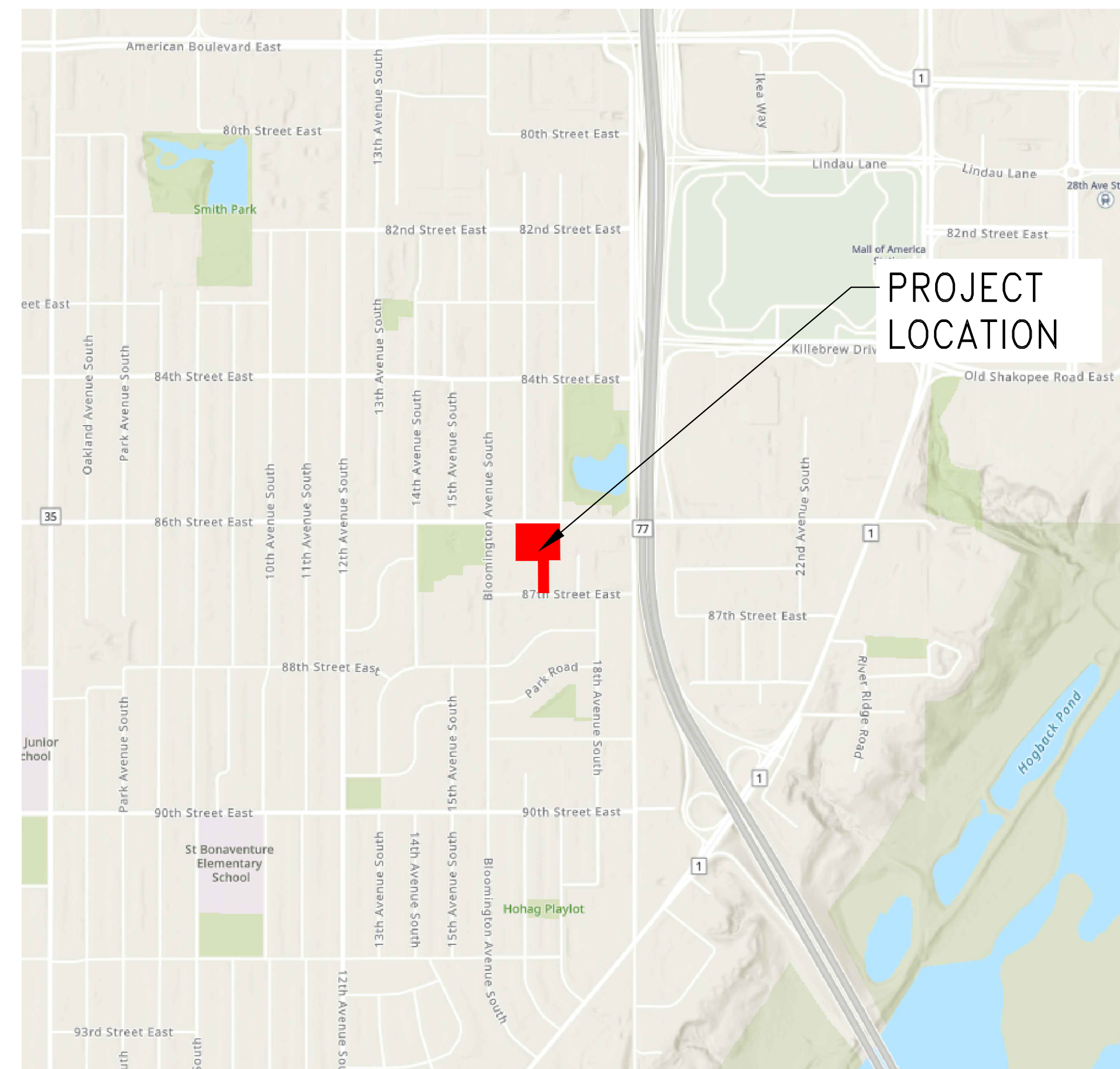
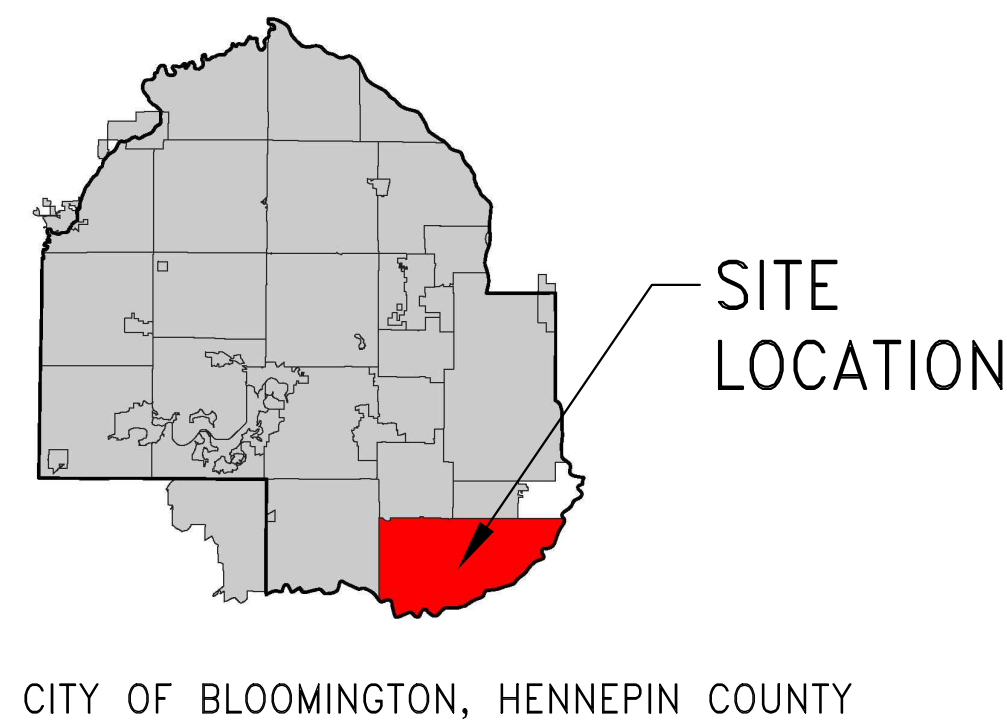


SITE DEVELOPMENT PLANS

FOR

33 TOWNHOUSE UNITS

1525 & 1601 & 1603 & 1605 EAST 86TH STREET & 1604 & 1606 EAST 87TH STREET
BLOOMINGTON, MINNESOTA



SHEET INDEX

THIS PLAN CONTAINS 18 SHEETS

SHEET NO.	DESCRIPTION
C1	TITLE SHEET
C2-C3	DETAILS
C4	EXISTING CONDITIONS & REMOVALS - NORTH
C5	EXISTING CONDITIONS & REMOVALS - SOUTH
C6	SITE PLAN - NORTH
C7	SITE PLAN - SOUTH
C8	GRADING & DRAINAGE PLAN - NORTH
C9	GRADING & DRAINAGE PLAN - SOUTH
C10	UTILITY PLAN - NORTH
C11	UTILITY PLAN - SOUTH
C12	STORMWATER POLLUTION PREVENTION PLAN
C13	STORMWATER POLLUTION PREVENTION PLAN NOTES
C14	PHASING PLAN
C15	HYDRANT COVERAGE PLAN
C16	FIRE VEHICLE TURNING MOVEMENTS
L1	LANDSCAPE PLAN
L2	LANDSCAPE DETAILS

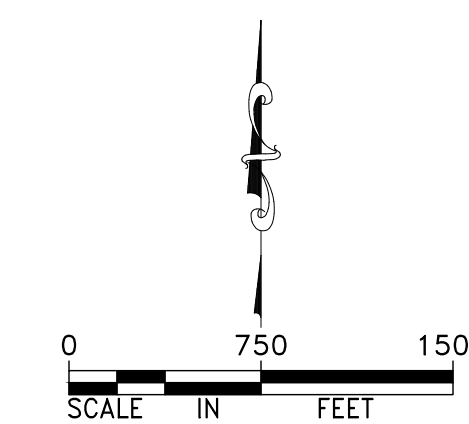


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Gopher State One Call
Twin City Area: 651-454-0002
Toll Free: 1-800-252-1166

THE SUBSURFACE UTILITY INFORMATION DEPICTED IN THESE PLANS ARE SHOWN ACCORDING TO CI/ASCE 38-02, "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA," LEVEL D STANDARDS.

LEGEND

IMPAIRED WATERS WITHIN ONE (1) MILE OF SITE



F:\survey\11-27-24 - hennepin\1603 1604 1605\02 Engineering - 91040A\01 CAD\05 Sheet Files\01 Title Sheet.dwg

DESIGNED BY: JAP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT 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. JEFFREY A. PRASCH, P.E. DATE: 04.15.26 LIC. NO.: 52706
DRAWN BY: ABL	
CHECKED BY: GRP	

REVISIONS	
04.28.26	CITY COMMENTS
05.12.26	REVISIONS
06.01.26	PLANS FINALIZED

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33 TOWNHOUSE UNITS
1525 & 1601 & 1603 & 1605 EAST 86TH
STREET & 1604 & 1606 EAST 87TH STREET
BLOOMINGTON, MINNESOTA

TITLE SHEET

PROJECT: 91040

SHEET NO.

C1 of C16

F:\survey\11-27-24 - hemnepin\1603 1604 1605\02 Engineering - 91040A\01 CAD\05 Sheet Files\02 Details.dwg

600 - ROCK CONSTRUCTION ENTRANCE AT ACCESS ROADS
 600 - Rock Const. Entry
 5/2015

PLATE NAME: **600 - Rock Const. Ent**
 LAST REVISED: 5/15/2015
 LAST REVISED BY: KBO

608 - Silt Fence - MACHINE SLICED
 608 - Silt Fence (Machine Sliced)
 5/2015

PLATE NAME: **608 - Silt Fen (MACHINE SLICED)**
 LAST REVISED: 5/15/2015
 LAST REVISED BY: KBO

610 - Bioroll Blanket System
 610 - Bioroll
 5/2015

PLATE NAME: **610 - Bioroll**
 LAST REVISED: 5/15/2015
 LAST REVISED BY: KBO

500 - STANDARD STORM SEWER MANHOLE COVER
 500 - Storm Cov (Solid)
 5/2015

PLATE NAME: **500 - Storm Cov (Solid)**
 LAST REVISED: 5/15/2015
 LAST REVISED BY: KBO

501 - STANDARD SANITARY MANHOLE COVER
 501 - Sanitary Cov
 5/2015

PLATE NAME: **501 - Sanitary Cov**
 LAST REVISED: 5/15/2015
 LAST REVISED BY: KBO

Include Std B618 C&G and Sidewalk details

108 - MOUNTABLE CURB & GUTTER
 108 - C&G (Mountable)
 6/8/2015

PLATE NAME: **108 - C&G (Mountable)**
 LAST REVISED: 6/8/2015
 LAST REVISED BY: KBO

Utilities review: Missing water/sanitary details (services, hydrant, etc.)

1 INLET PROTECTION
 NOT TO SCALE

2 RIPRAP
 NOT TO SCALE

REFERENCE NOTES:
 ① FOR PIPES GREATER THAN OR EQUAL TO 30", USE 1.5'.
 ② GEOTEXTILE FILTER SHALL COVER THE BOTTOM AND SIDES OF THE AREA EXCAVATED FOR RIP RAP.
 ③ GRANULAR FILTER OR RIP RAP MAY BE USED AS A CUSHION LAYER. CUSHION LAYER IS INCIDENTAL.
 ④ GRANULAR FILTER OR RIP RAP TO EXTEND UNDER ENTIRE OPEN PORTION OF PIPE APRON. DEPTH OF MATERIAL UNDER APRON SHALL MATCH RIP RAP DEPTH. WHEN USING RIP RAP, INCREASE RIP RAP QUANTITY ACCORDINGLY AND PLACE A 3" LAYER OF 1.5" CRUSHED ROCK UNDER THE APRON TO AID IN GRADING FOR APRON PLACEMENT. CRUSHED ROCK IS INCIDENTAL.

- GENERAL CONSTRUCTION AND SOILS NOTES:
- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES, LAWS AND ORDINANCES.
 - THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR FOLLOWING ALL APPLICABLE OSHA STANDARDS.
 - IF UTILITY RELOCATION IS NECESSARY, THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH THE APPROPRIATE UTILITY COMPANIES.
 - MATERIAL UNSUITABLE FOR CONSTRUCTION (E.G. TOPSOIL, SILTS, ORGANIC MATERIALS, PEATS, DEBRIS, ETC.) ENCOUNTERED DURING EXCAVATION WITHIN THE PARKING LOT AND BUILDING PAD AREAS SHALL BE REMOVED AND PROPERLY DISCARDED.
 - GRADING SHALL BE CONSTRUCTED WITH SUITABLE MATERIAL AND IN LOOSE LIFTS NO THICKER THAN TWELVE (12) INCHES. COMPACTION WITHIN THE PARKING LOT AND BUILDING PADS SHALL BE COMPACTED TO 100% OF THE MAXIMUM STANDARD PROCTOR DENSITY.
 - TOPSOIL SHALL BE SALVAGED AND STOCKPILED FOR USE AS TOPSOIL IN GREEN SPACES DISTURBED DUE TO CONSTRUCTION.
 - THE CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF BITUMINOUS AND CONCRETE MATERIALS DISTURBED BY CONSTRUCTION IN ACCORDANCE WITH MNDOT SPEC 2104.3.
 - ANY EXCESS MATERIAL SHALL BE DISPOSED OF OFF-SITE IN A MANNER ACCEPTABLE TO THE OWNER AND ALL GOVERNING REGULATIONS.
 - CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AND CALL GOPHER STATE ONE CALL 48 HOURS PRIOR TO CONSTRUCTION WORK. EXISTING UTILITIES SHOWN ON THESE PLANS ARE ONLY APPROXIMATE AND MAY NOT BE RELIED UPON AS EXACT OR COMPLETE.
 - ALL SEEDING OR PLANTING SHALL BE COMPLETED PRIOR TO REMOVAL OF ANY EROSION AND SEDIMENT CONTROL MEASURES. IF CONSTRUCTION IS COMPLETED AFTER THE END OF THE GROWING SEASON, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE LEFT IN PLACE AND ALL DISTURBED AREAS SHALL BE MULCHED FOR PROTECTION OVER THE WINTER SEASON.

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DRAWN BY: ABL	
CHECKED BY: GRP	
DATE: 04.15.26 LIC. NO.: 52706	

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06.01.26	PLANS FINALIZED

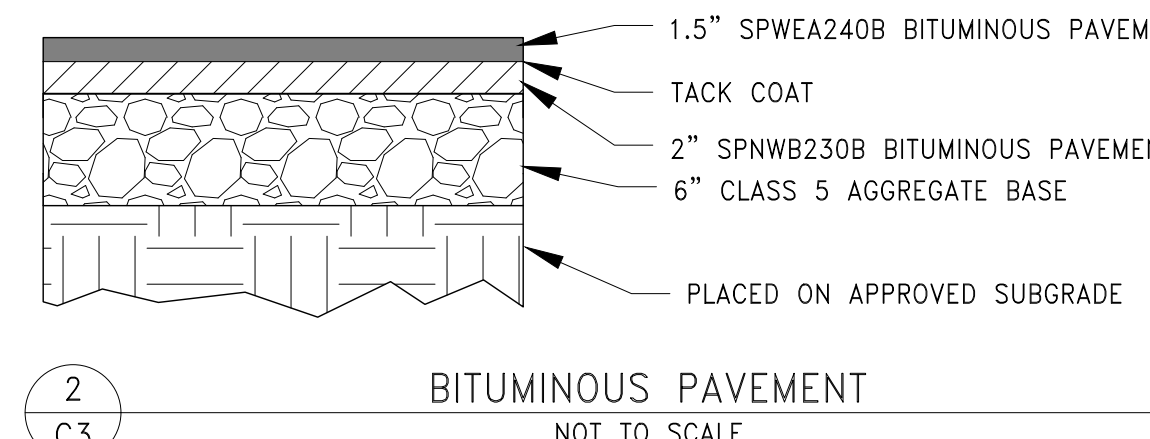
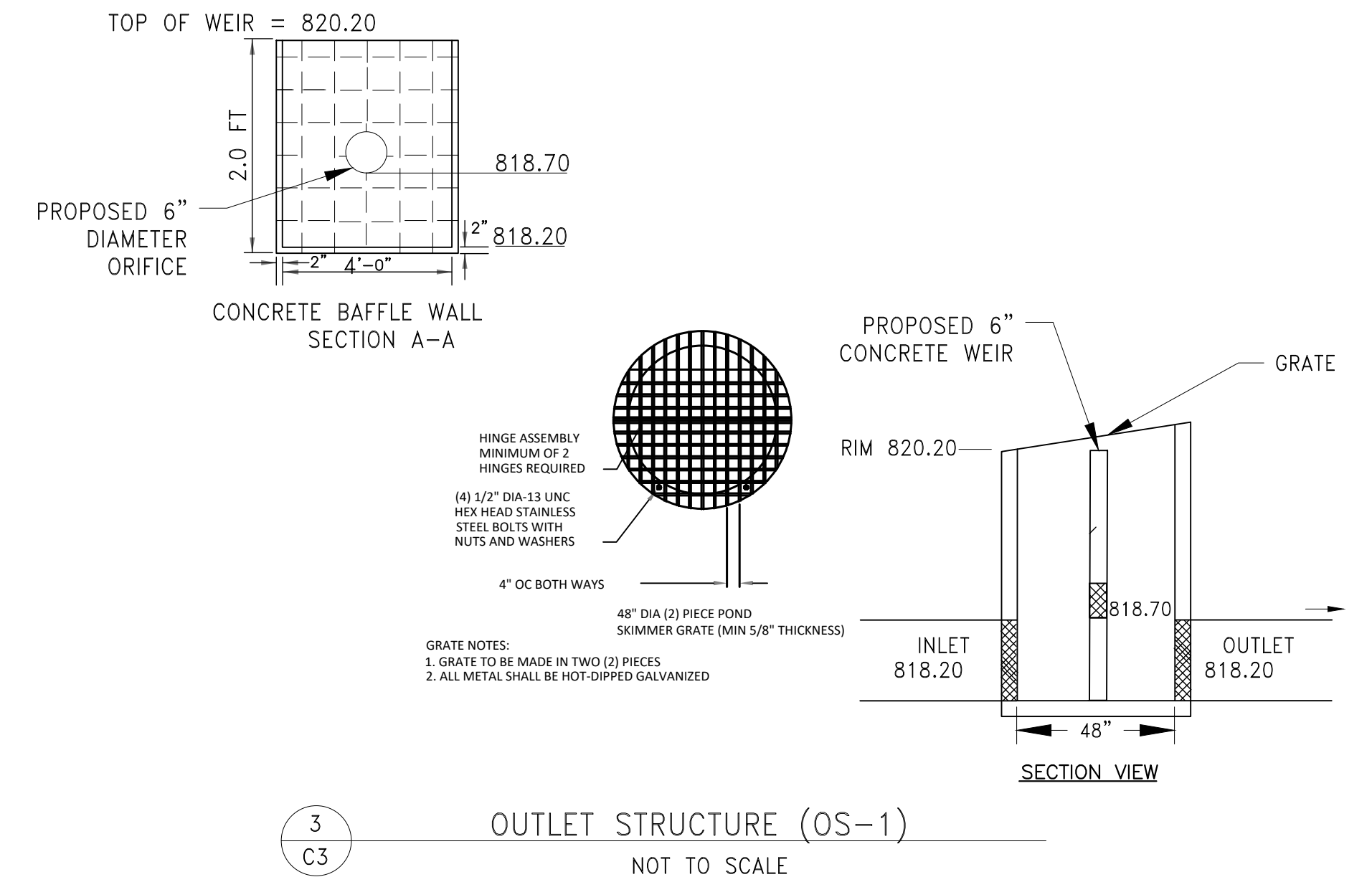
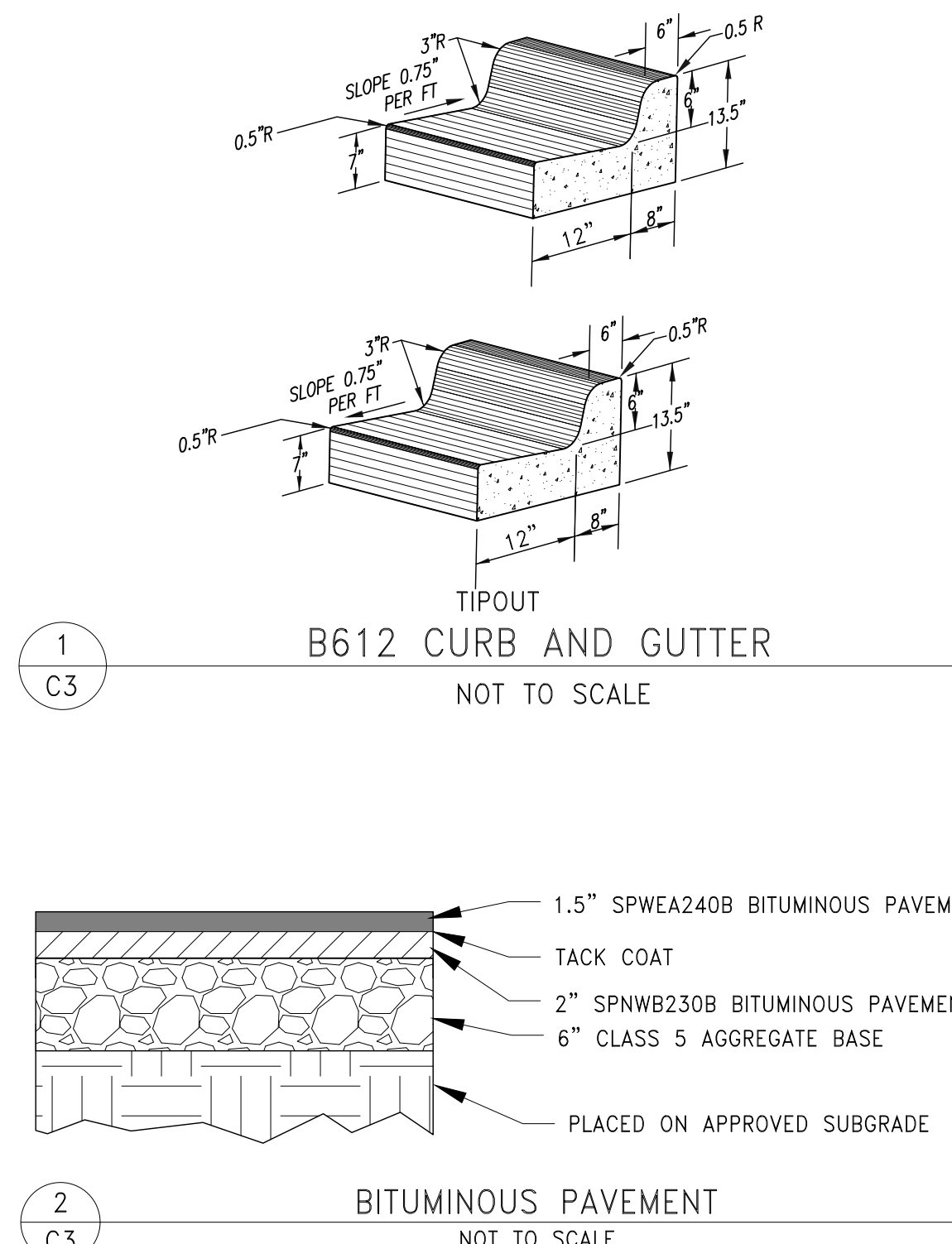
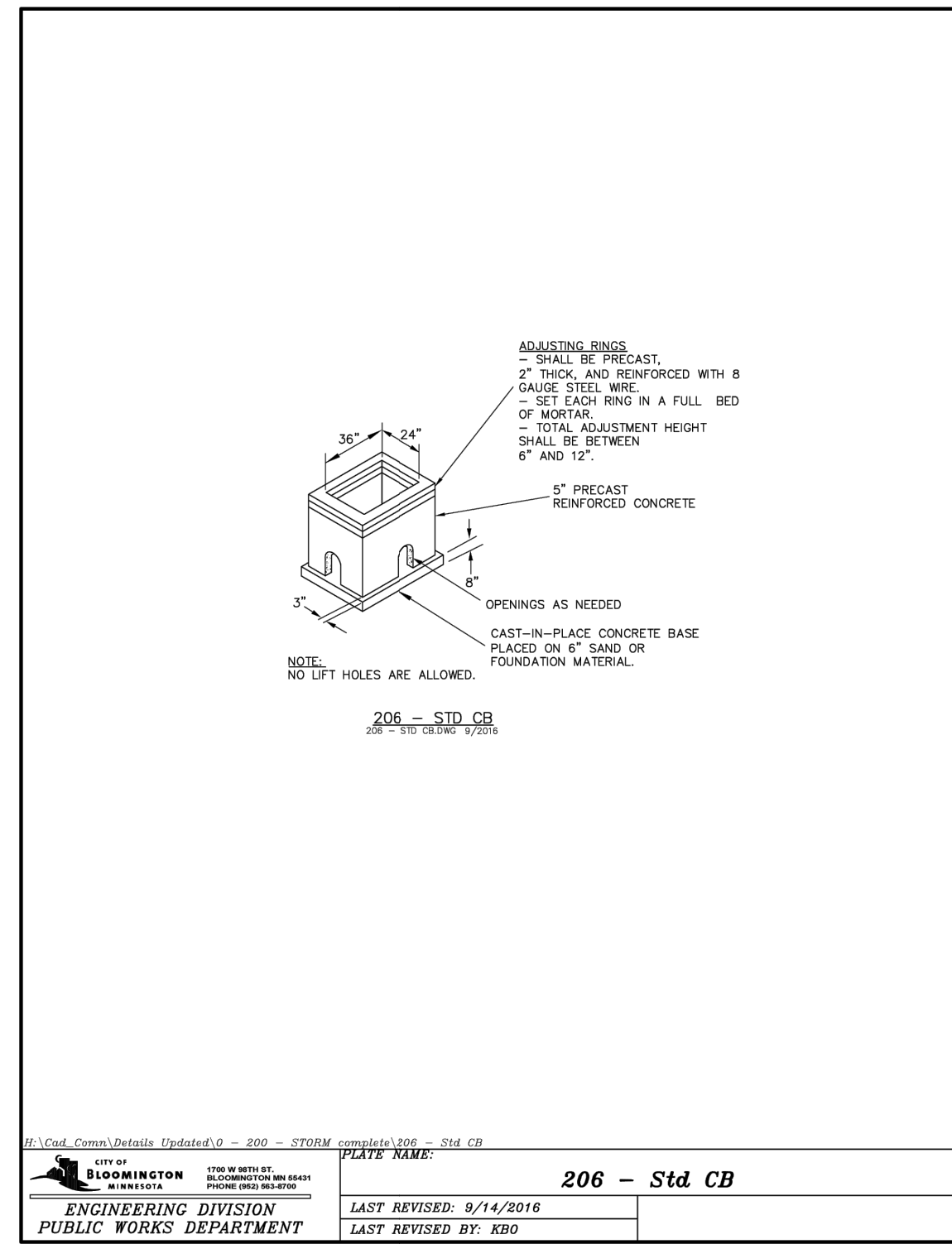
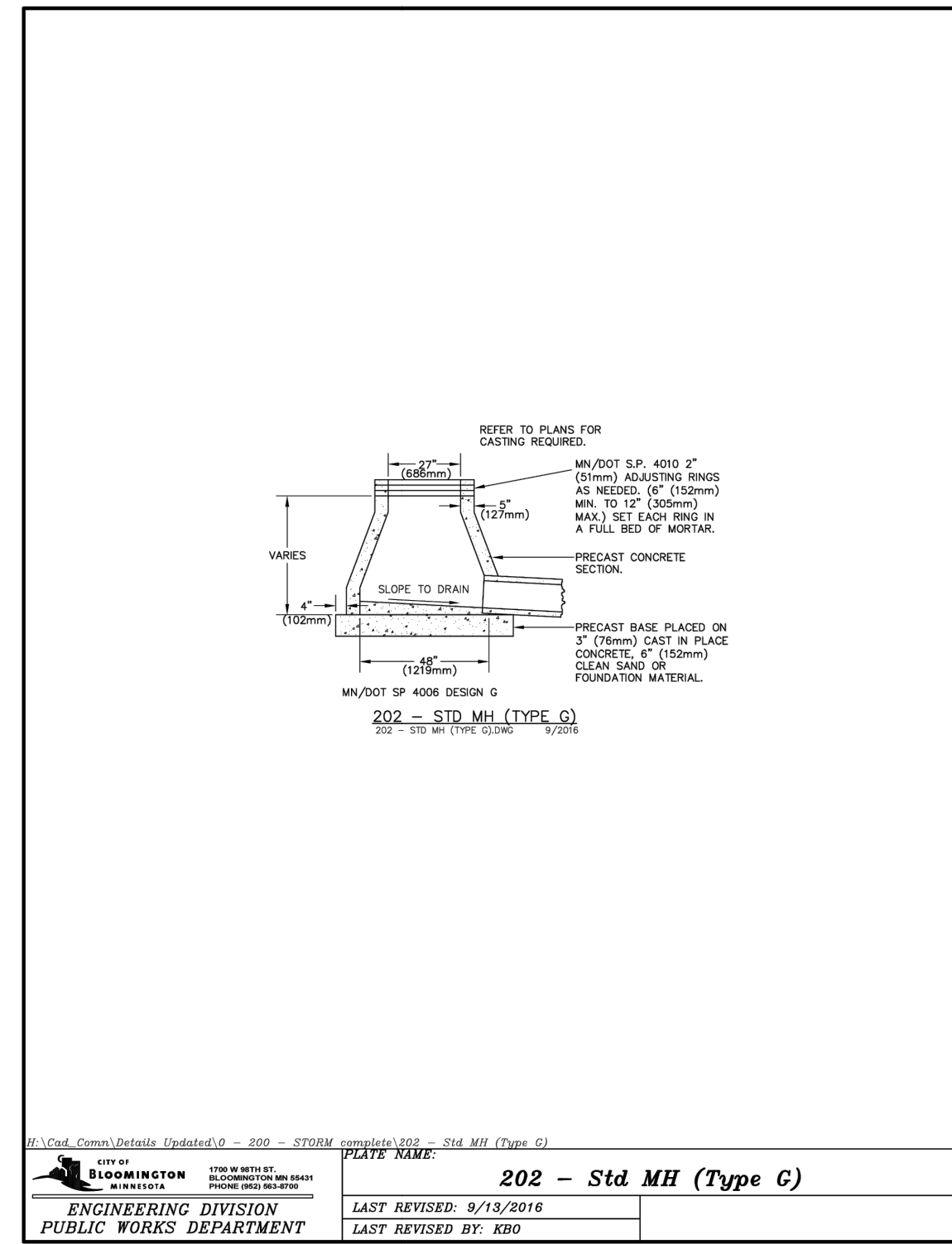
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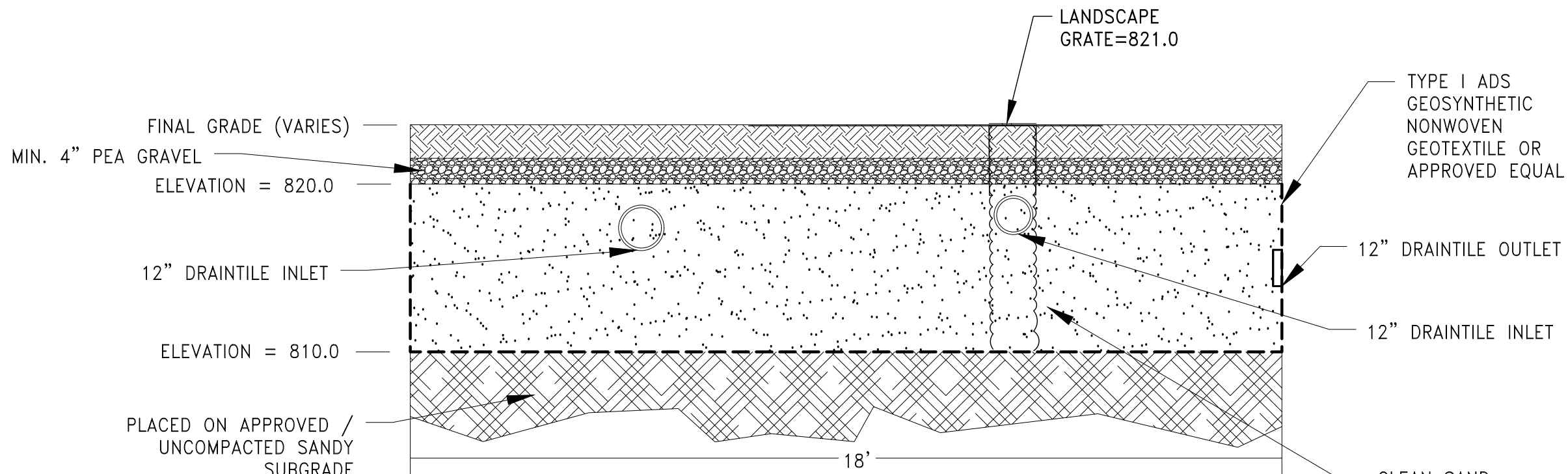
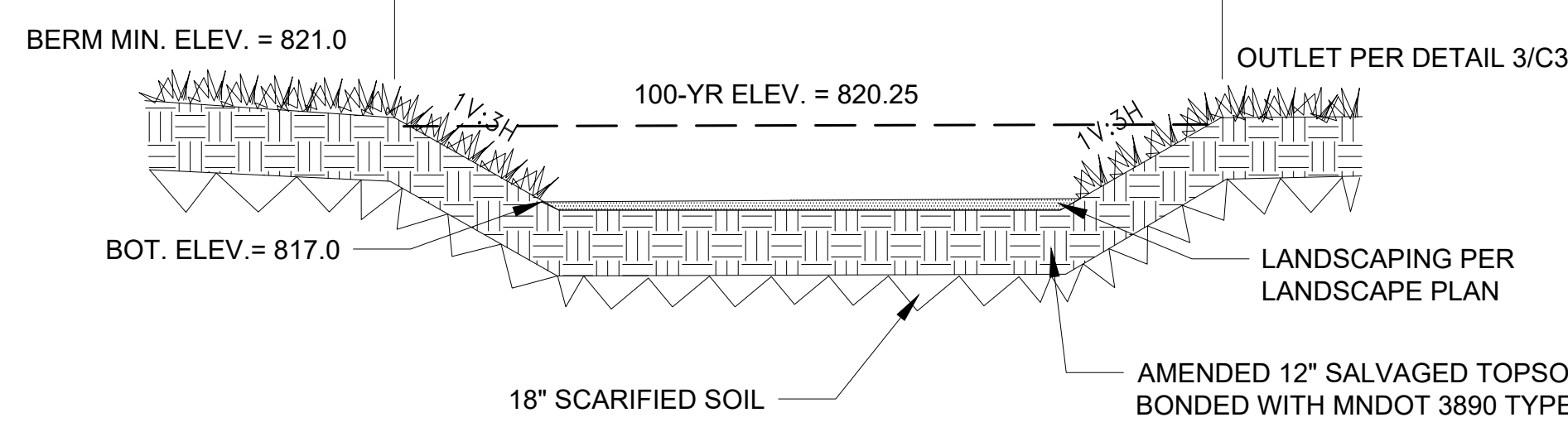
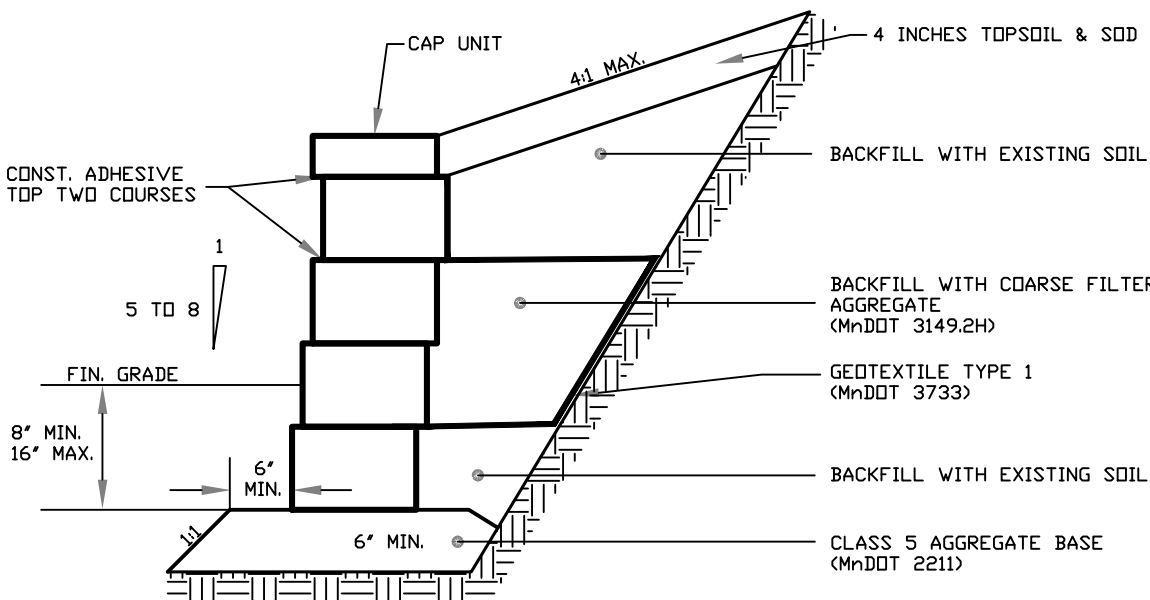
33 TOWNHOUSE UNITS
 1525 & 1601 & 1603 & 1605 EAST 86TH STREET & 1604 & 1606 EAST 87TH STREET
 BLOOMINGTON, MINNESOTA

PROJECT: 91040
 SHEET NO.
 C2 of C16

DETAILS



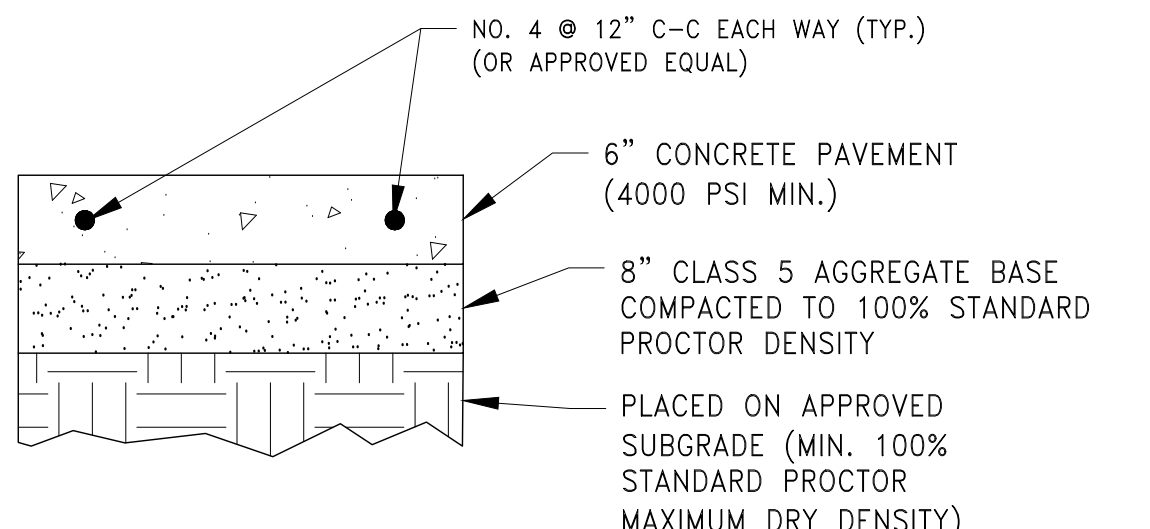
- NOTES:
- 1) MAXIMUM EXPOSED HEIGHT NOT TO EXCEED 4.0'
 - 2) FILL ALL VOID AREAS IN MODULAR BLOCK UNITS WITH COARSE FILTER AGGREGATE (MNDOT 3149.2H)
 - 3) MODULAR BLOCK UNITS MUST HAVE INTERLOCKING LIP OR PIN CONNECTIONS
 - 4) RETAINING WALL LOCATION SHOWN ON PLANS.
 - 5) CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR PROPOSED MODULAR BLOCK UNITS



4 C3 RETAINING WALL NOT TO SCALE

6 C3 INFILTRATION BASIN NOT TO SCALE

7 C3 FRENCH DRAIN NOT TO SCALE



5 C3 CONCRETE PAVEMENT NOT TO SCALE

Engineer plans required for any retaining walls over 4 feet in height (measured from bottom of footing to top of wall).

NOTE: CONCRETE COMPRESSIVE STRENGTH SHALL COMPLY WITH ASTM STANDARD C94. MINIMUM 28-DAY STRENGTH = 4,000 PSI

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DESIGNED BY:	JAP
DRAWN BY:	ABL
CHECKED BY:	GRP
DATE:	04.15.26
LIC. NO.:	52706

REVISIONS	
04.28.26	CITY COMMENTS
05.12.26	REVISIONS
06.01.26	PLANS FINALIZED

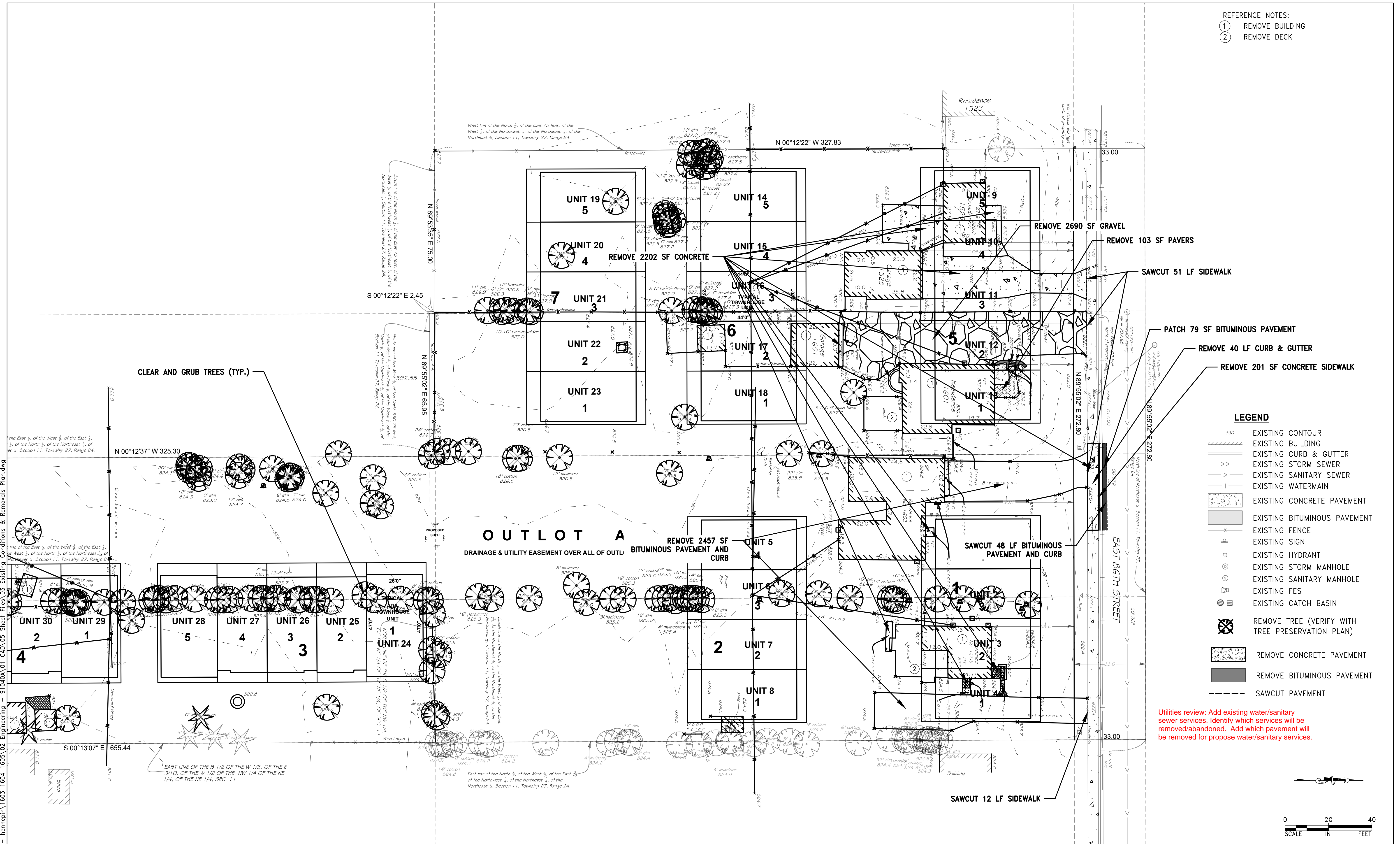
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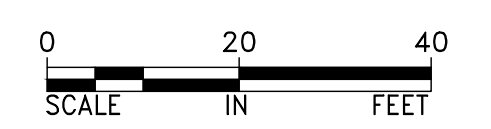
PROJECT: 91040
 SHEET NO. C3 of C16
 DETAILS

- REFERENCE NOTES:
- ① REMOVE BUILDING
 - ② REMOVE DECK



- LEGEND**
- - - - - EXISTING CONTOUR
 - ▨ EXISTING BUILDING
 - ▬ EXISTING CURB & GUTTER
 - ▬▬ EXISTING STORM SEWER
 - ▬▬▬ EXISTING SANITARY SEWER
 - ▬▬▬▬ EXISTING WATERMAIN
 - ▨ EXISTING CONCRETE PAVEMENT
 - ▨ EXISTING BITUMINOUS PAVEMENT
 - ⊗ EXISTING FENCE
 - ⊕ EXISTING SIGN
 - ⊕ EXISTING HYDRANT
 - ⊕ EXISTING STORM MANHOLE
 - ⊕ EXISTING SANITARY MANHOLE
 - ⊕ EXISTING FES
 - ⊕ EXISTING CATCH BASIN
 - ⊗ REMOVE TREE (VERIFY WITH TREE PRESERVATION PLAN)
 - ▨ REMOVE CONCRETE PAVEMENT
 - ▨ REMOVE BITUMINOUS PAVEMENT
 - - - - - SAWCUT PAVEMENT

Utilities review: Add existing water/sanitary sewer services. Identify which services will be removed/abandoned. Add which pavement will be removed for propose water/sanitary services.



DESIGNED BY: JAP
 DRAWN BY: ABL
 CHECKED BY: GRP

DATE: 04.15.26 LIC. NO.: 52706

JEFFREY A. PRASCH, P.E.

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 BLOOMINGTON, MINNESOTA

EXISTING CONDITIONS & REMOVALS - NORTH

PROJECT: 91040
 SHEET NO. C4 OF C16

Utilities review: Add water service pipe sizes and material. Add sanitary sewer pipe sizes and materials.

Utilities review: Provide elevations and/or profiles to verify vertical water/sanitary/storm separation - minimum of 18 inches required.

The association declaration or private agreement will have to address access, utilities, maintenance, etc.

Keep stairs, private utilities, storm water facilities, retaining walls out of dedicated public easements (drainage and utility, sidewalk and bikeway).

Think about addressing. Named private street with units addressed off that street.

REFERENCE NOTES:

- ① INFILTRATION BASIN PER 3/C3 AND 6/C3
- ② B612 CURB & GUTTER PER 1/C3
- ③ BITUMINOUS PAVEMENT PER 2/C3
- ④ PROPOSED BUILDING (VERIFY WITH ARCHITECTURAL PLANS)
- ⑤ PROPOSED ADA BUILDING (VERIFY WITH ARCHITECTURAL PLANS)
- ⑥ CONCRETE SIDEWALK PER 5/C3
- ⑦ FRENCH DRAIN PER 7/C3
- ⑧ PROPOSED RETAINING WALL PER 4/C3
- ⑨ PROPOSED SHED
- ⑩ CURB TRANSITION
- ⑪ 0" HEIGHT CURB
- ⑫ SURMOUNTABLE CURB PER CITY STANDARD PLATE 108

TRIP GENERATION ESTIMATES:

COMMON TRIP GENERATION RATE (AM PEAK HOUR) = 0.57 TRIPS PER UNIT
 COMMON TRIP GENERATION RATE (PM PEAK HOUR) = 0.94 TRIPS PER UNIT
 AVERAGE TRIPS PER DAY PER UNIT = 7.2
 TOTAL NUMBER OF UNITS = 33
 TOTAL AVERAGE TRIPS PER DAY = 238

SITE DATA:

LOT AREA = 2.75 ACRES
 DISTURBED AREA = 2.84 ACRES
 EXISTING IMPERVIOUS AREA = 0.41 ACRES
 EXISTING PERVIOUS AREA = 2.34 ACRES
 PROPOSED IMPERVIOUS AREA = 1.86 ACRES
 PROPOSED PERVIOUS AREA = 0.89 ACRES
 BUILDING COVERAGE = 0.79 ACRES = 28.7%
 EXISTING PARKING STALLS = 0
 PROPOSED PARKING STALLS = 11 (INCLUDES 0 HANDICAP)

Utilities review: Add water and sanitary items to legend.

Utilities review: Wet tap required. Need to show removals on removals sheet/s.

LEGEND

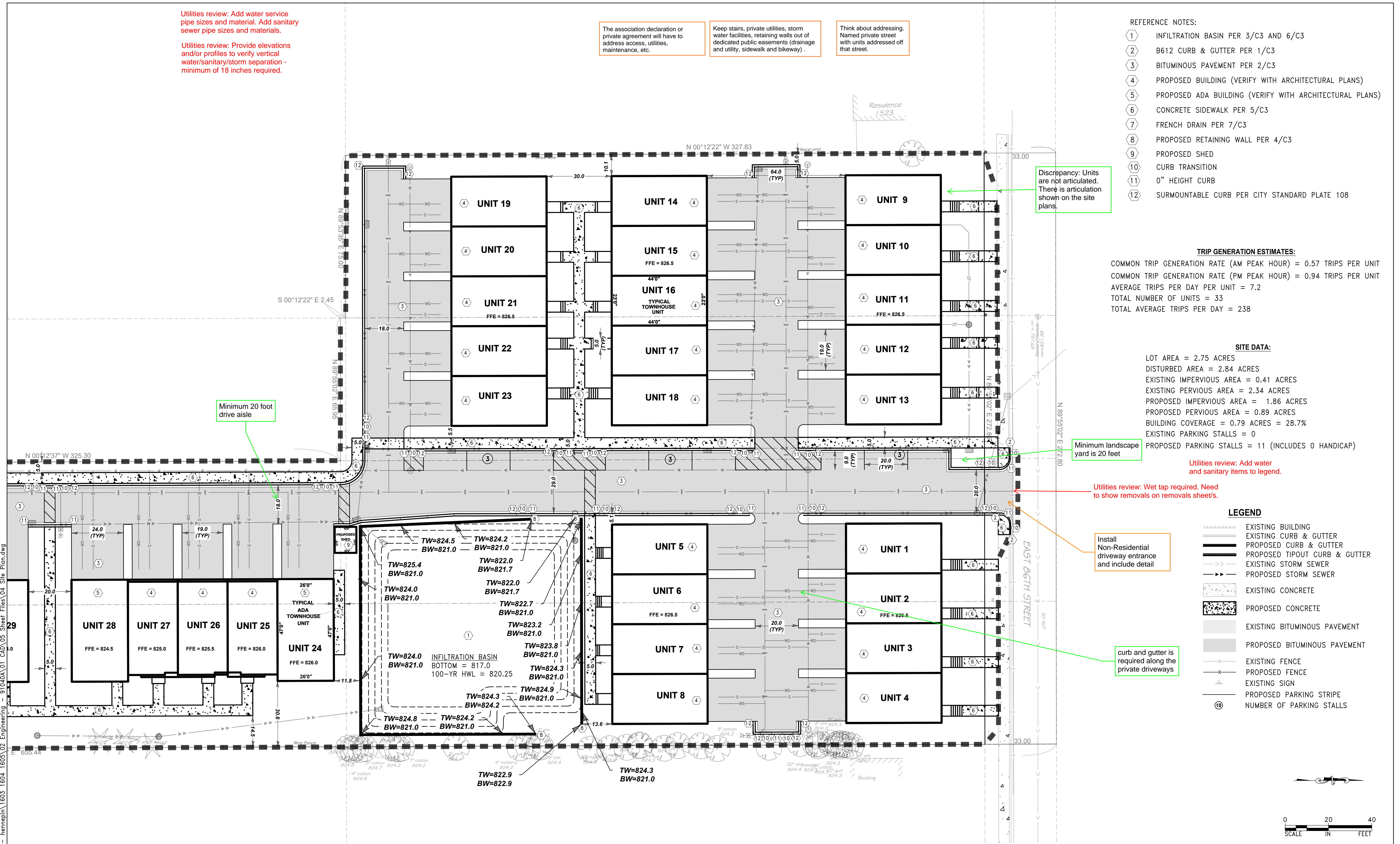
- EXISTING BUILDING
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- PROPOSED TIPOUT CURB & GUTTER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING CONCRETE
- PROPOSED CONCRETE
- EXISTING BITUMINOUS PAVEMENT
- PROPOSED BITUMINOUS PAVEMENT
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING SIGN
- PROPOSED PARKING STRIPE
- NUMBER OF PARKING STALLS

Install Non-Residential driveway entrance and include detail

curb and gutter is required along the private driveways

Minimum 20 foot drive aisle

Minimum landscape yard is 20 feet



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JEFFREY A. PRASCH, P.E.
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REVISIONS	
04.28.26	CITY COMMENTS
05.06.26	TRIP GENERATION ESTIMATES
05.12.26	REVISIONS
06.01.26	PLANS FINALIZED

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 BLOOMINGTON, MINNESOTA

PROJECT: 91040
 SHEET NO. C6 of C16
 SITE PLAN - NORTH

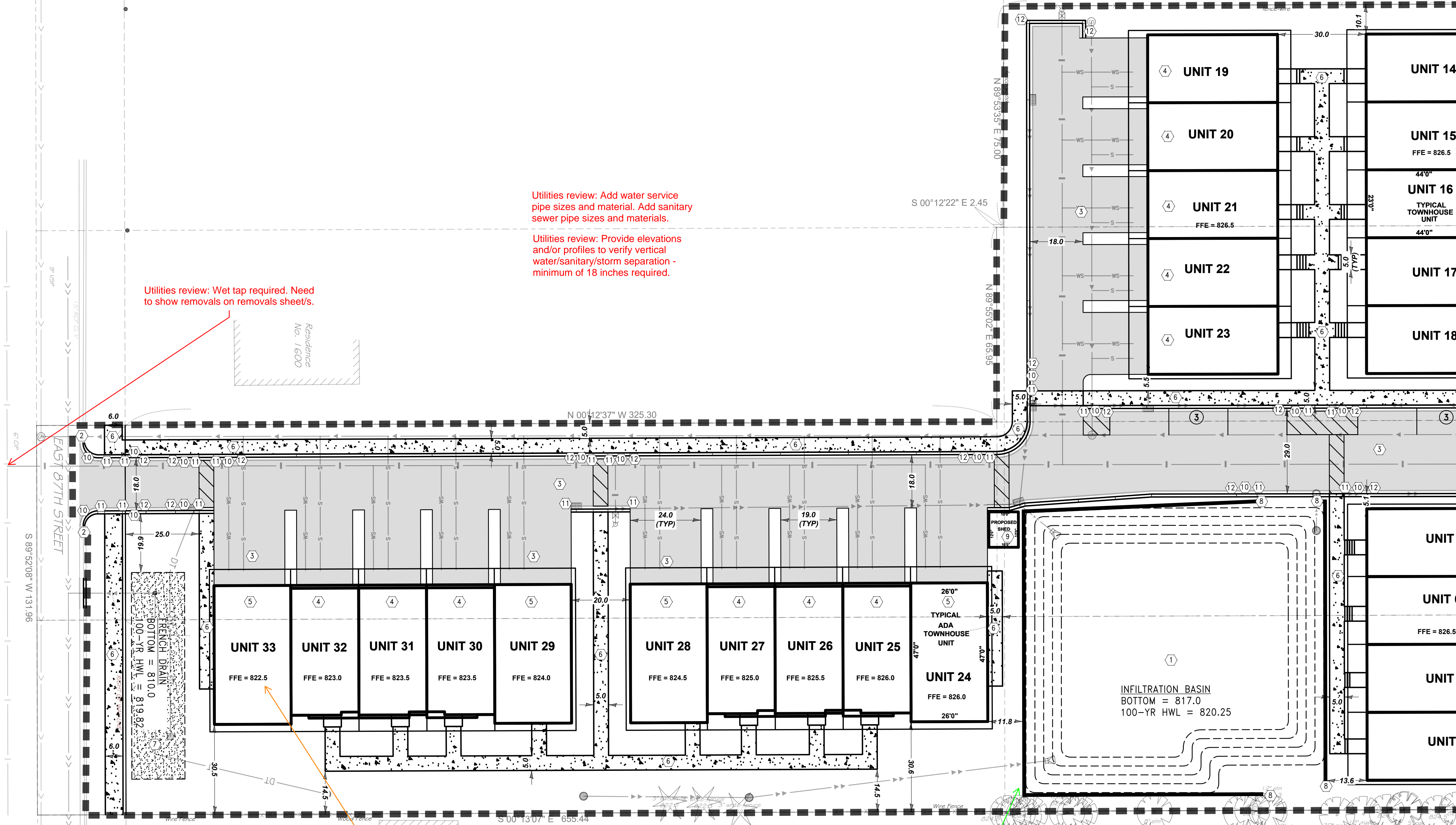
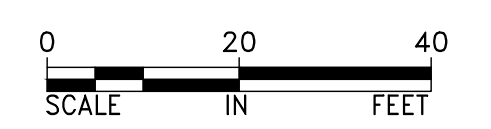
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 - ⑨ PROPOSED SHED
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 - ⑪ 0" HEIGHT CURB
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 PROPOSED PERVIOUS AREA = 0.93 ACRES
 BUILDING COVERAGE = 0.79 ACRES = 28.7%
 EXISTING PARKING STALLS = 0
 PROPOSED PARKING STALLS = 9 (INCLUDES 0 HANDICAP)

- LEGEND**
- EXISTING BUILDING
 - EXISTING CURB & GUTTER
 - PROPOSED CURB & GUTTER
 - PROPOSED TIPOUT CURB & GUTTER
 - EXISTING STORM SEWER
 - PROPOSED STORM SEWER
 - EXISTING CONCRETE
 - PROPOSED CONCRETE
 - EXISTING BITUMINOUS PAVEMENT
 - PROPOSED BITUMINOUS PAVEMENT
 - EXISTING FENCE
 - PROPOSED FENCE
 - EXISTING SIGN
 - PROPOSED PARKING STRIPE
 - NUMBER OF PARKING STALLS

Utilities review: Add water and sanitary items to legend.



Utilities review: Add water service pipe sizes and material. Add sanitary sewer pipe sizes and materials.
 Utilities review: Provide elevations and/or profiles to verify vertical water/sanitary/storm separation - minimum of 18 inches required.

Utilities review: Wet tap required. Need to show removals on removals sheet/s.

Provide low floor elevations of proposed structures, not finished floor, to demonstrate compliance with freeboard requirements.

Submit groundwater mounding calculations to evaluate risk to adjacent basement due to proposed infiltration system(s).

Discrepancy: Retaining wall appears to be in a different place on the site plan. Retaining wall must stay out of easement.

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05.06.26	TRIP GENERATION ESTIMATES
05.12.26	REVISIONS
06.01.26	PLANS FINALIZED

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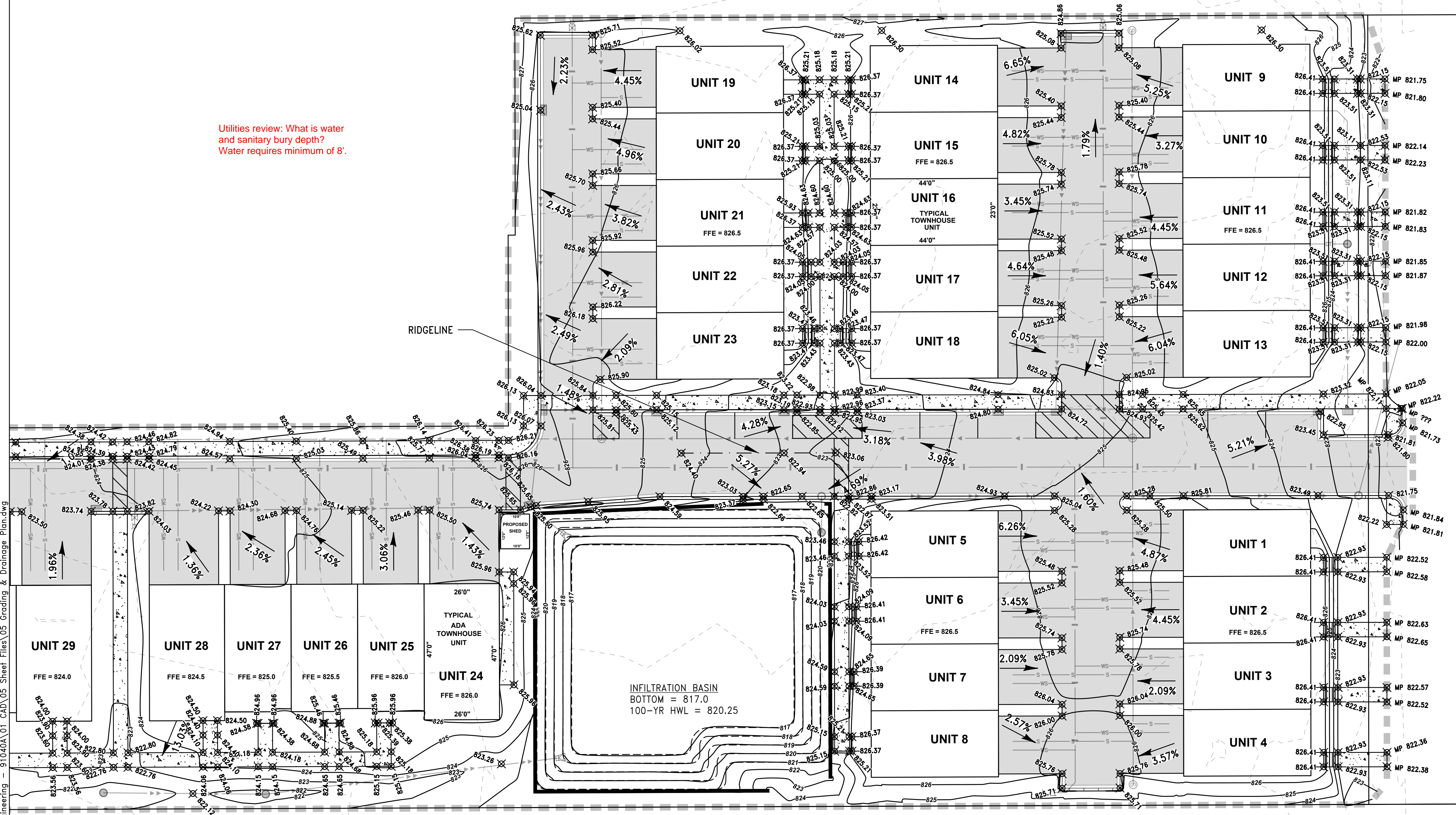
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 BLOOMINGTON, MINNESOTA

SITE PLAN - SOUTH

PROJECT: 91040
 SHEET NO.
 C7 of C16

F:\survey\11-27-24 - hemnepin\1603 1604 1605\02 Engineering - 91040A\01 CAD\05 Sheet Files\05 Grading & Drainage Plan.dwg

Utilities review: What is water and sanitary bury depth?
Water requires minimum of 8'.



- LEGEND**
- 830--- EXISTING CONTOUR
 - 830--- PROPOSED CONTOUR
 - EXISTING CURB & GUTTER
 - PROPOSED CURB & GUTTER
 - PROPOSED TIPOUT CURB & GUTTER
 - EXISTING STORM SEWER
 - PROPOSED STORM SEWER
 - EXISTING WATERMAIN
 - EXISTING FENCE
 - PROPOSED FENCE
 - PROPOSED BITUMINOUS CURB
 - PROPOSED GRADING LIMITS
 - 2.00% PROPOSED SLOPE
 - HP 910.00 PROPOSED HIGH POINT
 - MP 910.00 PROPOSED MATCH POINT
 - LP 910.00 PROPOSED LOW POINT
 - TS 910.00 PROPOSED TOP OF SLAB
 - 910.00 PROPOSED GUTTER LINE OR FINISHED GROUND ELEVATION
 - PROPOSED WET DITCH MNDOT SEED MIX
 - PROPOSED WETLAND BUFFER
 - EDGE OF DELINEATED WETLAND
 - PROPOSED WETLAND BUFFER SIGN
 - PROPOSED EMERGENCY OVERTFLOW
 - PROPOSED EMERGENCY OVERTFLOW

DESIGNED BY: JAP
 DRAWN BY: ABL
 CHECKED BY: GRP

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JEFFREY A. PRASCH, P.E.
 DATE: 04.15.26 LIC. NO.: 52706

REVISIONS	
04.28.26	CITY COMMENTS
05.12.26	REVISIONS
06.01.26	PLANS FINALIZED

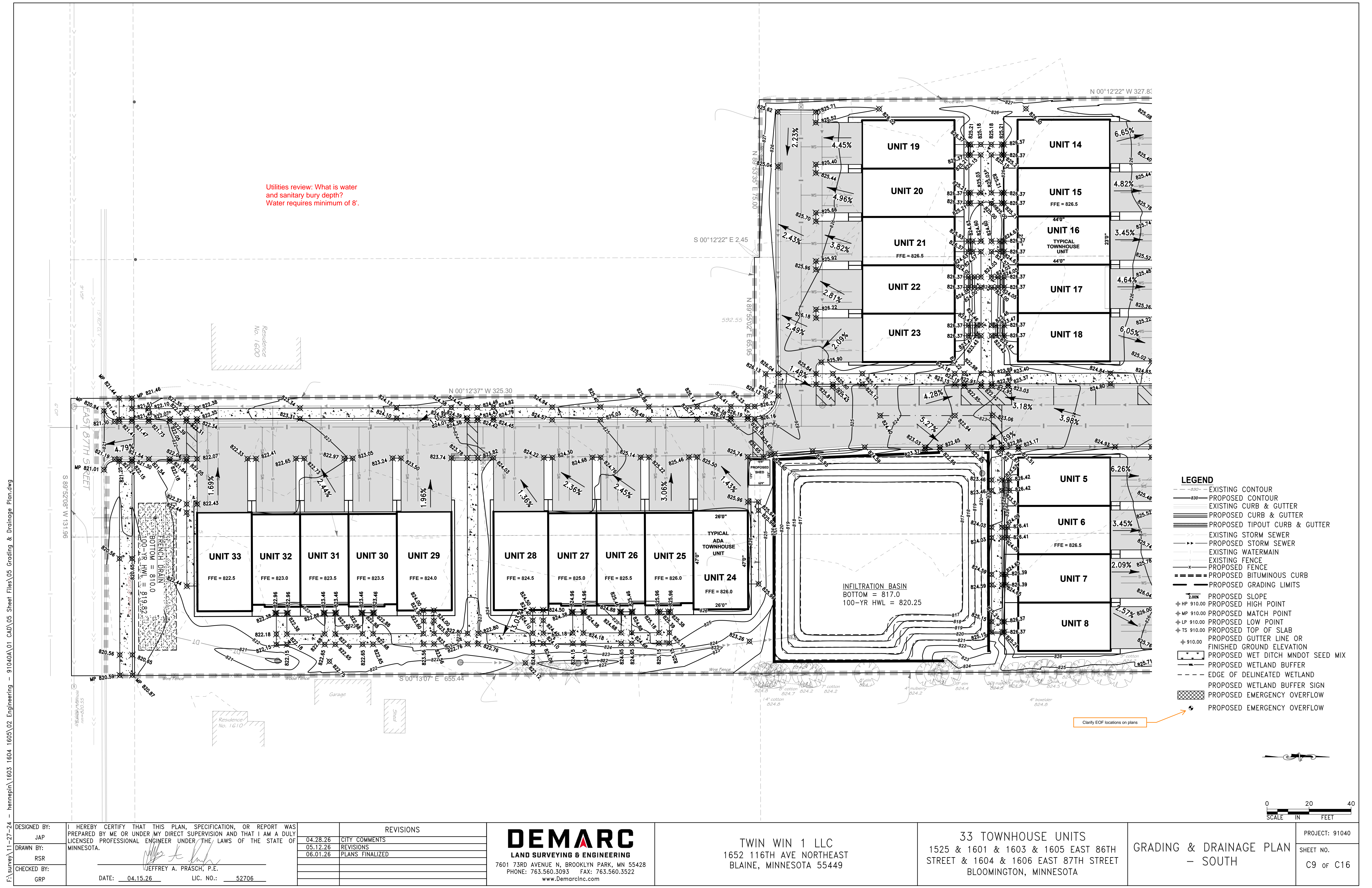
DEMARC
 LAND SURVEYING & ENGINEERING
 7601 73RD AVENUE N, BROOKLYN PARK, MN 55428
 PHONE: 763.560.3093 FAX: 763.560.3522
 www.DemarcInc.com

TWIN WIN 1 LLC
 1652 116TH AVE NORTHEAST
 BLAINE, MINNESOTA 55449

33 TOWNHOUSE UNITS
 1525 & 1601 & 1603 & 1605 EAST 86TH STREET & 1604 & 1606 EAST 87TH STREET
 BLOOMINGTON, MINNESOTA

GRADING & DRAINAGE PLAN
 - NORTH

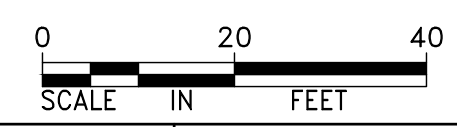
PROJECT: 91040
 SHEET NO. C8 OF C16



Utilities review: What is water and sanitary bury depth?
Water requires minimum of 8'.

- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - EXISTING CURB & GUTTER
 - PROPOSED CURB & GUTTER
 - PROPOSED TIPOUT CURB & GUTTER
 - EXISTING STORM SEWER
 - PROPOSED STORM SEWER
 - EXISTING WATERMAIN
 - EXISTING FENCE
 - PROPOSED FENCE
 - PROPOSED BITUMINOUS CURB
 - PROPOSED GRADING LIMITS
 - 2.00% PROPOSED SLOPE
 - HP 910.00 PROPOSED HIGH POINT
 - MP 910.00 PROPOSED MATCH POINT
 - LP 910.00 PROPOSED LOW POINT
 - TS 910.00 PROPOSED TOP OF SLAB
 - 910.00 PROPOSED GUTTER LINE OR FINISHED GROUND ELEVATION
 - PROPOSED WET DITCH MNDOT SEED MIX
 - PROPOSED WETLAND BUFFER
 - EDGE OF DELINEATED WETLAND
 - PROPOSED WETLAND BUFFER SIGN
 - PROPOSED EMERGENCY OVERFLOW
 - PROPOSED EMERGENCY OVERFLOW

Clarify EOF locations on plans



DESIGNED BY: JAP
 DRAWN BY: RSR
 CHECKED BY: GRP

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GRADING & DRAINAGE PLAN
 - SOUTH

PROJECT: 91040
 SHEET NO. C9 OF C16

SANITARY SERVICE CONNECTION INVERT ELEVATIONS AT TOWNHOUSE UNITS					
UNIT #	INVERT ELEV. (ft)	UNIT #	INVERT ELEV. (ft)	UNIT #	INVERT ELEV. (ft)
1	813.62	12	814.01	23	812.84
2	814.08	13	813.55	24	812.47
3	814.54	14	816.09	25	812.38
4	815.00	15	815.63	26	812.29
5	814.33	16	815.17	27	812.19
6	814.79	17	814.71	28	812.09
7	815.25	18	814.25	29	811.91
8	815.71	19	814.68	30	811.81
9	815.39	20	814.22	31	811.72
10	814.93	21	813.76	32	811.63
11	814.47	22	813.30	33	811.53

Utilities review: Confirm water has minimum 8' bury depth with proposed grading.

Utilities review: Minimum 10' horizontal separation from outside edge of CG to outside edge of water pipe.

Utilities review: Verify water has 18" minimum separation from any storm/sanitary.

- NOTES:
1. WATERMAIN AND WATER SERVICE SHALL MAINTAIN A MINIMUM OF 8.0 FEET OF COVER.
 2. WATERMAIN WILL BE 6" C900 PVC.
 3. WATER SERVICES WILL BE 1" TYPE K COPPER.

- REFERENCE NOTES:
- ① SANITARY SERVICE 4" SCH 40 @ 2.0%. (VERIFY LOCATION INTO BUILDING PER ARCHITECTURAL PLANS)
 - ② WATERMAIN OFFSET PER CITY STANDARD PLATE 316.

The proposed hydrant locations need to be relocated to the main center driveway as their current positioning makes them inaccessible from the emergency vehicle access lane. There is a high likelihood in the current configuration that they will be plowed in and blocked by parked vehicles.

Minimum emergency vehicle access lane in 20'.

Core-drill connection required for connection to existing catch basin.

Utilities review: Use zinc coated Class 52 DIP water main. A minimum 8 mil V-Bio encasement is required on all DIP. -- add this note to the plan.

WASTEWATER FLOW ESTIMATES:

PHASE 1 - 8 UNITS @ 270 GAL/UNIT/DAY = 2,160 GAL/DAY

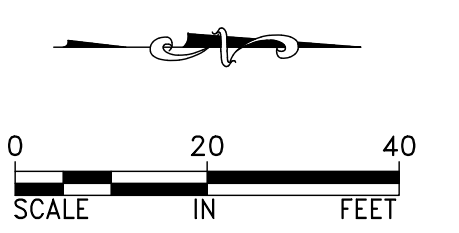
PHASE 2 - 10 UNITS @ 270 GAL/UNIT/DAY = 2,700 GAL/DAY

PHASE 3 - 15 UNITS @ 270 GAL/UNIT/DAY = 4,050 GAL/DAY

TOTAL - 33 UNITS @ 270 GAL/UNIT/DAY = 8,910 GAL/DAY

Utilities review: Taps of live water mains are done by City forces. The Contractor pays for and coordinates this work. -- add this note to the plan.

- LEGEND
- >->->- EXISTING STORM SEWER
 - |-|-|- EXISTING WATERMAIN
 - >->- EXISTING SANITARY SEWER
 - >->->- PROPOSED STORM SEWER
 - s-s-s- PROPOSED SANITARY SERVICE
 - ws-ws- PROPOSED WATER SERVICE
 - ⊕ EXISTING HYDRANT
 - ⊙ EXISTING STORM MANHOLE
 - ⊙ EXISTING CATCH BASIN
 - ⊙ EXISTING SANITARY MANHOLE
 - ⊙ EXISTING FES
 - ⊙ PROPOSED FES
 - ⊙ PROPOSED VALVE



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DESIGNED BY: JAP
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 BLOOMINGTON, MINNESOTA

PROJECT: 91040
 SHEET NO. C10 OF C16
 UTILITY PLAN - NORTH

SANITARY SERVICE CONNECTION INVERT ELEVATIONS AT TOWNHOUSE UNITS					
UNIT #	INVERT ELEV. (ft)	UNIT #	INVERT ELEV. (ft)	UNIT #	INVERT ELEV. (ft)
1	813.62	12	814.01	23	812.84
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Utilities review: Confirm water has minimum 8' bury depth with proposed grading.

Utilities review: Minimum 10' horizontal separation from outside edge of CG to outside edge of water pipe.

NOTES:

1. WATERMAIN AND WATER SERVICE SHALL MAINTAIN A MINIMUM OF 8.0 FEET OF COVER.
2. WATERMAIN WILL BE 6" C900 PVC.
3. WATER SERVICES WILL BE 1" TYPE K COPPER.

REFERENCE NOTES:

- ① SANITARY SERVICE 4" SCH 40 @ 2.0%. (VERIFY LOCATION INTO BUILDING PER ARCHITECTURAL PLANS)

WASTEWATER FLOW ESTIMATES:

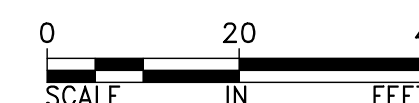
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 PHASE 2 - 10 UNITS @ 270 GAL/UNIT/DAY = 2,700 GAL/DAY
 PHASE 3 - 15 UNITS @ 270 GAL/UNIT/DAY = 4,050 GAL/DAY
 TOTAL - 33 UNITS @ 270 GAL/UNIT/DAY = 8,910 GAL/DAY

LEGEND

- >>->>- EXISTING STORM SEWER
- |-|- EXISTING WATERMAIN
- >->- EXISTING SANITARY SEWER
- >>->>- PROPOSED STORM SEWER
- s-s- PROPOSED SANITARY SERVICE
- ws- PROPOSED WATER SERVICE
- ⊕ EXISTING HYDRANT
- ⊙ EXISTING STORM MANHOLE
- ⊙ EXISTING CATCH BASIN
- ⊙ PROPOSED CATCH BASIN
- ⊙ EXISTING SANITARY MANHOLE
- ⊙ EXISTING FES
- ⊙ PROPOSED FES
- ⊙ PROPOSED VALVE

Confirm maintenance access route(s) for stormwater BMPs and pre-treatment devices & that access routes can support maintenance equipment space requirements & loads

Provide pre-treatment of all influent flows to stormwater BMPs in conformance w/ MPCA Stormwater Manual



Revise to connect to catch basin or manhole. Either core-drill into existing structure or install a new structure at connection.

Utilities review: Verify water has 18" minimum separation from any storm/sanitary.

Utilities review: Taps of live water mains are done by City forces. The Contractor pays for and coordinates this work. - add this note to the plan.

Utilities review: Use zinc coated Class 52 DIP water main. A minimum 8 mil V-Bio encasement is required on all DIP. - add this note to the plan

CONNECT TO EXISTING SANITARY
INV(W,E) = 810.28 (FIELD VERIFY)
INV(N) = 810.35

CONNECT TO EXISTING STORM
INV(W,E) = 816.43 (FIELD VERIFY)
INV(N) = 816.63

CB-113
2'x3' (R-3076)
RIM = 822.03
INV(SE) = 818.77

CB-110
2'x3' (R-3076)
RIM = 823.74
INV(N) = 819.28

MH 104
RIM = 825.66
INV(N,S) = 811.77
INV(W) = 812.04

CB-100
2'x3' (R-3076)
RIM = 825.60
INV(W,E) = 818.28
INV(S) = 818.68

PROPOSED HYDRANT & GATE VALVE
150 LF 12" HDPE @ 0.4%

FES 100
INV = 818.20

FES 101
INV = 818.20

Consider use of surface basin instead of french drain to allow more efficient maintenance and better manage larger event flows

CB-114
48" DIA (R-4342)
RIM = 819.76
INV(N) = 817.51

CB-112
48" DIA (R-4342)
RIM = 821.50
INV(N) = 818.83

CB-111
48" DIA (R-4342)
RIM = 821.62
INV(N,S) = 818.61

DESIGNED BY: JAP
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 CHECKED BY: GRP
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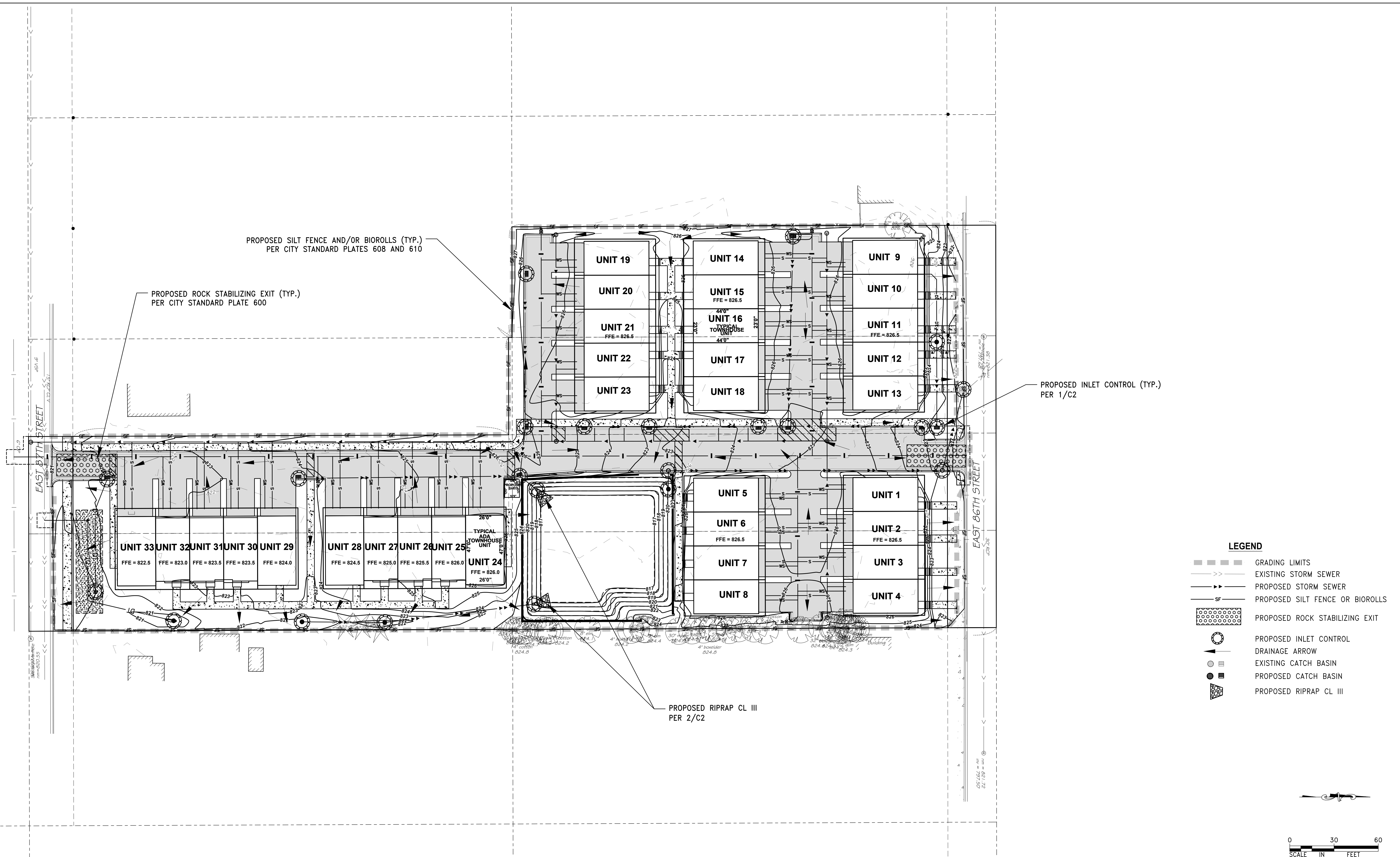
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UTILITY PLAN - SOUTH

PROJECT: 91040
 SHEET NO. C11 OF C16

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- LEGEND**
- ▬ GRADING LIMITS
 - >— EXISTING STORM SEWER
 - >>— PROPOSED STORM SEWER
 - SF— PROPOSED SILT FENCE OR BIOROLLS
 - ▨ PROPOSED ROCK STABILIZING EXIT
 - PROPOSED INLET CONTROL
 - DRAINAGE ARROW
 - EXISTING CATCH BASIN
 - PROPOSED CATCH BASIN
 - ▨ PROPOSED RIPRAP CL III

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 BLOOMINGTON, MINNESOTA

STORMWATER POLLUTION PREVENTION PLAN

PROJECT: 91040
 SHEET NO. C12 OF C16

PROJECT INFORMATION:

DISTURBED AREA: 2.84 ACRES
 EROSION CONTROL SUPERVISOR CONTACT: TBD
 IMPAIRED WATERS WITHIN ONE (1) MILE THAT SITE DRAINS TO: NONE

MULTIPLE BUILDINGS, DRIVEWAYS, AND SIDEWALKS IS PROPOSED AT 1525, 1601, 1603, AND 1605 EAST 86TH STREET; 1604 AND 1606 EAST 87TH STREET IN BLOOMINGTON, MN. THE 2.75-ACRE SITE IS CURRENTLY HAS MULTIPLE RESIDENCES, DRIVEWAYS, DECKS, WALKS, AND MANY TREES. THERE ARE RESIDENCES TO THE EAST AND WEST OF THE SITE, EAST 86TH STREET TO THE NORTH, AND EAST 87TH STREET TO THE SOUTH. CURRENTLY MOST OF THE STORMWATER RUNOFF FLOWS TO PRIVATE PROPERTY TO THE EAST. THE NORTH PORTION OF THE SITE'S STORMWATER RUNOFF FLOWS TO EAST 86TH STREET. THE SOUTH PORTION OF THE SITE'S STORMWATER RUNOFF FLOWS TO EAST 87TH STREET.

THE PROPOSED IMPROVEMENTS WILL INCLUDE MULTIPLE BUILDINGS, DRIVEWAYS, SIDEWALKS, AND ASSOCIATED IMPROVEMENTS WITH A PROPOSED LAND DISTURBANCE OF 2.84 ACRES. AN INFILTRATION BASIN AND FRENCH DRAIN IS PROVIDED TO TREAT THE STORMWATER AND MEET RATE, VOLUME, AND WATER QUALITY REQUIREMENTS. MAJORITY OF THE SITE WILL BE ROUTED VIA SURFACE FLOW AND STORM SEWER TO THE INFILTRATION BASIN AND FRENCH DRAIN. THE REMAINING STORMWATER RUNOFF WILL CONTINUE TO RUN OFF THE SITE TO THE NORTH, EAST, AND SOUTH.

KNOWLEDGEABLE PERSON/CHAIN OF RESPONSIBILITY

THE CONTRACTOR SHALL IDENTIFY A PERSON KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPs WHO WILL OVERSEE THE IMPLEMENTATION OF THE SWPPP, INCLUDING: INSTALLATION, INSPECTION AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs. THE GENERAL CONTRACTOR SHALL ATTACH CONTACT INFORMATION TO THE SWPPP PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.

THE CONTRACTOR SHALL ESTABLISH A CHAIN OF RESPONSIBILITY FOR ALL CONTRACTORS AND SUB-CONTRACTORS ON SITE TO ENSURE THE SWPPP IS BEING PROPERLY IMPLEMENTED AND MAINTAINED. THE CONTRACTOR SHALL PROVIDE THE CHAIN OF RESPONSIBILITY TO THE OWNER AND ATTACH TO THE SWPPP PRIOR TO ANY CONSTRUCTION ACTIVITY.

STORMWATER POLLUTION PREVENTION PLAN NOTES:

1. PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ACQUIRE THE NECESSARY MPCA NPDES CONSTRUCTION STORM WATER PERMIT.
2. ALL EROSION AND SEDIMENT CONTROL BMP'S SHALL BE INSTALLED PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES. BMP'S SHALL BE MAINTAINED UNTIL ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES FOR THE PROJECT.
4. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS ARE THE ABSOLUTE MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL MEASURES AS NECESSARY TO PROPERLY MANAGE THE PROJECT AREA.
5. THE CONTRACTOR SHALL KEEP THE SWPPP, INCLUDING ALL AMENDMENTS AND INSPECTION AND MAINTENANCE RECORDS ON SITE DURING CONSTRUCTION.
6. THE CONTRACTOR SHALL DOCUMENT AMENDMENTS TO THE SWPPP AS A RESULT OF INSPECTION(S) WITHIN 7 DAYS.
7. THE CONTRACTOR SHALL FILE A NOTICE OF TERMINATION WITHIN THIRTY (30) DAYS OF ACHIEVING PERMANENT STABILIZATION.
8. THE CONTRACTOR SHALL SCHEDULE THEIR OPERATION TO MINIMIZE THE AMOUNT OF DISTURBED AREA AT ANY GIVEN TIME.
9. THE INFILTRATION AREAS SHALL BE PROTECTED AND HAVE RIGOROUS EROSION AND SEDIMENT CONTROLS IF GRADED WITHIN 3 FEET OF THE FINAL GRADES. THE CONTROLS SHALL KEEP RUNOFF COMPLETELY AWAY FROM THE INFILTRATION AREAS UNTIL FINAL STABILIZATION IS COMPLETE.
10. STABILIZE AREAS THAT ARE WITHIN 200 FEET OF AND DRAIN TO PUBLIC WATER WITHIN 24 HOURS DURING FISH SPAWNING TIMES.
11. WATER SHALL BE USED, IF NECESSARY, FOR DUST CONTROL.
12. ALL EROSION CONTROL SHALL CONFORM TO THE MNDOT EROSION CONTROL HANDBOOK.
13. INLET PROTECTION SHALL BE INSTALLED AT ANY INLET THAT MAY RECEIVE RUNOFF FROM THE DISTURBED AREAS OF THE PROJECT. IF A SPECIFIC SAFETY CONCERN HAS BEEN IDENTIFIED, WRITTEN AUTHORIZATION MUST BE RECEIVED BY THE CITY ENGINEER IN ORDER TO REMOVE THAT PARTICULAR INLET CONTROL.
14. ALL EXPOSED SOILS, INCLUDING STOCKPILES, SHALL BE TEMPORARILY STABILIZED PER MNDOT SPECIFICATION 2575 WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED. STABILIZATION OF ALL EXPOSED AREAS MUST BE INITIATED IMMEDIATELY.
15. STOCKPILES SHALL NOT BE PLACED ON ROADS, DRIVEWAYS, SURFACE WATERS OR SWALES. EFFECTIVE SEDIMENT CONTROL SHALL BE INSTALLED IMMEDIATELY AROUND ALL SOIL STOCKPILES.
16. REMOVE ALL SOILS AND SEDIMENT TRACKED OR OTHERWISE DEPOSITED ONTO PUBLIC ROADS OR PRIVATE DRIVEWAYS ON A DAILY BASIS OR AS NEEDED.
17. THE NORMAL WETTED PERIMETER WITHIN 200 LINEAL FEET OF ANY PROJECT DISCHARGE LOCATION SHALL BE STABILIZED WITHIN 24 HOURS OF CONNECTING TO THE DISCHARGE LOCATION.
18. IF DEWATERING IS NECESSARY, THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL DEWATERING AND SURFACE DRAINAGE REGULATIONS. THE APPROPRIATE PERMITS SHALL BE ACQUIRED PRIOR TO COMMENCING DEWATERING ACTIVITIES.
19. TURBID AND SEDIMENT-LADEN WATERS SHALL BE DIRECTED TO A TEMPORARY SEDIMENT POND PRIOR TO DISCHARGING. A VISUAL CHECK SHALL BE CONDUCTED PRIOR TO DISCHARGING TREATED WATER FROM THE SEDIMENT POND TO ENSURE NUISANCE CONDITIONS WILL NOT RESULT FROM THE DISCHARGE.
20. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE REMOVED FROM THE SITE WITHIN THIRTY (30) DAYS AFTER PERMANENT STABILIZATION HAS BEEN ACHIEVED.
21. THE CORRECTIVE ACTION MUST BE COMPLETED BY THE NEXT BUSINESS DAY AFTER DISCOVERY WHEN PERIMETER CONTROL DEVICES BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES ONE-HALF (1/2) THE HEIGHT OF THE DEVICE.
22. PERMITEE MUST MINIMIZE SOIL COMPACTION. METHODS OF MINIMIZING SOIL COMPACTION INCLUDE THE USE OF TRACKED EQUIPMENT AND STAYING OFF AREAS TO BE LEFT UNCOMPACTED. AREAS OF COMPACTED SOIL WILL BE REMOVED OR LOOSENEED VIA TILLING TO A DEPTH OF NO LESS THAN 18 INCHES.
23. SECTIONS 5.11-5.16, 5.18, & 5.22 OF THE 2023 CONSTRUCTION STORMWATER GENERAL PERMIT DO NOT APPLY.

TRAINING DOCUMENTATION:

SWPPP DESIGNER: SEAN SMITH (DEMARC LAND SURVEYING & ENGINEERING) – "DESIGN OF CONSTRUCTION SWPPP" TRAINING EXPIRES JANUARY 21, 2029.

THE CONTRACTOR (OPERATOR) SHALL ADD TO THE SWPPP TRAINING RECORDS FOR THE FOLLOWING PERSONNEL:

- INDIVIDUALS OVERSEEING THE IMPLEMENTATION OF, REVISING, AND AMENDING THE SWPPP
- INDIVIDUALS PERFORMING INSPECTIONS
- INDIVIDUALS PERFORMING OR SUPERVISING THE INSTALLATION, MAINTENANCE AND REPAIR OF BMPs

EXPECTED SEQUENCE OF CONSTRUCTION

1. INSTALL ROCK STABILIZING EXIT(S), PERIMETER CONTROL, INLET CONTROL AND STABILIZE DOWN GRADIENT BOUNDARIES.
2. REMOVE PAVEMENT AREAS TO BE RECONSTRUCTED.
3. RELOCATE PRIVATE UTILITIES.
4. COMPLETE SITE GRADING.
5. APPLY EARLY APPLICATION OF BASE COURSE ON PARKING SECTION.
6. INSTALL CURB AND GUTTER, AND PAVING.
7. COMPLETE FINAL GRADING AND PERMANENT STABILIZATION.
8. CONSTRUCT BUILDING EXPANSION.
9. REMOVE EROSION AND SEDIMENT CONTROL BMPs AFTER PERMANENT STABILIZATION IS ACHIEVED.

TEMPORARY SEDIMENT BASINS

1. THE CONTRACTOR SHALL INSTALL SEDIMENT BASIN(S) REQUIRED BY THE NPDES CONSTRUCTION PERMIT IF FIVE (5) OR MORE DISTURBED ACRES DISCHARGE TO A COMMON LOCATION.
2. TEMPORARY SEDIMENT BASIN OUTLETS SHALL BE CONSTRUCTED TO PREVENT SHORT-CIRCUITING AND PREVENT THE DISCHARGE OF FLOATING DEBRIS.
3. BASINS MUST HAVE THE ABILITY TO ALLOW COMPLETE DRAWDOWN, INCLUDE A STABILIZED EMERGENCY OVERFLOW, WITHDRAW WATER FROM THE SURFACE, AND PROVIDE ENERGY DISSIPATION AT THE OUTLET.
4. TEMPORARY SEDIMENT BASINS SHALL BE PROVIDED WITH ENERGY DISSIPATION AT ANY BASIN OUTLET TO PREVENT SOIL EROSION.
5. SEDIMENT BASINS MUST BE SITUATED OUTSIDE OF SURFACE WATERS AND ANY BUFFER ZONES, AND MUST BE DESIGNED TO AVOID THE DRAINING WATER FROM WETLANDS.
6. BASINS SHALL BE SIZED ACCORDING TO THE CONSTRUCTION STORMWATER GENERAL PERMIT REQUIREMENTS. CALCULATIONS SHALL BE PROVIDED WITH THE SWPPP.
7. SEDIMENT BASINS SHALL NOT BE PLACED IN FUTURE INFILTRATION AREAS.
8. SEDIMENT BASINS SHALL BE DRAINED AND SEDIMENT REMOVED WHEN IT REACHES ½ THE STORAGE VOLUME WITHIN 72 HOURS.

INSPECTIONS AND MAINTENANCE

1. ALL INSPECTIONS, MAINTENANCE, REPAIRS, REPLACEMENTS AND REMOVAL OF BMPs SHALL BE CONSIDERED INCIDENTAL TO THE BMP BID ITEMS.
2. THE CONTRACTOR SHALL COMPLETE SITE INSPECTIONS, AND BMP MAINTENANCE TO ENSURE COMPLIANCE WITH THE PERMIT REQUIREMENTS.
3. THE CONTRACTOR SHALL PROVIDE A TRAINED PERSON TO INSPECT THE ENTIRE CONSTRUCTION SITE AT LEAST ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. ALL INSPECTIONS MUST BE RECORDED IN WRITING WITHIN 24 HOURS OF CONDUCTING THE INSPECTIONS AND THE RECORDS MUST BE RETAINED WITH THE SWPPP. IF ANY DISCHARGE FROM THE SITE IS OBSERVED THE DISCHARGE MUST BE DESCRIBED AND PHOTOGRAPHED.
4. TEMPORARY AND PERMANENT SEDIMENT BASINS SHALL BE DRAINED AND THE SEDIMENT REMOVED WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES ½ THE STORAGE VOLUME. DRAINAGE AND REMOVAL MUST BE COMPLETED WITHIN 72 HOURS OF DISCOVERY.
5. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED IN A MANOR AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS.

POLLUTION PREVENTION MANAGEMENT MEASURES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POLLUTION PREVENTION MANAGEMENT MEASURES.
2. ALL POLLUTION PREVENTION MEASURES ARE CONSIDERED INCIDENTAL TO THE BMP BID ITEMS, UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR IS RESPONSIBLE FOR INFORMING ALL VISITORS AND/OR PERSONNEL ON-SITE OF THE POLLUTION PREVENTION MANAGEMENT MEASURES. POLLUTION PREVENTION MANAGEMENT MEASURES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
 - A. SOLID WASTE SUCH AS COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, CEMENT PRODUCT WASTE, FLOATING DEBRIS, PAPER, PLASTIC, CONSTRUCTION DEBRIS AND OTHER WASTES MUST BE DISPOSED OF PROPERLY OFF SITE.
 - B. HAZARDOUS WASTES SUCH AS OILS, GASOLINE, PAINT, CEMENT BASED PRODUCTS, ETC. SHALL BE PROPERLY STORED WITH SECONDARY CONTAINMENT TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGES. IF STORED ON THE PROJECT SITE, THEY SHALL BE STORED IN RESTRICTED ACCESS AREAS TO PROTECT AGAINST VANDALISM. STORAGE AND DISPOSAL SHALL BE IN COMPLIANCE WITH THE MPCA.
 - C. CEMENT BASED PRODUCT WASHOUTS ARE NOT PERMITTED ON SITE.
 - D. THE CONTRACTOR SHALL INCLUDE SPILL KITS WITH ALL FUELING SOURCES AND MAINTENANCE ACTIVITIES. SECONDARY CONTAINMENT MEASURES SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.
 - E. THE CONTRACTOR SHALL ENSURE SPILLS ARE CONTAINED AND CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STORMWATER CONVEYANCE SYSTEM SHALL BE REPORTED TO THE MINNESOTA DUTY OFFICER AT 1.800.422.0798.

FINAL STABILIZATION

1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING FINAL STABILIZATION OF THE ENTIRE SITE. FINAL STABILIZATION SHALL BE COMPLETED PER THE LANDSCAPE PLAN:
 - A. COMPLETION OF ALL CONSTRUCTION ACTIVITY.
 - B. INSTALLATION OF PERMANENT COVER OVER ALL AREAS PRIOR TO SUBMITTING THE NOTICE OF TERMINATION. PERMANENT COVER SHALL CONSIST OF 12 INCHES TOPSOIL, AND SOD, UNLESS OTHERWISE SPECIFIED.
 - C. VEGETATIVE COVER MUST CONSIST OF A UNIFORM PERENNIAL VEGETATION WITH A DENSITY OF 70 PERCENT OF ITS EXPECTED FINAL GROWTH. VEGETATION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA DICTATES NO VEGETATION, SUCH AS IMPERVIOUS SURFACES OR LANDSCAPED AREAS. SEE LANDSCAPE PLAN FOR PERMANENT VEGETATION SCHEDULE.
 - D. CLEAN THE PERMANENT STORMWATER TREATMENT SYSTEMS OF ANY ACCUMULATED SEDIMENT AND MUST ENSURE THE SYSTEM MEETS ALL APPLICABLE REQUIREMENTS AND IS OPERATING AS DESIGNED.
 - E. REMOVAL OF ALL SEDIMENT FROM CONVEYANCE SYSTEMS.
 - F. REMOVAL OF ALL TEMPORARY SYNTHETIC EROSION PREVENTION AND SEDIMENT CONTROL BMPs.
 - G. FINAL STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH MNDOT 2018 SPECIFICATION 2575.

ESTIMATED EROSION CONTROL QUANTITIES	
SILT FENCE	1750 LF
STABILIZED ROCK EXIT	2 EACH
STORM DRAIN INLET PROTECTION	23 EACH

F:\survey\11-27-24 - hemnepin\1603 1604 1605\02 Engineering - 91040A\01 CAD\05 Sheet Files\07 Stormwater Pollution Prevention Plan.dwg

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DRAWN BY: ABL		04.28.26	CITY COMMENTS
CHECKED BY: GRP		05.12.26	REVISIONS
		06.01.26	PLANS FINALIZED
	DATE: 04.15.26	LIC. NO.: 52706	

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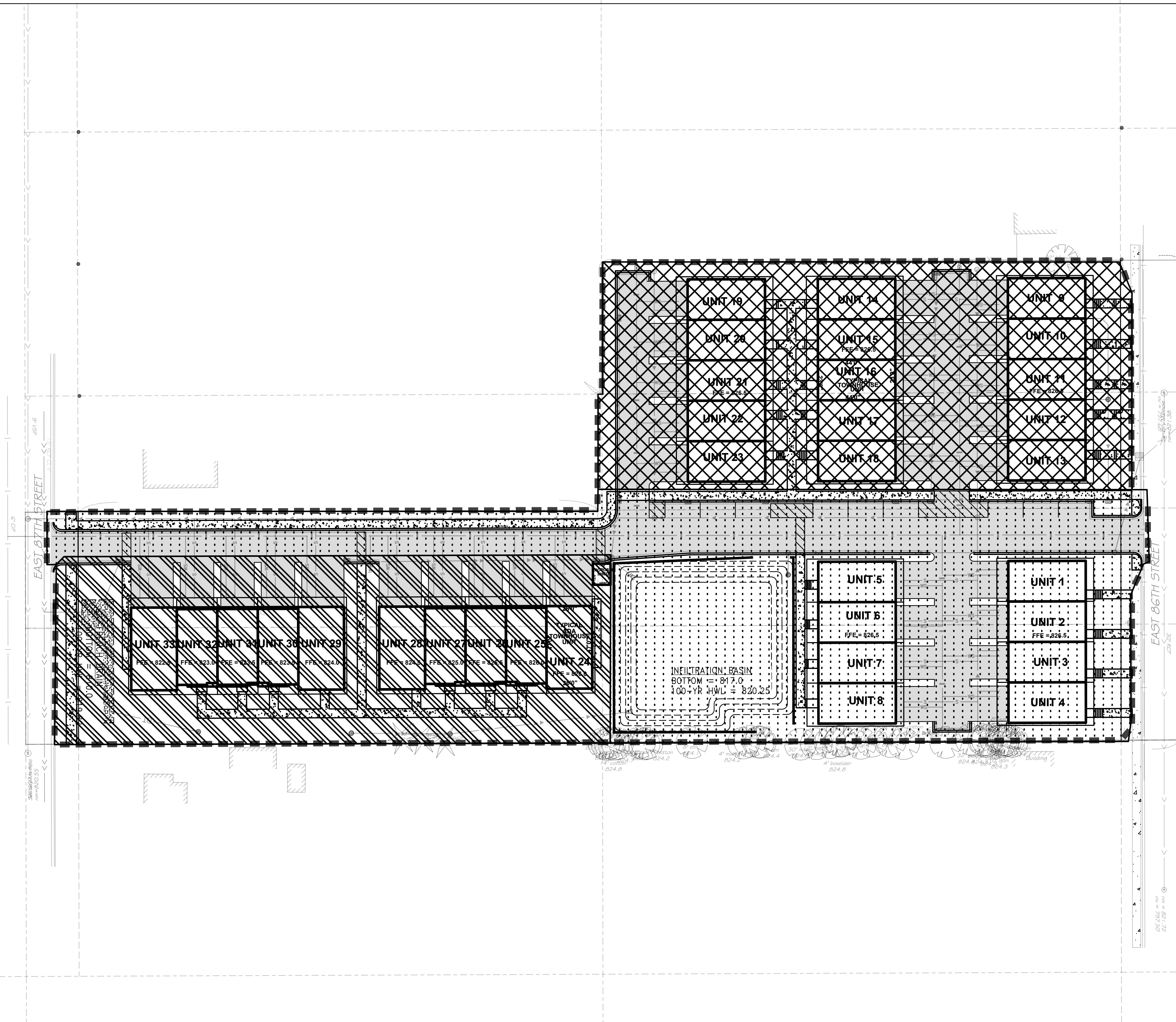
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STORMWATER POLLUTION
 PREVENTION PLAN NOTES

PROJECT: 91040
 SHEET NO.
 C13 OF C16

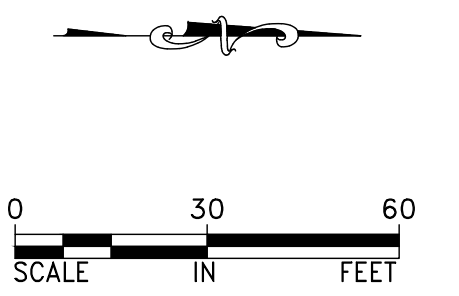
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Include documentation describing how the infiltration basin's infiltration capacity will be protected throughout construction, given that its construction is shown as Phase 1 and the rest of the site will continue to be worked.

LEGEND

- PHASE 1
- PHASE 2
- PHASE 3



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 CHECKED BY: GRP

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JEFFREY A. PRASCH, P.E.
 DATE: 04.28.26 LIC. NO.: 52706

REVISIONS	
05.12.26	REVISIONS
06.01.26	PLANS FINALIZED

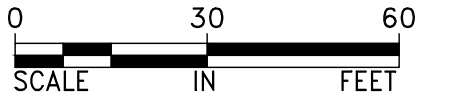
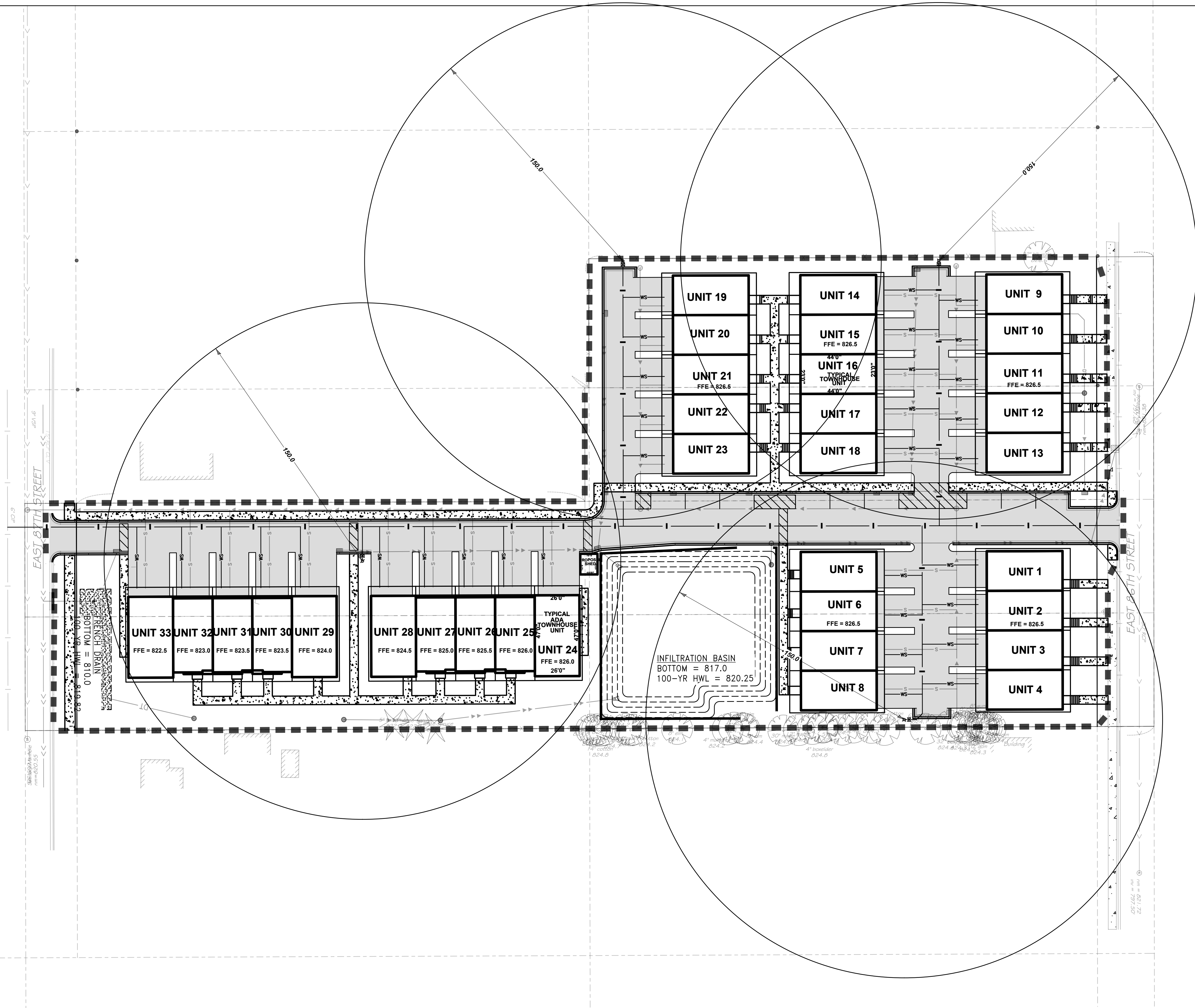
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PROJECT: 91040
 SHEET NO. C14 OF C16
PHASING PLAN

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06.01.26	PLANS FINALIZED

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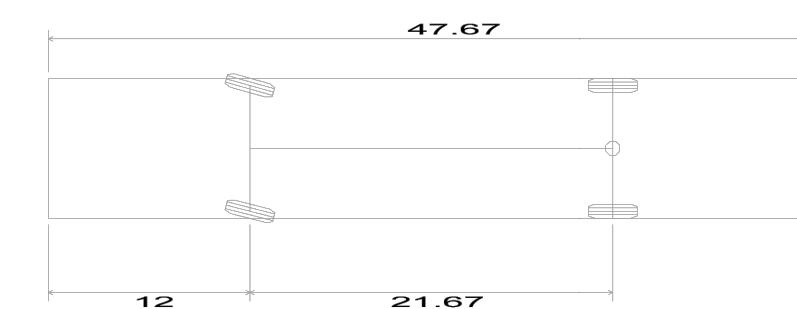
HYDRANT COVERAGE PLAN

PROJECT: 91040
 SHEET NO.
 C15 OF C16

Vehicle Tracking Vehicle Details Ref:

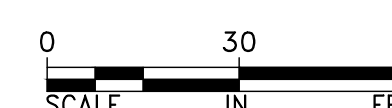
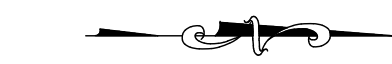
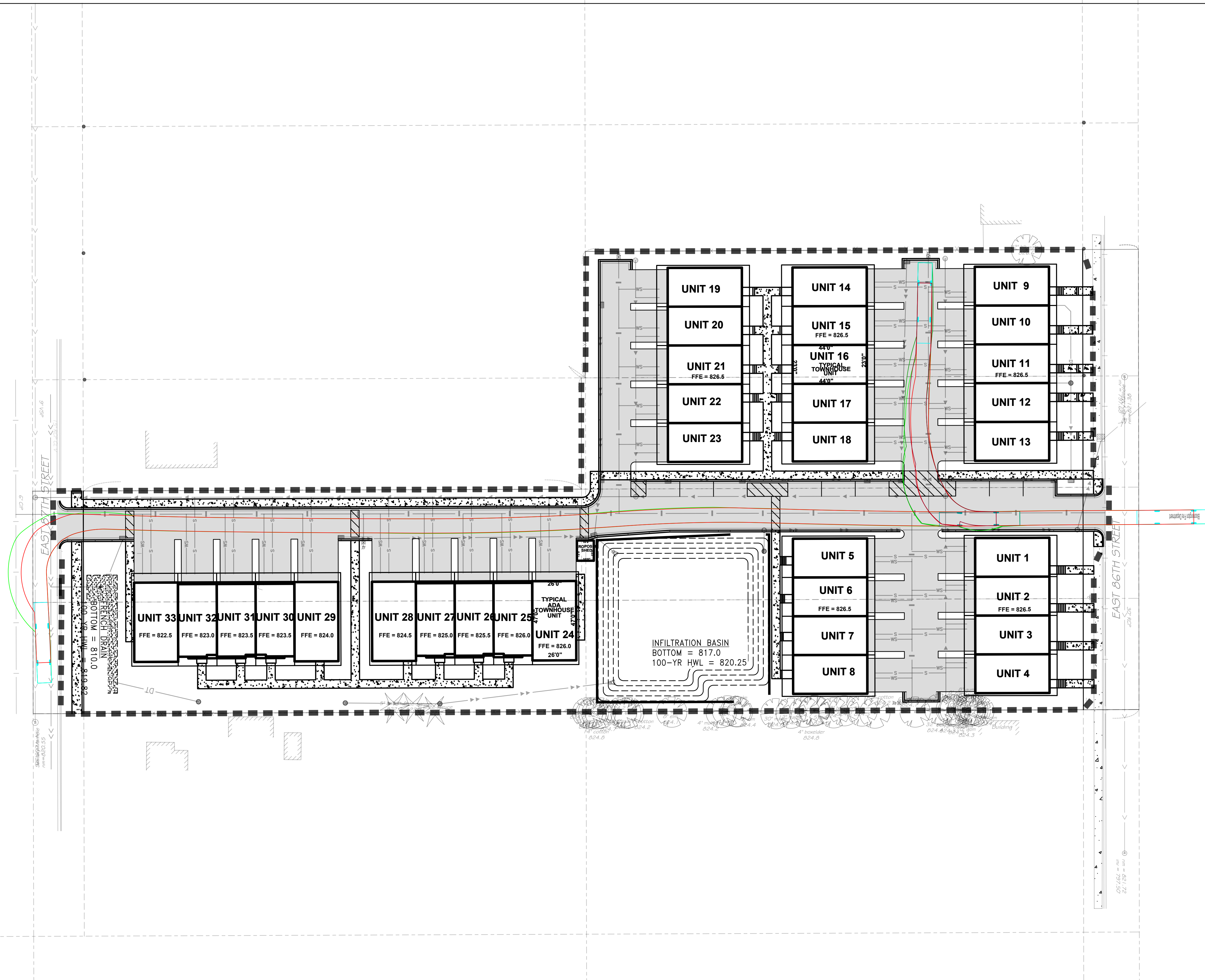


Vehicle Name: Bloomington Fire Department
 Type: Rigid vehicle
 Category: (Unspecified)
 Classification: (Unspecified)
 Source:
 Description:
 Notes:
 Unit 1 Name: Bloomington Fire Department Tractor



Bloomington Fire Department
 Overall Length 47.670ft
 Overall Width 8.330ft
 Overall Body Height 10.489ft
 Min Body Ground Clearance 0.920ft
 Track Width 8.330ft
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 37.430ft

Every Effort Has Been Made To Ensure The Accuracy Of This Information
 Please Check Data From Your Own Sources



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CHECKED BY: GRP	

REVISIONS	
05.12.26	REVISIONS
06.01.26	PLANS FINALIZED

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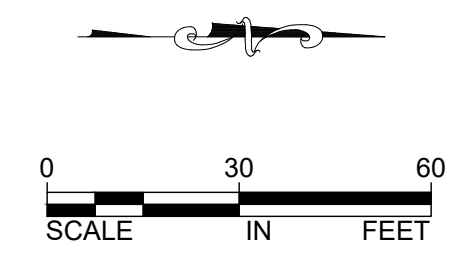
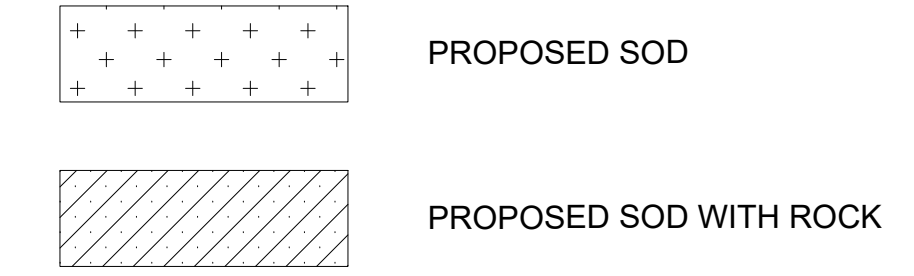
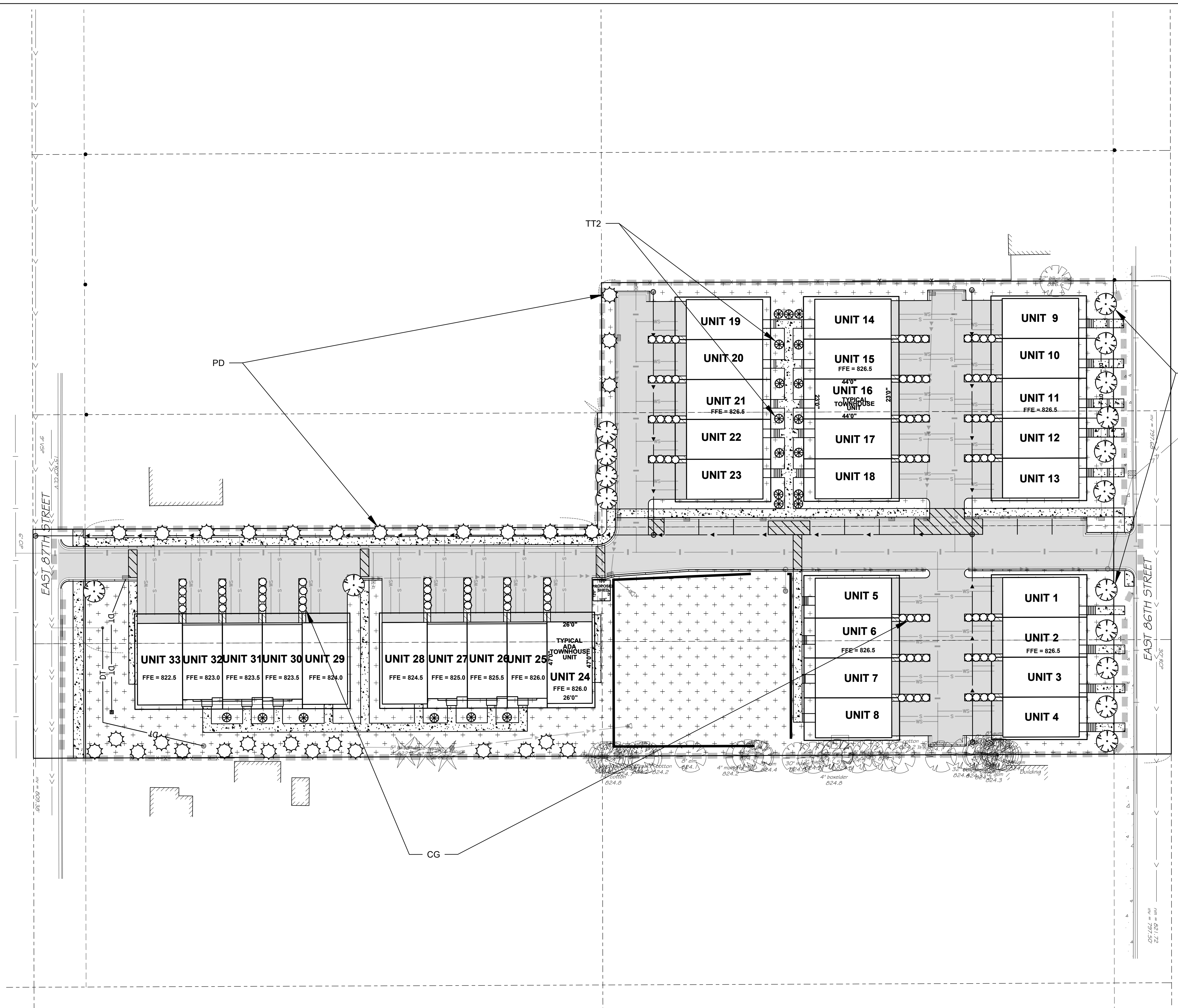
FIRE VEHICLE TURNING MOVEMENTS

PROJECT: 91040
 SHEET NO. C16 OF C16

PLANT SCHEDULE

OVERSTORY TREE	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	BR	BETULA NIGRA	RIVER BIRCH	2" CAL.	B&B	17
EVERGREEN TREE	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	PD	PICEA GLAUCA 'DENSATA'	BLACK HILLS SPRUCE	6' HGT.	B&B	31
SHRUBS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	CG	CORNUS RACEMOSA	GRAY DOGWOOD	5' GAL. (MN. 24" HGT.)	POT	104
	TT2	THUJA OCCIDENTALIS 'TECHNY GLOBE'	TECHNY GLOBE ARBORVITAE	5' GAL. (MN. 18" HGT.)	POT	21

Landscape surety is required for the plant material.



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JEFFREY A. PRASCH, P.E.
 DATE: 04.28.26 LIC. NO.: 52706

REVISIONS	
05.12.26	REVISIONS
06.01.26	PLANS FINALIZED
06.03.26	PLANT QUANTITIES

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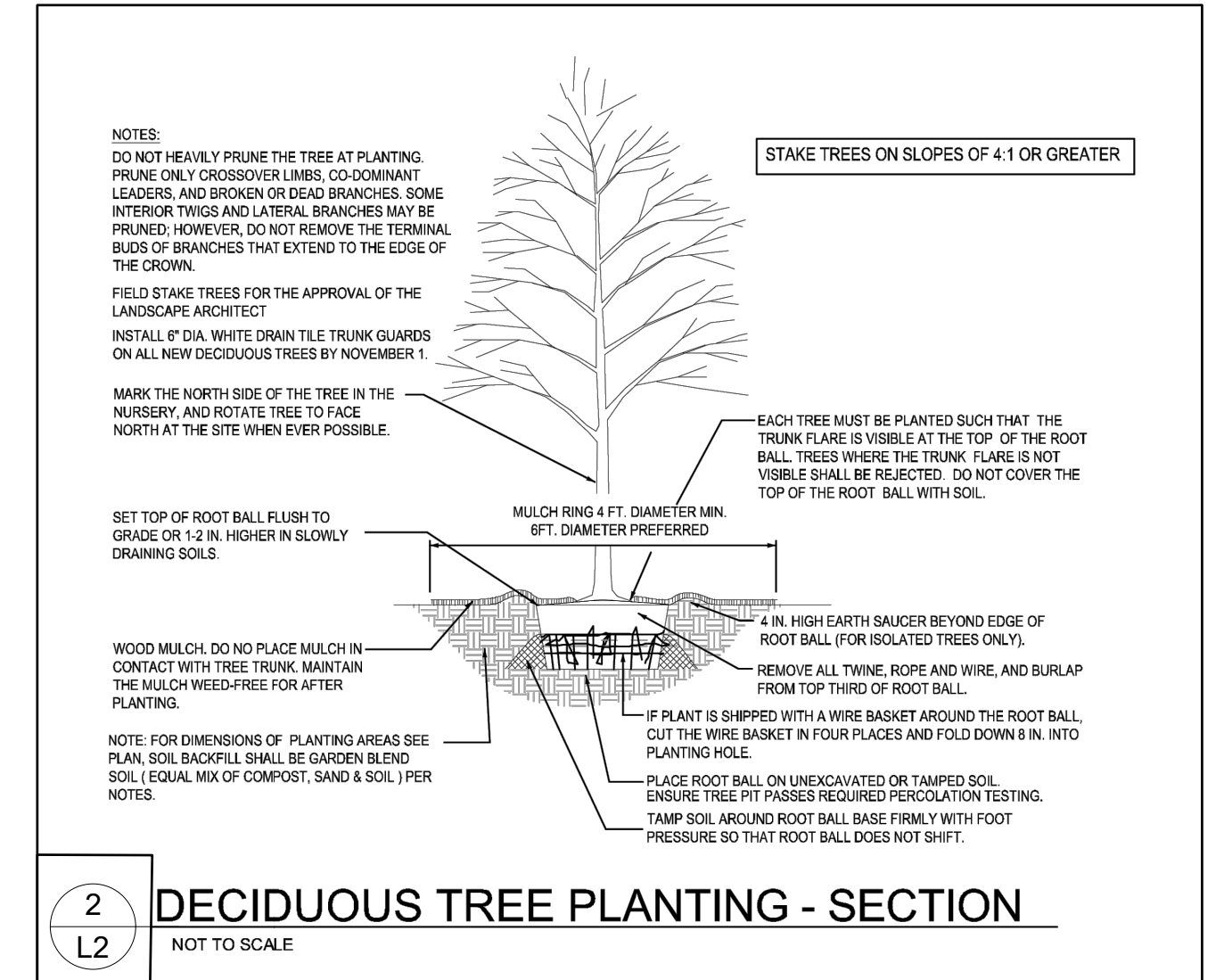
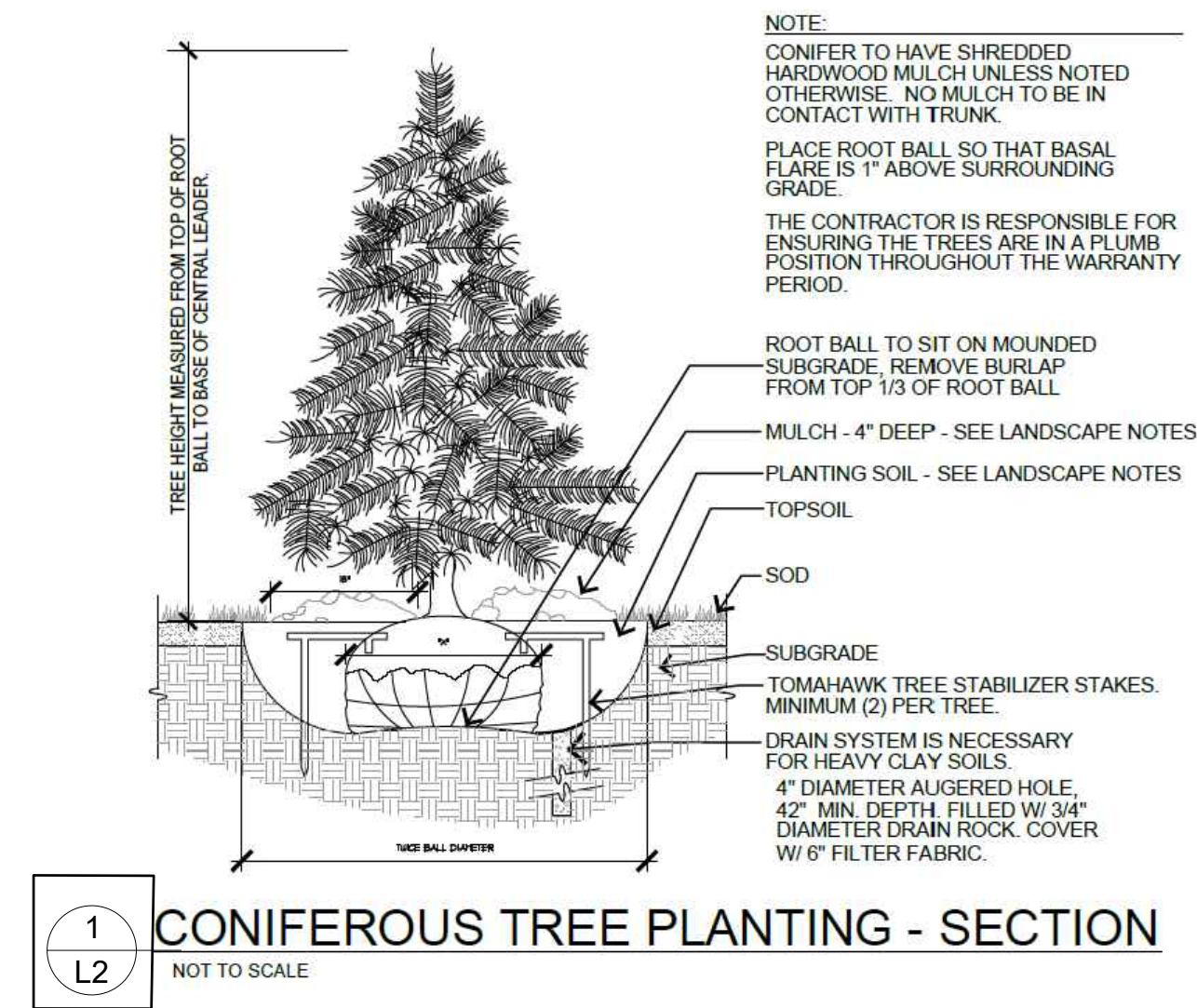
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LANDSCAPE PLAN

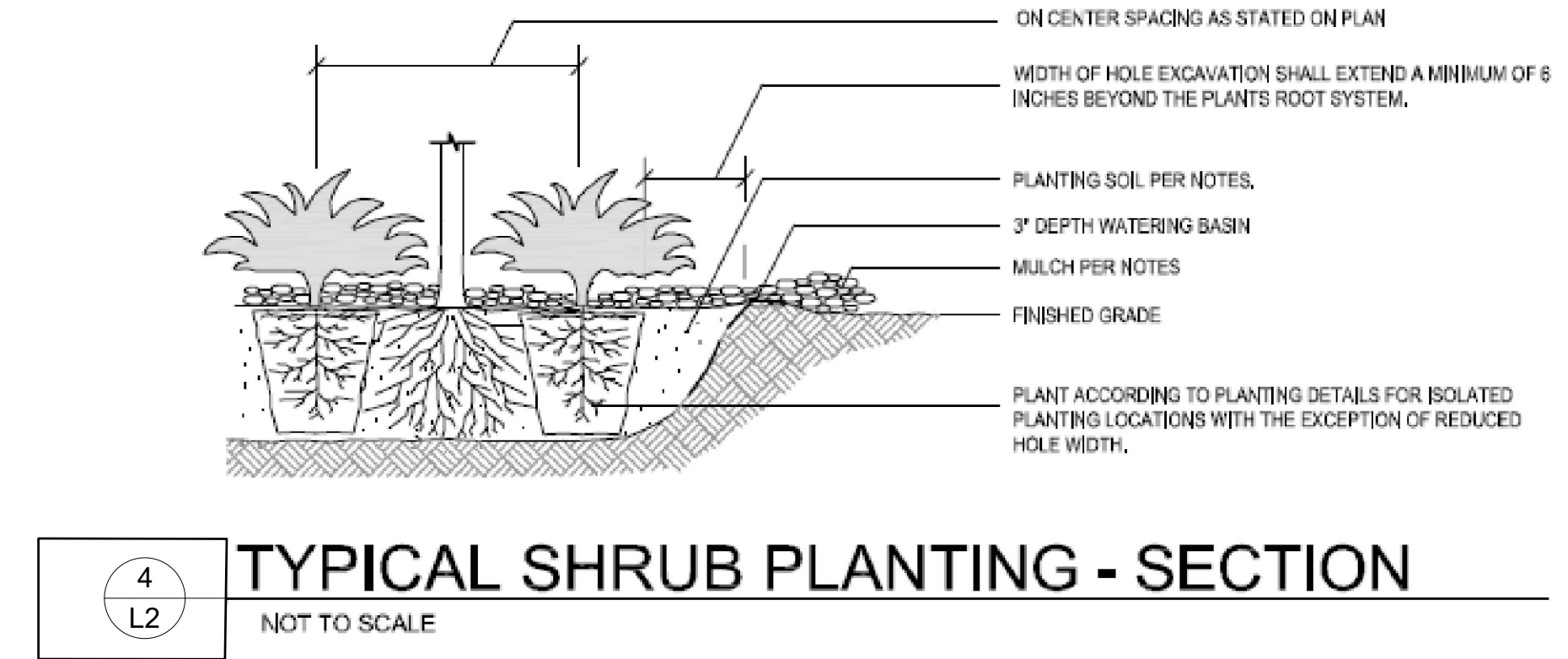
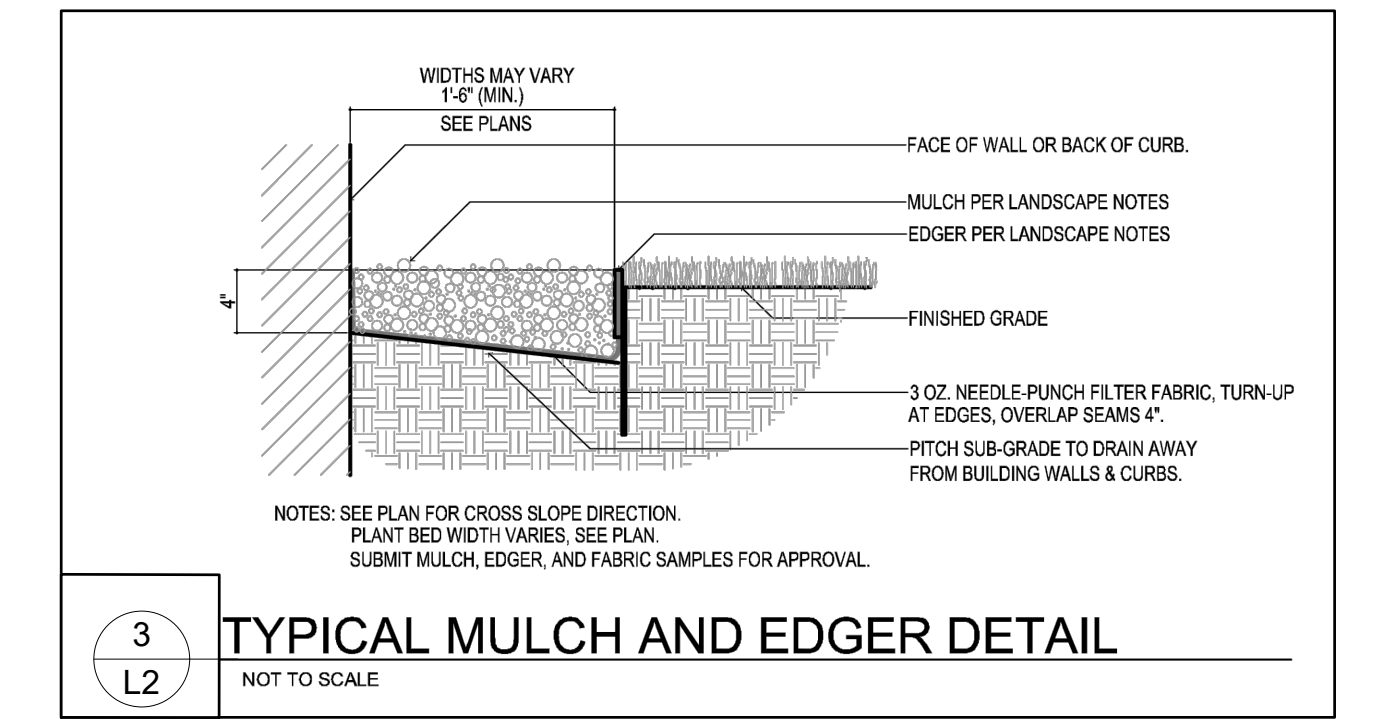
PROJECT: 91040
 SHEET NO.
 L1 OF L2

LANDSCAPE NOTES:

- TREE SAUCER MULCH TO BE FOUR INCHES (4") DEPTH SINGLE-SHRED HARDWOOD MULCH FOR TREES OUTSIDE OF A PLANT BED, INSTALL PER TREE PLANTING DETAIL.
- REFER TO CIVIL PLAN SHEETS FOR GRADING, DRAINAGE, SITE DIMENSIONS, SURVEY, TREE REMOVAL, PROPOSED UTILITIES & EROSION CONTROL.
- ALL PLANT MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMEN, UNLESS NOTED OTHERWISE, DECIDUOUS SHRUBS SHALL HAVE AT LEAST 5 CANES AT THE SPECIFIED SHRUB HEIGHT, PLANT MATERIAL SHALL BE DELIVERED AS SPECIFIED. ALL DECIDUOUS TREES ARE MEASURED AT 48" FROM FINISHED GRADE TO DETERMINE TREE DIAMETER (DBH). ALL CONIFEROUS TREES ARE MEASURED FROM FINISHED GRADE TO THE TOP OF THE CENTRAL LEADER. IF NO CENTRAL LEADER IS PRESENT ON CONIFEROUS TREES, THAT PLANT IS REJECTED AND MUST BE REPLACED IMMEDIATELY.
- PLAN TAKES PRECEDENCE OVER PLANT SCHEDULE IF DISCREPANCIES IN QUANTITIES EXIST.
- ALL PROPOSED PLANTS SHALL BE LOCATED AND STAKED AS SHOWN.
- ADJUSTMENT IN LOCATION OF PROPOSED PLANT MATERIAL MAY BE NEEDED IN FIELD. SHOULD AN ADJUSTMENT BE REQUIRED, THE CLIENT WILL PROVIDE FIELD APPROVAL. SIGNIFICANT CHANGES MAY REQUIRE CITY REVIEW AND APPROVAL.
- THE PROJECT LANDSCAPE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR WATERING AND PROPERLY HANDLING ALL PLANT MATERIALS BROUGHT ON THE SITE BOTH BEFORE AND AFTER INSTALLATION. SCHEDULE PLANT DELIVERIES TO COINCIDE WITH EXPECTED INSTALLATION TIME WITHIN 36 HOURS.
- ALL PLANT MATERIALS SHALL BE FERTILIZED UPON INSTALLATION AS SPECIFIED.
- THE LANDSCAPE CONTRACTOR SHALL PROVIDE THE OWNER WITH A WATERING SCHEDULE APPROPRIATE TO THE PROJECT SITE CONDITIONS AND TO PLANT MATERIAL GROWTH REQUIREMENTS.
- IF THE LANDSCAPE CONTRACTOR IS CONCERNED OR PERCEIVES ANY DEFICIENCIES IN THE PLANT SELECTIONS, SOIL CONDITIONS, DRAINAGE OR ANY OTHER SITE CONDITION THAT MIGHT NEGATIVELY AFFECT PLANT ESTABLISHMENT, SURVIVAL OR GUARANTEE, THEY MUST BRING THESE DEFICIENCIES TO THE ATTENTION OF THE LANDSCAPE ARCHITECT & CLIENT PRIOR TO BUILDING SUBMISSION.
- CONTRACTOR SHALL ESTABLISH TO HIS/HER SATISFACTION THAT SOIL AND COMPACTION CONDITIONS ARE ADEQUATE TO ALLOW FOR PROPER DRAINAGE AT AND AROUND THE BUILDING SITE.
- CONTRACTOR IS RESPONSIBLE FOR ONGOING MAINTENANCE OF ALL NEWLY INSTALLED MATERIAL FOR THE DURATION OF THE PLANT WARRANTY. WITH THE EXCEPTION OF TURF SOD, WHICH SHALL BE MAINTAINED FOR 30 DAYS AFTER INSTALLATION OR UNTIL THE FIRST MOWING, WHICHEVER COMES FIRST. CONTRACTOR MUST BAG CLIPPINGS FROM INITIAL MOWING AND REMOVE FROM THE JOB SITE. ANY ACTS OF VANDALISM OR DAMAGE WHICH MAY OCCUR PRIOR TO WARRANTY START SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL PROVIDE THE OWNER WITH O&M INFORMATION, INCLUDING (BUT NOT LIMITED TO), WRITTEN INSTRUCTIONS ON PROPER LAWN MOWING HEIGHT, YEARLY LAWN MAINTENANCE RECOMMENDATIONS, PROPER PLANT PRUNING INFORMATION, PLANT & LAWN FERTILIZATION SCHEDULE, AND DISEASE/PEST CONTROL.
- THE CONTRACTOR SHALL GUARANTEE NEWLY PLANTED MATERIAL (INCLUDING SEEDING) THROUGH ONE CALENDAR YEAR FROM THE DATE OF WRITTEN OWNER ACCEPTANCE. PLANTS THAT EXHIBIT MORE THAN 15% DIE-BACK DAMAGE SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL ALSO PROVIDE ADEQUATE TREE WRAP AND DEER/RODENT PROTECTION MEASURES FOR THE PLANTINGS DURING THE WARRANTY PERIOD.
- THIS LAYOUT PLAN CONSTITUTES OUR UNDERSTANDING OF THE LANDSCAPE REQUIREMENTS LISTED IN THE ORDINANCE. CHANGES AND MODIFICATIONS MAY BE REQUESTED BY THE CITY BASED ON APPLICANT INFORMATION, PUBLIC INPUT, COUNCIL DECISIONS, ETC.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS AND COORDINATING INSPECTIONS AS REQUIRED THROUGHOUT THE WORK PROCESS.
- PLANT SIZE & SPECIES SUBSTITUTIONS MUST BE APPROVED IN WRITING PRIOR TO ACCEPTANCE IN THE FIELD.
- REPLACEMENT AND REPAIRS REQUESTED BY THE OWNER DURING THE WARRANTY PERIOD MUST BE MADE WITHIN 14 BUSINESS DAYS OF THE REQUEST.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH THE GENERAL CONTRACTOR, TO PROTECT THE NEW IMPROVEMENTS ON AND OFF-SITE DURING LANDSCAPE WORK ACTIVITIES. REPORT ANY DAMAGE TO THE GENERAL CONTRACTOR IMMEDIATELY.
- TURF SOD ACTIVITY SHALL CONFORM TO ALL RULES AND REGULATIONS AS ESTABLISHED IN THE MNDOT SEEDING MANUAL 2014 EDITION, FOR TURF BED PREPARATION, INSTALLATION, MAINTENANCE, ACCEPTABILITY, AND WARRANTY. SOD INSTALLER IS TO PLACE (2) METAL SOD STAPLES PER ROLL OF SOD REGARDLESS OF SLOPE. ON SLOPES 6:1 OR GREATER, INSTALL (4) METAL SOD STAPLES PER ROLL OF SOD.
- THE LANDSCAPE CONTRACTOR SHALL FURNISH SAMPLES OF ALL LANDSCAPE MATERIALS FOR APPROVAL PRIOR TO INSTALLATION.
- THE LANDSCAPE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL NO LESS THAN 48 HOURS BEFORE DIGGING FOR FIELD UTILITY LOCATIONS.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF EROSION CONTROL MEASURES ONCE VEGETATION HAS BEEN ESTABLISHED TO THE SATISFACTION OF THE MUNICIPAL STAFF. THIS INCLUDES SILT CURTAIN FENCING AND SEDIMENT LOGS PLACED IN THE LANDSCAPE.
- THE LANDSCAPE CONTRACTOR SHALL ESTABLISH TO HIS/HER SATISFACTION THAT THE EARTHWORK IS COMPLETE, TOPSOIL SPREAD TO CORRECT DEPTH, AND COMPACTION CONDITIONS ARE ADEQUATE TO ALLOW FOR PROPER DRAINAGE AT AND AROUND THE BUILDING SITE. NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY IF SOIL CONDITIONS LEFT BY THE EARTHWORK SUB-CONTRACTOR ARE NOT SATISFACTORY. NO ADDITIONAL COMPENSATION WILL BE PAID FOR DISCREPANCIES DUE TO THE EARTHWORK ONCE THE LANDSCAPE CONTRACTOR BEGINS PLANT MATERIAL INSTALLATION.
- TOPSOIL REQUIREMENTS: ALL GRADED AREAS OF THE SITE THAT ARE DESIGNATED ON THE PLAN SET FOR TURF SHALL HAVE NO LESS THAN 6" OF IMPORTED TOP SOIL, AREAS DESIGNATED FOR SHRUBS, TREES, AND PERENNIALS SHALL HAVE NO LESS THAN 12" OF IMPORTED TOP SOIL, MEETING MNDOT CLASSIFICATIONS FOR PLANTING SOIL FOR TREES, SHRUBS, AND TURF. SLOPE AWAY FROM BUILDING.
- LANDSCAPE CONTRACTOR MUST PROVE THE OPEN SUB-GRADE OF ALL PLANTING AREAS AFTER THEIR EXCAVATION IS CAPABLE OF INFILTRATING A MINIMUM REQUIREMENT OF 1/4 -INCH OF WATER PER HOUR PRIOR TO INSTALLATION OF PLANT MATERIALS, TOPSOIL, IRRIGATION, WEED MAT, AND MULCH. PLANTING AREAS NOT CAPABLE OF MEETING THIS REQUIREMENT SHALL HAVE 4" DIAMETER X 48" DEPTH HOLES AUGURED EVERY 36" ON-CENTER AND FILLED WITH MNDOT FREE-DRAINING COARSE FILTER AGGREGATE. RE-TEST SUBGRADE PERCOLATION FOR COMPLIANCE TO INFILTRATION MINIMUM REQUIREMENT.
- LANDSCAPE CONTRACTOR TO PROVIDE NURSERY PULL LIST (BILL OF LADING) INCLUDING PLANT SPECIES AND SIZES SHIPPED TO THE SITE. ADDITIONALLY, THE LANDSCAPE CONTRACTOR SHALL PROVIDE NURSERY STOCK TRACEABILITY, PROVIDING NONE OF THE MATERIALS PROVIDED CONTAIN OR ARE GENETIC STRAINS OF THE NEONICOTINOID FAMILY INCLUDING ACETAMIPRID, CLOTHIANIDIN, IMIDACLOPRID, NITENPYRAM, NITHIAZINE, THIAACLOPRID AND THIAMETHOXAM.
- ALL EDGER SHALL BE PROFESSIONAL GRADE BLACK STEEL PERFORATED EDGER. ANCHOR EVERY 18" ON-CENTER (MINIMUM). SUBMIT SAMPLE.
- UNLESS OTHERWISE NOTED, MULCH SHALL BE 1" DIA. WASHED RIVER ROCK OVER FREE-DRAINING WEED BARRIER. TREES OUTSIDE PLANT BEDS TO RECEIVE WOOD MULCH, AS NOTED.



Irrigation Notes:
The landscape contractor shall furnish an Irrigation Layout Plan for head-to-head coverage of all tree and turf planting areas. Use commercial grade irrigation equipment and provide cut-sheets and provide (3) copies of the proposed layout plan to the Architect for review and approval prior to installation. Coordinate irrigation connection point, controller, back-flow and valve locations with the architect and general contractor. Irrigation contractor to furnish a city standard water meter to be used for for irrigation SAC deduction and include in bid. Include (1) fall shut-down and (1) spring start-up in bid. Tree Water Bags: Landscape Contractor is required to furnish and install (2) tree watering bags per tree, located outside the irrigation coverage limits. Fill with water upon installation & instruct Owner on re-fill timeline.



File: survey\11-27-24 - hennepin\1603_1604_1605\02 Engineering - 91040A01_CAD\05 Sheet Files\08 Landscape Plan.dwg

DESIGNED BY: JAP			
DRAWN BY: RSR			
CHECKED BY: GRP			
DATE: 04.28.26			
		REVISIONS	
	06.01.26	PLANS FINALIZED	

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LANDSCAPE DETAILS

PROJECT: 91040
SHEET NO.
L2 OF L2