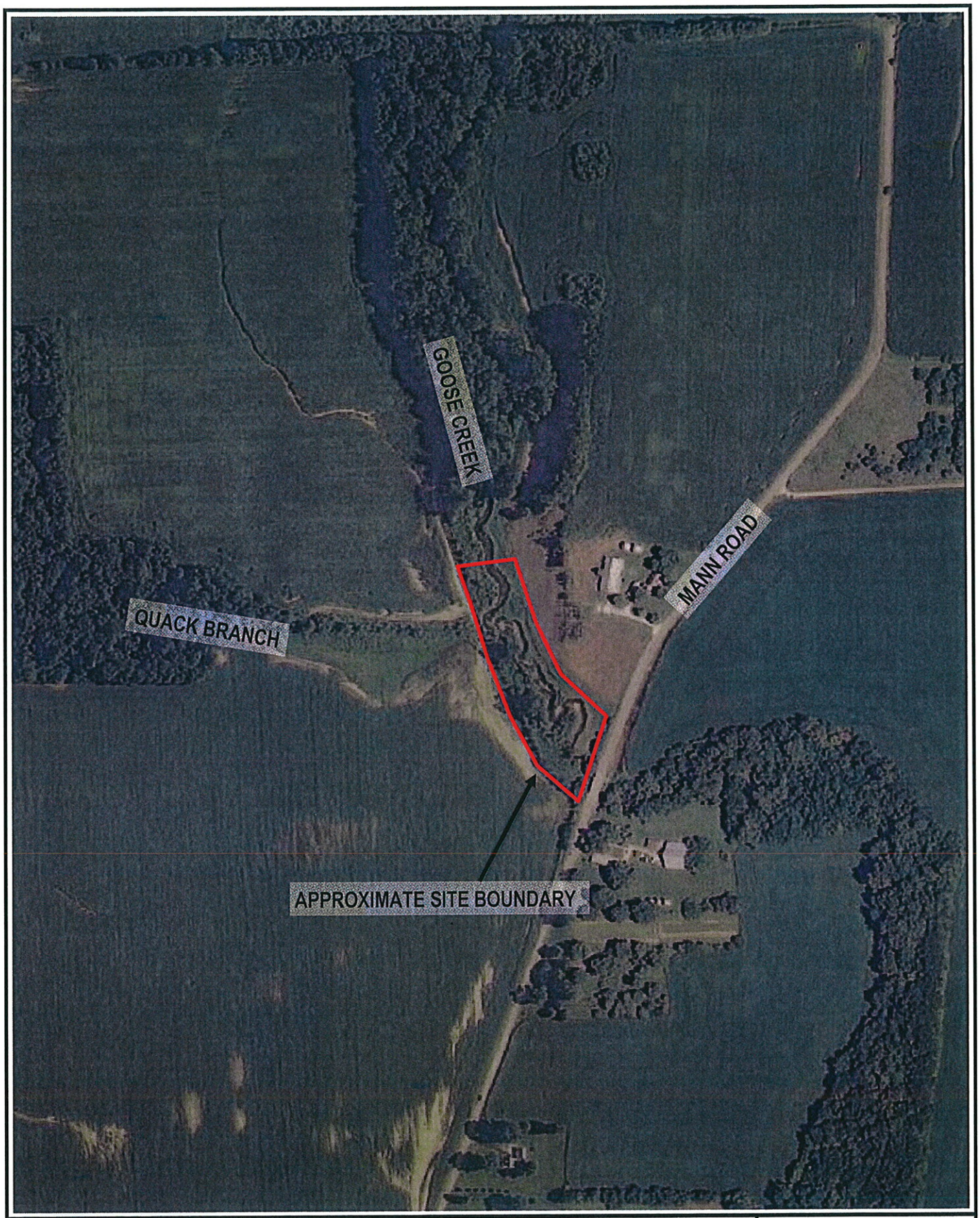


WILLIAMS CREEK CONSULTING

Babeca Building
919 North East Street
Indianapolis, IN 46202
Tel: 317-423-0690
Fax: 317-423-0696

N

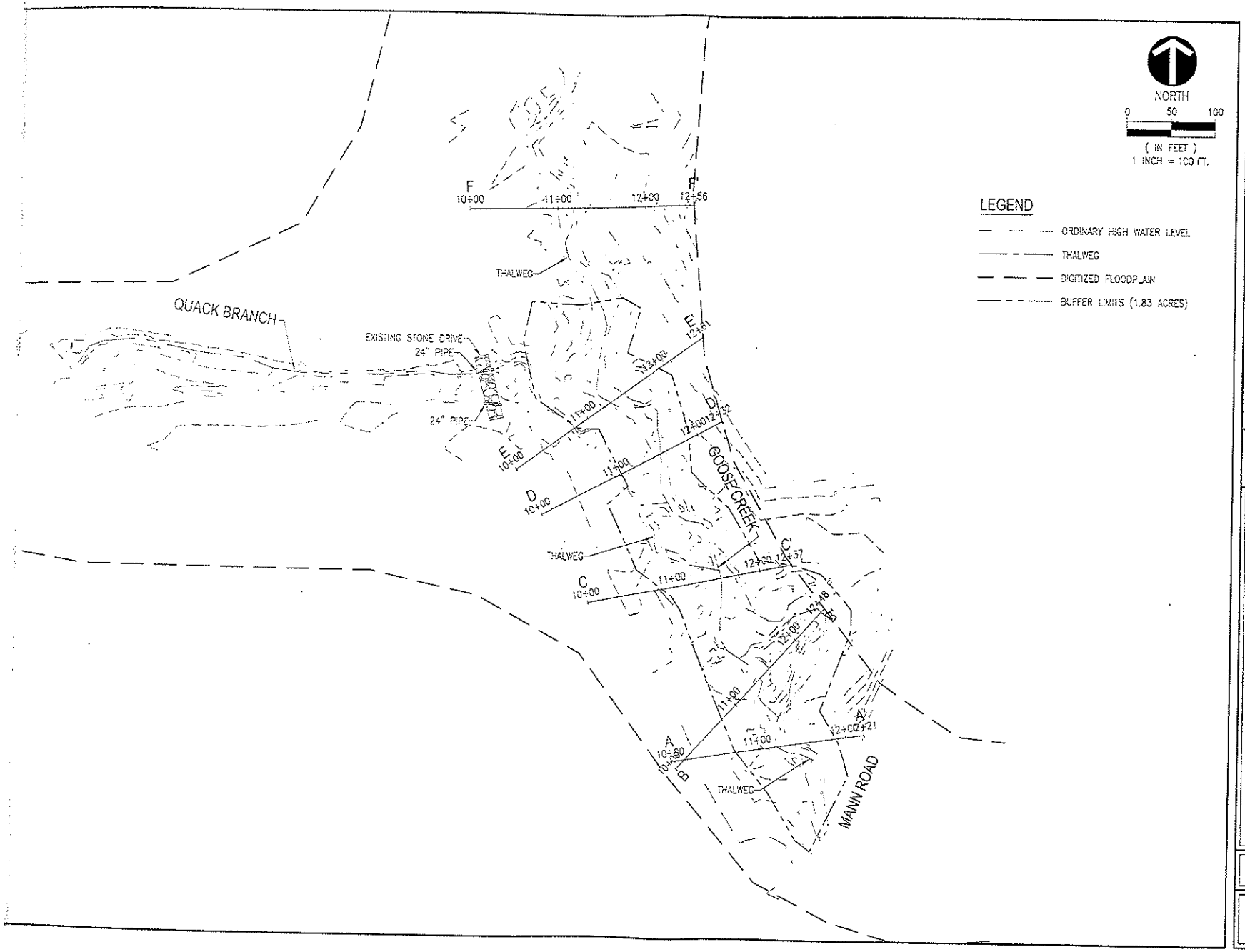
1" ≈ 300'

FIGURE 11
OFF-SITE MITIGATION AERIAL PHOTO
(2008 Indiana GIS Atlas)

Brooklyn Plant Expansion
Morgan County, IN

Prepared for:
Hydraulic Press Brick Company

Project No.	Date:
01.0115.B.2 (HPBC)	November 2010



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EXISTING CONDITIONS

PROJECT NUMBER
01.0115

DRAWING NUMBER
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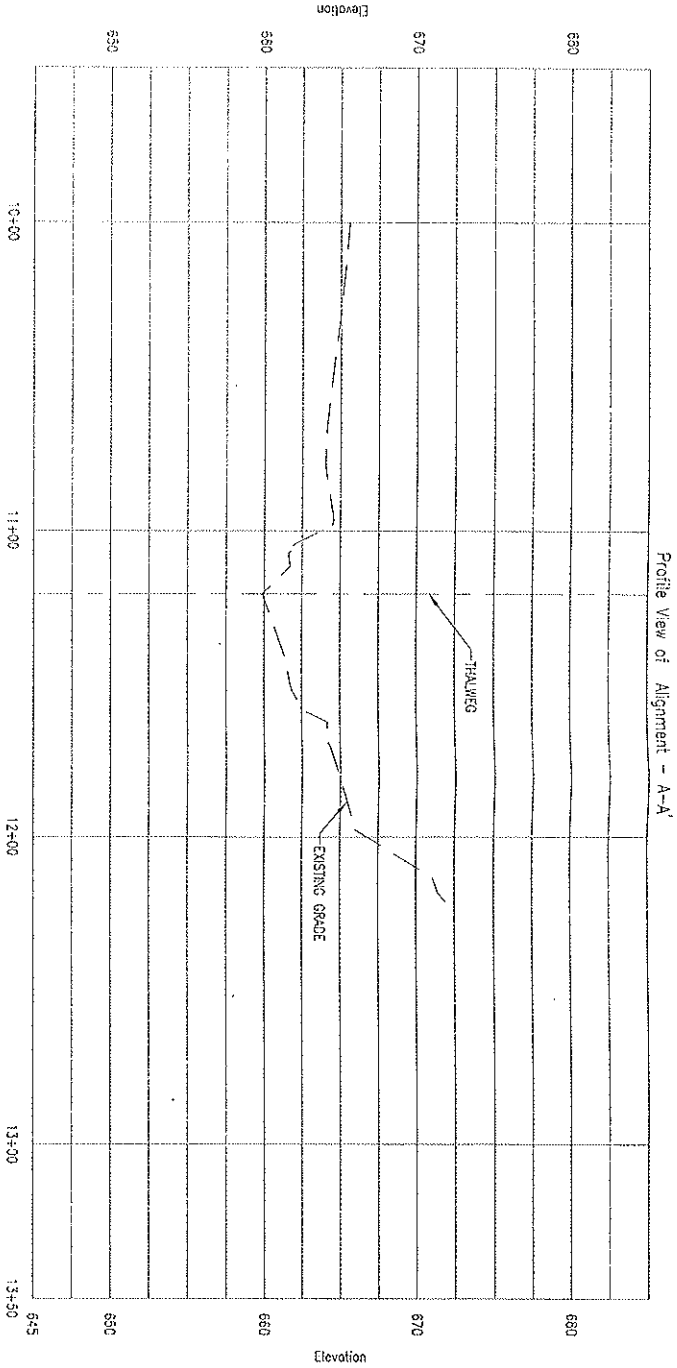
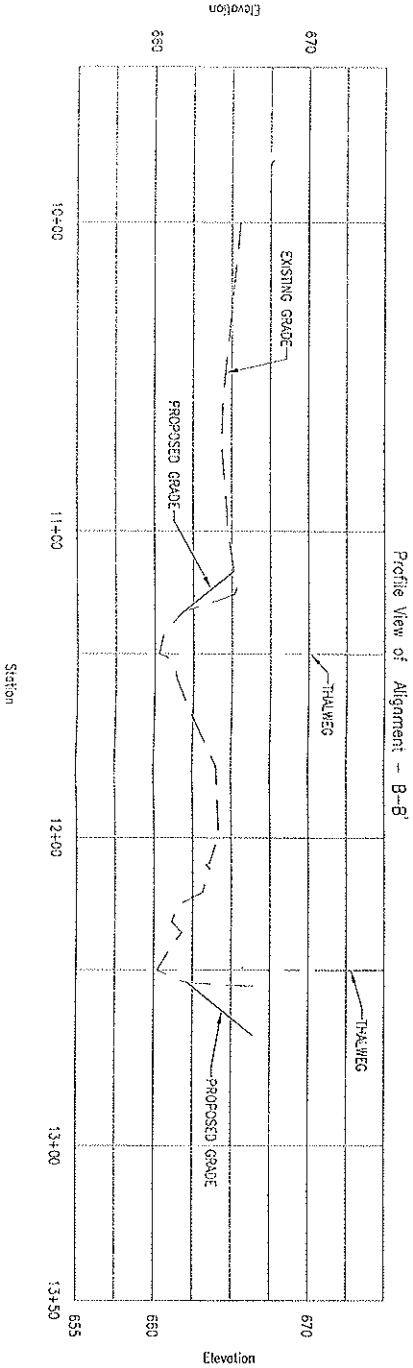
SHEET 2 OF 15





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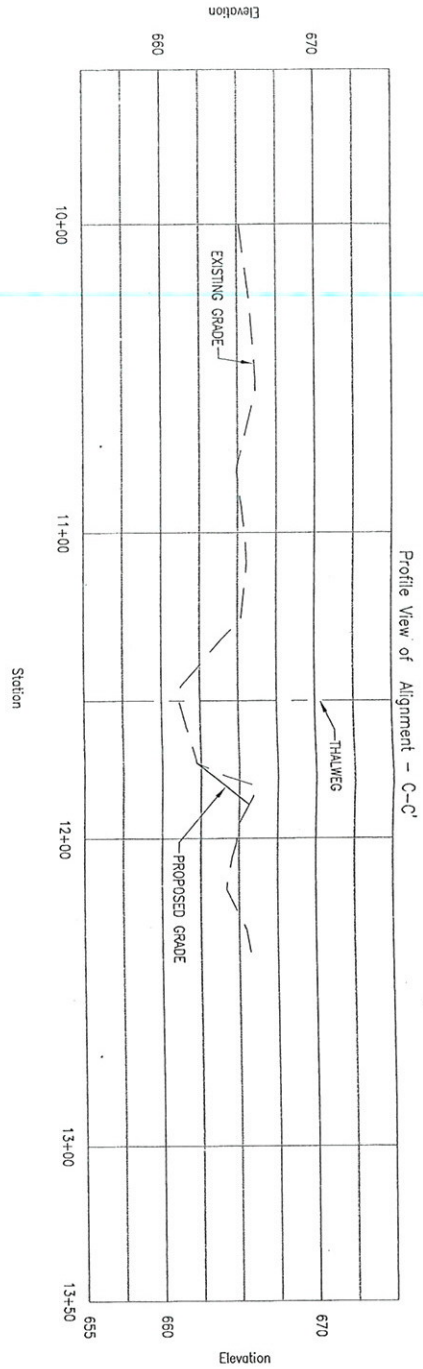
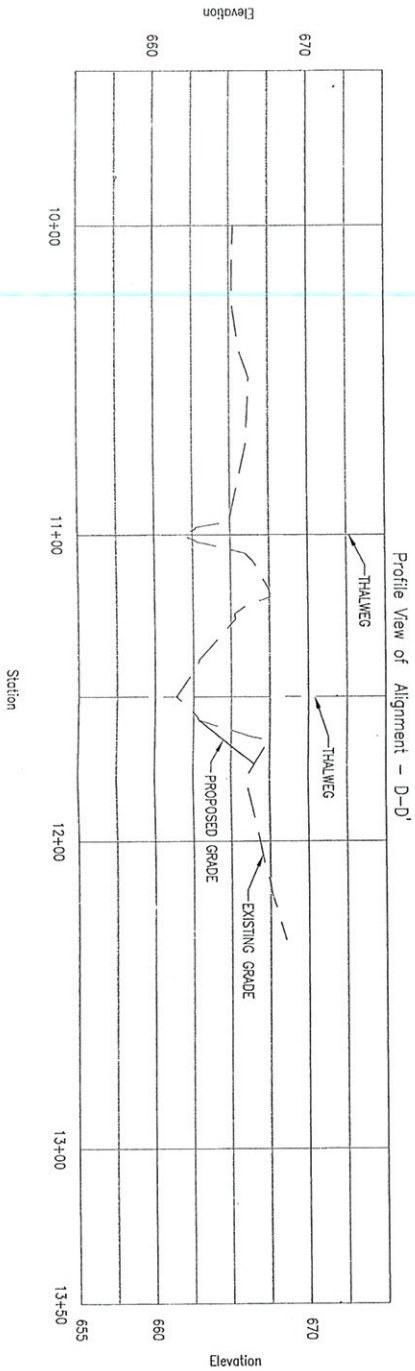
SHEET 4 OF 15





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DRAWING NUMBER	NM-2.2
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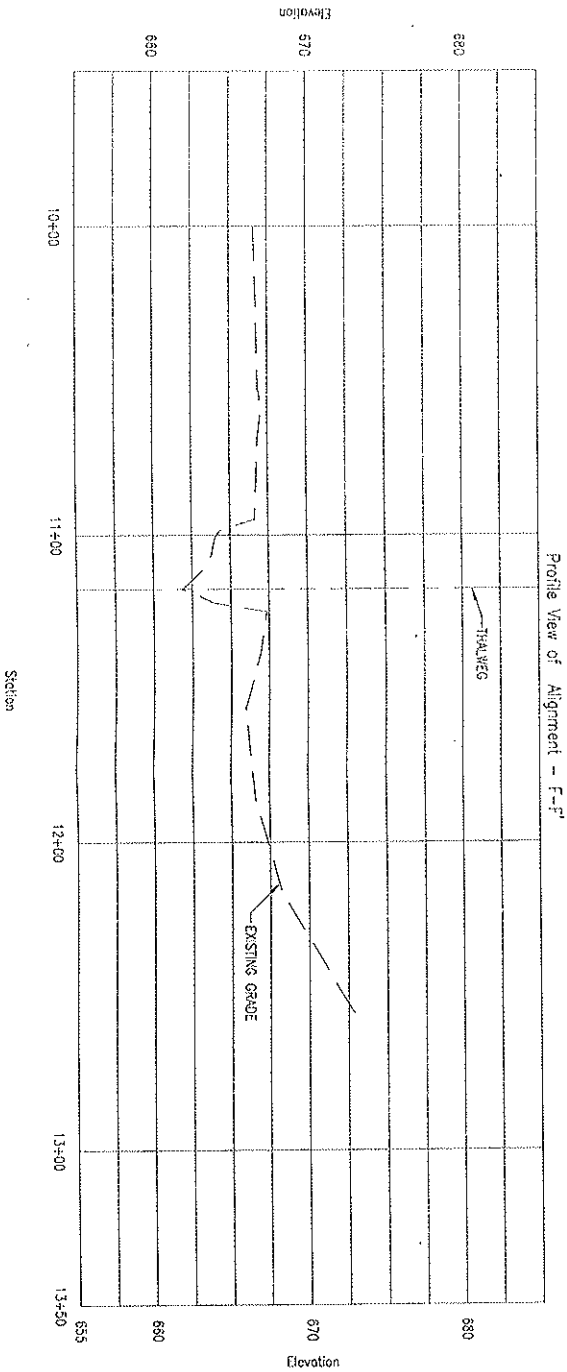

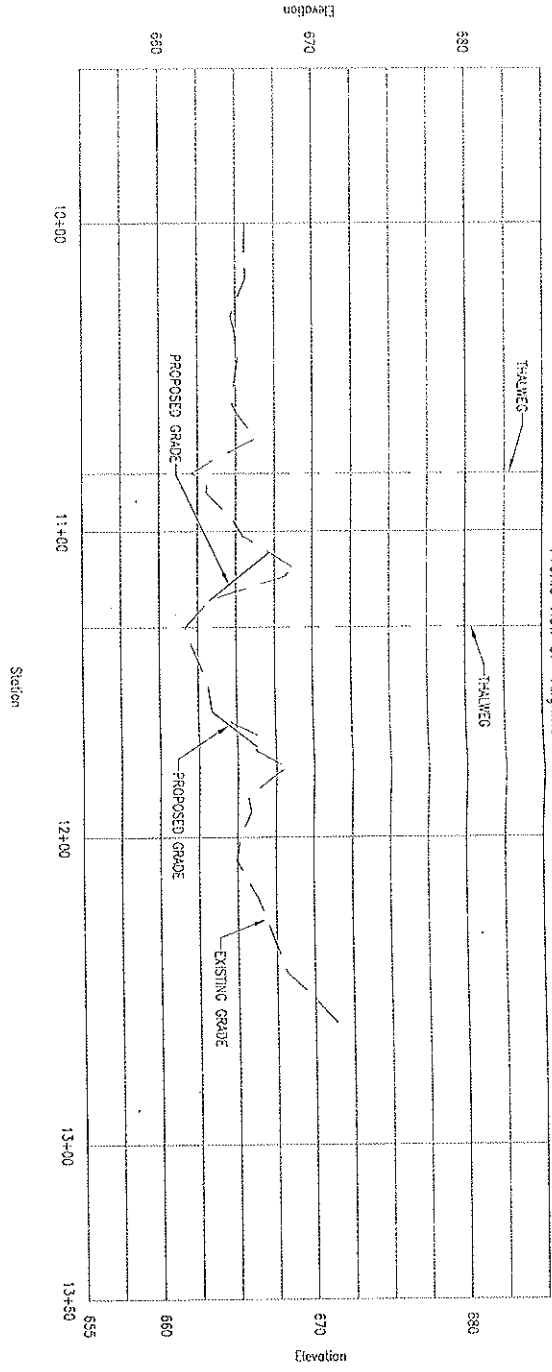

HAYDITE INDUSTRIES 13708 NORTH MANN ROAD CAMBY, INDIANA 46113	DWN BY: JCB CHKD. BY: BEC SCALE: 1" = 40' H (5X V) DATE: 7/02/2010	**HYDRAULIC PRESS BRICK COMPANY** 6618 TIDEWATER ROAD BROOKLYN, INDIANA 46111	
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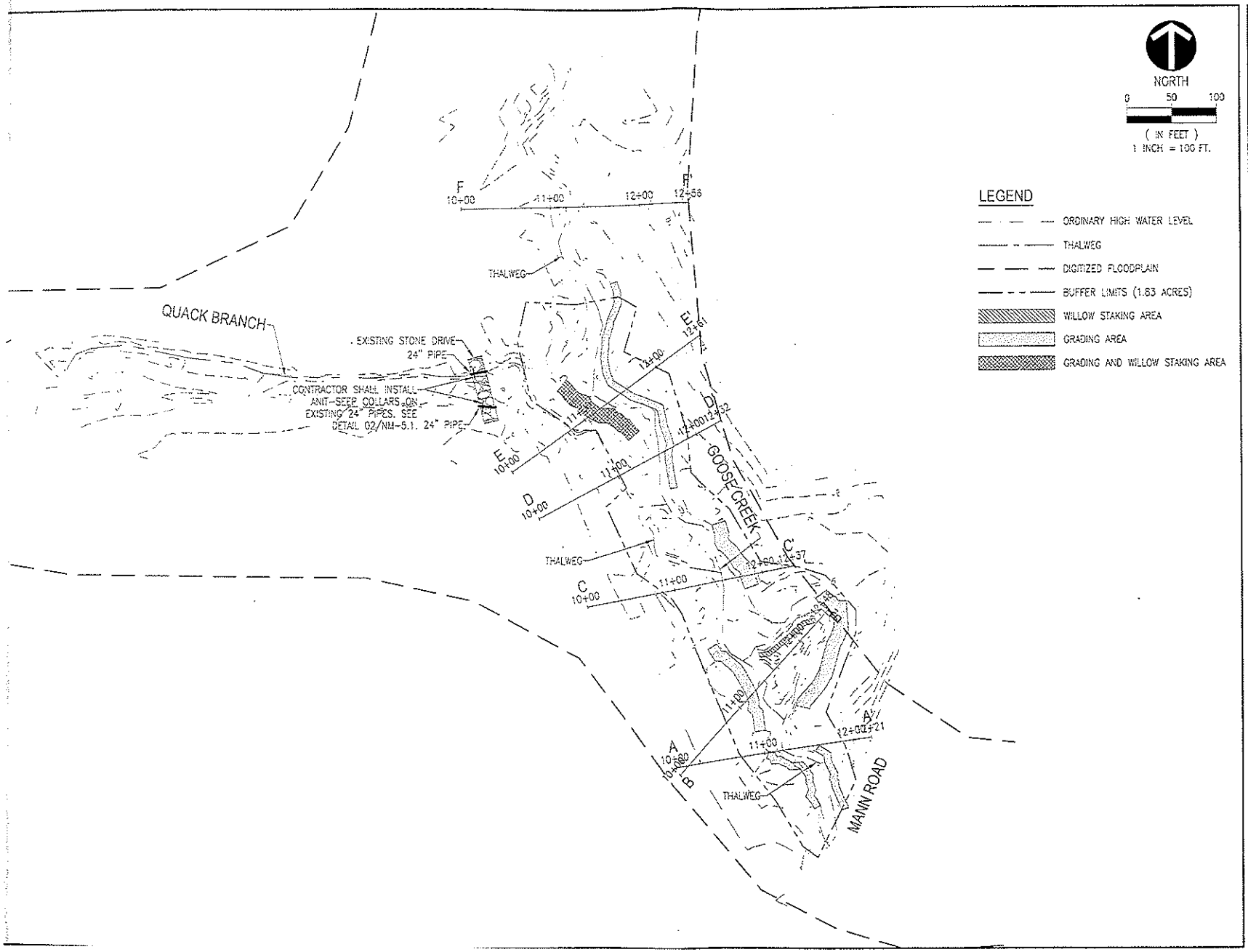
SHEET 6 OF 15



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PROPOSED STREAMBANK ENHANCEMENTS

PROJECT NUMBER
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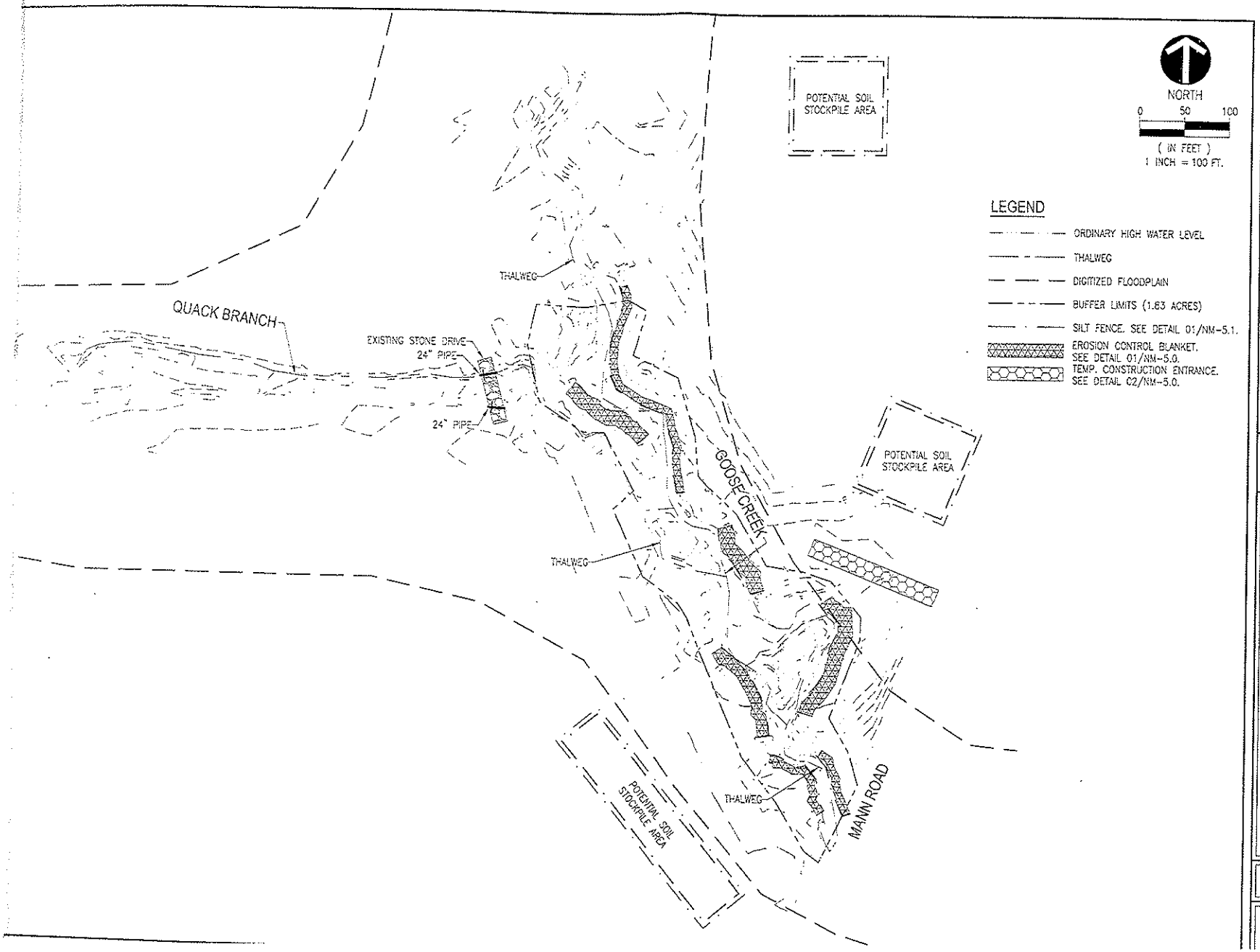

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EROSION CONTROL PLAN

PROJECT NUMBER
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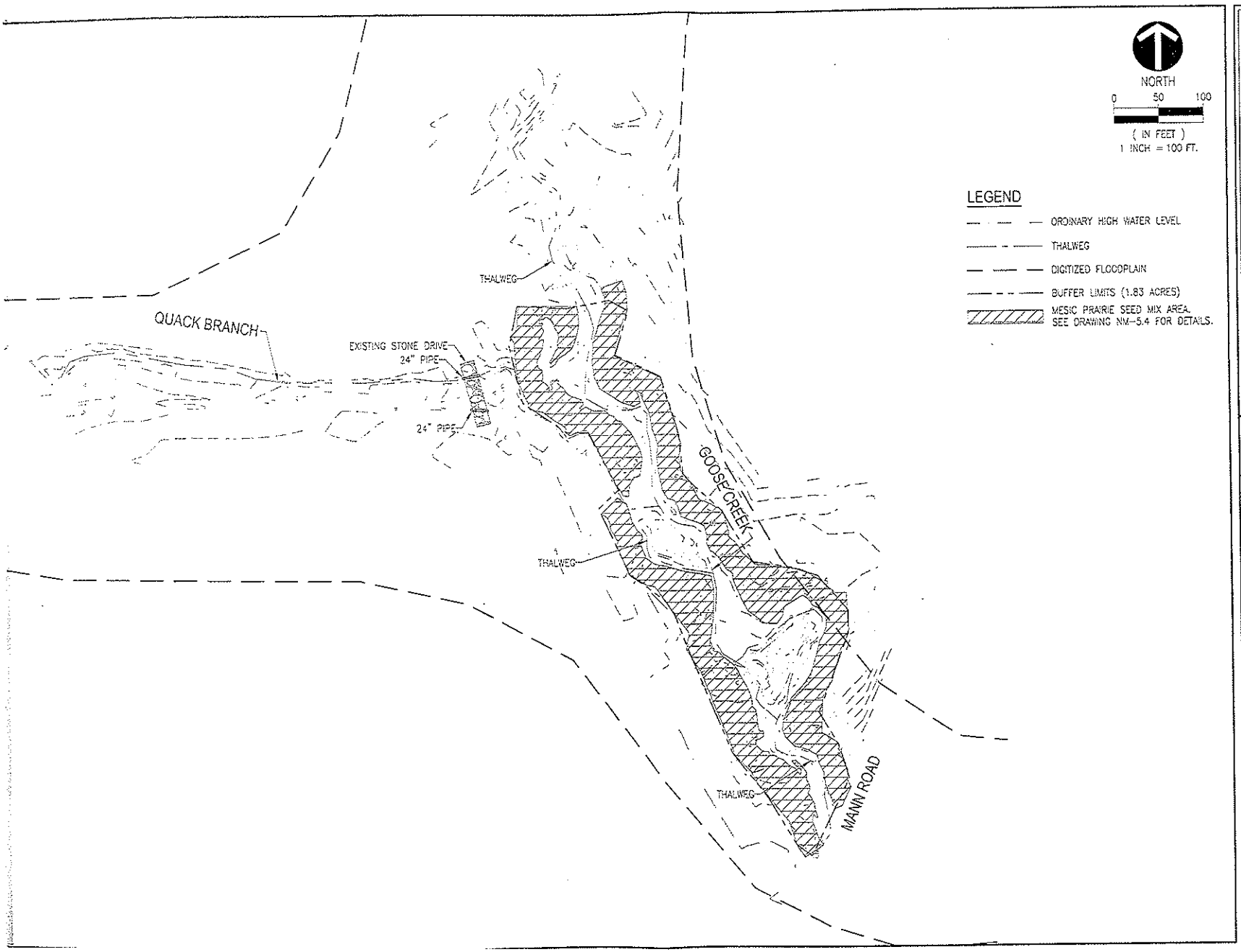

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SEEDING PLAN

PROJECT NUMBER
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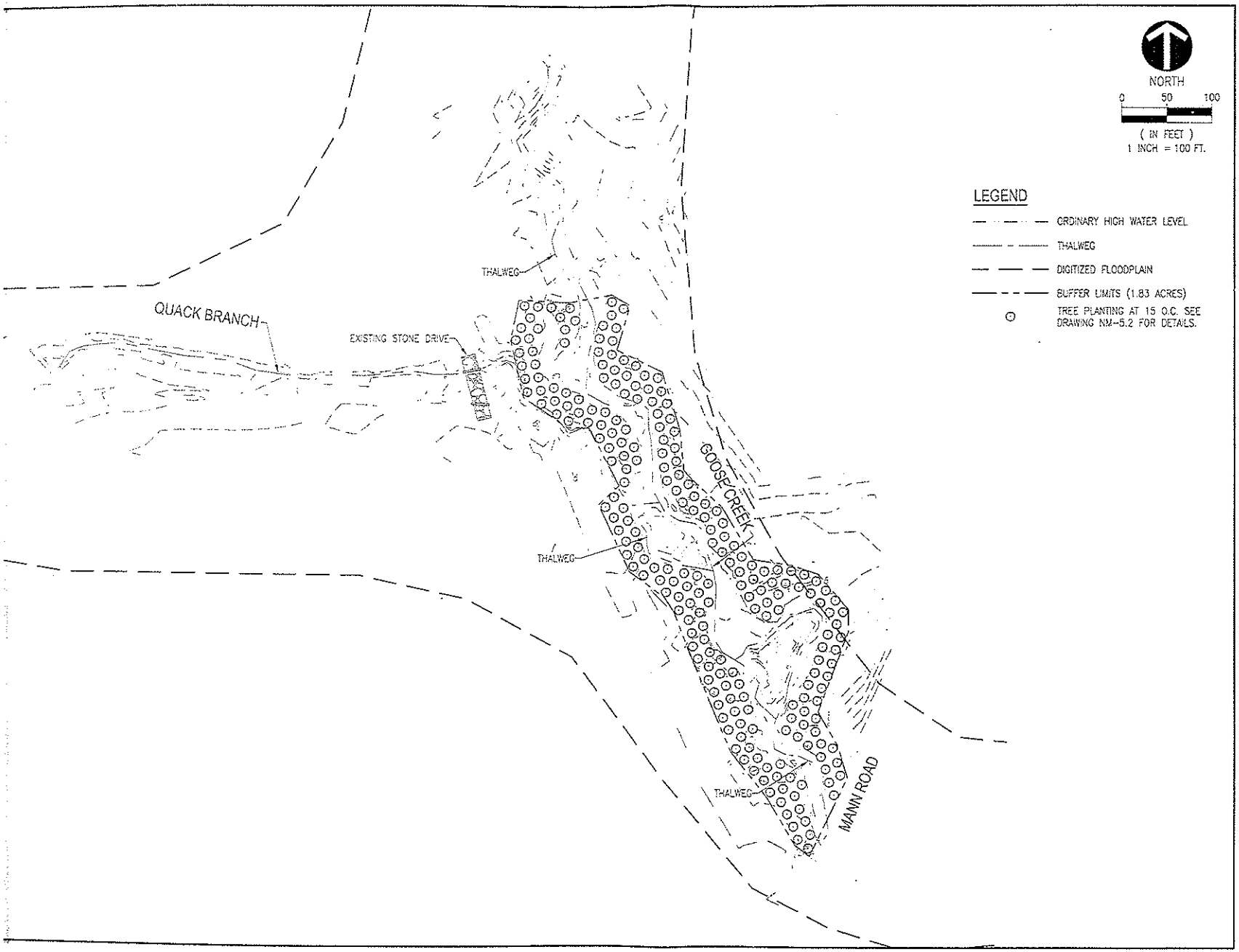
NM-4.0
SHEET 8 OF 15



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PLANTING PLAN

PROJECT NUMBER
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DRAWING NUMBER
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AND SHRUB INSTALLATION GUIDELINES

S AND SHRUBS (AS SPECIFIED)

Dig hole width at least twice the diameter of the root ball and depth only as deep as the root ball. The root flare should be visible above the root ball soil. Root ball should be placed on undisturbed soil only to prevent settling of the ball.

Remove containers/wire baskets and place plant in center of hole and level. Loosen pot bound roots and remove or cut any circling roots.

Backfill hole with native soil and tamp gently to remove air pockets. Avoid soil compaction by large vehicles or tools.

Water all trees and shrubs deeply and thoroughly upon installation and as needed to maintain health during the first year of establishment.

Avoid fertilizing trees for two years, until roots are established.

Stake tree in southwesterly direction. Ties should be loose fitting and allow for natural sway. Remove after one year.

Minimize pruning to dead or broken branches.

Place 4" perforated corrugated plastic pipe (CPP) around tree for protection from deer. Cut length to height of tree from root flare to first branch and slice lengthwise.

TY

Workmanship: All workmanship and finishes shall be first class in all respects, and in accordance with the best practice. These drawings and specification describe the scope of work but do not show or describe all work or material that may be required for full performance and completion of the contract documents. On the basis of the scope shown herein, Contractor shall furnish and install all parts required for the proper execution and completion of the work. Any item included will require the Contractor to furnish and install all parts needed for a complete installation.

ENCING AND SCHEDULING

Planting Time: Proceed with, and complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of landscape work required.

Planting seasons shall be as follows:

Deciduous Trees: Primary Planting Time when trees are dormant. Secondary Planting Time during the growing season only if temporary irrigation is provided. Unless noted otherwise on drawings.

Shrubs: Primary Planting Time when shrubs are dormant. Secondary Planting Time during the growing season only if temporary irrigation is provided. Unless noted otherwise on drawings.

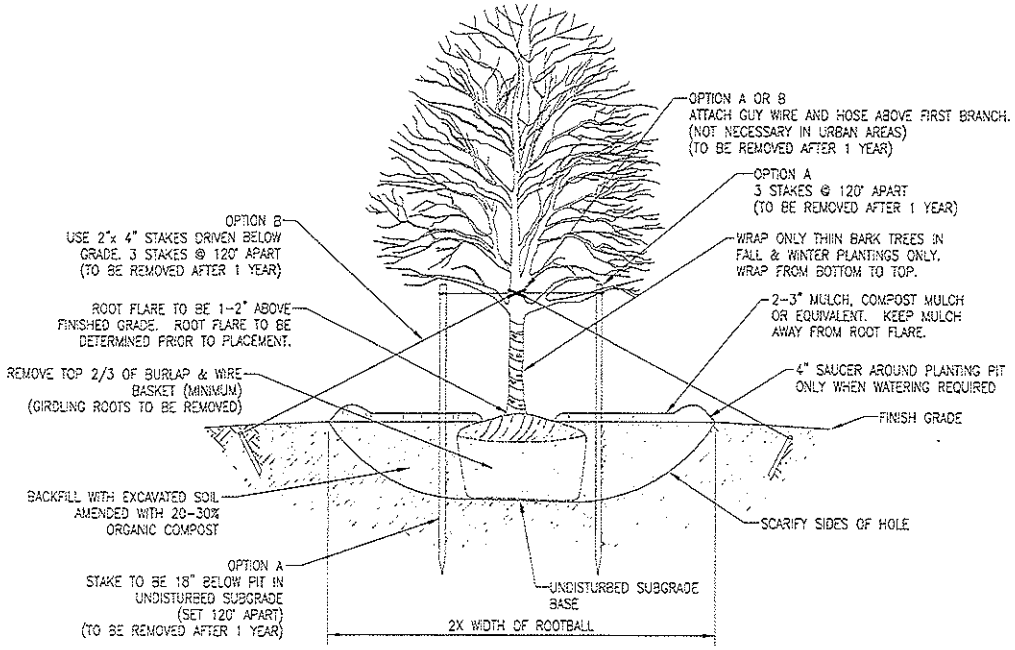
If weather conditions within these seasons are not favorable to plant health and establishment at the time of planting (e.g. drought), planting shall be delayed until favorable conditions resume or further actions shall be taken to ensure healthy establishment

Plant trees and shrubs after seeding and erosion control blanket have been installed, unless otherwise approved. All seeded areas that are disturbed during the planting process shall be re-seeded to ensure even coverage of seed.

Temporary and permanent irrigation will not be provided. Contractor to provide temporary irrigation as needed based on weather conditions to maintain plant health throughout the first two years of establishment.

ANTEE

Guarantee: In addition to warranty requirements, all work in this Section shall be guaranteed against any and all defects in workmanship and materials appearing within a period of one (1) year after final completion and acceptance of the work by the Owner. Contractor shall replace, without additional expense to the Owner, any materials and workmanship that show defects within said period, with finished and new materials.



01 / NM-5.2 SHADE TREE PLANTING DETAIL

NOT TO SCALE

TREE LIST (1 GALLON)		
SCIENTIFIC NAME	COMMON NAME	15' O.C.
Acer rubrum	Red Maple	45
Betula nigra	River Birch	46
Liquidambar styraciflua	American Sweetgum	46
Platanus occidentalis	American Sycamore	46
Quercus palustris	Pin Oak	45
	TOTAL	228

SUBSTITUTES	
SCIENTIFIC NAME	COMMON NAME
Acer negundo	Box Elder
Gymnocladus dioicus	Kentucky Coffee Tree
Nyssa sylvatica	Black Gum
Quercus muehlenbergii	Burr Oak

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HAYDITE INDUSTRIES
6618 TIDEWATER ROAD
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DETAILS & SPECIFICATIONS

PROJECT NUMBER
01.0115

DRAWING NUMBER
NM-5.2

IVE STAKES SPECIFICATIONS

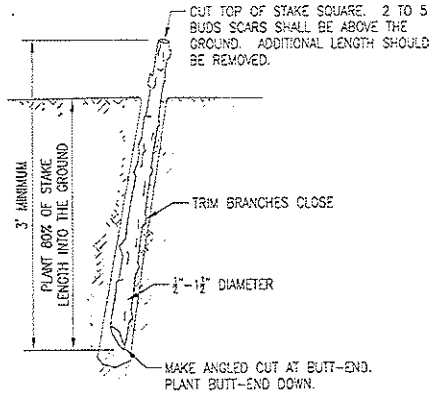
ART 1 – GENERAL
.1. RELATED DOCUMENTS
The provisions of the contract apply to the work specified in this section.
.2. DESCRIPTION OF WORK
This work shall consist of harvesting, transporting, installing, and maintaining live stake materials into the backfill along the river bank, as specified on the plans or as directed by the ENGINEER.
.3. WARRANTY
The CONTRACTOR shall maintain a 1 year, 85 percent care and replacement warranty for all live stakes. The period of care and replacement shall begin after inspection and approval of the initial installation of all live stakes and continue for 1 year, with one potential replacement period. The CONTRACTOR will not be responsible for live stakes that have been damaged by vandalism, fire, flooding or other activities beyond the Contractor's control.

ART 2 – PRODUCTS
.1 LIVE STAKES
A CONDITION
Live cuttings for live stakes shall be ½ to 1½ inches in diameter and 3 feet in length. Side branches shall be removed and the bark left intact prior to installation. Buds on the stakes shall be oriented in an upward position. The basal ends shall be tapered to a point for easy insertion into the soil. The top shall be cut smooth and square.
). SPECIES
Live stakes shall consist of Willow Species (Salix spp.).

ART 3 – EXECUTION
3.1 GENERAL
A All materials and construction techniques shall be inspected and approved by the ENGINEER prior to installation.
3.2 HARVESTING
A The source of all live cuttings shall be from purchased stock or located on-site or within 25 miles of the project site. The CONTRACTOR shall locate, flag, and code the live cutting sites. The CONTRACTOR shall notify the ENGINEER 72 hours prior to harvesting to review and approve all harvesting sites. Upon approval by the ENGINEER, the CONTRACTOR shall be responsible for harvesting and transporting the cuttings to the job site.
3.3 PURCHASING
A If the CONTRACTOR is unable to locate sufficient harvesting sites for the live stakes, upon approval from the ENGINEER, the CONTRACTOR may purchase live branch material from a State certified nursery. The material shall meet all of the specifications found in this section.
3.4 LIVE MATERIAL PREPARATION
A Cutting Shrubs and young trees used in preparation of live stakes shall be cut directly above the ground. All cuts shall be smooth and the cut surface kept small. The use of large pruning shears or power saws may be required. Trees that are more than 3 inches in diameter shall be topped. The live materials shall be transported to the construction site within 8 hours of harvesting and then cut to size, as specified above and on the details.
B. Storage Live materials must be protected against drying out and overheating before/during transport (e.g., they shall be covered, transported in unheated vehicles, moistened, kept in soak pits) and on-site prior to installation (e.g., by storing in controlled conditions, storing in shade, covering with evergreen branches or plastic, placing in moist soil, or spraying with anti-transparent chemicals). Live materials shall receive continuous shade, shall be sheltered from the wind, and shall be continuously protected from drying by being heeled into moist soils. Where water is available, live cuttings shall be sprayed or immersed. Warm water (over 150 degrees C) stimulates growth and should be used only upon the approval of the ENGINEER. Any costs associated with such storage are incidental to the overall unit costs. Live materials shall be installed the same day that the cuttings are harvested. If installation of live materials cannot be accomplished on the same day and storage is required, live materials shall be stored for a period no longer than two (2) days. Any storage of live materials must be approved by the ENGINEER prior to storing.
3.5 LIVE STAKE INSTALLATION
A. Installation Drive live stakes through the erosion control fabric and into the ground so that 80 percent of the stake is below the ground surface. The CONTRACTOR shall use a dead-pan hammer for driving the stake directly into the ground or drive a pilot hole, smaller in diameter than the live stake, and then driving the live stake into the pilot hole. Stagger the live stakes in a random pattern throughout the specified planting area at a density of 3 live stakes per square yard. Live stakes shall be installed above low flow water surface and below bankfull elevation.
B. Placement Placement of the live stakes shall be indicated on the drawings and details. Live stake buds shall be facing upward.
C. Replacement of Split Stakes All live stakes split during installation may be left in place but must be supplemented with a new live stake that remains un-split after installation.

3.6 MAINTENANCE
A. The CONTRACTOR shall maintain a 1 year, 85 percent care and replacement warranty for live stakes. The CONTRACTOR shall perform maintenance as follows: a) Replace all diseased and dead vegetation caused by factors other than stream erosion; b) Keep vegetation cleared of debris after all storm events; and c) Prune all dead wood and vegetation as needed. It will be the Contractor's responsibility to supply water if there is none available on the site. Any costs associated with supplying water shall be the responsibility of the CONTRACTOR and shall be included in the unit cost of the live staking installation.

NOTES:
1. HARVEST AND PLANT STAKES DURING THE DORMANT SEASON.
2. USE HEALTHY, STRAIGHT AND LIVE WOOD AT LEAST 1 YEAR OLD.
3. MAKE CLEAN CUTS AND DO NOT DAMAGE STAKES OR SPLIT ENDS DURING INSTALLATION. USE A PILOT BAR IN FIRM SOILS.
4. SOAK CUTTINGS FOR 24 HOURS (MINIMUM) PRIOR TO INSTALLATION.
5. TAMP THE SOIL AROUND THE STAKE.



01 NM-5.3 LIVE STAKING DETAIL
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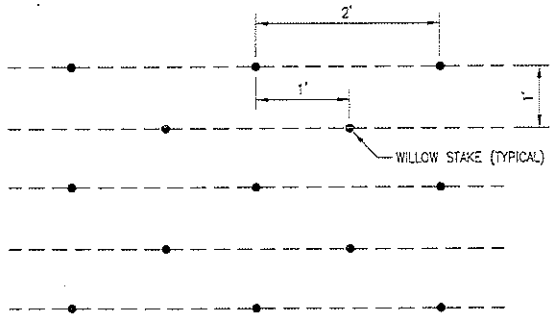

02 NM-5.3 WILLOW STAKING SPACING DETAIL
NOT TO SCALE

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DETAILS & SPECIFICATIONS

PROJECT NUMBER
01.0115

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SHEET 13 OF 15

PRAIRIE SEEDING SPECIFICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES PREPARATION, SEEDING, AND MAINTENANCE.

1.02 BIDDER QUALIFICATIONS

A. The submitting bidder must have access to and experience with a no-till fluffy seed drill designed for prairie seed installations. Such drills are manufactured by Truax, Great Plains, and John Deere, Inc.

1.03 Environmental requirements

A. Dormant Seeding Installation shall be performed when the ground temperature remains below 50° F or when the soil becomes frozen. If site is prepared at any other time of the year, stabilize with the following seed mix per acre:
   64 lbs seed oats (avena sativa)
   25 lbs annual ryegrass (Lolium multiflorum)
   Under no circumstances shall the site be stabilized with winter rye, grain rye, or winter wheat. These plants produce toxins that inhibit prairie seed germination.

B. Site shall have a firm seed bed. If walking compacts soil over ½ inch, the site shall be cultipacked.

1.04 MATERIALS

A. All native seed shall be refrigerated for at least 90 days prior to installation. All native seed must be wild ecotype. No hybrids or cultivars may be included. Local genotype shall be used whenever possible due to its adaptation to local soil climate. These specifications do not apply to the temporary matrix.

B. The top six inches of topsoil in the areas to be disturbed within the wetland basin should be stockpiled during excavation of the basin. This soil should be replaced as the topmost back fill layer during final grading.

PART 2 PRODUCTS

2.01 SEED MIXTURE

A. See attached seed mixture rates

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify the site is within 3 inches of specified grade. Verify seedbed is sufficiently firm.

B. Verify that the site is clean and free of debris.

3.02 PREPARATION

A. If vegetation exists on the site, apply a glyphosate herbicide at least one week prior to installation on all actively growing vegetation. Never apply fertilizer to the site.

B. Install seed when soil is sufficiently dry so that soil does not stick to the packer wheels on the drill.

C. Ensure drill is properly calibrated to sow the specified amount of seed over the specified area. Ensure complete coverage of the specified area.

3.03 MAINTENANCE

A. Mow at a height of 4 to 6 inches when the oats set seed heads. Mow at a height of 4 to 6 inches once a month or whenever weed growth reaches 10 inches for the remainder of the first season only.

B. If cool season weed growth is heavy in the spring of the second season, mow once in late May.

MESIC PRAIRIE MIX

TYPE OF SEED - GRASSES		
LATIN NAME	COMMON NAME	Oz/ACRE
Andropogon gerardii	Big Bluestem	16
Elymus canadensis	Canada Wild Rye	32
Elymus virginicus	Virginia Wild Rye	12
Panicum virgatum	Switchgrass	4
Schizachyrium scoparium	Little Bluestem	32
Sorghastrum nutans	Indian Grass	16
GRASSES Oz PER ACRE		112

TYPE OF SEED - FORBS		
LATIN NAME	COMMON NAME	Oz/ACRE
Aster laevis	Smooth Aster	1
Aster novae-angliae	New England Aster	2
Baptisia leucantha	White False Indigo	2
Cassia hebecarpa	Wild Senna	3
Coreopsis tripteris	Tall Coreopsis	2
Echinacea purpurea	Purple Coneflower	4
Eryngium yuccifolium	Rattlesnake Master	3
Helianthus grosseserratus	Sawtooth Sunflower	1
Helianthus occidentalis	Western Sunflower	1
Heliopsis helianthoides	False Sunflower	3
Liatris pycnostachya	Prairie Blazing Star	1
Monarda fistulosa	Bergamot	0.5
Penstemon digitalis	Foxglove Beardtongue	0.5
Petalostemum purpureum	Purple Prairie Clover	1
Potentilla arguta	Prairie Cinquefoil	1
Pycanthemum virginianum	Mountain Mint	0.5
Ratibida pinnata	Yellow Coneflower	4
Rudbeckia hirta	Black-eyed Susan	4
Rudbeckia subtomentosa	Sweet Black-eyed Susan	3
Silphium integrifolium	Rosinweed	2
Silphium laciniatum	Compass Plant	2
Silphium terebinthinaceum	Prairie Dock	2
Solidago riddellii	Riddell's Goldenrod	1
Solidago rigida	Stiff Goldenrod	2
Vernonia altissima	Tall Ironweed	2
Vernonicastrum virginicum	Culver's Root	0.5
FORBS Oz PER ACRE		48
TOTAL Oz PER ACRE		160

TYPE OF SEED - COVER CROP		
LATIN NAME	COMMON NAME	Oz/ACRE
Avena sativa	Seed Oats	512
Lolium multiflorum	Annual Ryegrass	96
COVER CROP Oz PER ACRE		608

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DETAILS & SPECIFICATIONS

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