Construction Documents

Arapaho Rd

Conflicts Issues & Problems

Bullet Points → Jenny

Ben is turning this into total # of days of extra time!

- Added Temporary 6' chain link fence @ DWU plant.
- Add Communication cable, re-route and tie existing irrigation to new controller, as well as add 13 new 14 ga. Wires for future expansion at DWU pump station.
- Add "Pardon Us" signs facing the hotels/motels.
- Added TXU conduit profiles & stabilized sand backfill.
- Additional Tree Removal
- Changes and holdups on 60" DWU water line.
- Added 8" isolation valve @ the storage building to allow work on the 8" water line to be performed during the day.
- Relocated fence @ storage building (sta 39+50) to allow work on the waterline and hydrant relocation.
- Delete Railroad crossing from contract.
- Relocate 8" water line @ Storage building due to conflict with existing 24" Storm Drain.
- Add flow fill @ steel casing to protect pipe (in place of added bituminous coating)
- Change Paint Systems for the Arch and Rail.
- Modify openings on stingers & add PVC conduit as well as J boxes.
- Change all RCP pipe w/ standard tounge and groove joints to a confined grooved joint between stations 0+68 to 6+00.
- Modification of rebar connections for the U-beams on span #9.
- Relocation of 12" waterline which is in conflict with lines A&B @ Surveyor.
- Furnish one portable Changeable message board.
- Relocate irrigation line outside proposed construction limits @ courtyard Suites.
- Relocation of Inlet A-1 to the existing Drainage Flume
- Delayed moving low profile barrier from phase I to phase II due to TXU not meeting schedule.
- Redesign MSE wall #3 due to cross sections on the paving did not match wall drawings.
- Redesign Manholes @ line A Sta 18+70 and line B Sta 19+01 from a Manhole w/ a riser to a flat top manhole.
- Modify bottom of 9x5 box culvert to allow for elevation of existing gas line.
- Redesign parking lot Concrete to 6" from 10"
- Modify 10x6 box culvert @ Surveyor to avoid existing 24" waterline.
- Added Corrugated Metal Pipe and Drainage system to provide drainage to existing properties along MSE wall.
- Added dirt mounds @ TXU conduits to existing buildings to get the proper ground cover.

- Added two Lateral tie-ins @ RCB after RCB was already placed.
- .Added 450 LF of 6" Curb & Gutter to control storm water.
- Added Taps and Irrigation work at Surveyor, Midway, Comfort Suites and Addison Road.
- Addition of locating 8" Valve and replacement of Driveway Concrete @ Comfort Suites.
- Wall Mounted Luminare type change on wall 3 &4
- Change in Trough Drains from Maximum 1' depth to 4' depth.
- Added closure pour @ RCB Line "B" @ Midway due to existing pipe not being at tie-in location.
- Extension of MSE wall #2 due to substantial grade difference between roadway and existing parking lot.
- Swap Stingers @ Bent #9 due to deck blocking access holes on stingers.
- Demo existing SBC manhole to allow placement of 12" sanitary sewer
- Provide Police escort for beams.
- Delay due to TXU work on lines @ Midway holding up Beam Placement..

RFI's

- Missing horizontal alignment information for PI, PC, PT, ETC Coordinates.
- Missing ROW Coordinate or station & offset information in the following areas.
    - North side from station 60+75 to 62+73.88 (sheet 16)
    - South side from station 60+75 to 63+50.88 (sheet 16)
    - North side from station 66+47.29 to 76+17 (sheet 16+17)
    - South side from station 74+51 to 78+32.69 (sheet 17) including bent point at approx station 77+45.
- Missing cross slopes information from Station 66+85 to 85+50 (Sheet 48 to 51).
- Missing information on the limits of the brick yard excavation.
- Incorrect ROW information @ stations 74+20.41 to 87+76.65 (sheets 17 to 19).
- Discrepancies in offsets of retaining walls 1 & 2.
- Incorrectly detailed diameter of steel guide pipe for cylindrical socket on bridge cables.
- Request for information on the bronze monument.
- Discrepancies in the removal of existing concrete at the Rink. (Sheets 24, 59 & 63
- Discrepancies in the DWU line of mounting a 6" valve onto a 12" flange.
- Discrepancy in the plans and specifications as to which version of the NTCOG is to be used.
- Problem with median curb grades causing large undulations in the roadway profiles.
- Need alignment information on longitudinal weld for the Arch.
- Addition of drop bowl assemblies at the sanitary sewer drop manholes.
- Missing detail for grouted Riprap at inlets and headwalls.
- Clarification of bent 9 and 10 dimensions.
- Clarification of bent 9 beam seat elevations.
- Discrepancies in beam seat elevations on bents 9,10 &13.
- Adding "Town of Addison" logo to the Manhole covers.

- Clarification of bearing seat thickness.
- Clarification on the 1" conduit @Columns 8 & 11
    - Is the conduit externally mounted.
    - If the conduit is poured in the column does it need to be RMC or PVC
- Unavailable 790 kip strand.
- Conflict between SBC phone lines and Retaining wall #2
- Clarification of Tie-In for 4" tree well subdrains.
- Realignment of 10" line "B" sanitary sewer from sta 11+52.57 to 13+60
- RCP pipe orientation in casing pipe, lines C and lateral A-13.
- Change in dimension for bents 9 & 10.
- Conflict with 10" air release manhole and the proposed roadway paving.
- Conflict between lateral B-7 and DWU 60" waterline (2nd go around)(RFI 40).
- Conflict between 10" Sanitary Sewer line and 16" Water line @ Midway Rd.
- Changes to Trenched Footings going from 2' thick to 3" thick due to minimum cutting bar width of trencher's capable of cutting to required depth.
- Relocation of electrical and irrigation sleeves to avoid obstructions.
- Information on specified voltage for the street and lighting circuits.
- Revised grading and change in throat elevation of the y-inlet for lateral B-8.
- Conflict with the drainage from Bullough/Lykos parking lots to inlet A-4A.
- Clarification that conduit run A-2 is routed in the south T-4 Rail. (Neg)
- Confirm that wall offsets are to face of coping not face of wall.
- Addition of joint filler between the structural retaining wall and the MSE retaining wall.
- Conflict between the abutments and MSE wall panels due to the cantilever portion of the abutment is in the way of the panel.
- Relocation of Sanitary Sewer Manhole in Midway Blvd.
- Conflict between existing railroad crossing grades and the roadway profile grades of 4 inches in some areas.
- Confirmation of grout thickness between the arch plate and the bolt template.
- Provide information on the location and routing of power sources for load distribution centers (LDC) A @ bent 11 & (LDC) B @ bent 8.
- Clarification of anchor bolt location in MOD A T-4 Rail. Rebar appeared to be outside the rebar cage.
- Relocation of street lighting from the MSE wall to the T-4 rail resulted in conduit run under the T-4 Rail.
- Proposal to adjust street lighting to coordinate with T-4 anchor bolt layout.
- Review of pennant to picket tack welds requested by manufacturer.
- Confirmation of dimensions of slab blister (sheet 285).
- Relocation of Inlet A-6A because it was originally on high side of roadway.
- Provide information on location of conduit for Luminaries on Wall RW4.
- Relocation of 8" water Main and Valve from under wall #4.
- Missing approach slab details.

Arapaho Bridge
6-17-05
10:30 am

Name		Phone No.
1. Nancy Cline	Addison	(972) 450-2871
2. Steve Chutchian	TOWN OF ADDISON	972-450-2886
MG Movassaghi	Engineer	817 680 4272
DANIEL J. FILER	ENGINEER (HNTB)	972-661-5626
Andrew Schneemann	Archer Western	972-361-0062
MICHAEL PETTIT	" "	817-401-4611
JENNY NIEWANDER	TOA	972 [redacted] 2800
CLIFF HALE	URS	972.406.6850
Guy Van Baalen	HNTB	214-317-8274
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RENÉ TULLIER	HNTB	"
Chris Langford	Archer-Western	(972) 361-0062
BEN H. [illegible]	AW	" " "

Jenny Nicewander

From: Schneemann, Andrew [aschneemann@walshgroup.com]
Sent: Thursday, February 03, 2005 8:36 AM
To: Guy Van-Baulen
Cc: Daniel Filer; Good, Donald; Jenny Nicewander; Langford, Chris; Withered, Ben
Subject: RFI 64 - Joint Seal at CIP Retaining Wall

Guy

Attached is RFI 64 concerning the joint between the MSE wall and the CIP Structural Wall. In conversation with HNTB and the Town of Addison, We discussed the possibility of water entering the key way that the MSE wall seats in and causing long term damage. This Extra Work if acceptable would be at the expense of the Owner.

Andrew Schneemann
Archer Western Contractors, Ltd.
W-(972) 361-0062
F-(972) 361-0063
M-(817) 822-7207

REQUEST FOR INFORMATION

PROJECT No. Arapaho Phase III

RFI # 64

Date : January 28, 2005

Submitted To:
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen

Submitted By:
Archer Western Contractors, Ltd. Andrew Schneemann

Subject:	Discipline:	Co-Authors:	Copies To:
Sealing Joint between Structural Wall and the MSE Wall	Civil		

Cost Impact	Approved	Schedule Impact	Days	Drawing Impact
Unknown	Unknown	Unknown	Unknown	Unknown

Information Requested:

Please review the attached sketch, product data and TxDot Spec Item 433.

Archer Western has discovered in reviewing the connect between the structural retaining wall and the MSE Retaining Wall that there is nothing to keep water out of the block out for the MSE wall. Archer Western proposes to fill the outer joint between the MSE wall and the structural wall with a class 5 TxDot joint Seal . We believe that this will allow for the MSE wall to move as needed and minimize water from entering the block out.

Is this acceptable?

Response:

RFI 64

ITEM 433

JOINT SEALANTS AND FILLERS

433.1. Description. This Item shall govern the material requirements for joint sealants, backing materials and joint fillers.

433.2. Materials. The materials for this item shall conform to the following:

(1) Joint Sealant Materials. Joint sealant material shall be the class indicated on the plans or in the governing specifications. The various classes of sealant described herein shall be in accordance with Departmental Material Specification D-9-6310. Copies of specification D-9-6310 are available from the Texas Department of Transportation, Director of Materials and Tests, 125 E. 11th Street, Austin, TX 78701-2483.

(2) Storage. Class 1 and 2 sealants shall be stored at temperatures between 40 F and 100 F. Class 4 and 5 sealants shall be stored in sealed containers at a temperature of 100 F or below and the material must be used within two (2) months of receipt on the project.

(3) Classes of Joint Sealants.

(a) Class 1. Two Component, Synthetic Polymer, Non-sag. The components shall be proportioned and mixed in accordance with the manufacturer's recommendations.

(b) Class 2. Two Component, Synthetic Polymer, Self-leveling. The components shall be proportioned and mixed in accordance with the manufacturer's recommendations.

(c) Class 3. Hot Poured Rubber. This sealant shall be a rubber asphalt compound which when heated shall melt to the proper consistency for pouring and shall solidify on cooling to ambient temperatures.

(d) Class 4. Non-sag Low Modulus Silicone. The material shall be a single component formulation not requiring addition of a catalyst.

(e) Class 5. Self-leveling Low Modulus Silicone. The material shall be a single component formulation not requiring addition of a catalyst.

(f) Class 6. Preformed Joint Sealant (PJS). The preformed joint sealant shall be an extruded elastomeric material having a multi-channeled shape.

(g) Class 7. Self-leveling, Rapid Curing, Low Modulus Silicone. The material shall be a two component, rapid curing, self-leveling, low modulus formulation. The components shall be proportioned and mixed in accordance with the manufacturer's recommendations.

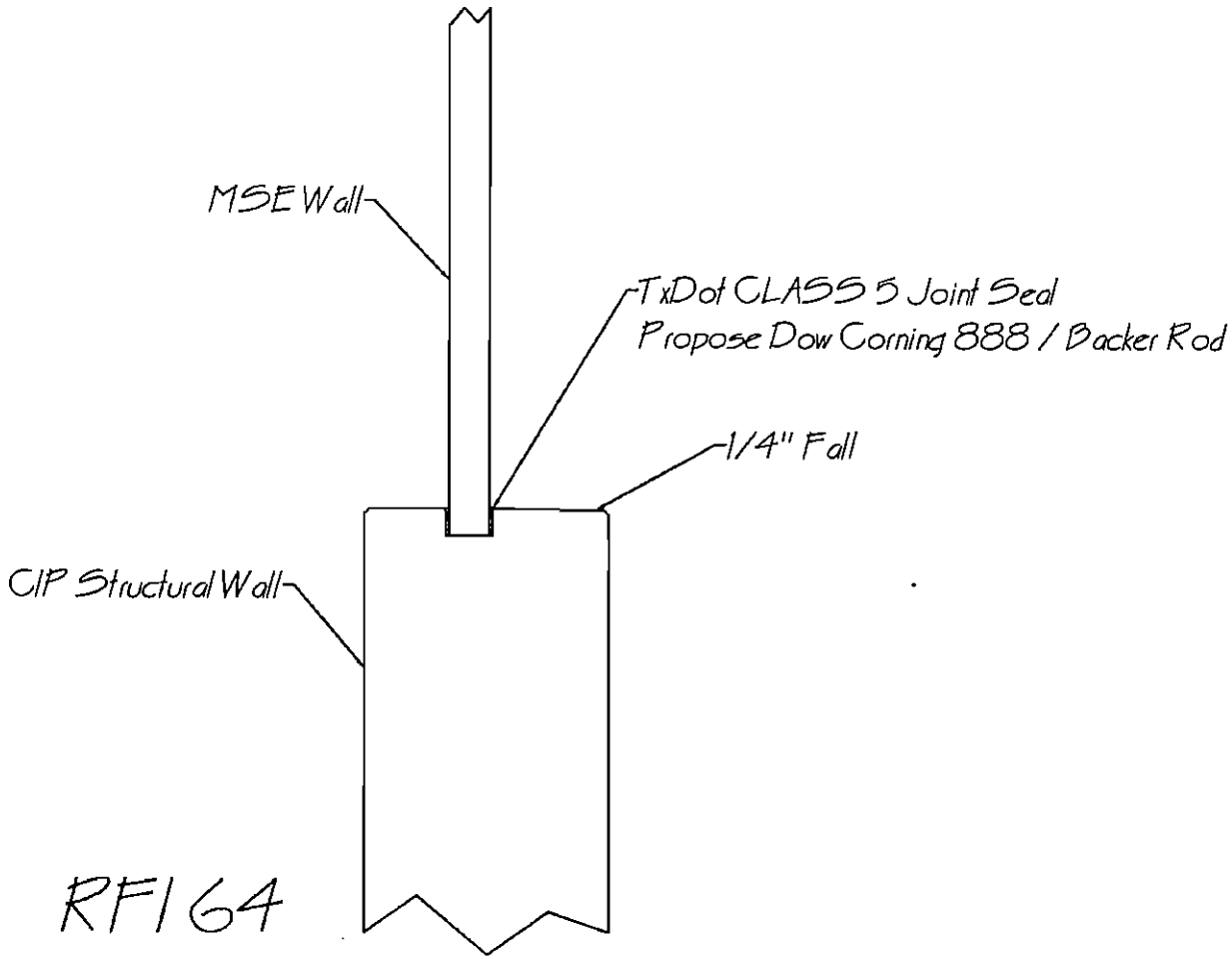
The size shown on the plans shall be the nominal width of the sealant. The uncompressed depth of the seal shall be equal to or greater than the width.

All preformed joint sealants installed by the Contractor shall have been prequalified for compliance with the requirements. Each size and configuration of seal produced by a manufacturer must be approved by the Engineer prior to use on Department projects. For a sealant manufacturer to prequalify and obtain approval of a sealant, detailed dimensions and configuration of each size of sealant and certified test results indicating compliance with Departmental Material Specification D-9-6310 and any requirements shown on the plans and specifications shall be submitted to the Engineer.

Submission shall be done sufficiently in advance of work to allow for testing and evaluation of the material.

The Engineer will confirm by visual inspection that the sealant proposed for installation is the same size, configuration and manufacture as shown on plans. The Engineer will examine the sealant for any undue distortions, such as dissymmetry, warping, thick webs or uneven width which are likely to impair the performance of the joint. If the magnitude of the distortions are sufficient to create doubt as to the performance of the sealant, the Engineer may direct that the sealant be replaced or that samples representing the worst of the lot be subjected to further testing to verify their performance.

(4) Backer Rods and Backing Materials. These materials shall be capable of holding the fluid sealant in open joints in place. In all cases, these materials shall be of such a type that will not bond to the sealant. The backing materials shall meet the requirements of the sealant manufacturer. They shall be compressible type materials, such as closed-cell, resilient



MSE / Structural Wall Joint Seal

Product Information

Silicone Sealants

Dow Corning® 888 Silicone Joint Sealant

FEATURES

- Easy to use
- All-temperature gunnability
- Unprimed adhesion
- Seals irregular surfaces
- High movement capability
- Low modulus
- Fully elastic
- Resilient
- Good weatherability
- Fast cure – typically tack-free surface in one hour or less
- Long-life reliability

COMPOSITION

- One-part, cold-applied silicone that cures to a durable, flexible, low-modulus silicone rubber joint seal

Low-modulus silicone sealant for new and remedial joint sealing applications in Portland cement concrete

APPLICATIONS

- Sealing transverse contraction and expansion joints, longitudinal, center line and shoulder joints in Portland cement concrete (PCC)

TYPICAL PROPERTIES

Specification Writers: Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Test	Unit	Result
As Supplied		
Color		Gray
Flow, Sag or Slump		Nil
Extrusion Rate	grams per minute	90-250
Specific Gravity		1.450-1.515
Skin-Over Time, at 25°C (77°F)	minutes	10
Tack-Free Time, at 25°C (77°F)	minutes	60
Cure Time, at 25°C (77°F)	days	7-14
Full Adhesion	days	14-21
As Cured – after 7 days at 25°C (77°F) and 50 percent RH		
Elongation, minimum	percent	1200
Modulus, at 150 percent elongation, maximum	psi (kPa)	45 (310)
Durometer Hardness, Shore A	points	15-25
Joint Movement Capability, +100/-50 percent, 10 cycles		No failure
Adhesion to Concrete, minimum elongation	percent	+500

DESCRIPTION

Dow Corning® 888 Silicone Joint Sealant can be used as the original sealant in new concrete construction or as a remedial or repair sealant in old construction. In new construction, it provides the extra insurance needed if all the "shrink" or contraction cracks do not occur during the initial "weakening" step. Thus, two or three concrete lengths act in unison, stressing a sealant two or three times the design dimensions or movement.

Because of its low-modulus characteristics and good extension/compression recovery (+100/-50 percent of original joint width), *Dow Corning* 888 Silicone Joint Sealant gives outstanding performance in highway, airport and bridge joints in which high movement occurs.

Highway concrete contraction/expansion joints are generally sealed to prevent erosion of pavement subbase and/or corrosion of metal tie bars embedded in the concrete. Such corrosion results from water and deicing chemicals entering the joints at the pavement surface.

Sealing of highway joints also prevents spalling and breakage of concrete along the slab edge, which occurs when noncompressibles (dirt,

stones and/or ice) are forced into or form in the joint.

For use in repair or remedial applications where other joint sealing materials have failed because of excessive movement or poor weatherability, *Dow Corning* 888 Silicone Joint Sealant can be used to seal irregularly shaped and/or spalled joints. Thus, the joints do not need reforming before sealing. These joints should be dry and free of all old sealing compounds.

Benefits

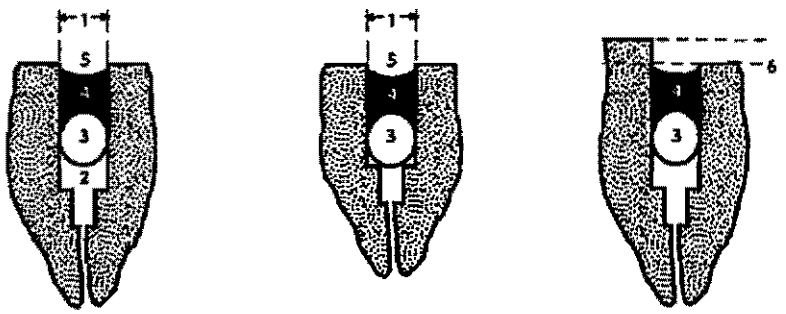
- Easy to use – one-component, cold-applied, ready-to-use as supplied; no mixing required; dispensed directly from bulk container into joint by hand or with an air-powered pump.
- All-temperature gunnability – consistency is relatively unchanged over normal installation temperature range.
- Unprimed adhesion – primer is not required for bonding to PCC. For optimum adhesion, the surface must be clean, dry and frost-free.
- Seals irregular surfaces – can be used to seal joints where spalls have occurred, provided adequate contact is made between sealant and substrate.
- High movement capability – the sealant will perform in a continuous joint movement of +100/-50 percent. In new construction, it will take the 25 percent movement of each of two or three slab lengths working in unison before all the "shrink" or contraction cracks occur.
- Low modulus – the sealant stretches 100 percent in the joint with very little force. This places very little strain on the bond line or joint wall, which maximizes the probability of a successful seal with continuous joint movement. Joint movement caused by temperature, traffic and faulting requires a sealant that does not strongly resist stress and/or shear.
- Fully elastic – the sealant can be stretched to 100 percent or compressed to 50 percent of the joint bond width and held there. When released, it will recover 95 percent or greater of the original dimension. The extension and/or compression can be repeated many times and the sealant will resume its original shape without splits or cracks. Thus, when properly installed in a highway contraction joint, it does not "pump" out of the joint during compression. Nor does it split, crack or lose adhesion during extension.
- Resilient – once cured, the sealant prevents stones and other noncompressibles from entering the joint by "squeezing" them out as soon as the force pushing these noncompressibles into the sealant is removed.
- Good weatherability – its 100 percent silicone rubber is virtually unaffected by sunlight, rain, snow, ozone or temperature extremes.
- Fast cure – typically, the sealant will have a tack-free surface in one hour or less. With this fast cure and recessed joint design, the road can be opened soon after sealing in most applications.
- Long-life reliability – under normal conditions, cured sealant stays rubbery from -45 to 149°C (-49 to 300°F) without tearing, cracking or becoming brittle.

Applicable Standards

Meets and/or exceeds ASTM D 5893-96 "Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements," Type NS (Non-Sag). In addition, the Federal Aviation Administration has published the "FAA Engineering Brief 36 – Silicone Joint Sealants." This publication approves the use of these materials in airfield situations.

Meets and exceeds both Federal Specifications TT-S-001543A Class A (one-part silicone sealants) and TT-S-00230C Class A (one-component sealants) that were written for construction sealants requiring extremely high movement capability. Also meets Canadian Specification 19GP9 Type I and approximately 41 Department of Transportation (DOT)

Figure 1: Good Joint Design



STANDARD JOINT | SHALLOW CUT JOINT FOR NEW CONSTRUCTION | DESIGN IF GRINDING IS ANTICIPATED

1. Joint width wide enough to accommodate movement. (For additional information on joint width, see papers by Spella and Klosowski, "Silicone Sealants for Use in Concrete Construction," Vol. 1, No. 1, *American Concrete Institute*, SP-70, 1981; J.B. Cook, "Construction Sealants and Adhesives," Wiley-Interscience, 1970; and J.M. Klosowski, "Sealants in Construction," Marcel Dekker, 1989.)
2. Joint sawed deep enough to allow backer rod/sealant placement and space for pumping of old sealant compounds. NOTE: This applies to standard joints only; void space beneath backer rod in new construction is not needed.
3. Proper backer rod placement to prevent three-sided adhesion.
4. Sealant installed to proper depth and width.
5. Sealant tooled 1/4 to 1/2 inch (6 to 13 mm) below pavement surface.
6. Depth of lowest slab determines the amount of recess required if grinding is anticipated; once grinding is complete, the sealant will have proper recess below the pavement surface.

Table I: Recommended Backer Rod Installation (Shallow Cut)[1]

Measured in Inches						
Joint Width	1/4"	3/8"	1/2"	3/4"	1"	2"
Recessed Below Surface	3/8"	3/8"	3/8"	3/8"	3/8-1/2"	3/8-1/2"
Sealant Thickness	1/4"	1/4"	1/4"	3/8"	1/2"	1/2"
Backer Rod Diameter	3/8"	1/2"	5/8"	7/8"	1¼"	2½"
Total Joint Depth	1-1⅛"	1⅛-1¼"	1¼-1⅜"	1⅝-1¾"	2¼-2⅜"	2½-2⅝"
Measured in Millimeters						
Joint Width	6 mm	9 mm	13 mm	19 mm	25 mm	51 mm
Recessed Below Surface	9 mm	9 mm	9 mm	9 mm	9-13 mm	9-13 mm
Sealant Thickness	6 mm	6 mm	6 mm	9 mm	13 mm	13 mm
Backer Rod Diameter	9 mm	13 mm	16 mm	22 mm	32 mm	64 mm
Total Joint Depth	25-29 mm	29-32 mm	32-35 mm	41-44 mm	57-60 mm	64-67 mm

[1]On road surfaces where grinding is planned at a later date, the sealant and backer rod should be installed so that sealant is approximately 3/8 inch (9 mm) below the road surface after grinding is complete. An additional small amount should be added to allow for surface imperfections on the bottom and to provide room for old sealant to pump up from below during rehabilitation work in the summer months.

specifications that require a low-modulus sealant with high movement capability.

HOW TO USE

Please refer to the *Pocket Installation Guide* for additional information on applications, preparation and installation information.

Low-modulus *Dow Corning* 888 Silicone Joint Sealant easily withstands extreme joint movement when properly applied. The sealant will withstand 100 percent extension and 50 percent compression of the original joint width. However, the recommended joint movement design is for ±25 percent (50 percent total) and not at the sealant limits. This difference ensures a successful seal when job site joint widths are different than designed widths. Therefore, the joint design dimensions should be less than the ultimate sealant capability.

A thin bead of silicone sealant will accommodate more movement than a thick bead. *Dow Corning* 888 Silicone Joint Sealant should be no thicker than 1/2 inch (13 mm) and no thinner than 1/4 inch (6 mm). Within these limits, the sealant width-to-depth ratio should be 2:1.

In all cases, the sealant must be recessed below the pavement surface at least 3/8 inch (9 mm) with 1/2 inch (13 mm) recess being acceptable in wider joints (see Table I). Consideration should also be given to other possible road-working operations, such as diamond-grinding of the surface. Activities of this type would require the sealant bead to be recessed even deeper.

Dow Corning 888 Silicone Joint Sealant is a nonsag sealant. This allows its use in vertical curb joints as well as horizontal joints.

Being a non-leveling sealant, *Dow Corning* 888 Silicone Joint Sealant must be "tooled" to ensure good contact and adhesion as well as to control sealant depth and provide a recessed surface. Several devices can be used for tooling. Among the simplest and easiest to obtain is the expanded closed-cell polyethylene foam backer rod, which must be larger than the joint width.

In new construction where the joint is a new cut, a shallow cut is recommended where the backer rod is placed on the "shelf" or bottom of the joint (see Figure 1). Recommended depths are shown in Table I. This design provides a firm support for sealant tooling, making the sealant easier to install, and further ensures good sealant/concrete contact. A shallow cut design also saves saw blades and time.

In repair work where previous sealing materials have been of a joint filling type rather than a joint sealing type, or where the joint is not broadened by sawing, a standard joint design is recommended in which the backer rod is slightly above the shelf. Extra space (1/4 to 1/2 inch [6 to 13 mm]) between the bottom of the backer rod and shelf should be provided to allow for possible "pumping" of old joint filling material from the bottom of the joint. It is recommended that care be given to selection of proper oversized backer, so that a firm tooling support is obtained (generally 1/4 inch [6 mm] larger than the joint works quite well).

Dow Corning 888 Silicone Joint Sealant is part of a system that must include the proper backer rod and proper installation procedures. The backer rod must be expanded closed-cell polyethylene foam. Where irregularly shaped joints exist, backer rod that is open-cell with an impervious skin is recommended to ensure a tight fit. Several other back-up materials (paper, fibrous ropes and open cell foam) are available, but have proven to be unacceptable. There are several manufacturers of closed-cell polyethylene foam and any may be used.

Please refer to the *Pocket Installation Guide* for more information on applications, preparation and installation information.

HANDLING PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE ON THE DOW CORNING WEBSITE AT WWW.DOWCORNING.COM, OR FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY CALLING YOUR GLOBAL DOW CORNING CONNECTION.

USABLE LIFE AND STORAGE

When stored in original, unopened containers between 0°C (32°F) and 32°C (90°F), *Dow Corning* 888 Silicone Joint Sealant has a shelf life of 12 months from date of manufacture. Keep containers tightly closed. Refer to product packaging for "Use By Date."

PACKAGING

Dow Corning 888 Silicone Joint Sealant is supplied in 29-fl oz (857-mL) disposable cartridges, 4.5-gal (17-L) bulk pails, and 50-gal (189-L) bulk drums.

LIMITATIONS

Dow Corning 888 Silicone Joint Sealant is not recommended for conditions where continuous water/moisture exposure is expected. It should not be applied in totally confined spaces where the sealant is not exposed to atmospheric moisture. The sealant should never be applied to wet or damp concrete or installed during inclement weather. New concrete should be allowed to cure and dry for at least 7 days of good drying weather. For each day of rain that occurs during that period, an additional day should be added to the 7-day drying time. For "Fastrack" or high early concrete mixes, please contact your Dow Corning Technical Service Representative.

The sealant bead should be recessed below the pavement surface to prevent abrasion from traffic and snow removal equipment.

The adhesion to substrates other than PCC should be checked before performing full-scale sealing. Contact your Dow Corning Technical Service Representative.

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, www.dowcorning.com, or consult your local Dow Corning representative.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that Dow Corning's products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow Corning's sole warranty is that the product will meet the Dow Corning sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

DOW CORNING SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.

DOW CORNING DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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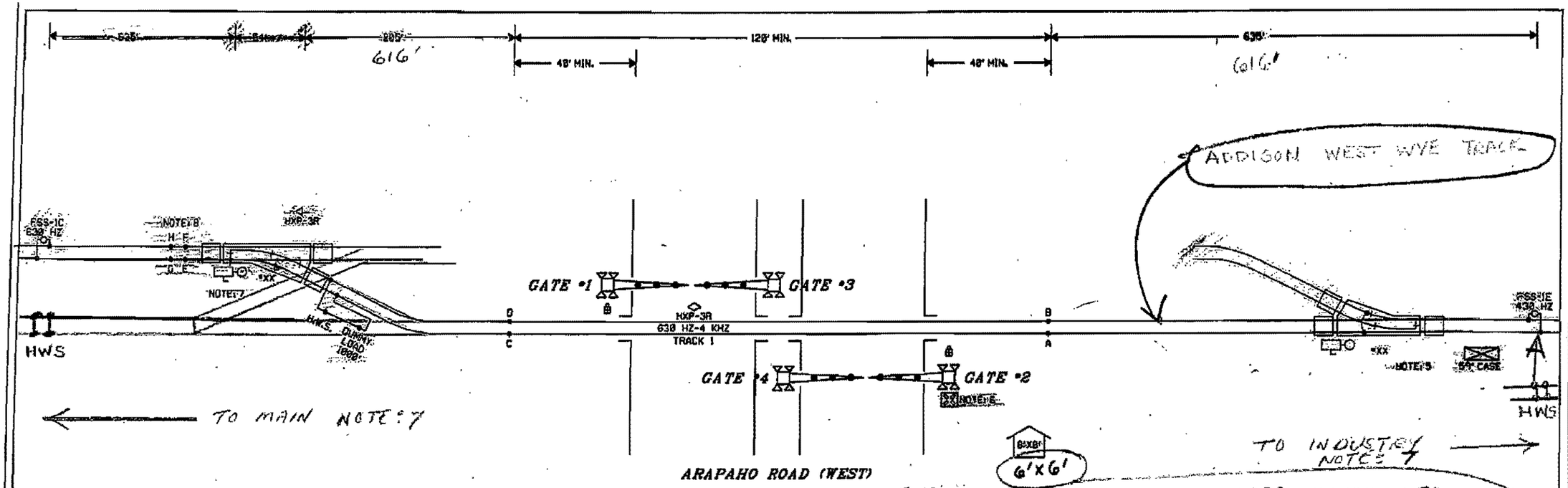

7. SOLAR POWER SWITCH MACHINES CONTROLLED REMOTELY FROM TRAIN TO BE INSTALLED AT NORTH AND SOUTH ENDS OF WEST WYE TRACK TO PROVIDE OPPORTUNITY FOR A CONSTANT SPEED CROSSING APPROACH.

APPROACH CIRCUIT DISTANCE CALCULATION		TRACK 1
BASE WARNING TIME		30 SEC
PLUS TIME FOR CLEARANCE DISTANCE > 35'	8	8 SEC
EQUALS PLANNED WARNING TIME	38	38 SEC
PLUS TIME FOR EQUIPMENT RESPONSE		4 SEC
PLUS TIME FOR TRAFFIC PRE-EMPTION	0	0 S.D.
EQUALS CIRCUIT APPROACH TIME.	42	42 SEC
TIMES MAXIMUM PLANNED TRAIN SPEED		10 MPH
TIMES RATIO OF FEET PER SECOND TO MILE PER HOUR		22/15
EQUALS APPROACH CIRCUIT DISTANCE WITH ANY FRACTIONAL VALUE INCREASED TO FULL UNIT		616 FT

616

PRELIMINARY
PENDING CITY APPROVAL

PRELIMINARY
PENDING RAILAMERICA APPROVAL

NOTES:
1. ALL WIRING IN THE BUNGALOW IS #16 AWG FLEX UNLESS OTHERWISE NOTED.
2. SEE APPROACH CIRCUIT DISTANCE CALCULATION TABLE FOR PLANNED WARNING TIME AND TRAIN SPEED PER TRACK.
3. TRANSMITTER WIRE T1 AND T2 MUST BE RUN TO THE TRACK BUNGALOW SIDE OF CROSSING.
4. APPROACH DISTANCES ARE TO BE MEASURED FROM THE CIRCUIT FEED POINTS.
5. INSTALL MODEL 3000LP HYDRA-SWITCH MACHINES WITH DTMF CONTROL ON EXISTING TIES.
6. ONE DOUBLE-FACED CONFIRMATION SIGNAL TO BE INSTALLED ON GATE #2 FOR FUTURE QUIET ZONE.
7. INSTALL ADDITIONAL HEAD BLOCK TIE.
8. CHECK WIRES SHALL BE INSTALLED
5. DOUBLE BOND TRACK RAIL JOINTS.
6. SWITCH AT SOUTH SIDING TO BE REMOVED.

LEGEND:
-TEST TERMINAL
-EQUALIZER
-ARRESTER TO GROUND
-TWISTED WIRE 2 TURNS PER FOOT

REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

RAILAMERICA, INC.
5300 BROKEN SOUND BLVD. NW
BOCA RATON, FLORIDA

DGNO

DRAWN: RCL
DESIGNED: RCL
CHECKED: RCL
DATE: 03-10-04

CROSSING TRACK PLAN
ARAPAHO RD. (WEST)
ADDISON, TX
DOT# 921 976P MILEPOST = 598.60

DRAWING NO. 598.60
SHEET 1 OF 2

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SHOW ANGLE ROAD TO TRACK @ 37°

MINIMUM TRACK CLEARANCE DISTANCE ∠ 115

GATE #1

GATE #3

GATE #4

GATE #2

(2) 4" SCH. 80 PVC

(2) 4" SCH. 80 PVC

2C #6 TW

(4) 2C #6 TW

2C #6 TW

40'-0"

15'-0"

11'-0"

11'-0"

15'-0"

11'-0"

16'-0"

5'-3"

5'-3"

5'-3"

5'-3"

10'-0"

6'-0"

30'-0"

25'-0"

3'-2"

POWER POLE

6X6

8X8 BUNGALOW

OVER

MOVE IN

IRON PIN

D

C

B

A

M.P. 598.68

ARAPAHO ROAD (WEST)

DOT #921 976P

GROUNDING LAYOUT

"A"

"B"

"C"

PRELIMINARY
PENDING CITY APPROVAL

PRELIMINARY
PENDING RAILAMERICA APPROVAL

LEGEND:

——— - RIGID CONDUIT

- - - - - - UNDERGROUND CABLE

REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

RAILAMERICA, INC.

5300 BROKEN SOUND BLVD. -NW
BOCA RATON, FLORIDA

DGNO

DRAWN: RCC
DESIGNED: RCC
CHECKED: REC
DATE: 03-19-04

CABLE & FOUNDATION PLAN
ARAPAHO RD. (WEST)
ADDISON, TX
DOT #921 976P MILEPOST #598.60

DRAWING NO.
598.60
SHEET 20 OF 28

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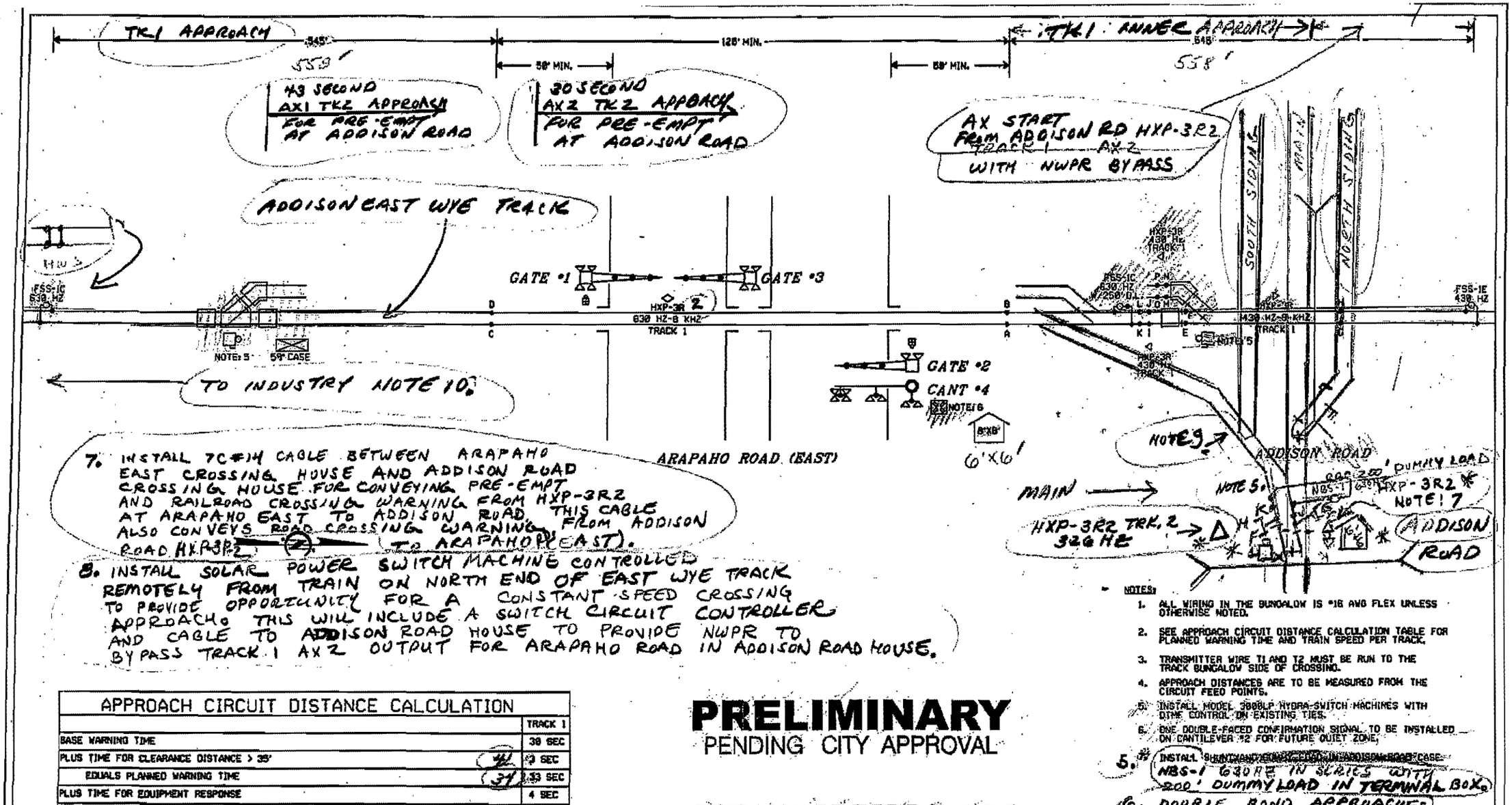
2 2



7. INSTALL 7C#14 CABLE BETWEEN ARAPAHO EAST CROSSING HOUSE AND ADDISON ROAD CROSSING HOUSE FOR CONVEYING PRE-EMPT AND RAILROAD CROSSING WARNING FROM HXP-3R2 AT ARAPAHO EAST TO ADDISON ROAD. THIS CABLE ALSO CONVEYS ROAD CROSSING WARNING FROM ADDISON ROAD HXP-3R2 (Z) TO ARAPAHO (EAST).

8. INSTALL SOLAR POWER SWITCH MACHINE CONTROLLED REMOTELY FROM TRAIN ON NORTH END OF EAST WYE TRACK TO PROVIDE OPPORTUNITY FOR A CONSTANT SPEED CROSSING APPROACH. THIS WILL INCLUDE A SWITCH CIRCUIT CONTROLLER AND CABLE TO ADDISON ROAD HOUSE TO PROVIDE NWPR TO BYPASS TRACK 1 AX2 OUTPUT FOR ARAPAHO ROAD IN ADDISON ROAD HOUSE.

APPROACH CIRCUIT DISTANCE CALCULATION		TRACK 1
BASE WARNING TIME		30 SEC
PLUS TIME FOR CLEARANCE DISTANCE > 35'	4	9 SEC
EQUALS PLANNED WARNING TIME	34	33 SEC
PLUS TIME FOR EQUIPMENT RESPONSE		4 SEC
PLUS TIME FOR TRAFFIC PRE-EMPTION	0	T.B.D.
EQUALS CIRCUIT APPROACH TIME	38	37 SEC
TIMES MAXIMUM PLANNED TRAIN SPEED		18 MPH
TIMES RATIO OF FEET PER SECOND TO MILE PER HOUR		22/15
EQUALS APPROACH CIRCUIT DISTANCE WITH ANY FRACTIONAL VALUE INCREASED TO FULL UNIT		545 FT
		558

PRELIMINARY
PENDING CITY APPROVAL

PRELIMINARY
PENDING RAILAMERICA APPROVAL

10. SOLAR POWERED SWITCH MACHINE CONTROLLED REMOTELY FROM TRAIN TO BE INSTALLED AT SOUTH END OF EAST WYE TO PROVIDE OPPORTUNITY FOR A CONSTANT SPEED CROSSING APPROACH.

NOTES:
1. ALL WIRING IN THE BUNGALOW IS #16 AWG FLEX UNLESS OTHERWISE NOTED.
2. SEE APPROACH CIRCUIT DISTANCE CALCULATION TABLE FOR PLANNED WARNING TIME AND TRAIN SPEED PER TRACK.
3. TRANSMITTER WIRE T1 AND T2 MUST BE RUN TO THE TRACK BUNGALOW SIDE OF CROSSING.
4. APPROACH DISTANCES ARE TO BE MEASURED FROM THE CIRCUIT FEED POINTS.
5. INSTALL MODEL 3800LP HYDRA-SWITCH MACHINES WITH DTMF CONTROL ON EXISTING TIES.
6. ONE DOUBLE-FACED CONFIRMATION SIGNAL TO BE INSTALLED ON CANTILEVER #2 FOR FUTURE QUIET ZONE.

5. # INSTALL ~~SHUNT AND DELETE~~ NBS-1 630 HZ IN SERIES WITH 200' DUMMY LOAD IN TERMINAL BOX.
6. DOUBLE BOND APPROACHES
9. SWITCH AT SOUTH SIDING TO BE REMOVED.

LEGEND:
-TEST TERMINAL
-EQUALIZER
-ARRESTER TO GROUND
-TWISTED WIRE 2 TURNS PER FOOT

* = ALSO SHOWN ON ADDISON RD DRAWING NO. 598.46

REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

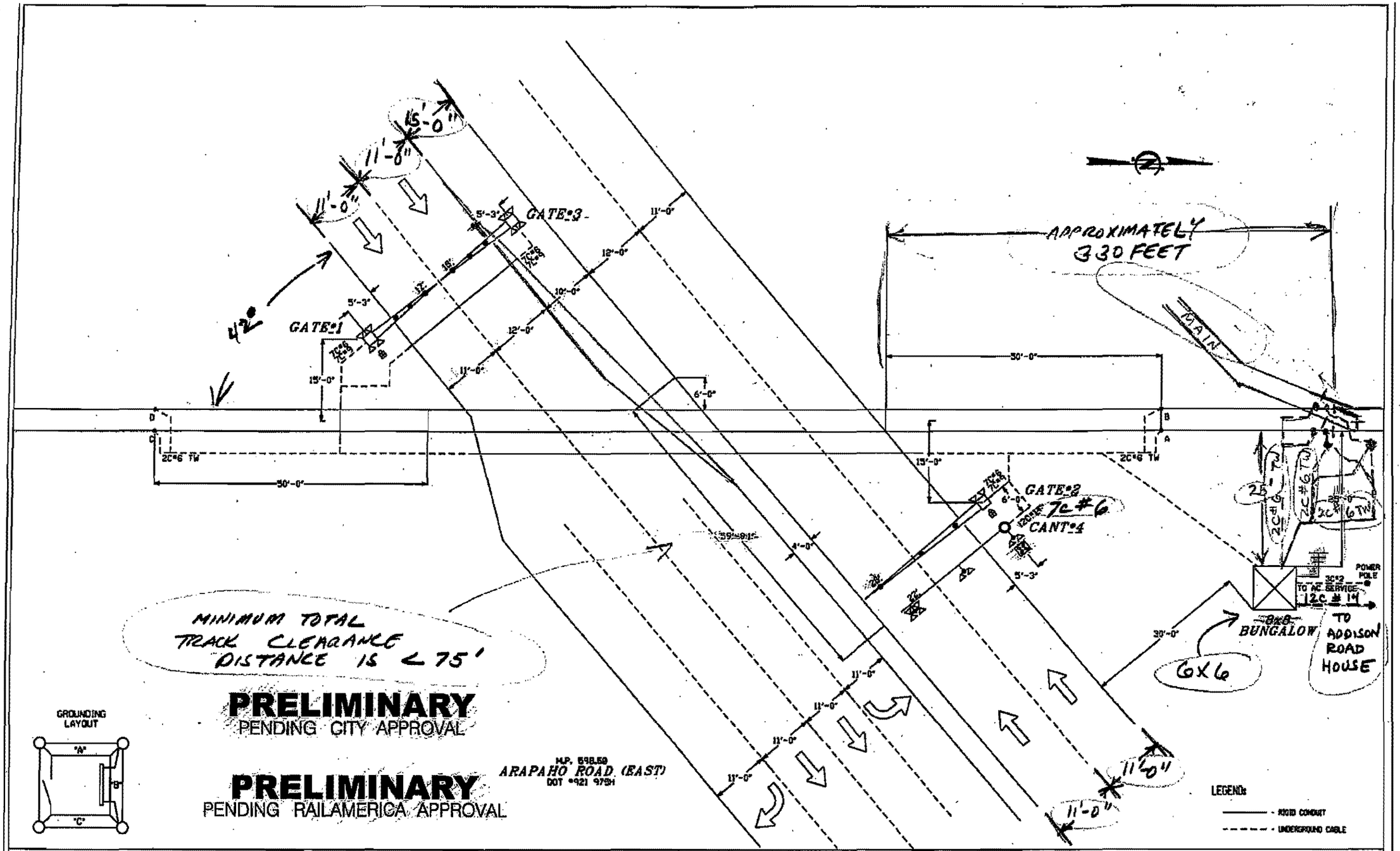
RAILAMERICA, INC.
5300 BROKEN SOUND BLVD.-NW
BOCA RATON, FLORIDA

DGNO

DRAWN: REL
DESIGNED: RGL
CHECKED: RGL
DATE: 03-10-04

CROSSING TRACK PLAN
ARAPAHO RD. (EAST)
ADDISON, TX
DOT# 921 975H MILEPOST# 598.58

DRAWING NO. 598.50
SHEET 1 OF 16



REVISIONS							

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

RAILAMERICA, INC.
5300 BROKEN SOUND BLVD. NW
BOCA RATON, FLORIDA

DGNO

DRAWN: REL
DESIGNED: REL
CHECKED: REL
DATE: 09-10-04

CABLE & FOUNDATION PLAN
ARAPAHO RD. (EAST)
ADDISON, TX
DOT #921 975H MILEPOST #598.50

DRAWING NO. 598.50
SHEET 18 OF 18

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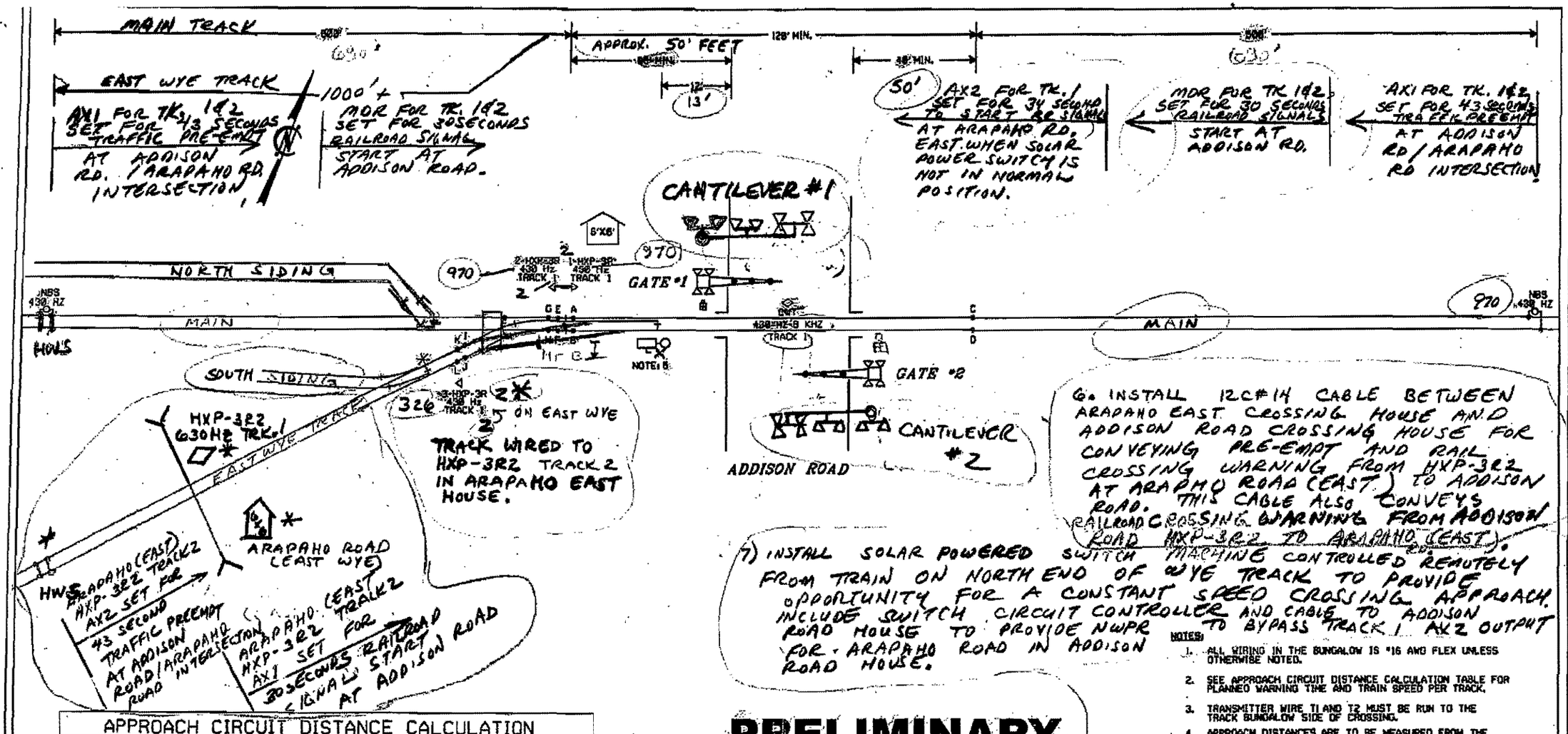
2



APPROACH CIRCUIT DISTANCE CALCULATION	TRACK 1
BASE WARNING TIME	30 SEC
PLUS TIME FOR CLEARANCE DISTANCE > 35'	0 SEC
EQUALS PLANNED WARNING TIME	30 SEC
PLUS TIME FOR EQUIPMENT RESPONSE	4 SEC
PLUS TIME FOR TRAFFIC PRE-EMPTION (13)	0 SEC
EQUALS CIRCUIT APPROACH TIME (47)	34 SEC
TIMES MAXIMUM PLANNED TRAIN SPEED	10 MPH
TIMES RATIO OF FEET PER SECOND TO MILE PER HOUR	22/15
EQUALS APPROACH CIRCUIT DISTANCE WITH ANY FRACTIONAL VALUE INCREASED TO FULL UNIT	690 FT

690

PRELIMINARY
PENDING CITY APPROVAL

PRELIMINARY
PENDING RAILAMERICA APPROVAL

NOTES:
1. ALL WIRING IN THE BUNGALOW IS #16 AWG FLEX UNLESS OTHERWISE NOTED.
2. SEE APPROACH CIRCUIT DISTANCE CALCULATION TABLE FOR PLANNED WARNING TIME AND TRAIN SPEED PER TRACK.
3. TRANSMITTER WIRE T1 AND T2 MUST BE RUN TO THE TRACK BUNGALOW SIDE OF CROSSING.
4. APPROACH DISTANCES ARE TO BE MEASURED FROM THE CIRCUIT FEED POINTS.
5. DOUBLE BOND APPROACHES.
6.
7.

LEGEND:
-TEST TERMINAL
-EQUALIZER
-ARRESTER TO GROUND
-TWISTED WIRE 2 TURNS PER FOOT

REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

RAILAMERICA, INC.
5300 BROKEN SOUND BLVD. NW
BOCA RATON, FLORIDA

DGNO

DRAWN: RCL
DESIGNED: RCL
CHECKED: RCL
DATE: 09-14-04

CROSSING TRACK PLAN
ADDISON ROAD
ADDISON, TX
DOT# 789 766N MILEPOST #598.46

DRAWING NO. 598.46
SHEET 1 OF 20

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PRELIMINARY
PENDING CITY APPROVAL

PRELIMINARY
PENDING RAILAMERICA APPROVAL

120' MINIMUM

CANTILEVER #1

30'-0"

6x6 BUNGALOW

24"

GATE #1

EXIST. GATE

53"

50'-0" MIN

4 PAIR #16 TW

RAIL MOUNTED WHEEL DETECTOR

4 PAIR #16 TW

3-2C #6TW

12 #14

TO ARAPAHO ROAD EAST WYE CROSSING HOUSE

APPROXIMATELY 50'

RAIL MOUNTED WHEEL DETECTOR

EXIST. GATE

GATE #2

6'

CANTILEVER #2

M.P. 789 766N
ADDISON ROAD
DOT #598.46

GROUNDING LAYOUT

LEGEND:
- RIGID CONDUIT
- UNDERGROUND CABLE

REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

RAILAMERICA, INC.
5300 BROKEN SOUND BLVD. NW
BOCA RATON, FLORIDA

DGNO

DRAWN: RCL
DESIGNED: RCL
CHECKED: RCL
DATE: 09-14-04

CABLE & FOUNDATION PLAN
ADDISON ROAD
ADDISON, TX
DOT #789 766N MILEPOST #598.46

DRAWING NO. 598.46
SHEET 28 OF 28

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2 2

Archer Western
Contractors

July 20, 2005

HNTB
5910 W Plano Parkway
Plano, Texas 75093
Attn: Guy Van-Baulen

RE: Lane Closures

Dear Guy:

Archer Western requests that the Town of Addison considers the utilization of daytime lane closures on Midway Road, for the forming and placing of diaphragms on span # 9 of the Arapaho Bridge as well as decking work.

The lane closures are needed to assure the safety of the public as well as A/W employees while placing formwork and concrete over the Midway traveling traffic.

The times and dates are as realistic as I can predict at this time.

The Town is guaranteed that no closure will be set or left in place that is not necessary.

A/W requests that the closures be allowed at the off peak hours of 9:00 AM to 4:00 PM. We have had an occasional lane closure during these hours and the impact to the public is minimal.

The schedule of the closures will consist of the following;
Northbound Midway various lanes 7-25 thru 8-9
Southbound Midway various lanes 7-26 thru 8-19

Messages boards will be used to forewarn the traveling public.

T.C.P attached.

Sincerely,

Don Good
Project Superintendent

2121 Avenue J, Suite 103
Arlington, Texas 76006
Phone: 817.640.3898
Fax: 817.640.8734
www.walshgroup.com

N

Message Board
North of Lindberg
For Advance Notice

CHARTER

CENTURION WAY

BELTLINE

Right Lane Closed Ahead

Message Board
Located At The
NE Corner of
Beltline + Midway
For Advance Notice

MIDWAY ROAD

Right Lane Closed

Right Lane Closed

Right Lane Closed

ARROW BOARD

CONES @ 25'

CONES @ 25' CENTERS T.YP.

WORK ZONE

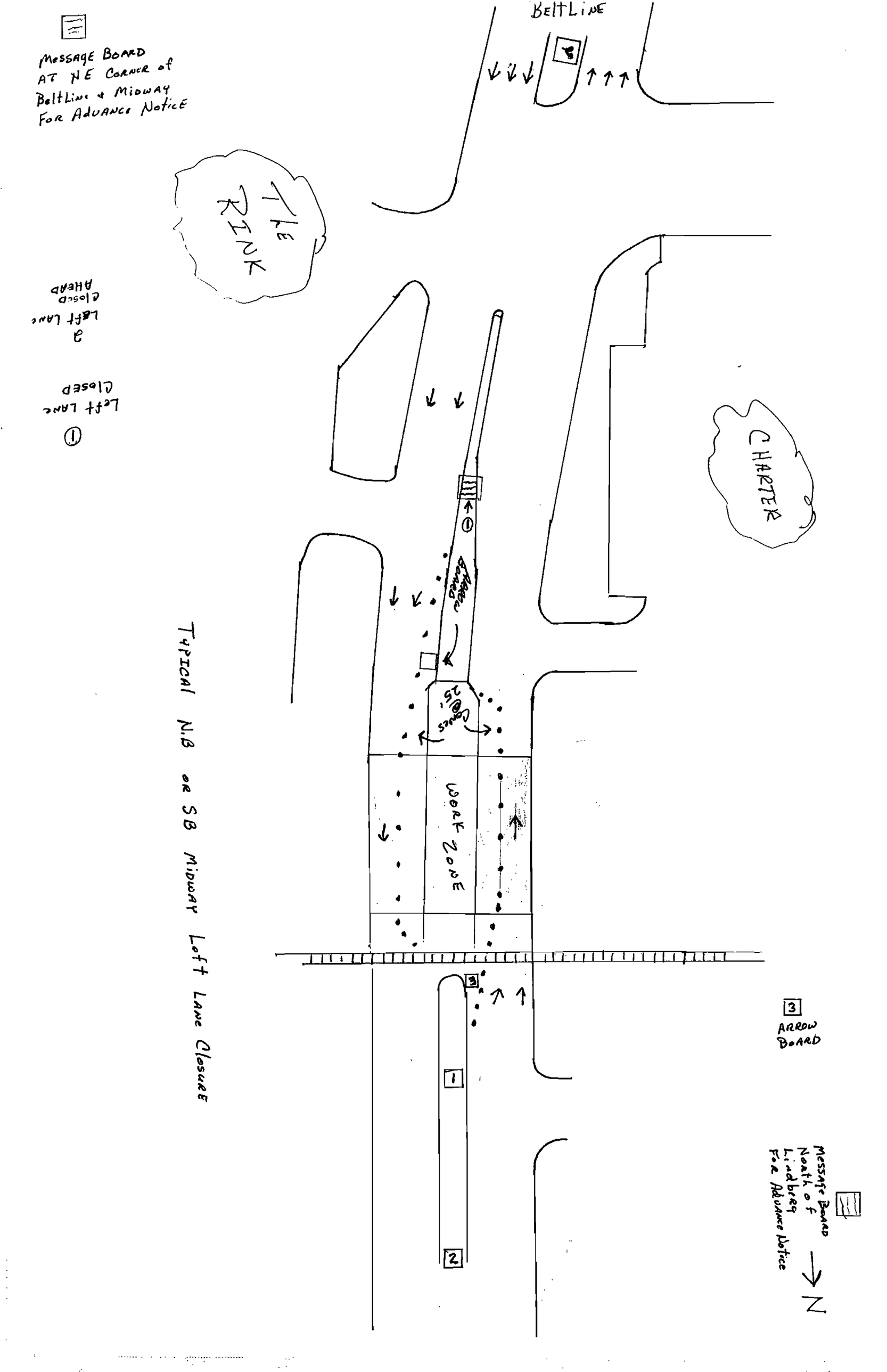
ARROW BOARD

TRAFFIC BARRELS

THE RINK

MIDWAY ROAD

TYPICAL N.B OR S.B. RIGHT LN. CLOSED


BELTLINE
THE RINK
CHARTER
Left Lane Closed
Ahead
2
Left Lane Closed
1
Arrow Board
Cones @ 25'
WORK ZONE
3
1
2
TYPICAL N.B OR S.B MIDWAY Left Lane Closure
MESSAGE BOARD AT NE CORNER of BeltLine & Midway For ADVANCE Notice
3
ARROW BOARD
MESSAGE BOARD North of Lindbergh For ADVANCE Notice
N

Archer Western
Contractors

July 20, 2005

HNTB
5910 W Plano Parkway
Plano, Texas 75093
Attn: Guy Van-Baulen

RE: Lane Closures

Dear Guy:

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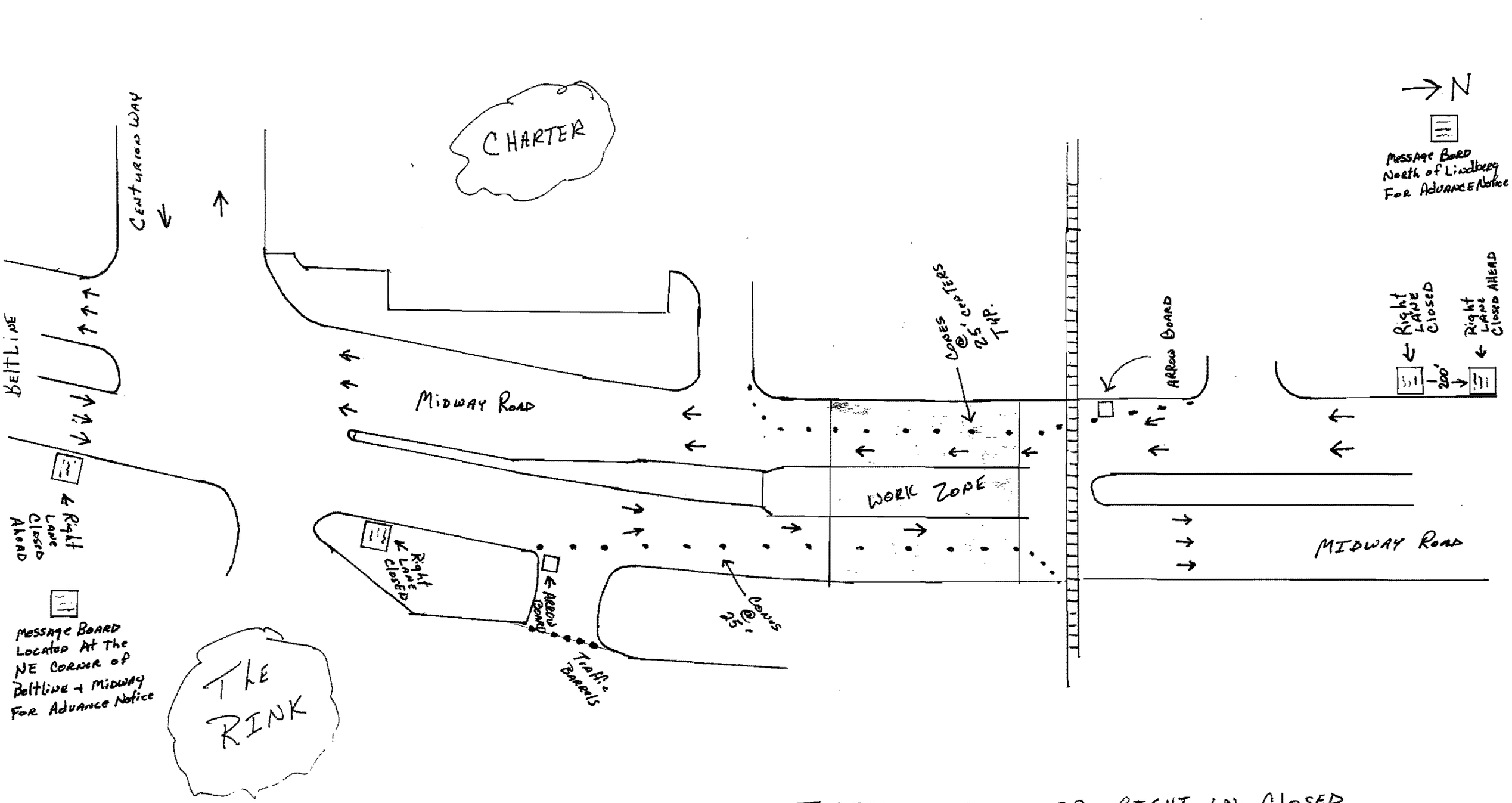
T.C.P attached.

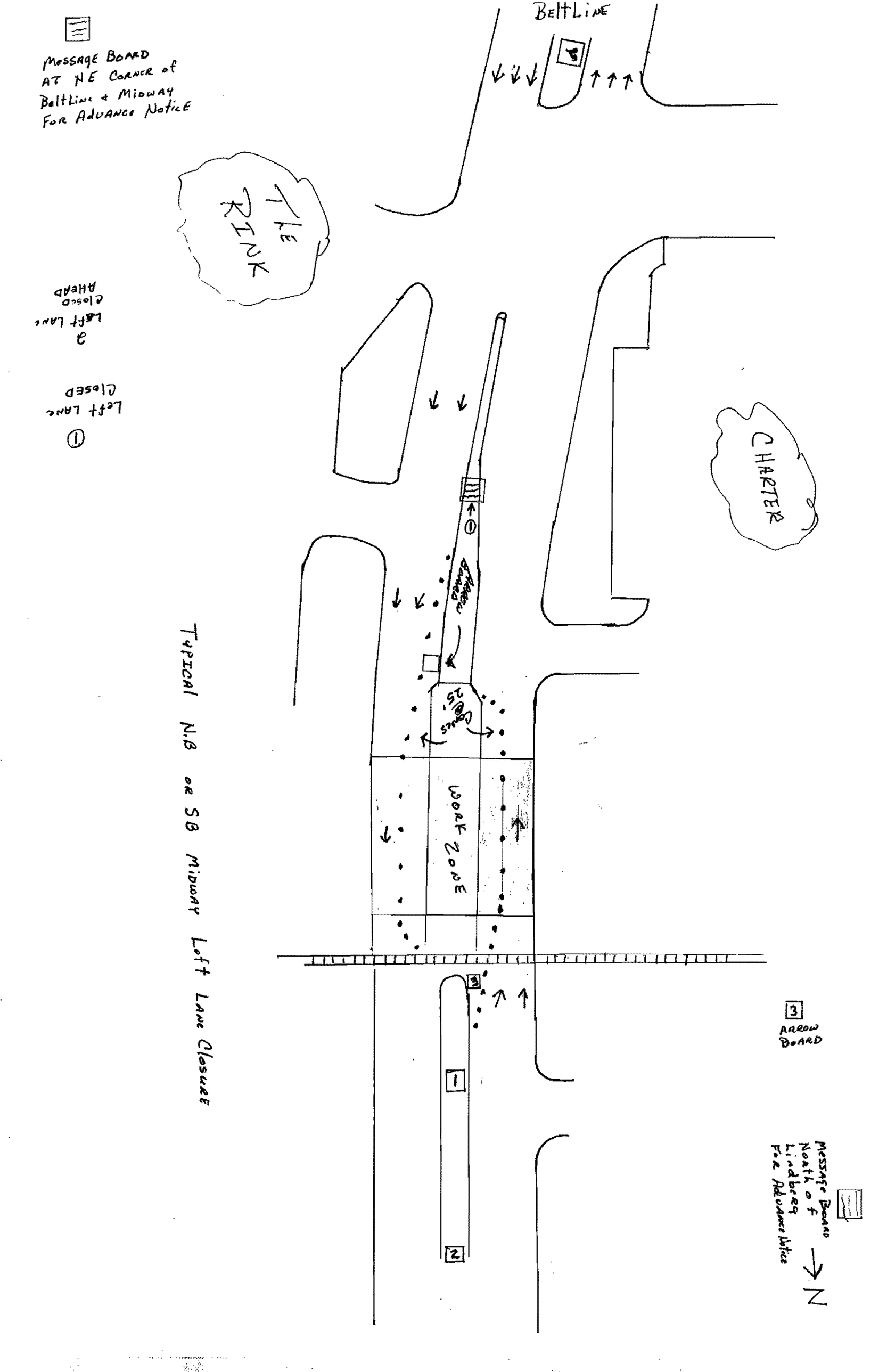
Sincerely,

Don Good
Project Superintendent

2121 Avenue J, Suite 103
Arlington, Texas 76006
Phone: 817.640.3898
Fax: 817.640.8734
www.walshgroup.com



TYPICAL N.B OR S.B. RIGHT LN. CLOSED


Message Board
AT NE Corner of
Beltline & Midway
For Advance Notice
Beltline
3
ICE RINK
CHARTER
Left Lane Closed Ahead
2
Left Lane Closed
1
Flagger Stopped
Cones @ 25'
WORK ZONE
TYPICAL N.B or S.B Midway Left Lane Closure
3
Arrow Board
1
2
Message Board
North of
Lindberg
For Advance Notice
N

Archer Western
Contractors

July 19 2005

Town of Addison
16801 Westgrove Drive
Addison, Texas 75001
Attn: Mr. Steve Chutchian

RE: Town of Addison

Span #9 Structural Analysis

Dear Steve: Jenny

Archer Western Contractors has proceeded per your request and direction with a structural analysis of the bridge components at span #9. As requested by the URS letter dated June 17, 2005 and furthered by Steve Hages of HNTB in the meeting on June 17, 2005, Archer Western Contractors will provide a step by step analysis for the entire structure.

Archer Western Contractors has obtained the services of Janssen & Spaans Engineering to perform the structural analysis as requested. Their proposal for engineering services is approximately $45,000 and a time schedule of 6 – 8 weeks to complete the analysis.

Archer Western Contractors believes that the structural analysis is beyond the scope of the contract plans and specifications. The contract plans state "The contractor shall submit for review and approval to the engineer, calculations of the influence of his erection sequence, loads and details on the structure, in accordance with the project specifications". Archer Western Contractors have reviewed the project specifications and does not find where a structural analysis of each bridge component is required by the specifications.

Archer Western Contractors respectfully requests a change order for this work and the additional days. The final amount to be forwarded at a later date.

If you require additional information, please contact me at 817-640-3898 or 817-401-7202.

Sincerely,

Ben Withered
Project Manager

Cc: Don Good

2121 Avenue J, Suite 103
Arlington, Texas 76006
Phone: 817.640.3898
Fax: 817.640.8734
www.walshgroup.com

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

July 18, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW0104**

Subject: **Revised Grades Addison Parking Lot**

Request:

Please Reference the response to RFI 94 and attached drawing

Archer Western has received and reviewed grades for the Addison road parking lot and discovered the parking lot will still hold water in one corner. The pipe and inlet are already installed. Please review the attached information and provide Archer Western with a solution.

Please provide this information as soon as possible as not to delay the project.

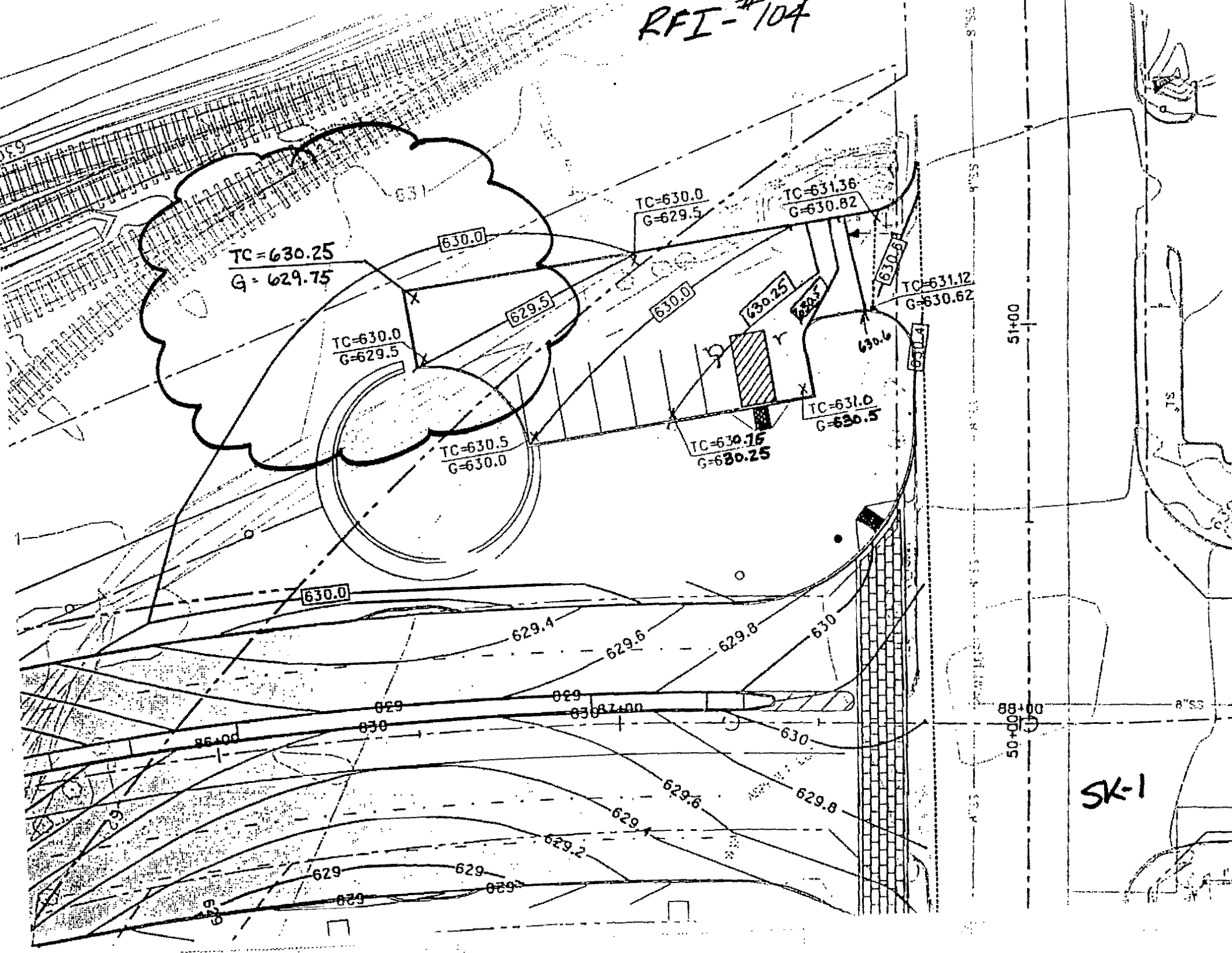
Response/Action Taken:

In response to your RFI #104, Please find attached a sketch showing the raise the top of curb and gutter at the Northwest corner of the future Addison Parking Lot. See attached sketch SK-1

By: Guy Van Baulen, EIT
HNTB Corporation

Date: July 18, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation


RFI-#104
TC=630.25
G=629.75
TC=630.0
G=629.5
TC=631.36
G=630.82
TC=631.12
G=630.62
TC=630.0
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TC=630.5
G=630.0
TC=631.0
G=630.5
TC=630.75
G=630.25
630.0
629.5
630.25
630.6
630.4
629.4
629.6
629.8
630
629.2
629
51+00
50+00
88+00
86+00
SK-1

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

July 18, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW0106**

Subject: **Revised MBNA Parking Lot**

Request:

Please Reference the attached Sketch

Archer Western discovered that the Oncor power pole for Absolute Systems was not installed in the plan location. A dirt mound is to be installed over the buried conduit form the Oncor power pole to provide adequate cover over the conduit. The location of the mound will interfere with the proposed parking lot. Through field discussions with HNTB, Archer Western was directed to reconfigure the parking lot to miss the mound.

Please confirm the attached changes to the MBNA parking lot configuration.

Response/Action Taken:

In response to your RFI #106, This is confirming that Archer Western was given the approval to relocate an additional parking lot from the west end of the head on parking to the north and make prevision for it at the east end of the lot to allow for the required clearance for the Oncor conduit. See revised attached sketch which was previously issued on June 14, 2005.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: July 18, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

0 20 40 60 80
SCALE IN FEET

N

REMOVE A PARKING SPACE AND RELOCATE AT EAST END

INSTALL WHEEL STOP

PROPOSED CONCRETE PAVEMENT (NO CURB AND GUTTER)

32'

287.5'

40.5'

30'R

20'R

20.5'

31 SPACES @ 9'=279'

PROPOSED SOLID 4" WHITE STRIPE

PROPOSED CONCRETE PAVEMENT

83.5'

5 SPACES @ 9'=45'

10'R

15'R

12'

38'

38'D

51+00

52+00

53+00

54+00

55+00

19.5'

34.5'

3 SPACES @ 9' = 27'

16'

20'

℄ Bent #3

MATCH EXISTING

INSTALL A TYPE 'D' FIXTURE STA 53+40 - RT 7'

- DELETE AREA

NOTE:
SEE SHEET C-1 FOR PARKING GRADING PLAN.

LEGEND

PROPOSED SOLID 4" WHITE STRIPE

PROPOSED PARKING LOT PAVEMENT

ABSOLUTE SYSTEMS, LTD

ANY VERTICAL OBSTACLE (CURB, BUILDING, STAIRS, ETC.)

3'-0"

9"

6'-0"

PLAN

#5 REBAR PIN (2 PER STOP)

1½"

6½"

2'-0" MIN.

SECTION

VEHICULAR WHEEL STOP DETAIL
NOT TO SCALE

SK-2
RFI # 106

HENRY G. HOLDER, JR.
87171
REGISTERED
PROFESSIONAL ENGINEER
07-23-04

NO.	DATE	REVISION	APPROV.

HNTB ARCHITECTS ENGINEERS PLANNERS

ARAPAHO ROAD - PHASE III

SURVEYOR BOULEVARD TO ADDISON ROAD

PARKING LAYOUT

MBNA

TOWN OF ADDISON, TEXAS

Design JSH	Drawn GFS	DATE	SCALE	PROJECT NO.	SHEET NO.
Check JDH	Check JSH	APRIL 04	As 1"= 20'	25768	PK-2

2 OF 5

57

29-JUN-2004 13:55
G:\25768-pk3\hntlcds\or3pk02.dgn

The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison TX, 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768- Arapaho Road - Phase III

VIA Hand Delivered

Date: July 14, 2005

Letter of Transmittal

To: Steve Chutchian
Town of Addison
P.O. Box 9010
16801 Westgrove Drive
Addison, TX 75001

Regarding: Shop Drawing Submittals

We are forwarding to you:

____ Estimates	____ Plans	____ Prints
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2	Submittal # 68.1	6/28/05		Irrigation Controller – Make Corrections Noted
2	Submittal # 69.1	6/28/05		Mini Clik II Rain Sensor – Amend and Resubmit
2	Submittal # 70.1	6/28/05		Rain Bird 1800 Series Sprinkler Head – Amend and Resubmit
2	Submittal # 71.1	6/28/05		PVC Risers (SCH 80) - Make Correction Noted
2	Submittal # 72.1	6/28/05		Control Wires – No Exception Taken
2	Submittal # 73.1	6/28/05		Solvent Weld PVC – No Exception Taken
2	Submittal # 74.1	6/28/05		Ball Valves - No Exception Taken
2	Submittal # 75.1	6/28/05		Master/ Station Valves - No Exception Taken
2	Submittal # 76.1	6/28/05		Jumbo Box - No Exception Taken
2	Submittal # 77.1	6/28/05		Round Box - No Exception Taken
2	Submittal # 78.1	6/28/05		Quick Connect Valve – Amend and Resubmit
2	Submittal # 79.1	6/28/05		Roto Sprinkler Heads – No Exception Taken
2	Submittal # 83.1	6/28/05		Double Check Valve – No Exception Taken

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		X Make corrections noted

Please note:

By: Guy Van Baalen, EIT

Copy to: file

The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison TX, 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768 - Arapaho Road - Phase III

VIA Hand Delivered

Date: July 6, 2005

Letter of Transmittal

To: Steve Chutchian
Town of Addison
P.O. Box 9010
16801 Westgrove Drive
Addison, TX 75001

Regarding: Shop Drawings/ Catalog Cuts
Submittals

We are forwarding to you:

____ Estimates	____ Plans	X Prints
____ Reports	____ Shop Drawings	____ Samples
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# of Copies	Drawing #	Last Dated	Code	Description
2	Submittal 81.1	6/28/05		Roadsaver Silicone SL – Primate/Crafco (Silicone Joint Compound)
2	Submittal 82.1	6/28/05		HBR Backer Rod – Primate/Nomaco (Backer for pavement joint)
1	Pages 1 to 6	5/16/05		Prequalified Joint Sealers – TxDOT

These are transmitted:

____ For approval	____ As requested	____ Copies for distribution
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____ Return	____ Copies for review	____ No exception taken
____ Corrected prints	____ Submit	____ Amend and resubmit
		____ Make corrections noted

Please note:

By: Guy Van Baulen, EIT

Copy to: File

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 82.1

New Submittal : X

Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: Addison

Description of Submitted Item: HBR Backer Rod

Manufacturer/Sub/Supplier: Primate / Nomaco

Related Section / Drawings: Addison

Additional Comments: Backer Rod for the CRCP Paving Joints

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

Copy: File

BACKER ROD

NAME: HBR®

TYPE : C — Cylindrical, flexible sealant backings composed predominantly of closed cell material per ASTM C 1330, for use with cold applied sealants
FORM: Round Foam Rod
TEMPERATURE LIMITS: -45°F to 160°F

NOMACO
"We Can Grow Together"

NOMA SPEC SUBMITTAL SHEET

FEATURES
- Meets all of the requirements of the 1990 Clean Air Act
- Is a "Domestic End Product" as defined in the Buy American Act, Title 41 USC 10
- Easy to apply
- Chemically inert
- Waterproof

DESCRIPTION
Round, flexible, continuous lengths of extruded, closed-cell polyethylene foam backer rod for use as a backing material for elastomeric and other cold applied sealants.

APPLICATIONS
Commonly used in new construction Expansion/Contraction Joints where cold applied sealants are used, such as curtain walls, construction partitions, precast assemblies and copings, parking decks, bridge construction, building rehabilitation, etc.

BENEFITS
Limits depth of the sealant and prevents excessive sealant use.
Helps sealant assume optimum shape factor to prolong sealant service life.
Will not absorb water or wick water to the joint walls to cause adhesive failure.
Prevents bottom-side adhesion of the sealant.

SIZE SELECTION (Table 1)
Proper size selection is important, as it controls the depth of the sealant bead. It must be oversized to fit tightly into the joint, and function as a bondbreaker to prevent bottom-side adhesion of the sealant.

JOINT PREPARATION (Pavements)
New joints must be cleaned thoroughly, removing any concrete form release agents, curing compound residue, laitance, or any foreign materials. Freshly sawed joints should be washed with water immediately afterward to remove any loose material from the joint faces. Wire brushing, sandblasting, high-pressure water, or any combination of techniques should be used to remove contaminants remaining on the joint face. To ensure a good sealant bond, joints must be clean and dry when the new sealant is installed. In repairing old joints, all old sealant or filler must be removed. This can be done by cutting or blowing out the old material or using any other procedure found to be effective.

INSTALLATION & SEALANT PLACEMENT (Buildings)
Just prior to placing the backer rod, clean all joints per the sealant manufacturer's recommendations. Air compressors used for this purpose must be equipped with traps for removal of oil and moisture. Install the backer rod at the depth recommended by the sealant manufacturer with a blunt tool or roller. Refer to sealant manufacturer's recommendations.

Sealant Backer Properties
Note: Use these properties to specify backer rod for use with cold applied sealants.

Property	Value	Test Method
Water absorption (g/cc)	<0.03	C 1016—Procedure B
Density (kg/m³)	24-48	D 1622
Outgassing (No. of bubbles)	>1	C 1253
Compression recovery (%)	>90	D 5249
Compression deflection (kPa)	>20.5	D 5249
Tensile Strength (kPa)	>200	D 1623

TABLE 1
HBR® Product Packaging Information and Recommended Diameter Use for Joint Width

Nominal Diameter in.—mm		Joint Dimension in.—mm		Linear Ft./ Carton ft.—m		Carton Dimension	#/ Ctn. lbs.—kg	
1/4"	6	3/16" or less	5 or less	6400	1951	18"x18"x31"	12	2
3/8"	10	1/4"	6	3600	1097	18"x18"x31"	12	2
1/2"	13	3/8"	10	2600	792	18"x18"x31"	12	2
5/8"	16	1/2"	13	1550	472	18"x18"x31"	12	2
3/4"	19	5/8"	16	1100	335	18"x18"x31"	12	2
7/8"	22	11/16"	18	850	259	18"x18"x31"	12	2
1"	25	3/4"	19	550	168	18"x18"x31"	12	2
1 1/4"	32	7/8"	222	400	122	18"x18"x31"	12	2
1 1/2"	38	1 1/8"	29	552	168	12"x22"x 74"	18	8
2"	51	1 5/8"	41	360	110	12"x22"x 74"	18	8
2 1/2"	64	2"	51	740	73	12"x22"x 74"	18	8
3"	76	2 1/2"	64	144	44	12"x22"x 74"	18	8
4"	102	3"	76	90	27	12"x22"x 74"	18	8

PRECAUTIONS
Do not puncture, over compress or stretch HBR® during insertion. Do not use with hot applied sealants. Tests for outgassing of cold applied sealants shall be made in accordance with ASTM Test Method C 1253. Sealant compatibility should be confirmed by the sealant manufacturer. Compatibility characteristics of sealants in contact with sealant backings can be determined by ASTM Test Method C 1087.

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 82.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: Addison

Description of Submitted Item: HBR Backer Rod

Manufacturer/Sub/Supplier: Primate / Nomaco

Related Section / Drawings: Addison

Additional Comments: Backer Rod for the CRCP Paving Joints

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

Copy: File

BACKER ROD

NAME: HBR®

TYPE : C — Cylindrical, flexible sealant backings composed predominantly of closed cell material per ASTM C 1330, for use with cold applied sealants
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TEMPERATURE LIMITS: -45°F to 160°F

NOMACO
"We Can Grow Together"

NOMA SPEC
SUBMITTAL SHEET

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Sealant Backer Properties
Note: [illegible]

Property	Value	Test Method
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NOMACO INC. ■ 501 NMC DRIVE ■ ZEBULON, NORTH CAROLINA 27597 ■ 919/269-6500 ■ 800/345-7279 ■ FAX 919/269-7936 ■ www.nomaco.com

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 81.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2888
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: Addison

Description of Submitted Item: Roadsaver Silicone SL

Manufacturer/Sub/Supplier: Primate / Crafco

Related Section / Drawings: Addison

Additional Comments: Silicon Joint Compound for Concrete Paving.
Roadsaver Silicone SL is on the TxDot Approved material List for Concrete Paving

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

Copy: File

CRAFCO INC
AN ERGON COMPANY
420 N. Roosevelt Ave. • Chandler AZ 85226
1-800-528-8242 • (602) 276-0406 • FAX (480) 961-0513
www.crafco.com

PRODUCT DATA SHEET

ROADSAVER SILICONE SL

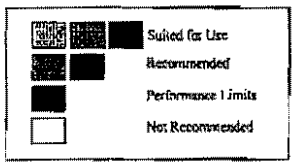
PART NO. 34903

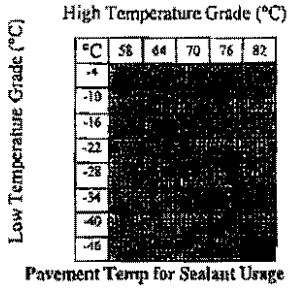
JANUARY 2004

READ BEFORE USING THIS PRODUCT

GENERAL Crafco RoadSaver Silicone SL is a low modulus silicone which offers the performance and durability characteristics of conventional silicone with the ease of installation of self-leveling materials. Crafco Roadsaver Silicone SL is supplied as a ready to use one component moisture curing system which provides a lasting and flexible seal. Crafco Roadsaver Silicone SL offers outstanding weathering resistance, remains flexible down to temperatures as low as –50°F (-46°C), is jet-blast resistant and will maintain field serviceability when exposed to intermittent fuel and oil spills. It bonds strongly to concrete joints without the use of a primer. Crafco Roadsaver Silicone SL can be used in all typical concrete joint applications on highway and airfield pavements in all climates. RoadSaver Silicone sealant is compatible with asphalt pavement. RoadSaver Silicone SL is easily applied to concrete joints using bulk dispensing system units such as those available from manufacturers including Pyles/Graco and Johnstone. The leveling characteristics insure that the required joint wetting for development of appropriate adhesion occurs during application, no tooling is required.

USAGE GUIDELINES RoadSaver Silicone SL pavement temperature performance limits are 82-46 for joint sealing. Usage recommendations are shown in Crafco pavement temperature grade charts shown at the right. Refer to Crafco Product Selection Procedures to determine sealant or filler and pavement temperature grades.





SPECIFICATION CONFORMANCE Crafco RoadSaver Silicone SL conforms to specifications for low modulus silicone for many highway departments and federal agencies. The product also meets and exceeds all requirements of ASTM D5893, "Standard Specification for Cold-Applied Single Component, Chemically Curing Silicone Sealant for Portland Cement Concrete Pavements" for type SL sealants. In the following specifications several of the D5893 parameters are more restrictive to better reflect properties of RoadSaver Silicone SL.

ASTM D5893 Physical Requirements	ASTM D5893 SL Requirements	RoadSaver Silicone SL Requirements
Cure Evaluation	Pass at 21 days	Pass at 21 day max.
Rheological Properties (ASTM C639)	Type 1, smooth level surface	Type 1, smooth level surface
Extrusion Rate (ASTM C1183)	Type S, 50 ml/ min. minimum	Type S, 200 ml/min. minimum
Tack Free Time (ASTM C 679)	5 hr. max.	3 hr. max.
Effects of Heat Aging (ASTM C 792)	10% max. Loss	10% max. Loss
Boud, -29°C (-20°F), 100% Extension		
Non-Immersed	Pass 5 Cycles	Pass 5 Cycles
Water Immersed	Pass 5 Cycles	Pass 5 Cycles
Oven-Aged	Pass 5 Cycles	Pass 5 Cycles
Hardness (ASTM C 661)		
-29°C (-20°C), Type A2	25 max.	10 max.
23°C (73°F), Type 00	30 min.	40-80 min.
Flow	No flow	No flow
Rubber Properties in Tension		
Ultimate Elongation	600% min.	800% min.
Stress at 150% Elongation	310 K pa (45 psi) max.	207 K pa (30 psi) max.
Effects of Accelerated Weathering	Pass 500 hours	Pass at 5000 hours
Resilience	75% min.	75% min.

Additional properties of RoadSaver Silicone SL Sealant are:

Specific Gravity (ASTM D792-A) (1)	1.10-1.40
Adhesion to Concrete (MIL 8802) (2)	20 pli (3.5 kg/cm) min.
Bond and Movement Capability +/- 50% (ASTM C719) (2)	Pass 10 cycles
Bond to Mortar (AASHTO T132) (2)	50 psi (34.4 N/cm^2) min.
Tensile Adhesion, %(ASTM D5329) (3)	600% min.

Notes: (1) Specimens shall be obtained from 1/8 inch (3mm) thickness sheets of material which has been cured for 7 days at 77+/- 3°F (25+/- 2°C) and 50 +/- 5% relative humidity.

(2) Specimens cured for 28 days at 77 +/- 3°F (25+/-2°C) and 50 +/- 5% humidity prior to testing.

(3) Specimens shall be 1/2" x 1/2" x 2" (1.2cm x 1.2cm x 5.0cm), cured 7 days at 77 +/- 3°F (25+/-2°C) and 50% +/- 5% relative humidity.

APPLICATION The unit weight is 10.7 pounds per gallon (1.28 kg/L). One gallon will seal 150 feet (45.7m) of 1/2 inch (1.2cm) wide by 1/4 inch (0.6cm) deep joint. Exact yield will vary depending on thickness of sealant, waste, application techniques, etc. Prior to use, the user must read and follow Application Instructions for RoadSaver Silicone Sealants (January 2002) to verify proper product selections, applicator pumps, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are provided with each drum of sealant.

PACKAGING Roadsaver Silicone SL Sealant is packaged in plastic lined open head 55 gallon (208 L) drums which contain 50 gallons (189 L) of material. Additionally, for small applications the sealant is available in plastic 5 gallon (19 L) pails and quart (.95 L) caulking tubes.

WARRANTY CRAFCO, Inc. warrants that CRAFCO sealants meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing are beyond our control as are the use and application of the sealants; therefore, Crafco shall not be responsible for improperly applied or misused sealants. Remedies against Crafco, Inc., as agreed to by Crafco, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafco, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafco, Inc. whichever is earlier. There shall be no other warranties expressed or implied. **For optimum performance, follow Crafco recommendations for sealant installation.**

CRAFCO INC
AN ERGON COMPANY
420 N. Roosevelt Ave. • Chandler AZ 85226
1-800-528-8242 • (602) 276-0406 • FAX (480) 961-0513
www.crafco.com

APPLICATION INSTRUCTIONS
ROADSAVER SILICONE SEALANTS

JANUARY 2004

READ BEFORE USING THIS PRODUCT

GENERAL: Crafco RoadSaver Silicone sealants are uniquely formulated low modulus sealants produced for use in sealing joints in portland cement concrete pavements. The sealant are supplied as single component moisture curing materials which provide lasting weather resistant flexible seals. The sealants are supplied in both non-sag and self-leveling (SL) application consistencies.

SEALANT PREPARATION: Crafco RoadSaver Silicone sealants are supplied in a ready to use form, with no mixing or any other preparation required to prepare the sealant for use.

JOINT DESIGN AND PREPARATION FOR SEALING: After appropriate curing of the concrete (a minimum of 7 days is recommended) joint reservoirs for the sealant can be cut into the concrete using appropriate concrete sawing procedures and equipment. In "fast track" or high early strength concrete mixes, it may be possible to saw and seal the joints sooner than the recommended 7 day minimum for standard concrete mixes. Contact Crafco or your representative for further details.
Reservoir depth for various joint widths is shown in Table 1. Joint width should be selected to limit movement due to expansion and contraction to no more than 25% of the joint width. After sawing, immediately flush the joints with water to remove a majority of the saw slurry. After the joints have dried, just prior to applying sealant the remaining residue must be removed by sandblasting. Both joint faces must be adequately sandblasted to remove remaining traces of sawing residue. For effective sandblasting, the nozzle should be positioned within 2 inches (5cm)of the surface being cleaned. After sandblasting the joint should be thoroughly cleaned using clean compressed air with a minimum pressure of 90 psi. Moisture and oil traps are required on the compressor unit. The object of the above cleaning operations is to provide vertical, intact, and clean bonding surfaces which are free from all contaminants and are dry. Joints should be carefully inspected to assure that an appropriate level of cleanliness has been achieved. This can be accomplished by rubbing your finger along each joint face. If any evidence of dust and contaminants occur, additional sandblasting should be performed until all dust and contaminants are removed. Alternate cleaning methods that accomplish the same level of cleaning as sandblasting may be considered. Contact Crafco for approval of alternate cleaning methods. Non-water absorptive backer rod of the size specified in Table 1 shall be placed in the joint to the depth listed in Table 1. Do not puncture backer rod during installation because damage can create bubbling in sealant.

SEALANT APPLICATION: RoadSaver Silicone sealant is applied to pavement joints using air powered bulk dispensing systems or standard caulking guns. The applicator unit must be free of all residue left from other brands or types of materials to eliminate contamination and assure proper sealant performance. During application, the sealant is dispensed directly from its container through the applicator hose, wand and nozzle and into the prepared joint. The joint should be filled from the bottom up. RoadSaver Silicone SL sealants are self-leveling and do not require tooling.

RoadSaver Silicone NS sealants are not self-leveling, and must be tooled to the proper geometry. Tooling must be accomplished before the sealant forms a surface skin of cured material (preferably within 5 minutes after application). Tooling may be accomplished using a variety of tools including sections of backer rod, or other appropriately shaped objects. Tooling should be performed so that the sealant is forced against the joint sidewalls and backer rod and so that the sealant forms a recessed concave surface. Minimum recess depths are listed in Table 1. If insufficient recess is achieved, the sealant surface may be exposed to vehicle tire contact and abrasion which can cause loss of adhesion. For optimum performance, the width of the sealant bead should be approximately two times the depth. Sealant bead should be a minimum 1/4 inch (.6cm) thick but no greater than 1/2 inch (1.2cm) thick.

APPLICATION TEMPERATURES AND WEATHER CONDITIONS: During application, pavement and ambient temperature should be a minimum of 40°F (4°C) and the joints must be completely clean and dry for adhesion to fully develop. Sealing should not occur at temperatures below the dew point due to an increased chance of having moist or damp joints.

SEALANT CURING: After application, RoadSaver Silicone sealant will begin to cure and form a surface skin, generally within 30 minutes. Traffic should be kept off the sealed areas until the sealant is "tack free" as indicated by touching. RoadSaver Silicone will cure throughout within 14 days after application to form a strongly bonded long lasting seal.

Note: Air voids may develop with self-leveling sealant if the moisture content of the pavement and ambient temperature are high. This phenomenon generally occurs when the sealant has been applied to joints in green concrete during hot and humid conditions. Warm ambient temperatures accelerate pavement hydration and the release of moisture vapors. These moisture vapors will migrate through partially cured sealant creating air pockets. When the sealant has obtained a full cure no bubbles will develop. A test section should be performed to determine if conditions are adequate so air voids do not develop. Using a non-sag silicone sealant will greatly reduce the risk of air pocket formation. Contact Crafco for further information.

RESEALING JOINT DESIGN AND PREPARATION FOR SEALING: Old sealant should be removed by any appropriate method. After removal of old sealant, the joint is to be saw cut to an appropriate width to provide clean vertical bonding surfaces which are free from contamination by old sealant. As a general rule, the joint should be sawn to a width which is between 1/8 inch and 1/4 inch (3-6mm) wider than the original joint. The recess, sealant bead thickness, backer size, and sawed joint depth shall meet requirements shown in Table 1 for the joint width used. The sandblasting, cleaning and sealing operations above shall then be followed.

CLEAN UP: Uncured sealant can be removed from equipment and tools with solvents such as naphtha or mineral spirits. All

hoses and lines in the application equipment should be flushed immediately after use. Extra RoadSaver Silicone in drums should be covered with the plastic liner to prevent exposure to air and the drums should be closed before storing until the next use.

STORAGE LIFE: Store Crafco RoadSaver Silicone Sealant out of direct sunlight, in a cool, dry location. Sealant should not exceed 90°F (32°C), or be exposed to excessive humidity. Storage life is approximately six months from date of shipment.

SAFETY PRECAUTIONS: Prior to use, please read the RoadSaver Silicone sealant Material Safety Data Sheet for establishing appropriate practices during use and application.

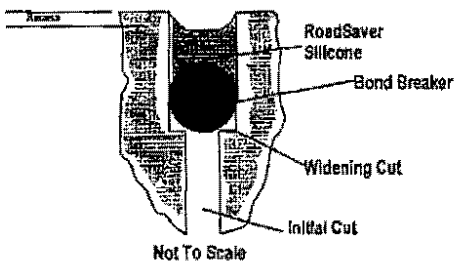
ADDITIONAL INFORMATION: Additional information regarding these products is available by contacting your distributor or Crafco, Inc. This information includes 1) Product Data Sheets, 2) Material Safety Data Sheets, 3) Safety Manual, 4) Sealant Selection Guide.

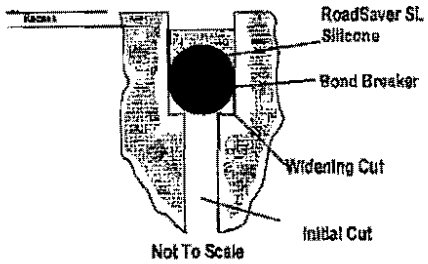
Joint Design Recommendations
for Crafco RoadSaver Silicone Sealants
in Joints in PCC Pavements

*Joint Width	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 3/8"	1 1/2"
Minimum Sealant Recess	1/4"	1/4"	5/16"	5/16"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
Backer Rod Diameter [1]	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"	1 1/2"	1 1/2"	1 3/4"	2"
Sealant Bead Thickness [2,3]	1/4"	1/4"	1/4"	5/16"	3/8"	7/16"	1/2"	1/2"	1/2"	1/2"	1/2"
Minimum Joint Saw/Reservoir Depth	1 1/8"	1 1/4"	1 1/2"	1 3/4"	1 7/8"	2"	2 3/8"	2	2 7/8"	3 1/8"	3 3/8"
Minimum Backer Rod Depth	1/2"	1/2"	5/8"	11/16"	3/4"	13/16"	7/8"	1"	1"	1"	1"
Estimated Usage Non-Sag	245	149	112	70	51	35	26	23	18	16	15
Estimated Usage Self-leveling(ft/gal)	273	172	130	82	58	41	31	27	22	20	19

1 Backer rod diameter should not be varied from specified dimensions. If larger sizes are used, increased saw depth is needed.
2 Sealant bead thickness can vary by ± 25% of design value.
3 Never install Roadsaver Silicone to a depth greater than the joint width (1 to 1).
*Please contact Crafco for additional joint size design recommendations.

TYPICAL JOINT DESIGNS:





ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 81.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: Addison

Description of Submitted Item: Roadsaver Silicone SL

Manufacturer/Sub/Supplier: Primate / Crafco

Related Section / Drawings: Addison

Additional Comments: Silicon Joint Compound for Concrete Paving.
Roadsaver Silicone SL is on the TxDot Approved material List for Concrete Paving

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

Copy: File

CRAFCO™ INC
AN ERGON® COMPANY
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www.crafco.com

PRODUCT DATA SHEET

ROADSAVER SILICONE SL

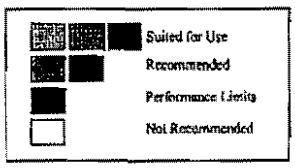
PART NO. 34903

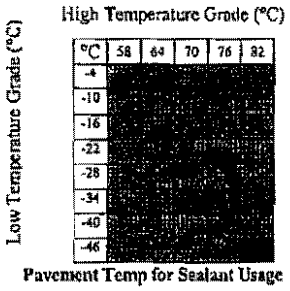
JANUARY 2004

READ BEFORE USING THIS PRODUCT

GENERAL Crafco RoadSaver Silicone SL is a low modulus silicone which offers the performance and durability characteristics of conventional silicone with the ease of installation of self-leveling materials. Crafco Roadsaver Silicone SL is supplied as a ready to use one component moisture curing system which provides a lasting and flexible seal. Crafco Roadsaver Silicone SL offers outstanding weathering resistance, remains flexible down to temperatures as low as -50°F (-46°C), is jet-blast resistant and will maintain field serviceability when exposed to intermittent fuel and oil spills. It bonds strongly to concrete joints without the use of a primer. Crafco Roadsaver Silicone SL can be used in all typical concrete joint applications on highway and airfield pavements in all climates. RoadSaver Silicone sealant is compatible with asphalt pavement. RoadSaver Silicone SL is easily applied to concrete joints using bulk dispensing system units such as those available from manufacturers including Pyles/Graco and Johnstone. The leveling characteristics insure that the required joint wetting for development of appropriate adhesion occurs during application, no tooling is required.

USAGE GUIDELINES RoadSaver Silicone SL pavement temperature performance limits are 32-46 for joint sealing. Usage recommendations are shown in Crafco pavement temperature grade charts shown at the right. Refer to Crafco Product Selection Procedures to determine sealant or filler and pavement temperature grades.





SPECIFICATION CONFORMANCE Crafco RoadSaver Silicone SL conforms to specifications for low modulus silicone for many highway departments and federal agencies. The product also meets and exceeds all requirements of ASTM D5893, "Standard Specification for Cold-Applied Single Component, Chemically Curing Silicone Sealant for Portland Cement Concrete Pavements" for type SL sealants. In the following specifications several of the D5893 parameters are more restrictive to better reflect properties of RoadSaver Silicone SL.

ASTM D5893 Physical Requirements	ASTM D5893 SL Requirements	RoadSaver Silicone SL Requirements
Cure Evaluation	Pass at 21 days	Pass at 21 day max.
Rheological Properties (ASTM C639)	Type 1, smooth level surface	Type 1, smooth level surface
Extrusion Rate (ASTM C1183)	Type S, 50 ml/ min. minimum	Type S, 200 ml/min. minimum
Tack Free Time (ASTM C 679)	5 hr. max.	3 hr. max.
Effects of Heat Aging (ASTM C 792)	10% max. Loss	10% max. Loss
Bond, -29°C (-20°F), 100% Extension		
Non-Immersed	Pass 5 Cycles	Pass 5 Cycles
Water Immersed	Pass 5 Cycles	Pass 5 Cycles
Oven-Aged	Pass 5 Cycles	Pass 5 Cycles
Hardness (ASTM C 661)		
-29°C (-20°C), Type A2	25 max.	10 max.
23°C (73°F), Type 00	30 min.	40-80 min.
Flow	No flow	No flow
Rubber Properties in Tension		
Ultimate Elongation	600% min.	800% min.
Stress at 150% Elongation	310 K pa (45 psi) max.	207 K pa (30 psi) max.
Effects of Accelerated Weathering	Pass 500 hours	Pass at 5000 hours
Resilience	75% min.	75% min.

Additional properties of RoadSaver Silicone SL Sealant are:

Specific Gravity (ASTM D792-A) (1)	1.10-1.40
Adhesion to Concrete (MIL 8802) (2)	20 pli (3.5 kg/cm) min.
Bond and Movement Capability +/- 50% (ASTM C719) (2)	Pass 10 cycles
Bond to Mortar (AASHTO T132) (2)	50 psi (34.4 N/cm^2) min.
Tensile Adhesion, %(ASTM D5329) (3)	600% min.

Notes: (1) Specimens shall be obtained from 1/8 inch (3mm) thickness sheets of material which has been cured for 7 days at 77+/- 3°F (25+/- 2°C) and 50 +/- 5% relative humidity.
(2) Specimens cured for 28 days at 77 +/- 3°F (25+/-2°C) and 50 +/- 5% humidity prior to testing.
(3) Specimens shall be 1/2" x 1/2" x 2" (1.2cm x 1.2cm x 5.0cm), cured 7 days at 77 +/- 3°F (25+/-2°C) and 50% +/- 5% relative humidity.

APPLICATION The unit weight is 10.7 pounds per gallon (1.28 kg/L). One gallon will seal 150 feet (45.7m) of 1/2 inch (1.2cm) wide by 1/4 inch (0.6cm) deep joint. Exact yield will vary depending on thickness of sealant, waste, application techniques, etc. Prior to use, the user must read and follow Application Instructions for RoadSaver Silicone Sealants (January 2002) to verify proper product selections, applicator pumps, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are provided with each drum of sealant.

PACKAGING Roadsaver Silicone SL Sealant is packaged in plastic lined open head 55 gallon (208 L) drums which contain 50 gallons (189 L) of material. Additionally, for small applications the sealant is available in plastic 5 gallon (19 L) pails and quart (.95 L) caulking tubes.

WARRANTY CRAFCO, Inc. warrants that CRAFCO sealants meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing are beyond our control as are the use and application of the sealants; therefore, Crafco shall not be responsible for improperly applied or misused sealants. Remedies against Crafco, Inc., as agreed to by Crafco, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafco, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafco, Inc. whichever is earlier. There shall be no other warranties expressed or implied. **For optimum performance, follow Crafco recommendations for sealant installation.**

CRAFCO INC
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APPLICATION INSTRUCTIONS
ROADSAVER SILICONE SEALANTS

JANUARY 2004

READ BEFORE USING THIS PRODUCT

GENERAL: Crafco RoadSaver Silicone sealants are uniquely formulated low modulus sealants produced for use in sealing joints in portland cement concrete pavements. The sealent are supplied as single component moisture curing materials which provide lasting weather resistant flexible seals. The sealants are supplied in both non-sag and self-leveling (SL) application consistencies.

SEALANT PREPARATION: Crafco RoadSaver Silicone sealants are supplied in a ready to use form, with no mixing or any other preparation required to prepare the sealant for use.

JOINT DESIGN AND PREPARATION FOR SEALING: After appropriate curing of the concrete (a minimum of 7 days is recommended) joint reservoirs for the sealant can be cut into the concrete using appropriate concrete sawing procedures and equipment. In "fast track" or high early strength concrete mixes, it may be possible to saw and seal the joints sooner than the recommended 7 day minimum for standard concrete mixes. Contact Crafco or your representative for further details.
Reservoir depth for various joint widths is shown in Table 1. Joint width should be selected to limit movement due to expansion and contraction to no more than 25% of the joint width. After sawing, immediately flush the joints with water to remove a majority of the saw slurry. After the joints have dried, just prior to applying sealant the remaining residue must be removed by sandblasting. Both joint faces must be adequately sandblasted to remove remaining traces of sawing residue. For effective sandblasting, the nozzle should be positioned within 2 inches (5cm)of the surface being cleaned. After sandblasting the joint should be thoroughly cleaned using clean compressed air with a minimum pressure of 90 psi. Moisture and oil traps are required on the compresser unit. The object of the above cleaning operations is to provide vertical, intact, and clean bonding surfaces which are free from all contaminants and are dry. Joints should be carefully inspected to assure that an appropriate level of cleanliness has been achieved. This can be accomplished by rubbing your finger along each joint face. If any evidence of dust and contaminants occur, additional sandblasting should be performed until all dust and contaminants are removed. Alternate cleaning methods that accomplish the same level of cleaning as sandblasting may be considered. Contact Crafco for approval of alternate cleaning methods. Non-water absorptive backer rod of the size specified in Table 1 shall be placed in the joint to the depth listed in Table 1. Do not puncture backer rod during installation because damage can create bubbling in sealant.

SEALANT APPLICATION: RoadSaver Silicone sealant is applied to pavement joints using air powered bulk dispensing systems or standard caulking guns. The applicator unit must be free of all residue left from other brands or types of materials to eliminate contamination and assure proper sealant performance. During application, the sealant is dispensed directly from its container through the applicator hose, wand and nozzle and into the prepared joint. The joint should be filled from the bottom up. RoadSaver Silicone SL sealants are self-leveling and do not require tooling.

RoadSaver Silicone NS sealants are not self-leveling, and must be tooled to the proper geometry. Tooling must be accomplished before the sealant forms a surface skin of cured material (preferably within 5 minutes after application). Tooling may be accomplished using a variety of tools including sections of backer rod, or other appropriately shaped objects. Tooling should be performed so that the sealant is forced against the joint sidewalls and backer rod and so that the sealant forms a recessed concave surface. Minimum recess depths are listed in Table 1. If insufficient recess is achieved, the sealant surface may be exposed to vehicle tire contact and abrasion which can cause loss of adhesion. For optimum performance, the width of the sealant bead should be approximately two times the depth. Sealant bead should be a minimum 1/4 inch (.6cm) thick but no greater than 1/2 inch (1.2cm) thick.

APPLICATION TEMPERATURES AND WEATHER CONDITIONS: During application, pavement and ambient temperature should be a minimum of 40°F (4°C) and the joints must be completely clean and dry for adhesion to fully develop. Sealing should not occur at temperatures below the dew point due to an increased chance of having moist or damp joints.

SEALANT CURING: After application, RoadSaver Silicone sealant will begin to cure and form a surface skin, generally within 30 minutes. Traffic should be kept off the sealed areas until the sealant is "tack free" as indicated by touching. RoadSaver Silicone will cure throughout within 14 days after application to form a strongly bonded long lasting seal.

Note: Air voids may develop with self-leveling sealant if the moisture content of the pavement and ambient temperature are high. This phenomenon generally occurs when the sealant has been applied to joints in green concrete during hot and humid conditions. Warm ambient temperatures accelerate pavement hydration and the release of moisture vapors. These moisture vapors will migrate through partially cured sealant creating air pockets. When the sealant has obtained a full cure no bubbles will develop. A test section should be performed to determine if conditions are adequate so air voids do not develop. Using a non-sag silicone sealant will greatly reduce the risk of air pocket formation. Contact Crafco for further information.

RESEALING JOINT DESIGN AND PREPARATION FOR SEALING: Old sealant should be removed by any appropriate method. After removal of old sealant, the joint is to be saw cut to an appropriate width to provide clean vertical bonding surfaces which are free from contamination by old sealant. As a general rule, the joint should be sawn to a width which is between 1/8 inch and 1/4 inch (3-6mm) wider than the original joint. The recess, sealant bead thickness, backer size, and sawed joint depth shall meet requirements shown in Table 1 for the joint width used. The sandblasting, cleaning and sealing operations above shall then be followed.

CLEAN UP: Uncured sealant can be removed from equipment and tools with solvents such as naphtha or mineral spirits. All

hoses and lines in the application equipment should be flushed immediately after use. Extra RoadSaver Silicone in drums should be covered with the plastic liner to prevent exposure to air and the drums should be closed before storing until the next use.

STORAGE LIFE: Store Crafco RoadSaver Silicone Sealant out of direct sunlight, in a cool, dry location. Sealant should not exceed 90°F (32°C), or be exposed to excessive humidity. Storage life is approximately six months from date of shipment.

SAFETY PRECAUTIONS: Prior to use, please read the RoadSaver Silicone sealant Material Safety Data Sheet for establishing appropriate practices during use and application.

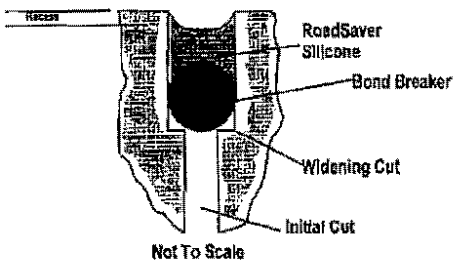
ADDITIONAL INFORMATION: Additional information regarding these products is available by contacting your distributor or Crafco, Inc. This information includes 1) Product Data Sheets, 2) Material Safety Data Sheets, 3) Safety Manual, 4) Sealant Selection Guide.

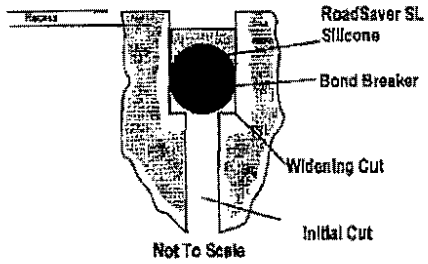
Joint Design Recommendations
for Crafco RoadSaver Silicone Sealants
in Joints in PCC Pavements

*Joint Width	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 3/8"	1 1/2"
Minimum Sealant Recess	1/4"	1/4"	5/16"	5/16"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
Backer Rod Diameter [1]	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"	1 1/2"	1 1/2"	1 3/4"	2"
Sealant Bead Thickness [2,3]	1/4"	1/4"	1/4"	5/16"	3/8"	7/16"	1/2"	1/2"	1/2"	1/2"	1/2"
Minimum Joint Saw/Reservoir Depth	1 1/8"	1 1/4"	1 1/2"	1 3/4"	1 7/8"	2"	2 3/8"	2	2 7/8"	3 1/8"	3 3/8"
Minimum Backer Rod Depth	1/2"	1/2"	5/8"	11/16"	3/4"	13/16"	7/8"	1"	1"	1"	1"
Estimated Usage Non-Sag	245	149	112	70	51	35	26	23	18	16	15
Estimated Usage Self-leveling(ft/gal)	273	172	130	82	58	41	31	27	22	20	19

1 Backer rod diameter should not be varied from specified dimensions. If larger sizes are used, increased saw depth is needed.
2 Sealant bead thickness can vary by ± 25% of design value.
3 Never install Roadsaver Silicone to a depth greater than the joint width (1 to 1).
*Please contact Crafco for additional joint size design recommendations.

TYPICAL JOINT DESIGNS:





Prequalified Joint Sealers

The following producers are prequalified to supply joint sealants by class. Materials with lab numbers represented by dates of manufacture shown below need no job site sampling unless material quality is questioned.

Prequalified Joint Sealers							
Class	**Products**	**Producer**	**Address/Phone No.**	**Contact**	**Lab No.**	**Tested**	**Expires**
2	Sof-Seal Low Modulus Horizontal Sealant 804	W.R. Meadows of Texas, Inc. 99867	P.O. Box 7752 2555 NE 33rd Fort Worth, TX 76111 (817) 834-1969	Andrew W. Tam	C03370028 C02372057 C02370025 C01372028 C01370015 C00372091 C00370015	01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
3	Road Saver 221 Sealant Part No. 34221 809	Crafco, Inc. 99579	6975 W Crafco Way Chandler, AZ 85266 (602) 276-0406	Vern Thompson	C05370040 C04372227 C04370072 C03371953 C03370007 C02372036 C02370007 C01372010 C01370007 C00372083 C00370007	01/01/05 07/01/04 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/05 12/31/04 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
3	Road Saver 222 Sealant Part No. 34222 809	Crafco, Inc. 99579	6975 W Crafco Way Chandler, AZ 85266 (602) 276-0406	Vern Thompson	C05370039 C04370073 C03371951 C03370005 C02372034 C02370005 C01372008 C01370005 C00372081 C00370005	01/01/05 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/05 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
3	Hi-Spec Hot Pour	W.R. Meadows of	P.O. Box 7752	Andrew W. Tam	C04374868	01/01/05	06/30/05

Prequalified Joint Sealers

Class	Products	Producer	Address/Phone No.	Contact	Lab No.	Tested	Expires
	Joint Sealing Compound 809	Texas, Inc. 99867	2555 NE 33rd Fort Worth, TX 76111 (817) 834-1969		C04372114 C03371973 C03370027 C02372056 C02370024 C01372027 C01370014 C00372090 C00370014	07/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	12/31/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
3	CMC 102 809	Crackfiller Manufacturing Corporation 99064	P.O. Box 6738 Cheyenne, WY 82003 (307) 778-8610	Mark Langer	C03370011 C02372040 C02370011 C01372014 C01370019 C00372095 C00370019	01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
3	SealMaster Ind., Inc. 3405 809	SealMaster Ind., Inc. 99219	1801 Lancaster/ Hutchins Rd. P. O. Box 1008 Lancaster, TX 75146 (972) 227-9093	Lee Malone	C03370024 C02372053 C02370021 C01372024 C01370024 C00372099	01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00	06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00
4	Dow Corning 888 810	Dow Corning Corporation 99875	3901 S Saginaw Rd Midland, MI 48686 (517) 496-5799	Rich Palmer	C05370140 C04373972 C03375509 C03371958 C03370012 C02372041 C02370012 C01372015 C01370011 C00372087 C00370011	01/01/05 09/16/04 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/05 12/31/04 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00

Prequalified Joint Sealers							
Class	**Products**	**Producer**	**Address/Phone No.**	**Contact**	**Lab No.**	**Tested**	**Expires**
4	Non-Sag 810	Crafco, Inc. 99579	6975 W Crafco Way Chandler, AZ 85266 (602) 276-0406	Vern Thompson	C05370034 C04373023 C03371954 C03370008 C02372037 C02370008 C01372011 C01370008 C00372084 C00370008	01/01/05 07/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/05 12/31/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
4	DSB1800 810	D.S. Brown Co. 99511	300 E. Cherry St. North Baltimore, OH 45872 (651)-748-8114	Ben Jacobus	C05371356	04/01/05	06/30/05
4	301 Non-Sag 810	Pecora 99981	165 Wambold Rd. Harleysville, PA 19438 (215) 723-6051	Roy Cannon	C05370309 C04370184 C03371966 C03370020 C02372049 C02370030	01/01/05 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02	06/30/05 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02
4	Tremco 810 Spectrem 800	Tremco, Inc. 99083	3777 Green Rd. Beachwood, OH 44122 (216) 766-5680 Fax (216) 765-6737	Ta-Min Feng	C04374746 C04371979 C03375499 C03371971 C03370025 C02372054 C02370022 C01372025	01/01/05 07/01/04 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01	06/30/05 12/31/04 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01
5	Dow Corning 890SL 810	Dow Corning Corporation 99875	3901 S Saginaw Rd Midland, MI 48686 (517) 496-5799	Rich Palmer	C05370139 C04373971 C03375510 C03371960 C03370014	01/01/05 09/16/04 01/01/04 07/01/03 01/01/03	06/30/05 12/31/04 06/30/04 12/31/03 06/30/03

Prequalified Joint Sealers							
Class	**Products**	**Producer**	**Address/Phone No.**	**Contact**	**Lab No.**	**Tested**	**Expires**
					C02372043	07/02/02	12/31/02
					C02370014	01/01/02	06/30/02
					C01372017	07/01/01	12/31/01
					C01370013	01/01/01	06/30/01
					C00372089	07/01/00	12/31/00
					C00370013	01/01/00	06/30/00
5	Pecora 300 SL 810	Pecora Corp. 99981	165 Wambold Rd. Harleysville, PA 19438 (215) 723-6051	Roy Cannon	C03371964	07/01/03	12/31/03
					C03370018	01/01/03	06/30/03
					C02372047	07/01/02	12/31/02
					C02370028	01/01/02	06/30/02
					C01372031	06/21/01	12/31/01
5	Sika 810	Sika Corp. 99572	6122 Rachel's Court Katy, TX 77494 (281) 693-2121	Greg Reisz	C03370021	01/01/03	06/30/03
					C02372050	07/01/02	12/31/02
					C02370018	01/01/02	06/30/02
					C01372021	07/01/01	12/31/01
					C01370020	01/01/01	06/30/01
					C00372096	07/01/00	12/31/00
					C00370021	01/01/00	06/30/00
5	Sika 15LM SL 810	Sika Corp. 99572	6122 Rachel's Court Katy, TX 77494 (281) 693-2121	Greg Reisz	C04374648	01/01/05	06/30/05
					C03370022	01/01/03	06/30/03
					C02372051	07/01/02	12/31/02
					C02370019	01/01/02	06/30/02
					C01372022	07/01/01	12/21/01
					C01370021	01/01/01	06/30/01
5	Tremco 810 Spectrem 900 SL	Tremco, Inc. 99083	3777 Green Rd. Beachwood, OH 44122 (216) 766-5680 Fax (216) 765-6737	Ta-Min Feng	C04374745	01/01/05	06/30/05
					C04371980	07/01/04	12/31/04
					C03375498	01/01/04	06/30/04
					C03371972	07/01/03	12/31/03
					C03370026	01/01/03	06/30/03
					C02372055	07/01/02	12/31/02
					C02370023	01/01/02	06/30/02
					C01372026	07/01/01	12/31/01
7	Dow Corning 902RCS	Dow Corning	3901 S Saginaw Rd	Rich Palmer	C05370141	01/01/05	06/30/05

Prequalified Joint Sealers

Class	Products	Producer	Address/Phone No.	Contact	Lab No.	Tested	Expires
	810	Corporation 99875	Midland, MI 48686 (517) 496-5799		C04373973 C03375511 C03371959 C03370013 C02372042 C02370013 C01372016 C01370012 C00372088 C00370012	09/16/04 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	12/31/04 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
7	Watson/Bowman 810	Watson Bowman 99968	3414 Blue Candle Drive Spring, TX 77388 (281) 651-8394	Jay Waddock	C04371668 C03375541 C03370030 C02372059 C02370027 C01372030 C01370023 C00372098 C00370023	07/01/04 01/01/04 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	12/31/04 06/30/04 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
[redacted]	Crafco Road Saver SL Part No. 34903 810 (Portland cement concrete jts. Only)	Crafco, Inc. 99579	6975 W Crafco Way Chandler, AZ 85266 (602) 276-0406	Vern Thompson	C05370035 C04373022 C04370452 C03371952 C03370006 C02372035 C02370006 C01372009 C01370006 C00372082 C00370006	01/01/05 07/01/04 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/05 12/31/04 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
[redacted]	DSB 900SL 810	D.S. Brown Co. 99511	300 E Cherry St North Baltimore, OH 45872	Ben Jacobus	C03371857	04/01/05	06/30/05

Prequalified Joint Sealers

Class	Products	Producer	Address/Phone No.	Contact	Lab No.	Tested	Expires
			(651)-748-8114				
8	Pecora SL Low Modulus 810	Pecora Corp. 99981	165 Wambold Rd. Harleysville, PA 19438 (215) 723-6051	Roy Cannon	C05370308	01/01/05	06/30/05
					C04370185	01/01/04	06/30/04
					C03370019	01/01/03	06/30/03
					C02372048	07/01/02	12/31/02
					C02370029	01/01/02	06/30/02
					C01372032	08/01/01	12/31/01
8	Sika 15LM SL 810	Sika Corp. 99572	6122 Rachel's Court Katy, TX 77494 (281) 693-2121	Greg Reisz	C04374649	01/01/05	06/30/05
					C04372182	07/01/04	12/31/04
					C04370458	01/01/04	06/30/04
					C03371968	07/01/03	12/31/03
					C03370022	01/01/03	06/30/03
					C02372051	07/01/02	12/31/02
					C02370019	01/01/02	06/30/02
					C01372022	07/01/01	12/21/01
					C01370021	01/01/01	06/30/01

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

July 5, 2005

Originator: Andrew Scheermann

RFI Number: R-AW0101

Subject: **Light Pole Template conflict with pennant**

Request:

Please Reference Plan Sheets 306 & 303 and attached sketch

Archer Western has discovered that the bottom template for the light pole anchor bolts is in conflict with the pennant. The Template extends approximately ½" past the face of the pennant.

Please provide a solution for this conflict as soon as possible as not to delay the project.

Response/Action Taken:

As discussed on July 1st, Archer Western is directed to install the anchor bolt pattern for the South traffic rail with the offset towards the traffic face - ½" off center of the T-4 rail. (Opposite of sketch provide by Archer Western) It's requested that the area of the embedded anchor bolt template near the pennant be cold spray galvanized to prevent rusting due to minimum concrete coverage.

The Light pole for the North traffic rail should be centered on the T-4 rail concrete.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: July 5, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
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www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

July 5, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW073**

Subject: **Power Source for load distribution centers A & B**

Request:

Please Reference the Revised Plan Sheets 335

Please provide details on the locations and routing of the power sources for load distributing centers (LDC) A at Bent 11 and LDC B at Bent 8.

Please provide information at your earliest convenience.

Response/Action Taken:

In response to the location of the power sources for the Bridge lighting, please reference contract plan sheets BL-6 &7, pages 327 & 328. The electrical service drop will be located near Station 58+50. The power sources for LDC A at Bent 11 will be provided by the conduit run from GB3 at Bent 8 underground and under Midway Rd. to GB 7 at Bent 11 as shown on sheetBL-22 & 23, page 343 &344.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: July 5, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: Addison Road Traffic Control Plan

July 1, 2005

Dear Ben:

The submitted traffic control plan for Addison Road was review and accepted by the Town of Addison.

Although this plan is acceptable, the Town has requested that Archer Western Contractors not close any lanes along Addison Road or Arapaho Road until after July 3rd due to the Special Event which will occur on Sunday evening, "20th Annual Addison Kaboom Town". The Town thanks you for all your cooperation.

A reminder to Archer Western Contractors to continue to meet the requirement in the General Traffic Control Notes found on the Contract Drawing, sheet TC-1, page 27.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
File

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

June 27, 2005

Originator: Andrew Scheermann

RFI Number: R-AW0107

Subject: Surveyor Tie in Conflict

Request:

Please Reference the Revised Plan Sheets 41 & 54

The Revised Plan Sheets 41 and 54, transmitted June 29, 2005, modifying the grades at the Arapaho/Surveyor Intersection still have a drainage problem. Based on field as-builts of Surveyor Blvd. and the modified plan grades will produce a "Pond" at STA 34+84.49; 107.24' O/S Lt just west of the Driveway into the Addison Pump Station.

Please review and provide a resolution as soon as possible as not to delay the project.

Response/Action Taken:

In response Archer Western Contractors, Ltd. has found that the revise contract plans are causing a ponding issue, after review of the reissued contract plans with the provide T/C elevation and gutter elevation, there is no provide contour grade that would create a ponding issue.

If Archer Western has found a conflict with the original elevation provide as existing elevation in the drainage and roadway plans, HNTB would request Archer Western to provide these found elevation/(conflicts), so a solution can be provided to Archer Western.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: June 30, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

Archer Western Contractors, Ltd.
Arapaho Road Phase III
Job No. 204059

REQUEST FOR INFORMATION

PROJECT No. **Arapaho Phase III**

RFI # 109

Date : July 5, 2005

Submitted To	Submitted By
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen	Archer Western Contractors, Ltd. Andrew Schneemann

Subject	Discipline	Co-Author	Copies To
Surveyor Tie in Conflict - As- Built Elevations	Civil	Tim Sparks S&J Electric	

Cost Impact	Amount	Schedule Impact	Days	Drawing Impact
Unknown	Unknown	Unknown	Unknown	Unknown

Information Requested

Please Reference the attached Sketches of the Type C-1 Light Fixture in the T-4 Rail

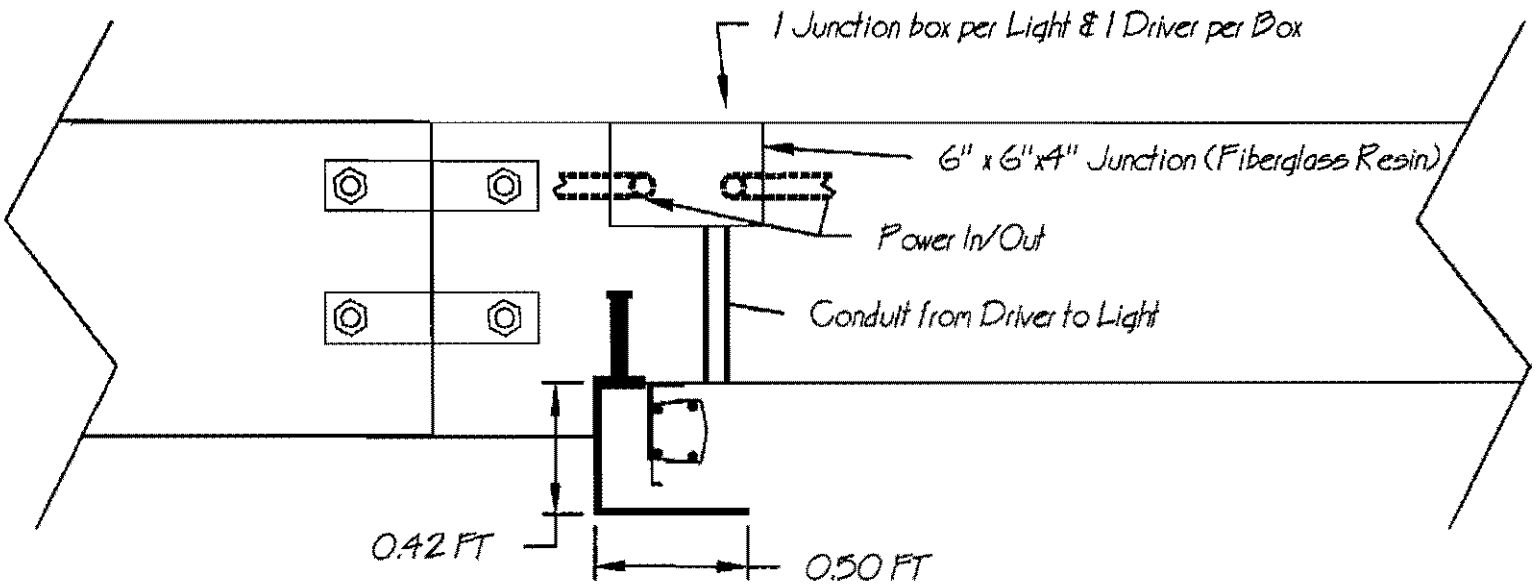
In review of the attached Sketch '1', you will notice that the reflector as specified in the contract plans is in conflict with the approved Type C Lights and Bracket. Sketch '2' shows modifications as discussed in the owners meeting. The modifications shown in Sketch '2' will minimize light maintance issues.

Please direct Archer Western and S&J on how to proceed with lighting issue.

Please respond as soon as possible as not to further delay the project.

Response

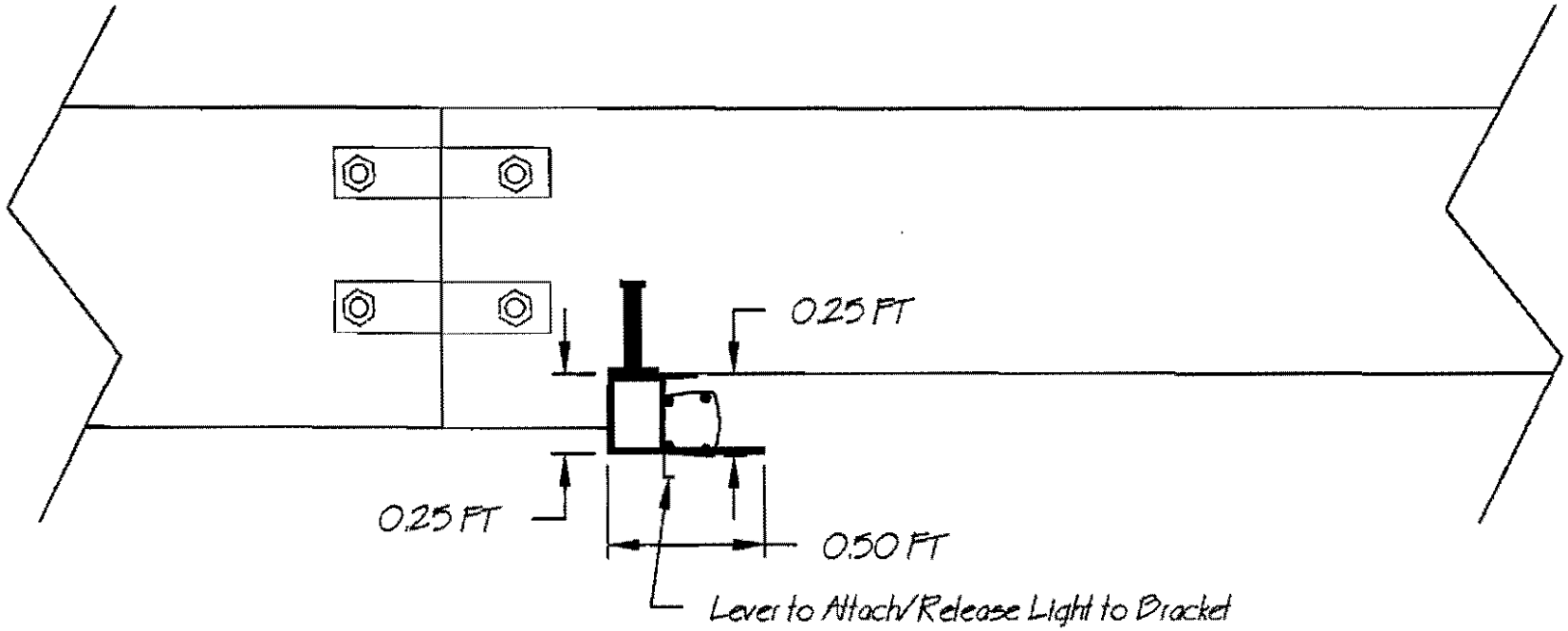
RFI 109



Proposed Type C 1 Lights Configuration

Sketch 2

RFI 109



Type C 1 Lights As Per Contract Drawings

SKETCH 1

Archer Western Contractors, Ltd.
Arapaho Road Phase III
Job No. 204059

REQUEST FOR INFORMATION

PROJECT No. **Arapaho Phase III**

RFI # 105

Date : July 5, 2005

Submitted To	Submitted By
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen	Archer Western Contractors, Ltd. Andrew Schneemann

Subject	Discipline	Co-Author	Copies To
Bridge lighting Conduit Location	Civil	S&J Electrical	

Cost Impact	Amount	Schedule Impacts	Days	Drawing Impact
Unknown	Unknown	Unknown	Unknown	Unknown

Information Requested

Please Reference the attached sheets showing as bid and proposed conduit location.

Archer Western and S&J Electric have compiled the attached sheets, showing the revised bridge conduit locations as discussed with the Town of Addison and HNTB. The conduit material changes in many instances. We understand that the material will be paid under the appropriate pipe material bid items.

Please confirm these revised conduit location.

Response

Conduit Layout per Plans

South T-4 Rail				South Edge of Decking				North T-4 Rail				North Edge of Decking			
Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description
3/4" PVC	E&F	335	Receptacles	3/4" RMC	D	335	A-2 Fixtures	3/4"PVC	G	335	E-1&A-1 Fixture	3/4"RMC	C&D	339	C-1 Drivers
3/4" PVC	E	343	F-2 thru F-20 Even	3/4"RMC	E&F	339	C-2 Fixtures	3/4"PVC	H&J	335	Receptacles	3/4"RMC	Output	339	C-1 Output
				3/4"RMC	B	341	B Fixtures	3/4"PVC	D	343	F-5 - F-19,G-7,8,9	3/4"RMC	A	341	B Fixtures
				3/4"RMC	B Control	341	B Fixture Cntrl	3/4"PVC	C	343	F-1, F-3, G-1-6	3/4"RMC	B Control	341	B Fixture Cntrl
				3/4"RMC	Output	339	C-2 Fixt. Output								
Total Conduits: 2				Total Conduits: 5				Total Conduits: 4				Total Conduits: 4			

Proposed Conduit Layout

South T-4 Rail				South Edge of Decking				North T-4 Rail				North Edge of Decking			
Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description
3/4" PVC	E&F	335	Receptacles					3/4" PVC	G	335	E-1&A-1 Fixture	3/4" RMC	C&D	339	C-1 Drivers
3/4" PVC	E	343	Type F (F2-F20 Even)					3/4" PVC	H&J	335	Receptacles	3/4" RMC	Output	339	C-1 Output
3/4" PVC	B	341	Type B Fixtures					3/4" PVC	D	343	F-5 - F-19,G-7,8,9				
3/4" PVC	B Control	341	Type B Fixture Cntrl					3/4" PVC	C	343	F-1 -F-3, G-1-6				
3/4" PVC	E&F	339	C-2 Fixtures					3/4" PVC	A	341	B Fixtures				
3/4" PVC	Output	339	C-2 Fix. Output					3/4" PVC	B Control	341	B Fixture Cntrl				
3/4" PVC	D	335	A-2 Fixtures												
Total Conduits: 7				Total Conduits: 0				Total Conduits: 6				Total Conduits: 2			

Note
Specific section of the T-4 Rail, where more than five conduits will be present at one time the two conduits for the type B fixtures will be run in the bridge deck (span 9)

Note
Specific section of the T-4 Rail, where more than five conduits will be present at one time the two conduits for the type B fixtures will be run in the bridge deck (span 9)

\c	turn off special meaning of character c
^	beginning of line
$	end of line
.	any single character
:a	any alphabetical character [a-z|A-Z]
:d	any digit [0-9]
:n	any alphanumeric character [a-z|A-Z|0-9]
:<space>	A colon followed by a space also matches any punctuation character
[...]	any one of the characters in ...; ranges such as a-z are legal
[^...]	any single character not in ...; ranges are legal
s*	zero or more occurrences of string s
s+	one or more occurrences of string s
st	string s followed by string t

In Cells

If on, specifies a search for text in cells.

Fractions

If on, specifies a search for fractions.

Find

Clicking the Find button locates the specified text.

Change

Clicking Change replaces the text element in the Find field with the text element from the With field.

Change All

Clicking Change All replaces all the specified text elements in the design file.

Change Fence

Clicking Change Fence replaces the text elements that match the current Fence search criteria.

Change Single

Clicking Single replaces a single text element in the design file, as identified by the user.

Archer Western Contractors, Ltd.
Arapaho Road Phase III
Job No. 204059

REQUEST FOR INFORMATION

PROJECT No. **Arapaho Phase III**

RFI # 109

Date : July 5, 2005

Submitted To	Submitted By
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen	Archer Western Contractors, Ltd. Andrew Schneemann

Subject	Discipline	Co-Author	Copies To
Type C Light Fixtures / Reflector Conflict	Civil	Tim Sparks S&J Electric	

Cost Impact	Amount	Schedule Impact	Days	Drawing Impact
Unknown	Unknown	Unknown	Unknown	Unknown

Information Requested

Please Reference the attached Sketches of the Type C-1 Light Fixture in the T-4 Rail

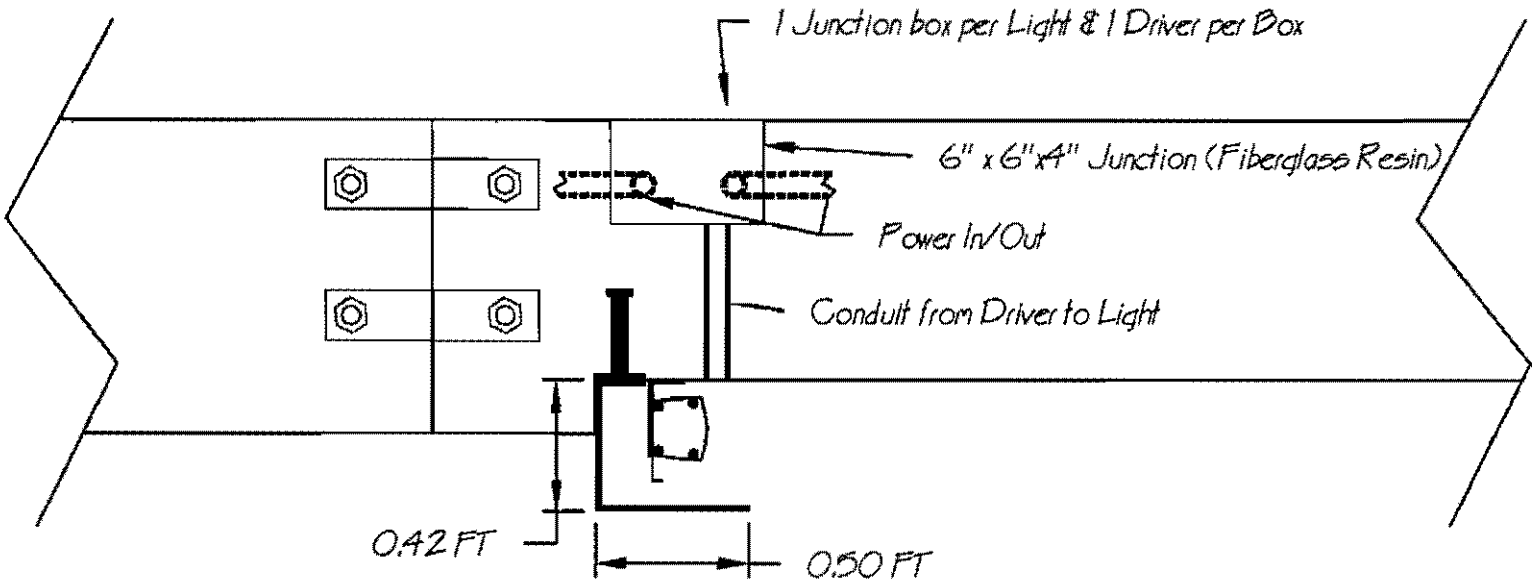
In review of the attached Sketch '1', you will notice that the reflector as specified in the contract plans is in conflict with the approved Type C Lights and Bracket. Sketch '2' shows modifications as discussed in the owners meeting. The modifications shown in Sketch '2' will minimize light maintenance issues.

Please direct Archer Western and S&J on how to proceed with lighting issue.

Please respond as soon as possible as not to further delay the project.

Response

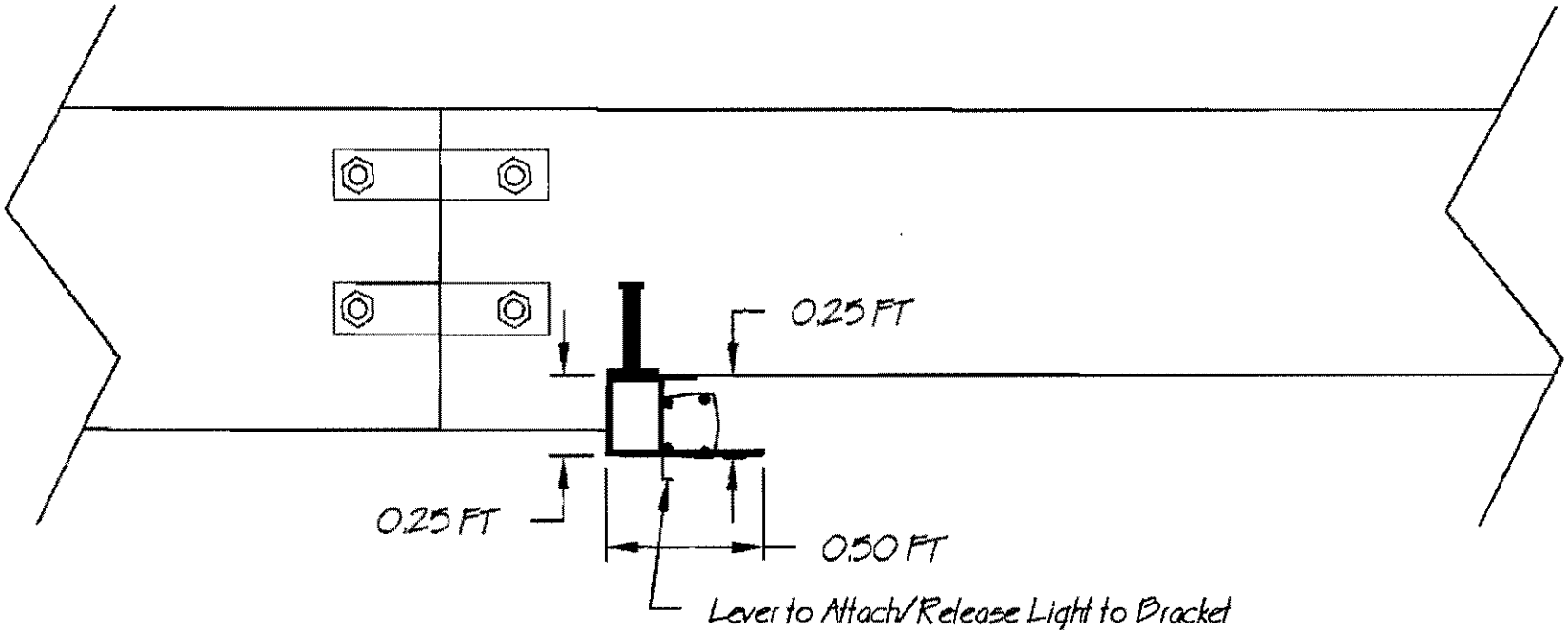
RFI 109



Proposed Type C 1 Lights Configuration

SKETCH 2

RFI 109



Type C 1 Lights As Per Contract Drawings

SKETCH 1

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 8, 2005

Submittal # : 65.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: Town of Addison / Plan Sheet DT-03

Description of Submitted Item: Decomposed Granite - Product Summary Report & Samples

Manufacturer/Sub/Supplier: Martin Marietta

Related Section / Drawings: Town of Addison / Plan Sheet DT-03

Additional Comments: The Decomposed Granite will mixed with Type I/II Cement
Include 2 Bags of Material

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 8, 2005

Engineer's Stamp

Copy: File

Martin Marietta Materials

Product Quality Summary Report

Arapaho Road Phase III Submittal for Decomposed Granite

Plant:	32	Mill Creek
		Decomposed Granite
		DG01
5/8"(16)		100.0
3/8"(9.5)		89.9
#4(4.75)		58.4
#8(2.36)		46.7
#40(0.425)		30.7
#200(0.075)		9.70
PAN(0)		0.00
Plasticity Index		7

Product Quality Summary Report

Arapaho Road Phase III Submittal for Decomposed Granite

Plant: 32 **Mill Creek**

Comments: This gradation is for information only. This material is sold exclusively for landscaping purposes. Samples are available prior to shipment.

Query: Query Selections:
Report Created: 09/02/2004 10:07
Date Range: 09/01/2001 - 09/02/2004

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 83.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Double Check Valve

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810 - 7

Additional Comments: Watts - Series 007 QT

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

- ☑ **No Exception Taken**
- ☐ **Make Corrections Noted**
- ☐ **Amend and Resubmit**
- ☐ **Rejected - See Remarks**

HNTB Corporation

By JEK **Date** 7/7/05

Copy: File

Sub 83,1

02810 - 7.

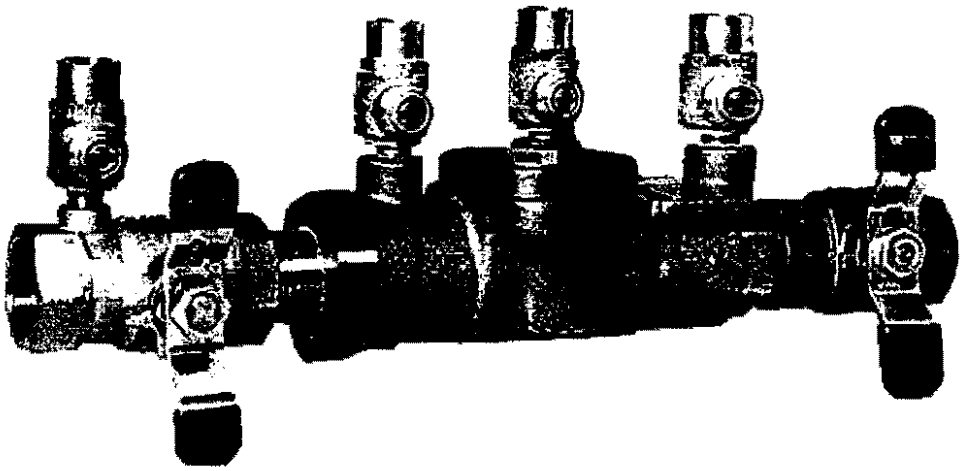
Click Here to Print Page

WATTS® INDUSTRIES

007 QT Series Double Check Valve

Primary Application

Series 007 QT Double Check valve is installed to prevent the backflow of polluted water into the potable water supply. The valve meets the requirements of ASSE Std. 1015 and AWWA Std. C510.



Features:

- One piece bronze body - unibody.
- Lightweight.
- Shorter end to end dimensions.
- Male by male connections - no adapters.
- Working temperature rating up to 180°F.
- Replaceable seats and seat discs.
- Captured stainless steel springs.
- Top access all parts.

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 79.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference:	02810 - Irrigation System
Description of Submitted Item:	Roto Sprinkler Heads
Manufacturer/Sub/Supplier:	American Landscape Systems
Related Section / Drawings:	02810 - 13 B
Additional Comments:	Model I-20 Will be used in areas denoted in plans for roto heads

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

- ☑ **No Exception Taken**
- ☐ **Make Corrections Noted**
- ☐ **Amend and Resubmit**
- ☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

Copy: File

Submittal 79.1

Click Here to Print Page

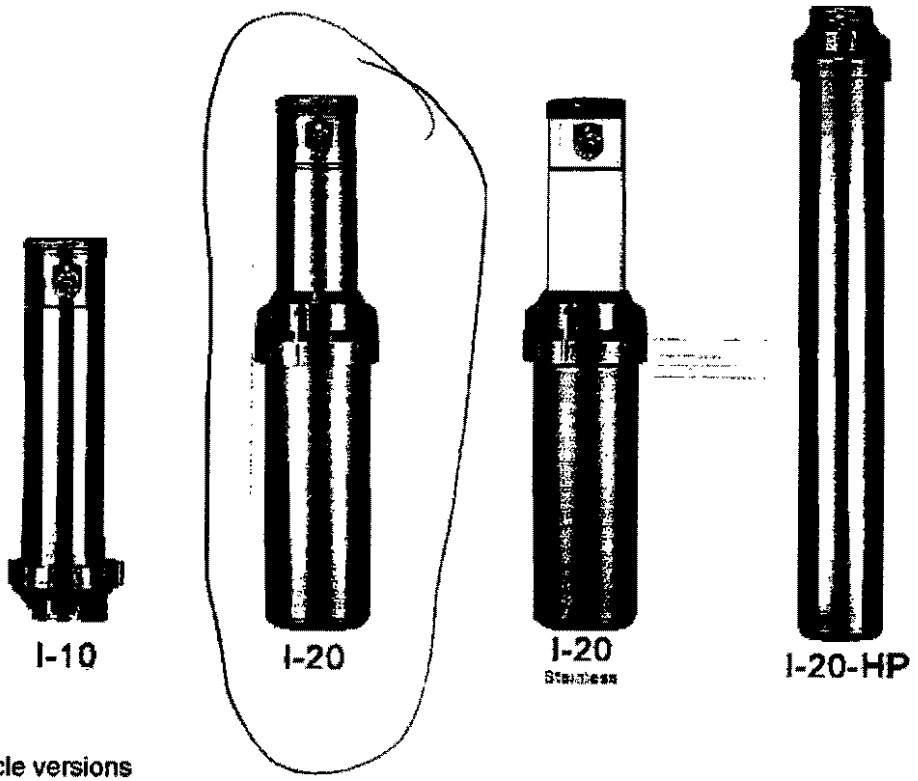
02810-13 B

To be used in areas as Detailed on Plans for ROTO Heads

Hunter®

I-10 & I-20 *Ultra* Rotors

Upgrade to heavy duty, commercial grade features in a sprinkler that's ideal for residential and commercial projects.

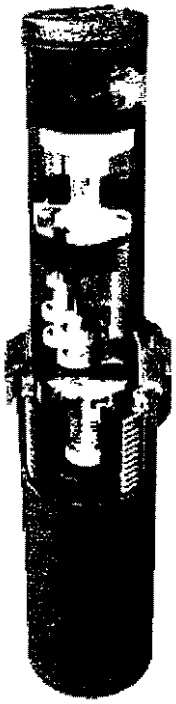


- Models: Shrub and 4" (10 cm) and 12" (30cm) Pop-ups (optional stainless steel riser on 4" pop-up model)
- Radius: 25' to 51' (7,6 to 15,5 m)
- Discharge rate: .9 to 8.2 GPM (0,20 to 1,86 m3/hr; 3,4 to 31,0 l/min)
- Arc: Adjustable or Full-Circle versions
- Inlet: 3/4"
- Nozzles: 12 interchangeable nozzles (8 standard and 4 low angle)
- FloStop(TM) Control allows stoppage of flow at an individual head

The Industrial-Strength Rotor for Residential and Commercial Use

If you're looking to upgrade over a typical residential grade rotor, this is where the search ends. No other rotor in its class gives you more. Like easy arc adjustment right at the top of the sprinkler, a heavy duty spring with reliable retraction, and a standard water-saving drain check valve that handles up to 10 feet of elevation change. Plus, we now include a rack of nozzles that includes both standard and low angle nozzles (the ideal solution for virtually any landscape situation), as well as the new FloStop(TM) feature that provides the added convenience of easily stopping water flow through a single head without turning off the entire system. With its ultra-sturdy construction, rest assured you've got a product that's sure to endure - it's even protected by a full five-year warranty! But, for those who still want more, be sure to consider our stainless steel option.

FEATURES AND BENEFITS



Integral rubber cover

Stays put to keep play areas safe

Full rack of 8 standard and 4 low angle nozzles

Continuously improved, honest performance, superior close-in coverage (now with key-lock installation)

NEW! FloStop(TM) Control

Allows stoppage of flow through an individual head while remainder of system is running

Easy arc adjustment (40 - 360)

Right at the top of the sprinkler

Continuously improved gear drive

Backed by over a decade of proven reliability

Commercial grade spring

Reliable retraction every time

Drain check valve for up to 10' elevation change

Saves water, reduces liability

Nozzle	PSI	Radius ft	GPM
1.0	30	30'	9
	40	31'	1.0
	50	**31'**	**1.2**
	60	32'	1.3
1.5	30	32'	1.2
	40	33'	1.4
	50	**34'**	**1.6**
	60	34'	1.8
2.0	30	34'	1.6
	40	36'	1.8
	50	**38'**	**2.0**
	60	38'	2.2
3.0	30	36'	2.0
	40	38'	2.4
	50	**40'**	**2.7**
	60	40'	2.9
3.5	30	36'	2.6
	40	40'	3.0
	50	**42'**	**3.4**
	60	42'	3.7
4.0	30	37'	3.2
	40	40'	3.7
	50	**43'**	**4.2**
	60	44'	4.6
6.0	30	38'	4.2
	40	43'	4.9
	50	**46'**	**5.5**
	60	47'	6.0
8.0	40	46'	6.0
	50	48'	6.8
	60	**49'**	**7.6**
	70	51'	8.2

Nozzle	PSI	Radius ft	GPM
2.0 LA	30	25'	1.6
	40	27'	1.9
	50	**28'**	**2.1**
	60	30'	2.3
2.5 LA	30	27'	2.1
	40	30'	2.5
	50	**33'**	**2.8**
	60	35'	3.0
3.5 LA	30	29'	2.8
	40	32'	3.1
	50	**35'**	**3.5**
	60	37'	3.8
4.5 LA	30	31'	3.4
	40	34'	3.9
	50	**37'**	**4.4**
	60	39'	4.7

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 77.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Round Box

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810 - 12 D

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

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☑ **No Exception Taken**
☐ **Make Corrections Noted**
☐ **Amend and Resubmit**
☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

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Sub 77.1

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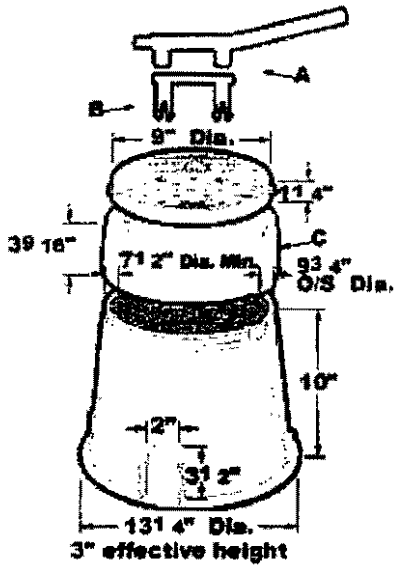
02810-12D

AMETEK ACCESS BOXES

10" Round Box



Today, AMETEK, Inc. Access Boxes are considered to be the best - within significant irrigation industries. An independent crush test at the University of Wisconsin Engineering Test Lab showed the AMETEK, Inc. Product to be much stronger than all of its competitors.

Meter Boxes are manufactured in five major sizes. They have extensions, a variety of names and colors, and various applications in the turf irrigation, waterworks and electrical industries. Boxes are available in green, black, gray, tan, red brick and mulch brown. Lids come labeled with "Control Valve," "Water Meter," "CATV," "Sewer" and "Telephone."

	UNIT	SKID	
NAME	WT.	QTY.	WT.
Assembly	4.6 lbs.	135	660 lbs.
Box Only	3.4 lbs.	135	500 lbs.
Lid Only	1.2 lbs.	650	820 lbs.
Extension	1.2 lbs.	200	280 lbs.
Handle	1.2 oz.	-	-

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SUBMITTAL

Date: June 28, 2005 **Submittal # :** 78.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Quick Connect Valve

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810 - 12 D

Additional Comments: Model QB3SBL07
Model now made with Stainless Steel lid Not Brass

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

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- ☐ Make Corrections Noted
- ☑ Amend and Resubmit
- ☐ Rejected - See Remarks

HNTB Corporation

By JRK Date 7/7/05

* MUST BE MODEL QCV075 PER SPECIFICATIONS.

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S/b 78.1 7085 02810-12D

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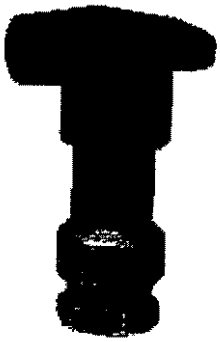
Buckner

Equation Series

Model QB3SBL07

Quick Coupling Valve One Piece Models



QB5NP10
1" One-piece Quick Coupling Valve with Non-potable Lavender TuffTop™ Locking Lid

Description

Quick Coupling Valves are available in ¾" , 1" and 1½" inlet sizes. They are used where a water outlet is required for possible irrigation or wash-down.

Application

Quick Coupler Valves offer economical irrigation of large turf areas and provide for future conversion to pop-up rotors. They are also used where supplemental watering or wash-down is required.

Features

- Available in ¾" , 1" and 1½" Female NPT inlet.
- Lid stays closed by strong positive-action spring.
- High visibility TuffTop™ or brass lids available.
- Constructed of solid red brass for durability, economy and recyclability.
- Corrosion resistant stainless steel spring and self-flushing brass plunger.
- Wrench flats at base for easy installation.
- Drain hole in body to minimize debris collection.
- Chevron-shaped wiper seal to reduce leakage around key while inserted.
- Self cleaning seal design.
- Brass plunger and stainless steel spring to eliminate corrosion.
- Available locking lid for vandal resistance and non-potable application.
- Flow ranges from 5 to 100 gpm.
- Handles pressures up to 150 psi.
- Locking rubber lid (use with TLK lock top key).
- Lavender TuffTop™ locking lid for non-potable water (NP).
- Optional British Standard Threaded version available (BS).
- Five-year warranty.

Specifications

The quick coupling valve shall be a one piece type using a [single, double] slot keyway. The valve body and coupler key shall be made of cast red brass. The lid shall be made of brass or polypropylene. The seat disc plunger shall be spring-loaded to maintain the valve in a closed position at zero inlet pressure. Coupler seal shall be removable from the top while valve is under pressure. The lid shall be spring loaded for positive closing and made of 302 stainless steel spring temper cres wire.

The TuffTop™ shall be capable of locking (and unlocking with the use of a (TLK) key, which prevents unwanted use of the Quick Coupling valve.

The valve shall have a _____ inch inlet and be capable of _____ gpm flow at _____ psi maximum pressure loss. The valve shall be opened and closed by a [single, double] lug coupler key having a _____ inch Male NPT outlet thread, and/or a _____ inch Female NPT outlet thread.

Note: All irrigation systems should be properly filtered to eliminate contaminants. Chemical pollutants may also be hazardous to valve life and operation. Be sure to determine the fitness of any product for its application.

To Specify:

QB5	NP	10	BS	
Model	Lid	Size	Option	Option

Quick Coupling Valves - One Piece

Model Descriptions

Model No.	Two-Piece, Anti-rotation	Dimensions
QB3RC07	3/4", double slot, yellow TuffTop™	Height 4 3/8" Width 2 3/8"
QB3BL07	3/4", double slot, brass lid - spring loaded	
QB3SBL07	3/4", single slot, brass lid - spring loaded — SS 4.10	
QB3LRC07	3/4", double slot, locking yellow TuffTop™	
QB3NP07	3/4" double slot, locking lavender TuffTop™	
QB5RC10	1", double slot, yellow TuffTop™	Height 5 3/8" Width 3 3/8"
QB5BL10	1", double slot, brass lid - spring loaded	
QB5LRC10	1", double slot, locking yellow TuffTop™	
QB5NP10	1", double slot, locking lavender TuffTop™	
QB7RC15	1 1/2", double slot, yellow TuffTop™	Height 5 7/8" Width 3 7/8"
QB7BL15	1 1/2", double slot, brass lid - spring loaded	
QB7LRC15	1 1/2", double slot, locking yellow TuffTop™	
QB7NP15	1 1/2", double slot, locking lavender TuffTop™	

Coupler Key for One-Piece Quick Coupler	
QB33K07	3/4" Male & 1/2" Female, single lug for QB3RC07, QB3BL07, QB3LRC07, QB3NP07, QB3RCAR07, QB3BLAR07, QB3LRCAR07, QB3NPAR07
QB33SK07	3/4" Male & 1/2" Female, single lug for QB3SBLO7
QB55K10	1" Male & 3/4" Female, double lug for QB5RC10, QB5LRC10, QB5BL10, QB5NP10, QB5RCAR10, QB5BLCAR10, QB5BLAR10, QB5NPAR10
QB7DK15	1 1/2" Male & 1" Female, double lug for QB7RC15, QBBL15, QB7NP15, QB7LRC15, QB7RCAR15, QB7BLAR15, QB7NPAR15
TLK	Lock top key for quick coupling valves

QB - One-Piece Body Design

Pressure Loss in PSI			
GPM	All QB3 Series	All QB5 Series	All QB7 Series
5.0	0.8	-	-
10.0	1.8	-	-
15.0	4.1	-	-
20.0	7.2	1.0	-
30.0	-	3.0	-
40.0	-	6.3	-
50.0	-	9.2	2.6
60.0	-	13.0	3.6
70.0	-	-	4.9
80.0	-	-	6.6
100.0	-	-	11.0

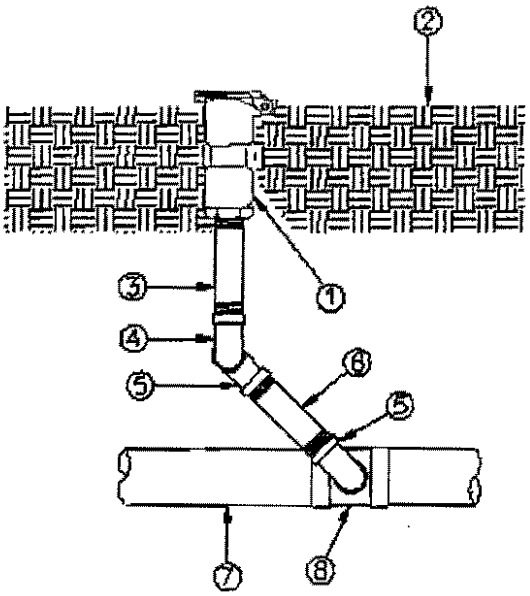
Pressure Loss in Bars			Metric
m^3/hr	All QB3 Series	All QB5 Series	All QB7 Series
1.13	0.05	-	-
2.25	0.12	-	-
3.38	0.28	-	-
4.50	0.49	0.07	-
6.75	-	0.20	-
9.00	-	0.43	-
11.25	-	0.63	0.19
13.50	-	0.88	0.24
15.75	-	-	0.33
18.00	-	-	0.45
22.50	-	-	0.75

Pressure Loss in kPa			Metric
l/m	All QB3 Series	All QB5 Series	All QB7 Series
19	5.5	-	-
38	12.4	-	-
57	28.2	-	-
76	49.5	6.9	-
114	-	20.6	-
152	-	46.3	-
190	-	83.6	19.3
228	-	89.4	24.8
266	-	-	33.7
304	-	-	45.4
380	-	-	75.6

Installation

Install all QVC's on swing joint assemblies and hand tighten. Use only Teflon tape as sealant. Position and level as required to grade.

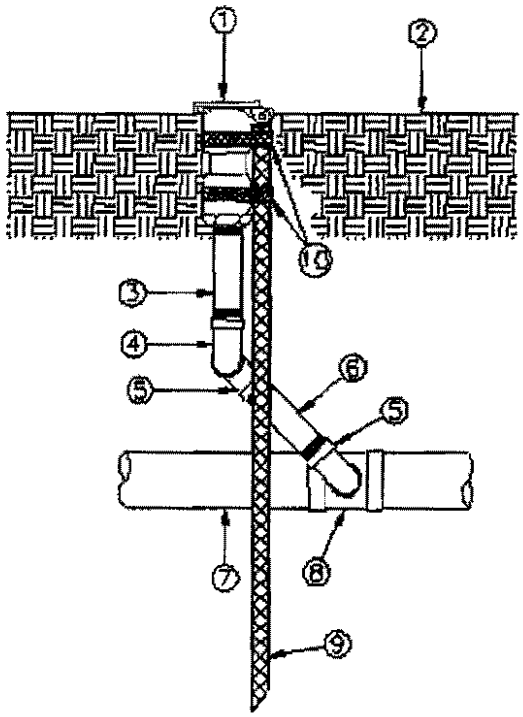
Quick Coupler Valve (One-Piece) Installation Detail



1. Buckner series quick coupler valve Model # _____
2. Finish grade
3. _____ PVC schedule 80 nipple (_____ min. length)
4. PVC T x T 90° ell
5. PVC street ell
6. _____ PVC schedule 80 nipple (_____ min. length)
7. Lateral line piping
8. Lateral line pipe fitting

NOTE: Teflon tape all threaded joints.

Quick Coupler Valve (One-Piece) Installation Detail



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2. Finish grade
3. _____ PVC schedule 80 nipple (_____ min. length)
4. PVC T x T 90° ell
5. PVC street ell
6. _____ PVC schedule 80 nipple (_____ min. length)
7. Lateral line piping
8. Lateral line pipe fitting
9. Rebar, length as required for support
10. SS Pipe clamps, size as required

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 76.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Jumbo Box

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 2810

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

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☑ **No Exception Taken**
☐ **Make Corrections Noted**
☐ **Amend and Resubmit**
☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

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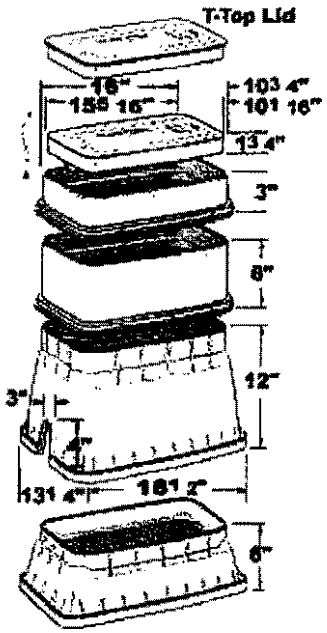
AMETEK ACCESS BOXES

Jumbo Box

Today, AMETEK, Inc. Access Boxes are considered to be the best - within significant irrigation industries. An independent crush test at the University of Wisconsin Engineering Test Lab showed the AMETEK, Inc. Product to be much stronger than all of its competitors.

Meter Boxes are manufactured in five major sizes. They have extensions, a variety of names and colors, and various applications in the turf irrigation, waterworks and electrical industries. Boxes are available in green, black, gray, tan, red brick and mulch brown. Lids come labeled with "Control Valve," "Water Meter," "CATV," "Sewer" and "Telephone."



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2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005 **Submittal # :** 75.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Master / Station Valves

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-12 A & B

Additional Comments:

Contractor's Certification

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Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

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☐ **Amend and Resubmit**
☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

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Sub 75.1

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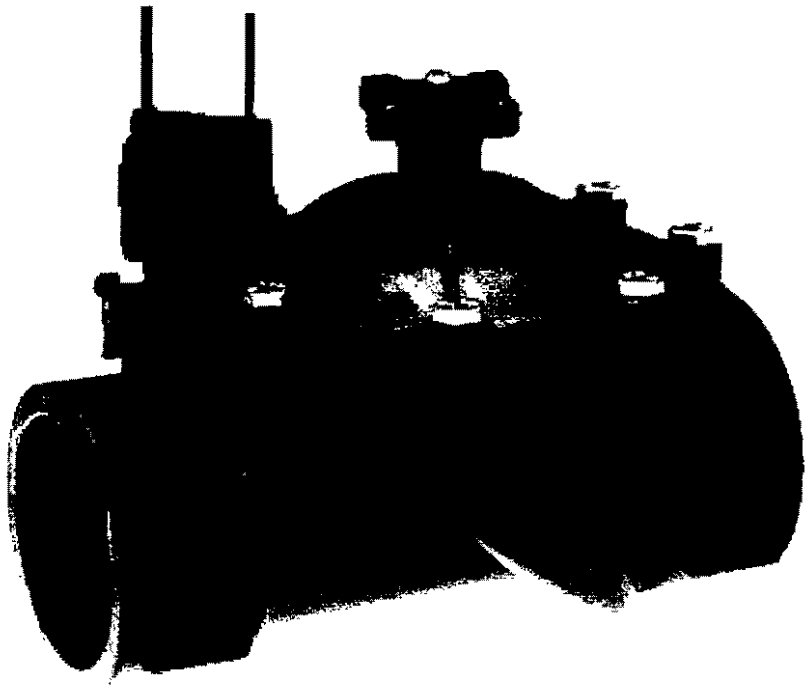
02810-12-A, B

Master / Station Valves



11OOOCR SERIES
CONTAMINATION
RESISTANT VALVE

The 11OOOCR Series is a normally closed type valve; in the event of power failure, valve closes.

The 1lOOOCR has excellent low flow characteristics which make it an ideal choice for micro-irrigation.

Features:

- 5 Year Limited Warranty on valve, 7- Year Limited Warranty on the S24B solenoid.
- Unique Dual Ported Diaphragm to greatly minimize clogging and malfunctions. In operation, the diaphragm ports constantly flex, inhibiting sand, silt and debris from blocking the valve action.
- The unique porting design also permits equal pressure on both sides of the diaphragm wall, regardless of line pressure, when valve is not operating. This feature prevents diaphragm "stretching", a common cause of valve failure in valves which are ported through the seat.
- The 11 OOOCR Series diaphragm is made of nylon fabric reinforced Buna-N rubber; a grooved rib interlocks with cover and body to prevent leakage.
- Exhaust Orifice is non-corrosive and has an opening sized larger than the diaphragm ports so that any pieces of sand or silt passing through the diaphragm will not be trapped beneath the solenoid actuator.
- S24B Solenoid manufactured by Weather-matic. Construction is molded resin having no carbon steel components exposed thereby eliminating possible external corrosion and deterioration. Solenoid is completely waterproof, with an O-Ring Seal, and complies with NEC Class II circuit requirements for 24V a.c. operation (also operates on 12 volts d.c. up to 75 psi).
- The S24B Pro-CapTM actuator is stain-less steel enclosed in a watertight protection capsule with a molded-in-place rubber exhaust port seal; a stainless steel spring assures positive seating.
- High Strength Glass-Filled Plastic Body and Cover designed to operate in heavy duty commercial applications. Stainless steel l/4 inch cover bolts and mating brass body inserts make reassembly easy.
- Shock Cone on diaphragm seat to eliminate water hammer in all except extreme cases.
- Flow Control. A brass, non-rising type flow control stem for throttling the valve from full open to full close positions.

- Manual Bleed Lever. An easy-to-use, hand operated control bleeds valve to downstream; has stops for open and closed positions.

Options: (Factory Installed)

- XPR Pressure Regulator. The Weather-matic XPR pressure regulating module senses inlet pressure and maintains constant outlet pressure. See PRK-24 in valve accessory section for specifications.
- Non-potable Alert Solenoid. May be substituted for standard model. Specify XS24NP.

Operating Data:

- Cold water working pressure: 150 psi

Electrical:

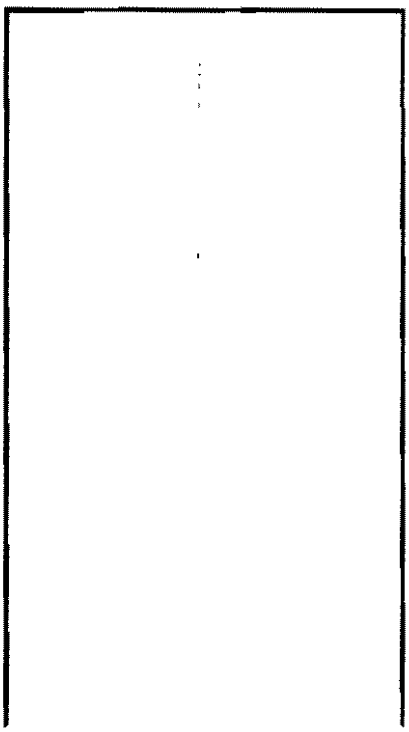
- Wiring requires a single lead from the controller to each solenoid, plus a common neutral to all solenoids. Type UF wire, U.L. listed, is recommended for all hookups.

24VAC/60 Hz.
Inrush: 9.86 VA
Holding: 5.69 VA
24VAC/50 Hz.
Inrush: 10.7 VA
Holding: 7.5 VA

- Do not use nominal voltage ratings listed above for sizing of valve wire. See wire sizing tables.

Installation:

- *Teflon tape is recommended.*
- *1 inch FIP can be bushed to 3/4 inch.*
- *1 -I/2 inch FIP can be bushed to I-1/4 inch.*
- *International Threads. (Specify ISO)*



Pressure Loss Through 11000CR Series Valves

Pressure Loss in PSI

GPM	11024FCR-10 1 INCH	11024FCR-15 1½ INCH	11024FCR-20 2 INCH
0-4	1.2 minimum		
5	1.4		
8	1.6		
10	*1.7		
12	1.8		
14	1.9		
16	2.0		
18	2.1		
20	2.3	*1.3	
22	2.5	1.4	
24	2.8	1.5	
26	3.2	1.6	
28	3.7	1.7	
30	4.3	1.9	
32	4.9	2.1	
34	5.6	2.3	
36	6.3	2.5	
38	7.0	2.8	
40	7.7	3.0	*2.3
42	8.4	3.3	2.3
44	9.1	3.6	2.4
46	9.9	3.9	2.4
48	10.7	4.2	2.5
50	11.5	4.6	2.6
52		5.0	2.6
54		5.4	2.7
56		5.8	2.7
58		6.2	2.8
60		6.7	2.9
70		9.5	3.3
80		13.0	3.4
90			4.2
100			5.2
110			6.7
120			7.7
130			8.8

* Minimum recommended flow for valves with IDPR Option

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 74.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Ball Valves

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-12C

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

☑ **No Exception Taken**
☐ **Make Corrections Noted**
☐ **Amend and Resubmit**
☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

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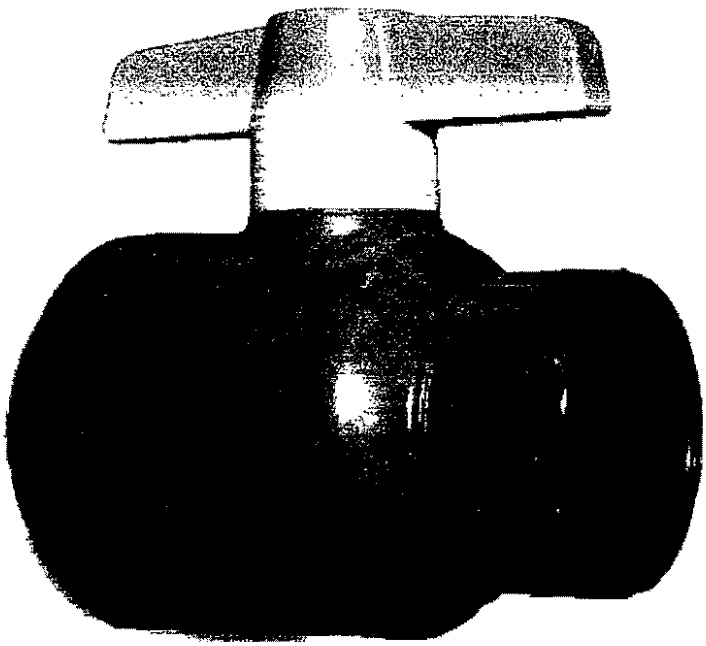
Sb 74,1 02810-12-C

Click Here to Print Page

2" Utility SS Ball Valve



A high quality, economical, quarter-turn shut off valve designed for home, irrigation, and pool and spa applications. Available in IPS sizes 1/2" through 2" with choice of either socket or threaded end connectors.

Features:

- One piece sealed unit never requires adjustment.
- Heavy bodied PVC construction.
- Standard EPDM o-rings.
- High Impact Polypropylene handle with double stop engagement.
- Equipped with Spears high strength Safe-T-Shear stem.
- All Utility Ball Valves are NSF Listed for potable water use.
- Full Schedule 80 bore in full open position, full bore virtually eliminates pressure drop, providing optimum flow.
- 150 psi Pressure rating maximum internal pressure at 73°F for a variety of applications.

Temperature Pressure Rating

System Operating Temperature °F (°C)		73 (23)	100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	200 (93)
Valve Pressure Rating	PVC	150 (1,035)	124 (.85)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
psi (MPa)	CPVC	150 (1,035)	140 (.97)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	90 [illegible]	[illegible]	[illegible]	[illegible]

NOTE: Threaded Valves should not be used at temperatures [illegible]

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 73.1

New Submittal : X
Re-Submittal : ____

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Solvent Weld PVC

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-10

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

☑ **No Exception Taken**
☐ **Make Corrections Noted**
☐ **Amend and Resubmit**
☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

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Schmitta / Sb 73.1 02810-10

Solvent Weld PVC

Nominal Pipe Size	Category	SDR	Average Outside Diameter (inches)	Approx. Inside Diameter (inches)	Minimum Wall Thickness (inches)	Approx. Weight (lbs/100')
½	315 IPS	13.5	0.840	0.70	0.062	16
	SCH 40/PR 600	NA	0.840	0.60	0.109	18
	SCH 80/PR 650	NA	0.840	0.52	0.147	21
¾	200 IPS	21	1.050	0.92	0.060	12
	SCH 40/PR 480	NA	1.050	0.80	0.113	22
	SCH 80/PR 680	NA	1.050	0.72	0.154	29
1	200 IPS	21	1.315	1.15	0.063	18
	SCH 40/PR 450	NA	1.315	1.03	0.133	32
	SCH 80/PR 630	NA	1.315	0.93	0.179	42
1¼	125 IPS	32.5	1.660	1.53	0.060	20
	160 IPS	26	1.660	1.52	0.064	21
	200 IPS	21	1.660	1.49	0.079	26
	SCH 40/PR 370	NA	1.660	1.38	0.140	44
	SCH 80/PR 520	NA	1.660	1.28	0.191	58
1½	125 IPS	32.5	1.900	1.77	0.060	23
	160 IPS	26	1.900	1.74	0.073	27
	200 IPS	21	1.900	1.70	0.090	34
	SCH 40/PR 330	NA	1.900	1.59	0.145	52
	SCH 80/PR 470	NA	1.900	1.47	0.200	70
2	125 IPS	32.5	2.375	2.21	0.073	35
	160 IPS	26	2.375	2.64	0.091	43
	200 IPS	21	2.375	2.13	0.113	53
	315 IPS	13.5	2.375	1.99	0.176	80
	SCH 40/PR 280	NA	2.375	2.04	0.154	70
	SCH 80/PR 400	NA	2.375	1.90	0.218	97
2½	125 IPS	32.5	2.875	2.68	0.088	51
	160 IPS	26	2.875	2.63	0.110	63
	200 IPS	21	2.875	2.58	0.137	77
	315 IPS	13.5	2.875	2.41	0.213	120
	SCH 40/PR 300	NA	2.875	2.44	0.203	110
	SCH 80/PR 420	NA	2.875	2.28	0.276	150
3	160 IPS	41	3.500	3.31	0.085	80
	125 IPS	32.5	3.500	3.26	0.108	75
	160 IPS	26	3.500	3.21	0.135	94
	200 IPS	21	3.500	3.14	0.167	110
	315 IPS	13.5	3.500	2.94	0.259	170
	SCH 40/PR 260	NA	3.500	3.03	0.216	150
	SCH 80/PR 370	NA	3.500	2.85	0.300	200
	63 IPS	64	4.500	4.35	0.070	64
	100 IPS	41	4.500	4.26	0.110	99
	125 IPS	32.5	4.500	4.20	0.138	126
	160 IPS	26	4.500	4.13	0.172	160

Nominal Pipe Size	Category	SDR	Average Outside Diameter (inches)	Approx. Inside Diameter (inches)	Minimum Wall Thickness (inches)
5	63 IPS	64	5.563	5.37	0.087
	100 IPS	41	5.563	5.27	0.136
	125 IPS	32.5	5.563	5.19	0.171
	160 IPS	26	5.563	5.10	0.214
	200 IPS	21	5.563	4.99	0.265
	SCH 40/PR 190	NA	5.563	5.01	0.258
	SCH 80/PR 290	NA	5.563	4.75	0.375
6	63 IPS	64	6.625	6.40	0.087
	100 IPS	41	6.625	6.27	0.162
	125 IPS	32.5	6.625	6.18	0.204
	160 IPS	26	6.625	6.07	0.255
	200 IPS	21	6.625	5.94	0.316
	SCH 40/PR 180	NA	6.625	6.02	0.280
	SCH 80/PR 280	NA	6.625	5.70	0.432
8	63 IPS	64	8.625	8.33	0.135
	100 IPS	41	8.625	8.17	0.210
	125 IPS	32.5	8.625	8.05	0.265
	200 IPS	21	8.625	7.74	0.410
	SCH40/PR 160	NA/26	8.625	7.91	0.332
	SCH80/PR 250	NA	8.625	7.55	0.500
	100 FT HD 20	93.5	8.160	7.97	0.087
10	100 IPS	41	10.750	10.15	0.262
	125 IPS	32.5	10.750	10.04	0.331
	160 IPS	26	10.750	9.86	0.413
	200 IPS	21	10.750	9.55	0.511
	SCH 40/PR 140	NA	10.750	9.96	0.365
	SCH 80/PR 230	NA	10.750	9.48	0.593
	100 FT HD 20	93.5	10.200	9.96	0.109
12	63 IPS	64	12.750	12.32	0.199
	100 IPS	41	12.750	12.08	0.311
	125 IPS	32.5	12.750	11.91	0.392
	160 IPS	26	12.750	11.70	0.490
	200 IPS	21	12.750	11.45	0.606
	SCH 40/PR 130	NA	12.750	11.88	0.406
	SCH 80/PR 230	NA	12.750	11.28	0.687
	100 FT HD 20	93.5	12.240	11.96	0.131
	100 FT HD 40	93.5	12.240	11.96	0.131
15	100 FT HD 20	93.5	15.300	14.94	0.164
	100 FT HD 40	93.5	15.300	14.94	0.164
	100 PIP	41	15.300	14.50	0.373
18	100 FT HD 20	93.5	18.360	17.93	0.197
20	100 FT HD 20	93.5	20.400	19.93	0.219

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 72.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baalen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Control Wires

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-15

Additional Comments: Wire Colors as Denoted in Specification

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

☑ **No Exception Taken**
☐ **Make Corrections Noted**
☐ **Amend and Resubmit**
☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

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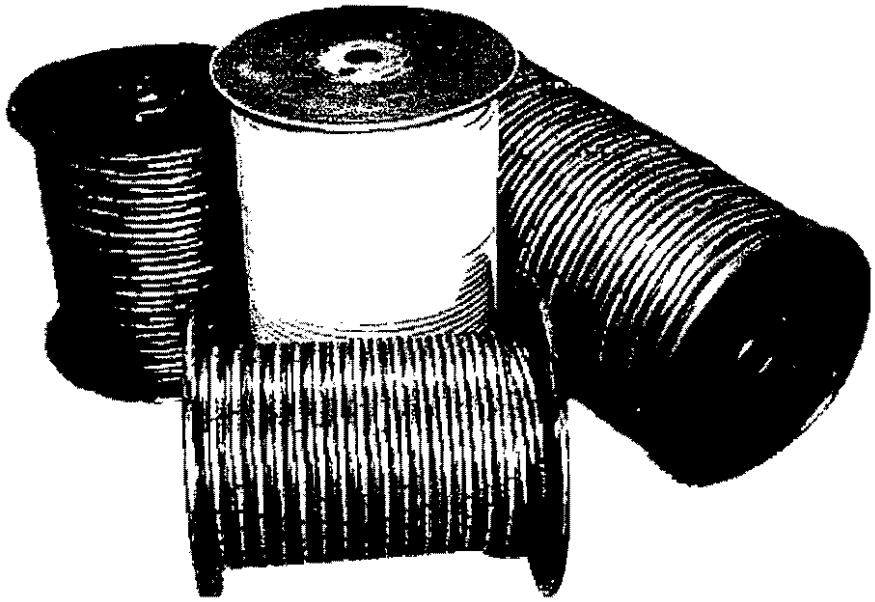
02810-15.

Service Wire Co.
Over 35 years of service

W.r Colors as Denoted in Specs.

Type UF SINGLE CONDUCTOR 60° C/600V



Description & Features:

UL listed Single Conductor Type UF is suitable for use as Sprinkler Irrigation Control Wire for general purpose lighting and power. Construction provides solid or stranded soft annealed copper conductor insulated with polyvinyl chloride (PVC) compound that provides excellent abrasion, acid, chemical, oil and moisture resistance.

- UL listed Type UF 600 Volt (#14 thru 4/0 AWG)
- Listed for Direct Burial use
- Resistant to acids, alkali, grease and chemicals
- Abrasion, crush and moisture resistant

Applications:

- Suitable for use as power and control conductors for irrigation systems
- For use in accordance per NEC Article 339

Construction:

Conductors: Soft annealed copper
Solid (18 AWG to 8 AWG)
Stranded (6AWG to 4/0 AWG)
Insulation: Polyvinyl chloride (PVC) compound
Temperature: 60°C
Voltage: 600 Volts
Specifications & Standards:
UL 493 - Underground Feeder Cable
Federal Spec JC - 30B

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005 **Submittal # :** 71.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: PVC Risers (SCH 80)

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-14

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

☐ **No Exception Taken**
☑ **Make Corrections Noted**
☐ **Amend and Resubmit**
☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

* PER SPECIFICATIONS PROVIDE WEATHERMATIC LXS SERIES SWING JOINT ADAPTORS WHERE APPLICABLE.

Copy: File

Submittal 71.1 02810 - 14

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Standard Pipe Nipple

PVC Sch 80 Nipples

Risers

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 70.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Rain Bird 1800 Series Sprinkler Head

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-13 A & C

Additional Comments:
4" Tall Heads in the Grass Areas
12" Tall Heads in Landscape Beds
Head Patterns will be selected to best fit the situation

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

☐ No Exception Taken
☑ Make Corrections Noted
☑ Amend and Resubmit
☐ Rejected - See Remarks

HNTB Corporation

By JRK Date 7/7/05

* Must use Hunter PCN 10 Bubbler Nozzles per Town of Addison Specifications.

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Submittal 70.1 02810-13 A3C

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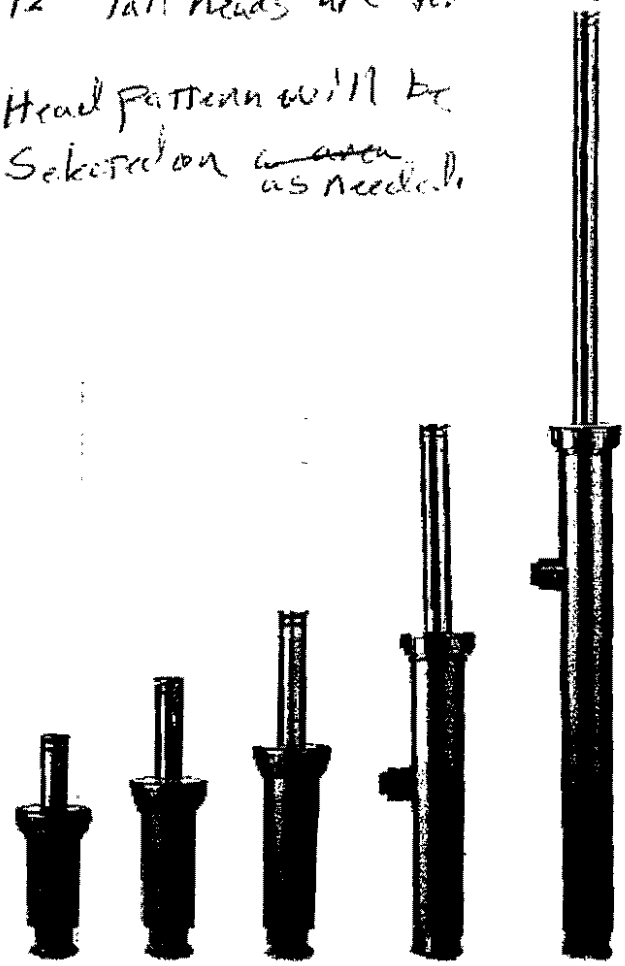
Note: 4" Tall heads are for Grass areas
12" Tall heads are for Landscape beds.
Head pattern will be Selected as needed.

RAIN BIRD

1800 Series, 1800-SAM 1800-PRS, 1800-SAM-PRS



Primary Application

Industries leading series of spray sprinklers for turf and shrub applications.

Features:

- Precipitation rates matched across sets and across patterns.
- Ratcheting on all models.
- Exclusive pressure-activated wiper seal.
- Plastic and stainless steel materials,
- Seamless, molded construction.
- Strong, stainless steel retract spring.
- Side or bottom inlet on 1806 and 1812 only.

Industries leading series of spray sprinklers for turf and shrub applications.

Operating Range

- Precipitation Rate .42 to 11.7 inches per hour.
- Spacing: 3 to 20 feet.
- Pressure: 15 to 70 psi.
- Specifications
- Flow-by 0 at 8 psi or greater: 0.05 GPM otherwise.

4" & 12"

Dimensions

- 1/2" female threaded inlet.

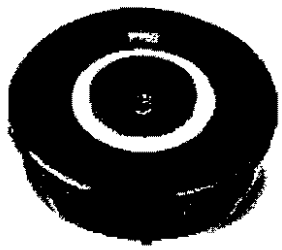
1800-SAM Series

Ideal for use in areas with changing elevations.

Features:

- Built-in Seal-A-Matic (SAM) check valve.
- Reduces low head drainage, puddling and erosion.
- Eliminates the need for under-the-head check valves.

1800-PRS Series

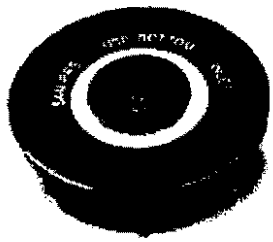


Designed for areas with high and/or widely fluctuating water pressures.

Features:

- Unique built-in stem pressure regulator.
- Delivers uniform water distribution at an average 30 psi.
- Ends misting and fogging caused by high pressure.

1800-SAM-PRS Series



Meets the needs of all spray areas, regardless of changing elevation or water pressures.

Features:

- Built-in Seal-A-Matic (SAM) check valve.
- Reduces low head drainage, puddling and erosion.
- Ends misting and fogging caused by high pressure.

Performance Charts

5 Series MPR

5 Trajectory

				■	▲
Nozzle	**Pressure psi**	**Radius ft.**	**Flow GPM**	**Precip In/h**	**Precip In/h**
5F	15	2	0.09	2.07	2.39

	20	3	0.19	2.01	2.32
	25	4	0.27	1.62	1.87
	30	5	0.41	1.58	1.83
5H	15	2	0.04	2.07	2.39
	20	3	0.09	2.01	2.32
	25	4	0.13	1.62	1.87
	30	5	0.20	1.58	1.83
5T	15	2	0.03	2.07	2.39
	20	3	0.06	2.01	2.32
	25	4	0.09	1.62	1.87
	30	5	0.13	1.58	1.83
5Q	15	2	0.02	2.07	2.39
	20	3	0.05	2.01	2.32
	25	4	0.07	1.62	1.87
	30	5	0.10	1.58	1.83

8 Series MPR

10 Trajectory

				■	▲
Nozzle	**Pressure psi**	**Radius ft.**	**Flow GPM**	**Precip In/h**	**Precip In/h**
8F	15	5	0.54	2.07	2.39
	20	6	0.75	2.01	2.32
	25	7	0.82	1.62	1.87
	30	8	1.05	1.58	1.83
8H	15	5	0.27	2.07	2.39
	20	6	0.38	2.01	2.32
	25	7	0.41	1.62	1.87
	30	8	0.52	1.58	1.83

8T	15	5	0.18	2.07	2.39
	20	6	0.25	2.01	2.32
	25	7	0.27	1.62	1.87
	30	8	0.35	1.58	1.83
8Q	15	5	0.13	2.07	2.39
	20	6	0.19	2.01	2.32
	25	7	0.21	1.62	1.87
	30	8	0.26	1.58	1.83

10 Series MPR

15 Trajectory

				■	▲
Nozzle	**Pressure psi**	**Radius ft.**	**Flow GPM**	**Precip In/h**	**Precip In/h**
10F	15	7	1.16	2.28	2.63
	20	8	1.30	1.96	2.26
	25	9	1.44	1.71	1.98
	30	10	1.58	1.52	1.75
10H	15	7	0.58	2.28	2.63
	20	8	0.65	1.96	2.26
	25	9	0.72	1.71	1.98
	30	10	0.79	1.52	1.75
10T	15	7	0.39	2.28	2.63
	20	8	0.43	1.96	2.26
	25	9	0.48	1.71	1.98
	30	10	0.53	1.52	1.75
10Q	15	7	0.29	2.28	2.63
	20	8	0.33	1.96	2.26
	25	9	0.36	1.71	1.98
	30	10	0.39	1.52	1.75

12 Series MPR

30 Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
12F	15	9	1.80	2.14	2.47
	20	10	2.10	2.02	2.34
	25	11	2.40	1.91	2.21
	30	12	2.60	1.74	2.01
12TQ	15	9	1.35	2.14	2.47
	20	10	1.58	2.02	2.34
	25	11	1.80	1.91	2.21
	30	12	1.95	1.74	2.01
12TT	15	9	1.20	2.14	2.47
	20	10	1.40	2.02	2.34
	25	11	1.60	1.91	2.21
	30	12	1.74	1.74	2.01
12H	15	9	0.90	2.14	2.47
	20	10	1.05	2.02	2.34
	25	11	1.20	1.91	2.21
	30	12	1.30	1.74	2.01
12T	15	9	0.60	2.14	2.47
	20	10	0.07	2.02	2.34
	25	11	0.80	1.91	2.21
	30	12	0.87	1.74	2.01
12Q	15	9	0.45	2.14	2.47
	20	10	0.53	2.02	2.34
	25	11	0.60	1.91	2.21
	30	12	0.65	1.74	2.01

15 Series MPR

30 Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	Precip In/h	Precip In/h
15F	15	11	2.60	2.07	2.39
	20	12	3.00	2.01	2.32
	25	14	3.30	1.62	1.87
	30	15	3.70	1.58	1.83
15TQ	15	11	1.95	2.07	2.39
	20	12	2.25	2.01	2.32
	25	14	2.48	1.62	1.87
	30	15	2.78	1.58	1.83
15TT	15	11	1.74	2.07	2.39
	20	12	2.01	2.01	2.32
	25	14	2.21	1.62	1.87
	30	15	2.48	1.58	1.83
15H	15	11	1.30	2.07	2.39
	20	12	1.50	2.01	2.32
	25	14	1.65	1.62	1.87
	30	15	1.85	1.58	1.83
15T	15	11	0.87	2.07	2.39
	20	12	1.00	2.01	2.32
	25	14	1.10	1.62	1.87
	30	15	1.23	1.58	1.83
15Q	15	11	0.65	2.07	2.39
	20	12	0.75	2.01	2.32
	25	14	0.82	1.62	1.87
	30	15	0.92	1.58	1.83

15 Strip Series

30 Trajectory

Nozzle	Pressure	W x L	Flow

	psi	ft.	GPM
15SQ	15	18 x 18	2.68
■	20	19 x 19	3.06
	25	21 x 21	3.42
	30	23 x 23	3.73
15EST	15	4 x 13	0.45
▬	20	4 x 14	0.50
	25	4 x 14	0.56
	30	4 x 15	0.61
15CST	15	4 x 26	0.89
▬	20	4 x28	1.00
	25	4x 28	1.11
	30	4 x 30	1.21
15SST	15	4 x 26	0.89
▬	20	4 x 28	1.00
	25	4 x 28	1.11
	30	4 x 30	1.21
9SST	15	9 x 15	1.34
■	20	9 x 16	1.47
	25	9 x 18	1.60
	30	9 x 18	1.73

16 Series MPR

15 Trajectory

		■	▲
Nozzle	**Pressure psi**	**Radius ft.**	**Flow GPM**

16 F-SLA	15	13	2.37
	20	14	2.66
	25	15	2.96
	30	16	3.22
16H-SLA	15	13	1.18
	20	14	1.33
	25	15	1.48
	30	16	1.61
16Q-SLA	15	13	0.59
	20	14	0.67
	25	15	0.74
	30	16	0.81

22 Series MPR

35 Trajectory

		■	▲
Nozzle	**Pressure psi**	**Radius ft.**	**Flow GPM**
22F-SS	15	17	2.37
	20	18	2.66
	25	19	2.96
	30	20	3.22
22H-SS	15	17	1.18
	20	18	1.33
	25	19	1.48
	30	20	1.61
22Q-SS	15	17	0.59

	20	18	0.67
	25	19	0.74
	30	20	0.81

5 Series Stream Bubbler Nozzles

0 Trajectory

■ ▲

Nozzle	Pressure psi	Radius ft.	Flow GPM
5F-B	15	5	1.50
	20	5	1.50
	25	5	1.50
	30	5	1.50
5H-B	15	5	1.00
	20	5	1.00
	25	5	1.00
	30	5	1.00
5Q-B	15	5	0.50
	20	5	0.50
	25	5	0.50
	30	5	0.50
5CST-B	15	5	0.50
	20	5	0.50
	25	5	0.50
	30	5	0.50

Note: Indicates adjusted radius @ psi shown.
Note: Flow @ adjusted radius of 5 feet.

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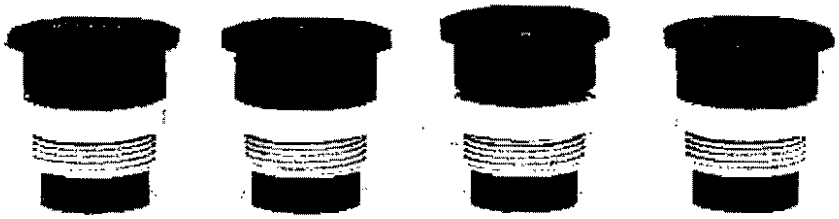
TORO

Toro Compensating Flood Bubbler Nozzles



Features:

- Built-in pressure regulation
- 2 GPM adjustable flow
- 0.25, 0.50 and 1.0 GPM fixed flow
- All pressure compensating, maintaining constant 30 PSI performance at pressures exceeding 30 PSI
- Use on shrub adapter, 570Z Series sprinkler, 570 risers and riser extenders

Specifications:

- Recommended operating range: 20-50 PSI
- Maximum operating pressure: 75 PSI

NOT CITY APPROVED

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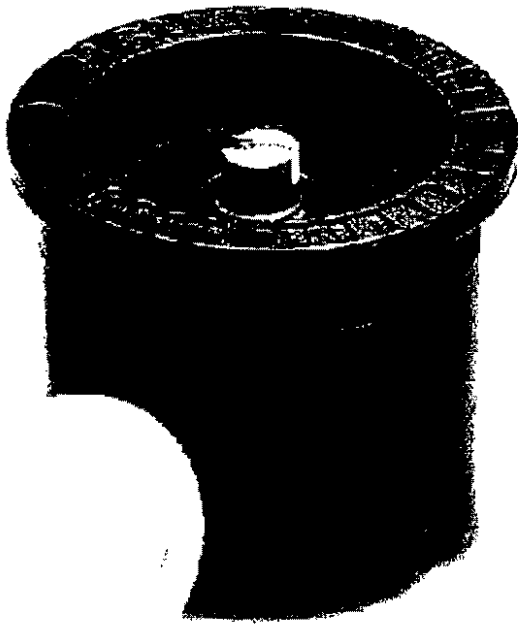
RAIN BIRD

Plastic MPR Nozzles



Not City Approved

Primary Application
Matched Precipitation Rate (MPR) nozzles simplify the design process by allowing sprinklers with various arcs and ready to be mixed on the same circuit. Models available for spacing from 3 to 20 feet. Fit all Rain Bird spray heads and shrub adapters.

Features
•Matched precipitation rates across sets and across patterns in new 5 Series, 8 Series, 10 Series, 12 Series, and 15 Series for even water distribution and design flexibility.
•New 5 Series nozzles meet small-area shrub or turf requirements.
•New and improved 8 Series nozzles now have a lower water flow which allows more spray heads per zone.
•1800 Series white filter (.035" x .045") screens (shipped with nozzles) maintain precise radius adjustment and prevent clogging. (New and improved 5 and 8 Series nozzles are shipped with blue fine-mesh (.02" x .02") filter screens.)
•Stainless steel adjustment screw to adjust flow and radius.

Operating Range:
•Spacing: 5 to 15 feet (1,5 to 4,5 m)
•Pressure: 15 to 30 psi (1 to 2,1 bar)
•Optimum pressure: 30 psi (2,1 bar)

Models
•5 Series
•5 Series: bubbler nozzles
•8 Series
•10 Series
•12 Series
•15 Series
•15 Strip Series
•16 Series: stream spray
•22 Series: standard stream spray

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005 **Submittal # :** 69.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Mini Clik II Rain Sensor

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-20C

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

- ☐ No Exception Taken
- ☑ Make Corrections Noted
- ☑ Amend and Resubmit
- ☐ Rejected - See Remarks

HNTB Corporation
By Date

* Submittals Must Include Rain + Freeze Sensors Plus Hunter Bypass Switch As Per Town of Addison Specifications.

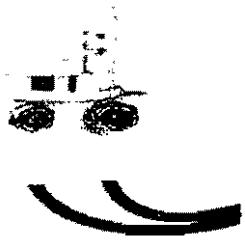
Copy: File

Submittal 69.1 02810 20 C

Click Here to Print Page

Mini-Clik II Rain Sensor

Mini Clik shuts off your irrigation controller during rainfall and keeps it off until your turf and shrubs are thirsty again! Mini-Clik measures rainfall through moisture-absorbing (hydroscopic) discs that absorb water and dry out at the same rate as turf. When exposed to rainfall, the discs swell causing a break in the circuit between valves and controller. When the discs dry out, the system circuit is reactivated.



Switch rating: UL listed 10.1 amps, 1/4 H.P at 125/250 VAC.

Rainfall settings at 1.8", 1/4", 1/2", 3/4", or 1". Accurate to within 1/16". Includes aluminum mounting bracket and 25ft. #20 two-conductor wire and short lead wire for "normally open" wiring.

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Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

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Date: June 28, 2005

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Addison, Texas 75001-9010
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Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Irrigation Controller

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-20C

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

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- ☐ No Exception Taken
- ☑ Make Corrections Noted
- ☐ Amend and Resubmit
- ☐ Rejected - See Remarks

HNTB Corporation

By JRK Date 07-7-05

* UNIT MUST HAVE DX-03 SENSOR BOARD + DX-PHT PHONE COMMUNICATION OPTION.
* SEE ADDITIONAL NOTES IN SUBMITTAL.

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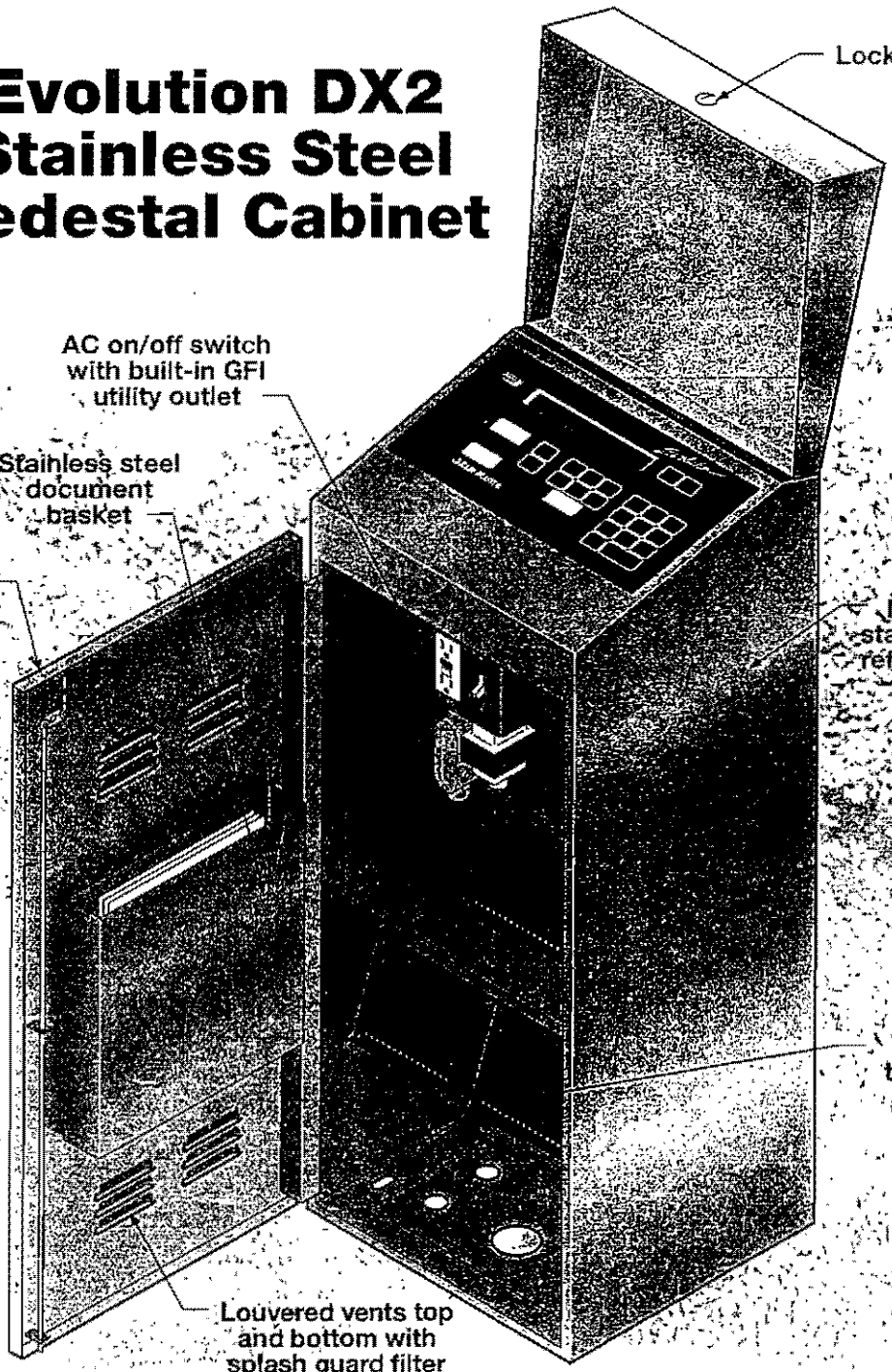
S. 68.1 02810-2X

Evolution™

CONTROL SYSTEMS

Evolution DX2 Stainless Steel Pedestal Cabinet



Rain Master is a technology-based, innovative, environmentally sensitive company dedicated to providing water management solutions to the irrigation industry.

RAIN MASTER®

1825-103 Surveyor Avenue,
Simi Valley, CA 93063
Ph: 805 527-4498 Fax: 805 527-2813
www.rainmaster.com

RAINMASTER

EVOLUTION DX2
SPECIFICATIONS

The Evolution DX2™ irrigation controller shall be manufactured by Rain Master Irrigation Systems, Inc. The controller shall have the following features and functions:

PER TOWN OF ADDISON SPECIFICATION

Part 1.0 - Hardware Features

1.1 Available in painted or stainless steel wall mount cabinet or pedestal enclosure.

1.2 Station configuration options 6, 12, 18, 24, 30, 36, 42 or 48 stations. Dedicated outputs for 2 normally closed master valves, 1 normally open master valve, and 1 pump.

1.3 Connectivity for 4 input sensing devices. Four pulse input type devices e.g. flow sensors, flow meters, ET device, rain gauge, anemometer, etc.

1.4 80 character LCD display with 24-key membrane keypad.

1.5 Built-in remote control jack. Permanent internal remote mount available.

1.6 Built-in transient protection.

1.7 Optional lightning protection available.

1.8 Audible tone(s) for valid or invalid operator entry.

1.9 Lifetime retention of the user's program and date/time, without the use of batteries.

1.10 All outputs are protected from field wiring short circuits.

1.11 Built in amperage meter to accurately measure and diagnose valve solenoid electrical problems.

1.12 Modular architecture. Modular output boards (6 or 12 station) facilitate maintenance and eliminates total controller down time.

RAINMASTER

EVOLUTION DX2
SPECIFICATIONS

2.0 - Scheduling Capabilities

2.1 Operation of 12 conventional programs with 8 start times, 48 ISC (individual station control) or a combination of each.

2.2 Watering based upon 14-day schedules, skip day schedules, or 31-day schedules.

2.3 Continuous cycling of programs based upon user established start and end times, with a programmable delay/soak time.

2.4 Water budget per program from 0 to 999% in 1% increments for adjustment of program run times

2.5 Program by time.

2.6 Programmable monthly water total terminates over budget irrigation.

2.7 Quick station programming allows groups of stations to be programmed with the same runtime.

2.8 Programmable water window.

3.0 Program Setup Options

3.1 Programs overlap protection or concurrent operation.

3.2 Irrigation programs, lighting programs, security, etc. (Non-irrigation programs are independent of rain shutdown mode.)

3.3 Inter station delay from 0 to 255 seconds.

3.4 Runtimes from 1 second to 24 hours programmable in hours/minutes or minutes/seconds.

3.5 Master valve selections: 2 Normally Closed Valves or Normally Open Valves with programmable delay from 0 to 600 seconds.

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EVOLUTION DX2
SPECIFICATIONS

4. 0 Maintenance and Alarm Diagnostic Capabilities

4.1 Flow monitoring. Automatic alarm processing (which provides station and/or master valve shut down and program advance as required) diagnosing and reporting station underflow and overflow, mainline breaks, and unscheduled flows. Maximum upper flow limit is 2000 GPM.

4.2 Electrical field wire monitoring. Automatic alarm processing (which provides station shutdown and program advance) for station over current, short circuits, broken field wiring or faulty solenoids.

4.3 Power monitoring. Automatic alarm processing/reporting for power outages and power restoration. Intelligent program resumption for all outages or power glitches, no lost cycles or water window violations.

4.4 Communication monitoring. Automatic alarm generation/reporting for lost communications or restoration when using hard wire communications. Automatic fault isolation of communication wiring problems to wire path between controllers.

4.5 Diagnostic lights (LEDs) for all station outputs as well as the dedicated outputs: MV1, MV2, N.O. MV, and PUMP. Lights indicate when 24 VAC is at output terminal.

4.6 Built-in test (BIT) functions allow selected controller circuitry to be field-tested.

4.7 Manual test mode. Allows user to automatically advance from station to station using manual run time while displaying valve solenoid electrical current for each station as well as station flow in GPM.

4.8 Manual station and manual multi-station modes. - Turns on any station for user entered runtime and automatically selects usage of the proper master valve and/or pump for this station. Multi-station mode allows any single station or output to be turned on individually or in combination with any other station(s). Valve solenoid electrical current is displayed.

4.9 Manually entered program. Allows user to enter a one-time program to be run immediately or scheduled for later in the day. The manual program is independent of automatic programs and shall start only one time.

4.10 Manual start of automatic programs (1-12). Start any program independent of the scheduled start time and water day.

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EVOLUTION DX2
SPECIFICATIONS

5.0 Miscellaneous Features

5.1 English/Spanish language selection.

5.2 Automatic limit setup (learn mode) for flow and current. Global percentage adjust for limit establishment.

5.3 Omit by date allows the user to enter up to 15 dates to exclude irrigation.

5.4 Operates as a standalone or central.

5.5 Fertilizer injector station with programmable delay from 0 to 255 seconds.

5.6 Flow Max - This exclusive feature allows controllers with a single point of connection to share a pump, master valves, and flow meters without the need for peripheral wiring/relays. All flow limits are dynamically managed as stations across controllers transition off and on. Features include:

A. Automatic protection and report for main line breaks, unscheduled flow, station high and low flow.
B. Read flow at any controller
C. Dynamic monitor shows system status at all times
D. Pump protection during exception conditions

6.0 Electrical Specifications

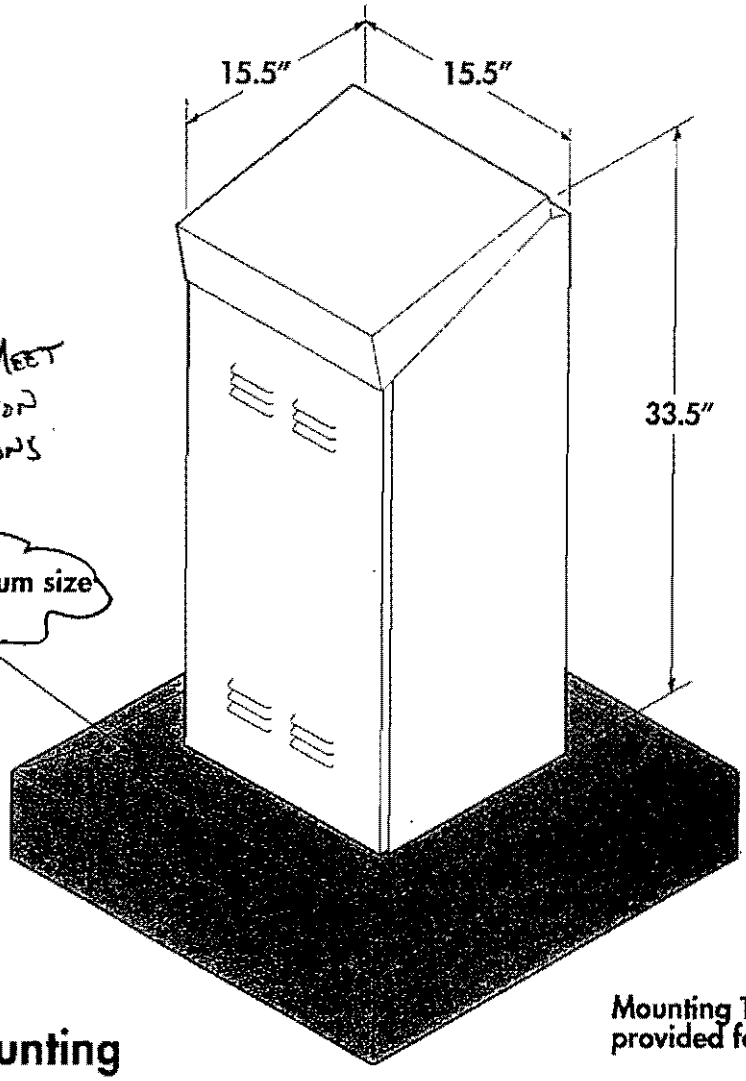
6.1 Input Power Required: 117 VAC +/- 15%, 60 HZ, 20 VA, plus load current.

6.2 Maximum load current per station or master valve output: 1 AMP

6.3 Maximum combined load current: 2 AMPS

6.4 No batteries required.

Evolution DX2 Stainless Steel Pedestal Cabinet Installation

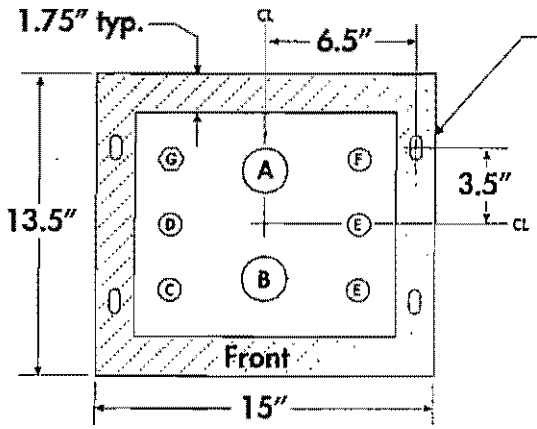


Size Must Meet Town of Addison Specifications

Mounting Pad— 28"x 28"x 8" minimum size concrete pad with beveled edges

Mounting Template provided for easy installation

Pedestal Mounting



Bolt Holes— stainless steel hardware standard with enclosure

Item	Description
A, B	2" conduit - station wiring
C	1" conduit - communication
D	AC power conduit
E	1" conduit - sensor wiring
F	External antenna
G	Grounding rod

Bolt and Conduit Template

RMIS Part No. 500501 Rev. B

Rain Master is a technology-based, innovative, environmentally sensitive company dedicated to providing water management solutions to the irrigation industry.

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3910-B Royal Avenue,
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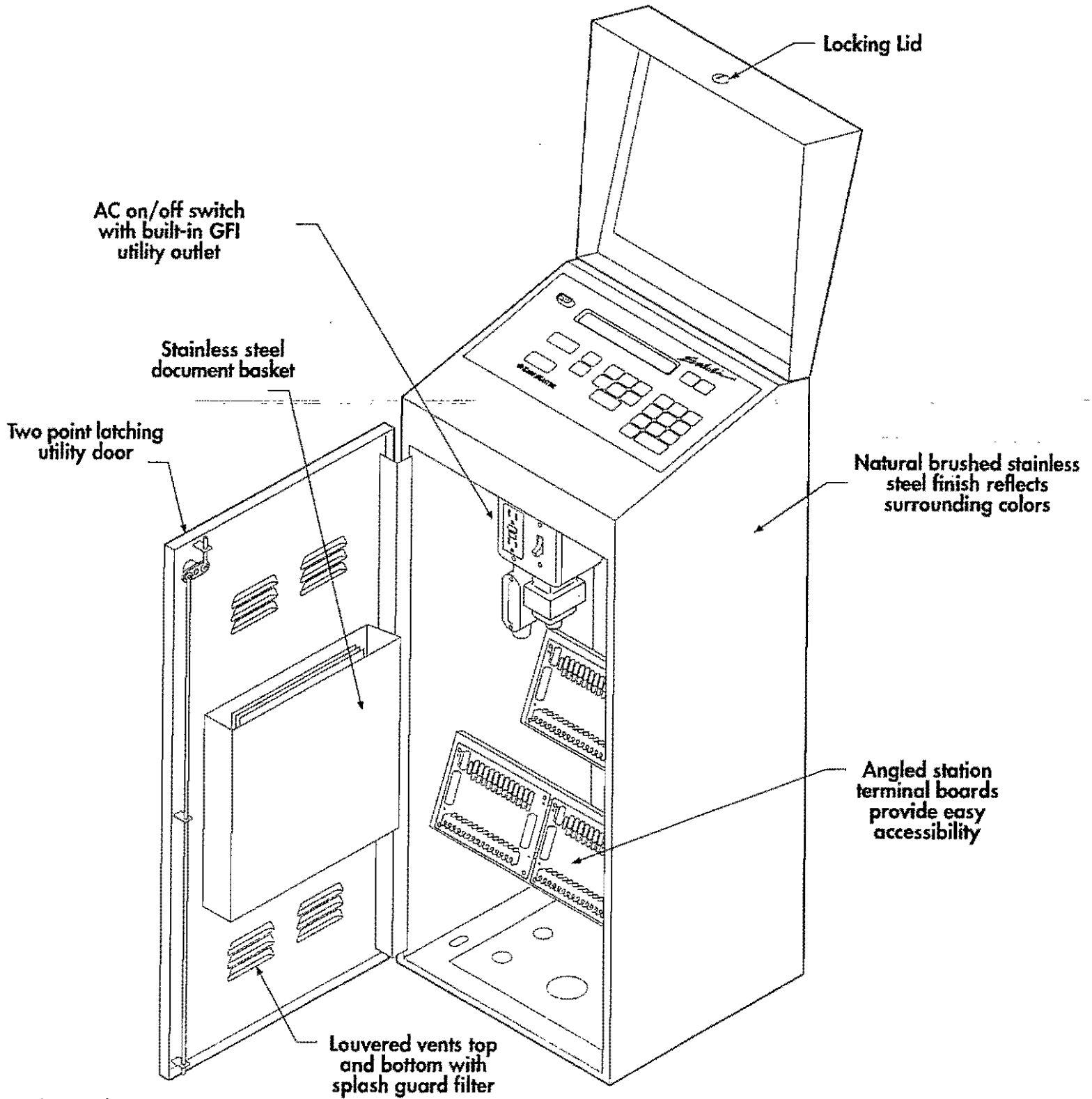
Ph: 805 527-4498 Fax: 805 527-2813

Evolution DX2
Stainless Steel Pedestal Cabinet



RMIS Part No. 500502 Rev. B

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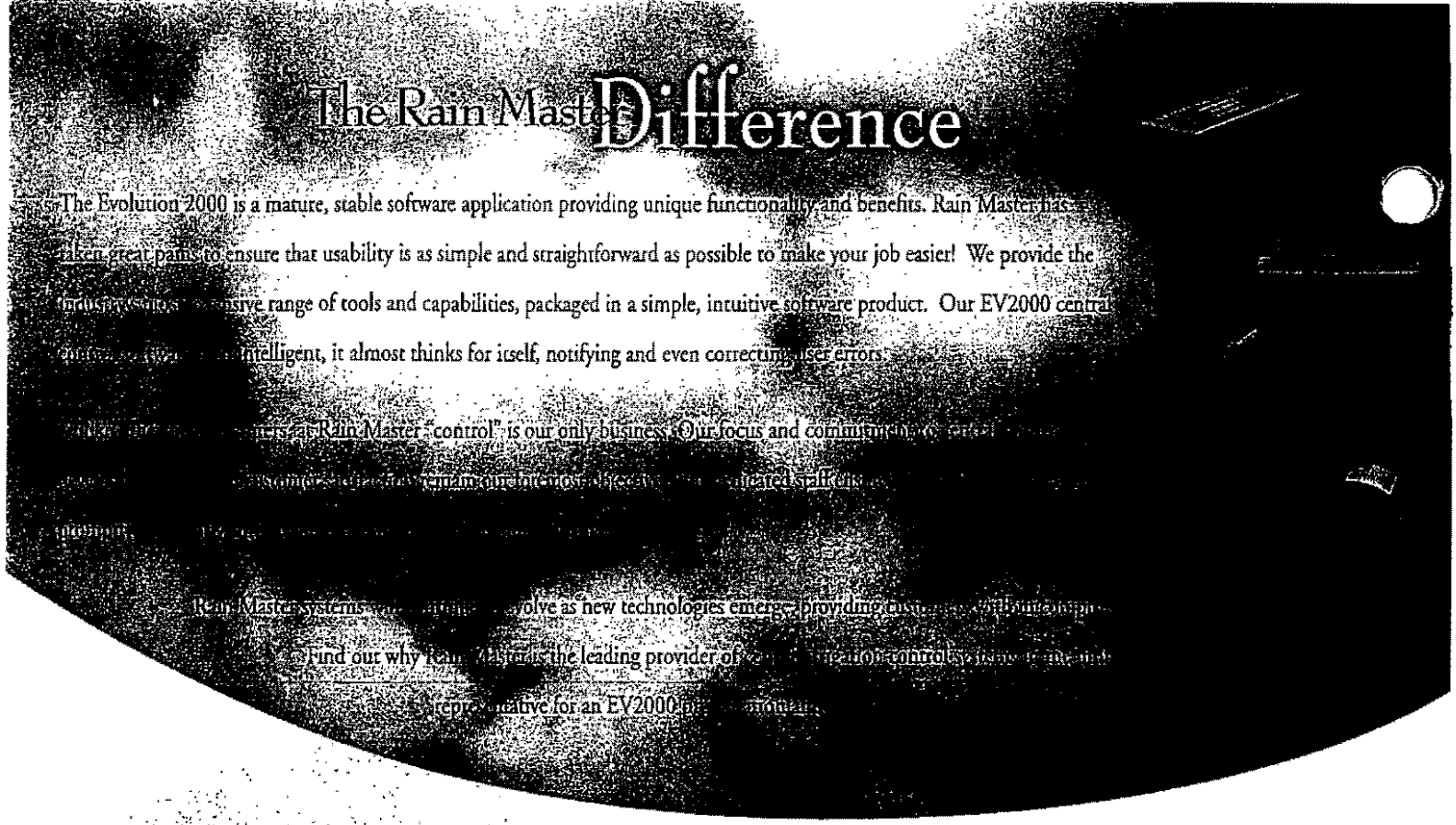

The Rain Master Difference

The Evolution 2000 is a mature, stable software application providing unique functionality and benefits. Rain Master has taken great pains to ensure that usability is as simple and straightforward as possible to make your job easier! We provide the industry's most extensive range of tools and capabilities, packaged in a simple, intuitive software product. Our EV2000 central control software is intelligent, it almost thinks for itself, notifying and even correcting user errors.

At Rain Master "control" is our only business. Our focus and commitment to [illegible] dedicated specifically to [illegible]

Rain Master systems [illegible] evolve as new technologies emerge, providing [illegible]

Find out why Rain Master is the leading provider of [illegible] irrigation controls. Contact your [illegible] representative for an EV2000 [illegible]

Evolution DX2 Field Controllers

Unrivaled Standalone Performance

Versatile Programming

- *Operation of 12 Conventional Programs and/or individual station control*
- *Up to 8 start-times each or continuous cycle with programmable soak time*
- *14 day schedule, skip by day, or 31 day watering schedules*
- *Multiple Master Valve - select one of two master valves, and a pump, on a per program basis, either normally opened or normally closed.*
- *Multi-Lingual Interface - designed to operate in several languages*
- *Programmable station runtimes from 1 second to 24 hours*
- *Inter-station delay from 0 to 255 seconds*

Water rationing tools

- *Water budget from 0 to 999% in 1% increments*
- *Programmable water window*
- *Programmable monthly water total terminates over-budget irrigation*
- *Omit by date exclusion feature*
- *Programmable rain feature*

Reliable Modular Design

- *Modular short circuit proof outputs available from 6-48 stations in 6 station increments*
- *Upgrade for central communications at any time*
- *Indefinite retention of programs as well as time and date during all power failures*
- *Optional heavy duty lightning and surge for lightning prone areas*

Integrated Flow Monitoring

- *Precise high/low station, mainline, and unscheduled limits*
- *Dynamic limit adjustment for multi-station operation*
- *Auto learn function with direct GPM readout in display*
- *Intelligent alarm notification, station condemnation, and program advancement*

Integrated Electrical Current Monitoring

- *Built-in electrical current meter with amperage viewed in display*
- *Continuous electrical measurement of station solenoids, master valves, pumps*
- *Auto learn function with adjustable high and low limits*
- *Dynamic limit adjustment for multi-station operation*
- *Intelligent alarm notification, station condemnation, and program advancement*

Intelligent Single Point of Connection Operation

- *Share a single flow meter and master valve/pump across multiple controllers.*
- *Flow limits are intelligently and dynamically updated as stations transition providing full protection for main line, station, and unscheduled flow*
- *Read flow at any controller*

Manual Diagnostic Features

- *Multi-station operation with instantaneous flow/current viewed in display*
- *System station check*
- *Controller built-in self test*
- *Diagnostic LEDs for all outputs*
- *Rain Master Remote ready*

Multi-mode reliable communications

- *bi-directional (two-way) communications ensure integrity*
- *Hardwire, UHF point to point radio, trunk radio, cellular, UHF store and forward radio, phone, repeater operation*

Field or Central Programming

- *Full support for controller programming in the field or at central utilizing comparison management tools on the PC.*
- *Two-level password access activated by the user protects against unauthorized modifications to controller programs*

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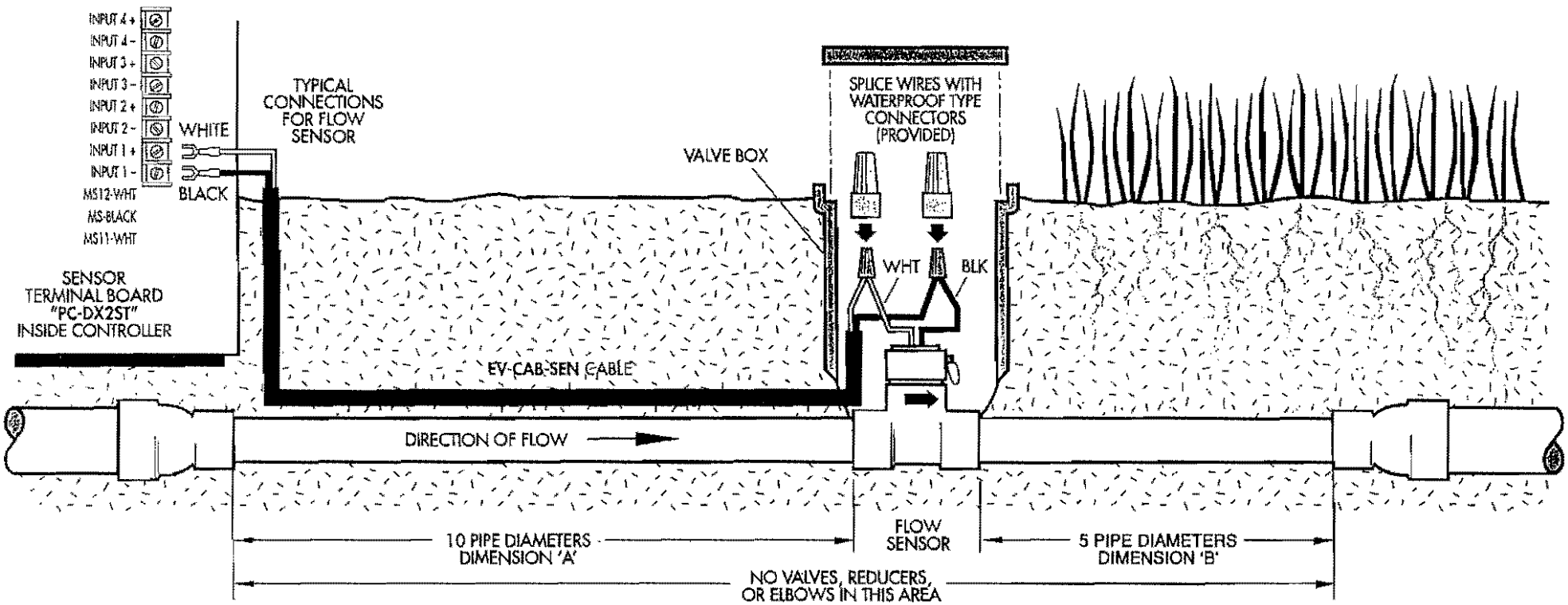


EXAMPLE:

FOR 3" FLOW SENSOR, DIMENSION 'A' MINIMUM 30"
DIMENSION 'B' MINIMUM 15"

Upon completion of the physical installation of the flow sensor, complete the wiring connection from the flow sensor to the DX2 controller by following the procedure below.

1. **TURN THE POWER OFF AT THE CONTROLLER**
2. At the Flow Sensor:
   Connect the **BLACK** wire of the Flow Sensor to the **BLACK** wire of the "**EV-CAB-SEN**", sensor cable.
   Connect the **WHITE** wire of the Flow Sensor to the **WHITE** wire of the "**EV-CAB-SEN**", sensor cable.
   *Use the weatherproof connectors provided with the Flow Sensor to make the connection.
3. At the controller:
   Connect **BLACK** wire of "**EV-CAB-SEN**" to "**INPUT 1–**" of the SENSOR TERMINAL BOARD (**PC-DX2ST**).
   Connect **WHITE** wire of "**EV-CAB-SEN**" to "**INPUT 1+**" of the SENSOR TERMINAL BOARD (**PC-DX2ST**).
4. Turn **POWER ON** at the Controller.
5. Set the Rain Master "K" and "OFFSET" values for the Flow Sensor at the controller based on the type and size of the Flow Sensor installed.

REFER TO THE TABLE PROVIDED WITH THE FLOW SENSOR FOR CORRECT "K" AND "OFFSET" FOR YOUR APPLICATION.

RAIN MASTER IRRIGATION SYSTEMS • 3910-B ROYAL AVENUE, SIMI VALLEY, CA 93063 • 805-527-4498

RAIN MASTER FLOW SENSORS

SELECTION CHART

FLOW SENSOR MODEL NO.	PIPE CONNECTION SIZE	SUGGUSTED OPERATING RANGE	MAXIMUM WATER PRESSURE	K VALUE	OFSET VALUE	BODY MATERIAL	CONNECTION TYPE
FS-B100	1 inch	2 – 40 GPM	400 PSI	109	27	Bronze	NPT female
FS-B125	1 ¼ inch	3 – 60 GPM	400 PSI	209	32	Bronze	NPT female
FS-B150	1 ½ inch	4 – 80 GPM	400 PSI	291	24	Bronze	NPT female
FS-B200	2 inch	10 – 100 GPM	200 PSI	750	0	Bronze	NPT female with copper male adapters
FS-B250	2 ½ inch	16 – 160 GPM	200 PSI	1021	370	Bronze	NPT female
FS-150	1 ½ inch	5 – 100 GPM	100 PSI @ 68° F	457	0	PVC	Slip
FS-200	2 inch	10 – 200 GPM	100 PSI @ 68° F	776	104	PVC	Slip
FS-300	3 inch	20 – 300 GPM	100 PSI @ 68° F	2268	483	PVC	Slip
FS-400	4 inch	40 – 500 GPM	100 PSI @ 68° F	3752	834	PVC	Slip
FS-INSERT-B	3 to 40 inches	Varies, Call Factory	400 PSI	See attached table RMIS Part No. 500712		Requires pipe saddle with 2 inch female NPT	

RAIN MASTER EV-CABLE SPECIFICATIONS

USAGE	PART #	CONDUCTORS	MAX. LENGTH
Hard Wire Comm Cable	EV-CAB-COM	2S	5000 ft
Short Haul Modem	EV-CAB-SH-COM	4S	5000 ft
Weather Center II	EV-CAB-WS12	12S	1000 ft
Flow Sensor	EV-CAB-SEN	2S	2000 ft

S = Indicates shielded

CABLE DESCRIPTION

Part #	Description
EV-CAB-COM	2 #20, full braid shield, 100 Ohm impedance one copper, one tinned, black jacket, direct burial. 2 conductor direct burial shielded communication cable used for hardwire satellite serial link up to 5000' in length.
EV-CAB-SH-COM	4 #18, foil shield w/drain, blue jacket, direct burial BLK, WHT, RED, GRN. 4 conductor direct burial shielded communication cable used to interconnect a pair of short haul modems (EV-SH-MOD) between the central computer and first satellite in a hardwire serial connection. More than 100' in length but not more than 5000' in length.
EV-CAB-WS12	12 #18, foil shield w/drain, black jacket, direct burial RED, BLUE, RED w/BLACK STRIPE, BROWN, BLUE w/BLACK STRIPE, ORANGE w/BLACK STRIPE, ORANGE, YELLOW, BLACK w/RED STRIPE, BLACK, YELLOW w/BLACK STRIPE, BROWN w/BLACK. 8 strand direct burial #18 shielded wires used to connect a Weather Center II to a Evolution DX2 controller. Not longer than 1000' in length.
EV-CAB-SEN	2 #20 foil shield w/drain, black jacket, direct burial BLK, WHT. 2 conductor direct burial shielded cable used with all field sensor connections to satellites such as flow sensors and moisture sensors up to 2000' in length.

ALL EV CABLE MUST BE CERTIFIED BY RAIN MASTER IRRIGATION SYSTEMS

The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison TX 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768-Arapaho Road - Phase III

VIA Hand Delivered – 1:30pm

Date: July 7, 2005

Letter of Transmittal

To: Ben Withered
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Regarding: Contract Plan Sheet

We are forwarding to you:

____ Estimates	__X__ Plans	____ Prints
____ Reports	____ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
1	Sheet LA-08, pg 195	6/26/05		STA 65+00 to 70+00 Sitework Layout & Dimensioning Plan

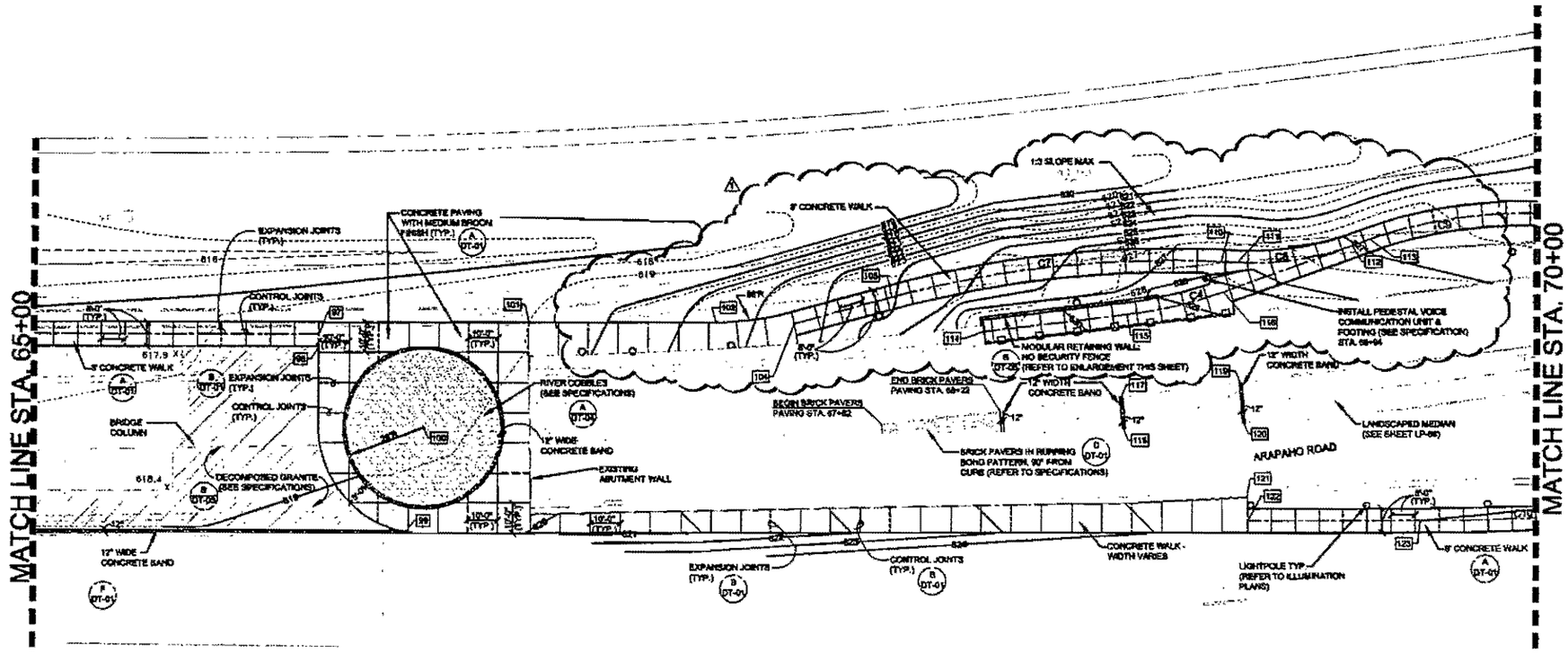
These are transmitted:

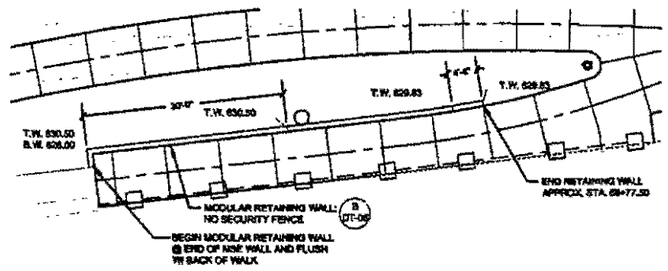
____ For approval	____ As requested	____ Copies for distribution
__X__ For your use	____ Resubmit	____ For Review & comment
____ Return	____ Copies for review	____ No exception taken
____ Corrected prints	____ Submit	____ Amend and resubmit
		____ Make corrections noted

Please note: The PDF file for this contract sheet will be e-mail for your use. On new Sheet the new contour are shown along with the relocation of the sidewalk and the attachment of the SGT(B)HB-03A guardrail terminal to the T-4 rail. There will be an addition work of a modular retaining wall with no security fences installed under the contract bid item as shown on this sheet.

By: Guy Van Baulen, EIT

Copy to: File
Jerry D. Holder, HNTB Corporation
Mike Preston, HNTB Corporation
Steve Chutchian - Addison





RETAINING WALL LAYOUT - ENLARGEMENT

SCALE: 1" = 10'-0"

LAYOUT COORDINATE TABLE

97 N 10154.00 E 9801.51	102 N 10138.00 E 9833.92	107 NOT USED	112 N 10163.30 E 10143.95	117 N 10133.08 E 10058.61	122 N 10092.00 E 10111.08
98 N 10130.00 E 9821.44	103 NOT USED	108 NOT USED	113 N 10168.39 E 10151.87	118 N 10122.41 E 10089.48	123 N 10092.00 E 10168.72
99 N 10088.30 E 9830.60	104 N 10157.48 E 9880.08	109 NOT USED	114 N 10154.84 E 10023.34	119 N 10137.61 E 10108.48	
100 N 10125.00 E 9898.51	105 N 10168.263 E 9892.57	110 N 10177.567 E 10103.03	115 N 10160.46 E 10070.41	120 N 10124.44 E 10109.57	
101 N 10138.00 E 9871.31	106 NOT USED	111 N 10177.71 E 10107.46	116 N 10167.38 E 10102.67	121 N 10099.67 E 10110.81	

CONCRETE WALK CENTERLINE CURVE DATA

CURVE	DELTA	RADIUS	ARC	TANGENT	BEARING	CHORD
C4	12°40'49"	150.00'	33.20'	16.67'	S 76°31'47" W	33.13'
C7	18°5'47"	350.00'	110.54'	55.74'	S 74°50'46" W	110.09'
C8	22°25'11"	100.00'	39.13'	19.82'	S 61°43'57" W	38.88'
C9	21°42'10"	150.00'	56.82'	28.75'	S 61°22'27" W	56.48'
C10	10°56'07"	1000.00'	190.86'	95.72'	N 84°31'57" E	190.57'

N

0 20 40 60 80

SCALE IN FEET

GENERAL NOTES:

1.) WRITTEN DIMENSIONS AND COORDINATE DATA SHALL GOVERN OVER SCALED DIMENSIONS.

2.) SEE THE SURVEY CONTROL PLAN SHEETS WITHIN THIS SET FOR COORDINATE CONTROL POINT INFORMATION.

3.) ALL IMPROVEMENTS SHALL BE STAKED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER'S REP. PRIOR TO CONSTRUCTION OR INSTALLATION.

4.) THE CONTRACTOR SHALL VERIFY ALL EASEMENT LINES IN THE FIELD PRIOR TO BEGINNING WORK.

5.) CONTRACTOR SHALL VERIFY ALL UTILITIES SHOWN ON THESE PLANS AS WELL AS ANY OTHERS IN FIELD PRIOR TO START OF CONSTRUCTION.

6.) ALL CONSTRUCTION WILL CONFORM TO THE TOWN OF ADDISON STANDARDS AND SPECIFICATIONS, AS WELL AS, ANY GOVERNING TXDOT OR RAILROAD STANDARDS AND SPECIFICATIONS RELATED TO THIS PROJECT.

7.) ALL DIMENSIONS ARE TO BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

8.) REINFORCEMENT SHOULD BE CONTINUOUS THROUGH CONTROL JOINTS.

9.) THE CONTRACTOR WILL COORDINATE INSTALLATION OF ALL SIGNS, PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES BY THE CITY DURING CONSTRUCTION

10.) ALL PROPOSED GRADES INDICATED ARE FINISHED GRADES.

11.) ALL LAND FORMS, SWALES, AND GRADES SHALL BE FINISHED TO BE A SMOOTH, FLOWING, ROUNDED SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LANDFORM CONTINUITY.

12.) GRADING FOR THE IMPROVEMENTS SHALL OCCUR AS DIRECTED BY LANDSCAPE ARCHITECT WITH THE FOLLOWING GUIDELINES:

- ALL WALKS SHALL HAVE A CROSS SLOPE OF 2% IN THE DIRECTION OF THE DOWNHILL SIDE.
- THE LONGITUDINAL SLOPE OF THE WALKS SHALL NOT EXCEED 5%.

13.) NO EARTHEN SLOPES SHALL BE STEEPER THAN 3:1.

LEGEND:

- DECOMPOSED GRANITE (SEE SPECIFICATIONS)
- BRICK PAVING (SEE SPECIFICATIONS)
- RIVER COBBLES (SEE SPECIFICATIONS)
- EXPANSION JOINTS
- CONTROL JOINTS
- EXISTING CONTOURS
- PROPOSED CONTOURS

REGISTERED LANDSCAPE ARCHITECT MICHAEL PRESTON 2062 STATE OF TEXAS

195

NO.	DATE	REVISION	APPROV.
1	4/24/06	REVISED CONCRETE WALK LAYOUT & GRADING	
1	4/24/06	NEW MODULAR RETAINING WALL	

HNTB ARCHITECTS ENGINEERS PLANNERS The HNTB Companies

ARAPAHO ROAD EXTENSION

SURVEYOR BOULEVARD TO ADDISON ROAD

STA 65+00 TO 70+00
SITEWORK LAYOUT & DIMENSIONING PLAN

TOWN OF ADDISON , TEXAS

Design: DAB	Drawn: DAB	DATE:	SCALE:	PROJECT NO.	SHEET NO.
Check: MP	Check: MP	2/24/06	VARIES	25798	LA-08

25798

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: April 26, 2005

Submittal # : 61.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 2x2 Plaque

Description of Submitted Item: 2 x 2 Plaque

Manufacturer/Sub/Supplier: Southwell Company

Related Section / Drawings:

Additional Comments:

Jenny:
Ron W. gave the O.K. to use this plaque, as is. We will need to settle on location later.
Steve.

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: April 26, 2005

Approved By Town of Addison May 25, 2005

Copy: File

the southwell co.
p. o. box 299 san antonio, tx 78291
ph. (210) 223-1831 fax (210) 223-8517

☐ approved (no corrections)
☐ approved as noted
☐ revise and resubmit
signed by: date:

PLEASE SIGN AND RETURN ONE (1) COPY. FAILURE TO SIGN THIS PROOF WILL RESULT IN RESUBMITTAL FOR YOUR SIGNATURE.
Thank You

CUSTOMER:
ARCHER WESTERN CONTRACTORS, LTD.
2121 AVENUE J, SUITE 103
ARLINGTON, TX 76006
ATTN: ANDREW SCHNEEMANN

SHIP TO:
ARCHER WESTERN CONTRACTORS, LTD.
1510 SURVEYOR
ADDISON, TX 75001
ATTN: ANDREW SCHNEEMANN

PROOFS!
PLEASE SIGN & RETURN ONE COPY

CAST BRONZE PLAQUE

24" W X 24" H SCALE: 1/4" = 1"

24"

24"

ARAPAHO ROAD PHASE III

October 2005

City Council

R. Scott Wheeler, Mayor

Tom Braun — Glynda Turner
Jimmy Niemann — Joe Chow
Fredric M. Silver — Gregory S. Hirsh

Ron Whitehead, City Manager

Director of Public Works / City Engineer
Mike Murphy, P.E.

Construction Manager
HNTB Corp.

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Roadway-HNTB Corp.
Bridge-URS Corp.

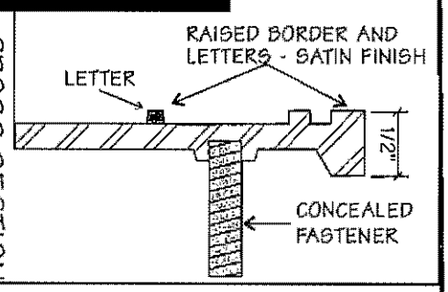
General Contractor
Archer Western Contractors, LTD.

BACKGROUND OXIDIZED TEXTURE

YOUR ORDER WILL BE PRODUCED FROM THE ARTWORK YOU SEE HERE. IF YOU APPROVE THIS ARTWORK AND IT CONTAINS ERRORS, YOU WILL BE HELD FINANCIALLY RESPONSIBLE FOR THE WORK WE DO. PLEASE CAREFULLY CHECK THAT ALL IS CORRECT REGARDING SPELLING, DESIGN, COLOR AND

STOP **YOU ARE THE FINAL PROOF-READER** STOP

CROSS SECTION
3/4 SCALE



QUOTE # 16547
JOB # 04-4689
P.O. #
RE: ARAPAHO ROAD PHASE III
FILE NAME: 04-4689.CDR
DATE SUBMITTED: 12.27.04
DRAWN BY: MARI HERNANDEZ

PLEASE
SPECIFY MOUNTING ATTACHMENTS
☐ CONCEALED
☐ WOOD SCREWS W/ROSETTES
☐ EXPANSION BOLTS W/ROSETTES
☐ TOGGLE BOLTS W/ROSETTES

QUANTITY: TWO (2)
MATERIAL: CAST BRONZE
FINISH: OXIDIZED BACKGROUND
SIZE: 24" WIDE X 24" HIGH
BORDER: DOUBLE LINE
LETTERS: OPTIMA (caps & lower case)

THE DESIGN OF THIS PLAQUE HAS BEEN MADE USING COMPUTERIZED GRAPHICS. THE ACTUAL PATTERN USED IN CASTING WILL BE MADE BASED ON FINAL APPROVAL OF THIS SUBMITTAL DRAWING. THE FORMAT, LETTER STYLE, LETTER SIZE, SPACING AND MOUNTING ARE BASED ON INDUSTRY STANDARDS AND OUR CAPACITIES TO PRODUCE A HIGH QUALITY CASTING.

ARAPAHO ROAD PHASE III

October 2005

City Council

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Jimmy Niemann	Joe Chow
Fredric M. Silver	Gregory S. Hirsh

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HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

July 6, 2005

Originator: Andrew Scheermann

RFI Number: R-AW092

Subject: Watson/Taylor Driveway Grades

Request:

According to Sheet 53 of the Plans, the elevation at South end of the Watson/Taylor Drive to "Match Existing Pavement". The elevation of the Driveway at STA 0+96 is 600.849' (See attached Sheet for calculations), but the existing driveway/pavement varies in elevation from 599.72' to 600.34' (See attached Drawing). Please advise.

Response/Action Taken:

In response to the elevation and alignment issue at the Watson/Taylor Drive, Archer Western in directed to move the Drive centerline forward/up station along the Arapaho Rd PGL to align the 24ft wide driveway entrance with the existing pavement.

Archer Western Contractors, Ltd. is then directed to change the driveway slope to .8% from .9%; this new slope is to be utilized up to 10ft before the proposed end of the Drive. The remaining 10ft to end of Drive shall be install almost flat holding the grade to the gate location, were Archer Western is directed to remove an additional 25ft back along the existing pavement and replace the existing pavement with new 6" thick pavement matching the new elevation at the gate and transitioning the pavement to match the existing pavement 25ft from the gate.

Note additional information will follow, if there are any question and conflicts please forward all information under this existing RFI number as an addendum. (Example 92.1, 92.2, etc...)

By: Guy Van Baulen, EIT
HNTB Corporation

Date: July 6, 2005

Cc: File

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: Arch Splice Connection

July 7, 2005

Dear Ben:

On July 2nd, I discussed with Archer Western Superintendent that the backer ring for the Structural steel arch was not fabricated correctly and doesn't meet the AWS standard for a full penetration field weld with a backer plate/ring. Every day I have question the status of what Archer Western is doing to correct this condition.

At this time, I'm requesting Archer Westerns to provide their correction procedure to rectify this issue of the splice connection to conform to the AWS standard as required by the TXDOT Standard prior to the erection of the arch. Note this correct must also meet the standard to allow for the test by Ultrasonic Testing of the full penetration field weld.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation
Cliff Hall, URS Corporation

Engineers Architects Planners
Addison TX, 75001
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768-Arapaho Road - Phase III

VIA Hand Delivered – 10:00 am

Date: July 5, 2005

Letter of Transmittal

To: Ben Withered
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Regarding: Shop Drawing Submittal

We are forwarding to you:

____ Estimates	X Plans	____ Prints
____ Reports	____ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
2	Submittal # 61.1	4/26/05		2ft X 2ft Bronze Plaque

These are transmitted:

____ For approval	____ As requested	____ Copies for distribution
X For your use	____ Resubmit	____ For Review & comment
____ Return	____ Copies for review	X No exception taken
____ Corrected prints	____ Submit	____ Amend and resubmit
		____ Make corrections noted

Please note:

By: Guy Van Bauken, EIT

Copy to: File

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 108
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: April 26, 2005

Submittal # : 61.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 2x2 Plaque

Description of Submitted Item: 2 x 2 Plaque

Manufacturer/Sub/Supplier: Southwell Company

Related Section / Drawings: Plans

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: April 26, 2005

Engineer's Stamp

Approved By Town of Addison May 25, 2005

Copy: File

QUOTE # 16547 FILE NAME: 04-4689.CDR

PLEASE

the southwell co.
p. o. box 299 san antonio, tx 78291
ph. (210) 223-1831 fax (210) 223-8517

☐ **approved (no corrections)**
☐ **approved as noted**
☐ **revise and resubmit**
signed by: **date:**

PLEASE SIGN AND RETURN ONE (1) COPY. FAILURE TO SIGN THIS PROOF WILL RESULT IN RESUBMITTAL FOR YOUR SIGNATURE.
Thank You

CUSTOMER:
ARCHER WESTERN CONTRACTORS, LTD.
2121 AVENUE J, SUITE 103
ARLINGTON, TX 76006
ATTN: ANDREW SCHNEEMANN

SHIP TO:
ARCHER WESTERN CONTRACTORS, LTD.
1510 SURVEYOR
ADDISON, TX 75001
ATTN: ANDREW SCHNEEMANN

PROOFS!
PLEASE SIGN & RETURN ONE COPY

CAST BRONZE PLAQUE

24" W X 24" H SCALE: 1/4" = 1"

24"

24"

ARAPAHO ROAD PHASE III

October 2005

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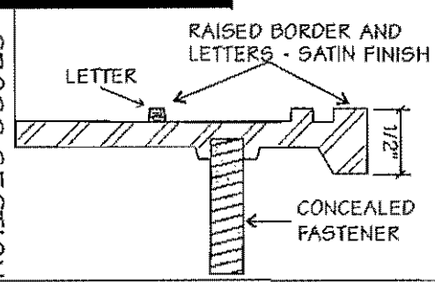

QUOTE # 16547
JOB # 04-4689
P.O. #
RE: ARAPAHO ROAD PHASE III

FILE NAME: 04-4689.CDR
DATE SUBMITTED: 12.27.04
DRAWN BY: MARI HERNANDEZ

QUANTITY: TWO (2)
MATERIAL: CAST BRONZE
FINISH: OXIDIZED BACKGROUND
SIZE: 24" WIDE X 24" HIGH
BORDER: DOUBLE LINE
LETTERS: OPTIMA (caps & lower case)

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☐ CONCEALED
☐ WOOD SCREWS W/ROSETTES
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ARAPAHO ROAD PHASE III

October 2005

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General Contractor
Archer Western Contractors, LTD.

Altek Engineering & construction Co.
Structural, Foundation and Civil Engineer
P. O. Box 172004 Arlington, TX 76003-2004
Phone: (817) 572-1989 Fax: (817) 563-1465

***June 06*, 2005**

Archer Western Contractor, LTD.
2121 Avenue J, Suite 103, Arlington, TX 76006 Tel: (817) 640-3898
Attention: Don Good/ Ben J. Withered, Project Manger
Tel: (817) 401-5456, (817) 401-7202

Subject: Construction sequence for Arch & Beam Erection Plan, Temporary support system (Shoring Towers); Crane capacity analysis for the Span # 9, Cable installation; Load influence on permanent structure for the Main arch and beam span of the **Arapaho Road Bridge, Town of Addison, and Dallas County, Texas**

Attached please find the following documentations for the above mentioned subject:

Section #1 shows the construction sequence for all work required at span # 9 including "Arapaho Construction Sequence".

Section #2 details the erection of arch sections and concrete beams with the required false-work which includes "Arapaho Span # 9 Erection Plan, Arch & concrete U-Beam Erection Drawings, Arch Erection Lift Table & Loading, Arch shore tower & Support Beam Analysis, Concrete U-Beam Shore Tower & Support Beam Analysis, Plan Sheet # 273 - 276 Arch/Main Span Erection Sequence, King Fabrication Dwg # 01-072-E1 Arch, Pafco 50 Kip/Leg Shore Tower, Pafco 100 Kip/leg Shore tower, 100-Ton Crane Chart, 120-Ton Crane Chart, 360-Ton Crane Chart".

Section # 3 details the hanger cable installation and stressing procedures "CBSI Structural Strand Installation Procedures".

Section # 4 details the influence of loads on the permanent and temporary structures throughout the erection sequence which includes "Sequence Loading and Calculations".

These recommendations are for the above referenced project only. All the other locations must be reviewed, sealed and signed individually. These recommendations are based upon the information and details provided to this engineer by the Archer Western Contractors, LTD. Supporting engineering calculations and Accessories charts for these recommendations are attached.

If you have any questions, or if I may be of further service in this matter, please call me at (817) 572-1989 or write to me at the above address.

Sincerely,

MG Movassaghi, P.E., Ph. D.

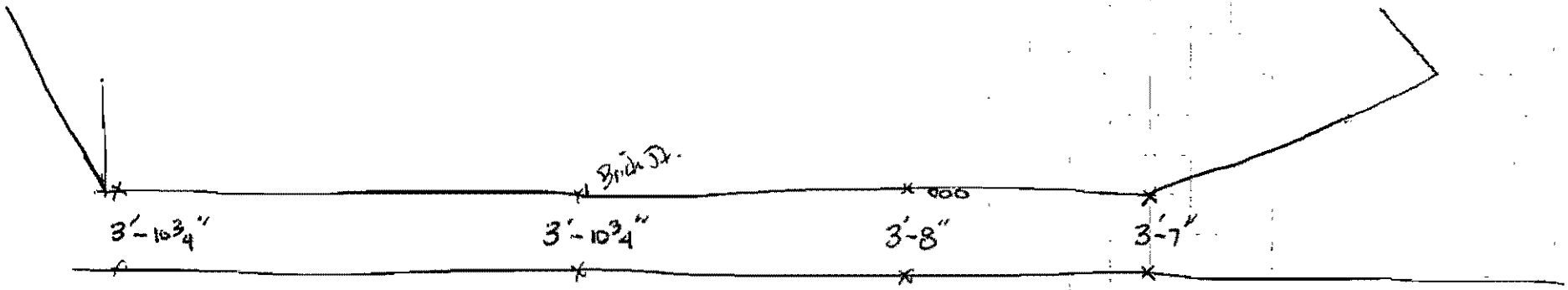
MG Movassaghi, P.E., Ph.D.
06/06/2005

Attachments:
Plans
Engineering calculations
Drawings
Charts and Specifications

Made by	Date	Job Number
Checked by	Date	Sheet Number
Backchecked by	Date	
For		

HNTB The HNTB Companies

MEASUREMENTS FROM EDGE OF BRIDGE TO ABSOLUTE SYST.
PER GVB 6/23/05



4'-1"

ME101-0783

Martinez, David (DGNO)

From: Duffy, Bob E (GE Trans) [Bob.Duffy@Trans.ge.com]
Sent: Thursday, June 23, 2005 9:32 AM
To: Martinez, David (DGNO)
Subject: FW: DGNO addisionWye

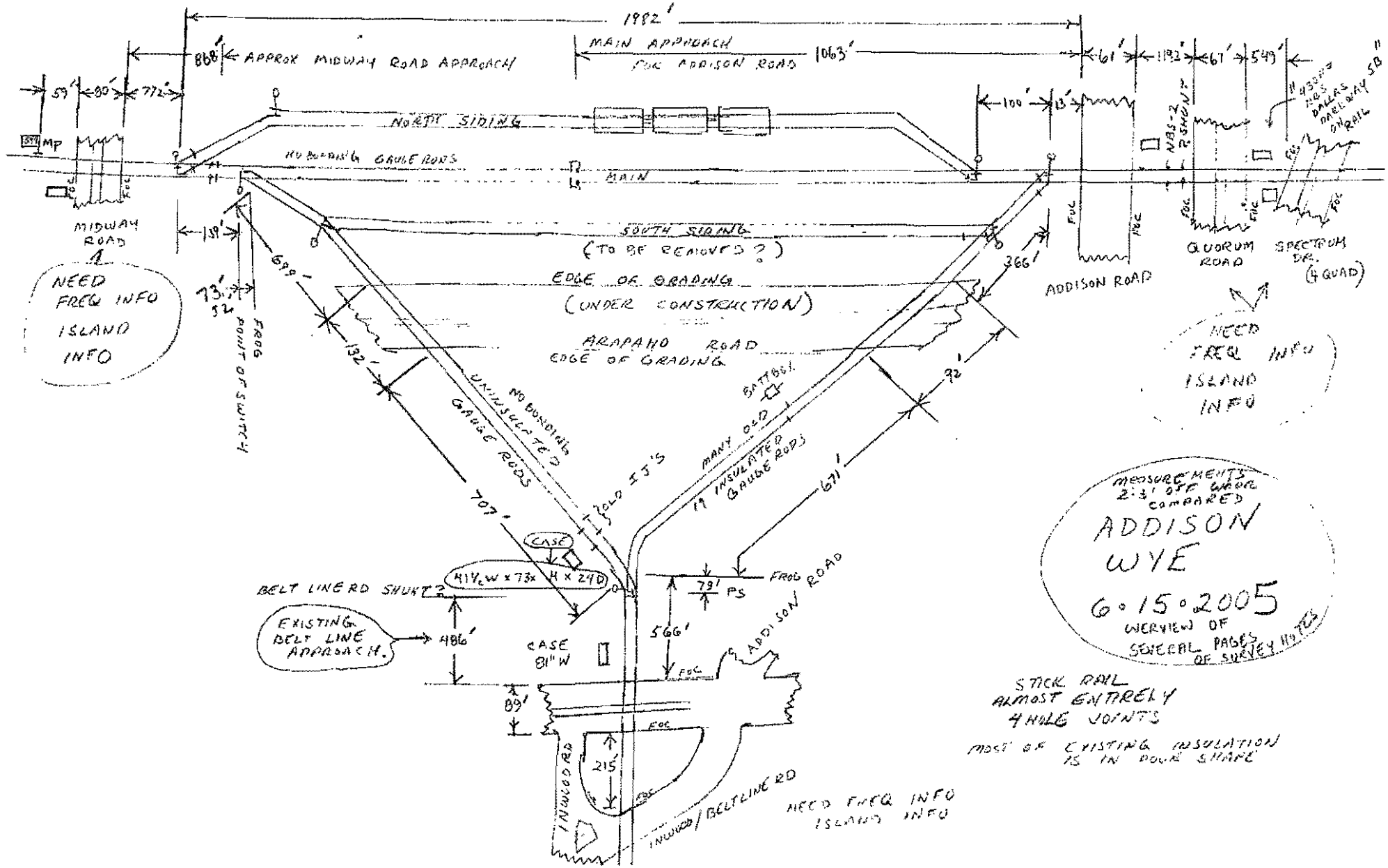
Addison.pdf

David, Here is information I sent David Eyermann on Tuesday June 21, 2005 so you have a copy. I corrected Dave's E-mail address in later transmission.

Bob Duffy GE Transportation

> -----Original Message-----
> From: Duffy, Bob E (GE Trans)
> Sent: Tuesday, June 21, 2005 4:58 PM
> To: 'david.evermann@railamerica.com'
> Cc: Kleinhenz, Paul (GE Trans); Venneman, Pat J (GE Trans); 'jleimbacher@qualitysignal.com'; 'bbunney@qualitysignal.com'; 'walter.fithian@railamerica.com'
> Subject: DGNO addisionWye
>
> > <<Addison.pdf>> David,
>
> Here are the measurements I made last Wednesday June 15, 2005 on the Addison Wye. If the maximum train speed is 10 MPH and there is no addition warning time for traffic light preemption time required the only wye switch which will be overlapped is the northeast switch of the wye. There will be need for cables between the East Arapaho crossing house and a new Addison crossing house and a switch circuit controller on the northeast wye switch to convey switch position information and crossing approach via HXP circuits at Addison to East Arapaho. The signal locations on the RCL PRELIMINARY plans are reasonable (per MUTCD guidelines) but I have not compared with the city plans for any conflicts.
>
> I have not received a fax with pre-emption time information.
>
> If more warning time for traffic pre-emption is required, cables maybe required to the Northwest and South wye switches. If the West Arapaho crossing needs addition warning time for traffic pre-emption cables may be needed from West Arapaho crossing house to both the Northwest (if more than 43 seconds WT at 10 MPH versus 39 seconds in PRELIMINARY PLAN) and South wye (if more than 44 seconds WT at 10 MPH versus 39 seconds in PRELIMINARY PLAN) switches. If the only East Arapaho crossing needs additional time warning time (if more than 41 seconds WT at 10 MPH versus 33 seconds in PRELIMINARY PLAN) for traffic light pre-emption and all the northbound moves from south wye use the east wye track, cables from the East Arapaho house to switch on south wye may be unnecessary. If both wyes are used from south, switch positions information will be needed for Arapaho East requiring additional cable from south wye switch to prevent activation at East Arapaho when northbound move is made to West wye track. A separate house at south switch would be an option to reduce track cable runs on other equipment, if traffic pre-emption time causes both East and West Arapaho crossing approaches to extent through south switch.
>
> Four inch conduit under track, roadways, sidewalks, parking lots or in any area that should not be dug up again, would be useful in installing direct buriable signal cable with armor tape to signals, track connection, switches, adjacent crossing houses, power, traffic controllers, and remote housings as required.
>
>

Bob Duffy GE TRANSPORTATION
Global Signaling
502-266-8545
extension 2358
>
>


1982'
868' APPROX MIDWAY ROAD APPROACH
MAIN APPROACH FOR ADDISON ROAD 1063'
59'
80'
772'
100'
13'
61'
192'
67'
549'
NORTH SIDING
MP
NO BONDING GAUGE RODS
MAIN
MIDWAY ROAD
SOUTH SIDING
(TO BE REMOVED ?)
EDGE OF GRADING
(UNDER CONSTRUCTION)
ARAPAHO ROAD
EDGE OF GRADING
ADDISON ROAD
QUORUM ROAD
SPECTRUM DR.
(4 QUAD)
NEED FREQ INFO ISLAND INFO
NEED FREQ INFO ISLAND INFO
39'
73'
52
69'
132'
707'
366'
92'
671'
FROG
POINT OF SWITCH
UNINSULATED GAUGE RODS
SOLID IJ'S
MANY OLD
19 INSULATED GAUGE RODS
BATTERY
CASE
H11½W x 7¾ H x 24D
BELT LINE RD SHUNT
EXISTING BELT LINE APPROACH
486'
CASE 81" W
566'
79' PS
FROG
ADDISON ROAD
89'
FOG
215'
INWOOD
INWOOD/BELTLINE RD
NEED FREQ INFO ISLAND INFO
MEASUREMENTS 2-3' OFF WHEN COMPARED
ADDISON WYE
6-15-2005
OVERVIEW OF SEVERAL PAGES OF SURVEY NOTES
STICK RAIL ALMOST ENTIRELY 4 HOLE JOINTS
MOST OF EXISTING INSULATION IS IN POOR SHAPE

Kuntz, Jim (DGNO)

From: Eyermann, David (DGNO)
Sent: Thursday, June 23, 2005 10:17 AM
To: Kuntz, Jim (DGNO)
Subject: Fw: DGNOaddisonwye

-----Original Message-----
From: Duffy, Bob E (GE Trans) <Bob.Duffy@Trans.ge.com>
To: Eyermann, David (DGNO) <David.Eyermann@RailAmerica.com>; Martinez, David (DGNO) <David.Martinez@RailAmerica.com>
CC: Venneman, Pat J (GE Trans) <Pat.Venneman@Trans.ge.com>; Kleinhenz, Paul (GE Trans) <Paul.Kleinhenz@Trans.ge.com>; jleimbacher@qualitysignal.com <jleimbacher@qualitysignal.com>; bbunney@qualitysignal.com <bbunney@qualitysignal.com>; Fithian, Walter (Home-Office User) <walter.fithian@railamerica.com>
Sent: Thu Jun 23 10:26:17 2005
Subject: DGNOaddisonwye

David,

I received the pre-emption timing requirements for the Arapaho Road and Addison Road intersection from HNTB via facsimile. Since Arapaho Road is named as the parallel to track and the clearance green is being applied to Addison Road which has 200 between its warning signal holding traffic back from the Arapaho Road intersection and Arapaho Road, and since Addison Road's southbound lane gate is much closer to the intersection than the Arapaho Road East eastbound gate, 200 feet versus about 365 feet, I like to assume their will be no preempt required for Arapaho Road East. If green clearance time was provided for both Addison Road and Arapaho Road at same time they would be in conflict, unless two preemptions treated sequentially based on direction of train approach. I am not a aware of any traffic controllers using multiple railroad crossing preemptions in sequence.

Please verify with city or HNTB, there is no plans for green clearance time on Arapaho East. If only 33 seconds warning time is required for Arapaho East, its northbound approach start will remain north of the south wye switch frog for 10 MPH trains.

Since Arapaho West's eastbound signal is about 985 feet from the Addison Road intersection it is outside the bounds for consideration a traffic preemption.
The Arapaho West approaches will remain within the Northwest and South wye frogs for 39 seconds warning time.

Bob Duffy GE Transportation Systems Global Signaling 502-266-8545 extension 2358

June 21, 2005

Letter: HNTB -47

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Carboline Paint System Pricing

Dear Guy:

Please find the revised paint pricing for the T-4 and Pedestrian railing utilizing the Caboline paint system.

T-4 Rail - 5103 LF - $ 18,351.45
Pedestrian Rail - 2294 LF - $ 11,113.89

Total Carboline Paint Pricing: $ 29, 465.34

Please process this change order so that the rail manufactures can proceed with the production of the railing and not delay the project.

If you require additional information, please contact Andrew at our field office.

Sincerely,

Ben Withered
Project Manager

for Andrew Schneemann

XC: Andrew Schneemann
Don Good
File
Steven Chutchian Town Addison
Jerry Holdbrook/HNTB

The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison TX. 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768 – Arapaho Road Phase III

VIA Hand Delivered -

Date: June 15, 2005

Letter of Transmittal

To: Ben Withered
Archer Western Contractors, Ltd.
15150 Surveyor Blvd.
Addison, TX 75001

HNTB

Regarding: Pavement Joints as per the Town of Addison

We are forwarding to you:

____ Estimates	____ Plans	X Prints
____ Reports	____ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
1	Surveyor Blvd. Joint Layout	6/14/05		Expansion Joints at Surveyor Blvd.

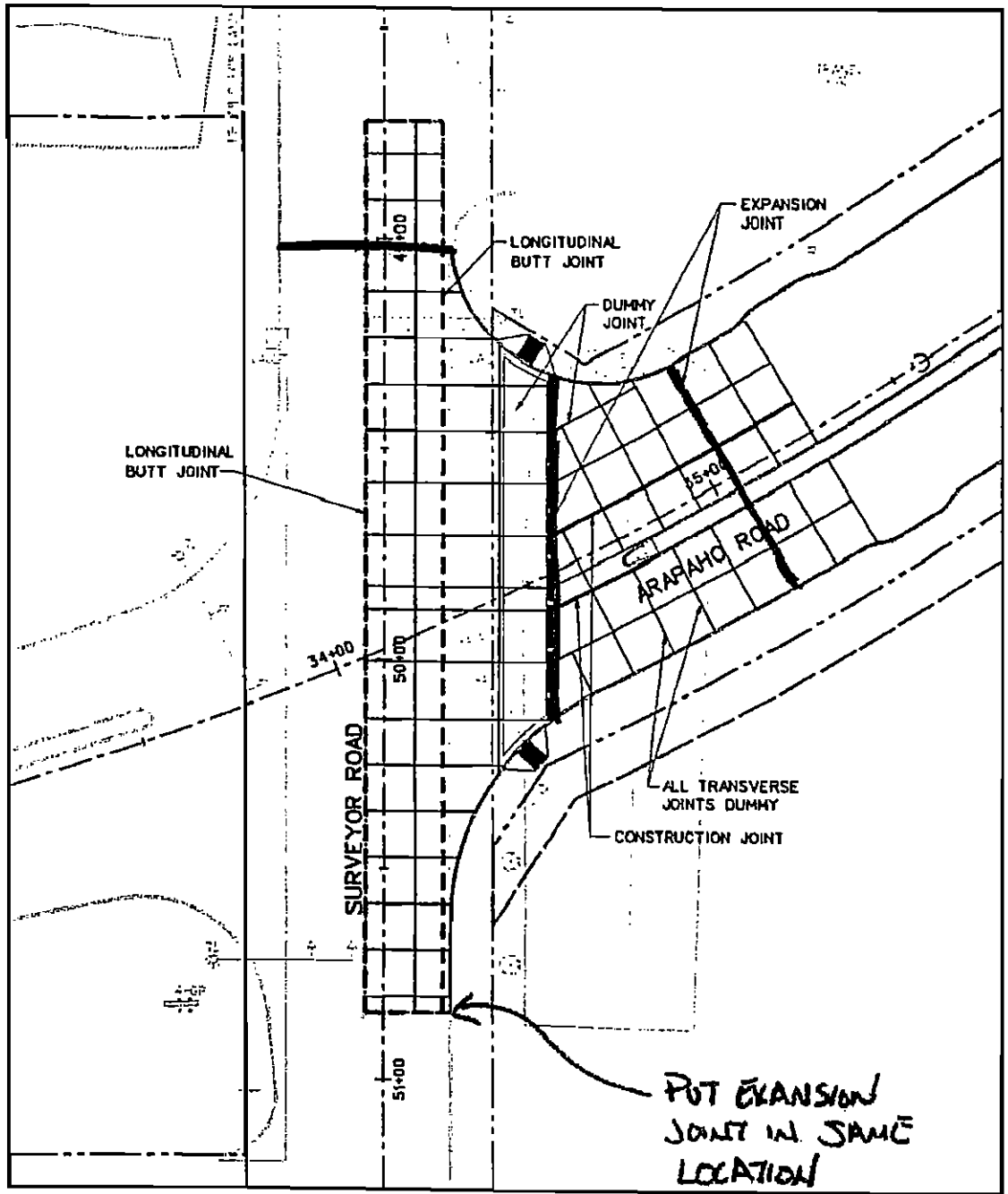
These are transmitted:

____ For approval	____ As requested	____ Copies for distribution
X For your use	____ Resubmit	____ For Review & comment
____ Return	____ Copies for review	____ No exception taken
____ Corrected prints	____ Submit	____ Amend and resubmit
		____ Make corrections noted

Please note: Please follow the existing pavement details as shown in the contract plans for the specific type of joint construction. The Town requests that expansion joint also be place in the new pavement adjacent to existing pavement expansion joints.

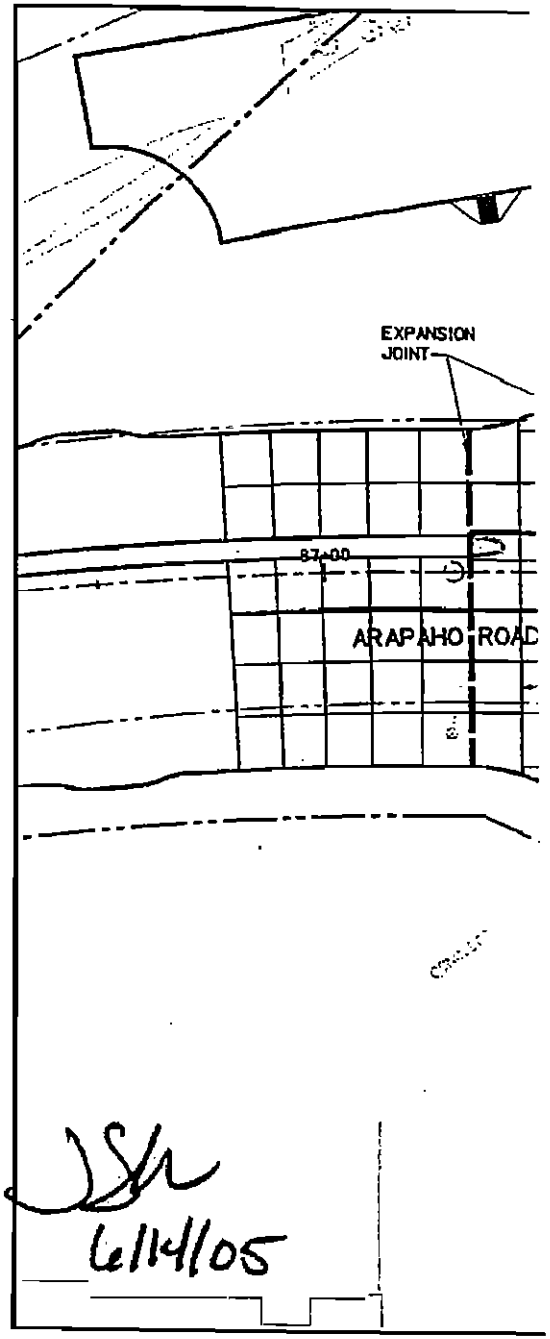
By: Guy Van Baulen
HNTB Corporation

Copy to: Jenny Nicewander, Town of Addison
Jerry D. Holder
File



SURVEYOR BLVD JOINT LAYOUT (MATCH EXIST.)

TOWN PREFERS DEBONDED JOINT



ds\or31nt02.dgn

Guy Van-Baulen

From: Jenny Nicewander [jnicewander@ci.addison.tx.us]
Sent: Tuesday, June 14, 2005 1:23 PM
To: Guy Van-Baulen
Cc: Andrew Schneemann (E-mail); Steve Chutchian; David Wilde
Subject: Expansion Joint

redwood joint.pdf
(214 KB)

Pls reference the attached expansion joint locations. The towns preference is for the redwood expansion joint shown in the plans.

Jenny

<<redwood joint.pdf>>

The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison TX, 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768-Arapaho Road - Phase III

VIA Hand Delivered - 12:50am

Date: June 14, 2005

Letter of Transmittal

To: Ben Withered
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Regarding: Shop Drawings

We are forwarding to you:

____ Estimates	X Plans	____ Prints
____ Reports	____ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
3	PK - 2, Page 57			Parking Layout MBNA - Change due to earth mound over TXU conduit

These are transmitted:

____ For approval	____ As requested	X Copies for distribution
X For your use	____ Resubmit	____ For Review & comment
____ Return	____ Copies for review	____ No exception taken
____ Corrected prints	____ Submit	____ Amend and resubmit
		____ Make corrections noted

Please note: Due to TXU cover requirements, please move the three parking spaces to the shown location on the attached sheet and make adjustments to the parking lot shape.

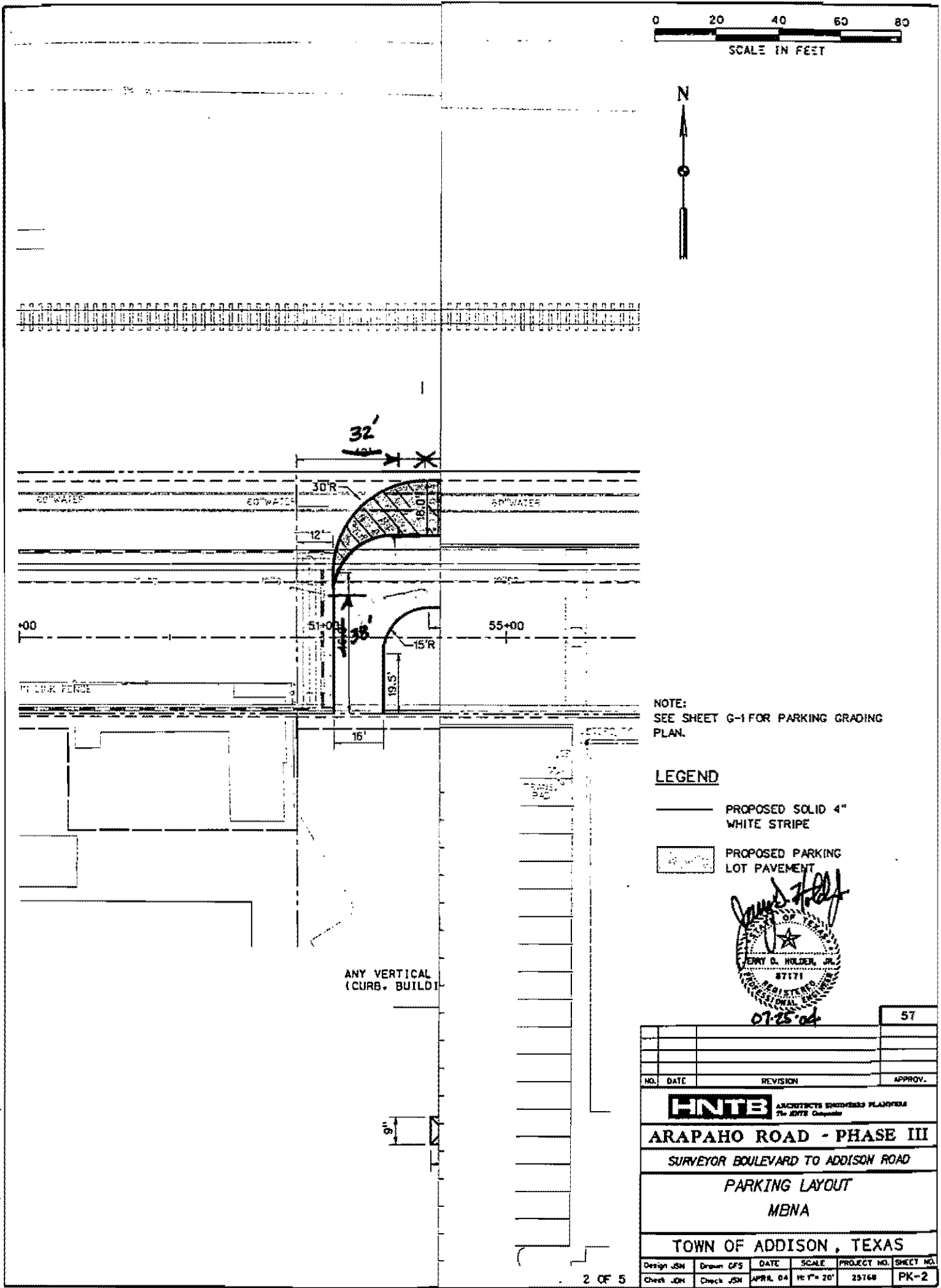
Guy Van Baulen

By: Guy Van Baulen, EIT

Copy to: File

JerryD. Holder, HNTB Corporation

Steve Chutchian, Town of Addison



NOTE:
SEE SHEET G-1 FOR PARKING GRADING PLAN.

LEGEND

PROPOSED SOLID 4" WHITE STRIPE

PROPOSED PARKING LOT PAVEMENT

JERRY D. HOLDER, JR.
87171
REGISTERED PROFESSIONAL ENGINEER
07-25-04

57

NO.	DATE	REVISION	APPROV.

HNTB ARCHITECTS ENGINEERS PLANNERS
The HNTB Companies

ARAPAHO ROAD - PHASE III

SURVEYOR BOULEVARD TO ADDISON ROAD

PARKING LAYOUT

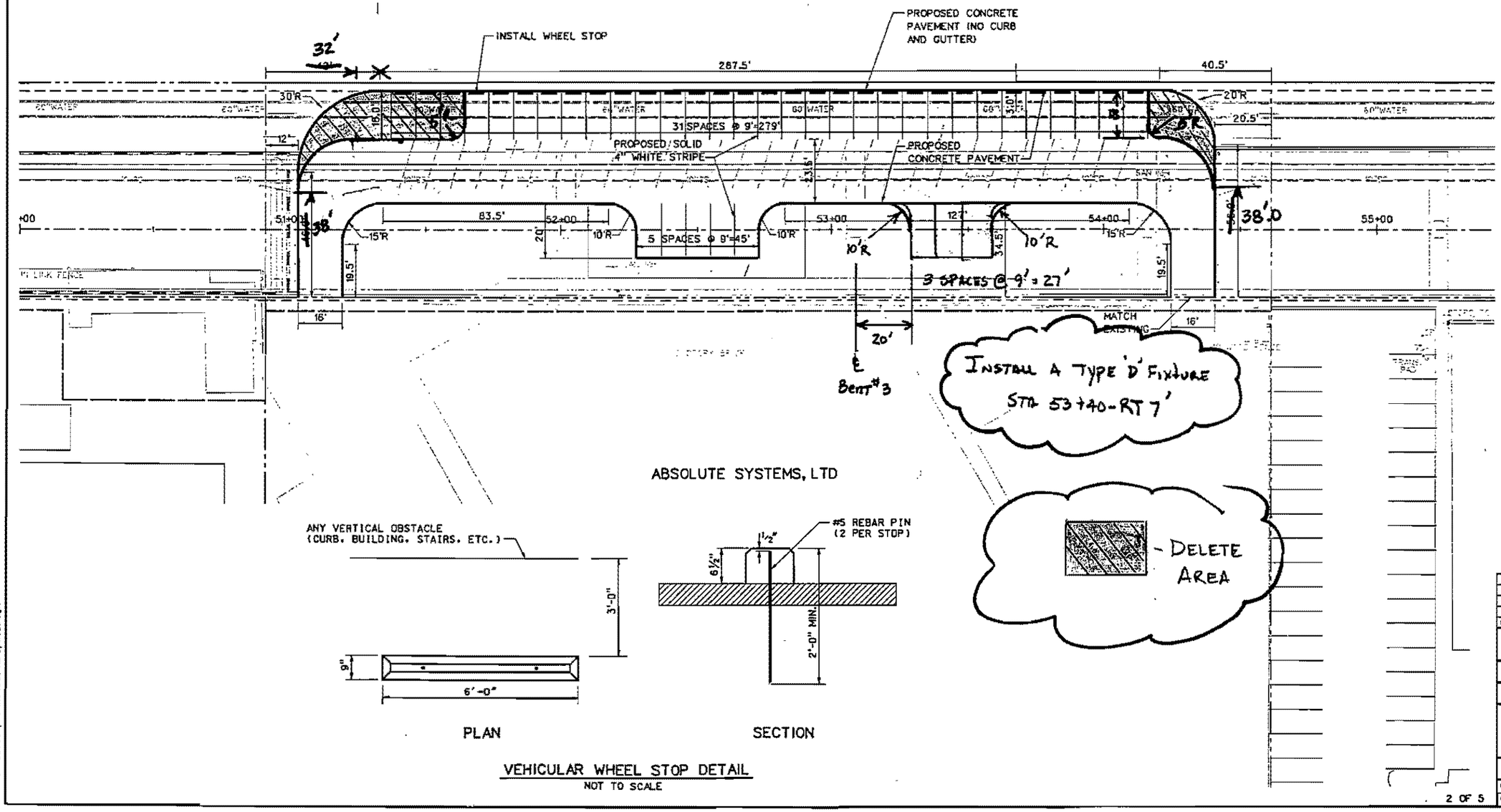
MENA

TOWN OF ADDISON, TEXAS

Design JSH	Drawn GFS	DATE	SCALE	PROJECT NO.	SHEET NO.
Check JDH	Check JSH	APRIL 04	H: 1"= 20'	25768	PK-2

2 OF 5

29-JUN-2004 13:55
G:\25768-ph3\hl\cds\or3pk02.dgn



0 20 40 60 80
SCALE IN FEET

N

NOTE:
SEE SHEET G-1 FOR PARKING GRADING PLAN.

LEGEND

PROPOSED SOLID 4" WHITE STRIPE

PROPOSED PARKING LOT PAVEMENT

ABSOLUTE SYSTEMS, LTD

PLAN SECTION

VEHICULAR WHEEL STOP DETAIL
NOT TO SCALE

TERRY D. HOLDER, JR. 87171 REGISTERED PROFESSIONAL ENGINEER
07-25-04

NO.	DATE	REVISION	APPROV.

HNTB ARCHITECTS ENGINEERS PLANNERS The HNTB Companies

ARAPAHO ROAD - PHASE III

SURVEYOR BOULEVARD TO ADDISON ROAD

PARKING LAYOUT

MBNA

TOWN OF ADDISON, TEXAS

Design JSH	Drawn GFS	DATE	SCALE	PROJECT NO.	SHEET NO.
Check JDN	Check JSH	APRIL 04	H: 1"= 20'	25768	PK-2

57

2 OF 5

29-JUN-2004 13:55
G:\25768-ph3\hl\Cds\ar3pk02.dgn

June 28, 2005

Letter: HNTB -53a

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Traffic Control Plan for Addison Road

Dear Guy:

Archer Western will utilize the Traffic Control Plan on Sheet TC-4 (30) for the Addison / Arapaho Road Tie in. We will begin this work Wednesday, June 29, 2005

If you require additional information, please contact Andrew at our field office.

Sincerely,

Andrew Schneemann

XC: Don Good
File

N

Message Board
North of Limeberg
For Advance Notice

CHARTER

CENTURION WAY

BELTLINE

MIDWAY ROAD

CONES @ 25' TYP.

ARROW BOARD

Right Lane Closed

200'

Right Lane Closed Ahead

WORK ZONE

MIDWAY ROAD

Right Lane Closed Ahead

Message Board
Located At The
NE Corner of
Beltline + Midway
For Advance Notice

Right Lane Closed

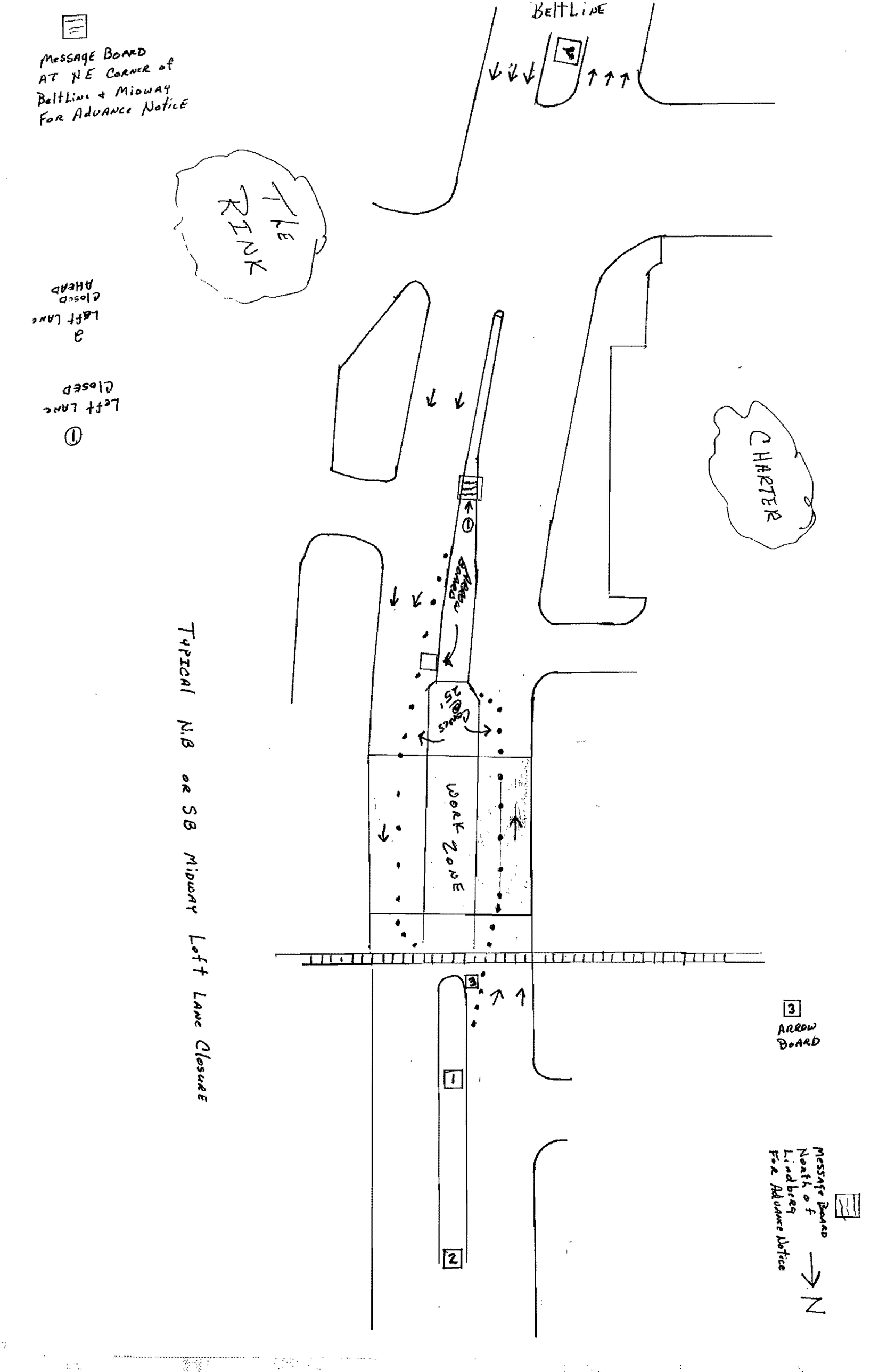
ARROW BOARD

TRAFFIC BARRELS

CONES @ 25'

THE RINK

TYPICAL N.B OR S.B. RIGHT LN. CLOSED


Message Board
AT NE Corner of
BeltLine & Midway
For Advance Notice
BeltLine
THE RINK
CHARTER
Left Lane Closed Ahead
Left Lane Closed
Reduce Speed 25 MPH
WORK ZONE
ARROW BOARD
Message Board
North of
Lindberg
For Advance Notice
N
TYPICAL N.B OR SB Midway Left Lane Closure

N

Message Board
North of Lindbergh
For Advance Notice

CHARTER

CENTURION WAY

BELTLINE

Right Lane Closed Ahead

Message Board
Located At the
NE Corner of
Beltline + Midway
For Advance Notice

THE RINK

MIDWAY ROAD

Right Lane Closed

Arrow Board

Traffic Barrels

Cones @ 25'

Cones @ 25' c/c's TYP.

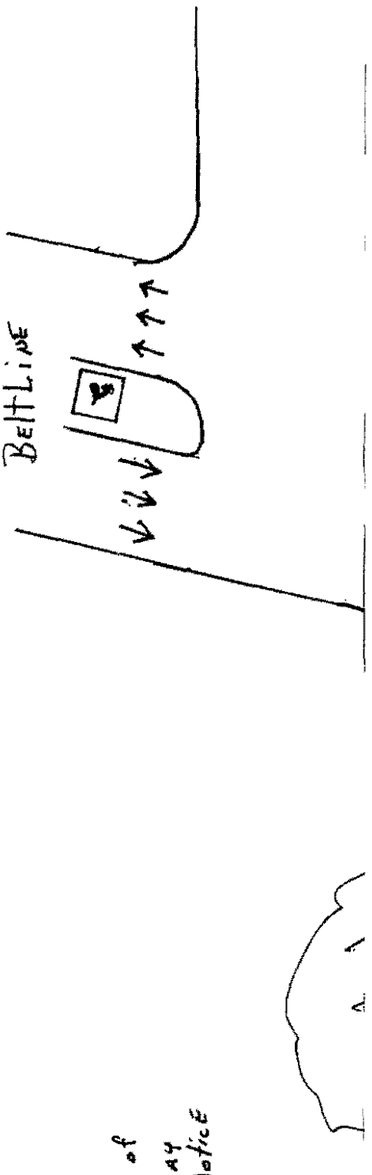
WORK ZONE

Right Lane Closed Ahead

1,200'

MIDWAY ROAD

TYPICAL N.B OR S.B. RIGHT LN. CLOSED



Archer Western
Contractors

July 20, 2005

HNTB
5910 W Plano Parkway
Plano, Texas 75093
Attn: Guy Van-Baulen

RE: Lane Closures

Dear Guy:

Archer Western requests that the Town of Addison considers the utilization of daytime lane closures on Midway Road, for the forming and placing of diaphragms on span # 9 of the Arapaho Bridge as well as decking work.

The lane closures are needed to assure the safety of the public as well as A/W employees while placing formwork and concrete over the Midway traveling traffic.

The times and dates are as realistic as I can predict at this time.

The Town is guaranteed that no closure will be set or left in place that is not necessary.

A/W requests that the closures be allowed at the off peak hours of 9:00 AM to 4:00 PM. We have had an occasional lane closure during these hours and the impact to the public is minimal.

The schedule of the closures will consist of the following;
Northbound Midway various lanes 7-25 thru 8-9
Southbound Midway various lanes 7-26 thru 8-19

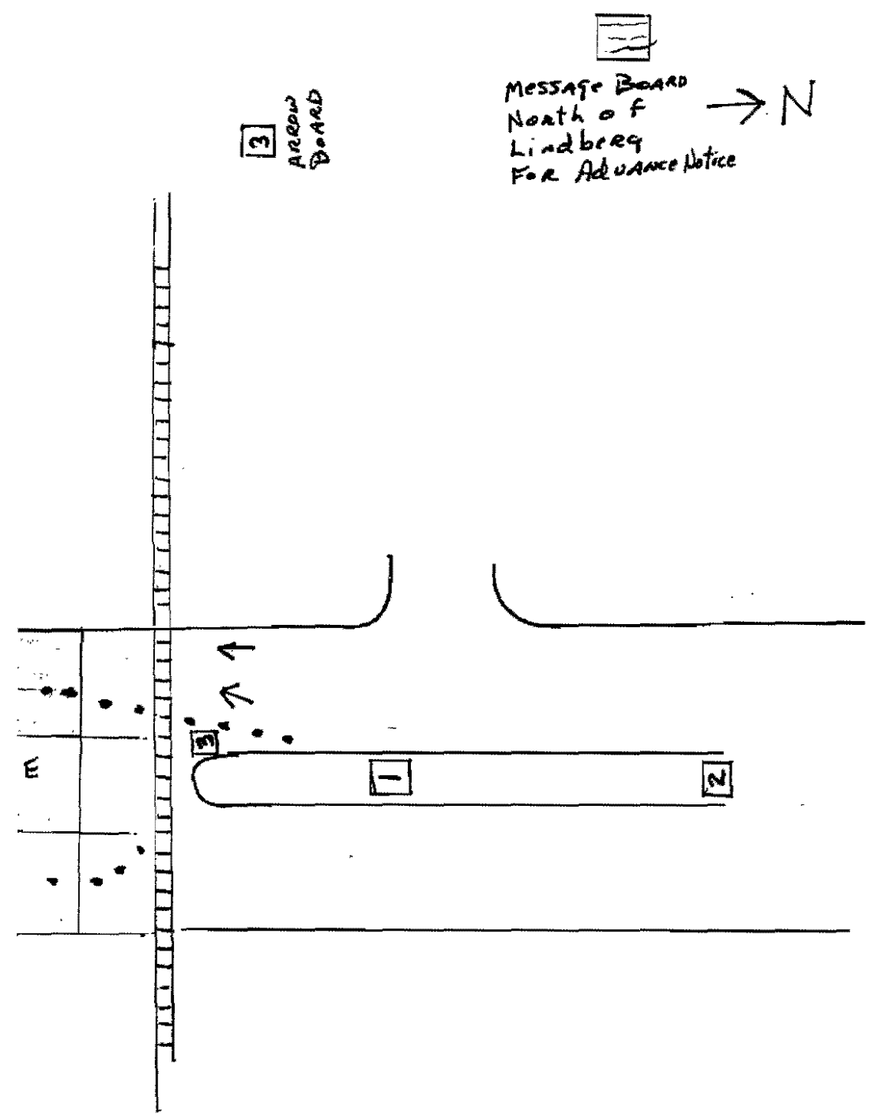
Messages boards will be used to forewarn the traveling public.

T.C.P attached.

Sincerely,

Don Good
Project Superintendent

2121 Avenue J, Suite 103
Arlington, Texas 76006
Phone: 817.640.3898
Fax: 817.640.8734
www.walshgroup.com



Archer Western
Contractors

July 19 2005

Town of Addison
16801 Westgrove Drive
Addison, Texas 75001
Attn: Mr. Steve Chutchian

RE: Town of Addison

Span #9 Structural Analysis

Dear Steve: Jenny

Archer Western Contractors has proceeded per your request and direction with a structural analysis of the bridge components at span #9. As requested by the URS letter dated June 17, 2005 and furthered by Steve Hages of HNTB in the meeting on June 17, 2005, Archer Western Contractors will provide a step by step analysis for the entire structure.

Archer Western Contractors has obtained the services of Janssen & Spaans Engineering to perform the structural analysis as requested. Their proposal for engineering services is approximately $45,000 and a time schedule of 6 – 8 weeks to complete the analysis.

Archer Western Contractors believes that the structural analysis is beyond the scope of the contract plans and specifications. The contract plans state "The contractor shall submit for review and approval to the engineer, calculations of the influence of his erection sequence, loads and details on the structure, in accordance with the project specifications". Archer Western Contractors have reviewed the project specifications and does not find where a structural analysis of each bridge component is required by the specifications.

Archer Western Contractors respectfully requests a change order for this work and the additional days. The final amount to be forwarded at a later date.

If you require additional information, please contact me at 817-640-3898 or 817-401-7202.

Sincerely,

Ben Withered
Project Manager

Cc: Don Good

2121 Avenue J, Suite 103
Arlington, Texas 76006
Phone: 817.640.3898
Fax: 817.640.8734
www.walshgroup.com

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

July 18, 2005

Originator: Andrew Scheermann

RFI Number: R-AW0104

Subject: Revised Grades Addison Parking Lot

Request:

Please Reference the response to RFI 94 and attached drawing

Archer Western has received and reviewed grades for the Addison road parking lot and discovered the parking lot will still hold water in one corner. The pipe and inlet are already installed. Please review the attached information and provide Archer Western with a solution.

Please provide this information as soon as possible as not to delay the project.

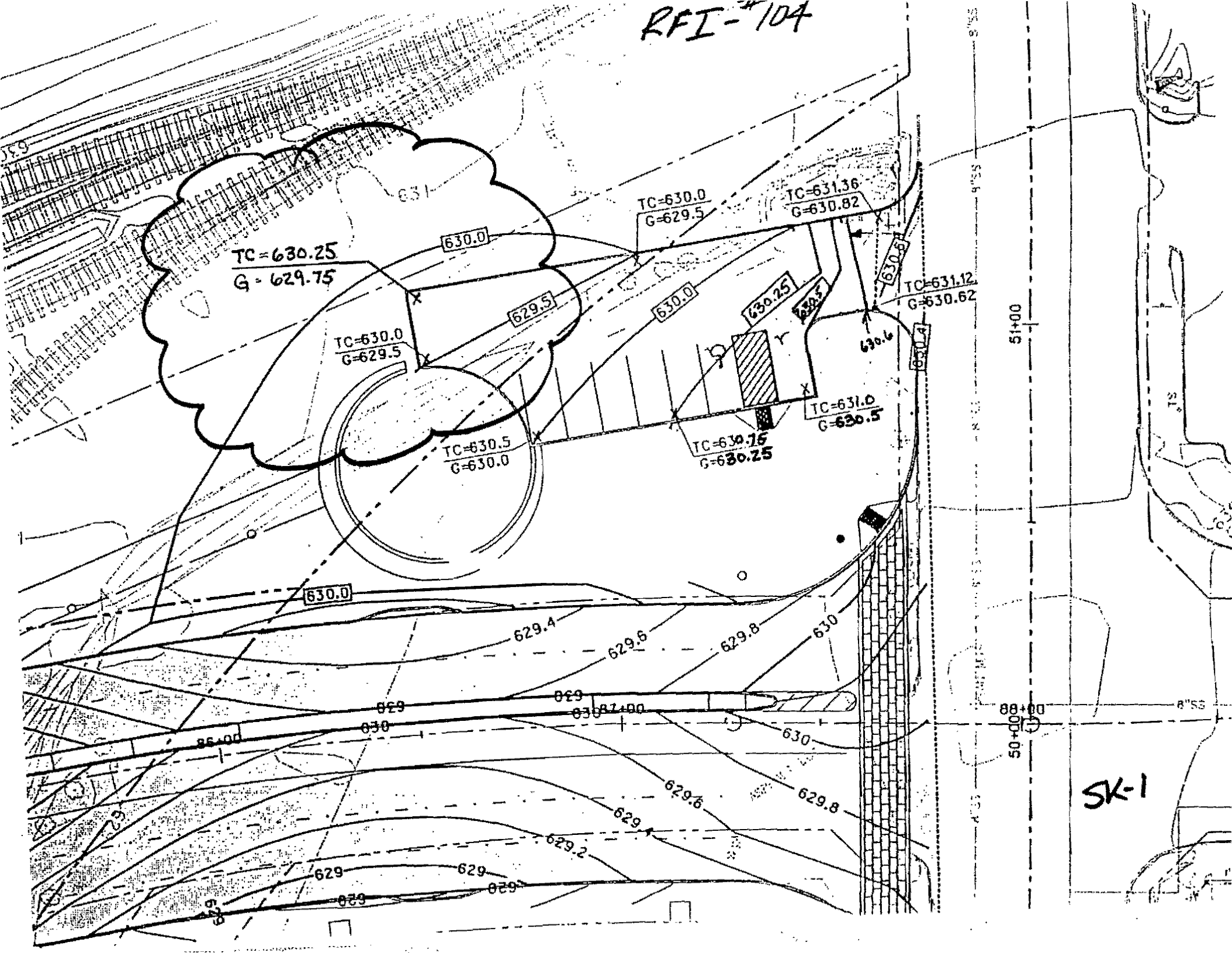
Response/Action Taken:

In response to your RFI #104, Please find attached a sketch showing the raise the top of curb and gutter at the Northwest corner of the future Addison Parking Lot. See attached sketch SK-1

By: Guy Van Baulen, EIT
HNTB Corporation

Date: July 18, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation


RFI-#104
TC=630.25
G=629.75
TC=630.0
G=629.5
TC=631.36
G=630.82
TC=631.12
G=630.62
TC=630.0
G=629.5
TC=630.5
G=630.0
TC=631.0
G=630.5
TC=630.15
G=630.25
630.0
629.5
630.25
630.6
630.4
630.5
629.4
629.6
629.8
630
629.2
629
51+00
50+00
88+00
87+00
86+00
8"SS
SK-1

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

July 18, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW0106**

Subject: **Revised MBNA Parking Lot**

Request:

Please Reference the attached Sketch

Archer Western discovered that the Oncor power pole for Absolute Systems was not installed in the plan location. A dirt mound is to be installed over the buried conduit form the Oncor power pole to provide adequate cover over the conduit. The location of the mound will interfere with the proposed parking lot. Through field discussions with HNTB, Archer Western was directed to reconfigure the parking lot to miss the mound.

Please confirm the attached changes to the MBNA parking lot configuration.

Response/Action Taken:

In response to your RFI #106, This is confirming that Archer Western was given the approval to relocate an additional parking lot from the west end of the head on parking to the north and make prevision for it at the east end of the lot to allow for the required clearance for the Oncor conduit. See revised attached sketch which was previously issued on June 14, 2005.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: July 18, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

0 20 40 60 80
SCALE IN FEET

N

Remove A PARKING SPACE AND RELOCATE AT EAST END

INSTALL WHEEL STOP

PROPOSED CONCRETE PAVEMENT (NO CURB AND GUTTER)

32'

287.5'

40.5'

10'R

20'R

20.5'

30'R

31 SPACES @ 9'=279'

PROPOSED SOLID 4" WHITE STRIPE

PROPOSED CONCRETE PAVEMENT

38'

38'D

83.5'

5 SPACES @ 9'=45'

15'R

10'R

3 SPACES @ 9' = 27'

34.5'

19.5'

16'

20'

℄ Bent #3

MATCH EXISTING

INSTALL A TYPE 'D' FIXTURE STA 53+40-RT 7'

- DELETE AREA

NOTE:
SEE SHEET G-1 FOR PARKING GRADING PLAN.

LEGEND

PROPOSED SOLID 4" WHITE STRIPE

PROPOSED PARKING LOT PAVEMENT

JERRY D. HOLDER, JR. 87171 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS

07-23-04

ABSOLUTE SYSTEMS, LTD

ANY VERTICAL OBSTACLE (CURB, BUILDING, STAIRS, ETC.)

3'-0"

9"

6'-0"

PLAN

#5 REBAR PIN (2 PER STOP)

1½"

6½"

2'-0" MIN.

SECTION

VEHICULAR WHEEL STOP DETAIL
NOT TO SCALE

SK-2
RFI # 106

NO.	DATE	REVISION	APPROV.

HNTB ARCHITECTS ENGINEERS PLANNERS

ARAPAHO ROAD - PHASE III

SURVEYOR BOULEVARD TO ADDISON ROAD

PARKING LAYOUT

MBNA

TOWN OF ADDISON, TEXAS

Design JSH	Drawn GFS	DATE	SCALE	PROJECT NO.	SHEET NO.
Check JDH	Check JSH	APRIL 04	As 1"= 20'	25768	PK-2

57

2 OF 5

29-JUN-2004 14:55
G:\25768-ph3\Mllcds\or3pk02.dgn

The HNTB Companies
Engineers. Architects. Planners

15150 Surveyor Blvd.
Addison TX, 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768-Arapaho Road - Phase III

VIA Hand Delivered

Date: July 14, 2005

Letter of Transmittal

To: Steve Chutchian
Town of Addison
P.O. Box 9010
16801 Westgrove Drive
Addison, TX 75001

Regarding: Shop Drawing Submittals

We are forwarding to you:

____ Estimates	____ Plans	____ Prints
____ Reports	__x__ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Rock	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
2	Submittal # 68.1	6/28/05		Irrigation Controller – Make Corrections Noted
2	Submittal # 69.1	6/28/05		Mini Clik II Rain Sensor – Amend and Resubmit
2	Submittal # 70.1	6/28/05		Rain Bird 1800 Series Sprinkler Head – Amend and Resubmit
2	Submittal # 71.1	6/28/05		PVC Risers (SCH 80) – Make Correction Noted
2	Submittal # 72.1	6/28/05		Control Wires – No Exception Taken
2	Submittal # 73.1	6/28/05		Solvent Weld PVC – No Exception Taken
2	Submittal # 74.1	6/28/05		Ball Valves - No Exception Taken
2	Submittal # 75.1	6/28/05		Master/ Station Valves - No Exception Taken
2	Submittal # 76.1	6/28/05		Jumbo Box - No Exception Taken
2	Submittal # 77.1	6/28/05		Round Box - No Exception Taken
2	Submittal # 78.1	6/28/05		Quick Connect Valve – Amend and Resubmit
2	Submittal # 79.1	6/28/05		Roto Sprinkler Heads – No Exception Taken
2	Submittal # 83.1	6/28/05		Double Check Valve – No Exception Taken

These are transmitted:

____ For approval	____ As requested	____ Copies for distribution
__x__ For your use	__x__ Resubmit	____ For Review & comment
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		__x__ Make corrections noted

Please note:

By: Guy Van Baalen, EIT

Copy to: File

The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison TX, 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768 - Arapaho Road - Phase III

VIA Hand Delivered

Date: July 6, 2005

Letter of Transmittal

To: Steve Chutchian
Town of Addison
P.O. Box 9010
16801 Westgrove Drive
Addison, TX 75001

Regarding: Shop Drawings/ Catalog Cuts Submittals

We are forwarding to you:

____ Estimates	____ Plans	X Prints
____ Reports	____ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
2	Submittal 81.1	6/28/05		Roadsaver Silicone SL – Primate/Crafco (Silicone Joint Compound)
2	Submittal 82.1	6/28/05		HBR Backer Rod – Primate/Nomaco (Backer for pavement joint)
1	Pages 1 to 6	5/16/05		Prequalified Joint Sealers – TxDOT

These are transmitted:

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X For your use	____ Resubmit	X For Review & comment
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Please note:

By: Guy Van Baulen, EIT

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ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 82.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16601 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: Addison

Description of Submitted Item: HBR Backer Rod

Manufacturer/Sub/Supplier: Primate / Nomaco

Related Section / Drawings: Addison

Additional Comments: Backer Rod for the CRCP Paving Joints

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

Copy: File

BACKER ROD

NAME: HBR®

TYPE: C — Cylindrical, flexible sealant backings composed predominantly of closed cell material per ASTM C 1330, for use with cold applied sealants
FORM: Round Foam Rod
TEMPERATURE LIMITS: -45°F to 160°F

NOMACO
"We Can Grow Together"

NOMA SPEC SUBMITTAL SHEET

FEATURES
- Meets all of the requirements of the 1990 Clean Air Act
- Is a "Domestic End Product" as defined in the Buy American Act, Title 41 USC 10
- Easy to apply
- Chemically inert
- Waterproof

DESCRIPTION
Round, flexible, continuous lengths of extruded, closed-cell polyethylene foam backer rod for use as a backing material for elastomeric and other cold applied sealants.

APPLICATIONS
Commonly used in new construction Expansion/Contraction Joints where cold applied sealants are used, such as curtain walls, construction partitions, precast assemblies and copings, parking decks, bridge construction, building rehabilitation, etc.

BENEFITS
Limits depth of the sealant and prevents excessive sealant use.
Helps sealant assume optimum shape factor to prolong sealant service life.
Will not absorb water or wick water to the joint walls to cause adhesive failure.
Prevents bottom-side adhesion of the sealant.

Sealant Backer Properties

Note: [illegible]

Property	Value	Test Method
Water absorption (g/cc)	<0.03	C 1016—Procedure B
Density (kg/m³)	24-48	D 1622
Outgassing (No. of bubbles)	>1	C 1253
Compression recovery (%)	>90	D 5249
Compression deflection (kPa)	>20.6	D 5249
Tensile Strength (kPa)	>200	D 1623

TABLE 1
HBR® Product Packaging Information and Recommended Diameter Use for Joint Width

Nominal Diameter in.—mm		Joint Dimension in.—mm		Linear Ft./ Carton ft.—in		Carton Dimension	#/ Ctn. lbs.—kg	
1/4"	6	3/16" or less	5 or less	8400	1951	18"x18"x31"	12	2
3/8"	10	1/4"	6	3600	1097	18"x18"x31"	12	2
1/2"	13	3/8"	10	2600	762	18"x18"x31"	12	2
5/8"	16	1/2"	13	1550	472	18"x18"x31"	12	2
3/4"	19	5/8"	16	1100	335	18"x18"x31"	12	2
7/8"	22	11/16"	18	850	259	18"x18"x31"	12	2
1"	25	3/4"	19	550	168	18"x18"x31"	12	2
1 1/4"	32	7/8"	222	400	122	18"x18"x31"	12	2
1 1/2"	38	1 1/8"	29	552	168	12"x22"x 74"	18	8
2"	51	1 5/8"	41	360	110	12"x22"x 74"	18	8
2 1/2"	64	2"	51	740	73	12"x22"x 74"	18	8
3"	76	2 1/2"	64	144	44	12"x22"x 74"	18	8
4"	102	3"	76	90	27	12"x22"x 74"	18	8

SIZE SELECTION (Table 1)
Proper size selection is important, as it controls the depth of the sealant bead. It must be oversized to fit tightly into the joint, and function as a bondbreaker to prevent bottom-side adhesion of the sealant.

JOINT PREPARATION (Pavements)
New joints must be cleaned thoroughly, removing any concrete form release agents, curing compound residue, laitance, or any foreign materials. Freshly sawed joints should be washed with water immediately afterward to remove any loose material from the joint faces. Wire brushing, sandblasting, high-pressure water, or any combination of techniques should be used to remove contaminants remaining on the joint face. To ensure a good sealant bond, joints must be clean and dry when the new sealant is installed. In repairing old joints, all old sealant or filler must be removed. This can be done by cutting or blowing out the old material or using any other procedure found to be effective.

INSTALLATION & SEALANT PLACEMENT (Buildings)
Just prior to placing the backer rod, clean all joints per the sealant manufacturer's recommendations. Air compressors used for this purpose must be equipped with traps for removal of oil and moisture. Install the backer rod at the depth recommended by the sealant manufacturer with a blunt tool or roller. Refer to sealant manufacturer's recommendations.

PRECAUTIONS
Do not puncture, over compress or stretch HBR® during insertion. Do not use with hot applied sealants. Tests for outgassing of cold applied sealants shall be made in accordance with ASTM Test Method C 1253. Sealant compatibility should be confirmed by the sealant manufacturer. Compatibility characteristics of sealants in contact with sealant backings can be determined by ASTM Test Method C 1087.

NOMACO INC. ■ 501 NMC DRIVE ■ ZEBULON, NORTH CAROLINA 27597 ■ 919/269-6500 ■ 800/345-7279 ■ FAX 919/709-7936 ■ www.nomaco.com

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 82.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

AW # 204059
Engineer: HNTB

Submittal Specification Reference:	Addison
Description of Submitted Item:	HBR Backer Rod
Manufacturer/Sub/Supplier:	Primate / Nomaco
Related Section / Drawings:	Addison
Additional Comments:	Backer Rod for the CRCP Paving Joints

Contractor's Certification

"Having Checked this submission, we certify thet it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

Copy: File

BACKER ROD

NAME: HBR®

TYPE: C — Cylindrical, flexible sealant backings composed predominantly of closed cell material per ASTM C 1330, for use with cold applied sealants
FORM: Round Foam Rod
TEMPERATURE LIMITS: -45°F to 160°F

NOMACO
"We Can Grow Together"

NOMA SPEC
SUBMITTAL SHEET

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ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 81.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: Addison

Description of Submitted Item: Roadsaver Silicone SL

Manufacturer/Sub/Supplier: Primate / Crafco

Related Section / Drawings: Addison

Additional Comments: Silicon Joint Compound for Concrete Paving.
Roadsaver Silicone SL is on the TxDot Approved material List for Concrete Paving

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

Copy: File

CRAFCO™ INC
AN ERGON® COMPANY
420 N. Roosevelt Ave. • Chandler AZ 85226
1-800-528-8242 • (602) 276-0406 • FAX (480) 961-0513
www.crafco.com

PRODUCT DATA SHEET

ROADSAVER SILICONE SL

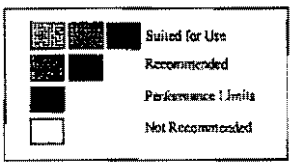
PART NO. 34803

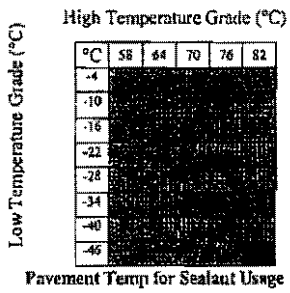
JANUARY 2004

READ BEFORE USING THIS PRODUCT

GENERAL Crafco RoadSaver Silicone SL is a low modulus silicone which offers the performance and durability characteristics of conventional silicone with the ease of installation of self-leveling materials. Crafco Roadsaver Silicone SL is supplied as a ready to use one component moisture curing system which provides a lasting and flexible seal. Crafco Roadsaver Silicone SL offers outstanding weathering resistance, remains flexible down to temperatures as low as -50°F (-46°C), is jet-blast resistant and will maintain field serviceability when exposed to intermittent fuel and oil spills. It bonds strongly to concrete joints without the use of a primer. Crafco Roadsaver Silicone SL can be used in all typical concrete joint applications on highway and airfield pavements in all climates. RoadSaver Silicone sealant is compatible with asphalt pavement. RoadSaver Silicone SL is easily applied to concrete joints using bulk dispensing system units such as those available from manufacturers including Pyles/Graco and Johnstone. The leveling characteristics insure that the required joint wetting for development of appropriate adhesion occurs during application, no tooling is required.

USAGE GUIDELINES RoadSaver Silicone SL pavement temperature performance limits are 82-46 for joint sealing. Usage recommendations are shown in Crafco pavement temperature grade charts shown at the right. Refer to Crafco Product Selection Procedures to determine sealant or filler and pavement temperature grades.





SPECIFICATION CONFORMANCE Crafco RoadSaver Silicone SL conforms to specifications for low modulus silicone for many highway departments and federal agencies. The product also meets and exceeds all requirements of ASTM D5893. "Standard Specification for Cold-Applied Single Component, Chemically Curing Silicone Sealant for Portland Cement Concrete Pavements" for type SL sealants. In the following specifications several of the D5893 parameters are more restrictive to better reflect properties of RoadSaver Silicone SL.

ASTM D5893 Physical Requirements	ASTM D5893 SL Requirements	RoadSaver Silicone SL Requirements
Cure Evaluation	Pass at 21 days	Pass at 21 day max.
Rheological Properties (ASTM C639)	Type 1, smooth level surface	Type 1, smooth level surface
Extrusion Rate (ASTM C1183)	Type S, 50 ml/ min. minimum	Type S, 200 ml/min. minimum
Tack Free Time (ASTM C 679)	5 hr. max.	3 hr. max.
Effects of Heat Aging (ASTM C 792)	10% max. Loss	10% max. Loss
Bond, -29°C (-20°F), 100% Extension		
Non-Immersed	Pass 5 Cycles	Pass 5 Cycles
Water Immersed	Pass 5 Cycles	Pass 5 Cycles
Oven-Aged	Pass 5 Cycles	Pass 5 Cycles
Hardness (ASTM C 661)		
-29°C (-20°C), Type A2	25 max.	10 max.
23°C (73°F), Type 00	30 min.	40-80 min.
Flow	No flow	No flow
Rubber Properties in Tension		
Ultimate Elongation	600% min.	800% min.
Stress at 150% Elongation	310 K pa (45 psi) max.	207 K pa (30 psi) max.
Effects of Accelerated Weathering	Pass 500 hours	Pass at 5000 hours
Resilience	75% min.	75% min.

Additional properties of RoadSaver Silicone SL Sealant are:

Specific Gravity (ASTM D792-A) (1)	1.10-1.40
Adhesion to Concrete (MIL 8802) (2)	20 pli (3.5 kg/cm) min.
Bond and Movement Capability +/- 50% (ASTM C719) (2)	Pass 10 cycles
Bond to Mortar (AASHTO T132) (2)	50 psi (34.4 N/cm^2) min.
Tensile Adhesion, %(ASTM D5329) (3)	600% min.

Notes: (1) Specimens shall be obtained from 1/8 inch (3mm) thickness sheets of material which has been cured for 7 days at 77+/- 3°F (25+/- 2°C) and 50 +/- 5% relative humidity.
(2) Specimens cured for28 days at 77 +/- 3°F (25+/-2°C) and 50 +/- 5% humidity prior to testing.
(3) Specimens shall be 1/2" x 1/2" x 2" (1.2cm x 1.2cm x 5.0cm), cured 7 days at 77 +/- 3°F (25+/-2°C) and 50% +/- 5% relative humidity.

APPLICATION The unit weight is 10.7 pounds per gallon (1.28 kg/L). One gallon will seal 150 feet (45.7m) of 1/2 inch (1.2cm) wide by 1/4 inch (0.6cm) deep joint. Exact yield will vary depending on thickness of sealant, waste, application techniques, etc. Prior to use, the user must read and follow Application Instructions for RoadSaver Silicone Sealants (January 2002) to verify proper product selections, applicator pumps, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are provided with each drum of sealant.

PACKAGING Roadsaver Silicone SL Sealant is packaged in plastic lined open head 55 gallon (208 L) drums which contain 50 gallons (189 L) of material. Additionally, for small applications the sealant is available in plastic 5 gallon (19 L) pails and quart (.95 L) caulking tubes.

WARRANTY CRAFCO, Inc. warrants that CRAFCO sealants meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing are beyond our control as are the use and application of the sealants; therefore, Crafco shall not be responsible for improperly applied or misused sealants. Remedies against Crafco, Inc., as agreed to by Crafco, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafco, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafco, Inc. whichever is earlier. There shall be no other warranties expressed or implied. **For optimum performance, follow Crafco recommendations for sealant installation.**

CRAFCO INC
AN ERGON COMPANY
420 N. Roosevelt Ave. • Chandler AZ 85226
1-800-528-8242 • (602) 276-0406 • FAX (480) 961-0513
www.crafco.com

APPLICATION INSTRUCTIONS
ROADSAVER SILICONE SEALANTS

JANUARY 2004

READ BEFORE USING THIS PRODUCT

GENERAL: Crafco RoadSaver Silicone sealants are uniquely formulated low modulus sealants produced for use in sealing joints in portland cement concrete pavements. The sealant are supplied as single component moisture curing materials which provide lasting weather resistant flexible seals. The sealants are supplied in both non-sag and self-leveling (SL) application consistencies.

SEALANT PREPARATION: Crafco RoadSaver Silicone sealants are supplied in a ready to use form, with no mixing or any other preparation required to prepare the sealant for use.

JOINT DESIGN AND PREPARATION FOR SEALING: After appropriate curing of the concrete (a minimum of 7 days is recommended) joint reservoirs for the sealant can be cut into the concrete using appropriate concrete sawing procedures and equipment. In "fast track" or high early strength concrete mixes, it may be possible to saw and seal the joints sooner than the recommended 7 day minimum for standard concrete mixes. Contact Crafco or your representative for further details.
Reservoir depth for various joint widths is shown in Table 1. Joint width should be selected to limit movement due to expansion and contraction to no more than 25% of the joint width. After sawing, immediately flush the joints with water to remove a majority of the saw slurry. After the joints have dried, just prior to applying sealant the remaining residue must be removed by sandblasting. Both joint faces must be adequately sandblasted to remove remaining traces of sawing residue. For effective sandblasting, the nozzle should be positioned within 2 inches (5cm)of the surface being cleaned. After sandblasting the joint should be thoroughly cleaned using clean compressed air with a minimum pressure of 90 psi. Moisture and oil traps are required on the compressor unit. The object of the above cleaning operations is to provide vertical, intact, and clean bonding surfaces which are free from all contaminants and are dry. Joints should be carefully inspected to assure that an appropriate level of cleanliness has been achieved. This can be accomplished by rubbing your finger along each joint face. If any evidence of dust and contaminants occur, additional sandblasting should be performed until all dust and contaminants are removed. Alternate cleaning methods that accomplish the same level of cleaning as sandblasting may be considered. Contact Crafco for approval of alternate cleaning methods. Non-water absorptive backer rod of the size specified in Table 1 shall be placed in the joint to the depth listed in Table 1. Do not puncture backer rod during installation because damage can create bubbling in sealant.

SEALANT APPLICATION: RoadSaver Silicone sealant is applied to pavement joints using air powered bulk dispensing systems or standard caulking guns. The applicator unit must be free of all residue left from other brands or types of materials to eliminate contamination and assure proper sealant performance. During application, the sealant is dispensed directly from its container through the applicator hose, wand and nozzle and into the prepared joint. The joint should be filled from the bottom up. RoadSaver Silicone SL sealants are self-leveling and do not require tooling.

RoadSaver Silicone NS sealants are not self-leveling, and must be tooled to the proper geometry. Tooling must be accomplished before the sealant forms a surface skin of cured material (preferably within 5 minutes after application). Tooling may be accomplished using a variety of tools including sections of backer rod, or other appropriately shaped objects. Tooling should be performed so that the sealant is forced against the joint sidewalls and backer rod and so that the sealant forms a recessed concave surface. Minimum recess depths are listed in Table 1. If insufficient recess is achieved, the sealant surface may be exposed to vehicle tire contact and abrasion which can cause loss of adhesion. For optimum performance, the width of the sealant bead should be approximately two times the depth. Sealant bead should be a minimum 1/4 inch (.6cm) thick but no greater than 1/2 inch (1.2cm) thick.

APPLICATION TEMPERATURES AND WEATHER CONDITIONS: During application, pavement and ambient temperature should be a minimum of 40°F (4°C) and the joints must be completely clean and dry for adhesion to fully develop. Sealing should not occur at temperatures below the dew point due to an increased chance of having moist or damp joints.

SEALANT CURING: After application, RoadSaver Silicone sealant will begin to cure and form a surface skin, generally within 30 minutes. Traffic should be kept off the sealed areas until the sealant is "tack free" as indicated by touching. RoadSaver Silicone will cure throughout within 14 days after application to form a strongly bonded long lasting seal.

Note: Air voids may develop with self-leveling sealant if the moisture content of the pavement and ambient temperature are high. This phenomenon generally occurs when the sealant has been applied to joints in green concrete during hot and humid conditions. Warm ambient temperatures accelerate pavement hydration and the release of moisture vapors. These moisture vapors will migrate through partially cured sealant creating air pockets. When the sealant has obtained a full cure no bubbles will develop. A test section should be performed to determine if conditions are adequate so air voids do not develop. Using a non-sag silicone sealant will greatly reduce the risk of air pocket formation. Contact Crafco for further information.

RESEALING JOINT DESIGN AND PREPARATION FOR SEALING: Old sealant should be removed by any appropriate method. After removal of old sealant, the joint is to be saw cut to an appropriate width to provide clean vertical bonding surfaces which are free from contamination by old sealant. As a general rule, the joint should be sawn to a width which is between 1/8 inch and 1/4 inch (3-6mm) wider than the original joint. The recess, sealant bead thickness, backer size, and sawed joint depth shall meet requirements shown in Table 1 for the joint width used. The sandblasting, cleaning and sealing operations above shall then be followed.

CLEAN UP: Uncured sealant can be removed from equipment and tools with solvents such as naphtha or mineral spirits. All

hoses and lines in the application equipment should be flushed immediately after use. Extra RoadSaver Silicone in drums should be covered with the plastic liner to prevent exposure to air and the drums should be closed before storing until the next use.

STORAGE LIFE: Store Crafco RoadSaver Silicone Sealant out of direct sunlight, in a cool, dry location. Sealant should not exceed 90°F (32°C), or be exposed to excessive humidity. Storage life is approximately six months from date of shipment.

SAFETY PRECAUTIONS: Prior to use, please read the RoadSaver Silicone sealant Material Safety Data Sheet for establishing appropriate practices during use and application.

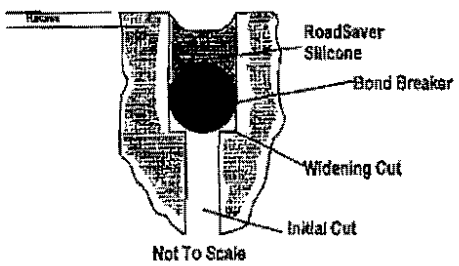
ADDITIONAL INFORMATION: Additional information regarding these products is available by contacting your distributor or Crafco, Inc. This information includes 1) Product Data Sheets, 2) Material Safety Data Sheets, 3) Safety Manual, 4) Sealant Selection Guide.

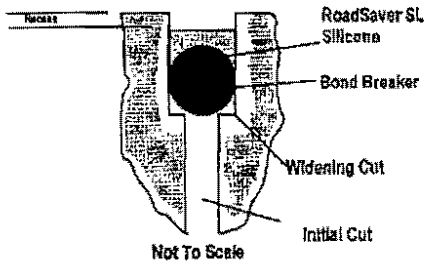
Joint Design Recommendations
for Crafco RoadSaver Silicone Sealants
in Joints in PCC Pavements

*Joint Width	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 3/8"	1 1/2"
Minimum Sealant Recess	1/4"	1/4"	5/16"	5/16"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
Backer Rod Diameter [1]	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"	1 1/2"	1 1/2"	1 3/4"	2"
Sealant Bead Thickness [2,3]	1/4"	1/4"	1/4"	5/16"	3/8"	7/16"	1/2"	1/2"	1/2"	1/2"	1/2"
Minimum Joint Saw/Reservoir Depth	1 1/8"	1 1/4"	1 1/2"	1 3/4"	1 7/8"	2"	2 3/8"	2	2 7/8"	3 1/8"	3 3/8"
Minimum Backer Rod Depth	1/2"	1/2"	5/8"	11/16"	3/4"	13/16"	7/8"	1"	1"	1"	1"
Estimated Usage Non-Sag	245	149	112	70	51	35	26	23	18	16	15
Estimated Usage Self-leveling(ft/gal)	273	172	130	82	58	41	31	27	22	20	19

1 Backer rod diameter should not be varied from specified dimensions. If larger sizes are used, increased saw depth is needed.
2 Sealant bead thickness can vary by ± 25% of design value.
3 Never install Roadsaver Silicone to a depth greater than the joint width (1 to 1).
*Please contact Crafco for additional joint size design recommendations.

TYPICAL JOINT DESIGNS:





ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 81.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Bauten

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: Addison

Description of Submitted Item: Roadsaver Silicone SL

Manufacturer/Sub/Supplier: Primate / Crafco

Related Section / Drawings: Addison

Additional Comments: Silicon Joint Compound for Concrete Paving.
Roadsaver Silicone SL is on the TxDot Approved material List for Concrete Paving

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

Copy: File

CRAFCO™ INC
AN ERGON COMPANY
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www.crafco.com

PRODUCT DATA SHEET

ROADSAVER SILICONE SL

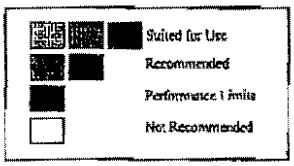
PART NO. 34903

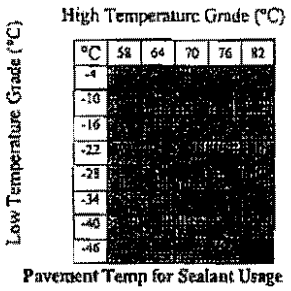
JANUARY 2004

READ BEFORE USING THIS PRODUCT

GENERAL Crafco RoadSaver Silicone SL is a low modulus silicone which offers the performance and durability characteristics of conventional silicone with the ease of installation of self-leveling materials. Crafco Roadsaver Silicone SL is supplied as a ready to use one component moisture curing system which provides a lasting and flexible seal. Crafco Roadsaver Silicone SL offers outstanding weathering resistance, remains flexible down to temperatures as low as –50°F (-46°C), is jet-blast resistant and will maintain field serviceability when exposed to intermittent fuel and oil spills. It bonds strongly to concrete joints without the use of a primer. Crafco Roadsaver Silicone SL can be used in all typical concrete joint applications on highway and airfield pavements in all climates. RoadSaver Silicone sealant is compatible with asphalt pavement. RoadSaver Silicone SL is easily applied to concrete joints using bulk dispensing system units such as those available from manufacturers including Pyles/Graco and Johnstone. The leveling characteristics insure that the required joint wetting for development of appropriate adhesion occurs during application, no tooling is required.

USAGE GUIDELINES RoadSaver Silicone SL pavement temperature performance limits are 82-46 for joint sealing. Usage recommendations are shown in Crafco pavement temperature grade charts shown at the right. Refer to Crafco Product Selection Procedures to determine sealant or filler and pavement temperature grades.





SPECIFICATION CONFORMANCE Crafco RoadSaver Silicone SL conforms to specifications for low modulus silicone for many highway departments and federal agencies. The product also meets and exceeds all requirements of ASTM D5893. "Standard Specification for Cold-Applied Single Component, Chemically Curing Silicone Sealant for Portland Cement Concrete Pavements" for type SL sealants. In the following specifications several of the D5893 parameters are more restrictive to better reflect properties of RoadSaver Silicone SL.

ASTM D5893 Physical Requirements	ASTM D5893 SL Requirements	RoadSaver Silicone SL Requirements
Cure Evaluation	Pass at 21 days	Pass at 21 day max.
Rheological Properties (ASTM C639)	Type 1, smooth level surface	Type 1, smooth level surface
Extrusion Rate (ASTM C1183)	Type S, 50 ml/ min. minimum	Type S, 200 ml/min. minimum
Tack Free Time (ASTM C 679)	5 hr. max.	3 hr. max.
Effects of Heat Aging (ASTM C 792)	10% max. Loss	10% max. Loss
Bond, -29°C (-20°F), 100% Extension		
Non-Immersed	Pass 5 Cycles	Pass 5 Cycles
Water Immersed	Pass 5 Cycles	Pass 5 Cycles
Oven-Aged	Pass 5 Cycles	Pass 5 Cycles
Hardness (ASTM C 661)		
-29°C (-20°C), Type A2	25 max.	10 max.
23°C (73°F), Type 00	30 min.	40-80 min.
Flow	No flow	No flow
Rubber Properties in Tension		
Ultimate Elongation	600% min.	800% min.
Stress at 150% Elongation	310 K pa (45 psi) max.	207 K pa (30 psi) max.
Effects of Accelerated Weathering	Pass 500 hours	Pass at 5000 hours
Resilience	75% min.	75% min.

Additional properties of RoadSaver Silicone SL Sealant are:

Specific Gravity (ASTM D792-A) (1)	1.10-1.40
Adhesion to Concrete (MIL 8802) (2)	20 pli (3.5 kg/cm) min.
Bond and Movement Capability +/- 50% (ASTM C719) (2)	Pass 10 cycles
Bond to Mortar (AASHTO T132) (2)	50 psi (34.4 N/cm^2) min.
Tensile Adhesion, %(ASTM D5329) (3)	600% min.

Notes: (1) Specimens shall be obtained from 1/8 inch (3mm) thickness sheets of material which has been cured for 7 days at 77+/- 3°F (25+/- 2°C) and 50 +/- 5% relative humidity.
(2) Specimens cured for 28 days at 77 +/- 3°F (25+/-2°C) and 50 +/- 5% humidity prior to testing.
(3) Specimens shall be 1/2" x 1/2" x 2" (1.2cm x 1.2cm x 5.0cm), cured 7 days at 77 +/- 3°F (25+/-2°C) and 50% +/- 5% relative humidity.

APPLICATION The unit weight is 10.7 pounds per gallon (1.28 kg/L). One gallon will seal 150 feet (45.7m) of 1/2 inch (1.2cm) wide by 1/4 inch (0.6cm) deep joint. Exact yield will vary depending on thickness of sealant, waste, application techniques, etc. Prior to use, the user must read and follow Application Instructions for RoadSaver Silicone Sealants (January 2002) to verify proper product selections, applicator pumps, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are provided with each drum of sealant.

PACKAGING Roadsaver Silicone SL Sealant is packaged in plastic lined open head 55 gallon (208 L) drums which contain 50 gallons (189 L) of material. Additionally, for small applications the sealant is available in plastic 5 gallon (19 L) pails and quart (.95 L) caulking tubes.

WARRANTY CRAFCO, Inc. warrants that CRAFCO sealants meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing are beyond our control as are the use and application of the sealants; therefore, Crafco shall not be responsible for improperly applied or misused sealants. Remedies against Crafco, Inc., as agreed to by Crafco, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafco, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafco, Inc. whichever is earlier. There shall be no other warranties expressed or implied. **For optimum performance, follow Crafco recommendations for sealant installation.**

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APPLICATION INSTRUCTIONS
ROADSAVER SILICONE SEALANTS

JANUARY 2004

READ BEFORE USING THIS PRODUCT

GENERAL: Crafco RoadSaver Silicone sealants are uniquely formulated low modulus sealants produced for use in sealing joints in portland cement concrete pavements. The sealant are supplied as single component moisture curing materials which provide lasting weather resistant flexible seals. The sealants are supplied in both non-sag and self-leveling (SL) application consistencies.

SEALANT PREPARATION: Crafco RoadSaver Silicone sealants are supplied in a ready to use form, with no mixing or any other preparation required to prepare the sealant for use.

JOINT DESIGN AND PREPARATION FOR SEALING: After appropriate curing of the concrete (a minimum of 7 days is recommended) joint reservoirs for the sealant can be cut into the concrete using appropriate concrete sawing procedures and equipment. In "fast track" or high early strength concrete mixes, it may be possible to saw and seal the joints sooner than the recommended 7 day minimum for standard concrete mixes. Contact Crafco or your representative for further details.
Reservoir depth for various joint widths is shown in Table 1. Joint width should be selected to limit movement due to expansion and contraction to no more than 25% of the joint width. After sawing, immediately flush the joints with water to remove a majority of the saw slurry. After the joints have dried, just prior to applying sealant the remaining residue must be removed by sandblasting. Both joint faces must be adequately sandblasted to remove remaining traces of sawing residue. For effective sandblasting, the nozzle should be positioned within 2 inches (5cm)of the surface being cleaned. After sandblasting the joint should be thoroughly cleaned using clean compressed air with a minimum pressure of 90 psi. Moisture and oil traps are required on the compressor unit. The object of the above cleaning operations is to provide vertical, intact, and clean bonding surfaces which are free from all contaminants and are dry. Joints should be carefully inspected to assure that an appropriate level of cleanliness has been achieved. This can be accomplished by rubbing your finger along each joint face. If any evidence of dust and contaminants occur, additional sandblasting should be performed until all dust and contaminants are removed. Alternate cleaning methods that accomplish the same level of cleaning as sandblasting may be considered. Contact Crafco for approval of alternate cleaning methods. Non-water absorptive backer rod of the size specified in Table 1 shall be placed in the joint to the depth listed in Table 1. Do not puncture backer rod during installation because damage can create bubbling in sealant.

SEALANT APPLICATION: RoadSaver Silicone sealant is applied to pavement joints using air powered bulk dispensing systems or standard caulking guns. The applicator unit must be free of all residue left from other brands or types of materials to eliminate contamination and assure proper sealant performance. During application, the sealant is dispensed directly from its container through the applicator hose, wand and nozzle and into the prepared joint. The joint should be filled from the bottom up. RoadSaver Silicone SL sealants are self-leveling and do not require tooling.

RoadSaver Silicone NS sealants are not self-leveling, and must be tooled to the proper geometry. Tooling must be accomplished before the sealant forms a surface skin of cured material (preferably within 5 minutes after application). Tooling may be accomplished using a variety of tools including sections of backer rod, or other appropriately shaped objects. Tooling should be performed so that the sealant is forced against the joint sidewalls and backer rod and so that the sealant forms a recessed concave surface. Minimum recess depths are listed in Table 1. If insufficient recess is achieved, the sealant surface may be exposed to vehicle tire contact and abrasion which can cause loss of adhesion. For optimum performance, the width of the sealant bead should be approximately two times the depth. Sealant bead should be a minimum 1/4 inch (.6cm) thick but no greater than 1/2 inch (1.2cm) thick.

APPLICATION TEMPERATURES AND WEATHER CONDITIONS: During application, pavement and ambient temperature should be a minimum of 40°F (4°C) and the joints must be completely clean and dry for adhesion to fully develop. Sealing should not occur at temperatures below the dew point due to an increased chance of having moist or damp joints.

SEALANT CURING: After application, RoadSaver Silicone sealant will begin to cure and form a surface skin, generally within 30 minutes. Traffic should be kept off the sealed areas until the sealant is "tack free" as indicated by touching. RoadSaver Silicone will cure throughout within 14 days after application to form a strongly bonded long lasting seal.

Note: Air voids may develop with self-leveling sealant if the moisture content of the pavement and ambient temperature are high. This phenomenon generally occurs when the sealant has been applied to joints in green concrete during hot and humid conditions. Warm ambient temperatures accelerate pavement hydration and the release of moisture vapors. These moisture vapors will migrate through partially cured sealant creating air pockets. When the sealant has obtained a full cure no bubbles will develop. A test section should be performed to determine if conditions are adequate so air voids do not develop. Using a non-sag silicone sealant will greatly reduce the risk of air pocket formation. Contact Crafco for further information.

RESEALING JOINT DESIGN AND PREPARATION FOR SEALING: Old sealant should be removed by any appropriate method. After removal of old sealant, the joint is to be saw cut to an appropriate width to provide clean vertical bonding surfaces which are free from contamination by old sealant. As a general rule, the joint should be sawn to a width which is between 1/8 inch and 1/4 inch (3-6mm) wider than the original joint. The recess, sealant bead thickness, backer size, and sawed joint depth shall meet requirements shown in Table 1 for the joint width used. The sandblasting, cleaning and sealing operations above shall then be followed.

CLEAN UP: Uncured sealant can be removed from equipment and tools with solvents such as naphtha or mineral spirits. All

hoses and lines in the application equipment should be flushed immediately after use. Extra RoadSaver Silicone in drums should be covered with the plastic liner to prevent exposure to air and the drums should be closed before storing until the next use.

STORAGE LIFE: Store Crafco RoadSaver Silicone Sealant out of direct sunlight, in a cool, dry location. Sealant should not exceed 90°F (32°C), or be exposed to excessive humidity. Storage life is approximately six months from date of shipment.

SAFETY PRECAUTIONS: Prior to use, please read the RoadSaver Silicone sealant Material Safety Data Sheet for establishing appropriate practices during use and application.

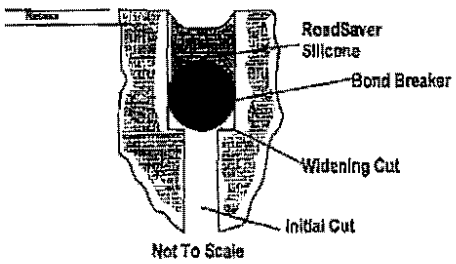
ADDITIONAL INFORMATION: Additional information regarding these products is available by contacting your distributor or Crafco, Inc. This information includes 1) Product Data Sheets, 2) Material Safety Data Sheets, 3) Safety Manual, 4) Sealant Selection Guide.

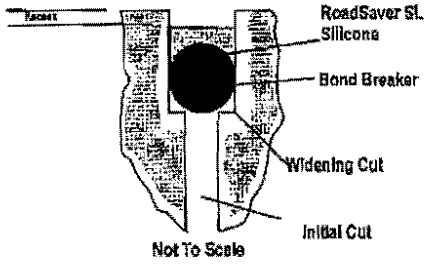
Joint Design Recommendations
for Crafco RoadSaver Silicone Sealants
in Joints in PCC Pavements

*Joint Width	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 3/8"	1 1/2"
Minimum Sealant Recess	1/4"	1/4"	5/16"	5/16"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
Backer Rod Diameter [1]	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"	1 1/2"	1 1/2"	1 3/4"	2"
Sealant Bead Thickness [2,3]	1/4"	1/4"	1/4"	5/16"	3/8"	7/16"	1/2"	1/2"	1/2"	1/2"	1/2"
Minimum Joint Saw/Reservoir Depth	1 1/8"	1 1/4"	1 1/2"	1 3/4"	1 7/8"	2"	2 3/8"	2	2 7/8"	3 1/8"	3 3/8"
Minimum Backer Rod Depth	1/2"	1/2"	5/8"	11/16"	3/4"	13/16"	7/8"	1"	1"	1"	1"
Estimated Usage Non-Sag	245	149	112	70	51	35	26	23	18	16	15
Estimated Usage Self-leveling(ft/gal)	273	172	130	82	58	41	31	27	22	20	19

1 Backer rod diameter should not be varied from specified dimensions. If larger sizes are used, increased saw depth is needed.
2 Sealant bead thickness can vary by ± 25% of design value.
3 Never install Roadsaver Silicone to a depth greater than the joint width (1 to 1).
*Please contact Crafco for additional joint size design recommendations.

TYPICAL JOINT DESIGNS:





Prequalified Joint Sealers

The following producers are prequalified to supply joint sealants by class. Materials with lab numbers represented by dates of manufacture shown below need no job site sampling unless material quality is questioned.

Prequalified Joint Sealers							
Class	**Products**	**Producer**	**Address/Phone No.**	**Contact**	**Lab No.**	**Tested**	**Expires**
2	Sof-Seal Low Modulus Horizontal Scalant 804	W.R. Meadows of Texas, Inc. 99867	P.O. Box 7752 2555 NE 33rd Fort Worth, TX 76111 (817) 834-1969	Andrew W. Tam	C03370028 C02372057 C02370025 C01372028 C01370015 C00372091 C00370015	01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
3	Road Saver 221 Sealant Part No. 34221 809	Crafco, Inc. 99579	6975 W Crafeo Way Chandler, AZ 85266 (602) 276-0406	Vern Thompson	C05370040 C04372227 C04370072 C03371953 C03370007 C02372036 C02370007 C01372010 C01370007 C00372083 C00370007	01/01/05 07/01/04 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/05 12/31/04 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
3	Road Saver 222 Sealant Part No. 34222 809	Crafco, Inc. 99579	6975 W Crafco Way Chandler, AZ 85266 (602) 276-0406	Vern Thompson	C05370039 C04370073 C03371951 C03370005 C02372034 C02370005 C01372008 C01370005 C00372081 C00370005	01/01/05 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/05 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
3	Hi-Spec Hot Pour	W.R. Meadows of	P.O. Box 7752	Andrew W. Tam	C04374868	01/01/05	06/30/05

Prequalified Joint Sealers

Class	Products	Producer	Address/Phone No.	Contact	Lab No.	Tested	Expires
	Joint Sealing Compound 809	Texas, Inc. 99867	2555 NE 33rd Fort Worth, TX 76111 (817) 834-1969		C04372114 C03371973 C03370027 C02372056 C02370024 C01372027 C01370014 C00372090 C00370014	07/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	12/31/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
3	CMC 102 809	Crackfiller Manufacturing Corporation 99064	P.O. Box 6738 Cheyenne, WY 82003 (307) 778-8610	Mark Langer	C03370011 C02372040 C02370011 C01372014 C01370019 C00372095 C00370019	01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
3	SealMaster Ind., Inc. 3405 809	SealMaster Ind., Inc. 99219	1801 Lancaster/ Hutchins Rd. P. O. Box 1008 Lancaster, TX 75146 (972) 227-9093	Lee Malone	C03370024 C02372053 C02370021 C01372024 C01370024 C00372099	01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00	06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00
4	Dow Corning 888 810	Dow Corning Corporation 99875	3901 S Saginaw Rd Midland, MI 48686 (517) 496-5799	Rich Palmer	C05370140 C04373972 C03375509 C03371958 C03370012 C02372041 C02370012 C01372015 C01370011 C00372087 C00370011	01/01/05 09/16/04 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/05 12/31/04 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00

Prequalified Joint Sealers							
Class	**Products**	**Producer**	**Address/Phone No.**	**Contact**	**Lab No.**	**Tested**	**Expires**
4	Non-Sag 810	Crafco, Inc. 99579	6975 W Crafco Way Chandler, AZ 85266 (602) 276-0406	Vern Thompson	C05370034 C04373023 C03371954 C03370008 C02372037 C02370008 C01372011 C01370008 C00372084 C00370008	01/01/05 07/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/05 12/31/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
4	DSB1800 810	D.S. Brown Co. 99511	300 E. Cherry St. North Baltimore, OH 45872 (651)-748-8114	Ben Jacobus	C05371350	04/01/05	06/30/05
4	301 Non-Sag 810	Pecora 99981	165 Wambold Rd. Harleysville, PA 19438 (215) 723-6051	Roy Cannon	C05370309 C04370184 C03371966 C03370020 C02372049 C02370030	01/01/05 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02	06/30/05 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02
4	Tremco 810 Spectrem 800	Tremco, Inc. 99083	3777 Green Rd. Beachwood, OH 44122 (216) 766-5680 Fax (216) 765-6737	Ta-Min Feng	C04374746 C04371979 C03375499 C03371971 C03370025 C02372054 C02370022 C01372025	01/01/05 07/01/04 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01	06/30/05 12/31/04 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01
5	Dow Corning 890SL 810	Dow Corning Corporation 99875	3901 S Saginaw Rd Midland, MI 48686 (517) 496-5799	Rich Palmer	C05370139 C04373971 C03375510 C03371960 C03370014	01/01/05 09/16/04 01/01/04 07/01/03 01/01/03	06/30/05 12/31/04 06/30/04 12/31/03 06/30/03

Prequalified Joint Sealers							
Class	**Products**	**Producer**	**Address/Phone No.**	**Contact**	**Lab No.**	**Tested**	**Expires**
					C02372043	07/02/02	12/31/02
					C02370014	01/01/02	06/30/02
					C01372017	07/01/01	12/31/01
					C01370013	01/01/01	06/30/01
					C00372089	07/01/00	12/31/00
					C00370013	01/01/00	06/30/00
5	Pecora 300 SL 810	Pecora Corp. 99981	165 Wambold Rd. Harleysville, PA 19438 (215) 723-6051	Roy Cannon	C03371964	07/01/03	12/31/03
					C03370018	01/01/03	06/30/03
					C02372047	07/01/02	12/31/02
					C02370028	01/01/02	06/30/02
					C01372031	06/21/01	12/31/01
5	Sika 810	Sika Corp. 99572	6122 Rachel's Court Katy, TX 77494 (281) 693-2121	Greg Reisz	C03370021	01/01/03	06/30/03
					C02372050	07/01/02	12/31/02
					C02370018	01/01/02	06/30/02
					C01372021	07/01/01	12/31/01
					C01370020	01/01/01	06/30/01
					C00372096	07/01/00	12/31/00
					C00370021	01/01/00	06/30/00
5	Sika 15LM SL 810	Sika Corp. 99572	6122 Rachel's Court Katy, TX 77494 (281) 693-2121	Greg Reisz	C04374648	01/01/05	06/30/05
					C03370022	01/01/03	06/30/03
					C02372051	07/01/02	12/31/02
					C02370019	01/01/02	06/30/02
					C01372022	07/01/01	12/21/01
					C01370021	01/01/01	06/30/01
5	Tremco 810 Spectrem 900 SL	Tremco, Inc. 99083	3777 Green Rd. Beachwood, OH 44122 (216) 766-5680 Fax (216) 765-6737	Ta-Min Feng	C04374745	01/01/05	06/30/05
					C04371980	07/01/04	12/31/04
					C03375498	01/01/04	06/30/04
					C03371972	07/01/03	12/31/03
					C03370026	01/01/03	06/30/03
					C02372055	07/01/02	12/31/02
					C02370023	01/01/02	06/30/02
					C01372026	07/01/01	12/31/01
7	Dow Corning 902RCS	Dow Corning	3901 S Saginaw Rd	Rich Palmer	C05370141	01/01/05	06/30/05

Prequalified Joint Sealers							
Class	**Products**	**Producer**	**Address/Phone No.**	**Contact**	**Lab No.**	**Tested**	**Expires**
	810	Corporation 99875	Midland, MI 48686 (517) 496-5799		C04373973 C03375511 C03371959 C03370013 C02372042 C02370013 C01372016 C01370012 C00372088 C00370012	09/16/04 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	12/31/04 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
7	Watson/Bowman 810	Watson Bowman 99968	3414 Blue Candle Drive Spring, TX 77388 (281) 651-8394	Jay Waddock	C04371668 C03375541 C03370030 C02372059 C02370027 C01372030 C01370023 C00372098 C00370023	07/01/04 01/01/04 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	12/31/04 06/30/04 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
[redacted]	Crafco Road Saver SL (Part No. 34903 810 (Portland cement concrete jts. Only)	Crafco, Inc. 99579	6975 W. Crafco Way Chandler, AZ 85266 (602) 276-0406	Vern Thompson	C05370035 C04373022 C04370452 C03371952 C03370006 C02372035 C02370006 C01372009 C01370006 C00372082 C00370006	01/01/05 07/01/04 01/01/04 07/01/03 01/01/03 07/01/02 01/01/02 07/01/01 01/01/01 07/01/00 01/01/00	06/30/05 12/31/04 06/30/04 12/31/03 06/30/03 12/31/02 06/30/02 12/31/01 06/30/01 12/31/00 06/30/00
8	DSB 900SL 810	D.S. Brown Co. 99511	300 E. Cherry St. North Baltimore, OH 45872	Ben Jacobus	C05371357	04/01/05	06/30/05

Prequalified Joint Sealers							
Class	**Products**	**Producer**	**Address/Phone No.**	**Contact**	**Lab No.**	**Tested**	**Expires**
			(651)-748-8114				
8	Pecora SL Low Modulus 810	Pecora Corp. 99981	165 Wambold Rd. Harleysville, PA 19438 (215) 723-6051	Roy Cannon	C05370308	01/01/05	06/30/05
					C04370185	01/01/04	06/30/04
					C03370019	01/01/03	06/30/03
					C02372048	07/01/02	12/31/02
					C02370029	01/01/02	06/30/02
					C01372032	08/01/01	12/31/01
8	Sika 15LM SL 810	Sika Corp. 99572	6122 Rachel's Court Katy, TX 77494 (281) 693-2121	Greg Reisz	C04374649	01/01/05	06/30/05
					C04372182	07/01/04	12/31/04
					C04370458	01/01/04	06/30/04
					C03371968	07/01/03	12/31/03
					C03370022	01/01/03	06/30/03
					C02372051	07/01/02	12/31/02
					C02370019	01/01/02	06/30/02
					C01372022	07/01/01	12/21/01
					C01370021	01/01/01	06/30/01

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

July 5, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW0101**

Subject: **Light Pole Template conflict with pennant**

Request:

Please Reference Plan Sheets 306 & 303 and attached sketch

Archer Western has discovered that the bottom template for the light pole anchor bolts is in conflict with the pennant. The Template extends approximately ½" past the face of the pennant.

Please provide a solution for this conflict as soon as possible as not to delay the project.

Response/Action Taken:

As discussed on July 1st, Archer Western is directed to install the anchor bolt pattern for the South traffic rail with the offset towards the traffic face - ½" off center of the T-4 rail. (Opposite of sketch provide by Archer Western) It's requested that the area of the embedded anchor bolt template near the pennant be cold spray galvanized to prevent rusting due to minimum concrete coverage.

The Light pole for the North traffic rail should be centered on the T-4 rail concrete.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: July 5, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

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2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

July 5, 2005

Originator: Andrew Scheermann

RFI Number: R-AW073

Subject: Power Source for load distribution centers A & B

Request:

Please Reference the Revised Plan Sheets 335

Please provide details on the locations and routing of the power sources for load distributing centers (LDC) A at Bent 11 and LDC B at Bent 8.

Please provide information at your earliest convenience.

Response/Action Taken:

In response to the location of the power sources for the Bridge lighting, please reference contract plan sheets BL-6 &7, pages 327 & 328. The electrical service drop will be located near Station 58+50. The power sources for LDC A at Bent 11 will be provided by the conduit run from GB3 at Bent 8 underground and under Midway Rd. to GB 7 at Bent 11 as shown on sheetBL-22 & 23, page 343 &344.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: July 5, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: Addison Road Traffic Control Plan

July 1, 2005

Dear Ben:

The submitted traffic control plan for Addison Road was review and accepted by the Town of Addison.

Although this plan is acceptable, the Town has requested that Archer Western Contractors not close any lanes along Addison Road or Arapaho Road until after July 3rd due to the Special Event which will occur on Sunday evening, "20th Annual Addison Kaboom Town". The Town thanks you for all your cooperation.

A reminder to Archer Western Contractors to continue to meet the requirement in the General Traffic Control Notes found on the Contract Drawing, sheet TC-1, page 27.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
File

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

June 27, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW0107**

Subject: **Surveyor Tie in Conflict**

Request:

Please Reference the Revised Plan Sheets 41 & 54

The Revised Plan Sheets 41 and 54, transmitted June 29, 2005, modifying the grades at the Arapaho/Surveyor Intersection still have a drainage problem. Based on field as-builts of Surveyor Blvd. and the modified plan grades will produce a "Pond" at STA 34+84.49; 107.24' O/S Lt just west of the Driveway into the Addison Pump Station.

Please review and provide a resolution as soon as possible as not to delay the project.

Response/Action Taken:

In response Archer Western Contractors, Ltd. has found that the revise contract plans are causing a ponding issue, after review of the reissued contract plans with the provide T/C elevation and gutter elevation, there is no provide contour grade that would create a ponding issue.

If Archer Western has found a conflict with the original elevation provide as existing elevation in the drainage and roadway plans, HNTB would request Archer Western to provide these found elevation/(conflicts), so a solution can be provided to Archer Western.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: June 30, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

Archer Western Contractors, Ltd.
Arapaho Road Phase III
Job No. 204059

REQUEST FOR INFORMATION

PROJECT No. **Arapaho Phase III**

RFI # 109

Date : July 5, 2005

Submitted To	Submitted By
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen	Archer Western Contractors, Ltd. Andrew Schneemann

Subject	Discipline	Co-Author	Copies To
Surveyor Tie In Conflict - As- Built Elevations	Civil	Tim Sparks S&J Electric	

Cost Impact	Amount	Schedule Impact	Days	Drawing Impact
Unknown	Unknown	Unknown	Unknown	Unknown

Information Requested

Please Reference the attached Sketches of the Type C-1 Light Fixture in the T-4 Rail

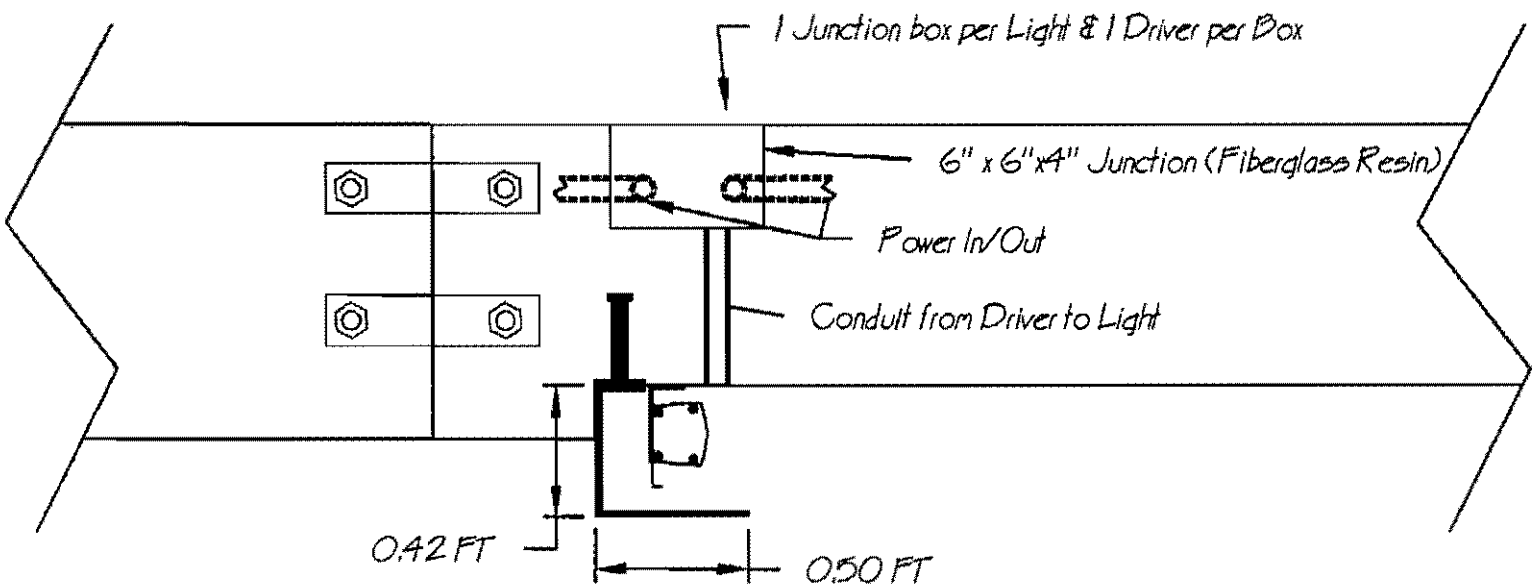
In review of the attached Sketch '1', you will notice that the reflector as specified in the contract plans is in conflict with the approved Type C Lights and Bracket. Sketch '2' shows modifications as discussed in the owners meeting. The modifications shown in Sketch '2' will minimize light maintance issues.

Please direct Archer Western and S&J on how to proceed with lighting issue.

Please respond as soon as possible as not to further delay the project.

Response

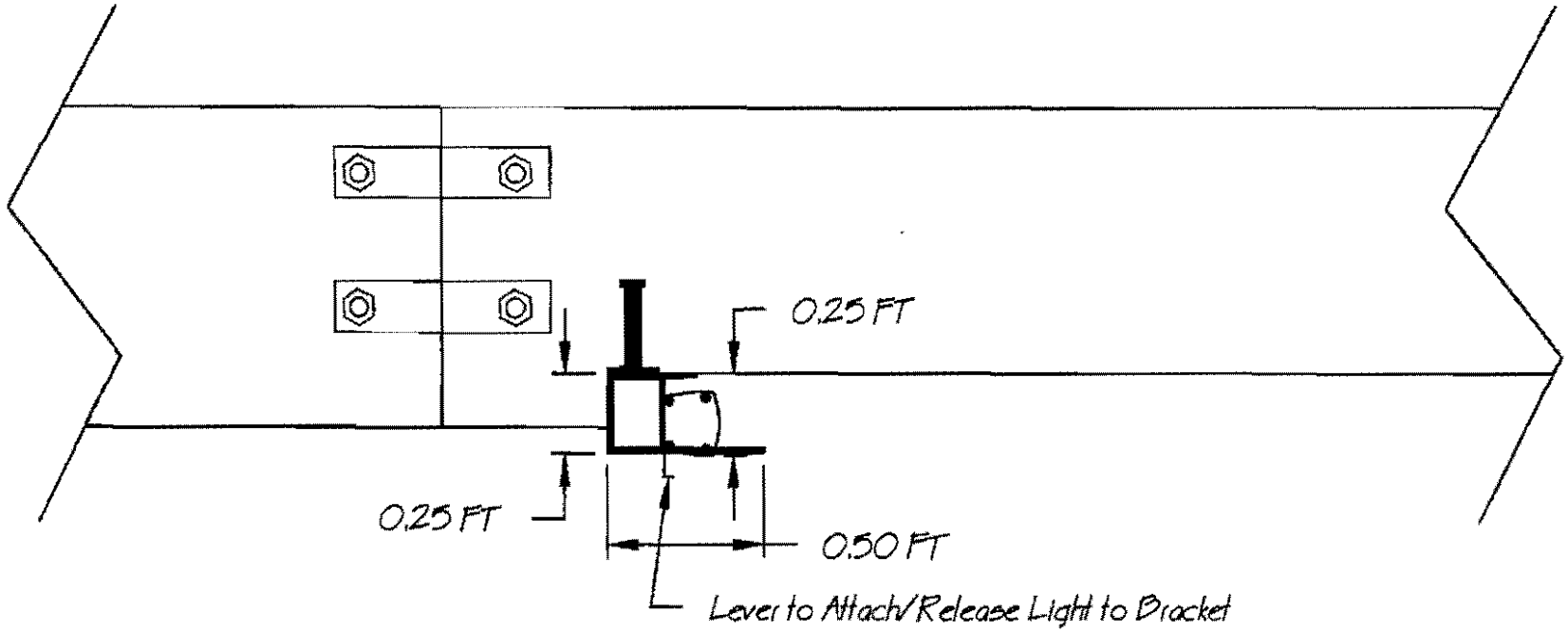
RFI 109



Proposed Type C 1 Lights Configuration

SKETCH 2

RFI 109



Type C 1 Lights As Per Contract Drawings

SKETCH 1

Archer Western Contractors, Ltd.
Arapaho Road Phase III
Job No. 204059

REQUEST FOR INFORMATION

PROJECT No. **Arapaho Phase III**

RFI # 105

Date : July 5, 2005

Submitted To	Submitted By
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen	Archer Western Contractors, Ltd. Andrew Schneemann

Subject	Discipline	Co-Author	Copies To
Bridge lighting Conduit Location	Civil	S&J Electrical	

Cost Impact	Amount	Schedule Impact	Days	Drawing Impact
Unknown	Unknown	Unknown	Unknown	Unknown

Information Requested

Please Reference the attached sheets showing as bid and proposed conduit location.

Archer Western and S&J Electric have compiled the attached sheets, showing the revised bridge conduit locations as discussed with the Town of Addison and HNTB. The conduit material changes in many instances. We understand that the material will be paid under the appropriate pipe material bid items.

Please confirm these revised conduit location.

Response

Conduit Layout per Plans

South T-4 Rail				South Edge of Decking				North T-4 Rail				North Edge of Decking			
Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description
3/4" PVC	E&F	335	Receptacles	3/4" RMC	D	335	A-2 Fixtures	3/4"PVC	G	335	E-1&A-1 Fixture	3/4"RMC	C&D	339	C-1 Drivers
3/4" PVC	E	343	F-2 thru F-20 Even	3/4"RMC	E&F	339	C-2 Fixtures	3/4"PVC	H&J	335	Receptacles	3/4"RMC	Output	339	C-1 Output
				3/4"RMC	B	341	B Fixtures	3/4"PVC	D	343	F-5 - F-19,G-7,8,9	3/4"RMC	A	341	B Fixtures
				3/4"RMC	B Control	341	B Fixture Cntrl	3/4"PVC	C	343	F-1, F-3, G-1-6	3/4"RMC	B Control	341	B Fixture Cntrl
				3/4"RMC	Output	339	C-2 Fixt. Output								
Total Conduits: 2				Total Conduits: 5				Total Conduits: 4				Total Conduits: 4			

Proposed Conduit Layout

South T-4 Rail				South Edge of Decking				North T-4 Rail				North Edge of Decking			
Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description
3/4" PVC	E&F	335	Receptacles					3/4" PVC	G	335	E-1&A-1 Fixture	3/4" RMC	C&D	339	C-1 Drivers
3/4" PVC	E	343	Type F (F2-F20 Even)					3/4" PVC	H&J	335	Receptacles	3/4" RMC	Output	339	C-1 Output
3/4" PVC	B	341	Type B Fixtures					3/4" PVC	D	343	F-5 - F-19,G-7,8,9				
3/4" PVC	B Control	341	Type B Fixture Cntrl					3/4" PVC	C	343	F-1 -F-3, G-1-6				
3/4" PVC	E&F	339	C-2 Fixtures					3/4" PVC	A	341	B Fixtures				
3/4" PVC	Output	339	C-2 Fixt. Output					3/4" PVC	B Control	341	B Fixture Cntrl				
3/4" PVC	D	335	A-2 Fixtures												
Total Conduits: 7				Total Conduits: 0				Total Conduits: 6				Total Conduits: 2			

Note
Specific section of the T-4 Rail, where more than five conduits will be present at one time the two conduits for the type B fixtures will be run in the bridge deck (span 9)

Note
Specific section of the T-4 Rail, where more then five conduits will be present at one time the two conduits for the type B fixtures will be run in the bridge deck (span 9)

\c	turn off special meaning of character c
^	beginning of line
$	end of line
.	any single character
:a	any alphabetical character [a-z|A-Z]
:d	any digit [0-9]
:n	any alphanumeric character [a-z|A-Z|0-9]
:<space>	A colon followed by a space also matches any punctuation character
[...]	any one of the characters in ...; ranges such as a-z are legal
[^...]	any single character not in ...; ranges are legal
s*	zero or more occurrences of string s
s+	one or more occurrences of string s
st	string s followed by string t

In Cells

If on, specifies a search for text in cells.

Fractions

If on, specifies a search for fractions.

Find

Clicking the Find button locates the specified text.

Change

Clicking Change replaces the text element in the Find field with the text element from the With field.

Change All

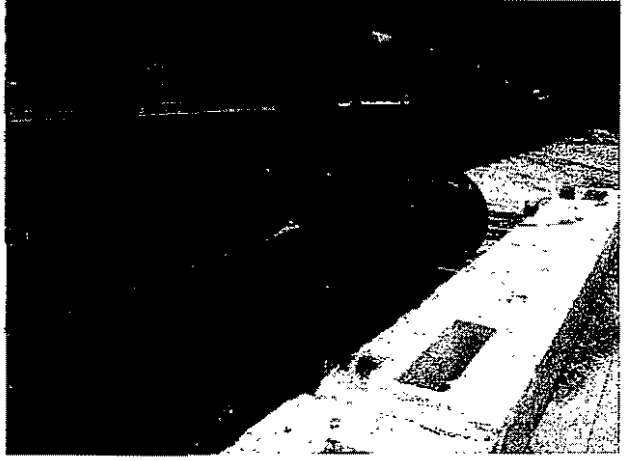
Clicking Change All replaces all the specified text elements in the design file.

Change Fence

Clicking Change Fence replaces the text elements that match the current Fence search criteria.

Change Single

Clicking Single replaces a single text element in the design file, as identified by the user.



Archer Western Contractors, Ltd.
Arapaho Road Phase III
Job No. 204059

REQUEST FOR INFORMATION

PROJECT No. **Arapaho Phase III**

RFI # 109

Date : July 5, 2005

Submitted To	Submitted By
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen	Archer Western Contractors, Ltd. Andrew Schneemann

Subject	Discipline	Co-Author	Copies To
Type C Light Fixtures / Reflector Conflict	Civil	Tim Sparks S&J Electric	

Cost Impact	Amount	Schedule Impact	Days	Drawing Impact
Unknown	Unknown	Unknown	Unknown	Unknown

Information Requested

Please Reference the attached Sketches of the Type C-1 Light Fixture in the T-4 Rail

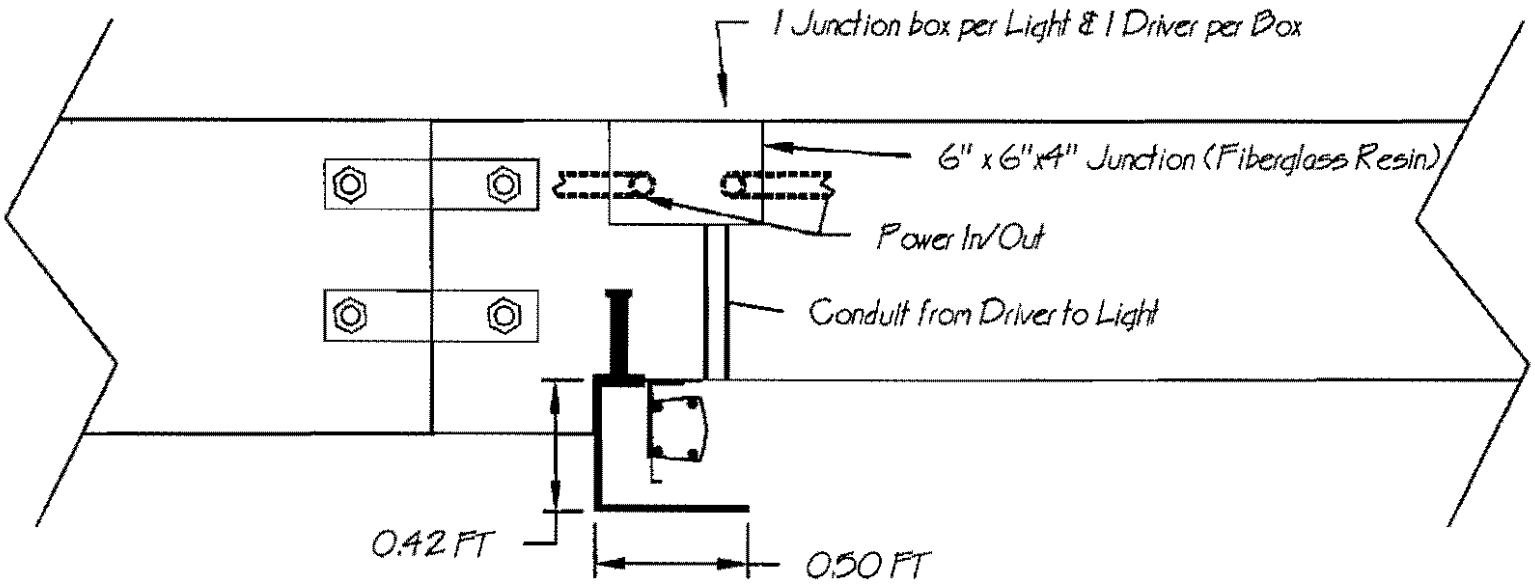
In review of the attached Sketch '1', you will notice that the reflector as specified in the contract plans is in conflict with the approved Type C Lights and Bracket. Sketch '2' shows modifications as discussed in the owners meeting. The modifications shown in Sketch '2' will minimize light maintenance issues.

Please direct Archer Western and S&J on how to proceed with lighting issue.

Please respond as soon as possible as not to further delay the project.

Response

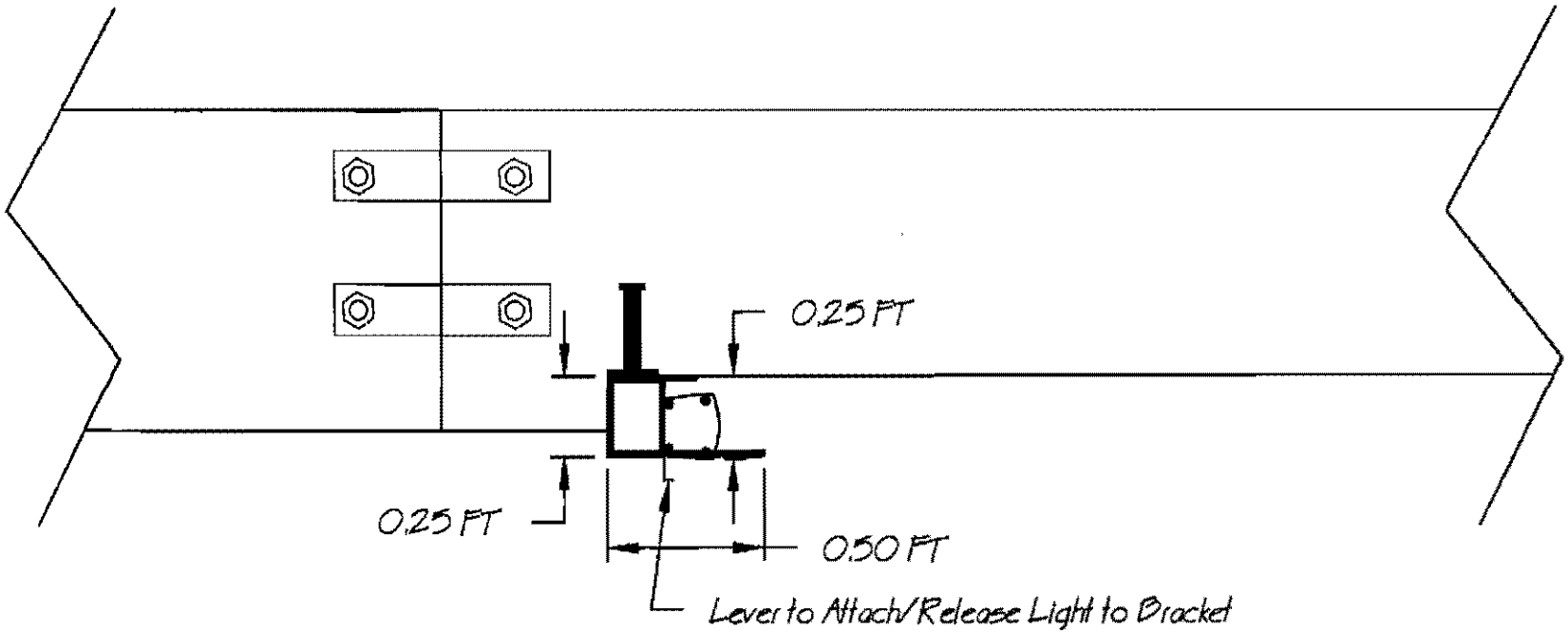
RFI 109



Proposed Type C 1 Lights Configuration

Sketch 2

RFI 109



Type C 1 Lights As Per Contract Drawings

SKETCH 1

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 8, 2005 **Submittal # :** 65.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: Town of Addison / Plan Sheet DT-03

Description of Submitted Item: Decomposed Granite - Product Summary Report & Samples

Manufacturer/Sub/Supplier: Martin Marietta

Related Section / Drawings: Town of Addison / Plan Sheet DT-03

Additional Comments: The Decomposed Granite will mixed with Type I/II Cement
Include 2 Bags of Material

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 8, 2005

Engineer's Stamp

Copy: File

Martin Marietta Materials

Product Quality Summary Report

Arapaho Road Phase III Submittal for Decomposed Granite

Plant:	32	Mill Creek
		Decomposed Granite
		DG01
5/8"(16)		100.0
3/8"(9.5)		89.9
#4(4.75)		58.4
#8(2.36)		46.7
#40(0.425)		30.7
#200(0.075)		9.70
PAN(0)		0.00
Plasticity Index		7

Product Quality Summary Report

Arapaho Road Phase III Submittal for Decomposed Granite

Plant: 32 Mill Creek

Comments: This gradation is for information only. This material is sold exclusively for landscaping purposes. Samples are available prior to shipment.

Query: Query Selections:
Report Created: 09/02/2004 10:07
Date Range: 09/01/2001 - 09/02/2004

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 83.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2866
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Double Check Valve

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810 - 7

Additional Comments: Watts - Series 007 QT

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

☑ No Exception Taken
☐ Make Corrections Noted
☐ Amend and Resubmit
☐ Rejected - See Remarks

HNTB Corporation

By JEK Date 7/7/05

Copy: File

Sub 83.1

02810 - 7.

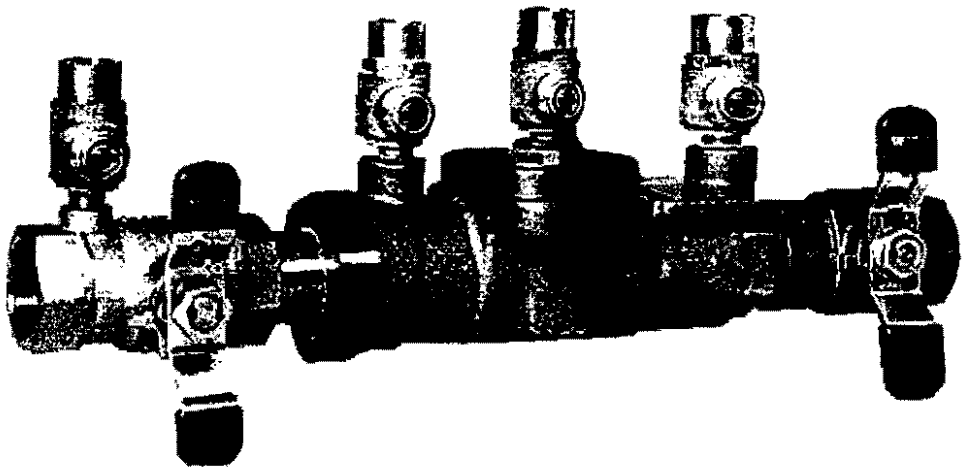
Click Here to Print Page

WATTS® INDUSTRIES

007 QT Series Double Check Valve

Primary Application

Series 007 QT Double Check valve is installed to prevent the backflow of polluted water into the potable water supply. The valve meets the requirements of ASSE Std. 1015 and AWWA Std. C510.



Features:

- One piece bronze body - unibody.
- Lightweight.
- Shorter end to end dimensions.
- Male by male connections - no adapters.
- Working temperature rating up to 180°F.
- Replaceable seats and seat discs.
- Captured stainless steel springs.
- Top access all parts.

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 79.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Roto Sprinkler Heads

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810 - 13 B

Additional Comments: Model I-20
Will be used in areas denoted in plans for roto heads

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

☑ **No Exception Taken**
☐ **Make Corrections Noted**
☐ **Amend and Resubmit**
☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

Copy: File

Submittal 79.1

Click Here to Print Page

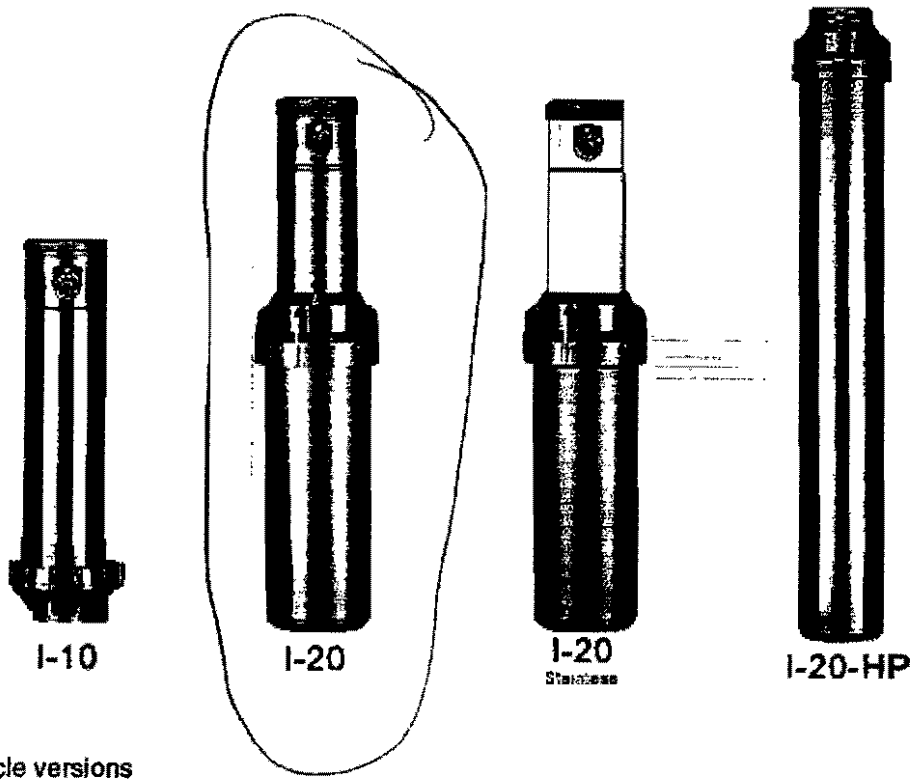
02810-13 B

To be used in areas as Denoted on Plans for ROTO Heads

Hunter®

I-10 & I-20 *Ultra* Rotors

Upgrade to heavy duty, commercial grade features in a sprinkler that's ideal for residential and commercial projects.

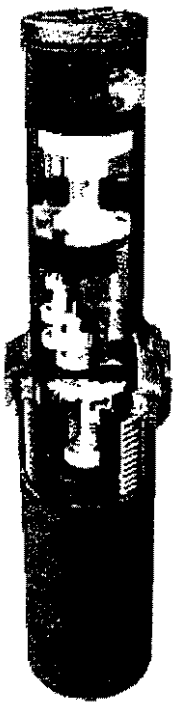


- Models: Shrub and 4" (10 cm) and 12" (30cm) Pop-ups (optional stainless steel riser on 4" pop-up model)
- Radius: 25' to 51' (7,6 to 15,5 m)
- Discharge rate: .9 to 8.2 GPM (0,20 to 1,86 m3/hr; 3,4 to 31,0 l/min)
- Arc: Adjustable or Full-Circle versions
- Inlet: 3/4"
- Nozzles: 12 interchangeable nozzles (8 standard and 4 low angle)
- FloStop(TM) Control allows stoppage of flow at an individual head

The Industrial-Strength Rotor for Residential and Commercial Use

If you're looking to upgrade over a typical residential grade rotor, this is where the search ends. No other rotor in its class gives you more. Like easy arc adjustment right at the top of the sprinkler, a heavy duty spring with reliable retraction, and a standard water-saving drain check valve that handles up to 10 feet of elevation change. Plus, we now include a rack of nozzles that includes both standard and low angle nozzles (the ideal solution for virtually any landscape situation), as well as the new FloStop(TM) feature that provides the added convenience of easily stopping water flow through a single head without turning off the entire system. With its ultra-sturdy construction, rest assured you've got a product that's sure to endure - it's even protected by a full five-year warranty! But, for those who still want more, be sure to consider our stainless steel option.

FEATURES AND BENEFITS



Integral rubber cover

Stays put to keep play areas safe

Full rack of 8 standard and 4 low angle nozzles

Continuously improved, honest performance, superior close-in coverage (now with key-lock installation)

NEW! FloStop(TM) Control

Allows stoppage of flow through an individual head while remainder of system is running

Easy arc adjustment (40 - 360)

Right at the top of the sprinkler

Continuously improved gear drive

Backed by over a decade of proven reliability

Commercial grade spring

Reliable retraction every time

Drain check valve for up to 10' elevation change

Saves water, reduces liability

Nozzle	PSI	Radius ft	GPM
1.0	30	30'	9
	40	31'	1.0
	50	**31'**	**1.2**
	60	32'	1.3
1.5	30	32'	1.2
	40	33'	1.4
	50	**34'**	**1.6**
	60	34'	1.8
2.0	30	34'	1.6
	40	36'	1.8
	50	**38'**	**2.0**
	60	38'	2.2
3.0	30	36'	2.0
	40	38'	2.4
	50	**40'**	**2.7**
	60	40'	2.9
3.5	30	36'	2.6
	40	40'	3.0
	50	**42'**	**3.4**
	60	42'	3.7
4.0	30	37'	3.2
	40	40'	3.7
	50	**43'**	**4.2**
	60	44'	4.6
6.0	30	38'	4.2
	40	43'	4.9
	50	**46'**	**5.5**
	60	47'	6.0
8.0	40	45'	6.0
	50	48'	6.8
	60	**49'**	**7.6**
	70	51'	8.2

Nozzle	PSI	Radius ft	GPM
2.0 LA	30	25'	1.6
	40	27'	1.9
	50	**28'**	**2.1**
	60	30'	2.3
2.5 LA	30	27'	2.1
	40	30'	2.5
	50	**32'**	**2.8**
	60	35'	3.0
3.5 LA	30	29'	2.8
	40	32'	3.1
	50	**35'**	**3.5**
	60	37'	3.8
4.5 LA	30	31'	3.4
	40	34'	3.9
	50	**37'**	**4.4**
	60	38'	4.7

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 77.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Round Box

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810 - 12 D

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

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☑ **No Exception Taken**
☐ **Make Corrections Noted**
☐ **Amend and Resubmit**
☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

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Sub 77.1

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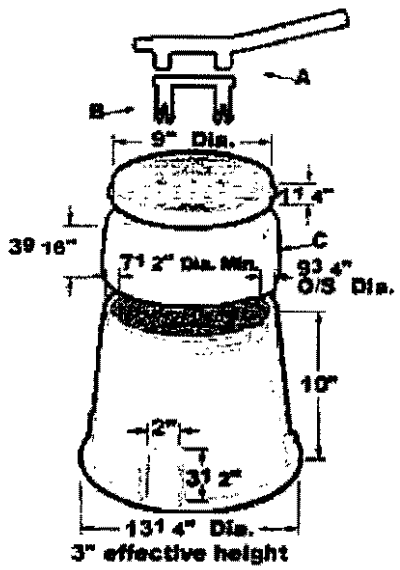
02810-12D

AMETEK ACCESS BOXES

10" Round Box



Today, AMETEK, Inc. Access Boxes are considered to be the best - within significant irrigation industries. An independent crush test at the University of Wisconsin Engineering Test Lab showed the AMETEK, Inc. Product to be much stronger than all of its competitors.

Meter Boxes are manufactured in five major sizes. They have extensions, a variety of names and colors, and various applications in the turf irrigation, waterworks and electrical industries. Boxes are available in green, black, gray, tan, red brick and mulch brown. Lids come labeled with "Control Valve," "Water Meter," "CATV," "Sewer" and "Telephone."

	UNIT	SKID	
NAME	WT.	QTY.	WT.
Assembly	4.6 lbs.	135	660 lbs.
Box Only	3.4 lbs.	135	500 lbs.
Lid Only	1.2 lbs.	650	820 lbs.
Extension	1.2 lbs.	200	280 lbs.
Handle	1.2 oz.	-	-

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Re-Submittal : ____

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Quick Connect Valve

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810 - 12 D

Additional Comments: Model QB3SBL07
Model now made with Stainless Steel lid Not Brass

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

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☐ Rejected - See Remarks

HNTB Corporation

By JRK Date 7/7/05

* Must be Model QCV075 per specifications.

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S.b 78.1 7085

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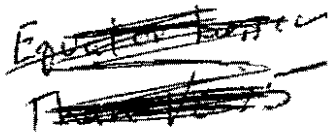
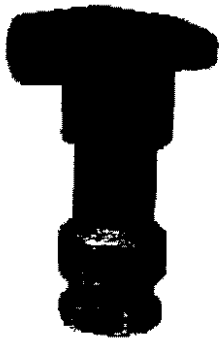
02810-12D





QB5NP10
1" One-piece Quick Coupling Valve with Non-potable Lavender TuffTop™ Locking Lid

Quick Coupling Valve One Piece Models

Model QB3SBL07

Description

Quick Coupling Valves are available in ¾" , 1" and 1½" inlet sizes. They are used where a water outlet is required for possible irrigation or wash-down.

Application

Quick Coupler Valves offer economical irrigation of large turf areas and provide for future conversion to pop-up rotors. They are also used where supplemental watering or wash-down is required.

Features

- Available in ¾" , 1" and 1½" Female NPT inlet.
- Lid stays closed by strong positive-action spring.
- High visibility TuffTop™ or brass lids available.
- Constructed of solid red brass for durability, economy and recyclability.
- Corrosion resistant stainless steel spring and self-flushing brass plunger.
- Wrench flats at base for easy installation.
- Drain hole in body to minimize debris collection.
- Chevron-shaped wiper seal to reduce leakage around key while inserted.
- Self cleaning seal design.
- Brass plunger and stainless steel spring to eliminate corrosion.
- Available locking lid for vandal resistance and non-potable application.
- Flow ranges from 5 to 100 gpm.
- Handles pressures up to 150 psi.
- Locking rubber lid (use with TLK lock top key).
- Lavender TuffTop™ locking lid for non-potable water (NP).
- Optional British Standard Threaded version available (BS).
- Five-year warranty.

Specifications

The quick coupling valve shall be a one piece type using a [single, double] slot keyway. The valve body and coupler key shall be made of cast red brass. The lid shall be made of brass or polypropylene. The seat disc plunger shall be spring-loaded to maintain the valve in a closed position at zero inlet pressure. Coupler seal shall be removable from the top while valve is under pressure. The lid shall be spring loaded for positive closing and made of 302 stainless steel spring temper cres wire.

The TuffTop™ shall be capable of locking (and unlocking with the use of a (TLK) key, which prevents unwanted use of the Quick Coupling valve.

The valve shall have a _____ inch inlet and be capable of _____ gpm flow at _____ psi maximum pressure loss. The valve shall be opened and closed by a [single, double] lug coupler key having a _____ inch Male NPT outlet thread, and/or a _____ inch Female NPT outlet thread.

Note: All irrigation systems should be properly filtered to eliminate contaminants. Chemical pollutants may also be hazardous to valve life and operation. Be sure to determine the fitness of any product for its application.

To Specify:

QB5	NP	10	BS	
Model	Lid	Size	Option	Option

Quick Coupling Valves - One Piece

Model Descriptions

Model No.	Two-Piece, Anti-rotation	Dimensions
QB3RC07	3/4", double slot, yellow TuffTop™	Height 4 3/8" Width 2 3/8"
QB3BL07	3/4", double slot, brass lid - spring loaded	
QB3SBL07	3/4", single slot, brass lid - spring loaded — SS 4.10	
QB3LRC07	3/4", double slot, locking yellow TuffTop™	
QB3NP07	3/4" double slot, locking lavender TuffTop™	
QB5RC10	1", double slot, yellow TuffTop™	Height 5 3/8" Width 3 3/8"
QB5BL10	1", double slot, brass lid - spring loaded	
QB5LRC10	1", double slot, locking yellow TuffTop™	
QB5NP10	1", double slot, locking lavender TuffTop™	
QB7RC15	1 1/2", double slot, yellow TuffTop™	Height 5 7/8" Width 3 7/8"
QB7BL15	1 1/2", double slot, brass lid - spring loaded	
QB7LRC15	1 1/2", double slot, locking yellow TuffTop™	
QB7NP15	1 1/2", double slot, locking lavender TuffTop™	

Coupler Key for One-Piece Quick Coupler	
QB33K07	3/4" Male & 1/2" Female, single lug for QB3RC07, QB3BL07, QB3LRC07, QB3NP07, QB3RCAR07, QB3BLAR07, QB3LRCAR07, QB3NPAR07
QB33SK07	3/4" Male & 1/2" Female, single lug for QB3SBLO7
QB55K10	1" Male & 3/4" Female, double lug for QB5RC10, QB5LRC10, QB5BL10, QB5NP10, QB5RCAR10, QB5BLCAR10, QB5BLAR10, QB5NPAR10
QB7DK15	1 1/2" Male & 1" Female, double lug for QB7RC15, QBBL15, QB7NP15, QB7LRC15, QB7RCAR15, QB7BLAR15, QB7NPAR15
TLK	Lock top key for quick coupling valves

QB - One-Piece Body Design

Pressure Loss in PSI			
GPM	All QB3 Series	All QB5 Series	All QB7 Series
5.0	0.8	-	-
10.0	1.8	-	-
15.0	4.1	-	-
20.0	7.2	1.0	-
30.0	-	3.0	-
40.0	-	6.3	-
50.0	-	9.2	2.8
60.0	-	13.0	3.6
70.0	-	-	4.9
80.0	-	-	6.6
100.0	-	-	11.0

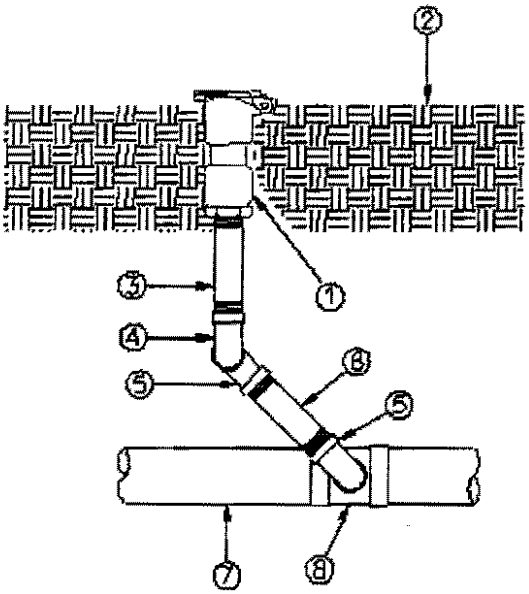
Pressure Loss in Bars			Metric
m^{3}/hr	All QB3 Series	All QB5 Series	All QB7 Series
1.13	0.05	-	-
2.25	0.12	-	-
3.38	0.28	-	-
4.50	0.49	0.07	-
6.75	-	0.20	-
9.00	-	0.43	-
11.25	-	0.63	0.16
13.50	-	0.88	0.24
15.75	-	-	0.33
18.00	-	-	0.45
22.50	-	-	0.75

Pressure Loss in kPa			Metric
l/m	All QB3 Series	All QB5 Series	All QB7 Series
19	5.5	-	-
38	12.4	-	-
57	28.2	-	-
76	49.5	6.9	-
114	-	20.6	-
152	-	46.3	-
190	-	83.6	19.3
228	-	89.4	24.8
266	-	-	33.7
304	-	-	45.4
380	-	-	75.6

Installation

Install all QVC's on swing joint assemblies and hand tighten. Use only Teflon tape as sealant. Position and level as required to grade.

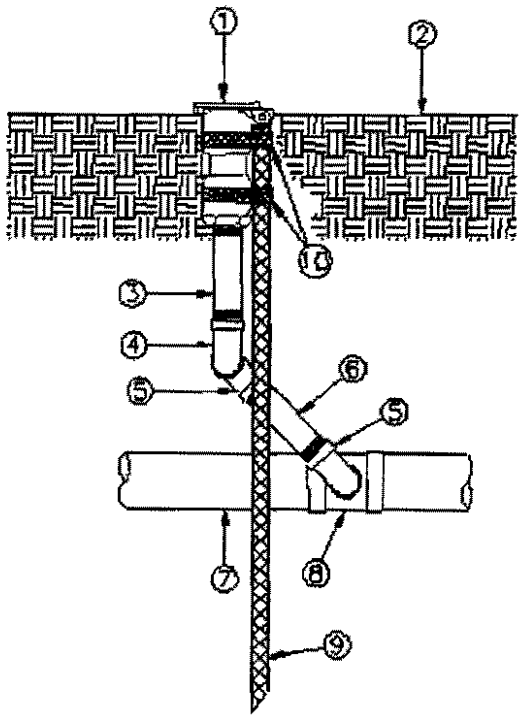
Quick Coupler Valve (One-Piece) Installation Detail



1. Buckner series quick coupler valve Model # _____
2. Finish grade
3. _____ PVC schedule 80 nipple (_____ min. length)
4. PVC T x T 90° ell
5. PVC street ell
6. _____ PVC schedule 80 nipple (_____ min. length)
7. Lateral line piping
8. Lateral line pipe fitting

NOTE: Teflon tape all threaded joints.

Quick Coupler Valve (One-Piece) Installation Detail



1. Buckner series quick coupler valve Model # _____
2. Finish grade
3. _____ PVC schedule 80 nipple (_____ min. length)
4. PVC T x T 90° ell
5. PVC street ell
6. _____ PVC schedule 80 nipple (_____ min. length)
7. Lateral line piping
8. Lateral line pipe fitting
9. Rebar, length as required for support
10. SS Pipe clamps, size as required

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005 **Submittal # :** 76.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Jumbo Box

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 2810

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

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☑ **No Exception Taken**
☐ **Make Corrections Noted**
☐ **Amend and Resubmit**
☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

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Sb 76.1 02810

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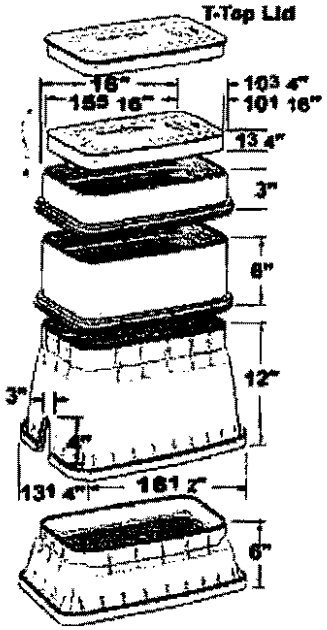
AMETEK ACCESS BOXES

Jumbo Box

Today, AMETEK, Inc. Access Boxes are considered to be the best - within significant irrigation industries. An independent crush test at the University of Wisconsin Engineering Test Lab showed the AMETEK, Inc. Product to be much stronger than all of its competitors.

Meter Boxes are manufactured in five major sizes. They have extensions, a variety of names and colors, and various applications in the turf irrigation, waterworks and electrical industries. Boxes are available in green, black, gray, tan, red brick and mulch brown. Lids come labeled with "Control Valve," "Water Meter," "CATV," "Sewer" and "Telephone."



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Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005 **Submittal # :** 75.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Master / Station Valves

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-12 A & B

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

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☐ Amend and Resubmit
☐ Rejected - See Remarks

HNTB Corporation

By JRK Date 7/7/05

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Sub 75.1

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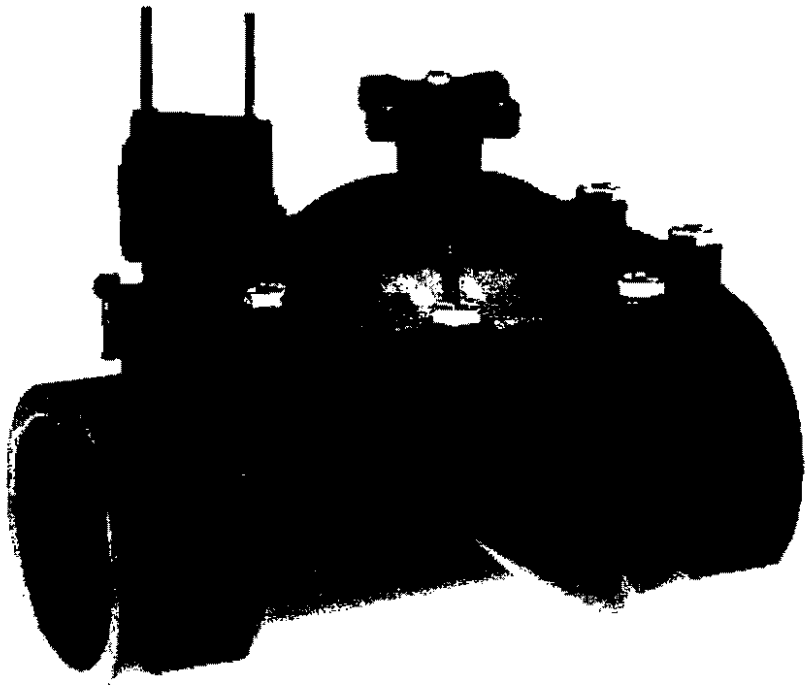
028107-2-A, B

Master Station Valves



11OOOCR SERIES
CONTAMINATION
RESISTANT VALVE

The 11OOOCR Series is a normally closed type valve; in the event of power failure,
valve closes.

The 1lOOOCR has excellent low flow characteristics which make it an ideal choice for micro-irrigation.

Features:

- 5 Year Limited Warranty on valve, 7- Year Limited Warranty on the S24B solenoid.
- Unique Dual Ported Diaphragm to greatly minimize clogging and malfunctions. In operation, the diaphragm ports constantly flex, inhibiting sand, silt and debris from blocking the valve action.
- The unique porting design also permits equal pressure on both sides of the diaphragm wall, regardless of line pressure, when valve is not operating. This feature prevents diaphragm "stretching", a common cause of valve failure in valves which are ported through the seat.
- The 11 OOOCR Series diaphragm is made of nylon fabric reinforced Buna-N rubber; a grooved rib interlocks with cover and body to prevent leakage.
- Exhaust Orifice is non-corrosive and has an opening sized larger than the diaphragm ports so that any pieces of sand or silt passing through the diaphragm will not be trapped beneath the solenoid actuator.
- S24B Solenoid manufactured by Weather-matic. Construction is molded resin having no carbon steel components exposed thereby eliminating possible external corrosion and deterioration. Solenoid is completely waterproof, with an O-Ring Seal, and complies with NEC Class II circuit requirements for 24V a.c. operation (also operates on 12 volts d.c. up to 75 psi).
- The S24B Pro-CapTM actuator is stain-less steel enclosed in a watertight protection capsule with a molded-in-place rubber exhaust port seal; a stainless steel spring assures positive seating.
- High Strength Glass-Filled Plastic Body and Cover designed to operate in heavy duty commercial applications. Stainless steel l/4 inch cover bolts and mating brass body inserts make reassembly easy.
- Shock Cone on diaphragm seat to eliminate water hammer in all except extreme cases.
- Flow Control. A brass, non-rising type flow control stem for throttling the valve from full open to full close positions.

- Manual Bleed Lever. An easy-to-use, hand operated control bleeds valve to downstream; has stops for open and closed positions.

Options: (Factory Installed)

- XPR Pressure Regulator. The Weather-matic XPR pressure regulating module senses inlet pressure and maintains constant outlet pressure. See PRK-24 in valve accessory section for specifications.
- Non-potable Alert Solenoid. May be substituted for standard model. Specify XS24NP.

Operating Data:

- Cold water working pressure: 150 psi

Electrical:

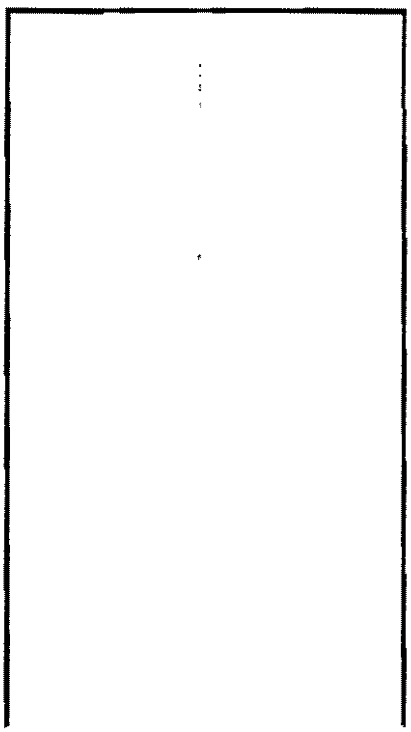
- Wiring requires a single lead from the controller to each solenoid, plus a common neutral to all solenoids. Type UF wire, U.L. listed, is recommended for all hookups.

24VAC/60 Hz.
Inrush: 9.86 VA
Holding: 5.69 VA
24VAC/50 Hz.
Inrush: 10.7 VA
Holding: 7.5 VA

- Do not use nominal voltage ratings listed above for sizing of valve wire. See wire sizing tables.

Installation:

- *Teflon tape is recommended.*
- *1 inch FIP can be bushed to 3/4 inch.*
- *1 -I/2 inch FIP can be bushed to I-1/4 inch.*
- *International Threads. (Specify ISO)*



Pressure Loss Through 11000CR Series Valves

Pressure Loss in PSI

GPM	11024FCR-10 1 INCH	11024FCR-15 1½ INCH	11024FCR-20 2 INCH
0-4	1.2 maximum		
6	1.4		
8	1.6		
10	*1.7		
12	1.8		
14	1.9		
16	2.0		
18	2.1		
20	2.3	*1.3	
22	2.5	1.4	
24	2.8	1.5	
26	3.2	1.6	
28	3.7	1.7	
30	4.3	1.9	
32	4.8	2.1	
34	5.6	2.3	
36	6.3	2.5	
38	7.0	2.8	
40	7.7	3.0	*2.3
42	8.4	3.3	2.5
44	9.1	3.6	2.4
46	9.9	3.9	2.4
48	10.7	4.2	2.5
50	11.5	4.6	2.6
52		5.0	2.8
54		5.4	2.7
56		5.8	2.7
58		6.2	2.8
60		6.7	2.9
70		9.5	3.3
80		13.0	3.4
90			4.2
100			5.2
110			6.7
120			7.7
130			8.8

* Minimum recommended flow for valves with RPR Option

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To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baalen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Ball Valves

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-12C

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

☑ **No Exception Taken**
☐ **Make Corrections Noted**
☐ **Amend and Resubmit**
☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

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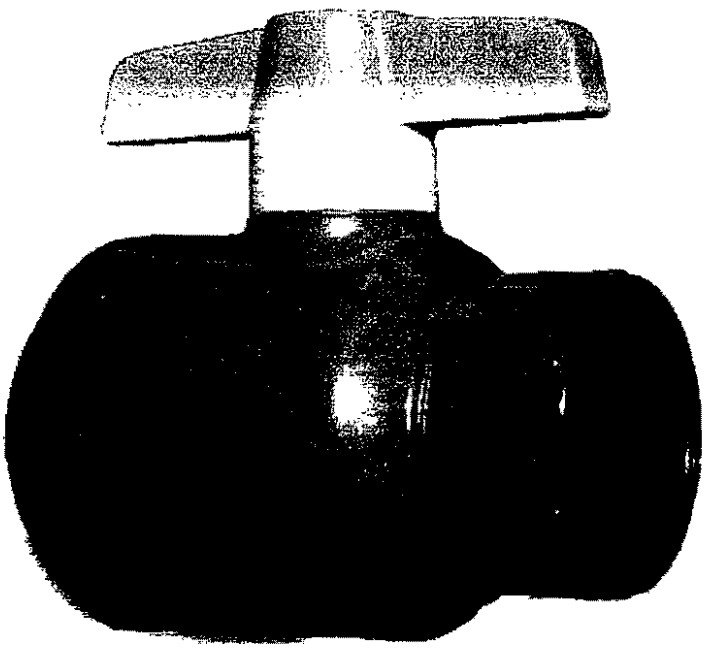
Sb 74,1 02810-12-C

Click Here to Print Page

2" Utility SS Ball Valve



A high quality, economical, quarter-turn shut off valve designed for home, irrigation, and pool and spa applications. Available in IPS sizes 1/2" through 2" with choice of either socket or threaded end connectors.

Features:

- One piece sealed unit never requires adjustment.
- Heavy bodied PVC construction.
- Standard EPDM o-rings.
- High Impact Polypropylene handle with double stop engagement.
- Equipped with Spears high strength Safe-T-Shear stem.
- All Utility Ball Valves are NSF Listed for potable water use.
- Full Schedule 80 bore in full open position, full bore virtually eliminates pressure drop, providing optimum flow.
- 150 psi Pressure rating maximum internal pressure at 73°F for a variety of applications.

Temperature Pressure Rating

System Operating Temperature °F (°C)		73 (23)	100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	200 (93)
Valve Pressure Rating	PSI	150 (103)	124 (86)	99 (69)	74 (52)	62 (43)	49 (34)	37 (26)	25 (17)	12 (8)	0 (0)	0 (0)
psi/(MPa)	CPVC	150 (1.03)	140 (.97)	130 (.90)	120 (.83)	110 (.76)	100 (.69)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	40 (.28)

Note: Ball Valves should not be used at temperatures [illegible]

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 73.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baalen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Solvent Weld PVC

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-10

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

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☑ No Exception Taken
☐ Make Corrections Noted
☐ Amend and Resubmit
☐ Rejected - See Remarks

HNTB Corporation

By JRK Date 7/7/05

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Schmitta / Sb 73.1 02810-10

Solvent Weld PVC

Nominal Pipe Size	Category	SDR	Average Outside Diameter (inches)	Approx. Inside Diameter (inches)	Minimum Wall Thickness (inches)	Approx. Weight (lbs/100')
½	315 IPS	13.5	0.840	0.70	0.062	10
	SCH 40/PR 600	NA	0.840	0.60	0.109	16
	SCH 80/PR 850	NA	0.840	0.52	0.147	21
¾	200 IPS	21	1.050	0.92	0.060	12
	SCH 40/PR 480	NA	1.050	0.80	0.113	22
	SCH 80/PR 690	NA	1.050	0.72	0.154	29
1	200 IPS	21	1.315	1.18	0.062	16
	SCH 40/PR 450	NA	1.315	1.03	0.133	32
	SCH 80/PR 630	NA	1.315	0.93	0.179	42
1¼	125 IPS	32.5	1.660	1.53	0.060	20
	160 IPS	26	1.660	1.52	0.064	21
	200 IPS	21	1.660	1.49	0.079	26
	SCH 40/PR 370	NA	1.660	1.38	0.140	44
	SCH 80/PR 520	NA	1.660	1.26	0.191	59
1½	125 IPS	32.5	1.900	1.77	0.060	23
	160 IPS	26	1.900	1.74	0.073	27
	200 IPS	21	1.900	1.70	0.090	34
	SCH 40/PR 330	NA	1.900	1.59	0.145	52
	SCH 80/PR 470	NA	1.900	1.47	0.200	70
2	125 IPS	32.5	2.375	2.21	0.073	35
	160 IPS	26	2.375	2.64	0.091	43
	200 IPS	21	2.375	2.13	0.113	53
	315 IPS	13.5	2.375	1.99	0.176	80
	SCH 40/PR 260	NA	2.375	2.04	0.154	70
	SCH 80/PR 400	NA	2.375	1.90	0.216	97
2½	125 IPS	32.5	2.875	2.68	0.088	51
	160 IPS	26	2.875	2.63	0.110	63
	200 IPS	21	2.875	2.58	0.137	77
	315 IPS	13.5	2.875	2.41	0.213	120
	SCH 40/PR 300	NA	2.875	2.44	0.203	110
	SCH 80/PR 420	NA	2.875	2.28	0.276	150
3	100 IPS	41	3.500	3.31	0.085	80
	125 IPS	32.5	3.500	3.26	0.108	75
	160 IPS	26	3.500	3.21	0.135	94
	200 IPS	21	3.500	3.14	0.167	110
	315 IPS	13.5	3.500	2.94	0.259	170
	SCH 40/PR 260	NA	3.500	3.03	0.216	150
	SCH 80/PR 370	NA	3.500	2.85	0.300	200
4	63 IPS	64	4.500	4.35	0.070	64
	100 IPS	41	4.500	4.26	0.110	99
	125 IPS	32.5	4.500	4.20	0.138	120
	160 IPS	26	4.500	4.13	0.172	150

Nominal Pipe Size	Category	SDR	Average Outside Diameter (inches)	Approx. Inside Diameter (inches)	Minimum Wall Thickness (inches)
5	63 IPS	64	5.563	5.37	0.087
	100 IPS	41	5.563	5.27	0.136
	125 IPS	32.5	5.563	5.19	0.171
	160 IPS	26	5.563	5.10	0.214
	200 IPS	21	5.563	4.99	0.265
	SCH 40/PR 180	NA	5.563	5.01	0.258
	SCH 80/PR 290	NA	5.563	4.76	0.375
6	63 IPS	64	6.625	6.40	0.087
	100 IPS	41	6.625	6.27	0.162
	125 IPS	32.5	6.625	6.18	0.204
	160 IPS	26	6.625	6.07	0.255
	200 IPS	21	6.625	5.94	0.316
	SCH 40/PR 180	NA	6.625	6.02	0.280
	SCH 80/PR 280	NA	6.625	5.70	0.432
8	63 IPS	64	8.625	8.33	0.135
	100 IPS	41	8.625	8.17	0.210
	125 IPS	32.5	8.625	8.05	0.265
	200 IPS	21	8.625	7.74	0.410
	SCH40/PR 160	NA/28	8.625	7.91	0.332
	SCH80/PR 250	NA	8.625	7.56	0.500
	100 FT HD 20	93.5	8.160	7.97	0.087
10	100 IPS	41	10.750	10.16	0.262
	125 IPS	32.5	10.750	10.04	0.331
	160 IPS	26	10.750	9.86	0.413
	200 IPS	21	10.750	9.65	0.511
	SCH 40/PR 140	NA	10.750	9.96	0.365
	SCH 80/PR 230	NA	10.750	9.48	0.593
	100 FT HD 20	93.5	10.2[illegible]	[illegible]	0.109
12	63 IPS	64	12.750	12.32	0.199
	100 IPS	41	12.750	12.08	0.311
	125 IPS	32.5	12.750	11.91	0.392
	160 IPS	26	12.750	11.70	0.490
	200 IPS	21	12.750	11.45	0.606
	SCH 40/PR 130	NA	12.750	11.98	0.406
	SCH 80/PR 230	NA	12.750	11.28	0.687
	100 FT HD 20	93.5	12.240	11.96	0.131
	100 FT HD 40	93.5	12.240	11.96	0.131
15	100 FT HD 20	93.5	15.300	14.94	0.164
	100 FT HD 40	93.5	15.300	14.94	0.164
	100 PIP	41	15.300	14.50	0.373
18	100 FT HD 20	93.5	18.360	17.93	0.197
20	100 FT HD 20	93.5	20.400	19.93	0.219

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 72.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Control Wires

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-15

Additional Comments: Wire Colors as Denoted in Specification

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

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☑ No Exception Taken
☐ Make Corrections Noted
☐ Amend and Resubmit
☐ Rejected - See Remarks

HNTB Corporation

By JPK Date 7/7/05

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Submittal 72.1

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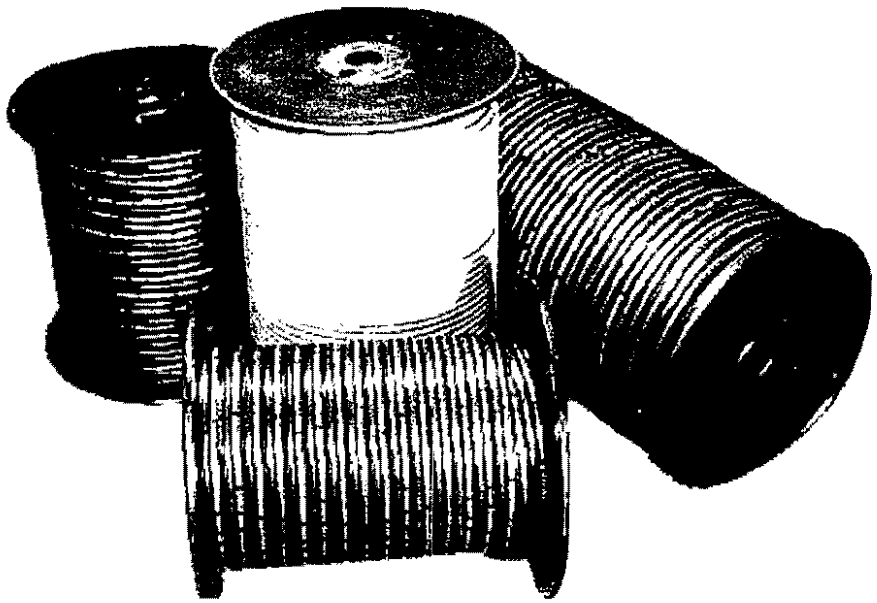
02810-15.

Service Wire Co.
Over 35 years of service

Wire Colors as Described in Specs

Type UF SINGLE CONDUCTOR 60° C/600V



Description & Features:

UL listed Single Conductor Type UF is suitable for use as Sprinkler Irrigation Control Wire for general purpose lighting and power. Construction provides solid or stranded soft annealed copper conductor insulated with polyvinyl chloride (PVC) compound that provides excellent abrasion, acid, chemical, oil and moisture resistance.

- UL listed Type UF 600 Volt (#14 thru 4/0 AWG)
- Listed for Direct Burial use
- Resistant to acids, alkali, grease and chemicals
- Abrasion, crush and moisture resistant

Applications:

- Suitable for use as power and control conductors for irrigation systems
- For use in accordance per NEC Article 339

Construction:

Conductors: Soft annealed copper
Solid (18 AWG to 8 AWG)
Stranded (6AWG to 4/0 AWG)
Insulation: Polyvinyl chloride (PVC) compound
Temperature: 60°C
Voltage: 600 Volts
Specifications & Standards:
UL 493 - Underground Feeder Cable
Federal Spec JC - 30B

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005 **Submittal # :** 71.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: PVC Risers (SCH 80)

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-14

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

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☐ **Amend and Resubmit**
☐ **Rejected - See Remarks**

HNTB Corporation

By JRK **Date** 7/7/05

* PER SPECIFICATIONS PROVIDE WEATHERMATIC LXS SERIES SWING JOINT ADAPTORS WHERE APPLICABLE.

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Submittal 7.1 02810 - 14

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Standard Pipe Nipple

PVC Sch 80 Nipples

Risers

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

Submittal # : 70.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2686
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Rain Bird 1800 Series Sprinkler Head

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-13 A & C

Additional Comments:
4" Tall Heads in the Grass Areas
12" Tall Heads in Landscape Beds
Head Patterns will be selected to best fit the situation

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

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☐ No Exception Taken
☑ Make Corrections Noted
☑ Amend and Resubmit
☐ Rejected - See Remarks

HNTB Corporation

By JRK Date 7/7/05

* Must use Hunter PCN 10 Bubbler Nozzles per Town of Addison Specifications.

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Submittal 70.1 02810-13 A3C

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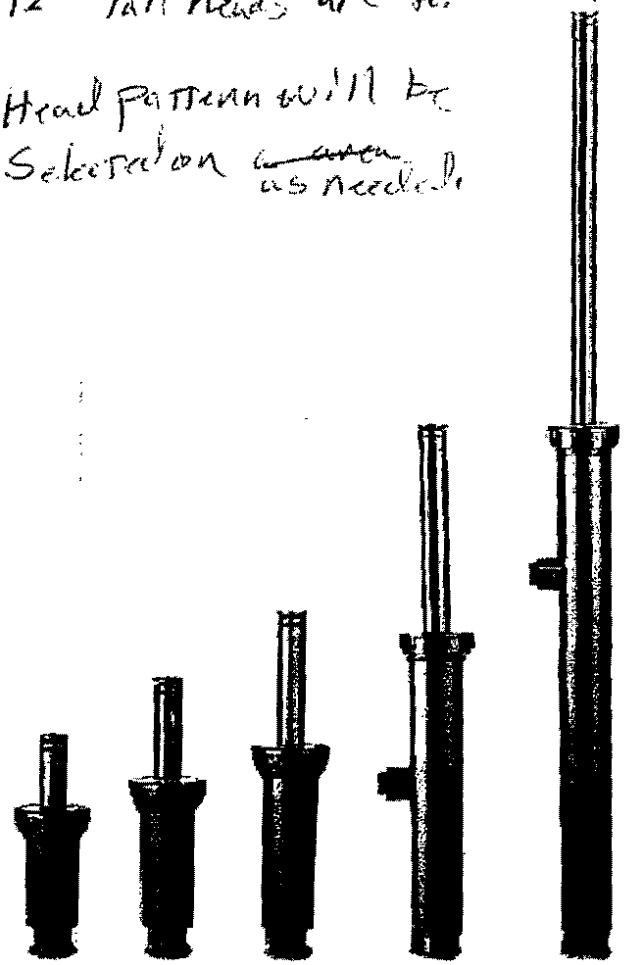
Note: 4" Tall heads are for Grasses
12" Tall heads are for Landscape beds
Head Pattern will be Selection as needed.

RAIN BIRD

1800 Series, 1800-SAM 1800-PRS, 1800-SAM-PRS



Primary Application

Industries leading series of spray sprinklers for turf and shrub applications.

Features:

- Precipitation rates matched across sets and across patterns.
- Ratcheting on all models.
- Exclusive pressure-activated wiper seal.
- Plastic and stainless steel materials,
- Seamless, molded construction.
- Strong, stainless steel retract spring.
- Side or bottom inlet on 1806 and 1812 only.

Industries leading series of spray sprinklers for turf and shrub applications.

Operating Range

- Precipitation Rate .42 to 11.7 inches per hour.
- Spacing: 3 to 20 feet.
- Pressure: 15 to 70 psi.
- Specifications
- Flow-by 0 at 8 psi or greater: 0.05 GPM otherwise.

4" & 12"

Dimensions

- 1/2" female threaded inlet.

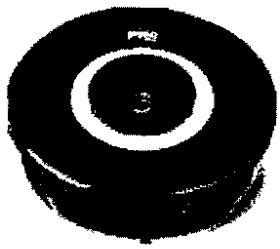
1800-SAM Series

Ideal for use in areas with changing elevations.

Features:

- Built-in Seal-A-Matic (SAM) check valve.
- Reduces low head drainage, puddling and erosion.
- Eliminates the need for under-the-head check valves.

1800-PRS Series

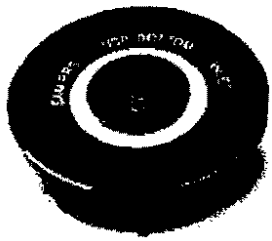


Designed for areas with high and/or widely fluctuating water pressures.

Features:

- Unique built-in stem pressure regulator.
- Delivers uniform water distribution at an average 30 psi.
- Ends misting and fogging caused by high pressure.

1800-SAM-PRS Series



Meets the needs of all spray areas, regardless of changing elevation or water pressures.

Features:

- Built-in Seal-A-Matic (SAM) check valve.
- Reduces low head drainage, puddling and erosion.
- Ends misting and fogging caused by high pressure.

Performance Charts

5 Series MPR

5 Trajectory

				■	▲
Nozzle	**Pressure psi**	**Radius ft.**	**Flow GPM**	**Precip In/h**	**Precip In/h**
5F	15	2	0.09	2.07	2.39

	20	3	0.19	2.01	2.32
	25	4	0.27	1.62	1.87
	30	5	0.41	1.58	1.83
5H	15	2	0.04	2.07	2.39
	20	3	0.09	2.01	2.32
	25	4	0.13	1.62	1.87
	30	5	0.20	1.58	1.83
5T	15	2	0.03	2.07	2.39
	20	3	0.06	2.01	2.32
	25	4	0.09	1.62	1.87
	30	5	0.13	1.58	1.83
5Q	15	2	0.02	2.07	2.39
	20	3	0.05	2.01	2.32
	25	4	0.07	1.62	1.87
	30	5	0.10	1.58	1.83

8 Series MPR

10 Trajectory

				■	▲
Nozzle	**Pressure psi**	**Radius ft.**	**Flow GPM**	**Precip In/h**	**Precip In/h**
8F	15	5	0.54	2.07	2.39
	20	6	0.75	2.01	2.32
	25	7	0.82	1.62	1.87
	30	8	1.05	1.58	1.83
8H	15	5	0.27	2.07	2.39
	20	6	0.38	2.01	2.32
	25	7	0.41	1.62	1.87
	30	8	0.52	1.58	1.83

8T	15	5	0.18	2.07	2.39
	20	6	0.25	2.01	2.32
	25	7	0.27	1.62	1.87
	30	8	0.35	1.58	1.83
8Q	15	5	0.13	2.07	2.39
	20	6	0.19	2.01	2.32
	25	7	0.21	1.62	1.87
	30	8	0.26	1.58	1.83

10 Series MPR

15 Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	Precip In/h	Precip In/h
10F	15	7	1.16	2.28	2.63
	20	8	1.30	1.96	2.26
	25	9	1.44	1.71	1.98
	30	10	1.58	1.52	1.75
10H	15	7	0.58	2.28	2.63
	20	8	0.65	1.96	2.26
	25	9	0.72	1.71	1.98
	30	10	0.79	1.52	1.75
10T	15	7	0.39	2.28	2.63
	20	8	0.43	1.96	2.26
	25	9	0.48	1.71	1.98
	30	10	0.53	1.52	1.75
10Q	15	7	0.29	2.28	2.63
	20	8	0.33	1.96	2.26
	25	9	0.36	1.71	1.98
	30	10	0.39	1.52	1.75

12 Series MPR

30 Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
12F	15	9	1.80	2.14	2.47
	20	10	2.10	2.02	2.34
	25	11	2.40	1.91	2.21
	30	12	2.60	1.74	2.01
12TQ	15	9	1.35	2.14	2.47
	20	10	1.58	2.02	2.34
	25	11	1.80	1.91	2.21
	30	12	1.95	1.74	2.01
12TT	15	9	1.20	2.14	2.47
	20	10	1.40	2.02	2.34
	25	11	1.60	1.91	2.21
	30	12	1.74	1.74	2.01
12H	15	9	0.90	2.14	2.47
	20	10	1.05	2.02	2.34
	25	11	1.20	1.91	2.21
	30	12	1.30	1.74	2.01
12T	15	9	0.60	2.14	2.47
	20	10	0.07	2.02	2.34
	25	11	0.80	1.91	2.21
	30	12	0.87	1.74	2.01
12Q	15	9	0.45	2.14	2.47
	20	10	0.53	2.02	2.34
	25	11	0.60	1.91	2.21
	30	12	0.65	1.74	2.01

15 Series MPR

30 Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	Precip In/h	Precip In/h
15F	15	11	2.60	2.07	2.39
	20	12	3.00	2.01	2.32
	25	14	3.30	1.62	1.87
	30	15	3.70	1.58	1.83
15TQ	15	11	1.95	2.07	2.39
	20	12	2.25	2.01	2.32
	25	14	2.48	1.62	1.87
	30	15	2.78	1.58	1.83
15TT	15	11	1.74	2.07	2.39
	20	12	2.01	2.01	2.32
	25	14	2.21	1.62	1.87
	30	15	2.48	1.58	1.83
15H	15	11	1.30	2.07	2.39
	20	12	1.50	2.01	2.32
	25	14	1.65	1.62	1.87
	30	15	1.85	1.58	1.83
15T	15	11	0.87	2.07	2.39
	20	12	1.00	2.01	2.32
	25	14	1.10	1.62	1.87
	30	15	1.23	1.58	1.83
15Q	15	11	0.65	2.07	2.39
	20	12	0.75	2.01	2.32
	25	14	0.82	1.62	1.87
	30	15	0.92	1.58	1.83

15 Strip Series

30 Trajectory

Nozzle	Pressure	W x L	Flow

	psi	ft.	GPM
15SQ	15	18 x 18	2.68
	20	19 x 19	3.06
■	25	21 x 21	3.42
	30	23 x 23	3.73
15EST	15	4 x 13	0.45
	20	4 x 14	0.50
▬	25	4 x 14	0.56
	30	4 x 15	0.61
15CST	15	4 x 26	0.89
	20	4 x28	1.00
▬	25	4x 28	1.11
	30	4 x 30	1.21
15SST	15	4 x 26	0.89
	20	4 x 28	1.00
▬	25	4 x 28	1.11
	30	4 x 30	1.21
9SST	15	9 x 15	1.34
	20	9 x 16	1.47
▬	25	9 x 18	1.60
	30	9 x 18	1.73

16 Series MPR

15 Trajectory

		■	▲
Nozzle	**Pressure psi**	**Radius ft.**	**Flow GPM**

16 F-SLA	15	13	2.37
	20	14	2.66
	25	15	2.96
	30	16	3.22
16H-SLA	15	13	1.18
	20	14	1.33
	25	15	1.48
	30	16	1.61
16Q-SLA	15	13	0.59
	20	14	0.67
	25	15	0.74
	30	16	0.81

22 Series MPR

35 Trajectory

		■	▲
Nozzle	**Pressure psi**	**Radius ft.**	**Flow GPM**
22F-SS	15	17	2.37
	20	18	2.66
	25	19	2.96
	30	20	3.22
22H-SS	15	17	1.18
	20	18	1.33
	25	19	1.48
	30	20	1.61
22Q-SS	15	17	0.59

	20	18	0.67
	25	19	0.74
	30	20	0.81

5 Series Stream Bubbler Nozzles

0 Trajectory

■ ▲

Nozzle	Pressure psi	Radius ft.	Flow GPM
5F-B	15	5	1.50
	20	5	1.50
	25	5	1.50
	30	5	1.50
5H-B	15	5	1.00
	20	5	1.00
	25	5	1.00
	30	5	1.00
5Q-B	15	5	0.50
	20	5	0.50
	25	5	0.50
	30	5	0.50
5CST-B	15	5	0.50
	20	5	0.50
	25	5	0.50
	30	5	0.50

Note: Indicates adjusted radius @ psi shown.
Note: Flow @ adjusted radius of 5 feet.

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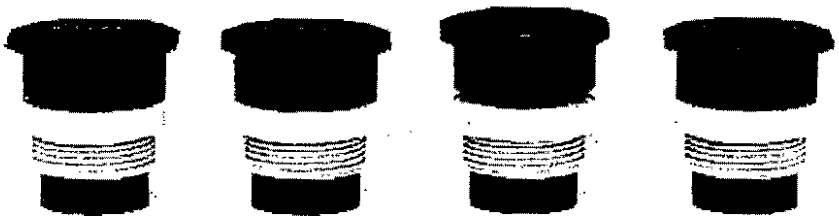
TORO

Toro Compensating Flood Bubbler Nozzles



Features:

- Built-in pressure regulation
- 2 GPM adjustable flow
- 0.25, 0.50 and 1.0 GPM fixed flow
- All pressure compensating, maintaining constant 30 PSI performance at pressures exceeding 30 PSI
- Use on shrub adapter, 570Z Series sprinkler, 570 risers and riser extenders

Specifications:

- Recommended operating range: 20-50 PSI
- Maximum operating pressure: 75 PSI

NOT CITY APPROVED

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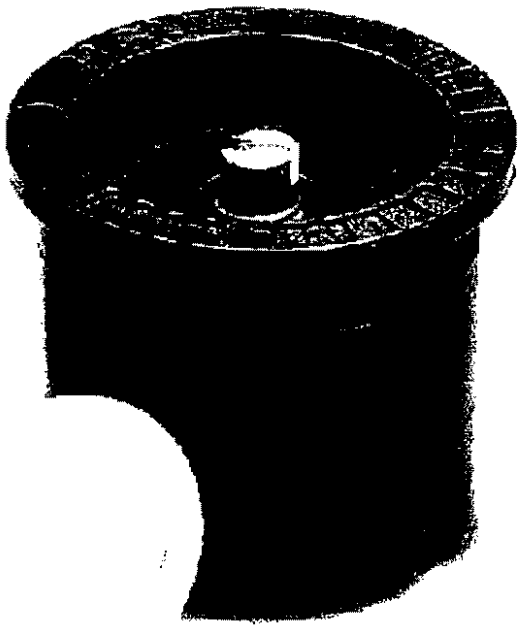
RAIN BIRD

Plastic MPR Nozzles



Not City Approved

Primary Application
Matched Precipitation Rate (MPR) nozzles simplify the design process by allowing sprinklers with various arcs and ready to be mixed on the same circuit. Models available for spacing from 3 to 20 feet. Fit all Rain Bird spray heads and shrub adapters.

Features
•Matched precipitation rates across sets and across patterns in new 5 Series, 8 Series, 10 Series, 12 Series, and 15 Series for even water distribution and design flexibility.
•New 5 Series nozzles meet small-area shrub or turf requirements.
•New and improved 8 Series nozzles now have a lower water flow which allows more spray heads per zone.
•1800 Series white filter (.035" x .045") screens (shipped with nozzles) maintain precise radius adjustment and prevent clogging. (New and improved 5 and 8 Series nozzles are shipped with blue fine-mesh (.02" x .02") filter screens.)
•Stainless steel adjustment screw to adjust flow and radius.

Operating Range:
•Spacing: 5 to 15 feet (1,5 to 4,5 m)
•Pressure: 15 to 30 psi (1 to 2,1 bar)
•Optimum pressure: 30 psi (2,1 bar)

Models
•5 Series
•5 Series: bubbler nozzles
•8 Series
•10 Series
•12 Series
•15 Series
•15 Strip Series
•16 Series: stream spray
•22 Series: standard stream spray

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005 **Submittal # :** 69.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Mini Clik II Rain Sensor

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-20C

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

SHOP DRAWING REVIEW

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

- ☐ No Exception Taken
- ☑ Make Corrections Noted
- ☑ Amend and Resubmit
- ☐ Rejected - See Remarks

HNTB Corporation
By Date 7-1-05

* Submittals Must Include Rain + Freeze Sensors Plus Hunter Bypass Switch As Per Town of Addison Specifications.

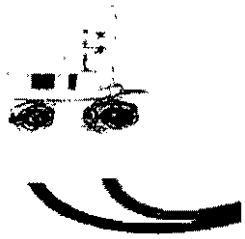
Copy: File

Submittal 69.1 02810 20 C

Click Here to Print Page

Mini-Clik II Rain Sensor

Mini Clik shuts off your irrigation controller during rainfall and keeps it off until your turf and shrubs are thirsty again! Mini-Clik measures rainfall through moisture-absorbing (hydroscopic) discs that absorb water and dry out at the same rate as turf. When exposed to rainfall, the discs swell causing a break in the circuit between valves and controller. When the discs dry out, the system circuit is reactivated.



Switch rating: UL listed 10.1 amps, 1/4 H.P at 125/250 VAC.

Rainfall settings at 1.8", 1/4", 1/2", 3/4", or 1". Accurate to within 1/16". Includes aluminum mounting bracket and 25ft. #20 two-conductor wire and short lead wire for "normally open" wiring.

ARCHER WESTERN CONTRACTORS, LTD.
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Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: June 28, 2005

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To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 02810 - Irrigation System

Description of Submitted Item: Irrigation Controller

Manufacturer/Sub/Supplier: American Landscape Systems

Related Section / Drawings: 02810-20C

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: June 28, 2005

Engineer's Stamp

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- ☐ No Exception Taken
- ☑ Make Corrections Noted
- ☐ Amend and Resubmit
- ☐ Rejected - See Remarks

HNTB Corporation

By JRK Date 07-7-05

* UNIT MUST HAVE DX-03 SENSOR BOARD + DX-PH PHONE COMMUNICATION OPTION.
* SEE ADDITIONAL NOTES IN SUBMITTAL.

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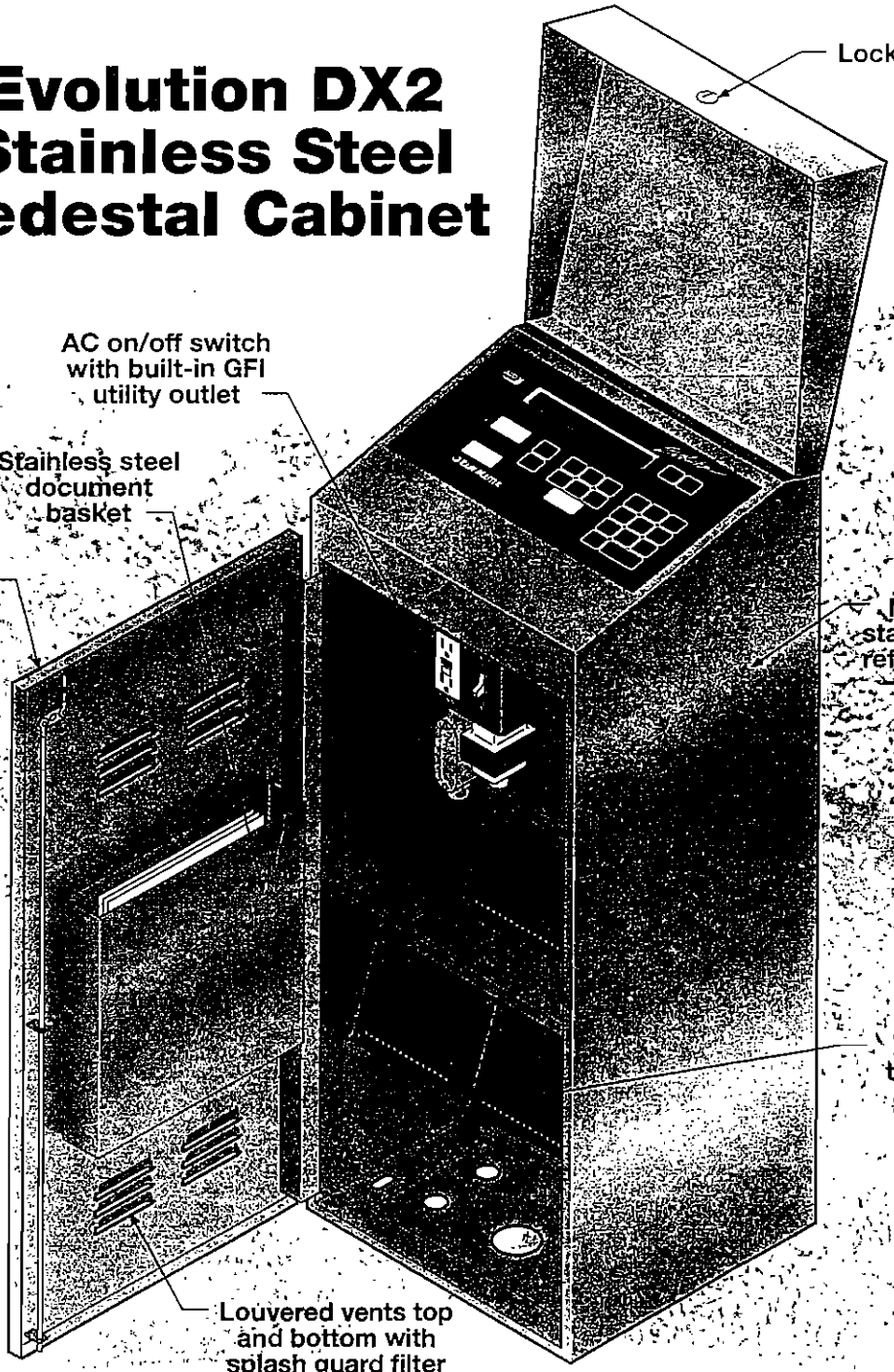
S.D. 68.1 02810-20C

Evolution™

CONTROL SYSTEMS

Evolution DX2 Stainless Steel Pedestal Cabinet



Rain Master is a technology-based, innovative, environmentally sensitive company dedicated to providing water management solutions to the irrigation industry.

RAIN MASTER®

1825-103 Surveyor Avenue,
Simi Valley, CA 93063
Ph: 805 527-4498 Fax: 805 527-2813
www.rainmaster.com

RAIN MASTER

EVOLUTION DX2
SPECIFICATIONS

The Evolution DX2™ irrigation controller shall be manufactured by Rain Master Irrigation Systems, Inc. The controller shall have the following features and functions:

PER TOWN OF ADDISON SPECIFICATION

Part 1.0 - Hardware Features

1.1 Available in painted or stainless steel wall mount cabinet or pedestal enclosure.

1.2 Station configuration options 6, 12, 18, 24, 30, 36, 42 or 48 stations. Dedicated outputs for 2 normally closed master valves, 1 normally open master valve, and 1 pump.

1.3 Connectivity for 4 input sensing devices. Four pulse input type devices e.g. flow sensors, flow meters, ET device, rain gauge, anemometer, etc.

1.4 80 character LCD display with 24-key membrane keypad.

1.5 Built-in remote control jack. Permanent internal remote mount available.

1.6 Built-in transient protection.

1.7 Optional lightning protection available.

1.8 Audible tone(s) for valid or invalid operator entry.

1.9 Lifetime retention of the user's program and date/time, without the use of batteries.

1.10 All outputs are protected from field wiring short circuits.

1.11 Built in amperage meter to accurately measure and diagnose valve solenoid electrical problems.

1.12 Modular architecture. Modular output boards (6 or 12 station) facilitate maintenance and eliminates total controller down time.

RAINMASTER

EVOLUTION DX2
SPECIFICATIONS

2.0 - Scheduling Capabilities

2.1 Operation of 12 conventional programs with 8 start times, 48 ISC (individual station control) or a combination of each.

2.2 Watering based upon 14-day schedules, skip day schedules, or 31-day schedules.

2.3 Continuous cycling of programs based upon user established start and end times, with a programmable delay/soak time.

2.4 Water budget per program from 0 to 999% in 1% increments for adjustment of program run times

2.5 Program by time.

2.6 Programmable monthly water total terminates over budget irrigation.

2.7 Quick station programming allows groups of stations to be programmed with the same runtime.

2.8 Programmable water window.

3.0 Program Setup Options

3.1 Programs overlap protection or concurrent operation.

3.2 Irrigation programs, lighting programs, security, etc. (Non-irrigation programs are independent of rain shutdown mode.)

3.3 Inter station delay from 0 to 255 seconds.

3.4 Runtimes from 1 second to 24 hours programmable in hours/minutes or minutes/seconds.

3.5 Master valve selections: 2 Normally Closed Valves or Normally Open Valves with programmable delay from 0 to 600 seconds.

EVOLUTION DX2
SPECIFICATIONS

4. 0 Maintenance and Alarm Diagnostic Capabilities

4.1 Flow monitoring. Automatic alarm processing (which provides station and/or master valve shut down and program advance as required) diagnosing and reporting station underflow and overflow, mainline breaks, and unscheduled flows. Maximum upper flow limit is 2000 GPM.

4.2 Electrical field wire monitoring. Automatic alarm processing (which provides station shutdown and program advance) for station over current, short circuits, broken field wiring or faulty solenoids.

4.3 Power monitoring. Automatic alarm processing/reporting for power outages and power restoration. Intelligent program resumption for all outages or power glitches, no lost cycles or water window violations.

4.4 Communication monitoring. Automatic alarm generation/reporting for lost communications or restoration when using hard wire communications. Automatic fault isolation of communication wiring problems to wire path between controllers.

4.5 Diagnostic lights (LEDs) for all station outputs as well as the dedicated outputs: MV1, MV2, N.O. MV, and PUMP. Lights indicate when 24 VAC is at output terminal.

4.6 Built-in test (BIT) functions allow selected controller circuitry to be field-tested.

4.7 Manual test mode. Allows user to automatically advance from station to station using manual run time while displaying valve solenoid electrical current for each station as well as station flow in GPM.

4.8 Manual station and manual multi-station modes. - Turns on any station for user entered runtime and automatically selects usage of the proper master valve and/or pump for this station. Multi-station mode allows any single station or output to be turned on individually or in combination with any other station(s). Valve solenoid electrical current is displayed.

4.9 Manually entered program. Allows user to enter a one-time program to be run immediately or scheduled for later in the day. The manual program is independent of automatic programs and shall start only one time.

4.10 Manual start of automatic programs (1-12). Start any program independent of the scheduled start time and water day.

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EVOLUTION DX2
SPECIFICATIONS

5.0 Miscellaneous Features

5.1 English/Spanish language selection.

5.2 Automatic limit setup (learn mode) for flow and current. Global percentage adjust for limit establishment.

5.3 Omit by date allows the user to enter up to 15 dates to exclude irrigation.

5.4 Operates as a standalone or central.

5.5 Fertilizer injector station with programmable delay from 0 to 255 seconds.

5.6 Flow Max - This exclusive feature allows controllers with a single point of connection to share a pump, master valves, and flow meters without the need for peripheral wiring/relays. All flow limits are dynamically managed as stations across controllers transition off and on. Features include:

A. Automatic protection and report for main line breaks, unscheduled flow, station high and low flow.
B. Read flow at any controller
C. Dynamic monitor shows system status at all times
D. Pump protection during exception conditions

6.0 Electrical Specifications

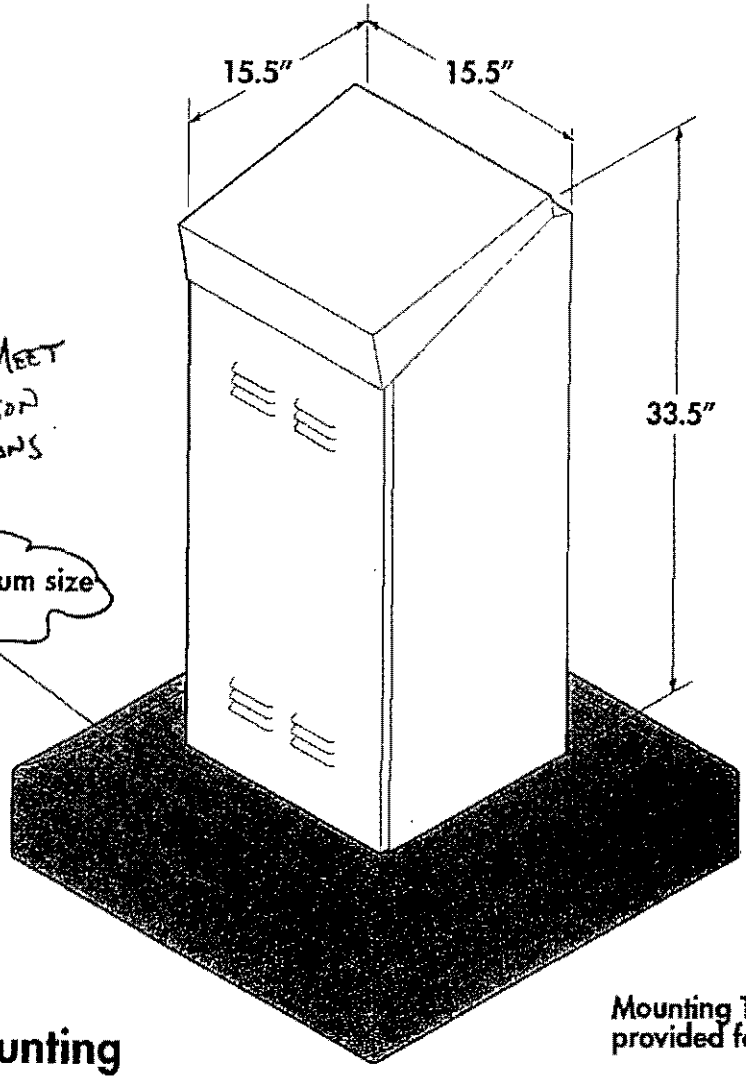
6.1 Input Power Required: 117 VAC +/- 15%, 60 HZ, 20 VA, plus load current.

6.2 Maximum load current per station or master valve output: 1 AMP

6.3 Maximum combined load current: 2 AMPS

6.4 No batteries required.

Evolution DX2 Stainless Steel Pedestal Cabinet Installation

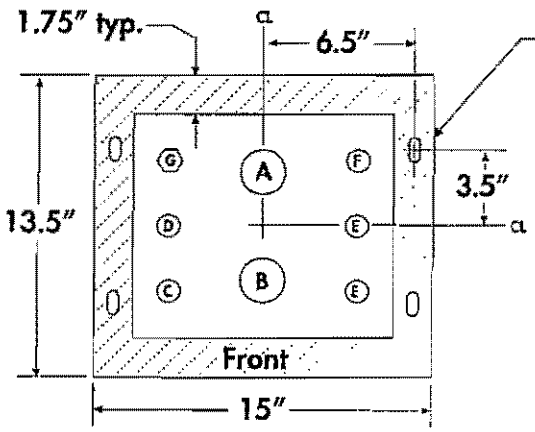


Size Must Meet Town of Addison Specifications

Mounting Pad— 28"x 28"x 8" minimum size concrete pad with beveled edges

Mounting Template provided for easy installation

Pedestal Mounting



Bolt Holes— stainless steel hardware standard with enclosure

Item	Description
A, B	2" conduit - station wiring
C	1" conduit - communication
D	AC power conduit
E	1" conduit - sensor wiring
F	External antenna
G	Grounding rod

Bolt and Conduit Template

RMIS Part No. 500501 Rev. B

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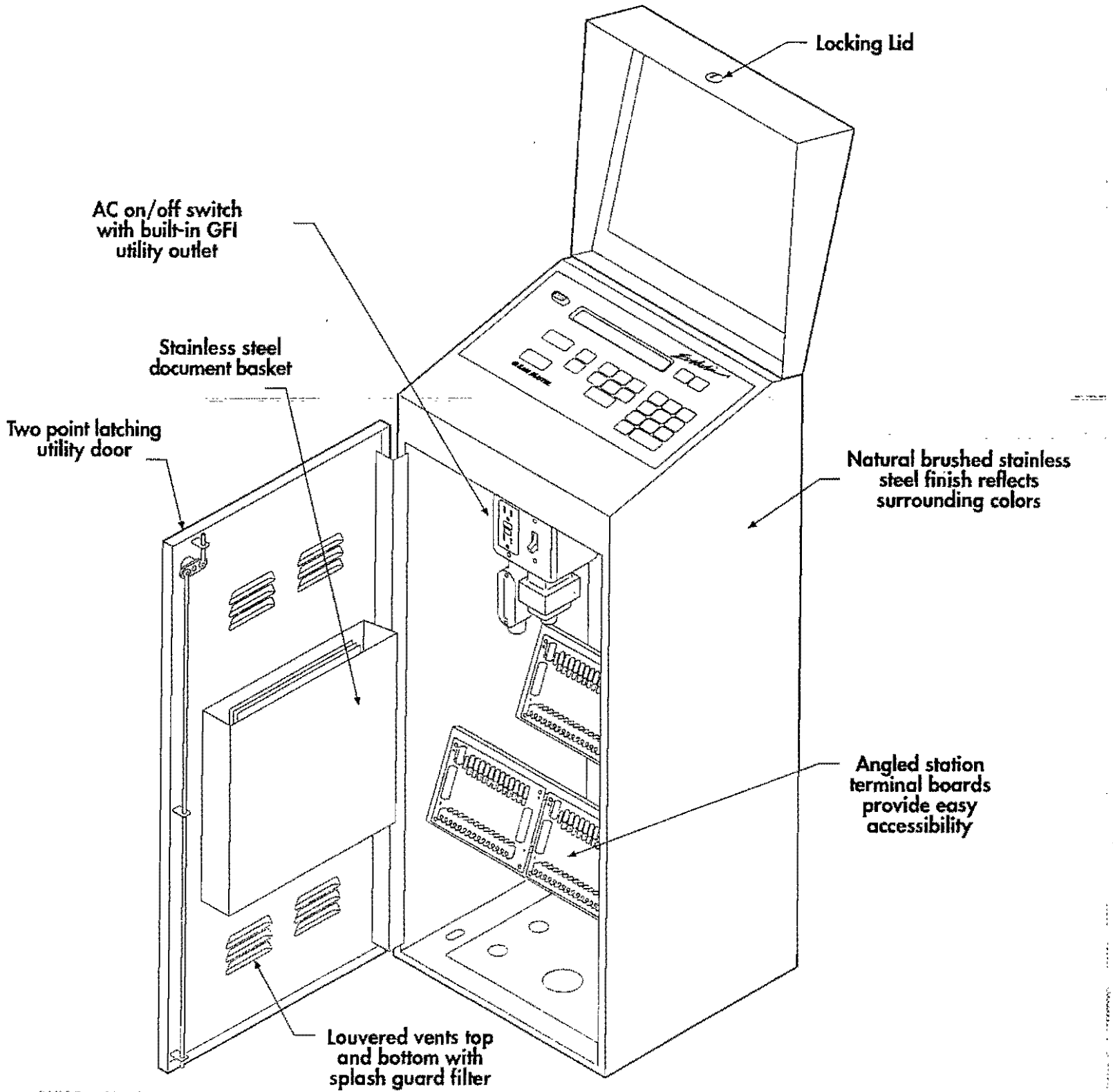
3910-B Royal Avenue,
Simi Valley, CA 93063
Ph: 805 527-4498 Fax: 805 527-2813

Evolution DX2
Stainless Steel Pedestal Cabinet



RMIS Part No. 500502 Rev. B

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3910-B Royal Avenue,
Simi Valley, CA 93063
Ph: 805 527-4498 Fax: 805 527-2813

The Rain Master Difference

The Evolution 2000 is a mature, stable software application providing unique functionality and benefits. Rain Master has taken great pains to ensure that usability is as simple and straightforward as possible to make your job easier! We provide the industry's most extensive range of tools and capabilities, packaged in a simple, intuitive software product. Our EV2000 central control software is intelligent, it almost thinks for itself, notifying and even correcting user errors.

Rain Master "control" is our only business. Our focus and commitment to [illegible]

Rain Master systems [illegible] evolve as new technologies emerge, providing [illegible]

Find out why Rain Master is the leading provider of [illegible] control systems in the [illegible]

[illegible] native for an EV2000 [illegible]

Evolution DX2 Field Controllers

Unrivaled Standalone Performance

Versatile Programming

- *Operation of 12 Conventional Programs and/or individual station control*
- *Up to 8 start-times each or continuous cycle with programmable soak time*
- *14 day schedule, skip by day, or 31 day watering schedules*
- *Multiple Master Valve - select one of two master valves, and a pump, on a per program basis, either normally opened or normally closed.*
- *Multi-Lingual Interface - designed to operate in several languages*
- *Programmable station runtimes from 1 second to 24 hours*
- *Inter-station delay from 0 to 255 seconds*

Water rationing tools

- *Water budget from 0 to 999% in 1% increments*
- *Programmable water window*
- *Programmable monthly water total terminates over-budget irrigation*
- *Omit by date exclusion feature*
- *Programmable rain feature*

Reliable Modular Design

- *Modular short circuit proof outputs available from 6-48 stations in 6 station increments*
- *Upgrade for central communications at any time*
- *Indefinite retention of programs as well as time and date during all power failures*
- *Optional heavy duty lightning and surge for lightning prone areas*

Integrated Flow Monitoring

- *Precise high/low station, mainline, and unscheduled limits*
- *Dynamic limit adjustment for multi-station operation*
- *Auto learn function with direct GPM readout in display*
- *Intelligent alarm notification, station condemnation, and program advancement*

Integrated Electrical Current Monitoring

- *Built-in electrical current meter with amperage viewed in display*
- *Continuous electrical measurement of station solenoids, master valves, pumps*
- *Auto learn function with adjustable high and low limits*
- *Dynamic limit adjustment for multi-station operation*
- *Intelligent alarm notification, station condemnation, and program advancement*

Intelligent Single Point of Connection Operation

- *Share a single flow meter and master valve/pump across multiple controllers.*
- *Flow limits are intelligently and dynamically updated as stations transition providing full protection for main line, station, and unscheduled flow*
- *Read flow at any controller*

Manual Diagnostic Features

- *Multi-station operation with instantaneous flow/current viewed in display*
- *System station check*
- *Controller built-in self test*
- *Diagnostic LEDs for all outputs*
- *Rain Master Remote ready*

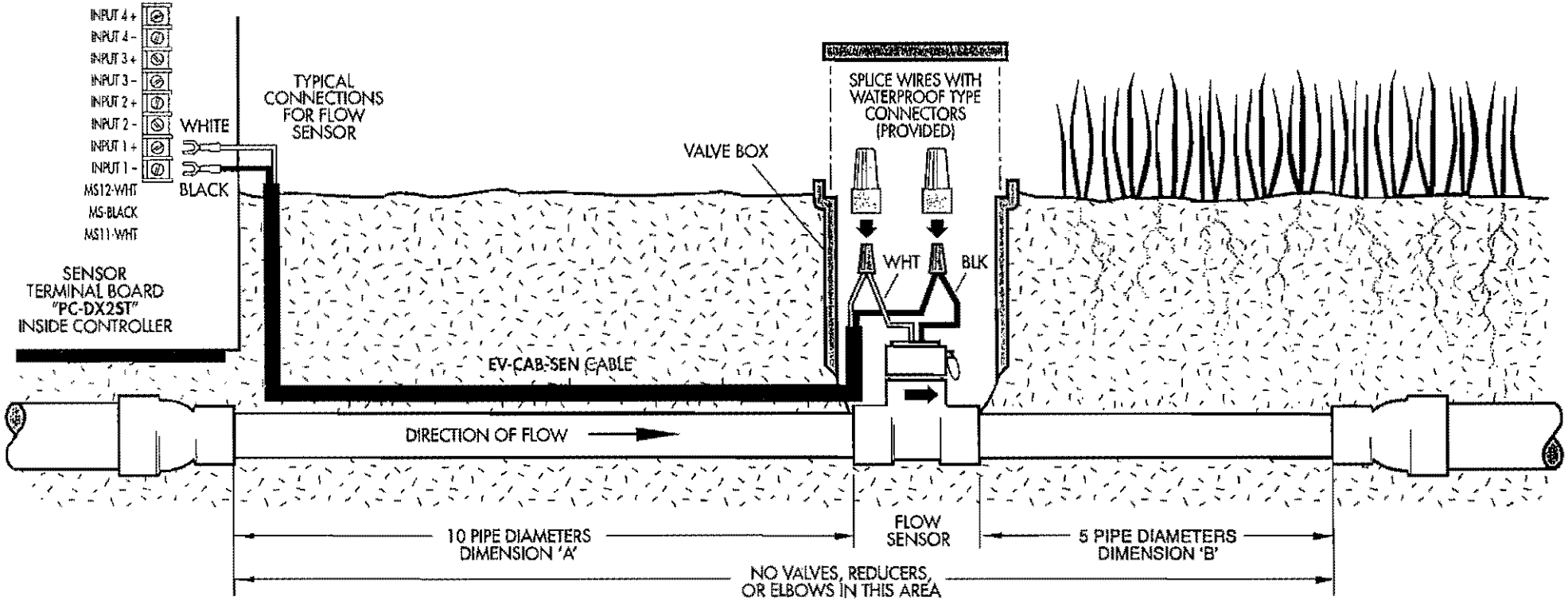
Multi-mode reliable communications

- *bi-directional (two-way) communications ensure integrity*
- *Hardwire, UHF point to point radio, trunk radio, cellular, UHF store and forward radio, phone, repeater operation*

Field or Central Programming

- *Full support for controller programming in the field or at central utilizing comparison management tools on the PC.*
- *Two-level password access activated by the user protects against unauthorized modifications to controller programs*

RAIN MASTER IRRIGATION SYSTEMS, INC. 1825-103 Surveyor Avenue • Simi Valley, California 93063 • 805.527.4498 • Fax 805.527.2813 • www.rainmaster.com



EXAMPLE:

FOR 3" FLOW SENSOR, DIMENSION 'A' MINIMUM 30"
DIMENSION 'B' MINIMUM 15"

Upon completion of the physical installation of the flow sensor, complete the wiring connection from the flow sensor to the DX2 controller by following the procedure below.

1. **TURN THE POWER OFF AT THE CONTROLLER**
2. At the Flow Sensor:
   Connect the **BLACK** wire of the Flow Sensor to the **BLACK** wire of the "**EV-CAB-SEN**", sensor cable.
   Connect the **WHITE** wire of the Flow Sensor to the **WHITE** wire of the "**EV-CAB-SEN**", sensor cable.
   *Use the weatherproof connectors provided with the Flow Sensor to make the connection.
3. At the controller:
   Connect **BLACK** wire of "**EV-CAB-SEN**" to "**INPUT 1-**" of the SENSOR TERMINAL BOARD (**PC-DX2ST**).
   Connect **WHITE** wire of "**EV-CAB-SEN**" to "**INPUT 1+**" of the SENSOR TERMINAL BOARD (**PC-DX2ST**).
4. Turn **POWER ON** at the Controller.
5. Set the Rain Master "K" and "OFFSET" values for the Flow Sensor at the controller based on the type and size of the Flow Sensor installed.

REFER TO THE TABLE PROVIDED WITH THE FLOW SENSOR FOR CORRECT "K" AND "OFFSET" FOR YOUR APPLICATION.

RAIN MASTER IRRIGATION SYSTEMS • 3910-B ROYAL AVENUE, SIMI VALLEY, CA 93063 • 805-527-4498

RAIN MASTER FLOW SENSORS

SELECTION CHART

FLOW SENSOR MODEL NO.	PIPE CONNECTION SIZE	SUGGUSTED OPERATING RANGE	MAXIMUM WATER PRESSURE	K VALUE	OFSET VALUE	BODY MATERIAL	CONNECTION TYPE
FS-B100	1 inch	2 – 40 GPM	400 PSI	109	27	Bronze	NPT female
FS-B125	1 ¼ inch	3 – 60 GPM	400 PSI	209	32	Bronze	NPT female
FS-B150	1 ½ inch	4 – 80 GPM	400 PSI	291	24	Bronze	NPT female
FS-B200	2 inch	10 – 100 GPM	200 PSI	750	0	Bronze	NPT female with copper male adapters
FS-B250	2 ½ inch	16 – 160 GPM	200 PSI	1021	370	Bronze	NPT female
FS-150	1 ½ inch	5 – 100 GPM	100 PSI @ 68° F	457	0	PVC	Slip
FS-200	2 inch	10 – 200 GPM	100 PSI @ 68° F	776	104	PVC	Slip
FS-300	3 inch	20 – 300 GPM	100 PSI @ 68° F	2268	483	PVC	Slip
FS-400	4 inch	40 – 500 GPM	100 PSI @ 68° F	3752	834	PVC	Slip
FS-INSERT-B	3 to 40 inches	Varies, Call Factory	400 PSI	See attached table RMIS Part No. 500712		Requires pipe saddle with 2 inch female NPT	

RAIN MASTER EV-CABLE SPECIFICATIONS

USAGE	PART #	CONDUCTORS	MAX. LENGTH
Hard Wire Comm Cable	EV-CAB-COM	2S	5000 ft
Short Haul Modem	EV-CAB-SH-COM	4S	5000 ft
Weather Center II	EV-CAB-WS12	12S	1000 ft
Flow Sensor	EV-CAB-SEN	2S	2000 ft

S = Indicates shielded

CABLE DESCRIPTION

Part #	Description
EV-CAB-COM	2 #20, full braid shield, 100 Ohm impedance one copper, one tinned, black jacket, direct burial. 2 conductor direct burial shielded communication cable used for hardwire satellite serial link up to 5000' in length.
EV-CAB-SH-COM	4 #18, foil shield w/drain, blue jacket, direct burial BLK, WHT, RED, GRN. 4 conductor direct burial shielded communication cable used to interconnect a pair of short haul modems (EV-SH-MOD) between the central computer and first satellite in a hardwire serial connection. More than 100' in length but not more than 5000' in length.
EV-CAB-WS12	12 #18, foil shield w/drain, black jacket, direct burial RED, BLUE, RED w/BLACK STRIPE, BROWN, BLUE w/BLACK STRIPE, ORANGE w/BLACK STRIPE, ORANGE, YELLOW, BLACK w/RED STRIPE, BLACK, YELLOW w/BLACK STRIPE, BROWN w/BLACK. 8 strand direct burial #18 shielded wires used to connect a Weather Center II to a Evolution DX2 controller. Not longer than 1000' in length.
EV-CAB-SEN	2 #20 foil shield w/drain, black jacket, direct burial BLK, WHT. 2 conductor direct burial shielded cable used with all field sensor connections to satellites such as flow sensors and moisture sensors up to 2000' in length.

ALL EV CABLE MUST BE CERTIFIED BY RAIN MASTER IRRIGATION SYSTEMS

The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison TX, 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768-Arapaho Road - Phase III

VIA Hand Delivered – 1:30pm

Date: July 7, 2005

Letter of Transmittal

To: Ben Withered
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Regarding: Contract Plan Sheet

We are forwarding to you:

____ Estimates	X Plans	____ Prints
____ Reports	____ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
1	Sheet LA-08, pg 195	6/26/05		STA 65+00 to 70+00 Sitework Layout & Dimensioning Plan

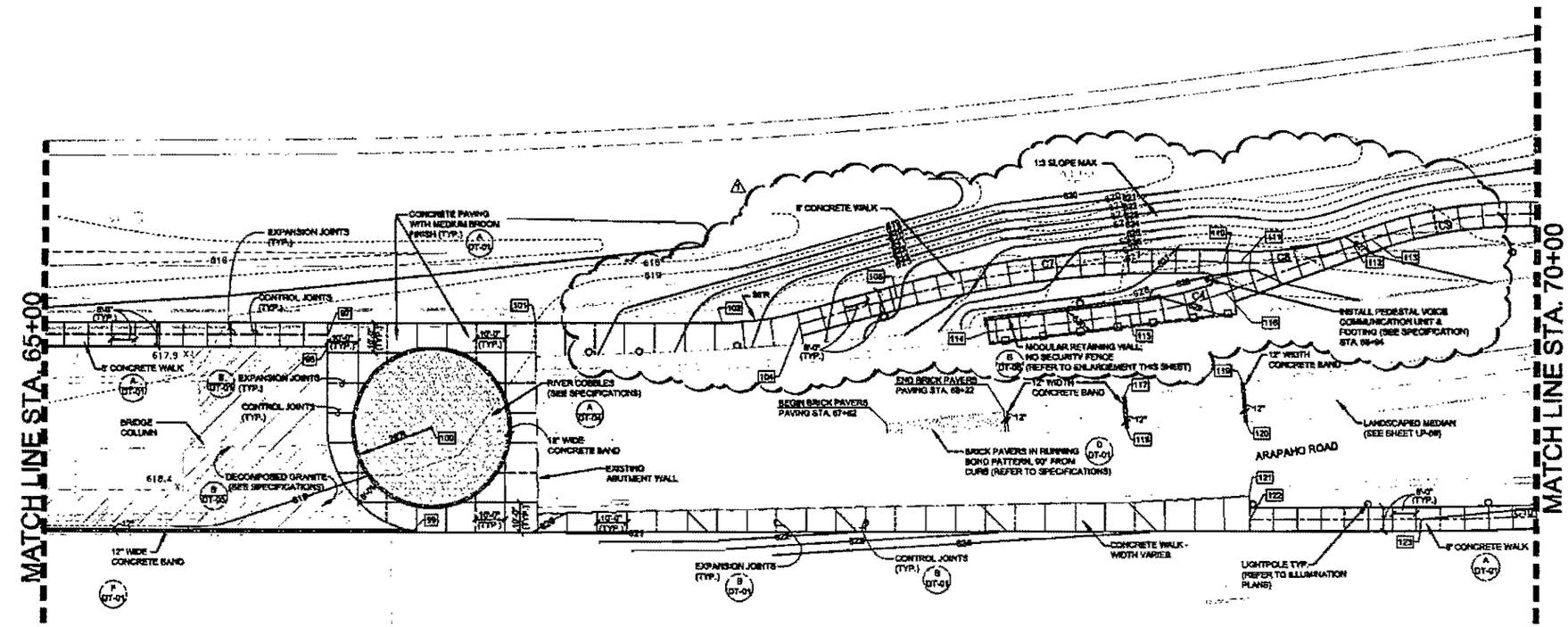
These are transmitted:

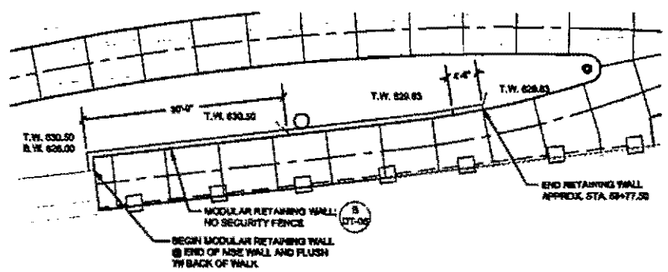
____ For approval	____ As requested	____ Copies for distribution
X For your use	____ Resubmit	____ For Review & comment
____ Return	____ Copies for review	____ No exception taken
____ Corrected prints	____ Submit	____ Amend and resubmit
		____ Make corrections noted

Please note: The PDF file for this contract sheet will be e-mail for your use. On new Sheet the new contour are shown along with the relocation of the sidewalk and the attachment of the SGT(B)HB-03A guardrail terminal to the T-4 rail. There will be an addition work of a modular retaining wall with no security fences installed under the contract bid item as shown on this sheet.

By: Guy Van Baulen, EIT

Copy to: File
Jerry D. Holder, HNTB Corporation
Mike Preston, HNTB Corporation
Steve Chutchian, Addison





RETAINING WALL LAYOUT - ENLARGEMENT

SCALE: 1"=10'-0"

LAYOUT COORDINATE TABLE

97	N 10154.00 E 9891.31	102	N 10139.00 E 9833.92	107	NOT USED	112	N 10183.30 E 10143.95	117	N 10133.08 E 10058.81	122	N 10092.00 E 10111.06
98	N 10130.00 E 9891.44	103	NOT USED	108	NOT USED	113	N 10165.39 E 10151.67	118	N 10132.41 E 10069.49	123	N 10092.00 E 10168.72
99	N 10088.50 E 9830.60	104	N 10137.46 E 9980.09	109	NOT USED	114	N 10154.84 E 10033.24	119	N 10137.91 E 10108.46		
100	N 10123.00 E 9838.51	105	N 10109.293 E 9902.57	110	N 10177.887 E 10102.03	115	N 10160.45 E 10070.41	120	N 10134.44 E 10108.57		
101	N 10139.00 E 9871.51	106	NOT USED	111	N 10177.71 E 10107.48	116	N 10167.99 E 10103.67	121	N 10099.97 E 10110.81		

CONCRETE WALK CENTERLINE CURVE DATA

CURVE	DELTA	RADIUS	ARC	TANGENT	BEARING	CHORD
C4	12°40'48"	150.00'	33.20'	16.67'	S 76°31'47" W	33.13'
C7	18°5'47"	350.00'	110.54'	55.74'	S 74°30'46" W	110.09'
C8	22°25'11"	100.00'	39.13'	19.82'	S 61°43'57" W	38.88'
C9	21°42'10"	150.00'	56.82'	28.75'	S 61°22'27" W	56.48'
C10	10°56'07"	1000.00'	190.86'	95.72'	N 64°31'57" E	190.57'

LEGEND:

- DECOMPOSED GRANITE (SEE SPECIFICATIONS)
- BRICK PAVING (SEE SPECIFICATIONS)
- RIVER COBBLES (SEE SPECIFICATIONS)
- EXPANSION JOINTS
- CONTROL JOINTS
- EXISTING CONTOURS
- PROPOSED CONTOURS

N

0 20 40 60 80

SCALE IN FEET

GENERAL NOTES:

1.) WRITTEN DIMENSIONS AND COORDINATE DATA SHALL GOVERN OVER SCALED DIMENSIONS.

2.) SEE THE SURVEY CONTROL PLAN SHEETS WITHIN THIS SET FOR COORDINATE CONTROL POINT INFORMATION.

3.) ALL IMPROVEMENTS SHALL BE STAKED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER'S REP. PRIOR TO CONSTRUCTION OR INSTALLATION.

4.) THE CONTRACTOR SHALL VERIFY ALL EASEMENT LINES IN THE FIELD PRIOR TO BEGINNING WORK.

5.) CONTRACTOR SHALL VERIFY ALL UTILITIES SHOWN ON THESE PLANS AS WELL AS ANY OTHERS IN FIELD PRIOR TO START OF CONSTRUCTION.

6.) ALL CONSTRUCTION WILL CONFORM TO THE TOWN OF ADDISON STANDARDS AND SPECIFICATIONS, AS WELL AS, ANY GOVERNING TXDOT OR RAILROAD STANDARDS AND SPECIFICATIONS RELATED TO THIS PROJECT.

7.) ALL DIMENSIONS ARE TO BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

8.) REINFORCEMENT SHOULD BE CONTINUOUS THROUGH CONTROL JOINTS.

9.) THE CONTRACTOR WILL COORDINATE INSTALLATION OF ALL SIGNS, PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES BY THE CITY DURING CONSTRUCTION

10.) ALL PROPOSED GRADES INDICATED ARE FINISHED GRADES.

11.) ALL LAND FORMS, SWALES, AND GRADES SHALL BE FINISHED TO BE A SMOOTH, FLOWING, ROUNDED SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LANDFORM CONTINUITY.

12.) GRADING FOR THE IMPROVEMENTS SHALL OCCUR AS DIRECTED BY LANDSCAPE ARCHITECT WITH THE FOLLOWING GUIDELINES:

- ALL WALKS SHALL HAVE A CROSS SLOPE OF 2% IN THE DIRECTION OF THE DOWNHILL SIDE.
- THE LONGITUDINAL SLOPE OF THE WALKS SHALL NOT EXCEED 5%

13.) NO EARTHEN SLOPES SHALL BE STEEPER THAN 3:1.

REGISTERED LANDSCAPE ARCHITECT MICHAEL PHILLIPS 2062 STATE OF TEXAS

195

NO.	DATE	REVISION	APPROV.
1	6/26/06	REVISED CONCRETE WALK LAYOUT & GRADING	
1	6/26/06	PREP MODULAR RETAINING WALL	

HNTB ARCHITECTS ENGINEERS PLANNERS The HNTB Companies

ARAPAHO ROAD EXTENSION

SURVEYOR BOULEVARD TO ADDISON ROAD

STA 65+00 TO 70+00
SITEWORK LAYOUT & DIMENSIONING PLAN

TOWN OF ADDISON , TEXAS

Design DAB	Drawn DAB	DATE	SCALE	PROJECT NO.	SHEET NO.
Check MP	Check MP	2/4/06	VARIES	25766	LA-08

25766

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: April 26, 2005 **Submittal # :** 61.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 2x2 Plaque

Description of Submitted Item: 2 x 2 Plaque

Manufacturer/Sub/Supplier: Southwell Company

Related Section / Drawings:

Additional Comments:

Jenny:
Ron W. Gale
The O.K. to
use THIS PLAQUE,
As is. We will
need to SETTLE
on LOCATION LATER.
Steve.

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: April 26, 2005

Approved By Town of
Addison May 25, 2005

Copy: File

the southwell co.
p. o. box 299 san antonio, tx 78291
ph. (210) 223-1831 fax (210) 223-8517

☐ approved (no corrections)
☐ approved as noted
☐ revise and resubmit
signed by: date:

PLEASE SIGN AND RETURN ONE (1) COPY. FAILURE TO SIGN THIS PROOF WILL RESULT IN RESUBMITTAL FOR YOUR SIGNATURE.
Thank You

CUSTOMER:
ARCHER WESTERN CONTRACTORS, LTD.
2121 AVENUE J, SUITE 103
ARLINGTON, TX 76006
ATTN: ANDREW SCHNEEMANN

SHIP TO:
ARCHER WESTERN CONTRACTORS, LTD.
1510 SURVEYOR
ADDISON, TX 75001
ATTN: ANDREW SCHNEEMANN

PROOFS!
PLEASE SIGN & RETURN ONE COPY

CAST BRONZE PLAQUE

24" W X 24" H SCALE: 1/4" = 1"

24"

24"

ARAPAHO ROAD PHASE III

October 2005

City Council

R. Scott Wheeler, Mayor

Tom Braun — Glynda Turner
Jimmy Niemann — Joe Chow
Fredric M. Silver — Gregory S. Hirsh

Ron Whitehead, City Manager

Director of Public Works / City Engineer
Mike Murphy, P.E.

Construction Manager
HNTB Corp.

Designer
Roadway-HNTB Corp.
Bridge-URS Corp.

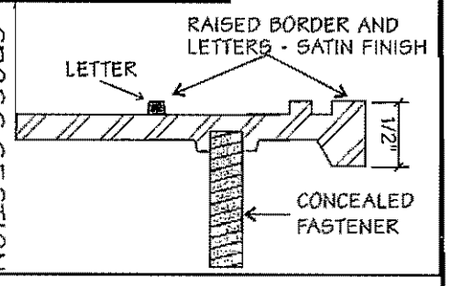
General Contractor
Archer Western Contractors, LTD.

BACKGROUND OXIDIZED TEXTURE

YOUR ORDER WILL BE PRODUCED FROM THE ARTWORK YOU SEE HERE. IF YOU APPROVE THIS ARTWORK AND IT CONTAINS ERRORS, YOU WILL BE HELD FINANCIALLY RESPONSIBLE FOR THE WORK WE DO. PLEASE CAREFULLY CHECK THAT ALL IS CORRECT REGARDING SPELLING, DESIGN, COLOR AND

STOP **YOU ARE THE FINAL PROOF-READER** STOP

CROSS SECTION
3/4 SCALE



QUOTE # 16547
JOB # 04-4689
P.O. #
RE: ARAPAHO ROAD PHASE III
FILE NAME: 04-4689.CDR
DATE SUBMITTED: 12.27.04
DRAWN BY: MARI HERNANDEZ

QUANTITY: TWO (2)
MATERIAL: CAST BRONZE
FINISH: OXIDIZED BACKGROUND
SIZE: 24" WIDE X 24" HIGH
BORDER: DOUBLE LINE
LETTERS: OPTIMA (caps & lower case)

PLEASE
SPECIFY MOUNTING ATTACHMENTS
☐ CONCEALED
☐ WOOD SCREWS W/ROSETTES
☐ EXPANSION BOLTS W/ROSETTES
☐ TOGGLE BOLTS W/ROSETTES

THE DESIGN OF THIS PLAQUE HAS BEEN MADE USING COMPUTERIZED GRAPHICS. THE ACTUAL PATTERN USED IN CASTING WILL BE MADE BASED ON FINAL APPROVAL OF THIS SUBMITTAL DRAWING. THE FORMAT, LETTER STYLE, LETTER SIZE, SPACING AND MOUNTING ARE BASED ON INDUSTRY STANDARDS AND OUR CAPACITIES TO PRODUCE A HIGH QUALITY CASTING.

ARAPAHO ROAD PHASE III

October 2005

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General Contractor
Archer Western Contractors, LTD.

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

July 6, 2005

Originator: Andrew Scheermann

RFI Number: R-AW092

Subject: **Watson/Taylor Driveway Grades**

Request:

According to Sheet 53 of the Plans, the elevation at South end of the Watson/Taylor Drive to "Match Existing Pavement". The elevation of the Driveway at STA 0+96 is 600.849' (See attached Sheet for calculations), but the existing driveway/pavement varies in elevation from 599.72' to 600.34' (See attached Drawing). Please advise.

Response/Action Taken:

In response to the elevation and alignment issue at the Watson/Taylor Drive, Archer Western in directed to move the Drive centerline forward/up station along the Arapaho Rd PGL to align the 24ft wide driveway entrance with the existing pavement.

Archer Western Contractors, Ltd. is then directed to change the driveway slope to .8% from .9%; this new slope is to be utilized up to 10ft before the proposed end of the Drive. The remaining 10ft to end of Drive shall be install almost flat holding the grade to the gate location, were Archer Western is directed to remove an additional 25ft back along the existing pavement and replace the existing pavement with new 6" thick pavement matching the new elevation at the gate and transitioning the pavement to match the existing pavement 25ft from the gate.

Note additional information will follow, if there are any question and conflicts please forward all information under this existing RFI number as an addendum. (Example 92.1, 92.2, etc...)

By: Guy Van Baulen, EIT
HNTB Corporation

Date: July 6, 2005

Cc: File

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: Arch Splice Connection

July 7, 2005

Dear Ben:

On July 2nd, I discussed with Archer Western Superintendent that the backer ring for the Structural steel arch was not fabricated correctly and doesn't meet the AWS standard for a full penetration field weld with a backer plate/ring. Every day I have question the status of what Archer Western is doing to correct this condition.

At this time, I'm requesting Archer Westerns to provide their correction procedure to rectify this issue of the splice connection to conform to the AWS standard as required by the TXDOT Standard prior to the erection of the arch. Note this correct must also meet the standard to allow for the test by Ultrasonic Testing of the full penetration field weld.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation
Cliff Hall, URS Corporation

Engineers Architects Planners
Addison TX, 75001
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768-Arapaho Road - Phase III

VIA Hand Delivered – 10:00 am

Date: July 5, 2005

Letter of Transmittal

To: Ben Withered
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Regarding: Shop Drawing Submittal

We are forwarding to you:

____ Estimates	X Plans	____ Prints
____ Reports	____ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
2	Submittal # 61.1	4/26/05		2ft X 2ft Bronze Plaque

These are transmitted:

____ For approval	____ As requested	____ Copies for distribution
X For your use	____ Resubmit	____ For Review & comment
____ Return	____ Copies for review	X No exception taken
____ Corrected prints	____ Submit	____ Amend and resubmit
		____ Make corrections noted

Please note:

By: Guy Van Bauken, EIT

Copy to: File

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 108
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: April 26, 2005

Submittal # : 61.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 2x2 Plaque

Description of Submitted Item: 2 x 2 Plaque

Manufacturer/Sub/Supplier: Southwell Company

Related Section / Drawings: Plans

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: April 26, 2005

Engineer's Stamp

Approved By Town of Addison May 25, 2005

Copy: File

QUOTE # 16547 FILE NAME: 04-4689.CDR

PLEASE

the southwell co.
p. o. box 299 san antonio, tx 78291
ph. (210) 223-1831 fax (210) 223-8517

☐ **approved (no corrections)**
☐ **approved as noted**
☐ **revise and resubmit**
signed by: **date:**

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October 2005

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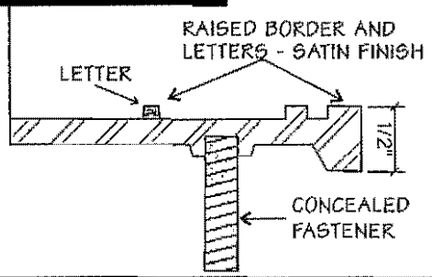

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October 2005

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Altek Engineering & construction Co.
Structural, Foundation and Civil Engineer
P. O. Box 172004 Arlington, TX 76003-2004
Phone: (817) 572-1989 Fax: (817) 563-1465

***June 06,* 2005**

Archer Western Contractor, LTD.
2121 Avenue J, Suite 103, Arlington, TX 76006 Tel: (817) 640-3898
Attention: Don Good/ Ben J. Withered, Project Manger
Tel: (817) 401-5456, (817) 401-7202

Subject: Construction sequence for Arch & Beam Erection Plan, Temporary support system (Shoring Towers); Crane capacity analysis for the Span # 9, Cable installation; Load influence on permanent structure for the Main arch and beam span of the **Arapaho Road Bridge, Town of Addison, and Dallas County, Texas**

Attached please find the following documentations for the above mentioned subject:

Section #1 shows the construction sequence for all work required at span # 9 including "Arapaho Construction Sequence".

Section #2 details the erection of arch sections and concrete beams with the required false-work which includes "Arapaho Span # 9 Erection Plan, Arch & concrete U-Beam Erection Drawings, Arch Erection Lift Table & Loading, Arch shore tower & Support Beam Analysis, Concrete U-Beam Shore Tower & Support Beam Analysis, Plan Sheet # 273 - 276 Arch/Main Span Erection Sequence, King Fabrication Dwg # 01-072-E1 Arch, Pafco 50 Kip/Leg Shore Tower, Pafco 100 Kip/leg Shore tower, 100-Ton Crane Chart, 120-Ton Crane Chart, 360-Ton Crane Chart".

Section # 3 details the hanger cable installation and stressing procedures "CBSI Structural Strand Installation Procedures".

Section # 4 details the influence of loads on the permanent and temporary structures throughout the erection sequence which includes "Sequence Loading and Calculations".

These recommendations are for the above referenced project only. All the other locations must be reviewed, sealed and signed individually. These recommendations are based upon the information and details provided to this engineer by the Archer Western Contractors, LTD. Supporting engineering calculations and Accessories charts for these recommendations are attached.

If you have any questions, or if I may be of further service in this matter, please call me at (817) 572-1989 or write to me at the above address.

Sincerely,

MG Movassaghi, P.E., Ph. D.

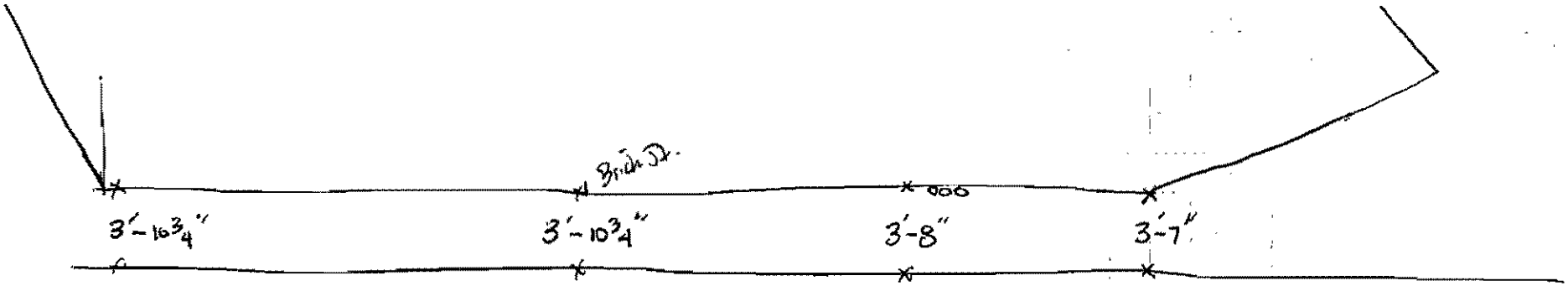
MG Movassaghi, P.E., Ph.D.
06/06/2005

Attachments:
Plans
Engineering calculations
Drawings
Charts and Specifications

HNTB
The HNTB Companies

For			
Made by		Date	Job Number
Checked by		Date	Sheet Number
Backchecked by		Date	

MEASUREMENTS FROM EDGE OF BRIDGE TO ABSOLUTE SYST.
PER GVB 6/23/05



4'-1"

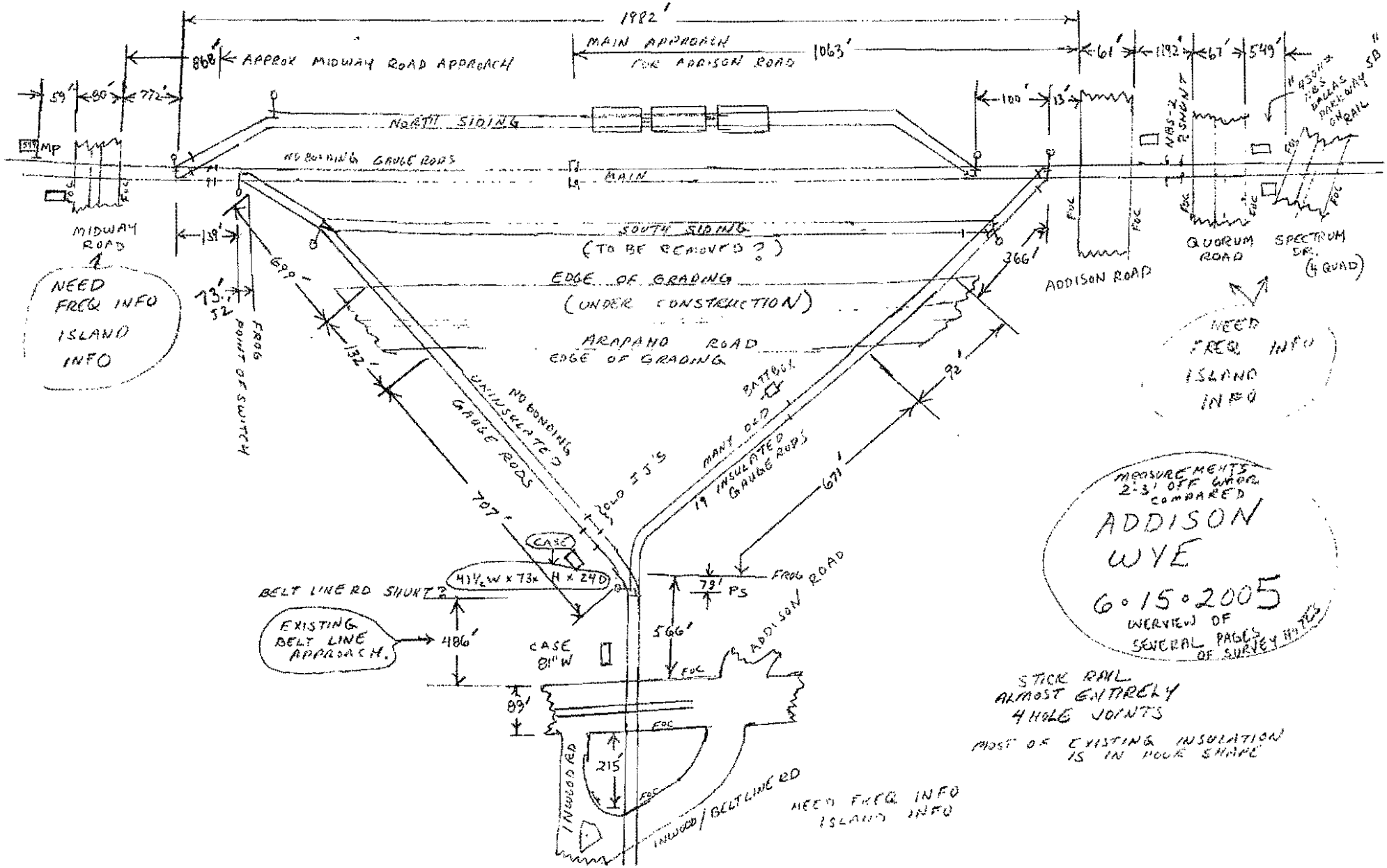
Martinez, David (DGNO)

From: Duffy, Bob E (GE Trans) [Bob.Duffy@Trans.ge.com]
Sent: Thursday, June 23, 2005 9:32 AM
To: Martinez, David (DGNO)
Subject: FW: DGNO addisionWye


Addison.pdf

David, Here is information I sent David Eyermann on Tuesday June 21, 2005 so you have a copy. I corrected Dave's E-mail address in later transmission.
Bob Duffy GE Transportation

> -----Original Message-----
> From: Duffy, Bob E (GE Trans)
> Sent: Tuesday, June 21, 2005 4:58 PM
> To: 'david.evermann@railamerica.com'
> Cc: Kleinhenz, Paul (GE Trans); Venneman, Pat J (GE Trans); 'jleimbacher@qualitysignal.com'; 'bbunney@qualitysignal.com'; 'walter.fithian@railamerica.com'
> Subject: DGNO addisionWye
>
> > <<Addison.pdf>> David,
>
> Here are the measurements I made last Wednesday June 15, 2005 on the Addison Wye. If the maximum train speed is 10 MPH and there is no addition warning time for traffic light preemption time required the only wye switch which will be overlapped is the northeast switch of the wye. There will be need for cables between the East Arapaho crossing house and a new Addison crossing house and a switch circuit controller on the northeast wye switch to convey switch position information and crossing approach via HXP circuits at Addison to East Arapaho. The signal locations on the RCL PRELIMINARY plans are reasonable (per MUTCD guidelines) but I have not compared with the city plans for any conflicts.
>
> I have not received a fax with pre-emption time information.
>
> If more warning time for traffic pre-emption is required, cables maybe required to the Northwest and South wye switches. If the West Arapaho crossing needs addition warning time for traffic pre-emption cables may be needed from West Arapaho crossing house to both the Northwest (if more than 43 seconds WT at 10 MPH versus 39 seconds in PRELIMINARY PLAN) and South wye (if more than 44 seconds WT at 10 MPH versus 39 seconds in PRELIMINARY PLAN) switches. If the only East Arapaho crossing needs additional time warning time (if more than 41 seconds WT at 10 MPH versus 33 seconds in PRELIMINARY PLAN) for traffic light pre-emption and all the northbound moves from south wye use the east wye track, cables from the East Arapaho house to switch on south wye may be unnecessary. If both wyes are used from south, switch positions information will be needed for Arapaho East requiring additional cable from south wye switch to prevent activation at East Arapaho when northbound move is made to West wye track. A separate house at south switch would be an option to reduce track cable runs on other equipment, if traffic pre-emption time causes both East and West Arapaho crossing approaches to extent through south switch.
>
> Four inch conduit under track, roadways, sidewalks, parking lots or in any area that should not be dug up again, would be useful in installing direct buriable signal cable with armor tape to signals, track connection, switches, adjacent crossing houses, power, traffic controllers, and remote housings as required.
>
>
Bob Duffy GE TRANSPORTATION
Global Signaling
>
502-266-8545
extension 2358
>
>


1982'
868'
APPROX MIDWAY ROAD APPROACH
MAIN APPROACH FOR ADDISON ROAD 1063'
59'
80'
772'
100'
13'
61'
1192'
67'
549'
NORTH SIDING
NO BONDING GAUGE RODS
MAIN
SOUTH SIDING
(TO BE REMOVED ?)
MP
MIDWAY ROAD
NEED FREQ INFO ISLAND INFO
139'
73'
52'
690'
POINTS OF SWITCH
FROG
EDGE OF GRADING
(UNDER CONSTRUCTION)
ARAPAHO ROAD
EDGE OF GRADING
132'
UNINSULATED GAUGE RODS
NO BONDING
BATTERY
MANY OLD 19 INSULATED GAUGE RODS
707'
92'
671'
366'
ADDISON ROAD
QUORUM ROAD
SPECTRUM DR.
(4 QUAD)
NEED FREQ INFO ISLAND INFO
MEASUREMENTS 2-3' OFF WHEN COMPARED
ADDISON WYE
6.15.2005
OVERVIEW OF SEVERAL PAGES OF SURVEY NOTES
CASE
41½"W x 73x H x 24D
BELT LINE RD SHUNT?
79'
PS
FROG
ADDISON ROAD
EXISTING BELT LINE APPROACH
486'
566'
CASE 81"W
FOC
89'
215'
INWOOD RD
INWOOD / BELTLINE RD
STICK RAIL ALMOST ENTIRELY 4 HOLE JOINTS
MOST OF EXISTING INSULATION IS IN HOOK SHAPE
NEED FREQ INFO ISLAND INFO

Kuntz, Jim (DGNO)

From: Eyermann, David (DGNO)
Sent: Thursday, June 23, 2005 10:17 AM
To: Kuntz, Jim (DGNO)
Subject: Fw: DGNOaddisonwye

-----Original Message-----
From: Duffy, Bob E (GE Trans) <Bob.Duffy@Trans.ge.com>
To: Eyermann, David (DGNO) <David.Eyermann@RailAmerica.com>; Martinez, David (DGNO) <David.Martinez@RailAmerica.com>
CC: Venneman, Pat J (GE Trans) <Pat.Venneman@Trans.ge.com>; Kleinhenz, Paul (GE Trans) <Paul.Kleinhenz@Trans.ge.com>; jleimbacher@qualitysignal.com <jleimbacher@qualitysignal.com>; bbunney@qualitysignal.com <bbunney@qualitysignal.com>; Fithian, Walter (Home-Office User) <walter.fithian@railamerica.com>
Sent: Thu Jun 23 10:26:17 2005
Subject: DGNOaddisonwye

David,

I received the pre-emption timing requirements for the Arapaho Road and Addison Road intersection from HNTB via facsimile. Since Arapaho Road is named as the parallel to track and the clearance green is being applied to Addison Road which has 200 between its warning signal holding traffic back from the Arapaho Road intersection and Arapaho Road, and since Addison Road's southbound lane gate is much closer to the intersection than the Arapaho Road East eastbound gate, 200 feet versus about 365 feet, I like to assume their will be no preempt required for Arapaho Road East. If green clearance time was provided for both Addison Road and Arapaho Road at same time they would be in conflict, unless two preemptions treated sequentially based on direction of train approach. I am not a aware of any traffic controllers using multiple railroad crossing preemptions in sequence.

Please verify with city or HNTB, there is no plans for green clearance time on Arapaho East. If only 33 seconds warning time is required for Arapaho East, its northbound approach start will remain north of the south wye switch frog for 10 MPH trains.

Since Arapaho West's eastbound signal is about 985 feet from the Addison Road intersection it is outside the bounds for consideration a traffic preemption.
The Arapaho West approaches will remain within the Northwest and South wye frogs for 39 seconds warning time.

Bob Duffy GE Transportation Systems Global Signaling 502-266-8545 extension 2358

June 21, 2005

Letter: HNTB -47

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Carboline Paint System Pricing

Dear Guy:

Please find the revised paint pricing for the T-4 and Pedestrian railing utilizing the Caboline paint system.

T-4 Rail - 5103 LF - $ 18,351.45
Pedestrian Rail - 2294 LF - $ 11,113.89

Total Carboline Paint Pricing: $ 29, 465.34

Please process this change order so that the rail manufactures can proceed with the production of the railing and not delay the project.

If you require additional information, please contact Andrew at our field office.

Sincerely,

Ben Withered
Project Manager

for Andrew Schneemann

XC: Andrew Schneemann
Don Good
File
Steven Chutchian Town Addison
Jerry Holden/HNTB

The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison TX, 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768 – Arapaho Road Phase III

VIA Hand Delivered -

Date: June 15, 2005

Letter of Transmittal

To: Ben Withered
Archer Western Contractors, Ltd.
15150 Surveyor Blvd.
Addison, TX 75001

HNTB

Regarding: Pavement Joints as per the Town of Addison

We are forwarding to you:

____ Estimates	____ Plans	X Prints
____ Reports	____ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
1	Surveyor Blvd. Joint Layout	6/14/05		Expansion Joints at Surveyor Blvd.

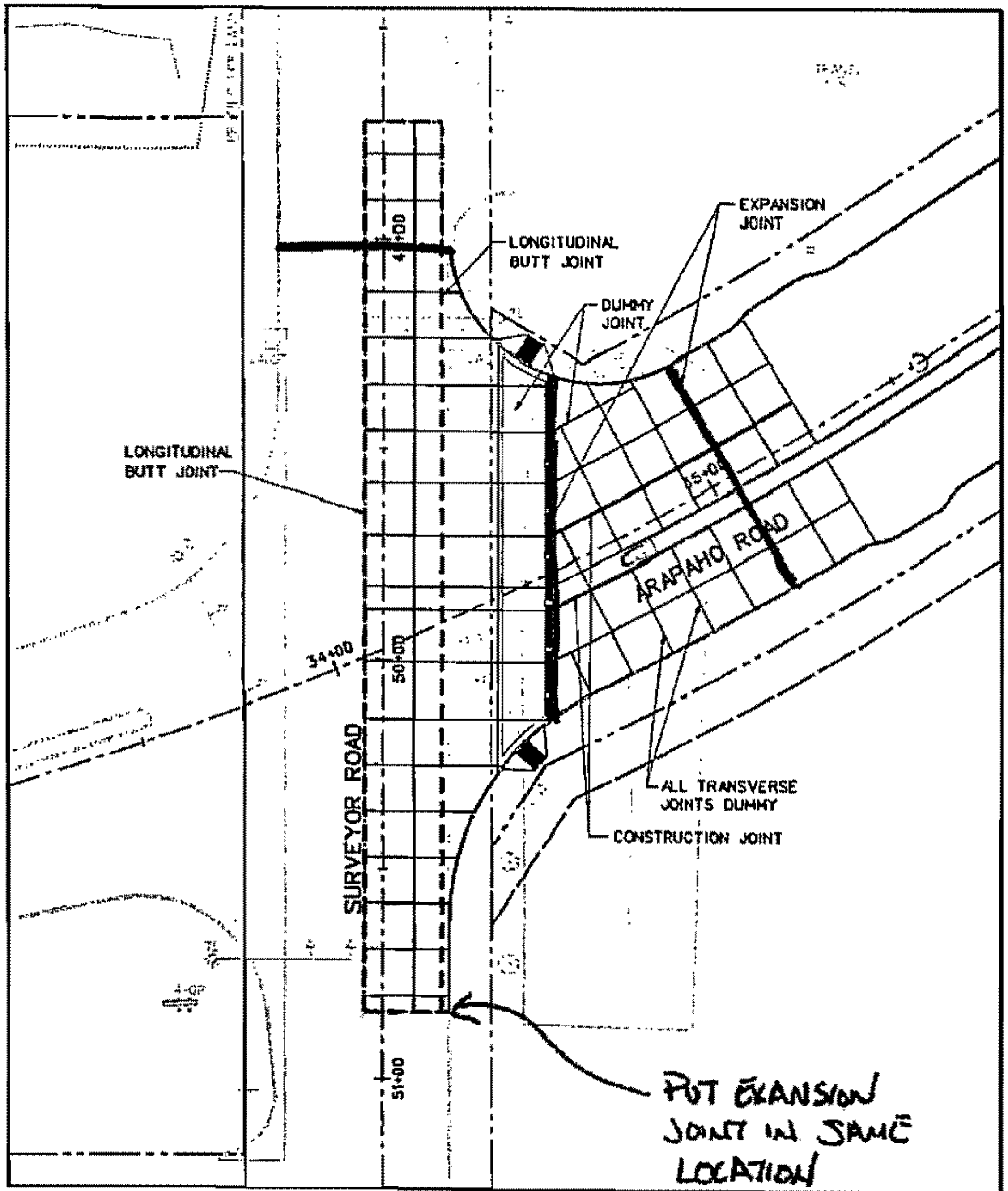
These are transmitted:

____ For approval	____ As requested	____ Copies for distribution
X For your use	____ Resubmit	____ For Review & comment
____ Return	____ Copies for review	____ No exception taken
____ Corrected prints	____ Submit	____ Amend and resubmit
		____ Make corrections noted

Please note: Please follow the existing pavement details as shown in the contract plans for the specific type of joint construction. The Town requests that expansion joint also be place in the new pavement adjacent to existing pavement expansion joints.

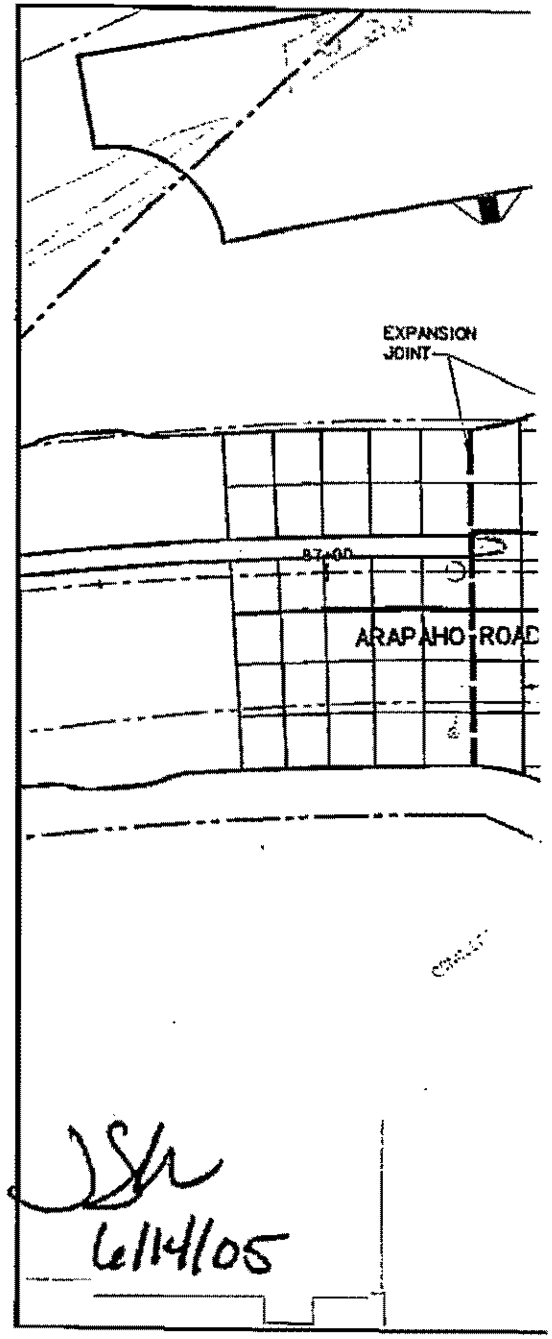
By: Guy Van Baulen
HNTB Corporation

Copy to: Jenny Nicewander, Town of Addison
Jerry D. Holder
File



SURVEYOR BLVD JOINT LAYOUT (MATCH EXIST.)

TOWN PREFERS
REDUCED JOINT



ADDISON ROAD

dstar31nt02.dgn

Guy Van-Baulen

From: Jenny Nicewander [jnicewander@ci.addison.tx.us]
Sent: Tuesday, June 14, 2005 1:23 PM
To: Guy Van-Baulen
Cc: Andrew Schneemann (E-mail); Steve Chutchian; David Wilde
Subject: Expansion Joint

redwood joint.pdf
(214 KB)

Pls reference the attached expansion joint locations. The towns preference is for the redwood expansion joint shown in the plans.

Jenny

<<redwood joint.pdf>>

The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison TX. 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768-Arapaho Road - Phase III

VIA Hand Delivered – 12:50am

Date: June 14, 2005

Letter of Transmittal

To: Ben Withered
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Regarding: Shop Drawings

We are forwarding to you:

____ Estimates	X Plans	____ Prints
____ Reports	____ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
3	PK – 2, Page 57			Parking Layout MBNA – Change due to earth mound over TXU conduit

These are transmitted:

____ For approval	____ As requested	X Copies for distribution
X For your use	____ Resubmit	____ For Review & comment
____ Return	____ Copies for review	____ No exception taken
____ Corrected prints	____ Submit	____ Amend and resubmit
		____ Make corrections noted

Please note: Due to TXU cover requirements, please move the three parking spaces to the shown location on the attached sheet and make adjustments to the parking lot shape.

By: Guy Van Baulen, EIT

Copy to: File

JerryD. Holder, HNTB Corporation

Steve Chutchian, Town of Addison

0 20 40 60 80
SCALE IN FEET

N

INSTALL WHEEL STOP

PROPOSED CONCRETE PAVEMENT (NO CURB AND GUTTER)

32'

287.5'

40.5'

30'R

20'R

20.5'

60' WATER

31 SPACES @ 9'=279'

PROPOSED SOLID 4" WHITE STRIPE

PROPOSED CONCRETE PAVEMENT

38'

38.0'

51+00

52+00

53+00

54+00

55+00

83.5'

15'R

10'R

5 SPACES @ 9'=45'

12.7'

3 SPACES @ 9' = 27'

19.5'

34.5'

16'

20'

℄ Bent #3

MATCH EXISTING

16'

INSTALL A TYPE 'D' FIXTURE STA 53+40-RT 7'

DELETE AREA

NOTE:
SEE SHEET G-1 FOR PARKING GRADING PLAN.

LEGEND

PROPOSED SOLID 4" WHITE STRIPE

PROPOSED PARKING LOT PAVEMENT

ABSOLUTE SYSTEMS, LTD

ANY VERTICAL OBSTACLE (CURB. BUILDING. STAIRS. ETC.)

3'-0"

9"

6'-0"

PLAN

#5 REBAR PIN (2 PER STOP)

1½"

6½"

2'-0" MIN.

SECTION

VEHICULAR WHEEL STOP DETAIL
NOT TO SCALE

JERRY D. HOLDER, JR. 87171 REGISTERED PROFESSIONAL ENGINEER
07-25-04

NO.	DATE	REVISION	APPROV.

HNTB ARCHITECTS ENGINEERS PLANNERS The HNTB Companies

ARAPAHO ROAD - PHASE III

SURVEYOR BOULEVARD TO ADDISON ROAD

PARKING LAYOUT

MBNA

TOWN OF ADDISON, TEXAS

Design JSH	Drawn GFS	DATE	SCALE	PROJECT NO.	SHEET NO.
Check JDH	Check JSH	APRIL 04	H: 1"= 20'	25768	PK-2

57

2 OF 5

29-JUN-2004 12:35
G:\25768-ph3\hl\cds\or3pk02.dgn

June 28, 2005

Letter: HNTB -53a

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Traffic Control Plan for Addison Road

Dear Guy:

Archer Western will utilize the Traffic Control Plan on Sheet TC-4 (30) for the Addison / Arapaho Road Tie in. We will begin this work Wednesday, June 29, 2005

If you require additional information, please contact Andrew at our field office.

Sincerely,

Andrew Schneemann

XC: Don Good
File

NO.	DATE	REVISION	APPROV.
1			
2			
3			

RIGHT LANE ENDS CW9-1R

LANE ENDS MERGE LEFT CW9-2L

END ROAD WORK G20-2a

CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE DRIVEWAYS AT ALL TIMES.

6' BRICK WALL

4' BRICK WALL

6' WOOD FENCE

VERTICAL PANELS @ 10' CENTERS

ADDISON ROAD

ARAPAHO ROAD

TRAFFIC SIGNAL BOX

CW12-1

NEXT SIGN

R2-5B REDUCED SPEED 30

R2-5A REDUCED SPEED AHEAD

CW20-1D ROAD WORK AHEAD

TRAFFIC FINES DOUBLE IN WORK ZONE

120' 320' 320'

DETAIL "B"

LANE BLOCKED 1 2 3 4 X

CW20-6

120'

SEE DETAIL "B"

20 0 20 40

scale 1"=20' feet

R2-5B REDUCED SPEED 30

R2-5A REDUCED SPEED AHEAD

CW20-1D ROAD WORK AHEAD

TRAFFIC FINES DOUBLE IN WORK ZONE

320' 320' 320'

115'

END ROAD WORK G20-2a

STATE OF TEXAS
A. KATURA CURRY
87879
REGISTERED PROFESSIONAL ENGINEER
7/21/04

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY A. KATURA CURRY ON 7-21-04.

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

30

DATE:	MAY 2004	SCALE:	1"=20'	JOB NO.:	02-320		
DRAWN:	G&A	DESIGN:	AKC	REVIEWED:	SRG	DWG:	320TRAFD1.DWG

ARAPAHO ROAD PHASE III

TRAFFIC CONTROL PLAN ADDISON ROAD

TOWN OF ADDISON

g&a Grantham & Associates, Inc.
1819 S. SHILOH ROAD, SUITE 313, LB. 8
GARLAND, TEXAS 75042
(972) 864-2333 (TEL)
(972) 864-2334 (FAX)

SHT. TC-4

June 24, 2005

Letter: HNTB -52

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Traffic Control Plan for Surveyor Blvd

Dear Guy:

Archer Western is providing the attached Traffic Control Plan for the Arapaho Road Concrete paving tie in to Surveyor Blvd. We will start implementing this traffic control plan on Tuesday, June 28th.

If you require additional information, please contact Andrew at our field office.

Sincerely,

Andrew Schneemann

XC: Don Good
File

Barrels / Vertical Panels will be placed on the Excavation Areas when not under construction

↑ When Barrels/Vertical Panel are on Pavement for Lane channelization Lanes are to be not less than 10 feet Wide.

ARCHER WESTERN Required To maintain the Traffic Lanes to be 10' feet or Greater

Parking Lots Marker

CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE DRIVEWAYS AT ALL TIMES.

CW6-3

END ROAD WORK G20-2a

Detail 'B'

R2-5B 320'

Archer Western To Follow Path

ARAPAHO ROAD (EXISTING)

4" Yellow Buttons

to 325' CW20-1D

to 320' R2-5A

to R2-5B

10' 10'

120'

150' TAPPER Narrow Lanes Ahead.

Detail 'B'

NO.	DATE	REVISION	APPROV.
1			
2			
3			

GENERAL TRAFFIC CONTROL NOTES

1. THE TRAFFIC CONTROL SHOWN ON THESE PLANS IS FOR THE PREPARATION AND COMPARISON OF BIDS ONLY. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL DEVELOP AND SUBMIT FOR TOWN OF ADDISON APPROVAL, IN DETAIL, A CONSTRUCTION SCHEDULE, SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL PLAN THAT SHALL CAUSE MINIMUM INTERFERENCE WITH TRAFFIC ALONG, ACROSS AND ADJACENT TO THE PROJECT DURING CONSTRUCTION. IF THE SCHEDULE OR SEQUENCE BECOMES UNWORKABLE OR UNSATISFACTORY AS WORK PROCEEDS, ADJUSTMENTS SHALL BE MADE.
2. ACCESS TO ALL SIDE STREETS AND PRIVATE PROPERTY MUST BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE TOWN OF ADDISON.
3. LIGHTED BARRICADES, TEMPORARY PAVEMENT MARKINGS AND CHANNELIZING DEVICES CONFORMING TO THE CURRENT EDITION OF THE M.U.T.C.D. SHALL BE USED DURING ALL STAGES OF CONSTRUCTION TO CONTROL TRAFFIC FLOW THROUGH THE WORK ZONES.
4. MAINTAIN A MINIMUM RADIUS OF 20 FEET ON ALL STREET CONNECTIONS AND 10 FEET ON ALL DRIVEWAY CONNECTIONS DURING CONSTRUCTION TO ACCOMMODATE THE TRAFFIC USING THE ROADWAY DURING CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY MARKINGS, UNTIL SUCH TIME SIGNALS CAN BE ACTIVATED.
6. AT END OF ALL PHASES OF CONSTRUCTION, CONTRACTOR SHALL COMPLETE FINAL PAVEMENT MARKINGS, REMOVE TEMPORARY PAVEMENT MARKINGS AND ACTIVATE TRAFFIC SIGNALS (NO SEPARATE PAY)

- Removal & Thermoplacement of ~~Existing~~ Existing Lane Line Ceramic pavement Markers.

20 0 20 40 Scale 1"=20' feet

HNTB Comments

START Tapper

120

DETAIL "B"

DATE: MAY 2004	SCALE: 1"=20'	JOB NO.: 02-120
DRAWN: J&A	DESIGN:	CHKD:	REVIEWED: BRG	DWG: T2GTRAF01.DWG

ARAPAHO ROAD PHASE III

TRAFFIC CONTROL PLAN

ARAPAHO ROAD & SURVEYOR BLVD.

TOWN OF ADDISON

Grantham & Associates, Inc.

SHT.

Barricades / Vertical Panels will be placed on the Excavation Areas when not under construction

CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE DRIVEWAYS AT ALL TIMES.

Narrow Lanes Ahead

END ROAD WORK
G20-2a

NO.	DATE	REVISION	APPROV.
1			
2			
3			

GENERAL TRAFFIC CONTROL NOTES

1. THE TRAFFIC CONTROL SHOWN ON THESE PLANS IS FOR THE PREPARATION AND COMPARISON OF BIDS ONLY. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL DEVELOP AND SUBMIT FOR TOWN OF ADDISON APPROVAL, IN DETAIL, A CONSTRUCTION SCHEDULE, SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL PLAN THAT SHALL CAUSE MINIMUM INTERFERENCE WITH TRAFFIC ALONG, ACROSS AND ADJACENT TO THE PROJECT DURING CONSTRUCTION. IF THE SCHEDULE OR SEQUENCE BECOMES UNWORKABLE OR UNSATISFACTORY AS WORK PROCEEDS, ADJUSTMENTS SHALL BE MADE.
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20 0 20 40
SCALE 1"=20' FEET

ARAPAHO ROAD (EXISTING)

W20-1D

4" Yellow Buttons

150' TAPER

Narrow Lanes Ahead

20'

START TAPER

120

NEXT SIGN

R2-5B REDUCED SPEED 30

R2-5A REDUCED SPEED AHEAD

CW20-1D ROAD WORK AHEAD — TRAFFIC FINES DOUBLE IN WORK ZONE

120' 320' 320'

DETAIL "B"

DATE:	MAY 2004	SCALE:	1"=20'	JOB NO.:	02-320
DRAWN:	DEA	DESIGN:	MC	REVIEWED:	BRG

DWG: 320TRAF01.DWG

ARAPAHO ROAD PHASE II
TRAFFIC CONTROL PLAN
ARAPAHO ROAD & SURVEYOR BLVD.
TOWN OF ADDISON

A. LAURA CURRY 47879 REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY A. LAURA CURRY N/A 5/14/04
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER

Graham Associates, Inc.

SHT.

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: Addison Road Traffic Control Plan

June 27, 2005

Dear Ben:

The submitted traffic control plan for Addison Road was review and is rejected.

Please revise and resubmit a traffic control plan equal or of greater protection for the moving traffic and Archer Western Contractors personal working adjacent to the active traffic as shown on contract plan sheet TC-4, page 30 and as requirement in the General Traffic Control Notes found on the Contract Drawing, sheet TC-1, page 27.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
File

June 24, 2005

Letter: HNTB -53

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Traffic Control Plan for Addison Road

Dear Guy:

Archer Western is providing the attached Traffic Control Plan for the Arapaho Road Concrete paving tie in to Addison Road. We will start implementing this traffic control plan on Tuesday, June 28th.

If you require additional information, please contact Andrew at our field office.

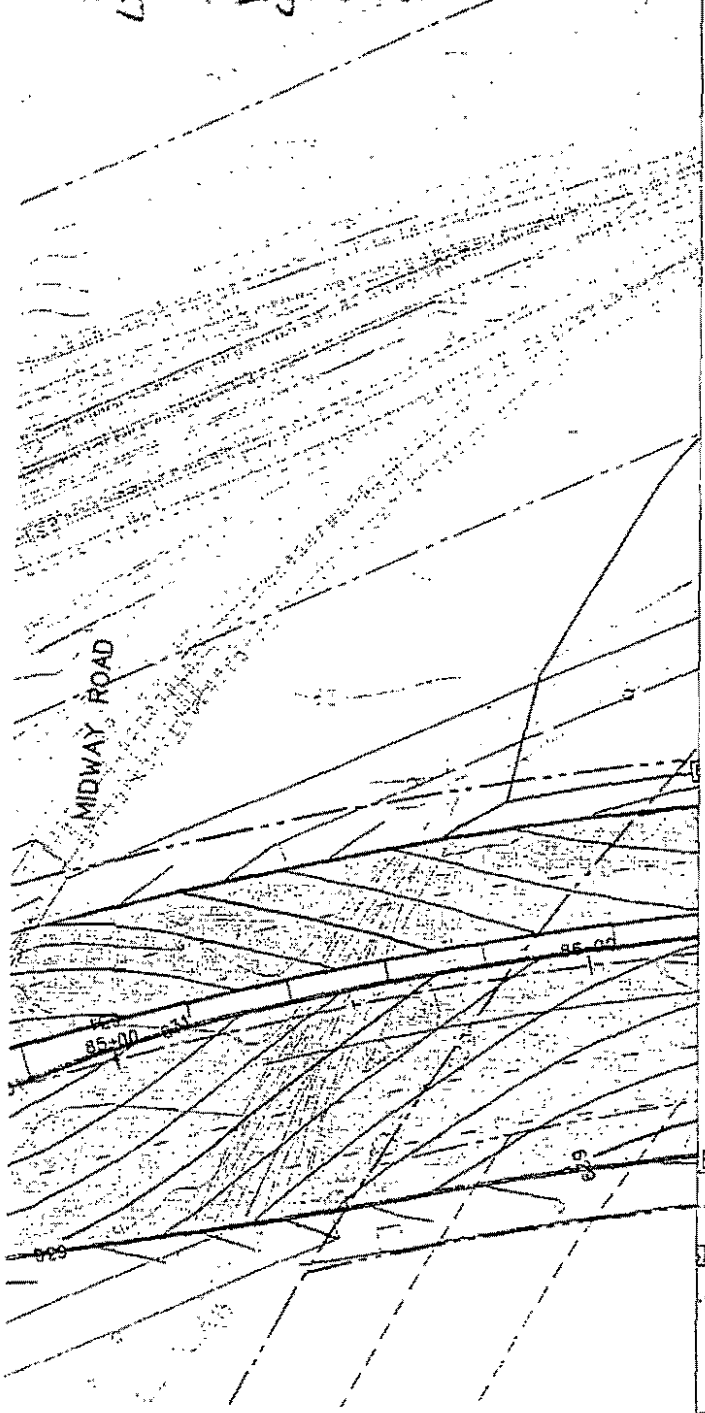
Sincerely,

Andrew Schneemann

XC: Don Good
File

Barrells / Vertical Panels will be P
in the Dropoff when not under co

Barrells / Vertical Panels will be pla
along the Edge when workers Pr



0 20 40 60 80
SCALE IN FEET

N

END

EXISTING CONTOUR

PROPOSED CONTOUR

42 PROPOSED SPOT GRADE

OUTSIDE PARKING LAYOUT
PLANS IS FOR ROUGH
CONTRACTOR TO
E LANDSCAPE PLANS FOR
ADES AND ELEVATIONS FOR
OUT AND LANDSCAPING

JERRY D. HOLDER, JR.
87171
REGISTERED
PROFESSIONAL ENGINEER
07-25-04

NO.	DATE	REVISION	SHEET
			34

HNTB ARCHITECTS ENGINEERS PLANNERS

ARAPAHO ROAD - PHASE III

SURVEYOR BOULEVARD TO ADDISON ROAD

GRADING PLAN

PARKING LOT AT ADDISON ROAD

TOWN OF ADDISON, TEXAS

Design JDH	Drawn GFS	DATE	SCALE	PROJECT NO.	SHEET NO.
Check JDH	Check JDH	APPR. JDH	HOR. 1"=20'	25748	3-4

1 OF 4

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

June 27, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW097**

Subject: **MBGF Post Detail over Curb Inlet**

Request:

Please reference Sheet PP-3 and revised MSE wall #2 drainage plans.

Please provide a detail for attaching guardrail posts to the top of inlet A-5.

Please respond to this RFI as early as possible as not to delay the project.

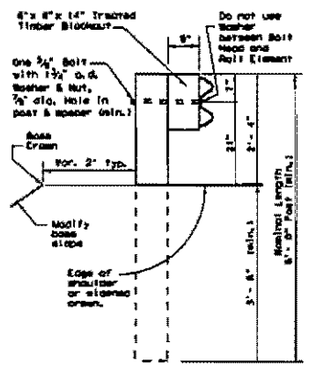
Response/Action Taken:

In response to the required detail for the MBGF steel post, please supply the steel post connection to the inlet top as per the detail MBGF-03A of TxDot standards. See attached sheet.

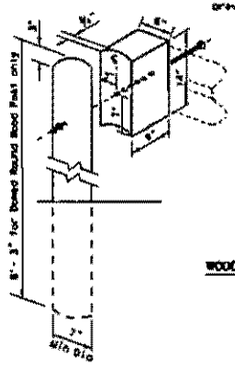
By: Guy Van Baulen, EIT
HNTB Corporation

Date: June 27, 2005

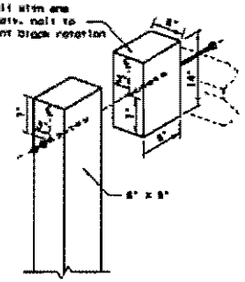
Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation



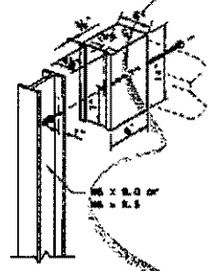
TYPICAL POST



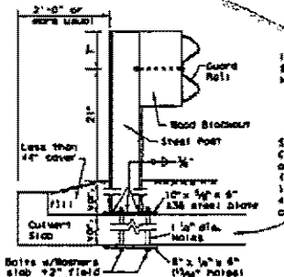
WOOD BLOCKOUT TO ROUND WOOD POST DETAIL



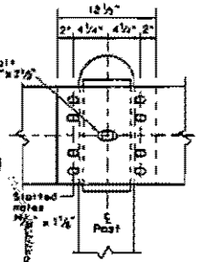
WOOD BLOCKOUT TO RECTANGULAR WOOD POST DETAIL



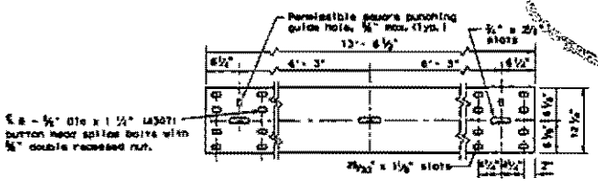
WOOD BLOCKOUT TO STEEL POST DETAIL



LOW FILL CULVERT POST MOUNTING OPTION



RAIL SPLICE

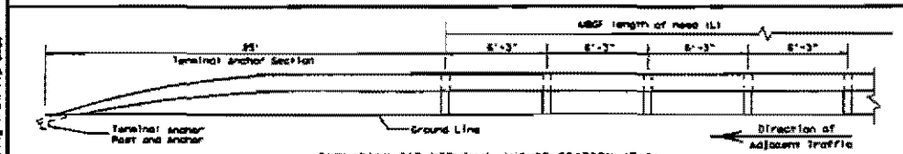


ELEVATION OF NOMINAL 12 ½ FOOT GUARDRAIL

(25 foot sections may also be installed)

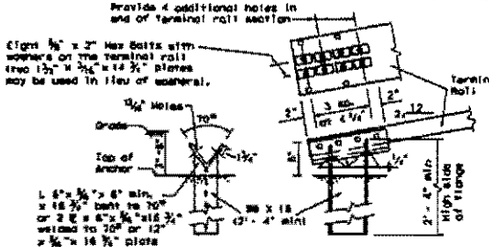
GENERAL NOTES

1. The exact position of guard fence shall be as shown elsewhere on the plans or as directed by the Engineer. Guard fence shall be transitioned to a smooth connection with other guard fence or structure railing as shown elsewhere on plans.
2. Rail element shall meet all requirements of AASHTO M-180 except as modified on the plans. The terminal connectors shall be of the same material, but shall not be less than 10 gauge. Contractor shall verify that the locations of bolt holes match those in the Terminal Connector prior to ordering of materials.
3. Unless otherwise shown in the plans, guard fence placed in the vicinity of curbs shall be blocked out so that the face of curb is located directly below or behind the face of the blockout. Rail placed over curbs shall be installed so that the post bolt is located approximately 21-inches above the gutter pan or roadway surface.
4. Unless otherwise shown in the plans, MBGF shall be placed with the face of rail directly above the shoulder edge (or curbface) except for upstream end treatments.
5. At the option of the Contractor, the rail elements for the guard fence may be furnished in either 12 ½ or 25 foot nominal lengths with post bolt slots for connection to posts.
6. The terminal anchor post shall be set in Class "A" concrete in holes otherwise shown on plans in accordance with Item, "Portland Cement Concrete". Concrete shall be subsidiary to the bid item requiring construction of the terminal rail section and anchorage system.
7. An anchor other than to a terminal anchor post shall consist of a connection similar to the rail splice or similar to the terminal connector.
8. Galvanized washers used with the eight ⅝" splice bolts and nuts that are provided for terminal connectors and/or terminal anchor posts shall be 1 ¾"x 3"x ⅛", or 1" i.d. and 2" o.d. x 0.134" (AWSI B27.2) narrow Type A plain washers.
9. Special fabrication will be required at installations having a curvature of less than 150' radius.
10. Button head post bolts (A307) shall be of sufficient length to extend through the full thickness of the nut and no more than ¾" beyond it. Button head splice bolts (A307) are ⅝"x 1 ½" with a ⅝" double recessed nut. Fittings (bolts, nuts, and washers) shall be in accordance with Item, Metal for Structures". Fittings shall be subsidiary.
11. Crown will be widened to accommodate guard fence.
12. If guardrail is placed on a side slope away from the pavement edge, then the slope rate between the edge of the pavement and the face of the barrier will be 1V:10H or flatter.
13. Posts shall not be set full depth in concrete.
14. Where solid rock is encountered or where shown on the plans, the diameter of the holes shall be approximately 12 inches, the backfilling shall be with a cohesionless material, and embedment depth shall be 1'-6" or more as directed by the Engineer.
15. Unless otherwise directed by the Engineer, a composite material post and/or blockout from the Department approved list of suppliers may be substituted for a post and/or blockout of similar dimensions. The list of approved suppliers of posts and blockouts will be maintained by the Construction Division, TxDOT.

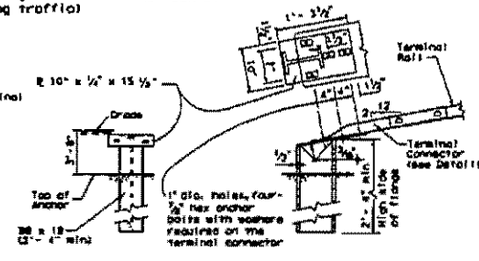


ELEVATION FOR TERMINAL ANCHOR SECTION (TAS)

(Terminal anchor sections are only for downstream guardrail end anchorage usage outside the horizontal clearance area of opposing traffic)

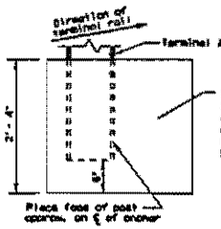


Note: This post requires four additional holes (once on field) in the terminal rail member with eight ⅝" bolts and washer plates as shown for attachment.



Note: This optional post requires the use of the 10 ga. terminal connector with four ⅞" hex bolts for attachment to the anchor post.

TERMINAL ANCHOR POST OPTIONS

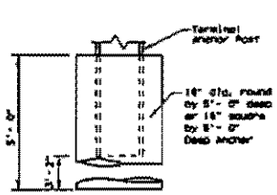


Noted:
Either post may be used with either anchor.

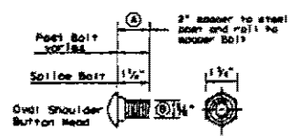
No construction joint is allowed in the concrete anchor.

Terminal rail may be bolted to post and in field position after to placing concrete anchor.

If concrete anchor is precast, the area should be consolated as directed by the Engineer, when placed in the field.



TERMINAL CONCRETE ANCHOR OPTIONS

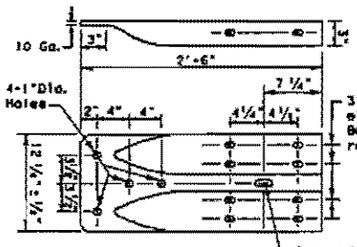


SPLICE BOLT

Ⓐ 1 ½" spacer to steel post max bolt. 2" rail to spacer button head bolt.

Ⓑ 1⅜" hex bolts required for terminal connector

TERMINAL CONNECTOR : The terminal connector may also be used on the MBGF(TL2) transition (See MBGF(TL2) Standard Sheet), or on the downstream end of a concrete rail located outside the horizontal clearance area of opposing traffic, (See BED Standard Sheet)



TERMINAL CONNECTOR

R = Radius
D = Diameter

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No liability is assumed by TxDOT for any engineering decisions accomplished by using this standard other than those for which it was originally prepared. TxDOT disclaims responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

LINKS DISPLAYED

Texas Department of Transportation
Design Division (Roadway)

METAL BEAM GUARD FENCE

MBGF-03A

FILE:	mbgf03a.dgn	DN: MBGF	CK: MBGF	DW: MBGF	CK: MBGF	MBGF
©TxDOT JULY 1994		DIST	FED.RD.	FEDERAL AID PROJECT NO.		SHEET
REVISIONS		6				
				DISTRICT	CONTROL	SECT	JOB	HIGHWAY

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

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Addison, TX 75001

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www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

June 27, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW098**

Subject: **Ground Rod at T-4 Mounted Light Poles**

Request:

Please Reference sheet BR-68, attached Ground rod Detail, Ground Rod and Ground Clamp Specifications

S & J Proposes to attach the ground rods for the T-4 Mounted Light Poles as shown in attached detail.

Is this acceptable?

Please respond to this RFI as early as possible as not to delay the project.

Response/Action Taken:

In response to S & J submittal of details and material for the above subject, it was found that the submitted information would be acceptable as long as the electrical contractor uses the compression connector that he has submitted, make sure the insulation is remove from the #6 ground wire at point of connection and that the connector is properly torque to the manufacturer requirements.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: June 27, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

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Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: Span 9 - Beam Splice

June 27, 2005

Dear Ben:

Please be advised that the cost proposal for the Splice connection of the U54 pre-cast concrete beams for Span 9 (Unit 4) has been rejected by the Town.

In review of the reference subject, Archer Western was provide with a manufacture mechanical coupler that the bridge design engineer believed would work and by request only did he provide an alternate splice connection utilizing a welded connection.

It was Archer Western Contractors, Ltd., decision to choose the means and methods for the splice connection and at no time was Archer Western Contractors, Ltd. directed to utilize a welded connection. Therefore, any additional cost encounter by the choice of the means and methods of construction shouldn't be passed onto the client.

Please contact me, if you have any questions in regarding to this matter.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation
Cliff R. Hall, URS Corporation

HNTB Corporation
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HNTB

Request for Information Response

June 27, 2005

Originator: Andrew Scheermann

RFI Number: R-AW087

Subject: T4 Traffic Rail Mounted Sign

Request:

Please reference Sheet 68 and Unistrut sign post detail given at owners meeting June 1, 2005

Sheet 68 of the Plans shows a "No Parking" sign (R8-3A) located approximately at STA 57+85 on the South side of the Bridge/Road. Does this sign mount to the T4 Traffic Rail? If so, please provide the details on how this sign is mounted to the Rail and the size and shape of the post required.

Response/Action Taken:

At this time, the Town of Addison has decided to delete the "No Parking" sign (R8-3A) which is shown to be located approximately at station 57+85.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: June 27, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

HNTB Corporation
The HNTB Companies
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Arlington, TX 76006

HNTB

Request for Information Response

June 24, 2005

Originator: Andrew Scheermann

RFI Number: R-AW095

Subject: Conduit access in Stinger

Request:

Archer Western has discovered that due to rebar conflict, S & J electric was unable to center the conduit for the stringer lighting in the stinger anchor template. Archer Western proposes to as built the conduit and drill a new 2"hole in the stringer base plate to accept the conduit.

Is this acceptable?

Please respond to this RFI as early as possible as not to delay the project.

Response/Action Taken:

As confirmed with the Bridge Engineer, the drilling of a new hole in the base plate would be acceptable as long as the new hole is not near the structural connection of the stinger.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: June 24, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

HNTB Corporation
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Arlington, TX 76006

HNTB

Request for Information Response

June 24, 2005

Originator: Andrew Scheermann

RFI Number: R-AW096

Subject: Signal Pole location Addison Rd.

Request:

Archer Western and S & J Electric were informed Tuesday afternoon that the proposed traffic signal pole at Addison Road and Arapaho Road will need to be relocated, due the cancellation of the proposed Addison Road Widening.

Where is the Traffic Signals at Addison Road and Arapaho Road intersection need to located?

Please respond to this RFI as early as possible as not to delay the project.

Response/Action Taken:

Archer Western is directed to install the relocated traffic signal pole and new foundation as per the original designed location as shown on Sheet TS-3, page 165 and the charts on Sheet T-4, page 166.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: June 24, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

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Archer Western Contractors, Ltd.
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Arlington, TX 76006

HNTB

Request for Information Response

June 23, 2005

Originator: Andrew Scheermann

RFI Number: R-AW094

Subject: Addison Road Parking Lot Grades

Request:

Sheet 64 of the Plans shows the Addison Parking lot Grading Plan to have two "Low Points" which are located in the Northwest Corner and in the middle of the South Edge to drain this parking lot. (See attached Sheet) According to Sheet 106 of the Plans, there is an inlet in the southwest Corner just north of the Landscape Mound. (See attached Sheet) The grades shown on Sheet 64 appear to create two "ponds" that will not drain toward this Inlet C-7 shown on Sheet 106.

Please provide a revised grading plan as soon as possible as not to delay the project.

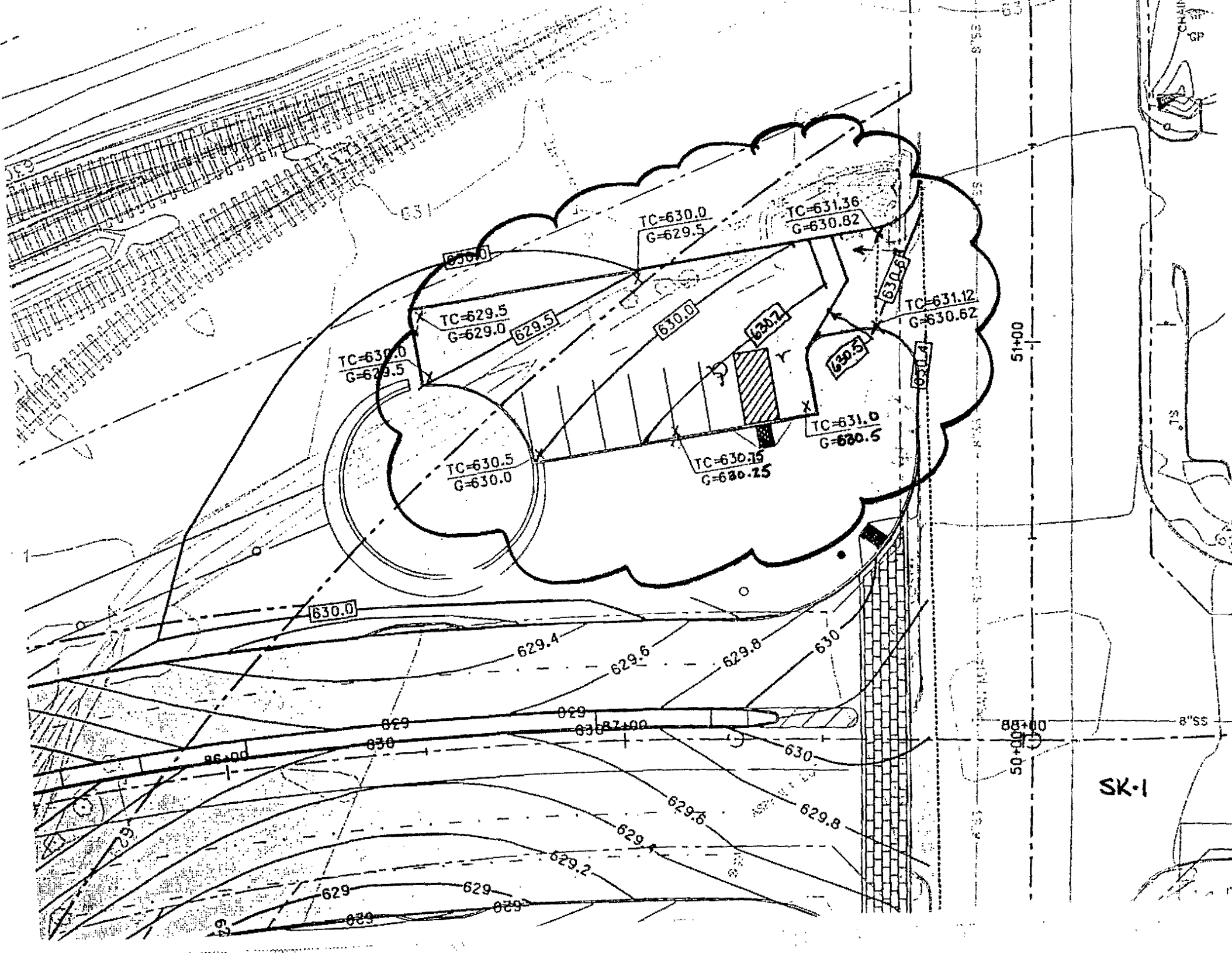
Response/Action Taken:

To eliminate the low points along the South edge of the parking lot, Please find the attach sketch with new grades and contours for the east half of the Parking Lot off of Addison Road which is found on the Sheet G-4, page 64.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: June 24, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation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HNTB Job # 25768 - Arapaho Road - Phase III

VIA Hand Delivered

Date: June 24, 2005

Letter of Transmittal

To: Steve Chutchian
Town of Addison
P.O. Box 9010
16801 Westgrove Drive
Addison, TX 75001

Regarding: Midway Traffic Control

We are forwarding to you:

____ Estimates	X Plans	____ Prints
____ Reports	____ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
1	TC-6, Page 30B	6/24/05		Addendum to the Traffic Control on Midway Rd. – Proposed Extension of the Low Profile Barriers to accommodate the storing of the South Arch on Site.

These are transmitted:

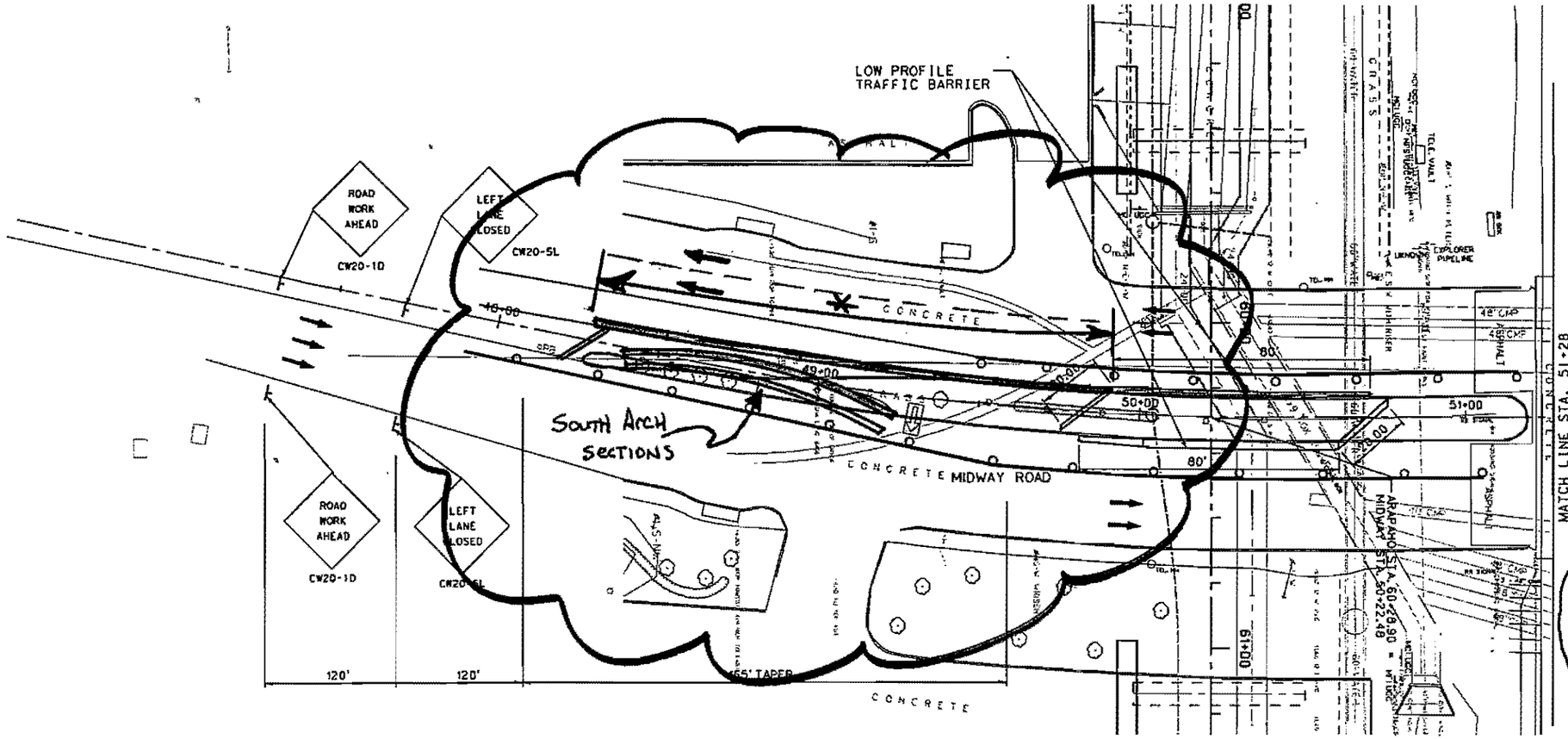
____ For approval	____ As requested	____ Copies for distribution
X For your use	____ Resubmit	X For Review & comment
____ Return	____ Copies for review	____ No exception taken
____ Corrected prints	____ Submit	____ Amend and resubmit
		____ Make corrections noted

Please note: Archer Western was only able to get delivery of the Bridge arches as long as the fabricator would be able to ship all sections of the bridge arch. Archer Western is proposing to extend the low profile concrete barrier to the south, so they can store the south arch section in the middle of the roadway behind the concrete barrier for protection. Please review and provide any comments.

This work to store the south archer will be starting around 3:00 p.m. today.

By: Guy Van Baulen, EIT

Copy to: File



LEGEND

- ARROW BOARD
- CHANNELIZING DEVICE EVERY 25'
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- DIRECTIONAL ARROW

Archer Western is proposing to Extend the Low Profile Concrete Barrier, Through the Left Lane to sta 48+00 Along Midway Rd.

(This is to store the 2-section of the South Steel Arch.

Archer Western will Maintain Two 10 ft wide Traffic Lane thru the Construction Site

NOTE:

1. ALL TRAFFIC CONTROL ELEMENTS INCLUDING THE RETURN OF MIDWAY ROAD MEDIAN TO IT'S ORIGINAL CONDITION IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCLUDED IN THE UNIT BID PRICE FOR TRAFFIC CONTROL.

STATE OF TEXAS
BRUCE J. PRESTON
55387
REGISTERED
PROFESSIONAL ENGINEER
6/30/04

30B

NO.	DATE	REVISION	APPROV.
0	06/30/04	ADDENDUM CHANGES	BJP

URS GREYSTONE CENTRE 5949 LBJ FREEWAY, SUITE 1000 DALLAS, TX 75234

ARAPAHO ROAD - PHASE III

SURVEYOR BOULEVARD TO ADDISON ROAD

TRAFFIC CONTROL PLAN
SINGLE LANE CLOSURE

TOWN OF ADDISON, TEXAS

Design	Drawn	DATE	SCALE	PROJECT NO.	SHEET NO.
Check	Check	05-07-04		29168	TC-6

6/28/2004 3:41:59 PM

\\URSDALDC1\DATA\PROJECTS\ARAPAHO ROAD BRIDGE\CADD\Structures\TCP\tcp304.dgn

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Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

January 10, 2005

Dear Ben:

We are in receipt of your letter date May 2, 2004, in which you are requesting changes to be made to the Change Order #2.

After review of your submitted PCO-26, dated December 13, 2004 on the unit prices of items 1210, 1211, 1212 & 1213; it was observed that the spreadsheet was missing the compensation for bonds and insurance. The requested in increase of the unit prices respectively will be address in the next Change Order.

In reference to your letter for the extension of time, HNTB concurs that the dates indicated due match the CPM and the revised issued date for the conduit profiles.

Upon review of your request based on your CPM, HNTB can not recognize the statement that the critical path was affected by the re-issue of the conduit profiles caused by the change in criteria required by TXU and DWU.

The CPM show that the conduit services would start on Aug. 18, 2004 and finish by Sept. 9, 2004 with a float of 12 days. The next item on the critical path is the storm water box culvert showing a start date of Sept 10th. Base on our records, Archer Western began the installation of the box culvert on September 10th, which is shown to be the early start for this critical path item. In review, there is no delay to the critical path.

The Town of Addison has indicated that if Archer Western Contractors, Ltd. does not agree, that this issue would be subject to discussion at a later date, but at this time, no addendum will be considered for Change Order #2 and will be process as is.

Please advise us of any actions you will take.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation
File

Copies
Pdf

Signed from Chris
Sent to Randy

Archer Western
Contractors

June 2, 2005

Letter: HNTB -46

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Change Orders 2 & 3

Dear Guy:

Attached are the signed change orders #2 & #3, from the Town of Addison Arapaho Road Project.

The unit prices for items 1210, 1211, 1212, & 1213 are in error. The items should have the following unit prices: $96.33, $77.56, $71.74, and $2579.43 respectively. The revised unit prices include compensation for bonds and insurance that was not included in the current prices.

Item #1205 "Concrete Stabilized Sand for TXU Conduit" did not include a time extension of 23 days as reflected in our letter dated 9/9/04.

Please make these adjustments to change order #2.

If you require additional information, please contact Andrew at our field office.

Sincerely,

Ben Withered
Project Manager

XC: Andrew Schneemann
Don Good
File
Steve Chadwick

2121 Avenue J, Suite 103
Arlington, Texas 76006
Phone: 817.640.3898
Fax: 817.640.8734
www.walshgroup.com

TOWN OF ADDISON, TEXAS

ARAPAHO ROAD - PHASE III

Project No. 04-22

CHANGE ORDER NUMBER: 02

1. CONTRACTOR: **Archer Western Contractors, Ltd.**

2. Change Order Work Limits: Sta. **-1+25** to Sta. **84+15**

3. Describe the work being revised:

Several item of work were requests by the Town of Addison for public notification and modification for future developement. Other items are related to underground utility conflict and unforeseen site condition: See attached reason sheet.

4. Work to be performed in accordance with Items: **See attached Tables**

5. New or revised plan sheet(s) are attached and numbered: **SW-3 to 8, SW14 to 16 & 29; IR-01 & 09; RT-3**

6. New general notes to the contract are attached: ☐ Yes ☑ No

7. New Special Provisions to Item N/A No. N/A, Special Specification Item N/A are attached.

Each signatory hereby warrants that each has the authority to execute this Change Order (CO).

The contractor must sign the Change Order and, by doing so, agrees to waive any and all claims for additional compensation due to any and all other expenses; additional charges for time, overhead and profit, or loss of compensation as a result of this change.

THE CONTRACTOR Date 6/2/05

By

Typed/Printed Name BEN J WITHERED

Typed/Printed Title PROJECT MANAGER

The following information must be provided

Time Ext. #: N/A Days added on this CO: 0 *

Amount added by this change order: **$17,548.18**

* See Attached Letter

RECOMMENDED FOR EXECUTION:

Construction Inspector 3/30/05 Date

Project Manager Date

☑ APPROVED Town of Addison Director of Public Works 4/1/05 Date

☐ APPROVED Town of Addison Asst. Public Works Director Date

☑ APPROVED Town of Addison Asst. City Engineer 4/1/05 Date

TOWN OF ADDISON, TEXAS
ARAPAHO ROAD - PHASE III
Project No. 04-22

CHANGE ORDER NO. 02

TABLE A: Force Account Work and Materials Placed into Stock

	LABOR	HOURLY			HOURLY RATE

TABLE B: Contract Items

				ORIGINAL CONTRACT + PREVIOUSLY REVISED		CHANGE ORDER	REVISED CONTRACT		CHANGE ORDER
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
1202	Pump Station Connection and Future Irrigation system	EA	$1,912.45	0.00	$0.00	1.00	1.00	$1,912.45	$1,912.45
	Irrigation Controller 'A' complete.								
1203	Relocate of Comfort Suite Irrigation System	LS	$3,488.71	0.00	$0.00	1.00	1.00	$3,488.71	$3,488.71
1204	Job Sign "Pardon Us" 2ft x 3ft size	EA	$139.29	0.00	$0.00	2.00	2.00	$278.58	$278.58
1205	Concrete Stabilized Sand For TXU Conduit	LS	$7,841.51	0.00	$0.00	1.00	1.00	$7,841.51	$7,841.51
1206	8" Resilante Gate Valve w/box and stack	LS	$937.94	0.00	$0.00	1.00	1.00	$937.94	$937.94
1207	Encasement of Steel Casing on Sanitary Sewer	LS	$3,750.95	0.00	$0.00	1.00	1.00	$3,750.95	$3,750.95
1208	Thermoc Paint of Steel Arches	LS	$18,788.37	0.00	$0.00	1.00	1.00	$18,788.37	$18,788.37
1209	Handhole Access in Stringer	EA	$668.61	0.00	$0.00	4.00	4.00	$2,674.44	$2,674.44
1210	30" Gasket Reinforced Concrete Pipe	LF	$94.44	0.00	$0.00	218.00	218.00	$20,587.92	$20,587.92
1211	24" Gasket Reinforced Concrete Pipe	LF	$76.04	0.00	$0.00	524.00	524.00	$39,844.96	$39,844.96
1212	21" Gasket Reinforced Concrete Pipe	LF	$70.33	0.00	$0.00	231.00	231.00	$16,246.23	$16,246.23
1213	Restocking & Shipping	LS	$2,528.85	0.00	$0.00	1.00	1.00	$2,528.85	$2,528.85
1214	12" Resilante Gate Valve w/box and stack	EA	$1,600.00	0.00	$0.00	2.00	2.00	$3,200.00	$3,200.00
1215	Relocate Pump Station 2" Water Service	LS	$1,485.02	0.00	$0.00	1.00	1.00	$1,485.02	$1,485.02
1216	Lowering of Existing 12" Water Main complete	LF	$162.07	0.00	$0.00	70.00	70.00	$11,344.90	$11,344.90
1217	Portable Changeable Message Board	Daily	$135.00	0.00	$0.00	230.00	230.00	$31,050.00	$31,050.00
1218	12" 16 Gage CMP Slot Drain w/Curb & Gutter	LF	$184.00	0.00	$0.00	200.00	200.00	$36,800.00	$36,800.00
1219	12" 16 Gage CMP	LF	$85.21	0.00	$0.00	104.00	104.00	$8,861.84	$8,861.84
1220	Dirt Mounds over TXU Conduit Backfill & Grading	LS	$1,376.57	0.00	$0.00	1.00	1.00	$1,376.57	$1,376.57
1221	Lateral Tie-In to Reinforced Box Culvert	EA	$1,246.98	0.00	$0.00	2.00	2.00	$2,493.96	$2,493.96
1222	Furnish and place 6"thick reinforced Conc. Pavement	SY	$28.15	0.00	$0.00	5,500.00	5,500.00	$154,825.00	$154,825.00
109	Furnish and place 10"thick reinforced Conc. Pavement	SY	$31.94	29,400.00	$939,036.00	-5,470.00	23,930.00	$764,324.20	($174,711.80)
145	Structural Excavation	CY	$4.00	463.00	$1,852.00	844.00	1,307.00	$5,228.00	$3,376.00
155	Furinsh and Install Concrete Railroad Crossing	LF	$371.00	380.00	$140,980.00	-380.00	0.00	$0.00	($140,980.00)
238	21" Reinforced Concrete Storm Sewer Pipe	LF	$51.16	914.00	$46,760.24	-218.00	696.00	$35,607.36	($11,152.88)
239	24" Reinforced Concrete Storm Sewer Pipe	LF	$57.05	925.00	$52,771.26	-524.00	401.00	$22,877.05	($29,894.20)
240	30" Reinforced Concrete Storm Sewer Pipe	LF	$69.19	583.00	$40,337.77	-231.00	352.00	$24,354.88	($15,982.89)
260	8"Reinforced Concrete Parking Lot sawcut/removal/ replacement at pump station	SY	$73.67	45.00	$3,315.15	225.00	270.00	$19,890.90	$16,575.75
							0.00		
							0.00		
	TOTALS				$ 1,225,052.41			$1,242,600.59	$17,548.18

TOWN OF ADDISON, TEXAS

ARAPAHO ROAD - PHASE III

Project No. 04-22

CHANGE ORDER NO. 02

TABLE B: Contract Items (Continued)

				ORIGINAL CONTRACT + PREVIOUSLY REVISED		CHANGE ORDER	REVISED CONTRACT		CHANGE ORDER
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
							0.00		
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The "Totals" from Table B of the previous work sheet:					$ 1,225,052.41			$1,242,600.59	$17,548.18
TOTALS					$1,225,052.41			$1,242,600.59	$17,548.18

Arapaho Road – Phase III
Project No.

Change Order No. 2

Reason for Change

This change order will increase work by twenty-one new contract work items, the reduction in quantity of 5 original bid items and the increase in quantity of two original bid items. The change order will result in zero (0) days time extension to the contract.

Item 1202 – Pump Station Connection and Future Irrigation system: Re-routing of existing irrigation at the pump station and tying existing irrigation system to the new controller relocated at the pump station. Install 13 extra 14ga.wires and communication cable from the new controller location to the south side of Arapaho Rd for future expansion as requested by the Town of Addison.

Item 1203 – Relocate of Comfort Suite Irrigation System: Relocating the existing irrigation system along the south side of Arapaho Rd between stations 70+50 to 73+00. System was found to be under the future sidewalk and within the contract ROW.

Item 1204 – Job Signs: At the Town's request, furnish and install "Pardon Us" signs to be installed facing the hotels/motels for the customers.

Item 1205 & 1220 – Concrete Stabilized Sand Backfill of TXU Conduit: Furnishing material, backfilling and grading of the new TXU conduit for the electrical services along Arapaho Rd. Material and work to be performed to satisfy required clearance requirement placed after original design.

Item 1206 -8" Resilante Bate Valve w/box and stack: The furnishing and installation of an additional 8"gate valve to eliminate the inconvience to the adjacent stores and restaurants, during the relocation and lowering of the 8" water main and fire hydrant.

Item 1207 – Encasement of Steel Casing on Sanitary Sewer: Furnish and place flowable backfill around the sanitary sewer steel casing to provide 100% backfill and protection of the steel casing form corrosion caused by electrolysis.

Item1208 – Tnemenc Paint for Steel Arches: The Town of Addison agreement to have the contractor furnish and apply the a Tnemenc paint for the steel arches to prevent fading of the color "Frank Blue" and correct the spec. finish requirement for the structural steel.

Item 1209 – Handhole Access in Stringer: Upon request of the Town of Addison, to provide a hand hole access to the inside of the structural stinger for future use.

Item 1210 to 1213 – 21 in., 24 in. & 30 in. Gasket Reinforced Concrete Pipe: Furnishing and installing of gasket reinforced concrete pipe in place of standard reinforced concrete pipe between the station 0+68 to 6+00 to prevent the infiltration of ground water into Line 'C' storm sewer. Reduction to existing bid items of related size will be required.

Item 1214 to 1216 Lowering of 12" Water Main and Valves: These three items are required to perform the lowering of the existing 12" water main, so both Line A and B storm sewer can cross over at Surveyor Blvd. The conflict between the storm sewer and water main was an unforeseen conflict which was not detectible from provide information during the design.

Item 1217- Portable Changeable Message Board Signs: At the Town of Addison's request, the contractor is to furnish and install "Advance Warning Message Board" signs to warn approaching traffic of the upcoming changes of the traffic pattern for Midway Rd. for the installation of the bridge and utility crossings.

Item 1218, 1219 & 1221 – 12" Corrugate Metal Piping and Drainage System: These three items are required to provide drainage to the existing properties along the MSE wall that is along the ROW. Because the existing ground had a flat grade with little slope, this addition drainage was added to prevent water form ponding on the adjacent properties.

Item 1222 - Furnish & Place 6"thick reinforced Concrete Pavement: This item is created to have all parking lot change the concrete pavement to a standard thickness of 6". This will reduce the existing bid item 109 quantity of the 10" concrete pavement.

Item 109 – Furnish & Place 10"thick reinforced Concrete Pavement: Reducing the existing bid item quantity and reinstating the quantity amount under a new work item 1222 with a reduced price.

Item 145 – Structural Excavation: This item is to be increase in quantity by the amount of the Structural wall #3 under the change dimension for MSE #3 during shop drawing review.

Item 155 – Furnish & Install Concrete Railroad Crossing: This item is to be deleted, at time of bid Addendum requiring all railroad items to be zero dollars/ $0.00 at bid time. This bid item was missed under this addendum is to be deleted.

Item 238, 239 & 240 – Reinforced Concrete Storm Sewer Pipe: These three bid items original to be installed between stations 0+68 to 6+00 on the Line 'C' Storm Sewer system at the brickyard are to be reduced in quantity.

Item 260 – 8" Reinforced Concrete Parking Lot: At the Town of Addison's Request. To remove the entire parking lot and replace with new under this original bid item. This is to eliminate the look of patchwork of the existing parking lot.

HNTB Corporation

Guy Van Baulen, EIT

TOWN OF ADDISON, TEXAS

ARAPAHO ROAD - PHASE III

Project No. 04-22

CHANGE ORDER NUMBER: 02

1. CONTRACTOR: **Archer Western Contractors, Ltd.**

2. Change Order Work Limits: Sta. **-1+25** to Sta. **84+15**

3. Describe the work being revised:

Several item of work were requests by the Town of Addison for public noticification and modification for future developement. Other items are related to underground utility conflict and unforeseen site condition: See attached reason sheet.

4. Work to be performed in accordance with Items: **See attached Tables**

5. New or revised plan sheet(s) are attached and numbered: **SW-3 to 8, SW14 to 16 & 29; IR-01 & 09; RT-3**

6. New general notes to the contract are attached: ☐ Yes ☑ No

7. New Special Provisions to Item N/A No. N/A, Special Specification Item N/A are attached.

Each signatory hereby warrants that each has the authority to execute this Change Order (CO).

The contractor must sign the Change Order and, by doing so, agrees to waive any and all claims for additional compensation due to any and all other expenses; additional changes for time, overhead and profit; or loss of compensation as a result of this change.

THE CONTRACTOR Date 6/2/05

By

Typed/Printed Name BENJ WITHERED

Typed/Printed Title PROJECT MANAGER

The following information must be provided

Time Ext. #: **N/A** Days added on this CO: **0** *

Amount added by this change order: **$17,548.18**

* SEE ATTACHED LETTER

RECOMMENDED FOR EXECUTION:

Construction Inspector 3/30/05 Date

Project Manager Date

Town of Addison Director of Public Works 9/1/05 Date

☑ APPROVED

Town of Addison Date

☐ APPROVED Asst. Public Works Director

Steve Chutchian 9/1/05

Town of Addison Date

☑ APPROVED Asst. City Engineer

TOWN OF ADDISON, TEXAS
ARAPAHO ROAD - PHASE III
Project No. 04-22

CHANGE ORDER NO. 02

TABLE A: Force Account Work and Materials Placed into Stock

	LABOR	HOURLY			HOURLY RATE

TABLE B: Contract Items

				ORIGINAL CONTRACT + PREVIOUSLY REVISED		CHANGE ORDER	REVISED CONTRACT		CHANGE ORDER
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
1202	Pump Station Connection and Future Irrigation system	EA	$1,912.45	0.00	$0.00	1.00	1.00	$1,912.45	$1,912.45
	Irrigation Controller 'A' complete,								
1203	Relocate of Comfort Suite Irrigation System	LS	$3,488.71	0.00	$0.00	1.00	1.00	$3,488.71	$3,488.71
1204	Job Sign "Pardon Us" 2ft x 3ft size	EA	$139.29	0.00	$0.00	2.00	2.00	$278.58	$278.58
1205	Concrete Stabilized Sand For TXU Conduit	LS	$7,841.51	0.00	$0.00	1.00	1.00	$7,841.51	$7,841.51
1206	8" Resilante Gate Valve w/box and stack	LS	$937.94	0.00	$0.00	1.00	1.00	$937.94	$937.94
1207	Encasement of Steel Casing on Sanitary Sewer	LS	$3,750.95	0.00	$0.00	1.00	1.00	$3,750.95	$3,750.95
1208	Tnemec Paint of Steel Arches	LS	$18,788.37	0.00	$0.00	1.00	1.00	$18,788.37	$18,788.37
1209	Handhole Access in Stringer	EA	$668.61	0.00	$0.00	4.00	4.00	$2,674.44	$2,674.44
1210	30" Gasket Reinforced Concrete Pipe	LF	$94.44	0.00	$0.00	218.00	218.00	$20,587.92	$20,587.92
1211	24" Gasket Reinforced Concrete Pipe	LF	$76.04	0.00	$0.00	524.00	524.00	$39,844.96	$39,844.96
1212	21" Gasket Reinforced Concrete Pipe	LF	$70.33	0.00	$0.00	231.00	231.00	$16,246.23	$16,246.23
1213	Restocking & Shipping	LS	$2,528.85	0.00	$0.00	1.00	1.00	$2,528.85	$2,528.85
1214	12" Resilante Gate Valve w/box and stack	EA	$1,600.00	0.00	$0.00	2.00	2.00	$3,200.00	$3,200.00
1215	Relocate Pump Station 2" Water Service	LS	$1,485.92	0.00	$0.00	1.00	1.00	$1,485.92	$1,485.92
1216	Lowering of Existing 12" Water Main complete	LF	$162.07	0.00	$0.00	70.00	70.00	$11,344.90	$11,344.90
1217	Portable Changeable Message Board	Daily	$135.00	0.00	$0.00	230.00	230.00	$31,050.00	$31,050.00
1218	12" 16 Gage CMP Slot Drain w/Curb & Gutter	LF	$184.00	0.00	$0.00	200.00	200.00	$36,800.00	$36,800.00
1219	12" 16 Gage CMP	LF	$85.21	0.00	$0.00	104.00	104.00	$8,861.84	$8,861.84
1220	Dirt Mounds over TXU Conduit Backfill & Grading	LS	$1,376.57	0.00	$0.00	1.00	1.00	$1,376.57	$1,376.57
1221	Lateral Tie-in to Reinforced Box Culvert	EA	$1,246.98	0.00	$0.00	2.00	2.00	$2,493.96	$2,493.96
1222	Furnish and place 6"thick reinforced Conc. Pavement	SY	$28.15	0.00	$0.00	5,500.00	5,500.00	$154,825.00	$154,825.00
109	Furnish and place 10"thick reinforced Conc. Pavement	SY	$31.94	29,460.00	$939,036.00	-5,470.00	23,990.00	$764,324.20	($174,711.80)
145	Structural Excavation	CY	$4.00	463.00	$1,852.00	844.00	1,307.00	$5,228.00	$3,376.00
155	Furinsh and Install Concrete Railroad Crossing	LF	$371.00	380.00	$140,980.00	-380.00	0.00	$0.00	($140,980.00)
238	21" Reinforced Concrete Storm Sewer Pipe	LF	$51.16	914.00	$46,760.24	-218.00	696.00	$35,607.36	($11,152.88)
239	24" Reinforced Concrete Storm Sewer Pipe	LF	$57.05	925.00	$52,771.25	-524.00	401.00	$22,877.05	($29,894.20)
240	30" Reinforced Concrete Storm Sewer Pipe	LF	$69.19	683.00	$40,337.77	-231.00	392.00	$24,354.88	($15,982.89)
260	8"Reinforced Concrete Parking Lot sawcut/removal/ replacement at pump station	SY	$73.67	45.00	$3,315.15	225.00	270.00	$19,890.90	$16,575.75
							0.00		
							0.00		
	TOTALS				$ 1,225,052.41			$1,242,600.59	$17,548.18

TOWN OF ADDISON, TEXAS

ARAPAHO ROAD - PHASE III

Project No. 04-22

CHANGE ORDER NO. 02

TABLE B: Contract Items (Continued)

				ORIGINAL CONTRACT + PREVIOUSLY REVISED		CHANGE ORDER	REVISED CONTRACT		CHANGE ORDER
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
							0.00		
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							0.00		
The "Totals" from Table B of the previous work sheet:					$ 1,225,052.41			$1,242,600.59	$17,548.18
TOTALS					$1,225,052.41			$1,242,600.59	$17,548.18

Arapaho Road – Phase III
Project No.

Change Order No. 2

Reason for Change

This change order will increase work by twenty-one new contract work items, the reduction in quantity of 5 original bid items and the increase in quantity of two original bid items. The change order will result in zero (0) days time extension to the contract.

Item 1202 – Pump Station Connection and Future Irrigation system: Re-routing of existing irrigation at the pump station and tying existing irrigation system to the new controller relocated at the pump station. Install 13 extra 14ga.wires and communication cable from the new controller location to the south side of Arapaho Rd for future expansion as requested by the Town of Addison.

Item 1203 – Relocate of Comfort Suite Irrigation System: Relocating the existing irrigation system along the south side of Arapaho Rd between stations 70+50 to 73+00. System was found to be under the future sidewalk and within the contract ROW.

Item 1204 – Job Signs: At the Town's request, furnish and install "Pardon Us" signs to be installed facing the hotels/motels for the customers.

Item 1205 & 1220 – Concrete Stabilized Sand Backfill of TXU Conduit: Furnishing material, backfilling and grading of the new TXU conduit for the electrical services along Arapaho Rd. Material and work to be performed to satisfy required clearance requirement placed after original design.

Item 1206 -8" Resilante Bate Valve w/box and stack: The furnishing and installation of an additional 8"gate valve to eliminate the inconvience to the adjacent stores and restaurants, during the relocation and lowering of the 8" water main and fire hydrant.

Item 1207 – Encasement of Steel Casing on Sanitary Sewer: Furnish and place flowable backfill around the sanitary sewer steel casing to provide 100% backfill and protection of the steel casing form corrosion caused by electrolysis.

Item1208 – Tnemenc Paint for Steel Arches: The Town of Addison agreement to have the contractor furnish and apply the a Tnemenc paint for the steel arches to prevent fading of the color "Frank Blue" and correct the spec. finish requirement for the structural steel.

Item 1209 – Handhole Access in Stringer: Upon request of the Town of Addison, to provide a hand hole access to the inside of the structural stinger for future use.

Item 1210 to 1213 – 21 in., 24 in. & 30 in. Gasket Reinforced Concrete Pipe: Furnishing and installing of gasket reinforced concrete pipe in place of standard reinforced concrete pipe between the station 0+68 to 6+00 to prevent the infiltration of ground water into Line 'C' storm sewer. Reduction to existing bid items of related size will be required.

Item 1214 to 1216 Lowering of 12" Water Main and Valves: These three items are required to perform the lowering of the existing 12" water main, so both Line A and B storm sewer can cross over at Surveyor Blvd. The conflict between the storm sewer and water main was an unforeseen conflict which was not detectible from provide information during the design.

Item 1217- Portable Changeable Message Board Signs: At the Town of Addison's request, the contractor is to furnish and install "Advance Warning Message Board" signs to warn approaching traffic of the upcoming changes of the traffic pattern for Midway Rd. for the installation of the bridge and utility crossings.

Item 1218, 1219 & 1221 – 12" Corrugate Metal Piping and Drainage System: These three items are required to provide drainage to the existing properties along the MSE wall that is along the ROW. Because the existing ground had a flat grade with little slope, this addition drainage was added to prevent water form ponding on the adjacent properties.

Item 1222 - Furnish & Place 6"thick reinforced Concrete Pavement: This item is created to have all parking lot change the concrete pavement to a standard thickness of 6". This will reduce the existing bid item 109 quantity of the 10" concrete pavement.

Item 109 – Furnish & Place 10"thick reinforced Concrete Pavement: Reducing the existing bid item quantity and reinstating the quantity amount under a new work item 1222 with a reduced price.

Item 145 – Structural Excavation: This item is to be increase in quantity by the amount of the Structural wall #3 under the change dimension for MSE #3 during shop drawing review.

Item 155 – Furnish & Install Concrete Railroad Crossing: This item is to be deleted, at time of bid Addendum requiring all railroad items to be zero dollars/ $0.00 at bid time. This bid item was missed under this addendum is to be deleted.

Item 238, 239 & 240 – Reinforced Concrete Storm Sewer Pipe: These three bid items original to be installed between stations 0+68 to 6+00 on the Line 'C' Storm Sewer system at the brickyard are to be reduced in quantity.

Item 260 – 8" Reinforced Concrete Parking Lot: At the Town of Addison's Request. To remove the entire parking lot and replace with new under this original bid item. This is to eliminate the look of patchwork of the existing parking lot.

HNTB Corporation

Guy Van Baulen, EIT

TOWN OF ADDISON, TEXAS

ARAPAHO ROAD - PHASE III

Project No. 04-22

CHANGE ORDER NUMBER: 3

1. CONTRACTOR: **Archer Western Contractors, Ltd.**

2. Change Order Work Limits: Sta. **-1+25** to Sta. **68+65**

3. Describe the work being revised:

This Change Order work is for the additional concrete for the Cast-In-Place Concrete Retaining Wall and concrete curb and gutter work along the project site. See attached reason sheet.

4. Work to be performed in accordance with Items: **See attached Tables**

5. New or revised plan sheet(s) are attached and numbered: **RT-3**

6. New general notes to the contract are attached: ☐ Yes ☑ No

7. New Special Provisions to Item N/A No. N/A, Special Specification Item N/A are attached.

Each signatory hereby warrants that each has the authority to execute this Change Order (CO).

The contractor must sign the Change Order and, by doing so, agrees to waive any and all claims for additional compensation due to any and all other expenses; additional changes for time, overhead and profit; or loss of compensation as a result of this change.

THE CONTRACTOR Date 6/2/05

By

Typed/Printed Name BENJ WITHERED

Typed/Printed Title PROJECT MANAGER

The following information must be provided

Time Ext. #: **N/A** Days added on this CO: **0**

Amount added by this change order: **$124,766.25**

RECOMMENDED FOR EXECUTION:

Construction Inspector 3/30/05 Date

Project Manager Date

Town of Addison 4/14/05 Date

☐ APPROVED Director of Public Works

Town of Addison Date

☐ APPROVED Asst. Public Works Director

Steve Chmelar 4/11/05

Town of Addison Date

☑ APPROVED Asst. City Engineer

TOWN OF ADDISON, TEXAS
ARAPAHO ROAD - PHASE III
Project No. 04-22

CHANGE ORDER NO. 02

TABLE A: Force Account Work and Materials Placed Into Stock

	LABOR	HOURLY			HOURLY RATE

TABLE B: Contract Items

				ORIGINAL CONTRACT + PREVIOUSLY REVISED		CHANGE ORDER	REVISED CONTRACT		CHANGE ORDER
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
1223	Furnish & Place 8" thick Curb and Gutter, 4000psi @ 28 days	LF	$51.13	0.00	$0.00	450.00	450.00	$23,008.50	$23,008.50
144	Furnish & Place Concrete Retaining Wall, Class 'F' Concrete	CY	$294.95	950.00	$280,202.50	345.00	1,295.00	$381,960.25	$101,757.75
							0.00		
							0.00		
TOTALS					$ 280,202.50			$404,968.75	$124,766.25

TOWN OF ADDISON, TEXAS
ARAPAHO ROAD - PHASE III
Project No. 04-22

CHANGE ORDER NO. 3

TABLE B: Contract Items (Continued)

				ORIGINAL CONTRACT + PREVIOUSLY REVISED		CHANGE ORDER	REVISED CONTRACT		CHANGE ORDER
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
							0.00		
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The "Totals" from Table B of the previous work sheet:					$ 280,202.50			$404,968.75	$124,766.25
TOTALS					$280,202.50			$404,968.75	$124,766.25

Arapaho Road – Phase III
Project No.

Change Order No. 3

Reason for Change

Item 144 -Furnish & Place Concrete Retaining Wall, Class 'F' Concrete: This work is for the adjustment to the quantity of the Structural wall for the design and reconfiguration of the Mechanical Stabilized Earth Wall #3 that is supported by the Structural Wall. .

Item 1223 - Furnish & Place 6" thick Curb and Gutter, 4000psi @ 28 days: This work has been added to the contract for the installation of curb and gutter to control storm water run-off and traffic control. The change order will result in zero (0) days time extension to the contract.

HNTB Corporation

Guy Van Baulen, EIT

TOWN OF ADDISON, TEXAS

ARAPAHO ROAD - PHASE III

Project No. 04-22

CHANGE ORDER NUMBER: 3

1. CONTRACTOR: **Archer Western Contractors, Ltd.**

2. Change Order Work Limits: Sta. **-1+25** to Sta. **68+65**

3. Describe the work being revised:

This Change Order work is for the additional concrete for the Cast-In-Place Concrete Retaining Wall and concrete curb and gutter work along the project site. See attached reason sheet.

4. Work to be performed in accordance with Items: **See attached Tables**

5. New or revised plan sheet(s) are attached and numbered: **RT-3**

6. New general notes to the contract are attached: ☐ Yes ☑ No

7. New Special Provisions to Item N/A No. N/A, Special Specification Item N/A are attached.

Each signatory hereby warrants that each has the authority to execute this Change Order (CO).

The contractor must sign the Change Order and, by doing so, agrees to waive any and all claims for additional compensation due to any and all other expenses; additional charges for time, overhead and profit; or loss of compensation as a result of this change.

THE CONTRACTOR Date 6/2/05

By

Typed/Printed Name BEN J. WITHERED

Typed/Printed Title PROJECT MANAGER

The following information must be provided

Time Ext. #: N/A Days added on this CO: 0

Amount added by this change order: **$124,766.25**

RECOMMENDED FOR EXECUTION:

3/30/05
Construction Inspector Date

4/18/05
Town of Addison Date
☐ APPROVED Director of Public Works

Project Manager Date

Town of Addison Date
☐ APPROVED Asst. Public Works Director

Town of Addison Date
☑ APPROVED Asst. City Engineer

4/11/05

TOWN OF ADDISON, TEXAS
ARAPAHO ROAD - PHASE III
Project No. 04-22

CHANGE ORDER NO. 02

TABLE A: Force Account Work and Materials Placed Into Stock

	LABOR	HOURLY			HOURLY RATE

TABLE B: Contract Items

				ORIGINAL CONTRACT + PREVIOUSLY REVISED		CHANGE ORDER	REVISED CONTRACT		CHANGE ORDER
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
1223	Furnish & Place 6" thick Curb and Gutter, 4000psi @ 28 days	LF	$51.13	0.00	$0.00	450.00	450.00	$23,008.50	$23,008.50
144	Furnish & Place Concrete Retaining Wall, Class 'F' Concrete	CY	$294.85	650.00	$280,202.50	345.00	1,295.00	$381,960.25	$101,757.75
							0.00		
							0.00		
TOTALS					$ 280,202.50			$404,968.75	$124,766.25

TOWN OF ADDISON, TEXAS

ARAPAHO ROAD - PHASE III

Project No. 04-22

CHANGE ORDER NO. 3

TABLE B: Contract Items (Continued)

				ORIGINAL CONTRACT + PREVIOUSLY REVISED		CHANGE ORDER	REVISED CONTRACT		CHANGE ORDER
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
							0.00		
							0.00		
							0.00		
							0.00		
							0.00		
							0.00		
							0.00		
							0.00		
							0.00		
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							0.00		
							0.00		
							0.00		
							0.00		
							0.00		
							0.00		
The "Totals" from Table B of the previous work sheet:					$ 280,202.50			$404,968.75	$124,766.25
TOTALS					$280,202.50			$404,968.75	$124,766.25

Arapaho Road – Phase III
Project No.

Change Order No. 3

Reason for Change

Item 144 -Furnish & Place Concrete Retaining Wall, Class 'F' Concrete: This work is for the adjustment to the quantity of the Structural wall for the design and reconfiguration of the Mechanical Stabilized Earth Wall #3 that is supported by the Structural Wall.

Item 1223 - Furnish & Place 6" thick Curb and Gutter, 4000psi @ 28 days: This work has been added to the contract for the installation of curb and gutter to control storm water run-off and traffic control. The change order will result in zero (0) days time extension to the contract.

HNTB Corporation

Guy Van Baulen, EIT

Date: 26-May-05

COR # 1

Change Order Request Form

Town of Addison
Arapaho Phase 3

Submitted to:
Town of Addison 16801 Westgrove Adison Texas 75001

Submitted by:
Guy Van Baulin c/o HNTB

Subject	Relocation of 8" waterline and gate valve
	See attached "Notice of Proposed Change" for a description of the proposed change order

Cost Impact	addition to the original contract
Amount	$11,821.92
Schedule Impact	no days
Days	n/a

Approval _____

Chris Terry
Assistant City Manager

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Town of Addison
P.O. Box 9010
16801 Westgrove Drive
Addison, TX 75001

HNTB

Notice of Propose Change

May 24, 2005

NPC Number: HNTB-20

Contractor No: AW-PCO 37

Subject: Relocation of the Existing 8" water line and gate valve.

Description:

During the layout of the future MSE retaining wall, it was discovered that a portion of the existing 8" water main and a gate valve were directly under the future MSE retaining wall. Based on the original record drawings the water main should have been outside of the MSE retaining wall. Therefore, it is recommended to relocate the existing waterline from under the MSE retaining wall to allow for future access or maintenance to the existing waterline.

Please find below the estimated cost for the subject mention above utilizing the contract bid items.

Projected Costs:

Item 103	Full Depth Saw Cut Existing Concrete	25 LF	$ 2.40 /LF	$ 60.00
Item 106	Remove and Dispose of Existing Driveway	34 SY	$3.40 /SY	$ 115.60
Item 112	Furnish & Place 8" thick Reinforced concrete Driveway	34 SY	$34.18 /SY	$ 1,162.12
Item 262	8" PVC, Type C909, Class 150 waterline	190LF	$55.18 /LF	$ 10,484.20

Please Note: The Work compensated under the bid item unit prices will increase the contract value by $ 11,821.92.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: May 24, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

CHANGE ORDER NO. 01

In accordance with the Agreement between **the Town of Addison** ("Client"), and **URS Corporation** ("URS"), a **Nevada** corporation dated **November 11, 2002** (for Work Order No. 002) this Change Order describes the agreed upon changes to the Services, Schedule, and Payment for the Services.

Project: Arapaho Road Bridge at Midway Road. Construction Administration Services URS Project No.25334402 Date:

REFERENCE: Drawing No. N/A Specification No. N/A Other N/A

The Agreement is hereby changed as follows:

Additional fee for the continuation of Construction Administration Services.

Justification for Change:

Additional fee is required to continue to respond to design changes during construction as well as review and approve the erection and stressing sequence, drawings and calculations for the arch span.

CHANGE TO ESTIMATED CONTRACT PRICE *(See Attachment E)*

Original Estimated Contract Price (Work Order No. 002):	$ 25,000.00
Current estimated contract price, including previous change orders:	$ 25,000.00
The estimated Contract Price due to this Change Order will be increased by:	$ 12,400.00
The new estimated Contract Price due to this Change Order will be:	$ 37,400.00

CHANGE TO THE ESTIMATED SCHEDULE *(See Attachment N/A)*

The date for completion of all work under the contract will be: October 31, 2005.

EXCEPT AS PROVIDED IN THIS CHANGE ORDER, ALL TERMS AND CONDITIONS OF THE CONTRACT REMAIN UNCHANGED

Acceptance of the terms of this Change Order is acknowledged by the following signatures of the Authorized Representatives.

CLIENT

Signature

Typed Name/Title

6/2/05
Date of Signature

URS

Signature

Emily Taylor, P.E. / Vice President
Typed Name/Title

05/17/05
Date of Signature

cc: Accounting

ARAPAHO ROAD BRIDGE AT MIDWAY ROAD
CHANGE ORDER NO. 01 TO WORK ORDER NO. 002

ATTACHMENT E

ADDITIONAL TIME & MATERIALS FEE ESTIMATE
URS CORPORATION

	Total Cost
Respond to RFIs and Design Changes (3 mos.) ($1800 /mo. @ 3 mos.)	**$ 5,400.00**
Review and Approval of Erection & Stressing Reports (Arch Span) Review of narrative, calculations and drawings for the erection of the arch and stressing of the hangers. 50 hrs @ $140/hr (first review)	**$ 7,000.00**
TOTAL	**$12,400.00**

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898
FAX: (817) 640-8734

SUBMITTAL

Date: May 11, 2005

Submittal # : 62.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: Structural Steel Hangers

Description of Submitted Item: Installation and Stressing Procedure for Strrel Structural Hangers

Manufacturer/Sub/Supplier: CBSI

Related Section / Drawings: SSH - Plans

Additional Comments:

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: May 11, 2005

Engineer's Stamp

REVIEWED
APPROVED, NO EXCEPTIONS TAKEN ( )
APPROVED AND MAKE CORRECTIONS AS NOTED ( )
AMEND AND RESUBMIT ( ) REJECTED SEE REMARKS (X)

Review is only for general conformance with the design concept of the contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The Contractor remains solely responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, for safety and for satisfactory performance of his work.

URS
DATE 5/18/05 BY CR/KV

Does not conform with erection procedure submitted by Contractor. Requires ~~Eng~~ PE Seal. Must be part of overall erection analysis and sequence.

Copy: File

Town of Addison

Arapaho Road Phase III

Surveyor Boulevard to Addison Road

Installation and Tensioning Procedure

Structural Strand Assemblies

Prepared by:

CBSI
245 McCarty Drive
Houston, Texas 77029
(713) 675-1180 Fax: (713) 675-1140
jvclodfelter@cbsii.com

1.0 - Scope

This procedure will enable the appointed contractor (Archer Western) and the cable installation consultant (CBSI) to successfully install the following structural strand assemblies.

18 – 2-1/2" ASTM A586 Class A Prestressed Structural Strand Assemblies 395 Ton MBS. CBSI Open strand socket one end – CBSI Type 7 anchor socket other end. (All per approved drawing AW0904-Rev B)

Hanger	L/FT
North 1	13.788
South 1	12.604
North 2	21.038
South 2	19.854
North 3	26.215
South 3	25.031
North 4	29.313
South 4	28.129
North 5	30.328
South 5	29.144
North 6	29.259
South 6	28.075
North 7	26.107
South 7	24.923
North 8	20.886
South 8	19.692
North 9	13.572
South 9	12.388

1.1 – Final cable lengths to be verified based upon contractor supplied as built survey of elevations and confirmation of arch steel geometry by steel fabricator. (Fabrication time after receipt of confirmed data – 3-4 week aro)

1.2 – All as-built lengths measured center pin of open socket to calculated bearing point on spanner nut of Type 7 socket.

E.O.R. (Engineer of record) shall verify and approve final length submittals

1.3 – All assemblies will either be shipped on protected coils or reels with the open strand socket positioned for first removal at site.

1.4 – All open sockets will be shipped with 5-1/4" socket pin with end caps. *Installation will require that the socket pins be installed with the pin head facing to the inside of the arch structure.

1.5 – Two each – 4-3/4" X 3' Jacking rods with two nuts will be shipped for needed final jacking use.

1.6 – Contractor shall supply needed center hole hollow plunger cylinder jacks (two each matched) with calibrated gauge and hand pump, plus jack stands.

Suggested Enerpac RRH-Series with center hole diameter of 4-7/8" id minimum.

*Final configuration and jack model numbers to be supplied prior to start of work. (Site visit required for verification)

1.7 – Care must be taken in handling the strand assemblies. Use only nylon OSHA approved lifting slings along with wooden timbers or carpet squares if dragging of the assemblies is planned.

1.8 – Do not remove the spanner nut(s) on the Type 7 sockets until ready for insertion into the bottom floor beam tube.

2.0 – Installation Preparation

Insure the following has been completed:

A – All floor beam sections assembled with complete unit supported on false work approximately two (2) inches above the as designed desired elevation. (W.P. at arch rib)

B – Full installation of both arch rib sections, temporarily supported at the correct elevations. (W.P. at diapbragm)

*Any changes in elevation(s) on span distance should be duly noted.

(Continued on the next page)

Working Point Elevations for the Arch Ribs And the Diaphragms

Hanger	Elev. (FT) W.P. at Arch	Elev. (FT) W.P. at Diaphragm
North 1	653.087	643.329
South 1	653.087	642.663
North 2	660.412	643.404
South 2	660.412	642.738
North 3	665.650	643.465
South 3	665.650	642.799
North 4	668.795	643.512
South 4	668.795	642.846
North 5	669.844	643.546
South 5	669.844	642.880
North 6	668.795	643.566
South 6	668.795	642.900
North 7	665.650	643.573
South 7	665.650	642.907
North 8	660.412	643.566
South 8	660.412	642.900
North 9	653.087	643.545
South 9	653.087	642.879

2.1 – Order of Installation

Locate cables North 5 / South 5 which will be installed first.

The following sequence shall be used:

North 5 / South 5
North 4 / South 4
North 6 / South 6
North 3 / South 3
North 7 / South 7
North 2 / South 2
North 8 / South 8
North 1 / South 1
North 9 / South 9

***Each reel or coil was shipped with the CBSI open socket on top for first removal.**

2.2 – Prepare for lifting by small crane, assemblies North 5 / South 5. Affix nylon strap to base of socket, lifting carefully upwards toward the matching connection lug. (Remove carefully and slowly to avoid damage to the galvanized coating)

2.3 – Using a man basket with two men, lift by second crane or lift the basket to a work point near the first connection point.

Insure that a pin for each assembly is included in the basket for each lift.

2.4 – While lifting the strand assembly with the original crane, slide the open socket jaws onto the connection lug, insuring a good fit and hole line up.

(Socket jaw width – 5-1/2" – Lug thickness – 5")

2.5 – Insert the 5-1/4" diameter pin into the 5-3/8" i.d. pinhole, placing the pinhead to the inside of the structure. Install locking cap.

2.6 – Allow the bottom Type 7 socket connection to hang in a temporary position vertically.

2.7 – Repeat the above process for cables North 4 / South 4 and North 6 / South 6.

2.8 – After hanging 5, 4, 6 cable pairs, prepare for installation of the bottom Type 7 socket.

2.9 – Starting at pair 5, carefully measure and mark the bearing point on the spanner nut. This can be taken from CBSI's shop drawings.

This mark point measured back to the open socket center pin, is the theoretical final dead load cable length.

2.10 – After marking, carefully remove the spanner nut, protecting all internal / external threads / taps.

2.11 – Using nylon straps, affix to strand body about fifteen (15) or twenty (20) feet from the Type 7 socket. Suggest wrapping external threads with duck tape for protection.

2.12 – Using small crane, carefully lift (using the same original installation order) the bottom portion of the strand assembly.

2.13 – Two installers can carefully insert the socket body into the floor beam guide pipe. The socket should be fed thru the guide pipe, exposing the outer threads past the bearing plate.

2.14 – Remove any duck tape and locate previous marking for theoretical set points.

*The floor beams on the false work should have the guide pipe and bearing plate at or above the correct elevation.

**Contractor shall perform a station survey at time of false work installation, providing elevation locations.

2.15 – Install the spanner nut onto the socket body and hand turn the nut to or as near as possible to the marked point on the socket.

2.16 – Perform North / South locations together

*Some cases may require raising the floor beam connection points by false work screw, etc.

**Only hand tighten spanner nuts at this time

2.17 – Repeat all procedures with installation of the remaining cable pairs.

2.18 – Upon completion, visually check all connections to insure correct assembly

*Survey of elevation points should be checked

2.19 – CBSI trained installer should check and approve all work prior to moving forward.

3.0 – Dead Load Application

3.1 – Starting in the center of the bridge deck, carefully lower the temporary false work, allowing the transfer of the dead load to the 2-1/2" strand assemblies.

3.2 – If the false work can be lowered, lower to a position above six inches below the dead loaded position.

3.3 – Insure that all cables are loaded and the bridge deck is fully supported by the cables.

3.4 – Contractor shall provide a survey of each cable connection point, at arch rib and floor beam. Record all data!

*Remove all equipment / hardware from bridge deck.

3.5 – CBSI (sub-contractor) shall provide tension readings using a Dynatension meter. Tension readings at this point should not exceed 5% of each suspender. Record all data!

3.6 – Based upon the results of the tension readings and surveys, a decision must be made for adjustments.

*Record all data for future use.

4.0 – Required Elevation / Tension Parameter Adjustments

4.1 – Locate all jacks, gauges, pumps, jack stands and tension rods mentioned earlier.

4.2 – Suspenders (Panel points) needing adjustments shall be identified.

*Important: Always adjust cable pairs, North / South, checking elevations / tensions.

**Do not exert loads on spanner nuts without assistance from jacks. This nut can be damaged internally from forced stresses.

***Using man basket or false work access

4.3 – Install tension rod(s) into center of Type 7 socket. Install jack stand and center hole jack over rod, securing with supplied bearing nut. Install pump / gauge lines to jack(s).

4.4 – Using hand pump(s), jack floor beam to correct elevations. (Jack in pairs – survey each location)

4.5 – Take tension readings of each suspender (panel point) insuring that all cables are within 5% of each other. (Move jacking equipment / hardware as required)

4.6 – Repeat this procedure on all needed suspender (panel point) locations to induce correct elevation, tensions and camber readings into the bridge deck.

4.7 – Upon completion, provide as-built drawings with all elevation and tension readings for future reference.

*Field changes / modifications to this plan is authorized based upon needed changes by Contractor and Supervising Field Installer.

WR
SHEET NO.

CHARTER FURNITURE

ARAPAHO RD

C/L R.R. Tracks

WARNING!!! Explorer's 12-Inch High Pressure Petroleum Products Pipeline. Contact Greenville Area Manager at (903)527-1262 at least 48 Hours Prior to Any Construction Near Pipeline.

RISER POLE #4

DIRECTIONAL BORE FROM STA 1+83 TO STA 2+80

101' 11"

Midway

100'-0" R.O.W.

15' EASEMENT

"C"

"B"

"A"

2'-0"

RISER POLE #3

97'

Rd.

DIRECTIONAL BORE FROM STA 2+54.75 TO STA 3+51.75

15' EASEMENT

RISER POLE #1

RISER POLE #2

Prop. M.H. #2

Prop. M.H. #1

OPEN CUT FROM STA 0+00 TO STA 1+83

OPEN CUT FROM STA 0+00 TO STA 0+61.00

STA 0+61.00 BEGIN CONVENTIONAL BORE

STA 1+61.00 END CONVENTIONAL BORE

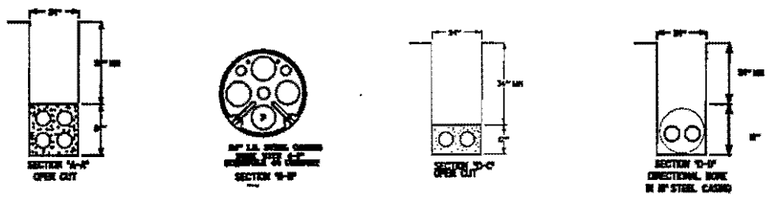
ICE RINK

JEH EAGLE SUPPLY

STA 0+00 INSTALL 4WAY MANHOLE WITH 5'0" NECK AND 5'X5'X8" CONCRETE PAD AROUND ENTRANCE

INSTALL 120' 4E-6 BORE IN 24" O.D. STEEL CASING

STA 2+54.75 INSTALL 4WAY MANHOLE WITH 5'0" NECK AND 5'X5'X6" CONCRETE PAD AROUND ENTRANCE



SCALE 1" = 20'

CD

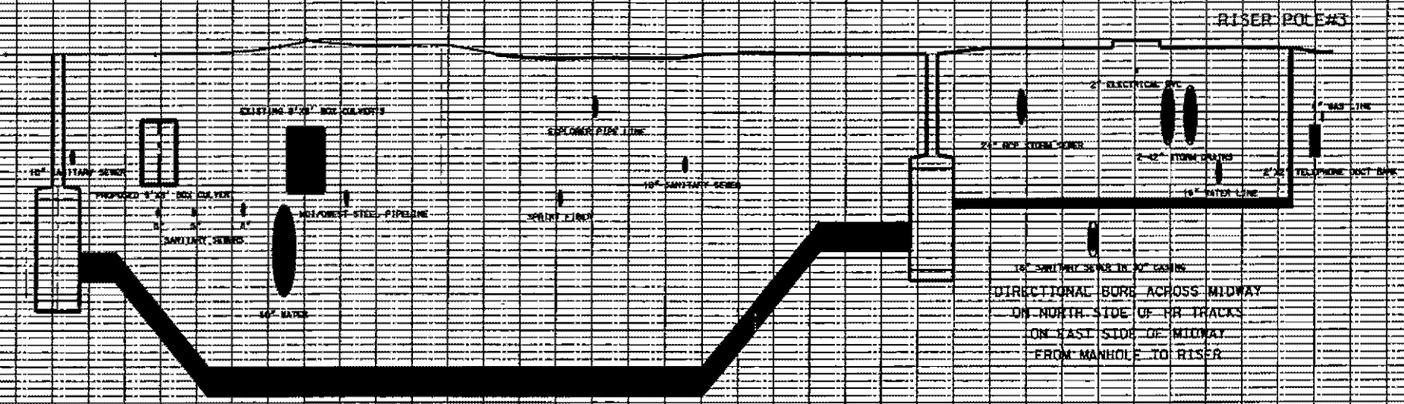
TXU ELECTRIC & GAS

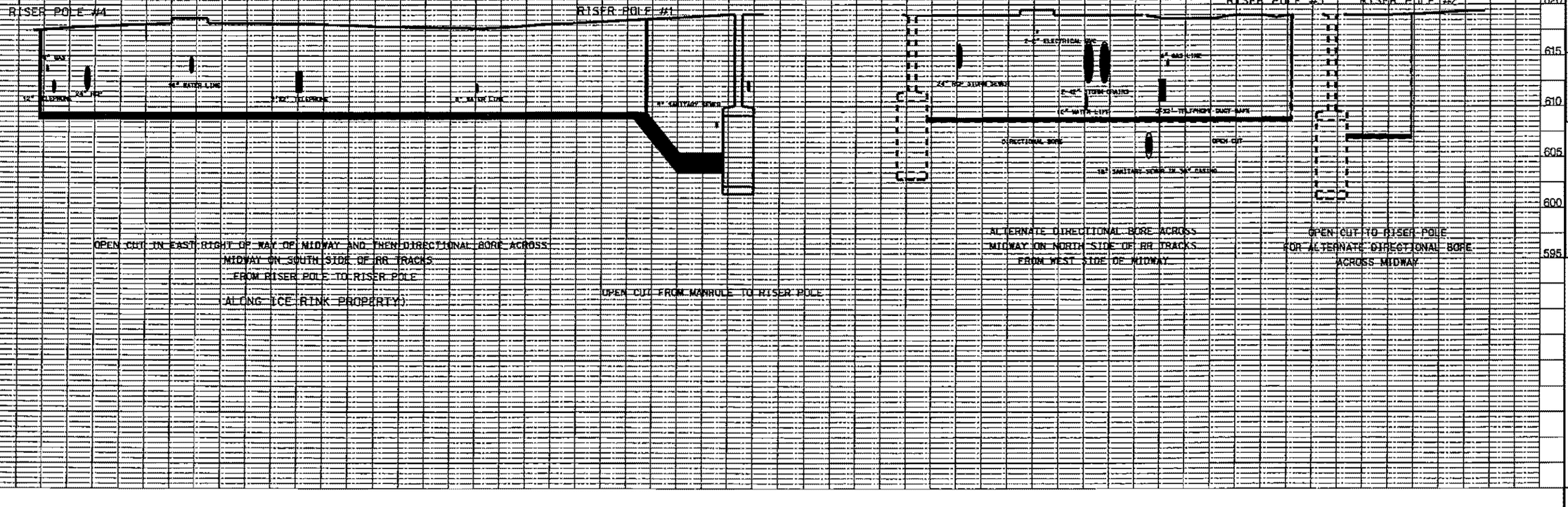
DWG TYPE	UNIT ID	DRAWN	CHK. BY	REVISION DESCRIPTION	DATE	NO.	W.O.	APP.	APP.	DWG.	CHK.	DATE

LIST OF DRAWINGS

SCALE

WR
SHEET NO.





TU ELECTRIC

UNIT ID

DWG TYPE

REVISION DESCRIPTION | DRAWN | CH. | APP. | APP.

ESTIMATE | W.A. | NO. | DATE

LIST OF DRAWINGS | DWN. | CH. | ENG. | APP. | APP.

SCALE | DATE

E
SHEET NO.

Jenny Nicewander

From: Steve Chutchian
Sent: Monday, August 23, 2004 3:53 PM
To: Jenny Nicewander
Subject: FW: Irrigation taps

-----Original Message-----
From: David Wilde
Sent: Tuesday, August 17, 2004 4:41 PM
To: Steve Chutchian
Cc: Mike Murphy; Jim Pierce; Ron Lee; Slade Strickland; Guy VanBaulen (E-mail); Joe Angelone (E-mail); Jerry Davis
Subject: Irrigation taps

Steve,

Joe Angelone with American Landscape Systems would like some clarification on the cost issues associated with the irrigation taps for the Arapaho III project. You will recall that we talked about changing the sizes and locations of these three taps from the plan as follows:

1. At Surveyor - Tap the 12" instead of the 24", move the tap to the south east corner of the intersection, make it a 12"x4" instead of the 24"x2½" shown. Then make two 2" taps on the 4" stub-out.
2. At Midway - When the 16" water line is lowered for the installation of the box culverts, make a 16"x4" tap rather than the 16'x2½" that the plan *implies.* Then make a 2" tap on the 4" stub-out.
3. At Addison Rd. - the plan shows a 2½" service, but shows no tap or where the water is coming from. We discussed making a 24"x8" tap south of the new intersection and bringing the 8" line across Addison Rd. to stub out at the Addison Rd ROW line at the lot on the SW corner of the intersection, then making a 4"x2" tap, set the meter and DCVA, then crossing to the north side of new Arapaho in a new sleeve to the grassy area north of the new parking lot. (my question at this point is, "Wouldn't a 4" meter and DCVA be better either here at Addison Rd, or at Midway, since the plans call for 3" irrigation mains? This would eliminate the "pinch point" and pressure loss through the 2" meter and DCVA as possible issues. A 4" Metron meter would be a good fit here and probably would not need a massive vault, but possibly only a large Brooks or OldCastle box. Anyway, we could look into that one way or the other.)

If this is an accurate representation of what you and I, and Ron Lee and I have talked about, we would need HNTB to investigate the cost differentials from plan quantities, and we would also need to determine who pays what to get it done. This would have become an issue at some point anyway due to the vagueness of the plans. Thanks.

Dave Wilde
Public Works Inspector
Town of Addison
PH: 972-450-2847

tap sleeve & valve on Tee
16x4 between boxes over ~~to~~ to grass area
~~Change to 2 to bring~~
Stub out 6" w/ 2" tap to put meter & double
Check in open space
24x8 to Add road ROW w/ 8" Tap 8 w/ 2 Take across in a
Sleeve under Anapaho Set meter & double check on S side of Add & Anap

Parking @ Rink w/ 2 Spots by thrust block
Landscaping

Copy of NP

Combo pole just has one ~~one~~ conduct so
no schedule C need redesign
infront of Storage facility
Sta 73+00
74+50
76+00

#154 -

James Davis / Katina about - AW wanted to Strut Tthurs.

Katina - mount of dist @ Sta 11+50 14/25 on Line A
add apole @ to get conduct acr
by Sta 47+00 + 50+50

---

on RW

Streetscape
planting
irrigation
lighting

Title 30. ENVIRONMENTAL QUALITY

Part I. TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Chapter 317. DESIGN CRITERIA FOR SEWERAGE SYSTEMS

§ 317.13 Appendix E--Separation Distances

The following rules apply to separation distances between potable water and wastewater treatment plants, and waterlines and sanitary sewers.

(1) Waterline/new sewer line separation. When new sanitary sewers are installed, they shall be installed no closer to waterlines than nine feet in all directions. Sewers that parallel waterlines must be installed in separate trenches. Where the nine-foot separation distance cannot be achieved, the following guidelines will apply.

(A) Where a sanitary sewer parallels a waterline, the sewer shall be constructed of cast iron, ductile iron, or PVC meeting ASTM specifications with a pressure rating for both the pipe and joints of 150 psi. The vertical separation shall be a minimum of two feet between outside diameters and the horizontal separation shall be a minimum of four feet between outside diameters. The sewer shall be located below the waterline.

(B) Where a sanitary sewer crosses a waterline and the sewer is constructed of cast iron, ductile iron, or PVC with a minimum pressure rating of 150 psi, an absolute minimum distance of six inches between outside diameters shall be maintained. In addition, the sewer shall be located below the waterline where possible and one length of the sewer pipe must be centered on the waterline.

(C) Where a sewer crosses under a waterline and the sewer is constructed of ABS truss pipe, similar semi-rigid plastic composite pipe, clay pipe, or concrete pipe with gasketed joints, a minimum two-foot separation distance shall be maintained. The initial backfill shall be cement stabilized sand (two or more bags of cement per cubic yard of sand) for all sections of sewer within nine feet of the waterline. This initial backfill shall be from one quarter diameter below the centerline of the pipe to one pipe diameter (but not less than 12 inches) above the top of the pipe.

(D) Where a sewer crosses over a waterline, all portions of the sewer within nine feet of the waterline shall be constructed of cast iron, ductile iron, or PVC pipe with a pressure rating of at least 150 psi using appropriate adapters. In lieu of this procedure the new conveyance may be encased in a joint of 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five feet intervals with spacers or be filled to the spring line with washed sand. The encasement pipe should be centered on the crossing and both ends sealed with cement grout or manufactured seal.

(2) Waterline manhole separation. Unless sanitary sewer manholes and the connecting sewer can be made watertight and tested for no leakage, they must be installed so as to provide a minimum of nine feet of horizontal clearance from an existing or proposed waterline. Where the nine-foot separation distance cannot be achieved, a carrier pipe as described in paragraph (1)(D) of this section may be used where appropriate.

Source: The provisions of this § 317.13 adopted to be effective April 16, 1990, 15 TexReg 1801.

Cross Reference: This Section cited in 30 TAC § 317.2, (relating to Sewage Collection System).

Return to Section Index

minimum clearance of four inches below and on each side of all pipes to the trench walls and floor shall be provided. Bedding Classes A, B, or C, as described in ASTM C 12 (ANSI A 106.2), Water Environment Federation (WEF) Manual of Practice (MOP) Number 9 or American Society of Civil Engineers (ASCE) MOP 37 shall be used for all rigid pipes, provided that the proper strength pipe is used with the specified bedding to support the anticipated load(s). Embedment Classes IA, IB, II, or III, as described in ASTM D-2321 (ANSI K65.171) shall be used for all flexible pipes, provided the proper strength pipe is used with the specified bedding to support the anticipated load, except that ASTM D-2680 may be used if the pipe stiffness is 200 psi or greater. Secondary backfill shall be of suitable material removed from excavation except where other material is specified. Debris, large clods or stones greater than six inches in diameter, organic matter, or other unstable materials shall not be used for backfill. Backfill shall be placed in such a manner as not to disturb the alignment of the pipe. Where trenching encounters extensive fracture or fault zones, caves, or solutional modification to the rock strata, construction shall be halted and an engineer shall provide direction to accommodate site conditions. Water line crossings shall be governed by special backfill requirements specified in § 317.13 of this title (relating to Appendix E--Separation Distances).

(6) Site inspections. The executive director shall, on a random basis, perform site inspections.

(7) Protecting public water supply. Water lines and sanitary sewers shall be installed no closer to each other than nine feet between outside diameters. Where this cannot be achieved, the sanitary sewer shall be constructed in accordance with § 317.13 of this title (relating to Appendix E--Separation Distances) and § 290.44(e)(1) of this title (relating to Water Distribution). Separation distances between sanitary sewer systems and water wells, springs, surface water sources, and water storage facilities shall be installed in accordance with the requirements of § § 290.41(c)(1), (d)(1), (e)(1)(C), (e)(3)(A), and § 290.43(b)(3) of this title (relating to Water Sources and Water Storage), as appropriate. Where rules governing separation distance are in conflict, the most strict rule shall apply. No physical connection shall be made between a drinking water supply, public or private, and a sewer or any appurtenance. An air gap of a minimum of 18 inches or two pipe diameters, whichever is greater, shall be maintained between all potable water outlets and the maximum water surface elevation of sewer appurtenances. All appurtenances shall be designed and constructed so as to prevent any possibility of sewage entering the potable water system.

(8) Excluding surface water. Proposals for the construction of combined sewers will not be approved. Roof, street, or other types of drains which will permit entrance of surface water into the sanitary sewer system shall not be acceptable.

(9) Active geologic faults. For systems to be located in areas of known active geologic faults, the design engineer shall locate any faults within the area of the collection system and the system shall be laid out to minimize the number of sewers crossing faults. Where crossings are unavoidable, the engineering report shall specify design features to protect the integrity of the sewer. Consideration should be given to joints providing maximum deflection and to providing manholes on each side of the fault so that a portable pump may be used in the event of sewer failures. Service connections within 50 feet of an active fault should be avoided.

(10) Erosion control. Erosion or sedimentation control that minimizes the effects of runoff shall be provided during the construction phase of a project. This requirement will be reviewed on a case-by-case basis.

(b) Capacities.

(1) Sources. The peak flow of domestic sewage, peak flow of waste from industrial plants, and maximum infiltration rates shall be considered in determining the hydraulic capacity of sanitary sewers.

(2) Existing systems. The design of extensions to sanitary sewers should be based on the data from the existing system. If this is not possible, the design shall be based on data from similar systems or

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HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: MSE Wall #2

May 11, 2005

Dear Ben:

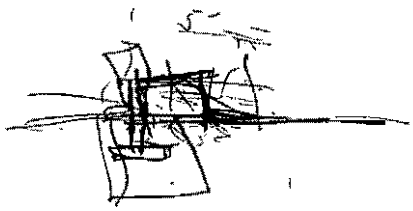
During your installation of the MSE wall #4, it was discover that the leveling pad was not installed to 1 ft below grade at the beginning of the wall station 46+00 to approximately station 46+42. This was discussed at the weekly progress meeting on March 29th. Then on April 12th weekly progress meeting, it was discussed to correct a grade elevation issue with the adjacent property, Archer Western was directed to extend the MSE wall to the limits of the future T-4 railing along the south side of Arapaho Rd.

Therefore, Archer Western Contractors, Ltd. is directed to correct the end of the MSE # 2 retaining wall to met the contract requirements and extend the MSE #2 retaining wall to the limit of the Station 45+00. All work and material is required to conform to the contract specification and will be compensated under the contract bid item 143 – Furnish and place MSE retaining wall TxDOT Item 143.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation
File



email to Steve
negate law suit

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HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: Relocation existing 8"valve and main

May 10, 2005

Dear Ben:

We are in receipt of your letter of May 4, 2005, in regards to "Field Charge for Locating Existing 8"Gate Valve at Comfort Suites – PCO 37". We concur with Archer Western that they were directed to remove the existing driveway pavement to locate an existing 8" valve, but are in disagreement with the claim for reimbursement.

This letter is to inform Archer Western will be compensated for the work under the following bid items:

Bid Item #103 - Full Depth Saw Cut Existing Concrete; the removal of the existing driveway pavement will
Bid item #106 - Remove and Dispose of Existing Driveway
Bid item #112 - Furnish and place 8" thick Reinforced concrete Driveway, 4000psi @ 28 days.

Please contact me, if you have any questions in regarding to this matter.

Thank you,

Guy Van Bauler
HNTB Corporation

Cc: Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation

May 4, 2005

Letter: HNTB -38

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Field Charge for Locating Existing 8" Gate Valve at Comfort Suites - PCO 37

Dear Guy:

Please find the attached field charge for locating the existing 8" gate valve at the Comfort suites. Archer Western was requested to locate an existing 8" Gate Valve at comfort suites in order to shutdown the 8" waterline that is in conflict with retaining wall #4, without shutting the water off to the Comfort Suite Hotel. Archer Western was directed by the Town of Addison to remove the driveway concrete (12' x 25') at comfort suites, in order to see if the valve was under the driveway. In addition to the attached field charge, Bid Item 112 - Furnish and Place 8" thick Reinforced Concrete Driveway will be utilized to pour back approximately 33.33 SY of Driveway.

If you require additional information, please contact Andrew at our field office.

Sincerely,

for Ben Withered
Project Manager

Enclosure

XC: Andrew Schneemann
Don Good
File

Steve Chutchian
Jerry Holder

Archer Western Contractors, LTD.

Town of Addison — CHANGE PROPOSAL SUMMARY

TO:	HNTB	DATE:	May 4, 2005
	5910 W Plano Parkway	PROJECT:	Town of Addison
	Plano, TX 75093	PROJECT NO.:	204059
ATTENTION:	Guy Van Baulen	PCO No.	37

Description: Locate 8" Gate Valve at Comfort Suites

A	TOTAL MATERIAL COST	$ 29.33	
B	TOTAL LABOR COST (Labor & Burden)	$ 445.64	
C	TOTAL EQUIPMENT COST	$ 386.18	
	SUBTOTAL		$861.14
E	SUBCONTRACTOR COST	$ 51.75	
	SUBTOTAL		$51.75
G	TOTAL DIRECT JOB COST		$912.89
H	BOND & INSURANCE AT 2 %		$18.26

TOTAL CHANGE PROPOSAL COST	$931.15
UNIT COST	$931.15
TIME EXTENSION IN DAYS (FOR THIS CHANGE)	

Archer Western — Date

Approval

EQUIPMENT

Town of Addison

May 4, 2005

204059 ITEM OF WORK: **Locate 8" Gate Valve at Comfort Suites**

EQUIPMENT DESCRIPTION	HOURLY RATE*	APPX HRS.	TOTAL
			$ -
FORD F-250 PICKUP	$ 9.16	2	$ 18.32
CAT 430 Backhoe Loader	$ 26.04	4	$ 104.16
CAT 330 Excavator	$ 93.12	2	$ 186.24
Concrete Saw	$ 9.03	3	27.09

SUBTOTAL EQUIPMENT COST	$	335.81
COMPENSATION (SUBTOTAL EQUIPMENT COST AT 15%)	$	50.37
TOTAL EQUIPMENT COST	$	386.18

*

HOURLY RATE=(Contractor's Equipment Cost Guide - Combined Owner & Repair Expenses Monthly Rate / 176)

Work Description:

Pothole for Existing 8" Gate Valve at Comfort Suites

LABOR

Town of Addison

May 4, 2005

204059 ITEM OF WORK: Locate 8" Gate Valve at Comfort Suites

4-May-05

LABOR		HOURLY RATE	APPX HRS.	TOTAL
		$ -		$ -
Andrew Schneemann		$ 41.85	2	$ 83.70
Fernando Gutierrez		$ 29.06	2	$ 58.12
Juan Dominquez		$ 20.93	3	$ 62.79
Adolpho Chavez		$ 15.50	7	$ 108.50
Gustavo Peralta		$ 18.60	4	$ 74.40
		$ -		$ -
		$ -		$ -
		$ -		$ -
		$ -		$ -
		$ -		$ -
			18	

TOTAL BURDENED LABOR COSTS	$	387.51
TOTAL LABOR COSTS EXCLUDING LABOR BURDER AT 15%	$	58.13
TOTAL LABOR COSTS	$	445.64

Work Description:

MATERIAL

Town of Addison

204059

May 4, 2005

ITEM OF WORK: Locate 8" Gate Valve at Comfort Suites

4-May-05

MATERIAL	UNIT	EST. QTY.	UNIT PRICE	TOTAL
Small Tools	Mhrs	17	$1.00	$ 17.00
Safety Supplies	Mhrs	17	$0.50	$ 8.50

MINUS ANY DISCOUNTS ON MATERIAL INVOICES		
SUBTOTAL MATERIAL COST	$	25.50
COMPENSATION (SUBTOTAL MTL. COST AT 15%)	$	3.83
TOTAL MATERIAL COST	$	29.33

Work Description:

Town of Addison

May 4, 2005
ITEM OF WORK: Locate 8" Gate Valve at Comfort Suites

204059

4-May-05

SUBCONTRACT	UNIT	EST. QTY.	UNIT PRICE	TOTAL
				$ -
Trucking Concrete to Big City	LD	1	$45.00	$ 45.00
				$ -

SUBTOTAL SUBCONTRACTOR COST	$	45.00
COMPENSATION (SUBTOTAL SUB COST AT 15%)	$	6.75
TOTAL SUBCONTRACTOR COST	$	51.75
TOTAL COST OF ADDED ITEM		
UNIT PRICE (TOTAL COST DIVIDED BY EST. QTY.)	$	-

Work Description: Relocate Irrigation Line Outside porposed construction at Courtyard Suites

May 4, 2005

Letter: HNTB -39

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Traffic Control Plan for Erection of Span 9 Beams and Arches

Dear Guy:

Archer Western will utilize the traffic control plan on sheets 30A and 30B for the erection of the Span 9 beams and arches.

If you require additional information, please contact Andrew at our field office.

Sincerely,

For Ben Withered
Project Manager

~~Enclosure~~

XC: Andrew Schneemann
Don Good
File

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Arlington, TX 76006

HNTB

Request for Information Response

May 10, 2005

Originator: Andrew Scheermann

RFI Number: R-AW082

Subject: **Retaining Wall RW4 Wall Mounted Luminaries**

Request:
Plan Sheet 157 shows 4 Wall Mounted Luminaries along Retaining Wall RW4. The note on this sheet states that "Cable and conduit shall run in Retaining wall" to provide power to these lights. Since retaining wall RW4 is built with pre-cast panels, the cable and conduit cannot be placed "in" the Wall. Please provide details for the location of this cable and conduit from the pedestrian light pole to these wall mounted luminaries. In addition, the plans do not indicated an elevation for the placement of these lights on the side of RW4. Please provide an elevation or height above sidewalk/finish grade to centerline of light fixture. See attached drawing.

Please expedite the answer and details needed to construct the wall mounted luminaries, as we currently construction this wall.

Response/Action Taken:
Place conduit and junction boxes in T-4 concrete railing similar to the bridge light pole conduit circuits. J-boxes to be placed at the same station point and located 12" below top of concrete rail.

Request wall light type YAMO series by Lumec-Schreder be substituted by Kim Lighting "Wall Director Series" Model # 70HPS240 in platinum silver finish. Substitute 4 each fixtures at retaining wall RW4 and substitute 2 each YAM4 at retaining wall RW3. Install conduit and J-boxes at same points and 12" below bottom of the coping, through the wall panels from behind the retaining wall at RW3.

Please provide the credit differences between the costs of the wall mounted light fixtures for Item 311.

By: Guy Van Baulen, EIT Date: May 10, 2005
HNTB Corporation

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Mike Preston, HNTB Corporation

HNTB Corporation
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HNTB

Request for Information Response

May 6, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW080**

Subject: **Bridge Control Joint**

Request:

Archer Western is proposing to utilize the ZIP CAP control joint former to create the control joints over bents that do not have expansion joints.

Please review the attached product data and installed sketch

Please approve at you earliest convenience.

Response/Action Taken:

As indicated on the contract plans, control joints or construction joint are to be over the inv. tee bent cap as seen on sheet BR-47 to BR-52. In reference to the provided Sketch, this is in conflict with the detail provide on contract sheet BS-7, page 315, which show a 1-1/2" zip strip.

Please provide backup to utilize a 2" strip and any certification that this product meets TXDOT requirements.

By: Guy Van Baulen, EIT — Date: May 6, 2005
HNTB Corporation

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Rene Tullier, HNTB Corporation

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Arlington, TX 76006

HNTB

Request for Information Response

May 3, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW059**

Subject: **Drainage of Mapsco Parking lot**

Request:

Please review the final grading contours from station 54+50 to 55+50

Archer Western has discovered that the drainage contours between the Mapsco Parking lot and Inlet B-8 leave less than 1' of cover over Storm Sewer lines A & B and in some areas less than 4" of cover.

Please review the proposed drainage contours and direct Archer Western whether or not to proceed with the proposed grading.

Response/Action Taken:

Please see attached Sheet with revised grading and change in throat elevation of the Y-inlet for lateral B-8.

If needed an electronic copy of the sheets can be e-mail to Archer Western upon request.

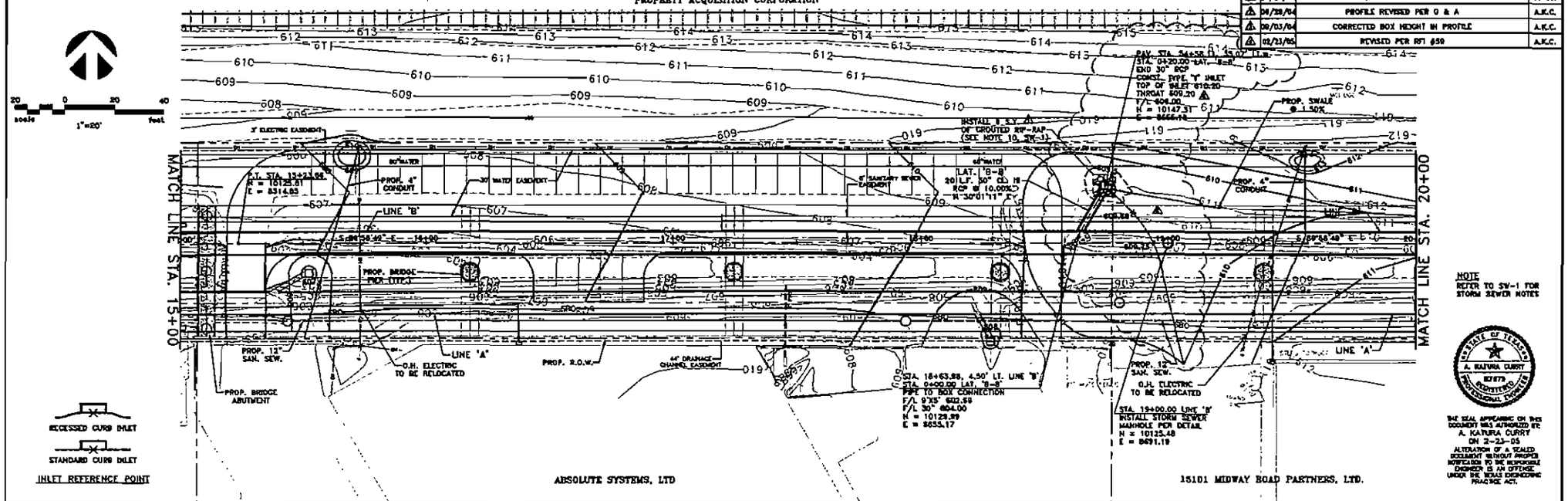
By: Guy Van Baulen, EIT
HNTB Corporation

Date: May 3, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Katura Curry, Grantham Assoc.

DALLAS AREA RAPID TRANSIT
PROPERTY ACQUISITION CORPORATION

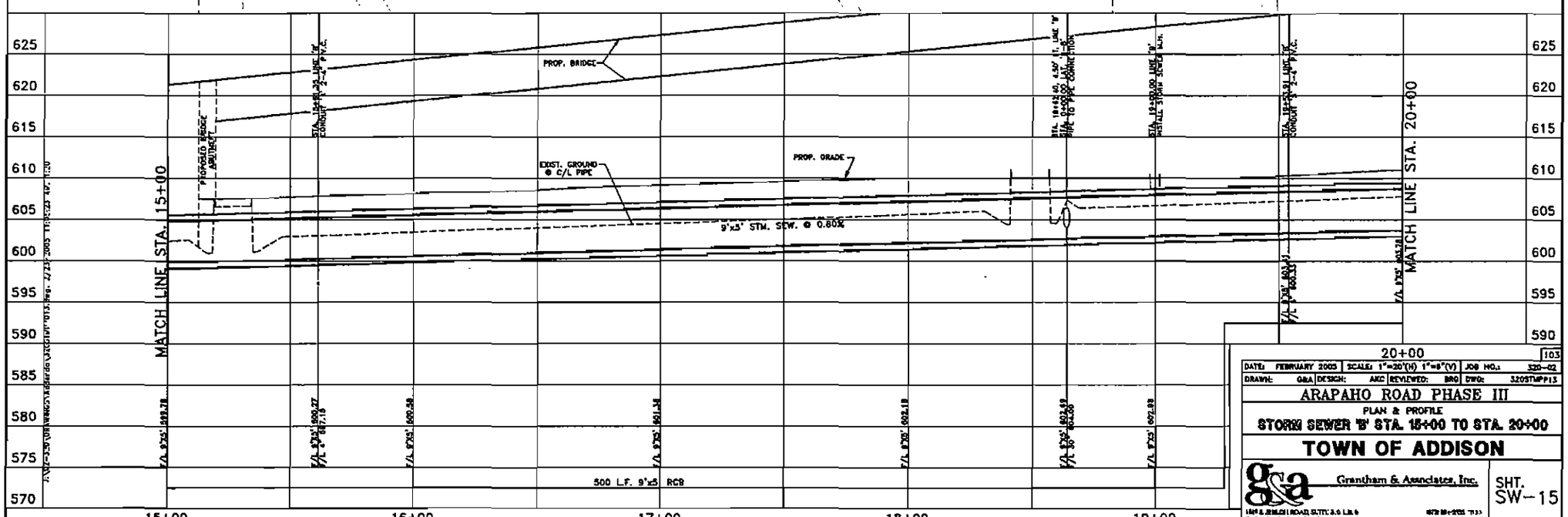
NO.	DATE	REVISION	APPROV.
1	06/28/04	REVISED PER ADDENDA	A.K.C.
2	08/29/04	PROFILE REVISED PER Q & A	A.K.C.
3	09/03/04	CORRECTED BOX HEIGHT IN PROFILE	A.K.C.
4	02/23/05	REVISED PER RFI #50	A.K.C.



NOTE
REFER TO SW-1 FOR STORM SEWER NOTES

STATE OF TEXAS
A. KATURA CURRY
82679
REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY A. KATURA CURRY ON 2-23-05
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.



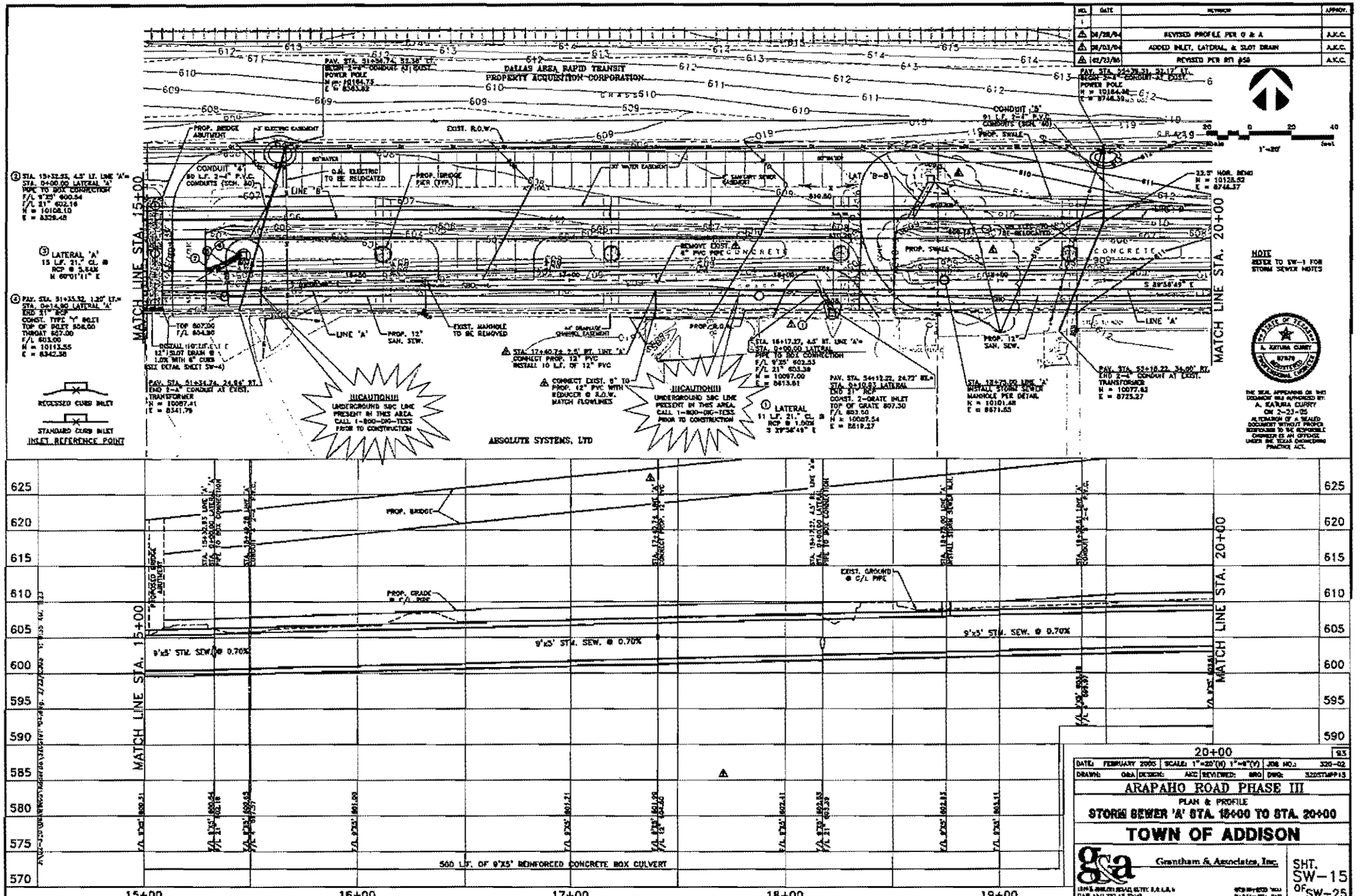
DATE: FEBRUARY 2005	SCALE: 1"=20'(H) 1"=8'(V)	JOB NO.: 320-02
DRAWN: G&A	DESIGN: AKC	REVIEWED: BRG

103

ARAPAHO ROAD PHASE III
PLAN & PROFILE
STORM SEWER 'B' STA. 15+00 TO STA. 20+00
TOWN OF ADDISON

Grantham & Associates, Inc.
1849 E. JENSEN ROAD SUITE 2.0 LB 6
GARLAND, TEXAS 75042

SHT. SW-15



NO.	DATE	REVISION	APPROV.
1			
2	04/28/04	REVISED PROFILE PER Q & A	A.K.C.
3	08/03/04	ADDED INLET, LATERAL, & SLOT DRAIN	A.K.C.
4	02/23/05	REVISED PER RFI #58	A.K.C.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY A. KATURA CURRY ON 2-23-05

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

20+00

DATE: FEBRUARY 2005	SCALE: 1"=20'(H) 1"=8'(V)	JOB NO.: 320-02
DRAWN: GBA	DESIGN: AKC	REVIEWED: BRO	DWG: 320STMP15

ARAPAHO ROAD PHASE III

PLAN & PROFILE

STORM SEWER 'A' STA. 15+00 TO STA. 20+00

TOWN OF ADDISON

Grantham & Associates, Inc.

SHT. SW-15 OF SW-25

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HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: The First and Second Prime Coats of Railings

April 29, 2005

Dear Ben:

Since it's the Towns' position that the railings should be painted to the specifications outlined in the original bid, requiring the railings to be painted with a Primer coat paint that is to be applied in a minimum of two coats to achieve dry film thickness of 3.5 to 10mil.

Town has requested that Archer Western provide two part primer coat system to be applied to the railings. A first primer coat, utilizing a Sherman Williams Zinc Clad II HSB69Series a rate of 3.0mil DFT and a second primer coat using a Epolon II Epoxy Primer, tinted slightly lighter then "Frank Blue" at a rate of 3.0 mil DFT. This primer coat sys tem will work with the request of the Town to provide a Sherman Williams paint appearance coat.

It is the Towns' position that the total rate of applied primer coats falls within the specifications outlined in the original bid and will only recognized any difference in the cost of the primer paint.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation

Sambuca 2800 - fifty gal

~~972 458 0800 - fifty~~

Yolanda

972 458 0800

Build 360 Lakeland

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+ 1900 X4
$8,000 ?
Ped/wall lights

HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: "Frank Blue" Appearance Coat

April 29, 2005

Dear Ben:

Please be advised that in reference to the cost proposal for the painting of the T-4 Railing and Pedestrian Railing, I have been advised by the Town that it is unacceptable in its present form.

It is the Towns' position that the railings should be painted to the specifications outlined in the original bid, which required the railings to be painted with an appearance coat that has a minimum of 2.0 mil dry film thickness. In addition, the Town has requested that Archer Western provide a revised proposal utilizing a Sherman Williams Poly-Lon 1900 Polyester Polyurethane paint which is able to be tinted "Frank Blue". The new proposal is to include only the difference in the cost of the paint. They have advised me that they will not pay for any additional costs associated with the labor for this project, since they believe that it should have already been included in the original bid.

- Value directly under MSE wall
- Confirm (100-200) feet 8" relocated
-

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation

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Arlington, TX 76006

HNTB

Request for Information Response

May 17, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW085**

Subject: **Bridge Approach Slab - Standards**

Request:

Archer Western can not find a detail sheet, in the contract plans for the Bridge Approach Slab.

Please provide the bridge approach slab detail as soon as possible.

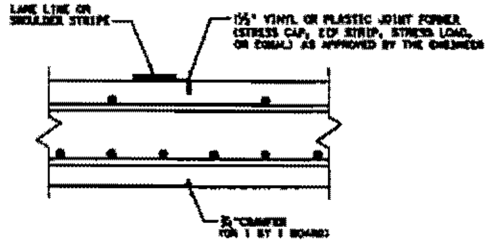
Response/Action Taken:

Attached is the TxDOT BAS-94 standards sheet for the bridge approach slab, which applied at the time these plans were put together.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: May 17, 2005

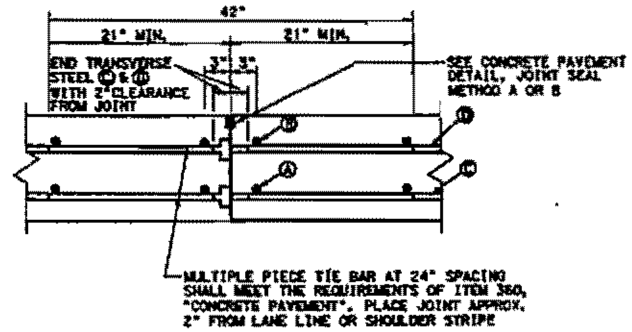
Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Cliff R. Hall, URS Corporation



CONTROLLED LONGITUDINAL JOINT DETAIL

THE TOP JOINT MAY BE SAWED PROVIDED A LIGHT WEIGHT SAW IS USED WITHIN 8 HOURS OF PLACEMENT. A DRY SAWING OPERATION SHALL BE USED. THE SAW CUT SHALL BE LESS THAN ⅜" WIDE.

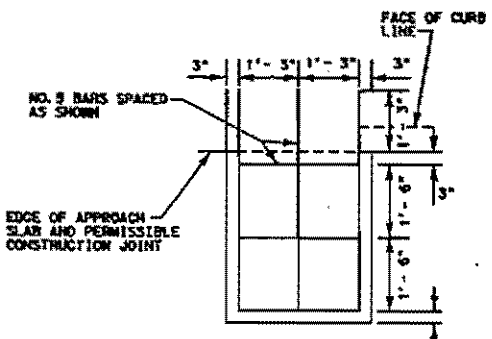
THE CHAMFER SHALL BE PLACED TO BE APPROXIMATELY MIDWAY BETWEEN THE LONGITUDINAL BOTTOM-STEEL. A REFERENCE LINE SHALL BE ESTABLISHED TO INSURE THAT THE INSERT OR SAW CUT IS DIRECTLY ABOVE THE CHAMFER. MINOR ADJUSTMENT IN THE A AND B BARS SPACINGS MAY BE REQUIRED TO INSURE THAT THE JOINT WILL BE APPROXIMATELY 2" FROM THE LANE LINE AND NOT ABOVE A REINFORCING BAR.



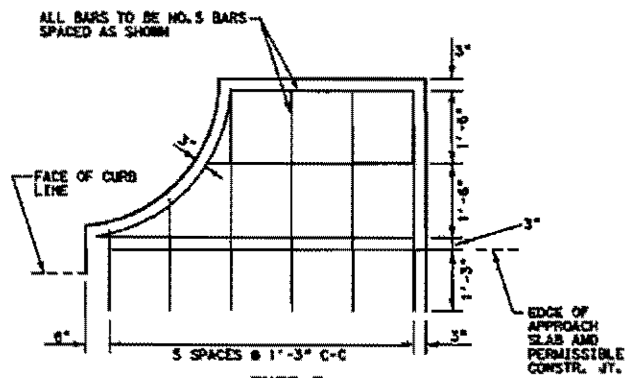
LONGITUDINAL CONSTRUCTION JOINT DETAIL

GENERAL NOTES

1. TIEBARS AT CONSTRUCTION JOINTS SHALL MEET THE REQUIREMENTS OF ITEM 360, "CONCRETE PAVEMENT."
2. IF A CURB IS USED ON THE STRUCTURE, A CURB WITH HEIGHT AND INSIDE FACE MATCHING THE STRUCTURE CURB SHALL BE USED ON THE APPROACH SLAB. THE CURB SHOULD TAPER TO A TWO INCH HEIGHT AND BE TERMINATED AT THE END OF THE SLAB OR AT THE DRAINAGE GUTTER, IF A DRAINAGE GUTTER IS USED.
3. DETAILS AND QUANTITIES FOR CURB ARE TO BE AS SHOWN ELSEWHERE IN THE PLANS.
4. TYPE I GUTTER SHOULD BE USED IN LIEU OF TYPE II GUTTER WHEN SPACE PERMITS.
5. WHEN STAGE CONSTRUCTION IS USED TO BUILD A PORTION OF A BRIDGE, THE LONGITUDINAL CONSTRUCTION JOINTS OF THE APPROACH SLAB SHALL ALIGN WITH THE LONGITUDINAL CONSTRUCTION JOINTS OF OF THE BRIDGE STRUCTURE.
6. ALL REINFORCEMENT STEEL ON THIS STANDARD SHEET SHALL BE NUMBER 5 (#5) BARS.

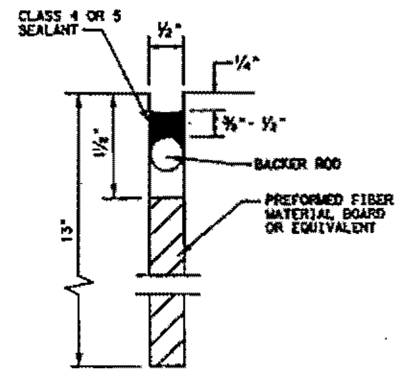


TYPE II



TYPE I

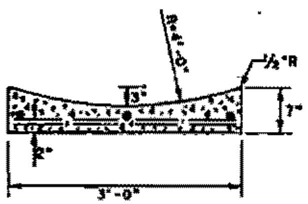
REINFORCING LAYOUT FOR GUTTER



EXPANSION JOINT

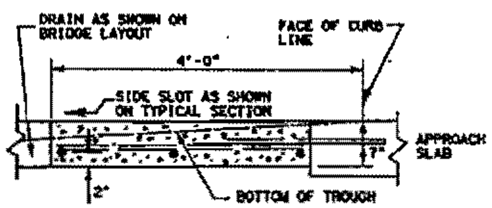
BETWEEN SLAB AND WINGWALL

PLACE IN ACCORDANCE WITH ITEM 438 "CLEANING AND/OR SEALING JOINTS AND CRACKS".

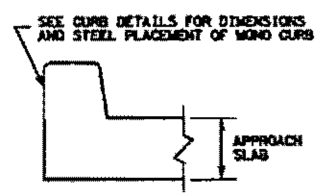


SECTION AT ①-①

TYPES I & II GUTTER



SECTION AT ②-②



SECTION AT ③-③

SHOWING MONO CURB

Texas Department of Transportation

Design Division (Foreword)

BRIDGE APPROACH SLAB

FOR USE WITH ASPHALT AND CONCRETE PAVEMENTS NORMAL OR SKEW

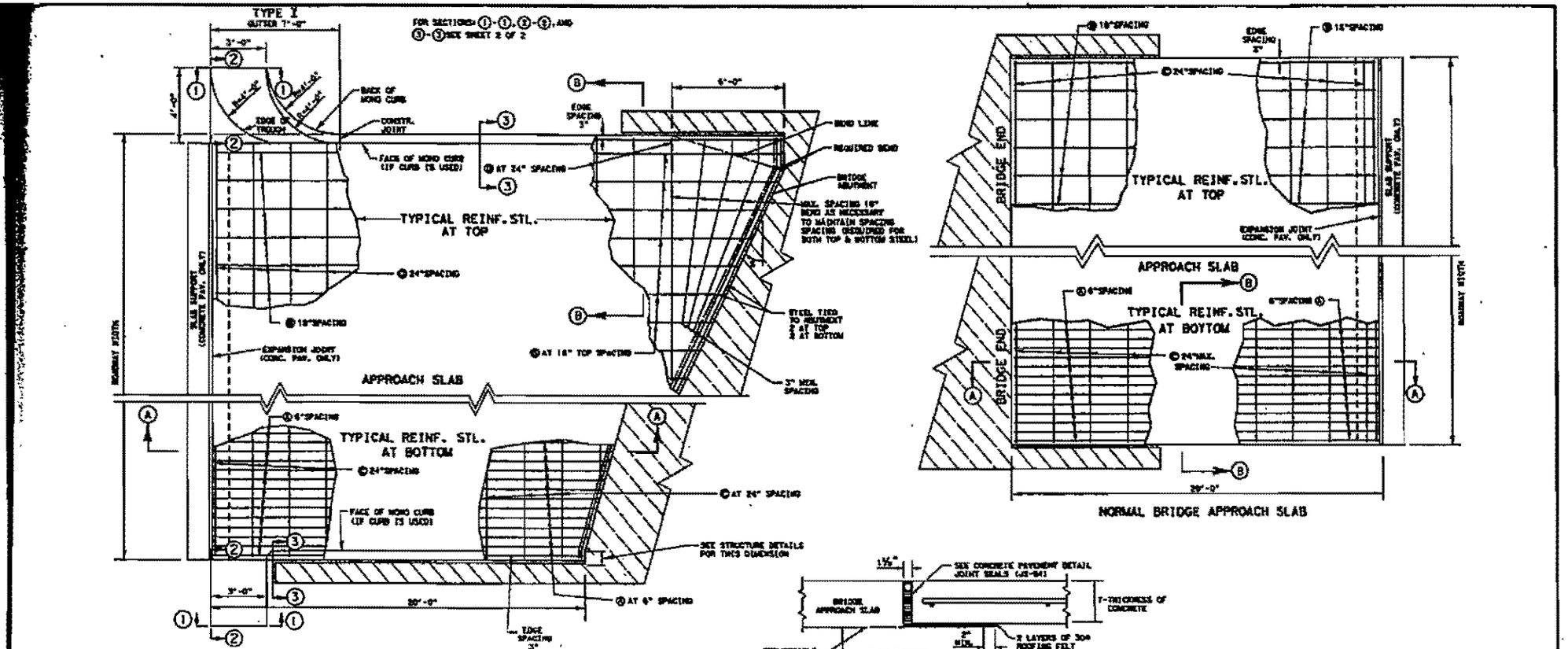
BAS-94

SHEET 2 OF 2

©TXDOT SEPTEMBER 1994

6

130



GENERAL NOTES:

1. THE APPROACH SLAB SHALL HAVE THE SAME TRANSVERSE CROWN THROUGHOUT ITS LENGTH AS THE STRUCTURE WHICH IT ADJOINS.
2. ALL REINFORCEMENT BARS ON THIS STANDARD SHALL BE NUMBER 5 BARS. REINFORCING STEEL SHALL CONFORM TO ASTM DESIGNATION A-615, GRADE 60 OR A-616, GRADE 60. WHERE BENDING OF THE STEEL IS REQUIRED A-615, GRADE 60 SHALL BE USED.
3. ADDITIONAL DETAILS FOR POSSIBLE CURB AND GUTTER AND LONGITUDINAL JOINTS ARE SHOWN ON SHEET 2 OF 2 OF THIS STANDARD DRAWING.

FOR THE CONTRACTOR INFORMATION QUANTITIES WERE CALCULATED USING THE FOLLOWING :

DEFINITION OF TERMS

W = THE WIDTH OF THE SLAB IN FEET
S = ANGLE OF SKEW IN DEGREES
A_{bas} = AREA OF BRIDGE APPROACH SLAB (S.Y.)

$$A_{bas} = \frac{20W + \frac{W^2 \tan S}{2}}{9}$$

TABLE FOR STEEL QUANTITIES
STEEL POUNDS
38.0/S.Y. OF BAS
9.5/FT. OF SUPPORT SLAB

Texas Department of Transportation
Design Division (Pavement)

BRIDGE APPROACH SLAB

FOR USE WITH ASPHALT AND CONCRETE PAVEMENTS NORMAL OR SKEW

BAS-94

SHEET 1 OF 2

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

May 16, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW084**

Subject: **Trough Drainage Grades**

Request:
Please Reference RFI 44 and Plan Sheet 201 & 219

Archer Western requires additional information to construct the trench drains. Please answer the following:

1. What is the minimum slope allowed for the 4" trough drains and sub-drain?
2. The detail on sheet 219, shows the depth of the trough to be 12in. Is this depth to increase to maintain positive drainage?
3. Please provide flowline elevations for the trough and sub-drains.

Please provide the answers to these questions at your earliest convenience.

Response/Action Taken:

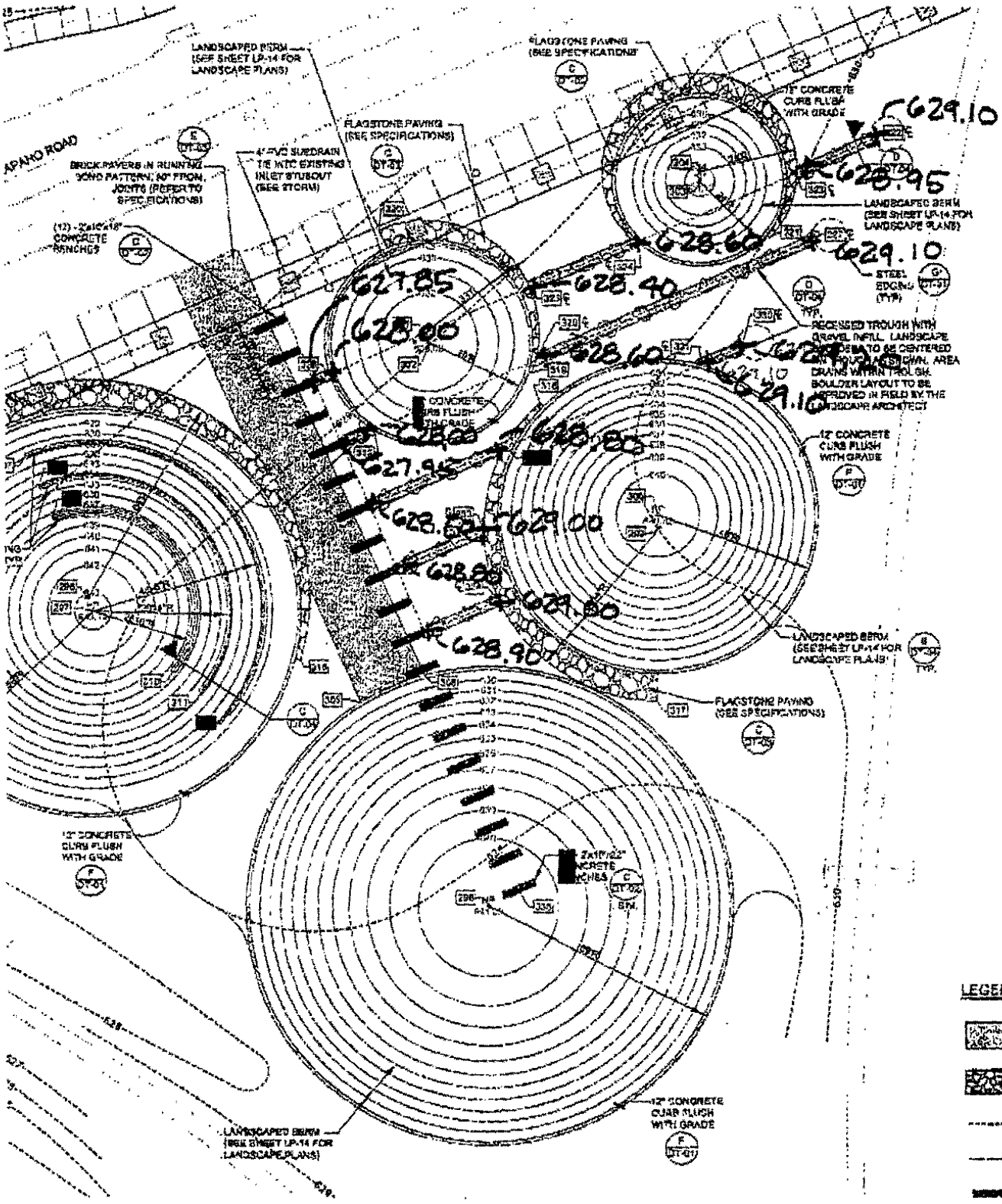
Please find the answers to your question below:

1. The 4" trough drains and 4" sub-drain shall be installed with a Minimum of ½% slope.
2. Yes, the depth shall increase to maintain positive drainage.
3. See Attached Sketch.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: May 16, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Mike Preston, HNTB Corporation



LEGEND:

304 N 10515.08 E 11481.45	308 N 10513.45 E 11275.34	316 N 10371.56 E 11214.88	318 N 10418.37 E 11413.20	324 N 10454.47 E 11443.64	329 N 10439.61 E 11307.80	334 N 10388.89 E 11404.18
305 N 10389.88 E 11284.37	312 N 10388.75 E 11310.10	315 N 10448.86 E 11289.81	320 N 10497.97 E 11338.36	328 N 10480.97 E 11412.81	332 N 10463.91 E 11473.89	335 N 10334.21 E 11419.47
306 N 10387.88 E 11358.89	311 N 10382.43 E 11317.67	319 N 10373.16 E 11348.84	321 N 10495.81 E 11431.38	322 N 10455.77 E 11358.03	331 N 10458.81 E 11481.45	
307 N 10431.77 E 11267.35	313 N 10396.23 E 11326.84	317 N 10380.15 E 11408.08	323 N 10534.38 E 11511.95	327 N 10495.13 E 11499.80	333 N 10454.49 E 11408.09	
309 N 10422.61 E 11271.33	314 N 10348.41 E 11163.82	326 N 10447.48 E 11415.82	325 N 10514.50 E 11459.14	330 N 10488.08 E 11414.84	336 N 10405.75 E 11399.73	

LEGEND:

- BRICK PA RUNNIN (SEE SPI
- STONE (SEE S
- EXPAN
- CONTI
- 2x16' CONC
- 2x16' CONC
- 2x16
- EXT
- 500 PRE

URS

May 11, 2005

Mr. Steven Z. Chutchian, P.E.
Assistant City Engineer
16801 Westgrove Drive
Addison, TX 75001

Re: **Arapaho Road Bridge at Midway Road**
Arch Span Erection Sequence

Dear Mr. Chutchian:

We have recently received the "Arch and Beam Erection Plan Span # 9" and have performed a cursory review. It should be noted that the erection plan only covers the erection of the falsework, beams and arch and neglects the stressing of the hanger strands and the impact that the Contractor's means and methods will have on the final structure. In addition, this erection plan proposes a different method for the construction sequence of the arch span from what was assumed during design. Without a complete erection analysis of the structure, the impact of this change cannot be assessed.

Please be advised that the Contractor is to provide a detailed erection sequence plan for the arch span and hanger stressing as a requirement of the construction plans and specifications. As stated above, we do not believe what was submitted by the Contractor is adequate for this deliverable. It is critical to the successful construction of the arch that the Contractor prepare this detailed erection sequence for approval before erection of the arch commences.

To assist the Town of Addison, we have provided below the requirements as stated in the construction plans and specifications.

Per drawing BR-37, "Main Span Erection Sequence", Erection Note 1:

> The information shown on the erection sequence drawings conveys the assumptions made by the Designer in designing the structure. All information shown is for the Contractor's information only, and the Contractor is responsible for selecting the means and methods used to construct the structure. The Contractor shall submit for review and approval to the Engineer, calculations of the influence of his erection sequence, loads and details on the structure, in accordance with the project specifications. These documents shall be signed and sealed by a professional engineer of the State of Texas.

Project specification Section SSH, "Steel Structural Hangers", Item SSH.2 (3) (b) states in part:

> Drawings and narrative shall be submitted which describe the erection sequence, the maximum allowable stress on each hanger, and the means by which the Contractor will assure that the maximum allowable stress is not exceeded.

URS Corporation
Graystone Centre
3010 LBJ Freeway, Suite 1300
Dallas, TX 75234
Tel: 972.406.6950
Fax: 972.406.6951

URS

Project Specification Section BC, "Bridge Construction" references TxDOT Standard Specification, 1993. TxDOT Specification Item 441, "Steel Structures", 441.3(2) "Erection Drawings" also outlines requirements of the Contractor for erection drawings.

Sincerely,

URS Corporation

Cliff R. Hall, P.E.
Vice President
Project Manager

URS

June 2, 2005

Mr. Steven Z. Chutchian, P.E.
Assistant City Engineer
16801 Westgrove Drive
Addison, TX 75001

Re: **Arapaho Road Bridge at Midway Road**
Revised Detail for U-Beam Splice, Span 9

Dear Mr. Chutchian:

As requested we are writing this letter to provide an explanation of the events that created a redesign of the detail used to splice the U-Beams in Span 9 of the Arapaho Road Bridge. We have attached copies of the e-mail correspondence received and sent by URS from the period of Nov 24, 2004 through Dec 21, 2004 when revised drawings were issued. It is and always has been our contention that the original detail is constructable and that the redesign was at the request of the contractor to accommodate his desire for a detail that he could construct easier.

During design, we understood that the contractor would h FILE forcement between beam-ends aligned correctly. To accomplish this, we had [illegible] fabricator would fabricate the beams end-to-end in the same casting bed with the splice bars protruding from one beam end and running continuously into the other beam end. During fabrication, the protruding splice bars would either be connected with couplers, or the bars would be cast as one piece and then cut and threaded after form removal. During erection, we envisioned that the contractor would need to set one beam on the bent and shore tower and place the couplers (we recommended Lenton P8 couplers) on the protruding reinforcement. Then he would lift the other beam and set it so the splice bars aligned with the couplers. We would expect that the contractor would need to use guides and either rolling or sliding bearings to get the beam into the proper alignment. Once in the proper alignment the contractor would then engage the coupler onto the reinforcement.

During discussions with the contractor and your consultant regarding the construction of this detail, the contractor requested a welded rebar splice in lieu of the coupler detail. We then provided a welded splice detail for review and received comments from the contractor. We were then instructed to revise the construction drawings for this detail incorporating the contractor's comments.

Sincerely,

URS Corporation

Cliff R. Hall, P.E.
Vice President
Project Manager

Enclosures

URS Corporation
Graystone Centre
3010 LBJ Freeway, Suite 1300
Dallas, TX 75234
Tel: 972.406.6950
Fax: 972.406.6951

"Daniel Filer"
<DFiler@hntb.com>

11/24/2004 01:58 PM

To: <Cliff_Hall@urscorp.com>
cc: "Jerry Holder" <JHolder@hntb.com>, "Guy Van-Baulen" <GVANBAULEN@hntb.com>
Subject: FW: RFI 38

Cliff, this issue has come about because the couplers are too long to fit between the beams. I originally tried to have Texas Concrete sign off on this, but they would not. So, we need you to verify that these adjustments at the ends of the beams are allowed. This is a pressing issue, so if you can answer this quickly, it would be helpful. Call me if you have any questions about it.

Daniel
-----Original Message-----
From: Schneemann, Andrew [mailto:aschneemann@walshgroup.com]
Sent: Tuesday, November 23, 2004 4:39 PM
To: Daniel Filer; Guy Van-Baulen
Subject: RFI 38

I need an answer ASAP

Thanks

Andrew Schneemann
Archer Western Contractors, Ltd.
W-(972) 361-0062
F-(972) 361-0063
M-(817) 822-7207

Arapaho Road P3 - RFI 38.pdf

REQUEST FOR INFORMATION

PROJECT No. Arapaho Phase III

RFI # 38

Date : November 23, 2004

Submitted To	Submitted By
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen	Archer Western Contractors, Ltd. Andrew Schneemann

Subject	Discipline	Co-Author	Copies To
U-Beam modifications to allow for Rebar Couplers	Civil		

Cost Impact	Amount	Schedule Impact	Days	Drawing Impact
Unknown	Unknown	Unknown	Unknown	Unknown

Information Requested

Please reference the attached Unit 4 U-Beam Shop Drewings.

Archer Western and Texas Concrete, the U-Beam Precaster, need to modify the reinforcement in the splice end of beams 1b,2b,3b,& 4b for unit 4. The reinforcement needs to be modified to allow room for the rebar splica couplers. The following bars where modified:

Bars V, W and DS were at 1 3/4" and were set back to 6".
Bars Y were et 3 1/2" and were set back to 11 1/2".
Bars R wera at 3" and wera set back to 11".
These adjustments were needed in order to avoid conflict with the couplers required at the coupler connection as required by the contract plans.

We are utilizing are Dayton Superior Bar locks rebar couplers.

Please approve the attached changes at your earliest convenience.

Response

"Daniel Filer" <DFiler@hntb.com>
11/29/2004 11:05 AM

To: <Cliff_Hall@urscorp.com>
cc:
Subject: RE: FW: RFI 38

worst case scenario i will bring or have couriered a copy of the shop dwg's

-----Original Message-----
From: Cliff_Hall@URSCorp.com [mailto:Cliff_Hall@URSCorp.com]
Sent: Mon 11/29/2004 10:34 AM
To: Daniel Filer
Cc: Guy Van-Baulen; Jerry Holder
Subject: Re: FW: RFI 38

Can you send (scan, fax, etc.) me a copy of the shop drawing?

Is the only change the distance from the end of beam to these bars?

Cliff R. Hall, PE
Engineering Unit Manager
URS Corporation
Graystone Centre•
3010 LBJ Freeway, Suite 1300
Dallas, TX 75234
Office Tel: 972.406.6950
Direct: 972.406.6976
Fax: 972.406.6951

"Daniel Filer" <DFiler@hntb.com>
11/24/2004 01:58 PM

To: <Cliff_Hall@urscorp.com>
cc: "Jerry Holder" <JHolder@hntb.com>, "Guy Van-Baulen" <GVANBAULEN@hntb.com>
Subject: FW: RFI 38

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Daniel
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From: Schneemann, Andrew [mailto:aschneemann@walshgroup.com]
Sent: Tuesday, November 23, 2004 4:39 PM
To: Daniel Filer; Guy Van-Baulen
Subject: RFI 38

I need an answer ASAP

Thanks

Andrew Schneemann
Archer Western Contractors, Ltd.
W-(972) 361-0062
F-(972) 361-0063
M-(817) 822-7207

(See attached file: Arapaho Road P3 - RFI 38.pdf)

Cliff Hall
11/29/2004 05:48 PM

To: "Daniel Filer" <DFiler@hntb.com>
cc: "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>
Subject: Re: FW: RFI 38

If we understand this RFI correctly, the contractor is proposing to move the end block reinforcement away from the end of the beam and provide block-outs for couplers. We cannot accept this change.

Cliff R. Hall, PE
Engineering Unit Manager
URS Corporation
Graystone Centre
3010 LBJ Freeway, Suite 1300
Dallas, TX 75234
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Direct: 972.406.6976
Fax: 972.406.6951
"Daniel Filer" <DFiler@hntb.com>

"Daniel Filer"
<DFiler@hntb.com>
11/24/2004 01:58 PM

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addressed. If you are NOT the intended recipient or the person responsible for delivering the e-mail to the intended recipient, be advised that you have received this e-mail in error and that any use, dissemination, forwarding, printing, or copying of this e-mail is strictly prohibited.

Arapaho Road P3 - RFI 38.p

"Daniel Filer"
<DFiler@hntb.com>
11/29/2004 06:33 PM

To: <Cliff_Hall@urscorp.com>
cc: "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>, <aschneemann@walshgroup.com>
Subject: RE: FW: RFI 38

Cliff, I believe you are understanding the change correctly. With that being the case, we must now ask that you provide a coupler that meets allowable spec's that can fit between the ends of the beams. The contractor tried to avoid this entire situation by finding a coupler that would fit, but was unable to do so. If a coupler cannot be found to fit, you will have to advise on the constructability of the beams to accomodate any alternatives since you do not accept their proposed alternative. You can reach me on my cell at 214-868-6412 if you wish to discuss this. Also, if you feel a conference call or meeting is necessary, let me know and I will arrange.

thanks,
Daniel

-----Original Message-----
From: Cliff_Hall@URSCorp.com [mailto:Cliff_Hall@URSCorp.com]
Sent: Mon 11/29/2004 5:48 PM
To: Daniel Filer
Cc: Guy Van-Baulen; Jerry Holder
Subject: Re: FW: RFI 38

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(See attached file: Arapaho Road P3 - RFI 38.pdf)

Cliff Hall
11/30/2004 10:47 AM

To: "Daniel Filer" <DFiler@hntb.com>
cc: aschneemann@walshgroup.com, "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>
Subject: RE: FW: RFI 38

Please see the following website:

http://www.erico.com/products/LentonPosition.asp#p9

Cliff R. Hall, PE
Engineering Unit Manager
URS Corporation
Graystone Centre
3010 LBJ Freeway, Suite 1300
Dallas, TX 75234
Office Tel: 972.406.6950
Direct: 972.406.6976
Fax: 972.406.6951
"Daniel Filer" <DFiler@hntb.com>

"Daniel Filer"
<DFiler@hntb.com>
11/29/2004 06:33 PM

To: <Cliff_Hall@urscorp.com>
cc: "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>, <aschneemann@walshgroup.com>
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Cc: Guy Van-Baulen; Jerry Holder
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Engineering Unit Manager

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"Daniel Filer" <DFiler@hntb.com> 11/24/2004 01:58 PM

To: <Cliff_Hall@urscorp.com>
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Daniel

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To: Daniel Filer; Guy Van-Baulen
Subject: RFI 38

I need an answer ASAP

Thanks

Andrew Schneemann
Archer Western Contractors, Ltd.
W-(972) 361-0062
F-(972) 361-0063
M-(817) 822-7207

(See attached file: Arapaho Road P3 - RFI 38.pdf)

"Schneemann, Andrew" <aschneemann@walshgroup.com>

12/01/2004 05:57 PM

To: <Cliff_Hall@urscorp.com>, "Daniel Filer" <DFiler@hntb.com>
cc: "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>
Subject: RE: FW: RFI 38

Cliff

Here is the Lenton P9 & P8 coupler Installation guide

Andrew Schneemann
Archer Western Contractors, Ltd.
W-(972) 361-0062
F-(972) 361-0063
M-(817) 822-7207

-----Original Message-----
From: Cliff_Hall@URSCorp.com [mailto:Cliff_Hall@URSCorp.com]
Sent: Tuesday, November 30, 2004 10:47 AM
To: Daniel Filer
Cc: Schneemann, Andrew; Guy Van-Baulen; Jerry Holder
Subject: RE: FW: RFI 38

Please see the following website:

http://www.erico.com/products/LentonPosition.asp#p9

Cliff R. Hall, PE
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To: <Cliff_Hall@urscorp.com>
cc: "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>, <aschneemann@walshgroup.com>
Subject: RE: FW: RFI 38

Cliff, I believe you are understanding the change correctly. With that being the case, we must now ask that you provide a coupler that meets allowable spec's that can fit between the ends of the beams. The contractor tried to avoid this entire situation by finding a coupler that
would fit, but was unable to do so. If a coupler cannot be found to fit,
you will have to advise on the constructability of the beams to accomodate
any alternatives since you do not accept their proposed alternative. You
can reach me on my cell at 214-868-6412 if you wish to discuss this. Also,
if you feel a conference call or meeting is necessary, let me know and I will arrange.

thanks,
Daniel

-----Original Message-----
From: Cliff_Hall@URSCorp.com [mailto:Cliff_Hall@URSCorp.com]
Sent: Mon 11/29/2004 5:48 PM
To: Daniel Filer
Cc: Guy Van-Baulen; Jerry Holder
Subject: Re: FW: RFI 38

If we understand this RFI correctly, the contractor is proposing to
move
the end block reinforcement away from the end of the beam and provide

block-outs for couplers. We cannot accept this change.

Cliff R. Hall, PE
Engineering Unit Manager
URS Corporation
Graystone Centre
3010 LBJ Freeway, Suite 1300
Dallas, TX 75234
Office Tel: 972.406.6950
Direct: 972.406.6976
Fax: 972.406.6951

"Daniel Filer"
<DFiler@hntb.com>
11/24/2004 01:58 PM

To: <Cliff_Hall@urscorp.com>
cc: "Jerry Holder" <JHolder@hntb.com>, "Guy Van-Baulen" <GVANBAULEN@hntb.com>
Subject: FW: RFI

Cliff, this issue has come about because the couplers are too long to fit between the beams. I originally tried to have Texas Concrete sign off on this, but they would not. So, we need you to verify that these adjustments at the ends of the beams are allowed. This is a pressing issue, so if you can answer this quickly, it would be helpful. Call me if you have any questions about it.

Daniel

-----Original Message-----
From: Schneemann, Andrew [mailto:aschneemann@walshgroup.com]
Sent: Tuesday, November 23, 2004 4:39 PM
To: Daniel Filer; Guy Van-Baulen
Subject: RFI 38

I need an answer ASAP

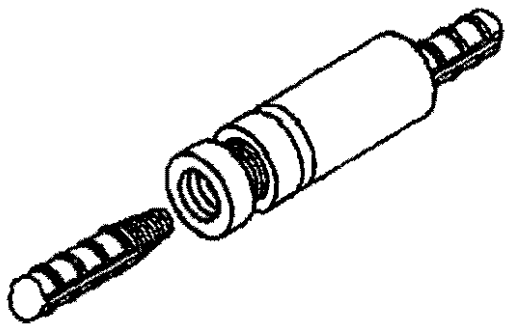
Thanks

Andrew Schneemann
Archer Western Contractors, Ltd.
W-(972) 361-0062
F-(972) 361-0063
M-(817) 822-7207

you
have received this e-mail in error and that any use, dissemination,
forwarding, printing, or copying of this e-mail is strictly prohibited.
(See attached file: Arapaho Road P3 - RFI 38.pdf)

lenton p8&p9 couplers.tif

INSTALLATION INSTRUCTIONS FOR LENTON® P8 - P9 POSITION COUPLERS



INSTALLATION

STEP 1 - Remove bar end protector (if present). Visually inspect threaded end making sure threads are undamaged and free of concrete, rust, or other contaminants. The use of a wire brush may be required.

STEP 2 - Inspect part number on coupler to make sure it's the correct size for bars being spliced (see chart below). Insert the coupler onto the bar and rotate clockwise until hand tight (approx. 4 - 4 1/2 turns).

STEP 3 - Using a standard pipe wrench, securely tighten the coupler to the matching taper threaded rebar. *

STEP 4 - Refer to STEP 1 for bar cleanliness. Insert second bar into the coupler.

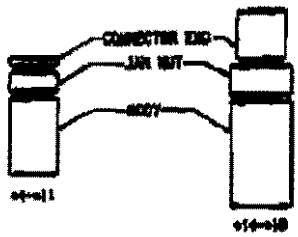
STEP 5 - While holding the "upper bar", using a standard pipe wrench rotate the connector end of the coupler in a counter-clockwise direction to securely tighten the assembly. *

STEP 6 - Using a standard pipe wrench, securely tighten the jam nut against the body. *

STEP 7 - Verify that limiting groove is not visible (see below).

Safety Instructions: All safety regulations required by the jobsite must be observed. Special attention should be given to the following instructions:

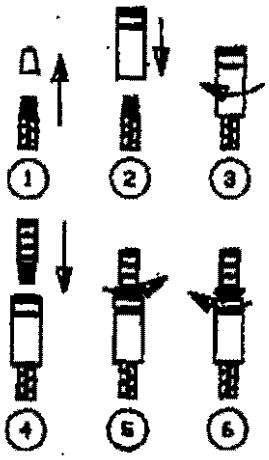
1. Observe all Federal and Local safety regulations.
2. Wear a hard hat.
3. Wear gloves to avoid splinters and cuts.
4. Wear safety glasses at all times.
5. Be aware of personnel working above, below, and around.

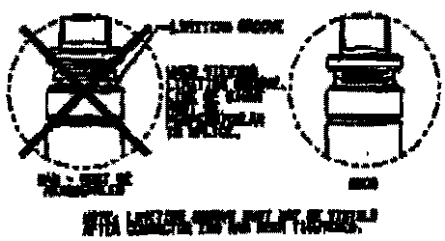


NOTE: When inspecting the Transition Position Coupler, use the appropriate wrench setting for the bar sizes being used.

BAR SIZE	PART NUMBER	DIMENSION
#3		
#4		
#5		
#6		
#7		
#8		
#9		
#10		
#11		
#14		
#18		

* The LENTON Inspection Wrench may be used by an inspector to periodically check tightness (see chart).





PDF051D

Cliff Hall
12/02/2004 09:47 AM

To: "Schneemann, Andrew" <aschneemann@walshgroup.com>
cc: "Daniel Filer" <DFiler@hntb.com>, "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>
Subject: RE: FW: RFI 38

Andrew,

From the web site, the P8 is the coupler that would be used when axial movement is restricted (i.e. can't put the bar into the coupler). This coupler extends to engage the second bar. We are still looking at welding and will advise later; however, we still believe that you can acheive this connection with the P8 coupler.

Applications

Designed to splice two curved, bent, or straight bars, when neither bar can be rotated

- **P8 & P13** - designed to splice bars where the ongoing bar is restricted in its axial movement or can not be rotated and length adjustability of the coupler is required.

Cliff R. Hall, PE
Engineering Unit Manager
URS Corporation
Graystone Centre
3010 LBJ Freeway, Suite 1300
Dallas, TX 75234
Office Tel: 972.406.6950
Direct: 972.406.6976
Fax: 972.406.6951
"Schneemann, Andrew" <aschneemann@walshgroup.com>

"Schneemann, Andrew" <aschneemann@walshgroup.com>
12/01/2004 05:57 PM

To: <Cliff_Hall@urscorp.com>, "Daniel Filer" <DFiler@hntb.com>
cc: "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>
Subject: RE: FW: RFI 38

Cliff

Here is the Lenton P9 & P8 coupler Installation guide

Andrew Schneemann
Archer Western Contractors, Ltd.
W-(972) 361-0062
F-(972) 361-0063
M-(817) 822-7207
-----Original Message-----
From: Cliff_Hall@URSCorp.com [mailto:Cliff_Hall@URSCorp.com]
Sent: Tuesday, November 30, 2004 10:47 AM

To: Daniel Filer
Cc: Schneemann, Andrew; Guy Van-Baulen; Jerry Holder
Subject: RE: FW: RFI 38

Please see the following website:

http://www.erico.com/products/LentonPosition.asp#p9

Cliff R. Hall, PE
Engineering Unit Manager
URS Corporation
Graystone Centre
3010 LBJ Freeway, Suite 1300
Dallas, TX 75234
Office Tel: 972.406.6950
Direct: 972.406.6976
Fax: 972.406.6951

"Daniel Filer"
<DFiler@hntb.com>
11/29/2004 06:33 PM

To: <Cliff_Hall@urscorp.com>
cc: "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>, <aschneemann@walshgroup.com>
Subject: RE: FW: RFI 38

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Sent: Mon 11/29/2004 5:48 PM

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Cc: Guy Van-Baulen; Jerry Holder
Subject: Re: FW: RFI 38

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"Daniel Filer" <DFiler@hntb.com> 11/24/2004 01:58 PM

To: <Cliff_Hall@urscorp.com>
cc: "Jerry Holder" <JHolder@hntb.com>, "Guy Van-Baulen" <GVANBAULEN@hntb.com>
Subject: FW: RFI 38

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Sent: Tuesday, November 23, 2004 4:39 PM
To: Daniel Filer; Guy Van-Baulen
Subject: RFI 38

I need an answer ASAP

Thanks

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Archer Western Contractors, Ltd.
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F-(972) 361-0063
M-(817) 822-7207

(See attached file: Arapaho Road P3 - RFI 38.pdf)

URS

Cliff Hall
12/03/2004 01:25 PM

To: "Schneemann, Andrew" <aschneemann@walshgroup.com>
cc: "Daniel Filer" <DFiler@hntb.com>, "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>
Subject: RE: FW: RFI 38

Andrew,

We have reviewed the possibility of using a welded splice detail as you requested to replace the mechanical couplers. We have attached sketches of a preliminary detail that could work. We are still finalizing this and would appreciate any comments you may have. Note that the number, size and location of rebar for this detail has changed and all rebar to be spliced will need to be ASTM A706 Grade 60 weldable.

Arap1.pdf Arap2.pdf Arap3.pdf Arap4.pdf

Cliff R. Hall, PE
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3010 LBJ Freeway, Suite 1300
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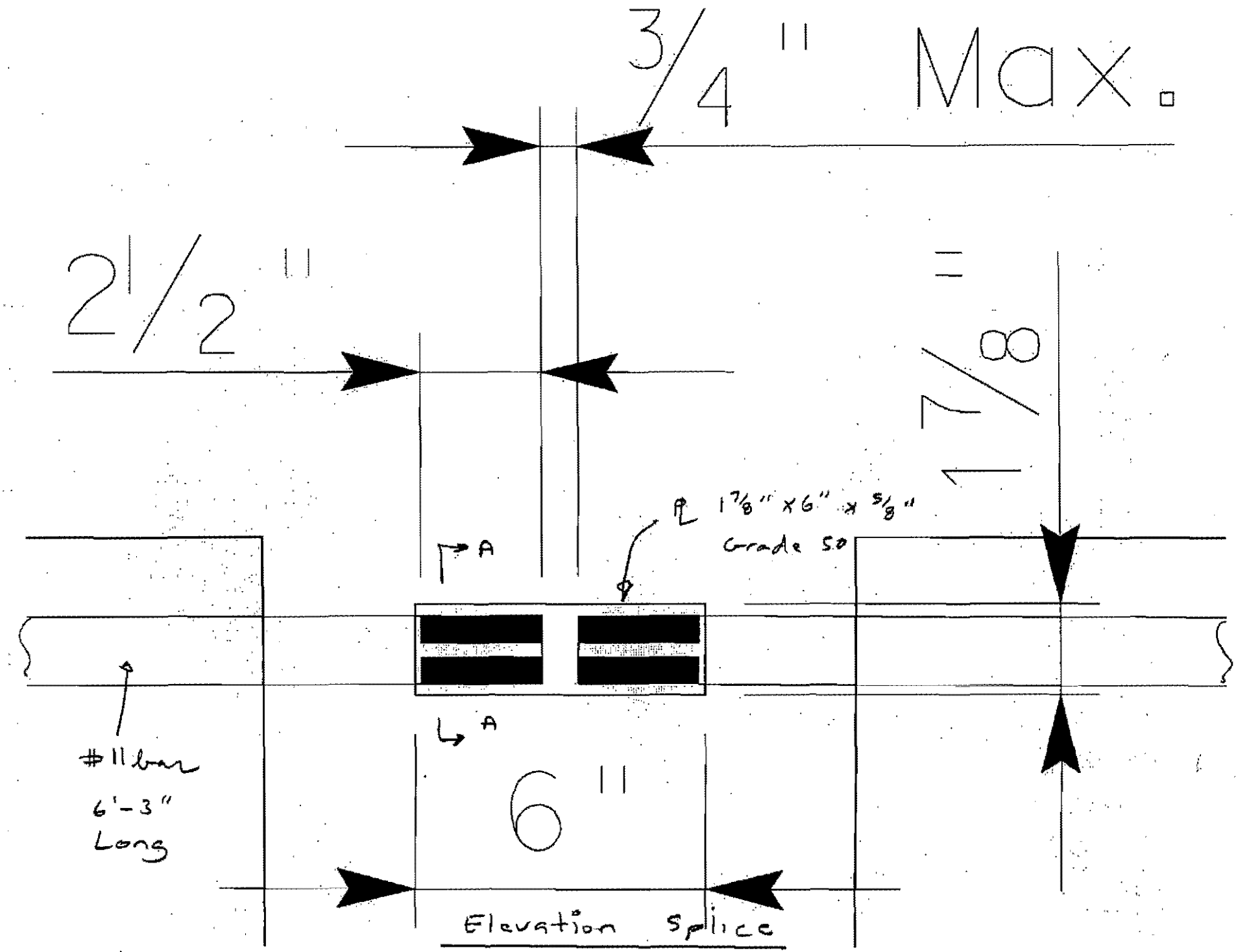
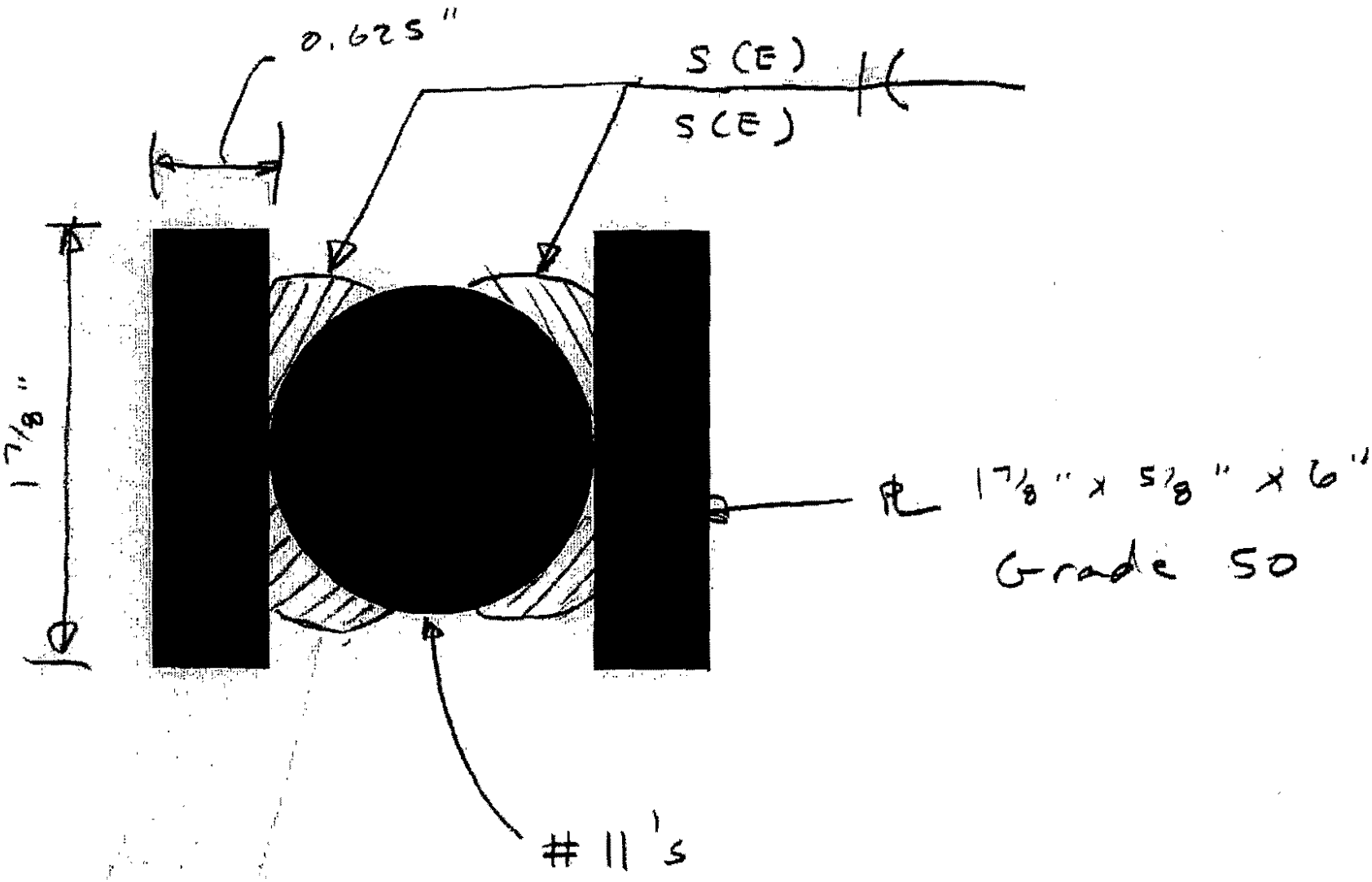
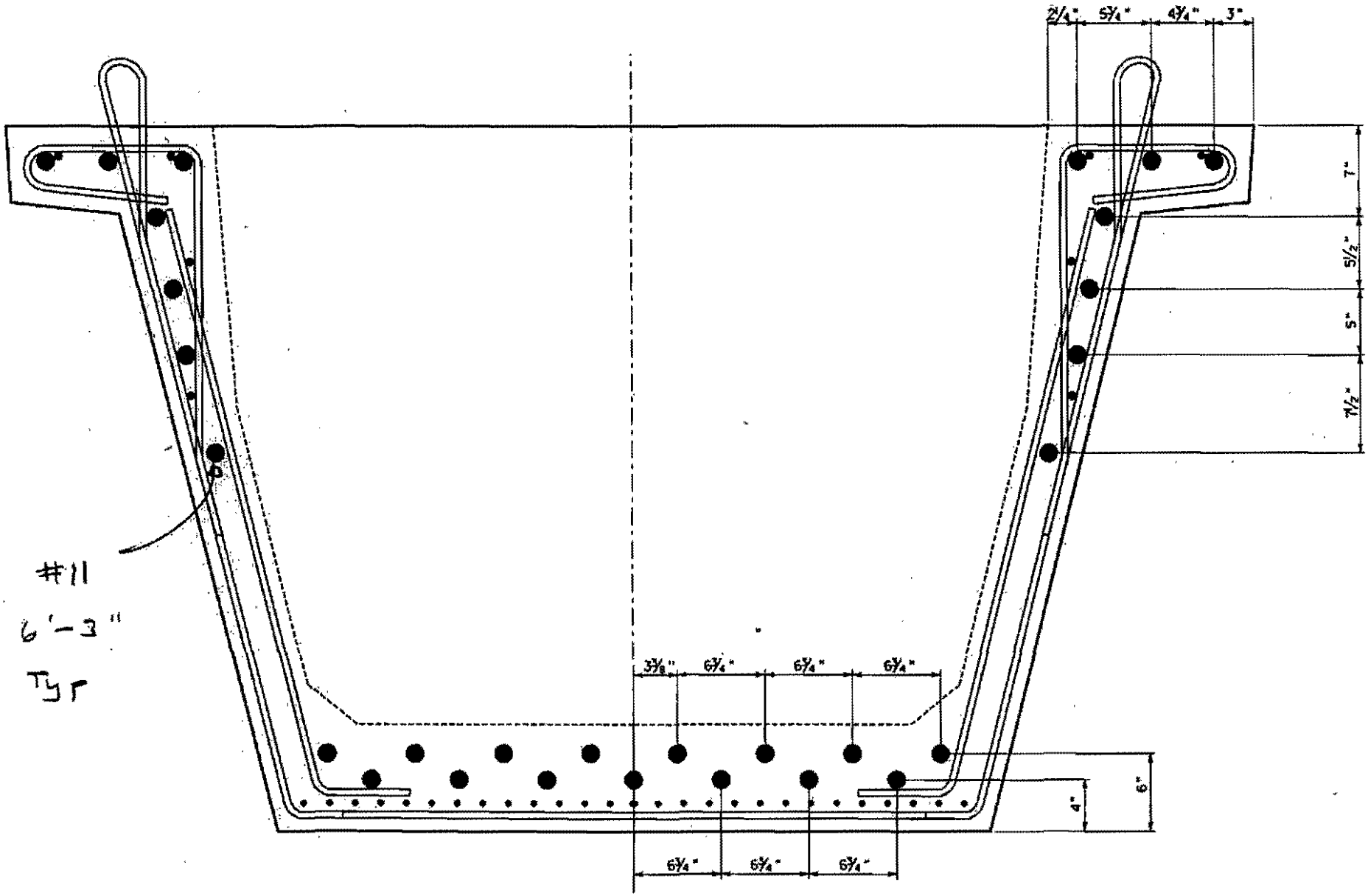
Office Tel: 972.406.6950
Direct: 972.406.6976
Fax: 972.406.6951

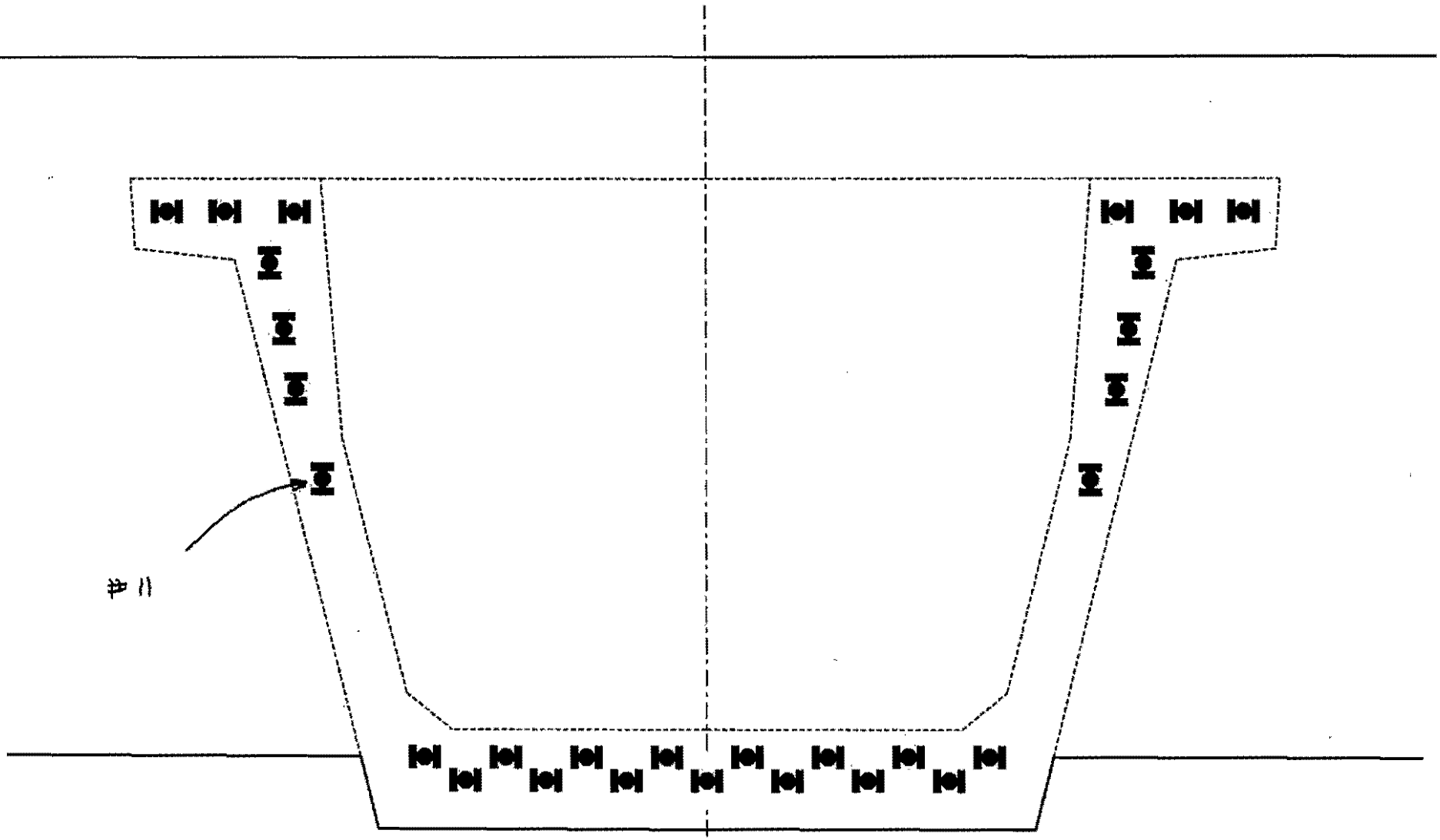

3/4" Max.
2 1/2"
= 1 7/8"
PL 1 7/8" x 6" x 5/8"
Grade 50
A
A
#11 bar
6'-3"
Long
6"
Elevation Splice



Section A - A



Section @ End of U-Beam



Section in Diaphragm Through Welded Splice

"Schneemann, Andrew" <aschneemann@walshgroup.com>
12/07/2004 03:31 PM

To: <Cliff_Hall@urscorp.com>
cc:
Subject: RE: FW: RFI 38

Cliff

Here the bolt up plate I talked to you about

Andrew Schneemann
Archer Western Contractors, Ltd.
W-(972) 361-0062
F-(972) 361-0063
M-(817) 822-7207
-----Original Message-----
From: Cliff_Hall@URSCorp.com [mailto:Cliff_Hall@URSCorp.com]
Sent: Friday, December 03, 2004 1:26 PM
To: Schneemann, Andrew
Cc: Daniel Filer; Guy Van-Baulen; Jerry Holder
Subject: RE: FW: RFI 38

Andrew,

We have reviewed the possibility of using a welded splice detail as you requested to replace the mechanical couplers. We have attached sketches of
a preliminary detail that could work. We are still finalizing this and would appreciate any comments you may have. Note that the number, size and
location of rebar for this detail has changed and all rebar to be spliced
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(See attached file: Arap1.pdf)(See attached file: Arap2.pdf)(See attached
file: Arap3.pdf)(See attached file: Arap4.pdf)

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URS Corporation
Graystone Centre
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Dallas, TX 75234
Office Tel: 972.406.6950
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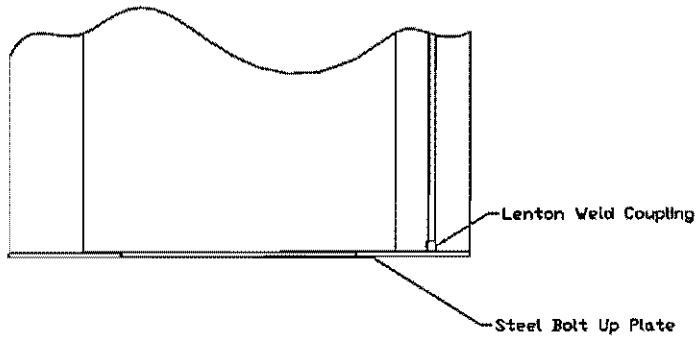
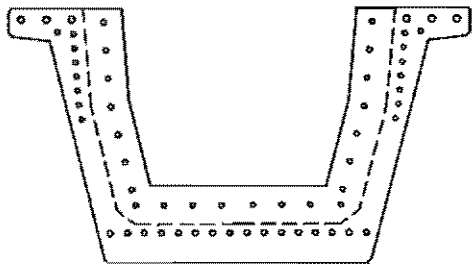
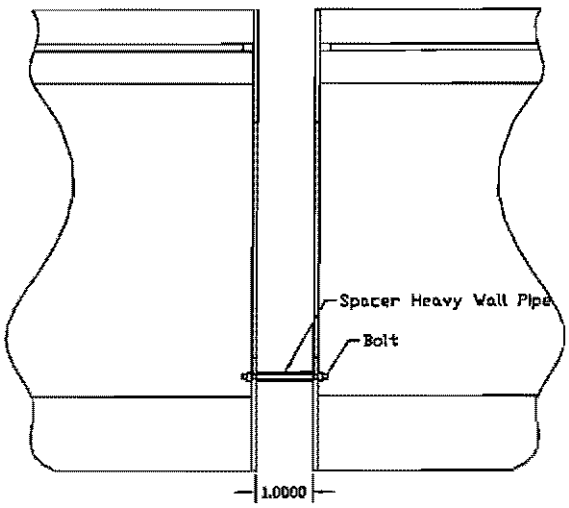
Fax: 972.406.6951

Span 9 Beam Connection.pdf


Lenton Weld Coupling
Steel Bolt Up Plate




Spacer Heavy Wall Pipe
Bolt
1.0000

"Daniel Filer"
<DFiler@hntb.com>

12/12/2004 05:33 PM

To: <Cliff_Hall@urscorp.com>
cc: "Schneemann, Andrew" <aschneemann@walshgroup.com>, "Jerry Holder" <JHolder@hntb.com>, "Guy Van-Baulen" <GVANBAULEN@hntb.com>
Subject: Reissued Sheets

Cliff, as we discussed, we would like for you to reissue the sheets that will correct the beam-en coupling situation. As I said, we do not wish for you to "cloud" the revisions, but a revision triangle with a number is required, along with the revision being listed in revision box on lower right of sheet. Call or email me if you have any questions.

Daniel J. Filer

HNTB

ARCHITECTS ENGINEERS PLANNERS

5910 W. Plano Pkwy, Suite 200

Plano, TX 75093

Office: (972)661-5626

Mobile: (214)868-6412

Fax: (972)661-5614

dfiler@hntb.com

URS

Cliff Hall
12/21/2004 04:51 PM

To: "Schneemann, Andrew" <aschneemann@walshgroup.com>, "Daniel Filer" <DFiler@HNTB.com>
cc:
Subject: Arapaho Revised U-Beam Details Unit 4 PDF

Andrew & Daniel,

Attached is the PDF of the revised U-beam splice detail. The original mylar will be sent tonight to Daniel at the HNTB office.

The U-beam manufacturer should consider using continuous #11 bars through the ends of U-beam "a" into the end of U-beam "b" and cutting these bars after the concrete is cured. This should help ensure that the bars will align properly to make the welded connection in the field.

u-beam details unit 4.pd

Cliff R. Hall, PE
Engineering Unit Manager
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3010 LBJ Freeway, Suite 1300
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Office Tel: 972.406.6950
Direct: 972.406.6976
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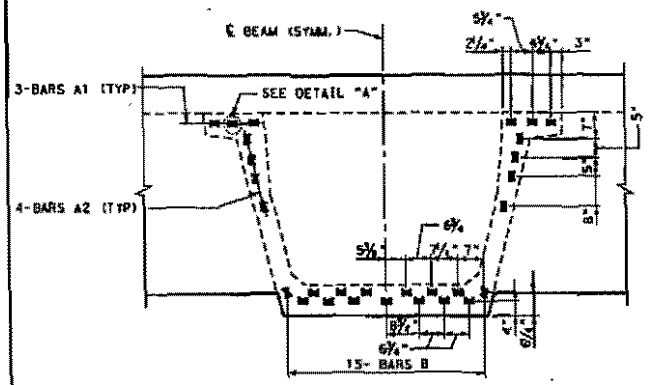
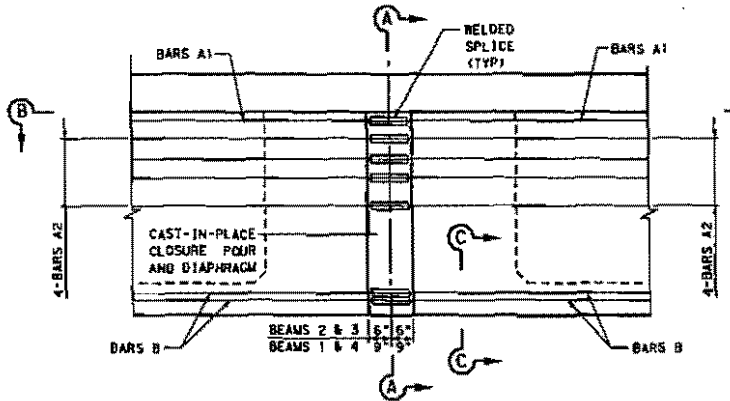


SECTION A-A ⚠

(DIAPHRAGM REINFORCEMENT NOT SHOWN)



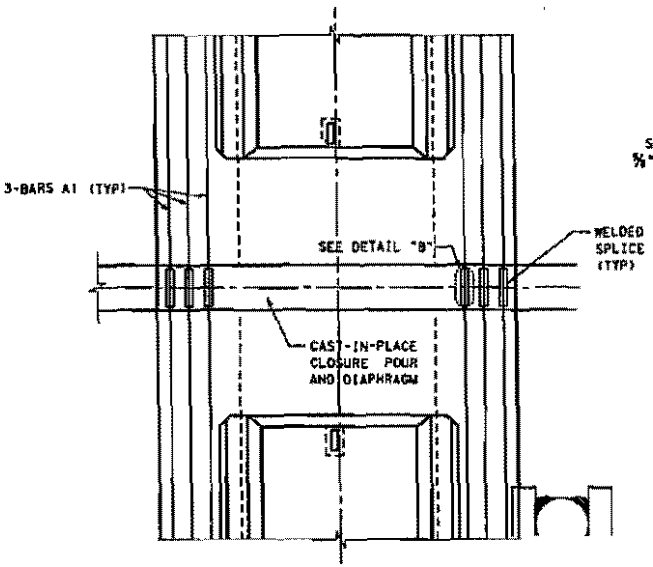
ELEVATION ⚠

NOTES

1. CLASS "F" CONCRETE STRENGTH f'c=5000 psi FOR CAST-IN-PLACE CLOSURE POUR.
2. ALL REINFORCING STEEL SHALL BE GRADE 60.
3. WORK THESE DETAILS WITH TXDOT UBA DRAWINGS.
4. ROUGHEN CONCRETE SURFACE OF U-BEAM TO A FULL AMPLITUDE OF APPROXIMATELY ¼" AT CLOSURE POUR.
5. ⚠ A1, A2, AND B BARS SHALL BE UNCOATED (BLACK) ASTM A706 (GRADE 60).
6. ⚠ WELDED SPLICE FOR REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY PUBLICATION, ANSI/AWS D1.4 "STRUCTURAL WELDING CODE REINFORCING STEEL".
7. ⚠ LOCATION OF WELDS AND ORIENTATION OF SPLICE PLATES CAN VARY TO ACCOMODATE WELDING.
8. ⚠ ELIMINATE 3-W1 BARS AT CENTER DIAPHRAGM END.
9. ⚠ STEEL PLATE SHALL BE A709 GRADE 50.

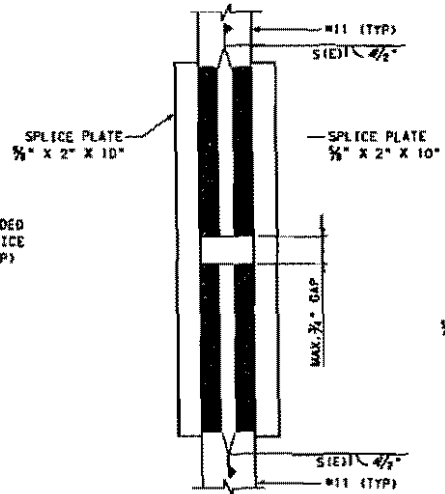
U-BEAM DETAIL TABLE OF ESTIMATED QUANTITIES ⚠

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	6	#11	16'-0"	510
A2	8	#11	16'-0"	680
B	15	#11	7'-7"	604
REINFORCING STEEL			LB	1794

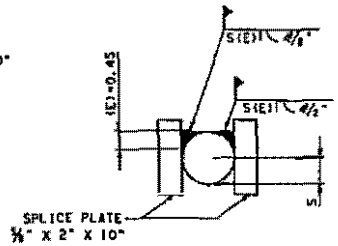


SECTION B-B ⚠

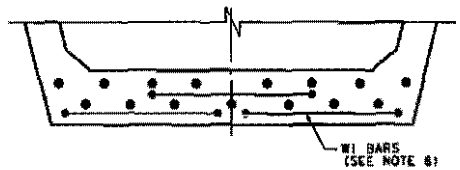
(DIAPHRAGM REINFORCEMENT NOT SHOWN)



DETAIL B ⚠



DETAIL A ⚠



DETAIL C ⚠

U54 MID SPAN MOMENT CONNECTION ⚠

(ADDITIONAL U-BEAM REINFORCEMENT AND WELDED SPLICE SHOWN ONLY)

STATE OF TEXAS
CLIFF R. HALL
82211
REGISTERED
PROFESSIONAL ENGINEER

12/21/04

201

URS

ARAPAHO ROAD - PHASE III

SURVEYOR BOULEVARD TO ADDISON ROAD

U-BEAM DETAILS
UNIT 4

SHEET 1 OF 2

TOWN OF ADDISON, TEXAS

Design	Drawn RJB	DATE	SCALE	PROJECT NO.	SHEET NO.
Check	Check	03-07-04	NONE	13759	SR-43

URS

June 2, 2005

Mr. Steven Z. Chutchian, P.E.
Assistant City Engineer
16801 Westgrove Drive
Addison, TX 75001

Re: **Arapaho Road Bridge at Midway Road**
Revised Detail for U-Beam Splice, Span 9

Dear Mr. Chutchian:

As requested we are writing this letter to provide an explanation of the events that created a redesign of the detail used to splice the U-Beams in Span 9 of the Arapaho Road Bridge. We have attached copies of the e-mail correspondence received and sent by URS from the period of Nov 24, 2004 through Dec 21, 2004 when revised drawings were issued. It is and always has been our contention that the original detail is constructable and that the redesign was at the request of the contractor to accommodate his desire for a detail that he could construct easier.

During design, we understood that the contractor would have to ensure that the splice reinforcement between beam-ends aligned correctly. To accomplish this, we had envisioned that the U-beam fabricator would fabricate the beams end-to-end in the same casting bed with the splice bars protruding from one beam end and running continuously into the other beam end. During fabrication, the protruding splice bars would either be connected with couplers, or the bars would be cast as one piece and then cut and threaded after form removal. During erection, we envisioned that the contractor would need to set one beam on the bent and shore tower and place the couplers (we recommended Lenton P8 couplers) on the protruding reinforcement. Then he would lift the other beam and set it so the splice bars aligned with the couplers. We would expect that the contractor would need to use guides and either rolling or sliding bearings to get the beam into the proper alignment. Once in the proper alignment the contractor would then engage the coupler onto the reinforcement.

During discussions with the contractor and your consultant regarding the construction of this detail, the contractor requested a welded rebar splice in lieu of the coupler detail. We then provided a welded splice detail for review and received comments from the contractor. We were then instructed to revise the construction drawings for this detail incorporating the contractor's comments.

Sincerely,

URS Corporation

Cliff R. Hall, P.E.
Vice President
Project Manager

Enclosures

URS Corporation
Graystone Centre
3010 LBJ Freeway, Suite 1300
Dallas, TX 75234
Tel: 972.406.6950
Fax: 972.406.6951

"Daniel Filer"
<DFiler@hntb.com>
11/24/2004 01:58 PM

To: <Cliff_Hall@urscorp.com>
cc: "Jerry Holder" <JHolder@hntb.com>, "Guy Van-Baulen" <GVANBAULEN@hntb.com>
Subject: FW: RFI 38

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-----Original Message-----
From: Schneemann, Andrew [mailto:aschneemann@walshgroup.com]
Sent: Tuesday, November 23, 2004 4:39 PM
To: Daniel Filer; Guy Van-Baulen
Subject: RFI 38

I need an answer ASAP

Thanks

Andrew Schneemann
Archer Western Contractors, Ltd.
W-(972) 361-0062
F-(972) 361-0063
M-(817) 822-7207

Arapaho Road P3 - RFI 38.pdf

REQUEST FOR INFORMATION

PROJECT No. Arapaho Phase III

RFI # 38

Date : November 23, 2004

Submitted To:	Submitted By:
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen	Archer Western Contractors, Ltd. Andrew Schneemann

Subject	Discipline	Reference	Specification
U-Beam modifications to allow for Rebar Couplers	Civil		

Cost Impact	Schedule Impact	Response Required	Drawing Number
Unknown	Unknown	Unknown	Unknown

Question

Please reference the attached Unit 4 U-Beam Shop Drawings.

Archer Western and Texas Concrete, the U-Beam Precaster, need to modify the reinforcement in the splice end of beams 1b,2b,3b,& 4b for unit 4. The reinforcement needs to be modified to allow room for the rebar splice couplers. The following bars whore modified:

Bars V, W and DS were at 1 3/4" and were set back to 6".
Bars Y were at 5 1/2" and were set back to 11 1/2".
Bars R were at 3" and were set back to 11".
These adjustments were needed in order to avoid conflict with the couplers required at the coupler connection as required by the contract plans.

We are utilizing are Dayton Superior Bar locks rebar couplers.

Please approve the attached changes at your earliest convenience.

Response

"Daniel Filer" <DFiler@hntb.com>
11/29/2004 11:05 AM

To: <Cliff_Hall@urscorp.com>
cc:
Subject: RE: FW: RFI 38

worst case scenario i will bring or have couriered a copy of the shop dwg's

-----Original Message-----
From: Cliff_Hall@URSCorp.com [mailto:Cliff_Hall@URSCorp.com]
Sent: Mon 11/29/2004 10:34 AM
To: Daniel Filer
Cc: Guy Van-Baulen; Jerry Holder
Subject: Re: FW: RFI 38

Can you send (scan, fax, etc.) me a copy of the shop drawing?

Is the only change the distance from the end of beam to these bars?

Cliff R. Hall, PE
Engineering Unit Manager
URS Corporation
Graystone Centre
3010 LBJ Freeway, Suite 1300
Dallas, TX 75234
Office Tel: 972.406.6950
Direct: 972.406.6976
Fax: 972.406.6951

"Daniel Filer" <DFiler@hntb.com>
11/24/2004 01:58 PM

To: <Cliff_Hall@urscorp.com>
cc: "Jerry Holder" <JHolder@hntb.com>, "Guy Van-Baulen" <GVANBAULEN@hntb.com>
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Daniel
-----Original Message-----
From: Schneemann, Andrew [mailto:aschneemann@walshgroup.com]
Sent: Tuesday, November 23, 2004 4:39 PM
To: Daniel Filer; Guy Van-Baulen
Subject: RFI 38

I need an answer ASAP

Thanks

Andrew Schneemann
Archer Western Contractors, Ltd.
W-(972) 361-0062
F-(972) 361-0063
M-(817) 822-7207

(See attached file: Arapaho Road P3 - RFI 38.pdf)

URS

Cliff Hall
11/29/2004 05:48 PM

To: "Daniel Filer" <DFiler@hntb.com>
cc: "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>
Subject: Re: FW: RFI 38

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addressed. If you are NOT the intended recipient or the person responsible for delivering the e-mail to the intended recipient, be advised that you have received this e-mail in error and that any use, dissemination, forwarding, printing, or copying of this e-mail is strictly prohibited.

Arapaho Road P3 - RFI 38.p

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11/29/2004 06:33 PM

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(See attached file: Arapaho Road P3 - RFI 38.pdf)

Cliff Hall
11/30/2004 10:47 AM

To: "Daniel Filer" <DFiler@hntb.com>
cc: aschneemann@walshgroup.com, "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>
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Please see the following website:

http://www.erico.com/products/LentonPosition.asp#p9

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> Engineering Unit Manager

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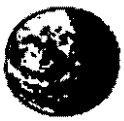

"Schneemann, Andrew" <aschneemann@walshgroup.com>
12/01/2004 05:57 PM

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cc: "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>
Subject: RE: FW: RFI 38

Cliff

Here is the Lenton P9 & P8 coupler Installation guide

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Subject: RE: FW: RFI 38

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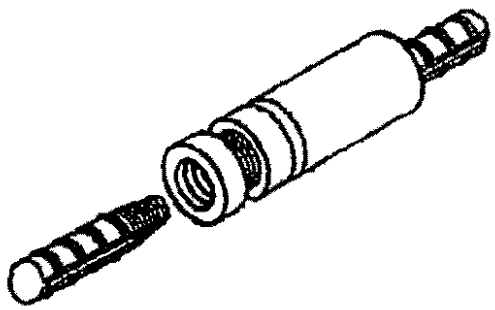
you
have received this e-mail in error and that any use, dissemination,
forwarding, printing, or copying of this e-mail is strictly prohibited.
(See attached file: Arapaho Road P3 - RFI 36.pdf)

fenton p8&p9 couplers.tif

INSTALLATION INSTRUCTIONS FOR LENTON® P8 - P9 POSITION COUPLERS



INSTALLATION

STEP 1 - Remove bar end protector (if present). Visually inspect threaded end making sure threads are undamaged and free of concrete, rust, or other contaminants. The use of a wire brush may be required.

STEP 2 - Inspect part number on coupler to make sure it's the correct size for bars being spliced (see chart below). Insert the coupler onto the bar and rotate clockwise until hand tight (approx. 4 - 4 1/2 turns).

STEP 3 - Using a standard pipe wrench, securely tighten the coupler to the matching taper threaded rebar. *

STEP 4 - Refer to STEP 1 for bar cleanliness. Insert second bar into the coupler.

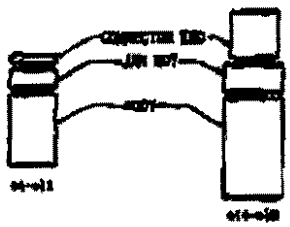
STEP 5 - While holding the "upper bar", using a standard pipe wrench rotate the connector end of the coupler in a counter-clockwise direction to securely tighten the assembly. *

STEP 6 - Using a standard pipe wrench, securely tighten the jam nut against the body. *

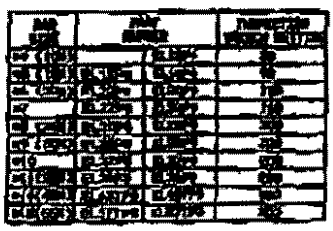
STEP 7 - Verify that limiting groove is not visible (see below).

Safety Instructions: All safety regulations required by the jobsite must be observed. Special attention should be given to the following instructions:

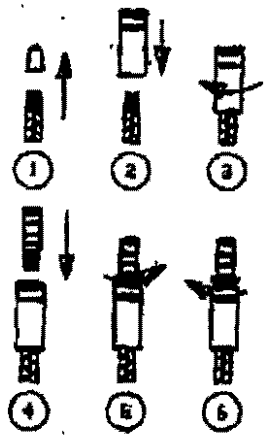
1. Observe all Federal and Local safety regulations.
2. Wear a hard hat.
3. Wear gloves to avoid splinters and cuts.
4. Wear safety glasses at all times.
5. Be aware of personnel working above, below, and around.

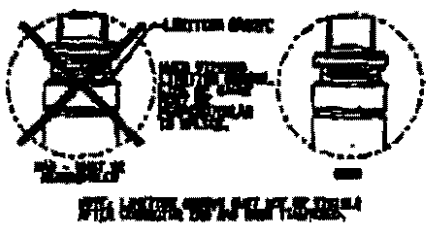


NOTE: When inspecting the Transition Position Coupler, use the appropriate wrench setting for the bar sizes being used.



* The LENTON Inspection Wrench may be used by an inspector to periodically check tightness (see chart).





PDF051D

Cliff Hall
12/02/2004 09:47 AM

To: "Schneemann, Andrew" <aschneemann@walshgroup.com>
cc: "Daniel Filer" <DFiler@hntb.com>, "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>
Subject: RE: FW: RFI 38

Andrew,

From the web site, the P8 is the coupler that would be used when axial movement is restricted (i.e. can't put the bar into the coupler). This coupler extends to engage the second bar. We are still looking at welding and will advise later; however, we still believe that you can acheive this connection with the P8 coupler.

Applications

Designed to splice two curved, bent, or straight bars, when neither bar can be rotated

- **P8 & P13** - designed to splice bars where the ongoing bar is restricted in its axial movement or can not be rotated and length adjustability of the coupler is required.

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(See attached file: Arapaho Road P3 - RFI 38.pdf)

URS

Cliff Hall
12/03/2004 01:25 PM

To: "Schneemann, Andrew" <aschneemann@walshgroup.com>
cc: "Daniel Filer" <DFiler@hntb.com>, "Guy Van-Baulen" <GVANBAULEN@hntb.com>, "Jerry Holder" <JHolder@hntb.com>
Subject: RE: FW: RFI 38

Andrew,

We have reviewed the possibility of using a welded splice detail as you requested to replace the mechanical couplers. We have attached sketches of a preliminary detail that could work. We are still finalizing this and would appreciate any comments you may have. Note that the number, size and location of rebar for this detail has changed and all rebar to be spliced will need to be ASTM A706 Grade 60 weldable.

Arap1.pdf Arap2.pdf Arap3.pdf Arap4.pdf

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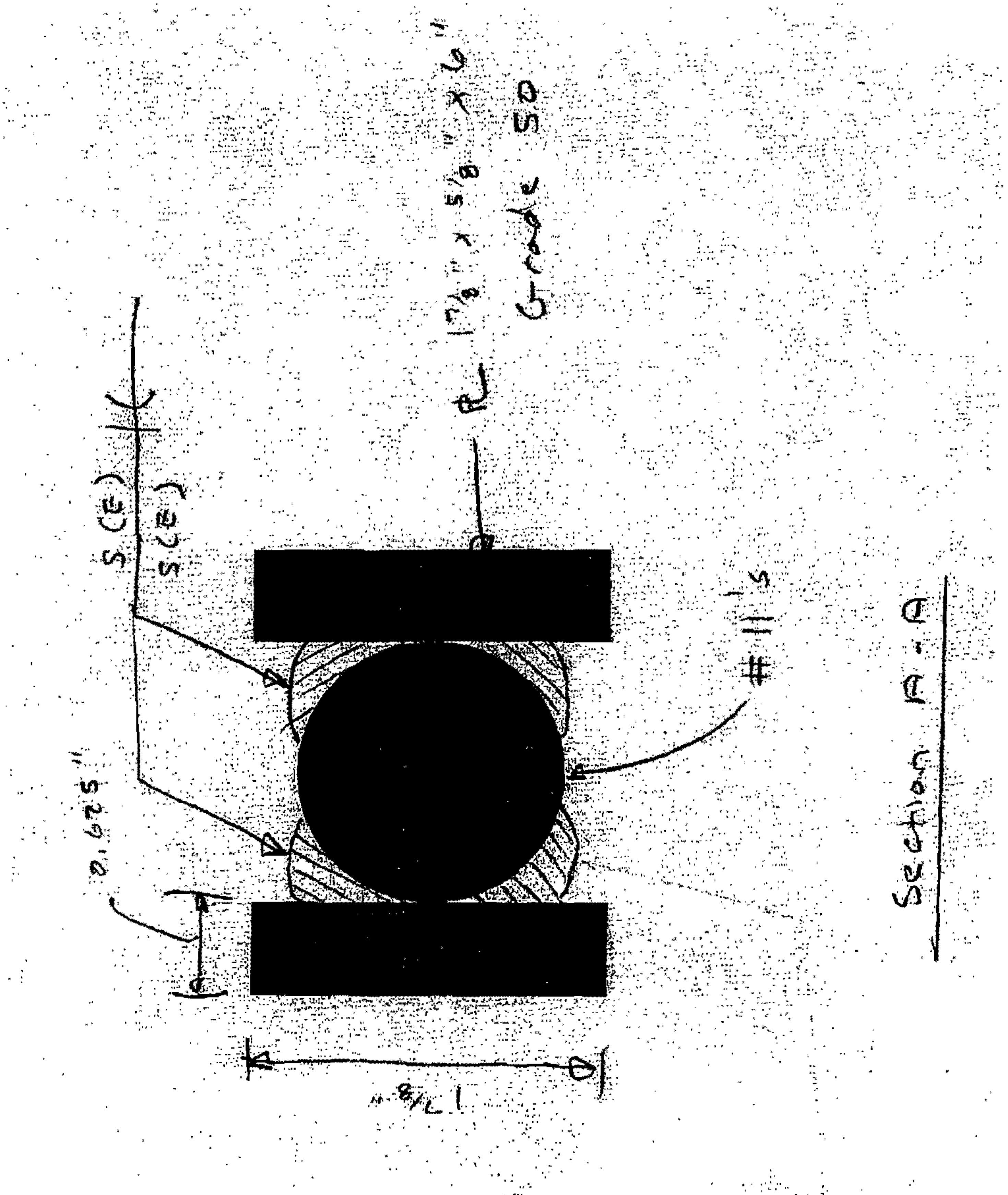
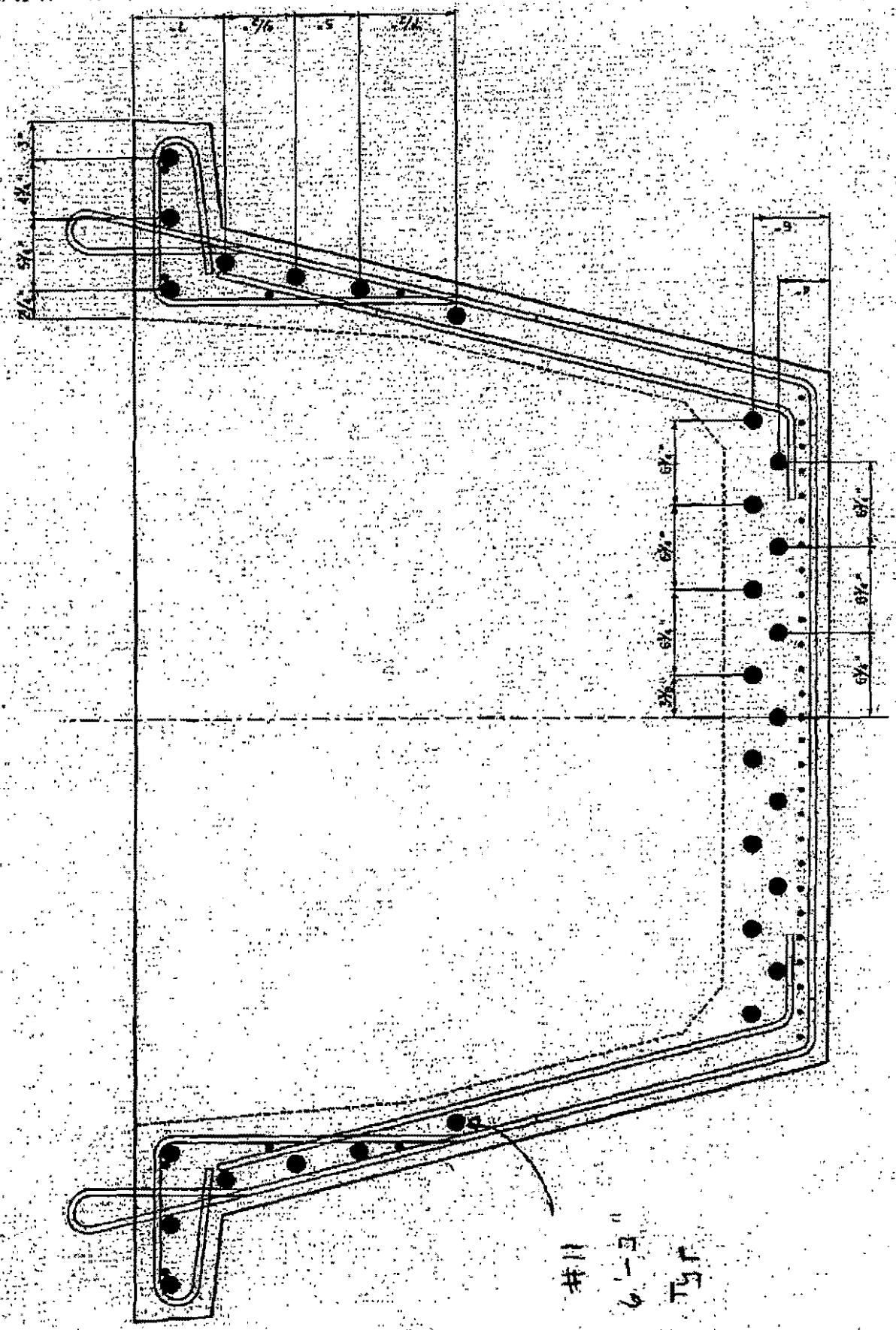
Elevation
#11 bars
6'-3" Long


PL 1 7/8" x 5/8" x 6"
Grade 50
S(E)
S(E)
#11's
0.625"
1 7/8"
Section A-A



Section @ End of U-Beam

Section in Diaphragm Through Welded Splice

"Schneemann, Andrew" <aschneemann@walshgroup.com>
12/07/2004 03:31 PM

To: <Cliff_Hall@urscorp.com>
cc:
Subject: RE: FW: RFI 38

Cliff

Here the bolt up plate I talked to you about

Andrew Schneemann
Archer Western Contractors, Ltd.
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-----Original Message-----
From: Cliff_Hall@URSCorp.com [mailto:Cliff_Hall@URSCorp.com]
Sent: Friday, December 03, 2004 1:26 PM
To: Schneemann, Andrew
Cc: Daniel Filer; Guy Van-Baulen; Jerry Holder
Subject: RE: FW: RFI 38

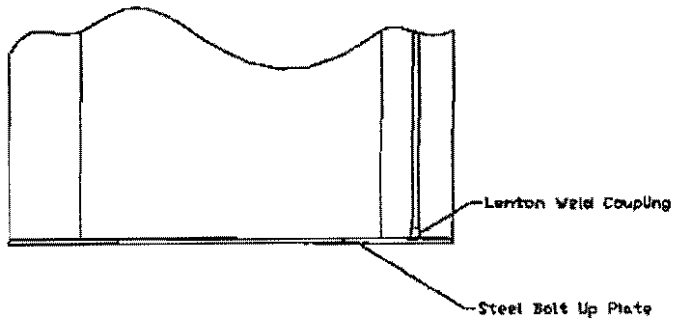
Andrew,

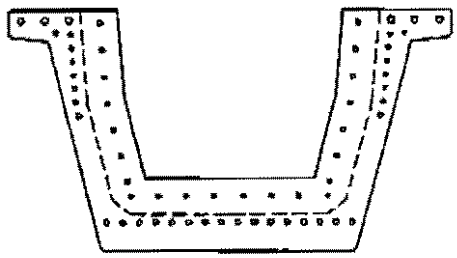
We have reviewed the possibility of using a welded splice detail as you requested to replace the mechanical couplers. We have attached sketches of
a preliminary detail that could work. We are still finalizing this and would appreciate any comments you may have. Note that the number, size and
location of rebar for this detail has changed and all rebar to be spliced
will need to be ASTM A706 Grade 60 weldable.

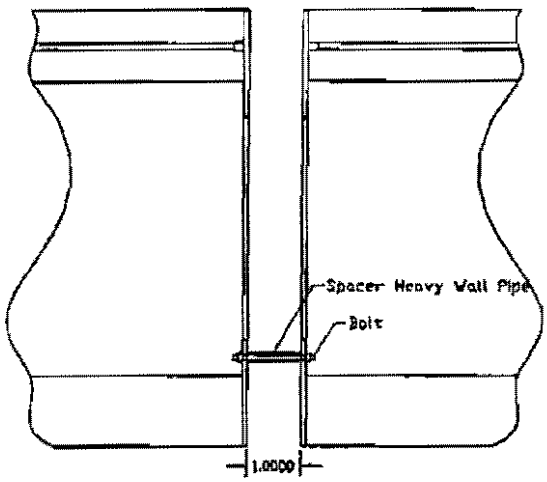
(See attached file: Arap1.pdf)(See attached file: Arap2.pdf)(See attached
file: Arap3.pdf)(See attached file: Arap4.pdf)

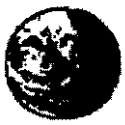
Cliff R. Hall, PE
Engineering Unit Manager
URS Corporation
Graystone Centre
3010 LBJ Freeway, Suite 1300
Dallas, TX 75234
Office Tel: 972.406.6950
Direct: 972.406.6976
Fax: 972.406.6951

Span 9 Beam Connection.pdf


Lenton Weld Coupling
Steel Bolt Up Plate




Spacer Heavy Wall Pipe
Bolt
1.0000



"Daniel Filer"
<DFiler@hntb.com>
12/12/2004 05:33 PM

To: <Cliff_Hall@urscorp.com>
cc: "Schneemann, Andrew" <aschneemann@walshgroup.com>, "Jerry Holder" <JHolder@hntb.com>, "Guy Van-Baulen" <GVANBAULEN@hntb.com>
Subject: Reissued Sheets

Cliff, as we discussed, we would like for you to reissue the sheets that will correct the beam-en coupling situation. As I said, we do not wish for you to "cloud" the revisions, but a revision triangle with a number is required, along with the revision being listed in revision box on lower right of sheet. Call or email me if you have any questions.

Daniel J. Filer
HNTB
ARCHITECTS ENGINEERS PLANNERS
5910 W. Plano Pkwy, Suite 200
Plano, TX 75093
Office: (972)661-5626
Mobile: (214)868-8412
Fax: (972)661-5614
dfiler@hntb.com

URS

Cliff Hall
12/21/2004 04:51 PM

To: "Schneemann, Andrew" <aschneemann@walshgroup.com>, "Daniel Filer" <DFiler@HNTB.com>
cc:
Subject: Arapaho Revised U-Beam Details Unit 4 PDF

Andrew & Daniel,

Attached is the PDF of the revised U-beam splice detail. The original mylar will be sent tonight to Daniel at the HNTB office.

The U-beam manufacturer should consider using continuous #11 bars through the ends of U-beam "a" into the end of U-beam "b" and cutting these bars after the concrete is cured. This should help ensure that the bars will align properly to make the welded connection in the field.

u-beam details unit 4.pd

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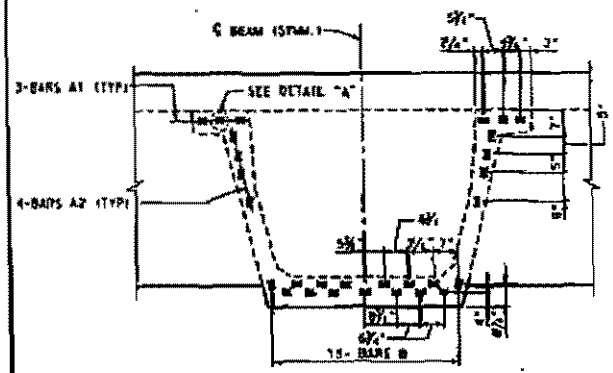
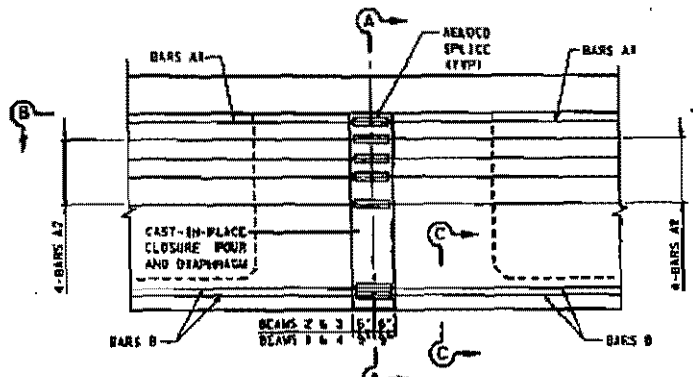


SECTION A-A ⚠

(DIAPHRAGM REINFORCEMENT NOT SHOWN)



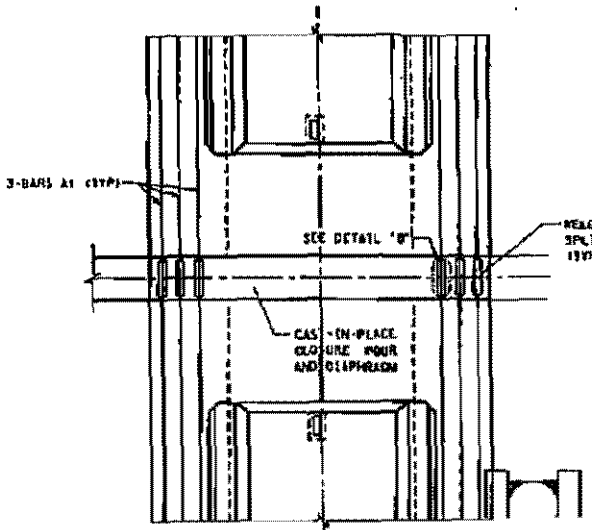
ELEVATION ⚠

NOTES

1. CLASS "F" CONCRETE STRENGTH f'c=5000 psi FOR CAST-IN-PLACE CLOSURE POUR.
2. ALL REINFORCING STEEL SHALL BE GRADE 60.
3. WORK THESE DETAILS WITH TXDOT USA DRAWINGS.
4. ROUGHEN CONCRETE SURFACE OF U-BEAM TO A FULL AMPLITUDE OF APPROXIMATELY ¼" AT CLOSURE POUR.
5. ⚠ A1, A2, AND B BARS SHALL BE UNCOATED (BLACK) ASTM A706 (GRADE 60).
6. ⚠ WELDED SPLICE FOR REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY PUBLICATION, ANSI/AWS D1.4 "STRUCTURAL WELDING CODE REINFORCING STEEL".
7. ⚠ LOCATION OF WELDS AND ORIENTATION OF SPLICE PLATES CAN VARY TO ACCOMODATE WELDING.
8. ⚠ ELIMINATE 3-#4 BARS AT CENTER DIAPHRAGM END.
9. ⚠ STEEL PLATE SHALL BE A709 GRADE 50.

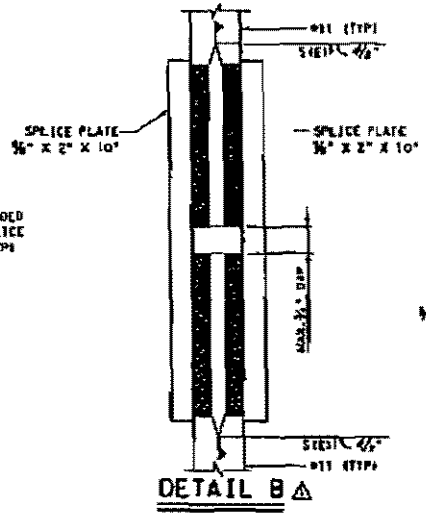
U-BEAM DETAIL TABLE OF ESTIMATED QUANTITIES ⚠

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	6	#11	55'-0"	510
A2	8	#11	35'-0"	880
B	15	#11	7'-2"	604
REINFORCING STEEL			LB	1994

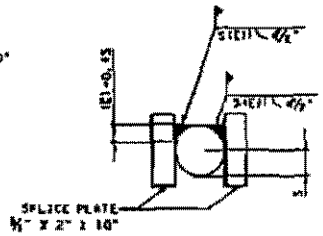


SECTION B-B ⚠

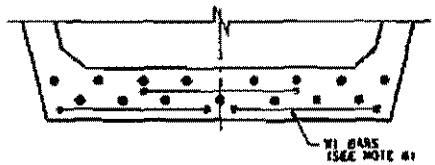
(DIAPHRAGM REINFORCEMENT NOT SHOWN)



DETAIL B ⚠



DETAIL A ⚠



DETAIL C ⚠

U54 MID SPAN MOMENT CONNECTION ⚠

(ADDITIONAL U-BEAM REINFORCEMENT AND WELDED SPLICE SHOWN ONLY)

12/21/04

URS

ARAPAHO ROAD - PHASE III

SUPERIOR BOULEVARD TO ADDISON ROAD

U-BEAM DETAILS
UNIT 4

TOWN OF ADDISON, TEXAS

URS

Facsimile

To: Jenny Nicewander
Firm: Town of Addison
Facsimile: 972.450.2837
From: Cliff Hall
Date: 6/2/05
Page 1 of : 32

Subject: U-Beam Splice Detail

Message:

Copy of what I am sending to Steve

cc:

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HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: Extending of MSE#2 Wall

May 26, 2005

Dear Ben:

This letter is a follow up to the letter issued on May 11, 2005, on related work for the extending of the MSE retaining wall #2.
As you we been discussing for the passed several weeks, the 10ft standard inlet on lateral A-5 would be in the way. Archer Western is directed to remove the install 10ft std. inlet and cutback and plug the 21" RCP pipe so the leveling pad for the MSE #2 wall can be installed.

Since we still required an inlet to collect the storm water runoff from the roadway, Archer Western is directed to install a new 10ft standard inlet at station 44+85 with an F/L of 601.67. This inlet will be connected into the east wall of the 2-grate inlet located at station 44+71 with a 21" RCP pipe.

Archer Western is requested to provide the cost proposal for the removal & disposal of the 10ft std. concrete inlet, plugging of the 21"RCP and the tie-in of the new 21"RCP into the 2-grate inlet.

The new inlet and RCP pipe will be compensated under the corresponding bid items and all work shall meet all specification required under this project.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation

Conduit Layout per Plans

South T-4 Rail				South Edge of Decking				North T-4 Rail				North Edge of Decking			
Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description
3/4" PVC	E&F	335	Receptacles	3/4" RMC	D	335	A-2 Fixtures	3/4"PVC	G	335	E-1&A-1 Fixture	3/4"RMC	C&D	339	C-1 Drivers
3/4" PVC	E	343	F-2 thru F-20 Even	3/4"RMC	E&F	339	C-2 Fixtures	3/4"PVC	H&J	335	Receptacles	3/4"RMC	Output	339	C-1 Output
				3/4"RMC	B	341	B Fixtures	3/4"PVC	D	343	F-5 - F-19,G-7,8,9	3/4"RMC	A	341	B Fixtures
				3/4"RMC	B Control	341	B Fixture Cntrl	3/4"PVC	C	343	F-1 -F-3, G-1-6	3/4"RMC	B Control	341	B Fixture Cntrl
				3/4"RMC	Output	339	C-2 Fixt. Output								
Total Conduits: 2				**Total Conduits: 5**				**Total Conduits: 4**				**Total Conduits: 4**			

NO.	DATE	REVISION	APPROV.
1	09/03/04	REVISED CONDUIT	A.K.C.
2			
3			

LINE 'A' CURVE DATA

NUMBER	RADIUS	DELTA	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	844.17	25°41'56"	378.64	N 77°10'12" E	375.46

DALLAS AREA RAPID TRANSIT
PROPERTY ACQUISITION CORPORATION

STA. 6+50.00 LINE 'A'
INSTALL STORM SEWER
MANHOLE PER DETAIL
N = 10109.75
E = 7668.70

STA. 8+81.30 LINE 'A'
END 10'x5' BOX CULVERT
BEGIN 9'x5' BOX CULVERT
N = 10106.74
E = 7678.00

PAV. STA. 45+39.18, 41.37' LT.
BEGIN 3-4" CONDUIT AT EXIST.
POWER POLE
N = 10163.92
E = 7746.26

OH ELECTRIC TO BE RELOCATED

STA. 7+12.91 LINE 'A'
END 10'x6' BOX CULVERT
BEGIN 10'x5' BOX CULVERT
N = 10106.60
E = 7510.61

P.T. STA. 7+83.78
N = 10106.61
E = 7480.45

LINE 'B'

CONDUIT '1'
102 L.F. 4-4" P.V.C.
CONDUIT SCH. 40

MATCH LINE STA. 5+00

MATCH LINE STA. 10+00

STA. 9+73.62, 4.50' RT. LINE 'A'=
STA. 0+00.00 LAT. 'A-5'
PIPE TO BOX CONNECTION
F/L 9'x5' 595.05
F/L 21" 596.67
N = 10102.01
E = 7770.52

PAV. STA. 45+70.00, 22' RT.=
STA. 0+13.4" LAT. 'A-5'
CONST. 10' STD. CURB INLET
T/C 606.17
F/L 601.67
N = 10090.54
E = 7777.05

LINE 'A'

PROP. R.O.W.

EXIST. R.O.W.

5' ELECTRIC EASEMENT

30' WATER EASEMENT

6" WATER

STA. 7+03.91, 5' RT. LINE 'A'=
STA. 0+00.00 LAT. 'A-3'
PIPE TO BOX CONNECTION
F/L 10'x6' 591.91
F/L 21" 594.03
N = 10101.80
E = 7500.61

LAT. 'A-3'
13 L.F. 21" CL. III
RCP @ 34.76%

PAV. STA. 43+00.00, 22' RT.
STA. 0+12.89 LAT. 'A-3'
CONST. 10' STD. CURB INLET
T/C 603.01
F/L 598.51
N = 10090.64
E = 7507.05

50' DRAINAGE CHANNEL EASEMENT

STA. 6+67.55, 5' RT. LINE 'A'=
STA. 0+00.00 LAT. 'A-4'
PIPE TO BOX CONNECTION
F/L 10'x5' 594.03
F/L 54" 594.28
N = 10101.75
E = 7664.26

LAT. 'A-4'
19 L.F. 54" CL. III
RCP @ 3.14%

REMOVE 28 L.F. EXIST. RCP & EXIST. HEADWALL

SAWCUT REMOVE & REPLACE 5 S.Y. EXIST. ASPH.

LAT. 'A-5'
13 L.F. 21" CL. III
RCP @ 37.12%

S 29°58'49" E

S 85°54'65" E

S 00°00'00" W

5' UTILITY EASEMENT

TEMP. CONST. EASEMENT

PUBLIC STORAGE OF DALLAS, LTD.

① STA. 0+15.36 LAT. 'A-4'=
STA. 0+00 LAT. 'A-4A'
WYE CONN.
N = 10088.42
E = 7671.83

② PAV. STA. 44+71.05, 27.78' RT.=
STA. 0+07.24 LAT. 'A-4A'
CONST. 2-GRATE INLET
TOP 602.7±
F/L 21" 598.2±
(SEE NOTE 10, SW-1)
N = 10084.80
E = 7678.10

STA. 0+15.16 LAT. 'A-4'
30° BEND
N = 10088.62
E = 7671.83

STA. 0+18.76 LAT. 'A-4'
END 54" RCP
CONN. TO EXIST. 54" RCP
MATCH FLOW LINES (594.9±)
N = 10085.02
E = 7671.83

PAV. STA. 45+29.90, 50.04' RT.
END 3-4" CONDUIT AT EXIST.
TRANSFORMER
N = 10062.52
E = 7736.95

BULLOUGH / LYKOS OFFICE BUILDING NO. 1, L.P.

NOTE
REFER TO SW-1 FOR STORM SEWER NOTES

RECESSED CURB INLET

STANDARD CURB INLET

INLET REFERENCE POINT

A. INSTALL 10ft STD INLET @ STATION 44+85

B. INSTALL the 21"RCP Pipe An Tie into the EASTside of The TWROP. GRADE GRATE INLET

REMOVE INSTALLED 10' STD INLET

Cut Back 21"RCP And CAP w/concrete.

EXIST. GROUND @ C/L PIPE

MATCH LINE STA. 5+00

MATCH LINE STA. 10+00

10'x6' STM. SEW. @ 0.42%

10'x5' STM. SEW. @ 0.70%

9'x5' STM. SEW. @ 1.00%

F/L 10'X6' 591.05
F/L 10'X6' 591.47
F/L 10'X6' 591.89
F/L 10'X6' 591.91
F/L 21" 594.03
F/L 10'X5' 592.35
F/L 10'X5' 593.35
F/L 10'X5' 593.9
F/L 10'X5' 594.03
F/L 54" 594.28
F/L 10'X5' 594.12
F/L 9'X5' 594.31
F/L 9'X5' 594.23
F/L 24" 592.64
F/L 9'X5' 595.05
F/L 21" 596.67
F/L 9'X5' 595.31

214 L.F. OF 10'X6' REINFORCED CONCRETE BOX CULVERT

167 L.F. OF 10'X5' REINFORCED CONCRETE BOX CULVERT

119 L.F. OF 9'X5' REINFORCED CONCRETE BOX CULVERT

615 610 605 600 595 590 585 580 575 570 565 560

5+00 6+00 7+00 8+00 9+00 10+00

A. KATURA CURRY 87679 REGISTERED PROFESSIONAL ENGINEER 9/03/04

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY A. KATURA CURRY ON 9-3-04.

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

91

DATE: MAY 2004 | SCALE: 1"=20'(H) 1"=5'(V) | JOB NO.: 320-02
DRAWN: G&A | DESIGN: | APP. RECOMMENDED: | APP'D DWG: 320STMPP02

ARAPAHO ROAD PHASE III

PLAN & PROFILE

STORM SEWER 'A' STA. 5+00 TO STA. 10+00

TOWN OF ADDISON

Grantham & Associates, Inc.
1918 S. SHILOH ROAD, SUITE 310, L.B. 5
GARLAND, TEXAS 75042
(972) 864-2000 (TEL.)
(972) 864-2004 (FAX)

SHT. SW-3

HNTB Corporation
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15150 Surveyor Blvd.
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www.hntb.com

HNTB

Mr. Don Good
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re Railroad Grade Crossing for Roadway Pavement

May 25, 2005

Dear Don:

On May 23rd, Town of Addison held a meeting with the Dallas, Garland & Northeastern Railroad on the work schedule for the grade crossing on Arapaho Road at the old Brickyard area. During this meeting the Town and HNTB were notified that the Railroad would be changing the type of steel rail to a heavier gage, which would raise the height of the rail approximately 2 inches.

This letter is to confirm our conversation during the weekly progress meeting held on May 24th, requesting Archer Western to hold up on the placement of the flex-base material within both side of each railroad grade crossing until such time, that a Railroad work crew can makes the final grades adjustment to the existing tracks, the track are surveyed and adjustment are made to the pavement elevation for the future Arapaho Road to meet the new track grade crossing.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

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Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

May 25, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW086**

Subject: **Securing Stinger Nuts**
Request:

Please reference the Response to RFI 69

Archer Western received a response to RFI 69 – Arch and stinger bolt torque requirements, the requested a method of securing the bolts of the stringer. Archer Western proposes to tack weld the end of the bolt to the nut and spray the weld with cold galvanizing spray.

Please approve this method as soon as possible.

Response/Action Taken:

This method of securing the Stinger anchor bolt nuts is acceptable.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: May 25, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Cliff Hall, URS Corporation

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

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2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

May 25, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW063**

Subject: **Clarification of Retaining Wall Offsets**

Request:

Please review Archer Western RFI 8

Archer Western asked a question on July 26, 2004, in RFI 8, whether the MSE offsets where calculated to the face of the wall or face of coping. Jenny Nicewander responded that the offset was measured to the face of wall no face of coping. Archer Western was preparing to trench the structural and discovered that if the wall was set per RFI-8, the pedestrian and T-4 rail would no line up with the corresponding railing on the bridge. On January 27, 2005, we discussed the offset further with Ms. Nicewander and she agreed that the offset should be to the face of coping.

Please confirm this change.

Response/Action Taken:

This is to confirm the subject mention above during the weekly progress meeting and on January 27th that the offset should be to the face of the coping of the MSE retaining wall.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: May 25, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

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Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

May 24, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW074**

Subject: **Anchor Bolt Conflict with Rebar for MOD A T-4 Rail**

Request:

Please review the attached of the MOD A T-4 Rail Rebar

The designer denotes a modified dimension from the outside wall to the rebar of 4 inches. The detail does not acutely reflect the orientation of the rebar cage and the embedded anchor bolts. As shown in the attached sketch the anchor bolts fall outside the rebar cage.

Please expedite your answer as we currently need to cast T-4 coping for the retaining walling walls 2 & 4.

Response/Action Taken:

This is to concur with the submitted sketch by Archer Western e-mailed on February 28, 2005, for the required dimensions of the T-4 Rail MOD A & B. (See attaché sketch)

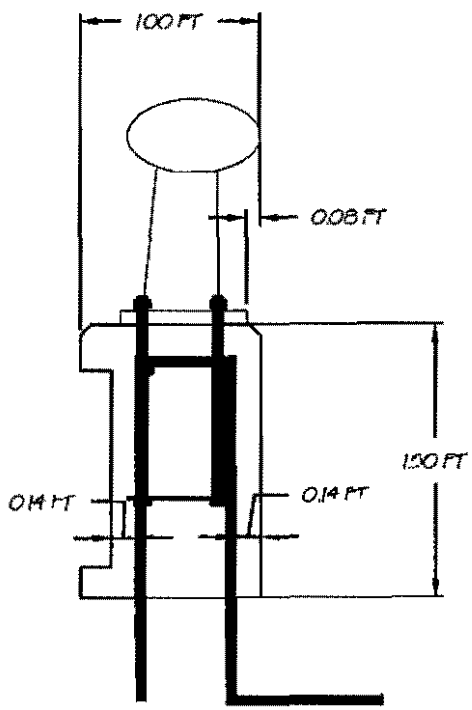
1. The dimensions from the rebar to the face of concrete are clear dimensions (not to centerline of the rebar as on the drawings.

2. The longitudinal reinforcement "R (#5) " bars need to be placed inside the anchor bolt legs not in the corners of the "U" or "V" stirrup bars.

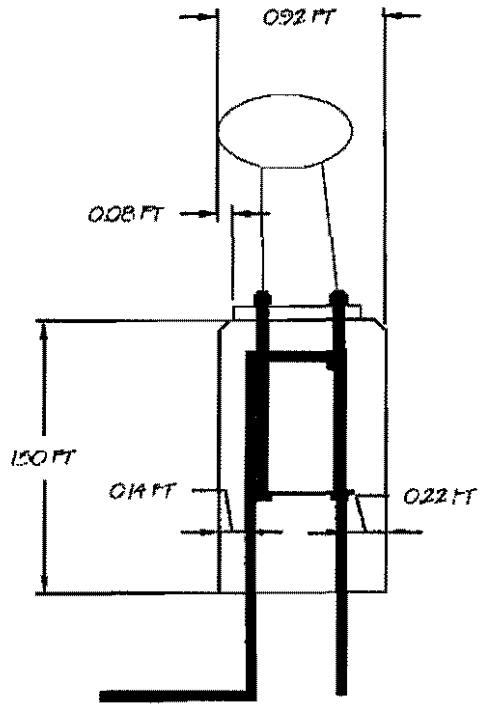
By: Guy Van Baulen, EIT
HNTB Corporation

Date: May 24, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Cliff Hall, URS Corporation



South Rail
T-4 Mod A



North Rail
T-4 Mod B

RF174

May 23, 2005

Letter: HNTB -45

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Location of Stinger Access Hole

Dear Guy:

On Friday May 20, 2005, Archer Western set the stinger on north side of bent 9. We discovered that the Stinger Access Hole will be approximately 4" into the span 8 bridge deck concrete. The installation and location of the access holes was determined by HNTB, Town of Addison and King Fabrication. Archer Western was told that modification to the stinger where being discussed between HNTB and King Fabrication. A shop drawing was submitted by King Fabrication and was approved by HNTB, but Archer Western was not given any requirements for these modifications. Archer Western will be pouring the concrete on Span 7 & 8 on Friday May 27, 2005. Please provide Archer Western a solution as early as possible, as not to delay the project schedule.

If you require additional information, please contact Andrew at our field office.

Sincerely,

for Ben Withered
Project Manager

Andrew Schneemann

XC: Andrew Schneemann
Don Good
File

May 16, 2005

Letter: HNTB -40

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Additional Charges For 8" Waterline Relocation

Dear Guy:

Archer Western concurs with the use of existing contract bid items for the removal and replacement of the existing driveway and installation of the 8" waterline.

Archer Western also incurred additional costs in the excessive potholing required to find the valve, the removal of the existing 8" waterline and relocation of the 8" gate valve.

These additional costs are detailed on the attached revised PCO 37.

If you require additional information, please contact Andrew at our field office.

Sincerely,

Andrew Schneemann

for Ben Withered
Project Manager

Enclosure

XC: Andrew Schneemann
Don Good
File

Archer Western Contractors, LTD.

Town of Addison — CHANGE PROPOSAL SUMMARY

Arapaho Raod
204059

TO: HNTB
5910 W Plano Parkway
Plano, TX 75093

ATTENTION: Guy Van Baulen

DATE: May 16, 2005
PROJECT: Arapho Road P-III
PROJECT NO.: AW-204059
PCO No. 37

Description: PotHole for 8" Gate Valve and Remove Abandoned 8" Waterline

A	TOTAL MATERIAL COST	$	59.51	
B	TOTAL LABOR COST (Labor & Burden)	$	907.32	
C	TOTAL EQUIPMENT COST	$	548.46	
	SUBTOTAL			$1,515.29
E	SUBCONTRACTOR COST	$	57.50	
	SUBTOTAL			$57.50
G	TOTAL DIRECT JOB COST			$1,572.79
H	BOND & INSURANCE AT 2 %			$31.46

TOTAL CHANGE PROPOSAL COST	$1,604.25
UNIT COST	$1,604.25
TIME EXTENSION IN DAYS (FOR THIS CHANGE)	

Archer Western — Date 5/16/05

Approval

EQUIPMENT

Arapho Road P-III
AW-204059

PCO #: 37
ITEM OF WORK: **PotHole for 8" Gate Valve and Remove Abandoned 8" Waterline**

EQUIPMENT DESCRIPTION	HOURLY RATE*	APPX HRS.	TOTAL
Potholing			$ -
FORD F-250 PICKUP	$ 9.16	1	$ 9.16
CAT 430 Backhoe Loader	$ 26.04	4	$ 104.16
			$ -
Remove and Backfill Existing			0
FORD F-250 PICKUP	$ 9.16	3	$ 27.48
CAT 430 Backhoe Loader	$ 26.04	7	$ 182.28
Walk Behind Roller	$ 25.64	6	153.84

SUBTOTAL EQUIPMENT COST	$	476.92
COMPENSATION (SUBTOTAL EQUIPMENT COST AT 15%)	$	71.54
TOTAL EQUIPMENT COST	$	548.46

*

HOURLY RATE=(Contractor's Equipment Cost Guide - Combined Owner & Repair Expenses Monthly Rate / 176)

Work Description:

Pothole for Existing 8" Gate Valve at Comfort Suites

MATERIAL

Arapho Road P-III
AW-204059

PCO #: 37
ITEM OF WORK: **PotHole for 8" Gate Valve and Remove Abandoned 8" Waterline**

MATERIAL	UNIT	EST. QTY.	UNIT PRICE	TOTAL
Small Tools	Mhrs	35	$1.00	$ 34.50
Safety Supplies	Mhrs	35	$0.50	$ 17.25

MINUS ANY DISCOUNTS ON MATERIAL INVOICES		
SUBTOTAL MATERIAL COST	$	51.75
COMPENSATION (SUBTOTAL MTL. COST AT 15%)	$	7.76
TOTAL MATERIAL COST	$	59.51

Work Description:

LABOR

Arapho Road P-III
AW-204059

PCO #: 37
ITEM OF WORK: **PotHole for 8" Gate Valve and Remove Abandoned 8" Waterline**

LABOR		HOURLY RATE	APPX HRS.	TOTAL
Potholing		$ -		$ -
69644		$ 41.85	1	$ 41.85
94452		$ 15.50	4	$ 62.00
94732		$ 18.60	4	$ 74.40
Remove and Backfill Existing				
69644		$ 41.85	3	$ 125.55
94732		$ 18.60	2	$ 37.20
94756		$ 20.93	5	$ 104.65
65119		$ 27.90	2	$ 55.80
94841		$ 21.70	5	$ 108.50
94837		$ 20.15	5	$ 100.75
94839		$ 19.38	1	$ 19.38
94840		$ 26.35	1.5	$ 39.53
93838		$ 19.38	1	$ 19.38
			35	

TOTAL BURDENED LABOR COSTS	$	788.98
TOTAL LABOR COSTS EXCLUDING LABOR BURDER AT 15%	$	118.35
TOTAL LABOR COSTS	$	907.32

Work Description:

SUBCONTRACT

Arapho Road P-III
AW-204059

PCO #: 37
ITEM OF WORK: **PotHole for 8" Gate Valve and Remove Abandoned 8" Waterline**

SUBCONTRACT	UNIT	EST. QTY.	UNIT PRICE	TOTAL
Dumpster Load (20%)	LD	1	$ 50.00	$ 50.00
				$ -
				$ -

SUBTOTAL SUBCONTRACTOR COST	$	50.00
COMPENSATION (SUBTOTAL SUB COST AT 15%)	$	7.50
TOTAL SUBCONTRACTOR COST	$	57.50
TOTAL COST OF ADDED ITEM		
UNIT PRICE (TOTAL COST DIVIDED BY EST. QTY.)	$	-

The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison TX, 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768 - Arapaho Road - Phase III

VIA Hand delivered

Date: May 26, 2005

Letter of Transmittal

To: Steve Chutchian
Town of Addison
P.O. Box 9010
16801 Westgrove Drive
Addison, TX 75001

Regarding: Payment Requisition for the Month of March

We are forwarding to you:

X Estimates	____ Plans	____ Prints
____ Reports	____ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
1		3/25/05		Construction Invoice for the Month of March

These are transmitted:

____ For approval	____ As requested	____ Copies for distribution
X For your use	____ Resubmit	____ For Review & comment
____ Return	____ Copies for review	____ No exception taken
____ Corrected prints	____ Submit	____ Amend and resubmit
		____ Make corrections noted

Please note: Please return two (2) Signed copies for distribution

By: Guy Van Baulen, EIT

Copy to: File

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: Bridge Haunch Construction

June 1, 2005

Dear Ben:

During our constructability meeting at the Town of Addison on May 27th, it was discuss that Archer Western has proposed to follow the new update TXDOT deck details for the construction of the bridge haunches.

After review of this details by the Bridge design, they have accepted the alternate procedure of construction following the TXDOT; June 2004 update of the PCP drawings and details for the bridge haunches.

Note that the 1-1/2"min. panel overhang beyond the bedding material is critical to ensure that the CIP concrete supports the panels. If adequate concrete is not cast under these panels, cracking in the deck may occur. See attached copies of the TXDOT PCP sheets.

Thank you,

Guy Van Baylen
HNTB Corporation

Cc: File
Steve Chutchian, Town of Addison attachs NOT included.
Jerry D. Holder, HNTB Corporation
Cliff Hall, URS Corporation

URS

May 19, 2005

Mr. Steven Z. Chutchian, P.E.
Assistant City Engineer
16801 Westgrove Drive
Addison, TX 75001

Re: **Arapaho Road Bridge at Midway Road**
Installation and Tensioning Procedures Structural Strand Assemblies

Dear Mr. Chutchian:

We have recently received the "Installation and Tensioning Procedures Structural Strand Assemblies" and have performed a cursory review. We are returning this submittal as "Rejected". It should be noted that this stressing plan has not been coordinated with the Contractor's erection methods that have been previously discussed. In addition, the procedure has not been signed and sealed by a licensed professional engineer in the State of Texas.

As advised earlier, the Contractor is to provide a detailed erection sequence plan for the arch span and hanger stressing as a requirement of the construction plans and specifications. This erection sequence must be coordinated with and consistent with the "Installation and Tensioning Procedures" and these procedures must consider the influence of the erection sequence, loads and details. We do not believe what was submitted by the Contractor is adequate for this deliverable. It is critical to the successful construction of the arch that the Contractor prepare this detailed erection sequence for approval before erection of the arch commences.

Sincerely,

URS Corporation

Cliff R. Hall, P.E.
Vice President
Project Manager

URS Corporation
Graystone Centre
3010 LBJ Freeway, Suite 1300
Dallas, TX 75234
Tel: 972.406.6950
Fax: 972.406.6951

May 23, 2005

Letter: HNTB -45

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Location of Stinger Access Hole

Dear Guy:

On Friday May 20, 2005, Archer Western set the stinger on north side of bent 9. We discovered that the Stinger Access Hole will be approximately 4" into the span 8 bridge deck concrete. The installation and location of the access holes was determined by HNTB, Town of Addison and King Fabrication. Archer Western was told that modification to the stinger where being discussed between HNTB and King Fabrication. A shop drawing was submitted by King Fabrication and was approved by HNTB, but Archer Western was not given any requirements for these modifications. Archer Western will be pouring the concrete on Span 7 & 8 on Friday May 27, 2005. Please provide Archer Western a solution as early as possible, as not to delay the project schedule.

If you require additional information, please contact Andrew at our field office.

Sincerely,

for Ben Withered
Project Manager

Andrew Schneemann

XC: Andrew Schneemann
Don Good
File

REQUEST FOR INFORMATION

PROJECT No. **Arapaho Phase III**

RFI # 86

Date : May 23, 2005

Submitted To	Submitted By
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen	Archer Western Contractors, Ltd. Andrew Schneemann

Subject	Discipline	Co-Author	Copies To
Securing Stinger Nuts	Civil		

Cost Impact	Amount	Schedule Impact	Days	Drawing Impact
Unknown	Unknown	Unknown	Unknown	Unknown

Information Requested

Please Reference the Response to RFI 69

Archer Western received a response to RFI 69 - Arch and Stinger bolt Torque Requirements, the requested a method of securing the bolts of the stinger. Archer Western proposes to tack weld the end of the bolt to the nut and spray the weld with cold galvanizing spray.

Please approve this method as soon as possible.

Response

REQUEST FOR INFORMATION

PROJECT No. **Arapaho Phase III**

RFI # 85

Date : May 5, 2005

Submitted To	Submitted By
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen	Archer Western Contractors, Ltd. Andrew Schneemann

Subject	Discipline	Co-Author	Copies To
Bridge Approach Slab - Standards	Civil		

Cost Impact	Amount	Schedule Impact	Days?	Drawing Impact
Unknown	Unknown	Unknown	Unknown	Unknown

Information Requested

Archer Western can not find a detail sheet, in the contract plans for the Bridge Approach Slab.

Please Provide the bridge approach slab detail as soon as possible.

Response

Conduit Layout per Plans

South T-4 Rail				South Edge of Decking				North T-4 Rail				North Edge of Decking			
Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description	Cond.	Circuit	Pg.#	Description
3/4" PVC	E&F	335	Receptacles	3/4" RMC	D	335	A-2 Fixtures	3/4"PVC	G	335	E-1&A-1 Fixture	3/4"RMC	C&D	339	C-1 Drivers
3/4" PVC	E	343	F-2 thru F-20 Even	3/4"RMC	E&F	339	C-2 Fixtures	3/4"PVC	H&J	335	Receptacles	3/4"RMC	Output	339	C-1 Output
				3/4"RMC	B	341	B Fixtures	3/4"PVC	D	343	F-5 - F-19,G-7,8,9	3/4"RMC	A	341	B Fixtures
				3/4"RMC	B Control	341	B Fixture Cntrl	3/4"PVC	C	343	F-1 -F-3, G-1-6	3/4"RMC	B Control	341	B Fixture Cntrl
				3/4"RMC	Output	339	C-2 Fixt. Output								
Total Conduits: 2				**Total Conduits: 5**				**Total Conduits: 4**				**Total Conduits: 4**			

ARCHER WESTERN CONTRACTORS, LTD.
2121 Ave J, Ste. 103
Arlington, Texas 76006
PH: (817) 640-3898 FAX: (817) 640-8734

SUBMITTAL

Date: April 26, 2005 **Submittal # :** 61.1

New Submittal : X
Re-Submittal :

To: HNTB / Town of Addison
16801 Westgrove
Addison, Texas 75001-9010
(972) 450-2886
Attn: Guy Van-Baulen

Project: Arapaho Road Phase III

A/W # 204059
Engineer: HNTB

Submittal Specification Reference: 2x2 Plaque

Description of Submitted Item: 2 x 2 Plaque

Manufacturer/Sub/Supplier: Southwell Company

Related Section / Drawings:

Additional Comments:

Jenny:
Ron W. gave the O.K. to use this plaque, as is. We will need to settle on location later. Steve.

Contractor's Certification

"Having Checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise indicated."

Archer Western Contractors, Ltd.

Sign:

Print Name: Andrew Schneemann
Title: Asst. Project Manager
Reviewed by: Andrew Schneemann
Date: April 26, 2005

Approved By Town of Addison May 25, 2005

Copy: File

southwell co.
box 299 san antonio, tx 78291
(210) 223-1831 fax (210) 223-8517

☐ approved (no corrections)
☐ approved as noted
☐ revise and resubmit
signed by: date:

PLEASE SIGN AND RETURN ONE (1) COPY. FAILURE TO SIGN THIS PROOF WILL RESULT IN RESUBMITTAL FOR YOUR SIGNATURE.
Thank You

CUSTOMER:
ARCHER WESTERN CONTRACTORS, LTD.
2121 AVENUE J, SUITE 103
ARLINGTON, TX 76006
ATTN: ANDREW SCHNEEMANN

SHIP TO:
ARCHER WESTERN CONTRACTORS, LTD.
1510 SURVEYOR
ADDISON, TX 75001
ATTN: ANDREW SCHNEEMANN

PROOFS!
PLEASE SIGN & RETURN ONE COPY

CAST BRONZE PLAQUE
24" W X 24" H
SCALE: 1/4" = 1"

24"

24"

ARAPAHO ROAD PHASE III

October 2005

City Council

R. Scott Wheeler, Mayor

Tom Braun — Glynda Turner
Jimmy Niemann — Joe Chow
Fredric M. Silver — Gregory S. Hirsh

Ron Whitehead, City Manager

Director of Public Works / City Engineer
Mike Murphy, P.E.

Construction Manager
HNTB Corp.

Designer
Roadway-HNTB Corp.
Bridge-URS Corp.

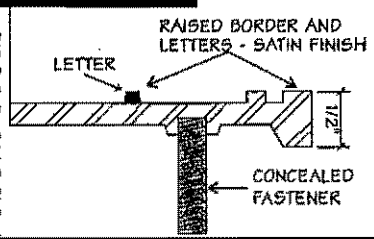
General Contractor
Archer Western Contractors, LTD.

BACKGROUND OXIDIZED TEXTURE

YOUR ORDER WILL BE PRODUCED FROM THE ARTWORK YOU SEE HERE. IF YOU APPROVE THIS ARTWORK AND IT CONTAINS ERRORS, YOU WILL BE HELD FINANCIALLY RESPONSIBLE FOR THE WORK WE DO. PLEASE CAREFULLY CHECK THAT ALL IS CORRECT REGARDING SPELLING, DESIGN, COLOR AND

STOP **YOU ARE THE FINAL PROOF-READER** STOP

CROSS SECTION
3/4 SCALE



QUOTE # 16547 FILE NAME: 04-4689.CDR
JOB # 04-4689 DATE

PLEASE
SPECIFY MOUNTING ATTACHMENTS

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

May 23, 2005

Originator: Andrew Scheermann

RFI Number: **"K"**

Subject: **Location of the North Two-Grate inlets at the ends of the Bridge**

Request:

Archer Western has discovered base on the provide coordinates that the two grate inlet back of the inside wall will be approximately 2 ft from the face of the T-4 Railing. The question was asked if this location would be acceptable, since the water running off the bridge would be able to flow by the inlet and in the wheel path of traveling vehicles.

Response/Action Taken:

In the field, Archer Western was directed to move the inlet up against the T-4 Rail, to prevent the grating from being in the vehicle wheel path and to allow the storm water runoff to be collected.

Attached please find a sketch showing the location of the two-grate inlet and the adjacent T-4Rail showing to reverse the 'V' rebar to avoid conflict with the inlet.

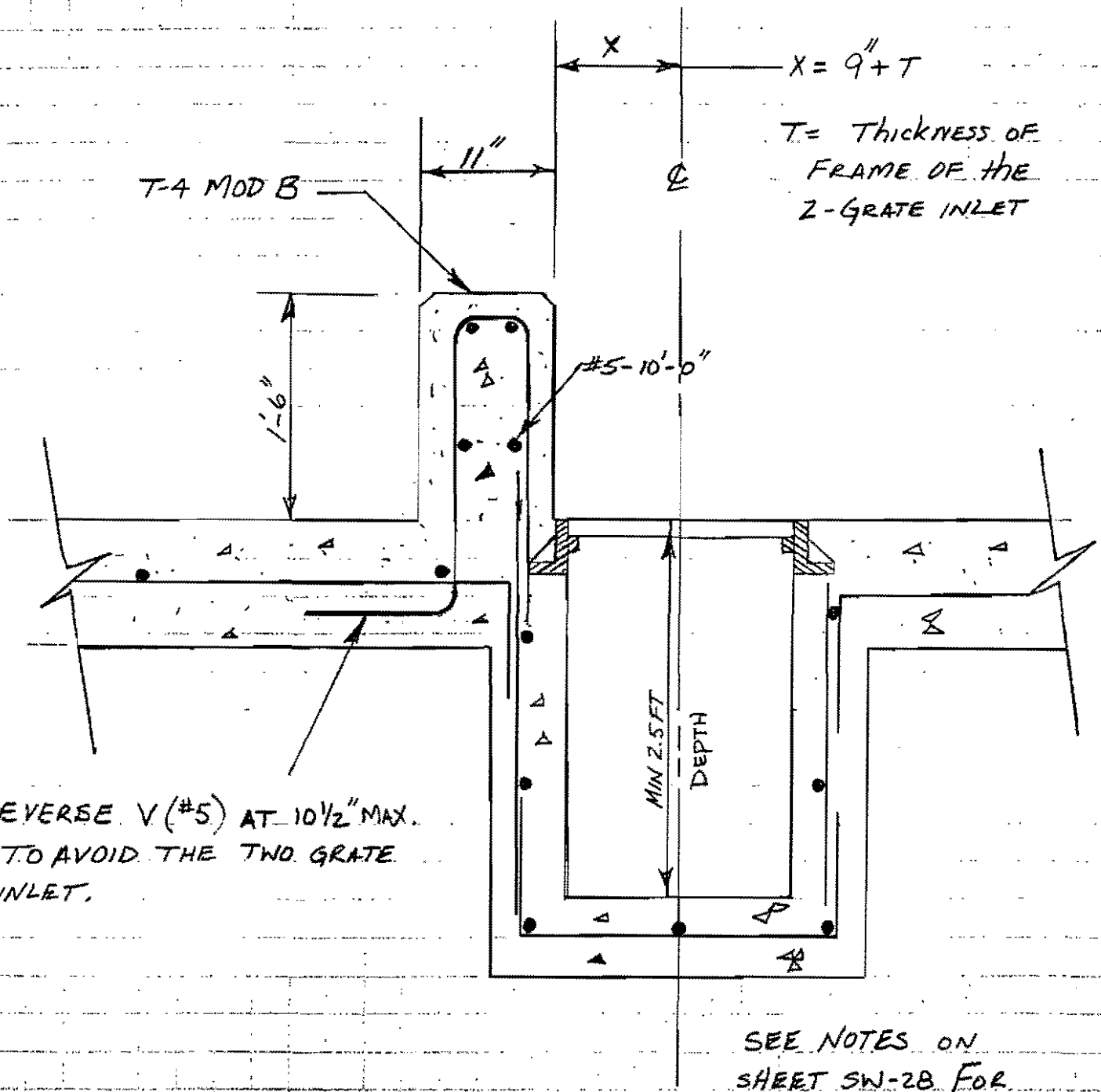
By: Guy Van Baulen, EIT
HNTB Corporation

Date: May 23, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

HNTB The HNTB Companies	Made by GVB	Date 5-20-05	Job Number 25768
	Checked by	Date	Sheet Number SK-2
For 2-GRATE INLET NORTHSIDE	Backchecked by	Date	

AT APPROACH SLAB/ABUTMENT



SEE NOTES ON SHEET SW-28 FOR INLET REQUIREMENTS

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

May 23, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW067**

Subject: **Additional Hangers in U54 Beams**

Request:

Please review sheet 310 the TxDot UBA detail sheet.

Archer Western has discovered the need to add additional hangers to support the overhang brackets on beam 1 for spans 1 to 14, due to the large overhang. We would weld a #4 rebar longitudinally to the 'R' bars. Then weld the additional hangers to the longitudinal #4 bar or 'R' bar.

Please approve this procedure at your earliest convenience.

Response/Action Taken:

To response to your request to perform the procedure above, a question is proposed to Archer Western.

Has Archer Western changed their formwork to accommodate the large overhang and should this RFI be withdrawal?

By: Guy Van Baulen, EIT
HNTB Corporation

Date: May 23, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

May 23, 2005

Originator: Andrew Scheermann

RFI Number: R-AW069

Subject: Arch and Stringer Bolt Torque Requirements

Request:

Please provide the bolt torque requirements for the Arch and Stringer Bolts

Response/Action Taken:

The Anchor bolts do not need to be torqued. They should be installed to a snug tight condition.

The arch bolts used a double hex nut to prevent the nuts form coming loose, but the stringer doesn't have two nuts. It is requested that Archer Western provide a type of nylon insert stop nut, lock nut or an other alternate means of preventing the loosening of the archor bolt nut due to vibration.

Please provide the choice of prevention of loosening for the Stringer anchor bolt nuts prior to work.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: May 23, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Cliff Hall, URS Corporation

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
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www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

May 19, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW079**

Subject: **Bridge Blister Width**
Request:

The width of the slab blister on Sheet 285 is 1'-3 ½". The pedestrian rail details on sheet 301 show the rail widening at the slab blister to be 1'-0". Per previous conversions and e-mails, the dimension of 1'-0" on Sheet 301 should be 1'-3 ½".

Is this correct?

Response/Action Taken:

This to confirm the previous conversions and e-mails, that the post dimension as 1'-0" on sheet 301 is not correct. The rail widening elevation at slab blister should be 1'-3 ½".

By: Guy Van Baulen, EIT
HNTB Corporation

Date: May 19, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Cliff Hall, URS Corporation

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

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Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

May 19, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW057**

Subject: **Relocation of Utility Sleeves**
Request:

Archer Western has found many conflicts with the plan locations of the electrical and Irrigation sleeves. Archer Western proposes to relocate the irrigation and electrical sleeve to miss obstructions. We will keep the new location as close to the original as possible and will reflect the new locations on the project as-builts.

Is this acceptable?

Response/Action Taken:

In response to the statement of many conflict and obstruction, we are requesting Archer Western to indicate any conflict prior to construction that may cause the work to be outside the scope or intent of the contract drawing.

The proposal of relocating the utility sleeves for the electrical and/or Irrigation system is acceptable to avoid any minor conflict with existing conditions and future work. It's Archer Western responsibility to maintain the integrity of the designed utility systems and follow the city standards for the indication of sleeves under pavement as well as the contract requirements.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: May 19, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation

ITB Companies
ers Architects Planners

15150 Surveyor Blvd.
Addison TX, 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768-Arapaho Road - Phase III

VIA Hand Delivered - 12:45pm

Date: May 19, 2005

Letter of Transmittal

To: Ben Withered
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Regarding: Shop Drawings

We are forwarding to you:

____ Estimates	____ Plans	____ Prints
____ Reports	X Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
3	Submittal #62.1	5/11/05		Installation and Stressing Procedure for Steel Sructural Hengers - CBSI

These are transmitted:

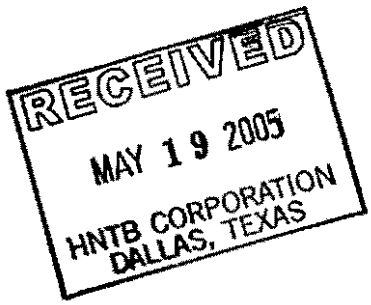
____ For approval	____ As requested	____ Copies for distribution
X For your use	____ Resubmit	____ For Review & comment
____ Return	____ Copies for review	____ No exception taken
____ Corrected prints	____ Submit	X Amend and resubmit
		____ Make corrections noted

Please note: Please resubmit 6 new copies of the Installation and procedure for review.

By: Guy Van Baulen, EIT

Copy to: File

Daniel J. Filer, HNTB Corporation



May 18, 2005

Letter: HNTB -44

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Revised Grate Inlet Detail

Dear Guy:

Archer Western received a revised grate inlet sketch for the 2 grate inlet at MSE wall #2 from HNTB on May 16, 2005, attached. Archer Western has reviewed the sketch and has the following comments/questions:

- The modifications to the precast coping reinforcing need to be reviewed and approved by a Professional Engineer.
- The top row of MSE wall reinforcing straps starts approximately 1'-3" below the top of paving. Please provide a detail to route straps.
- What details are to be used for inlets adjacent to Retaining wall 1 and 3?

Please provide this information as soon as possible.

If you require additional information, please contact Andrew at our field office.

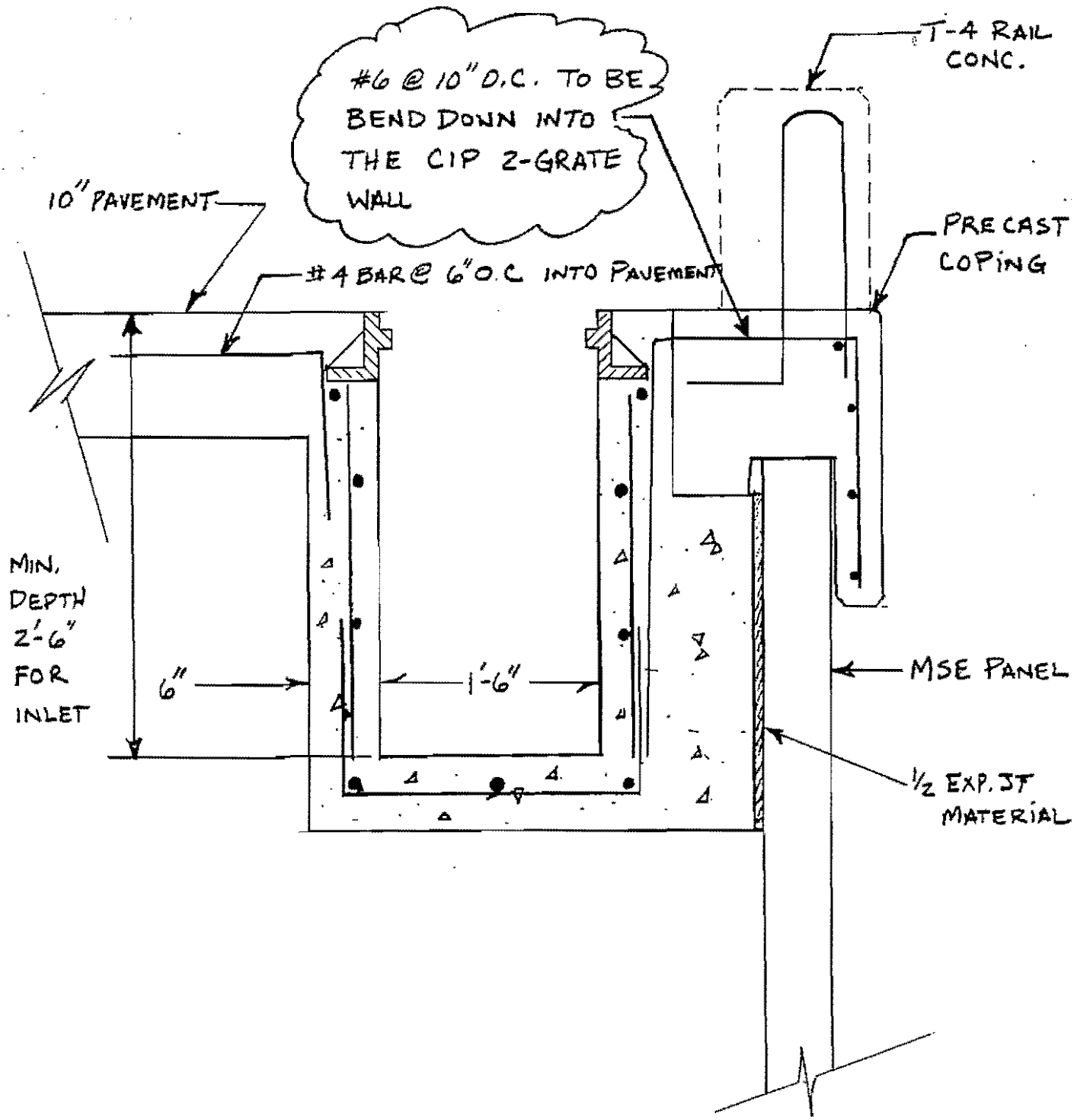
Sincerely,

Andrew Schneemann

FW Ben Withered
Project Manager

XC: Andrew Schneemann
Don Good
File

TB Companies	Made by GVB	Date 5-16-05	Job Number 25768
	Checked by	Date	Sheet Number
.-GRATE INLET AT MSE #2	Backchecked by	Date	



May 18, 2005

Letter: HNTB -43

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
HNTB Letter concerning MSE Wall #2

Dear Guy:

Archer Western received your letter dated May 11, 2005, concerning the MSE Wall #2. Archer Western acknowledges that the western most step of MSE #2 was detailed on the shop drawings incorrectly and will be revised.

In regards to the wall extension, Please provide a revised plan sheet which shows the wall revisions and any drainage revisions required. Archer Western has provided as-built elevations in this area as requested by your office.

The letter states that the work will be compensated under contract bid item 143 - Furnish and Place MSE Retaining Wall TxDOT Item 423. In accordance with the contract, this bid item is to compensate Archer Western for direct costs but does not compensate for remobilization and lost production.

Archer Western will await detailed direction from HNTB and Town of Addison on the work required at the West end of MSE Wall #2. Please provide this information as soon as possible as to not delay the work, as we are currently preparing the roadway for concrete paving in this area.

If you require additional information, please contact Andrew at our field office.

Sincerely,

for Andrew Schneemann

for Ben Withered
Project Manager

XC: Andrew Schneemann
Don Good
File

ıies
ects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

ithered
.anager
Western Contractors, Ltd.
venue "J"
.03
.gton, TX 76006

HNTB

Bridge Haunch Construction

May 27, 2005

Dear Ben:

For Several weeks, I have been talking with Archer Western about the construction of the bridge deck. In particular, the construction of the Bridge deck haunch over the U54- Beams. This standard requirement can be found in the contract drawing on sheet BS-11, page 319. I had received three detail sheets and a copy of a letter from TXDOT to Archer Western on the methods of construction for haunches on other TXDOT contracts in which you plan to utilize on this contract. This information was forwarded to URS Corp. for review of intent of constructing of the bridge haunches.

On May 24th, I received an e-mail from the Bridge designer rejecting this construction method that Archer Western has proposed and is performing in the field. This e-mail was than given to Archer Western Superintendent.

There are presently conflicts in the method of construction and the details provided in the contract plans for the haunch. The dimension between the pre-stress concrete deck panels and U-beam which are greater than 1-1/2"and being supported by 2"thick extruded polystyrene. This is an alternate method which has not been submitted for approval by the engineer of bridge design. Secondly, this height between the pre-stress deck panels and the U-beam has reached up to 4 inches, requiring the installation of additional rebar at each Bar R in the U-beam and within the haunch. This additional rebar has not been submitted for review of size & quantity to the bridge engineer of approval.

Until a proper construction design change proposal for the haunch is submitted by Archer Western and reviewed and approved by the Bridge Designer, The placement of the concrete deck for spans 7, 8, 10 thru 14 can not be placed.

Any delay encounter to satisfy the Bridge Design Engineer concept of the bridge haunch due to Archer Western alternative construction method will not be recognized by the Town of Addison.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Cliff Hall, URS Corporation

Weekly Meeting Agenda

Date: Tuesday June 7, 2005 Arapaho Road Phase III
Time 10:00 A.M.
Location: Field Office

I. Safety Issues

1. Maintain traffic control at Midway Road.
2. Traffic at Surveyor.

II. Submittals

III. Old Business

1. A/W received revised blow off details from HNTB on 3/9/05. We are pricing and proceeding with this revised detail. A/W is also preceding with the pricing and installation of the 3" Air Release Valve per HNTB direction.
After discussions with DWU Field Personnel, the 3" air release will not be required and the 10" flanged opening will be blind flanged and grouted. A/W will Issue RFI to confirm.
A/W needs direction from HNTB and Towns of Addison on where to locate the 10" air release equipment.
A/W still has not received a revised plan sheet to where the 10" air release valve is to be located or that reflects the changes to the valve orientation.
Guy will call Cassy at DWU 4-26-05.
Still have not received revised plan sheets. 5-03-05, 5-11, 5-18, 5-24, 6-1,6-7.

2. A/W still has concerns about the roadway grades at the rail road crossings. A/W plans on installing per the latest plan sheet.
HNTB requests asbuilt elevations.
Given to HNTB on 5-18-05.
DGNO has been working on the tracks and all elevations have changed.
HNTB has taken grade shots on the rails and are working on revised plan sheets.6-1.
A/W has stopped all work in this area awaiting these plan sheets as of 5-26-05.

3. Dirt Grades at R.W. # 3 will need to be revised due to the shortening of the wall length
Guy said he is working on it. 5-24-05.
Nothing yet 6-7-05.

4. Irrigation line at Charter needs to be caped.
A/W will cap this week.6-1-05.

5. There are still several piles of RR ties, in site grading areas, at the brickyard that need to be removed.
DGNO will remove within a month.5-24-05

HNTB stated that DGNO will start on the crossings soon and will remove at this time.

IV. Change Orders

1. Ben would like to schedule meeting with Addison and HNTB to discuss Paint Pricing.
   Jenny will set up a meeting.
   Meeting was held Wed. 4-13-05.
   Archer Western is waiting on a response from URS and Jerry Holder.
   Ben said this is becoming a critical matter due to the primer spec. changing.
   Jenny said she will contact today. 4-26-05.
   A/W received a letter from HNBTB on 4-29-05
   Another meeting is being scheduled.
The painting system has been decided on and A/W will submit pricing and proceeding.
Waiting on Ben 6-1-05 6-7-05.

V. New Business

1. HNTB requests that R.W. #2 be extended to the limits of the T-4 rail.
A/W has taken field measurements and elevation shots.
Texas Welded Wire will be contacted to start the drawings.
A/W does request a letter directing us on the extending of the wall. 5-3-05
A/W has not received a letter yet. 5-11-05.
A/W received a letter from HNTB on 5-11-05.
Additional information is needed ASAP.
A/W requests additional information on the RCP and Inlet as well as removal of existing inlet. This work is scheduled for this week. 5-24-05
A/W has received revised drawings from HNTB.
The work on the wall is completed.

V. Misc.

1. The DWU manholes are too high; we have contacted DWU and are working on a solution.

2. Dave Wilde requests that weep hole be placed in the grouted riprap at the DWU flume, due to excessive ground water.

VI. Schedule

1 Review Weekly Schedule

6/7/2005

ARAPAHO ROAD

Archer Western Contractors

Activity Description	Prod	Current Week						Next Week						Following Week						SUBS/NOTES
		M	T	W	T	F	S/S	M	T	W	T	F	S/S	M	T	W	T	F	S/S	
		6	7	8	9	10	11	13	14	15	16	17	18	20	21	22	23	24	25	
Dirt and Utilities																				
Excavate/Embank Brickyard	Waiting on grade changes																			
Clean & Patch Lines A & B		X	X	X	X	X	X													
Flex Base East	Waiting on grade changes																			
Flex Base West		X	X	X	X	X	X													
Blue Top Flex Base		X	X	X	X	X	X													
Site Grading Under Bridge		X	X	X	X	X	X	X	X	X	X	X	X							
Clean 66" RCP @ Brick Yard		X	X	X	X	X	X													
Bridge Work																				
Decks / Overhangs/SEJ's		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Deck Rebar		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Place Decks										X								X		
Set North Arch																				
Set Beam Shore Towers																				
Set Beams Span 9																				
Splice Beams Span 9																				
Diaphrams Span 9																				
T 4 Rail		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Paving																				
Surv Box Crossing Replacement							X	X	X	X	X	X								
Pave Surveyor to East									X	X	X	X	X	X	X	X	X	X	X	
Retaining Walls																				
Level Pad / Coping		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Miscellaneous																				
Inlets			X	X																
RipRap/Pilot Channel at 10x6				X	X	X	X	X	X	X	X	X								
Surveyor Crossing																				
Switch Traffic as needed																				

Steve Copy

Weekly Meeting Agenda

Date: Tuesday June 7, 2005 Arapaho Road Phase III
Time 10:00 A.M.
Location: Field Office

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6/7/2005

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Site Grading Under Bridge		X	X	X	X	X	X	X	X	X	X	X	X							
Clean 66" RCP @ Brick Yard		X	X	X	X	X	X													
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Decks / Overhangs/SEJ's		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Deck Rebar		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Place Decks										X								X		
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T 4 Rail		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Paving																				
Surv Box Crossing Replacement							X	X	X	X	X	X								
Pave Surveyor to East									X	X	X	X	X	X	X	X	X	X	X	
Retaining Walls																				
Level Pad / Coping		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Miscellaneous																				
Inlets			X	X																
RipRap/Pilot Channel at 10x6				X	X	X	X	X	X	X	X	X								
Surveyor Crossing																				
Switch Traffic as needed																				

ARAPAHO ROAD PHASE III FUNDING UPDATE
Updated March 22, 2005

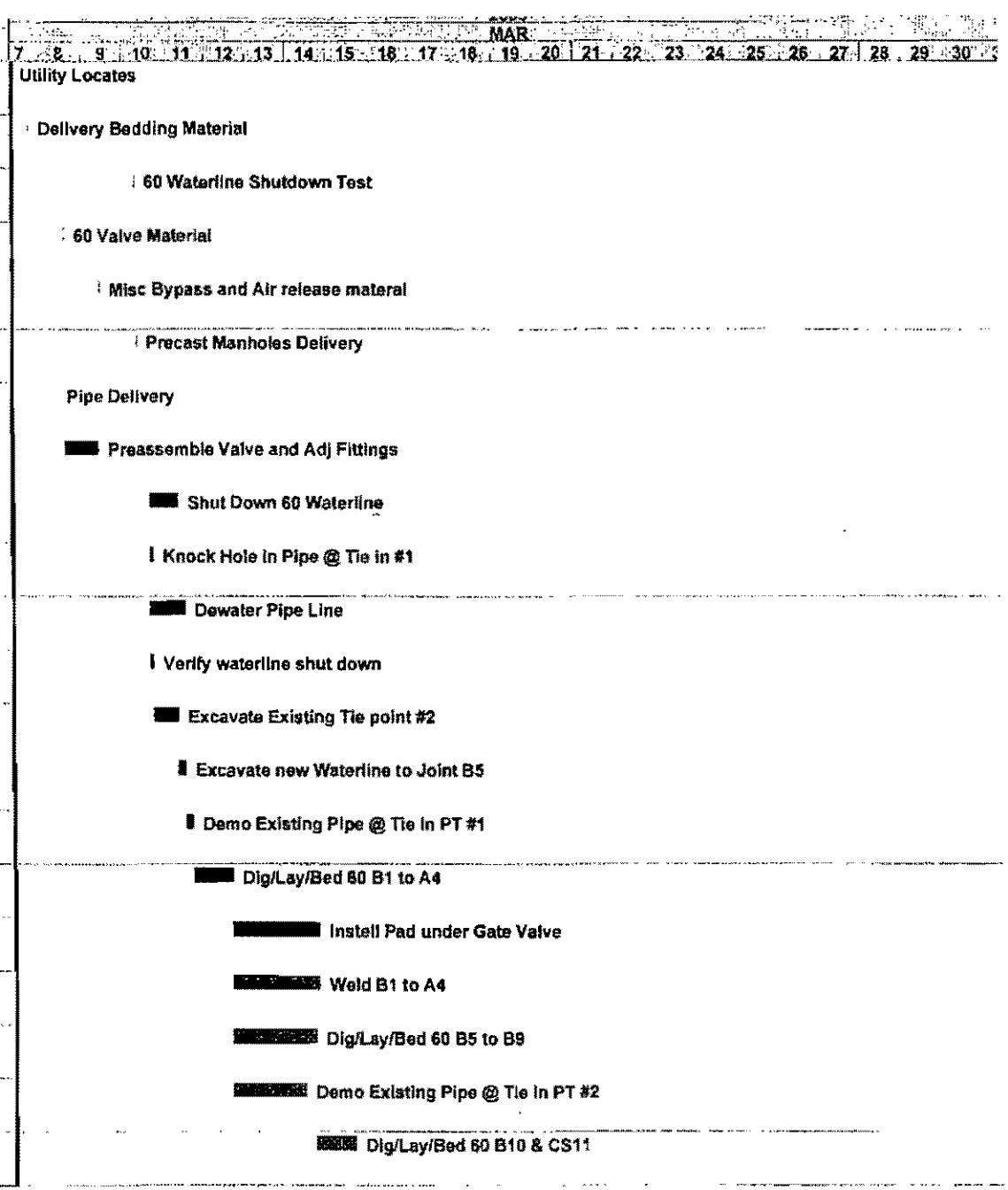
Project Balances as of December 31, 2004		Comments
Fund 41 - Street Capital Project Fund	$ 1,247,842	
Fund 46 - 2000 Capital Project Fund	-	
Fund 44 - 2002 Capital Project Fund	803,744	
Fund 47 - 2004 Capital Project Fund	11,990,624	
Total Project Balances	$ 14,042,210	

Project Requirements as of December 31, 2004		
Under Contract:		
Archer Western Contractors Ltd.	$ 12,028,332	Per 12/20/04 Invoice - Original contract was $16,702,578.42 plus $8,509.00 change order.
HNTB Design Contract	56,381	Per 10/15/04 Invoice - Not received and paid until February 2005.
HNTB Construction Inspection Contract	310,310	Per 01/28/05 Invoice - Invoice was for $124,376.16 going back to 01/23/02!!!
HNTB Landscape Architecture Contract	4,365	Per 04/09/04 Invoice - Remaining of original $87,291 contract.
HNTB Shop Drawing Contract	55,964	** Contract approved by Council in August 2004.
URS Bridge Shop Drawing Contract	20,668	** Contract for $24,900 approved by staff.
	12,476,020	
Additional Work Authorized:		
Archer Western Change Orders #2 & 3	160,750	
TXU Electric Utility Relocation	282,950	
SBC Utility Relocation	39,000	
Farmers Branch Water Line Relocation	107,410	** Increased by $18,690 due to unexpected increase in material cost.
	590,110	
Additional Work Identified:		
Archer Western Incentive Payment	200,000	
Future Archer Western Change Orders	250,000	
HNTB Additional Construction Inspection	149,000	**This amount reduced from $269k.
DGNO Railroad Crossing	1,300,000	
Legal fees Associated with Contested ROW	30,000	
	1,929,000	
Total Project Requirement	$ 14,995,130	
Project Balance	$ (952,920)	

Potential Resources:		
South Quorum/Inwood Road Park	518,260	
Beltline Resurfacing Savings	200,000	Conservative estimate, may approach $500k.
Future Interest Earnings	50,000	
2006 Bond Sale - Arapaho Rd. Tollway Intersection	750,000	
2006 Bond Sale - Belt Line SPUI	2,200,000	
	$ 3,718,260	

Revised: 9:37 AM

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish
1000	Utility Locates	10	0	100		
1020	Delivery Bedding Material	8	0	100		
1060	60 Waterline Shutdown Test	8	0	100		
1030	60 Valve Material	8	0	100		
1040	Misc Bypass and Air release materal	8	0	100		
1050	Precast Manholes Delivery	8	0	100		
1010	Pipe Delivery	4	0	100		
1190	Preassemble Valve and Adj Fittings	7	7	0	03/08/05	03/09/05
1170	Shut Down 60 Waterline	4	4	0	03/10/05*	03/11/05
1200	Knock Hole in Pipe @ Tie in #1	2	2	0	03/10/05	03/10/05
1210	Dewater Pipe Line	8	8	0	03/10/05	03/11/05
1180	Verify waterline shut down	2	2	0	03/10/05	03/10/05
1230	Excavate Existing Tie point #2	2	2	0	03/10/05	03/11/05
1250	Excavate new Waterline to Joint B5	4	4	0	03/11/05	03/11/05
1260	Demo Existing Pipe @ Tie in PT #1	4	4	0	03/11/05	03/11/05
1270	Dig/Lay/Bed 60 B1 to A4	10	10	0	03/11/05	03/12/05
1400	Install Pad under Gate Valve	12	12	0	03/12/05	03/14/05
1310	Weld B1 to A4	12	12	0	03/12/05	03/14/05
1290	Dig/Lay/Bed 60 B5 to B9	10	10	0	03/12/05	03/14/05
1280	Demo Existing Pipe @ Tie in PT #2	4	4	0	03/12/05	03/14/05
1300	Dig/Lay/Bed 60 B10 & CS11	10	10	0	03/14/05	03/15/05



Start Date 12/27/04
Finish Date 03/24/05
Data Date 03/07/05
Run Date 03/08/05 11:50

Early Bar
Progress Bar
Critical Activity

60WL

Archer Western Contractors, Ltd.

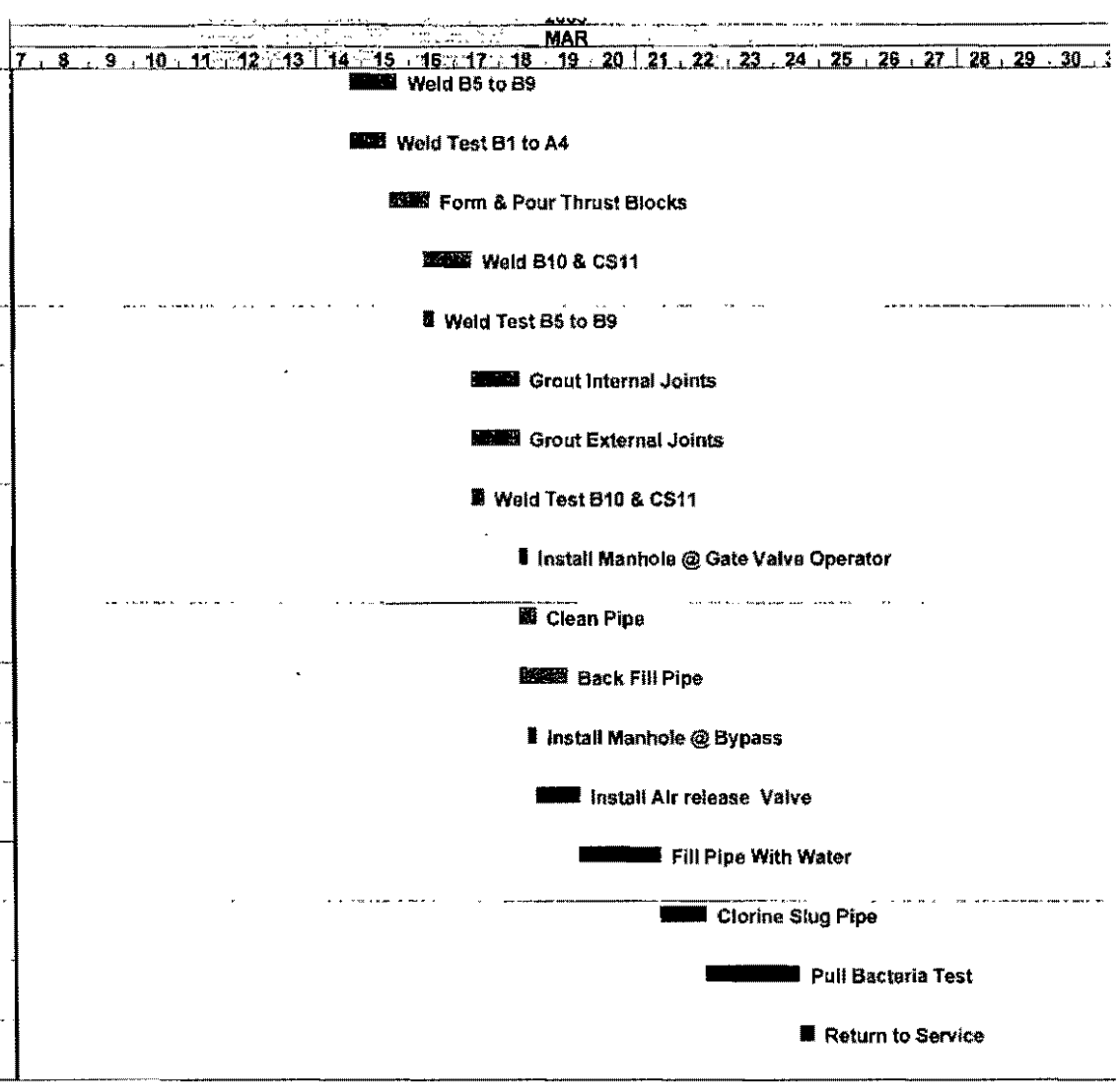
60in Waterline Lowering

Classic Schedule Layout

Sheet 1 of 2

Date	Revision	Checked	Approved

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish
1320	Weld B5 to B9	12	12	0	03/14/05	03/15/05
1340	Weld Test B1 to A4	6	6	0	03/14/05	03/15/05
1500	Form & Pour Thrust Blocks	8	8	0	03/15/05	03/16/05
1330	Weld B10 & CS11	12	12	0	03/16/05	03/17/05
1350	Weld Test B5 to B9	6	6	0	03/16/05	03/16/05
1370	Grout Internal Joints	12	12	0	03/17/05	03/18/05
1380	Grout External Joints	12	12	0	03/17/05	03/18/05
1360	Weld Test B10 & CS11	6	6	0	03/17/05	03/17/05
1410	Install Manhole @ Gate Valve Operator	4	4	0	03/18/05	03/18/05
1440	Clean Pipe	8	8	0	03/18/05	03/18/05
1390	Back Fill Pipe	12	12	0	03/18/05	03/19/05
1420	Install Manhole @ Bypass	4	4	0	03/18/05	03/18/05
1430	Install Air release Valve	10	10	0	03/18/05	03/19/05
1450	Fill Pipe With Water	4	4	0	03/19/05	03/21/05
1460	Clorine Slug Pipe	24	24	0	03/21/05	03/22/05
1470	Pull Bacteria Test	48	48	0	03/22/05	03/24/05
1480	Return to Service	8	8	0	03/24/05	03/24/05



Start Date 12/27/04
Finish Date 03/24/05
Data Date 03/07/05
Run Date 03/08/05 11:50

Early Bar
Progress Bar
Critical Activity

60WL

Sheet 2 of 2

Archer Western Contractors, Ltd.

60in Waterline Lowering

Classic Schedule Layout

Date	Revision	Checked	Approved

wednesday
March 9th.
3:00

February 18, 2005

Mr. Steve Chutchian, P.E.
Asst. City Engineer - Town of Addison
16801 Westgrove Drive
P.O. Box 9010
Addison, TX 75001-9010

Re: Arapaho Road Phase 3 – Construction Inspection

Dear Steve:

As you know, HNTB is providing construction inspection services for the Town of Addison on the referenced project. When the initial scope and fee were developed in late 2001, several factors were not known, such as the construction schedule, the design of the bridge and the decision to go with A+B bidding. Our original construction inspection fee was based on one year of inspection. This was based on week days, which equated to 260 days of inspection, or 2,080 hours in one year. After the bridge type was selected and the design of the project was completed, the project was bid using A+B bidding, with the low bidder coming in at 425 calendar days. Based on 10-hours per day this equates to 4,250 hours, just over twice our original scoped fee.

While we were discussing the scope of the Construction Observation with the Town's staff in late 2001, we all agreed that there were too many unknowns at that time to develop an accurate fee, but we developed a fee based on the knowledge we had at the time. It was agreed that we would make modifications once the actual construction bids were in place. In fact, the following language was put in the original contract to address this: "Construction Observation.... *If the duration differs from these estimates, the compensation shall be adjusted accordingly.*"

The attached spreadsheet shows our labor for the project. The original inspection contract amount was $211,060. As of February 11, 2005 we have exceeded this amount by $21,514.48. Our inspectors have been averaging 65 hours a week in an effort to keep up with the Contractor. In an effort to minimize the rest of the inspection cost, we are suggesting reducing the amount of hours each week that our inspectors perform. We are suggesting limiting Guy's effort to 48 hours per week and any assistance he needs to 8 hours per week. This will mean there will be times when the Contractor is working without our supervision. We believe the problems this may cause can be minimized through communications with the Contractor prior to critical elements of the project being constructed.

As we have already exceeded our original contract amount, I would appreciate your prompt attention to this matter. Please call me with any questions. Thank you for letting us work with you and your staff on your most important projects.

Sincerely,
HNTB CORPORATION

Jerry D. Holder, Jr., P.E.
Director of Municipal Services

M:\JOBS\25768Phase3\COMMMTGS\LETTERS\2005\Chutchian-2005-02-17-ltr.doc

Arapaho Road Construction Inspection

Original Contract Amount	$ 211,060.00
Days bid by Archer-Western	425
Days used as of Feb. 11, 2005	187
Days to completion	238
Weeks to completion	34
Amount Spent as of Feb. 11, 2005	$ 232,514.48
Over Budget Amount	$ (21,454.48)

Assumptions:

1. After February 11th, Archer Western will work for **34** more weeks to complete project.
2. Archer Western will work 6 days a week, 12 hours per day for **30** weeks.
3. Archer Western will work 7 days a week, 12 hours per day for **4** weeks.
4. This equates to 208 days of construction remaining.

Guy Van-Baulen will work a maximum of 48 hours per week.
Guys' assistant will work a maximum of 8 hours per week.

Guy		
Weeks		34
Hours/Week		48
Total Hours		1,632
Hours		1,632
Rate	$	36.00
Direct Labor	$	58,752.00
ER		2.92
Total	$	171,555.84
Total Labor	$	189,823.36

Guy's Assistant		
Weeks		34
Hours/Week		8
Total Hours		272
Hours		272
Rate	$	23.00
Direct Labor	$	6,256.00
ER		2.92
Total	$	18,267.52

Total amount required to finish project

Existing Over Budget amount	$	21,454.48	
Total Labor	$	189,823.36	
Project Management	$	23,100.00	(assumes 4 hours per week)
Expenses	$	4,390.00	
Total	**$**	**238,768**	

M:\JOBS\25768Phase3\CONTRACT\primecon\Supplementals\[SuppmentA_CN-01.xls]40 hour

February 16, 2005

Mr. Jim Pierce, P.E.
Asst. Public Works Director
Town of Addison
16801 Westgrove Drive
P.O. Box 9010
Addison, TX 75001-9010

Re: Beltline Road Pavement Rehabilitation
Marsh Lane to Dallas North Tollway

Dear Mr. Pierce:

As you know, the Beltline Road project exceeded the original schedule by 28 days. Our Inspection Services in the original professional services contract were based on a 30-day construction schedule. When the construction schedule exceeded the 25-day original schedule HNTB continued to provide construction inspection services per the request of the Town of Addison. We verbally agreed to continue our services with the knowledge that the Town of Addison would pay any additional monies owed to HNTB from the daily disincentive being applied to the contractor.

The attached spreadsheet shows our labor for the project. The original inspection contract amount was $66,207.46. The additional inspection work we have performed has caused the original budget to be exceeded by $23,303.22. We anticipate there will be further work once APAC comes out to finalize the remaining repair areas. We have estimated 24 hours for inspection and 30 hours for engineering and management time. This brings the total increase to $31,295.22. We have attached a supplemental agreement for this amount for your review.

We appreciate your attention to this matter. Please call me with any questions.

Sincerely,

HNTB CORPORATION

Jerry D. Holder, Jr., P.E.
Director of Municipal Services

M:\JOBS\40316-Beltline\COMMMTGS\LETTERS\Pierce-01-ltr.doc

Beltline Road - Inspection Services **2/16/2005**
40316-CN-001 **HNTB Corporation**

	Labor	Expenses	Total
Original Inspection Contract Amount	$ 62,947.46	$ 3,260.00	$ 66,207.46
Total Expended to Date	$ 85,996.47	$ 3,514.21	$ 89,510.68
Amount (Over)/Under budget	$ (23,049.01)	$ (254.21)	$ (23,303.22)

Supplemental Amount:		
Amount currently over budget:	$ 23,303.22	Hours
Estimated Additional Inspection Time:	$ 2,592.00	24
Estimated Additional Engineering/Management Time:	$ 5,400.00	30
Total Supplemental Agreement Requested:	$ 31,295.22	
New Inspection Contract Amount:	**$ 97,502.68**	

M:\JOBS\40316-Beltline\COSTACCT\DQ\[Supp Agrmt 01.xls]Sheet1

ATTN KAY 972 466 3193

CITY OF CARROLLTON, TEXAS
CONSTRUCTION PERMIT
PUBLIC RIGHT-OF-WAY / STREET CUT / EXCAVATION / OFFSITE UTILITY INSTALLATION PERMIT

Date: 1/25/05 Permit No. 11054

The undersigned petitions the City of Carrollton for permission to work, install, excavate or cut at the location described below in accordance with City Control Procedures and provision as stated herein.

Contractor: TOWN OF ADDISON

Mailing Address: 16801 WESTGROVE

Responsible Supervisor: JENNY NICEWANDER Phone: Day 972 450 2860 Night 972 896 1713

Project Name: ARAPAHO PHS 3

Project Address: 16801 WESTGROVE

Purpose of Work: PST HALE DOU WATERLINE

Size of Work: Length 3 Width 3 Depth

Work To Be Performed By: ( ) General Contractor ( ) Utility Contractor ( ) Paving Contractor (✓) City ( ) Other

Type Excavation: ( ) Street Bore (✓) Ground Surface ( ) Street – Concrete/Asphalt

City to Replace: ( ) Subbase and Surface ( ) Surface Only ( ) None

WORK AS AUTHORIZED UNDER THE APPROVED PERMIT REQUEST SHALL BEGIN WITHIN SIXTY (60) CALENDAR DAYS FROM THE APPROVED DATE, OR APPLICATION FOR PERMIT MUST BE RESUBMITTED.

Estimated Calendar Days of Blockage: 1 DAYS WORK

Barricade Sketch Attached: ( ) YES (X) NO N/A

Contractor to supply barricades as required by state and local codes. The applicant acknowledges his liability for the work and related hazards. The contractor is responsible for relocation or replacement of trees and existing ground cover which are required to be moved in connection with the permit work.

* * * * * * * * * * * * * * * * *

Applicant's Signature Phone: 972 450 2860

Expiration Date: Estimated Completion Date:

Note: The estimated completion date shall normally be fifteen (15) working days from date of issue. However, for large jobs, exceptions may be considered. LOCATES @ 9:00 AM ON 1-27-05

Inspector Assigned: ROBERT TUCKER Phone: 972-466-3200

(X) Approved ( ) Disapproved Date Issued: 1-26-05

COMMENTS: **CONTACT INSPECTOR BETWEEN 7:30 – 8:00 AM FOR INSPECTION.**

Contact Public Works Department for line locations in field – 972-466-3425. Contact Traffic Department for line locations in field – 972-446-3606. Contact all Public Utility Companies for line locations.

1. Original – Customer (white)
2. Inspector (pink)
3. Street Dept. (canary)
4. Water Dept.
5. Traffic

WHEN TRAFFIC IS RESTRICTED FLAGMEN WILL BE UTILIZED.

ALL WORK TO BE INSPECTED BEFORE COVERING.

TOTAL P.01

12" water west side

ATTN KAY 972 466 3293

CITY OF CARROLLTON, TEXAS
CONSTRUCTION PERMIT
PUBLIC RIGHT-OF-WAY / STREET CUT / EXCAVATION / OFFSITE UTILITY INSTALLATION PERMIT

Date: 1/25/05 Permit No. _____

The undersigned petitions the City of Carrollton for permission to work, install, excavate or cut at the location described below in accordance with City Control Procedures and provision as stated herein.

Contractor: TOWN OF ADDISON

Mailing Address: 16801 WESTGROVE

Responsible Supervisor: JENNY NICEWANDER Phone: Day 972 450 2860 Night 972 896 1713

Project Name: ADDISON PHS 3

Project Address: 16801 WESTGROVE

Purpose of Work: POT HOLE DWU WATERLINE

Size of Work: Length 3 Width 3 Depth _____

Work To Be Performed By: ( ) General Contractor ( ) Utility Contractor ( ) Paving Contractor (✓) City ( ) Other

Type Excavation: ( ) Street Bore (✓) Ground Surface (Possible) Street – Concrete/Asphalt

City to Replace: ( ) Subbase and Surface ( ) Surface Only ( ) None

WORK AS AUTHORIZED UNDER THE APPROVED PERMIT REQUEST SHALL BEGIN WITHIN SIXTY (60) CALENDAR DAYS FROM THE APPROVED DATE, OR APPLICATION FOR PERMIT MUST BE RESUBMITTED.

Estimated Calendar Days of Blockage: 1 DAY'S WORK

Barricade Sketch Attached: ( ) YES (X) NO N/A

Contractor to supply barricades as required by state and local codes. The applicant acknowledges his liability for the work and related hazards. The contractor is responsible for relocation or replacement of trees and existing ground cover which are required to be moved in connection with the permit work.

* * * * * * * * * * * * * * * * * *

_____ Phone: 972 450 2860
Applicant's Signature

Expiration Date: _____ Estimated Completion Date: _____

Note: The estimated completion date shall normally be fifteen (15) working days from date of issue. However, for large jobs, exceptions may be considered.

Inspector Assigned: _____ Phone: 972-466-3200

( ) Approved ( ) Disapproved Date Issued: _____

COMMENTS: **CONTACT INSPECTOR BETWEEN 7:30 – 8:00 AM FOR INSPECTION.**

Contact Public Works Department for line locations in field – 972-466-3425. Contact Traffic Department for line locations in field – 972-446-3606. Contact all Public Utility Companies for line locations.

1. Original – Customer (white)
2. Inspector (pink)
3. Street Dept. (canary)
4. Water Dept.
5. Traffic

WHEN TRAFFIC IS RESTRICTED FLAGMEN WILL BE UTILIZED.

ALL WORK TO BE INSPECTED BEFORE COVERING.

CITY OF CARROLLTON, TEXAS
CONSTRUCTION PERMIT
PUBLIC RIGHT-OF-WAY / STREET CUT / EXCAVATION / OFFSITE UTILITY INSTALLATION PERMIT

Date: _____ Permit No. _____

The undersigned petitions the City of Carrollton for permission to work, install, excavate or cut at the location described below in accordance with City Control Procedures and provision as stated herein.

Contractor: _____

Mailing Address: _____

Responsible Supervisor: _____ Phone: Day _____ Night _____

Project Name: _____

Project Address: _____

Purpose of Work: _____

Size of Work: Length _____ Width _____ Depth _____

Work To Be Performed By: ( ) General Contractor ( ) Utility Contractor
( ) Paving Contractor ( ) City ( ) Other

Type Excavation: ( ) Street Bore ( ) Ground Surface ( ) Street – Concrete/Asphalt

City to Replace: ( ) Subbase and Surface ( ) Surface Only ( ) None

WORK AS AUTHORIZED UNDER THE APPROVED PERMIT REQUEST SHALL BEGIN WITHIN SIXTY (60) CALENDAR DAYS FROM THE APPROVED DATE, OR APPLICATION FOR PERMIT MUST BE RESUBMITTED.

Estimated Calendar Days of Blockage: _____

Barricade Sketch Attached: ( ) YES ( ) NO

Contractor to supply barricades as required by state and local codes. The applicant acknowledges his liability for the work and related hazards. The contractor is responsible for relocation or replacement of trees and existing ground cover which are required to be moved in connection with the permit work.

* * * * * * * * * * * * * * * * *

_____ Phone: _____
Applicant's Signature

Expiration Date: _____ Estimated Completion Date: _____
Note: The estimated completion date shall normally be fifteen (15) working days from date of issue. However, for large jobs, exceptions may be considered.

Inspector Assigned: _____ Phone: 972-466-3200

( ) Approved ( ) Disapproved Date Issued: _____
COMMENTS: **CONTACT INSPECTOR BETWEEN 7:30 – 8:00 AM FOR INSPECTION.**

Contact Public Works Department for line locations in field – 972-466-3425. Contact Traffic Department for line locations in field – 972-446-3606. Contact all Public Utility Companies for line locations.

1. Original – Customer (white) _____
2. Inspector (pink) _____
3. Street Dept. (canary) _____
4. Water Dept. _____
5. Traffic _____

WHEN TRAFFIC IS RESTRICTED FLAGMEN WILL BE UTILIZED.

ALL WORK TO BE INSPECTED BEFORE COVERING.

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Re: Shutdown of 60" DWU main

January 19, 2005

Dear Ben:

Yesterday the Town of Addison was notified by Farmer Branch that the installed "interconnect" would not satisfy the requirements of the City of Farmers Branch water supply system while the 60" water main is shutdown.

At the present time the Town of Addison is making arrangement to hold a meeting with Dallas Water Utilities and designers on a possible solution.

The Town of Addison is requesting Archer Western Contractors, Ltd. to reschedule the work on the 60" DWU main until such solution has been work out with Dallas Water Utilities. At the present time the Town of Addison is attempting to expedite a solution so the work may began on/or about January 25, 2005.

Please advise us of any actions you will take.

Thank you,

Guy Van Baulen
HNTB Corporation

Cc: Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation

Archer Western
Contractors

January 19, 2005

HNTB
5910 W Plano Parkway
Plano, Texas 75093
Attn: Mr. Guy Van Baulen

RE: Town of Addison
60" Water Main Delay

Dear Guy:

Archer Western Contractors has received your letter dated January 18, 2005 requesting that we reschedule the installation of the 60" waterline starting on or after January 19, 2005. At this time we can not proceed as your letter stated, because we have contacted DWU operations manager David Robinson this morning and he is unaware of any request by the Town of Addison to schedule a shut down of the 60" waterline.

My previous letter dated January 11, 2005 asked for written authorization to begin work when all items have been resolved. We can not begin this work due to unresolved issues of the Town of Addison and DWU. Please forward this approval immediately. Upon receipt, time Archer Western Contractors will reschedule this work item and evaluate the impact that this delay has caused to our production costs and to our schedule.

If you require additional information, please contact me at 817-640-3898 or 817-401-7202.

Sincerely,

Ben Withered
Project Manager

Cc: Don Good

2121 Avenue J, Suite 103
Arlington, Texas 76006
Phone: 817.640.3898
Fax: 817.640.8734
www.walshgroup.com

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

January 18, 2005

Dear Ben:

The Town of Addison had requested Archer Western Contractors, Ltd. to reschedule the work on the 60" DWU main until such "Interconnect" can be completed. At the present time the Town of Addison has completed this work and anticipate the testing by Farmers Branch to be completed by January 19, 2005.

This letter is to notify Archer Western Contractors, Ltd. to reschedule the work for the lowering of the 60" DWU main to start on or after the January 19th. At the present time, the Town of Addison is submitting a formal request the Dallas Water Utility for the shutdown of the 60" main on or after January 19th for this contract.

Please advise us of any actions you will take.

Thank you,

Guy Van Baalen
HNTB Corporation

Cc: Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

HNTB

Mr. David Robinson
Operations Manager
Pumping Division
2900 White Rock Road
Dallas, TX 75214

Arapaho Road – Phase III Project

January 12, 2005

Dear David:

Three weeks ago, Archer Western Contractors, Ltd. scheduled a meeting with you on the procedures for the lowering of the 60"main and to schedule a test shutdown for the section of the DWU 60"main and the associated valves. During this preparation for the test shutdown of the 60"main that next day, DWU notified Archer Western Contractors, Ltd. that a issue had arose with the shutdown of the 60"main. DWU found that the water supply connection for the City of Farmers Branch was on the closed side of the valve, which would turn off the water to the City of Farmers Branch Marsh Lane Pumping Station.

Since that time, The City of Farmers Branch has been performing tests on their system to determine if they would be able to maintain pressure and volume when the 60" valve is closed on their system. The City of Farmers Branch has determined that they will not be able to maintain the required pressure beyond 48-hours.

Upon the notification of this issue, the Town of Addison and the City of Farmers Branch began working on an "interconnect" that would supply Farmers Branch during the work on the 60"main line. This "interconnect" must be installed and operational, prior to the shut down of the 60" main line.

The Town of Addison has requested Archer Western Contractors, Ltd. to reschedule the work on the 60" DWU main until the referenced "interconnect" can be completed. At the present time the Town of Addison is attempting to expedite this work and anticipates this work to be completed on or about January 19, 2005. We wanted to keep you informed of this matter.

Thank you,

Guy Van Bauley, EIT
HNTB Corporation

Cc: Steve Chutchian, Town of Addison
Erling Holey, Dallas Water Utilities
Cassia Sanchez, Dallas Water Utilities
Katura Curry, Grantham & Associates
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation

Archer Western
Contractors

January 11, 2005

HNTB
5910 W Plano Parkway
Plano, Texas 75093
Attn: Mr. Guy Van Baulen

RE: Town of Addison
Project No. CM 95 (150)
60" Water Main Delay

Dear Guy:

Archer Western Contractors has received your letter dated January 10, 2005 requesting that we delay the installation of the 60" waterline until an "Interconnect" can be installed by the Town of Addison and the City of Farmers Branch. This work was originally scheduled to be started November 2004 but already has been severely delayed due to the numerous changes by Grantham & Associates and DWU. As a result our utilization of equipment, schedule and other resources has been severely impacted due to these repeated delays.

Our revised schedule shows that we were to begin work on the 60" waterline again beginning January 10, 2005 as was coordinated with HNTB and DWU. However, at your request Archer Western Contractors will cease all operations pertaining to the 60" waterline until we receive written authorization to begin work. At that time Archer Western Contractors will evaluate the impact that this delay has caused to our production costs and to our schedule.

If you require additional information, please contact me at 817-640-3898 or 817-401-7202.

Sincerely,

Ben Withered
Project Manager

Cc: Don Good

Steve Chut-

2121 Avenue J, Suite 103
Arlington, Texas 76006
Phone: 817.640.3898
Fax: 817.640.8734

Archer Western
Contractors

January 11, 2005

HNTB
5910 W Plano Parkway
Plano, Texas 75093
Attn: Mr. Guy Van Baulen

RE: Town of Addison
Project No. CM 95 (150)
Traffic Control at Midway

Dear Guy:

Archer Western Contractors received your letter dated January 8, 2005 concerning the Midway Road traffic detour. Archer-Western has reviewed you request to adjust the low profile concrete barriers at the Midway detour and offers no objection to this proposal. However, the traffic striping and lane width will remain as it was originally outlined due to the construction phasing requirements. We will adjust the barrier backwards slightly from the current 1' offset to allow more room for navigation. In addition Archer-Western requests approval to place work zone pavement markers consisting of a 4" white solid edged line which was not shown in the original drawings.

Archer Western Contractors requests that the Town of Addison increases the traffic enforcement in the Midway work area to help reduce the speed of the traveling public and to increase public safety in the work zone.

Archer Western Contractors also stands by our original proposal to reduce the traffic to one lane each direction which would promote the safe, efficient passage through this zone and we request that HNTB re-evaluates this proposal for approval.

If you require additional information, please contact me at 817-640-3898 or 817-401-7202.

Sincerely,

Ben Withered
Project Manager

Cc: Don Good

Steve Chant

2121 Avenue J, Suite 103
Arlington, Texas 76006
Phone: 817.640.3898
Fax: 817.640.8734

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

HNTB

Mr. Ben Withered
Project Manager
Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

January 10, 2005

Dear Ben:

During testing for the shutdown of the 60" DWU water main, it was determined that the water supply to the City of Farmer Branch was on the closed side of the valve.

Since that time, The City of Farmers Branch has been performing test on their system to determine if they would be able to maintain pressure and volume when the 60" valve is closed on their system. The City of Farmers Branch has determined that they will not be able to maintain the required pressure beyond 48-hours.

At this time, the Town of Addison along the City of Farmer Branch are working on an "interconnect" that would supply Farmers Branch during the work on the 60"main line. But this "interconnect" must be installed and operational, prior to the shut down of the 60" main line.

The Town of Addison is requesting Archer Western Contractors, Ltd. to reschedule the work on the 60" DWU main until such "Interconnect" can be completed. At the present time the Town of Addison is attempting to expedite this work and anticipate this work to be completed on or about January 25, 2005.

Please advise us of any actions you will take.

Thank you,

Guy Van Baulen
HNTB Corporation

cc: Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation

HNTB ARCHITECTS ENGINEERS PLANNERS

15150 Surveyor Blvd
Addison, TX 75001

972-361-0064
FAX 972-361-0065
www.hntb.com

December 22, 2004

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

Attention: Mr. Ben Withered

Re: Storm Sewer Line 'C' RCP pipe

Dear, Mr. Withered

In an attempt to prevent existing ground water from infiltrating into the above referenced drainage system, the Town of Addison is requesting Archer Western Contractors, Ltd. to proceed with the installation of the Confined Groove Joint (O-ring) Reinforce Concrete Pipe for all RCP to be used between the Station 0+68 to Station 6+00 on the above referenced system.

Archer Western Contractors, Ltd. is directed to proceed with the work described above not to cause any delay in the job schedule. All work and material is required to conform to the contract specification.

Thank you.

Regards,

Guy Van Baulen
HNTB Corporation

Attachments:

cc: Project File
Jerry D. Holder, HNTB Corporation

The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison TX, 75001

Telephone (972) 361-0064
Facsimile (972) 361-0065
www.hntb.com

HNTB Job # 25768

VIA Arapaho Road - Phase III

Date: January 19, 2005

Letter of Transmittal

To: Steve Chutchian
Town of Addison
P.O. Box 9010
16801 Westgrove Drive
Addison, TX 75001

HNTB

Regarding: CPM Schedule

We are forwarding to you:

____ Estimates	____ Plans	X Prints
____ Reports	____ Shop Drawings	____ Samples
____ Change Order	____ Disk	____ Copy of Letter
____ Book	____ Other	

# of Copies	Drawing #	Last Dated	Code	Description
1		10/22/05		CPM Schedule (24"x 36" size)
2		10/22/05		CPM Schedule (Full size)

These are transmitted:

____ For approval	____ As requested	____ Copies for distribution
X For your use	____ Resubmit	____ For Review & comment
____ Return	____ Copies for review	____ No exception taken
____ Corrected prints	____ Submit	____ Amend and resubmit
		____ Make corrections noted

Please note:

By: Guy Van Baulen, EIT

Copy to: File

Guy Van-Baulen

From: Cassia Sanchez [casanch@mail.[illegible] tx us]
Sent: Tuesday, January 18, 2005 8:41
To: kcurry@gra-ce.net; Guy Van-Ba
Cc: Tonia Lichtenberg
Subject: Re: DWU 60" Air Release Valv

Erling Holey
DWU

The following is the contact informati which deals with all DWU customer cities:

Tonia Barrix
Wholesale Services
4AS Dallas City Hall
1500 Marilla
Dallas, TX 75201
PH. 214-670-5886
Email: tlichte@mail.ci.dallas.tx.us

>>> "Katura Curry" <kcurry@gra-ce.net> 01/10/05 11:20[illegible]
Guy / Andrew,
I just got off the phone with Cassia at DWU. She sent RFI #49 regarding the air release valve onto the Distribution Department for review. Their comments were as follows:

1. Type '2' - they would like to see it moved under the sidewalk, as the original plan indicated. It looks like this would be possible even using the current location of the flange off of the 60" RCCP.
2. Type '2' - the air vent should be extended onto the DWU property behind the fence, per the plan notes.
3. Type '2' - to understand the drawing better, dimensions are needed.
4. Type '1' - dimensions are needed. The manhole can not extend more than 4 feet above the ground level.

Please let me know if you have any questions.

Cassia - please correct or add to this as needed.

Thanks,

Katura
****
Katura Curry, P.E.
Grantham & Associates, Inc.
(972) 864-2333

Letter send to
Bob Johnson / Director of Water
Charles Stringer
John Wilson
Randy Payton
Frank Bran
Mark Palabbaux
Tonia Barrix.

1/18/2005

Facsimile Transmittal

Date: 01/03/05

Fax To: JENNY NICEWANDER

Of: TOWN OF ADDISON

Fax# (972)450-2837

Ref: AR3 - POINTS ON TRACK

# of Pages (including this sheet): 3

Fax From: KATURA

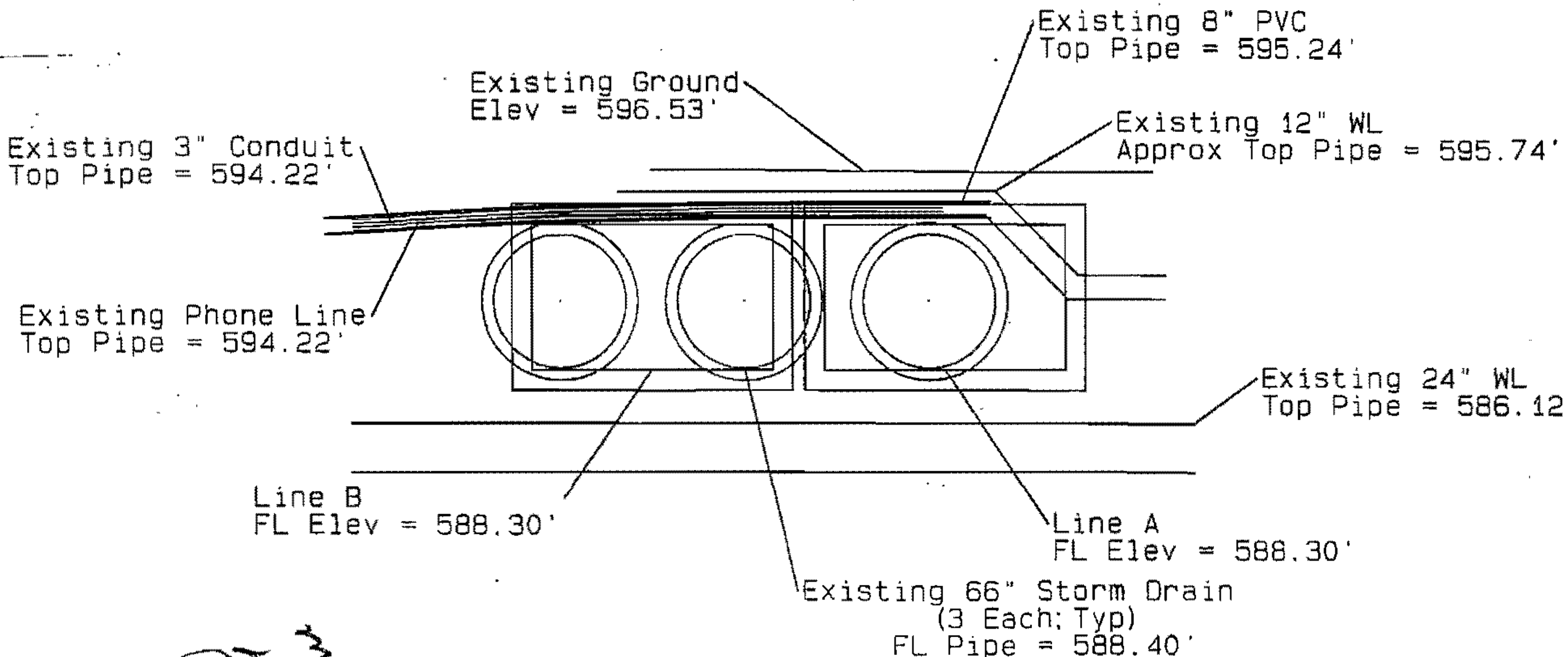
Comments:

From: **Grantham & Associates, Inc.**
1919 S. Shiloh Rd.
Suite 310, L.B. 8
Garland, Texas 75042
Tel. (972) 864-2333
Fax (972) 864-2334
Email: Info@gra-ce.net

77+00
P.T. STA. 77+10.73
EL=627.47
EL=627.68
GRASS / GRAVEL
EL=627.77
EL=627.00
EL=627.70
EL=627.95
EL=627.80
EL=627.94
79+00

P.C. STA. 83+78.18
630
84+00
BRICKS
EL=630.65
EL=630.57
EL=630.67
EL=631.36
85+00
BRICKS
AWNING
21"
18" DEAD
ST. MKBY

STA 35+00
(Line A STA -1+14)
(View Looking East)



HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

HNTB

Mr. David Robinson
Operations Manager
Pumping Division
2900 White Rock Road
Dallas, TX 75214

Arapaho Road – Phase III Project

January 11, 2005

Dear David:

Three weeks ago, Archer Western Contractors, Ltd. scheduled a meeting with you on the procedures for the lowering of the 60"main and to schedule a test shutdown for the section of the DWU 60"main and the associated valves. During this preparation for the test shutdown of the 60"main that next day, DWU notified Archer Western Contractors, Ltd. that a issue had arose with the shutdown of the 60"main. DWU found that the water supply connection for the City of Farmers Branch was on the closed side of the valve, which would turn off the water to the City of Farmers Branch.

Since that time, The City of Farmers Branch has been performing tests on their system to determine if they would be able to maintain pressure and volume when the 60" valve is closed on their system. The City of Farmers Branch has determined that they will not be able to maintain the required pressure beyond 48–hours.

Upon the notification of this issue, the Town of Addison and the City of Farmers Branch are working on an "interconnect" that would supply Farmers Branch during the work on the 60"main line. This "interconnect" must be installed and operational, prior to the shut down of the 60" main line.

The Town of Addison has requested Archer Western Contractors, Ltd. to reschedule the work on the 60" DWU main until the referenced "interconnect" can be completed. At the present time the Town of Addison is attempting to expedite this work and anticipates this work to be completed on or about January 25, 2005. We wanted to keep you informed of this matter.

Thank you,

Guy Van Baulen, EIT
HNTB Corporation

Cc: Steve Chutchian, Town of Addison
Erling Holey, Dallas Water Utilities
Cassia Sanchez, Dallas Water Utilities
Katura Curry, Grantham & Associates
Jerry D. Holder, HNTB Corporation
Michael Ebeling, HNTB Corporation

Jenny
FYI

TOWN OF ADDISON
PUBLIC WORKS DEPARTMENT (972) 450-2871 FAX (972)450-2837
Post Office Box 9010 Addison, Texas 75001-9010 16801 Westgrove

January 11, 2005

Mark G. Pavageaux. P.E.
Director of Public Works
P.O. Box 819010
Farmers Branch, TX 75381-9010

Re: Water System Interconnection Between Addison and Farmers Branch

Dear Mr. Pavageaux:

This is to describe the interconnection project that we have been working on with you recently. The primary purpose of this project is to allow shut down of the 60" DWU water main that feeds the Farmers Branch Marsh Lane Pumping Station and to therefore furnish a supplementary supply of water from Addison to Farmers Branch. The 60" main needs to be shut down so that a portion of the main can be lowered to accommodate the construction of Arapaho Road, Phase III. The secondary purpose of this project is to make an interconnection between the two systems such that either City can supply water to the other in case of emergency.

Addison intends to take the lead and bear the cost of the interconnection. A tapping sleeve and valve will be installed on the 8" main on Beltwood Parkway in Farmers Branch and a similar connection will be made on the nearby 8" main owned by Addison. We will attempt to install an 8" turbine meter if it is received in time. If it is not received in time, the connection will be made without the meter, and the meter will be installed after the 60" water main lowering project is complete. We have placed a call to TCEQ to advise them of this project.

The "capacity" of the connection will be a function of the difference in pressure between the two systems. Recently, pressure in Addison was 80 psi and pressure in Farmers Branch was 49 psi. This indicates a significant amount of water can be supplied from Addison to Farmers Branch. The amount of water that will be supplied is hard to calculate without a detailed hydraulic system analysis. We anticipate about 2 MGD can be supplied, and possibly more.

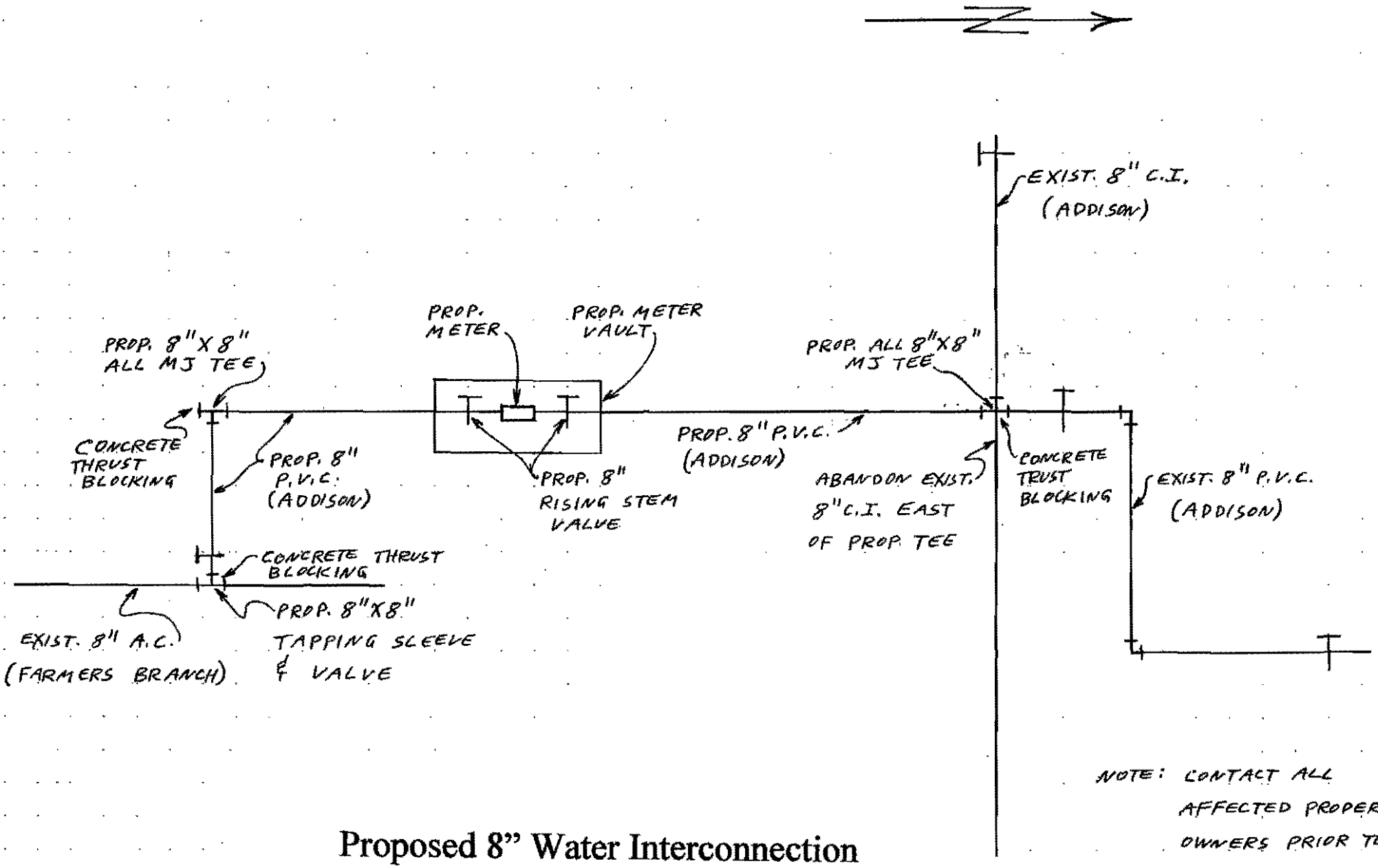
Construction of the interconnection should be complete Thursday or Friday of this week and we would ask that you begin your evaluation of the connection upon completion. We would like to have your approval to shut down the 60" main by Wednesday, January 19, 2005 at the latest.

We very much appreciate your fine cooperation with us on this project. We will keep you informed of our progress completing the connection. Please call me at 972-450-2871 if you have any questions or require any additional information.

Very truly yours,

Michael E. Murphy, P.E.
Director of Public Works

Cc: Chris Terry, Assistant City Manager
Jim Pierce, P.E., Assistant Public Works Director
Jerry Davis, Utilities Superintendent
John Hill, Cowles & Thompson



NOTE: CONTACT ALL AFFECTED PROPERTY OWNERS PRIOR TO START OF CONSTRUCTION

Proposed 8" Water Interconnection
Addison/Farmers Branch

January 2005

REQUEST FOR INFORMATION

PROJECT No. Arapaho Phase III

RFI # 50

Date : January 3, 2005

Submitted To:
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen

Submitted By:
Archer Western Contractors, Ltd. Andrew Schneemann

Subject	Discipline	Co-Author	Copies To
Existing Utility Conflicts With Lines A & B At Surveyor Blvd.	Civil		

Cost Impact	Amount	Schedule Impact	Days	Drawing Impact
Unknown	Unknown	Unknown	Unknown	Unknown

Information Requested

Archer Western has discovered the following Conflicts with Storm Sewer Lines A & B.

+/- Roadway Station 35+00 / Line A station -1+14 - (Attached Sketch)

1. 12" Waterline
2. SBC Phone Line
3. 8"Force Main - Abandoned - Possible casing for Rail Road Intercept
4. 3" Gray conduit - Unknown

+/- Line A Station -1+59

1. 3" Gas Line (PVC) - Top of Gas Line 594.03' - Top of Line A & B 10x6 RCB 594.89'

The Sanitary Sewer line from the Pump Station Building is in conflict with the pipe and Inlet on Lateral 2.

Please Direct us how to Proceed with these conflicts

Response

CHANNEL THREE
PRODUCTIONS

January 7, 2005

Ms. Jenny Nicewander
Town of Addison
P.O. Box 144
Addison, TX 75001

Dear Ms. Nicewander,

In order to minimize the costs for this project, I will hold off on sending VHS dubs and CD's after each shoot – they would eventually start cluttering your office anyway! Instead I will wait and put several shoots on one tape and one CD, unless of course you desire otherwise.

So far, I have been out to the job site 4 times since December 9th and have billed a total of $925 (which averages $231.25 per shoot/week including materials). I spent a little extra time at the onset to capture all that had taken place and now can focus on just significant developments. So, in short, I think we are track with getting what you need for an eventual award-winning video while controlling costs.

Should Charter Furniture agree to let us install the time-lapse camera, I would like to work with you on the budget because I still feel this would add a great deal to the video. As far as costs, looking at my proposal, the total for installation/materials/labor is $4,000 plus the camera which I put in $2,000 for, but I can buy that back from you. Then I budgeted an hour and a half a week for one-year to monitor and maintain the time-lapse, but it could probably be accomplished in only a half hour per week, which would cost only $2,600 over the cost of a year. This totals $6,600 plus the cost of a camera, which I can buy back from you. Let me know if this helps at all.

I appreciate you keeping me informed with your needs on this project. Please do not hesitate to contact me with any questions or requests.

Sincerely,

Brad Ruekberg
President

1103 N. COTTONWOOD DR., SUITE 1 • RICHARDSON, TX 75080
(972) 671-4466 • Fax (972) 671-9364
http://www.channel3.com

1/11/2005

ARAPAHO ROAD

Archer Western Contractors

Activity Description	Prod	Current Week						Next Week						Following Week						SUBS/NOTES
		M	T	W	T	F	S/S	M	T	W	T	F	S/S	M	T	W	T	F	S/S	
		10	11	12	13	14	15	17	18	19	20	21	22	24	25	26	27	28		
Excavate/Embank Brickyard													/	X	X	X	X	X	/	
Box Culvert Line A (Surveyor)		O	N		H	O	I	D											/	Util conflicts
Box Culvert Line A (east)		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	/	
Box Culvert A (Midway)		O	N		H	O	L	D					/						/	gas line
Box Culvert Line B		O	N		H	O	L	D					/						/	gas line
Roadway Embankment													/	X	X	X	X	X	/	
Lower 16" Water Line Put in 16" valve				X	X	X							/						/	Tomorrow night use 12" 2130 am
10" Sanitary Sewer			X	X	X	X	X	X	X	X	X	X	/						/	
Line C & Laterals			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	/	
Laterals Line A & B		X	X	X	X	X		X	X	X	X	X	/	X	X	X	X	X	/	
													/						/	
Trenched Retaining Walls - Monday								X	X	X	X	X	/	X	X	X	X	X	/	LoneStar Trenching
CIP Retaining Wall -													/	X	X	X	X	X	/	
													/						/	
Drilled Shafts											X	X	/						/	ABut 15 ATS
Caps		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
Bent # 10 Cap					X	X	X	X	X	X	X	X	/						/	-
Bent # 9		X	X	X	X	X		X	X	X	X	X	/	X	X	X	X	X	/	-
60" Water Line (DWU)														X	X	X	X	X	X	

Weekly Meeting Agenda

Date: Tuesday Jan11, 2005 Arapaho Road Phase III
Time 10:00 A.M.
Location: Field Office

I. Safety Issues

1. Keep up maintenance on orange fence.

2. Maintain 4" reflectors. Several reflectors have came up.

Chuck about time per

3. HNTB requests that additional message boards be added to the Midway detour and left up for an undisclosed amount of time after the traffic is routed onto the detour.
A/W will be compensated for the message boards.
A/W will write a letter requesting compensation for the message boards.
A/W picked up four of the five message boards on Monday 12-27-04, per HNTB.
HNTB requested A/W to set reset the four boards on 1-3-05 for two more weeks.
Additional striping was added to the Midway detour on 12-28-04.
When are we to remove the message boards?

II. Submittals

1. Bar lock samples were given to Daniel Filer.
Texas Concrete must sign off on block outs.
A RFI needs to be generated for Cliff Hall to sign off on.
A RFI has been sent, Cliff Hall has not signed off on it yet.
11-30-04
The RFI was verbally not approved by URS.
A/W requested a product to use.11-30.
We have received a weld detail for the splice on 12-3.
A/W is reviewing the detail.
Additional details between A/W and HNTB need to be resolved.
Cliff Hall will stamp drawing 12-17.
Received Revised Plan Sheet - Shop Drawing Being Revised
The documents were received by HNTB on 1-3-05.

2. The MSE wall shop drawings have not been returned to A/W.
A/W should have them by Friday per HNTB.
Have Not received Shop Drawing received Revised Wall Sheet for Wall #3 12-23
Revised Shop Drawings for Wall #3 will be here 1-5
HNTB is requesting a running bond pattern.
wall 3- tot in cons. w/plan sheet

Hangar cables etc.

III. Old Business

1. A new Irrigation plan sheet for Comfort Suites is forthcoming.
A/W received the revised plan sheets on 12-2.
American Landscaping is pricing.
HNTB should have this by 12-21.
HNTB should have pricing from Andrew by 1-7-05.

2. The Town asked about the paint submittal for the arches. Ben explained that system II paint is not tenable. A similar painting system will be submitted.
A letter from Sherman Williams has been given to the Town.11-2.
The Town is leaning toward the Tnemec paint for the arches. 11-30.
A meeting was held on 12-1 for the rail painting.
12-7 HNTB said to proceed with the Tnemec paint.
Ben is reviewing pricing. will meet this week on this

3. The roadway grades at the brickyard will not tie into the Railroad tracks. Jennie is looking into this. 10-26. HNTB needs a RFI from A/W. The grades will be adjusted. 11-2. Andrew and HNTB will review the grades today. 11-2.
A/W has requested a revised plan sheet for this area. 11-30.
HNTB is in the process of revising plan sheets.
Nothing yet.12-28.
No reply yet 1-04-05.

IV. Change Orders

1. Irrigation lines at Comfort Suites.
HNTB should have pricing by 1-7-05.

label a CAP? - Slotted drains
- message boards
-

2. Tee for irrigation line off 16" line.
HNTB should have pricing by 1-7-05.

V. New Business

1. A traffic control plan has been submitted to the Town for detouring Surveyor Blvd. during construction at this location.
The town does not want to salvage any of the plants at the pump station.
Has this TTC been approved? =>

2. After field verifying the elevation of the relocated SBC line, there are several areas where the new line will be in direct conflict with the slotted under drain pipe, the retaining wall, and inlets or laterals. 11-23-04.
Guy asked that Chris go with him to the various locations.
Work needs to proceed on these items.
What is being done about the following phone line conflicts?

1. Lat. A-5D
2. Lat. A5-C
3. 12" slotted drain
4. R.W. # 2
HNTB has said that SBC will have labor help at the site during the laying of the CMP to move the line if necessary.
There are defendant conflicts, why can't SBC move the line now?

3. The location of Lat. B-7 and the Y inlet need to be verified so this work can be completed. An answer was received by A/W, but a problem still exists

10"SS 3' below 16" water

V. Misc.

1. A RFI has been sent to HNTB about gas,water,sewer and telephone.
conflicts, with lines A & B, at Surveyor Blvd.

VI. Schedule
1 Review Weekly Schedule

REQUEST FOR INFORMATION

PROJECT No. Arapaho Phase III

RFI # 52

Date : January 11, 2005

Submitted To:
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Baulen

Submitted By:
Archer Western Contractors, Ltd. Andrew Schneemann

Subject:	Discipline:	Ref. Drawing:	Ref. Spec:
Revised Lateral and Inlet B-7 Location	Civil		

Cost Impact:	Amount:	Schedule Impact:	Days:	Response Needed By:
Unknown	Unknown	Unknown	Unknown	Unknown

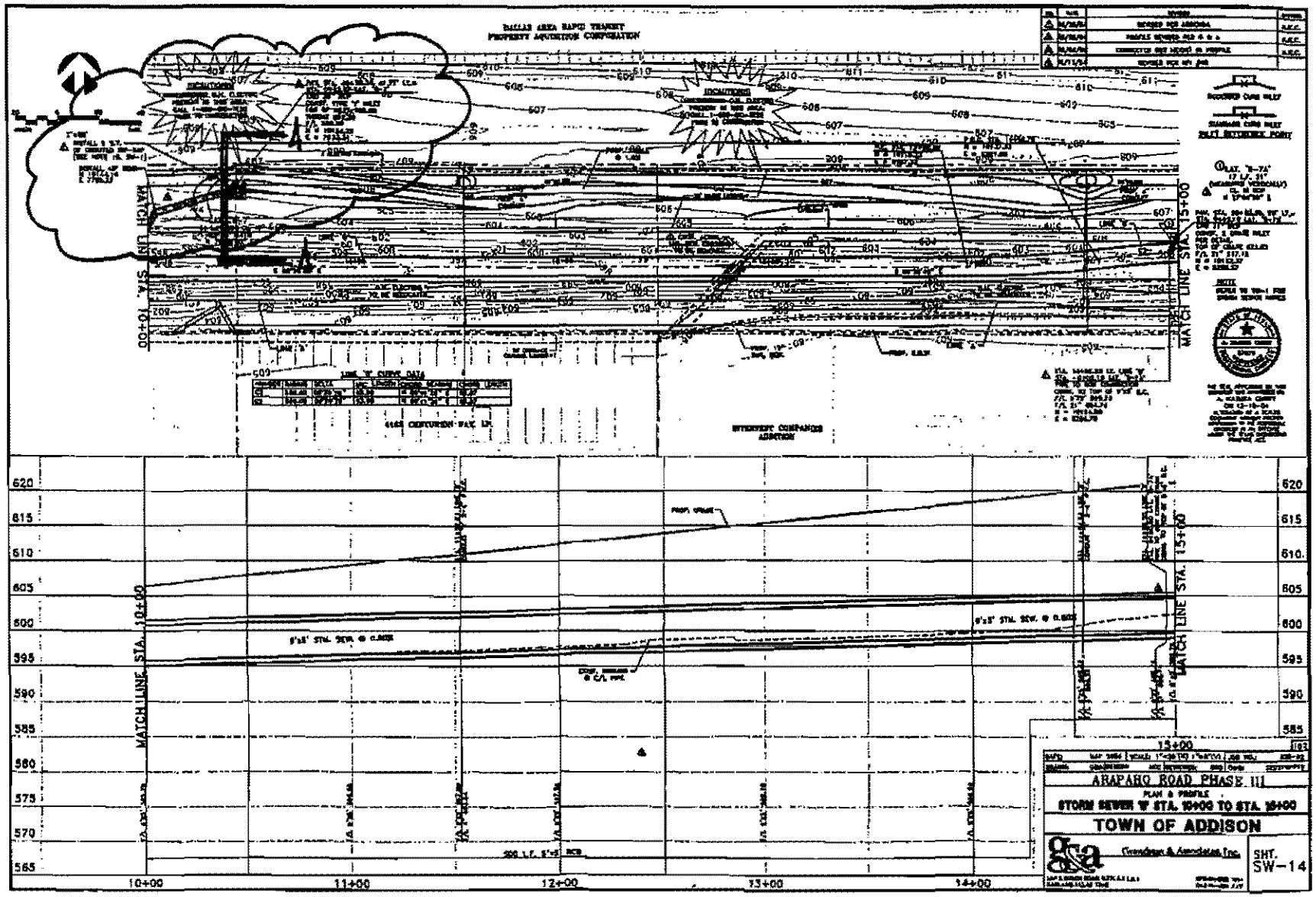
Information Requested:

Please Review the attached Plan view and section.

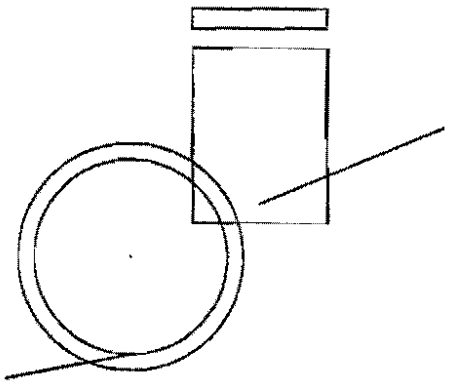
Archer Western has reviewed the response to our RFI 40 concerning conflicts with lateral B-7. We have concluded that inlet B-7 is still in conflict with the DWU 60" waterline, based on pothole HNTB pothole information. The attached section AA illustrates the conflict.

Please Direct us how to Proceed with these conflicts

Response:


MATCH LINE STA. 10+00
MATCH LINE STA. 15+00
10+00
11+00
12+00
13+00
14+00
15+00
620
615
610
605
600
595
590
585
580
575
570
565
ARAPAHO ROAD PHASE III
PLAN & PROFILE
STORM SEWER 'B' STA. 10+00 TO STA. 15+00
TOWN OF ADDISON
Freese & Associates, Inc.
SHT. SW-14

Section A-A



Laterial B-7
STA 46+26.24
41.77' O/S LT
FL = 598.50'

Existing 60" WL
STA 46+25.00
45.14' O/S LT
FL = 594.63'

Note; The Offset for the CL of the Existing 60" WL (45.14') is an average of the information from Sheet 128 of the Plans and the "Pot-Hole" information from HNTB dated November 2002.

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

15150 Surveyor Blvd.
Addison, TX 75001

Telephone (972) 361 - 0064
Facsimile (972) 361 - 0065
www.hntb.com

Archer Western Contractors, Ltd.
2121 Avenue "J"
Suite 103
Arlington, TX 76006

HNTB

Request for Information Response

January 10, 2005

Originator: Andrew Scheermann

RFI Number: **R-AW040**

Subject: **Inlet B-7 Conflict**

Request:

1. The Station and Offset given on sheet 102 (Sta 45+07.54, 35.28LT) for inlet B-7 does not match the coordinate information given. The coordinate information given put the in inlet at Station 46+27.74, 40.27LT. Please advise where the inlet is to be located.

2. If the coordinate information is correct, then the inlet will be in conflict with the existing DWU 60" waterline. Per the pot hole information provided by HNTB.

3. If the coordinate information is correct, then lateral B-7 will be in conflict with the retaining wall #1 trench footing which starts at station 46+00.

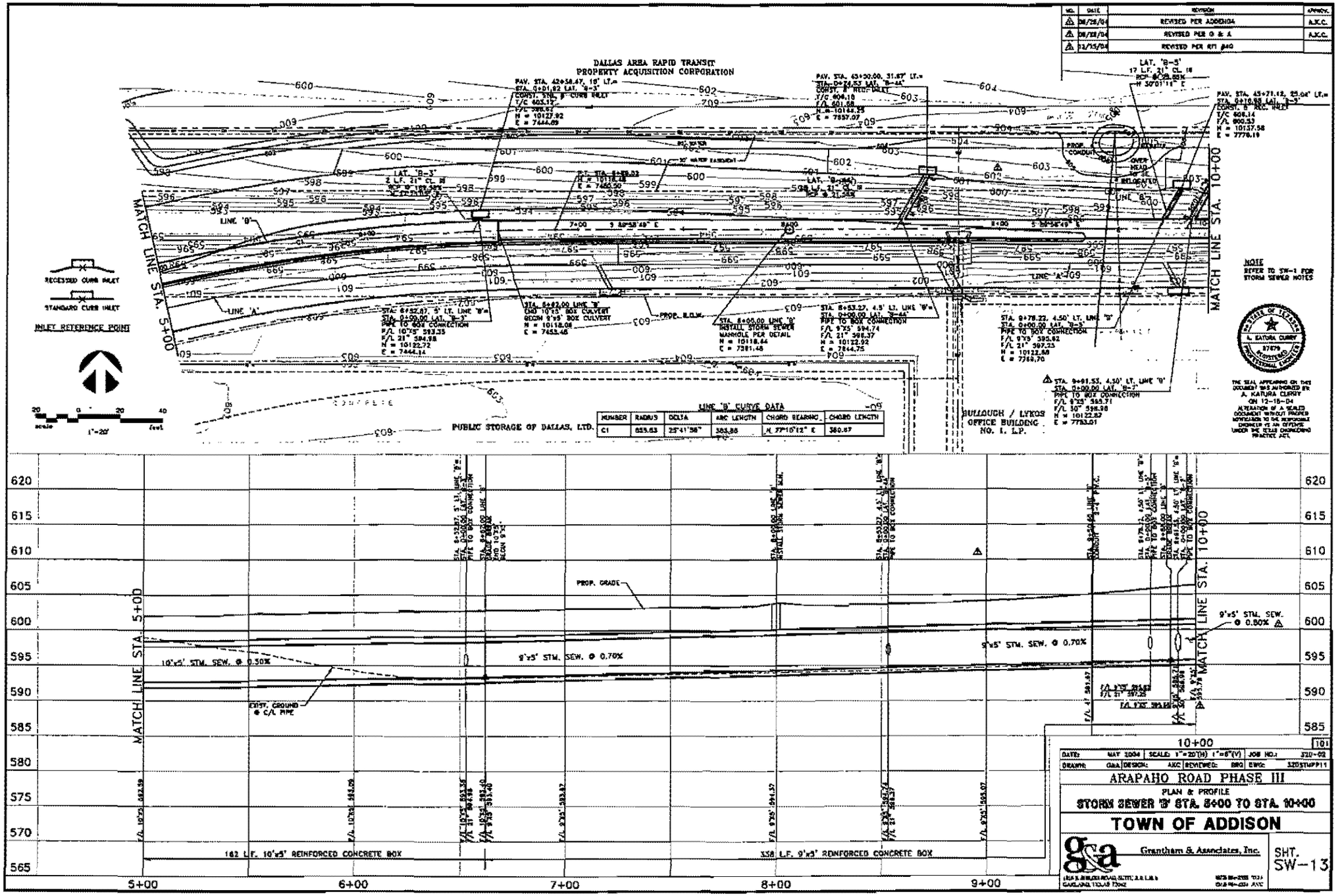
Response/Action Taken:

Attached to this response are three contract drawing that will be official issue to Archer Western Contractors, Ltd. for lateral B-7 pipe and inlet along the Storm Sewer "B"-line. The information included on the plans should answer all questions above.

By: Guy Van Baulen, EIT
HNTB Corporation

Date: January 10, 2005

Cc: File
Steve Chutchian, Town of Addison
Jerry D. Holder, HNTB Corporation



NO.	DATE	REVISION	APPROV.
2	08/25/04	REVISED PER ADDENDA	A.K.C.
1	08/18/04	REVISED PER CITY & A	A.K.C.
1	12/15/04	REVISED PER RFI #40	

DATE: MAY 2004 | SCALE: 1"=20'(H) 1"=6'(V) | JOB NO.: 320-02
DRAWN: GBA | DESIGN: AKC | REVIEWED: BRG | EWO: 320STMPP11

ARAPAHO ROAD PHASE III

PLAN & PROFILE

STORM SEWER 'B' STA. 5+00 TO STA. 10+00

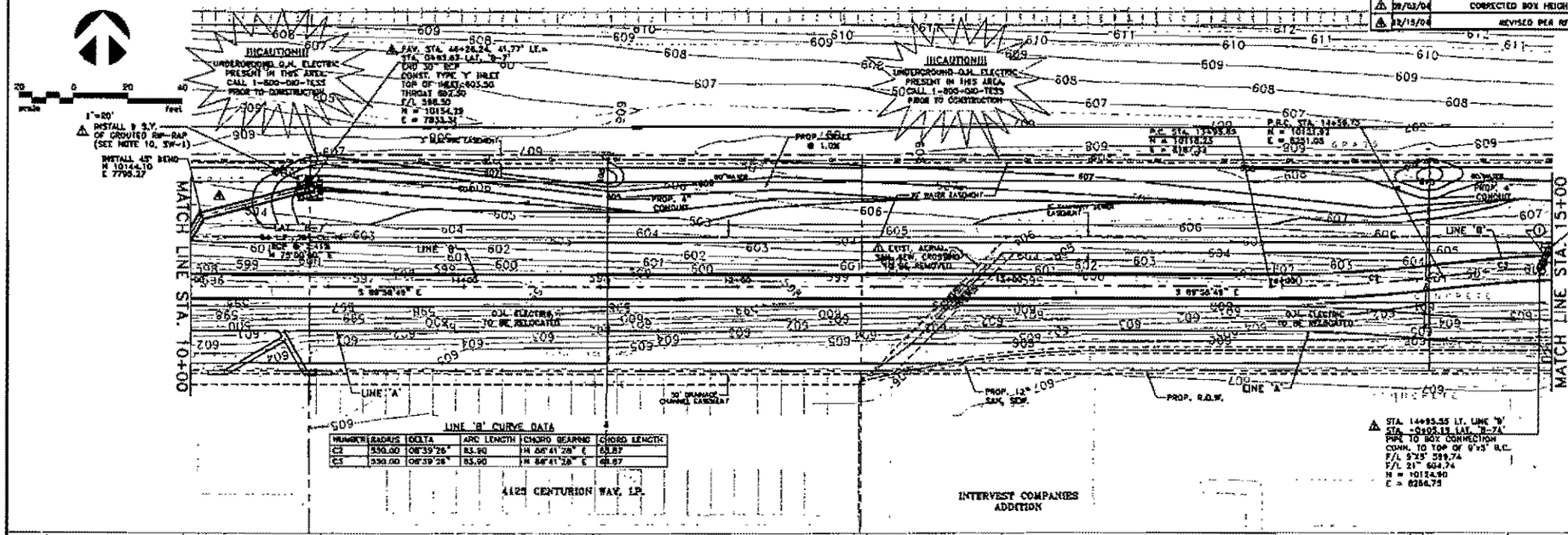
TOWN OF ADDISON

Grantham & Associates, Inc.

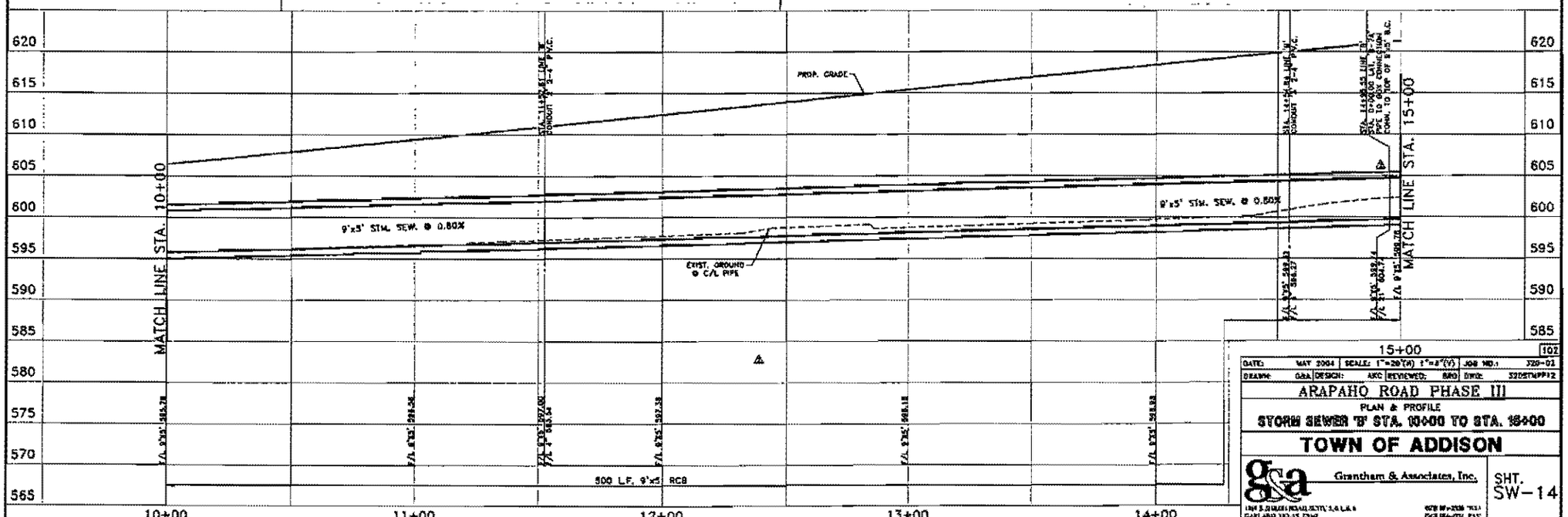
SHT. SW-13

DALLAS AREA RAPID TRANSIT
PROPERTY AQUISITION CORPORATION

NO.	DATE	REVISION	APPROV.
1	06/28/04	REVISED PER ADDENDA	A.K.C.
2	09/28/04	PROFILE REVISED PER Q & A	A.K.C.
3	09/03/04	CORRECTED BOX HEIGHT IN PROFILE	A.K.C.
4	12/15/04	REVISED PER RFI #40	



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY A. KATURA CURRY ON 12-15-04
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.



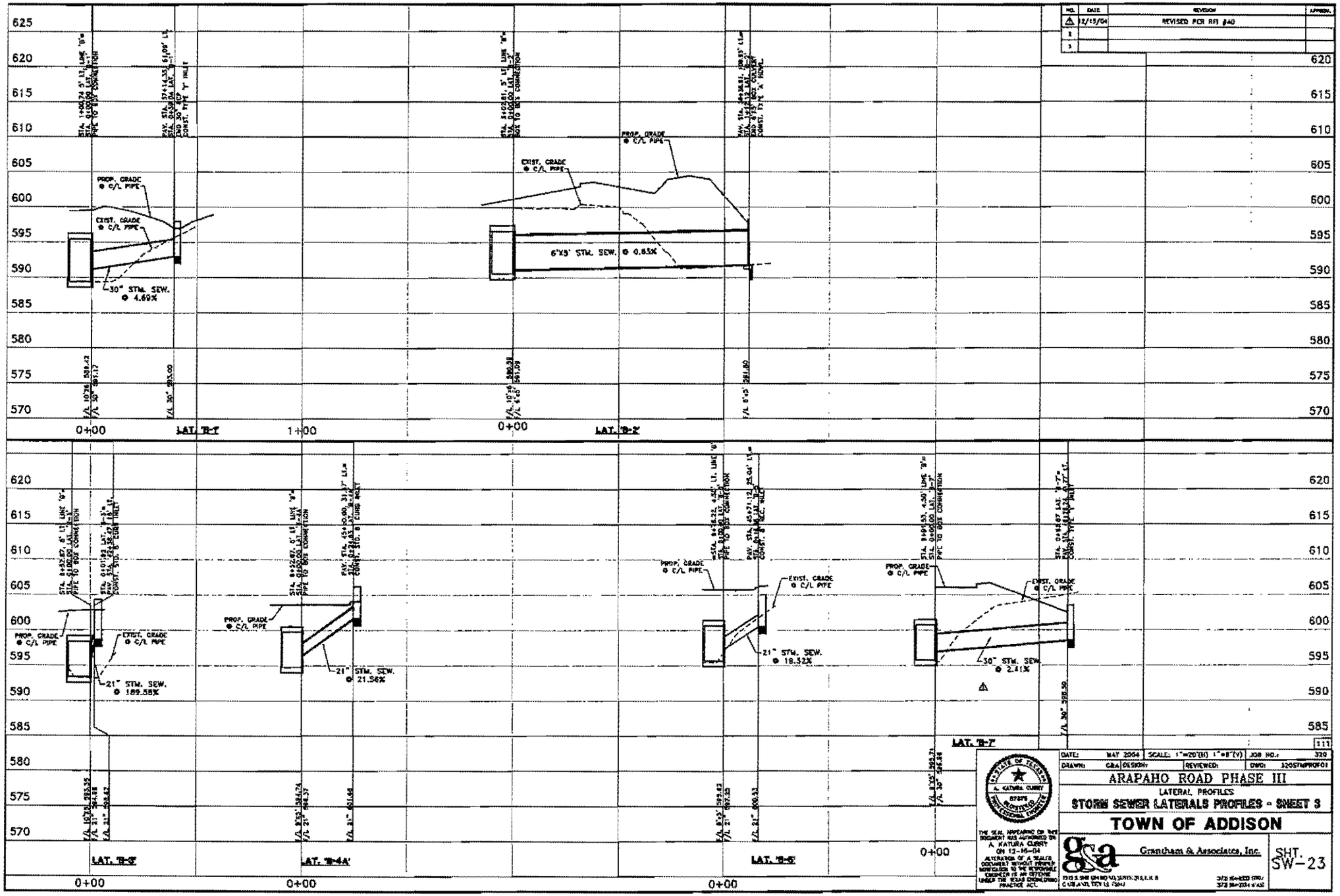
102

DATE: MAY 2004 | SCALE: 1"=20'(H) 1"=8'(V) | JOB NO.: 329-01
DRAWN: G&A | DESIGN: AKC | REVIEWED: BRG | DWG: S2DETAPP12

ARAPAHO ROAD PHASE III
PLAN & PROFILE
STORM SEWER 'B' STA. 10+00 TO STA. 15+00
TOWN OF ADDISON

g&a Grantham & Associates, Inc.

SHT. SW-14



NO.	DATE	REVISION	APPROV.
1	12/15/04	REVISED PER RFI #40	
2			
3			

DATE:	MAY 2004	SCALE: 1"=20'(H) 1"=8'(V)	JOB NO.:	320
DRAWN:	G&A	DESIGN:	REVIEWED:	DWG:	320STMPROF01

ARAPAHO ROAD PHASE III

LATERAL PROFILES

STORM SEWER LATERALS PROFILES - SHEET 3

TOWN OF ADDISON

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY A. KATURA CURRY ON 12-16-04

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Grantham & Associates, Inc.

SHT. SW-23

King Fabrication, L.L.C.
19300 West Hardy Road
Houston, Texas 77073
281-209-0811
281-209-1774 Fax
ella@kingfab.com

Norm Sr. 281-362-4772

TRANSMITTAL

Attention: James C. Pierce, Jr. **Date:** 10/15/2004

Ship To: Town of Addisson **Job Name:** Arapaho Bridge

Via Hand Delivery @ King Fabrication, L.L.C. **Job Number:** 04-072

We are sending you: ☒ Attached ☐ Under Separate Cover

The following: ☐ Originals ☐ Blue Lines ☒ Photo Copies ☐ Electronic Files

Copies	Sheet Numbers	Dated
One	Coating System Submittal	Current

Description:

These are: ☒ For Approval ☐ As Requested ☐ For Your Use ☐ For Re-Submittal

Remarks:

Shipped via: ☐ FedEx ☐ USPS ☐ UPS ☐ E-Mail ☐ Fax ☐ Delivery Service

Service: ☐ Ground ☐ Next Day ☐ 2nd Day ☐ Overnight ☐ Priority Overnight

☐ Saturday ☐ C.O.D.

Tracking Number:

King Fabrication / King Blasting & Painting Work Order

Date: 10/15/04 Rev. A Issued By: EM King Fab Job No. 04-072 Date Required: Open

Customer: Archer Western CC:

Location: King's Yard CC:

Surface Conditions: New Fabricated Steel Total S.F.: 4603

System: SSPC - SP6 Blast, 1 Coat 2 mils DFT Sherwin Williams 3.0 - 5.0 mils DFT, Finish is Sherwin Williams Fast Clad Urethane, 6.0 - 9.0 mils DFT, Color is Frank Blue

Prep. Req. ~~SP-1~~ ~~SP-2~~ ~~SP-3~~ ~~SP-7~~ SP-6 ~~SP-10~~ ~~SP-5~~ Other: Anchor Profile Tape

Inspection: Standard QA/QC Reports to Job File

Paint Specs: Mfr: Sherwin Williams

Primer:	Zinc Clad III HS Gray-Green	MILS Wet 5.0 - 8.0	MILS Dry 3.0 - 5.0
2nd Coat:	Fast Clad Urethane Frank Blue	MILS Wet 10.0 - 15.0	MILS Dry 6.0 - 9.0
3rd Coat		MILS Wet	MILS Dry
Other		MILS Wet	MILS Dry

Industrial and Marine Coatings

ZINC CLAD™ III HS

ORGANIC ZINC-RICH EPOXY PRIMER

PART A	B69A100	BASE
PART B	B69V100	HARDENER
PART F	B69D11	ZINC DUST

PRODUCT INFORMATION

Revised 2/03

PRODUCT DESCRIPTION

ZINC CLAD III HS is a three-component, polyamide epoxy, zinc-rich coating. It has a low VOC level and contains 90.5% by weight of zinc dust pigment in its dried film.

- Meets Class B requirements for Slip Coefficient and Creep Resistance, .52
- Provides cathodic protection
- Damaged film exhibits "self-healing" properties
- Fast Recoat Time
- Contains Micaceous Iron Oxide

RECOMMENDED USES

For use over properly prepared blasted steel.

- Fabrication Shops
- Bridge and Highway Structures
- Stadiums and Sports Complexes
- Drilling Rigs
- Piping
- Refineries
- Barges and Ships
- Shop or Field Applications
- Not recommended for immersion service.

PRODUCT CHARACTERISTICS

Finish: Flat

Color: Gray-green

Volume Solids: 60% ± 2%, mixed

Weight Solids: 90% ± 2%, mixed

VOC (EPA Method 24): mixed
Unreduced: 336 g/L; 2.80 lb/gal
Reduced 5%: 360 g/L; 3.00 lb/gal

Zinc Content in Dry Film: 90.5% by weight

Mix Ratio: 3 components, premeasured
3.25 gallons total

Recommended Spreading Rate per coat:

Wet mils:	5.0 - 8.0
Dry mils:	3.0 - 5.0
Coverage:	190 - 320 sq ft/gal approximate

Note: Brush application is for stripe coating and small areas only.

Drying Schedule @ 5.0 mils wet @ 50% RH:

	@ 40°F	@ 77°F	@ 120°F
To touch:	45 minutes	30 minutes	10 minutes
To handle:	2 hours	1 hour	30 minutes
To recoat*:			
minimum:	4 hours	2 hours	1 hour
maximum:	1 year	1 year	1 year
To cure:	10 days	7 days	7 days
Pot Life:	6 hours	4 hours	2 hours
Sweat-In-Time:	1 hour	30 minutes	15 minutes

Drying time is temperature, humidity, and film thickness dependent.
*NOTE: Film must be free of solvent, hard and firm. When rubbed with the face of a coin or knife the film should polish but not flake or chip.

Shelf Life: unopened, at 77°F — Parts A, B, & F - 24 months

Flash Point: 58°F, Seta Flash, mixed

Reducer/Clean Up:
Below 80°F: MEK, R6K10
Above 80°F: Reducer #58, R7K58 or MEK, R6K10

PERFORMANCE CHARACTERISTICS

System Tested: (unless otherwise indicated)
Substrate: Steel
Surface Preparation: SSPC-SP10
1 ct. Zinc Clad III HS @ 5.0 mils dft
1 ct. Macropoxy 646 @ 5.0-10.0 mils dft
1 ct. Acrolon 218 HS @ 5.0 mils dft

Adhesion:
Method: ASTM D4541
Result: 2403 psi

Corrosion Weathering
Method: ASTM D5894, 13 cycles, 2016 hours
Result: Rating 10 per ASTM D610 for rusting
Rating 10 per ASTM D714 for blistering

Dry Heat Resistance, zinc only:
Method: ASTM D2485
Result: 300°F

Moisture Condensation Resistance:
Method: ASTM D4585, 100°F, 4000 hours
Result: Rating 10 per ASTM D610 for rusting
Rating 10 per ASTM D714 for blistering

Pencil Hardness, zinc only:
Method: ASTM D3363
Result: 2H

Salt Fog Resistance:
Method: ASTM B117, 4500 hours
Result: Rating 10 per ASTM D610 for rusting
Rating 10 per ASTM D714 for blistering

Slip Coefficient, zinc only:
Method: AISC Specification for Structural Joints Using ASTM A325 or ASTM A490 Bolts
Result: Class B, 0.52

continued on back

THE SHERWIN-WILLIAMS COMPANY

INDUSTRIAL & MARINE COATINGS

Industrial and Marine Coatings

ZINC CLAD™ III HS

ORGANIC ZINC-RICH EPOXY PRIMER

PART A	B69A100	BASE
PART B	B69V100	HARDENER
PART F	B69D11	ZINC DUST

PRODUCT INFORMATION

RECOMMENDED SYSTEMS

Steel, polyurethane topcoat:
1 ct. Zinc Clad III HS @ 3.0 - 5.0 mils dft
1-2 cts. Acrolon 218 HS @ 3.0 - 6.0 mils dft/ct

Steel, catalyzed epoxy topcoat:
1 ct. Zinc Clad III HS @ 3.0 - 5.0 mils dft
1-2 cts. Macropoxy 646 @ 5.0 - 10.0 mils dft/ct

Steel, catalyzed epoxy topcoat:
1 ct. Zinc Clad III HS @ 3.0 - 5.0 mils dft
1-2 cts. Tile-Clad HS @ 2.5 - 4.0 mils dft

Steel, acrylic topcoat:
1 ct. Zinc Clad III HS @ 3.0 - 5.0 mils dft
2 cts. DTM Acrylic Coating @ 2.5 - 4.0 mils dft/ct
or
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Steel, water based epoxy topcoat:
1 ct. Zinc Clad III HS @ 3.0 - 5.0 mils dft
2 cts. Waterbased Tile-Clad Epoxy @ 2.0 - 4.0 mils dft/ct

Steel, water-based polyurethane topcoat:
1 ct. Zinc Clad III HS @ 3.0 - 5.0 mils dft
1 ct. Waterbased Tile-Clad Epoxy @ 2.0 - 4.0 mils dft
1-2 cts. Centurion WB Urethane @ 2.0 - 3.0 mils dft/ct

The systems listed above are representative of the product's use. Other systems may be appropriate.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

Iron & Steel:	SSPC-SP6, 2 mil profile
Galvanizing:	SSPC-SP7
Weathered Zinc Rich Primer:	Clean, dry, sound

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature:	40°F minimum, 120°F maximum (air, surface, and material) At least 5°F above dew point
Relative humidity:	95% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:	3.25 gallons mixed
Part A	1 gallon
Part B	1 gallon
Part F	73 lb Zinc Dust
Weight per gallon:	27.63 ± 0.2 lb, mixed

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

THE SHERWIN-WILLIAMS COMPANY

INDUSTRIAL & MARINE COATINGS

Industrial and Marine Coatings

6.07A

ZINC CLAD™ III HS

ORGANIC ZINC-RICH EPOXY PRIMER

PART A	B69A100	BASE
PART B	B69V100	HARDENER
PART F	B69D11	ZINC DUST

APPLICATION BULLETIN

Revised 2/03

SURFACE PREPARATION

Zinc rich coatings require direct contact between the zinc pigment in the coating and the metal substrate for optimum performance. Surface must be dry, free from oil, dirt, dust, mill scale or other contaminants to ensure good adhesion.

Iron & Steel (atmospheric service)
Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP6. For better performance, use Near White Metal Blast Cleaning per SSPC-SP10. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils). Coat any bare steel the same day as it is cleaned or before flash rusting occurs.

Galvanized Steel
Allow to weather a minimum of six months prior to coating. Solvent Clean per SSPC-SP1 (recommended solvent is VM&P Naphtha). When weathering is not possible, or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP7 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned or before flash rusting occurs.

Weathered Zinc-Rich Primer
Remove zinc salts by either high pressure water washing and scrubbing with stiff bristle brush or sweep blast followed by water flush. Allow to dry.

Note: If blast cleaning with steel media is used, an appropriate amount of steel grit blast media may be incorporated into the work mix to render a dense, angular 1.5 - 2.0 mil surface profile. This method may result in improved adhesion and performance.

APPLICATION CONDITIONS

Temperature:	40°F minimum, 120°F maximum (air, surface, and material) At least 5°F above dew point
Relative humidity:	95% maximum

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental and application conditions.

Reducer/Clean Up

Below 80°F	MEK, R6K10
Above 80°F	Reducer #58, R7K58 or MEK, R6K10

Airless Spray
(use Teflon packings and continuous agitation)

Pressure	2000 - 2300 psi
Hose	3/8" ID
Tip	.019"
Filter	none
Reduction	As needed up to 5% by volume

Conventional Spray
(continuous agitation required)

Gun	Binks 95
Fluid Nozzle	68
Air Nozzle	68P
Atomization Pressure	50 psi
Fluid Pressure	10 - 20 psi
Reduction	As needed up to 5% by volume

Keep pressure pot at level of applicator to avoid blocking of fluid line due to weight of material. Blow back coating in fluid line at intermittent shutdowns, but continue agitation at pressure pot.

Brush

Brush	Small areas only; natural bristle
Reduction	Not recommended

If specific application equipment is listed above, equivalent equipment may be substituted.

continued on back

6.07A

Industrial and Marine Coatings

ZINC CLAD™ III HS

ORGANIC ZINC-RICH EPOXY PRIMER

PART A	B69A100	BASE
PART B	B69V100	HARDENER
PART F	B69D11	ZINC DUST

INDUSTRIAL & MARINE COATINGS

APPLICATION BULLETIN

APPLICATION PROCEDURES

Surface preparation must be completed as indicated.
Zinc Clad III HS comes in 3 premeasured containers which when mixed provides 3.25 gallons of ready-to-apply material.

Mixing Instructions:
Mix contents of component A and B thoroughly with power agitator. Make certain no pigment remains on the bottom of the can. Then combine 1 part by volume of Part A with 1 part by volume of Part B, then add Part F (73 lb zinc dust). Thoroughly agitate the mixture with power agitation. After mixing, pour through a 30-60 mesh screen. Allow the material to sweat-in as indicated. Re-stir before using.
If reducer solvent is used, add only after components have been thoroughly mixed, after sweat-in.
Continuous agitation of mixture during application is required, otherwise zinc dust will quickly settle out.
Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat:

Wet mils:	5.0 - 8.0
Dry mils:	3.0 - 5.0
Coverage:	190 - 320 sq ft/gal approximate

Note: Brush application is for stripe coating and small areas only.

Drying Schedule @ 5.0 mils wet @ 50% RH:

	@ 40°F	@ 77°F	@ 120°F
To touch:	45 minutes	30 minutes	10 minutes
To handle:	2 hours	1 hour	30 minutes
To recoat*:			
minimum:	4 hours	2 hours	1 hour
maximum:	1 year	1 year	1 year
To cure:	10 days	7 days	7 days
Pot Life:	6 hours	4 hours	2 hours
Sweat-In-Time:	1 hour	30 minutes	15 minutes

Drying time is temperature, humidity, and film thickness dependent.
*NOTE: Film must be free of solvent, hard and firm. When rubbed with the face of a coin or knife the film should polish but not flake or chip.

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

PERFORMANCE TIPS

Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Excessive reduction of material can affect film build, appearance, and performance.

Do not mix previously catalyzed material with new.

Do not apply the material beyond recommended pot life.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with MEK, R6K10.

Keep pressure pot at level of applicator to avoid blocking of fluid line due to weight of material. Blow back coating in fluid line at intermittent shutdowns, but continue agitation at pressure pot.

Application above recommended film thickness may result in mud cracking.

Refer to Product Information sheet for additional performance characteristics and properties.

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with MEK, R6K10. Clean tools immediately after use with MEK, R6K10. Follow manufacturer's safety recommendations when using any solvent.

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

THE SHERWIN-WILLIAMS COMPANY

Industrial and Marine Coatings

FAST CLAD™ URETHANE

PART A	B65-950 SERIES	SEMI- GLOSS
PART A	B65-960 SERIES	GLOSS
PART B	B65V950	HARDENER

INDUSTRIAL & MARINE COATINGS

PRODUCT INFORMATION

Revised 2/03

PRODUCT DESCRIPTION

FAST CLAD URETHANE is a fast dry, single coat, aliphatic polyurea urethane specifically formulated for accelerated maintenance painting.

- Fast drying minimizes dust and grit "pick-up"
- Allows entire maintenance coating systems to be completed in one shift
- Single coat application
- High build
- No "outgassing"

RECOMMENDED USES

Ideal for use as a finish coat for projects requiring rapid return to service, such as bridge maintenance painting.

Use directly over organic zinc rich primers.

Can be used in various coatings applications where fast cure-to-service is desired, such as:

- Bridges
- Hand rails
- Structural steel
- High visibility areas

PRODUCT CHARACTERISTICS

Finish: Semi-gloss or gloss

Color: Wide range of colors possible

Volume Solids: 64% ± 2%, calculated and mixed
May very by color

Weight Solids: 80% ± 2%, mixed

VOC (EPA Method 24): 289 g/L; 2.4 lb/gal, unreduced
335 g/L; 2.8 lb/gal, reduced 10% (with R6K10)

Mix Ratio: 4:1 by volume

Recommended Spreading Rate per coat:

Wet mils:	10.0 - 15.0
Dry mils:	6.0 - 9.0
Coverage:	116 - 174 sq ft/gal approximate

Drying Schedule @ 10.0 mils wet @ 50% RH:

	@ 35°F	@ 77°F	@ 120°F
To touch:	1-1/2 hours	30 minutes	15 minutes
To handle:	3 hours	45 minutes	30 minutes
To cure:	4 days	2 days	24 hours
Pot Life:	3 hours	2 hours	30 minutes
Sweat-In-Time:	None	None	None

Drying time is temperature, humidity, and film thickness dependent.

Shelf Life:

Part A	24 months, unopened, at 77°F
Part B	24 months, unopened, at 77°F

Flash Point: 20°F, PMCC, mixed

Reducer/Clean Up:

Below 80°F:	R6K10 (MEK)
Above 80°F:	R7K216
Brush and roll:	R7K216

PERFORMANCE CHARACTERISTICS

System Tested: (unless otherwise indicated)
Substrate: Blasted steel
Surface Preparation: SSPC-SP10 or SP6
1 ct. Corothane I Galvapac @ 3.0-4.0 mils dft
1 ct. Fast Clad Urethane (semi-gloss) @ 6.0 - 9.0 mils dft

Tested in accordance with NTPEP (National Transportation Product Evaluation Program) requirements as outlined by AASHTO Designation R31-02.

Requirements:

Abrasion Resistance:
Method: ASTM D4060
CS17 wheel, 1000 cycles, 1 kg load
Result: 90 mg loss

Adhesion:
Method: ASTM D4541
Result: 825 psi

Corrosion Weathering:
Method: ASTM D5894, 15 cycles
Result: Rating 10 per ASTM D714 for Blistering
Rating 10 per ASTM D610 for Rusting

Freeze/Thaw Stability:
Method: 30 cycles
Result: No loss of Patti Adhesion

Salt Fog Resistance:
Method: ASTM B117, 5000 hours
Result: Rating 10 per ASTM D714 for Blistering
Rating 10 per ASTM D610 for Rusting

continued on back

THE SHERWIN-WILLIAMS COMPANY

INDUSTRIAL & MARINE COATINGS

Industrial and Marine Coatings

FAST CLAD™ URETHANE

PART A	B65-950 SERIES	SEMI-GLOSS
PART A	B65-960 SERIES	GLOSS
PART B	B65V950	HARDENER

PRODUCT INFORMATION

RECOMMENDED SYSTEMS

Steel:
1 ct. Corothane I GalvaPac Zinc Primer @ 3.0 - 4.0 mils dft*
1 ct. Fast Clad Urethane @ 6.0 - 9.0 mils dft

Steel:
1 ct. Macropoxy 646 @ 5.0 - 10.0 mils dft
1 ct. Fast Clad Urethane @ 6.0 - 9.0 mils dft

Concrete, masonry:
1 ct. Kem Cati-Coat HS Epoxy Filler/Sealer @ 10.0 - 20.0 mils dft
1 ct. Fast Clad Urethane @ 6.0 - 9.0 mils dft

Aluminum/Galvanizing:
1 ct. DTM Wash Primer @ .7 - 1.3 mils dft
1 ct. Fast Clad Urethane @ 6.0 - 9.0 mils dft

*Other acceptable zinc rich primers:
Zinc Clad III HS
Zinc Clad IV

The systems listed above are representative of the product's use. Other systems may be appropriate.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

**Iron & Steel:	SSPC-SP6, 2 mil profile
**Concrete/Masonry:	SSPC-SP13/NACE 6
**Aluminum/Galvanizing:	SSPC-SP1
Spot Prime / Touch-up:	SSPC-SP3

**Primer required

TINTING

Tint with 844 colorants only into Part A at 100% tint strength. Five minutes minimum of mixing on a mechanical shaker is required for complete mixing of color.

APPLICATION CONDITIONS

Temperature:	20°F minimum, 120°F maximum (air, surface, and material)
	At least 5°F above dew point
Relative humidity:	85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:

Part A:	1 and 4 gallons
Part B:	1 quart and 1 gallon
Weight per gallon:	12.0 ± 0.2 lb mixed, may vary with color

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

THE SHERWIN-WILLIAMS COMPANY

Industrial and Marine Coatings

FAST CLAD™ URETHANE

PART A	B65-950 SERIES	SEMI- GLOSS
PART A	B65-960 SERIES	GLOSS
PART B	B65V950	HARDENER

INDUSTRIAL & MARINE COATINGS

APPLICATION BULLETIN

Revised 2/03

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Iron & Steel (primer required)

Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP6. For better performance, use Near White Metal Blast Cleaning per SSPC-SP10. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils). Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Aluminum

Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning per SSPC-SP1. Primer required

Galvanized Steel

Allow to weather a minimum of six months prior to coating. Solvent Clean per SSPC-SP1. When weathering is not possible, or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP7 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned or before flash rusting occurs.

Poured Concrete

New

For surface preparation, refer to SSPC-SP13/NACE 6. Surfaces must be clean, dry, sound and offer sufficient profile to achieve adequate adhesion. Minimum substrate cure is 28 days at 75°F. Remove all form release agents, curing compounds, salts, efflorescence, laitance, and other foreign matter by sandblasting, shotblasting, mechanical scarification, or suitable chemical means. Refer to ASTM D4260. Rinse thoroughly to achieve a final pH between 6.0 and 10.0. Allow to dry thoroughly prior to coating.

Old

Surface preparation is done in much the same manner as new concrete, however, if the concrete is contaminated with oils, grease, chemicals, etc., they must be removed by cleaning with a strong detergent. Refer to ASTM D4258. Form release agents, hardeners, etc. must be removed by sandblasting, shotblasting, mechanical scarification, or suitable chemical means. If surface deterioration presents an unacceptably rough surface, Kem Cati-Coat Epoxy HS Filler/Sealer is recommended to patch and resurface damaged concrete.

Fill all cracks, voids and bugholes with Sher-Plate Epoxy Patch.

Always follow the ASTM methods listed below:

ASTM D4258 Standard Practice for Cleaning Concrete.
ASTM D4259 Standard Practice for Abroding Concrete.
ASTM D4260 Standard Practice for Etching Concrete.
ASTM D4263 Plastic Sheet Method for Checking Moisture in Concrete.
SSPC-SP 13/Nace 6 Surface Preparation of Concrete

APPLICATION CONDITIONS

Temperature:	20° F minimum, 120° F maximum (air, surface, and material) At least 5° F above dew point
Relative humidity:	85% maximum

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental end application conditions.

Reducer/Clean Up

Below 80°F	R6K10 (MEK)
Above 80°F	R7K216

Airless Spray

Pump	30:1 minimum
Pressure	2800 - 3000 psi
Hose	3/8" ID
Tip	.017" - .021"
Filter	60 mesh
Reduction	As needed up to 10% by volume

Brush (small areas only)

Brush	Natural Bristle
Reduction	R7K216, up to 10% by volume

Roller (small areas only)

Cover	1/4" woven with phenolic core
Reduction	R7K216, up to 10% by volume

If specific application equipment is listed above, equivalent equipment may be substituted.

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Industrial and Marine Coatings

FAST CLAD™ URETHANE

PART A	B65-950 SERIES	SEMI-GLOSS
PART A	B65-960 SERIES	GLOSS
PART B	B65V950	HARDENER

APPLICATION BULLETIN

APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix contents of each component thoroughly with power agitation. Make certain no pigment remains on the bottom of the can. Then combine 4 parts by volume of Part A with 1 part by volume of Part B. Thoroughly agitate the mixture with power agitation.

If reducer solvent is used, add only after both components have been thoroughly mixed.

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat:

Wet mils:	10.0 - 15.0
Dry mils:	6.0 - 9.0
Coverage:	116 - 174 sq ft/gal approximate

Drying Schedule @ 10.0 mils wet @ 50% RH:

	@ 35°F	@ 77°F	@ 120°F
To touch:	1-1/2 hours	30 minutes	15 minutes
To handle:	3 hours	45 minutes	30 minutes
To cure:	4 days	2 days	24 hours
Pot Life:	3 hours	2 hours	30 minutes
Sweat-In-Time:	None	None	None

Drying time is temperature, humidity, and film thickness dependent.

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

PERFORMANCE TIPS

Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Excessive reduction of material can affect film build, appearance, and adhesion.

Do not apply the material beyond recommended pot life.

Do not mix previously catalyzed material with new.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Reducer R6K10 (MEK).

When used as part of a repid recoat system for bridge maintenance painting over Corothane I Galvapac Primer, use 4 oz. per gallon of the KA Accelerator, B65V11, in the Galvepac Primer. This will allow topcoating within 1-2 hours.

Mixed coating is sensitive to water. Use water traps in all air lines. Moisture contact can reduce pot life and effect gloss and color.

Refer to Product Information sheet for additional performance characteristics and properties.

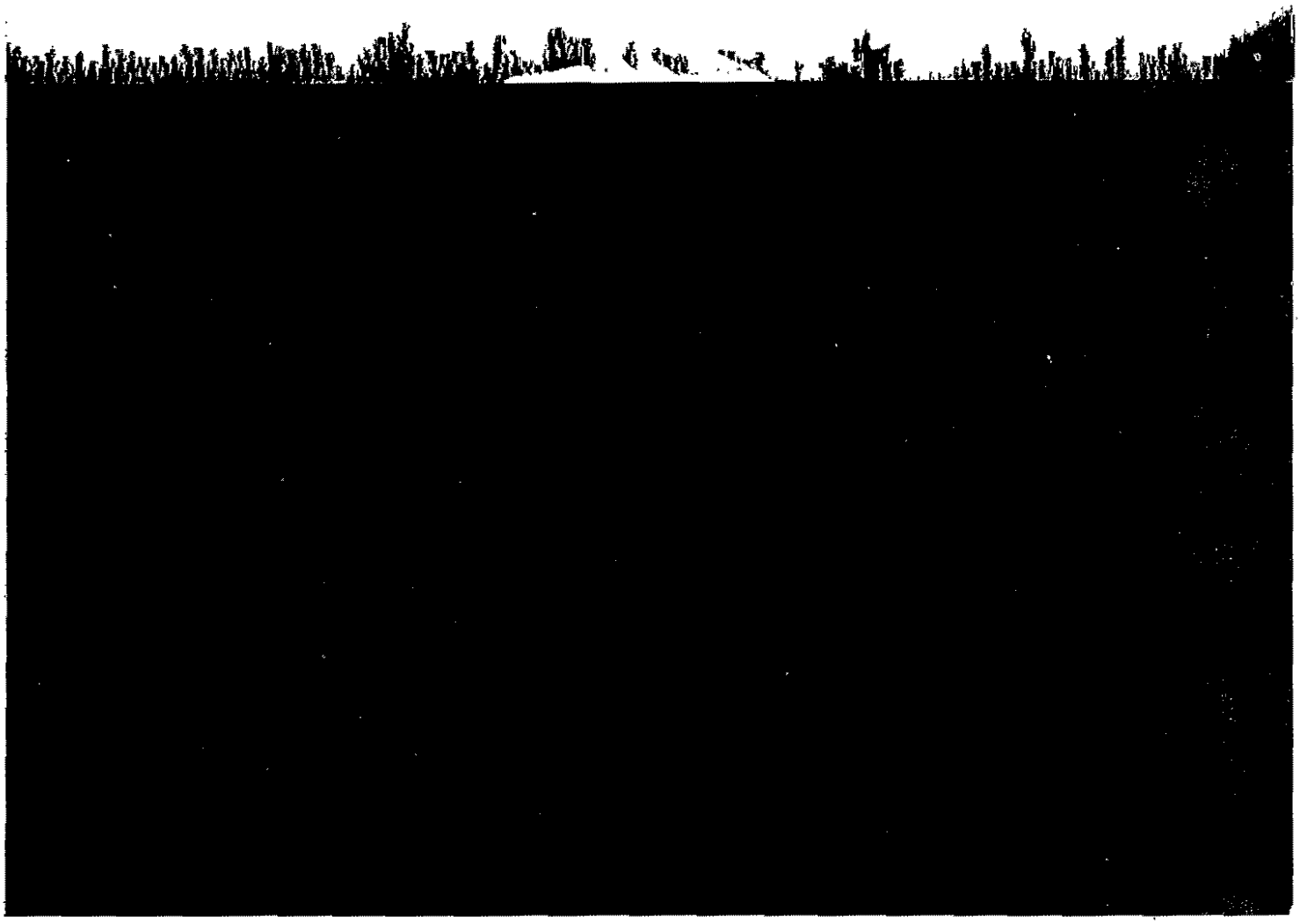
CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Reducer R6K10 (MEK). Clean tools immediately after use with Reducer R6K10 (MEK). Follow manufacturer's safety recommendations when using any solvent.

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.



Fed No.* - 15123

Archer Western
Contractors

November 9, 2004

Letter: HNTB -18

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Metal Painting System
PCO #24

Dear Guy:

In accordance with conversations with HNTB and the Town of Addison, Archer Western is submitting product and pricing information the following paint systems for the steel parts of Arch, Stinger, T-4 Rail and Pedestrian Rail:

1. Devoe - Devshield 4328 - Without Clear Coat = $33,357.29
2. Devoe - Devshield 4328 - With Devthane 379UVA Clear Coat = $47,267.45
3. Tnemec - High Build Epoxoline 66 & Endura-Shield II 1075 W/O Clear Coat = $69,705.23
4. Tnemec - High Build Epoxoline 66 & Endura-Shield II 1075 W Fluoranar 1076 Clear Coat = $132,262.60

These prices are minus the Costs for the TxDot System II Paint.

The Paint Product information is enclosed

If you require additional information, please contact Andrew at our field office.

Sincerely,

Andrew Schneemann
Asst. Project Manager

Enclosure

XC: Ben Withered
Don Good
File

2121 Avenue J, Suite 103
Arlington, Texas 76006
Phone: 817.640.3898
Fax: 817.640.8734
www.walshgroup.com

TXDOT SYSTEM II
BID PAINT SYSTEM

SHERWIN WILLIAMS
Industrial and Marine Coatings

TX DOT 810-E PRIME COAT (SYSTEM II) B69AVJ002 SIZE CODE 36 B69D210

PRODUCT INFORMATION

Product Description

Tx DOT 810-E Prime Coat is an epoxy zinc rich primer made to Tx DOT formulation. **PROTECTION SYSTEM II**
Kit consists of one gallon of B69AJ1 and B69VJ1

Recommended Uses

For use over prepared:

Bridges (Steel) New construction and repaint

Product Characteristics

Finish: Flat

Color: Gray/Green

Volume Solids:	56.1% Mixed
VOC :	Reduced at 1/2 pint per gal 400 g/l
Flash Point:	60 °F.

Recommended Spreading Rate per coat:

Wet mils:	3.5 to 10.0
Dry mils:	1.75 to 5.0
Coverage:	450 sq ft/gal approximate

Note: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 6.0 mils wet @ 50% RH:

	@ 77°F
To touch:	30 minutes
To handle:	2 hours
To recoat:	2 hours

Drying time is temperature, humidity, and film thickness dependent.

Reducer/Clean Up:	MEK, Ketones
Sweat-in-time:	30 minutes
Shelf Life:	12 Months , unopened, at 77°F.

Performance Characteristics

This Product is manufactured to Tx DOT formulation specifications and inspected in our Garland facility.

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SHERWIN Williams

Industrial and Marine Coatings

TX DOT 810-E PRIME COAT (SYSTEM II) B69AVJ002 SIZE CODE 36 B69D210

PRODUCT INFORMATION

Recommended Systems

May be applied over properly prepared Steel Bridges, for New construction and repaint. **Protection System II.**

Apply in 2 coats to yield 3.5 to 10.0 mils dft.

The systems listed above are representative of the product's use. Other systems may be appropriate.

Surface Preparation

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to TxDOT Tape Test for additional surface preparation information.

Minimum recommended surface preparation:
TxDOT Class A Blast Clean. Remove visible rust, paint, mill scale, and other forms of contamination. The blasted area shall exhibit a uniform surface appearance when viewed with the unaided eye (20-20 vision).Similar to Near-White Blast Cleaning, SSPC-SP10 OR NACE 2.

Color Availability/Tinting

Tint: Do not tint

Application Conditions

Temperature:	40°F minimum, 100°F maximum (air, surface, and material) At least 5°F above dew point
Relative humidity:	85% maximum

Do not allow product to freeze

Refer to product Application Bulletin for detailed application information.

Ordering Information

Packaging	1 gallon base B69AJ1 1 gallon hardner B69VJ1 1 KEG B69D210
Weight per unit:	63 lb per keg unit B69D210 18.45 lb per box (base/ hardner)

Safety Precautions

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

SHERWIN WILLIAMS
Industrial and Marine Coatings

TX DOT 810-E
PRIME COAT (SYSTEM II)
B69AVJ002 SIZE CODE 36
B69D210

APPLICATION BULLETIN

Surface Preparation

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion. Refer to TxDOT Tape Test.

Minimum recommended surface preparation:

TxDOT Class A Blast Clean. Remove visible rust, paint, mill scale, and other forms of contamination. The blasted area shall exhibit a uniform surface appearance when viewed with the unaided eye (20-20 vision).Similar to Near-White Blast Cleaning, SSPC-SP10 OR NACE 2.

Application Conditions

Temperature:	40°F minimum, 100°F maximum (air, surface, and material) At least 5°F above dew point
Relative humidity:	85% maximum

Do not allow to freeze

Application Equipment

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental and application conditions.

Reducer/Clean Up: ..... MEK, Ketones

Airless Spray

Pressure	2000 psi
Hose	1/4" ID
Tip	.015"-.019"
Filter	60 mesh
Reduction	as needed, up to 1/2 pint per gallon

Conventional Spray

Gun	Binks 95
Fluid Nozzle	66
Air Nozzle	63PB
Atomization Pressure	60 psi
Fluid Pressure	25 psi
Reduction	as needed up to 1/2 pint per gallon

Brush

Brush	Natural Bristle
Reduction	Not recommended

Roller

Cover	3/8" woven with phenolic core
Reduction	Not recommended

If specific application equipment is listed above, equivalent equipment may be substituted.

continued on back

SHERWIN Williams

Industrial and Marine Coatings

TX DOT 810-E PRIME COAT (SYSTEM II) B69AVJ002 SIZE CODE 36 B69D210

APPLICATION BULLETIN

Application Procedures

Surface preparation must be completed as indicated.

Mixing Instructions: One complete kit consists of one (two gallon) carton containing the liquid portions and one 3 1/2 gallon bucket containing the zinc dust. Thoroughly mix the liquid portions before pouring them into a suitable clean mixing container. If further thinning is needed, a small amount of MEK or Ketone, combinations thereof or similar approved solvent may be used. Mixing of the liquid portions shall be done at least 30 minutes (induction time) before use. After induction stir the liquids, adding the zinc dust slowly. Continue to stir until all the zinc dust is completely dispersed. Strain before using. .

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate Per Coat:

Wet mils: 3.5 to 10.0
Dry mils: 1.75 to 5.0
Coverage: 450 sq ft /gal approximate

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 6.0 mils wet and 50% RH

	@77°F
To touch:	30 minutes
To handle:	2 hours
To recoat:	2 hours

Sweat-In-Time: 30 Minutes

Drying time is temperature, humidity, and film thickness

Performance Tips

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness of porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Refer to Product Information sheet for additional performance characteristics and properties.

Clean Up Instructions

Clean spills and spatters immediately with MEK, Ketones. Clean tools immediately after use with MEK ,Ketones. Follow manufacturer's safety recommendations when using any solvent.

Safety Precautions

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

SHERWIN Williams

Industrial and Marine Coatings

TX DOT 742 H GRAY APPEARANCE COAT

B29AJ1000

PRODUCT INFORMATION

Product Description

742 H GRAY APPEARANCE COAT is a topcoat made to Tx DOT formulation. Can be used for Tx DOT System I or II.

Recommended Uses

For use over prepared:

Bridges (Steel) New construction and repaint.

Product Characteristics

Finish: Flat

Color: Gray

Volume Solids: 49%

VOC Thinned 1/2 pint per gal
450 g/l

Recommended Spreading Rate per coat:

Wet mils:	4.0
Dry mils:	2.0
Coverage:	400 sq ft/gal approximate

Drying Schedule @ 4.0 mils wet @ 50% RH:
@ 77°F

To touch:	30 minutes
To handle:	2 hours

Shelf Life: 12 months, unopened, at 77°F

Flash Point: 78 °F, PMCC

Reducer/Clean Up: Xylene, Mek / Ketones

Performance Characteristics

This product is manufactured to Tx DOT formulation specifications and inspected in our Garland facility

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SHERWIN WILLIAMS

Industrial and Marine Coatings

TX DOT 742 H GRAY APPEARANCE COAT

B29AJ1000

PRODUCT INFORMATION

Recommended Systems

Over prepared system I or II
1 coat B29AJ1000 @ 2 mils dft.

Note: System I or II coatings, including field touch-up, should be allowed to cure prior to the application of Tx DOT 742 H Gray Appearance Coat in accordance with the following schedule.

77 °F and above	2 days
65 to 77 °F	3 days
55 to 65 °F	4 days
40 to 55 °F	5 days

When cure of previously applied paint is in doubt, the cure can be determined by the following test. Using moderate to heavy pressure, place thumb on paint surface and apply a twisting motion. If the paint film gives or twists with the thumb, the coating is not thoroughly cured.

The systems listed above are representative of the product's use. Other systems may be appropriate.

Surface Preparation

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to Tx DOT Tape Test for additional surface preparation information.

Color Availability/Tinting

Tint: Do not tint

Application Conditions

Temperature:	40°F minimum, 100°F maximum (air, surface, and material) At least 5°F above dew point
Relative humidity:	85% maximum

Refer to product Application Bulletin for detailed application information.

Ordering Information

Packaging	5 gallon containers
Weight per container:	57 lbs

Safety Precautions

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

SHERWIN Williams

Industrial and Marine Coatings

TX DOT 742 H GRAY APPEARANCE COAT

B29AJ1000

APPLICATION BULLETIN

Surface Preparation

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to Tx DOT Tape Test for additional surface preparation information.

Application Conditions

Temperature:	40°F minimum, 100°F maximum (air, surface, and material) At least 5°F above dew point
Relative humidity:	85% maximum

Application Equipment

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental and application conditions.

Reducer/Clean Up:..... Xylene, MEK or Ketone solvents

Airless Spray

Pressure ..... 2500 psi
Hose ..... 1/4" ID
Tip ..... .015"
Reduction ..... as needed, up to 1/2 pint per gal

Brush

Brush ..... Natural Bristle
Reduction ..... Not recommended

Roller

Cover ..... 3/8"-1/2" woven with phenolic core
Reduction ..... Not recommended

If specific application equipment is listed above, equivalent equipment may be substituted.

Note: Brush and roller application will require use of a slow Aromatic solvent.

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SHERWIN Williams

Industrial and Marine Coatings

TX DOT 742 H GRAY APPEARANCE COAT

B29AJ1000

APPLICATION BULLETIN

Application Procedures

Surface preparation must be completed as indicated.

Mixing Instructions: Mix paint thoroughly by boxing and stirring before use.

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat:
Wet mils: 4.0
Dry mils: 2.0
Coverage: 400 sq ft /gal approximate

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 8.0 mils wet and 50% RH

	@77°F
To touch:	30 minutes
To handle:	2 hours

Note: System I or II coatings, including field touch-up, should be allowed to cure prior to the application of Tx DOT 742 H Gray Appearance Coat in accordance with the following schedule.

77 °F and above	2 days
65 to 77 °F	3 days
55 to 65 °F	4 days
40 to 55 °F	5 days

When cure of previously applied paint is in doubt, the cure can be determined by the following test. Using moderate to heavy pressure, place thumb on paint surface and apply a twisting motion. If the paint film gives or twists with the thumb, the coating is not thoroughly cured.

Drying time is temperature, humidity, and film thickness dependent.

Performance Tips

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness of porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Refer to Product Information sheet for additional performance characteristics and properties.

Clean Up Instructions

Clean spills and spatters immediately with Xylene, MEK or Ketones. Clean tools immediately after use with Xylene, MEK or Ketones.

Safety Precautions

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

DEVOE PAINT SYSTEM

DEVOE HIGH PERFORMANCE COATINGS

ICI Devoe Coatings is a member of the ICI Paints World Group

DEVTHANE™ 379UVA

Clear Aliphatic Urethane Finish

Cat. # 379K0036 Gloss Clear
Cat. # 379K0020 Flat Clear

PRODUCT DESCRIPTION

Generic: Aliphatic Acrylic Urethane

General Description: A high performance, two-component chemically-cured clear aliphatic urethane finish for use in areas where maximum gloss retention is required.

Typical Uses: For use on properly prepared and primed steel, concrete or steel floors, masonry, drywall, plaster, metal, concrete block, galvanized, aluminum, poured concrete, and glazed brick. Ideal for use on exterior or interior structural steel, piping, metal buildings, control cabinetry, conveyors, pumps, storage tanks, motors, machinery, and transportation vehicles. Can also be used in the hard service areas of food processing plants, dairies, schools, restaurants, hospitals, correctional facilities, factories, stadiums, arenas, and amusement parks.

Special Qualifications: Suitable for use on structural surfaces or surfaces where there is a possibility of incidental food contact in commercial food preparation establishments, food processing plants and federally inspected meat and poultry plants. USDA no longer requires or furnishes product certification letters.

FEATURES

Advantages:

- Exceptional gloss retention
- Excellent abrasion and chemical resistance
- Higher solids and higher film build than typical urethane finishes
- VOC compliant urethane
- Easily applied by brush, roller or spray
- Excellent resistance to marring, chipping, and scratching
- Provides added protection to urethane color coats and epoxies where used on floors.
- Gloss Clear contaings UV absorber
- Gloss Clear may be used over Devthane 379 Enamel for improved weather resistance
- Performance alternate for Devthane 369 and 4708

Graffiti Resistance: Excellent resistance to most graffiti materials such as spray paint, magic markers and lipstick. Contact your ICI Devoe Coatings Representative for more information on the graffiti removing cleaner to service your needs.

Limitations of Use: Color may change as temperature approaches 250°F (121°C) limit, but the film will remain intact. Not recommended for exterior use over epoxies, alkyds or oil-base paints. Not recommended for interior use over alkyd or oil-base paints. **Flat Clear should not be used for graffiti resistance purposes.**

SPECIFICATION DATA

Color: Clear

Finish: Gloss – 90 units minimum @ 60°(379K0036). Flat < 30 units maximum @ 85°(379K0020)

Reduction Solvent: T-9 for spray, T-17 for brush or roller.

Clean-up Solvent: T-9 Thinner

Weight/Gallon: 8.5 lbs./gal. (1.01 kg/L)

VOC (EPA 24)**:** 3.0 lbs./gal. (360 g/L)

Solids By Volume: 57%

Theoretical Coverage at 1.0 Mil (25 microns) **Dry:** 914 sq. ft. (22.4 m²/L)

Recommended Film Thickness: 2.0-3.0 mils (50-75 microns) dry – 4.0-6.0 mils (100-150 microns) wet

Systems: Please consult the appropriate system guide, the particular job specification or your ICI Devoe Coatings' Industrial Coatings Specialist for proper systems using this product. Systems must be selected considering the particular environment involved.

Service Temperature Limits: 250°F (121°C) dry

Minimum Dry Time (ASTM D 1640)**:** At 3 mils (75 microns) DFT

Substrate Temperature	40°F (4°C)	60°F (16°C)	80°F (27°C)
Minimum Recoat	10 Hours	6 Hours	3 Hours
Dry Hard	>32 Hours	24 Hours	16 Hours
Maximum Recoat			
Self	2 Weeks	2 Weeks	2 Weeks

Ventilation, film thickness, humidity, thinning and other factors can influence the rate of dry.

Warning: The above table provides guidelines only. Always consult your ICI Devoe Coatings Specialist for appropriate recoat windows since the maximum aged recoat time of this product may be significantly shortened or lengthened by a variety of conditions, including, but not limited to humidity, surface temperature, and the use of additives or thinners. The use of accelerators or force curing may shorten the aged recoat of individual coatings. The above recoat windows may not apply if recoating with a product other than those listed above. If the maximum aged recoat window is exceeded, please consult your ICI Industrial Coatings Specialist for appropriate recommendations to enhance adhesion. Failure to observe these precautions may result in intercoat delamination.

Shelf Life: Over 24 months at 77°F (25°C) – unopened

Hardness (ASTM D 3363, 7 day cure @ 77°F (25°C)**:** 4H

Mix Ratio By Volume: 4 (base): 1 (converter) – see mixing instructions.

Induction: None required – see mixing instructions.

Pot Life: 4 hours @ 77°F (25°C) & 50% R.H.

PERFORMANCE DATA

Abrasion Resistance: (ASTM D 4060) – Very Good

Humidity Resistance: (ASTM D 2247) – Very Good

DEVOE HIGH PERFORMANCE COATINGS A member of the ICI Paints World Group

9 FINISHES | SPECIAL COATINGS (9800)

GENERAL SURFACE PREPARATION

All surfaces must be sound, dry, clean, free of oil, grease, dirt, mildew, form release agents, curing compounds, loose and flaking paint and other foreign substances.

Previously Painted Surfaces: May be applied as a protective clear coat to two-component colored polyurethane coatings and epoxies for interior use. Not recommended over alkyd or oil-based paints.

DIRECTIONS FOR USE

Tinting: Do not tint.

Thinning: Thinning is not normally required. However, depending on local VOC and air quality regulations, small amounts (5% or less) of the solvents on the reverse page may be added. Small amounts (5% or less) of Devoe Coatings T-17 Thinner will improve roller or brush applications. If local VOC and/or air quality regulations are not an issue, and depending on the individual set-up of the spray equipment, additional thinning may be allowed to obtain the desired individual finish. Contact your local ICI Devoe Coatings Representative for additional information.

Mixing: DEVTHANE 379 Enamel is a two-component product supplied in 5 gallon or 1 gallon kits which contain the proper ratio of ingredients. The entire contents of each container must be mixed together. It is important that all mixing equipment is free of moisture and that moisture does not contaminate the coating. Mix the base portion to obtain a smooth, homogeneous condition. After mixing the base portion, add the convert-er slowly with continued agitation. Mix thoroughly. The pot life of the mixed material is 4 hours at 77° (25°C). Higher temperatures will reduce working life of the coating; lower temperatures will increase it.

Application: Apply by airless spray, air spray, roller or brush. For airless spray, any air, electric, or gas operated airless sprayer capable of 3,000 psi (207 bars) and able to support a .011" to .017" tip sizes can be used. Multiple guns and long fluid lines require pumps with adequate capacity. For air spray application, use a Graco #800 gun; a .070" or larger fluid tip. Adjust fluid and air pressure to get a good spray pattern.

Note: Be sure all spray equipment and fluid lines are clean, and free of water or solvents. For brush application, use good quality, dry, clean brushes. **For roller application use new, short nap mohair rollers.** Do not apply over wet surfaces or under very humid conditions where condensation or fog could settle on the coating during the cure process.

Spreading Rate: For maximum protection in corrosive areas, apply at 335 sq. ft. per gallon (8.2 m^2/L) or 3.0 mils (75 microns) dry-4.8 mils (120 microns) wet. In mild to moderate exposures, apply at 500 sq. ft. per gallon (12.25 m^2/L) or 2.0 mils (50 microns) dry-3.2 mils (80 microns) wet. Make allowance for any losses due to overspray or surface irregularities.

Dry Time: At 80°F (27°C) & 50% R.H., dries to recoat in 3 hours and dries hard in 16-24 hours.

Clean-up: Use T-9 Thinner.

Cure Acceleration: Devthane Cure Accelerator 070A0000 may be used to accelerate cure of this urethane at or below 40°F (5°C). 070A0000 us prepackaged (5 fluid ounces in a one-half pint container) for field addition. The addition of one to two ounces per gallon of urethane (one to two containers per five gallons of urethane) will decrease the dry hard time approximately one-third to one-half respectively. The pot life will be reduced one-half to three-fourths.

Ultra-Violet Light Absorbers (UVA): Devthane Ultra-Violet Light Absorber 060A0000 is already contained in Devthane 379 Clear Gloss. Additional Gloss Retention Enhancer is not required nor desired. Devthane Gloss Retention Enhancer is not recommended in Devthane 379 Clear Flat.

PRECAUTIONS

For industrial use only. Keep out of reach of children. Consult Material Safety Data Sheets appropriate for this product for important health and safety information prior to use.

	COMPONENT	HEALTH	FLAMMABILITY	REACTIVITY
HMIS DATA	379 BASE 379BXXXX	2*	3	1
	379 CONVERTER 379C0910	3*	3	2

* Indicates possible chronic health hazard

SHIPPING

Freight Classification: Paint, 3, PG III, UN1263 (Flammable Liquid)
Flash Point: 80°F (27°C)
Packaging:

1 gallon kit (3.785L)	5 gallon kit (18.925L)
0.80 gallon base	4.0 gallon base
0.20 gallon converter	1.0 gallon converter

Shipping Weight: 4 - 1 gallon kits - 40 lbs. (18.2 kg)
5 gallon kit - 49 lbs. (22 kg)

379K0036/379K0020 (8/98)
Ad Stock #58677A

ICI DEVOE HIGH PERFORMANCE COATINGS
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DEVSHIELD™ 4328

Interior/Exterior Alkyd Urethane Gloss Enamel

Cat. # 4328-XXXX

ICI Devoe Coatings is a member of the ICI Paints World Group

PRODUCT DESCRIPTION

Generic: Alkyd-Urethane

General Description: A premium quality interior/exterior alkyd-urethane gloss enamel for use on wood or above grade concrete porches or floors not laid directly on damp or water bearing surfaces. May be used on interior or exterior above grade surfaces. Also good for woodwork, radiators, ornamental iron, boat docks, fire escapes, etc. Features good resistance to abrasion, oils and washing.

Special Qualifications: Suitable for use on structural surfaces or surfaces where there is a possibility of incidental food contact in commercial food preparation establishments, food processing plants and federally inspected meat and poultry plants. USDA no longer requires or furnishes product certification letters.

FEATURES

Advantages:

- Durable high gloss finish
- Interior or exterior usage
- Excellent flow and leveling
- Easy application - brush, roll or spray
- Ready for use the day after application
- Resists marring, weathering and water spotting
- Performance alternate for Federal Specifications TT-E-487E, TT-E-489H, TT-E-506K, and TT-E-505A.

Limitations of Use: Not for use in highly alkaline or chemical areas.

SPECIFICATION DATA

Color: White, custom & ready-mix colors

Finish: Gloss, 70 units minimum @ 60°

Clean-up Solvent: Mineral Spirits or VM&P Naphtha

Weight/Gallon: 10.0 lbs./gal. (1.20 kg/L) - varies with color

VOC: 3.21 lbs./gal. (385 g/L) - varies with color

Solids By Volume: 51% ± 1% - varies with color

Theoretical Coverage at 1.0 Mil Dry: 818 sq. ft./gal. (20 m²/L)

Practical Coverage: Apply at 400-500 sq. ft./gal. (10-12 m²/L). Actual coverage may vary depending on substrate and application method.

Recommended Film Thickness: 1.6-2.0 mils (40-50 microns) dry - 3.2-4.0 mils (80-100 microns) wet

Systems: Please consult the appropriate system guide, the particular job specification or your ICI Devoe Coatings' Industrial Coatings Specialist for proper systems using this product. Systems must be selected considering the particular environment involved.

Service Temperature Limit: 200°F (93°C) in air

Flame Spread Rating: Class A (0-25) over non-combustible surfaces

Flash Point: 105°F (41°C)

Dry Time @ 77°F (25°C) & 50% RH:

To touch - 6 hours

To recoat or light foot traffic - 16 hours

Warning: The above table provides general guidelines only. Always consult your ICI Devoe Coatings Specialist for appropriate recoat windows since the maximum aged recoat time of this product may be significantly shortened or lengthened by a variety of conditions, including, but not limited to humidity, surface temperature, and the use of additives or thinners. The use of accelerators or force curing may shorten the aged recoat of individual coatings. The above recoat windows may not apply if recoating with a product other than those listed above. If the maximum aged recoat window is exceeded, please consult your ICI Industrial Coatings Specialist for appropriate recommendations to enhance adhesion. Failure to observe these precautions may result in intercoat delamination.

Shelf Life: 1 year minimum - unopened

PERFORMANCE DATA

PROPERTY	TEST METHOD	RESULTS
Adhesion	ASTM D 3359	Excellent 5A No peeling or removal
Direct Impact Resistance	ASTM D 2794	Good: > 10 in - lbs.
Abrasion Resistance	ASTM D 4060	Good

09800

DANGER! COMBUSTIBLE. HARMFUL OR FATAL IF SWALLOWED. Read label and Material Safety Data Sheet Prior to Use. See other cautions on last page.

GENERAL SURFACE PREPARATION

All surfaces must be sound, dry, clean and free of oil, grease, dirt, mildew, form release agents, curing compounds, loose and flaking paint and other foreign substances.

New Surfaces: **Concrete (concrete floors) and Masonry** - Do not use on floors subject to dampness from the ground. Cure at least 30 days before painting. pH must be 10.0 or lower. Roughen unusually slick poured or precast concrete by acid etching or sandsweeping. Follow acid manufacturer's application and safety instructions. Rinse thoroughly with water and allow to dry. Remove loose aggregate. Prime properly prepared concrete floors less than one year old with solventborne primer DEVSHIELD 4130. **Wood** - Prime with this product. **Steel** - Prime with solventborne metal primer DEVSHIELD 4130. **Galvanized Metal and Aluminum** - Prime with solventborne metal primer DEVGUARD™ 4120.

Previously Painted Surfaces: Wash to remove contaminants. Rinse thoroughly with water and allow to dry. Dull glossy areas by light sanding. Remove sanding dust. Remove loose paint. Scrub heavy chalk exterior areas and overhead areas such as eaves with soap and water. All existing mildew must be removed by washing with a solution of 16 oz. (473 mL) liquid household bleach and two oz. (59 mL) non-ammoniated liquid detergent per gallon (3.785 L) of water. Rinse surfaces clean with water and allow to dry for 24 hours. Prime bare areas with primer specified under **New Surfaces.**

DIRECTIONS FOR USE

Tinting: Tint the appropriate base with ICI Colorants.

Spreading Rate: Apply at 400-500 sq. ft./gal. (10-12 m²/L) or 3.2-4.0 mils wet (1.6-2.0 mils dry). Actual coverage may vary depending on substrate and application method. For best hiding, tint primers toward finish coat color. Certain shades of yellow, orange, pink and red may require multiple coats.

IMPORTANT: Alkyd or alkyd urethane enamels may yellow in time in the absence of light, especially sunlight.

Application: Mix thoroughly before use. May be applied by spray, roll or spray. Brushing and rolling may require multiple coats to achieve correct film thickness and/or hiding. No thinning required. For airless spray use a .015" tip. Adjust pressure as needed. Do not apply when surface or air temperature is below 40°F (4°C). Two coats are suggested for best results. Surfaces coated with this product may become slippery when wet. For additional slip resistance in areas of pedestrian traffic, add one pound per gallon of coarse pumice or other texturing material.

Drying Time: At 77°F (25°C) & 50% R.H., dries to touch in six hours, to light foot traffic and recoat in 16 hours. Low temperature, high humidity, thick films or poor ventilation will increase these times.

Clean-up: Clean immediately with mineral spirits or VM&P Naphtha.

PRECAUTIONS

DANGER! COMBUSTIBLE LIQUID AND VAPOR. HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD - CAN ENTER LUNGS AND CAUSE DAMAGE. HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS, INCLUDING DIZZINESS, HEADACHE OR NAUSEA. CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION. OVEREXPOSURE MAY CAUSE LIVER, KIDNEY DAMAGE. WHEN TINTED, CONTAINS ETHYLENE GLYCOL WHICH CAN CAUSE SEVERE KIDNEY DAMAGE WHEN INGESTED AND HAS BEEN SHOWN TO CAUSE BIRTH DEFECTS IN LABORATORY ANIMALS. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN. NOTICE: Products in this series may contain solvents. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. For emergency information call (800) 545-2643. For additional safety information, refer to the Material Safety Data Sheet for this product. Keep away from heat, sparks and flame. **Do not** smoke. Vapors may ignite. Extinguish all flames, burners, stoves, heaters and pilot lights and disconnect all electrical motors and appliances before use and until all vapors are gone. If sanding is done, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID:** In case of skin contact, wash off **quickly** with plenty of soap and water, remove contaminated clothing. For eye contact flush **immediately** with large amounts of water, for at least 15 minutes. **Obtain emergency medical treatment.** If swallowed, **obtain medical treatment immediately.** If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs, **get medical help. Note: These warnings encompass the product series. Prior to use, read and follow product specific MSDS and label information.**

SHIPPING

Freight Classification: Paint
Flash Point: 105°F (41°C)
Packaging: 1 gallon (3.785L)
5 gallons (18.925L)

Shipping Weight: 4 gallon case - 44 lbs. (20.0 kg)
5 gallon pail - 54 lbs. (24.5 kg)

4328-XXXX (12/99)
Ad Stock #68618A

ICI DEVOE HIGH PERFORMANCE COATINGS
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DEVOE HIGH PERFORMANCE COATINGS

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DEVSHIELD™ 4130

Rust Penetrating Metal Primer

Cat. # 4130-6130

PRODUCT DESCRIPTION

Generic: Modified Epoxy

General Description: A high performance, modified epoxy, rust inhibitive, metal primer. Provides excellent corrosion protection and rusty metal adhesion far superior to alkyd primers. Light gray color permits good coverage with one finish coat. Use under alkyd, latex or modified epoxy finishes. Also makes an excellent alkali resistant masonry bonding primer.

Typical Uses: Ideal for structural steel, tanks, piping and equipment.

Special Qualifications: Suitable for use on structural surfaces or surfaces where there is a possibility of incidental food contact in commercial food preparation establishments, food processing plants and federally inspected meat and poultry plants. USDA no longer requires or furnishes product certification letters.

FEATURES

Advantages:

- Excellent corrosion resistance
- Good penetration of surfaces that cannot be well cleaned
- Ideal for old, rusty galvanized metal surfaces
- Excellent alkali resistant bonding primer for masonry
- Helps block efflorescence
- Performance alternate for Federal Specifications TT-C-530B, TT-P-615D, and TT-P-645B

SPECIFICATION DATA

Color: Light Gray
Finish: Flat
Clean-up Solvent: Xylene
Weight/Gallon: 11.1 lbs./gal. (1.33 kg/L)
VOC: 3.50 lbs./gal. (420 g/L) maximum
Solids By Volume: 47% ± 1%
Theoretical Coverage at 1.0 Mil Dry: 754 sq. ft./gal. (19 m²/L)
Practical Coverage: Apply at 285-400 sq. ft./gal. (7-10 m²/L). Actual coverage may vary depending on substrate and application method.
Recommended Film Thickness: 2.2-3.5 mils (55-88 microns) dry - 5.0-8.0 mils (125-200 microns) wet
Systems: Please consult the appropriate system guide, the particular job specification or your ICI Devoe Coatings' Industrial Coatings Specialist for proper systems using this product. Systems must be selected considering the particular environment involved.
Service Temperature Limit: 225°F (107°C) in air
Flame Spread Rating: Class A (0-25) over non-combustible surfaces
Flash Point: Over 102°F (39°C)
Dry Time @ 77°F (25°C) & 50% RH:
To touch - 6 hours
To recoat - Overnight

Warning: The above table provides general guidelines only. Always consult your ICI Devoe Coatings Specialist for appropriate recoat windows since the maximum aged recoat time of this product may be significantly shortened or lengthened by a variety of conditions, including, but not limited to humidity, surface temperature, and the use of additives or thinners. The use of accelerators or force curing may shorten the aged recoat of individual coatings. The above recoat windows may not apply if recoating with a product other than those listed above. If the maximum aged recoat window is exceeded, please consult your ICI Industrial Coatings Specialist for appropriate recommendations to enhance adhesion. Failure to observe these precautions may result in intercoat delamination.

Shelf Life: 1 year minimum - unopened

PERFORMANCE DATA

PROPERTY	TEST METHOD	RESULTS
Adhesion	ASTM D 4541	600 psi
Pencil Hardness	ASTM D 3363	H
Flexibility	ASTM D 522, Method B, 1/8"	No cracking or flaking
Humidity/Corrosion Resistance	ASTM D 4585, 3000 hours	No blistering or delamination of the film, slight rust staining at scribe

DEVOE HIGH PERFORMANCE COATINGS
A member of the ICI Paints World Group

9 FINISHES | SPECIAL COATINGS (9800)

DANGER! COMBUSTIBLE. HARMFUL OR FATAL IF SWALLOWED. Read label and Material Safety Data Sheet Prior to Use. See other cautions on last page. DSF2-0790

GENERAL SURFACE PREPARATION

All surfaces must be sound, dry, clean and free of oil, grease, dirt, mildew, form release agents, curing compounds, loose and flaking paint and other foreign substances.

New Surfaces: Steel - Best results are obtained over a surface sandblasted to a Commercial Blast (SSPC-SP6). Performance over hand or power-tool cleaned surfaces is dependent on the degree of cleaning. **Old Galvanized Metal** - Old rusty, galvanized metal surfaces must be wire brushed and scraped to remove loose rust and primed with this paint. **Concrete, Plaster and Masonry** - Cure at least 30 days before painting. pH must be 10.0 or lower. Remove laitance and roughen unusually slick poured or precast concrete by acid etching or sand-sweeping. Follow acid manufacturer's application and safety instructions. Rinse thoroughly with water and allow to dry. Remove loose aggregate. Prime with this paint.

Previously Painted Surfaces: All spots failed by rusting, peeling, blistering, etc. shall be wire brushed and scraped to remove all loose or loosely adhering material. Spot prime bare areas. For optimum performance in more corrosive areas, entire surface should be abrasive blast cleaned.

DIRECTIONS FOR USE

Tinting: May be tinted with up to two oz./gal. of ICI Colorants.

Spreading Rate: Apply at 285-400 sq. ft./gal. (7-10 m^2/L) or 5.0-8.0 mils wet (2.2-3.5 mils dry). Actual coverage may vary depending on substrate and application method.

Application: May be applied by brush, roll or spray. Apply liberally. For airless spray, use a .015" tip. Adjust pressure as needed. No thinning required. Do not apply in damp weather or when the surface or air temperature is below or expected to be below 40°F (4°C). Brushing and rolling may require multiple coats to achieve correct film thickness and/or hiding.

Drying Time: At 77°F (25°C) and 50% R.H., dries to touch in six hours and to recoat overnight. Low temperature, high humidity, thick films or poor ventilation will increase these times.

Clean-up: Clean immediately with xylene.

PRECAUTIONS

DANGER! COMBUSTIBLE LIQUID AND VAPOR. HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD - CAN ENTER LUNGS AND CAUSE DAMAGE. HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS, INCLUDING DIZZINESS, HEADACHE OR NAUSEA. CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION. OVEREXPOSURE MAY CAUSE LIVER, KIDNEY DAMAGE. CONTAINS CYRSTALLINE SILICA WHICH CAN CAUSE LUNG CANCER AND OTHER LUNG DAMAGE IF INHALED. CONTAINS MICA WHICH CAN CAUSE PNEUMOCONIOSIS. WHEN TINTED, CONTAINS ETHYLENE GLYCOL WHICH CAN CAUSE SEVERE KIDNEY DAMAGE WHEN INGESTED AND HAS BEEN SHOWN TO CAUSE BIRTH DEFECTS IN LABORATORY ANIMALS. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN. NOTICE: Products in this series contain solvents. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. For emergency information call (800) 545-2643. Keep away from heat, sparks and flame. **Do not** smoke. Vapors may ignite. Extinguish all flames, burners, stoves, heaters and pilot lights and disconnect all electrical motors and appliances before use and until all vapors are gone. If sanding is done, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID:** In case of skin contact, wash off **quickly** with plenty of soap and water, remove contaminated clothing. For eye contact flush **immediately** with large amounts of water, for at least 15 minutes. **Obtain emergency medical treatment.** If swallowed, **obtain medical treatment immediately.** If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs, **get medical help. Note: These warnings encompass the product series. Prior to use, read and follow product-specific MSDS and label information.**

SHIPPING

Freight Classification: Paint
Flash Point: Over 102°F (39°C)
Packaging: 1 gallon kit (3.785L)
5 gallons (18.925L))

Shipping Weight: 4 gallon case - 48 lbs. (21.8 kg)
5 gallon pail - 59 lbs. (26.8 kg)

4130-6136 (12/99)
Ad Stock #68607A

ICI DEVOE HIGH PERFORMANCE COATINGS
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TNEMEC PAINT SYSTEM

Fluoronar® Clear SERIES 1076

PRODUCT PROFILE

GENERIC DESCRIPTION Advanced Thermoset Solution Fluoropolymer Clear

COMMON USAGE An exterior clear fluoropolymer finish coat especially designed to enhance the exterior weatherability of Fluoronar and HydroFlon. Fluoronar Clear has outstanding resistance to ultra-violet light providing extended color and gloss retention. An indicator dye is provided to aid in application.

COLOR Clear. **Note:** 44-500 will change the appearance to a violet tint during application. After a period of up to 72 hours of sunlight exposure, appearance will be clear.

FINISH High gloss

PERFORMANCE CRITERIA Extensive test data available. Contact your Tnemec representative for specific test results.

COATING SYSTEM

BASE COATS Series 700, 1070, 1078. **Note:** Series 1076 should be applied within 14 days of a Series 700, 1070 or 1078 application.

SURFACE PREPARATION

Prepare surfaces by method suitable for exposure and service. (See Base Coat Product Data Sheet for surface preparation recommendations.)

ALL SURFACES Must be clean, dry and free of oil, grease and other contaminants.

TECHNICAL DATA

VOLUME SOLIDS 56.7 ± 2.0% (mixed)

RECOMMENDED DFT 1.5 to 2.0 mils (40 to 50 microns) per coat. **Note: Number of coats and thickness requirements will vary with substrate, application method and exposure. Contact your Tnemec representative.**

CURING TIME

Temperature	To Touch	To Handle	Minimum Recoat*
75°F (24°C)	1½ hours	6-8 hours	24 hours

* Maximum recoat: 7 days. Curing time varies with surface temperature, air movement, humidity and film thickness.

VOLATILE ORGANIC COMPOUNDS

Unthinned	Thinned 5%
5.18 lbs/gallon (381 grams/litre)	3.37 lbs/gallon (404 grams/litre)

THEORETICAL COVERAGE 910 mil sq ft/gal (22.3 m²/L at 25 microns). See APPLICATION for coverage rates.

NUMBER OF COMPONENTS Two: Part A and Part B

MIXING RATIO By volume: Four (Part A) to one (Part B)

PACKAGING Small Kit: Consists of a partially filled one-gallon can of Part A, a quart can of Part B and a foil package containing a vial of 44-500. When mixed yields one gallon (3.79L).

NET WEIGHT PER GALLON 9.26 ± 0.25 lbs (4.20 ± .11 kg) (mixed)

STORAGE TEMPERATURE Minimum 20°F (-7°C) Maximum 110°F (43°C)

TEMPERATURE RESISTANCE (Dry) Continuous 250°F (121°C) Intermittent 275°F (135°C)

SHELF LIFE 12 months at recommended storage temperature.

FLASH POINT - SETA Part A: 80°F (27°C) Part B: 130°F (54°C)

HEALTH & SAFETY Paint products contain chemical ingredients which are considered hazardous. Read container label warning and Material Safety Data Sheet for important health and safety information prior to the use of this product. **Keep out of the reach of children.**

SERIES 1076 Fluoronar® Clear

APPLICATION

COVERAGE RATES

	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m^2/Gal)
Suggested	2.0 (50)	3.5 (90)	449 (41.7)
Minimum	1.5 (40)	2.5 (65)	599 (55.6)
Maximum	2.0 (50)	3.5 (90)	449 (41.7)

Allow for overspray and surface irregularities. Film thickness is rounded to the nearest 0.5 mil or 5 microns. **Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance.**

MIXING

Small Kit: Add contents of the vial of 44-500 to Part A while under agitation. Mix thoroughly. Add contents of the quart can marked Part B to the mixture of Parts A and 44-500 while under agitation. Continue agitation until all components are thoroughly mixed. **Important:** Mixing ratio is four (Part A) to one (Part B) by volume.

Do not use mixed material beyond pot life limits. **Caution:** Part B is moisture-sensitive and will react with atmospheric moisture. Unused material must be kept tightly closed at all times.

POT LIFE

4 hours at 77°F (25°C) unthinned 5 hours at 77°F (25°C) thinned

THINNING

For air spray, thin up to 5% or ¼ pint (190 mL) per gallon with No. 2 Thinner. For roller, thin 3% to 5% or ¼ pint (190 mL) per gallon with No. 2 Thinner. Thinning is required for proper application. **Caution:** Do not add thinner if more than thirty (30) minutes have elapsed after mixing.

SURFACE TEMPERATURE

Minimum 40°F (4°C) Maximum 120°F (49°C)
The surface should be dry and at least 5°F (3°C) above the dew point.
Cure time necessary to resist direct contact with moisture at surface temperature:
60°F (16°C): 6 hours 70°F (21°C): 3 hours 80°F (27°C): 2 hours
90°F (32°C): 1 hour 100°F (38°C): 30 minutes
If the coating is exposed to moisture before the preceding cure parameters are met, dull, flat or spotty-appearing areas may develop. Actual times will vary with air movement, film thickness and humidity.

APPLICATION EQUIPMENT

Air Spray

Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomizing Pressure	Pot Pressure
DeVilbiss MBC	E	78	5/16" or 3/8" (7.9 or 9.5 mm)	3/8" or 1/2" (9.5 or 12.7 mm)	75-90 psi (5.2-6.2 bar)	10-20 psi (0.7-1.4 bar)

Low temperatures or longer hoses require higher pot pressure.
Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.

Roller: Use 1/4" (6.4 mm) synthetic nap cover. Do not use medium or long nap roller covers.
Brush: Use high quality natural or synthetic bristle brushes.

CLEANUP

Flush and clean all equipment immediately after use with the recommended thinner or MEK.

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(YDAT377) 1076

Endura-Shield® II SERIES 1075

PRODUCT PROFILE

GENERIC DESCRIPTION Aliphatic Acrylic Polyurethane

COMMON USAGE A coating highly resistant to abrasion, wet conditions, corrosive fumes and exterior weathering. High build quality combines with project specific primers for two-coat, labor saving systems. Fast curing options are available; see Curing Time below. Product has some applications as a direct to metal finish. Contact your Tnemec representative for more details. NOT FOR IMMERSION SERVICE.

COLORS Refer to Tnemec Color Guide. **Note:** Certain colors may require multiple coats depending on method of application and finish coat color. When feasible, the preceding coat should be in the same color family, but noticeably different.

FINISH Semi-gloss

SPECIAL QUALIFICATIONS **Note:** Series 1075 meets California's SCAQMD, Rule 1113 definition for "Rust Preventative Coating" when used for metal surfaces only or for "Essential Public Service." Series 1075 also meets the requirements of SSPC-36 Paint Standard.

PERFORMANCE CRITERIA Contact your Tnemec representative for specific test results.

COATING SYSTEM

PRIMERS **Steel:** Series 20, FC20, 27, 66, N68, N69, 91-H_2O, 90-97, 104, 135, N140, 161, 530
Galvanized Steel and Non-Ferrous Metal: Series 66, N69, 161
Concrete: Series 66, N69, 84, 104, 161
CMU: 54-660, 130. Intermediate coat required.
Note: Before topcoating with Series 1075, Series 530 exterior exposed more than 24 hours must first be scarified or receive an intermediate coat of Tnemec polyamide epoxy. **Also,** Series N68 exterior exposed for 21 days or Series N69, 104, N140 or 161 exterior exposed more than two months must first be scarified or reprimed with themselves. Blasting with fine abrasive is the preferred method of scarification.

TOPCOATS Series 76, optional when extended weatherability is desired.

SURFACE PREPARATION

ALL SURFACES Must be clean, dry and free of oil, grease and other contaminants.

TECHNICAL DATA

VOLUME SOLIDS* 75 ± 2.0% (mixed)

RECOMMENDED DFT 2.0 to 5.0 mils (50 to 125 microns) per coat. **Note: Number of coats and thickness requirements will vary with substrate, application method and exposure. Contact your Tnemec representative.**

CURING TIME

Temperature	To Touch	To Handle	To Recoat
75°F (24°C)	1 hour	6 hours	8 hours

To resist moisture condensation: 6 hours. Curing time varies with surface temperature, air movement, humidity and film thickness. **Note:** For faster curing and low-temperature applications, add No. 44-710 Urethane Accelerator; see separate product data sheet. Contact Tnemec Technical Services for force curing times and temperatures.

VOLATILE ORGANIC COMPOUNDS*

Unthinned	No. 39 Thinner (Maximum 15%)	No. 42 Thinner (Maximum 15%)	No. 48 Thinner (Maximum 15%)
1.84 lbs/gallon (220 grams/litre)	2.42 lbs/gallon (290 grams/litre)	2.48 lbs/gallon (297 grams/litre)	2.55 lbs/gallon (305 grams/litre)

THEORETICAL COVERAGE* 1,203 mil sq ft/gal (29.5 m^2/L at 25 microns). See APPLICATION for coverage rates.

NUMBER OF COMPONENTS Two: Part A and Part B

MIXING RATIO By volume: Eight (Part A) to one (Part B)

PACKAGING Three Gallon Kit: Consists of a partially-filled five-gallon can of Part A and a partially-filled half-gallon can of Part B. When mixed, yields three gallons (11.4L).
One Gallon Kit: Consists of a partially-filled one-gallon can labeled Part A and a partially-filled pint can labeled Part B. When mixed, yields one gallon (3.79L).

NET WEIGHT PER GALLON* 12.75 ± 0.25 lbs (5.80 ± .11 kg)

STORAGE TEMPERATURE Minimum 20°F (-7°C) Maximum 110°F (43°C)

TEMPERATURE RESISTANCE (Dry) Continuous 250°F (121°C) Intermittent 275°F (135°C)

SERIES 10/5 Endura-Shield® II

TECHNICAL DATA continued

FLASH POINT - SETA Part A: 95°F (35°C) Part B: 135°F (57°C)

SHELF LIFE 12 months at recommended storage temperature.

HEALTH & SAFETY This product contains chemical ingredients which are considered hazardous. Read container label warning and material safety data sheet for important health and safety information prior to the use of this product. **Keep out of the reach of children.**

APPLICATION

COVERAGE RATES*

	Conventional Build (Spray, Brush or Roller)			High-Build (Spray Only)		
	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m²/Gal)	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m²/Gal)
Suggested	2.5 (65)	3.5 (90)	481 (44.7)	4.0 (100)	5.5 (140)	301 (28.0)
Minimum	2.0 (50)	3.0 (75)	602 (55.9)	3.0 (75)	4.0 (100)	401 (37.3)
Maximum	3.0 (75)	4.0 (100)	401 (37.3)	5.0 (125)	6.5 (165)	241 (22.4)

Note: Can be spray applied at 3.0 to 5.0 mils (75 to 125 microns) DFT per coat when extra protection or the elimination of a coat is desired. Allow for overspray and surface irregularities. Film thickness is rounded to the nearest 0.5 mil or 5 microns. **Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance.**

MIXING Stir contents of the container marked Part A, making sure no pigment remains on the bottom. Add the contents of the can marked Part B to Part A while under agitation. Continue agitation until the two components are thoroughly mixed. When used with 44-710 Urethane Accelerator, first blend 44-710 into Part A under agitation; continue as above. Do not use mixed material beyond pot life limits. **Caution:** Part B is moisture-sensitive and will react with atmospheric moisture. Unused material must be kept tightly closed at all times.

POT LIFE 1½ hours at 77°F (25°C) unthinned 2 hours at 77°F (25°C) thinned

THINNING For air or airless spray, thin up to 15% or 1¼ pints (570 mL) per gallon with No. 42 Thinner if temperatures are below 80°F (27°C), use No. 48 Thinner for temperatures above 80°F (27°C). For brush and roller, thin 15% or 1¼ pints (570 mL) per gallon with No. 39 Thinner. **Note:** Thinning is required for proper application. **Caution:** Do not add thinner if more than 30 minutes have elapsed after mixing.

SURFACE TEMPERATURE Minimum 35°F (2°C) Maximum 120°F (49°C)

The surface should be dry and at least 5°F (3°C) above the dew point.

If coating is exposed to moisture before the applicable cure parameters are met, dull, flat or spotty appearing areas may develop. Actual cure time will vary with air movement, film thickness and humidity.

APPLICATION EQUIPMENT

Air Spray

Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomizing Pressure	Pot Pressure
DeVilbiss MBC	E	78	5/16" or 3/8" (7.9 or 9.5 mm)	3/8" or 1/2" (9.5 or 12.7 mm)	75-90 psi (5.2-6.2 bar)	10-20 psi (0.7-1.4 bar)

Low temperatures or longer hoses require higher pot pressure.

Airless Spray

Tip Orifice	Atomizing Pressure	Mat'l Hose ID	Manifold Filter
0.009"-0.013" (230-330 microns)	3000-3500 psi (207-241 bar)	1/4" or 3/8" (6.4 or 9.5 mm)	100 mesh (150 microns)

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.

Roller: Use 1/4" (6.4 mm) synthetic nap cover. Do not use medium or long nap roller covers. Two coats are required to obtain dry film thickness above 3.0 mils (75 microns).

Brush: Recommended for small areas only. Use high quality natural or synthetic bristle brushes. Two coats are required to obtain recommended film thickness above 3.0 mils (75 microns).

CLEANUP Flush and clean all equipment immediately after use with the recommended thinner or MEK.

* Values may vary with color.

Hi-Build Epoxoline SERIES 66

PRODUCT PROFILE

GENERIC DESCRIPTION	Polyamide Epoxy
COMMON USAGE	Industry standard for epoxy coatings for over 30 years. Known for its forgiving application characteristics in adverse and varied conditions, and for benchmark performance.
COLORS	Refer to Tnemec Color Guide. **Note:** Epoxies chalk with extended exposure to sunlight and may yellow on aging. Lack of ventilation, incomplete mixing, miscatalyzation or the use of heaters that emit carbon dioxide and carbon monoxide during application and initial stages of curing may accelerate any potential yellowing.
FINISH	Satin
SPECIAL QUALIFICATIONS	Meets the performance requirements of **AWWA C 210** (not for potable water contact). Contact your Tnemec representative for system recommendations.
PERFORMANCE CRITERIA	Extensive test data available. Contact your Tnemec representative for specific test results.

COATING SYSTEM

PRIMERS	**Steel:** Self-priming or Series 20, 37H, N69, 90, 91-H_2O, 161, 530 **Galvanized Steel and Non-Ferrous Metal:** Self-priming **Concrete:** Self-priming, 54-660, 201, 216, 218 **CMU:** 54-562, 54-660, 130, 216, 218 **Drywall:** 51-792 for dry interior environments
TOPCOATS	46H-413, 66, N69, 73, 84, 104, 113, 114, 161, 175, 262, 265, 291, 1074, 1075 Refer to COLORS on applicable topcoat data sheets for additional information.

SURFACE PREPARATION

STEEL	**Immersion Service:** SSPC-SP10 Near-White Blast Cleaning **Non-Immersion Service:** SSPC-SP6 Commercial Blast Cleaning
PRIMED STEEL	**Immersion Service:** Scarify the Series 66 prime coat surface by abrasive-blasting with a fine abrasive before topcoating if: (a) the 66 prime coat has been in exterior exposure for 60 days or longer and 66, 46H-413, N69 or 161 is the specified topcoat; (b) the 66 prime coat has been in exterior exposure for 14 days or longer and Series 104 is the specified topcoat; (c) the 66 prime coat has been in exterior exposure for 7 days or longer and Series 262 or 265 is the specified topcoat.
GALVANIZED STEEL & NON-FERROUS METAL	Surface preparation recommendations will vary depending on substrate and exposure conditions. Contact your Tnemec representative or Tnemec Technical Services.
CAST/DUCTILE IRON	Contact your Tnemec representative or Tnemec Technical Services.
CONCRETE	Allow new concrete to cure 28 days. Abrasive blast referencing SSPC-SP13/NACE 6 Surface Preparation of Concrete and Tnemec's Surface Preparation and Application Guide.
CMU	Allow mortar to cure for 28 days. Level protrusions and mortar spatter.
PAINTED SURFACES	**Non-Immersion Service:** Ask your Tnemec representative for specific recommendations.
ALL SURFACES	Must be clean, dry and free of oil, grease and other contaminants.

TECHNICAL DATA

VOLUME SOLIDS*	56.0 ± 2.0% (mixed)
RECOMMENDED DFT	2.0 to 6.0 mils (50 to 150 microns) per coat. **Note: Number of coats and thickness requirements will vary with substrate, application method and exposure. Contact your Tnemec representative.**

CURING TIME

Temperature	To Touch	To Handle	To Recoat	Immersion
75°F (24°C)	2 hours	10 hours	12 hours	7 days

Curing time varies with surface temperature, air movement, humidity and film thickness.

VOLATILE ORGANIC COMPOUNDS*

Unthinned	Thinned 5%	Thinned 10%
3.04 lbs/gallon (364 grams/litre)	3.22 lbs/gallon (385 grams/litre)	3.39 lbs/gallon (406 grams/litre)

THEORETICAL COVERAGE*	898 mil sq ft/gal (22.0 m^2/L at 25 microns). See APPLICATION for coverage rates.
NUMBER OF COMPONENTS	Two: Part A and Part B
PACKAGING	5 gallon (18.9L) pails and 1 gallon (3.79L) cans — Order in multiples of 2.
NET WEIGHT PER GALLON*	12.50 ± 0.25 lbs (5.67 ± .11 kg) (mixed)
STORAGE TEMPERATURE	Minimum 20°F (-7°C) Maximum 110°F (43°C)

SERIES 66 Hi-Build Epoxoline

TECHNICAL DATA continued

TEMPERATURE RESISTANCE (Dry) Continuous 250°F (121°C) Intermittent 275°F (135°C)

SHELF LIFE Part A: 24 months; Part B: 12 months at recommended storage temperature.

FLASH POINT - SETA Part A: 82°F (28°C) Part B: 64°F (18°C)

HEALTH & SAFETY Paint products contain chemical ingredients which are considered hazardous. Read container label warning and Material Safety Data Sheet for important health and safety information prior to the use of this product. **Keep out of the reach of children.**

APPLICATION

COVERAGE RATES*

	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m^2/Gal)
Suggested	4.0 (100)	7.0 (180)	225 (20.9)
Minimum	2.0 (50)	3.5 (90)	450 (41.8)
Maximum	6.0 (250)	10.5 (265)	150 (13.9)

Note: The above reflects the total range to which Series 66 can be applied for specific applications. To insure the proper thickness and number of coats is specified for certain substrates and exposures, consult the Tnemec Guide Specifications and/or contact your Tnemec representative. **Note:** Roller or brush application may require two or more coats to obtain recommended film thickness. Allow for overspray and surface irregularities. Film thickness is rounded to the nearest 0.5 mil or 5 microns. Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance.

MIXING Power mix contents of each container, making sure no pigment remains on the bottom. Pour a measured amount of Part B into a clean container large enough to hold both components. Add an equal volume of Part A to Part B while under agitation. Continue agitation until the two components are thoroughly mixed. Do not use mixed material beyond pot life limits. **Note:** Both components should be above 50°F (10°C) prior to mixing. For application to surfaces between 50°F to 60°F (10°C to 16°C), allow mixed material to stand thirty (30) minutes and restir before using. For optimum application properties, blended components should be above 60°F (16°C). Mixing ratio is one to one by volume.

POT LIFE 20 hours at 50°F (10°C) 10 hours at 77°F (25°C) 4 hours at 100°F (38°C)

THINNING Use No. 4 Thinner. For air spray, thin up to 10% or ¾ pint (380 mL) per gallon. For airless spray, roller or brush, thin up to 5% or ½ pint (190 mL) per gallon.

SURFACE TEMPERATURE Minimum 50°F (10°C) Maximum 135°F (57°C) The surface should be dry and at least 5°F (3°C) above the dew point. Coating will not cure below minimum surface temperature.

APPLICATION EQUIPMENT

Air Spray

Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomizing Pressure	Pot Pressure
DeVilbiss MBC or JGA	E	765 or 78	5/16" or 3/8" (7.9 or 9.5 mm)	3/8" or 1/2" (9.5 or 12.7 mm)	75-100 psi (5.2-6.9 bar)	10-20 psi (0.7-1.4 bar)

Low temperatures or longer hoses require higher pot pressure.

Airless Spray

Tip Orifice	Atomizing Pressure	Mat'l Hose ID	Manifold Filter
0.015"-0.019" (380-485 microns)	1800-3000 psi (124-207 bar)	1/4" or 3/8" (6.4 or 9.5 mm)	60 mesh (250 microns)

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.
Note: Application over inorganic zinc-rich primers: Apply a wet mist coat and allow tiny bubbles to form. When bubbles disappear in 1 to 2 minutes, apply a full wet coat at specified mil thickness.
Roller: Roller application optional when environmental restrictions do not allow spraying. Use 3/8" or 1/2" (9.5 mm or 12.7 mm) synthetic nap covers.
Brush: Recommended for small areas only. Use high quality natural or synthetic bristle brushes.

CLEANUP Flush and clean all equipment immediately after use with the recommended thinner or MEK.

*Values may vary with color.

Tneme-Zinc 90-97

PRODUCT PROFILE

GENERIC DESCRIPTION Aromatic Urethane, Zinc-Rich

COMMON USAGE An advanced technology, two-component, moisture-cured, zinc-rich primer providing extraordinary performance. It's user friendly and rapid curing so that chemical- and corrosion-resistant topcoats can be applied the "same-day." Also used for field touch-up of inorganic zinc coating. Application methods include "dry-fall" under certain conditions (see Application).

ZINC DUST CONTENT 83% by weight in dried film

COLOR 90-97 Reddish-gray

SPECIAL QUALIFICATIONS 90-97 Tneme-Zinc uses a zinc dust which meets the requirements of **ASTM D 520 Type III** and contains less than .002% lead. This level qualifies it to be classed as "non-lead" (less than 0.06% lead by weight) as defined in Part 1303 of the Consumer Product Safety Act Regulations. Conforms to **SSPC Paint 20, Type II.**

PERFORMANCE CRITERIA Extensive test data available. Contact your Tnemec representative for specific test results.

COATING SYSTEM

TOPCOATS Series 6, 26, 27, 46H-413, 66, N69, 73, 84, 104, 113, 114, 161, 175, 1074, 1075
Note: Certain topcoat colors may not provide one-coat hiding depending on method of application. Contact your Tnemec representative.

SURFACE PREPARATION

Severe Exposure: SSPC-SP10 Near-White Blast Cleaning.
Moderate Exposure: SSPC-SP6 Commercial Blast Cleaning.

TECHNICAL DATA

VOLUME SOLIDS 63.0 ± 2.0% (mixed)

RECOMMENDED DFT 2.5 to 3.5 mils (65 to 90 microns) per coat.

CURING TIME
Without 44-710

Temperature*	To Handle	To Recoat
75°F (24°C)	1 hour	4 hours
65°F (18°C)	1½ hours	5 hours
55°F (11°C)	2 hours	6 hours
45°F (7°C)	2½ hours	7 hours
35°F (2°C)	3 hours	8 hours

* 50% relative humidity. Curing time will vary with surface temperature, humidity and film thickness.

With 44-710 Reference the 44-710 Urethane Accelerator product data sheet.

VOLATILE ORGANIC COMPOUNDS

Unthinned	Thinned 2.5%	Thinned 10%
2.67 lbs/gallon (320 grams/litre)	2.78 lbs/gallon (333 grams/litre)	3.09 lbs/gallon (370 grams/litre)

THEORETICAL COVERAGE 1,011 mil sq ft/gal (24.8 m²/L at 25 microns). See APPLICATION for coverage rates.

NUMBER OF COMPONENTS Two: Part A and Part B

PACKAGING Four-Gallon and One-Gallon Kits: Consist of one premeasured container of liquid (Part A) and one premeasured container of powder (Part B). When mixed, yields four gallons (15.1L) or one gallon (3.79L).

NET WEIGHT PER GALLON 23.94 ± 0.60 lbs (10.86 ± .27 kg)

STORAGE TEMPERATURE Minimum 20°F (-7°C) Maximum 110°F (43°C)

TEMPERATURE RESISTANCE (Dry) Continuous 250°F (121°C) Intermittent 300°F (149°C)

SHELF LIFE Part A: 12 months at recommended storage temperature.
Part B: 24 months at recommended storage temperature.

FLASH POINT - SETA Part A: 78°F (26°C) Part B: NA

HEALTH & SAFETY Paint products contain chemical ingredients which are considered hazardous. Read container label warning and Material Safety Data Sheet for important health and safety information prior to the use of this product. **Keep out of the reach of children.**

90-97 Tneme-Zinc

APPLICATION

CAUTION! Dry overspray can be wiped or washed from most surfaces. Satisfactory dry-fall performance depends upon height of work, weather conditions and equipment adjustment. Low temperature is of particular concern. Test for each application as follows: Spray from 15 to 25 feet towards paint container. The material then should readily wipe off. **Note:** Heat can fuse-dry overspray to surfaces. Always clean dry overspray from hot surfaces before fusing occurs. Be aware that surface temperatures can be higher than air temperature.

COVERAGE RATES

	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m^2/Gal)
Suggested	3.0 (75)	5.0 (125)	337 (31.3)
Minimum	2.5 (65)	4.0 (100)	404 (37.5)
Maximum	3.5 (90)	5.5 (140)	289 (26.9)

Allow for overspray and surface irregularities. Film thickness is rounded to the nearest 0.5 mil or 5 microns. Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance.

MIXING Always use the entire contents of A and B components. Use an air-driven power mixer and keep material under constant agitation while mixing. Slowly sift powder (Part B) into liquid (Part A). **–Do Not Reverse This Procedure–** Adjust mixer speed to break up lumps and mix until the two components are thoroughly blended. Strain through a 35 to 50 mesh (300 to 600 microns) screen before using. For spray application, keep under low RPM agitation to prevent settling. For brush or roller application, stir frequently to prevent settling. Do not use mixed material beyond pot life limits.

POT LIFE 8 hours at 77°F (25°C) and 50% R.H.
Caution: This product cures with moisture acting as a catalyst. Incorporation of moisture or moisture laden air (humidity) during use will shorten pot life. Avoid continual agitation at high RPM. When feasible keep containers of mixed material covered during use.

THINNING For spray, thin up to 10% or ¾ pint (380 mL) per gallon with No. 2 Thinner if temperatures are below 80°F (27°C). Thin up to 10% or ¾ pint (380 mL) per gallon with No. 3 Thinner if temperatures are above 80°F (27°C). For brush or roller, thin up to 10% or ¾ pint (380 mL) with No. 3 Thinner. Do not thin more than 2.5% when air pollution regulations limit the atmospheric discharge of volatile organic compounds (VOC) in coatings to a maximum of 340 grams/litre (2.80 lbs/gal).

SURFACE TEMPERATURE Minimum 35°F (2°C) Maximum 120°F (49°C) Maximum for Brush & Roller 100°F (38°C)
The surface should be dry and at least 5°F (3°C) above the dew point.

APPLICATION EQUIPMENT **Note:** When finish coats are white or light colors, best hiding of this dark color primer can be achieved by spray application; or when roller applied, by using ¼" nap covers.

Air Spray

Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomizing Pressure	Pot Pressure
Binks No. 18 or 62 •	66	63 PB	5/16" or 3/8" (7.9 or 9.5 mm)	3/8" or 1/2" (9.5 or 12.7 mm)	40-50 psi (2.8-3.4 bar)	10-20 psi (0.7-1.4 bar)

• (with heavy mastic spring) Low temperatures or longer hoses will require additional pressure. Use pressure pot equipped with an agitator and keep pressure pot at same level or higher than the spray gun. Compressed air must be dry.

Airless Spray

Tip Orifice	Atomizing Pressure	Mat'l Hose ID	Manifold Filter
0.017"-0.021" (430-535 microns) Reversible Tip	2400-3000 psi (165-207 bar)	• 1/4" or 3/8" (6.4 or 9.5 mm)	60 mesh (250 microns)

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions. Keep material agitated to prevent settling.
Roller: Use a 1/4" or 3/8" (6.4 mm or 9.5 mm) synthetic nap cover. Stir material frequently or keep under agitation to prevent settling.
Brush: Use high quality natural or synthetic bristle brushes.

CLEANUP Flush and clean all equipment immediately after use with the recommended thinner or xylene.

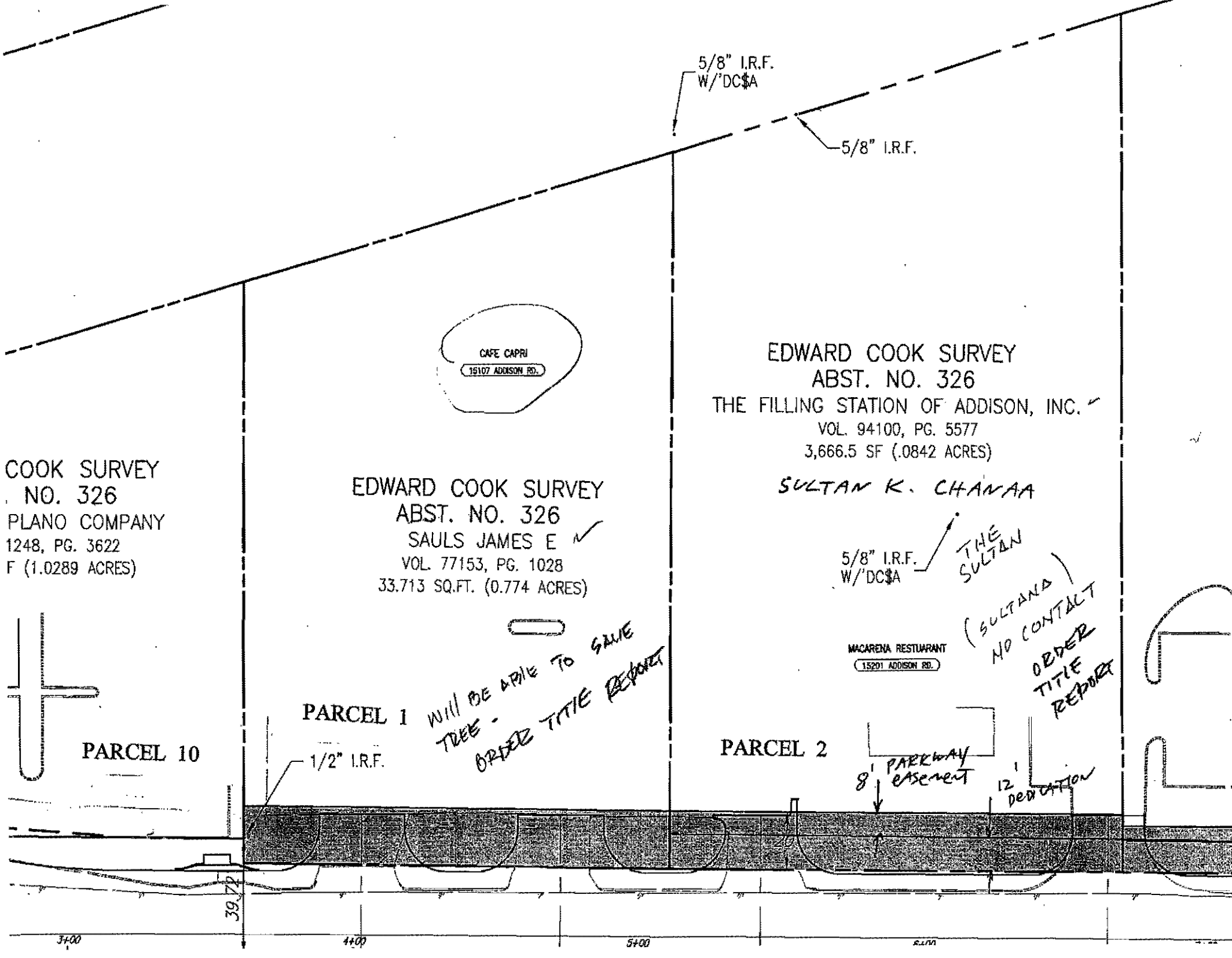
TOWN OF ADDISON

From the desk of: **Jenny Nicewander, P.E.**
Project Manager

P.O. Box 9010
Addison, TX 75001-9010
(972) 450-2860
Fax (972) 450-2837
e-mail: jnicewander@ci.addison.tx.us

Date: _____

FIRELANE STRIPING


5/8" I.R.F.
W/"DC$A
5/8" I.R.F.
CAFE CAPRI
15107 ADDISON RD.
EDWARD COOK SURVEY
ABST. NO. 326
THE FILLING STATION OF ADDISON, INC.
VOL. 94100, PG. 5577
3,666.5 SF (.0842 ACRES)
SULTAN K. CHANAA
COOK SURVEY
NO. 326
PLANO COMPANY
1248, PG. 3622
F (1.0289 ACRES)
EDWARD COOK SURVEY
ABST. NO. 326
SAULS JAMES E
VOL. 77153, PG. 1028
33.713 SQ.FT. (0.774 ACRES)
5/8" I.R.F.
W/"DC$A
THE SULTAN
(SULTANA
NO CONTACT
ORDER TITLE REPORT
MACARENA RESTUARANT
15201 ADDISON RD.
PARCEL 1
WILL BE ABLE TO SALVE TREE - ORDER TITLE REPORT
PARCEL 10
PARCEL 2
1/2" I.R.F.
8' PARKWAY EASEMENT
12' DEDICATION
39.7'
3+00
4+00
5+00

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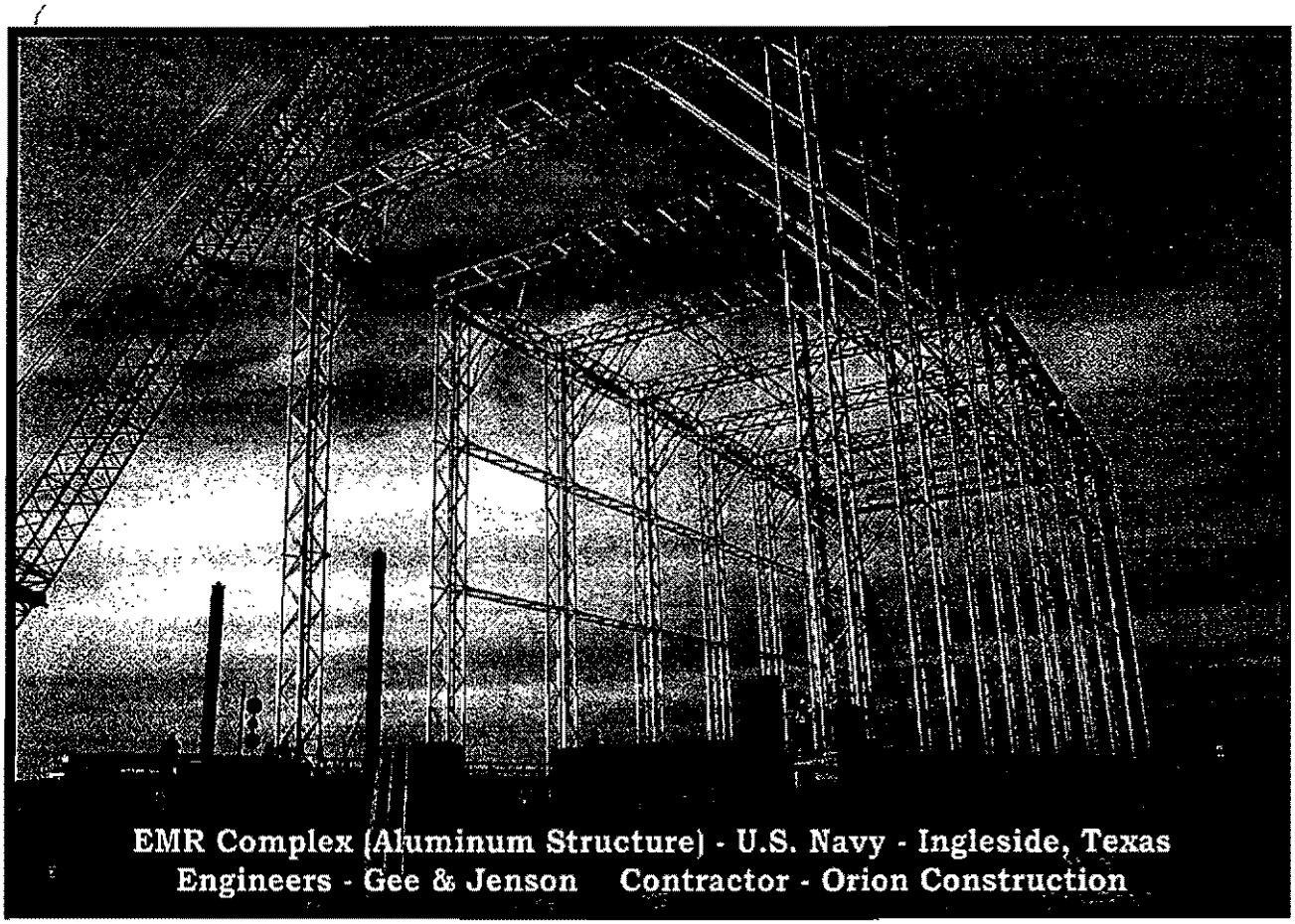

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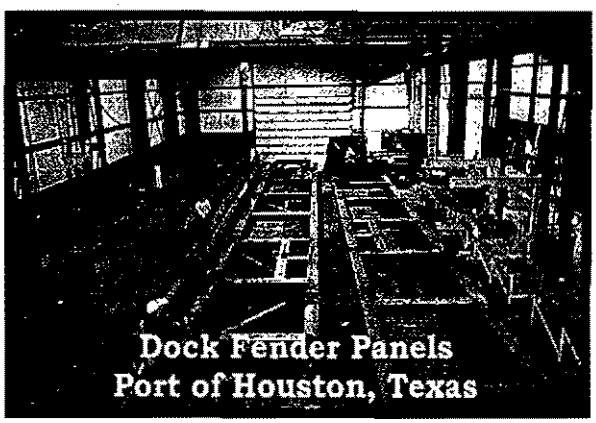
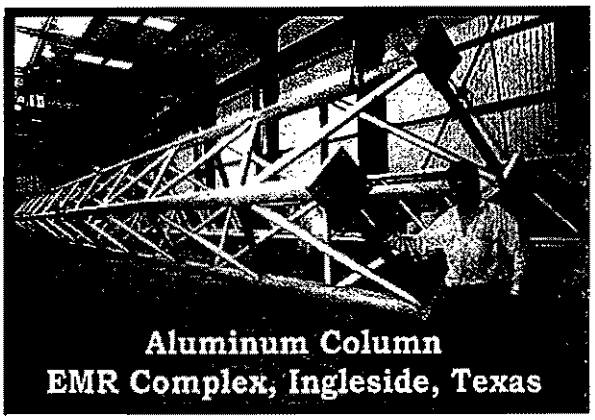
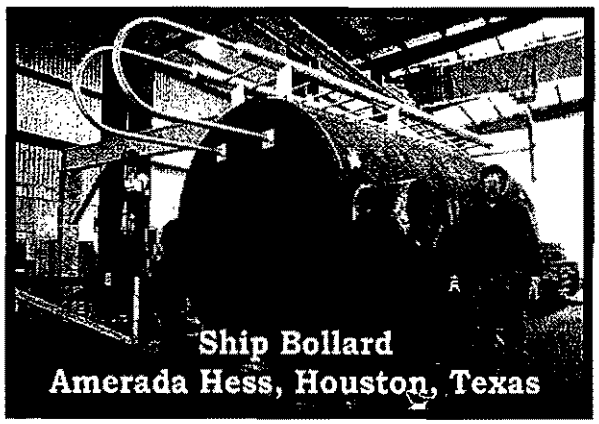
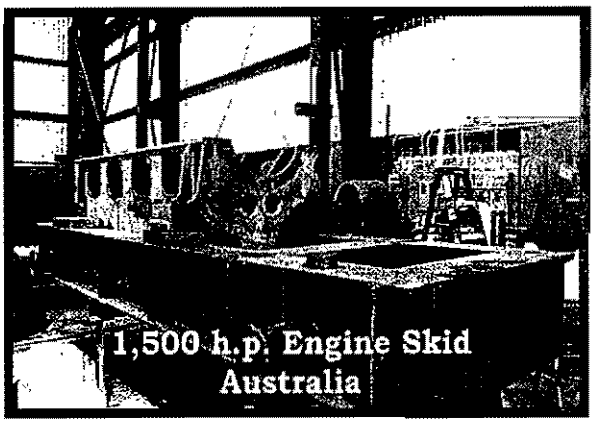
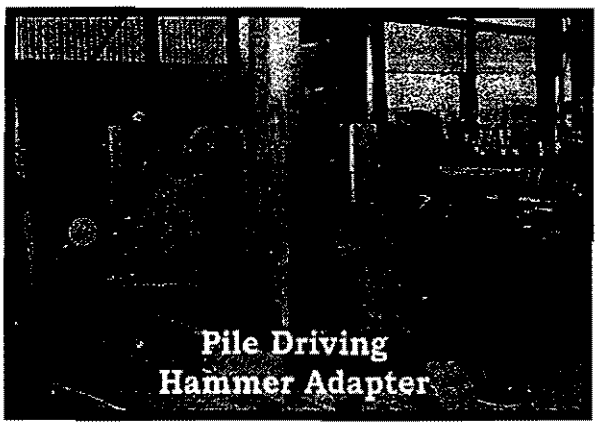

Dock Fender Panels
Port of Houston, Texas


Aluminum Column
EMR Complex, Ingleside, Texas


Ship Bollard
Amerada Hess, Houston, Texas


1,500 h.p. Engine Skid
Australia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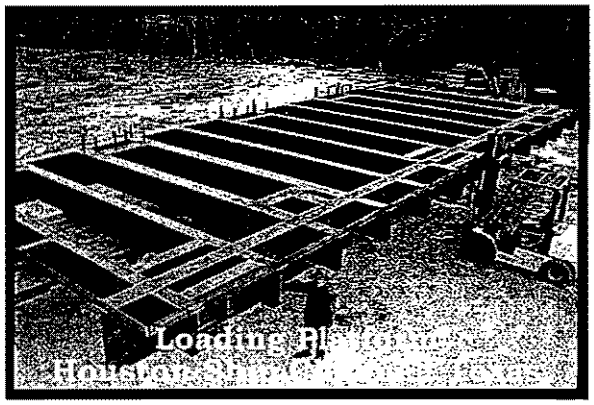
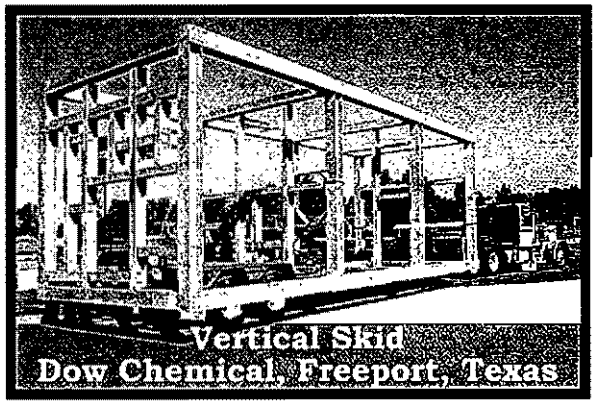
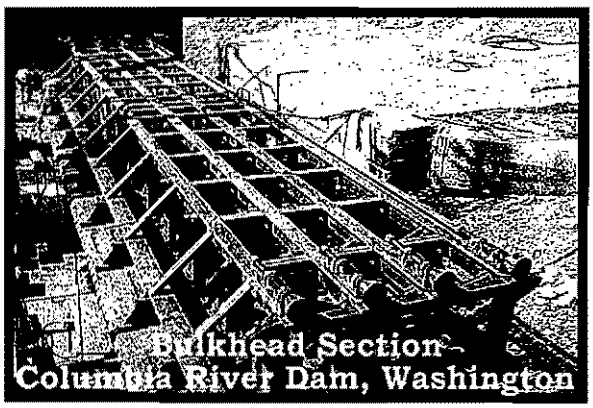
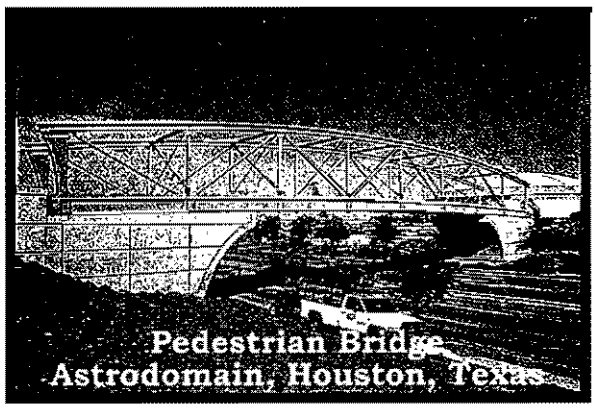
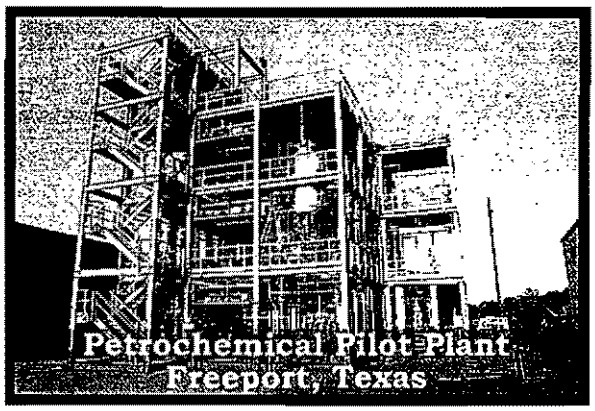

Loading Pl[illegible]
Houston, [illegible]


Vertical Skid
Dow Chemical, Freeport, Texas


Bulkhead Section
Columbia River Dam, Washington


Pedestrian Bridge
Astrodomain, Houston, Texas


Petrochemical Pilot Plant
Freeport, Texas


IAH Airport Terminal "A"
Houston, Texas

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ASTM A36
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ASTM A607 Grade 50
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ASTM A366
Coated
ASTM A653 CS and LFQ:
Galvanized and Galvannealed
ASTM A463 Type 1 Aluminized
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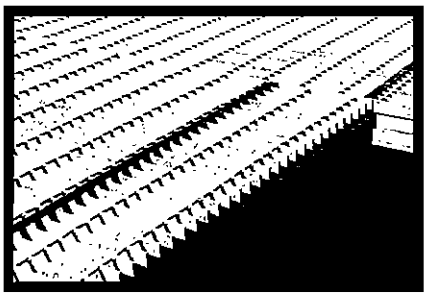
Plate and Sheet sizes in stock.



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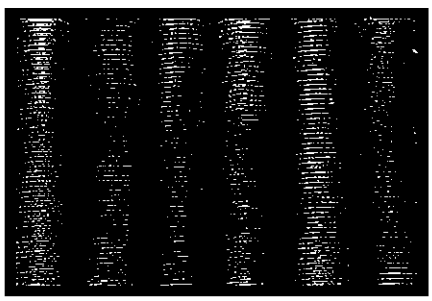

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Stock Gauges: 10 Ga., 11 Ga., 12 Ga., 14 Ga., 16 Ga., 18 Ga., 20 Ga., 22 Ga., 24 Ga.
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Thickness: .125" - .250"
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Stock Length is 20' - 24' Random

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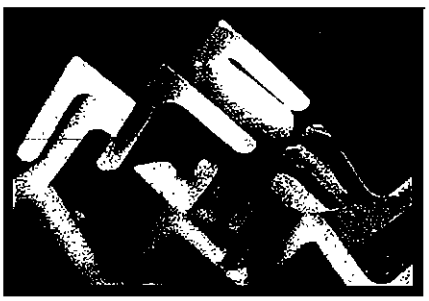
Sizes: 1/8" - 1/2"
Stock length is 12 ft.

Stainless Square Bars
T303, T304, T316L
Sizes: 1/2" - 2"
Stock Length is 12 ft.



Stainless Round Bars
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Sizes: 1/8" - 8"
Stock Length is 12 ft.

Stainless H – Beams
T304
All sizes in 19' - 20' Random

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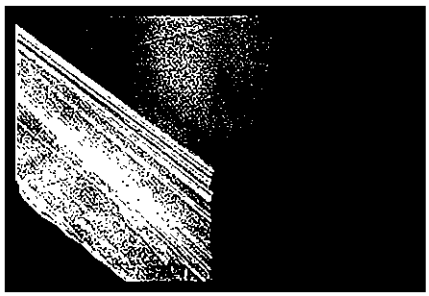
All sizes in 19' - 20' Random

Stainless Pipe
Assorted Grades & Schedules
Single Random Lengths

Aluminum Plate
Non Heat Treatable
5083-H321
5052-H34



Heat Treatable
2024-T351
6061-T651
7075-T651
Stock Sizes 1/2" through 3"
Call for stock plate sizes

Aluminum Sheet
Common Alloy
3003, 5052
Heat Treatable
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Coils are also available in:
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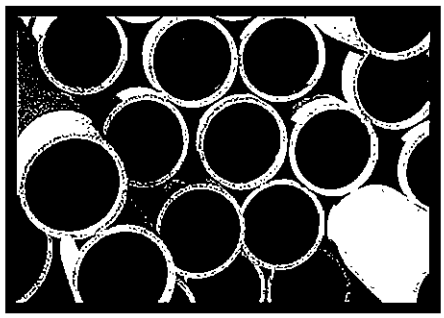
.020" - .250" Thick

Aluminum Tread Plate
3003-H22, 5086-H116, 6061-T6
Thickness: .125" - .250"
Call for stock plate size



Aluminum Pipe
6061-T6
Stock Sizes: 1/2" - 12"
Schedules 40 & 80
Other Grades & Schedules Available
Stock length is 20 ft.

Aluminum Angle
6061-T6, 5086-H111
Stock Sizes
3/4" x 3/4" x 1/8" - 6" x 6" x 1/2"
Stock lengths based on mill availability

Aluminum Flat and Square Bar
2024-T351, 6061-T6, 7075-T6
Stock Sizes: 1/8" - 6"
Stock length is 12 ft.

Aluminum Round Bar
2024-T4, 6061-T6, 7075-T351
Stock Sizes: 1/4" - 6"
Stock Length is 12 ft.

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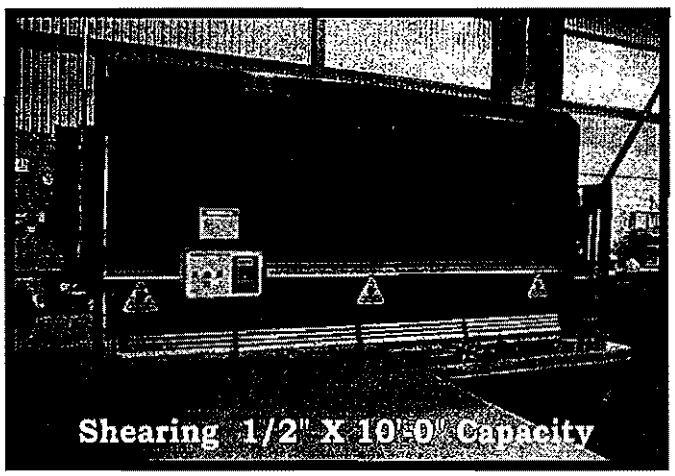
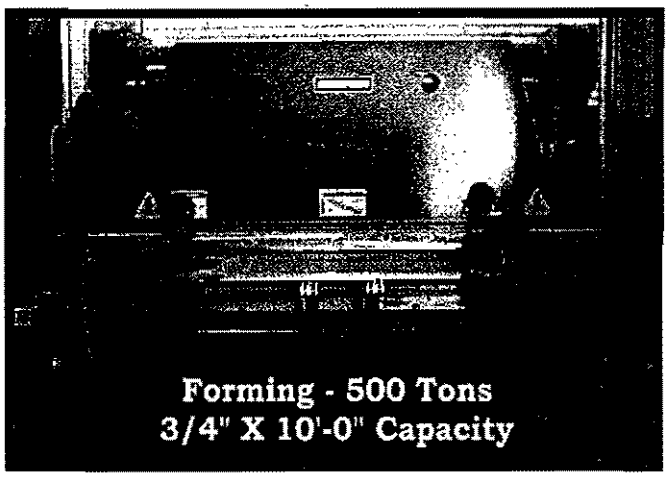
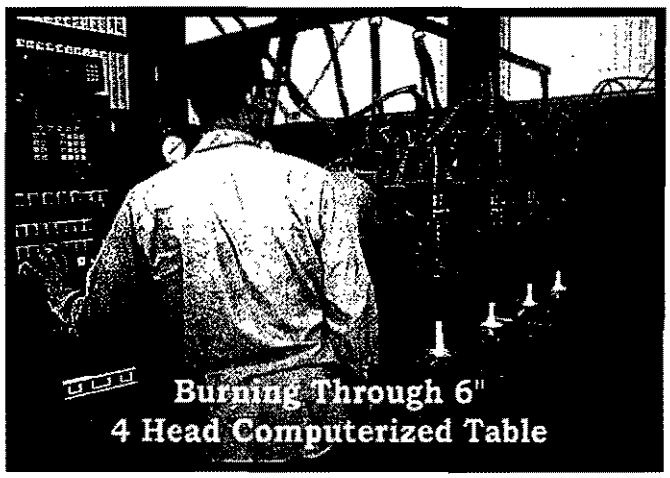
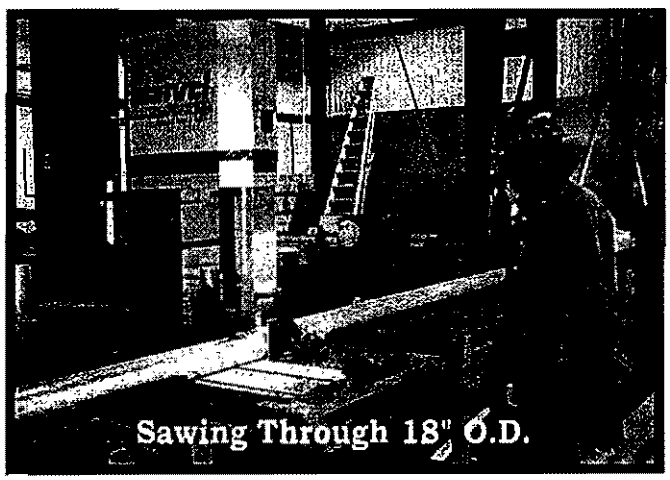

Shearing 1/2" X 10'-0" Capacity


Forming - 500 Tons
3/4" X 10'-0" Capacity


Burning Through 6"
4 Head Computerized Table


Sawing Through 18" O.D.

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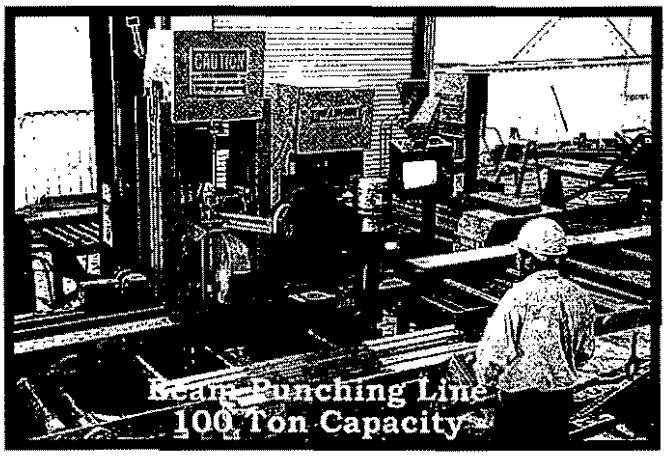

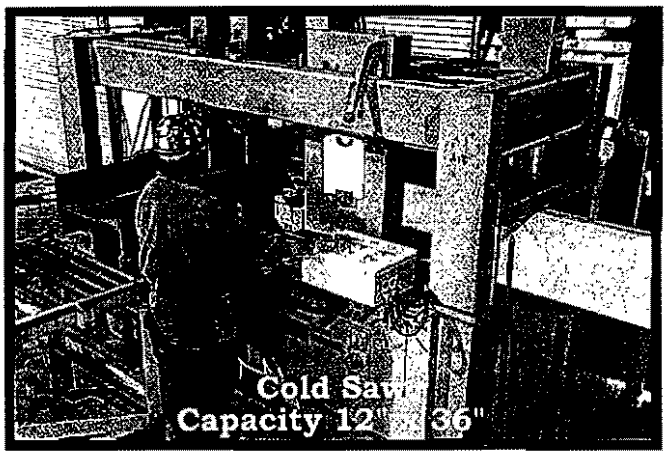

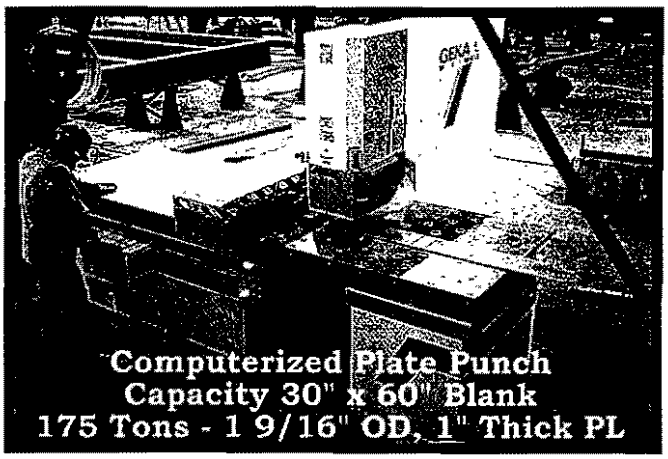

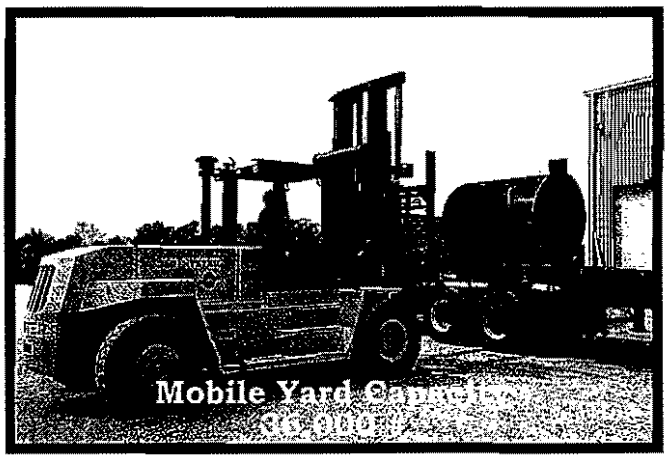

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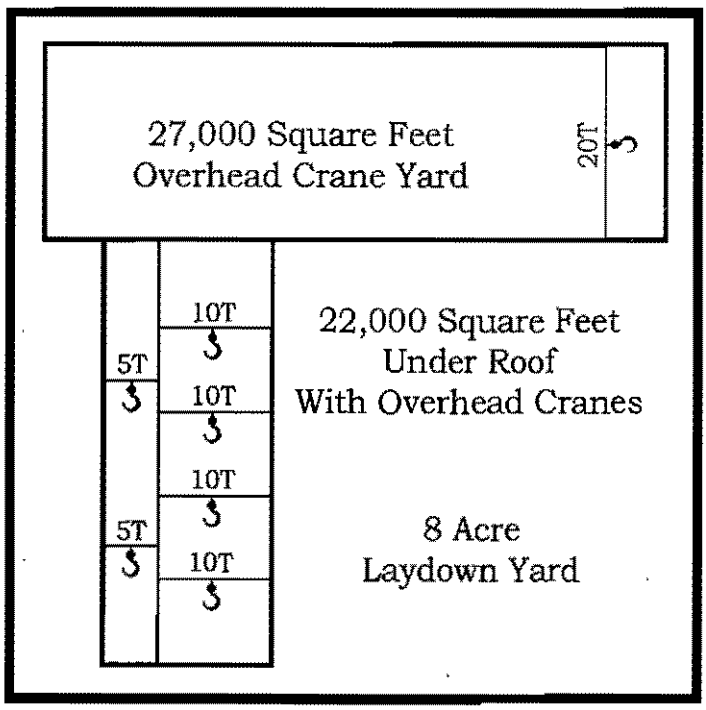
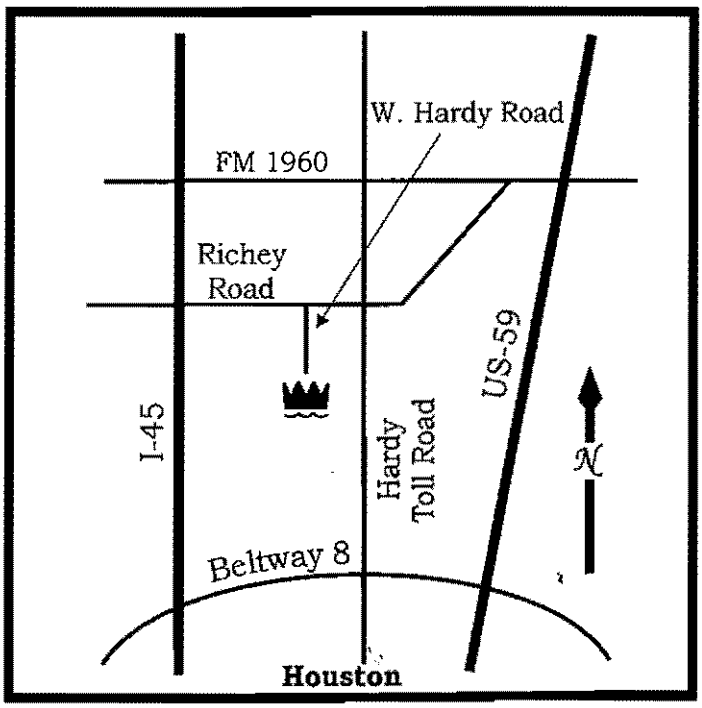
Sheet	Tees	Tubing	Fittings
Flats	Angles	Grating	Fasteners
Bars	Channels	Rail	Marine Accessories





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ROBERTSON · ENGINEERING · INC.

engineers • planners

January 4, 2005

Andrew Schneeman
Archer Western Contractors, Ltd
2121 Avenue J, Suite 103
Arlington, TX 76006
Ph: (817) 822-7207
Fx: (972) 361-0063

RE: Dallas Co., TX, Arapaho Rd, MSE Retaining Walls, REI# R04130

Dear Andrew,

Per our conversation, please note the following regarding the running bond pattern for MSE Precast Panels:

1. The MSE wall system must have the vertical slip/construction joints through to the top of the wall height. This allows for any wall settling or movement to not adversely affect the MSE wall precast panels.
2. Without vertical slip/construction joints in the MSE wall system, the result will be cracked precast panels throughout the wall face.

Sincerely,

Jerrald McBride
EIT

Attachment
Cc: Texas Welded Wire, LLC.

Ok Per
1/4/05

COPY

December 29, 2004

Letter: HNTB -26

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

O.K.
SZC
12/30/04

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Traffic Control Plan for Surveyor Blvd.

Dear Guy:

Archer Western is submitting the attached traffic control plan for the RCB pipe crossing and pavement replacement for Concrete paving. We propose to switch traffic on Monday, January 3, 2005.

If you require additional information, please contact Andrew at our field office.

Sincerely,

Andrew Schneemann
Asst. Project Manager

Enclosure

XC: Ben Withered
Don Good
File

Traffic Control - Surveyor Blvd.

1) Work Prior to Phase I Traffic Switch

   a) Saw Cut Existing Roadway Paving
   b) Excavate Westside of Surveyor Blvd. for Temp Asphalt
   c) Install 8" Temp Asphalt

2) Phase I

   a) Traffic is moved to the west side of Surveyor Blvd.
   b) We will install line A & B to +/- Centerline of Surveyor
   c) Install Lateral '2'
   d) Install 8" Temp Asphalt
   e) Switch Traffic

3) Phase II

   a) Traffic is switched to the east side of Surveyor Blvd
   b) We will Install Lines A&B to Station -1+79
   c) Install Permanent Paving without curb on west side of Surveyor Blvd.
   d) Install Temp Asphalt west side of surveyor

4) Phase III

   a) Traffic is switched to the west side of Surveyor Blvd.
   b) Install Permanent Paving on East side of Surveyor Blvd.

5) Phase IV

   a) Single Lane Closure with Flagger
   b) Remove Temp Asphalt
   c) Install Permanent Curb on west side of Surveyor Blvd.

NO.	DATE	REVISION	APPROV.
1			
2			
3			

GENERAL TRAFFIC CONTROL NOTES

1. THE TRAFFIC CONTROL SHOWN ON THESE PLANS IS FOR THE PREPARATION AND COMPARISON OF BIDS ONLY. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL DEVELOP AND SUBMIT FOR TOWN OF ADDISON APPROVAL, IN DETAIL, A CONSTRUCTION SCHEDULE, SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL PLAN THAT SHALL CAUSE MINIMUM INTERFERENCE WITH TRAFFIC ALONG, ACROSS AND ADJACENT TO THE PROJECT DURING CONSTRUCTION. IF THE SCHEDULE OR SEQUENCE BECOMES UNWORKABLE OR UNSATISFACTORY AS WORK PROCEEDS, ADJUSTMENTS SHALL BE MADE.
2. ACCESS TO ALL SIDE STREETS AND PRIVATE PROPERTY MUST BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE TOWN OF ADDISON.
3. LIGHTED BARRICADES, TEMPORARY PAVEMENT MARKINGS AND CHANNELIZING DEVICES CONFORMING TO THE CURRENT EDITION OF THE M.U.T.C.D. SHALL BE USED DURING ALL STAGES OF CONSTRUCTION TO CONTROL TRAFFIC FLOW THROUGH THE WORK ZONES.
4. MAINTAIN A MINIMUM RADIUS OF 20 FEET ON ALL STREET CONNECTIONS AND 10 FEET ON ALL DRIVEWAY CONNECTIONS DURING CONSTRUCTION TO ACCOMMODATE THE TRAFFIC USING THE ROADWAY DURING CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY MARKINGS, UNTIL SUCH TIME SIGNALS CAN BE ACTIVATED.
6. AT END OF ALL PHASES OF CONSTRUCTION, CONTRACTOR SHALL COMPLETE FINAL PAVEMENT MARKINGS, REMOVE TEMPORARY PAVEMENT MARKINGS AND ACTIVATE TRAFFIC SIGNALS (NO SEPARATE PAY)

20 0 20 40
scale 1"=20' feet

"A"
120'
120'
Reduced Speed Ahead
Reduced Speed 20
Narrow Lanes Ahead
80'
4" Yellow Stripe 4' Long @ 12' Spaces
14' Lane
11' Lane
Work Area
Temp. Asphalt
Barrels @ 20' Spacing
ARAPAHO ROAD (EXISTING)
CM20-10
SURVEYOR BLVD.
Narrow Lanes Ahead
120'
Reduced Speed 30
Reduced Speed Ahead
Phase I
8' CHAIN LINK FENCE
50' DRAINAGE EASEMENT

BOX CULVERT CONSTRUCTION NOTE:
CONTRACTOR SHALL BE PERMITTED TO CLOSE ONE HALF OF SURVEYOR BLVD. AT A TIME WHILE MAINTAINING ONE 10-FOOT TRAFFIC LANE FOR EACH DIRECTION

27

DATE:	MAY 2004	SCALE:	1"=20'	JOB NO.:	02-320		
DRAWN:	G&A	DESIGN:	AKC	REVIEWED:	BRG	DWG:	320TRAF01.DWG

ARAPAHO ROAD PHASE III
TRAFFIC CONTROL PLAN
ARAPAHO ROAD & SURVEYOR BLVD.

TOWN OF ADDISON

RELEASED FOR REVIEW AND INTERIM IMPLEMENTATION WAS AUTHORIZED BY: A. KATURA CURRY ON 7-21-04
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Grantham & Associates, Inc.
1919 S. SHILOH ROAD, SUITE 310, LB 8
GARLAND, TEXAS 75042
972 864-3333 (TEL)
972 864-3334 (FAX)

SHT. TC-1

NO.	DESCRIPTION	APPROV.
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20 0 20 40
scale 1"=20' feet

ARAPAHO ROAD (EXISTING)

SURVEYOR BLVD.

Work Area

Narrow Lanes Ahead

Barrels 20' o/c

Temp Asphalt

Yellow Tape 4' s/c

12' C-C

Narrow Lanes Ahead

Reduce Speed 20

Reduce Speed Ahead

BOX CULVERT CONSTRUCTION NOTE:
CONTRACTOR SHALL BE PERMITTED TO CLOSE ONE HALF OF SURVEYOR BLVD. AT A TIME WHILE MAINTAINING ONE 10-FOOT TRAFFIC LANE FOR EACH DIRECTION

Phase II

8" CHAIN LINK FENCE

30' DRAINAGE CHANNEL EASEMENT

27

DATE:	MAY 2004	SCALE:	1"=20'	JOB NO.:	02-320		
DRAWN:	G&A	DESIGN:	ARC	REVIEWED:	BRG	DWG:	320TRAF01.DWG

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g&a Grantham & Associates, Inc.
1919 S. SHILOH ROAD, SUITE 310, L.B. 8
GARLAND, TEXAS 75042
972 864-2333 (TEL)
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scale 1"=20' (20 0 20 40 feet)

Narrow Lanes Ahead
4" Yellow Stripe
4" Long 12' O/C
11' Lane
Work Area
Temp Asphalt
Barrels 20' O/C
Narrow Lanes Ahead
Reduced Speed Ahead
120'
Reduced Speed 20
ARAPAHO ROAD (EXISTING)
SURVEYOR BLVD.
Reduced Speed 20
Reduced Speed Ahead
Phase III

80% CULVERT CONSTRUCTION NOTE:
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ARAPAHO ROAD & SURVEYOR BLVD.

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GARLAND, TEXAS 75042
(972) 864-2333 (TEL)
(972) 864-2334 (FAX)

SHT. TC-1

HNTB
The HNTB Companies

Field Office: 15150 Surveyor Blvd. Addison, TX 75001 & Phone: 972-361-0064

December 30, 2004
Date:

To: Mr. Steve Chutchian
Town of Addison
P.O. Box 9010
16801 Westgrove Drive
Addison, TX 75001

Re: Arapaho Road – Phase III Project
Surveyor Blvd. to Addison Road
Project No. 04-22

WE ARE FORWARDING TO YOU:

☒ Attached
☐ Under separate cover via: _____

☐ Plans	☐ Shop Drawings	☐ Copy of Letter	☐ Originals
☐ Specifications	☐ Change Order	☐ Proposal	☐ Reproducibles
☐ Estimates	☐ Samples	☐ Reports	☐ Prints

☒ Traffic Control Plans

NO. OF COPIES	SHEET NO.	LAST DATED	DESCRIPTION
3		12/29/04	Traffic Control Plan Surveyor Blvd.for Box Culvert Crossing

THESE ARE TRANSMITTED:

☒ For approval	☐ Resubmit ____ copies for review	☐ No exceptions taken (NE)
☐ For your use	☐ Submit ____ copies for distribution	☐ Make corrections noted (ME)
☐ As requested	☐ Return ____ corrected prints	☐ Amend and resubmit (AR)
☒ For review and comment	☐ _____	☐ Rejected - See remarks (RE)

PLEASE NOTE:

Received submittal for Traffic control Plan along Surveyor Blvd. @ 4:50pm,

COPY TO:
File
Michael Ebeling, HNTB Corporation

BY: _____

File

December 29, 2004

Letter: HNTB -26

HNTB
5910 W Plano Parkway
Suite 200
Plano, Texas 75093
Attn: Mr. Guy Van-Baulen

RE: Town of Addison
Arapaho Road Phase III
Project No. 04-22
Traffic Control Plan for Surveyor Blvd.

Dear Guy:

Archer Western is submitting the attached traffic control plan for the RCB pipe crossing and pavement replacement for Concrete paving. We propose to switch traffic on Monday, January 3, 2005.

If you require additional information, please contact Andrew at our field office.

Sincerely,

Andrew Schneemann
Asst. Project Manager

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Don Good
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20 0 20 40
scale 1"=20' feet

"A"
120'
120'
Reduced Speed Ahead
Reduced Speed 20
Narrow Lanes Ahead
SEE DETAIL
80'
4' Yellow Stripe
4' Lines @ 12' Spaces
189'
12' Lane
11' Lane
Work Area
Temp. Asphalt
11' Lane
11' Lane
Barrels @ 20' Spacing
Narrow Lanes Ahead
80'
120'
120'
Reduced Speed 20
Reduced Speed Ahead
ARAPAHO ROAD (EXISTING)
SURVEYOR BLVD.
6W20-1D
8' CHAIN LINK FENCE
30' DRAINAGE EASEMENT

BOX CULVERT CONSTRUCTION NOTE:
CONTRACTOR SHALL BE PERMITTED TO CLOSE ONE HALF OF SURVEYOR BLVD. AT A TIME WHILE MAINTAINING ONE 10-FOOT TRAFFIC LANE FOR EACH DIRECTION

Phase I

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

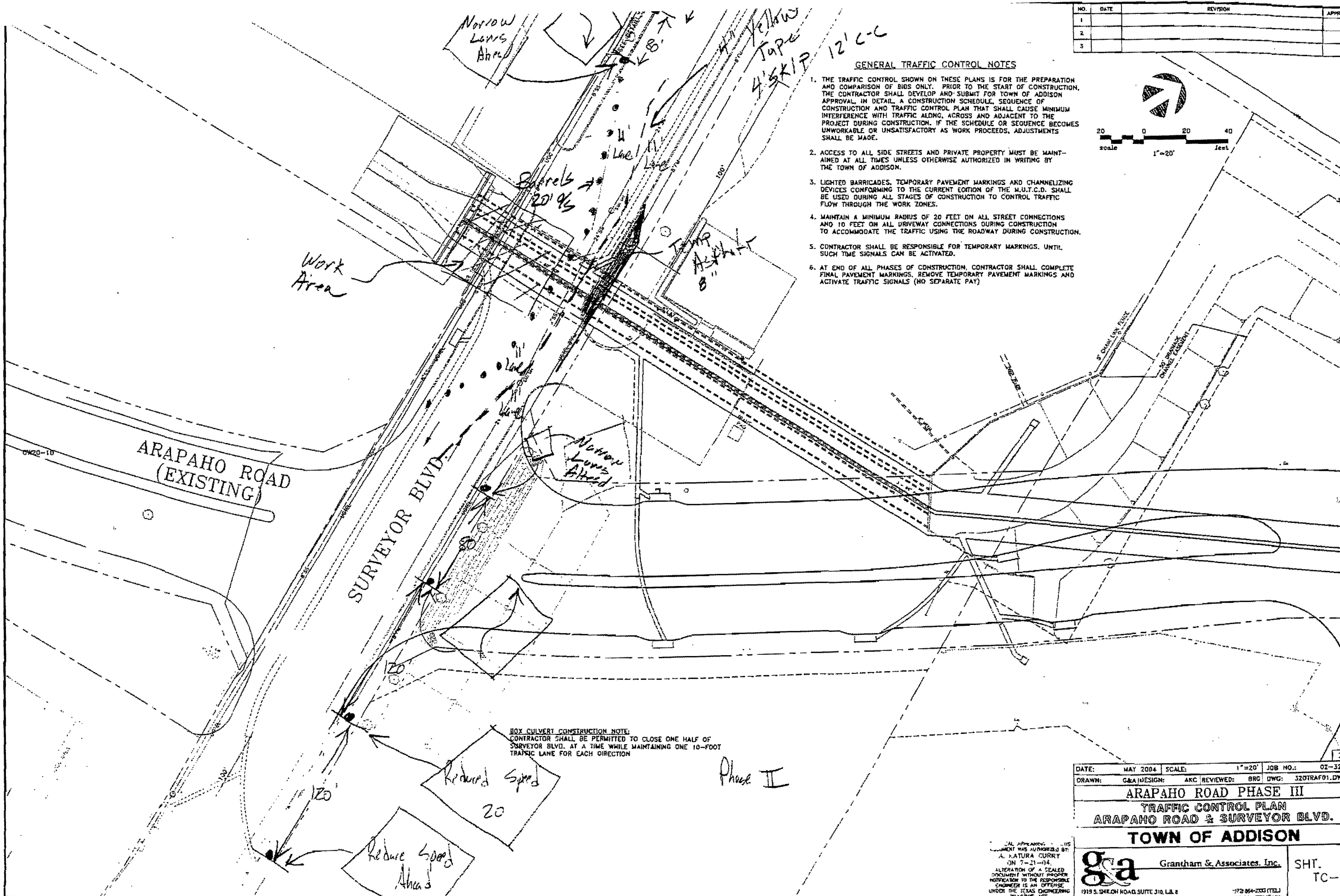
DATE:	MAY 2004	SCALE:	1"=20'	JOB NO.:	02-320		27
DRAWN:	G&A	DESIGN:	AKC	REVIEWED:	BRG	DWG:	320TRAF01.DWG

ARAPAHO ROAD PHASE III
TRAFFIC CONTROL PLAN
ARAPAHO ROAD & SURVEYOR BLVD.

TOWN OF ADDISON

Grantham & Associates, Inc.
1912 S. SHILOH ROAD, SUITE 210, LB 8
GARLAND, TEXAS 75042
972 864-7333 (TEL)
972 864-7334 (FAX)

SHT. TC-1



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DATE: MAY 2004	SCALE: 1"=20'			JOB NO.: 02-320	
DRAWN: G&A	DESIGN: AKC	REVIEWED: BRG		DWG: 320TRAF01.DWG	

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TRAFFIC CONTROL PLAN
ARAPAHO ROAD & SURVEYOR BLVD.

TOWN OF ADDISON

...AL APPEARING ...IS DOCUMENT WAS AUTHORIZED BY: A. KATURA CURRY ON 7-21-04. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

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20 0 20 40
scale 1"=20' feet

Stripe
4" Yellow
4" Long
12' o/c
Work Area
Temp Asphalt
Barrels 20' o/c
Narrow Lanes Ahead
Reduced Speed Ahead
120'
11' Lane
ARAPAHO ROAD (EXISTING)
SURVEYOR BLVD.
Reduced Speed 20
Phase III

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SHT. TC-1

ASHLAND.

Kirk D. Morris
Area Manager

APAC- Texas, Inc.

A subsidiary of Ashland Paving And Construction, Inc.
Texas Bitulithic Division
P.O. Box 224048, Dallas, TX 75222-4048
Tel: 214 741-3531, Fax: 214 742-3540

November 17, 2004

Michael W. Ebeling, P.E.
HNTB Corporation
5910 W. Plano Parkway Ste. 200
Plano, TX 75093

RE: November 12, 2004 letter

Dear Mr. Ebeling,

APAC – Texas, Inc. acknowledges receipt of your letter dated November 12, 2004. We still disagree with many of the statements in your letter. Conflicting issues, such as the ones pointed out in your above referenced letter, need to be addressed in another forum. What is needed now, is to hear from HNTB, or the Town of Addison, in writing what will be the acceptable, and reasonable, extra work needed for the area defined by Eastbound Lane 1 approximately Station 11+20 to 52+00? We acknowledge our role as the contractor for the Town of Addison, and as such, we stand ready to perform at the direction of the Town of Addison, or its contract manager. Upon completion of said work, APAC – Texas, Inc. will pursue whatever course we deem necessary to resolve these issues.

Sincerely,

APAC – Texas, Inc.

Kirk D. Morris
Area Manager

Cc: S. Robertson, APAC – Texas, Inc.
D. McEuen, APAC – Texas, Inc.
R. Blackburn, APAC – Texas, Inc.
M. Murphy, Town of Addison, TX
R. Jones, Town of Addison, TX
J. Pierce, Town of Addison, TX
S. Chutchian, Town of Addison, TX
J. Nicewander, Town of Addison, TX
J. Holder, HNTB Corporation
S. Forbes, HNTB Corporation

apac

Weekly Meeting Agenda

Date: Tuesday, Dec. 21, 2004 Arapaho Road Phase III
Time 10:00 A.M.
Location: Field Office

I. Safety Issues

1. Keep up maintenance on orange fence.

2. Check for backup alarms on trucks.
Clemons has been notified.

3. HNTB requested a letter to remove orange fence where site grading is required.

4. HNTB requests that additional message boards be added to the Midway detour and left up for an undisclosed amount of time after the traffic is routed onto the detour.
A/W will be compensated for the message boards.

II. Submittals

1. Bar lock samples were given to Daniel Filer.
Texas Concrete must sign off on block outs.
A RFI needs to be generated for Cliff Hall to sign off on.
A RFI has been sent, Cliff Hall has not signed off on it yet.
11-30-04
The RFI was verbally not approved by URS.
A/W requested a product to use.11-30.
We have received a weld detail for the splice on 12-3.
A/W is reviewing the detail.
Additional details between A/W and HNTB need to be resolved.
Cliff Hall will stamp drawing 12-17.

2. The MSE wall shop drawings have not been returned to A/W.
Should have them by Friday per HNTB.

III. Old Business

1. A new Irrigation plan sheet for Comfort Suites is forthcoming.
A/W received the revised plan sheets on 12-2.
American Landscaping is pricing.
HNTB should have this by 12-21.

2. The Town asked about the paint submittal for the arches. Ben explained that system II paint is not tenable. A similar painting system will be submitted.
A letter from Sherman Williams has been given to the Town.11-2.
The Town is leaning toward the tnemec paint for the arches. 11-30.
A meeting was held on 12-1 for the rail painting.
12-7 HNTB said to proceed with the Tnemec paint.
Ben is reviewing pricing.

3. The roadway grades at the brickyard will not tie into the Railroad tracks. Jennie is looking into this. 10-26. HNTB needs a RFI from A/W. The grades will be adjusted. 11-2. Andrew and HNTB will review the grades today. 11-2.
A/W has requested a revised plan sheet for this area. 11-30.
HNTB is in the process of revising plan sheets.
Nothing yet.12-14.

4.HNTB has requested pricing on gasket RCP in this area. 11-30.
A/W is working on pricing.
HNTB has received the pricing for gasket RCP at the brickyard.
We are waiting on response.12-14.

IV. Change Orders

1. Irrigation lines at Comfort Suites.

2. Tee for irrigation line off 16" line.

V. New Business

1. A traffic control plan has been submitted to the Town for detouring Midway Road during construction at this location.

2. After field verifying the elevation of the relocated SBC line, there are several areas where the new line will be in direct conflict with the slotted under drain pipe, the retaining wall, and inlets or laterals. 11-23-04.
Guy asked that Chris go with him to the various locations.

V. Misc.

1. TXU needs to remove and relocate the poles at Addison Road.
Guy will check into this matter.

2. The light poles need to be removed in the Midway median. We will not be able to detour on Thursday 12-16 if the are not removed.
The poles were removed on Friday 12-17. Traffic was shifted on Sat. 12-18.

VI. Schedule1

Review Weekly Schedule

12/21/2004

ARAPAHO ROAD

Archer Western Contractors

Activity Description	Prod	Current Week						Next Week						Following Week						SUBS/NOTES
		M	T	W	T	F	S/S	M	T	W	T	F	S/S	M	T	W	T	F	S/S	
		20	21	22	23	24	25	27	28	29	30	31	1	3	4	5	6	7	8	
Excavate/Embank Brickyard		X	X	X	X	X		X	X	X	X	X								
Box Culvert Line A (Surveyor)		X	X	X	X	X		X	X	X	X	X								
Box Culvert Line A (east)				X	X	X		X	X	X	X	X		X	X	X	X	X		
Box Culvert A (Midway)			X	X	X	X		X	X	X	X	X		X	X	X	X	X		
Box Culvert Line B		X	X	X	X	X														
Roadway Embankment		X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		
Lower 16" Water Line									X	X	X									
10" Sanitary Sewer		X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		
12" Sanitary Sewer		X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		
Line C & Laterals		W	A	I	T	I	N	G												
Laterals Line A & B		X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		
Trenched Retaining Walls																				1/10/05
CIP Retaining Wall																				
Drilled Shafts		X	X	X	X	X		X	X	X	X	X								ATS
Columns		X	X	X	X	X		X	X	X	X	X		X	X	X	X			
Caps											X	X		X	X	X	X	X		
Bent # 10 Cap								X	X	X	X	X		X	X	X	X	X		
Bent # 9		X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		
Inlets																				1/10/05

WASTE CHARACTERIZATION DATA (WCD) FORM

Waste Management Approval Code: _____

Important: This form is to be completed by a representative of the generator. Please read the instruction page prior to the completion of this form. This form must be typewritten or legibly handwritten in ink, signed and dated.

Salesperson: Debra Whitehead	☒ New Waste Approval
Telephone:	☐ Update Approval - Previous Approval Number:
Fax:	Disposal Site Requested: DFW Landfill

1. Generator Information

Generator's Name: Town of Addison	EPA ID #: NA
Point of Origin/ Address: West of Addison/Arapaho intersection	State Registration Number: NA
City: Addison State: TX Zip:	TCEQ Waste Code Number: NA
Generator's Representative: Jenny Nicewander	County: Dallas SIC Code: NA
Title: Project Manager	Customer's Name: HNTB Corporation
Telephone: 972-450-2860	Customer's Mailing Address:
Fax: 972-450-7096	5910 West Plano Pkwy, Suite 200
Emergency/Information Contact:	City: Plano State: TX Zip: 75093
	Representative: Brian Sims
Title:	Telephone: (972) 628-3111
Telephone:	Fax: (972) 661-5614

2. Transporter Information

Transporter's Name:	Transporter ID:
Mailing Address:	Telephone:
City: State: Zip:	Fax:

3. Waste Stream Information

Waste/Waste Stream Name: Degraded creosote products from weathered cross ties and scrap metal
Process Knowledge [Describe materials and process(es) generating the waste: During excavation activities associated with road construction, buried railroad cross ties and associated scrap metal was discovered. The facility was a former railroad switch yard. Apparently after abandoning some tracks the material was buried in excavated pits.

Is this waste a characteristically hazardous waste as per 40 CFR 261.21-24? ☐ Yes ☒ No
Is this waste an F, K, P, or U listed hazardous waste as per 40 CFR 261.30-33? ☐ Yes ☒ No
Is this a waste regulated by the Railroad Commission? ☐ Yes ☒ No
Estimate Quantity: 300 ☐ Tons ☒ Cubic Yards ☐ Drums ☐ Gallons ☐ Other _____
Frequency: ☒ One Time ☐ Monthly ☐ Quarterly ☐ Semi-Annual ☐ Annual ☐ Other: _____

4. Physical Characteristics

Physical State at:72°F: ☐ Combination of ☒ Solid ☐ Liquid ☐ Semi-solid ☐ Powder
Appearance/Texture: ☒ Granular/Lump ☐ Powder/Fine ☐ Free Flowing Liquid ☐ Other
Color(s): Dark brown
Odor: ☐ Strong - Describe: _____ ☒ Mild ☐ None
Corrosivity (pH): ☐ ≤2 ☐ 2.1 - 7.0 ☐ 7.1 - 12.4 ☐ ≥12.5 ☐ Actual _____ ☒ N/D
Bulk Density: ☐ lbs./gal. ☐ lbs./yd^3 ☐ Other _____ ☒ N/D
Ignitability (Flashpoint, _____ °F): ☐ ≤72 ☐ 73 - 140 ☐ 141 - 200 ☐ ≥201 ☐ Actual _____ ☒ N/D

REQUEST FOR INFORMATION

PROJECT No. Arapaho Phase III

RFI # 25

Date : September 1, 2004

Submitted To	Submitted By
HNTB 5910 W. Plano Parkway, Ste 200 Plano, Texas 75093 Guy Van Bulen	Archer Western Contractors, Ltd. Andrew Schneemann

Subject	Discipline	Co-Author	Copies To
Proposed Finish Face of Wall Dirt Grades on MSE RW-3	Civil		Steve Chutchian

Cost Impact	Amount	Schedule Impact	Days	Drawing Impact
Unknown	Unknown	Unknown	Unknown	Unknown

Information Requested

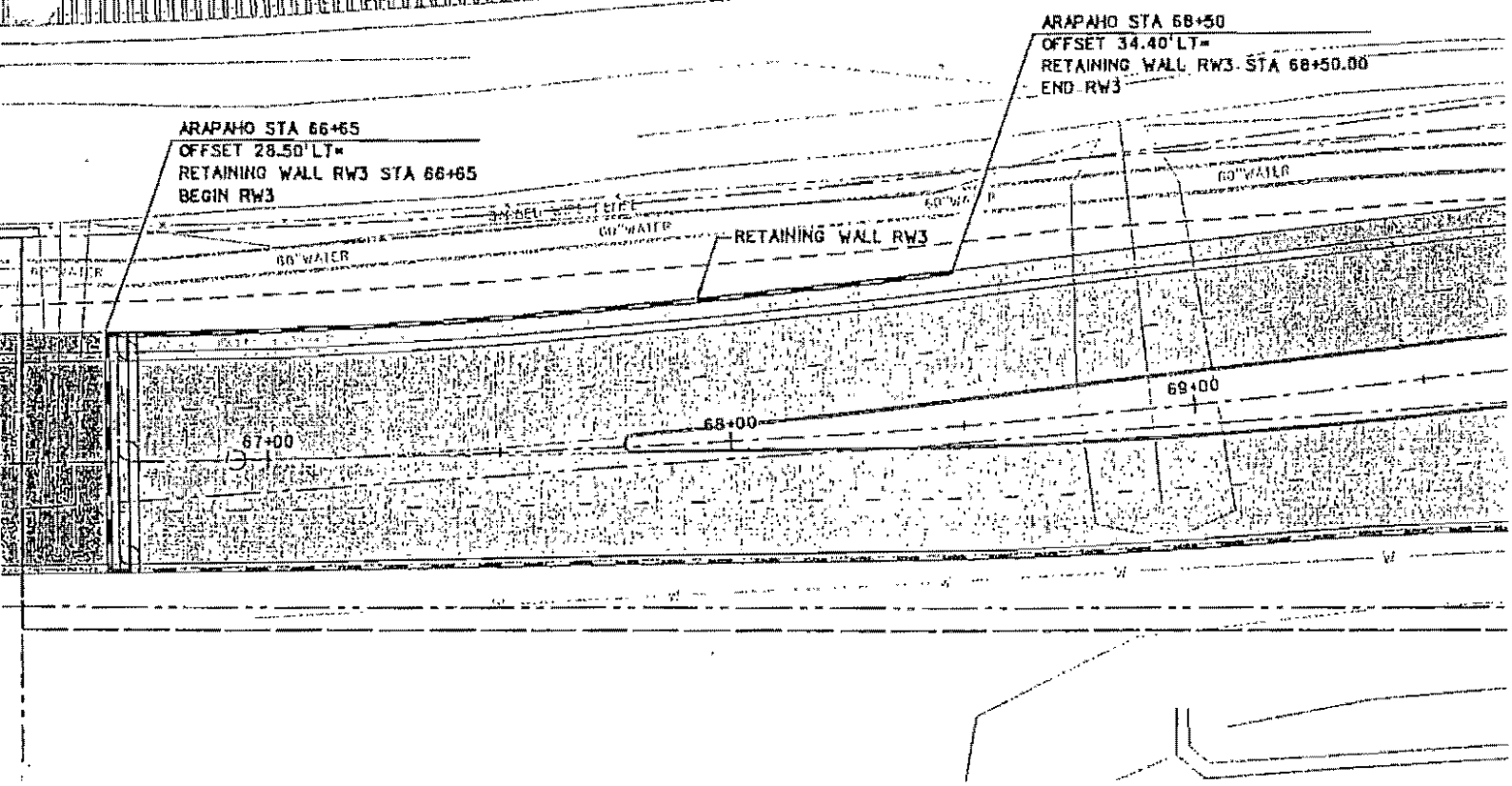
The finish face of wall dirt grade on the MSE Wall Drawing Sheet 121 are in conflict with the Proposed grading shown the cross sections from 66+50 to 68+50.

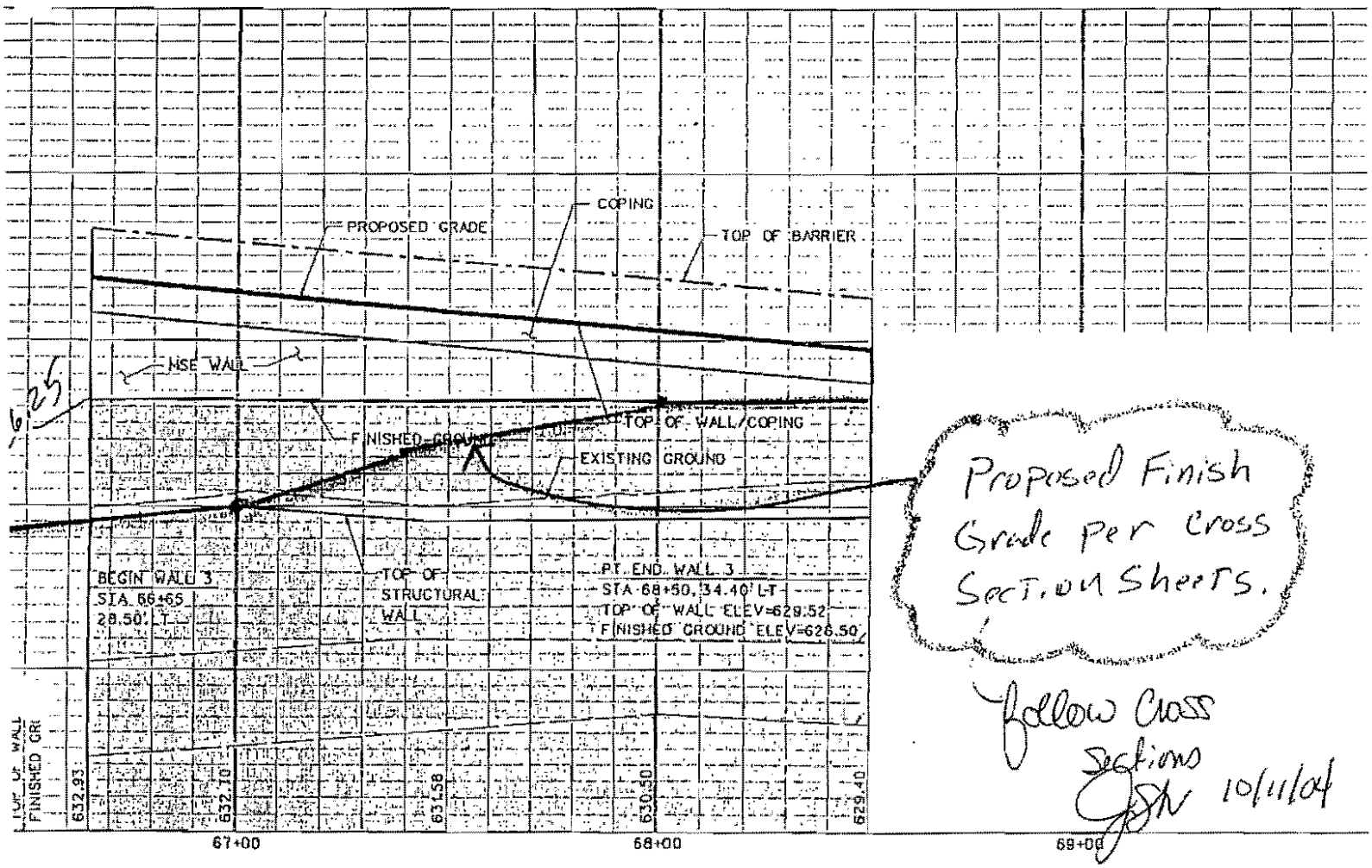
The attached copy of Sht 121 shows the proposed dirt grade from the cross section sheets in comparasion to the Finish dirt grades shown on the original retaining wall drawing.

Please confirm that the proposed grades as shown on the cross sections are to be used for the finish face of wall grading for retaining wall #3.

Response

RFI #25





Proposed Finish Grade Per Cross Section Sheets.

follow Cross Sections

JSN 10/11/04

Weekly Meeting Agenda

Date: Tuesday, Dec. 14, 2004
Time 10:00 A.M.
Location: Field Office

Arapaho Road Phase III

Landscape plan for W L location

I. Safety Issues

1. Keep up maintenance on orange fence.

2. Check for backup alarms on trucks.

II. Submittals

1. Bar lock samples were given to Daniel Filer.
   Texas Concrete must sign off on block outs.
   A RFI needs to be generated for Cliff Hall to sign off on.
   A RFI has been sent, Cliff Hall has not signed off on it yet.
   11-30-04
   The RFI was verbally not approved by URS.
   A/W requested a product to use.11-30.
   We have received a weld detail for the splice on 12-3.
   A/W is reviewing the detail.
   Additional details between A/W and HNTB need to be resolved.

2. The MSE wall shop drawings have not been returned to A/W. → Sheet to follow
   Send over elevations

III. Old Business

1. A new Irrigation plan sheet for Comfort Suites is forthcoming.
   A/W received the revised plan sheets on 12-2.
   American Landscaping is pricing. By next meeting

2. A/W needs a Tap drawing for a proposed tap on the 16" water line in Midway Road.
   A/W received the drawings on 12-2.
   HNTB is looking into this.

3. The Town asked about the paint submittal for the arches. Ben explained that system II paint is not tenable. A similar painting system will be submitted.
A letter from Sherman Williams has been given to the Town.11-2.
The Town is leaning toward the tnemec paint for the arches. 11-30.
A meeting was held on 12-1 for the rail painting.
12-7 HNTB said to proceed with the Tnemec paint.

4. Archer Western is waiting on HNTB to give us a letter to submit shop drawings for the light holes in the Stingers. Daniel stated that the letter is on the way.
Daniel said the letter will be sent. 11-2. Andrew will return the letter to Daniel.
Letter and pricing was sent on 11-11. Waiting on response.12/7. 12/13.

5. The roadway grades at the brickyard will not tie into the Railroad tracks. Jennie is looking into this. 10-26. HNTB needs a RFI from A/W. The grades will be adjusted. 11-2. Andrew and HNTB will review the grades today. 11-2.
A/W has requested a revised plan sheet for this area. 11-30.
HNTB is in the process of revising plan sheets.

6. What is the status of the buried ties and trash at the brick yard
The Town is looking into this. 11-8. HNTB is waiting on test results.
The Railroad will remove all the ties from this area.
HNTB will not comment at this time.11-16-04.
HNTB is waiting on ground water sample results. 11-30.
HNTB has requested pricing on gasket RCP in this area. 11-30.
A/W is working on pricing.
12-7 The Town will handle the removal of all questionable material.
HNTB has received the pricing for gasket RCP at the brickyard.

IV. Change Orders

1. Irrigation lines at Comfort Suites.

2. Tee for irrigation line off 16" line.

V. New Business

1. A traffic control plan has been submitted to the Town for detouring Midway Road during construction at this location.

2. After field verifying the elevation of the relocated SBC line, there are several areas where the new line will be in direct conflict with the slotted under drain pipe, the retaining wall, and inlets or laterals. 11-23-04.

V. Misc.

1. TXU needs to remove and relocate the poles at Addison Road.
Guy will check into this matter.

2. Does the Town know what kind of pipe the 16" water line is?
Where are the valves located? On Beltline and North of the tracks.
Who will be affected? The Rink, Mong.Grill, Citgo, and Doughnut shop.

3. The light poles need to be removed in the Midway median. We will not be able to detour on Thursday 12-16 if the are not removed.

VI. Schedule1
Review Weekly Schedule

12/13/2004

ARAPAHO ROAD

Archer Western Contractors

Activity Description	Prod	Current Week						Next Week						Following Week						SUBS/NOTES
		M	T	W	T	F	S/S	M	T	W	T	F	S/S	M	T	W	T	F	S/S	
		13	14	15	16	17	18	20	21	22	23	24	25	27	28	29	30	31	1	
Excavate/Embank Brickyard		X	X	X	X	X		X	X	X	X	X								
Box Culvert Line A		X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X		
Box Culvert Line B		X	X	X	X	X		X	X											
Roadway Embankment		X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		
Midway Median Detour Work		X	X	X	X															
10" Sanitary Sewer		X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		
Line C & Laterals		W	A	I	T	I	N	G												
Laterals Line A & B		X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		
Bent 10 Arms		X	X																	
Trenched Retaining Walls								X	X	X	X	X		X	X	X	X	X		Trench Sub
CIP Retaining Wall											X	X		X	X	X	X	X		
Drilled Shafts		X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		ATS
Columns				X	X	X		X						X	X	X	X	X		
Caps																X	X	X		
Bent # 9										X	X	X		X	X	X	X	X		
Jack & Bore line C ell				X	~~X~~	~~X~~		X	~~X~~	~~X~~	~~X~~	~~X~~								Longhorn
Inlets																				Inlet Spec.

HNTB
The HNTB Companies

Fax Transmittal

To Jenny Niemander
Firm Town of Addison
Fax # (972) 450-7096

Date 12/9/04
Total Pages 2 (including this cover)
Job Number

From Brian Sims

☐ High Resolution
☐ Urgent

Please notify sender at 972-661-5626 if pages are missing or if there is any transmission difficulty.

Message

See Attached.

BS

5910 West Plano Parkway, Suite 200 • Plano, Texas 75093
Voice (972) 661-5626 • Fax (972) 661-5614

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. _____
Ticket No. _____

GENERATOR

WMI 334453

Name Town of Addison
Address West of Addison/Arapaho Int
Addison TX
Phone No. _____

Generating Location Mail to: ~~Town of Addison~~ HNTB Attn: Brian Sims
5910 5910 West Plano Pkwy. Suite 200; Plano, TX 75093
State Gen. ID No. NA
Gen. US EPA ID No. NA

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
NA	DP-29503	Degraded Creosote Products from Weathered Cross Ties		Yds

CODES: D = DRUM; B = BAG; C = CARTON; P = POUND; Y = YARDS; O = OTHER

I hereby certify that the above listed material(s), is (are) not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

AUTHORIZED AGENT'S NAME (PRINT) DATE SIGNATURE

TRANSPORTER

Transporter's Name _____ Phone No. _____
Address _____ Driver's name _____
_____ Vehicle No. _____

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE DRIVER'S SIGNATURE DELIVERY DATE DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name DFW Recycling & Disposal Facility Phone No. (972)315-8421
Address 1600 S. Railroad Street Lewisville TX 75067
Permit No. 1025B Time _____

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

NAME (PRINT) DATE SIGNATURE

White - Original • Canary - Transporter • Pink - Disposal Facility • Goldenrod - Generator

16801 Westgrove
Addison TX, 75001
Phone: 972-450-2860
Fax: 972-450-2837

Town of Addison

Fax

Wayne MM

To: Wayon - TXU **From:** Jenny Nicewander

Fax: 817-215-6038 **Date:** December 7, 2004

Phone: 817-215-6676 **Pages:** 2

Re: Arapaho Phase 3 / Addison Road **CC:**

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

•**Comments:** Please let me know if you have any other questions regarding this fax.

I'm afraid I'm not even close on your name. Sorry about that. I'm including the cut sheets for both lighting types. Let me know if you have any other questions.

APPROBATION DRAWING

800, Curé Boivin
Boisbriand, (Québec), Canada
J7G 2A7
Tel.: (450) 979-2747
(800) 498-8587
Fax: (450) 979-2749
www.lumecschreder.com

lumec-Schréder

Addison City Spectrum Drive (4206)

Order N° 7734

		Type	Pedestrian unit
Qty	30	Luminaire	FOCAL-70MHT6-NARROW-240-SC-LTS885B

HOUSING: Made of die cast A383 aluminum alloy (as per Aluminum Association) 0.090" (2.2mm) minimum thickness c/w mounting provision for hardware. Front of housing is especially designed for mounting of accessories for beam modification and glare control.

GASKETING: Silicone gasket to insure IP66 rating for dust and water ingress protection as per IEC 598 standard.

LOCKING SYSTEM: Closing captive 4mm allen head stainless steel screws. One allen key is provided with the order.

REFLECTOR: Formed in 3002 aluminum alloy, polished, electro-chemically brightened, and anodized to provide a precise controlled light beam. Modification of light center position with focus adjustable device allow for field adjustment of beam angle to frame precisely the zones to be lighted. Distribution type: (NARROW), Narrow Beam Distribution.

LENS: Flat protector made of clear tempered glass, 0.24" (6mm) thickness and shock resistant. The lens is permanently seal to the housing by a bead of RTV silicone applied by a robot.

LAMP HOLDER: Porcelain thermo-resistant pulse rated 4 Kv G12 base.

LAMP: (70MHT6), 70 Watt Metal Halide, lamp format T6, G12 Base (ANSI Code M98 or M143) (not included).

BALLAST: 70 Watt Metal Halide, lamp format T6, G12 Base (ANSI Code M98 or M143), 240 Volts, high power factor, -20°F (-30°C) lamp starting capacity, c/w polarized quick disconnect plugs with positive lock.

BALLAST TRAY: Integrated electronic control gear is to be mounted onto an injection molded polymer structure, fixed into the housing.

ELECTRICAL FEEDING: A pressure gland will insure tightness level at the wire entry for flexible conduit 0.310" to 0.560".

MOUNTING MEAN: The yoke is made of a single cast aluminum part, with a minimum thickness of 1/4" (6mm). Three (3) mounting holes 7/16"ø available for 3/8"-16 anchor bolts. (bolts and anchoring devices by installing contractor). The yoke allows 180 degree rotation. Position adjustment is allowed by tightening the yoke's support screws.

FINISH: (SC), Special Color: PC14825. Hot dip chemical etching preparation with minimum 3 mils (75 microns) polyester powder coat finish. Durable exterior finish, resistant to UV, salt spray and humidity as per ASTM G7, ASTM B117 and ASTM D2247 testing procedures.

Mof
operating
Cwd

APPROBATION DRAWING

600, Curé Boivin
Boisbriand, (Qué), Canada
J7G 2A7
Tel.: (450) 979-2747
(800) 498-6567
Fax: (450) 979-2749
www.lumecschreder.com

lumec-Schréder

Addison City Spectrum Drive (4206)

Order N° 7734

		Type	**Roadway and Pedestrian unit**
Qty	37	Luminaire	**HSX-400MHBT28-SC2F-240-SC-LTS1056A**

HOUSING: Made of cast A383 aluminum alloy (as per Aluminum Association) 0.200 (5mm) minimum thickness c/w mounting provision for hardware.

LOCKING SYSTEM: Two spring loaded latches made of die cast aluminum and die cast zinc, permits tool free access to lamp and electrical component servicing.

LENS FRAME: Made of die cast A383 aluminum alloy.

REFLECTOR: Made of hydroformed 3002-0 aluminium alloy chemically brightened and anozided (5 micron . min). The Sealsafe optical system is rated IP66 and offer a resistance of R>600.

SLEEVE: Die cast glass-reinforced resin, mechanically fastened to reflector and fully silicone gasket.

SHUTTER: Injection molded glass fiber reinforced polymer. Removable with a quarter turn c/w Porcelain body lampholder, 4kV Mogul Base c/w a injection molded silicone gasket (duro 60 shore A). Adjustment to obtain the various IES distribution is tool-less. Distribution type: (SC2F), Type II, Short cut off, flat lens.

LENS: Flat protector made of clear tempered glass, 0.20" (5mm) thickness and shock resistant.

LAMP HOLDER: Porcelain thermo-resistant pulse rated 4 Kv mogul base.

LAMP: (400MHBT28), 400 Watt Metal Halide, lamp format BT28 (ANSI Code M59) (not included).

BALLAST: 400 Watt Metal Halide, lamp format BT28 (ANSI Code M59), 240 Volts, high power factor, -20°F (-30°C) lamp starting capacity, c/w polarized quick disconnect plugs with positive lock.

TERMINAL BLOCK: Receives wires (#8 max.) on primary circuit c/w ground lug.

ADJUSTMENT: An integral part of the housing permits an adjustment of ± 5°.

MOUNTING MEAN: Two brackets, formed in a single-piece, made of stamped galvanized-steel (12ga.). Accommodates tenon ranging between 1½" (38mm) to 2 3/8" (60mm) OD, fixed by 3/8 -16 UNC steel zinc plated.

FINISH: (SC), Special Color: PC14825. Hot dip chemical etching preparation with minimum 3 mils (75 microns) polyester powder coat finish. Durable exterior finish, resistant to UV, salt spray and humidity as per ASTM G7, ASTM B117 and ASTM D2247 testing procedures.

Registered to ISO 9001:2000
File No. A11750

HP LaserJet 3200se

HP LASERJET 3200

DEC-7-2004 3:18PM

Fax Call Report

Job	Date	Time	Type	Identification	Duration	Pages	Result
987	12/ 7/2004	3:17:10PM	Send	918172156038	1:12	3	OK

15801 Westgrove
Addison TX, 75001
Phone: 972-450-2850
Fax: 972-450-2837

Town of Addison

Fax

To:	Weyon - TXU	From:	Jenny Nickerander
Fax:	817-215-6038	Date:	December 7, 2004
Phone:	817-215-6578	Pages:	2
Re:	Arapaho Phase 3 / Addison Road	CC:	

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

•Comments: Please let me know if you have any other questions regarding this fax.

I'm afraid I'm not even close on your name. Sorry about that. I'm including the cut sheets for both lighting types. Let me know if you have any other questions.

TOWN OF ADDISON®

OFFICE OF THE CITY MANAGER
Post Office Box 9010 Addison, Texas 75001-9010

Addison 50!
50 YEARS OF FUN!
(972) 450-7001 • FAX (972) 450-7043
5300 Belt Line Road

16 July 2004

Dear Business Owner:

For some time now, you have been hearing about the extension of Arapaho Road from Addison Road to Surveyor Boulevard and the addition of a bridge over Midway Road. Construction on the $17 million project will start around August 9th, 2004 and is expected to be completed in 425 days. While we are excited that this project, when completed, will reduce traffic on Belt Line Road, we recognize that you may experience some inconvenience during the construction period.

We have selected the Archer-Western Company as the contractor and you will begin to see activity along the right-of-way after August 9th, 2004. They – and we – will make every effort not to interfere with the operation of your business. Their working hours will be arranged to minimize the effect of this project on your employees, customers, and guests. You will hear from us from time-to-time with a postcard update showing progress to date and any timeline adjustments. A link to photos and project information will also be posted on the Town's web site at www.ci.addison.tx.us on a regular basis.

The project is being managed by the Town of Addison's Public Works Department who has retained HNTB Engineers for daily oversight. In the next few weeks and before September 1st, 2004, Public Works staff and contractor representatives will stop by each affected business to introduce themselves and answer any questions you may have. If questions come up after their visit, please call Public Works at 972.450.2871 and ask for one of these staff members:

Steve Chutchian, PE, Project Manager/Assistant City Engineer
Jim Pierce, PE, Assistant Director of Public Works
Mike Murphy, PE, Director of Public Works/City Engineer

who will be happy to answer any questions you may have. As always, we will make every effort to be responsive to your needs and concerns.

Cordially,

Ron Whitehead

Ron Whitehead, City Manager

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Ron Whitehead

Ron Whitehead, City Manager

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