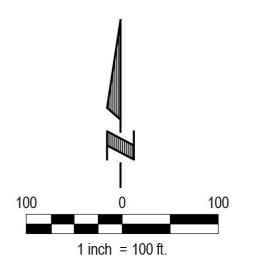


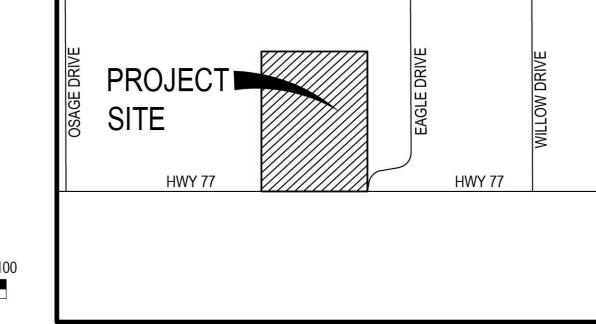
WESTRIDGE ESTATES

LOTS 1 THRU 14 & OUTLOT "A" INCLUSIVE

GRADING & STORMWATER POLLUTION PREVENTION PLAN

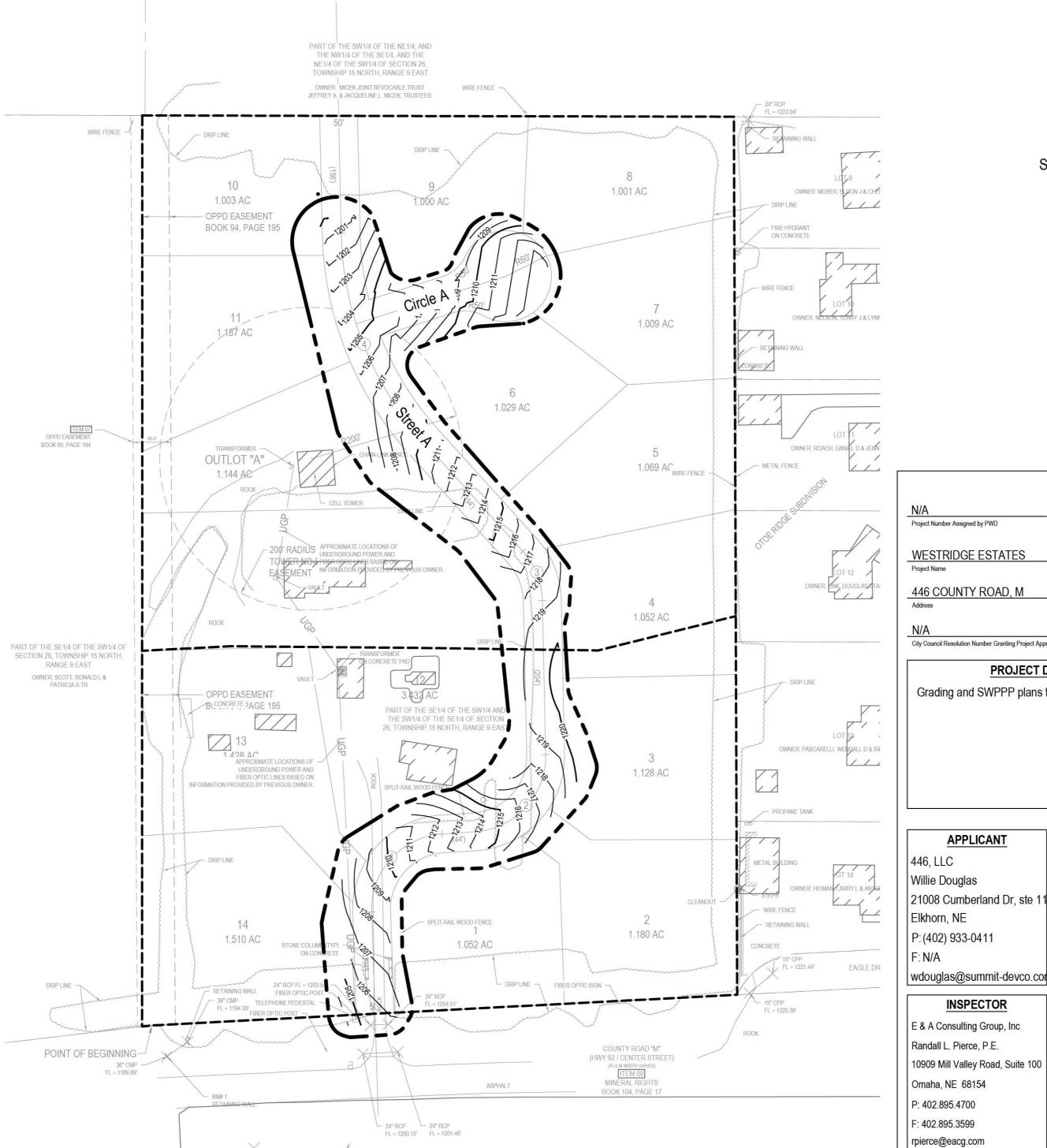
Located in the SE 1/4, SW 1/4 of Section 26, Township 15N, Range 09E, of the 6th P.M. YUTAN, NEBRASKA





APPROXIMATE BID QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNIT	
1	CLEARING AND GRUBBING - GENERAL	1	LS	
2	EXCAVATION ON-SITE (ESTABLISHED QUANTITY)	1138	CY	
3	STRIPPINGS (ESTABLISHED QUANTITY	1243	CY	
4	INSTALL SILT FENCE	755	LF	
5	INSTALL STORM WATTLE	125	LF	
8	CONSTRUCT DIVERSION BERM	615	LF	



INDEX OF SHEETS

DESCRIPTION

GENERAL NOTES AND DETAILS

NOTES - STORMWATER POLLUTION PREVENTION

GRADING & SWPPP - GRADING

GRADING & SWPPP - CUT-FILL TICKS

GRADING & SWPPP - DRAINAGE MAP

PROJECT INFORMATION					
N/A Project Number Assigned by PWD	N/A Grading Permit Project Number Assigned by PWD	N/A SID Number	Spring 2022 Estimated Start Date	Fall 2022 Estimated Completion Date	
WESTRIDGE ESTATES	WESTRIDGE ESTATES				
Project Name	Subdivision Name				
446 COUNTY ROAD, M	YUTAN	NE	68073		
Address	City	State	Zip Code		
N/A	N/A		N/A		
City Council Resolution Number Granting Project Approva	City Council Ordinance Number Granting Project Approval		City Council Resolution/Ordinance Approval Date		

PROJECT DESCRIPTION Grading and SWPPP plans for residential development

APPLICANT	DESIGNER
446, LLC	E & A Consulting Group, Inc
Willie Douglas	Josh Rothanzl
21008 Cumberland Dr, ste 110	10909 Mill Valley Road, Suite 100
Elkhorn, NE	Omaha, NE 68154
P: (402) 933-0411	P: 402.895.4700
F: N/A	F: 402.895.3599
wdouglas@summit-devco.com	jrothanzl@eacg.com
INSPECTOR	CONTRACTOR
E & A Consulting Group, Inc	
Randall L. Pierce, P.E.	
40000 1471114 11 15 1 1 0 7 100	

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	Revisions	Description					12/2/2021 11:32 AM K:\Projects\2021\065\p01\Engineering\CAD Files\Grading\S\WPP000.dwg
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		∇					:32 AM
	21.065.001	12/02/2021	JSR	JEK	1" = 100'	1 of 7	12/2/2021 11

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BENCHMARK:

BENCHMARK #1:	CHISELED "X" CENTER OF 1ST CONCRETE HEADWALL WEST OF
	DRIVEWAY FOR HOUSE 446 COUNTY ROAD "M" (HIGHWAY 91), ON
	NORTH SIDE OF 446 COUNTY ROAD "M" (HIGHWAY 91).
ELEV:	1294.25'

BENCHMARK #2: CHISELED "X" NORTH RIM OPPD MANHOLE, NORTHEAST OF OPPD POWER STATION, ON THE SOUTH SIDE OF 466 COUNTY ROAD "M"

(HIGHWAY 91)

1203.27'

VICINITY MAP

GRADING AND SWPPP GENERAL NOTES

- 1. All project procedures, materials, bonds and reserves shall conform to the City of Omaha Specifications for Public Works Construction 2014, and any additions thereto. It will be the responsibility of the Contractor to be aware of the contents of the aforementioned specifications. The aforementioned publication can be found at: http://www.cityofomaha.org/pw/index.php/contractors-consultants2/contractors/standard-plates-curb-ramps-and-specifications
- Barricades shall conform to Omaha Public Works "Barricading Standards, Specifications, Methods Materials", and/or the "Manual on Uniform Traffic Control Devices", and any additions thereto, whichever is more stringent. The aforementioned publications can be found at https://publicworks.cityofomaha.org/images/PDF/Barricading-Standards-Specs-Methods-and-Materials.pdf and https://mutcd.fhwa.dot.gov/pdfs/2009r1r2/pdf_index.htm
- Utilities are shown as a convenience for the Contractor. The locations of all aerial and underground utilities may or may not be indicated in these plans. The Contractor shall notify all utility companies before work is started to verify utility locations. No excavation will be permitted in the area until all utilities have been located and identified to the satisfaction of all parties and then, only with extreme care to avoid any possibility of damage. The Contractor will be responsible for repair of utilities damaged during construction.
- 4. The Contractor shall maintain positive drainage in existing road ditches and culverts draining into the project area.
- 5. Topsoil shall be stripped to a depth of at least 4" and stockpiled on site for redistribution in future unpaved areas upon completion of grading. The location of the stripping stockpiles are at the discretion of the Contractor; however, stockpiles must be located within an area protected by stormwater pollution prevention measures.
- Payment for earthwork shall be based upon the bid Item "EXCAVATION ON-SITE (ESTABLISHED QUANTITY)". This quantity is the fixed plan cut volume determined by a comparison of the proposed grade surface to the existing grade surface. The project has been designed to balance assuming a 35% shrinkage factor on the fill unless otherwise indicated. There will be no deviation from this pay quantity without a written change order resulting from a plan revision or field change. Work shall include excavation, haul, placing and compacting earthwork necessary for a completed project for this fixed established quantity.
- Payment for topsoil shall be based upon the bid Item "STRIPPINGS (ESTABLISHED QUANTITY)". This quantity is the fixed plan 4" depth volume over the limits of grading. Work shall include stripping, stockpiling and respreading or stripping and transferring of topsoil for this fixed established quantity.
- Following stripping operations and removal of any observed unsuitable soils, the exposed soils shall be proofrolled with a fully loaded, tandem axle dump truck providing a minimum gross weight of 25 tons, or other equipment with an equivalent subgrade loading. Unsuitable soils observed during proofrolling shall be improved by scarification to a 9" depth and recompacted. Scarified soils which cannot be recompacted to there recommended degree shall be undercut and replaced with stable fill.
- 9. Fill placed on a slope steeper than a 5H:1V shall be benched before placing fill, with a maximum riser height on the order of 2', separated by horizontal steps that are wide enough to accommodate compaction equipment.
- 10. All fill and backfill shall be placed in lifts of 9" or less in loose thickness. All fill shall be compacted to a minimum 95% of the maximum dry density at a moisture content 3% below to 4% above optimum as determined by ASTM D698 (Standard Proctor) or as recommended by the Geotechnical Engineer.
- 11. Fill and Backfill shall be inspected and tested periodically at the discretion of the Engineer for adherence to material, compaction, and moisture specifications.
 - a. Fill or backfill failing to meet compaction and moisture content specifications shall be reworked and retested at the Contractor's expense.
 - Material deemed unsuitable by the Engineer shall be removed and replaced. Reimbursement for removal of unsuitable materials will be made at the contract unit price for, "EXCAVATION ON-SITE (ESTABLISHED QUANTITY)".
- 12. Fill and backfill material shall be impervious material (clay/silt) free of frost, snow, ice, concrete, brick, stone, refuse, cinder ashes, organic matter, or any other material deemed unsuitable by the Engineer.
- 13. Excavation necessary for construction of the sediment basins is incorporated into the "EXCAVATION ON-SITE (ESTABLISH QUANTITY)" quantity.
- 14. Diversion berms and ditches shall be constructed as necessary throughout the term of the project to properly control sediment erosion and protect adjacent properties as directed by the Engineer. This work will not be paid for directly but shall be subsidiary to items for which direct payment is made.
- 15. Existing ditches and eroded areas shall be undercut a minimum of 12 inches on all bottoms and sides prior to placement of any fill. Separate payment will not be made for undercutting.
- 16. The Contractor shall give the Engineer 72 hours notice to allow time to perform a survey check of the graded site prior to respreading topsoil. The Contractor shall obtain the Engineer's approval of the work prior to respreading topsoil or removing equipment from the site. Any re-mobilization or re-work required due to the circumstances described in this paragraph shall be performed by the Contractor at no additional cost.
- 17. The final grade of street rights-of-way shall be within 0.2' +/- of the design grade. The final grade of the lots shall be within 0.5' +/- of the design grade. Any re-mobilization or re-work required to meet these tolerances shall be performed by the Contractor at no additional cost.
- 18. The Contractor shall monitor perimeter silt fencing and install additional silt fencing if necessary or as directed by the Engineer. Payment shall be made at the unit price for "Install Silt Fence". (See the Erosion Control Feature Maintenance Schedule).

GRADING AND SWPPP GENERAL NOTES

19. No tree removal shall occur between April 1 and July 15, unless a migratory bird inventory has

- been completed and no nesting of migratory birds is found. Tree removal between June 1 and July 31 shall further require a bat roosting inventory.
- 20. All disturbed areas except the street rights-of-way shall be seeded. Seeding shall be alfalfa, rye, oats or wheat cover crop at 90 lbs per acre. Fertilizer (20-10-10) shall be applied at 50 lbs per
- 21. Areas to receive erosion control matting shall be seeded in accordance with the City of Omaha
- 22. The Contractor shall comply with all OSHA regulations.
- 23. The Owner retains salvage rights to all buildings structures, and the contents therein; however, the Contractor is responsible for the demolition and removal of all structures following the salvage
- 24. The Contractor shall obtain all necessary demolition permits prior to beginning demolition activities
- 25. The cost of the demolition permit, pre-demolition inspections, utility disconnect expenses, and any other expenses necessary to comply with demolition permits and regulations shall be paid for by the Contractor.
- 26. The Contractor shall obtain all necessary permits prior to beginning removal of the septic system.
- 27. Initial stripping can occur only in an area of cut and the corresponding fill area required to construct the embankment along the downstream side of the basins. At the end of each day, when weather conditions warrant, and until such time as it is possible to construct sediment basins, the contractor shall construct a sediment trap at any and all low spots where water falling on bare ground might leave the site. The temporary sediment traps shall conform to the Omaha Regional Stormwater Design Manual, Section 9.5.14. Once the sediment basin has been constructed and approval given by the Inspector, stripping can occur throughout the balance of the site.
- 28. The Contractor shall remove all structures, private utilities, pavements and debris from within the site including the following:
 - a. all buildings including the contents and foundations, retaining walls, decks,
 - b. all private utility lines, including sanitary sewer service, storm sewer, natural gas, electrical, and communication
 - c. all utility appurtenances such as transformers, meters, valves, pressure reducers as well as concrete pads and structures, as coordinated with Metropolitan Utilities District or the Omaha Public Power District,
 - d. all foundation walls, partition walls, columns, piers, beams, or other projections, floors, and all other footings,
 - e. all asphalt and concrete pavement,
 - all light poles and light pole bases,
 - g. all gravel, and rubbish, or other debris found on site,
 - h. all fences within project boundary (all fences may not be shown on plan),
 - all septic tanks and septic appurtenances.
- 32. The Contractor shall maintain and preserve utilities traversing and servicing premises as long as those utilities are required.
- 33. All basement or other excavations shall be backfilled with suitable material and compacted as structural fill.
- 34. Where open excavations are not backfilled within 24 hours, the Contractor shall encircle the open area by a standard snow fence.
- 35. All rubbish, unsuitable material, debris, equipment, etc., resulting from demolition work shall be disposed of properly and in a legal manner.
- 36. The Contractor shall control dust during demolition and removals
- 37. All demolition, removals, well closings, clearing and grubbing shall be paid for in a lump sum at the bid price for "CLEARING AND GRUBBING - GENERAL".



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WESTRIDGE ESTATES GRADING & STORMWATER POLLUTION PREVENTION

NOTES

- Acceptable silt fence specifications- AOS (#20 50 Sieve) Water Flow Rate (50 gpm/ sq. ft. - 125 gpm/ sq.ft), Tensile Strength (Grab) - (Min. 120 Warp or greater and Elongation (5-25%).
- 2. On each new run of silt fence spray paint the beginning of the run with 0+00 and spray paint the end with the date of installation and LF of the run.
- Silt fence should be securely fastened to each steel each post. To be located in the top 12" of the silt fence.
- Steel posts which support the silt fence shall be installed on a slight angle toward the anticipated runoff source. (Incline all posts 20° Max. from vertical, toward flow)
- Silt fence shall be trenched in with a silt fence plow so that the downslope face of the trench is flat and perpendicular to the line of flow.
- Silt fence shall be removed when it has served its usefulness so as not to block or impede storm flow or
- distributed on the source area prior to topsoiling.

SILT FENCE NOT TO SCALE

Trench and compacted backfill -

(min. 14 1/2 gauge, max. 6" mesh spacing)

**Optional woven wire fence

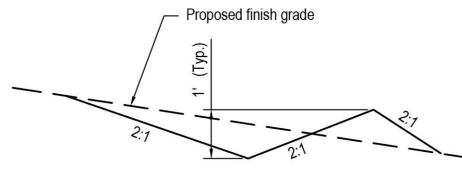
5'-6" min. steel studded "T" line posts @ 6' max. Spacing —

42" & 48" Silt Fence -

must be trenched in at 9-12"

center to center for 42" silt fence or 5' max. Spacing

center to center for 48" silt fence



TYPICAL DIVERSION BERM NOT TO SCALE

- support post or to woven wire which is in turn attached to the steel fence posts. A minimum of 3 ties are required for

- Sediment trapped by this practice shall be uniformly

MAINTENANCE SCHEDULE:

The following Maintenance Schedule has been provided. The INSPECTOR must perform the Inspections. The OPERATOR/CONTRACTOR must perform all needed maintenance. Furthermore, all erosion control features requiring maintenance may not be listed below. The OPERATOR/CONTRACTOR and INSPECTOR must perform their respective duties on all BMP's that are not listed below as well.

- Construction Entrance The entrance shall be maintained in a condition which will prevent tracking or flow of sediment onto public rights-of-way. This may require periodic top dressing with additional stone or the washing and reworking of existing stone as conditions demand and repair and/or cleanout of any structures used to trap sediment. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains must be removed immediately. The use of water trucks to remove materials dropped, washed, or tracked onto roadways will not be permitted under any circumstances.
- Silt Fence The maintenance measures are as follows; (2.1) silt fences shall be inspected immediately after each rainfall and at least daily during prolonged rainfall, any required repairs shall be made immediately; (2.2) close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting; (2.3) should the fabric on a silt fence decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly; (2.4) sediment deposits must be removed when the level of deposition reaches approximately one-half the height of the barrier; and (2.5) any sediment deposits remaining in place after the silt fence is no longer required shall be dressed to conform to the existing grade, prepared and seeded.
- Storm Drain Inlet Protection The maintenance measures are as follows; (3.1) structures shall be inspected after each rain and repairs made as necessary and (3.2) structures shall be removed and the area stabilized when the remaining drainage area has been properly stabilized.
- Temporary Fill Diversion Since the practice is temporary and under most situations will be covered the next working day. The maintenance required should be low. If the practice is to remain in use for more than one day, an inspection shall be made at the end of each work day and repairs made to the measure if needed. The OPERATOR/CONTRACTOR should avoid the placement of any material over the structure while it is in use. Construction traffic should not be permitted to cross the diversion.
- Temporary Seeding Areas which fail to establish vegetative cover adequate to prevent rill erosion will be re-seeded as soon as such areas are identified. Control weeds by mowing.
- Permanent Seeding The maintenance measures are as follows: (9.1) in general, a stand of vegetation cannot be determined to be fully established until it has been maintained for one full year after planting; (9.2) new seedlings shall be supplied with adequate moisture, supply water as needed, especially late in the season, in abnormally hot or dry conditions, or on adverse sites, water applications shall be controlled to prevent excessive runoff; (9.3) inspect all seeded areas for failures and make necessary repairs, replacements, and reseedings within the planting season, if possible; [9.3a] if stand is inadequate for erosion control, over seed and fertilize using half of the rates originally specified; [9.3b] if stand is 60% damaged, re-establish following seedbed and seeding recommendations; [9.3c] if stand has less than 40% cover, re-evaluate choice of plant materials and quantities of lime and fertilizer, the soil must be tested to determine if acidity or nutrient imbalances are responsible, re-establish the stand following seedbed and seeding recommendations.
- Mulching All mulches and soil coverings should be inspected periodically (particularly after rainstorms) to check for erosion. Where erosion is observed in mulched areas, additional mulch should be applied. Nets and mats should be inspected after rainstorms for dislocation or failure. If washouts or breakage occur, reinstall netting or matting as necessary after repairing damage to the slope or ditch. Inspections should take place until grasses are firmly established. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface; repair as needed.
- Soil Stabilization Blankets & Matting All soil stabilization blankets and matting should be inspected periodically following installation, particularly after rainstorms to check for erosion and undermining. Any dislocation or failure should be repaired immediately. If washouts or breakage occurs, reinstall the material after repairing damage to the slope or ditch. Continue to monitor these areas until which time they become permanently stabilized; at that time an annual inspection should be adequate.
- Street Cleaning/Sweeping The maintenance measures are as follows; (12.1) evaluate access points daily for sediment tracking; (12.2) when tracked or spilled sediment is found on paved surfaces, it will be removed daily, during times of heavy track-out such as during rains, cleaning may be done several times throughout the day; (12.3) unknown spills or objects will not be mixed with the sediment; and (12.4) if sediment is mixed with other pollutants, it will be disposed of properly at an authorized landfill.

GENERAL NOTES

- 1. All OPERATORS/CONTRACTORS must confirm with the APPLICANT that any and all applicable governmental approvals have been received prior to the start of work.
- BMP's may not be removed without INSPECTOR and applicable government approval.
- The APPLICANT, INSPECTOR, and CONTRACTORS/OPERATORS must adhere to all Good Housekeeping BMP's presented within the Omaha Regional Stormwater Design Manual Chapter 9 Section 9.6. Good Housekeeping BMP's focus on keeping the work site clean and orderly while handling materials and waste in a manner that eliminates the potential for pollutant runoff. Good Housekeeping BMP's such as Sanitary Waste Management (9.6.2), Solid Waste Management (9.6.3), Material Delivery & Storage (9.6.4), Street Cleaning/Sweeping (9.6.5), and Vehicle & Equipment Fueling (9.6.6) must be addressed when applicable. The aforementioned publications can be found at http://www.omahastormwater.org.
- The SWPPP documents (e.g., NDEQ-NPDES, SWPPP-SM, SWPPP-N, etc.) are essential and a requirement in one part is as binding as though occurring in all. The SWPPP documents are complementary. The documents describe and provide the complete SWPPP. The APPLICANT, INSPECTOR, and/or CONTRACTORS/OPERATORS may not take advantage of any apparent SWPPP errors or omissions. The INSPECTOR shall notify the APPLICANT, DESIGNER, and CONTRACTORS/OPERATORS promptly of any omissions or errors. The APPLICANT shall instruct the DESIGNER to make any corrections necessary to fulfill the overall intent of the SWPPP Documents (e.g., Grading Permit Modification Form). In the case of a discrepancy between parts of the SWPPP documents, the most stringent requirement shall rule.

STANDARD DETAILS

Details for the various BMP's can be found in the Omaha Regional Stormwater Design Manual (ORSWDM) (found at: http://www.omahastormwater.org) in the sections referenced below.

SECTION	NAME
9.5.5 9.5.7 9.5.8 9.5.14 9.5.16 9.5.19 9.5.20 9.5.22	Storm Drain Inlet Protection Temporary Diversion Dike Temporary Fill Diversion Temporary Sediment Trap Dust Control Temporary Seeding Permanent Seeding
9.5.22 9.5.23 9.6.2 9.6.3 9.6.4 9.6.5 9.6.6 9.6.7 9.6.8	Mulching Soil Stabilization Blankets & Matting Sanitary Waste Management Solid Waste Management Material Delivery And Storage Street Cleaning/Sweeping Vehicle And Equipment Fueling SWPPP Notification Sign Concrete Washout

terraces, etcetera.

Proceed with removal of BMP's.

CONSTRUCTION ACTIVITIES & SCHEDULING

ACTIVITY	SCHEDULE
Install all BMP's needed and associated with the Grading Phase such as stabilized construction entrances, silt basins, riser pipes, outlet pipes, silt traps, silt fence, diversions,	Prior to any stripping of existing vegetation or grading.

After Installing all BMP's needed and associated with the Proceed with stripping of existing vegetation and grading in accordance with the grading plan, while disturbing no more

Grading Phase. Furthermore, INSPECTOR approval must be obtained before the start of any stripping of existing than is necessary. vegetation or grading.

Infrastructure installation must occur prior to any lot Proceed with infrastructure installation. development.

Implement the installation of Temporary Seeding, Permanent Stabilization measures must be initiated as soon as possible Seeding, and/or Mulching. in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than

14 days after the construction activity in that portion of the site has temporarily or permanently ceased.

Implement the installation all BMP's needed and associated Building Phase BMP's must be installed concurrently with lot with the Building Phase. development.

> BMP's may not be removed until each impacted drainage basin has been fully developed. Full development shall mean installation of pavement, buildings, and utilities, landscaping, and fully established permanent seeding. Furthermore, INSPECTOR approval must be obtained before the removal of any BMP's.



know what's **below**. **Call** before you dig.

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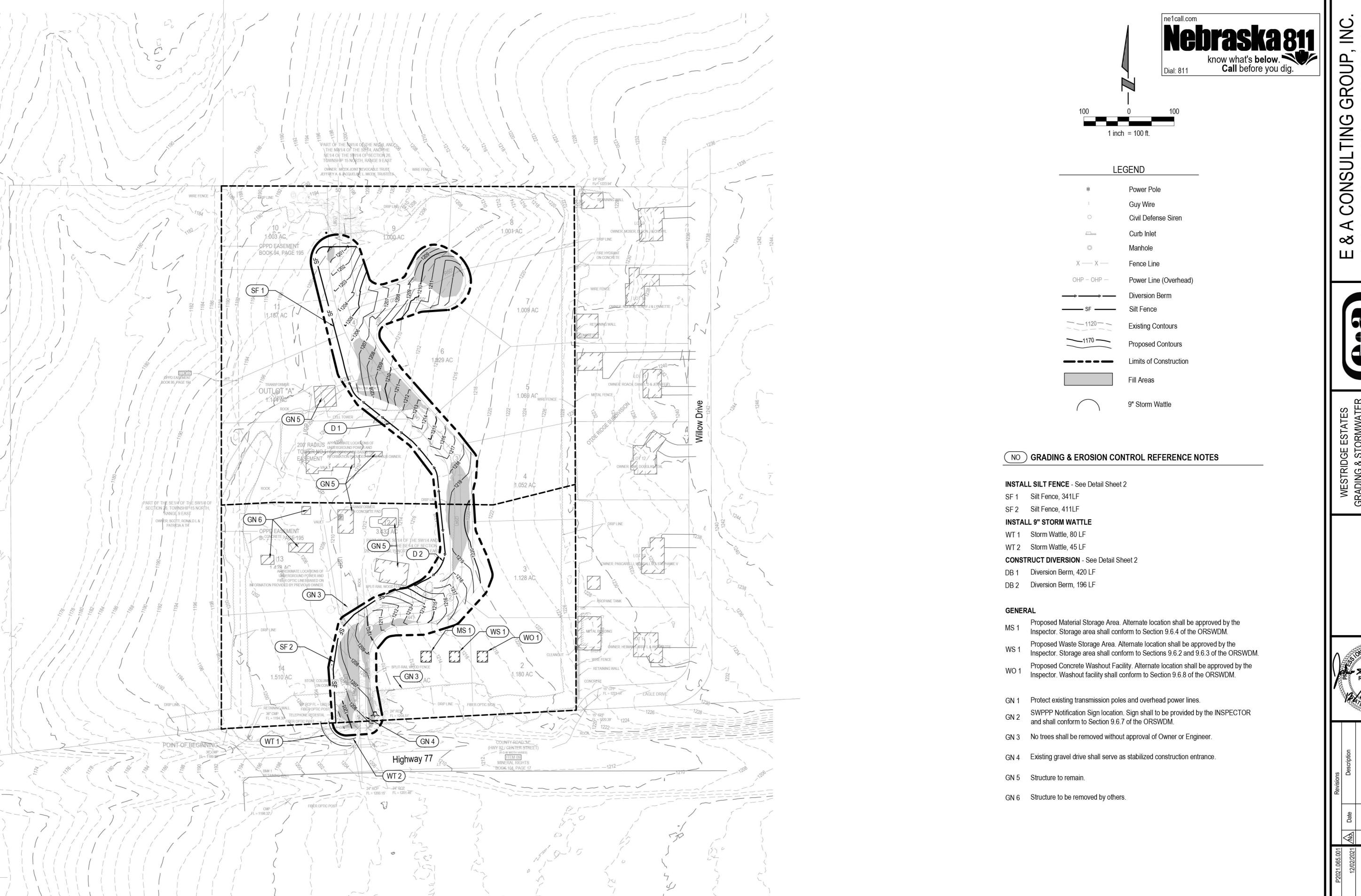
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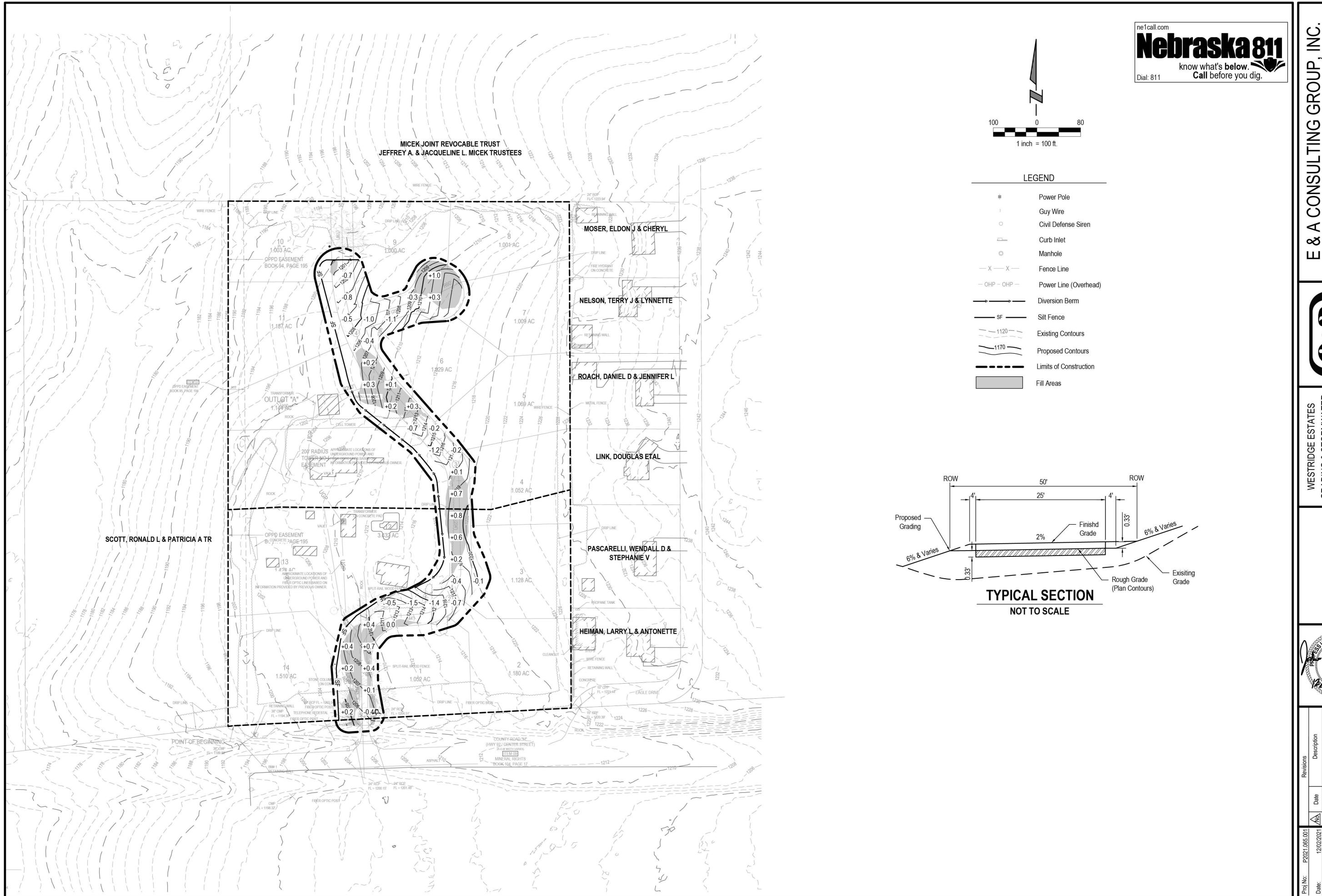
WESTRIDGE ESTATES GRADING & STORMWATER POLLUTION PREVENTION

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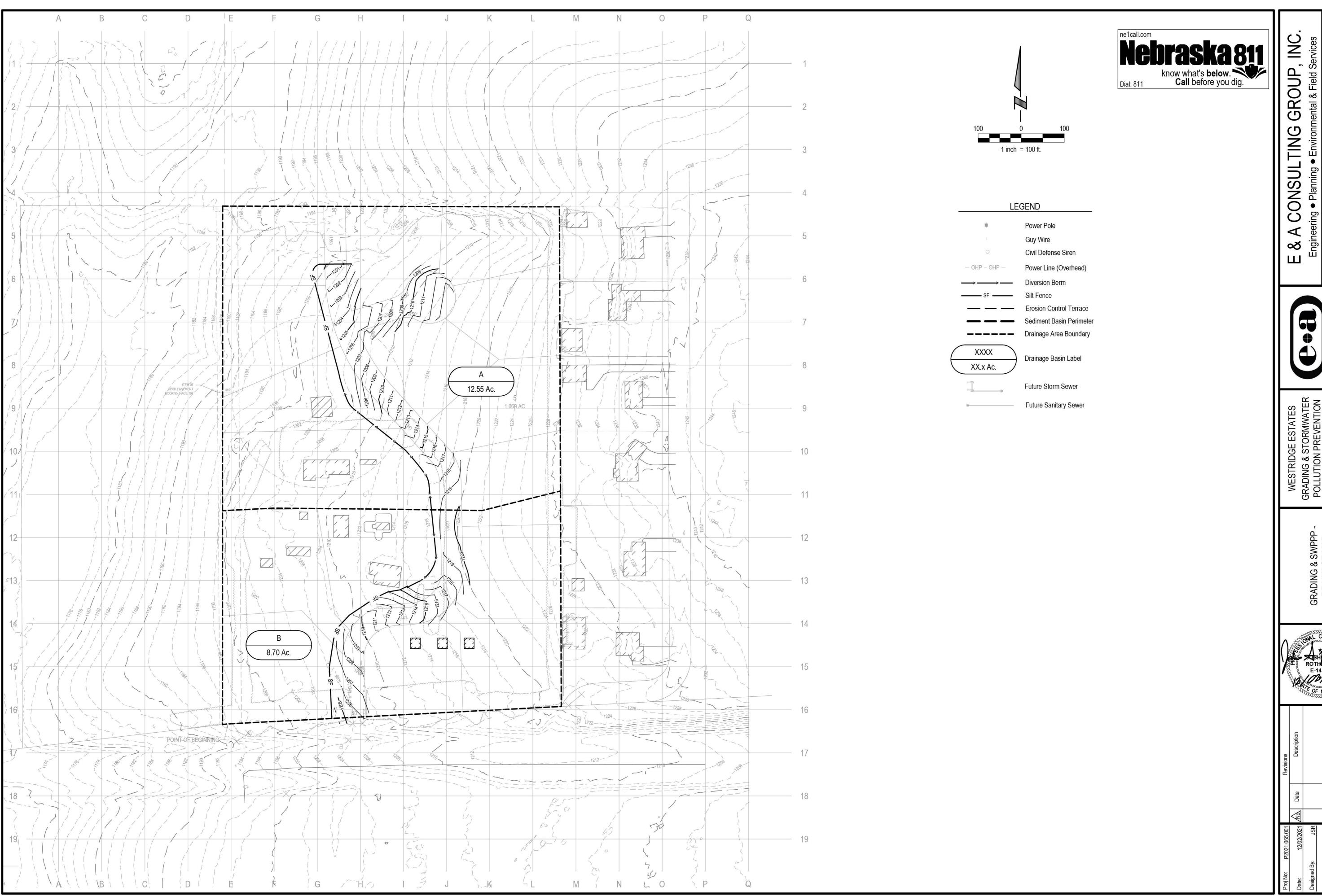


GRADING & SWPPP. GRADING



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GRADING & SWPPP -CUT-FILL TICKS



GRADING & SWPPP -DRAINAGE MAP