



Roof Repair Proposal

Prepared for:

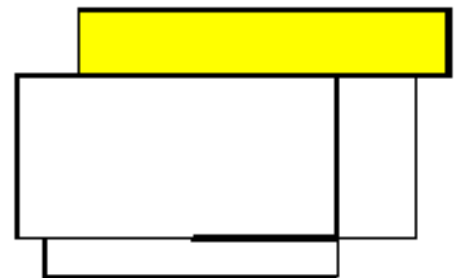
Judy Holstein
Terrell Plaza
1201 Austin Highway
Suite 139,
San Antonio, TX
78209

Prepared by:

Alan Johnson
ABC Roofing Services
123 Main Street,
Boston, MA
12546



Terrell Plaza



Building A

Inspection Date: January 05, 2003

Judy Holstein
Terrell Plaza
1201 Austin Highway
Suite 139
San Antonio, TX 78209

Subject: Terrell Plaza

In accordance with your request, a visual inspection of the roof at the referenced building was conducted on Jan 05, 2003. The purpose of the inspection was to obtain a general overview of the current condition of the roof and to provide recommendations for repairing the existing roof as well as related budget cost estimates for the repair work. Please find enclosed our proposal to refurbish your leaking manufacturing area roof.

Approximately 1,500 square feet of wet insulated roof will need to be cut out down to the steel deck and disposed of prior to working on the balance of the roof. The rest of the 16,000 square foot roof appears to have dry insulation but the membrane has deteriorated to the point that it can no longer function as a waterproofing barrier for any predictable length of time.

Our proposal calls for the recovering of the complete roof area with a new white single ply membrane . By recovering the roof, you will be saving the investment you have in your existing dry insulation as well as minimizing the cost of removal and disposal at the local dump.

The complete new roof system will carry a 15 year labor and material warranty.

We can commence roof work within two weeks of receipt of your purchase order and would anticipate completion within three weeks of commencement given good weather conditions. Our quotation remains valid for 30 days from the date of this letter. Please feel free to contact us if you have any questions. We look forward to servicing your roofing needs.

Respectfully,

Alan Johnson
ABC Roofing Services

Client Name: Terrell Plaza

Facility Name: Terrell Plaza

Facility Address: 1201 Austin Highway
Suite 139,
San Antonio, TX

Roof Inspection Date: January 05, 2003

Roof Name: Building A

Roof Designation: A

Existing System Type: Conventional Mod Bit - Hot Applied

Roof Size: 37,316 sq. ft.

Estimated Replacement Cost: \$559,740

Year Installed: 1990 (Estimated)

Height: 25 feet

Slope: 1/8" in 12

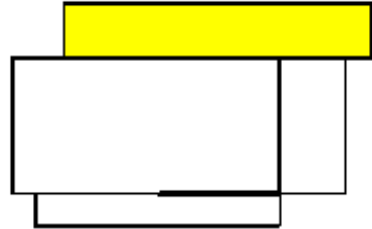
Drainage: Adequate

Leak Sensitivity Under Roof: Normal

Currently Leaking? Yes

History of Leaking? Yes

Drainage and Leak Details: Leak detected after heavy rains. Has also leaked in the past.



Roof Condition Rating: Poor

Existing Roof System Construction

Layer Type	Description	Method of Attachment
Surfacing	Gravel	Hot asphalt
Membrane	BUR - 1 ply	Hot asphalt
Deck	Light weight concrete	Poured
Deck	Galvanized Steel	Spot Welded

Overall Core Assessment

The waterproofing capabilities of the roof membrane would appear to be inadequate at this point in time.



Core Photos

Photo	Details
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Photo #: 3

Date: Jan 7, 2003

Description: Test cut to determine components.

Roof Top Details

Photo	Details
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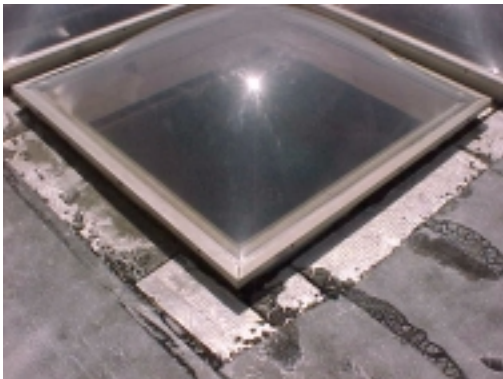


Photo #: 6

Type: Equipment

Description: Skylights

Membrane: Not applicable

Flashing Metal: Painted steel

Details: The expansion joint metal has voids at the joints of the metal work. Previous repairs were completed, but these repairs are failing.



Roof Top Details continued...

Photo	Details
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Photo #: 7

Type: Equipment

Description: HVAC Equipment

Membrane: APP mod bit - 1 ply

Flashing Metal: Not applicable

Details: This building has an excessive amount of abandoned equipment and details.



Photo #: 8

Type: Perimeter

Description: Expansion Joint

Membrane: Not applicable

Flashing Metal: Painted steel

Details: Perimeter wall detail consists of metal tie-in to BUR at the base angle change and metal cap over top of the wall. The metal cap has holes as a result of rusting.



Photo #: 9

Type: Projection

Description: Pitch Pocket

Membrane: Mod Bit - 1 Ply

Flashing Metal: Stainless Steel

Details:



Membrane Defects

Photo	Details
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Photo #: 4

Type: Alligatoring

Severity: Moderate

Details: Alligatoring is the cracking of the surfacing bitumen asphalt which occurs during the aging process in which the loss of volatile oils and the oxidation brought about by solar radiation; produces a pattern of cracks similar to an alligator's hide. The cracks may or may not extend through the surfacing bitumen.

When alligatoring cracks extend through the entire waterproofing surface, the underlying felts can become exposed to moisture, which will progressively cause the strength in the felts to decrease. Splitting of the roof membrane may result.

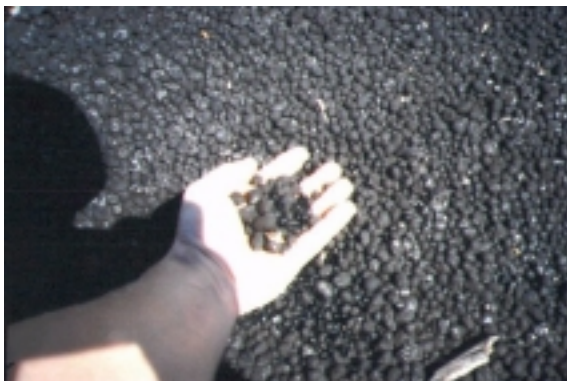


Photo #: 5

Type: Blueberries

Severity: Minor

Details: Small spherical detached pieces of asphalt. They are formed when water penetrates the top coat of asphalt; freeze-thaw cycling breaks pieces of the flood-coating loose, and the wind blows these pieces around until they are eroded into a spherical shape. Subsequently, water flow causes them to accumulate in low spots on the roof.



Moisture Surveys

Survey Date	Type of Survey	Insulation Condition	Membrane Condition
Jan 07, 2003	Cut tests and Moisture Probes	Partially Wet	Partially Wet
Details	The moisture survey performed found approximately (total damaged area) square feet of roof area to have moisture in the insulation and/or the roof membrane. This represents approximately (75)% of the total roof area.		

Moisture Survey Photos

Photo	Details
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Photo: 10

Date: Jan 7, 2003

Description: Core Sample



Recommendations

Type of Activity	Urgency	\$
Repair	High	\$10,563

We recommend the following roof repairs. Roof work will be performed in the following manner:

- Cut out and replace 200 square feet of wet insulated roofing adjacent to the large HVAC unit.
- Scarify adjacent existing roof for a distance of 18 inches and prepare the surface for tie-in with new roofing materials.
- Employ the same materials as was removed. Bring new membrane 12 inches onto scarified perimeter.
- Tie-in new roofing to old membrane with additional two plies of 12 inch wide felt centered on the leading edge of the new roofing.
- Apply new 3/8 inch gravel at a rate of 400 lb. per square onto the new roofing.
- Repair a total of 29 identified blisters in the membrane in accordance with standard NRCA blister repair procedures.
- Reinforce 64 flashing corners on 16 exhaust units employing a sandwich application of mastic and 6 inch fiberglass mesh.
- Reinforcement shall extend from the top of the flashing detail to 6 inches onto previously scarified membrane surface.
- Apply a total of 900 square feet of emulsion based restorative coating to the bare felt areas in the S.E. and S.W. corners after appropriate cleaning and preparation of the membrane surface.
- Install new 3/8 inch gravel at a rate of 400 lb. per square over the fresh coating.
- Remove the ponding water conditions by installing 2 new 4 inch cast drains in the low lying areas.
- Install 82 lineal feet of associated cast plumbing and connections to existing rainwater piping.
- Remove metal from 560 lineal feet of the complete perimeter detail and store for reuse.
- Scarify the complete perimeter membrane for a distance of 12 inches from the base of the cant and clean.
- Trim all loose roofing materials around the complete perimeter and clean.
- Apply a sandwich application of 12 inch fiberglass mesh and fibrated, asbestos-free asphalt-based mastic to the complete 560 lineal feet of perimeter detail.
- The reinforcement shall extend from the top of the cant to 6 inches onto the horizontal membrane surface.
- Apply a 4 mil polyethelene divorce layer over the fresh mastic to prevent contact of the mastic with the metal.
- Reinstall metal detail and apply new 3/8 inch gravel over the mastic on the roof surface.
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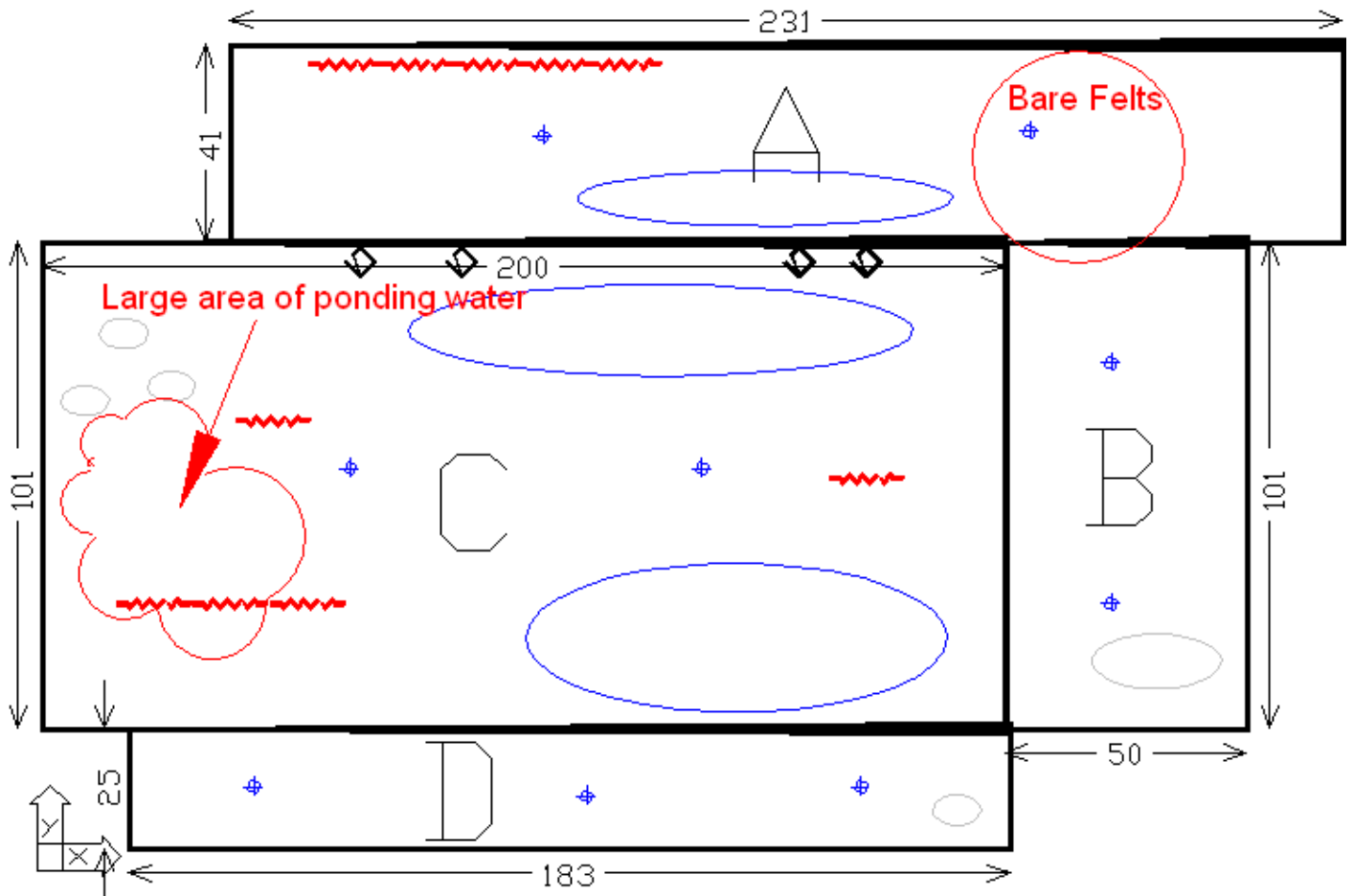
In conjunction with any manufacturer's warranty, ABC Roofing Services is responsible for all defects caused by faulty workmanship for two years.

Our Quotation # DL-03-01 - \$10,563

Alan Johnson
ABC Roofing Services



Facility: Terrell Plaza
1201 Austin Highway
Suite 139,
San Antonio, TX
US





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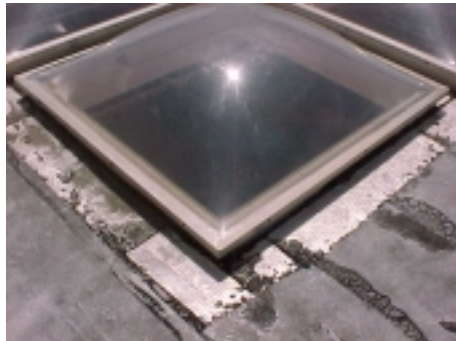
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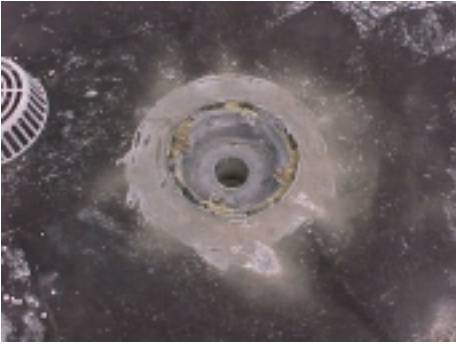


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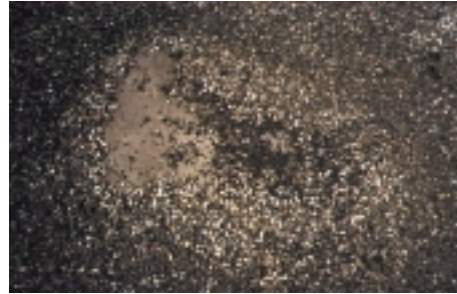


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Photo Album

#	Description	Annotation
1	Terrell Plaza	Building exterior of building A.
2	Roof Section A	Partial overview of Building A
3	Test cut	Test cut completed. Determined components of system.
4	Alligatoring	Alligatoring found on this roof section
5	Blueberries	Blueberries on roof section A
6	Skylight	Close-up of skylight detail. All of these skylights have exposed metal flashing and are not watertight.
7	Abandoned Equipment	
8	Expansion Joint	Metal cap detail showing rusted areas.
9	Pitch pans	Overview of pitch pans that hold water and have voids/cracks.
10	Core Cut	Core Cut
11	Roof Section B	Partial overview of buiding B.
12	Test Cut	Core cut to determine roof composition
13	Open Seam	Water leaking through open seam
14	Splits	Splits at expansion detail
15	HVAC Equipment	Abandoned HVAC



Photo Album continued...

#	Description	Annotation
16	Separated condensation pipes.	Separated condensation pipe allowing water to drain onto roof.
17	Expansion Joint	Deteriorated expansion joint
18	Building C	Overview of Building C
19	Core Cut	Test cut to determine composition of the roof
20	Hole in Wall	Hole through parapet wall on building C @ unit 165.
21	Holes in Wall (2)	Holes in parapet wall on building C @ unit 165.
22	Pitch pans	Pitch pans with cracks/voids hold water.
23	Scuppers	Scupper detail on building C.
24	Unit Detail	Typical unit detail of building C.
25	Pitch pocket	Pitch pocket - typical.
26	Roof Section D	Overview of section D
27	Test Cut	Core cut to determine composition
28	Pitch Pans	Painted pitch pockets over unit 133.
29	Pitch pockets	Pitch pocket with cracks/voids, possible source of water infiltration into the interior.
30	Ponding	Excessive ponding of water on building D.
31	Drain	
32	Expansion Joint Detail	Expansion joint detail on modified bitumen roof level on building D.
39	HVAC detail	HVAC unit curb detail.
41	Flashing	Flashing by others, typical of penetrations for service to a/c units. Cracks present on all of these pre-fabricated boot type details.
42	Fan Detail	
43	Holes in wall	Voids in junction of wall and metal cap. Possible source of water entry.
44	Scuppers	Scuppers every 6'
45	Alligating	
46	Scuppers	Scupper detail on building C.

