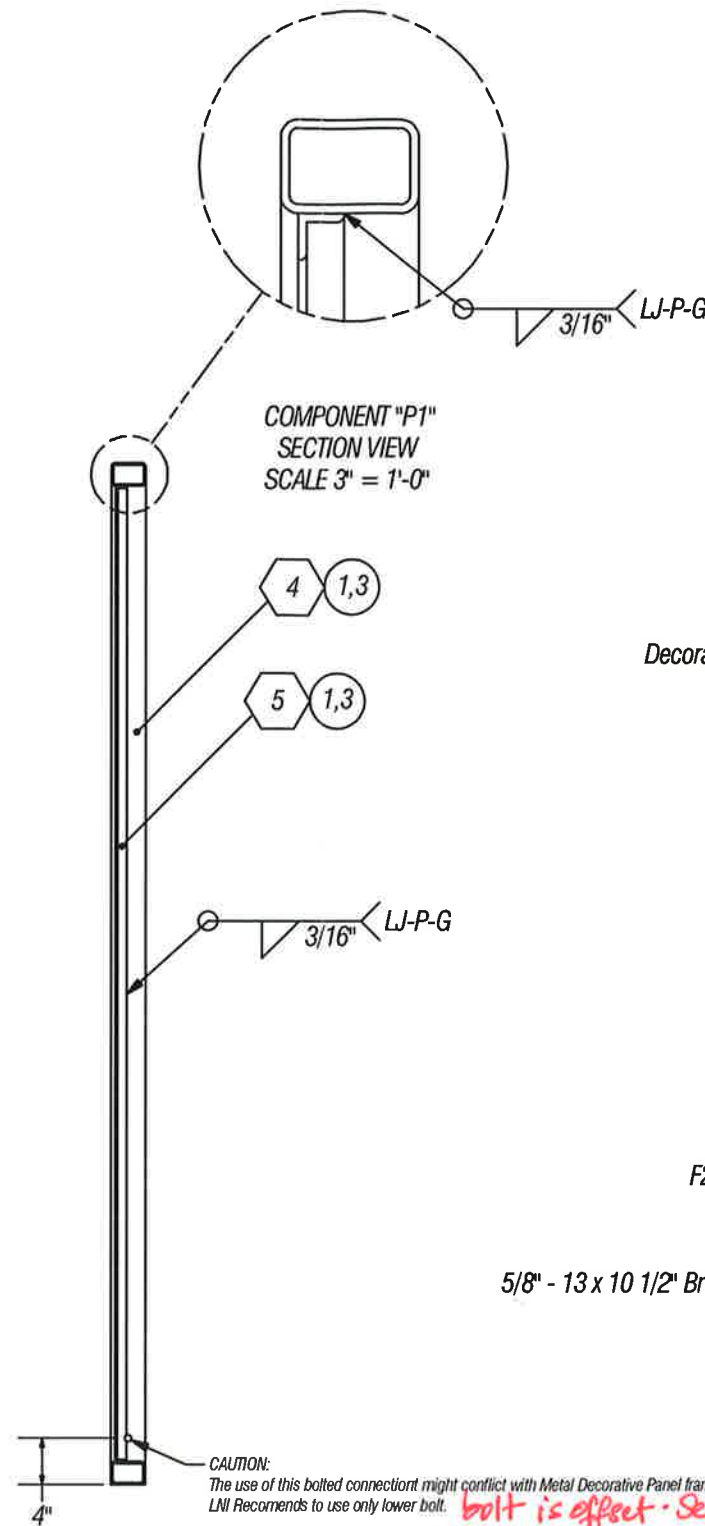
 12536 Chadron Avenue
Hawthorne, California 90250
Tel 800 338 3387 / 310 978 2000
Fax 310 978 4000



COMPONENT "P1"
ISOMETRIC VIEW
SCALE 3/8"=1'

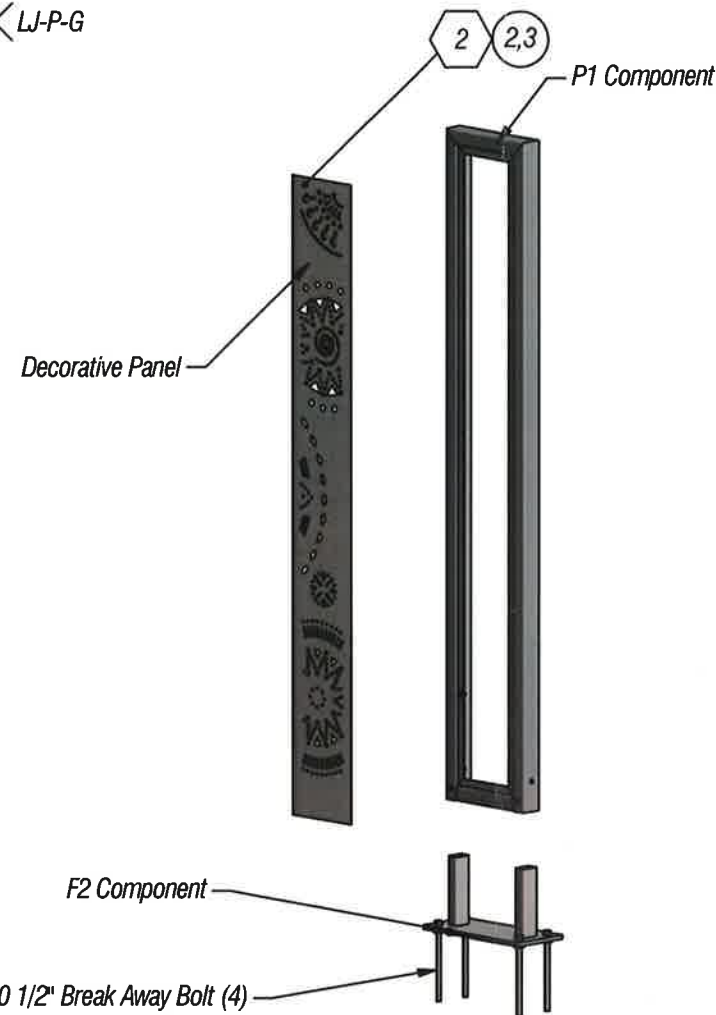


COMPONENT "P1"
FRONT VIEW
SCALE 3/4"=1'



COMPONENT "P1"
SECTION A-A
SCALE 3/4"=1'

COMPONENT "P1"
SECTION VIEW
SCALE 3"=1'-0"



PRODUCT PACKAGE "A"
SCALE 1/2"=1'

Note: Decorative metal panels are fastened to the 1"x1" angle with a 1/4" thread rod fastener tamper proof nut with neoprene washers on both sides @ 6" O.C. (32) See Page 4

bolt is effect - See 4/2.0.
Use both bolts.

Material Legend

1	1/2" Steel Plate
2	20 Ga. Steel Sheet Metal
3	2-1/2" x 1-1/2" x 1/4" Steel R. Tube
4	2" x 3" x 3/16" Steel R. Tube
5	1" x 1" x 3/16" Steel Angle
6	3" x 3" x 3/16" Steel Sq. Tube
7	7 Ga. Steel Sheet Metal
8	11 Ga. Steel Sheet Metal
9	2-1/2" x 2-1/2" x 1/4" Steel S. Tube
10	1" x 2" x 3/16" Steel Rec Tube
11	2" x 5" x 3/16" Steel Rec Tube
12	3/16" Steel Plate
13	2" x 1/8" Steel Angle
14	0.040" Aluminum Sheet Metal
15	

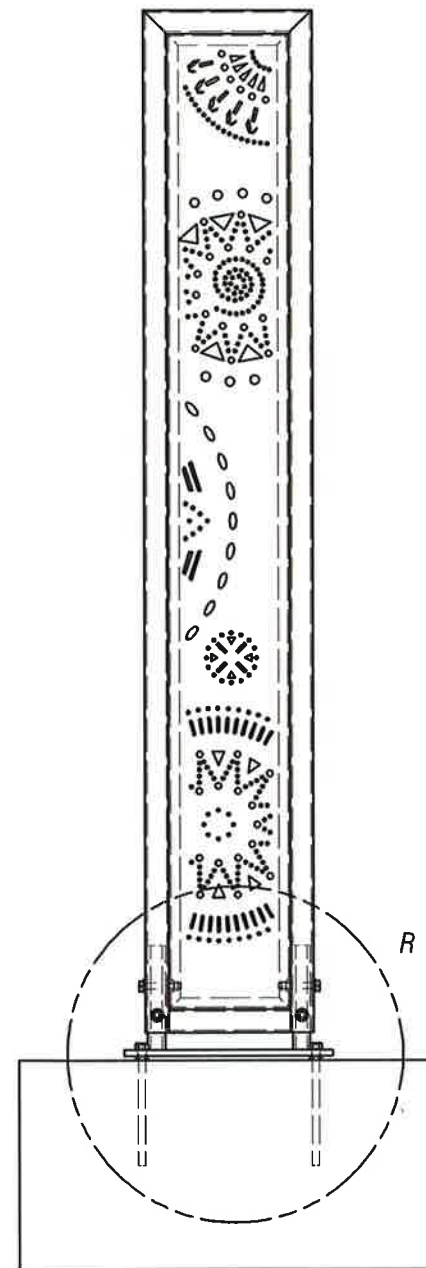
Finish Legend

1	38/90018 Argento 314 Metallic
2	38/91020 Anodized Silver
3	44/00018 Smooth Glossy Clear
4	H-101 Black Polyarmor G17
5	

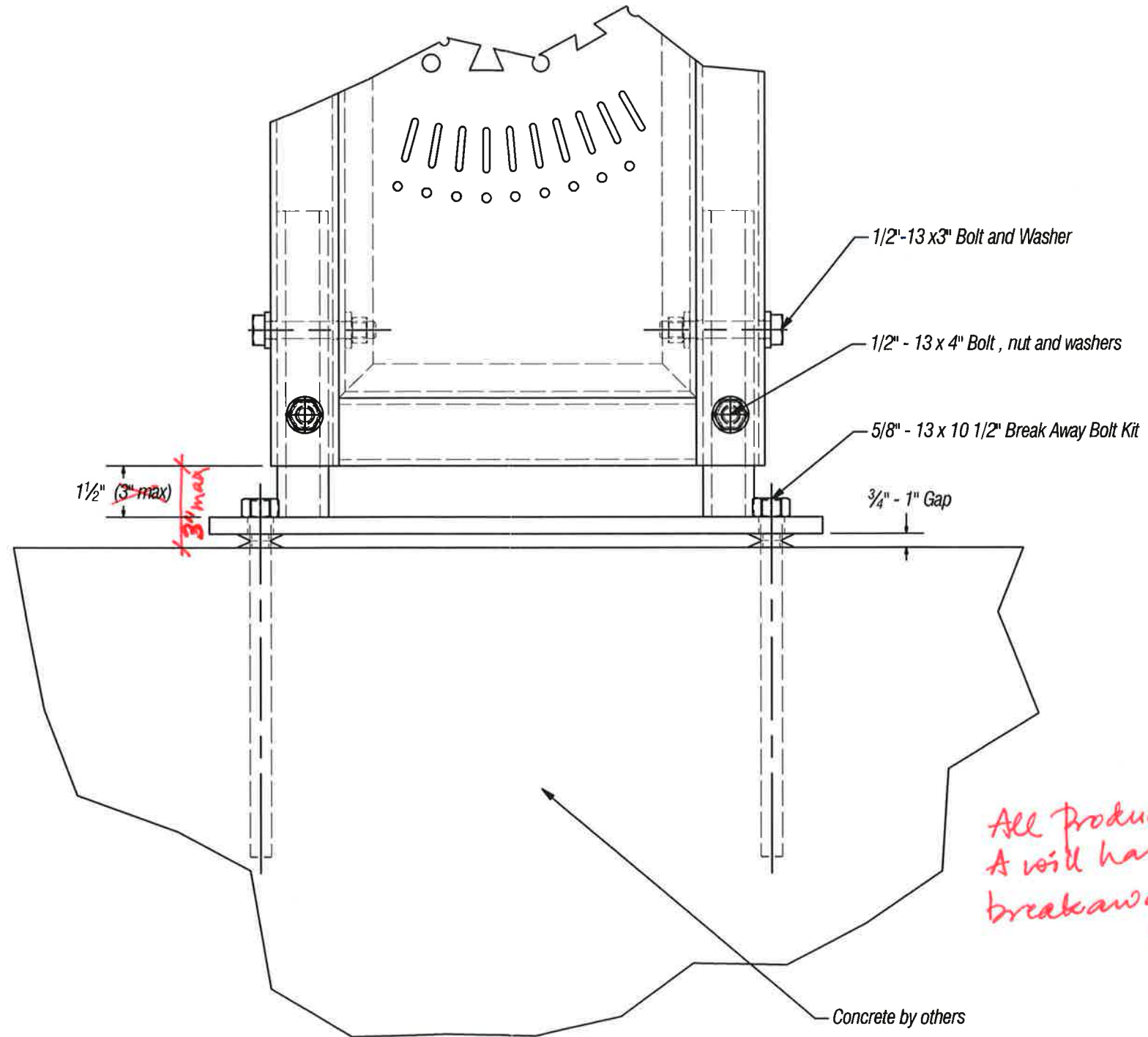
Notes

All tube steel to tube steel connections shall be continuously welded all around with 3/16" min. fillet or butt welds. Grind all welds smooth.
Decorative metal panels are fastened to the 1" x 1" angle with a 1/4" threaded rod fastener w/ tamperproof nut w/ neoprene washers on both sides @ 6" O. C.

Project Name:	Santa Fe Trails	Product Package "A" (STEEL FRAME)	LNI	12536 Chadron Avenue Hawthorne, California 90250 Tel 800 338 3387 / 310 978 2000 Fax 310 978 4000	△	Date:	By:	Welding Information	Sheet
Address:	Snata Fe, NM	Date:	4/15/2013		R1	5/1/13	JS		2
City/State:	Snata Fe, NM	Comments:	---						
Sales:	Scott Blakely								
Drawn By:	Carlos Garcia								



PRODUCT PACKAGE "A"
SCALE 3/4" = 1'



DETAIL R
SCALE 3" = 1'-0"

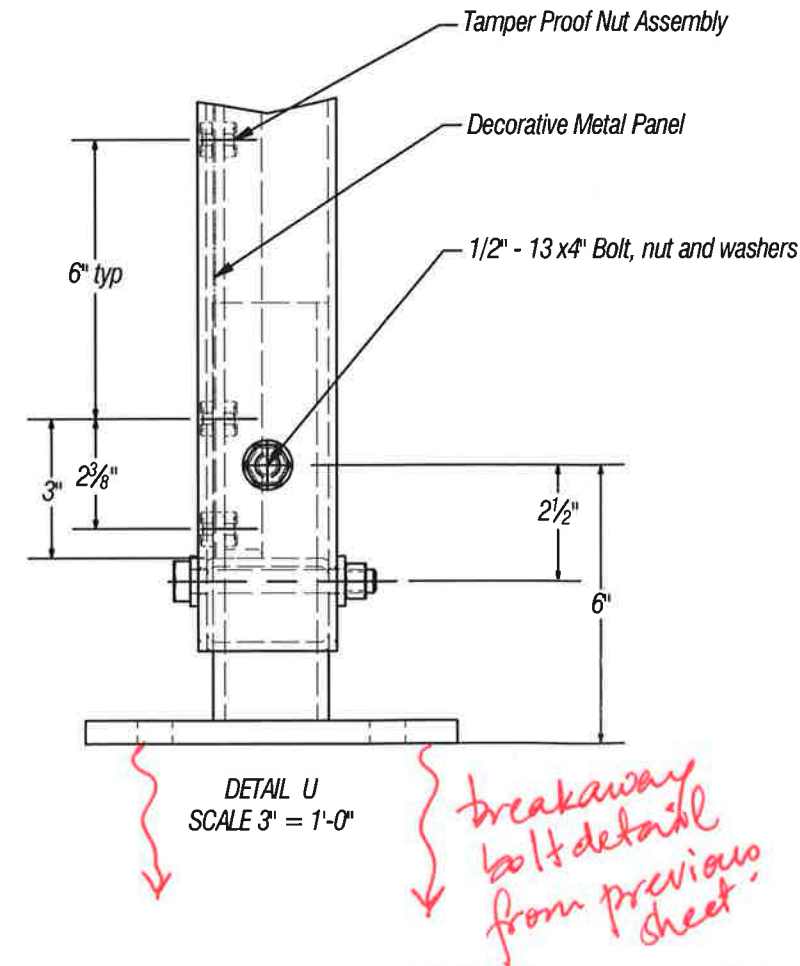
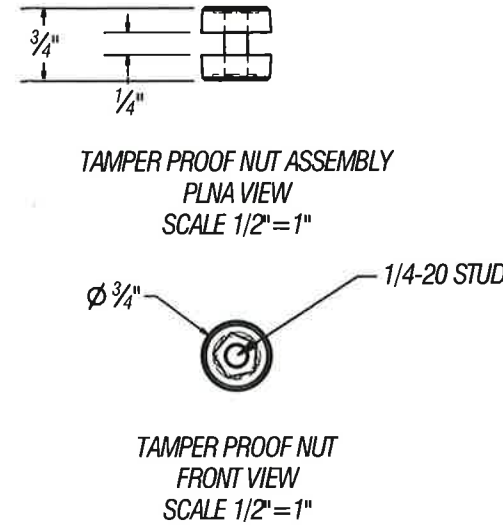
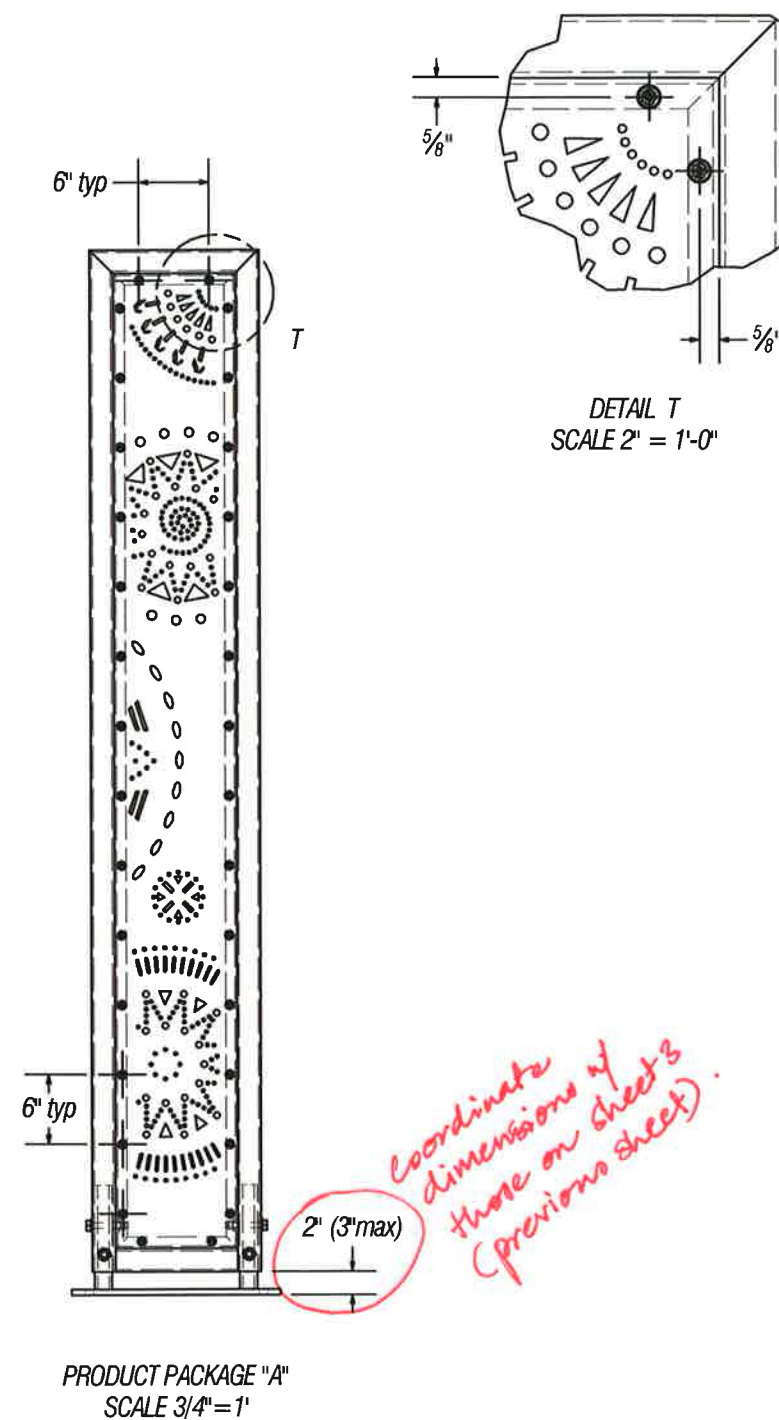
*All Product Packages
A will have
breakaway feet.*

Material Legend	
1	1/2" Steel Plate
2	20 Ga. Steel Sheet Metal
3	2-1/2" x 1-1/2" x 1/4" Steel R. Tube
4	2" x 3" x 3/16" Steel R. Tube
5	1" x 1" x 3/16" Steel Angle
6	3" x 3" x 3/16" Steel Sq. Tube
7	7 Ga. Steel Sheet Metal
8	11 Ga. Steel Sheet Metal
9	2-1/2" x 2-1/2" x 1/4" Steel S. Tube
10	1" x 2" x 3/16" Steel Rec Tube
11	2" x 5" x 3/16" Steel Rec Tube
12	3/16" Steel Plate
13	2" x 1/8" Steel Angle
14	0.040" Aluminum Sheet Metal
15	

Finish Legend	
1	38/90018 Argento 314 Metallic
2	38/91020 Anodized Silver
3	44/00018 Smooth Glossy Clear
4	H-101 Black Polyarmor G17
5	

Notes	
All tube steel to tube steel connections shall be continuously welded all around with 3/16" min. fillet or butt welds. Grind all welds smooth.	
Decorative metal panels are fastened to the 1" x 1" angle with a 1/4" threaded rod fastener w/ tamperproof nut w/neoprene washers on both sides @ 6" O. C.	

Project Name:	Santa Fe Trails	Installing Product Package "A"	 <div>12536 Chadron Avenue Hawthorne, California 90250 Tel 800 338 3387 / 310 978 2000 Fax 310 978 4000</div>	△	Date:	By:		Sheet
Address:	Santa Fe, NM			R1	5/1/13	JS	Welding Information	3
City/State:	Santa Fe, NM							
Sales:	Scott Blakely							
Drawn By:	Carlos Garcia							
		Date:	4/15/2013					
		Comments:						



Material Legend

1	1/2" Steel Plate
2	20 Ga. Steel Sheet Metal
3	2-1/2" x 1-1/2" x 1/4" Steel R. Tube
4	2" x 3" x 3/16" Steel R. Tube
5	1" x 1" x 3/16" Steel Angle
6	3" x 3" x 3/16" Steel Sq. Tube
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10	1" x 2" x 3/16" Steel Rec Tube
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12	3/16" Steel Plate
13	2" x 1/8" Steel Angle
14	0.040" Aluminum Sheet Metal
15	

Finish Legend

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2	38/91020 Anodized Silver
3	44/00018 Smooth Glossy Clear
4	H-101 Black Polyarmor G17
5	

Notes

All tube steel to tube steel connections shall be continuously welded all around with 3/16" min. fillet or butt welds. Grind all welds smooth.
Decorative metal panels are fastened to the 1" x 1" angle with a 1/4" threaded rod fastener w/ tamperproof nut w/ neoprene washers on both sides @ 6" O. C.

Project Name:	Santa Fe Trails
Address:	Santa Fe, NM
City/State:	Santa Fe, NM
Sales:	Scott Blakely
Drawn By:	Carlos Garcia

Hardware Details

Date: 4/15/2013
Comments:

LNI
12536 Chadron Avenue
Hawthorne, California 90250
Tel 800 338 3387 / 310 978 2000
Fax 310 978 4000

△	Date:	By:	Sheet
R1	5/1/13	JS	4

Santa Fe - Bolt Schedule

All products are zinc, unless otherwise noted

Product Package	Quantity	Parts	Components Per Package	Total Hardware Quantities
A	25	F2 - [1]	[4] 5/8" x 13" All thread, 1/2" sq washer, 1/2" nut	[100] 5/8" x 13" All thread, 1/2" sq washer, 1/2" nut
			(4) Dent Breakawy coupling (see spec sheet)	(100) Dent Breakawy coupling (see spec sheet)
B	7	F1 - [2]	[8] 1/2" x 10.5" All thread, 1/2" nut, 1/2" washer	[84] 1/2" x 10.5" All thread, 1/2" nut, 1/2" washer
		F2 - [1]	[5] 1/2" x 10.5" All thread, 1/2" nut, 1/2" washer	
		F3 - [1]	[2] 5/8" x 3" All thread, 5/8" nut, 5/8" washer	[14] 5/8" x 3" All thread, 5/8" nut, 5/8" washer
		C1 - [1]	[1] 1/2" x 4" Thru Bolt, 1/2" nut, 1/2" Ne. washer	[21] 1/2" x 4" Thru Bolt, 1/2" nut, 1/2" Ne. washer
		C2 - [1]	[2] 1/2" x 4" Thru Bolt, 1/2" nut, 1/2" Ne. washer	
		C3 - [1]	[2] #12 self tapping screws, Ne. washer	[14] #12 self tapping screws/ washer
C	18	F1 - [3]	[12] 1/2" x 10.5" All thread, 1/2" nut, 1/2" washer	[216] 5/8" x 10.5" All thread, 1/2" nut, 1/2" washer
		F3 - [1]	[2] 5/8" x 3" All thread, 5/8" nut, 5/8" washer	[36] 5/8" x 3" All thread, 5/8" nut, 5/8" washer
		C1 - [3]	[3] 1/2" x 4" Thru Bolt, 1/2" nut, 1/2" washer	[54] 1/2" x 4" Thru Bolt, 1/2" nut, 1/2" Ne. washer
		C3 - [1]	[2] #12 self tapping screws, washer	[36] #12 self tapping screws/ washer
D	6	F1 - [6]	[24] 1/2" x 10.5" All thread, 1/2" nut, 1/2" washer	[144] 1/2" x 10.5" All thread, 1/2" nut, 1/2" washer
		F3 - [2]	[4] 5/8" x 3" All thread, 5/8" nut, 5/8" washer	[24] 5/8" x 3" All thread, 5/8" nut, 5/8" washer
		C1 - [6]	[6] 1/2" x 4" Thru Bolt, 1/2" nut, 1/2" Ne. washer	[36] 1/2" x 4" Thru Bolt, 1/2" nut, 1/2" Ne. washer
		C3 - [2]	[6] #12 self tapping screws, Ne. washer	[36] #12 self tapping screws/ washer
		RC - [1]	[5] 1/2" x 5" connecting bolts/ wahser/ nuts	[30] 1/2" x 5" connecting bolts, 1/2" nut, 1/2" washer
E	3	F1 - [8]	[32] 1/2" x 10.5" All thread, 1/2" nut, 1/2" washer	[98] 1/2" x 10.5" All thread, 1/2" nut, 1/2" washer
		F3 - [2]	[4] 5/8" x 3" All thread, 5/8" nut, 5/8" washer	[12] 5/8" x 3" All thread, 5/8" nut, 5/8" washer
		C1 - [8]	[1] 1/2" x 4" Thru Bolt, 1/2" nut, 1/2" Ne. washer	[21] 1/2" x 4" Thru Bolt, 1/2" nut, 1/2" Ne. washer
		C3 - [2]	[4] #12 self tapping screws, Ne. washer	[12] #12 self tapping screws/ washer
		RC - [1]	[5] 1/2" x 5" connecting bolts/ wahser/ nuts	[15] 1/2" x 5" connecting bolts, 1/2" nut, 1/2" washer
F	7	F1 - [10]	[40] 1/2" x 10.5" All thread, 1/2" nut, 1/2" washer	[280] 1/2" x 10.5" All thread, 1/2" nut, 1/2" washer
		F3 - [2]	[4] 5/8" x 3" All thread, 5/8" nut, 5/8" washer	[28] 5/8" x 3" All thread, 5/8" nut, 5/8" washer
		C1 - [10]	[10] 1/2" x 4" Thru Bolt, 1/2" nut, 1/2" Ne. washer	[70] 1/2" x 4" Thru Bolt, 1/2" nut, 1/2" Ne. washer
		C3 - [2]	[4] #12 self tapping screws, Ne. washer	[28] #12 self tapping screws/ washer



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MATERIAL DESCRIPTION & PRODUCT DATA:



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May 6, 2013

Project: Santa Fe Bus Shelters

Subject: Product Data

The following products will be used, per specification package provided by customer, in the production of Products A & B:

1. Production Sheet Metal: Various gauge cold rolled steel – stock component

a. no data sheets provided

~~2. Sheet Metal (Flashing & Trim)~~

~~a. Product Data Sheets~~

~~b. MSDS sheets~~

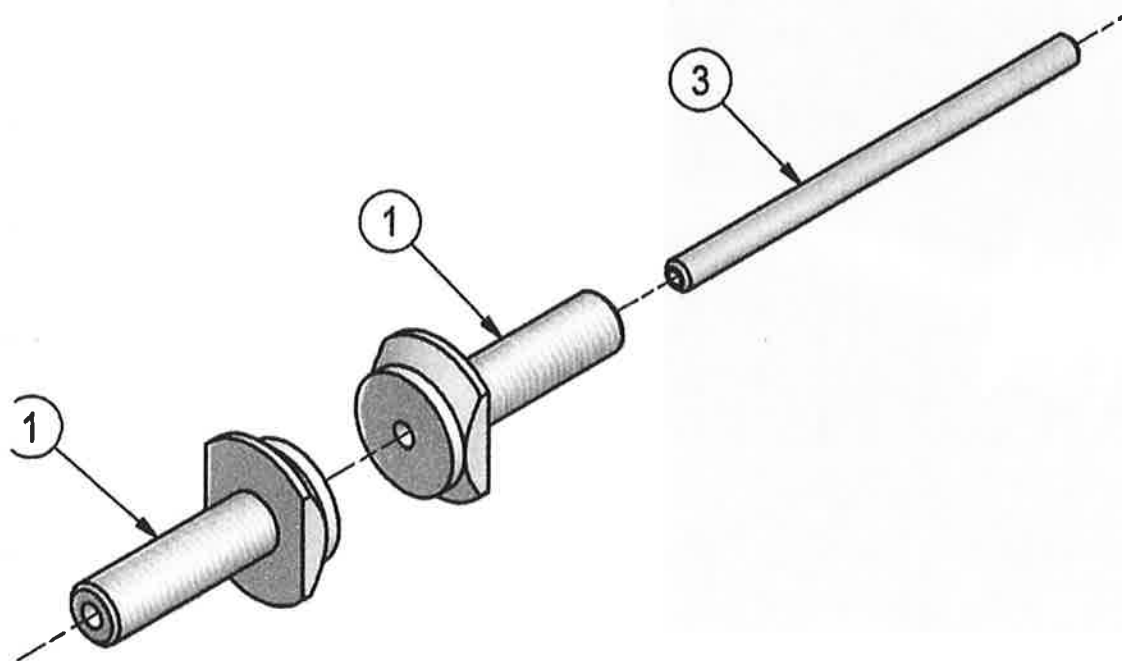
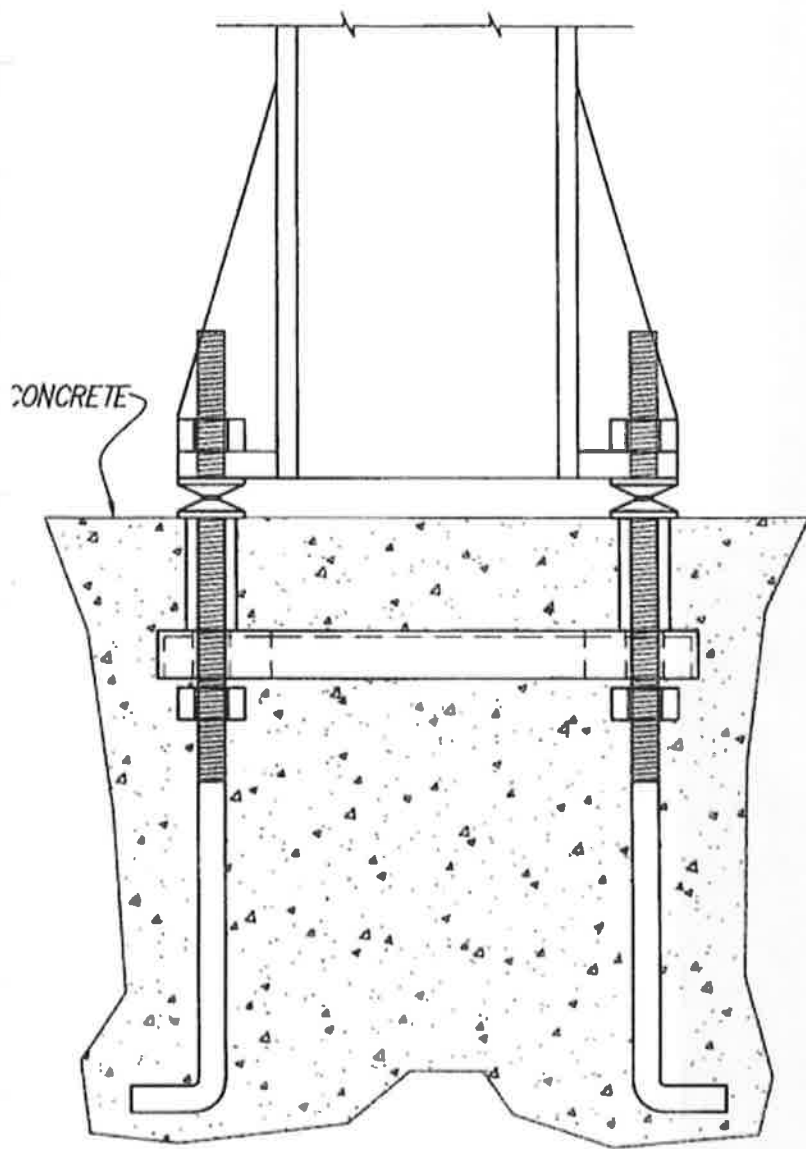
not included in submittal

3. Anchor Bolt: ½ All Thread – stock component

a. no data sheet provided

4. Breakaway Bolt System: Dent Breakaway Industries

a. Product Data Sheets attached



**"J" Bolt with Coupling
System &
New Dent Connector**



**Drop-in
Anchor System
Dent Bolt**





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POWDER COATING APPLICATION & QUALIFICATION DATA:



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May 6, 2013

Project: Santa Fe Bus Shelters
Subject: Painting and Coating Process

To Whom It May Concern:

Per section 05730/1.4/E of submittal specifications, the following represents powder coating application process:

1. Surface Preparation: Prepared to SSPC SP-10
 - a. Sandblast product to "Near-White Blast" condition.
 - b. We use a Clemco® Abrasive Blast sandblaster, at 120 psi
 - c. Kleen Blast® premium non-silica abrasive.
 - d. Wipe clean with paint thinner/acetone
2. Prime Coat: Tiger Drylac Zinc Rich Primer - Series 69/ 905000
 - a. Product Data Sheets
 - b. MSDS sheets
3. First Coat: Tiger Drylac Powder Coat - Series 38, or Innotek Polymer G17
 - a. Product Data Sheets
 - b. MSDS sheets
4. Finish Coat: Tiger Anti-Graffiti – Series 44
 - a. Product Data Sheets
 - b. MSDS sheets

Sincerely,
LNI Custom Manufacturing

Jennifer Payne
Project Manager

LNI Certificate of Conformance

Job Name: Santa Fe Bus Shelters
Owner: City of Santa Fe
2651 Siringo Road, Bldg H
Santa Fe, NM 87505

Purchase Order: 10198, 03/27/2013

LNI Project Number: 13017, 10/22/2012

The undersigned hereby certifies that all parts processed on the above purchase order were coated in accordance with customer and material specifications.

Material Used: Tiger DryZinc- Zinc Rich Primer, Series 69/ Tiger Drylac Super Durable Polyester resin-resin based Thermosetting powder, Series 38/ High Performance Arch. Coating, Series 44- Anti Graffiti, weather resistant Polyester Urethane for Ext. Application
-All Surfaces: 69/90500 Zinc- Rich Primer
-Frame: 038/ 90018 Argento 314 Metallic
-Panels: 038/ 91020 Anodized Silver
-All Surfaces: Smooth Glossy Finish 44/10008 - Clear

Specification: Tiger Drylac Specification

Manufactured By: Tiger Drylac U.S.A, Inc. (Lot/ Batch: T.B.D.)

All processing procedures used were in accordance with material manufactures and customers specifications:

Carlos Garcia
Quality Assurance

*Provide sample chips
for approval of color and finish.*

Jennifer Payne
Project Manager

Product Data Sheet



SERIES 69 - DRYZINC® ZINC-RICH PRIMER (69/90500)

Epoxy zinc-rich powder coating primer. Part of a two-coat TIGER Shield® system. Designed to impart superior corrosion protection to steel substrates.

Typical applications

- Steel constructions.
- Stadium seating.
- Agricultural machinery.
- Industrial equipment.
- Fixtures.
- Fences.
- Bike mounts.
- Heavy corrosion protection.

Standard Packaging 44 lb (20 kg) box.
5 lb (2.5 kg) minipack.

Specific Gravity (ASTM D792) approximately 2.2 g/cm³
depending on pigmentation.

Theoretical Coverage at 2.2 specific gravity and
2.5 mils (60 µm) film thickness:
24 ft²/lb (4.0 m²/kg).

Refer also to the latest edition
of "Theoretic Powder Coating
Coverage Chart".
Version 00-1001 (imperial).
Version 00-1000 (metric).

Storage Stability 6 months at no more than
77 °F (25 °C).

Features

- Zinc-rich primer.
- Especially suited for blasted substrates.
- Good intercoat adhesion.
- Very good corrosion protection.
- Very good mechanical properties.
- Good chemical resistance.
- Good storage stability.
- Very good edge coverage.

Finish and Color

- Grey smooth flow glossy surface, approximately 75±5*.

* Gloss level according to ASTM 523 at 60° angle.

TIGER Shield®

TIGER Shield® is a two-coat system consisting of a corrosion protective primer as a base coat:

- TIGER Drylac® 69/70000 Dryprotector®,
 - or TIGER Dryzinc® 69/90500,
 - or TIGER Drylac® zinc-free OGF 09/73841,
- and an opaque weather resistant TIGER Drylac® powder coating.

Series 69 - DRYZINC® Zinc-Rich Primer (69/90500)



Pretreatment (alternatives)

Two methods of pretreatment have been tested. A prerequisite for inclusion in the TIGER Shield® processing is the quality of the steel substrate defined as an alloy-treated steel, class ST 37, ST 52 or any other equally suited steel that can be coated (stainless steel alloys, any derivatives thereof as well as galvanized work pieces are explicitly excluded for use within a TIGER Shield® application).

The following means of pretreatment and metal preparation have been tested respectively, and approved, in accordance with the requirements as set forth in EN ISO 12944.

I. Zinc phosphating

Minimum conversion coating weight $2.5 \pm 1.0 \text{ g/m}^2$.

II.) Blasting

The raw steel surface needs to be blasted using sharp and edged minerals or cast iron pellets. The tolerances for a blasted steel surface thereby need to correspond to the comparison specimen standard G 201 (lower tolerance segment 2, upper tolerance segment 3 = medium grade) and to the surface preparation class of minimum Sa 2.5 according to ISO 8503-1 and ISO 8503-2 with the surface depth between a minimum of R_z 1.96-2.75 mils (50-70 μm) and a maximum of R_{max} 3.93 mils (100 μm) according to ISO 8501 and a peak amount P_c 0.39 mils (10 μm) of 20 measured with a perthometer (Mahr). Blasting must ensure that a minimum of 95% of the total area to be blasted is reached.

To avoid any corrosion, the powder coating has to take place immediately after the blasting stage.

Processing

Corona

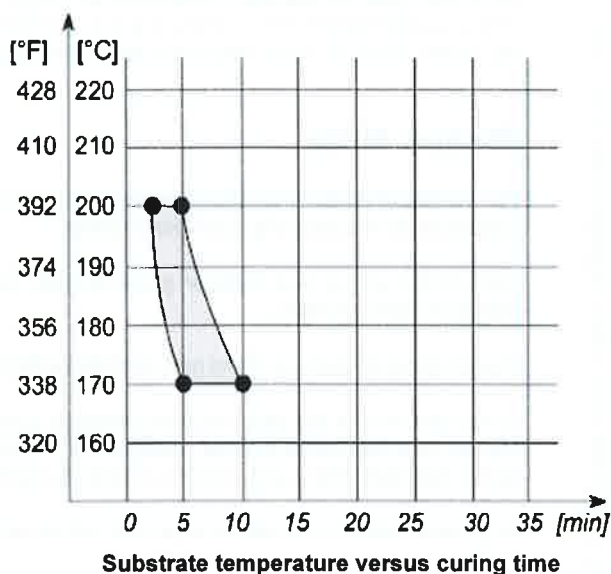
Tribo*

* For Tribo/Airstatic powder coatings please confirm before ordering. Suitability of metallic effects for Tribo processing must be verified prior to application. Please refer to the latest edition of the relevant Information Sheets.

Since not all powder coatings are suitable for recycling/reclaim, please verify before ordering.

Cure Parameters (substrate temperature)

TIGER Drylac® Two-Coat Process
Cure Parameters | Base Coat



To achieve a full cure and the desired mechanical properties and weatherability the time/temperature combination must fall within the cure window.

Two-Coat Process

If used as a two-coat TIGER Shield® system, best intercoat adhesion is achieved when pre-gelling the primer at 392 °F (200 °C) for 2-3 minutes prior to applying a TIGER Drylac® powder coating topcoat. It is then to be cured, applying the curing parameters as given in the relevant Product Data Sheet for that top coat.

To avoid eventual oxidation no more than 12 hours must elapse between the application of TIGER Dryzinc® 69/90500 and the spraying of any TIGER Drylac® topcoat.

When the pre-gelling and subsequent cure is done in a directly fired gas oven, intercoat adhesion between the primer and the topcoat may suffer due to a variation in the gas supply.

Series 69 - DRYZINC® Zinc-Rich Primer (69/90500)



Film Thickness

A minimum film thickness of 2.5 mils (60 µm) per layer needs to be applied. The system requires the primer; either TIGER Dryzinc® 69/90500 or TIGER Dryprotector® 69/70111, to be applied at 2.5-4.0 mils (60-100 µm) and the weather resistant top coat to be sprayed at a film thickness of 2.5-4.0 mils (60-100 µm). It is required that the total film thickness of both; the primer and the top coat, amount to an entire film build up to 5.0 mils (120 µm). In order to achieve sufficient opacity, it may become necessary to apply organic pigmented top coats at a higher film thickness. Please note that non-pigmented top coats, such as clear coats or transparent effects are not suited for a TIGER Shield® application.

Please Note

For metallic finishes, it is recommended to observe the guidelines published in the latest edition of TIGER Drylac® "Application guidelines for metallic effect powder coatings".

Top coating with a clear exterior grade powder coating over an interior grade powder coating does not result into a weather resistant coating system.

Post-bending properties of any part must be verified prior to application. Minor cracks in the coated surface may lead to corrosion.

Joint sealants and any other auxiliary products, such as glazing aids, gliding waxes, drilling and cutting lubricants, which come in contact with the coated surface, must be pH-neutral and free of substances that may damage the finish. Therefore, a suitability test at the applicator's end, prior to coating, is highly recommended.

In general, colors in the red, orange and yellow range may require an increased film thickness to achieve full hiding.

Any post-mechanical processing of already coated parts, such as sawing, drilling, milling, cutting and bending will result in damage of the coated surface and will subsequently weaken the corrosion protection.

Please read and understand the Material Safety Data Sheet (MSDS) before use.

Series 69 - DRYZINC® Zinc-Rich Primer (69/90500)



Test Results

Results are checked on a 1/8 inch (3 mm) gauge zinc phosphated, steel panel, two-coat TIGER Shield® system (TIGER Dryzinc® 69/90500 and a smooth glossy finish topcoat) with a total film thickness of maximum 6.4 mils (160µm). Cure conditions according to the cure curves.

Test results	Test method	Dryzinc® 69/90500 + TIGER Drylac® Series 38
Film thickness		5.0-7.0 mils (120-180 µm)
Cross cut tape test 2 mm	ASTM D3359	5B
Humidity resistance 1,000 hours	ASTM D2247	Maximum undercutting 1/32 inch (1 mm). No blistering.
Salt spray resistance 3,000 hours	ASTM B117	Maximum undercutting 1/32 inch (1 mm). No blistering.
Porosity of paint films	ASTM D3258	Non-porous.

Cleaning recommendations: Refer to the latest edition of TIGER "Cleaning Recommendations" information sheet, Version 00-1005.

If the metal preparation and pretreatment are followed according to the instructions as set forth in this Product Data Sheet, the TIGER Shield® system will yield protection against corrosion that meets the requirements of a corrosion class C5-I long according to EN ISO 12 944 part VI.

TIGER Shield® (Pretreatment with zinc phosphating)

Results are checked on a 1/8 inch (3 mm) zinc phosphated steel panel, two-coated-structure (TIGER Dryzinc® 69/90500 and a smooth glossy finish topcoat) with a general maximum film thickness of 6.4 mils (160 µm). Cure according to the relevant curing parameters.

Test results	Test method	Dryzinc® 69/90500 + TIGER Drylac® Series 38
Tested corrosion resistance	EN ISO 12 944	C5-I long IKS test report PB 300/64/00*
Suitable for application in pre-stressed and highly fastened bolted connections	DIN 18 800 Part 1***	Unrestricted use for bolted connections ISL test report PB 10/00**

TIGER Shield® (Metal preparation with blasting)

Results are checked on a 1/8 inch (3 mm) gauge blasted steel panel, two-coat TIGER Shield® system (TIGER Dryzinc® 69/90500 and a smooth glossy finish topcoat) with a total maximum film thickness of 5.0-7.0 mils (120-180 µm). Cure conditions are according to the cure curves.

Test results	Test method	Dryzinc® 69/90500 + TIGER Drylac® Series 38
Tested corrosion resistance	EN ISO 12 944	C5-I long IKS test report PB 300/64/00*
Suitable for application in pre-stressed and highly fastened bolted connections	DIN 18 800 Part 1***	Unrestricted use for bolted connections ISL test report PB 10/00**

* Institute for Corrosion Protection, Dresden, Germany

** Institute for Steel Construction, Leipzig, Germany

*** DIN = German Industrial Standard

Series 69 - DRYZINC® Zinc-Rich Primer (69/90500)



Chemical Resistance

The required chemical resistance of a powder coating depends, among other things, on its formulation. Chemical resistance requirements must be considered according to processing conditions and final use of the finished product. This is best established during the product specification process. Agreement between all parties involved must be reached about the requirements for such chemical resistance as well as the test method, which may be performed in accordance with PCI test method #8 "Solvent Cure Test". Furthermore, the test duration and concentration of the test media need to be agreed upon.

As part of TIGER Drylac® product information program, Product Data Sheets are updated periodically. It is recommended to always check for the latest editions on TIGER's website. TIGER's verbal and written recommendations for the use of its products are based upon experience and in accordance with current technological standards. These are given in order to support the buyer or user. They are non-committal and do not create any additional commitments to the purchase agreement. They do not release the buyer from verifying the suitability of TIGER products for the intended application. This Product Data Sheet supersedes all previous Product Data Sheet versions and notes published in relation to this product.

Certified according to
ISO 9001 | 14001

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W www.tiger-coatings.us

Material Safety Data Sheet

acc. to ISO 11014

Printing date 09/10/2010

Reviewed on 07/13/2010

1 Identification of substance

Product details

Trade name ZICH RICH PRIMER SM GL

Article number: 69/90500

Manufacturer/Supplier:

USA:

TIGER Drylac U.S.A., Inc.

1090 Commons Blvd.

Reading, PA 19605

Phone: +1 / 610 / 926 8148

Fax: +1 / 610 / 926 8149

Canada:

TIGER Drylac Canada Inc.

110 Southgate Drive

Guelph, Ontario, N1G 4P5

Phone: +1 / 519 / 766 4781

Fax: +1 / 519 / 766 4787

Informing department: Product Safety Department

Emergency information: 24/7:1-800-255-3924; International:+01 or +001-813-248-0585

* 2 Composition/Data on components:

Chemical characterization

Description: Mixture consisting of the following components with harmless additives.

Dangerous components:

7440-66-6	zinc powder -zinc dust (stabilized)	N; R 50/53	25-50%
80-05-7	bisphenol A	Xn, Xi; R 37-41-43-62	2.5-10%
693-98-1	2-methylimidazole	C, Xn; R 21/22-34-41	< 1.0%

Additional information For the wording of the listed risk phrases refer to section 16.

* 3 Hazards identification

Hazard designation:

Irritant

Dangerous for the environment

Information pertaining to health and environmental hazards

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

May cause sensitization by skin contact.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Classification system

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

NFPA ratings (scale 0-4)



Health = 1

Fire = 1

Reactivity = 1

(Contd. on page 2)

USA

Material Safety Data Sheet

acc. to ISO 11014

Printing date 09/10/2010

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Trade name ZICH RICH PRIMER SM GL

(Contd. of page 1)

HMIS-RATINGS (SCALE 0 - 4)



Health = 1

Fire = 1

Reactivity = 1

4 First aid measures

- . **After inhalation**
Supply fresh air and call for doctor for safety reasons.
In case of unconsciousness bring patient into stable side position for transport.
- . **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- . **After eye contact** Rinse opened eye for several minutes under running water.
- . **After swallowing** In case of persistent symptoms consult doctor.

* 5 Fire fighting measures

- . **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- . **Protective equipment:** No special measures required.

* 6 Accidental release measures

- . **Person-related safety precautions:**
Wear protective equipment. Keep unprotected persons away.
Avoid causing dust.
- . **Measures for environmental protection:**
Do not allow product to reach sewage system or water bodies.
Inform respective authorities in case product reaches water or sewage system.
- . **Measures for cleaning/collecting:** Collect mechanically.

* 7 Handling and storage

- . **Handling**
- . **Information for safe handling:** No special measures required.
- . **Information about protection against explosions and fires:**



Keep ignition sources away - Do not smoke.

Dust can combine with air to form an explosive mixture.

- . **Storage**
- . **Requirements to be met by storerooms and containers:**
Store only in the original container.
Static charges may build up in the powder
- . **Information about storage in one common storage facility:** Not required.
- . **Further information about storage conditions:** None.

* 8 Exposure controls and personal protection

- . **Additional information about design of technical systems:** No further data; see item 7.
- . **Components with critical values that require monitoring at the workplace:** not required
- . **Additional information:**
The lists that were valid during the compilation were used as basis.

(Contd. on page 3)

USA

Material Safety Data Sheet

acc. to ISO 11014

Printing date 09/10/2010

Reviewed on 07/13/2010

Trade name ZICH RICH PRIMER SM GL

(Contd. of page 2)

- Personal protective equipment
- General protective and hygienic measures
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
- Breathing equipment:



In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

- Protection of hands:



Protective gloves.

- Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- Eye protection:



Safety Glasses

- Body protection: Protective work clothing.

* 9 Physical and chemical properties:

- General Information

Form:	Solid
Colour:	According to Trade Name
Smell:	Characteristic

- Change in condition

Melting point/Melting range:	> 50 C / 120F
Boiling point/Boiling range:	Not determined

- Flash point:

Not applicable

- Self-inflammability:

Product is not selfigniting.

- Danger of explosion:

Product is not explosive. However, formation of explosive air/dust mixtures is possible

- Density at 20°C (68°F)

1.97 g/cm³

- Solubility in / Miscibility with Water:

Unsoluble

- Solvent content:

Organic solvents:	0.0 %
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Solids content:	100.0 %
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* 10 Stability and reactivity

- Conditions to be avoided: No decomposition if used according to specifications.

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to ISO 11014

Printing date 09/10/2010

Reviewed on 07/13/2010

Trade name ZICH RICH PRIMER SM GL

(Contd. of page 3)

- . **Materials to be avoided:**
- . **Dangerous reactions** No dangerous reactions known
- . **Dangerous products of decomposition:** In case of fire: CO, CO₂, NO_x

11 Toxicological information

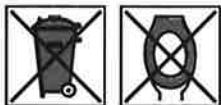
- . **Acute toxicity:**
- . **Primary irritant effect:**
- . **on the skin:** No irritant effect.
- . **on the eye:** No irritant effect.
- . **Sensitization:** Sensitization possible by skin contact.
- . **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Irritant

* 12 Ecological information:

- . **Ecotoxicological effects:**
- . **Remark:** Harmful to fish

13 Disposal considerations

- . **Product:**
- . **Recommendation**



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- . **Uncleaned packagings:**
- . **Recommendation:** Disposal must be made according to official regulations.

* 14 Transport information

- . **DOT regulations:**
- . **Hazard class:** Not regulated.
- . **Maritime transport IMDG/GGVSea:**
- . **IMDG/GGVSea Class:** Not regulated.
- . **Marine pollutant:** No
- . **Air transport ICAO-TI and IATA-DGR:**
- . **ICAO/IATA Class:** Not regulated.

* 15 Regulations

- . **SARA (Superfund Amendments and Reauthorization Act):**

- . **Section 355 (Extremely hazardous substances):**

None of the ingredients is listed.

- . **Section 313 (Specific toxic chemical listings):**

7440-66-6 zinc powder -zinc dust (stabilized)

80-05-7 bisphenol A

- . **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

(Contd. on page 5)

USA

Material Safety Data Sheet

acc. to ISO 11014

Printing date 09/10/2010

Reviewed on 07/13/2010

Trade name ZICH RICH PRIMER SM GL

(Contd. of page 4)

Proposition 65:

Chemicals known to cause cancer:
None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.
Chemicals known to cause developmental toxicity:
None of the ingredients is listed.

Carcinogen categories

EPA (Environmental Protection Agency)
None of the ingredients is listed.
IARC (International Agency for Research on Cancer)
1317-60-8 Hematite (Fe ₂ O ₃)
7631-86-9 silicon dioxide, chemically prepared
3
3
NTP (National Toxicology Program)
None of the ingredients is listed.
TLV (Threshold Limit Value established by ACGIH)
None of the ingredients is listed.
NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.
OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

Designation according to EC guidelines:

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

Code letter and hazard designation of product:

Irritant
Dangerous for the environment

Hazard-determining components of labelling:

bisphenol A

Risk phrases:

May cause sensitization by skin contact.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety phrases:

Avoid contact with skin.
Wear suitable gloves.
Use appropriate container to avoid environmental contamination.
This material and its container must be disposed of as hazardous waste.

16 Other information:

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

* Data compared to the previous version altered.

USA

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(505)369-1641
chris@powdercoatingabq.com
www.powdercoatingabq.com

May 13, 2013

TO: Meridian Contracting, Inc.

Reference: Specification on Powder Coating for Parts Listed-
(22) Trash Receptacle-Santa Fe Bus Shelter

Purchase Orders listed:
10199

Process:

- Parts will be bead blasted to a near white blast
- Parts will be cleaned with dry compressed air to remove contaminants
- Parts will pre-bake for a minimum 1 hour.
- Parts will be cleaned with dry compressed air to remove any contaminants once again
- Parts will cool
- Parts will then be powder coated with Tiger Drylac Anodized Silver as specified with a target thickness of 2.5 to 3.5 mils using manual electrostatic powder coating spray equipment and flash cured
- Parts will cool and then be powder coated with Anti-Graffiti clear glossy top coat as specified with a target thickness of 2.5 to 3 mils using manual electrostatic powder coating spray equipment.
- Parts will cure @ 400 degrees per manufacturer's recommendations!

Absolute Powder Coating LLC Certifies Conformance to the specifications noted in the drawings and purchase orders from Meridian Contracting, Inc. Please call if you have any questions or concerns. Thank you.

Chris Damon

X 
Owner-President

Product Data Sheet



SERIES 38 – SUPER DURABLE

Polyester TGIC super durable powder coating compliant to AAMA 2604 with excellent weather resistance properties for high performance architectural exterior applications.

Typical Applications

- Metal façades.
- Steel constructions.
- Stadium seating and railings.
- Residential windows and doors.
- Patio furniture and garden equipment.
- Railings.
- Playground equipment.
- Agriculture equipment.

Standard Packaging 44 lb (20 kg) box.
5 lb (2.5 kg) minipack.

Specific Gravity (ASTM D792) approximately 1.2-1.8 g/cm³
depending on pigmentation.

Theoretical Coverage at 1.5 specific gravity and
2.5 mils (60 µm) film thickness:
30.2 ft²/lb (9.8 m²/kg).

Refer also to the latest edition
of "Theoretic Powder Coating
Coverage Chart".
Version 00-1001 (imperial).
Version 00-1000 (metric).

Storage Stability 6 months at no more than
77 °F (25 °C).

Features

- Excellent weather resistance.
- Excellent UV-light resistance.
- AAMA 2604-10* compliant.
- 5 years South Florida exposure.
- Very smooth flow.
- Good storage stability.
- Good yellowing stability.

* AAMA 2604-10 compliance dependent upon the color
and/or effect.

Finish and Color

- Smooth flow glossy, approximately 80-95+*.
- Smooth flow semi gloss, approximately 60±5*.
- Smooth flow matte, approximately 20±5*.

* Gloss level according to ASTM 523 at 60° angle.

Available as stock product in smooth glossy, semi gloss and
matte in 70 colors. It can be custom matched in limited colors
(minimum order quantity and color limitation applies).

autotroph

☐ APPROVED

☐ NOT APPROVED

☒ APPROVED AS NOTED

☐ NO ACTION REQUIRED

☐ REVISE AND RESUBMIT []

Architect's review and action is only for the limited purpose of
checking for conformance with the information given and the
design concept expressed in the Contract Documents. Architect's
approval does not indicate approval of the accuracy and
completeness of other details such as dimensions and quantities,
or of instructions for installation or performance of equipment or
systems, or of an assembly of which a specific item is a component.

5/15/2013

*Provide physical color
chips for all colors/
materials included
in this submittal for
approval of color/texture*

Autograph

[[NOT APPROVED

APPROVED

REMOVED AS NOTED [[NO ACTION REQUIRED

REVISE AND RESUBMIT [[

The Architect's review and action is only for the limited purpose of
checking for conformance with the information given and the
concept expressed in the Contract Documents. Architect's
review does not indicate approval of the accuracy and
completeness of other details such as dimensions and placement
of materials for installation or performance of equipment.
The responsibility of which is specific from the Contract Documents.

Series 38 - Super Durable



Pretreatment (alternatives)

The following table reflects the common methods of pretreatment with regards to various substrates and applications. In selecting the proper type of pretreatment the suitability of the type of powder coating for a desired application according to the guidelines on page one of this Product Data Sheet should be observed.

	Aluminum			Galvanized Steel				Steel		
	I	E	A	I	E	A	S	I	E	S
Degreasing	○	○	○	○	○	○	○	○	○	○
¹⁾ Chromating	○	○	○	○	○	○	○			
²⁾ Anodizing	○	○	○	○	○	○	○			
²⁾ Chrome free	○	○	○	○	○	○	○			
Iron Phosphating								○	○	
Zinc Phosphating				○	○	○	○	○	○	○
Blasting								○	○	○
³⁾ Sweeping				○	○	○	○	○	○	○

- Interior.
- Exterior.
- Architectural.
- Steel construction.

- 1) According to ASTM B 449.
- 2) According to GSB quality and test regulations.
- 3) Only for zinc coated parts >1.8 mils (>45 µm).
- 4) For a two-coat process/TIGER Shield®.

Processing

Corona

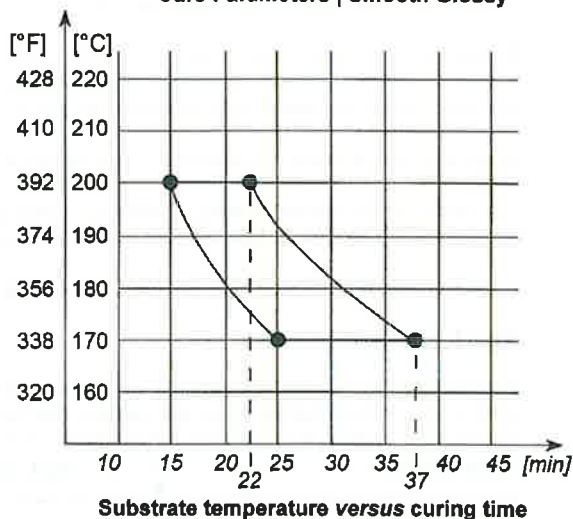
Tribo*

* For Tribo/Airstatic powder coatings please confirm before ordering. Suitability of metallic effects for Tribo processing must be verified prior to application. Please refer to the latest edition of the relevant Information Sheets.

Since not all powder coatings are suitable for recycling/reclaim, please verify before ordering.

Cure Parameters (substrate temperature)

TIGER Drylac® Series 38
Cure Parameters | Smooth Glossy



To achieve a full cure and the desired mechanical properties and weatherability the time/temperature combination must fall within the cure window.

Weather Resistance

Florida exposure at 45° angle
Facing South - RAL 8014



The remaining gloss values that can be expected may vary depending on the original gloss level and color. A reasonable degree of gloss loss and color variation owing to long term UV exposure should be expected.

Series 38 - Super Durable



Please Note

Top coating with a clear exterior grade powder coating over an interior grade powder coating does not result into a weather resistant coating system.

Post-bending properties of any part must be verified prior to application. Minor cracks in the coated surface may lead to corrosion.

Joint sealants and any other auxiliary products, such as glazing aids, gliding waxes, drilling and cutting lubricants, which come in contact with the coated surface must be pH-neutral and free of substances that may damage the finish. Therefore, a suitability test at the applicator's end, prior to coating, is highly recommended.

In general, colors in the red, orange and yellow range may require an increased film thickness to achieve full hiding.

Any post-mechanical processing of already coated parts, such as sawing, drilling, milling, cutting and bending will result in damage of the coated surface and will subsequently weaken the corrosion protection.

Please read and understand the Material Safety Data Sheet (MSDS) before use.

Test Results

Results are checked on 1/64 inch (0.7 mm) thick yellow chromated aluminum test panel. Cure conditions are according to the cure curves. When used as a two-coat system, the increase in film thickness will result in a decrease of mechanical properties.

Test results	Test method	Series 38 Smooth Glossy
Film thickness	ISO 2360	2.5-3.5 mils (60-80 µm)
Gloss - 60°	ASTM D523	80-95+
Cross hatch adhesion test	ASTM D3359 Method B	5B
Mandrel bending test	ASTM D522	1/8 inches (3 mm).
Impact test	ASTM D2794	Up to 80 in/lb. Cracking at the perimeter of the concave area but no cracking pick off.
Pencil hardness	ASTM D3363	2H minimum.
Weathering	EN 20105 - A02	≥4
Light fastness	EC ISO 105 - B02	≥Grade7
Humidity resistance 3,000 hours	ASTM D2247	Maximum undercutting 1/32 inches (1 mm).
Acid salt spray resistance 2,000 hours	ASTM G85 Annex A5	Maximum undercutting 1/32 inches (1 mm).

5 years Florida exposure		
Color change	ASTM D2244	≤ΔE 5.0 (Hunter).
Gloss retention	ASTM D523	>80%

Cleaning recommendations: Refer to the latest edition of TIGER "Cleaning Recommendations" information sheet, Version 00-1005.

Series 38 - Super Durable



Special Applications

Objects directly exposed to salt/fog conditions in a marine environment or need heavy corrosion protection must be coated with TIGER Shield® system. Refer to the latest editions of TIGER Drylac® Product Data Sheets.

Chemical Resistance

The required chemical resistance of a powder coating depends, among other things, on its formulation. Chemical resistance requirements must be considered according to processing conditions and final use of the finished product. This is best established during the product specification process. Agreement between all parties involved must be reached about the requirements for such chemical resistance as well as the test method, which may be performed in accordance with PCI test method #8 "Solvent Cure Test". Furthermore, the test duration and concentration of the test media need to be agreed upon.

As part of TIGER Drylac® product information program, Product Data Sheets are updated periodically. It is recommended to always check for the latest editions on TIGER's website. TIGER's verbal and written recommendations for the use of its products are based upon experience and in accordance with current technological standards. These are given in order to support the buyer or user. They are non-committal and do not create any additional commitments to the purchase agreement. They do not release the buyer from verifying the suitability of TIGER products for the intended application. This Product Data Sheet supersedes all previous Product Data Sheet versions and notes published in relation to this product.

Certified according to
ISO 9001 | 14001

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Product Data Sheet



SERIES 44 – ANTI GRAFFITI

Polyurethane weather resistant powder coating with anti-graffiti properties that allow easy cleaning of component surfaces. Suitable for interior and exterior applications.

Typical Applications

- Metal façades.
- Underground railway constructions.
- Noise reduction paneling.
- As a clear top-coat for weather resistance.

Standard Packaging 44 & 55 lb (20 & 25 kg) box.
5 lb (2.5 kg) minipack.

Specific Gravity (ASTM D792) approximately 1.2-1.6 g/cm³
depending on pigmentation.

Theoretical Coverage at 1.5 specific gravity and
2.5 mils (60 µm) film thickness:
51.5 ft²/lb (11.1 m²/kg).

Refer also to the latest edition
of "Theoretic Powder Coating
Coverage Chart".
Version 00-1001 (imperial).
Version 00-1000 (metric).

Storage Stability 6 months at no more than
77 °F (25 °C).

Features

- Clean easy properties.
- Good weather resistance.
- Very smooth flow.

Finish and Color

- Smooth flow glossy 80-95*.

✓ ~~Anti-Graffiti Clear Glossy~~ TIGER Drylac® 44/00018
~~Anti-Graffiti White (RAL 9010)~~ TIGER Drylac® 44/10008

* Gloss level according to ASTM 523 at 60° angle.

Available as a stock product in a selection of colors and
finishes (see color charts). It can be made to order in
other colors (minimum order quantity applies).

Series 44 – Anti Graffiti



Pretreatment (alternatives)

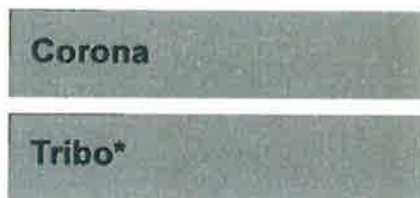
The following table reflects the common methods of pretreatment with regards to various substrates and applications. In selecting the proper type of pretreatment the suitability of the type of powder coating for a desired application according to the guidelines on page one of this Product Data Sheet should be observed.

	Aluminum			Galvanized Steel				Steel		
Degreasing	○			○				○		
¹⁾ Chromating	○	○	○	○	○	○	○			
²⁾ Anodizing	○	○	○							
²⁾ Chrome free	○	○	○	○	○					
Iron Phosphating								○	○	
Zinc Phosphating				○	○	○	○	○	○	○
Blasting								○	○	○
³⁾ Sweeping				○	○	○	○			
	I	E	A	I	E	A	S	I	E	S ⁴⁾

- Interior.
- Exterior.
- Architectural.
- Steel construction.

- 1) According to ASTM B 449.
- 2) According to GSB quality and test regulations.
- 3) Only for zinc coated parts >1.8 mils (>45 µm).
- 4) For a two-coat process/TIGER Shield®.

Processing

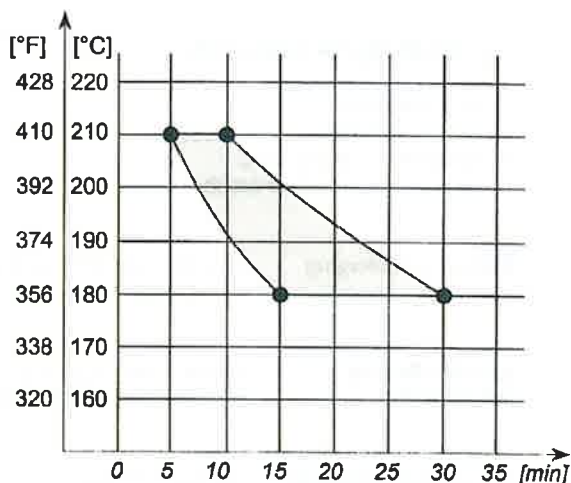


* For Tribo/Airstatic powder coatings please confirm before ordering. Suitability of metallic effects for Tribo processing must be verified prior to application. Please refer to the latest edition of the relevant Information Sheets.

Since not all powder coatings are suitable for recycling/reclaim, please verify before ordering.

Cure Parameters (substrate temperature)

TIGER Drylac® Series 44 Anti Graffiti
Cure Parameters | Smooth Glossy



Substrate temperature versus curing time

To achieve a full cure and the desired mechanical properties and weatherability the time/temperature combination must fall within the cure window.

Cleaning Process

It is recommended to use Bulk Stripper 870GC manufactured by Bulk Chemicals Inc*.

The cleaning process includes the following steps:

- Apply liquid cleaner with a brush.
- Wait approximately five minutes for the cleaner to act.
- Loosen the paint with the brush.
- Remove the solvent solution and the paint remnants with a soft absorbent cloth.
- Rinse off the remaining solvent with water.
- Dry the surface with a soft absorbent cloth.

* Bulk Chemicals Inc.
1074 Stinson Drive | Reading, PA | 19605
T 610-926-4128 | F 610 926 6125

Series 44 – Anti Graffiti



Please Note

For metallic finishes it is recommended to observe the guidelines published in the latest edition of TIGER Drylac® "Application guidelines for metallic effect powder coatings".

Top coating with a clear exterior grade powder coating over an interior grade powder coating does not result into a weather resistant coating system.

Post-bending properties of any part must be verified prior to application. Minor cracks in the coated surface may lead to corrosion.

Joint sealants and any other auxiliary products, such as glazing aids, gliding waxes, drilling and cutting lubricants, which come in contact with the coated surface, must be pH-neutral and free of substances that may damage the finish. Therefore, a suitability test at the applicator's end, prior to coating, is highly recommended.

In general, colors in the red, orange and yellow range may require an increased film thickness to achieve full hiding.

Please read and understand the Material Safety Data Sheet (MSDS) before use.

Test Results

Results are checked on iron phosphated steel test panels of Bonderite B-1000 or equivalent. Cure conditions are according to the cure curves. When used as a two-coat system, the increase in film thickness will result in a decrease of mechanical properties.

Test results	Test method	Series 44 Anti Graffiti Smooth Glossy
Film thickness		2.5-3.5 mils (60-80 µm)
Gloss - 60°	ASTM D523	80-95+
Cross cut tape test	ASTM D3359 Method B	5B
Mandrel bending test	ASTM D522	≤1/8 inches (3 mm)
Impact Test 80 in/lb	ASTM D2794	No appearance of cracks down to the substrate.
Pencil hardness	ASTM D3363	4H minimum.
Humidity resistance 500 hours	ASTM D2247	Maximum undercutting 1/32 inches (1 mm). No blistering.
Salt spray resistance 500 hours	ASTM B117	Maximum undercutting 1/32 inches (1 mm). No blistering.

Cleaning recommendations: Refer to the latest edition of TIGER "Cleaning Recommendations" information sheet, Version 00-1005.

Series 44 – Anti Graffiti



Chemical Resistance

The required chemical resistance of a powder coating depends, among other things, on its formulation. Chemical resistance requirements must be considered according to processing conditions and final use of the finished product. This is best established during the product specification process. Agreement between all parties involved must be reached about the requirements for such chemical resistance as well as the test method, which may be performed in accordance with PCI test method #8 "Solvent Cure Test". Furthermore, the test duration and concentration of the test media need to be agreed upon.

As part of TIGER Drylac® product information program, Product Data Sheets are updated periodically. It is recommended to always check for the latest editions on TIGER's website. TIGER's verbal and written recommendations for the use of its products are based upon experience and in accordance with current technological standards. These are given in order to support the buyer or user. They are non-committal and do not create any additional commitments to the purchase agreement. They do not release the buyer from verifying the suitability of TIGER products for the intended application. This Product Data Sheet supersedes all previous Product Data Sheet versions and notes published in relation to this product.

Certified according to
ISO 9001 | 14001

TIGER Drylac U.S.A., Inc.
3855 Swenson Avenue
St Charles, IL 60174, USA
T 800 243 8148
F 877 926 8148
E office.us@tiger-coatings.us
W www.tiger-coatings.us

Safety Data Sheet

acc. to ISO 11014

Printing date 02/25/2013

Reviewed on 01/22/2013

* 1 Information of the product and the company undertaking

- . **Product identifier**
- . **Trade name** ANODIZED SILVER MET SGL
- . **Article number:** 38/91020
- . **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- . **Application of the substance / the preparation** Powder coating material
- . **Details of the supplier of the safety data sheet**
- . **Manufacturer/Supplier:**
USA:
TIGER Drylac U.S.A., Inc.
3865 Swenson Ave
St. Charles, IL 60174
Phone: +1 / 630 / 587 2918
Fax: +1 / 630 / 587 2923

Canada:
TIGER Drylac Canada Inc.
110 Southgate Drive
Guelph, Ontario, N1G 4P5
Phone: +1 / 519 / 766 4781
Fax: +1 / 519 / 766 4787
- . **Informing department:** Product Safety Department
- . **Emergency telephone number:** 24/7:1-800-255-3924; International:+01 or +001-813-248-0585

* 2 Hazards identification

- . **Classification of the substance or mixture**
- . **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Toxic
May cause heritable genetic damage.

Harmful
Harmful by inhalation and if swallowed.

Irritant
Irritating to eyes. May cause sensitization by skin contact.
- . **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- . **Classification system:**
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.
- . **Label elements**
- . **Labelling according to EU guidelines:**
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)
- . **Code letter and hazard designation of product:**
Toxic
- . **Hazard-determining components of labelling:**
TGIC
- . **Risk phrases:**
May cause heritable genetic damage.
Also harmful by inhalation and if swallowed.
Irritating to eyes.
May cause sensitization by skin contact.

(Contd. on page 2)

USA

Safety Data Sheet

acc. to ISO 11014

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Trade name ANODIZED SILVER MET SGL

(Contd. of page 1)

Safety phrases:

- Avoid exposure - obtain special instructions before use.
- Keep container in a well-ventilated place.
- Avoid contact with skin.
- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- Wear suitable gloves.
- In case of accident or if you feel unwell, seek medical advice immediately.
- This material and its container must be disposed of as hazardous waste.
- Avoid release to the environment. Refer to special instructions/Safety data sheets

Classification system**NFPA ratings (scale 0-4)**

Health = 2
Fire = 1
Reactivity = 1

HMIS-RATINGS (SCALE 0 - 4)

Health = *2
Fire = 1
Reactivity = 1

Other hazards**Results of PBT and vPvB assessment**

- PBT:** Not applicable.
- vPvB:** Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

- Description:** Mixture consisting of the following components with harmless additives.

Hazardous ingredients:

13463-67-7	titanium dioxide	10-25%
2451-62-9	TGIC T Muta. Cat. 2 R46-23/25; Xn R48/22; Xi R41-43 R52/53	2.5-10%
7429-90-5	aluminum powder (stabilized) F R10-15	2.5-10%
18282-10-5	tin dioxide Xi R37	< 0.1%

SVHC

2451-62-9	TGIC
-----------	------

- Additional information** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

Description of first aid measures**General information**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation

Supply fresh air and call for doctor for safety reasons.

In case of unconsciousness bring patient into stable side position for transport.

After skin contact Instantly wash with water and soap and rinse thoroughly.**After eye contact**

Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.

After swallowing Instantly call for doctor.

(Contd. on page 3)

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Safety Data Sheet

acc. to ISO 11014

Printing date 02/25/2013

Reviewed on 01/22/2013

Trade name ANODIZED SILVER MET SGL

(Contd. of page 2)

- . **Information for doctor**
- . **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- . **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

* 5 Fire or explosion hazard

- . **Extinguishing media**
- . **Suitable extinguishing agents**
CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- . **Special hazards arising from the substance or mixture**
No further relevant information available.
- . **Advice for firefighters**
- . **Protective equipment:** Put on breathing apparatus.

* 6 Accidental release measures

- . **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Avoid causing dust.
- . **Environmental precautions:** Do not allow product to reach sewage system or water bodies.
- . **Methods and material for containment and cleaning up:**
Collect mechanically.
Ensure adequate ventilation.
- . **Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

* 7 Handling and storage

- . **Handling**
- . **Precautions for safe handling**
No special measures required.
Thorough dedusting.
Keep containers tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Open and handle container with care.
- . **Information about protection against explosions and fires:**



Keep ignition sources away - Do not smoke.

Keep breathing equipment ready.
Dust can combine with air to form an explosive mixture.

- . **Conditions for safe storage, including any incompatibilities**
- . **Storage**
- . **Requirements to be met by storerooms and containers:**
Store only in the original container.
Static charges may build up in the powder
- . **Information about storage in one common storage facility:** Not required.
- . **Further information about storage conditions:** Keep container tightly sealed.
- . **Specific end use(s)** No further relevant information available.

(Contd. on page 4)

USA

Safety Data Sheet

acc. to ISO 11014

Printing date 02/25/2013

Reviewed on 01/22/2013

Trade name ANODIZED SILVER MET SGL

(Contd. of page 3)

* 8 Exposure controls/personal protection

. Additional information about design of technical systems: No further data; see item 7.

. Control parameters

. Components with critical values that require monitoring at the workplace:

13463-67-7 titanium dioxide

PEL (U.S.A)	15* mg/m ³ *total dust
REL (U.S.A)	See Pocket Guide App. A
TLV (U.S.A)	10 mg/m ³
EL (Canada)	10 mg/m ³ IARC 2B
EV (Canada)	10 mg/m ³ total dust
LMPE (Mexico)	Short-term value: 20 mg/m ³ Long-term value: 10 mg/m ³ A4

2451-62-9 TGIC

TLV (U.S.A)	0.05 mg/m ³
EL (Canada)	0.05 mg/m ³ R; S
EV (Canada)	0.05 mg/m ³

7429-90-5 aluminum powder (stabilized)

PEL (U.S.A)	15* 5** mg/m ³ *total dust **respirable fraction
REL (U.S.A)	10* 5** mg/m ³ Metal, insol.compds.: *total dust **resp. fraction
TLV (U.S.A)	1* mg/m ³ *as respirable fraction
EL (Canada)	10 mg/m ³
LMPE (Mexico)	2 5* mg/m ³ *humos de soldadura

. Additional information:

The lists that were valid during the compilation were used as basis.

. Exposure controls

. Personal protective equipment

. General protective and hygienic measures

Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Store protective clothing separately.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.

. Breathing equipment:



In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

. Protection of hands:



Protective gloves.

(Contd. on page 5)

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Safety Data Sheet

acc. to ISO 11014

Printing date 02/25/2013

Reviewed on 01/22/2013

Trade name ANODIZED SILVER MET SGL

(Contd. of page 4)

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Safety Glasses

Body protection: Protective work clothing.

* 9 Physical data

Information on basic physical and chemical properties

General Information

Appearance:

Form:

Solid

Colour:

According to Trade Name

Smell:

Characteristic

Odour threshold:

Not determined

pH-value:

Not applicable

Change in condition

Melting point/Melting range:

> 50 °C / 120°F

Boiling point/Boiling range:

Not applicable

Flash point:

Not applicable

Inflammability (solid, gaseous)

Not determined

Ignition temperature:

400 °C (752 °F)

Decomposition temperature:

Not determined

Self-inflammability:

Product is not selfigniting.

Danger of explosion:

Product is not explosive. However, formation of explosive air/dust mixtures is possible

Critical values for explosion:

Lower:

Not determined.

Upper:

Not determined.

Steam pressure:

Not applicable.

Density (Specific gravity) at 20 °C (68 °F)

1.36 g/cm³ (11.349 lbs/gal)

Relative density

Not determined.

Vapour density

Not applicable.

Evaporation rate

Not applicable.

Solubility in / Miscibility with

Water:

Unsoluble

Partition coefficient (n-octanol/water):

Not determined.

Viscosity:

dynamic:

Not applicable.

kinematic:

Not applicable.

Solvent content:

Organic solvents:

0.0 %

Solids content:

100.0 %

(Contd. on page 6)

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Trade name ANODIZED SILVER MET SGL

Other information

(Contd. of page 5)
No further relevant information available.

* 10 Reactivity data

- . Reactivity
- . Chemical stability
- . Conditions to be avoided: No decomposition if used according to specifications.
- . Possibility of hazardous reactions No dangerous reactions known
- . Conditions to avoid No further relevant information available.
- . Incompatible materials: No further relevant information available.
- . Hazardous decomposition products: In case of fire: CO, CO₂, NO_x

* 11 Toxicological data

- . Information on toxicological effects
- . Acute toxicity:

LD/LC50 values that are relevant for classification:

2451-62-9 TGIC

Oral	LD50	188-1450 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)
Inhalative	LC50/4 h	0.309-0.650 mg/l (rat)

- . Primary irritant effect:
- . on the skin: No irritant effect.
- . on the eye: Irritant effect.
- . Sensitization: Sensitization possible by skin contact.
- . Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Irritant
Harmful
The product can cause inheritable damage.

. Carcinogenic categories

. IARC (International Agency for Research on Cancer)

13463-67-7	titanium dioxide	2B
7631-86-9	silicon dioxide, chemically prepared	3
112926-00-8	Silicon dioxide	3
9002-88-4	Ethene, homopolymer	3
1309-37-1	diiron trioxide	3

. NTP (National Toxicology Program)

None of the ingredients is listed.

* 12 Ecological information

- . Toxicity
- . Aquatic toxicity: No further relevant information available.
- . Persistence and degradability No further relevant information available.
- . Behaviour in environmental systems:
- . Bioaccumulative potential No further relevant information available.
- . Mobility in soil No further relevant information available.
- . Additional ecological information:
- . General notes:
Water danger class 3 (Self-assessment): extremely hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into soil.

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Trade name ANODIZED SILVER MET SGL

(Contd. of page 6)

- . Results of PBT and vPvB assessment
- . PBT: Not applicable.
- . vPvB: Not applicable.
- . Other adverse effects No further relevant information available.

13 Disposal considerations

- . Waste treatment methods
- . Recommendation



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- . Uncleaned packagings:
- . Recommendation: Disposal must be made according to official regulations.

*14 Transport information

- . UN-Number N/A
- . ADR, IMDG, IATA N/A
- . UN proper shipping name N/A
- . DOT, ADR, IMDG, IATA N/A
- . Transport hazard class(es)
- . DOT, IMDG, IATA
- . Class Not regulated.
- . Packing group N/A
- . ADR, IMDG, IATA N/A
- . Environmental hazards:
- . Marine pollutant: No
- . Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

*15 Regulatory information

- . Safety, health and environmental regulations/legislation specific for the substance or mixture
- . SARA (Superfund Amendments and Reauthorization Act):

. Section 355 (Extremely hazardous substances):

None of the ingredients is listed.

. Section 313 (Specific toxic chemical listings):

7429-90-5 aluminum powder (stabilized)

1344-28-1 aluminium oxide

. TSCA (Toxic Substances Control Act):

All ingredients are listed.

. Proposition 65:

. Chemicals known to cause cancer:

None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for males:

2451-62-9 TGIC

. Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

(Contd. on page 8)

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Safety Data Sheet

acc. to ISO 11014

Printing date 02/25/2013

Reviewed on 01/22/2013

Trade name ANODIZED SILVER MET SGL

(Contd. of page 7)

• Cancerogenity categories

• EPA (Environmental Protection Agency)		
None of the ingredients is listed.		
• TLV (Threshold Limit Value established by ACGIH)		
13463-67-7	titanium dioxide	A4
1344-28-1	aluminium oxide	A4
1314-23-4	zirconium dioxide	A4
1309-37-1	dilron trioxide	A4
• NIOSH-Ca (National Institute for Occupational Safety and Health)		
13463-67-7	titanium dioxide	
• OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients is listed.		

• Designation according to EC guidelines:

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

• Code letter and hazard designation of product:

Toxic

• Hazard-determining components of labelling:

TGIC

• Risk phrases:

May cause heritable genetic damage.

Also harmful by inhalation and if swallowed.

Irritating to eyes.

May cause sensitization by skin contact.

• Safety phrases:

Avoid exposure - obtain special instructions before use.

Keep container in a well-ventilated place.

Avoid contact with skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable gloves.

In case of accident or if you feel unwell, seek medical advice immediately.

This material and its container must be disposed of as hazardous waste.

Avoid release to the environment. Refer to special instructions/Safety data sheets

• National regulations

• Technical instructions (air):

Class	Share in %
I	5.9

• Water hazard class:

Water danger class 3 (Self-assessment): extremely hazardous for water.

• Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• * Data compared to the previous version altered.

USA

Material Safety Data Sheet

acc. to ISO 11014

Printing date 02/15/2011

Reviewed on 07/13/2010

1 Identification of substance

Product details

Trade name **CLEAR ANTI-GRAFFITI SM GL**

Article number: 44/00018

Manufacturer/Supplier:

USA:

TIGER Drylac U.S.A., Inc.
1090 Commons Blvd.
Reading, PA 19605
Phone: +1 / 610 / 926 8148
Fax: +1 / 610 / 926 8149

Canada:

TIGER Drylac Canada Inc.
110 Southgate Drive
Guelph, Ontario, N1G 4P5
Phone: +1 / 519 / 766 4781
Fax: +1 / 519 / 766 4787

Informing department: Product Safety Department

Emergency information: 24/7:1-800-255-3924; International:+01 or +001-813-248-0585

2 Composition/Data on components:

Chemical characterization

Description: Mixture consisting of the following components with harmless additives.

Dangerous components:

137658-79-8	2-(4,6-bis(2,4-dimethylphenyl)-1,3,5-triazin-2-yl)-5-(3-((2-ethyl-hexyl)oxy)-2-hydroxypropoxy)-phenol R 53	< 1.0%
65447-77-0	1-(2-Hydroxyethyl)-4-hydroxy-2,2,6,6-tetramethyl piperidine-succinic acid, dimethyl ester, copolymer R 52/53	< 1.0%
77-58-7	dibutyltin dilaurate Xn, Xi, N; R 22-36/38-48-50/53	< 1.0%
63843-89-0	Bis(1,2,2,6,6-pentamethyl-4-piperidyl) [[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]methyl]butylmalonate Xn; R 22-52/53	< 1.0%
96-76-4	2,4-di-tert-butylphenol Xi, N; R 36/37/38-50/53	< 0.1%

Additional information For the wording of the listed risk phrases refer to section 16.

3 Hazards identification

Hazard designation: Void

Information pertaining to health and environmental hazards

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Classification system

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

(Contd. on page 2)

USA

Material Safety Data Sheet

acc. to ISO 11014

Printing date 02/15/2011

Reviewed on 07/13/2010

Trade name CLEAR ANTI-GRAFFITI SM GL

NFPA ratings (scale 0-4)

(Contd. of page 1)



Health = 1
Fire = 1
Reactivity = 1

HMIS-RATINGS (SCALE 0 - 4)



Health = 1
Fire = 1
Reactivity = 1

4 First aid measures

After inhalation

Supply fresh air and call for doctor for safety reasons.
In case of unconsciousness bring patient into stable side position for transport.

After skin contact

Instantly wash with water and soap and rinse thoroughly.

After eye contact

Rinse opened eye for several minutes under running water.

After swallowing

In case of persistent symptoms consult doctor.

* 5 Fire fighting measures

Suitable extinguishing agents

CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

Protective equipment:

No special measures required.

* 6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.
Avoid causing dust.

Measures for environmental protection:

Do not allow product to reach sewage system or water bodies.
Inform respective authorities in case product reaches water or sewage system.

Measures for cleaning/collecting:

Collect mechanically.

* 7 Handling and storage

Handling

Information for safe handling:

No special measures required.

Information about protection against explosions and fires:



Keep ignition sources away - Do not smoke.

Dust can combine with air to form an explosive mixture.

Storage

Requirements to be met by storerooms and containers:

Store only in the original container.
Static charges may build up in the powder

Information about storage in one common storage facility:

Not required.

Further information about storage conditions:

None.

(Contd. on page 3)

USA

Material Safety Data Sheet

acc. to ISO 11014

Printing date 02/15/2011

Reviewed on 07/13/2010

Trade name CLEAR ANTI-GRAFFITI SM GL

(Contd. of page 2)

* 8 Exposure controls and personal protection

. Additional information about design of technical systems: No further data; see item 7.

. Components with critical values that require monitoring at the workplace:

77-58-7 dibutyltin dilaurate

PEL (U.S.A)	0.1 mg/m ³ as Sn
REL (U.S.A)	0.1 mg/m ³ as Sn, Skin
TLV (U.S.A)	Short-term value: 0.2 mg/m ³ Long-term value: 0.1 mg/m ³ as Sn; Skin
EL (Canada)	Short-term value: 0.2 mg/m ³ Long-term value: 0.1 mg/m ³ as Sn; Skin

. Additional information:

The lists that were valid during the compilation were used as basis.

. Personal protective equipment

. General protective and hygienic measures

Wash hands during breaks and at the end of the work.

. Breathing equipment:



In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

. Protection of hands:



Protective gloves.

. Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

. Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

. Eye protection:



Safety Glasses

. Body protection: Protective work clothing.

* 9 Physical and chemical properties:

. General Information

Form:	Solid
Colour:	According to Trade Name
Smell:	Characteristic

. Change in condition

Melting point/Melting range:	> 50 C / 120F
Boiling point/Boiling range:	Not determined

. Flash point: Not applicable

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to ISO 11014

Printing date 02/15/2011

Reviewed on 07/13/2010

Trade name CLEAR ANTI-GRAFFITI SM GL

(Contd. of page 3)

- . Self-inflammability: Product is not selfigniting.
- . Danger of explosion: Product is not explosive. However, formation of explosive air/dust mixtures is possible
- . Density at 20°C (68°F) 1.15 g/cm³
- . Solubility in / Miscibility with Water: Insoluble
- . Solvent content:
 - Organic solvents: 0.0 %
 - Solids content: 100.0 %

* 10 Stability and reactivity

- . Conditions to be avoided: No decomposition if used according to specifications.
- . Materials to be avoided:
- . Dangerous reactions No dangerous reactions known
- . Dangerous products of decomposition: In case of fire: CO, CO₂, NO_x

* 11 Toxicological information

- . Acute toxicity:

- . LD/LC50 values that are relevant for classification:

77-58-7 dibutyltin dilaurate

Oral LD50 200-1600 mg/kg (rat)

- . Primary irritant effect:

- . on the skin: No irritant effect.

- . on the eye: No irritant effect.

- . Sensitization: Sensitization possible by skin contact.

- . Additional toxicological information:

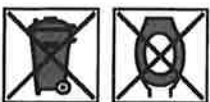
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Irritant

* 12 Ecological information:

- . Ecotoxicological effects:
- . Remark: Harmful to fish

13 Disposal considerations

- . Product:
- . Recommendation



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- . Uncleaned packagings:
- . Recommendation: Disposal must be made according to official regulations.

* 14 Transport information

- . DOT regulations:
- . Hazard class: Not regulated.
- . Maritime transport IMDG/GGVSea:
- . IMDG/GGVSea Class: Not regulated.

(Contd. on page 5)

USA

Material Safety Data Sheet

acc. to ISO 11014

Printing date 02/15/2011

Reviewed on 07/13/2010

Trade name CLEAR ANTI-GRAFFITI SM GL

(Contd. of page 4)

- . Marine pollutant: No
- . Air transport ICAO-TI and IATA-DGR:
- . ICAO/IATA Class: Not regulated.

* 15 Regulations

. SARA (Superfund Amendments and Reauthorization Act):

. Section 355 (Extremely hazardous substances):

None of the ingredients is listed.

. Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

. TSCA (Toxic Substances Control Act):

All ingredients are listed.

. Proposition 65:

. Chemicals known to cause cancer:

None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

. Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

. Cancerogenity categories

. EPA (Environmental Protection Agency)

None of the ingredients is listed.

. IARC (International Agency for Research on Cancer)

112926-00-8 Silicon dioxide

3

. NTP (National Toxicology Program)

None of the ingredients is listed.

. TLV (Threshold Limit Value established by ACGIH)

77-58-7 dibutyltin dilaurate

A4

. NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

. OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

. Designation according to EC guidelines:

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

. Risk phrases:

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

. Safety phrases:

This material and its container must be disposed of as hazardous waste.
Avoid release to the environment. Refer to special instructions/Safety data sheets

16 Other information:

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- . * Data compared to the previous version altered.



City of Santa Fe
2651 Siringo Rd.
Santa Fe, NM 87505



Autotroph Design
617 B Paulin St.
Santa Fe, NM 87505



Meridian Contracting, Inc.

3223 Los Arboles NE Albuquerque, NM 87107 PH: 505-872-2841 FAX: 505-884-0260



Santa Fe Bus Shelters - CIP Project #665

Transmittal Form

Sent By: <u>Sean Conway - Project Engineer</u>	Sent to: <u>Autotroph Design</u>
Date: <u>5/13/2013</u>	Attn: <u>Alexander Dzurec</u>
Signature: <u></u>	Submittal #: <u>7</u>

Subcontractor / Supplier: **LNI Custom Manufacturing**

Specification # / Drawing: **09960 - High Performance Coatings**

Attachments:

X 12" x 8" Sample-Argento 314
Metallic

X 12" x 8" Sample-Innotek Polyarmor G17-
H101 Black

X 12" x 8" Sample-Anodized Silver

Submitted For:	Requested Approval Date: <u>5/17/2013</u>
<input checked="" type="checkbox"/> X Approval	
<input type="checkbox"/> Your Use	

Sent Via:	
<input checked="" type="checkbox"/> X Attached	<input type="checkbox"/> Separate Cover Via:

Comments

*Provided are four copies for your use and two additional. Please return the additional approved copies for our record.

RECEIVED
MAY 17 2013
CIVIL ENGINEERING
1001010101

autotroph

☐ APPROVED ☐ NOT APPROVED

☒ APPROVED AS NOTED ☐ NO ACTION REQUIRED

☐ REVISE AND RESUBMIT ☐

Architect's review and action is only for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents. Architect's approval does not indicate approval of the accuracy and completeness of other details such as dimensions and quantities, or of instructions for installation or performance of equipment or systems, or of an assembly of which a specific item is a component.

 DATE: 5/21/2013

ColorSUBMITTAL	
Job #	120171
Location	120171 Project 120171
Submitted	02/01/13
Submitted By	Meridian Contracting, Inc.
Phone	800-875-2841
Fax	800-875-2841
Color	120171-0000
Type: 0000000000 Asbestos 314 Models	
or Asbestos 0000000000 Clear	
Approved	Comments:

ColorSUBMITTAL	
Job #	120171
Location	120171 Project 120171
Submitted	02/01/13
Submitted By	Meridian Contracting, Inc.
Phone	800-875-2841
Fax	800-875-2841
Color	120171-0000
Type: 0000000000 Asbestos 314 Models	
or Asbestos 0000000000 Clear	
Approved	Comments:

Sample is approved for color + finish only.
Use steel mesh specified in drawings
for bench top.

