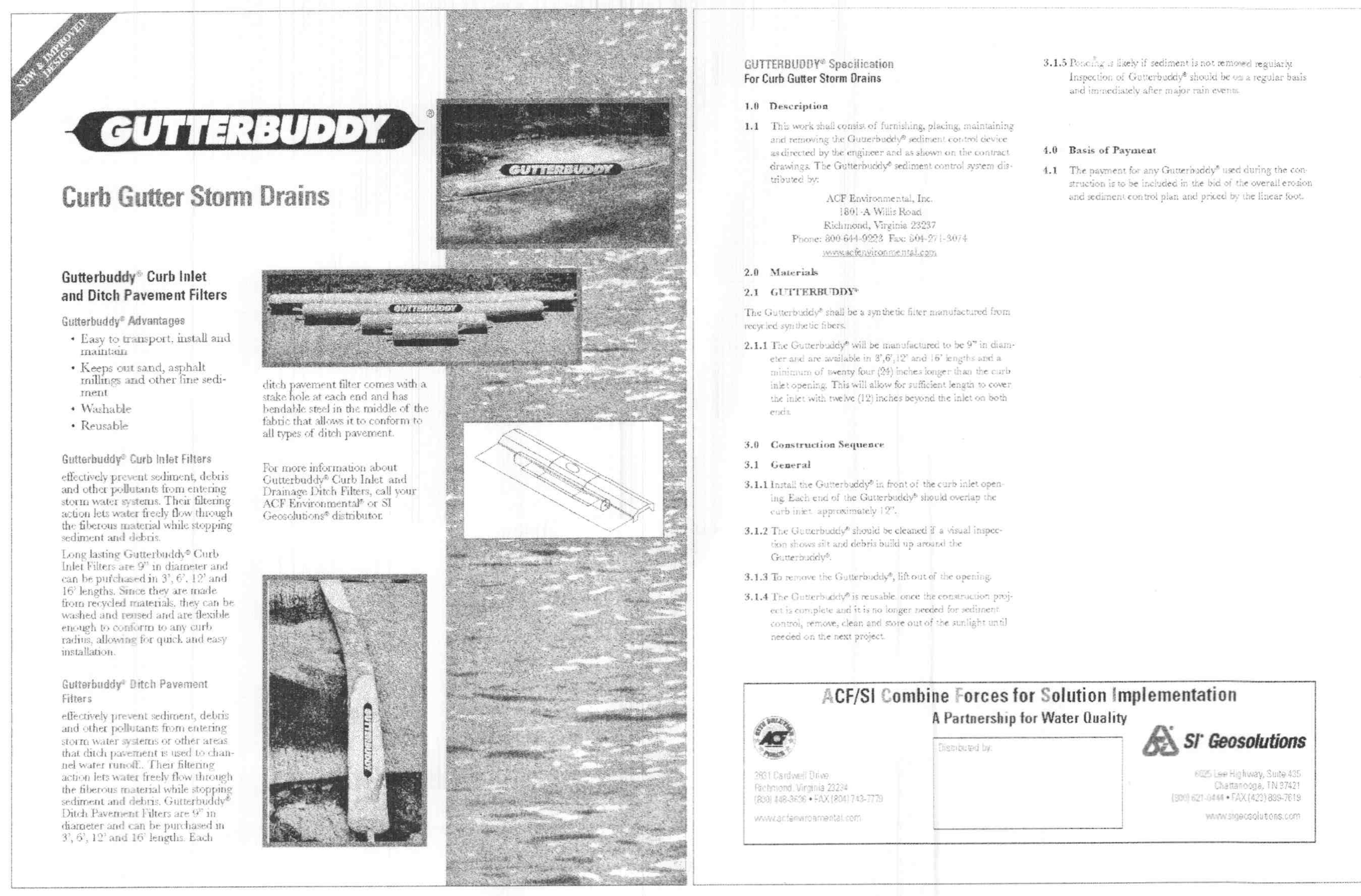

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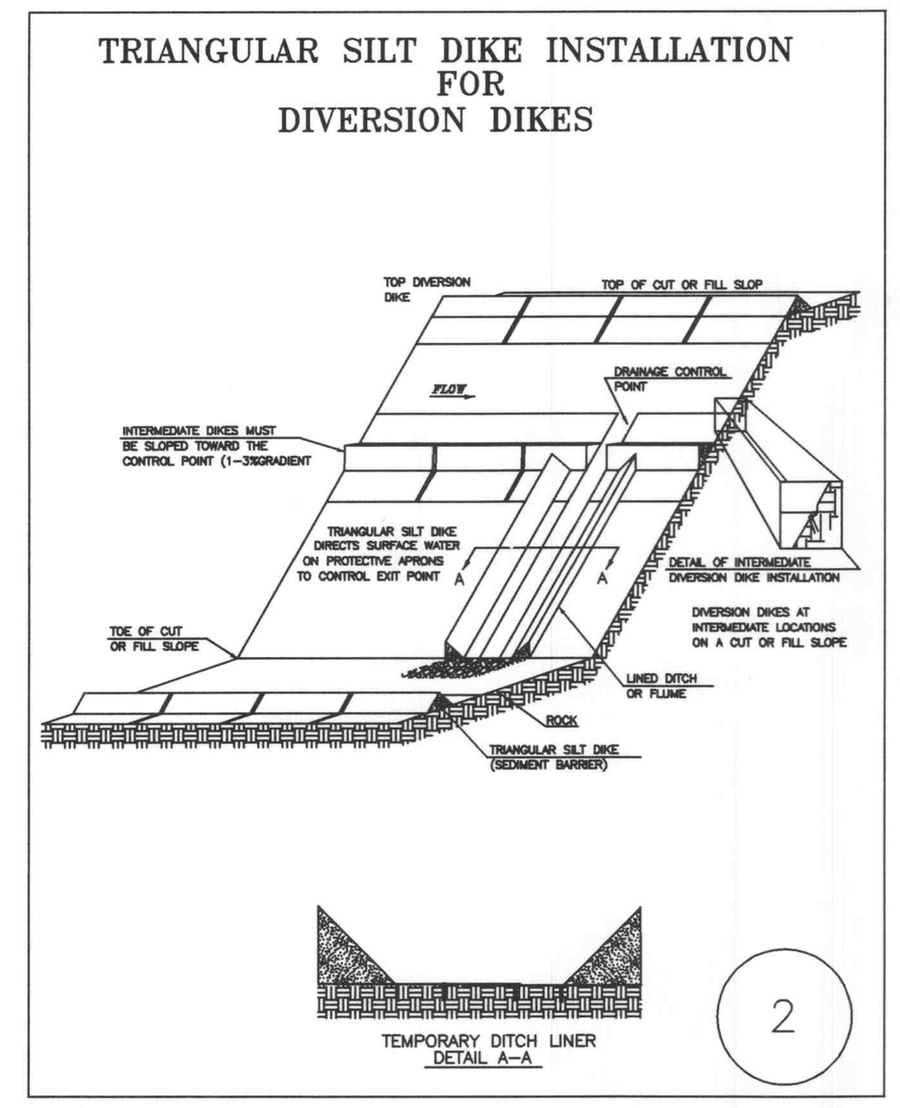

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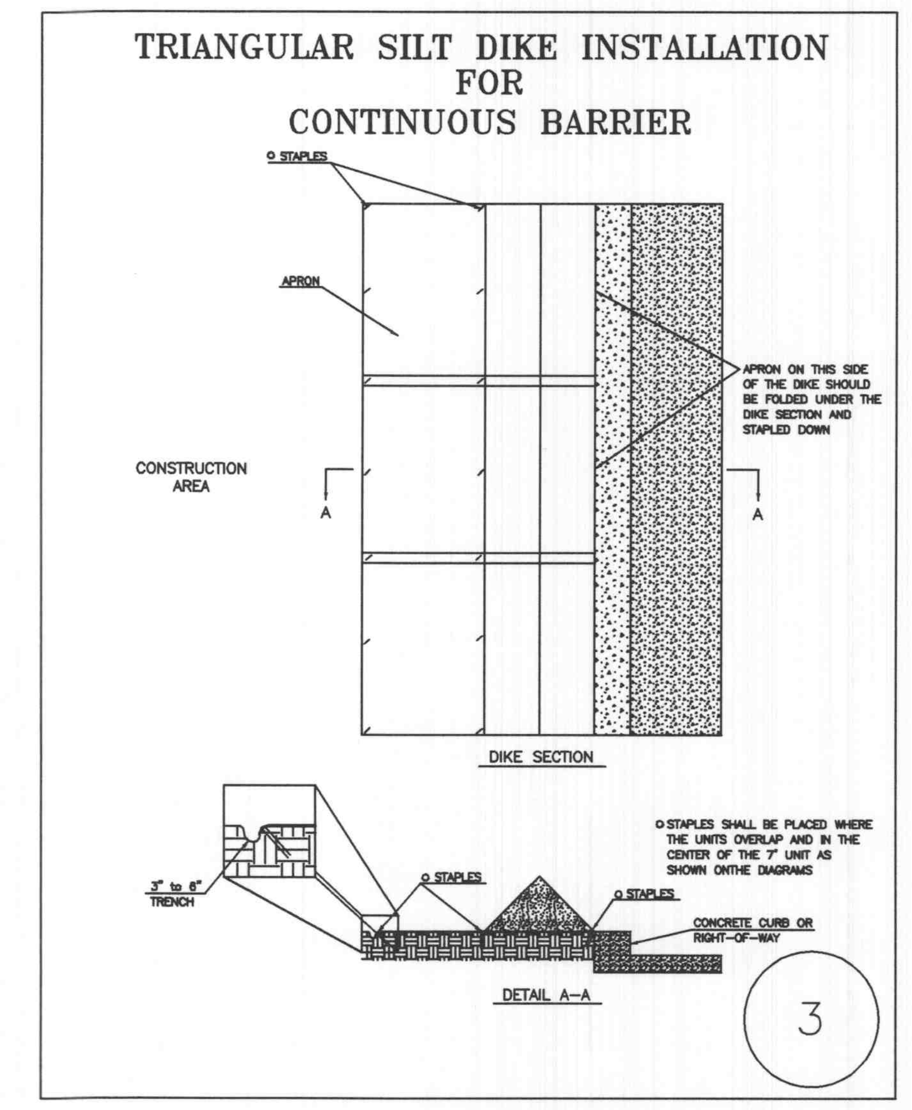

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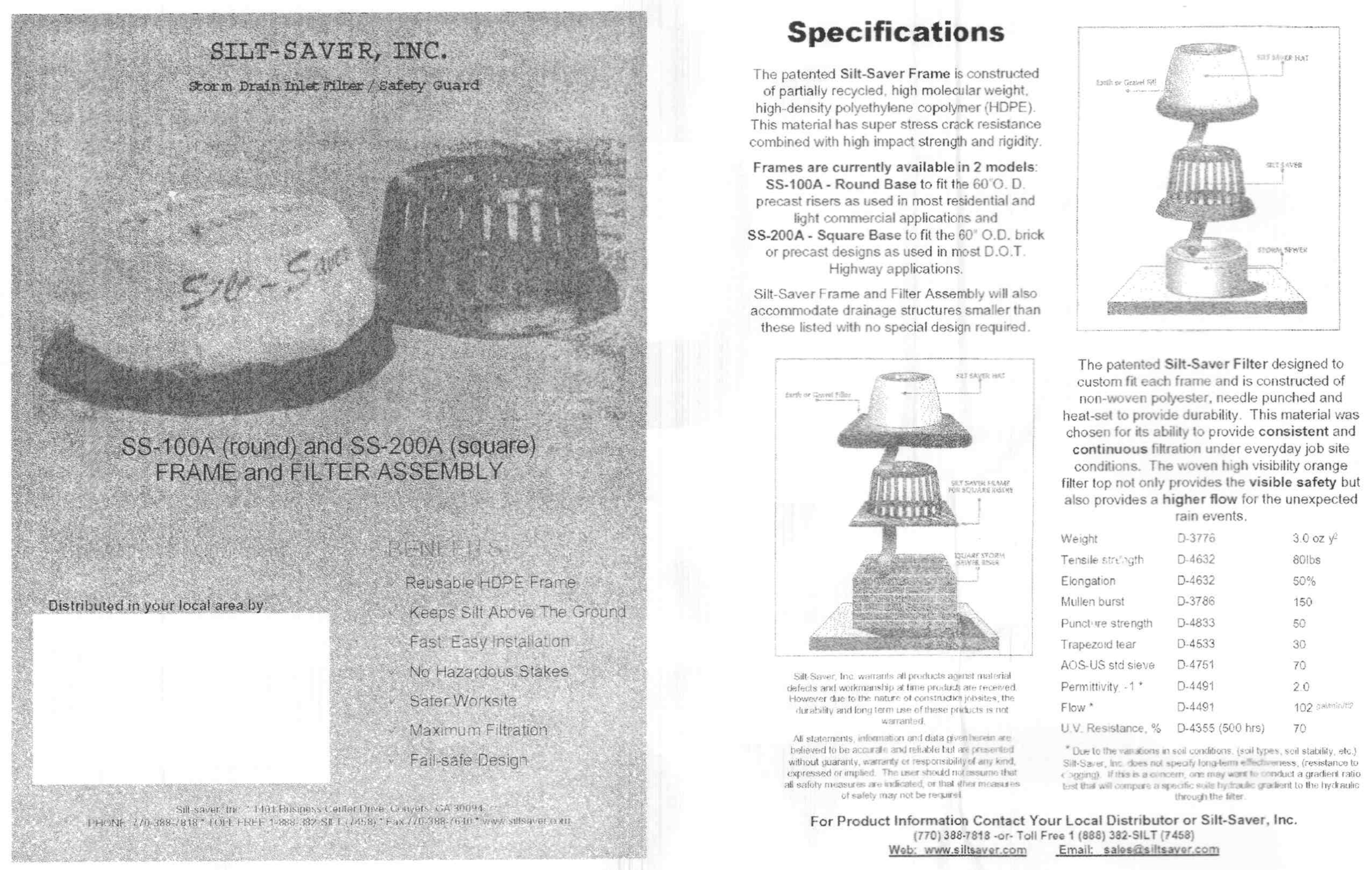

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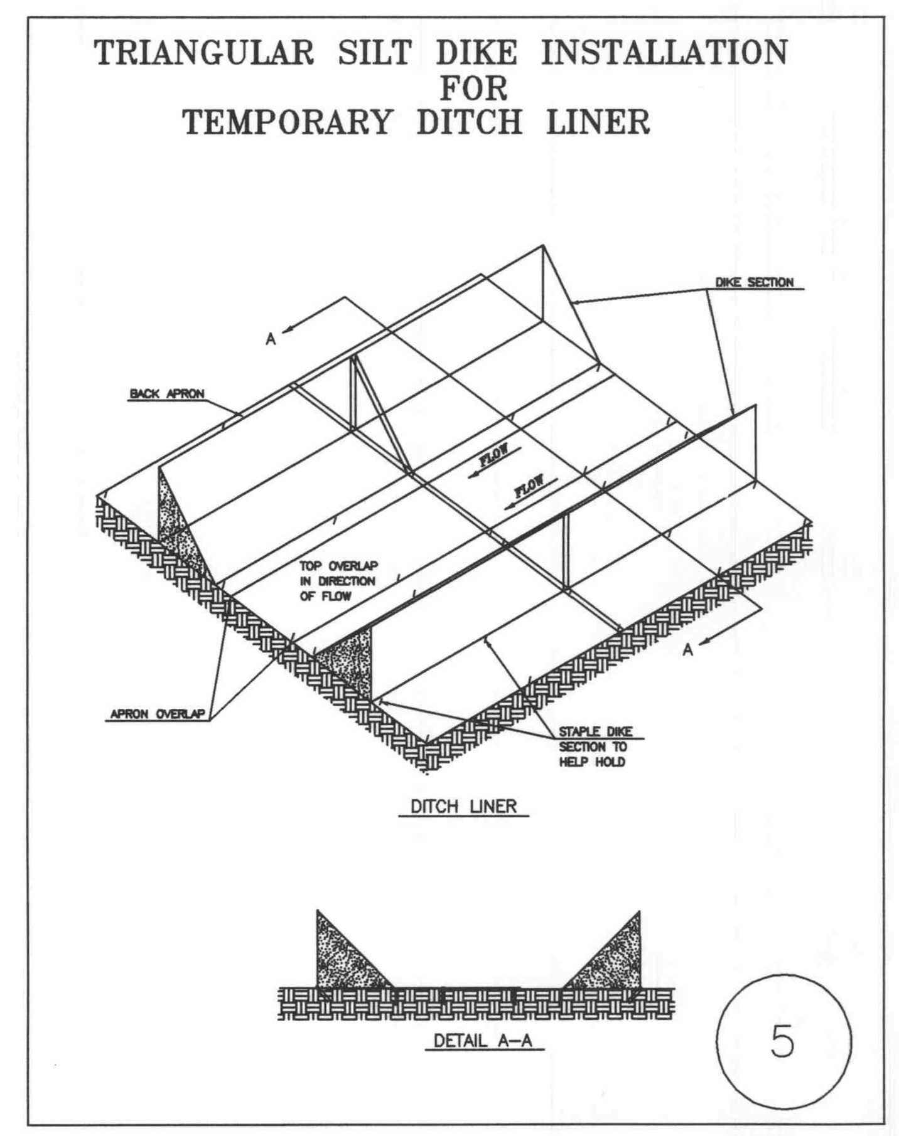

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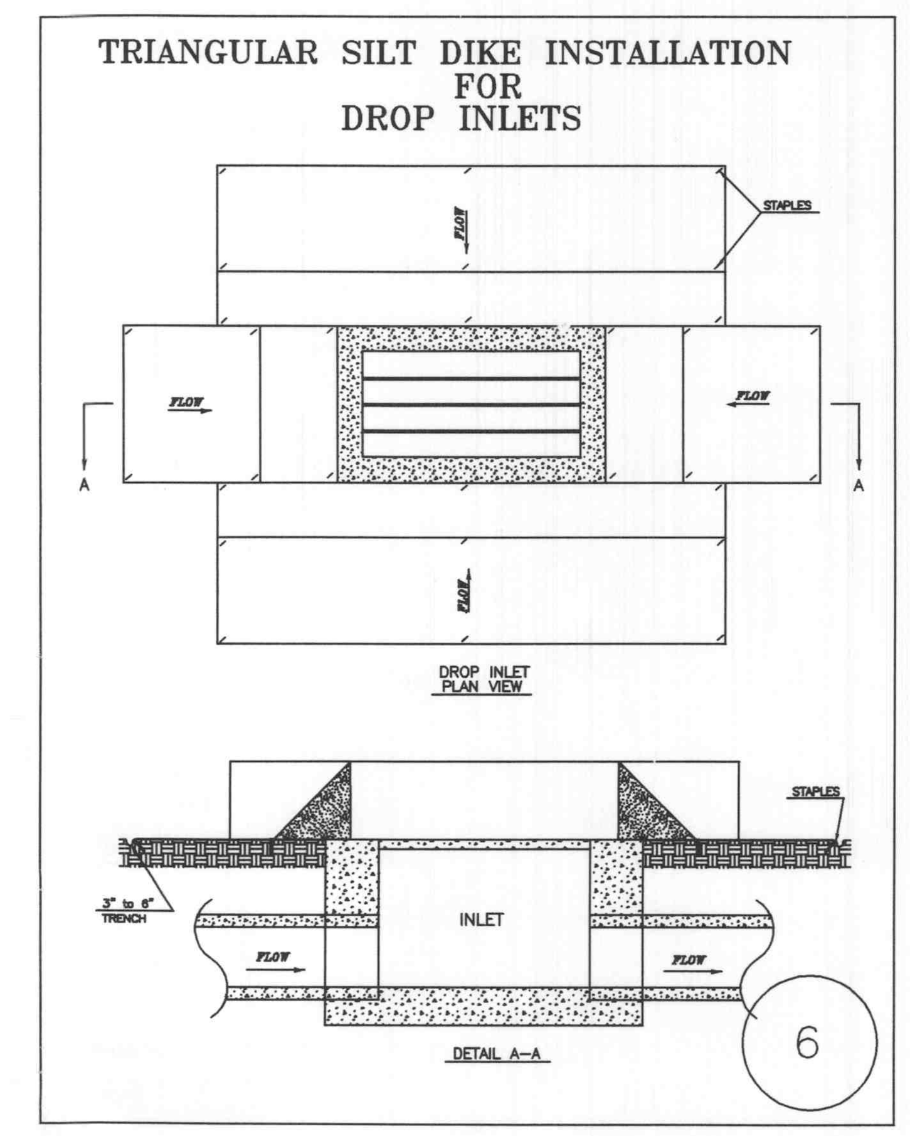

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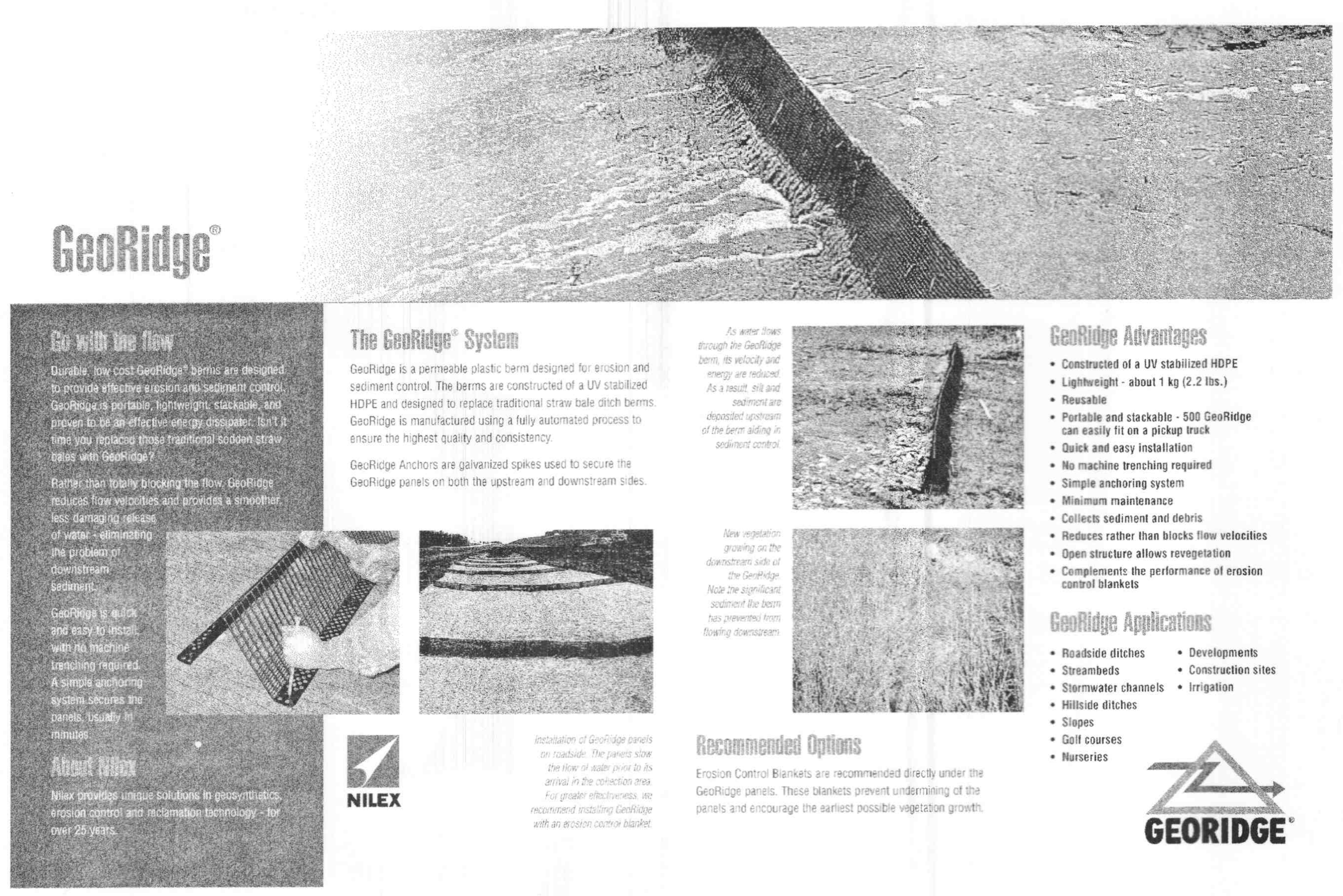

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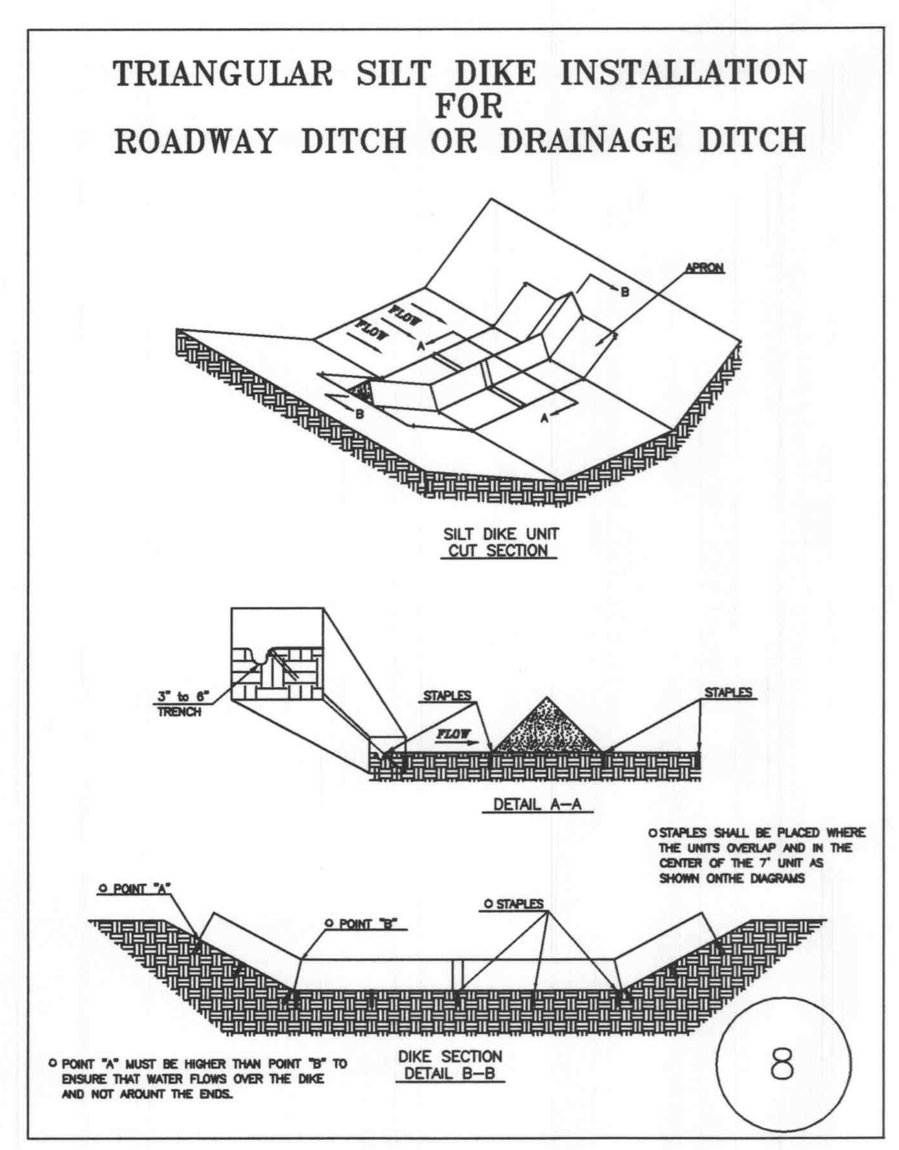

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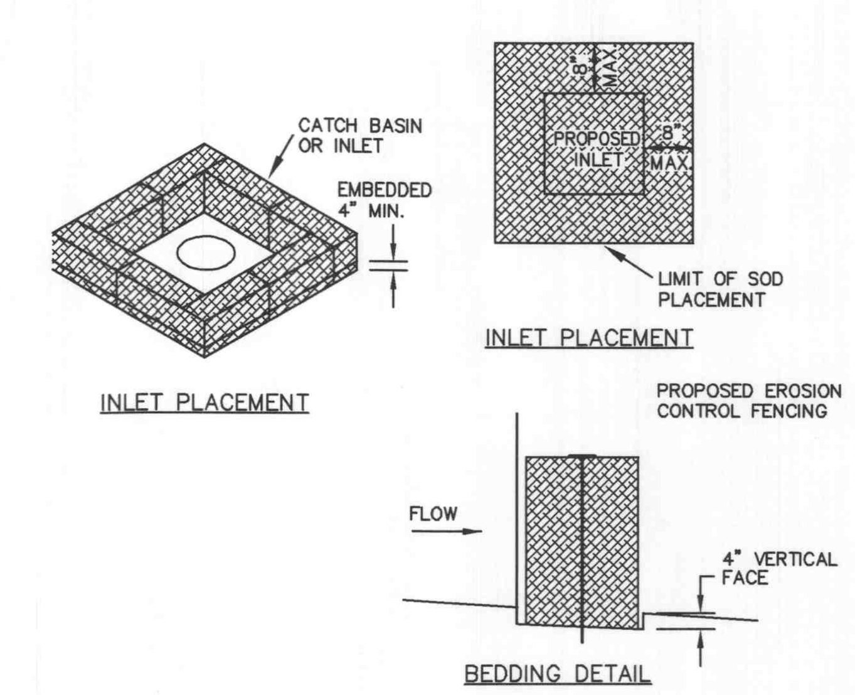


STORM INLET SEDIMENT TRAP DETAIL

(n.t.s.)

11

SILTATION CONTROL NOTES

1. Installation of perimeter sediment control shall be implemented as the first step of grading and within seven (7) days of grubbing the site.

2. Inspection of siltation control devices shall take place once every seven days and within 24 hours of any 0.5"/24 hour rain event. Any siltation control in need of repair shall occur immediately.

3. All unworked disturbed areas shall be stabilized with seeding and mulching per specifications within 14 days. If seasonal conditions prohibit seeding, mulching or matting shall be used.

4. All slopes or drainage channels, once constructed to final grade, shall be seeded and mulched per specifications within seven (7) days.

5. Silt fences shall be installed immediately around each storm sewer structure once final construction of each individual structure is complete.

6. All siltation control devices shall remain in place until upslope areas have been permanently stabilized.

7. The Contractor shall assume complete responsibility for controlling all siltation and erosion of the project area. The Contractor shall use whatever means necessary to control erosion and siltation including, but not limited to, staked straw bales and/or siltation fabric fences (possible methods of control are detailed in the plan). Control shall commence with grading and be maintained throughout the project until acceptance of the work by the Owner and/or the City of O'Fallon and/or MoDOT. The Contractor's responsibilities include all design and implementation as required to prevent erosion and the depositing of silt. The Owner and/or the City of O'Fallon and/or MoDOT may at their option direct the Contractor in his methods as deemed fit to protect property and improvements. Any depositing of silts or mud on new or existing pavement or in new or existing storm sewers or swales shall be removed after each rain and affected areas cleaned to the satisfaction of the Owner and/or the City of O'Fallon and/or MoDOT."

8. Erosion control shall not be limited to what is shown on the plan. Whatever means necessary shall be taken to prevent siltation and erosion from entering natural streams and adjacent roadways, properties, and ditches.

9. When deemed necessary, positive steps should be exercised to prevent this soil from damaging adjacent property and silting up all storm drainage systems whether on or off site.

10. Rip rap shown at flared ends will be evaluated in the field after installation for effectiveness and field modified if necessary to reduce erosion on and off site.

Siltation Control Schedule Implementation

1. Perimeter siltation control and construction entrances to be installed.

2. Begin placing aggregate base in parking areas once area has reached final grade to prevent erosion.

3. Place silt cotrol around each storm sewer structure as it is completed.

4. Immediately seed areas upon reaching final grade that are to be permanently seeded.

Temporary Access Roads and Parking Areas Specifications

1. Temporary roads shall follow the contour of the natural terrain to the extent possible. Slopes should not exceed 10 percent.

2. Grades should be sufficient to provide drainage, but should not exceed 4 percent.

3. Roadbeds shall be at least 24 feet wide.

4. All cuts and fills shall be 3:1 or flatter to the extent possible.

5. Drainage ditches shall be provided as needed.

6. The roadbed or parking surface shall be cleared of all vegetation, roots and other objectionable material.

7. A 10-inch course of 2" MINUS aggregate shall be applied immediately after grading or the completion of utility installation within the right-of-way. Filter fabric may be applied to the roadbed for additional stability in accordance with fabric manufacturer's specifications.

Vegetation

All roadside ditches, cuts, fills and disturbed areas adjacent to parking areas and roads shall be stabilized with appropriate temporary or permanent vegetation according to the applicable standards and specifications.

Maintenance

Both temporary and permanent roads and parking areas may require periodic top dressing with new gravel. Seeded areas adjacent to the roads and parking areas should be checked periodically to ensure that a vigorous stand of vegetation is maintained. Roadside ditches and other drainage structures should be checked regularly to ensure that they do not become clogged with silt or other debris.

Silt Fence Specifications

1. Silt Fence to be woven geotextile fabric Mirafi 100X or equal.

2. Fabric to be supported by metal tee post with spade base spaced on 5' centers or per approved manufacturer's recommendations.

3. Fabric shall be entrenched and backfilled. A trench shall be excavated a minimum of 6 inches deep for the length of the fence. The excavated soil shall be backfilled against the fence. See detail this sheet.

4. Fence height shall be a minimum of 2 feet in height, with the fabric installed on the fence on the upstream side.

5. Silt fences shall be used only on sheet flow conditions.

6. Silt fences shall be installed around all storm sewer structures.

Maintenance

1. Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.

2. Close attention shall be paid to the repair of damaged barriers, end runs and undercutting beneath barriers.

3. Necessary repairs to barriers or replacement of fences shall be accomplished promptly.

4. Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.

5. Any sediment deposits remaining in place after the silt fence barrier is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

Straw Bale Siltation Control Specifications

Sheet Flow Applications

1. Bales shall be placed in a single row, lengthwise on the contour, with both ends of adjacent bales tightly abutting one another.

2. All bales shall be either wire-bound or string-tied. Straw bales shall be installed so that buildings are oriented around the sides rather than along the tops and bottoms of the bales (in order to prevent deterioration of the bindings). See detail this sheet.

3. The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked, the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill and shall be built up to 4 inches against the uphill side of the barrier.

4. Each bale shall be securely anchored by at least two stakes or rebars driven through the bale. The first stake in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or rebars shall be driven deep enough into the ground to securely anchor the bales.

5. The gaps between bales shall be chinked (filled by wedging) with straw to prevent water from escaping between the bales. (Loose straw scattered over the area immediately uphill from a straw bale barrier tends to increase barrier efficiency).

6. Inspection shall be frequent and repair or replacement shall be made promptly as needed.

7. Straw bale barriers shall be removed when they have served their usefulness, but not before the upslope areas have been permanently stabilized.

Channel Flow Applications

1. Bales shall be placed in a single row, lengthwise, oriented perpendicular to the contour, with ends of adjacent bales tightly abutting one another.

2. The barrier shall be extended to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale to assure that sediment-laden runoff will flow either through or over the barrier but not around it.

Maintenance

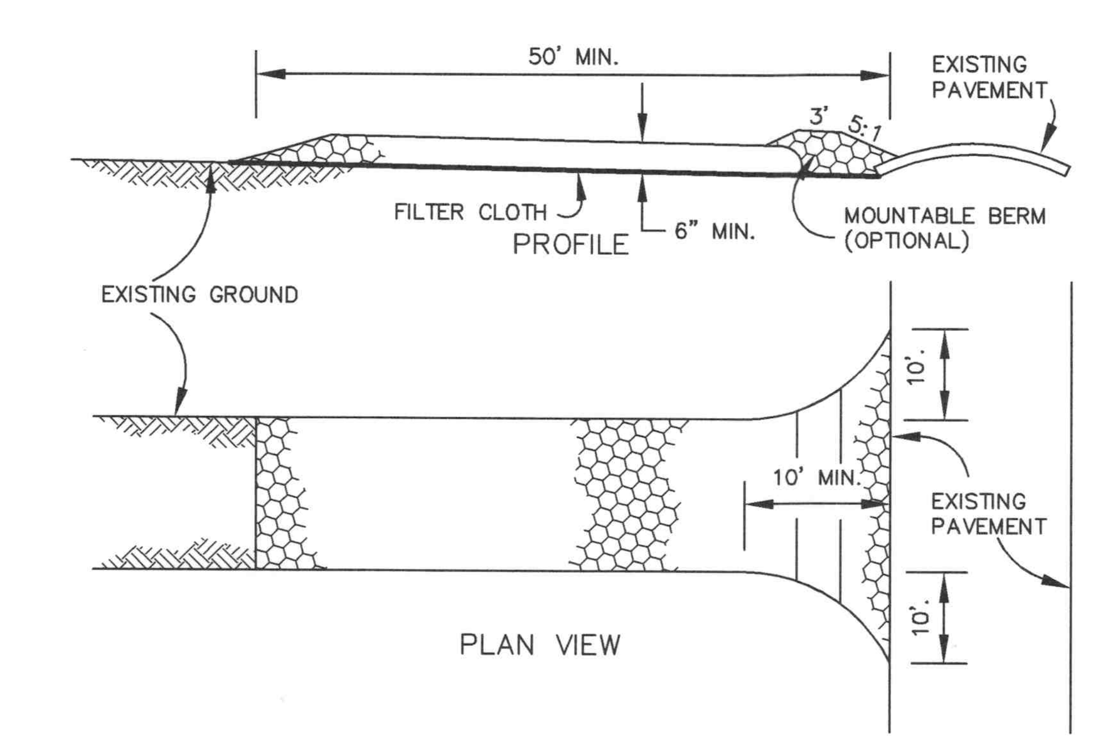
1. Straw bale barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.

2. Close attention shall be paid to the repair of damaged fence, end runs and undercutting beneath fence.

3. Necessary repairs to barriers or replacement of silt fence shall be accomplished promptly.

4. Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.

5. Any sediment deposits remaining in place after the straw bale barrier is no longer required shall be dressed to conform to the existing grade, prepared and seeded.



1. Stone size – use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length – as required, but no less the 70' (except on a single residence lot where a 30 foot minimum length would apply.)
3. Thickness– not less than six (6) inches.
4. Width – fourteen (14) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter cloth – will be placed over the entire area prior to placing on stone. Filter will not be required on a single family residence lot.
6. Surface water – all surface water flowing or diverted toward construction entrances shall be piped across entrance, if piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance – the entrance shall be maintained in a condition which will prevent tracking or flowing of sediment into public right-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public right-of-ways must be removed immediately.
8. Washing – wheels shall be cleaned to remove sediment prior to entrance into public right-of-way. When washing is required, it shall be done on a area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

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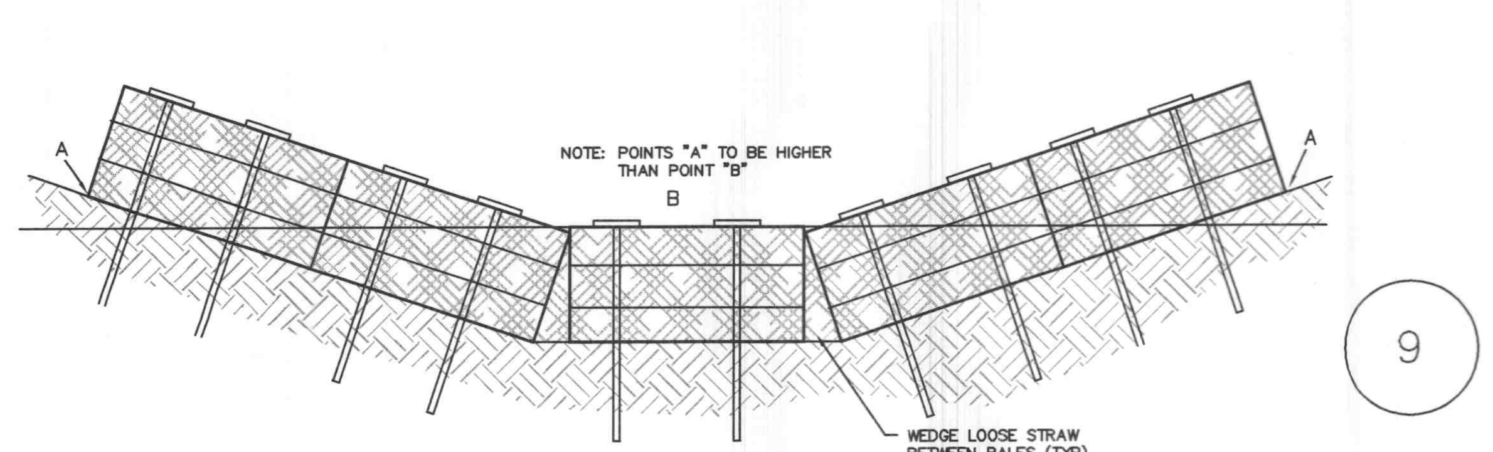
TEMPORARY CONSTRUCTION ENTRANCE

(n.t.s.)



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SILTATION CONTROL STRAW BALE DETAIL IN DRAINAGE WAY

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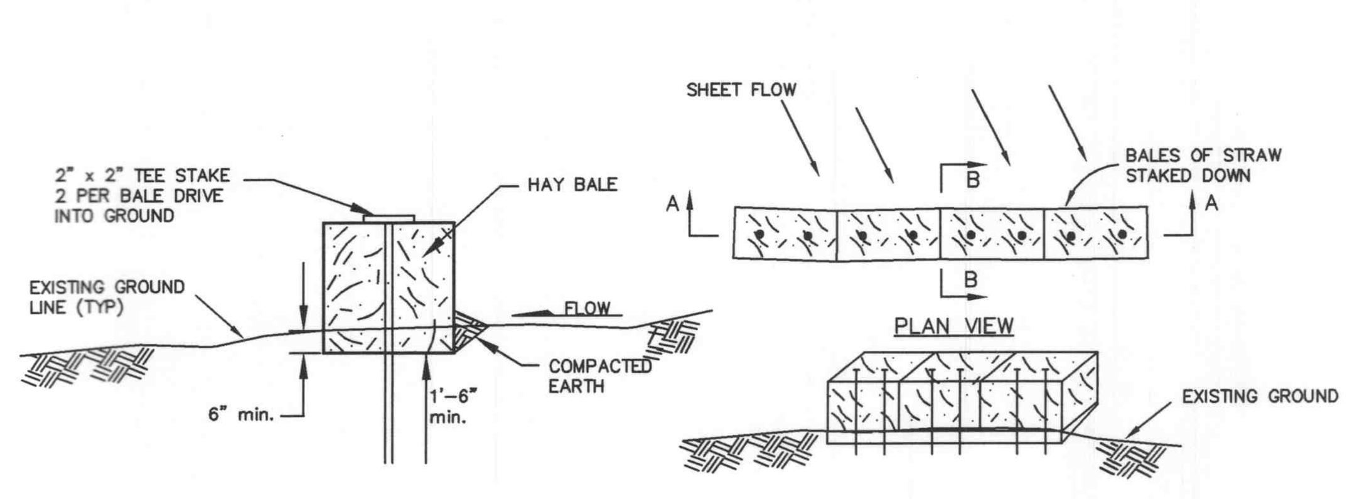

SILTATION CONTROL STRAW BALE DETAIL

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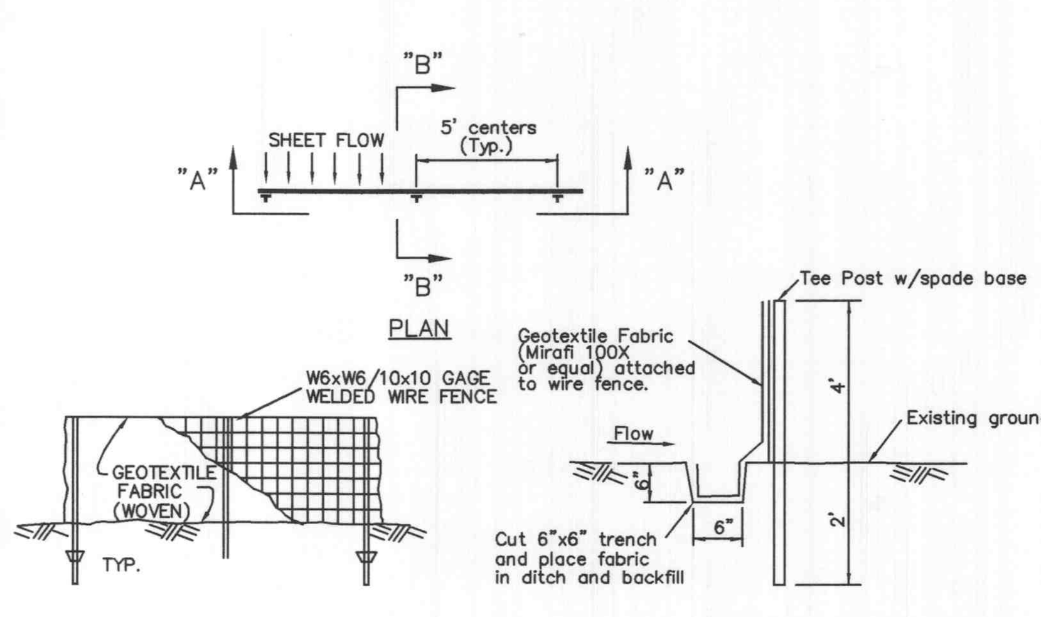

SILTATION CONTROL SILT FENCE DETAIL

(n.t.s.)

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Rev.	Date	Description
10	02-08-07	ADDED WATER LINE EXHIBITS TO SHEET C5
9	01-22-07	REVISED GRADES AND WATER LINE AT NORTHEAST CORNER
8	10-09-06	RELOCATED LIGHT FIXTURES
7	06-28-06	REVISED PER CITY COMMENTS DATED 6-15-06
6	05-31-06	REVISED PER CITY COMMENTS FROM PLANNING AND ZONING MEETING ON 5-18-06
5	03-16-06	REVISED PER CITY COMMENTS-ADDED PEDESTRIAN ACCESS WALK/STAIR NEAR MONUMENT SIGN
4	02-09-06	ADDENDUM #1 COORDINATION-REVISED WATER LINE, ROOF DRAIN, SPOT ELEVATIONS
3	02-06-06	BID SET
2	01-23-06	REVISED BUILDING FOOTPRINT PER ACHITECT
1	11-18-05	REVISED PER CITY COMMENT LETTER DATED 10-19-05

P&Z NOS: 98-126.06

EROSION CONTROL DETAILS

TERRA RETAIL DEVELOPMENT/HEARTLAND BANK

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER E-25116
REGISTERED PROFESSIONAL ENGINEER

2-08-07

GEORGE M. STOCK E-25116

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