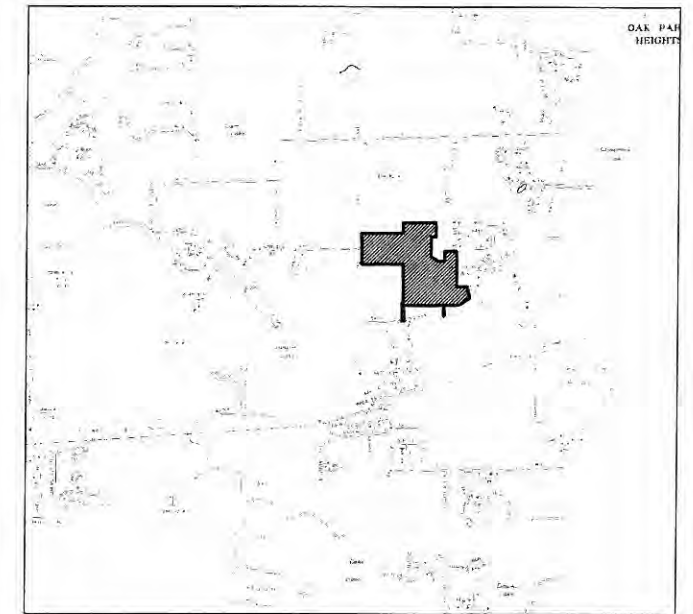


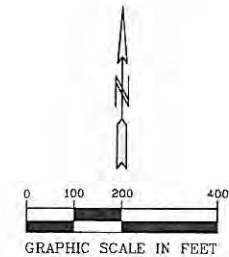
# WILDFLOWER AT LAKE ELMO

## FINAL GRADING, DRAINAGE & EROSION CONTROL PLAN

### LAKE ELMO, MINNESOTA



LOCATION MAP



**PROPOSED SETBACKS PER DESIGN FORUM**

**RIDGE LOTS**  
 FRONT-25'  
 SIDE HOUSE-15'  
 SIDE GARAGE-10'  
 SIDE STREET-25'  
 REAR-VARIABLE TO MAINTAIN BLUFF VEGETATION AND SLOPE EROSION(25' MINIMUM)

**CONSERVANCY LOTS**  
 FRONT-25'  
 SIDE HOUSE-15'  
 SIDE GARAGE-10'  
 SIDE STREET-25'  
 REAR-VARIABLE TO MAINTAIN BLUFF VEGETATION AND SLOPE EROSION(25' MINIMUM)

**PRAIRIE LOTS**  
 FRONT-25'  
 SIDE HOUSE-10'  
 SIDE GARAGE-5'  
 SIDE STREET-15'  
 REAR-30'

**COURTYARD LOTS**  
 FRONT-25'  
 SIDE HOUSE-10'(OR 7.5')  
 SIDE GARAGE-5'(OR 7.5')  
 SIDE STREET-15'  
 SIDE ALLEY-10'  
 REAR-22'

**SPECIFIC CONDITIONS FOR SETBACK DESIGN FEATURES, FRONT, REAR, AND SIDE YARDS, TO ALLOW FOR OVERLAPPING ARCHITECTURAL AND LANDSCAPE ELEMENTS IN SETBACK AREAS.**

- A. FIREPLACE BUILD OUTS (CHIMNEY & VENT BOIES) 2'-0" MAX.
- B. WINDOW BAYS OR BOX OUT FEATURES (CANTILEVERED) 2'-0" MAX.
- C. CANTILEVERED FLOOR AREAS (1 & 2 STORED) 2'-0" MAX.
- D. FRONT PORCHES 10'-0" MAX. OR 6'-0" INSIDE FRONT P.L.
- E. ROOF OVERHANGS ALL SIDES 3'-0" MAX.
- F. HIGH FENCES-NOT ATTACHED TO HOUSE (MAX HT. 5'-6") 3'-0" MAX. SIDE YD.
- G. LOW FENCES (30"-36" HT)-FRONT & REAR YD-ALLOWED. CONSISTENT WITH SIZE OF PRIVATE PATIOS, DECKS AND GARDEN AREAS. FRONT YD. OR 8'-0" INSIDE FRONT P.L. REAR YD. NOT TO EXCEED 12'-0" PAST GARAGE DOOR WALL FACE.
- H. DECK & PATIOS-FRONT YD. 8'-0" INSIDE FRONT P.L.
- I. DECK & PATIOS-SIDE YD. 3'-0" INSIDE FRONT P.L.
- J. DECK & PATIOS-REAR YD. NOT TO EXCEED 12'-0" PAST GARAGE DOOR WALL FACE.
- K. TRELLIS, ARBORS, GATEWAYS & FEATURES. LOCATION & SIZE TO BE CONSISTENT WITH SIZE OF PRIVATE PATIOS, DECKS & GARDEN AREAS.

**OUTLOT OWNERSHIP**

OUTLOT A	HOME OWNERS ASSOC.
OUTLOT B	LAKE ELMO
OUTLOT C	LAKE ELMO
OUTLOT D	HOME OWNERS ASSOC.
OUTLOT E	HOME OWNERS ASSOC.
OUTLOT F	HOME OWNERS ASSOC.
OUTLOT G	HOME OWNERS ASSOC.
OUTLOT H	HOME OWNERS ASSOC.
OUTLOT I	HOME OWNERS ASSOC.
OUTLOT J	LAKE ELMO
OUTLOT K	LAKE ELMO
OUTLOT L	HOME OWNERS ASSOC.
OUTLOT M	HOME OWNERS ASSOC.
OUTLOT N	DEVELOPER
OUTLOT O	HOME OWNERS ASSOC.
OUTLOT P	HOME OWNERS ASSOC.

**PREPARED BY PIONEER ENGINEERING, P.A.**

**JOHN M. MOLINARO**  
 REGISTERED PROFESSIONAL CIVIL ENGINEER  
 45831  
 REG. NO.

**PETER J. HAWKINSON**  
 REGISTERED PROFESSIONAL LAND SURVEYOR  
 42299  
 REG. NO.

**DEVELOPER**

**ROBERT ENGSTROM COMPANIES**  
 4801 WEST 81ST STREET, SUITE 101  
 MINNEAPOLIS, MINNESOTA 55437-1111  
 CONTACT: ROBERT ENGSTROM  
 ROBERTEENGRSTROM@GMAIL.COM  
 (952) 893-1001

**LANDOWNER**

**ROBERT ENGSTROM COMPANIES**  
 4801 WEST 81ST STREET, SUITE 101  
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 (952) 893-1001

**PROPOSED DEVELOPMENT PHASING**  
 MASS GRADING TO BE PERFORMED IN ONE PHASE.  
 UTILITY AND STREET CONSTRUCTION TO BE PERFORMED IN THREE PHASES.



**SHEET INDEX**

- G-1. COVER SHEET
- G-2. LEGENDS
- G-3. FINAL GRADING PLAN OVERALL
- G-4-11. FINAL GRADING PLAN
- G-12-13. EROSION CONTROL PLAN
- G-14-15. SEEDING PLAN
- G-16-18. GRADING DETAILS
- E-1. PHASING/BUFFER EXHIBIT
- E-2. INTERIM RETAINING WALL GRADING
- E-3. LIFT STATION EXHIBIT
- P-1-4. STREET PROFILES
- T1. SOUTH ENRANCE TREE INVENTORY
- T2. TREE PROTECTION PLAN
- T3. TREE PROTECTION PLAN



2422 Enterprise Drive  
 Mendota Heights, MN 55120  
 (651) 681-1914  
 Fax: 681-9488  
 www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
 Name: John M. Molinaro  
 Reg. No: 45831  
 Date: 02-13-15

Revisions:  
 1 04-07-15 City Comments  
 2 04-28-15 City Comments  
 3 05-06-15 City/Watershed Comments  
 4 05-12-15 City/Watershed Comments

06-11-15 Contyand/Sunflower Revision  
 6 07-02-15 City/Watershed Comments

Date: 02-13-15  
 Designed: RAW/BJM  
 Drawn: KAW/BJM

COVER SHEET

**ROBERT ENGSTROM COMPANIES**  
 4801 WEST 81ST STREET, SUITE 101  
 MINNEAPOLIS, MINNESOTA 55437-1111

**WILDFLOWER AT LAKE ELMO**  
 LAKE ELMO, MINNESOTA

G-1 of 18

LEGEND			
<b>EXISTING</b>	<b>UTILITY LINES</b>	<b>FUTURE</b>	<b>DESCRIPTION</b>
			SANITARY MANHOLE SANITARY SEWER (SANITARY & WATERMAIN PLANS) SANITARY SEWER (STORM SEWER PLANS) FORCE MAIN HYDRANT GATE VALVE REDUCER CURB STOP WATERMAIN (SANITARY & WATERMAIN PLANS) WATERMAIN (STORM SEWER PLANS) CATCH BASIN BEEHIVE STORM MANHOLE FLARED END SECTION CONTROL STRUCTURE STORM SEWER (SANITARY & WATERMAIN PLANS) STORM SEWER (STORM SEWER PLANS) CULVERT PERFORATED DRAINTILE SOLID DRAINTILE SERVICE CASING UNDERGROUND ELECTRIC LINE UNDERGROUND FIBER OPTIC LINE UNDERGROUND GAS PIPELINE UNDERGROUND PETROLEUM PIPELINE UNDERGROUND TELEPHONE LINES UNDERGROUND TELEVISION LINE OVERHEAD UTILITY LINES
<b>EXISTING</b>	<b>PROPOSED</b>	<b>FUTURE</b>	<b>DESCRIPTION</b>
			SURMOUNTABLE CURB & GUTTER B-STYLE CURB & GUTTER RIBBON CURB & GUTTER EDGE OF BITUMINOUS YELLOW PAVEMENT STRIPING (SINGLE/DOUBLE) WHITE PAVEMENT STRIPING (SINGLE/DOUBLE) PHASE LINE CENTERLINE 2' CONTOUR LINE 10' CONTOUR LINE POND OUTLET LINE POND HIGH WATER LINE PROPOSED SPOT ELEVATION EMERGENCY OVERFLOW DRAINAGE FLOW ARROW DELINEATED / PROPOSED WETLAND LINE WETLAND BUFFER TREE LINE FEMA FLOODPLAIN BOUNDARY RETAINING WALL FENCE (BARBED WIRE) FENCE (CHAIN LINK) FENCE (WOOD) CONSERVATION AREA SIGN WETLAND BUFFER SIGN TYPE III BARRICADE LIGHT POLE STREET SIGNS PEDESTRIAN RAMP
<b>EXISTING</b>	<b>PROPOSED</b>	<b>FUTURE</b>	<b>DESCRIPTION</b>
			BOUNDARY RIGHT OF WAY LOT LINE EASEMENT SET BACK LINE SECTION LINE RESTRICTED ACCESS
HATCH PATTERNS			
	GRAVEL SURFACE		WETLAND
	BITUMINOUS SURFACE		WETLAND UPLAND BUFFER
	CONCRETE SURFACE		WETLAND MITIGATION
	RIP RAP		PERMANENT TURF RESTORATION
	SELECT BACKFILL MATERIAL		PERMANENT WET BASIN SEEDING
	EROSION CONTROL BLANKET MNDOT CATEGORY PER PLAN		UPLAND/NATURAL AREA SEEDING

TOPOGRAPHIC SYMBOLS	
	CATCH BASIN
	CATCH BASIN BEEHIVE
	FLARED END SECTION
	GATE VALVE
	HYDRANT
	WATER SERVICE
	WATER WELL
	MONITORING WELL
	CLEANOUT
	HAND HOLE
	MANHOLE OTHER THAN SANITARY OR STORM
	SANITARY OR STORM MANHOLE
	LAWN SPRINKLER VALVE
	LAWN SPRINKLER HEAD
	UTILITY POLE
	TRANSFORMER BOX
	FIBER OPTIC BOX
	ELECTRIC BOX
	NATURAL GAS METER
	LIGHT POLE
	SEMAPHORE
	TELEPHONE BOX
	CABLE BOX
	CAST IRON MONUMENT
	FOUND IRON PIPE
	JUDICIAL LAND MARK
	PK NAIL
	CONTROL POINT
	SPIKE
	FLAG POLE
	TEST HOLE
	MAILBOX
	SIGN
	BOLLARD
	CONSERVATION POST
	DECIDUOUS TREE
	CONIFEROUS TREE
	SHRUB / BUSH

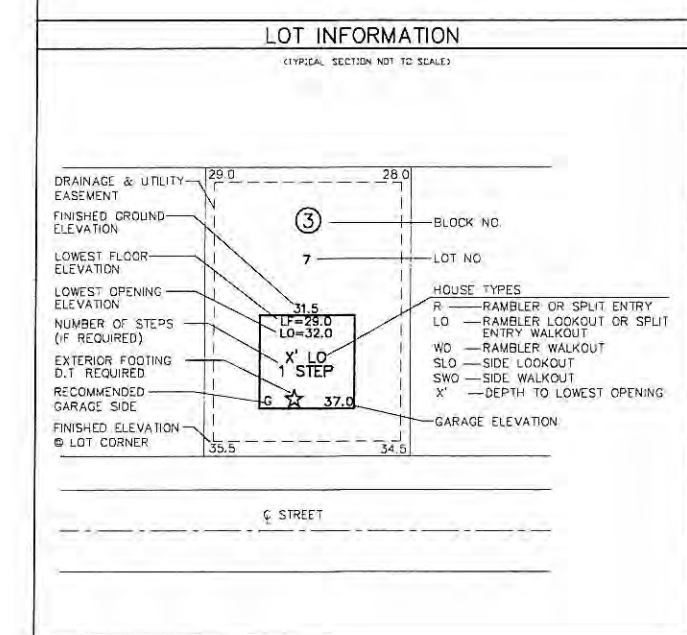
  

EROSION & SEDIMENT CONTROL	
	STANDARD EROSION CONTROL
	SECONDARY EROSION CONTROL FENCE
	EROSION CONTROL AT BACK OF CURB
	TREE FENCE
	CATCH BASIN INLET PROTECTION
	STRAW BIO ROLLS
	ROCK BERM
	SUMPED RIP RAP PERMANENT ENERGY DISSIPATER
	DISCHARGE LOCATION
	GRAVEL CONSTRUCTION ENTRANCE
	TEMPORARY OUTLET FLOATING SKIMMER
	BASIN ACCESS 8% SLOPE MAX.
	STEEP SLOPE AREA

CURB LEGEND	
	= TOP OF CURB ELEVATION FOR SURMOUNTABLE CURB
	= TOP OF CURB ELEVATION FOR SURMOUNTABLE CURB (TIP OUT GUTTER)
	= TOP OF CURB ELEVATION FOR B61B CURB
	= TOP OF CURB ELEVATION FOR B61B CURB (TIP OUT GUTTER)
	= BITUMINOUS ELEVATION

ABBREVIATIONS	
A	ALGEBRAIC DIFFERENCE
BV	BUTTERFLY VALVE
BMP	BEST MANAGEMENT PRACTICE
C	CENTER LINE
CB	CATCHBASIN
CBMH	CATCHBASIN MANHOLE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CS	CURB STOP
DIP	DUCTILE IRON PIPE
DT	DRAINTILE
EL/ELEV	ELEVATION
EX	EXISTING
FES	FLARED END SECTION
F-F	FACE TO FACE
FM	FORCEMAIN
GB	GRADE BREAK
GND	GROUND
GV	GATE VALVE
HP	HIGH POINT
HYD	HYDRANT
HWL	HIGH WATER LEVEL
INV	INVERT
K	CURVE COEFFICIENT
L	LENGTH
LF	LOWEST FLOOR
LO	LOOKOUT
LO	LOWEST OPENING
LP	LIQUID PETROLEUM
LP	LOW POINT
MH	MANHOLE
PC	POINT OF CURVATURE
PCC	COMPOUND CURVE
PI	POINT OF INTERSECTION
P	PROPERTY LINE
PRC	POINT OF REVERSE CURVATURE
PVT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
R	RAMBLER
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT OFF WAY
SSWR	SANITARY SEWER
STA	STATION
STRM	STORM SEWER
SWPPP	STORM WATER POLLUTION PROTECTION PLAN
TNH	TOP NUT HYDRANT
TYP	TYPICAL
WM	WATER MAIN
WO	WALKOUT



**CITY OF LAKE ELMO**  
 GRADING AND EROSION CONTROL PLANS  
 STANDARD PLAN NOTES  
 FEBRUARY 2015

1. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AND RECORD THEM AS SHOWN ON THE PLANS. ANY UNDETECTED UTILITIES SHALL BE STOPPED IMMEDIATELY AND REPORTED TO THE ENGINEER AND THE CITY OF LAKE ELMO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE CITY OF LAKE ELMO AND THE STATE OF MINNESOTA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE CITY OF LAKE ELMO AND THE STATE OF MINNESOTA.

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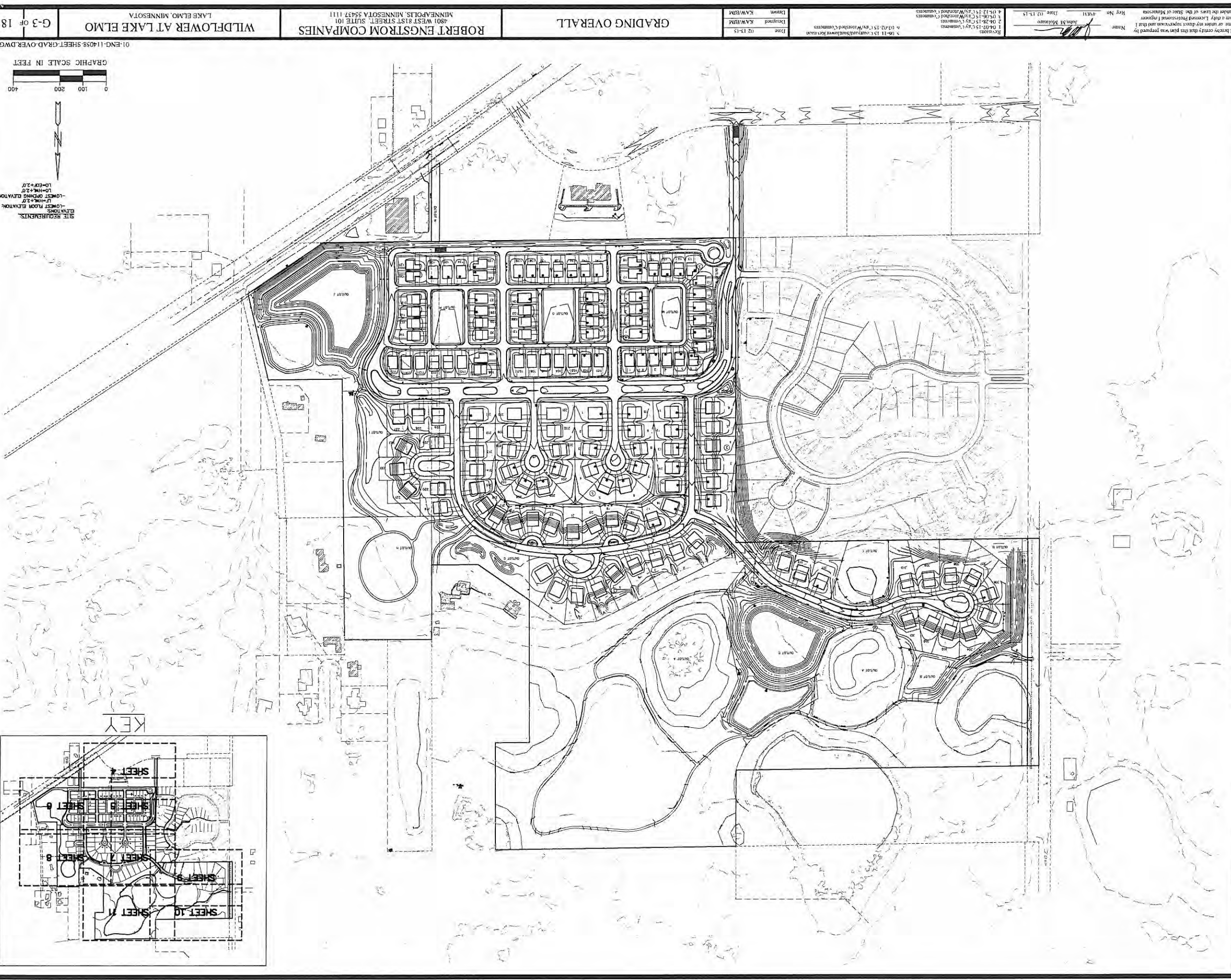
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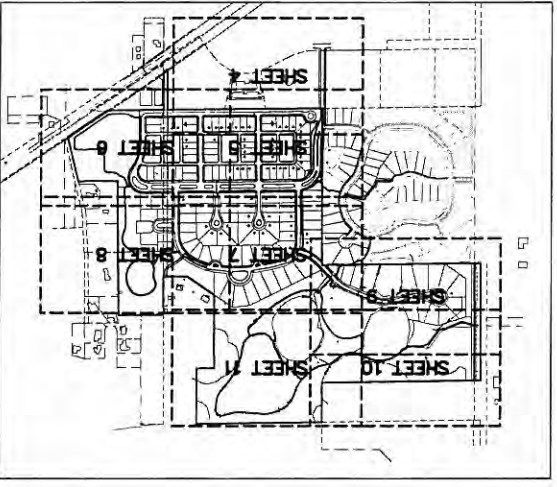
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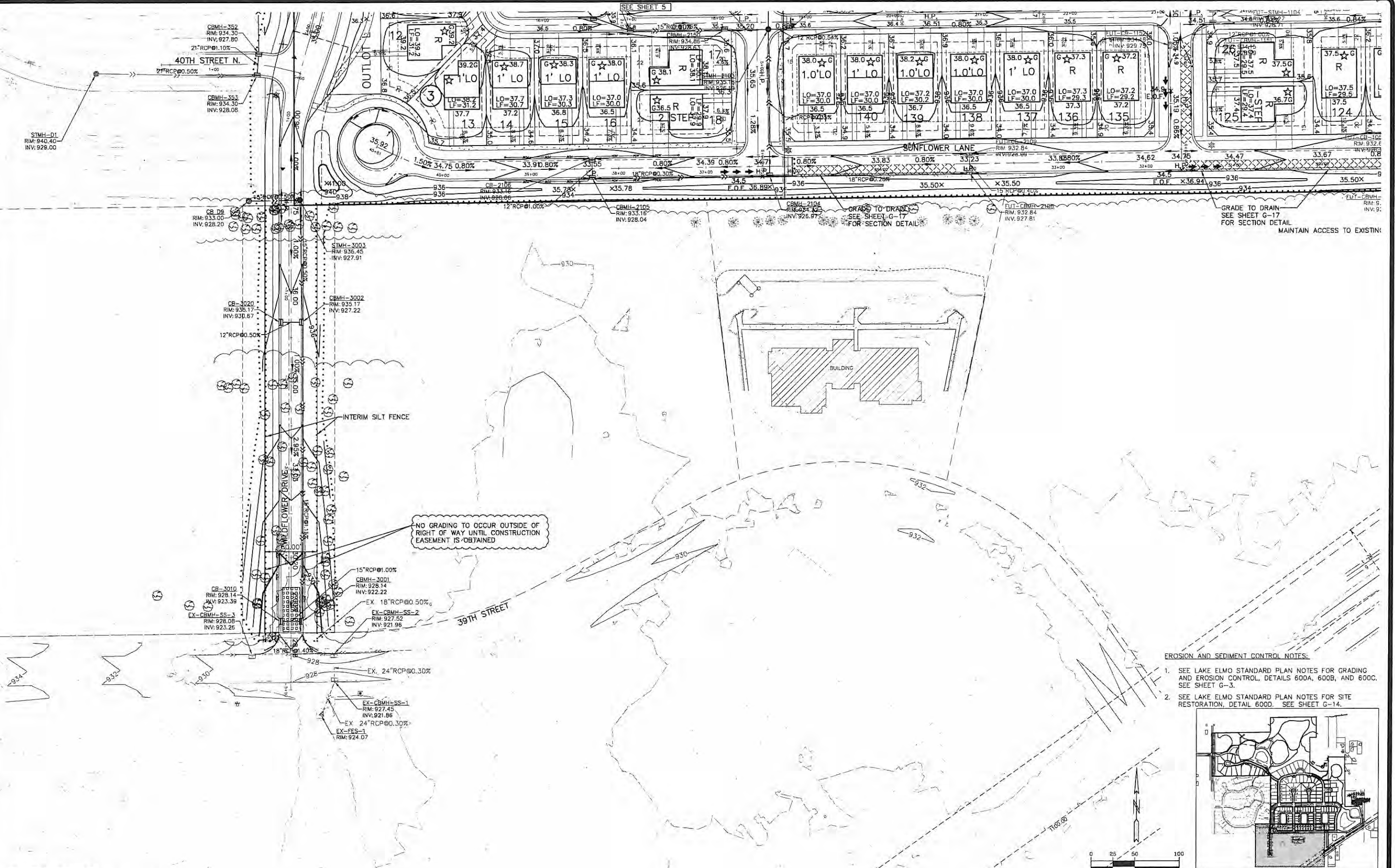


**WILDFLOWER AT LAKE ELMO**  
 LAKE ELMO, MINNESOTA  
 01-ENG-114058-SHEET-GRAD-OVER-DWG  
 G-3 OF 18

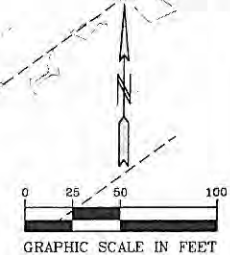
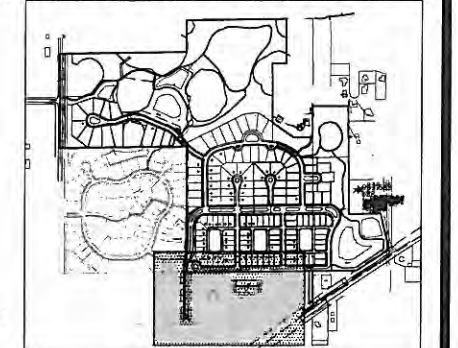
**GRAPHIC SCALE IN FEET**  
 0 100 200 400

**SITE REQUIREMENTS:**  
 1. FLOOR ELEVATION  
 2. LOWEST GRADE ELEVATION  
 3. 10'-0" MIN. CLEARANCE  
 4. 10'-0" MIN. CLEARANCE





- EROSION AND SEDIMENT CONTROL NOTES:**
- SEE LAKE ELMO STANDARD PLAN NOTES FOR GRADING AND EROSION CONTROL, DETAILS 600A, 600B, AND 600C. SEE SHEET G-3.
  - SEE LAKE ELMO STANDARD PLAN NOTES FOR SITE RESTORATION, DETAIL 600D. SEE SHEET G-14.



I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
 Name: John M. Molinaro  
 Reg. No: 45831  
 Date: 02/13/15

Revisions:  
 1 04-07-15 Cg/C comments  
 2 04-26-15 Cg/C comments  
 3 05-06-15 Cg/Waersched Comments  
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 Drawn: KAW/BIM

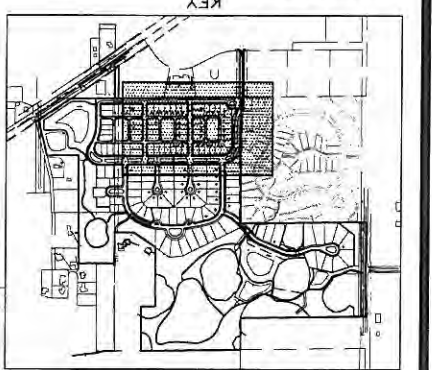
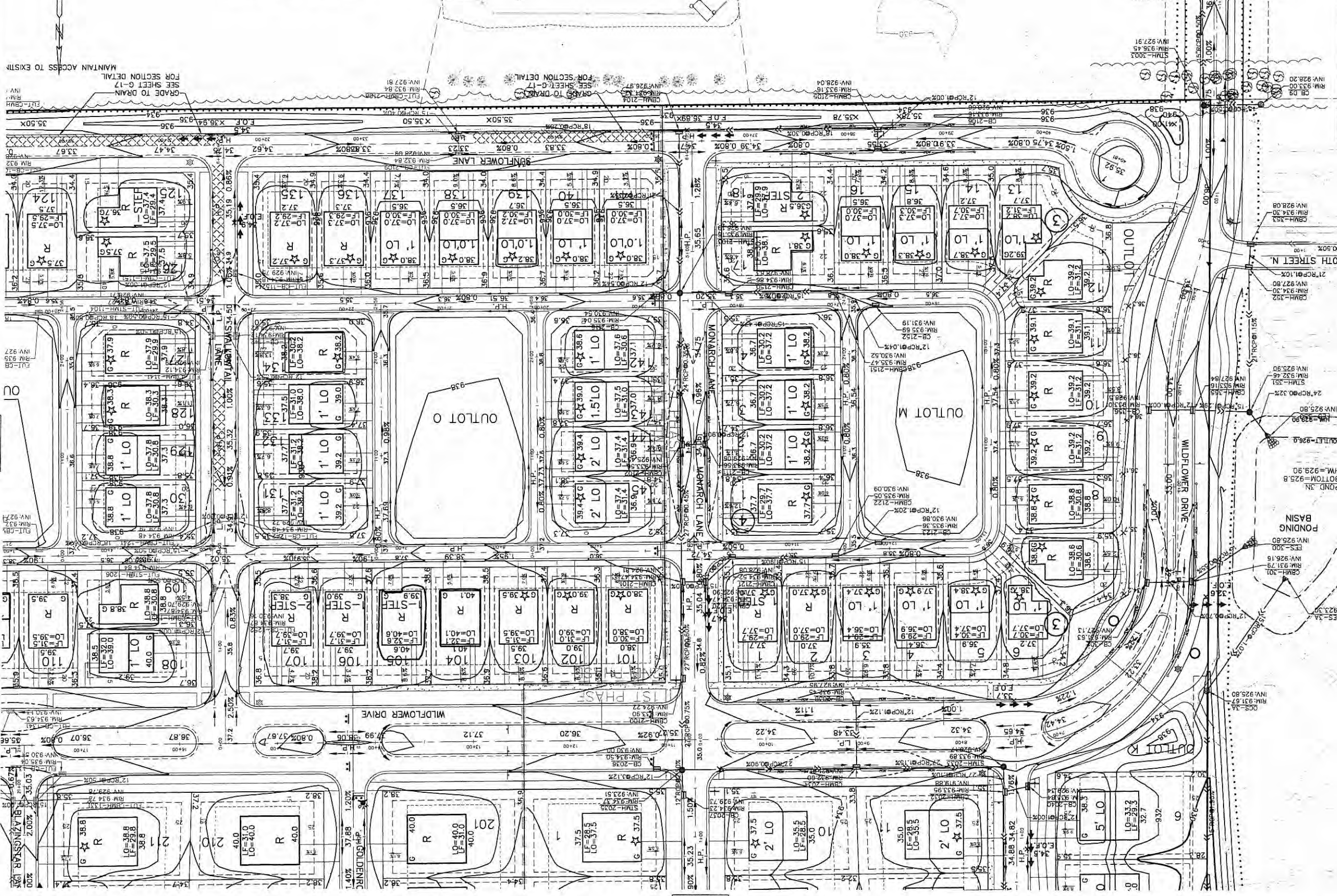
EROSION AND SEDIMENT CONTROL NOTES:

1. SEE LAKE ELMO STANDARD PLAN NOTES FOR GRADING AND EROSION CONTROL DETAILS 600A, 600B, AND 600C. SEE SHEET G-3.

2. SEE LAKE ELMO STANDARD PLAN NOTES FOR SITE RESTORATION, DETAIL 600D, SEE SHEET G-14.

GRAPHIC SCALE IN FEET

0 25 50 100



FOR SECTION DETAIL  
 SEE SHEET G-17  
 GRADE TO DRAIN

FOR SECTION DETAIL  
 SEE SHEET G-17  
 GRADE TO DRAIN

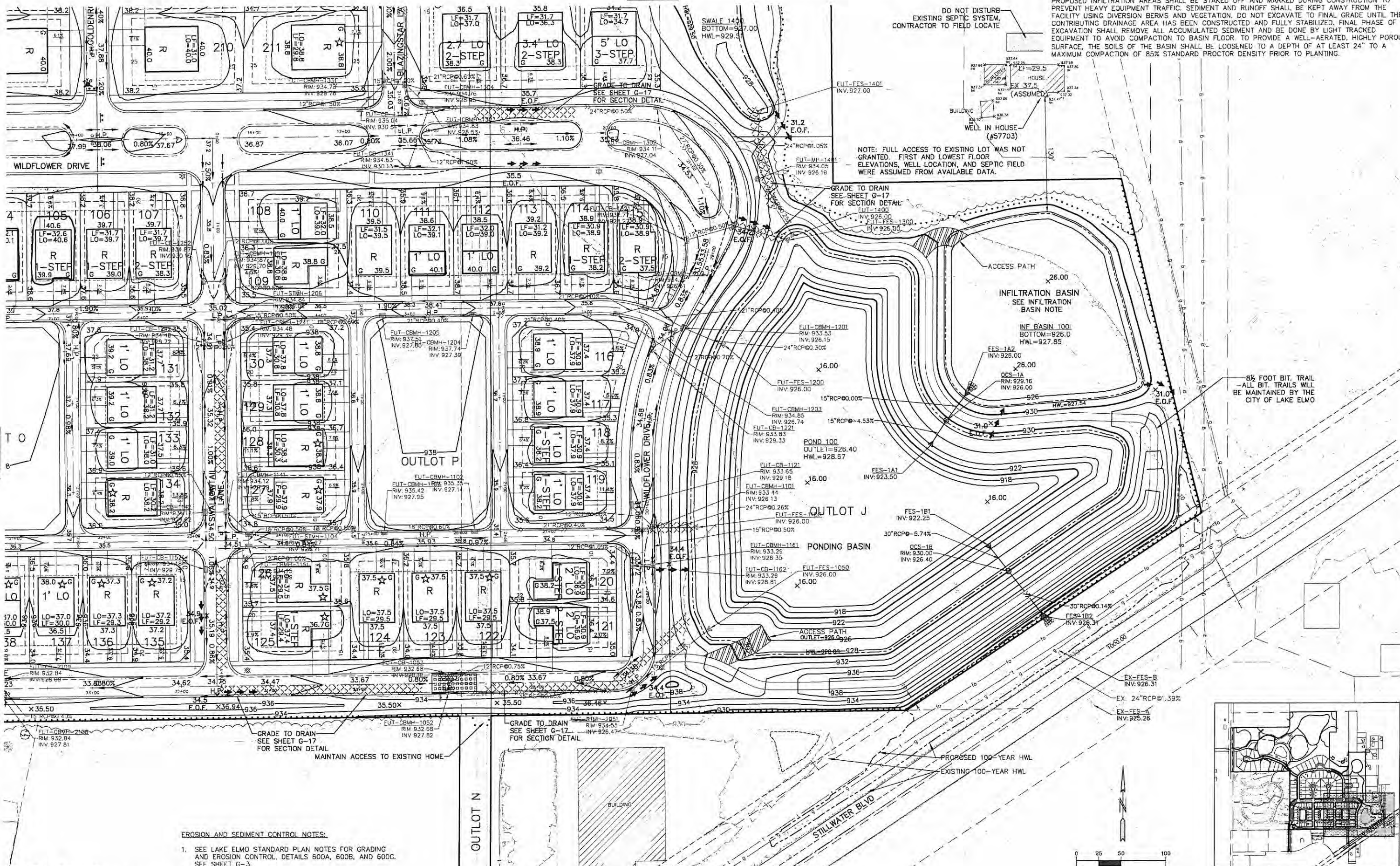
SEE SHEET 8

INFILTRATION NOTE:  
PROPOSED INFILTRATION AREAS SHALL BE STAKED OFF AND MARKED DURING CONSTRUCTION TO PREVENT HEAVY EQUIPMENT TRAFFIC. SEDIMENT AND RUNOFF SHALL BE KEPT AWAY FROM THE FACILITY USING DIVERSION BERMS AND VEGETATION. DO NOT EXCAVATE TO FINAL GRADE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED. FINAL PHASE OF EXCAVATION SHALL REMOVE ALL ACCUMULATED SEDIMENT AND BE DONE BY LIGHT TRACKED EQUIPMENT TO AVOID COMPACTION TO BASIN FLOOR. TO PROVIDE A WELL-AERATED, HIGHLY POROUS SURFACE, THE SOILS OF THE BASIN SHALL BE LOOSENEED TO A DEPTH OF AT LEAST 24" TO A MAXIMUM COMPACTION OF 85% STANDARD PROCTOR DENSITY PRIOR TO PLANTING.

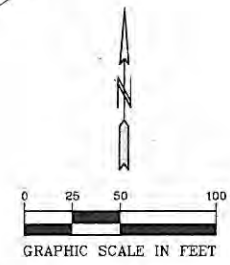
DO NOT DISTURB EXISTING SEPTIC SYSTEM. CONTRACTOR TO FIELD LOCATE

NOTE: FULL ACCESS TO EXISTING LOT WAS NOT GRANTED. FIRST AND LOWEST FLOOR ELEVATIONS, WELL LOCATION, AND SEPTIC FIELD WERE ASSUMED FROM AVAILABLE DATA.

8 1/2 FOOT BIT. TRAIL - ALL BIT. TRAILS WILL BE MAINTAINED BY THE CITY OF LAKE ELMO



- EROSION AND SEDIMENT CONTROL NOTES:**
- SEE LAKE ELMO STANDARD PLAN NOTES FOR GRADING AND EROSION CONTROL, DETAILS 600A, 600B, AND 600C. SEE SHEET G-3.
  - SEE LAKE ELMO STANDARD PLAN NOTES FOR SITE RESTORATION, DETAIL 600D. SEE SHEET G-14.



**PIONEER engineering**  
CIVIL/ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS  
2422 Enterprise Drive  
Mendota Heights, MN 55120  
(651) 681-1914  
Fax: 681-9488  
www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
Name: John M. Molinaro  
Reg. No: 45831  
Date: 02-11-15

Revisions:  
1. 04-07-15 City Comments  
2. 04-28-15 City Comments  
3. 05-06-15 City/Watershed Comments  
4. 05-17-15 City/Watershed Comments  
5. 06-11-15 County/Sunflower Revision  
6. 07-02-15 City/Watershed Comments

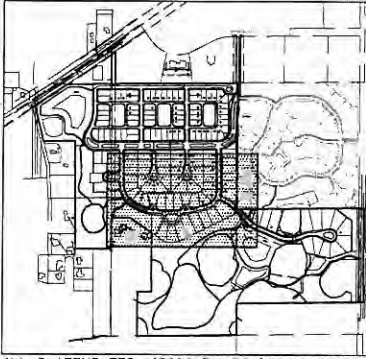
Date: 02-13-15  
Designed: KAW/BIM  
Drawn: KAW/BIM

**GRADING AND EROSION CONTROL**

**ROBERT ENGSTROM COMPANIES**  
4801 WEST 81ST STREET, SUITE 101  
MINNEAPOLIS, MINNESOTA 55437-1111

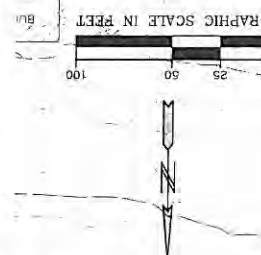
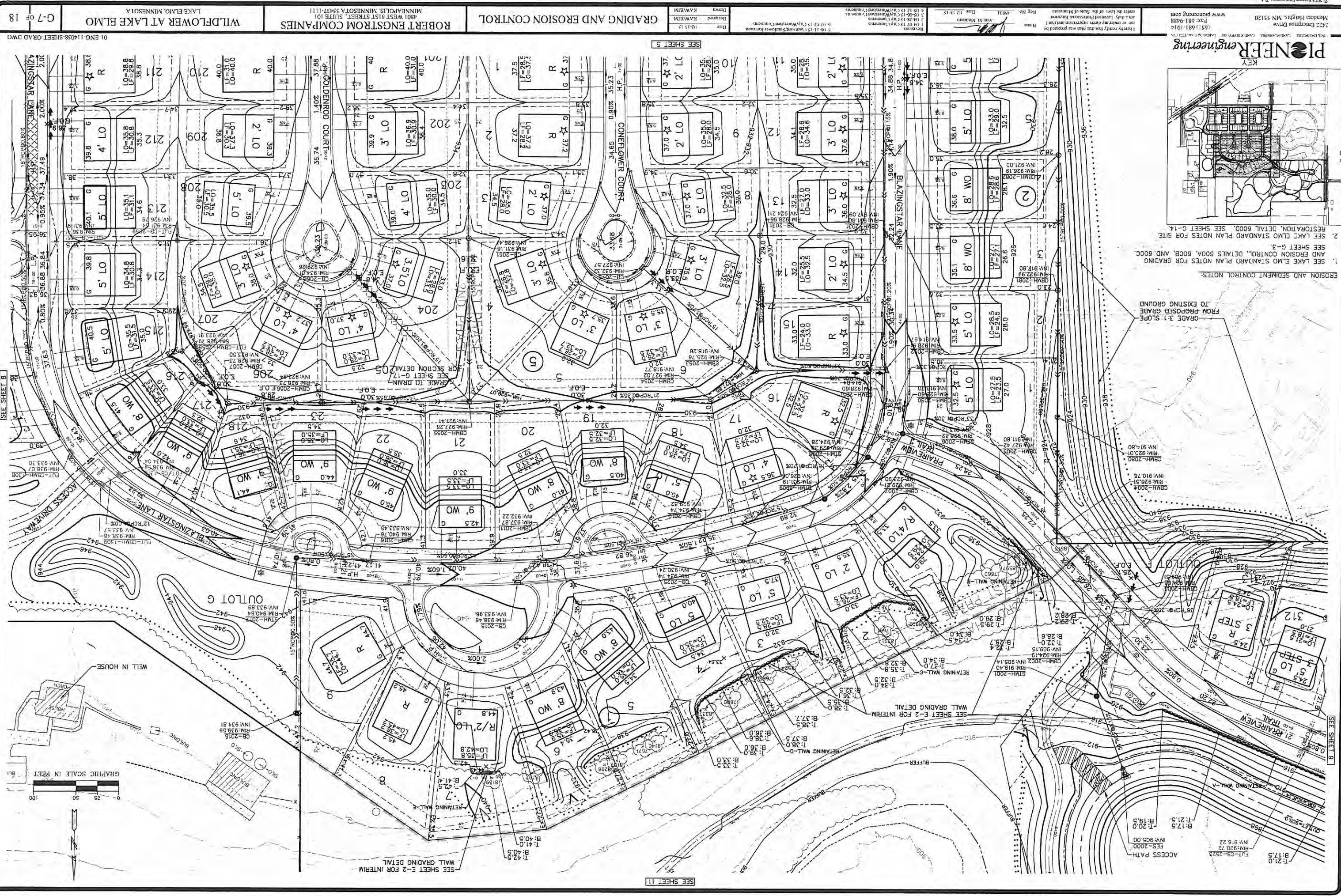
**WILDFLOWER AT LAKE ELMO**  
LAKE ELMO, MINNESOTA

G-6 OF 18



- 1. SEE LAKE ELMO STANDARD PLAN NOTES FOR GRADING AND EROSION CONTROL, DETAILS 600A, 600B, AND 600C. SEE SHEET G-3.
- 2. SEE LAKE ELMO STANDARD PLAN NOTES FOR SITE RESTORATION, DETAIL 600D. SEE SHEET G-14.

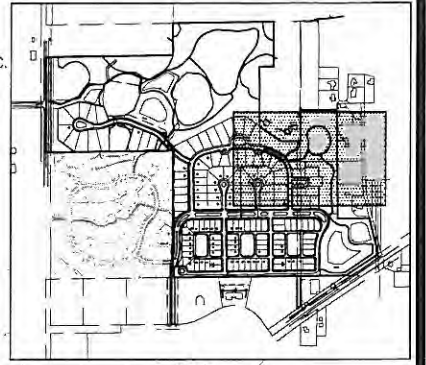
EROSION AND SEDIMENT CONTROL NOTES:  
GRADE 3:1 SLOPE FROM PROPOSED GRADE TO EXISTING GROUND.



2 FOR INTERIM  
DETAIL

EROSION AND SEDIMENT CONTROL NOTES:

1. SEE LAKE ELMO STANDARD PLAN NOTES FOR GRADING AND EROSION CONTROL, DETAILS 600A, 600B, AND 600C. SEE SHEET G-3.
2. SEE LAKE ELMO STANDARD PLAN NOTES FOR SITE RESTORATION, DETAIL 600D. SEE SHEET G-14.



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 Fax: 681-9488  
 www.pioneereng.com

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Name: John M. Molinaro  
 Reg No: 45831  
 Date: 02-13-15

Revisions:  
 1 04-07-14 City Comments  
 2 04-28-15 City Comments  
 3 05-06-15 City Watershed Comments  
 4 05-12-15 City Watershed Comments

Date: 02-13-15  
 Designed: KAW/BIM  
 Drawn: KAW/BIM

**GRADING AND EROSION CONTROL**

**ROBERT ENGSTROM COMPANIES**  
 4801 WEST 81ST STREET, SUITE 101  
 MINNEAPOLIS, MINNESOTA 55437-1111

**WILDFLOWER AT LAKE ELMO**  
 LAKE ELMO, MINNESOTA

G-8 OF 18



1. SEE LAKE ELMO STANDARD PLAN NOTES FOR GRADING AND EROSION CONTROL. DETAILS 800A, 8009, AND 800C. SEE SHEET G-3.  
 2. SEE LAKE ELMO STANDARD PLAN NOTES FOR SITE RESTORATION. DETAIL 800D. SEE SHEET G-14.

**PIONEER engineering**  
 2422 Emergence Drive  
 Mendota Heights, MN 55120  
 (651) 681-1914  
 (651) 681-9488  
 www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
 Name: John M. Johnson  
 License No. 122 12.15  
 Date: 02/13/15

Revisions:  
 1. 02/13/15 C.S. comments  
 2. 02/26/15 C.S. comments  
 3. 02/26/15 C.S. comments  
 4. 02/12/15 C.S. comments

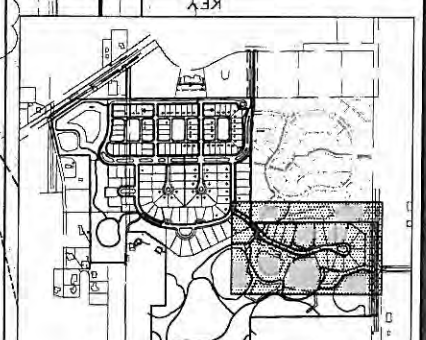
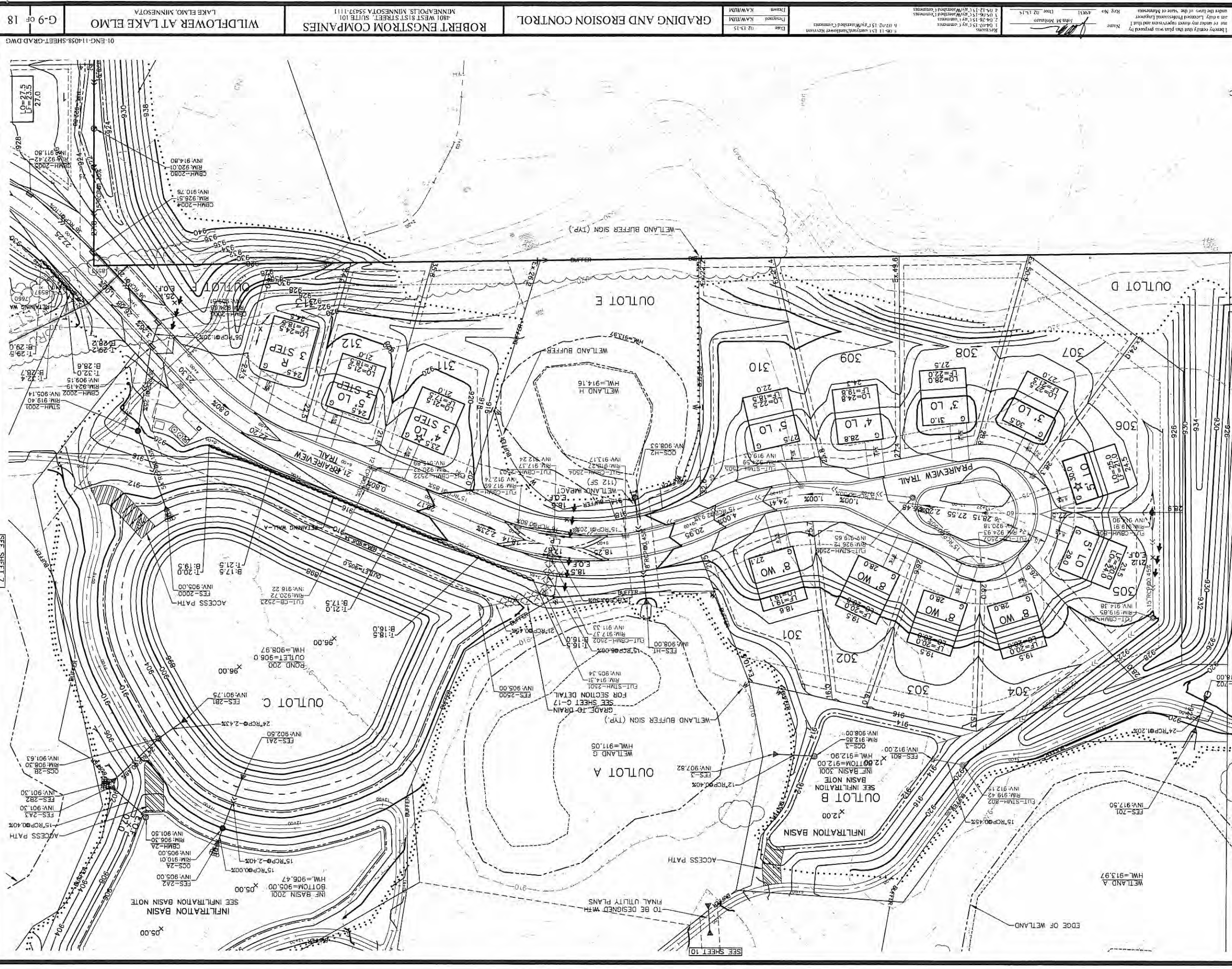
PROJECT: WILDFLOWER AT LAKE ELMO  
 SHEET: G-9 OF 18  
 DATE: 02/13/15  
 DRAWN BY: KAW/NDM  
 CHECKED BY: KAW/NDM

01-ENG-114058-SHEET-GRAD DWG

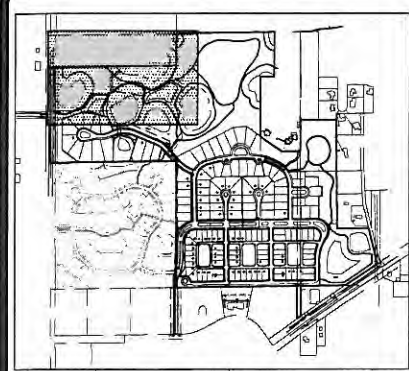
2015 Pioneer Engineering, P.A.

EROSION AND SEDIMENT CONTROL NOTES:  
 SEE LAKE ELMO STANDARD PLAN NOTES FOR GRADING AND EROSION CONTROL. DETAILS 800A, 8009, AND 800C. SEE SHEET G-3.  
 SEE LAKE ELMO STANDARD PLAN NOTES FOR SITE RESTORATION. DETAIL 800D. SEE SHEET G-14.

GRAPHIC SCALE IN FEET  
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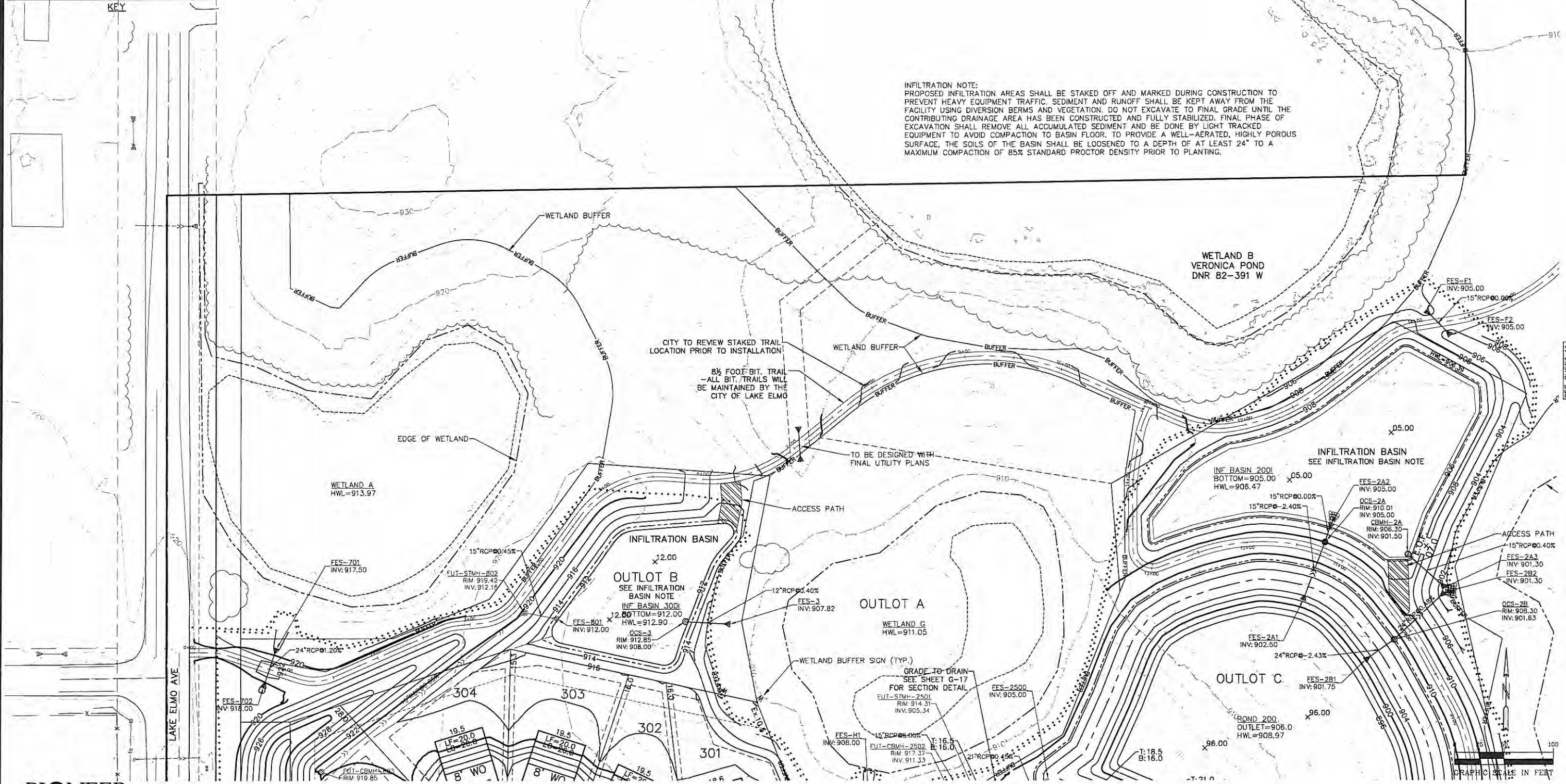
SEE SHEET 10  
 SEE SHEET 7



**EROSION AND SEDIMENT CONTROL NOTES:**

1. SEE LAKE ELMO STANDARD PLAN NOTES FOR GRADING AND EROSION CONTROL, DETAILS 600A, 600B, AND 600C. SEE SHEET G-3.
2. SEE LAKE ELMO STANDARD PLAN NOTES FOR SITE RESTORATION, DETAIL 600D. SEE SHEET G-14.

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 Fax: 681-9488  
 www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
 Name: John M. Molnar  
 Reg. No: 45831  
 Date: 02-13-15

Revisions:  
 1. 04-07-15 City Comments  
 2. 04-28-15 City Comments  
 3. 05-06-15 City/Watershed Comments  
 4. 05-12-15 City/Watershed Comments  
 5. 06-11-15 Lowry/Art/Sunflower Revision  
 6. 07-02-15 City/Watershed Comments

Date: 02-13-15  
 Designed: KAW/BJM  
 Drawn: KAW/BJM

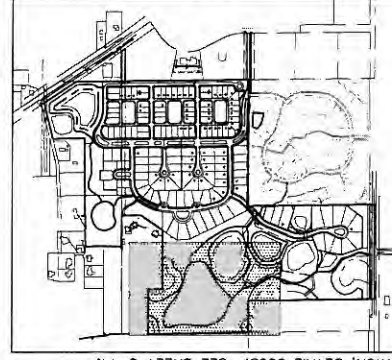
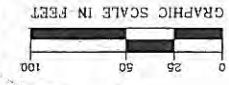
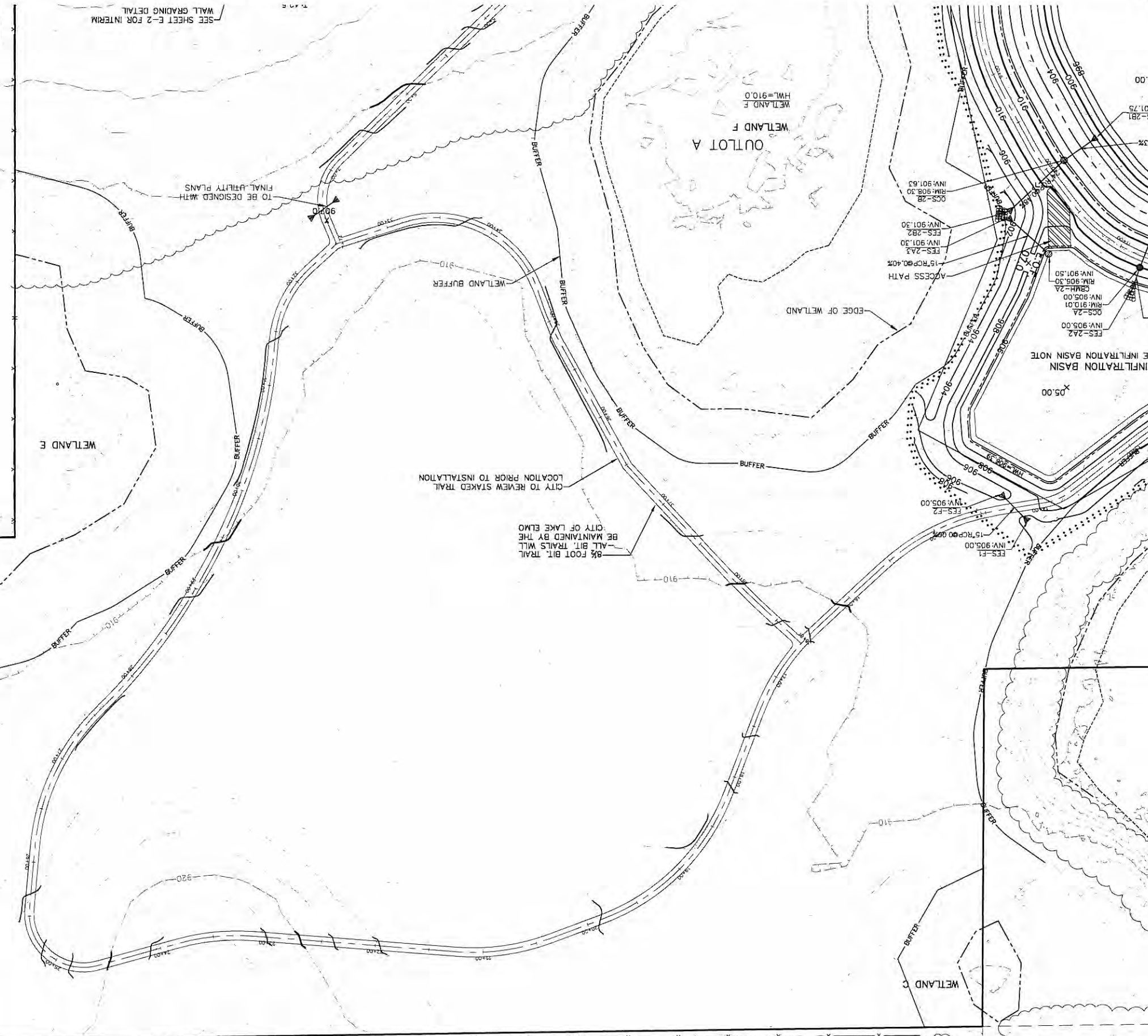
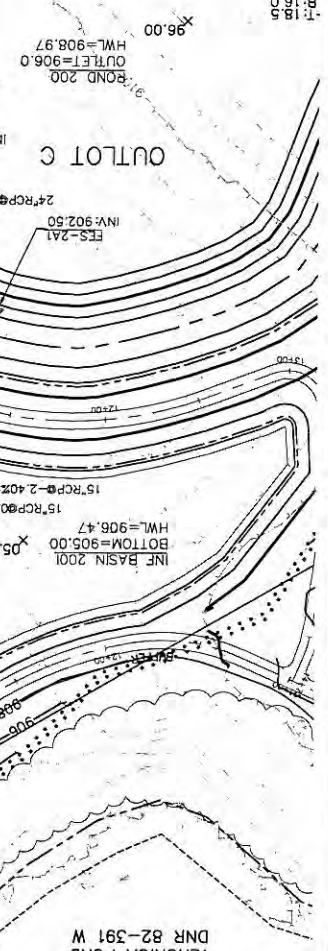
**GRADING AND EROSION CONTROL**

**ROBERT ENGSTROM COMPANIES**  
 4801 WEST 81ST STREET, SUITE 101  
 MINNEAPOLIS, MINNESOTA 55437-1111

**WILDFLOWER AT LAKE ELMO**  
 LAKE ELMO, MINNESOTA

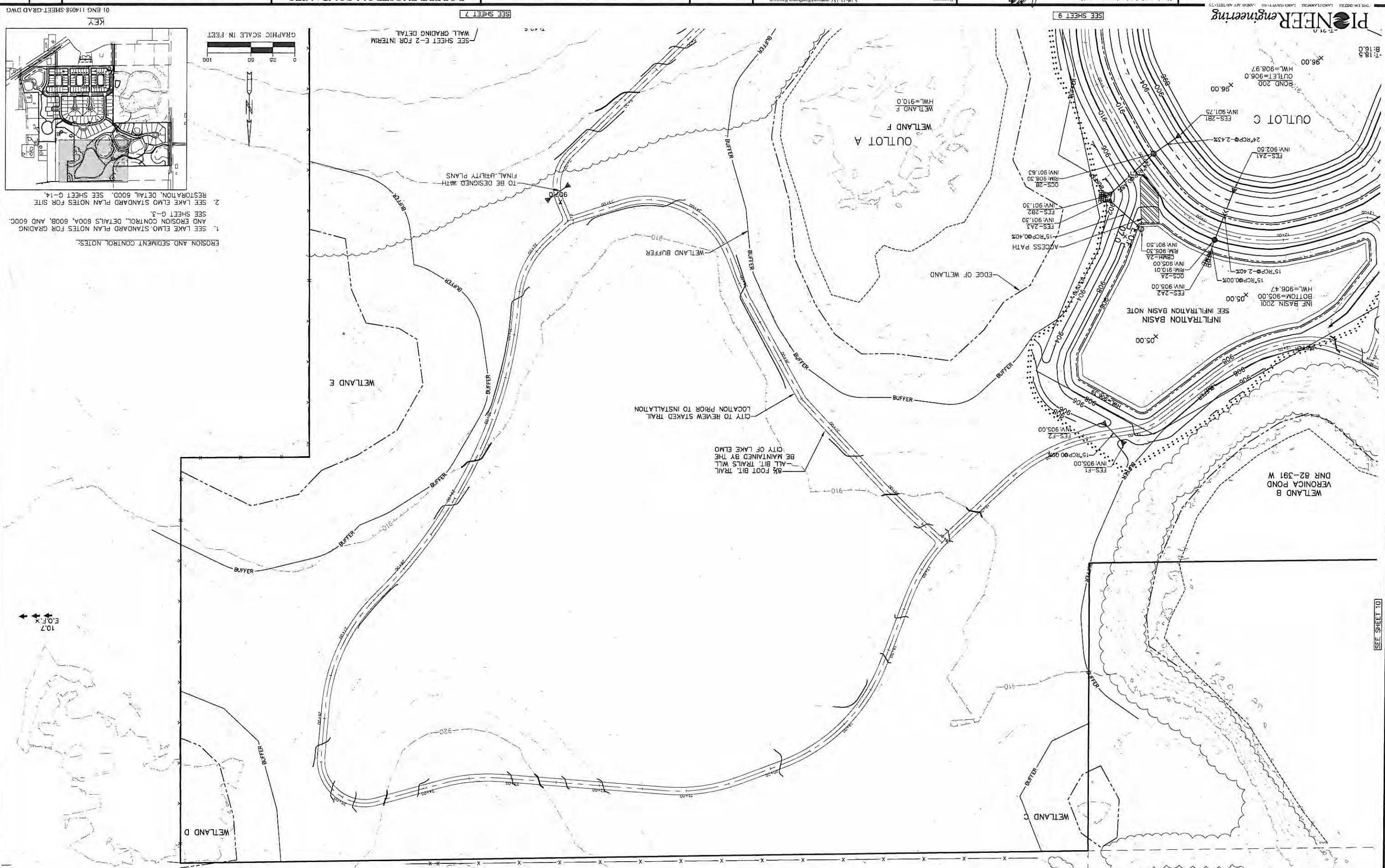
G-10 of 18

B-18.5  
 B-18.0



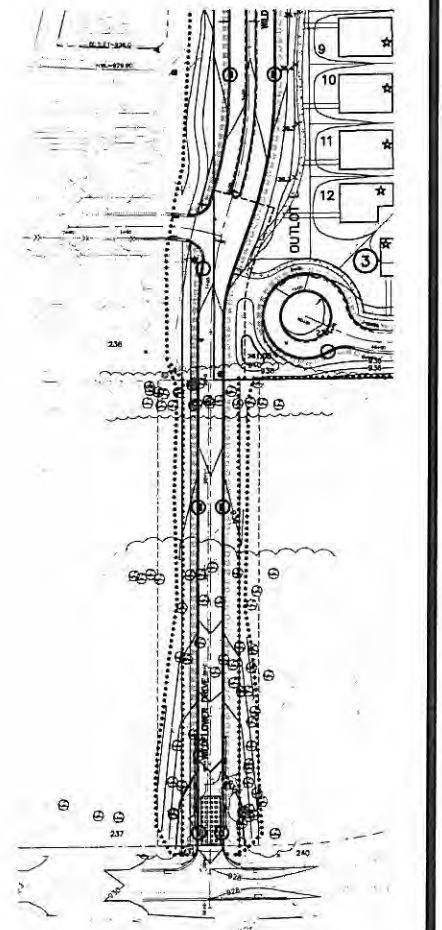
- EROSION AND SEDIMENT CONTROL NOTES:
- SEE LAKE ELMO STANDARD PLAN NOTES FOR GRADING AND EROSION CONTROL DETAILS 6004, 6008, AND 600C. SEE SHEET G-3.
  - SEE LAKE ELMO STANDARD PLAN NOTES FOR SITE RESTORATION, DETAIL 600D. SEE SHEET G-14.

10.7  
 E.O.F.X  
 ↑



EROSION AND SEDIMENT CONTROL NOTES:

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2. SEE LAKE ELMO STANDARD PLAN NOTES FOR SITE RESTORATION, DETAIL 600D. SEE SHEET G-14.



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 Fax: 681-9488  
 www.pioneereng.com

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Name: John M. Molinaro  
 Reg. No: 45831 Date: 02-13-15

Revisions:  
 1. 04-07-15 Civil Comments  
 2. 04-28-15 Civil Comments  
 3. 05-06-15 Civil/Waterbed Comments  
 4. 05-12-15 Civil/Waterbed Comments

Date: 02-13-15  
 Designed: KAW/BJM  
 Drawn: KAW/BJM

**EROSION CONTROL PLAN**

**ROBERT ENGSTROM COMPANIES**  
 4801 WEST 81ST STREET, SUITE 101  
 MINNEAPOLIS, MINNESOTA 55437-1111

**WILDFLOWER AT LAKE ELMO**  
 LAKE ELMO, MINNESOTA

- 1. SEE LAKE ELMO STANDARD PLAN NOTES FOR GRADING AND EROSION CONTROL, DETAILS 600A, 600B, AND 600C. SEE SHEET G-3.
- 2. SEE LAKE ELMO STANDARD PLAN NOTES FOR SITE RESTORATION, DETAIL 600D. SEE SHEET G-14.

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Name: *John M. Matrone*  
Reg. No.: 45831  
Date: 02.19.15

Revisions:  
1. 04-17-15 (JRM) Comments  
2. 04-29-15 (JRM) Comments  
3. 05-06-15 (JRM) Comments  
4. 05-12-15 (JRM) Comments  
5. 06-11-15 (JRM) Comments  
6. 07-12-15 (JRM) Comments  
7. 08-26-15 (JRM) Comments

Date: 02.19.15  
Drawn: KAW/BLM  
Checked: KAW/BLM  
Design: KAW/BLM

### EROSION CONTROL PLAN

ROBERT ENGSTROM COMPANIES  
4801 WEST 81ST STREET, SUITE 101  
MINNEAPOLIS, MINNESOTA 55437-1111

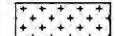

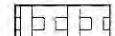
WILDFLOWER AT LAKE ELMO  
LAKE ELMO, MINNESOTA

EROSION AND SEDIMENT CONTROL NOTES:



ING BASIN

LEGEND

-  PERMANENT TURF RESTORATION  
MN STATE SEED MIX 25-141
-  PERMANENT WET BASIN RESOTRATION  
MN STATE SEED MIX 33-261 & 35-241
-  INFILTRATION AREA SEEDING  
MN STATE SEED MIX 33-261

SEE CITY OF LAKE ELMO STANDARD SPECIFICATION SECTION 3292 - TURF ESTABLISHMENT AND RESTORATION

TEMPORARY SEED SHALL BE DONE IN ACCORDANCE TO MNDOT 2575 & 3876; CONSISTING OF:  
MINNESOTA STATE SEED MIXTURE 22-112 @ 30.5 LBS. PER ACRE OR APPROVED EQUAL. DOUBLE SEED RATE FOR DORMANT SEEDING AFTER NOVEMBER 1ST.

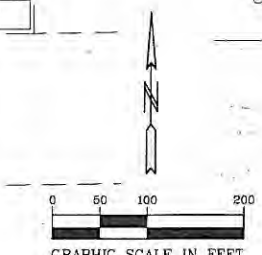
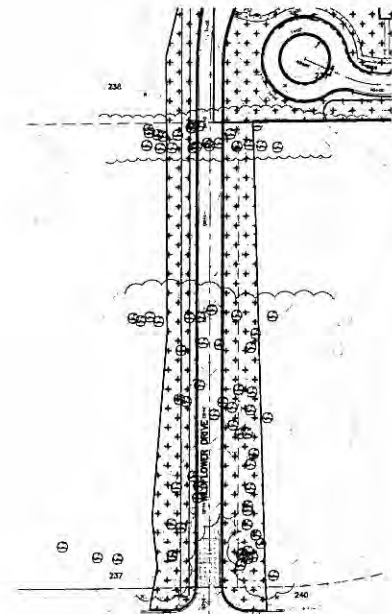
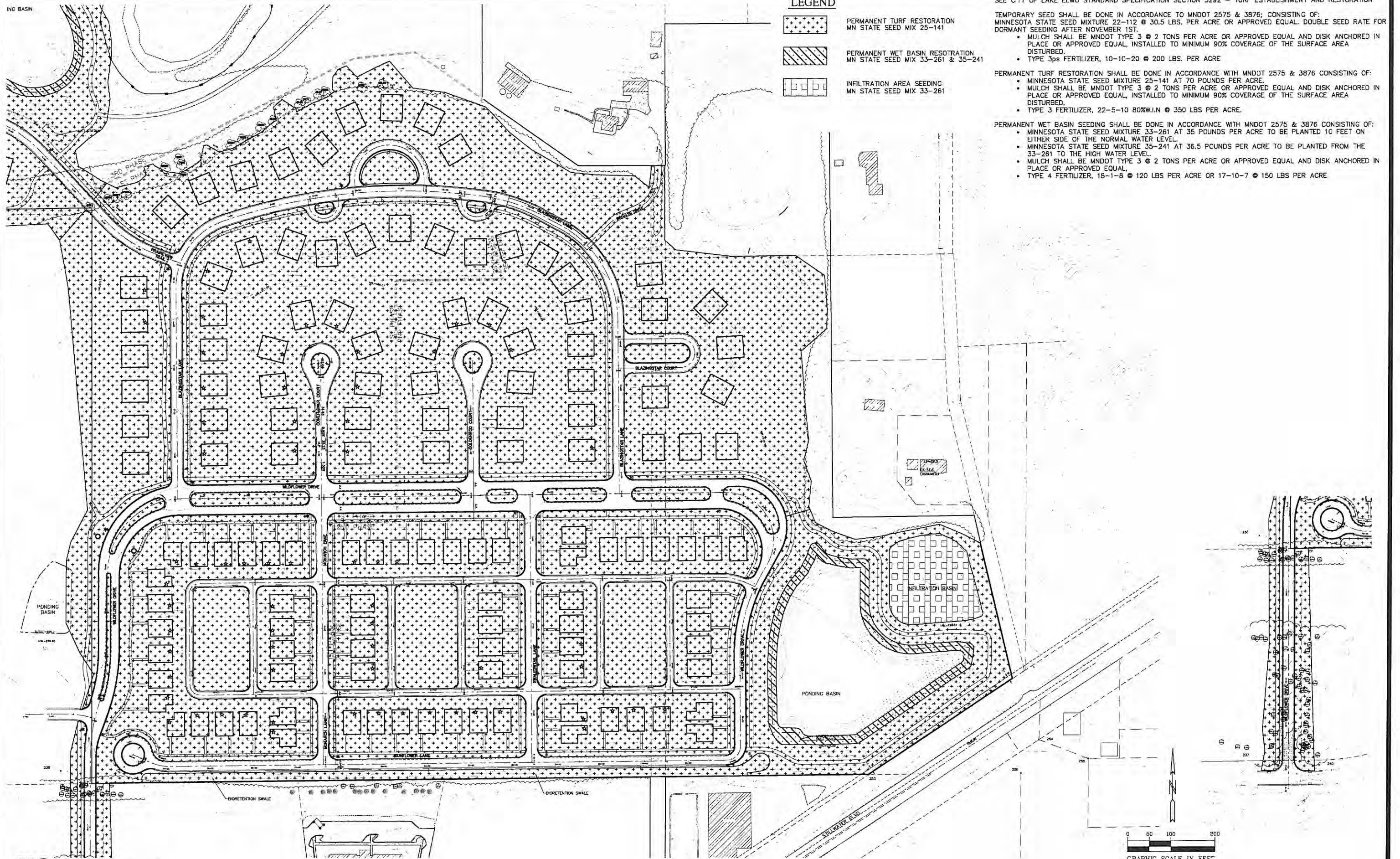
- MULCH SHALL BE MNDOT TYPE 3 @ 2 TONS PER ACRE OR APPROVED EQUAL AND DISK ANCHORED IN PLACE OR APPROVED EQUAL, INSTALLED TO MINIMUM 90% COVERAGE OF THE SURFACE AREA DISTURBED.
- TYPE 3ps FERTILIZER, 10-10-20 @ 200 LBS. PER ACRE

PERMANENT TURF RESTORATION SHALL BE DONE IN ACCORDANCE WITH MNDOT 2575 & 3876 CONSISTING OF:

- MINNESOTA STATE SEED MIXTURE 25-141 AT 70 POUNDS PER ACRE.
- MULCH SHALL BE MNDOT TYPE 3 @ 2 TONS PER ACRE OR APPROVED EQUAL AND DISK ANCHORED IN PLACE OR APPROVED EQUAL, INSTALLED TO MINIMUM 90% COVERAGE OF THE SURFACE AREA DISTURBED.
- TYPE 3 FERTILIZER, 22-5-10 80%W.I.N @ 350 LBS PER ACRE.

PERMANENT WET BASIN SEEDING SHALL BE DONE IN ACCORDANCE WITH MNDOT 2575 & 3876 CONSISTING OF:

- MINNESOTA STATE SEED MIXTURE 33-261 AT 35 POUNDS PER ACRE TO BE PLANTED 10 FEET ON EITHER SIDE OF THE NORMAL WATER LEVEL.
- MINNESOTA STATE SEED MIXTURE 35-241 AT 36.5 POUNDS PER ACRE TO BE PLANTED FROM THE 33-261 TO THE HIGH WATER LEVEL.
- MULCH SHALL BE MNDOT TYPE 3 @ 2 TONS PER ACRE OR APPROVED EQUAL AND DISK ANCHORED IN PLACE OR APPROVED EQUAL.
- TYPE 4 FERTILIZER, 18-1-8 @ 120 LBS PER ACRE OR 17-10-7 @ 150 LBS PER ACRE



**PIONEER**engineering

CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDS APPLICATORS  
2422 Enterprise Drive Mendota Heights, MN 55120 (651) 681-1914 Fax: 681-9488 www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Name: John M. Molnar  
Reg No: 45831 Date: 02-13-15

Revisions:  
1. 04-07-15 City Comments  
2. 04-28-15 City Comments  
3. 05-06-15 City/Watershed Comments  
4. 05-12-15 City/Watershed Comments  
5. 06-11-15 City/Watershed/Sunflower Revision  
6. 07-02-15 City/Watershed Comments

Date: 02-13-15  
Designed: KAW/BJM  
Drawn: KAW/BJM

SEEDING PLAN

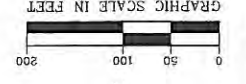
ROBERT ENGSTROM COMPANIES  
4801 WEST 81ST STREET, SUITE 101  
MINNEAPOLIS, MINNESOTA 55437-1111

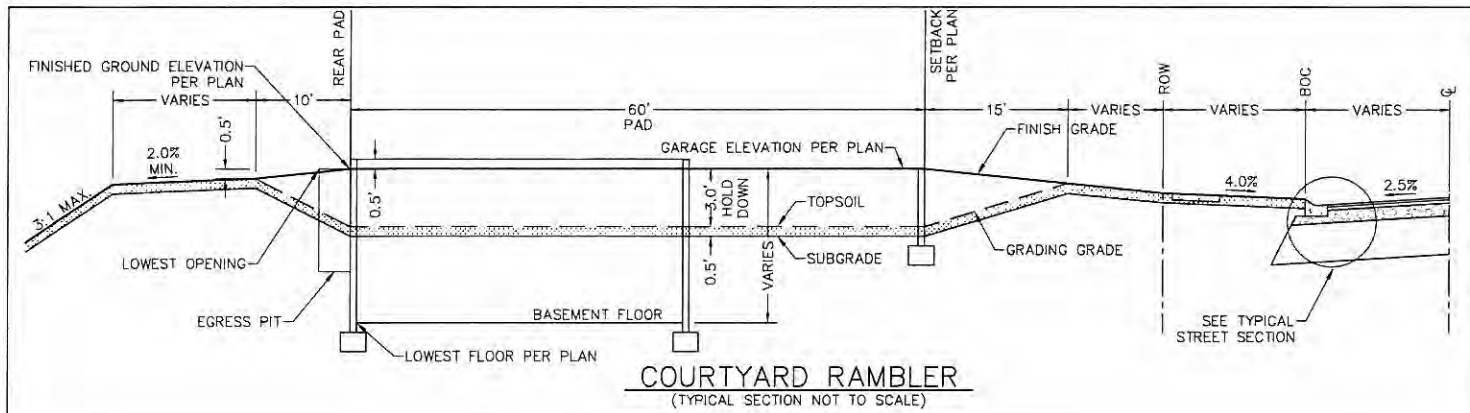
WILDFLOWER AT LAKE ELMO  
LAKE ELMO, MINNESOTA

**SEEDING PLAN**

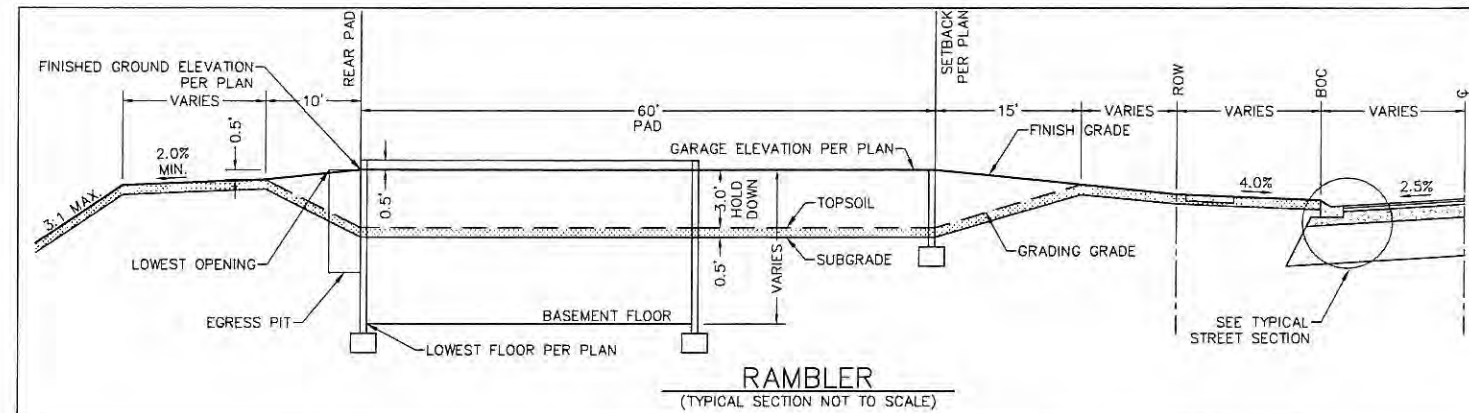
**ROBERT ENGSTROM COMPANIES**  
 4801 WEST 81ST STREET, SUITE 101  
 MINNEAPOLIS, MINNESOTA 55437-1111

**WILDFLOWER AT LAKE ELMO**  
 LAKE ELMO, MINNESOTA

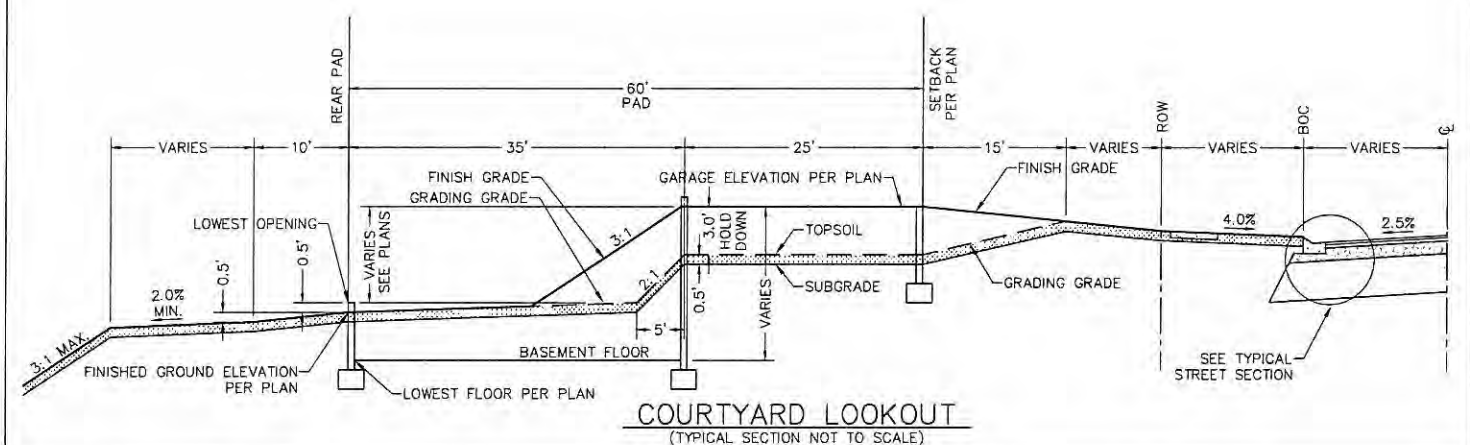




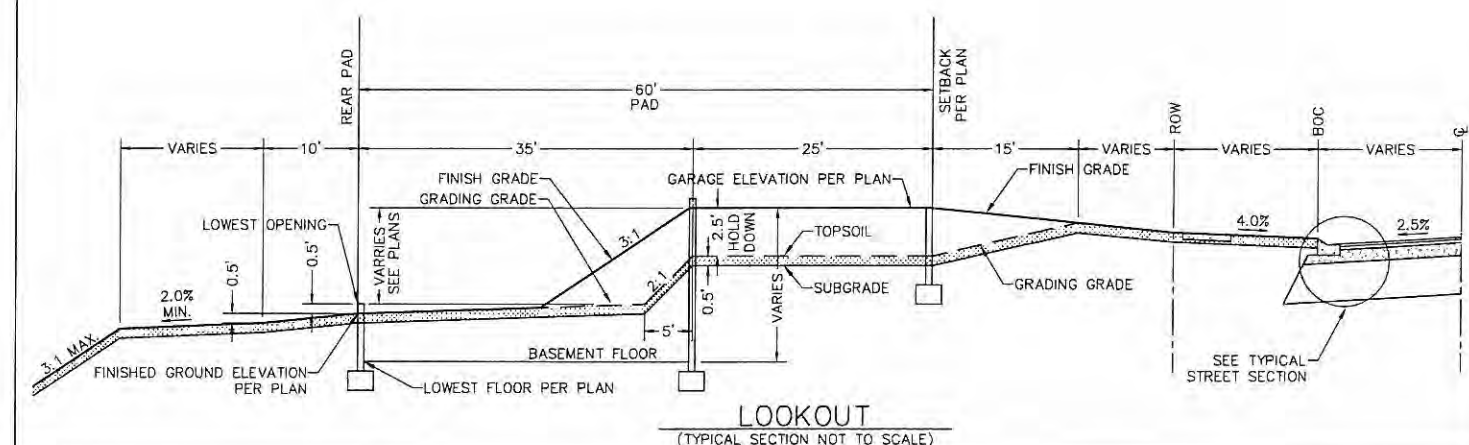
**COURTYARD RAMBLER**  
(TYPICAL SECTION NOT TO SCALE)



**RAMBLER**  
(TYPICAL SECTION NOT TO SCALE)



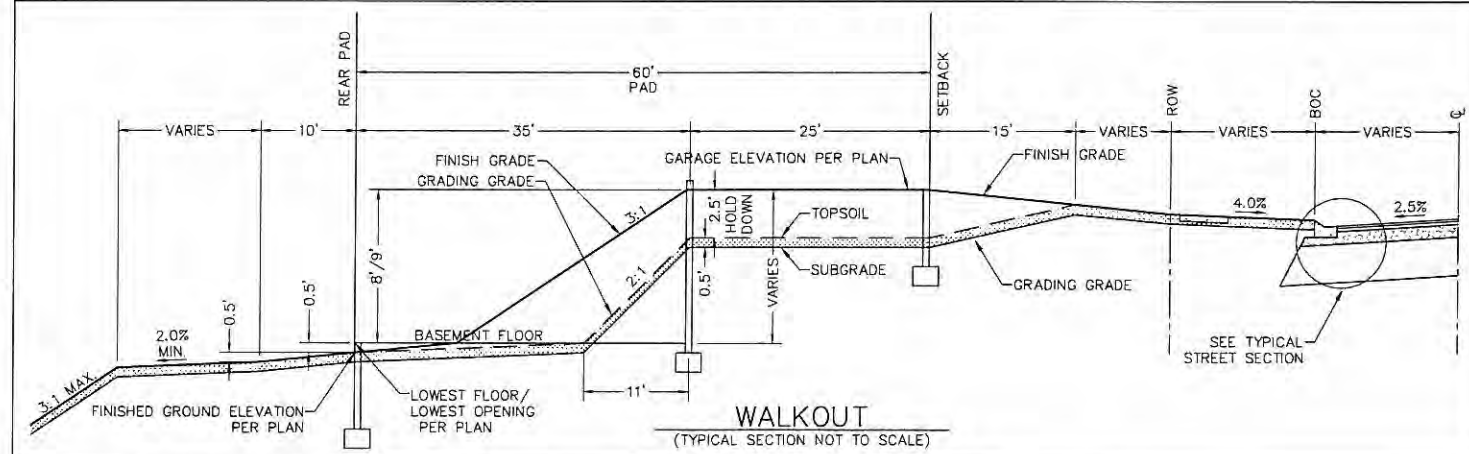
**COURTYARD LOOKOUT**  
(TYPICAL SECTION NOT TO SCALE)



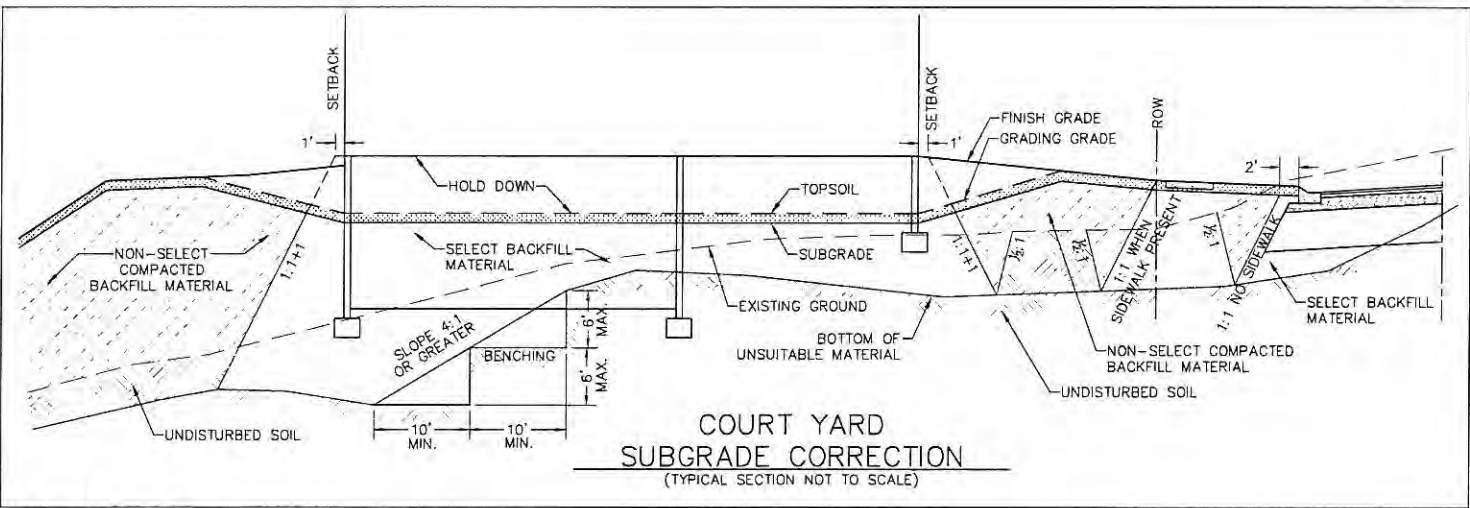
**LOOKOUT**  
(TYPICAL SECTION NOT TO SCALE)

**SITE REQUIREMENTS:**  
ELEVATIONS:  
-LOWEST FLOOR ELEVATION:  
LF=HWL+2.0'  
-LOWEST OPENING ELEVATION:  
LO=HWL+2.0'  
LO=EOF+2.0'

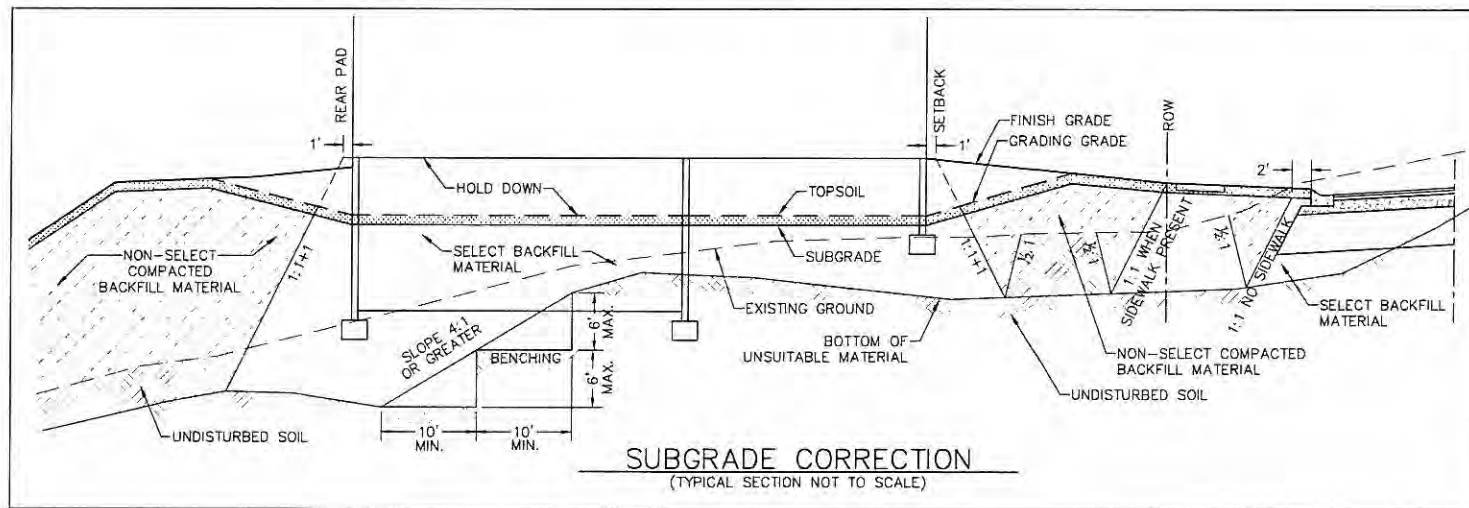
**DRAINILE REQUIREMENTS:**  
EXTERIOR PERIMETER FOOTING  
DRAINILE REQUIRED ON LOTS  
MARKED WITH: ☆



**WALKOUT**  
(TYPICAL SECTION NOT TO SCALE)



**COURT YARD  
SUBGRADE CORRECTION**  
(TYPICAL SECTION NOT TO SCALE)



**SUBGRADE CORRECTION**  
(TYPICAL SECTION NOT TO SCALE)

**PIONEERengineering**

CIVIL ENGINEERS LAND PLANNING LAND SURVEYING LANDSCAPE ARCHITECTS  
2422 Enterprise Drive (651) 681-1914  
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www.pioneereng.com

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Name: John M. Molinaro  
Key No: 45831 Date: 02-13-15

Revisions:  
1. 06-07-15 City Comments  
2. 04-28-15 City Comments  
3. 05-06-15 City Watershed Comments  
4. 05-12-15 City Watershed Comments  
5. 06-11-15 Courtyard/Walkout Revision  
6. 07-02-15 City Watershed Comments

Date: 02-13-15  
Designed: RAW/BJM  
Drawn: RAW/BJM

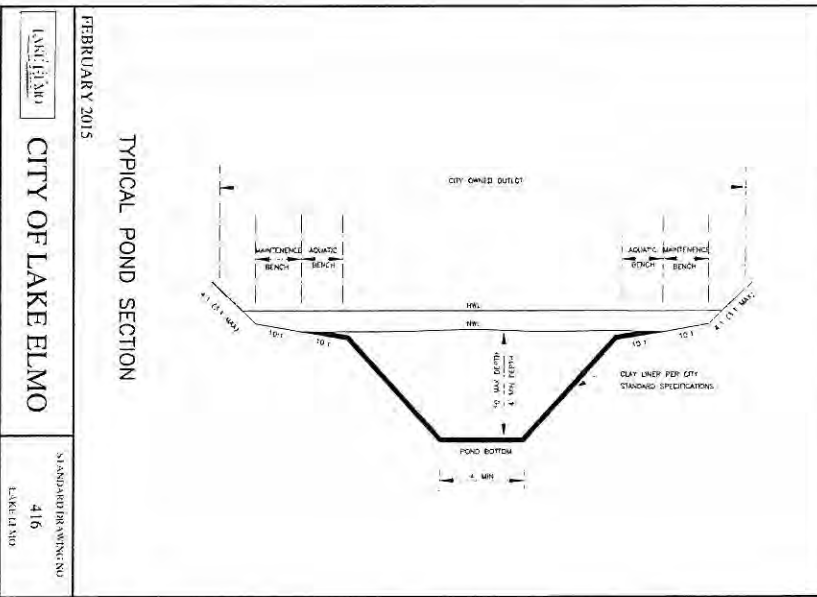
DETAILS

**ROBERT ENGSTROM COMPANIES**  
4801 WEST 81ST STREET, SUITE 101  
MINNEAPOLIS, MINNESOTA 55437-1111

**WILDFLOWER AT LAKE ELMO**  
LAKE ELMO, MINNESOTA

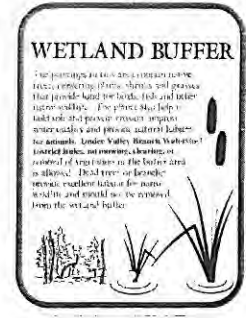
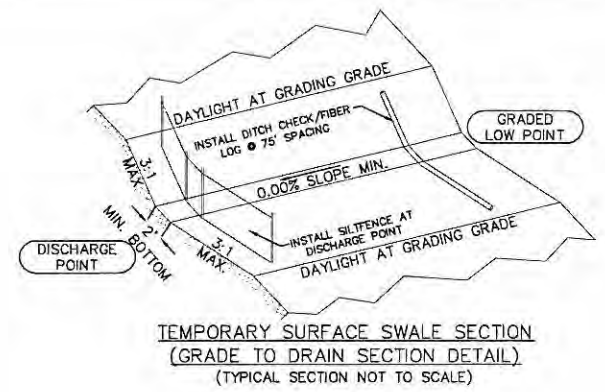
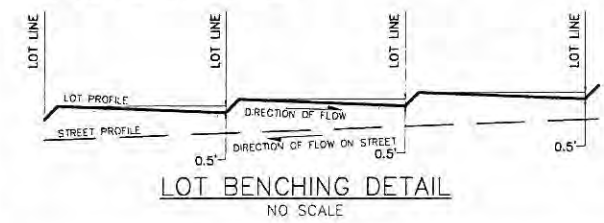
G-16 OF 18





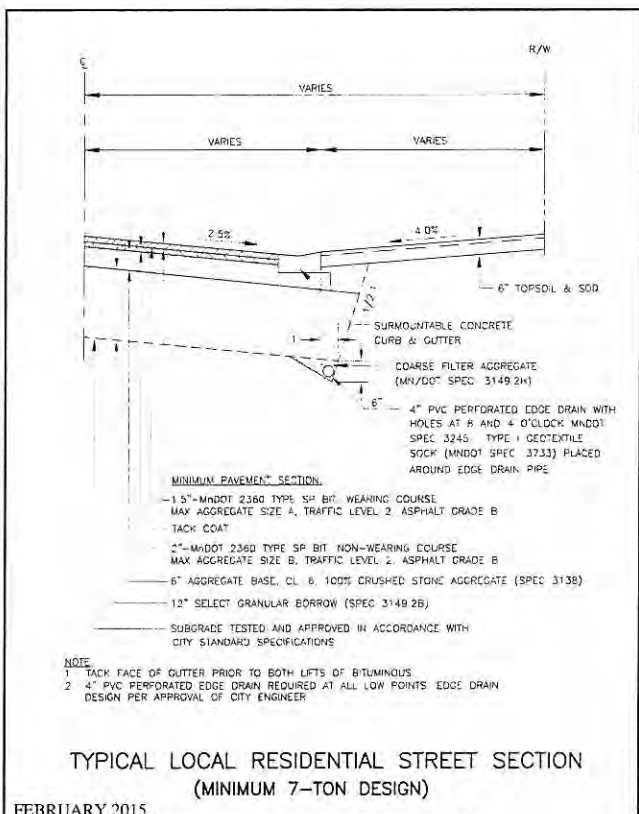
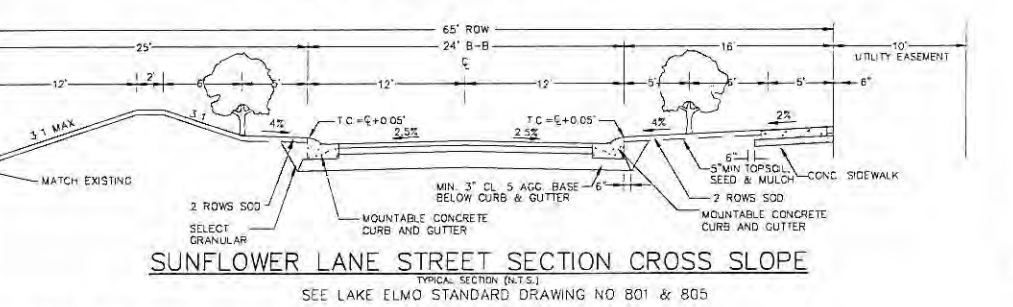
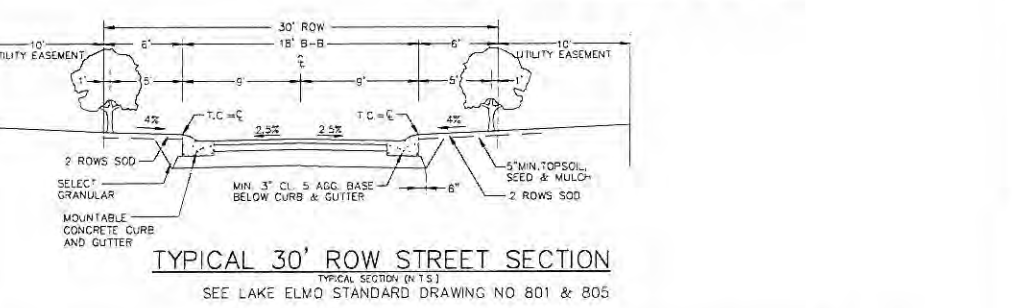
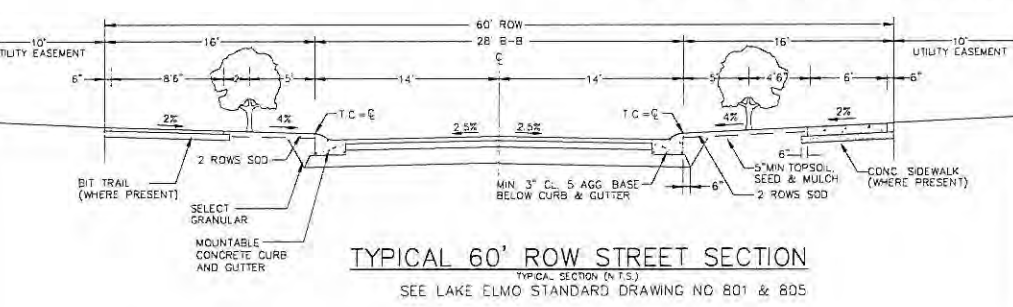
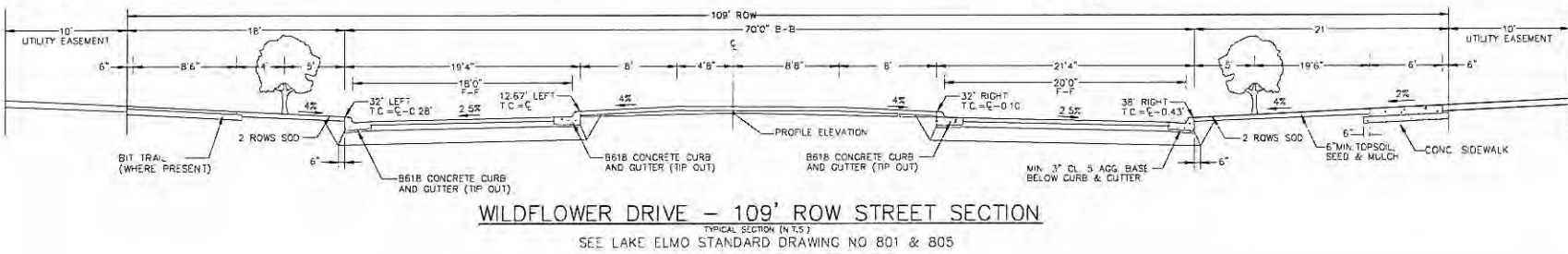
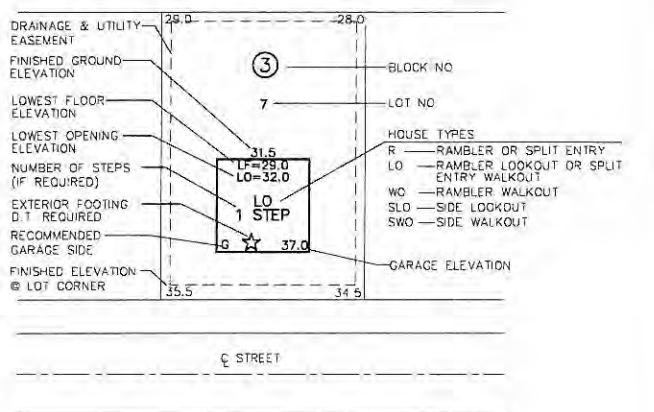
**BASIN CLAY LINER MATERIAL NOTE:**  
 IMPERVIOUS CLAY LINER MATERIAL SHALL MEET THE FOLLOWING REQUIREMENTS OR "EQUAL TO":

1. IN-PLACE PERMEABILITY:  $1 \times 10^{-6}$  CM/SEC OR LESS.
2. GRAIN SIZE: P200 CONTENT 50 PERCENT BY WEIGHT OR GREATER, MAXIMUM GRAVEL CONTENT 5 PERCENT BY WEIGHT, MAXIMUM PARTICLE SIZE OF 2.5-INCH IN ANY DIRECTION.
3. CLAY CONTENT: 25 PERCENT BY WEIGHT OR GREATER (0.02 MM).
4. LIQUID LIMIT: 25 PERCENT OR GREATER.
5. PLASTICITY INDEX: 12 PERCENT OR GREATER.
6. COMPACTION: 95 PERCENT STANDARD PROCTOR DENSITY OR GREATER DEPENDING ON CONTRACTOR SOURCE TESTING RESULTS.
7. IMPERVIOUS CLAY LINER MATERIAL SHALL BE FREE OF DEBRIS, ROOTS, ORGANIC MATERIAL, SOLID MINERAL MATERIAL LARGER THAN 2.5 INCHES IN DIAMETER, ANGULAR STONES OF ANY DIAMETER AND OTHER MATERIALS CONSIDERED DELETERIOUS TO THE GEOMEMBRANE LINER.
8. SOURCE TESTING: THE CONTRACTOR SHALL SUPPLY TEST RESULTS FROM AN INDEPENDENT TESTING LAB FOR A SAMPLE TAKEN AT THE CLAY SOURCE TO VERIFY THE ABOVE SPECIFICATIONS WILL BE MET. THE RESULTS SHALL BE SUBMITTED TO THE ENGINEER AT LEAST TWO WEEKS PRIOR TO DELIVERY TO THE SITE. THE SPECIFIC LOCATION OF THE SOURCE MUST BE INCLUDED WITH THE SUBMITTAL.
9. IN-PLACE TESTING: AFTER PLACEMENT OF THE CLAY, THE CONTRACTOR SHALL ARRANGE FOR INPLACE TESTING BY AN INDEPENDENT TESTING LAB TO VERIFY THE ABOVE SPECIFICATIONS ARE MET. TESTING SHALL INCLUDE COMPACTION, GRAIN SIZE, ATTERBERG LIMITS, AND PERMEABILITY USING A RELATIVELY SUNDURBED THIN WALL SAMPLE (SHELBY TUBE). THE IN-PLACE TESTING FREQUENCY SHALL BE ONE SAMPLE TESTED EVERY 1,000 CY OF CLAY PLACED.



**WETLAND BUFFER SIGNAGE NOTE:**  
 WETLAND BUFFER SIGNAGE MUST:

1. SIZE OF BUFFER SIGNAGE: 7" WIDE X 9" TALL.
2. SIGN MATERIAL: HEAVY GAUGE ALUMINUM.
3. SIGN WORDING: MUST HAVE VERBIAGE OF EXAMPLE TO SHOWN.
4. SIGN POST: SIGNS MUST BE AFFIXED TO 4" X 4" PRESSURE TREATED WOOD POSTS OR ANOTHER MATERIAL ACCEPTABLE TO WVD.
5. SIGN AND POST/MONUMENT PLACEMENT: EACH BUFFER MONUMENT MUST BE PLACED ON THE OUTER EDGE OF THE WETLAND BUFFER, FACING AWAY FROM THE BUFFER. LOCATIONS AS PER SHOWN ON PLAN SET.
6. POST INSTALLATION: EACH POST SHOULD BE APPROXIMATELY FOUR FEET ABOVE THE GROUND, WITH AT LEAST THREE FEET SUNK BELOW GROUND. THE BOTTOM OF THE POST SHOULD BE FITTED WITH AN ANCHOR ATTACHMENT THAT WOULD EXPAND UPON ATTEMPTED REMOVAL OR WITH A CONCRETE FOOTING.



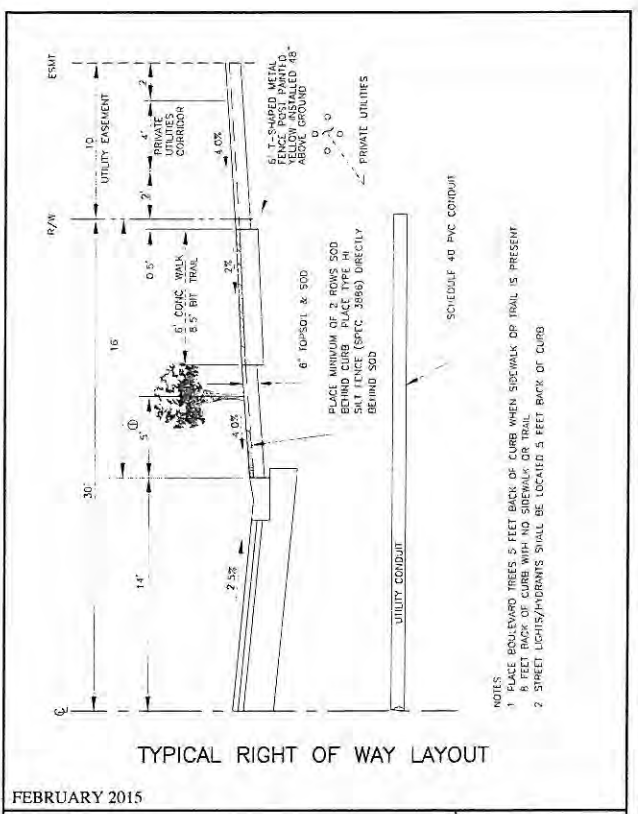
**MINIMUM PAVEMENT SECTION:**

- 1.5" MNDOT 2360 TYPE SP BIT WEARING COURSE  
 MAX AGGREGATE SIZE A, TRAFFIC LEVEL 2 ASPHALT GRADE B  
 TACK COAT
- 2" MNDOT 2360 TYPE SP BIT NON-WEARING COURSE  
 MAX AGGREGATE SIZE B, TRAFFIC LEVEL 2, ASPHALT GRADE B
- 6" AGGREGATE BASE, CL. B, 100% CRUSHED STONE AGGREGATE (SPEC 3138)
- 12" SELECT GRANULAR BORROW (SPEC 3149.2B)
- SUBGRADE TESTED AND APPROVED IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS

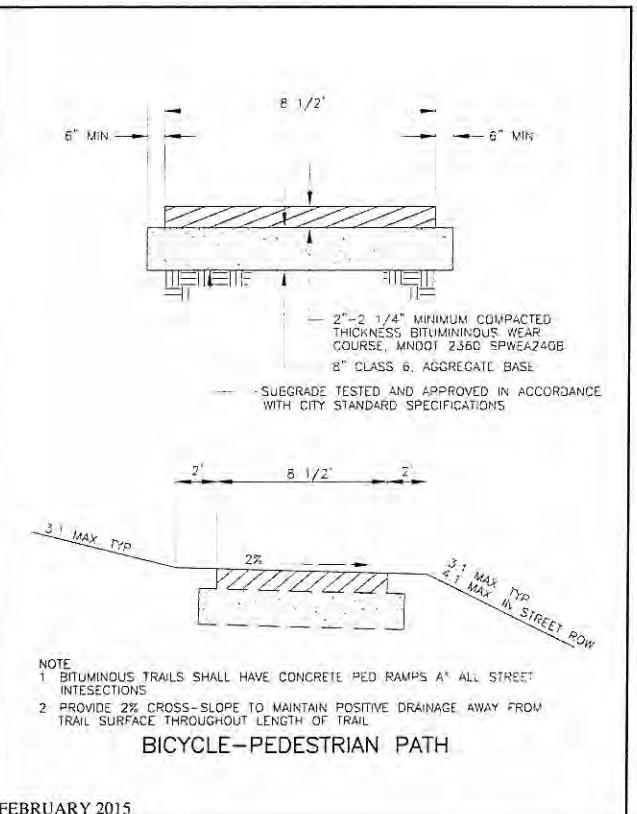
**NOTE:**

1. TACK FACE OF GUTTER PRIOR TO BOTH LEFTS OF BITUMINOUS.
2. 4" PVC PERFORATED EDGE DRAIN REQUIRED AT ALL LOW POINTS EDGE DRAIN DESIGN PER APPROVAL OF CITY ENGINEER.

FEBRUARY 2015  
 CITY OF LAKE ELMO  
 STANDARD DRAWING NO 801  
 LAKE ELMO



FEBRUARY 2015  
 CITY OF LAKE ELMO  
 STANDARD DRAWING NO 805  
 LAKE ELMO



FEBRUARY 2015  
 CITY OF LAKE ELMO  
 STANDARD DRAWING NO 509  
 LAKE ELMO

**PIONEERengineering**  
 CIVIL ENGINEERS LANDSCAPE ARCHITECTS  
 2422 Enterprise Drive  
 Mendota Heights, MN 55120  
 (651) 681-1914  
 Fax: 681-9488  
 www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
 Name: John M. Minisano  
 Reg. No: 48831  
 Date: 02-13-15

Revisions:  
 1 04-07-15 City Comments  
 2 04-28-15 City Comments  
 3 05-06-15 City/Watchdog Comments  
 4 05-12-15 City/Watchdog Comments

5 06-11-15 Court and Sunflower Revision  
 6 07-02-15 City/Watchdog Comments  
 Date: 02-13-15  
 Designed: KAW/BJM  
 Drawn: KAW/BJM

**ROBERT ENGSTROM COMPANIES**  
 4801 WEST 81ST STREET, SUITE 101  
 MINNEAPOLIS, MINNESOTA 55437-1111

**WILDFLOWER AT LAKE ELMO**  
 LAKE ELMO, MINNESOTA

G-17 OF 18

1. THE CONTRACTOR SHALL CONDUCT OPERATIONS AND IMPLEMENT MINNESOTA POLLUTION CONTROL AGENCY (MPCA) BEST MANAGEMENT PRACTICES (BMP) TO CONTROL, SITE STABILIZATION AND EROSION INTO DRAINAGE WAYS. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS AND COMPLETION DATES RELATIVE TO ALL PERMITS ISSUED FOR THE WORK TO BE COMPLETED. THE ENGINEER MAY ISSUE A STOP WORK ORDER FOR ALL DEVELOPMENT WORK AND BUILDING CONSTRUCTION FOR NONCOMPLIANCE WITH THESE MEASURES.
2. SEQUENCING ALL SILT FENCE AND OTHER EROSION CONTROL MEASURES SHALL BE IN PLACE AND APPROVED BY ENGINEER PRIOR TO ANY REMOVALS, EXCAVATION OR CONSTRUCTION AND SHALL BE MAINTAINED UNTIL Viable TURF OR GROUND COVER HAS BEEN ESTABLISHED AND APPROVED BY THE ENGINEER.
3. SILT FENCE: THE CONTRACTOR SHALL INSTALL SILT FENCE AT THE LOCATIONS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE CITY STANDARD DETAILS. SILT FENCE DAMS AND INTERIM SUMPS SHALL BE PLACED TO INTERCEPT SILT FROM CONCENTRATED RUNOFF FROM OPEN GRADED AREAS. ADDITIONAL SILT FENCE SHALL BE REQUIRED AS DIRECTED BY THE ENGINEER.
4. STOCKPILES: ALL STOCKPILE AREAS SHALL HAVE SILT FENCE OR SEDIMENT TRAPPING SYSTEMS PLACED AROUND THE ENTIRE PERIMETER.
5. INLET PROTECTION: THE CONTRACTOR SHALL INSTALL INLET PROTECTION ON ALL EXISTING STORM SEWER INLETS IN ACCORDANCE WITH THE CITY STANDARD DETAILS. INLET PROTECTION SHALL ALSO BE PROVIDED ON ALL PROPOSED STORM SEWER INLETS IMMEDIATELY FOLLOWING CONSTRUCTION OF THE INLET. INLET PROTECTION MUST BE INSTALLED IN A MANNER THAT WILL NOT IMPOUND WATER FOR EXTENDED PERIODS OF TIME OR IN A MANNER THAT PRESENTS A HAZARD TO VEHICULAR OR PEDESTRIAN TRAFFIC.
6. TEMPORARY SEDIMENT BASINS: THE CONTRACTOR SHALL INCORPORATE TEMPORARY SEDIMENT BASINS THROUGHOUT THE CONSTRUCTION SITE TO CAPTURE RUNOFF AND SLOW THE FLOW OF WATER AND ALLOW SEDIMENT TO SETTLE OUT. TEMPORARY SEDIMENT BASINS SHALL BE INSTALLED AS DIRECTED BY THE CITY ENGINEER.
7. ROCK CONSTRUCTION ENTRANCE: A ROCK ENTRANCE SHALL BE CONSTRUCTED AND MAINTAINED AS SHOWN ON THE PLAN TO REDUCE TRACKING OF SILT AND DIRT ONTO THE PUBLIC STREETS. A GEOTEXTILE FABRIC SHALL BE PLACED UNDERNEATH THE ROCK. THE ROCK SHALL BE PERIODICALLY REPLENISHED TO MAINTAIN THE INTENDED PERFORMANCE. MUD AND DEBRIS SHALL BE REMOVED OR SCRAPPED FROM TIRES AND VEHICLE UNDERCARRIAGE PRIOR TO LEAVING THE SITE.
8. STREET SWEEPING: ALL STREETS USED FOR ACCESS TO THE SITE AND Haul ROUTES USED FOR CONSTRUCTION EQUIPMENT AND MATERIAL SUPPLIES SHALL BE CLEANED AT THE END OF EACH WORKING DAY. THE CITY OR ENGINEER MAY ORDER ADDITIONAL SWEEPING OF THE STREETS AS DEEMED REQUIRED AT DEVELOPER/CONTRACTOR EXPENSE.

STANDARD PLAN NOTES  
GRADING AND EROSION CONTROL PLANS

FEBRUARY 2015

	<b>CITY OF LAKE ELMO</b>	STANDARD DRAWING NO.	600A
			LAKE ELMO

9. DEWATERING: EACH EXCAVATION SHALL BE KEPT DRY DURING THE COURSE OF ALL WORK HEREIN, INCLUDING SUBGRADE CORRECTION, PIPE INSTALLATION, STRUCTURE CONSTRUCTION AND BACKFILLING. TO THE EXTENT THAT NO DAMAGE FROM HYDROSTATIC PRESSURE FLOTATION OR OTHER DAMAGE RESULTS, ALL EXCAVATIONS SHALL BE DEWATERED TO A DEPTH OF AT LEAST 3 INCHES BELOW THE BOTTOM OF THE CONCRETE SLAB OR PIPE TO BE INSTALLED THEREIN. THE CONTRACTOR MAY USE ANY METHOD OR COMBINATION OF METHODS FOR DEWATERING HE CHOOSES. HOWEVER, ALL DEWATERING METHODS AND EQUIPMENT WHICH IN THE OPINION OF THE ENGINEER, ARE INEFFECTIVE SHALL BE ABANDONED, IMPROVED, REPLACED OR OTHERWISE ALTERED TO OBTAIN EFFECTIVE DEWATERING. THE CONTRACTOR SHALL PROVIDE ALL POWER, PUMPS, MATERIALS AND APPARATUS NECESSARY, AND SHALL BE RESPONSIBLE FOR DISPOSING OF THE WATER PUMPED FROM THE EXCAVATION IN A MANNER WHICH WILL NOT INTERFERE WITH OTHER WORK WITHIN THE AREA AND NOT TO DAMAGE PUBLIC OR PRIVATE PROPERTY. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE CONDITION OF ANY PIPE, CONDUIT, DITCH, CHANNEL OR NATURAL WATERCOURSE UTILIZED FOR DRAINAGE PURPOSES, AND ALL EROSION, SEDIMENT OR OTHER ADVERSE RESULTS OF THEIR USE SHALL BE REPAIRED.
10. POSITIVE DRAINAGE AND PROTECTION: THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE THROUGHOUT THE SITE AT ALL TIMES. LOW POINTS WITHIN AND ALONG ROADWAYS ARE EXPRESSLY PROHIBITED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY DITCHES, PIPING OR OTHER MEANS TO FACILITATE PROPER DRAINAGE DURING CONSTRUCTION TO PROTECT PREVIOUSLY GRADED AREAS FROM EROSION. WOOD FIBER BLANKET SHALL BE PLACED IMMEDIATELY ON STEEP SLOPES (1.5 OR GREATER) AND EMBANKMENTS, PERMANENT AND TEMPORARY PONDS, AND OUTLETS AND OVERFLOWS TO PROTECT THE COMPLETED GRADE AND MINIMIZE SILT IN THE RUNOFF.
11. DRAINAGE DITCHES: THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER. STABILIZATION OF THE LAST 200 LINEAL FEET MUST BE COMPLETED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER. STABILIZATION OF THE REMAINING PORTIONS OF ANY TEMPORARY OR PERMANENT DITCHES OR SWALES MUST BE COMPLETE WITHIN 14 DAYS AFTER CONNECTING TO A SURFACE WATER AND CONSTRUCTION IN THAT PORTION OF THE DITCH HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY OR PERMANENT DITCHES OR SWALES THAT ARE BEING USED AS A SEDIMENT CONTAINMENT SYSTEM (WITH PROPERLY DESIGNED ROCK DITCH CHECKS, BIO ROLLS, SILT DIKES, ETC.) DO NOT NEED TO BE STABILIZED. THESE AREAS MUST BE STABILIZED WITHIN 24 HOURS AFTER NO LONGER BEING USED AS A SEDIMENT CONTAINMENT SYSTEM.
12. TURF ESTABLISHMENT: ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

STANDARD PLAN NOTES  
GRADING AND EROSION CONTROL PLANS

FEBRUARY 2015

	<b>CITY OF LAKE ELMO</b>	STANDARD DRAWING NO.	600B
			LAKE ELMO

13. MAINTENANCE AND INSPECTION: EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION AND UNTIL SATISFACTORY ESTABLISHMENT OF PERMANENT GROUND COVER IS OBTAINED. ALL EROSION AND SEDIMENTATION CONTROL MEASURES, AND STORMWATER OUTFALLS MUST BE INSPECTED WEEKLY, AND WITHIN 24 HOURS OF THE SITE RECEIVING 0.5 INCHES OF RAIN. REPAIRS MUST BE MADE ON THE SAME DAY OR FOLLOWING DAY OF THE INSPECTION. UNSATISFACTORY CONDITIONS NOT REPAIRED OR CLEANED UP WITHIN 48-HOURS OF NOTIFICATION SHALL RESULT IN A STOP WORK ORDER, AND/OR SAID WORK SHALL BE COMPLETED AT CONTRACTOR'S EXPENSE.
14. REMOVAL: THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL TEMPORARY EROSION CONTROL MEASURES, STRUCTURES AND DEVICES ONLY AFTER RECEIVING ENGINEER APPROVAL. ALL DEBRIS, STAKES, AND SILTS ALONG SILT FENCES SHALL BE REMOVED AND DISPOSED OFF SITE. THE CONTRACTOR SHALL HAND RAKE SLOTTED AREAS ALONG THE FENCE LOCATIONS TO PROVIDE A SMOOTH FINAL GRADE AND SHALL RESTORE THE GROUND SURFACE WITH SEED OR SOG, AS REQUIRED, TO MATCH THE FINISHED GRADE TO THE ADJACENT AREA.
15. FINAL STORM SEWER SYSTEM: AT THE COMPLETION OF THE WORK AND BEFORE THE FINAL WALK THROUGH, THE CONTRACTOR SHALL REMOVE STORM SEWER INLET PROTECTION MEASURES AND THOROUGHLY FLUSH THE STORM SEWER SYSTEM. SEDIMENT AND DEBRIS SHALL BE COMPLETELY REMOVED AND CLEANED AT THE INLETS, OUTLETS, AND DOWNSTREAM OF EACH OUTLET RIPRAP AND GEOTEXTILE FABRIC MAY REQUIRE REPLACEMENT AS DIRECTED BY THE ENGINEER TO OBTAIN A LIKE NEW INSTALLATION ACCEPTABLE TO THE CITY.
16. DITCH CHECK (BIOROLL BLANKET SYSTEM): BIOROLL AND BLANKET SYSTEMS SHALL BE INSTALLED AS DITCH CHECKS ONLY IN SPECIFIED LOCATIONS AS APPROVED BY THE CITY ENGINEER. BIOROLLS ARE NOT TO BE UTILIZED IN AREAS WHERE VEHICLE AND CONSTRUCTION TRAFFIC OCCUR.
17. FLOTATION SILT CURTAIN: FLOTATION SILT CURTAIN SHALL BE UTILIZED WHEN CONSTRUCTION ACTIVITIES OCCUR DIRECTLY ADJACENT TO LAKES, STREAMS OR WETLANDS IN ORDER TO CONTAIN SEDIMENTS NEAR THE BANKS OF WORKING AREAS. THE INSTALLATION OF FLOTATION SILT CURTAINS WILL BE REQUIRED AS DIRECTED BY THE CITY ENGINEER.
18. CONCRETE WASHOUT: ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER GROUND WATER IS CONSIDERED AN IMPERMEABLE LINER. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND, AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

STANDARD PLAN NOTES  
GRADING AND EROSION CONTROL PLANS

FEBRUARY 2015

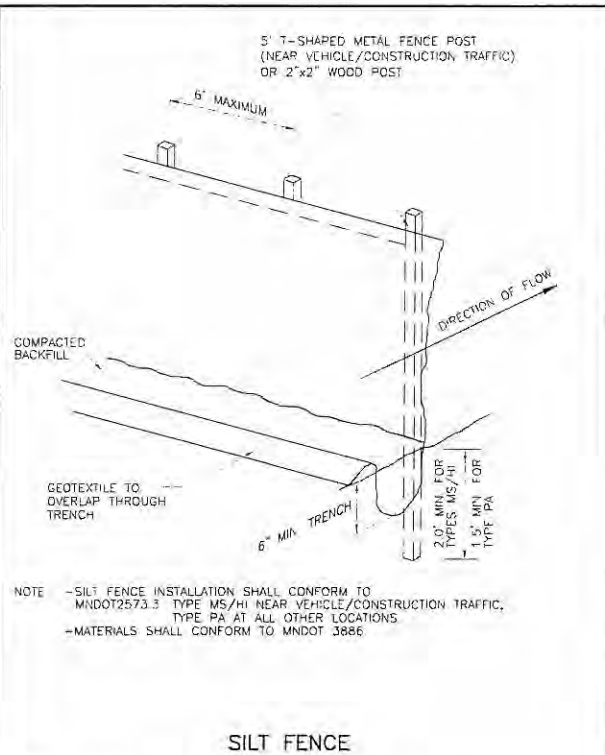
	<b>CITY OF LAKE ELMO</b>	STANDARD DRAWING NO.	600C
			LAKE ELMO

1. RESTORE ALL DISTURBED AREAS WITH 6 INCHES OF TOPSOIL CONFORMING TO MNDOT 3B77.
2. PROTECT ALL STORM SEWER INLETS AS SPECIFIED HEREIN AND MAINTAIN UNTIL STREET CONSTRUCTION IS COMPLETED.
3. MAINTAIN ALL SILT FENCE AND REPAIR OR REPLACE AS NEEDED OR REQUIRED UNTIL TURF HAS BEEN ESTABLISHED.
4. RESTORATION WORK SHALL BEGIN WITHIN 7 DAYS OF FINAL GRADING.
5. A MINIMUM OF 2 ROWS OF SOG SHALL BE PLACED ADJACENT TO THE BACK OF CURBS ALONG ALL BOULEVARDS. SILT FENCE SHALL BE PLACED DIRECTLY BEHIND THE SOG IN ACCORDANCE WITH THE CITY STANDARD DETAILS.
6. BOULEVARD AND DITCH RESTORATION INCLUDES FINE GRADING, WHICH INCLUDES THE REMOVAL OF ROCKS, DEBRIS AND SOIL CHUNKS, WHILE MAINTAINING POSITIVE DRAINAGE.

STANDARD PLAN NOTES  
SITE RESTORATION PLANS

FEBRUARY 2015

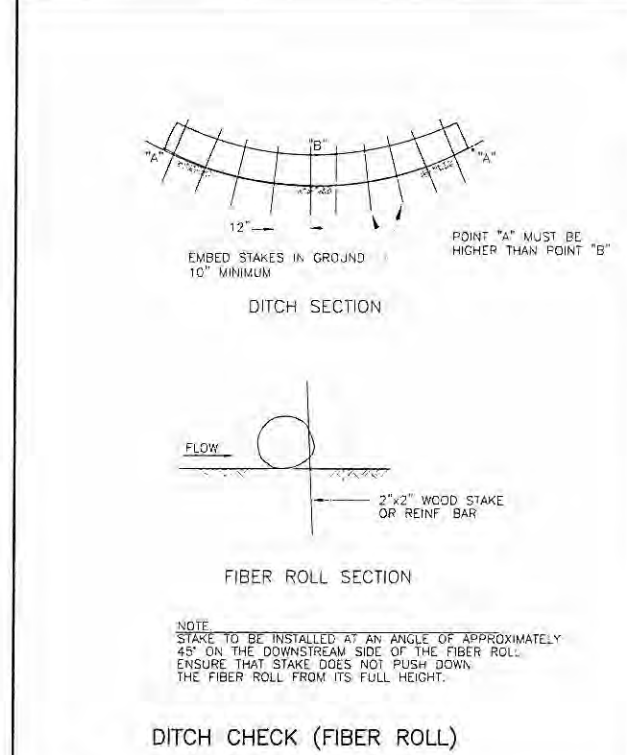
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			LAKE ELMO



SILT FENCE

FEBRUARY 2015

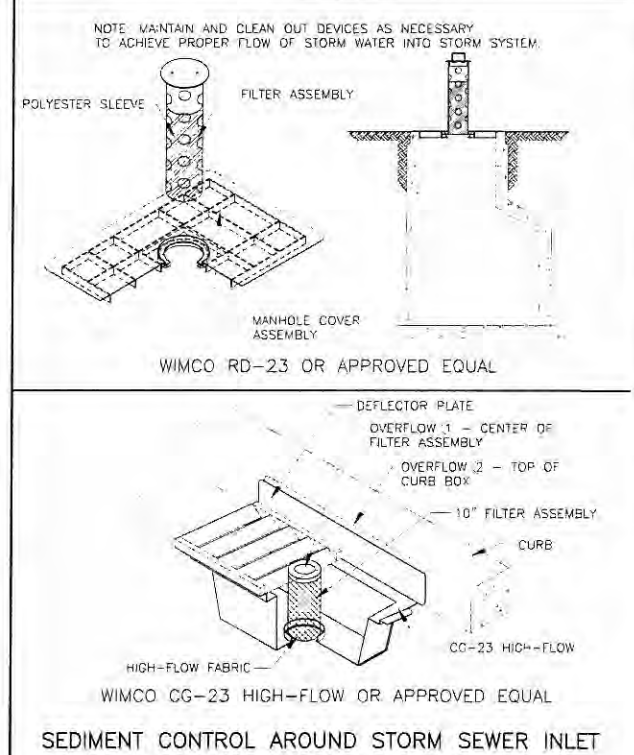
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			LAKE ELMO



DITCH CHECK (FIBER ROLL)

FEBRUARY 2015

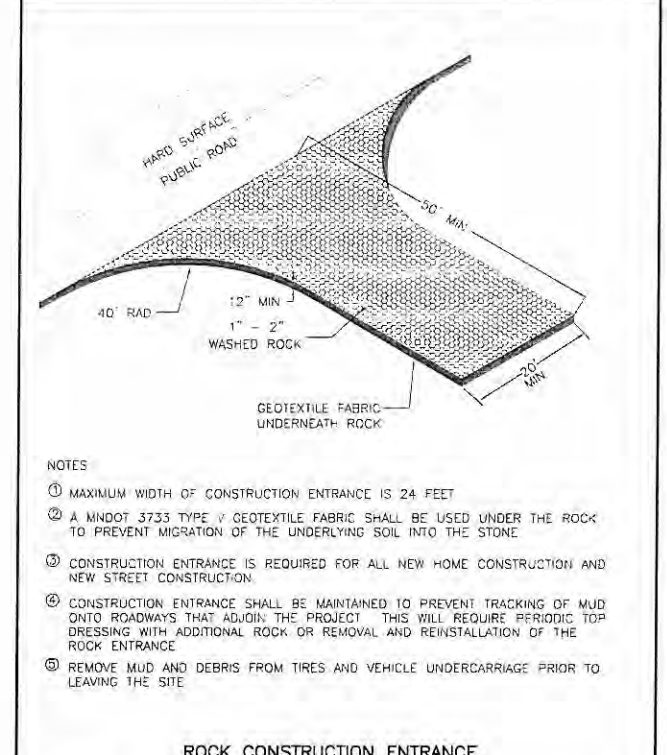
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			LAKE ELMO



SEDIMENT CONTROL AROUND STORM SEWER INLET

FEBRUARY 2015

	<b>CITY OF LAKE ELMO</b>	STANDARD DRAWING NO.	604
			LAKE ELMO



ROCK CONSTRUCTION ENTRANCE

FEBRUARY 2015

	<b>CITY OF LAKE ELMO</b>	STANDARD DRAWING NO.	605
			LAKE ELMO

WETLAND BUFFER SIZING:	REQ. BUFFER(SQFT)	PRO. BUFFER(SQFT)
A	72,078	72,863
B	61,831	61,831
C	7,370	7,370
D	10,541	10,541
E	53,438	53,438
F	70,555	70,555
G	85,402	85,402
H	29,799	29,799
	40,270	40,270

- LEGEND**
- PROPOSED PHASE 1 STORM SEWER
  - FUTURE PHASE STORM SEWER
  - LOW POINT IN OVERALL GRADING NOT SERVED BY PHASE 1
  - TEMP. SURFACE SWALE @ 7.0% SLOPE OF TEMPORARY SURFACE SWALE FROM LOW POINT TO ADJACENT LOW POINT OR DISCHARGE POINT
  - DISCHARGE PT.=926.4 ELEVATION OF TEMPORARY SURFACE SWALE DISCHARGE LOCATION
  - WETLAND BUFFER SIGN LOCATION

1. I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Name: John M. Mahoney  
 Exp. No: 45831  
 Date: 02-13-15

REVISIONS

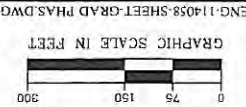
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2	14-02-15 (1) BY COMMENTS
3	14-02-15 (1) BY COMMENTS
4	14-02-15 (1) BY COMMENTS
5	14-02-15 (1) BY COMMENTS
6	07-02-15 (1) BY COMMENTS

Date: 02-13-15  
 Drawn: KAW/BJM  
 Design: KAW/BJM

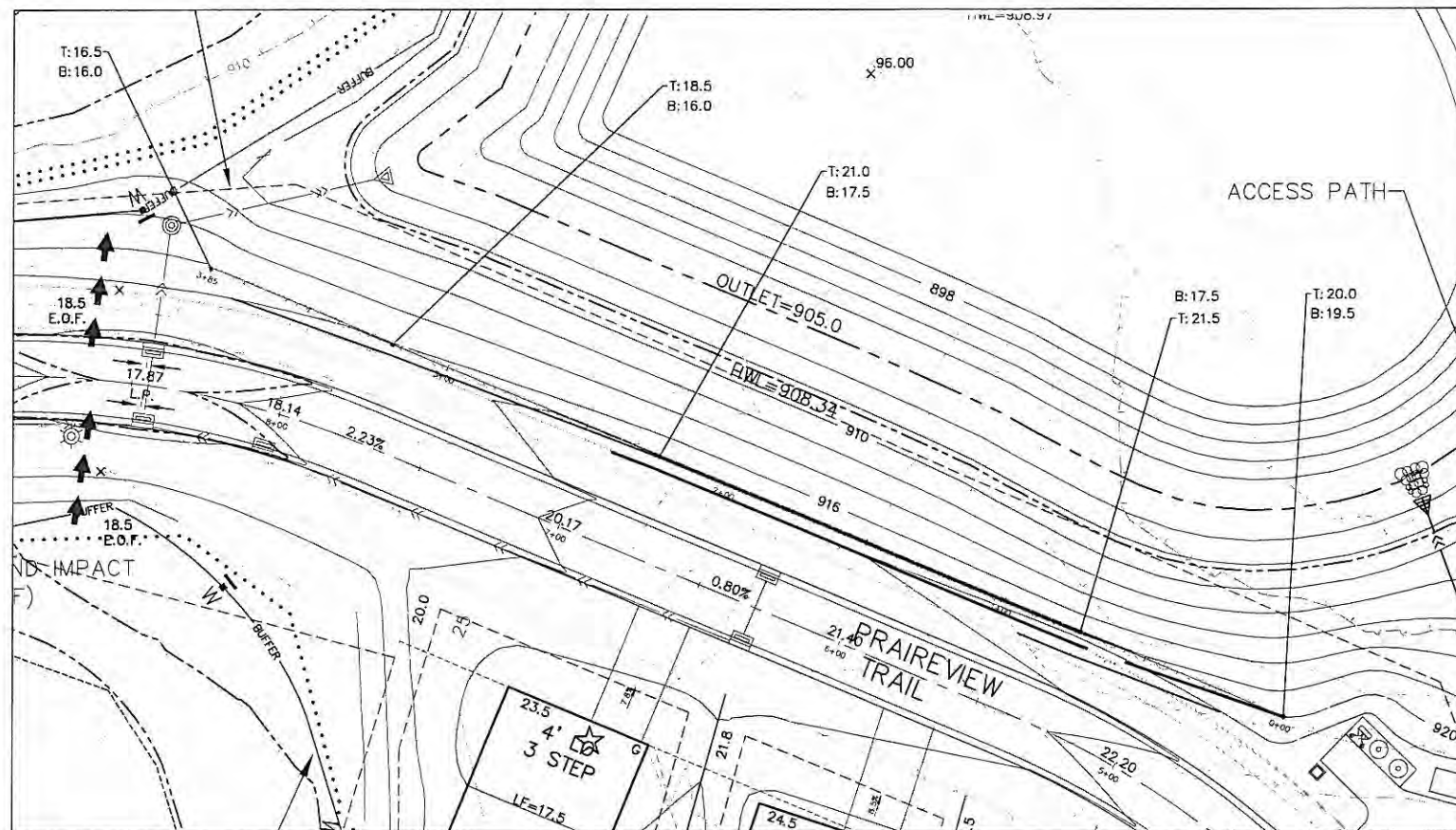
**PHASING/BUFFER EXHIBIT**

**ROBERT ENGSTROM COMPANIES**  
 4801 WEST 81ST STREET, SUITE 101  
 MINNEAPOLIS, MINNESOTA 55427-1111

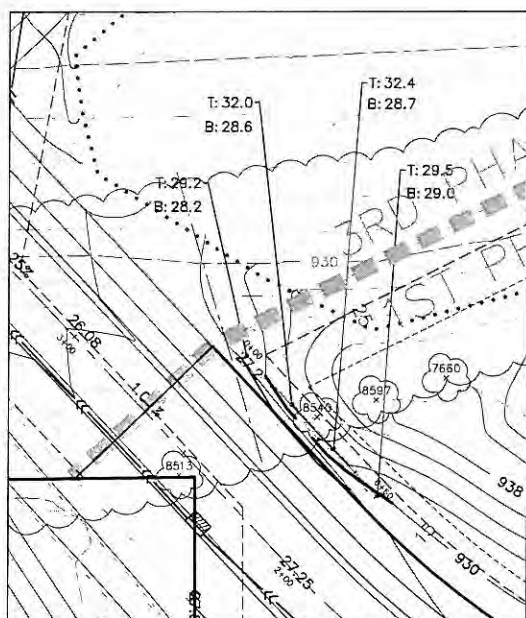
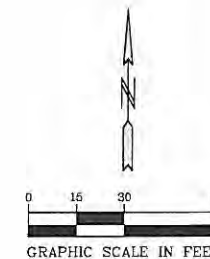
**WILDFLOWER AT LAKE ELMO**  
 LAKE ELMO, MINNESOTA



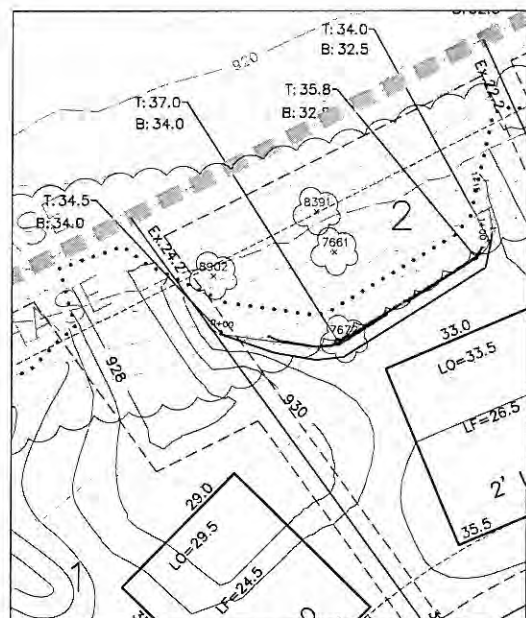
**INTERIM WALL GRADING NOTE:**  
 -GRADE SLOPES 1:1 FROM PROPOSED WALL LOCATION  
 -BLANKET ALL 1:1 SLOPES



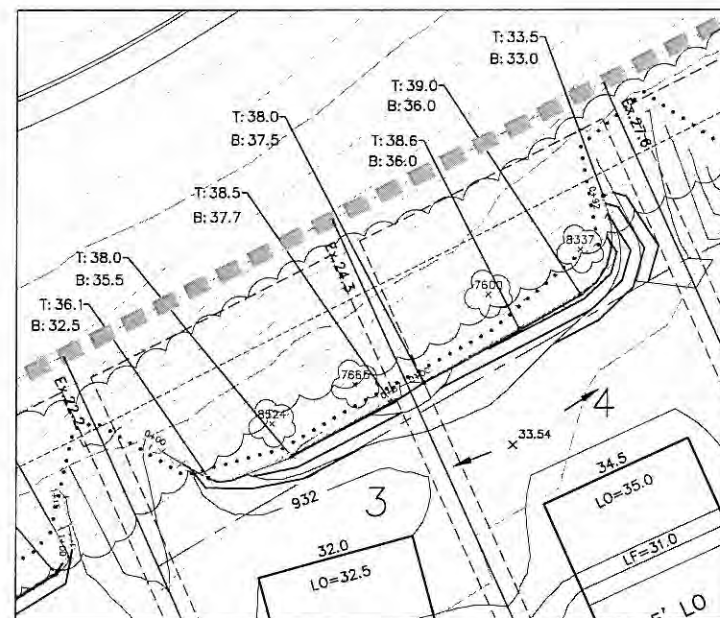
RETAINING WALL-A  
 AREA OF 1:1 SLOPE = 1,944 SF



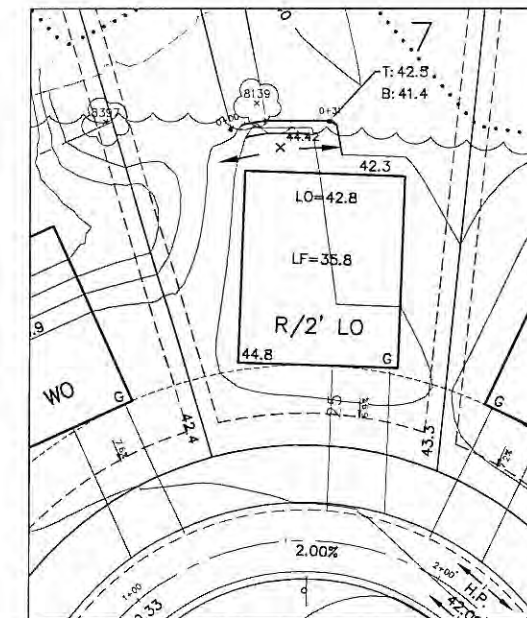
RETAINING WALL-B  
 AREA OF 1:1 SLOPE = 289 SF



RETAINING WALL-C  
 AREA OF 1:1 SLOPE = 397 SF



RETAINING WALL-D  
 AREA OF 1:1 SLOPE = 835 SF



RETAINING WALL-E  
 AREA OF 1:1 SLOPE = 175 SF

I hereby certify that this plan was prepared by  
 me or under my direct supervision and that I  
 am a duly Licensed Professional Engineer  
 under the laws of the State of Minnesota

Name: John M. Mathison  
 Date: 02-13-15  
 Reg. No. 45831

Revisions:  
 1 04-17-15 C. Ry. Comments  
 2 04-28-15 C. Ry. Comments  
 3 05-14-15 C. Ry. Waterford Companies  
 4 05-12-15 Ry. Waterford Companies

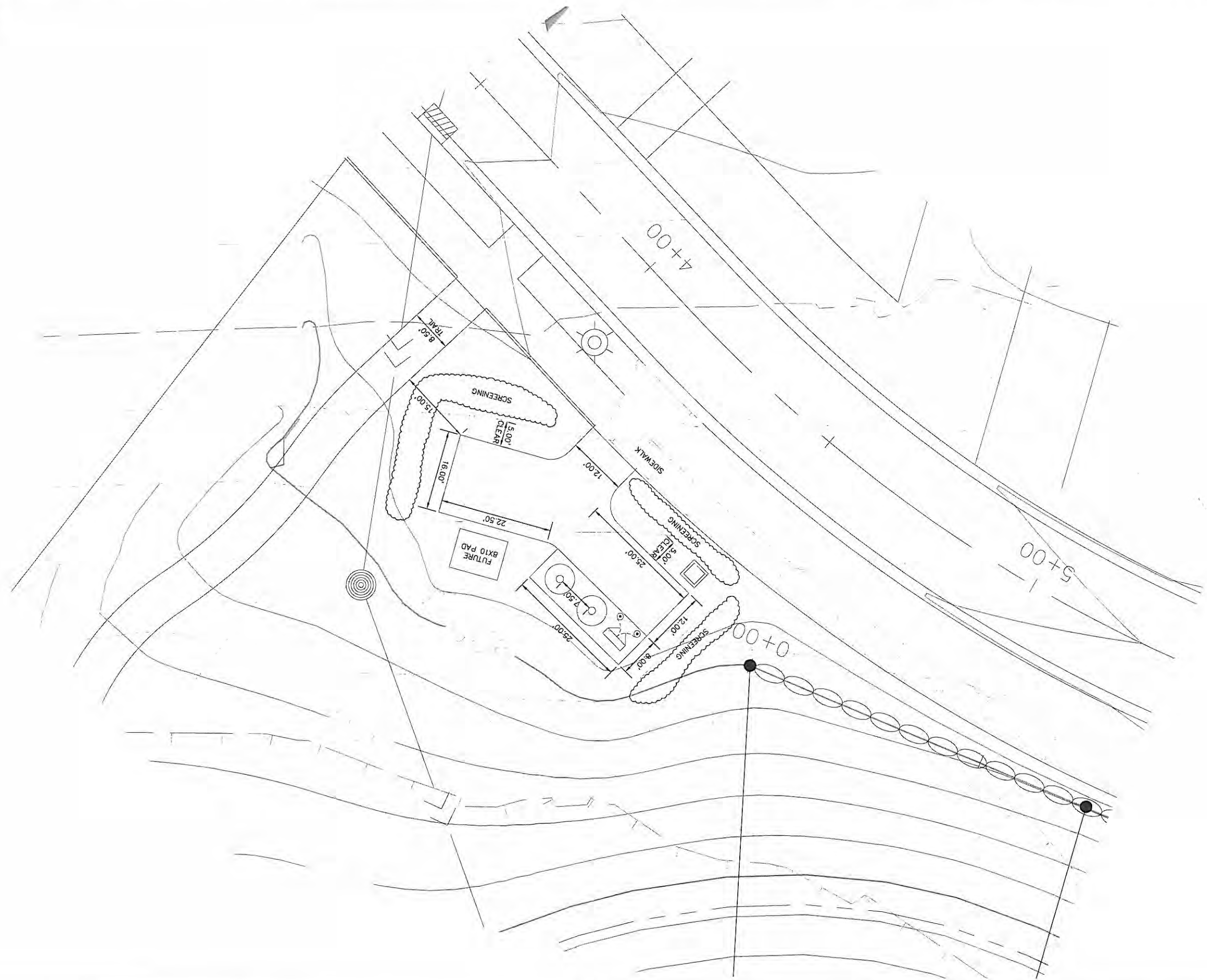
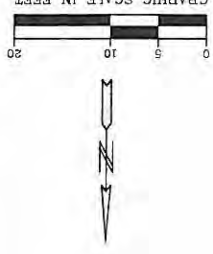
Date: 02-13-15  
 Drawn: KAW/BJM  
 Checked: KAW/BJM

LIFT STATION EXHIBIT

ROBERT ENGSTROM COMPANIES  
 4801 WEST 81ST STREET, SUITE 101  
 MINNEAPOLIS, MINNESOTA 55437-1111

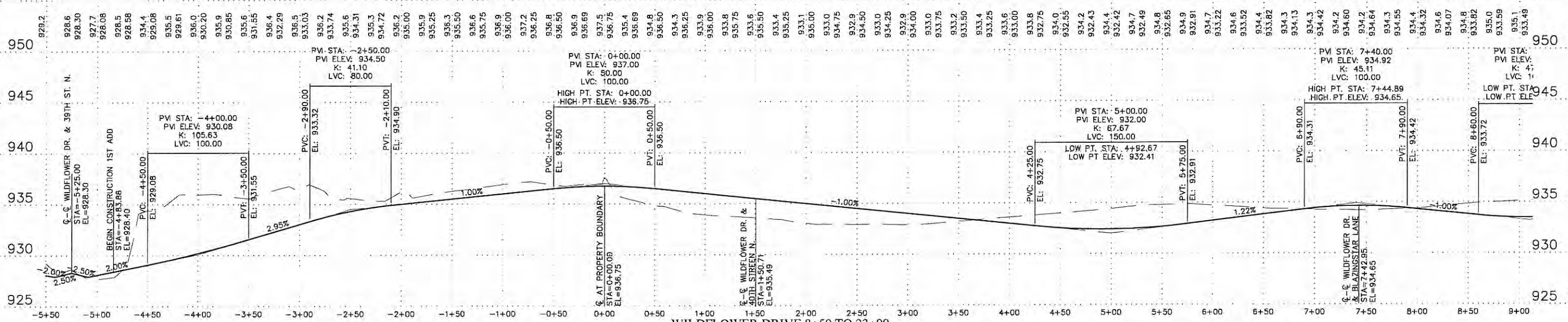
WILDFLOWER AT LAKE ELMO  
 LAKE ELMO, MINNESOTA

01-ENG-114058-SHEET.LIFT.DWG

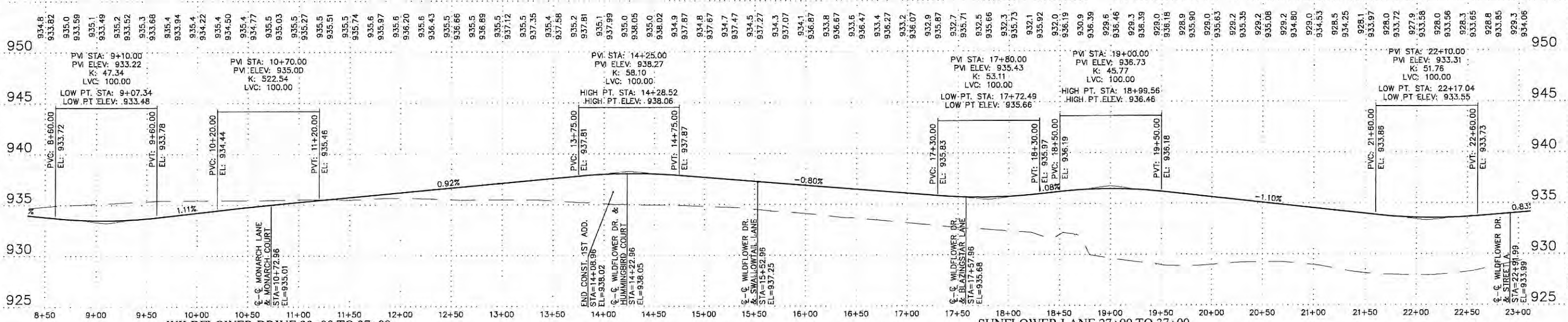


LAYTON AVENUE -5+00 TO 6+00

WILDFLOWER DRIVE 6+00 TO 8+50

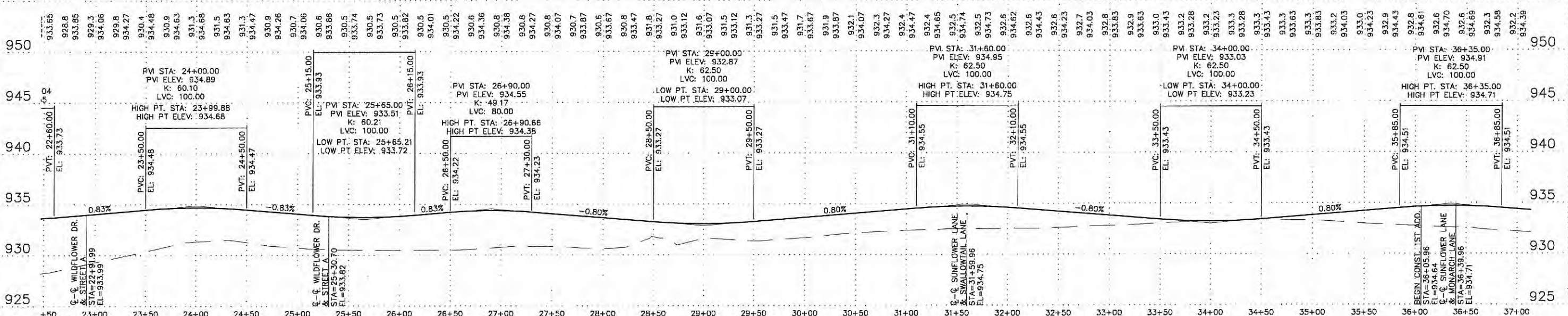


WILDFLOWER DRIVE 8+50 TO 23+00



WILDFLOWER DRIVE 23+00 TO 27+00

SUNFLOWER LANE 27+00 TO 37+00



2422 Enterprise Drive  
Mendota Heights, MN 55120  
www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
Name: \_\_\_\_\_  
Reg. No: \_\_\_\_\_  
Date: 02-13-15

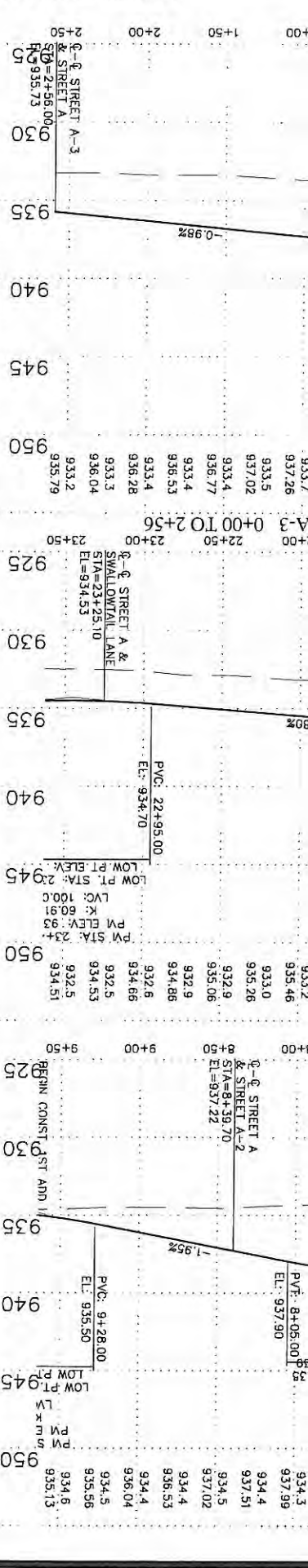
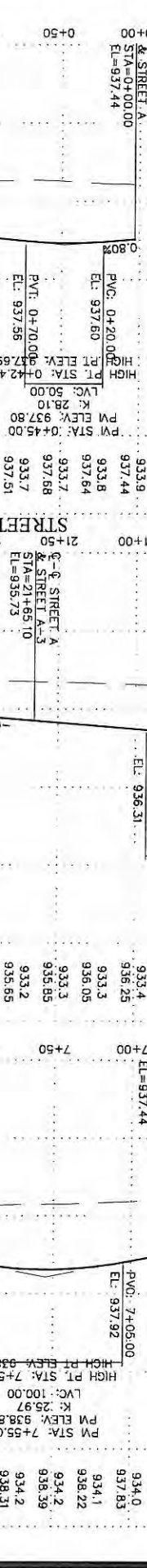
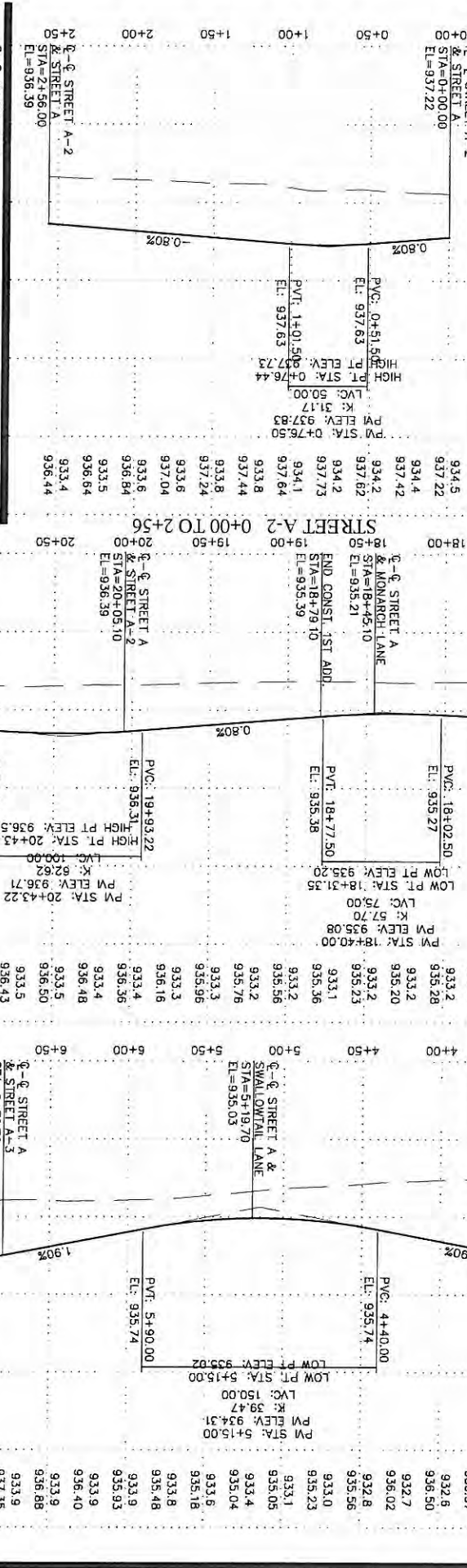
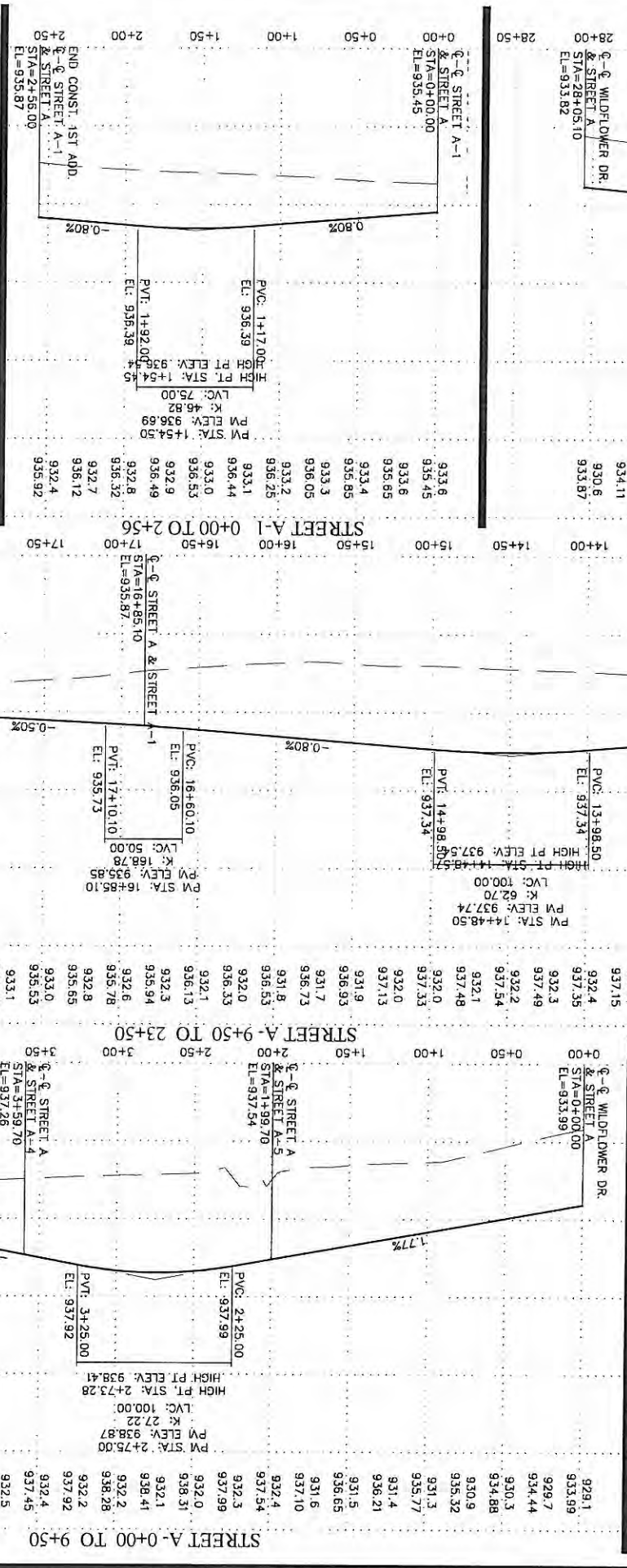
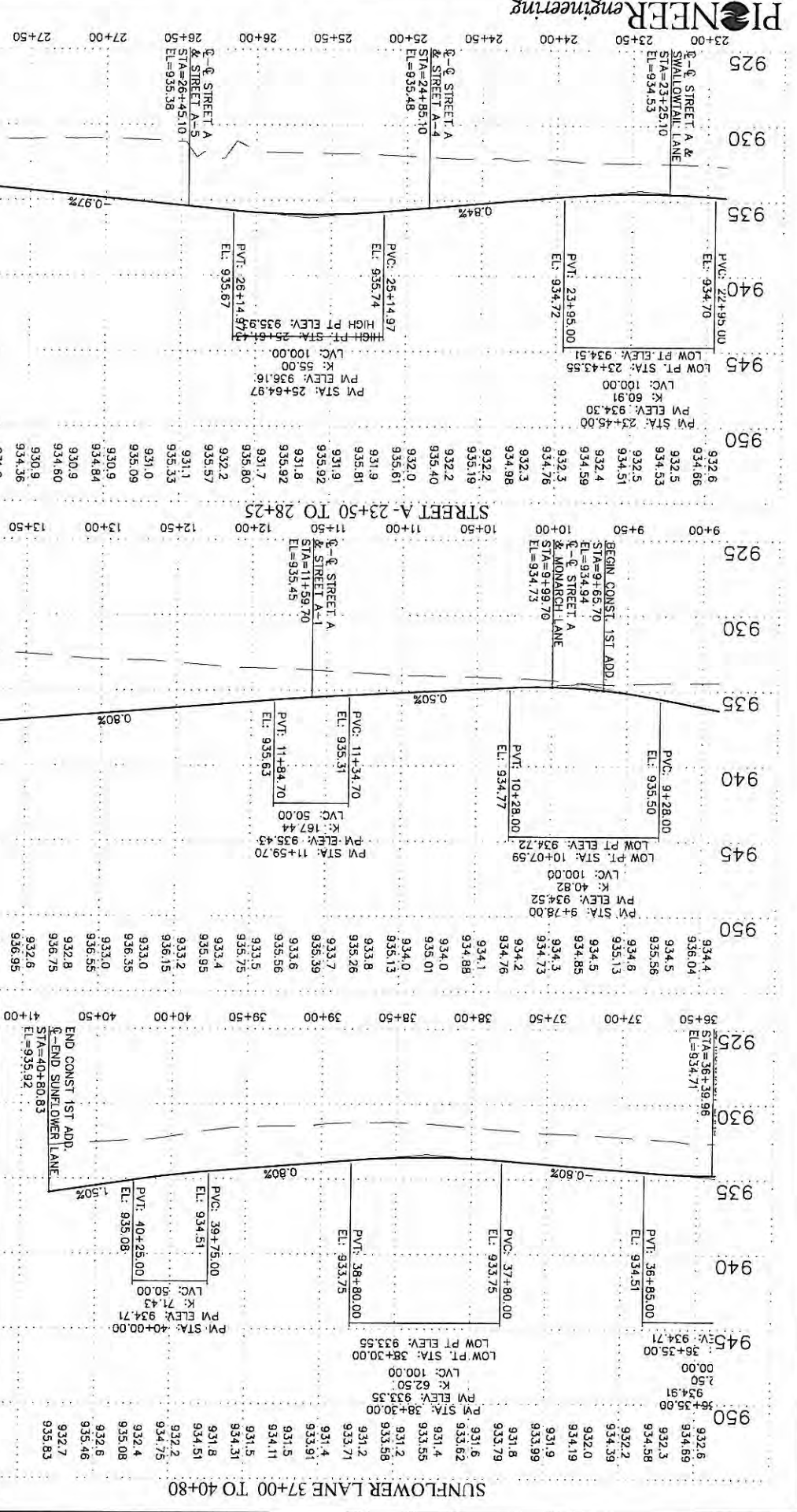
Revisions:  
1. 04-02-15 City Comments  
2. 04-26-15 City Comments  
3. 04-06-15 City/Watershed Comments  
4. 05-12-15 City/Watershed Comments  
5. 06-11-15 Consultant/Sunflower Revision  
6. 07-02-15 City/Watershed Comments

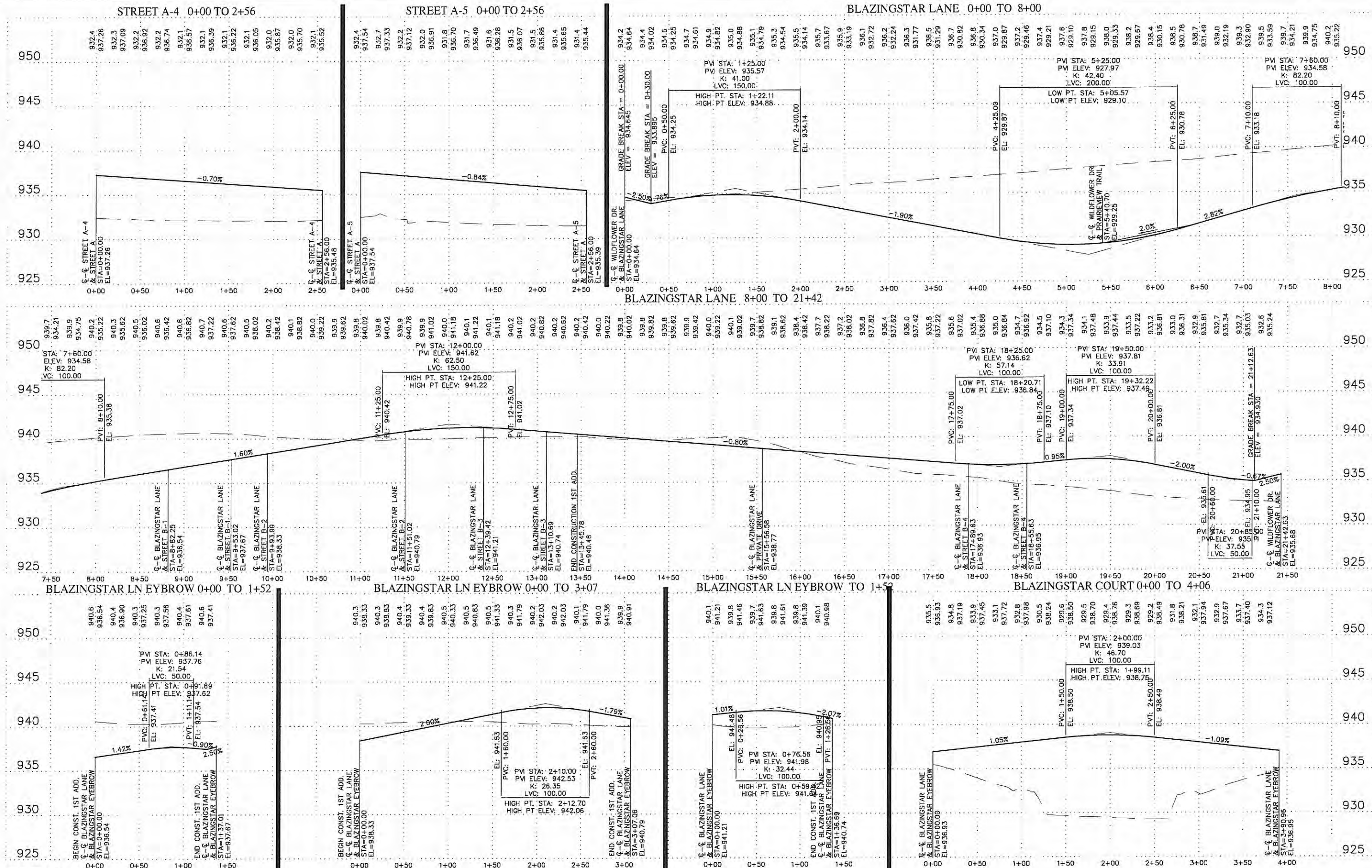
Date: 02-13-15  
Designed: KAW/BJM  
Drawn: KAW/BJM

STREET PROFILES

ROBERT ENGSTROM COMPANIES  
4801 WEST 81ST STREET, SUITE 101  
MINNEAPOLIS, MINNESOTA 55437-1111

WILDFLOWER AT LAKE ELMO  
LAKE ELMO, MINNESOTA





I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
 Name: \_\_\_\_\_  
 Date: 02/13/15

Revisions:  
 1. 04-07-15 City Comments  
 2. 04-26-15 City Comments  
 3. 05-06-15 City Watershed Comments  
 4. 06-12-15 City Watershed Comments

Scale: 06-11-15 Courtyard/Sunflower Revision  
 06-07-15 City Watershed Comments  
 Date: 02/13/15  
 Designed: KAW/BIM  
 Drawn: KAW/BIM

**STREET PROFILES**

**ROBERT ENGSTROM COMPANIES**  
 4801 WEST 81ST STREET, SUITE 101  
 MINNEAPOLIS, MINNESOTA 55437-1111

**WILDFLOWER AT LAKE ELMO**  
 LAKE ELMO, MINNESOTA



MONARCH LANE 0+00 TO 6+13

Grade Break STA = 0+30.00  
ELEV = 934.256

MONARCH COURT 0+00 TO 3+07

Grade Break STA = 3+07.74  
ELEV = 935.235

MONARCH COURT 0+00 TO 3+07

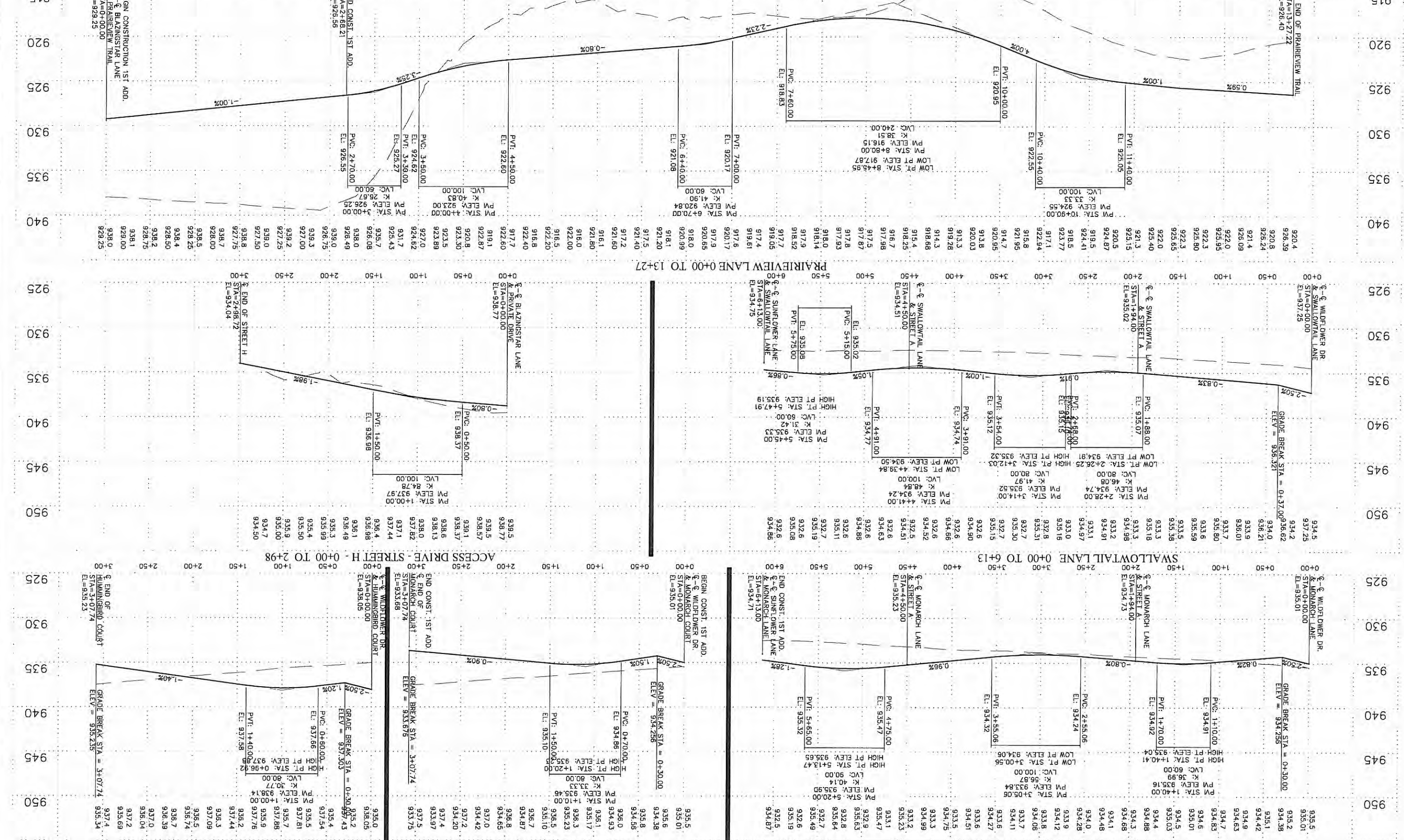
Grade Break STA = 3+07.74  
ELEV = 935.235

HUMMINGBIRD COURT 0+00 TO 3+07

Grade Break STA = 3+07.74  
ELEV = 935.235

HUMMINGBIRD COURT 0+00 TO 3+07

Grade Break STA = 3+07.74  
ELEV = 935.235



END OF WILDFLOWER DR. & MONARCH LANE STA=0+00.00 ELEV=935.01

END OF WILDFLOWER DR. & MONARCH LANE STA=0+00.00 ELEV=935.01

END OF WILDFLOWER DR. & MONARCH LANE STA=0+00.00 ELEV=935.01

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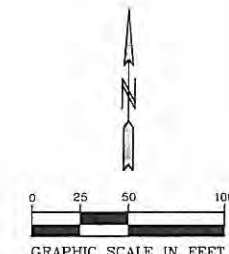
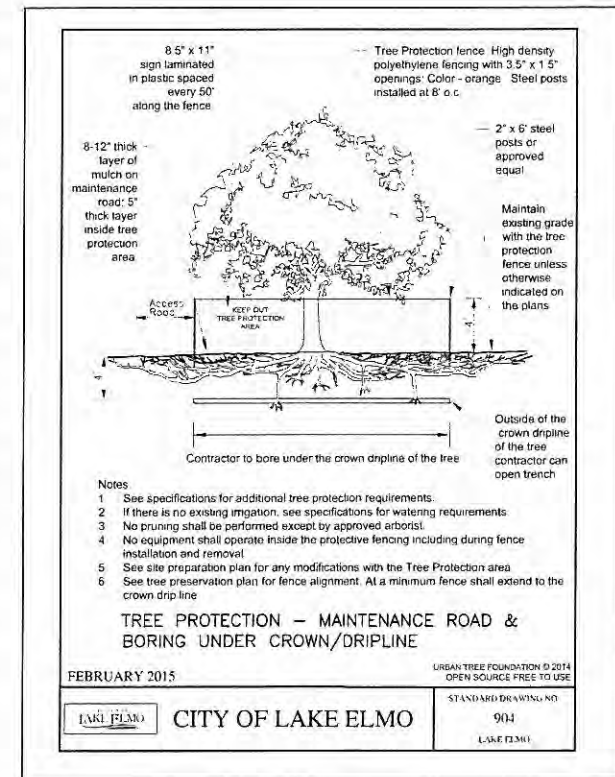
END OF WILDFLOWER DR. & MONARCH LANE STA=0+00.00 ELEV=935.01

END OF WILDFLOWER DR. & MONARCH LANE STA=0+00.00 ELEV=935.01

SOUTH ENTRANCE TREE INVENTORY

#	Tree Tag #	Size (DBH ")	Common Name	Scientific Name	Significant Tree	Notes	Status
1	789	24	Honeylocust	<i>Gleditsia triacanthos</i>	Y		Remove
2	1464	6	Box Elder	<i>Acer negundo</i>	N		Remove
3	1465	5	Colorado spruce	<i>Picea pungens</i>	N		Remove
4	1466	9	Box Elder	<i>Acer negundo</i>	N		Remove
5	1467	6	Colorado spruce	<i>Picea pungens</i>	N		Remove
6	1468	7	Box Elder	<i>Acer negundo</i>	N		Remove
7	1469	13	Box Elder	<i>Acer negundo</i>	Y		Remove
8	1470	6	Colorado spruce	<i>Picea pungens</i>	N	60% shade suppressed	Remove
9	1471	8	Colorado spruce	<i>Picea pungens</i>	N	70% shade suppressed	Remove
10	1472	14/12	Box Elder	<i>Acer negundo</i>	Y	Offsite	Offsite save
11	1473	7	Box Elder	<i>Acer negundo</i>	N	Offsite	Offsite save
12	1474	7	Colorado spruce	<i>Picea pungens</i>	N	Offsite	Offsite save
13	2235	7/7/6	Box Elder	<i>Acer negundo</i>	N	Offsite	Offsite save
14	2236	11	Box Elder	<i>Acer negundo</i>	N		Remove
15	2237	11	Box Elder	<i>Acer negundo</i>	N		Remove
16	2238	8	Box Elder	<i>Acer negundo</i>	N	60% top missing	Remove
17	2239	14/11/7	Box Elder	<i>Acer negundo</i>	Y		Remove
18	2240	15	Hackberry	<i>Celtis occidentalis</i>	Y		Remove
19	2241	15	Box Elder	<i>Acer negundo</i>	Y		Remove
20	2242	11	Box Elder	<i>Acer negundo</i>	N		Remove
21	2243	11	Box Elder	<i>Acer negundo</i>	N		Remove
22	2244	20	Box Elder	<i>Acer negundo</i>	Y		Remove
23	2245	8	Box Elder	<i>Acer negundo</i>	N		Remove
24	2246	16	Box Elder	<i>Acer negundo</i>	Y		Remove
25	2247	9	Box Elder	<i>Acer negundo</i>	N		Remove
26	2248	18	Box Elder	<i>Acer negundo</i>	N	30% top missing, decay at base of tree	Remove
27	2250	10	Box Elder	<i>Acer negundo</i>	N		Remove
28	2251	9	Box Elder	<i>Acer negundo</i>	N		Remove
29	2252	10	Box Elder	<i>Acer negundo</i>	N		Remove
30	2253	12/12	Box Elder	<i>Acer negundo</i>	Y		Remove
31	2254	13	Box Elder	<i>Acer negundo</i>	N	30% top missing	offsite save
32	2255	13	Box Elder	<i>Acer negundo</i>	Y		Remove
33	2256	13	Box Elder	<i>Acer negundo</i>	Y		Remove
34	2257	10	Box Elder	<i>Acer negundo</i>	N		Remove
35	2258	9	Box Elder	<i>Acer negundo</i>	N		Remove
36	2259	13	Box Elder	<i>Acer negundo</i>	Y		Remove
37	2260	17	Box Elder	<i>Acer negundo</i>	Y		Remove
38	2261	6	Box Elder	<i>Acer negundo</i>	N		Remove
39	2262	6	Box Elder	<i>Acer negundo</i>	N		Remove
40	2263	6	Honeylocust	<i>Gleditsia triacanthos</i>	N		Remove
41	2264	6	Box Elder	<i>Acer negundo</i>	N		Remove
42	2265	16	Box Elder	<i>Acer negundo</i>	Y		Remove
43	2266	7	Box Elder	<i>Acer negundo</i>	N		Remove
44	2267	19	Box Elder	<i>Acer negundo</i>	N	40% top missing, split at base	Remove
45	2268	16	Box Elder	<i>Acer negundo</i>	Y		Remove
46	2269	15	Box Elder	<i>Acer negundo</i>	Y		Remove
47	2270	15/14/12/6	Box Elder	<i>Acer negundo</i>	Y		Remove
48	2271	13	Box Elder	<i>Acer negundo</i>	Y		Remove
49	2272	22/21	Box Elder	<i>Acer negundo</i>	N	22" 100% top missing, 21" decay along main trunk	Remove
50	2273	21	Box Elder	<i>Acer negundo</i>	Y	Offsite	Offsite save
51	2274	19	Box Elder	<i>Acer negundo</i>	Y		Remove
52	2275	16	Box Elder	<i>Acer negundo</i>	N	50% top missing	Remove
53	2276	16	Box Elder	<i>Acer negundo</i>	Y		Remove
54	2277	18	Box Elder	<i>Acer negundo</i>	N	40% top missing	Offsite save
55	2279	7	Siberian elm	<i>Ulmus pumila</i>	N		Remove
56	2280	6	Honeylocust	<i>Gleditsia triacanthos</i>	N		Remove
57	2281	10	Box Elder	<i>Acer negundo</i>	N	heavy lean to tree	Remove
58	2282	12	Box Elder	<i>Acer negundo</i>	Y		Remove
59	2283	17	Box Elder	<i>Acer negundo</i>	N	major damage from tree #2285 which has toppled onto #2283	Offsite save
60	2284	17	Box Elder	<i>Acer negundo</i>	Y	Offsite	Offsite save
61	2285	18	Box Elder	<i>Acer negundo</i>	N	toppled	Offsite save
62	2286	6	Box Elder	<i>Acer negundo</i>	N	Offsite	Offsite save
63	2287	7	Box Elder	<i>Acer negundo</i>	N	Offsite	Offsite save
64	2288	10	Box Elder	<i>Acer negundo</i>	N	Offsite	Offsite save
65	2289	11	Box Elder	<i>Acer negundo</i>	N	Offsite	Offsite save
66	2290	10	Box Elder	<i>Acer negundo</i>	N		Remove
67	2291	8	Box Elder	<i>Acer negundo</i>	N	Offsite	Offsite save
68	2292	9/8	Box Elder	<i>Acer negundo</i>	N		Remove
69	2293	6	Box Elder	<i>Acer negundo</i>	N		Remove
70	2294	11	Box Elder	<i>Acer negundo</i>	N	top split at 8' up from base of tree	Remove
71	2295	6	Box Elder	<i>Acer negundo</i>	N		Remove
72	2296	10	Box Elder	<i>Acer negundo</i>	N		Remove
73	2297	11	Box Elder	<i>Acer negundo</i>	N		Remove

NOTES:  
 1. NON-SIGNIFICANT TREES ARE DUE TO SIZE NOT MEETING ORDINANCE REQUIREMENTS OR;  
 2. TREES THAT ARE DAMAGED, SPLIT, LEANING, OR HAVE SIGNIFICANT MISSING CANOPIES.





8'5" x 11" sign laminated in plastic spaced every 50' along the fence.

Tree Protection fence. High density polyethylene fencing with 3.5' x 1.5' openings. Color - orange. Steel posts installed at 8' o c.

6-12" thick layer of mulch on maintenance road; 5" thick layer inside tree protection area.

2" x 6" steel posts or approved equal.

Maintain existing grade with the tree protection fence unless otherwise indicated on the plans.

Contractor to bore under the crown dripline of the tree.

Outside of the crown dripline of the tree contractor can open trench.

Notes:

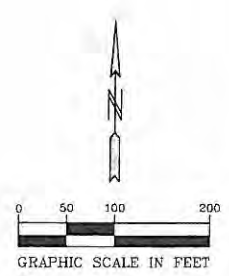
- 1 See specifications for additional tree protection requirements
- 2 If there is no existing irrigation, see specifications for watering requirements
- 3 No pruning shall be performed except by approved arborist
- 4 No equipment shall operate inside the protective fencing including during fence installation and removal.
- 5 See site preparation plan for any modifications with the Tree Protection area
- 6 See tree preservation plan for fence alignment. At a minimum fence shall extend to the crown drip line

**TREE PROTECTION - MAINTENANCE ROAD & BORING UNDER CROWN/DRIPLINE**

FEBRUARY 2015

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LAKE PLANNING CITY OF LAKE ELMO 904 LAKE ELMO



**PIONEER**engineering  
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS  
2422 Enterprise Drive Mendota Heights, MN 55120  
(651) 681-1914 Fax: 681-9488 www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota  
Name: Jennifer L. Thompson  
Reg. No: 44761 Date:

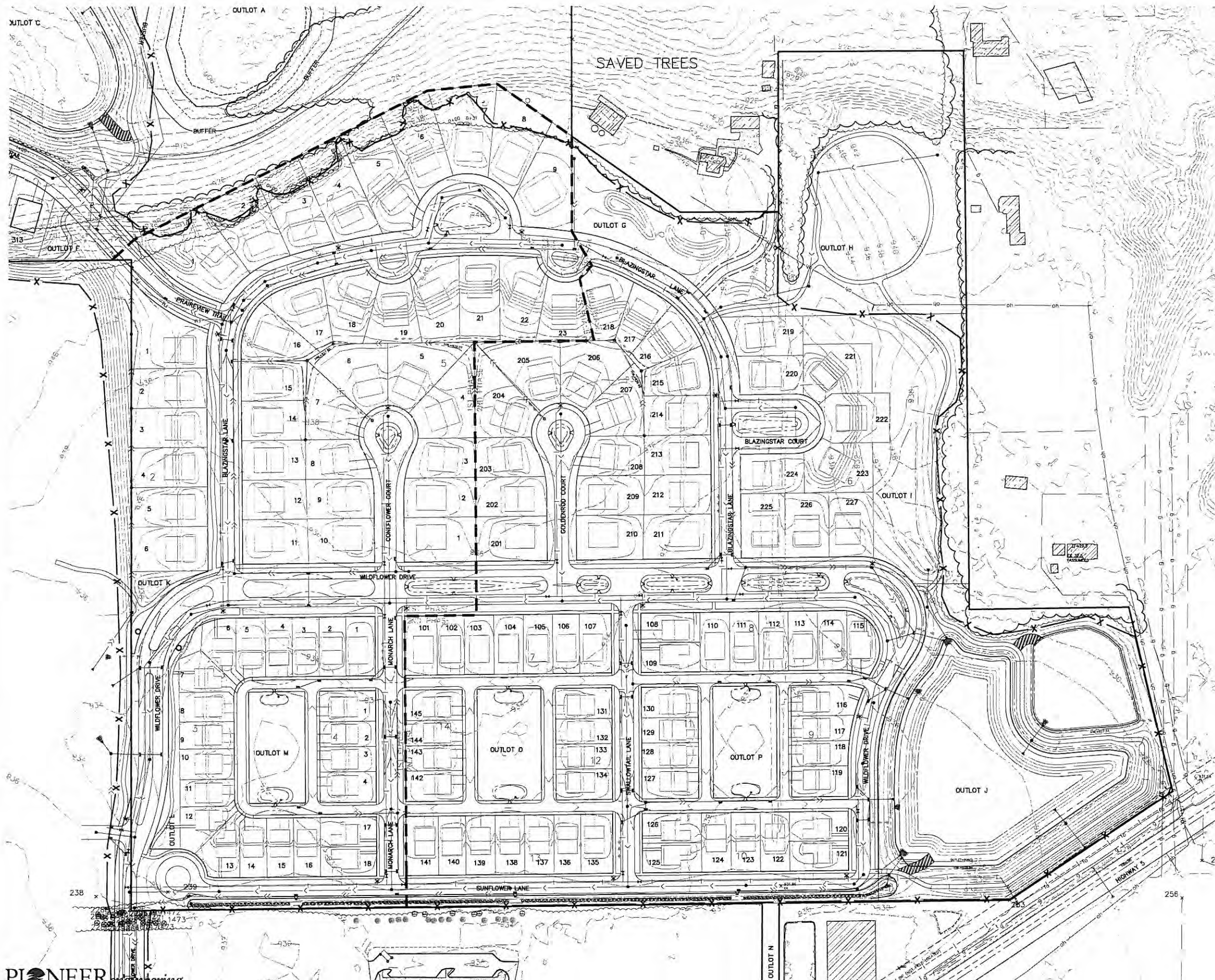
Revisions:  
1. 04-07-15 City Comments  
2. 04-28-15 City Comments  
3. 05-06-15 City/Watershed Comments

Date: 2-13-15  
Designed by:  
Drawn by: jlt/ml

**TREE PROTECTION PLAN**

**ROBERT ENGSTROM COMPANIES**  
4801 WEST 81ST STREET, SUITE 101  
MINNEAPOLIS, MINNESOTA 55437-1111

**WILDFLOWER AT LAKE ELMO**  
LAKE ELMO, MINNESOTA



8.5" x 11" sign laminated in plastic spaced every 50' along the fence.

Tree Protection fence: High density polyethylene fencing with 3.5" x 1.5" openings. Color - orange. Steel posts installed at 6' o.c.

2" x 6" steel posts or approved equal

Maintain existing grade with the tree protection fence unless otherwise indicated on the plans.

Outside of the crown dripline of the tree contractor can open trench

Contractor to bore under the crown dripline of the tree

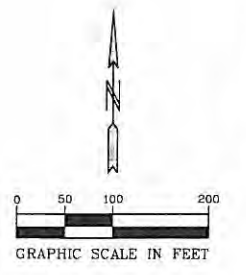
Notes

- 1 See specifications for additional tree protection requirements.
- 2 If there is no existing irrigation, see specifications for watering requirements.
- 3 No pruning shall be performed except by approved arborist.
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**TREE PROTECTION - MAINTENANCE ROAD & BORING UNDER CROWN/DRIPLINE**

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LAKI PLMB CITY OF LAKE ELMO STANDARD DRAWING NO. 904 LAKE ELMO



**PIONEER** engineering  
 CIVIL ENGINEERS LAND PLANNERS LANDSCAPE ARCHITECTS  
 2422 Enterprise Drive  
 Mendota Heights, MN 55120  
 (651) 681-1914  
 Fax: 681-9488  
 www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota.  
 Name: Jennifer L. Thompson  
 Reg. No.: 44763 Date:

Revisions:  
 1. 04-07-15 City Comments  
 2. 04-28-15 City Comments  
 3. 05-06-15 City/Waterbed Comments

Date: 2.18.15  
 Designed: jlt  
 Drawn: jlt/ml

**TREE PROTECTION PLAN**

**ROBERT ENGSTROM COMPANIES**  
 4801 WEST 81ST STREET, SUITE 101  
 MINNEAPOLIS, MINNESOTA 55437-1111

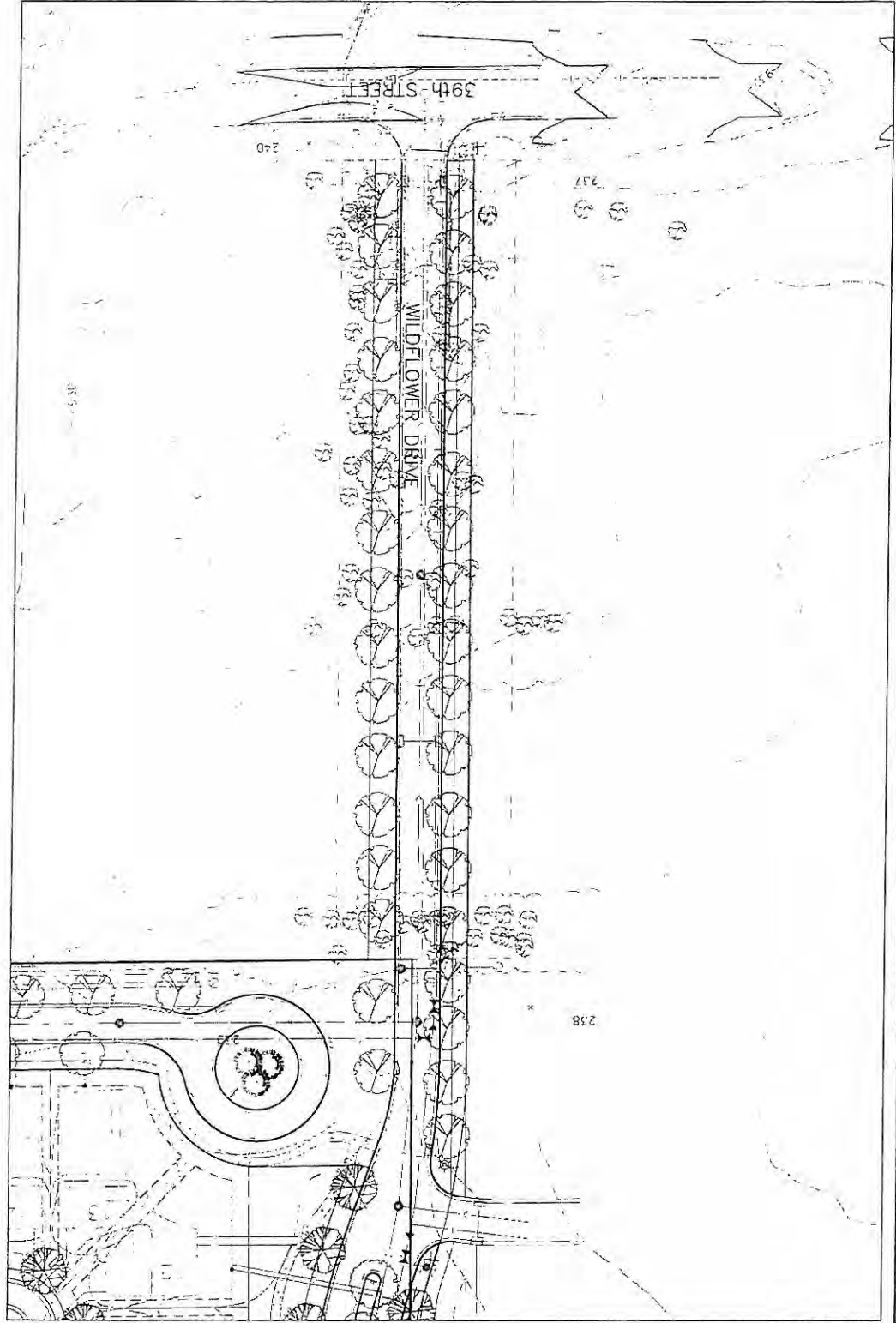
**WILDFLOWER AT LAKE ELMO**  
 LAKE ELMO, MINNESOTA



**LANDSCAPE PLAN**

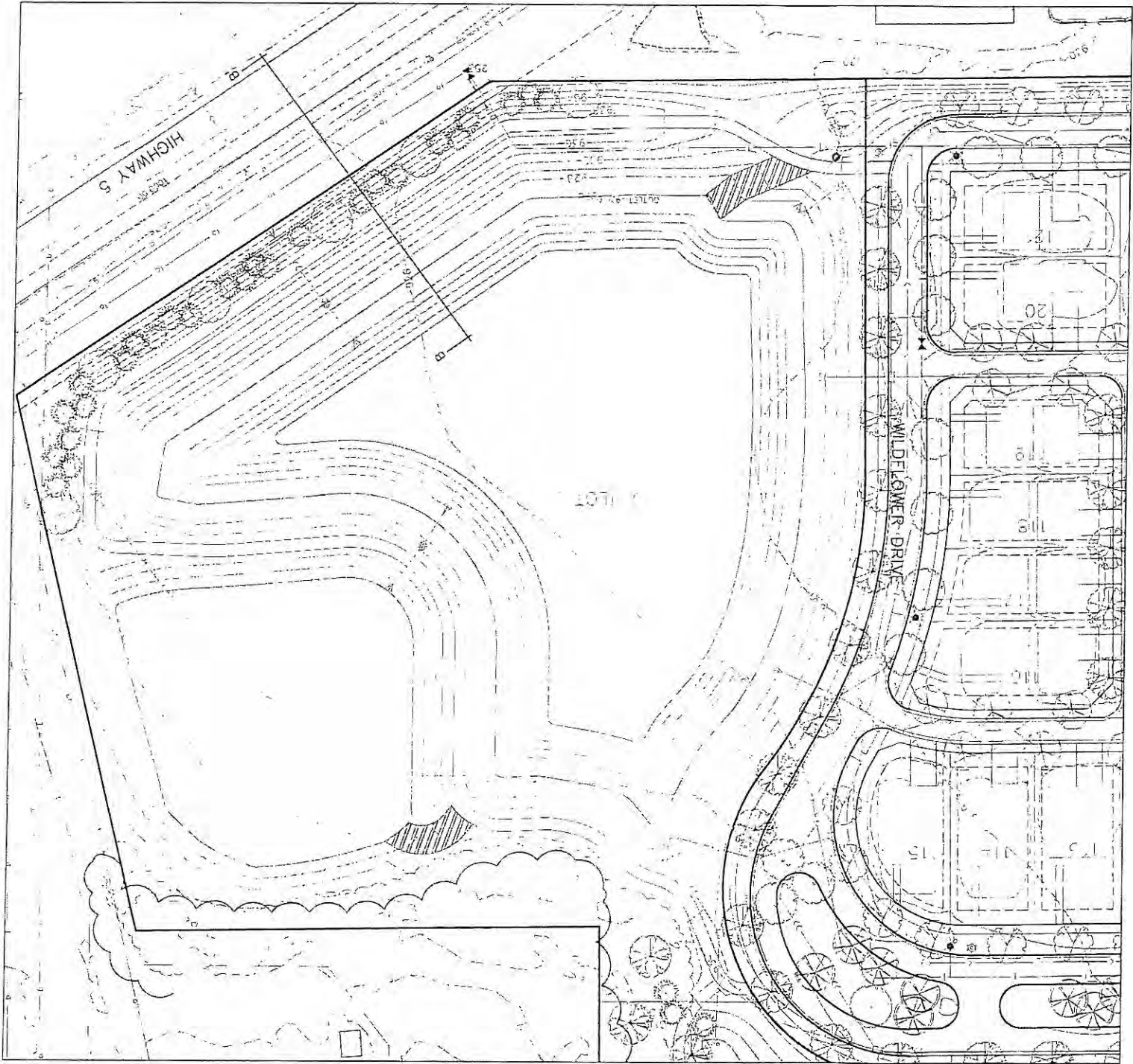
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 4501 WEST 91ST STREET, SUITE 101  
 MINNEAPOLIS, MINNESOTA 55437 1117

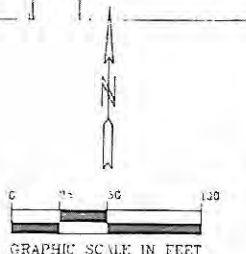
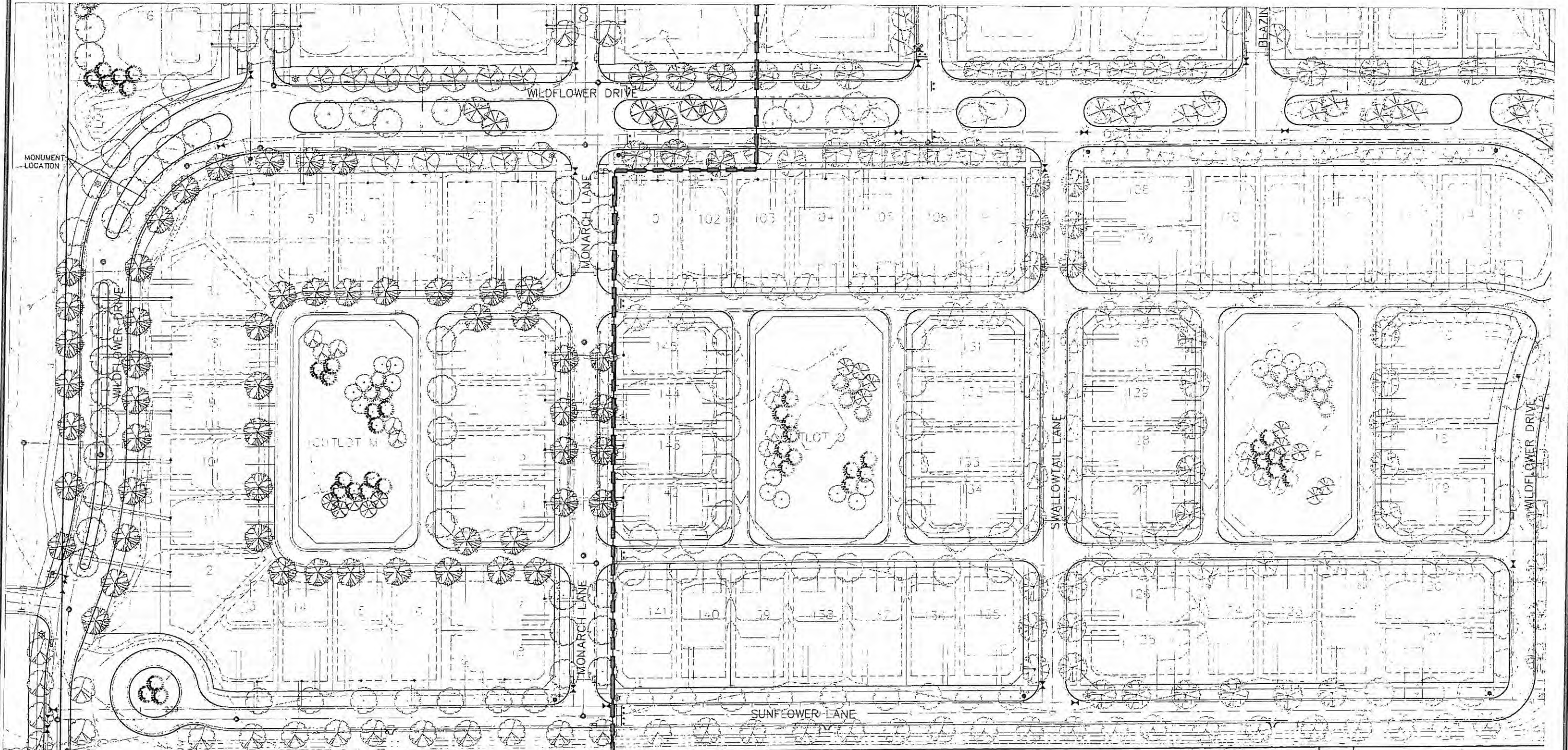
**WILDFLOWER AT LAKE ELMO**  
 LAKE ELMO, MINNESOTA



DETAIL A

SEE SHEET L1 FOR TREE SCHEDULE





SEE SHEET L1 FOR TREE SCHEDULE

**PIONEER**engineering

2422 Intergrate Drive  
Mendota Heights, MN 55120  
651.681.1914  
Fax 651.943.5555  
www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota.  
Name: Jennifer L. Henningson  
Lic. No.: 44765 Date: \_\_\_\_\_

Date: 5/28/19  
Revised: \_\_\_\_\_  
Drawn: 02/04

LANDSCAPE PLAN

ROBERT ENGSTROM COMPANIES  
4801 WEST 51ST STREET SUITE 101  
MINNEAPOLIS, MINNESOTA 55437 1111

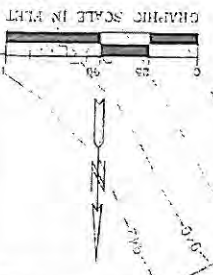
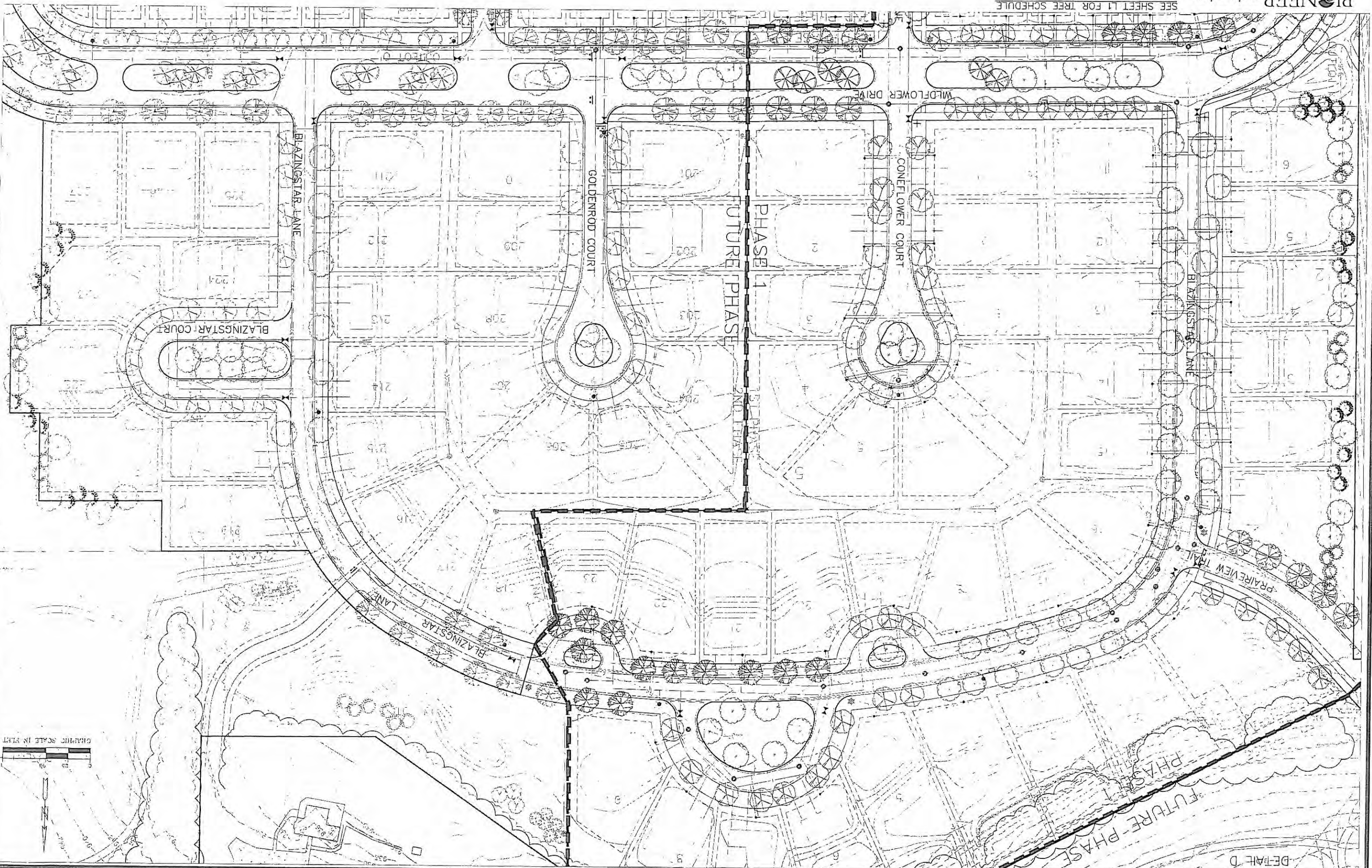
WILDFLOWER AT LAKE ELMO  
LAKE ELMO, MINNESOTA

LANDSCAPE PLAN

ROBERT ENGSTROM COMPANIES  
4801 WEST 81ST STREET, SUITE 101  
MINNETONKA, MINNESOTA 55412 T111

WILDFLOWER AT LAKE ELMO  
1 ACRE ELMO, MINNESOTA

SEE SHEET L1 FOR TREE SCHEDULE



DETAIL D

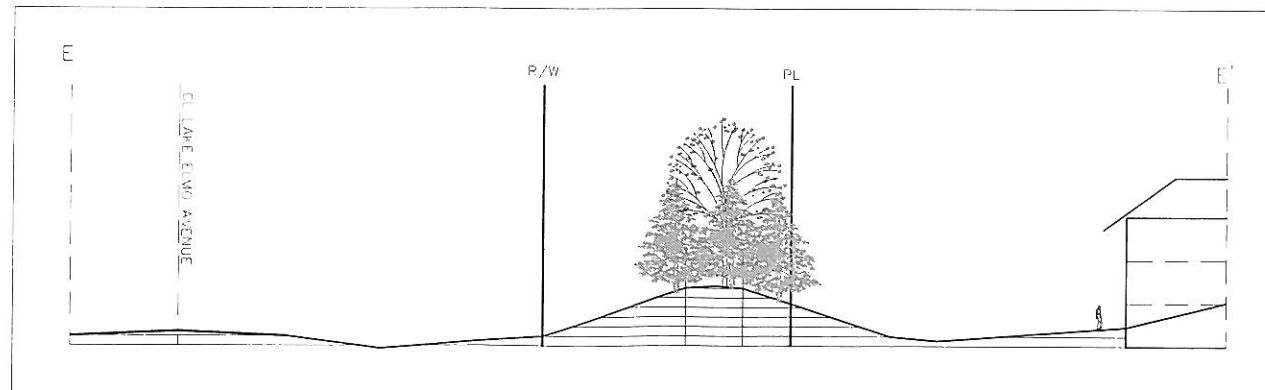


DETAIL E

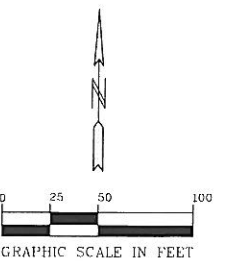


CROSS SECTION E-E'

1"=20'



SEE SHEET L1 FOR TREE SCHEDULE



**PIONEER**engineering

2422 Enterprise Drive  
Mendota Heights, MN 55120  
(651) 681-1914  
Fax: 681-9488  
www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the Laws of the State of Minnesota.

Name: Jennifer L. Thompson  
Reg. No.: 44764 Date: \_\_\_\_\_

Revisions

Date: 5.28.15  
Designed: jt  
Drawn: jt/ml

LANDSCAPE PLAN

**ROBERT ENGSTROM COMPANIES**  
4901 WEST 81ST STREET, SUITE 101  
MINNEAPOLIS, MINNESOTA 55437-1111

**WILDFLOWER AT LAKE ELMO**  
LAKE ELMO, MINNESOTA

L5 OF 5