LEGEND

- FOUND 1/2 INCH OPEN IRON MONUMENT UNLESS SHOWN OTHERWISE
- SET 1/2 INCH X 14 INCH IRON MONUMENT, MARKED "LS 62268"
- FOUND MAG NAIL
- FOUND CHISELED X
- FOUND REBAR
- CATCH BASIN
- STORM MANHOLE
- SANITARY MANHOLE
- SERVICE CLEANOUT
- POST INDICATOR VALVE
- YARD DRAIN
- YARD LIGHT
- PARKING STALL COUNT
- DISABLED PARKING STALL
- SCHEDULE B II ITEM
- VENT
- STORM CULVERT
- HYDRANT
- GATE VALVE
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- GAS METER
- GUY WIRE
- HAND HOLE
- LIGHT POLE
- POWER POLE
- ROOF DRAIN
- TELEPHONE PEDESTAL
- SIGN
- FIRE CONNECTION
- FLAG POLE
- ACCESS POST
- TELEPHONE MANHOLE
- ELECTRIC OUTLET
- UTILITY PEDESTAL
- UTILITY VALVE
- FUEL TANK/PUMP
- STORM SEWER
- MAPPED DRAINTILE
- MAPPED STORM SEWER
- SANITARY SEWER SERVICE
- SANITARY SEWER
- MAPPED WATERMAIN
- WATERMAIN
- MAPPED UNDERGROUND GAS
- UNDERGROUND GAS
- UNDERGROUND TELEPHONE
- MAPPED UNDERGROUND TELEPHONE
- OVERHEAD UTILITY
- UNDERGROUND ELECTRIC
- MAPPED UNDERGROUND ELECTRIC
- UNDERGROUND FIBER OPTIC
- MAPPED UNDERGROUND FIBER OPTIC
- IRON FENCE
- CHAIN LINK FENCE
- CONCRETE CURB
- RETAINING WALL
- CONCRETE
- PAVERS
- TREE LINE
- CONIFEROUS TREE
  - PI PINE
  - SP SPRUCE
- DECIDUOUS TREE
  - AS ASH
  - BI BIRCH
  - CO COTTONWOOD
  - FR MISC FRUIT
  - HI HICKORY
  - LN LINDEN
  - LO LOCUST
  - MA MAPLE
  - OA OAK
  - TR TREE (GEN)
- NO PARKING
- EXISTING BUILDING
- 972 CONTOUR
- x972.5 SPOT ELEVATION
- WATER LINE

CALL BEFORE YOU DIG!
Gopher State One Call
TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

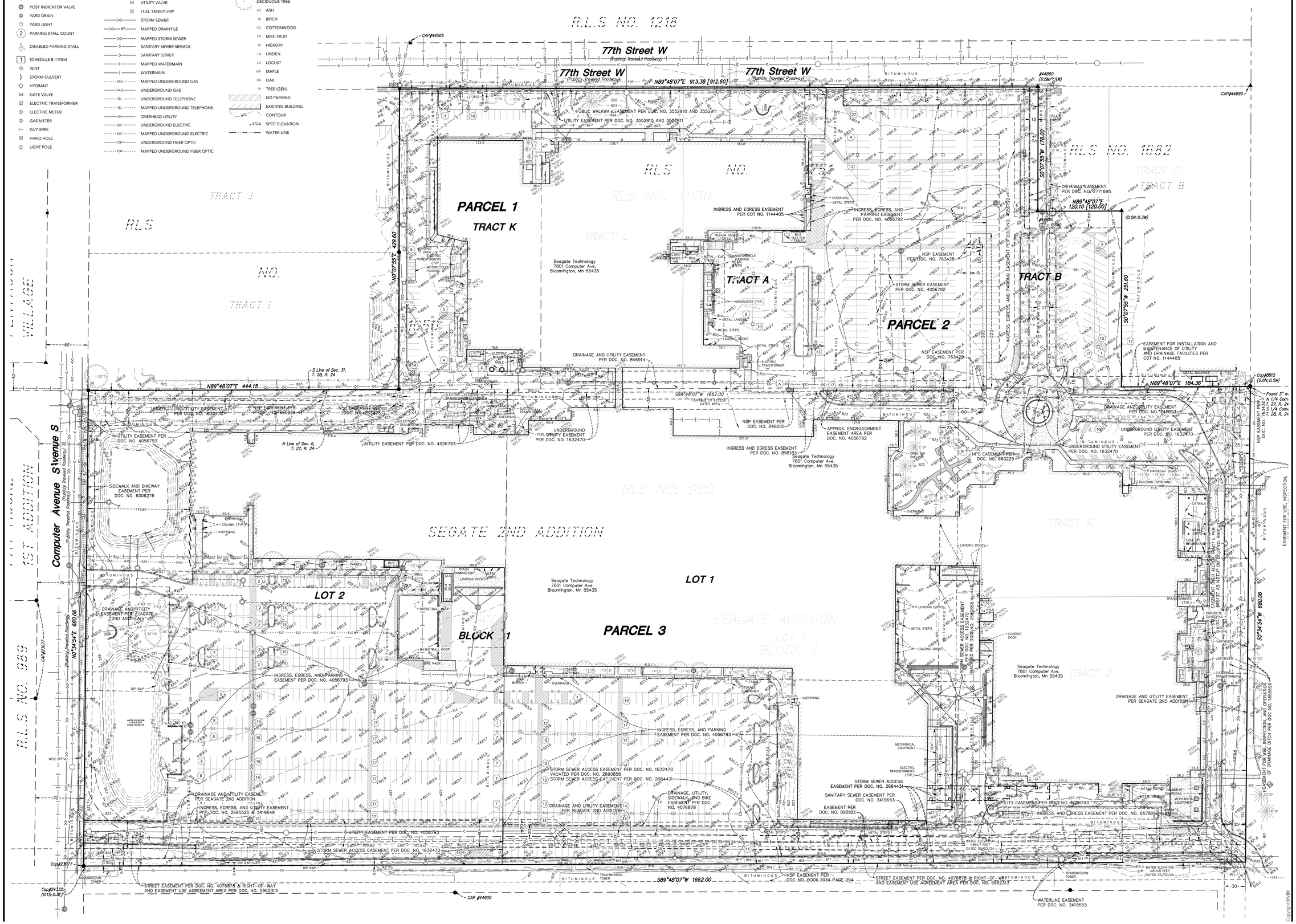
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

N

0 50 100
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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 Registered Professional Engineer under the laws of the State of Minnesota.

Name Zachary B. Moore - PE
Date 05-13-2026 Lic./Reg. No. 58688

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
EXISTING CONDITIONS PLAN

Sheet No.
200.0EX

Copyright BWBR

LEGEND

- FOUND 1/2 INCH OPEN IRON MONUMENT UNLESS SHOWN OTHERWISE
- SET 1/2 INCH X 14 INCH IRON MONUMENT, MARKED "LS 62268"
- FOUND MAG NAIL
- FOUND CHISELED X
- FOUND REBAR
- CATCH BASIN
- STORM MANHOLE
- SANITARY MANHOLE
- SERVICE CLEANOUT
- POST INDICATOR VALVE
- YARD DRAIN
- YARD LIGHT
- (2) PARKING STALL COUNT
- DISABLED PARKING STALL
- [1] SCHEDULE B II ITEM
- VENT
- STORM CULVERT
- HYDRANT
- GATE VALVE
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- GAS METER
- GUY WIRE
- HAND HOLE
- LIGHT POLE
- POWER POLE
- ROOF DRAIN
- TELEPHONE PEDESTAL
- SIGN
- FIRE CONNECTION
- FLAG POLE
- ACCESS POST
- TELEPHONE MANHOLE
- ELECTRIC OUTLET
- UTILITY PEDESTAL
- UTILITY VALVE
- FUEL TANK/PUMP
- STORM SEWER
- MAPPED DRAINTILE
- MAPPED STORM SEWER
- SANITARY SEWER SERVICE
- SANITARY SEWER
- MAPPED WATERMAIN
- WATERMAIN
- MAPPED UNDERGROUND GAS
- UNDERGROUND GAS
- UNDERGROUND TELEPHONE
- MAPPED UNDERGROUND TELEPHONE
- OVERHEAD UTILITY
- UNDERGROUND ELECTRIC
- MAPPED UNDERGROUND ELECTRIC
- UNDERGROUND FIBER OPTIC
- MAPPED UNDERGROUND FIBER OPTIC
- IRON FENCE
- CHAIN LINK FENCE
- CONCRETE CURB
- RETAINING WALL
- CONCRETE
- PAVERS
- TREE LINE
- CONIFEROUS TREE
  - PI PINE
  - SP SPRUCE
- DECIDUOUS TREE
  - AS ASH
  - BI BIRCH
  - CO COTTONWOOD
  - FR MISC FRUIT
  - HI HICKORY
  - LN LINDEN
  - LO LOCUST
  - MA MAPLE
  - OA OAK
  - TR TREE (GEN)
- NO PARKING
- EXISTING BUILDING
- 972 CONTOUR
- ×972.5 SPOT ELEVATION
- WATER LINE

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

SITE DEMOLITION NOTES

1. CONTRACTOR SHALL REMOVE AND/OR RELOCATE EXISTING PRIVATE UTILITIES AS NECESSARY. CONTRACTOR TO COORDINATE ACTIVITIES WITH UTILITY COMPANIES & OWNER.
2. CLEAR AND GRUB AND REMOVE ALL TREES NOTED FOR REMOVAL, VEGETATION AND SITE DEBRIS WITHIN CONSTRUCTION LIMITS PRIOR TO GRADING. STRIP TOP SOIL AND STOCKPILE ON-SITE. ALL REMOVED MATERIAL SHALL BE HAULED FROM THE SITE DAILY. ALL CLEARING AND GRUBBING AND REMOVALS SHALL BE PERFORMED PER THE CONTRACT SPECIFICATIONS. EROSION CONTROL MEASURES SHALL BE IMMEDIATELY ESTABLISHED UPON REMOVAL. SEE THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
3. CONTRACTOR SHALL PROTECT SURFACE AND SUBSURFACE FEATURES NOT NOTED FOR REMOVAL. CONTRACTOR TO NOTIFY ENGINEER WITH ANY CONFLICTS OR PLAN DISCREPANCIES.
4. CONTRACTOR TO SCHEDULE PRE-CONSTRUCTION MEETING(S) WITH UTILITY OWNER(S) TO DISCUSS DISCONNECTIONS AND/OR RELOCATIONS.
5. CONTRACTOR TO VERIFY LOCATION OF SEPTIC FIELD(S) & WELL(S) ON SITE. COORDINATE REMOVALS AND/OR ABANDONMENT WITH THE APPLICABLE GOVERNING AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPLICABLE PERMITS. WELLS ON THE PROPERTY SHALL BE SEALED BY A MINNESOTA DEPARTMENT OF HEALTH (MDH) LICENSED CONTRACTOR.
6. BITUMINOUS PAVEMENT REMOVALS ARE TO BE MADE TO A VERTICAL SAW CUT OR TO A NEAT MILLED EDGE.
7. CONCRETE PAVEMENT, SIDEWALK, CURB & GUTTER AND OTHER POURED CONCRETE ITEMS ARE TO BE REMOVED TO AN EXISTING EXPANSION OR CONTRACTION JOINT. SAW CUT AS NECESSARY FOR A NEAT EDGE OF REMOVAL.
8. ANY DAMAGE TO ITEMS NOT NOTED TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITION WITH NO ADDITIONAL COMPENSATION.
9. CONTRACTOR SHALL COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAY WITH THE APPLICABLE GOVERNING AGENCIES. ALL WORK SHALL BE PERFORMED PER THE REQUIREMENTS OF THE APPLICABLE GOVERNING AGENCIES.
10. CONTRACTOR TO COORDINATE ALL WORK WITHIN THE ADJACENT PROPERTIES WITH THE OWNER AND ADJACENT PROPERTY OWNER.
11. CONTRACTOR TO COORDINATE DEMOLITION PHASING WITH ALL DISCIPLINES INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, & OWNER.
12. REFER TO THE GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR INFORMATION INCLUDING BUT NOT LIMITED TO GROUNDWATER CONDITIONS AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
13. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ANY REPAIRS TO THE IRRIGATION SYSTEM THAT IS AFFECTED DURING CONSTRUCTION.
14. GROUNDWATER REMOVAL IS ANTICIPATED. REFER TO GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR INFORMATION BUT NOT LIMITED TO GROUNDWATER CONDITIONS AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.

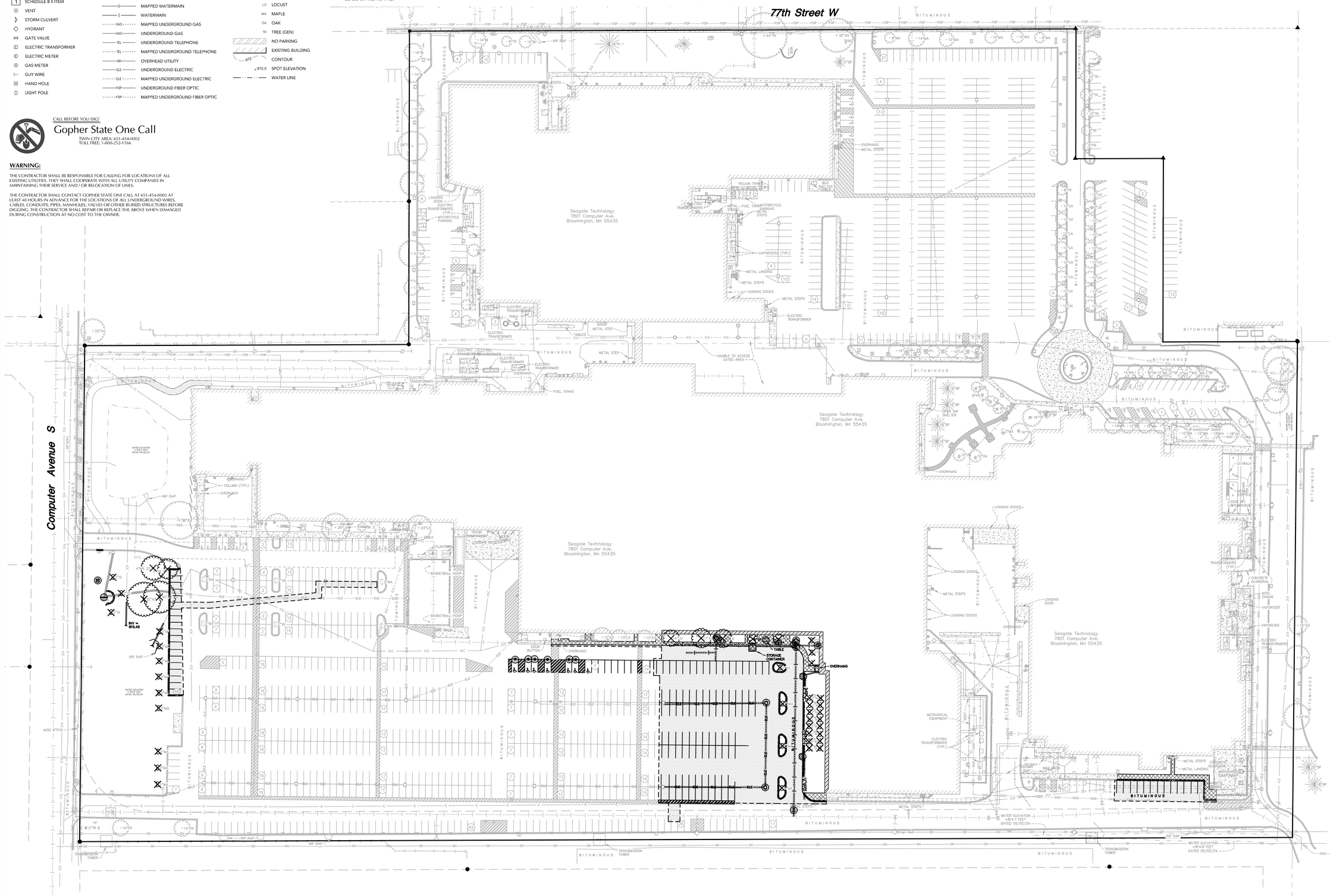
DEMOLITION LEGEND

- REMOVE EXISTING BUILDING
- REMOVE EXISTING BITUMINOUS PAVING
- REMOVE EXISTING CONCRETE PAVING, SIDEWALKS, ETC.
- REMOVE EXISTING CURB & GUTTER, RETAINING WALLS, FENCE, ETC.
- REMOVE EXISTING UTILITIES
- REMOVE EXISTING MANHOLES, POWER POLES, LIGHT POLES, BOLLARDS, PARKING METERS, SIGNS, ETC.
- REMOVE EXISTING TREES
- TREE PROTECTION FENCE

N

0 50 100
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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 Registered Professional Engineer under the laws of the State of Minnesota

Name: Zachary B. Moos - PE
Date: 05-13-2026 Lic./Reg. No. 58688

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL DEMOLITION PLAN OVERALL

Sheet No.
210.0CD

Copyright BWBR

LEGEND

- FOUND 1/2 INCH OPEN IRON MONUMENT UNLESS SHOWN OTHERWISE
- SET 1/2 INCH X 14 INCH IRON MONUMENT, MARKED "LS 62268"
- FOUND MAG NAIL
- FOUND CHISELED X
- FOUND REBAR
- CATCH BASIN
- STORM MANHOLE
- SANITARY MANHOLE
- SERVICE CLEANOUT
- POST INDICATOR VALVE
- YARD DRAIN
- YARD LIGHT
- PARKING STALL COUNT
- DISABLED PARKING STALL
- SCHEDULE B II ITEM
- VENT
- STORM CULVERT
- HYDRANT
- GATE VALVE
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- GAS METER
- GUY WIRE
- HAND HOLE
- LIGHT POLE
- POWER POLE
- ROOF DRAIN
- TELEPHONE PEDESTAL
- SIGN
- FIRE CONNECTION
- FLAG POLE
- ACCESS POST
- TELEPHONE MANHOLE
- ELECTRIC OUTLET
- UTILITY PEDESTAL
- UTILITY VALVE
- FUEL TANK/PUMP
- STORM SEWER
- MAPPED DRAINTILE
- MAPPED STORM SEWER
- SANITARY SEWER SERVICE
- SANITARY SEWER
- MAPPED WATERMAIN
- WATERMAIN
- MAPPED UNDERGROUND GAS
- UNDERGROUND GAS
- UNDERGROUND TELEPHONE
- MAPPED UNDERGROUND TELEPHONE
- OVERHEAD UTILITY
- UNDERGROUND ELECTRIC
- MAPPED UNDERGROUND ELECTRIC
- UNDERGROUND FIBER OPTIC
- MAPPED UNDERGROUND FIBER OPTIC
- IRON FENCE
- CHAIN LINK FENCE
- CONCRETE CURB
- RETAINING WALL
- CONCRETE
- PAVERS
- TREE LINE
- CONIFEROUS TREE
  - PI PINE
  - SP SPRUCE
- DECIDUOUS TREE
  - AS ASH
  - BI BIRCH
  - CO COTTONWOOD
  - FR MISC FRUIT
  - HI HICKORY
  - LN LINDEN
  - LO LOCUST
  - MA MAPLE
  - OA OAK
  - TR TREE (GEN)
- NO PARKING
- EXISTING BUILDING
- 972 CONTOUR
- x972.5 SPOT ELEVATION
- WATER LINE

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

SITE DEMOLITION NOTES

1. CONTRACTOR SHALL REMOVE AND/OR RELOCATE EXISTING PRIVATE UTILITIES AS NECESSARY. CONTRACTOR TO COORDINATE ACTIVITIES WITH UTILITY COMPANIES & OWNER.
2. CLEAR AND GRUB AND REMOVE ALL TREES NOTED FOR REMOVAL, VEGETATION AND SITE DEBRIS WITHIN CONSTRUCTION LIMITS PRIOR TO GRADING. STRIP TOP SOIL AND STOCKPILE ON-SITE. ALL REMOVED MATERIAL SHALL BE HAULED FROM THE SITE DAILY. ALL CLEARING AND GRUBBING AND REMOVALS SHALL BE PERFORMED PER THE CONTRACT SPECIFICATIONS, EROSION CONTROL MEASURES SHALL BE IMMEDIATELY ESTABLISHED UPON REMOVAL. SEE THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
3. CONTRACTOR SHALL PROTECT SURFACE AND SUBSURFACE FEATURES NOT NOTED FOR REMOVAL. CONTRACTOR TO NOTIFY ENGINEER WITH ANY CONFLICTS OR PLAN DISCREPANCIES.
4. CONTRACTOR TO SCHEDULE PRE-CONSTRUCTION MEETING(S) WITH UTILITY OWNER(S) TO DISCUSS DISCONNECTIONS AND/OR RELOCATIONS.
5. CONTRACTOR TO VERIFY LOCATION OF SEPTIC FIELD(S) & WELL(S) ON SITE. COORDINATE REMOVALS AND/OR ABANDONMENT WITH THE APPLICABLE GOVERNING AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPLICABLE PERMITS. WELLS ON THE PROPERTY SHALL BE SEALED BY A MINNESOTA DEPARTMENT OF HEALTH (MDH) LICENSED CONTRACTOR.
6. BITUMINOUS PAVEMENT REMOVALS ARE TO BE MADE TO A VERTICAL SAW CUT OR TO A NEAT MILLED EDGE.
7. CONCRETE PAVEMENT, SIDEWALK, CURB & GUTTER AND OTHER POURED CONCRETE ITEMS ARE TO BE REMOVED TO AN EXISTING EXPANSION OR CONTRACTION JOINT. SAW CUT AS NECESSARY FOR A NEAT EDGE OF REMOVAL.
8. ANY DAMAGE TO ITEMS NOT NOTED TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITION WITH NO ADDITIONAL COMPENSATION.
9. CONTRACTOR SHALL COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAY WITH THE APPLICABLE GOVERNING AGENCIES. ALL WORK SHALL BE PERFORMED PER THE REQUIREMENTS OF THE APPLICABLE GOVERNING AGENCIES.
10. CONTRACTOR TO COORDINATE ALL WORK WITHIN THE ADJACENT PROPERTIES WITH THE OWNER AND ADJACENT PROPERTY OWNER.
11. CONTRACTOR TO COORDINATE DEMOLITION PHASING WITH ALL DISCIPLINES INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, & OWNER.
12. REFER TO THE GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR INFORMATION INCLUDING BUT NOT LIMITED TO GROUNDWATER CONDITIONS AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
13. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ANY REPAIRS TO THE IRRIGATION SYSTEM THAT IS AFFECTED DURING CONSTRUCTION.
14. GROUNDWATER REMOVAL IS ANTICIPATED. REFER TO GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR INFORMATION BUT NOT LIMITED TO GROUNDWATER CONDITIONS AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.

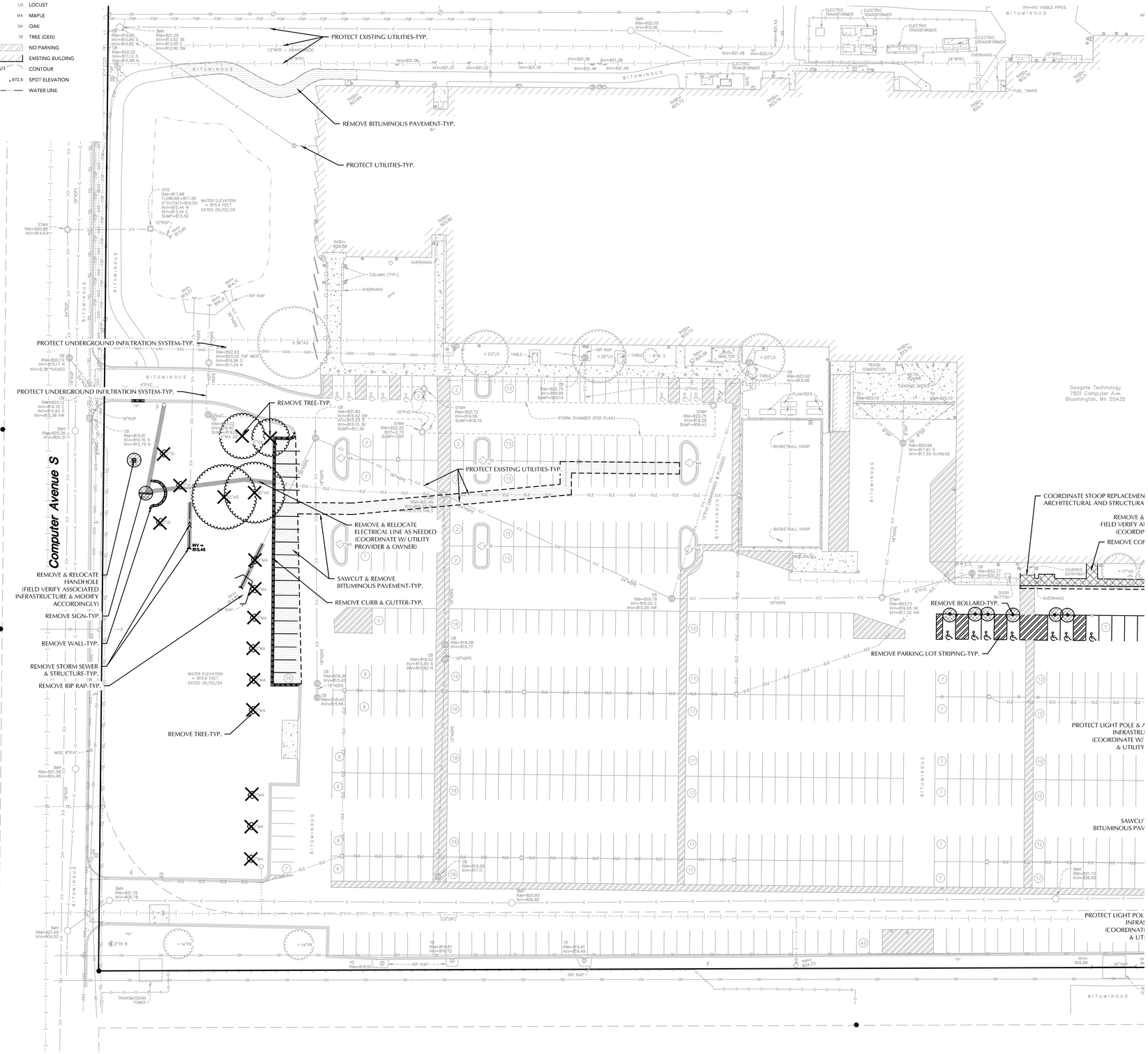
DEMOLITION LEGEND

- REMOVE EXISTING BUILDING
- REMOVE EXISTING BITUMINOUS PAVING
- REMOVE EXISTING CONCRETE PAVING, SIDEWALKS, ETC.
- REMOVE EXISTING CURB & GUTTER, RETAINING WALLS, FENCE, ETC.
- REMOVE EXISTING UTILITIES
- REMOVE EXISTING MANHOLES, POWER POLES, LIGHT POLES, BOLLARDS, PARKING METERS, SIGNS, ETC.
- REMOVE EXISTING TREES
- TREE PROTECTION FENCE

N

0 30 60
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.



Seagate Technology
7801 Computer Ave.
Bloomington, Mn 55435

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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 Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moen - PE

Date **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00 | Drawn ZBM/JRM/MDC

Sheet Title
CIVIL DEMOLITION PLAN WEST

Sheet No.
210.1CD

Copyright BWBR

LEGEND

- FOUND 1/2 INCH OPEN IRON MONUMENT UNLESS SHOWN OTHERWISE
- SET 1/2 INCH X 14 INCH IRON MONUMENT, MARKED "LS 62268"
- FOUND MAG NAIL
- FOUND CHISELED X
- FOUND REBAR
- CATCH BASIN
- STORM MANHOLE
- SANITARY MANHOLE
- SERVICE CLEANOUT
- POST INDICATOR VALVE
- YARD DRAIN
- YARD LIGHT
- (2) PARKING STALL COUNT
- DISABLED PARKING STALL
- [1] SCHEDULE B II ITEM
- VENT
- STORM CULVERT
- HYDRANT
- GATE VALVE
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- GAS METER
- GUY WIRE
- HAND HOLE
- LIGHT POLE
- POWER POLE
- ROOF DRAIN
- TELEPHONE PEDESTAL
- SIGN
- FIRE CONNECTION
- FLAG POLE
- ACCESS POST
- TELEPHONE MANHOLE
- ELECTRIC OUTLET
- UTILITY PEDESTAL
- UTILITY VALVE
- FUEL TANK/PUMP
- STORM SEWER
- MAPPED DRAINTILE
- MAPPED STORM SEWER
- SANITARY SEWER SERVICE
- SANITARY SEWER
- MAPPED WATERMAIN
- WATERMAIN
- MAPPED UNDERGROUND GAS
- UNDERGROUND GAS
- UNDERGROUND TELEPHONE
- MAPPED UNDERGROUND TELEPHONE
- OVERHEAD UTILITY
- UNDERGROUND ELECTRIC
- MAPPED UNDERGROUND ELECTRIC
- UNDERGROUND FIBER OPTIC
- MAPPED UNDERGROUND FIBER OPTIC
- IRON FENCE
- CHAIN LINK FENCE
- CONCRETE CURB
- RETAINING WALL
- CONCRETE
- PAVERS
- TREE LINE
- CONIFEROUS TREE
  - PI PINE
  - SP SPRUCE
- DECIDUOUS TREE
  - AS ASH
  - BI BIRCH
  - CO COTTONWOOD
  - FR MISC FRUIT
  - HI HICKORY
  - LN LINDEN
  - LO LOCUST
  - MA MAPLE
  - OA OAK
  - TR TREE (GEN)
- NO PARKING
- EXISTING BUILDING
- 972 CONTOUR
- x972.5 SPOT ELEVATION
- WATER LINE

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

SITE DEMOLITION NOTES

1. CONTRACTOR SHALL REMOVE AND/OR RELOCATE EXISTING PRIVATE UTILITIES AS NECESSARY. CONTRACTOR TO COORDINATE ACTIVITIES WITH UTILITY COMPANIES & OWNER.
2. CLEAR AND GRUB AND REMOVE ALL TREES NOTED FOR REMOVAL, VEGETATION AND SITE DEBRIS WITHIN CONSTRUCTION LIMITS PRIOR TO GRADING. STRIP TOP SOIL AND STOCKPILE ON-SITE. ALL REMOVED MATERIAL SHALL BE HAULED FROM THE SITE DAILY. ALL CLEARING AND GRUBBING AND REMOVALS SHALL BE PERFORMED PER THE CONTRACT SPECIFICATIONS, EROSION CONTROL MEASURES SHALL BE IMMEDIATELY ESTABLISHED UPON REMOVAL. SEE THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
3. CONTRACTOR SHALL PROTECT SURFACE AND SUBSURFACE FEATURES NOT NOTED FOR REMOVAL. CONTRACTOR TO NOTIFY ENGINEER WITH ANY CONFLICTS OR PLAN DISCREPANCIES.
4. CONTRACTOR TO SCHEDULE PRE-CONSTRUCTION MEETING(S) WITH UTILITY OWNER(S) TO DISCUSS DISCONNECTIONS AND/OR RELOCATIONS.
5. CONTRACTOR TO VERIFY LOCATION OF SEPTIC FIELD(S) & WELL(S) ON SITE. COORDINATE REMOVALS AND/OR ABANDONMENT WITH THE APPLICABLE GOVERNING AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPLICABLE PERMITS. WELLS ON THE PROPERTY SHALL BE SEALED BY A MINNESOTA DEPARTMENT OF HEALTH (MDH) LICENSED CONTRACTOR.
6. BITUMINOUS PAVEMENT REMOVALS ARE TO BE MADE TO A VERTICAL SAW CUT OR TO A NEAT MILLED EDGE.
7. CONCRETE PAVEMENT, SIDEWALK, CURB & GUTTER AND OTHER POURED CONCRETE ITEMS ARE TO BE REMOVED TO AN EXISTING EXPANSION OR CONTRACTION JOINT. SAW CUT AS NECESSARY FOR A NEAT EDGE OF REMOVAL.
8. ANY DAMAGE TO ITEMS NOT NOTED TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITION WITH NO ADDITIONAL COMPENSATION.
9. CONTRACTOR SHALL COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAY WITH THE APPLICABLE GOVERNING AGENCIES. ALL WORK SHALL BE PERFORMED PER THE REQUIREMENTS OF THE APPLICABLE GOVERNING AGENCIES.
10. CONTRACTOR TO COORDINATE ALL WORK WITHIN THE ADJACENT PROPERTIES WITH THE OWNER AND ADJACENT PROPERTY OWNER.
11. CONTRACTOR TO COORDINATE DEMOLITION PHASING WITH ALL DISCIPLINES INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, & OWNER.
12. REFER TO THE GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR INFORMATION INCLUDING BUT NOT LIMITED TO GROUNDWATER CONDITIONS AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
13. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ANY REPAIRS TO THE IRRIGATION SYSTEM THAT IS AFFECTED DURING CONSTRUCTION.
14. GROUNDWATER REMOVAL IS ANTICIPATED. REFER TO GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR INFORMATION BUT NOT LIMITED TO GROUNDWATER CONDITIONS AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.

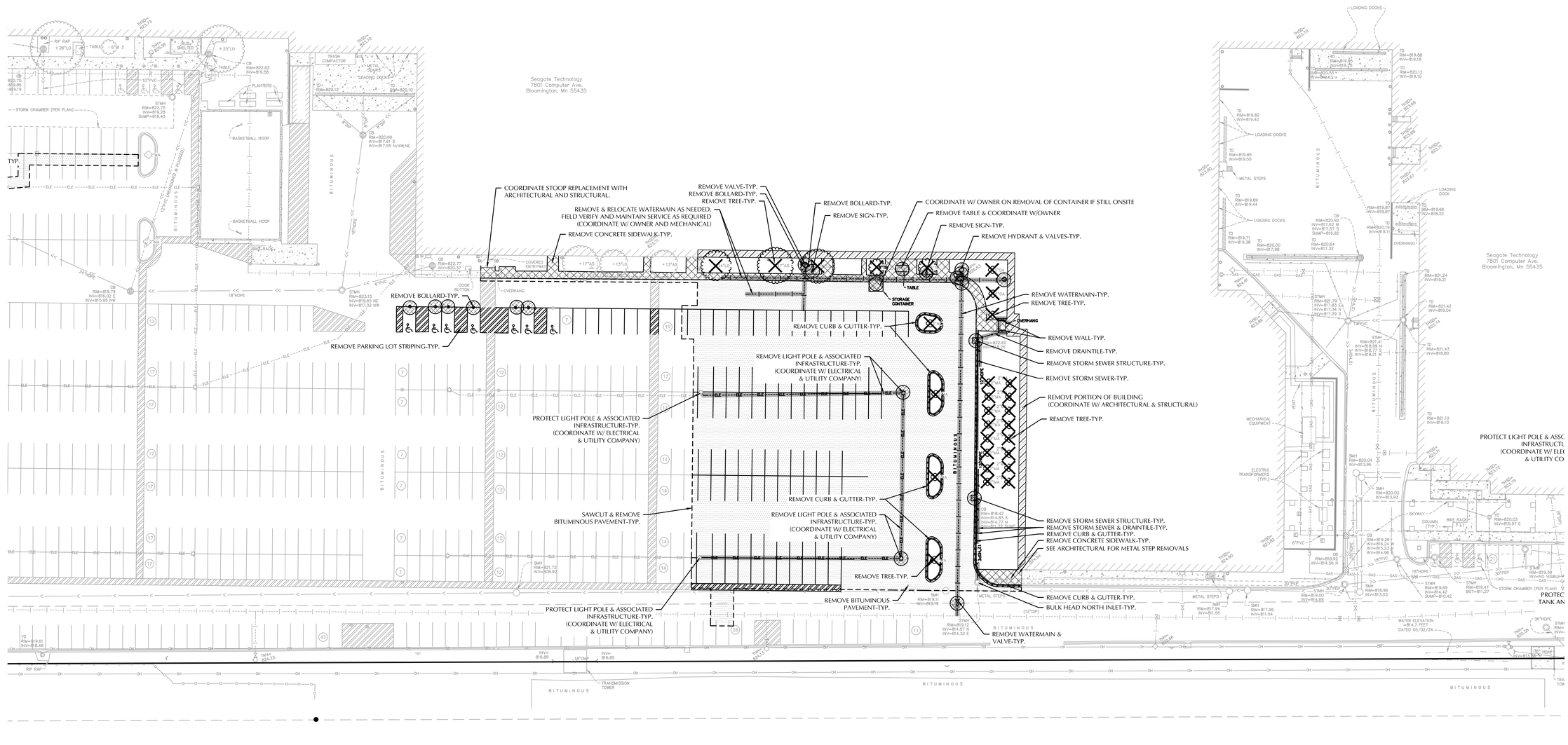
DEMOLITION LEGEND

- REMOVE EXISTING BUILDING
- REMOVE EXISTING BITUMINOUS PAVING
- REMOVE EXISTING CONCRETE PAVING, SIDEWALKS, ETC.
- REMOVE EXISTING CURB & GUTTER, RETAINING WALLS, FENCE, ETC.
- REMOVE EXISTING UTILITIES
- REMOVE EXISTING MANHOLES, POWER POLES, LIGHT POLES, BOLLARDS, PARKING METERS, SIGNS, ETC.
- REMOVE EXISTING TREES
- TREE PROTECTION FENCE

N

0 30 60
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.



Copyright BWBR

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE

12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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 Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moore - PE

Date **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00

Drawn ZBM/JRM/MDC

Sheet Title
CIVIL DEMOLITION PLAN EAST

Sheet No.
210.2CD

LEGEND

- FOUND 1/2 INCH OPEN IRON MONUMENT UNLESS SHOWN OTHERWISE
- SET 1/2 INCH X 14 INCH IRON MONUMENT, MARKED "LS 62268"
- FOUND MAG NAIL
- FOUND CHISELED X
- FOUND REBAR
- CATCH BASIN
- STORM MANHOLE
- SANITARY MANHOLE
- SERVICE CLEANOUT
- POST INDICATOR VALVE
- YARD DRAIN
- YARD LIGHT
- PARKING STALL COUNT
- DISABLED PARKING STALL
- SCHEDULE B II ITEM
- VENT
- STORM CULVERT
- HYDRANT
- GATE VALVE
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- GAS METER
- GUY WIRE
- HAND HOLE
- LIGHT POLE
- POWER POLE
- ROOF DRAIN
- TELEPHONE PEDESTAL
- SIGN
- FIRE CONNECTION
- FLAG POLE
- ACCESS POST
- TELEPHONE MANHOLE
- ELECTRIC OUTLET
- UTILITY PEDESTAL
- UTILITY VALVE
- FUEL TANK/PUMP
- STORM SEWER
- MAPPED DRAINTILE
- MAPPED STORM SEWER
- SANITARY SEWER SERVICE
- SANITARY SEWER
- MAPPED WATERMAIN
- WATERMAIN
- MAPPED UNDERGROUND GAS
- UNDERGROUND GAS
- UNDERGROUND TELEPHONE
- MAPPED UNDERGROUND TELEPHONE
- OVERHEAD UTILITY
- UNDERGROUND ELECTRIC
- MAPPED UNDERGROUND ELECTRIC
- UNDERGROUND FIBER OPTIC
- MAPPED UNDERGROUND FIBER OPTIC
- IRON FENCE
- CHAIN LINK FENCE
- CONCRETE CURB
- RETAINING WALL
- CONCRETE
- PAVERS
- TREE LINE
- CONIFEROUS TREE
  - PI PINE
  - SP SPRUCE
- DECIDUOUS TREE
  - AS ASH
  - BI BIRCH
  - CO COTTONWOOD
  - FR MISC FRUIT
  - HI HICKORY
  - LN LINDEN
  - LO LOCUST
  - MA MAPLE
  - OA OAK
  - TR TREE (GEN)
- NO PARKING
- EXISTING BUILDING
- 972 CONTOUR
- ×972.5 SPOT ELEVATION
- WATER LINE

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

SITE DEMOLITION NOTES

1. CONTRACTOR SHALL REMOVE AND/OR RELOCATE EXISTING PRIVATE UTILITIES AS NECESSARY. CONTRACTOR TO COORDINATE ACTIVITIES WITH UTILITY COMPANIES & OWNER.
2. CLEAR AND GRUB AND REMOVE ALL TREES NOTED FOR REMOVAL, VEGETATION AND SITE DEBRIS WITHIN CONSTRUCTION LIMITS PRIOR TO GRADING. STRIP TOP SOIL AND STOCKPILE ON-SITE. ALL REMOVED MATERIAL SHALL BE HAULED FROM THE SITE DAILY. ALL CLEARING AND GRUBBING AND REMOVALS SHALL BE PERFORMED PER THE CONTRACT SPECIFICATIONS. EROSION CONTROL MEASURES SHALL BE IMMEDIATELY ESTABLISHED UPON REMOVAL. SEE THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
3. CONTRACTOR SHALL PROTECT SURFACE AND SUBSURFACE FEATURES NOT NOTED FOR REMOVAL. CONTRACTOR TO NOTIFY ENGINEER WITH ANY CONFLICTS OR PLAN DISCREPANCIES.
4. CONTRACTOR TO SCHEDULE PRE-CONSTRUCTION MEETING(S) WITH UTILITY OWNER(S) TO DISCUSS DISCONNECTIONS AND/OR RELOCATIONS.
5. CONTRACTOR TO VERIFY LOCATION OF SEPTIC FIELD(S) & WELL(S) ON SITE. COORDINATE REMOVALS AND/OR ABANDONMENT WITH THE APPLICABLE GOVERNING AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPLICABLE PERMITS. WELLS ON THE PROPERTY SHALL BE SEALED BY A MINNESOTA DEPARTMENT OF HEALTH (MDH) LICENSED CONTRACTOR.
6. BITUMINOUS PAVEMENT REMOVALS ARE TO BE MADE TO A VERTICAL SAW CUT OR TO A NEAT MILLED EDGE.
7. CONCRETE PAVEMENT, SIDEWALK, CURB & GUTTER AND OTHER POURED CONCRETE ITEMS ARE TO BE REMOVED TO AN EXISTING EXPANSION OR CONTRACTION JOINT. SAW CUT AS NECESSARY FOR A NEAT EDGE OF REMOVAL.
8. ANY DAMAGE TO ITEMS NOT NOTED TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITION WITH NO ADDITIONAL COMPENSATION.
9. CONTRACTOR SHALL COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAY WITH THE APPLICABLE GOVERNING AGENCIES. ALL WORK SHALL BE PERFORMED PER THE REQUIREMENTS OF THE APPLICABLE GOVERNING AGENCIES.
10. CONTRACTOR TO COORDINATE ALL WORK WITHIN THE ADJACENT PROPERTIES WITH THE OWNER AND ADJACENT PROPERTY OWNER.
11. CONTRACTOR TO COORDINATE DEMOLITION PHASING WITH ALL DISCIPLINES INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, & OWNER.
12. REFER TO THE GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR INFORMATION INCLUDING BUT NOT LIMITED TO GROUNDWATER CONDITIONS AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
13. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ANY REPAIRS TO THE IRRIGATION SYSTEM THAT IS AFFECTED DURING CONSTRUCTION.
14. GROUNDWATER REMOVAL IS ANTICIPATED. REFER TO GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR INFORMATION BUT NOT LIMITED TO GROUNDWATER CONDITIONS AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.

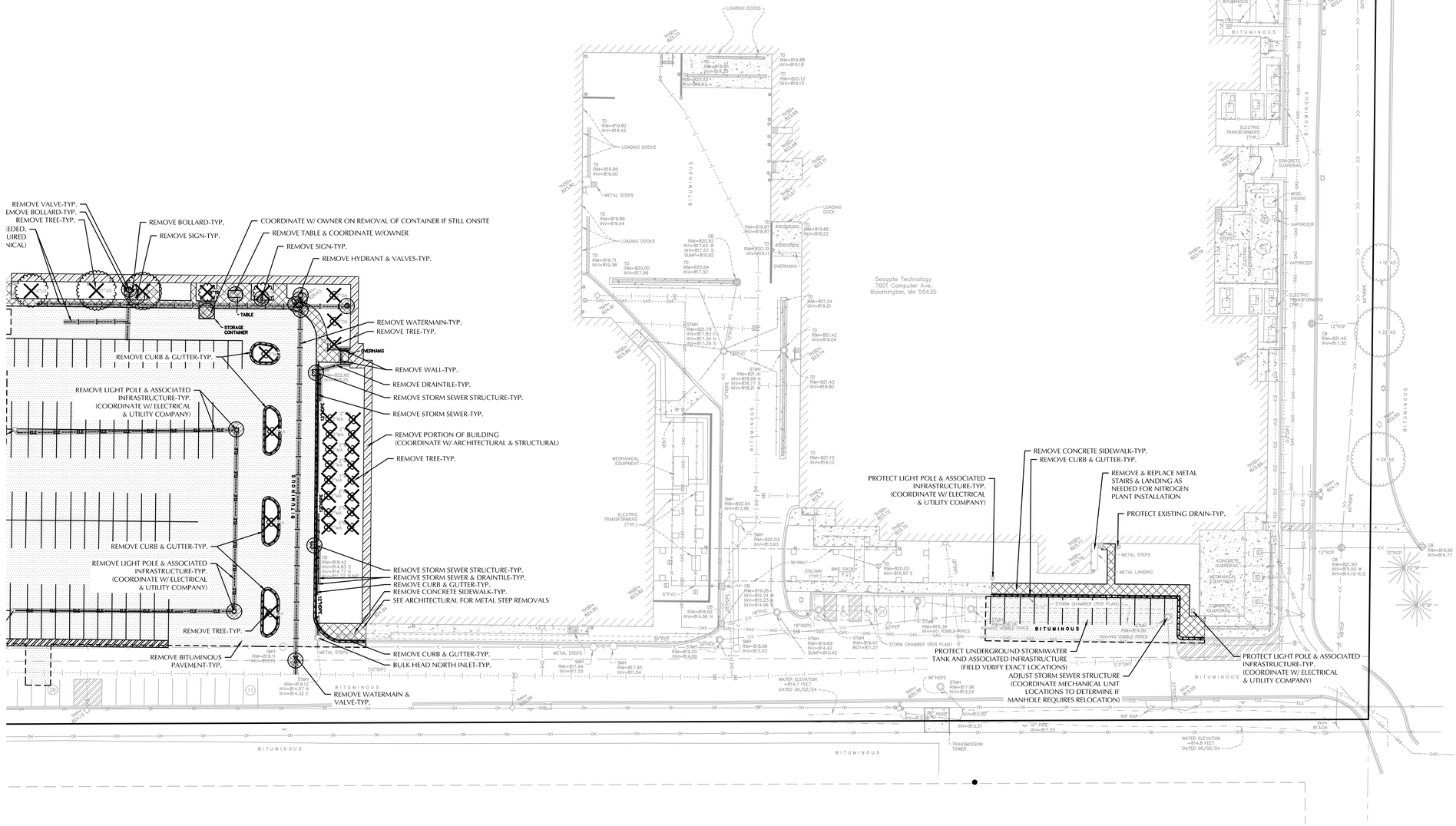
DEMOLITION LEGEND

- REMOVE EXISTING BUILDING
- REMOVE EXISTING BITUMINOUS PAVING
- REMOVE EXISTING CONCRETE PAVING, SIDEWALKS, ETC.
- REMOVE EXISTING CURB & GUTTER, RETAINING WALLS, FENCE, ETC.
- REMOVE EXISTING UTILITIES
- REMOVE EXISTING MANHOLES, POWER POLES, LIGHT POLES, BOLLARDS, PARKING METERS, SIGNS, ETC.
- REMOVE EXISTING TREES
- TREE PROTECTION FENCE

N

0 30 60
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.



Copyright BWBR

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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 Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moore - PE
Date **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

FOR REFERENCE ONLY

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL DEMOLITION PLAN NITROGEN PLANT

Sheet No.
210.3CD

SITE NOTES

1. ALL PAVING, CONCRETE CURB, GUTTER AND SIDEWALK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN PER THE DETAIL SHEET(S) AND APPLICABLE GOVERNING AGENCY REQUIREMENTS.
2. ACCESSIBLE PARKING AND ACCESSIBLE ROUTES SHALL BE PROVIDED PER CURRENT ADA STANDARDS AND APPLICABLE GOVERNING AGENCY REQUIREMENTS.
3. ALL CURB DIMENSIONS SHOWN ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
4. ALL BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF WALL UNLESS OTHERWISE NOTED.
5. TYPICAL FULL SIZED PARKING STALL IS 9' X 18 UNLESS OTHERWISE NOTED.
6. ALL CURB RADII SHALL BE 5.0' UNLESS OTHERWISE NOTED.
7. BITUMINOUS IMPREGNATED FIBER BOARD TO BE PLACED AT FULL DEPTH OF CONCRETE ADJACENT TO EXISTING STRUCTURES AND BEHIND CURB ADJACENT TO DRIVEWAYS AND SIDEWALKS.
8. SEE SITE ELECTRICAL PLAN FOR SITE LIGHTING.
9. REFER TO THE GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   a. REUSE OF ONSITE SOILS
   b. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
      GROUNDWATER REMOVAL IS ANTICIPATED.
   c. SITE GRADING AND SUBGRADE PREPARATION.
   d. PAVEMENTS AND EXTERIOR SLABS.
   e. TRENCH EXCAVATION AND BACKFILL
   f. FROST PROTECTION

SIGNAGE AND STRIPING NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE SIGNAGE AND STRIPING AS SHOWN ON THIS PLAN.
2. CONTRACTOR SHALL PAINT ALL ACCESSIBLE STALLS, LOGOS AND CROSS HATCH LOADING AISLES WITH WHITE PAVEMENT MARKING PAINT, 4" IN WIDTH.
3. CONTRACTOR SHALL PAINT ANY/ALL DIRECTIONAL TRAFFIC ARROWS, AS SHOWN, IN WHITE PAINT.
4. ALL SIGNAGE SHALL INCLUDE POST, CONCRETE FOOTING AND STEEL CASING WHERE REQUIRED.
5. ALL SIGNAGE NOT PROTECTED BY CURB, LOCATED IN PARKING LOT OR OTHER PAVED AREAS TO BE PLACED IN STEEL CASING, FILLED WITH CONCRETE AND PAINTED YELLOW. REFER TO DETAIL(S).
6. ANY/ALL STOP SIGNS TO INCLUDE A 24" WIDE PAINTED STOP BAR IN WHITE PAINT, PLACED AT THE STOP SIGN LOCATION, A MINIMUM OF 4' FROM CROSSWALK IF APPLICABLE. ALL STOP BARS SHALL EXTEND FROM DIRECTIONAL TRANSITION BETWEEN LANES TO CURB.
7. ALL SIGNS TO BE PLACED 18" BEHIND BACK OF CURB UNLESS OTHERWISE NOTED.
8. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE. USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

SITE DATA

CURRENT ZONING: IT - INNOVATION AND TECHNOLOGY
PROPOSED ZONING: IT - INNOVATION AND TECHNOLOGY

PROPERTY AREA (GROSS): 34.05 ± AC

DISTURBED AREA: 2.47 ± AC
EXISTING IMPERVIOUS AREA: 1.36 ± AC (55.1%)*
PROPOSED IMPERVIOUS AREA: 1.35 ± AC (54.7%)*

*IMPERVIOUS AREAS BASED ON DISTURBED AREA ONLY

DEVELOPMENT AND DESIGN STANDARDS

YARD (BUILDING) SETBACKS:

FRONT	20 FT MINIMUM
SIDE	25 FT MINIMUM
SIDE (RESIDENTIAL)	50 FT MINIMUM
REAR	25 FT MINIMUM

OFF-STREET PARKING SETBACKS:

FRONT	20 FT MINIMUM
SIDE	5 FT MINIMUM

MINIMUM PARKING LAYOUT DIMENSIONS (90 DEGREE PATTERN):

PARKING SPACE WIDTH	= 9 FT
PARKING SPACE LENGTH	= 18 FT
DRIVE LANE WIDTH	= 24 FT

OFF-STREET PARKING CALCULATIONS

EXISTING CAMPUS PARKING (EXCLUDING ROW PARKING)	= 1,046 STALLS
PARKING REMOVED	= -132 STALLS
TOTAL PARKING PROVIDED	= 914 STALLS (INCLUDING ADA STALLS)

PAVEMENT TYPES

- CONCRETE SIDEWALK
- CONCRETE PAVEMENT
- LIGHT DUTY BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT

NOTE:
SEE PAVEMENT SECTIONS FOR TYPE AND DEPTH INFORMATION.

CURB TYPES

- B612 CURB & GUTTER (STANDARD)
- B612 CURB & GUTTER (TIP OUT)
- FLAT CURB & GUTTER (STANDARD)
- FLAT CURB & GUTTER (TIP OUT)
- SURMOUNTABLE CURB & GUTTER (STANDARD)
- SURMOUNTABLE CURB & GUTTER (TIP OUT)

NOTE:
SEE CURB & GUTTER DETAILS

CALL BEFORE YOU DIG!
Gopher State One Call
TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

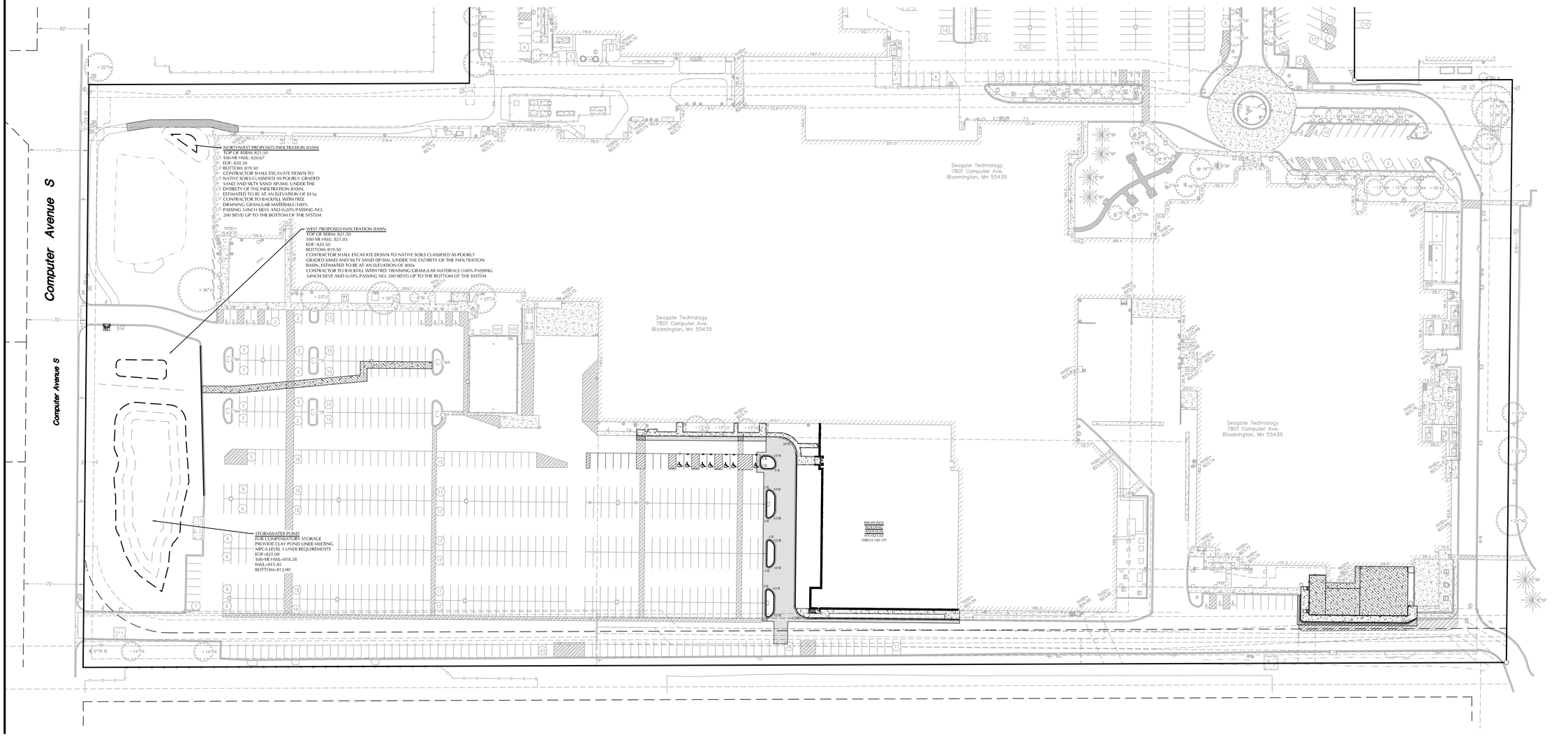
N

0 50 100
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
SS	STORM SEWER	
DT	DRAINTILE	DT
SA	SANITARY SEWER	
FM	FORCEMAIN	FM
W	WATERMAIN	
S	SANITARY SEWER SERVICE	
W	WATER SERVICE	
ELE	UNDERGROUND ELECTRIC	ELE
FO	UNDERGROUND FIBER OPTIC	FO
GAS	UNDERGROUND GAS	GAS
TEL	UNDERGROUND TELEPHONE	TEL
OH	OVERHEAD UTILITY	OH
X	FENCE	
O	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
972	CONTOUR	972
972.5	SPOT ELEVATION	972.5
	DIRECTION OF FLOW	1.0%
	TREE LINE	
PSBL	PARKING SETBACK LINE	PSBL
BSBL	BUILDING SETBACK LINE	BSBL



Copyright BWBR

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name: Zachary B. Moore - PE
Date: **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL SITE PLAN OVERALL

Sheet No.
220.0CS

SITE NOTES

1. ALL PAVING, CONCRETE CURB, GUTTER AND SIDEWALK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN PER THE DETAIL SHEET(S) AND APPLICABLE GOVERNING AGENCY REQUIREMENTS.
2. ACCESSIBLE PARKING AND ACCESSIBLE ROUTES SHALL BE PROVIDED PER CURRENT ADA STANDARDS AND APPLICABLE GOVERNING AGENCY REQUIREMENTS.
3. ALL CURB DIMENSIONS SHOWN ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
4. ALL BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF WALL UNLESS OTHERWISE NOTED.
5. TYPICAL FULL SIZED PARKING STALL IS 9' X 18 UNLESS OTHERWISE NOTED.
6. ALL CURB RADII SHALL BE 5.0' UNLESS OTHERWISE NOTED.
7. BITUMINOUS IMPREGNATED FIBER BOARD TO BE PLACED AT FULL DEPTH OF CONCRETE ADJACENT TO EXISTING STRUCTURES AND BEHIND CURB ADJACENT TO DRIVEWAYS AND SIDEWALKS.
8. SEE SITE ELECTRICAL PLAN FOR SITE LIGHTING.
9. REFER TO THE GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   a. REUSE OF ONSITE SOILS
   b. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
      GROUNDWATER REMOVAL IS ANTICIPATED.
   c. SITE GRADING AND SUBGRADE PREPARATION.
   d. PAVEMENTS AND EXTERIOR SLABS.
   e. TRENCH EXCAVATION AND BACKFILL
   f. FROST PROTECTION

SIGNAGE AND STRIPING NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE SIGNAGE AND STRIPING AS SHOWN ON THIS PLAN.
2. CONTRACTOR SHALL PAINT ALL ACCESSIBLE STALLS, LOGOS AND CROSS HATCH LOADING AISLES WITH WHITE PAVEMENT MARKING PAINT, 4" IN WIDTH.
3. CONTRACTOR SHALL PAINT ANY/ALL DIRECTIONAL TRAFFIC ARROWS, AS SHOWN, IN WHITE PAINT.
4. ALL SIGNAGE SHALL INCLUDE POST, CONCRETE FOOTING AND STEEL CASING WHERE REQUIRED.
5. ALL SIGNAGE NOT PROTECTED BY CURB, LOCATED IN PARKING LOT OR OTHER PAVED AREAS TO BE PLACED IN STEEL CASING, FILLED WITH CONCRETE AND PAINTED YELLOW. REFER TO DETAIL(S).
6. ANY/ALL STOP SIGNS TO INCLUDE A 24" WIDE PAINTED STOP BAR IN WHITE PAINT, PLACED AT THE STOP SIGN LOCATION, A MINIMUM OF 4' FROM CROSSWALK IF APPLICABLE. ALL STOP BARS SHALL EXTEND FROM DIRECTIONAL TRANSITION BETWEEN LANES TO CURB.
7. ALL SIGNS TO BE PLACED 18" BEHIND BACK OF CURB UNLESS OTHERWISE NOTED.
8. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE. USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

SITE DATA

CURRENT ZONING: IT - INNOVATION AND TECHNOLOGY
PROPOSED ZONING: IT - INNOVATION AND TECHNOLOGY

PROPERTY AREA (GROSS): 34.05 ± AC

DISTURBED AREA: 2.47 ± AC
EXISTING IMPERVIOUS AREA: 1.36 ± AC (55.1%)*
PROPOSED IMPERVIOUS AREA: 1.35 ± AC (54.7%)*

*IMPERVIOUS AREAS BASED ON DISTURBED AREA ONLY

DEVELOPMENT AND DESIGN STANDARDS

YARD (BUILDING) SETBACKS:

FRONT	20 FT MINIMUM
SIDE	25 FT MINIMUM
SIDE (RESIDENTIAL)	50 FT MINIMUM
REAR	25 FT MINIMUM

OFF-STREET PARKING SETBACKS:

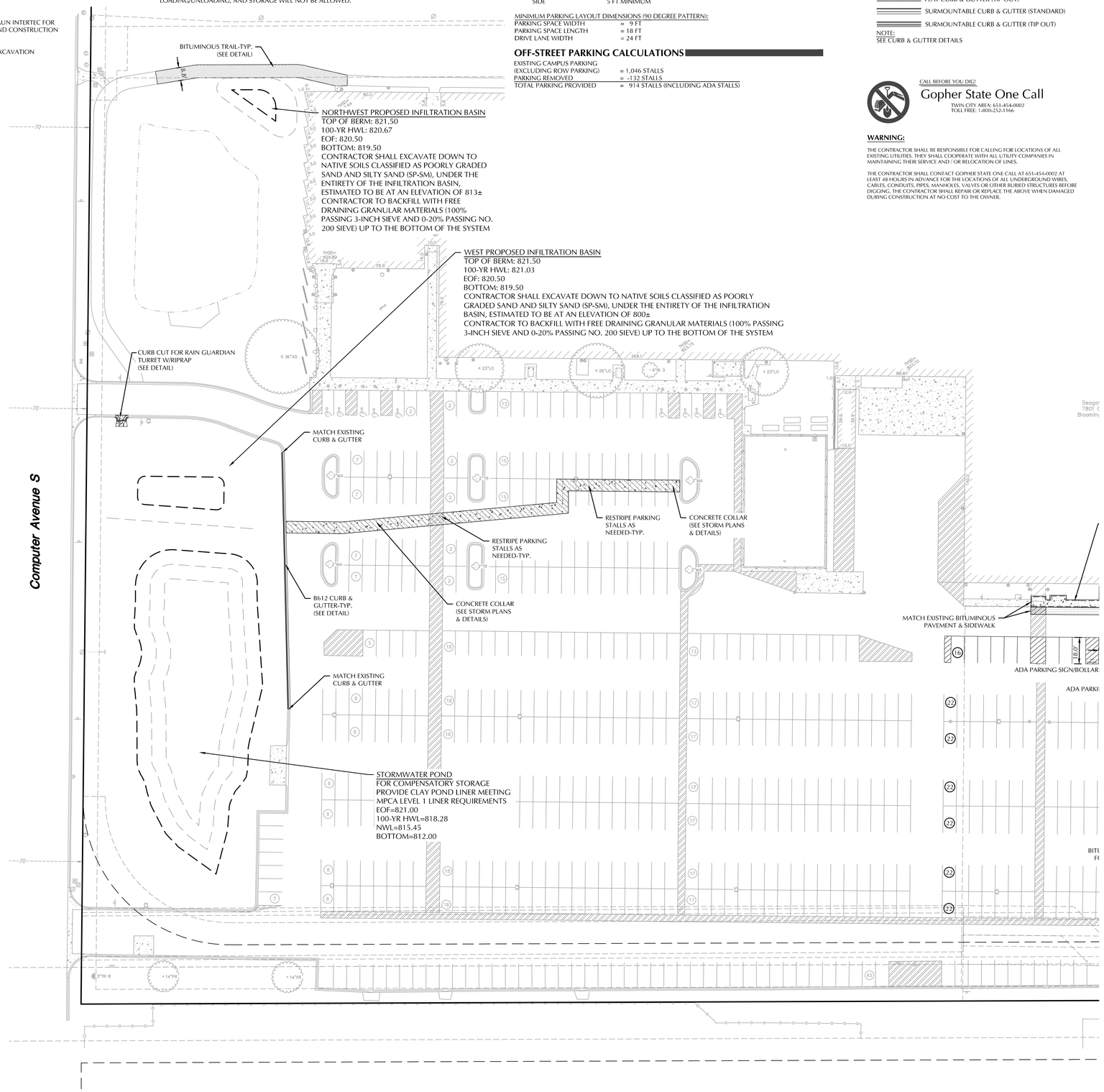
FRONT	20 FT MINIMUM
SIDE	5 FT MINIMUM

MINIMUM PARKING LAYOUT DIMENSIONS (90 DEGREE PATTERN):

PARKING SPACE WIDTH	= 9 FT
PARKING SPACE LENGTH	= 18 FT
DRIVE LANE WIDTH	= 24 FT

OFF-STREET PARKING CALCULATIONS

EXISTING CAMPUS PARKING (EXCLUDING ROW PARKING)	= 1,046 STALLS
PARKING REMOVED	= -132 STALLS
TOTAL PARKING PROVIDED	= 914 STALLS (INCLUDING ADA STALLS)



PAVEMENT TYPES

- CONCRETE SIDEWALK
- CONCRETE PAVEMENT
- LIGHT DUTY BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT

NOTE:
SEE PAVEMENT SECTIONS FOR TYPE AND DEPTH INFORMATION.

CURB TYPES

- B612 CURB & GUTTER (STANDARD)
- B612 CURB & GUTTER (TIP OUT)
- FLAT CURB & GUTTER (STANDARD)
- FLAT CURB & GUTTER (TIP OUT)
- SURMOUNTABLE CURB & GUTTER (STANDARD)
- SURMOUNTABLE CURB & GUTTER (TIP OUT)

NOTE:
SEE CURB & GUTTER DETAILS

CALL BEFORE YOU DIG!
Gopher State One Call
TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

N
0 30 60
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SEWER SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
	CONTOUR	
	SPOT ELEVATION	
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

B|W|B|R
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants
LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota.

Name: Zachary B. Moen - PE
Date 05-13-2026 Lic./Reg. No. 58688

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL SITE PLAN WEST

Sheet No.
220.1CS

Copyright BWBR

SITE NOTES

1. ALL PAVING, CONCRETE CURB, GUTTER AND SIDEWALK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN PER THE DETAIL SHEET(S) AND APPLICABLE GOVERNING AGENCY REQUIREMENTS.
2. ACCESSIBLE PARKING AND ACCESSIBLE ROUTES SHALL BE PROVIDED PER CURRENT ADA STANDARDS AND APPLICABLE GOVERNING AGENCY REQUIREMENTS.
3. ALL CURB DIMENSIONS SHOWN ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
4. ALL BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF WALL UNLESS OTHERWISE NOTED.
5. TYPICAL FULL SIZED PARKING STALL IS 9' X 18 UNLESS OTHERWISE NOTED.
6. ALL CURB RADII SHALL BE 5.0' UNLESS OTHERWISE NOTED.
7. BITUMINOUS IMPREGNATED FIBER BOARD TO BE PLACED AT FULL DEPTH OF CONCRETE ADJACENT TO EXISTING STRUCTURES AND BEHIND CURB ADJACENT TO DRIVEWAYS AND SIDEWALKS.
8. SEE SITE ELECTRICAL PLAN FOR SITE LIGHTING.
9. REFER TO THE GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   a. REUSE OF ONSITE SOILS
   b. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
      GROUNDWATER REMOVAL IS ANTICIPATED.
   c. SITE GRADING AND SUBGRADE PREPARATION.
   d. PAVEMENTS AND EXTERIOR SLABS.
   e. TRENCH EXCAVATION AND BACKFILL
   f. FROST PROTECTION

SIGNAGE AND STRIPING NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE SIGNAGE AND STRIPING AS SHOWN ON THIS PLAN.
2. CONTRACTOR SHALL PAINT ALL ACCESSIBLE STALLS, LOGOS AND CROSS HATCH LOADING AISLES WITH WHITE PAVEMENT MARKING PAINT, 4" IN WIDTH.
3. CONTRACTOR SHALL PAINT ANY/ALL DIRECTIONAL TRAFFIC ARROWS, AS SHOWN, IN WHITE PAINT.
4. ALL SIGNAGE SHALL INCLUDE POST, CONCRETE FOOTING AND STEEL CASING WHERE REQUIRED.
5. ALL SIGNAGE NOT PROTECTED BY CURB, LOCATED IN PARKING LOT OR OTHER PAVED AREAS TO BE PLACED IN STEEL CASING, FILLED WITH CONCRETE AND PAINTED YELLOW. REFER TO DETAIL(S).
6. ANY/ALL STOP SIGNS TO INCLUDE A 24" WIDE PAINTED STOP BAR IN WHITE PAINT, PLACED AT THE STOP SIGN LOCATION, A MINIMUM OF 4' FROM CROSSWALK IF APPLICABLE. ALL STOP BARS SHALL EXTEND FROM DIRECTIONAL TRANSITION BETWEEN LANES TO CURB.
7. ALL SIGNS TO BE PLACED 18" BEHIND BACK OF CURB UNLESS OTHERWISE NOTED.
8. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE. USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

SITE DATA

CURRENT ZONING: IT - INNOVATION AND TECHNOLOGY
PROPOSED ZONING: IT - INNOVATION AND TECHNOLOGY

PROPERTY AREA (GROSS): 34.05 ± AC

DISTURBED AREA: 2.47 ± AC
EXISTING IMPERVIOUS AREA: 1.36 ± AC (55.1%)*
PROPOSED IMPERVIOUS AREA: 1.35 ± AC (54.7%)*

*IMPERVIOUS AREAS BASED ON DISTURBED AREA ONLY

DEVELOPMENT AND DESIGN STANDARDS

YARD (BUILDING) SETBACKS:
FRONT 20 FT MINIMUM
SIDE 25 FT MINIMUM
SIDE (RESIDENTIAL) 50 FT MINIMUM
REAR 25 FT MINIMUM

OFF-STREET PARKING SETBACKS:
FRONT 20 FT MINIMUM
SIDE 5 FT MINIMUM

MINIMUM PARKING LAYOUT DIMENSIONS (90 DEGREE PATTERN):
PARKING SPACE WIDTH = 9 FT
PARKING SPACE LENGTH = 18 FT
DRIVE LANE WIDTH = 24 FT

OFF-STREET PARKING CALCULATIONS

EXISTING CAMPUS PARKING
(EXCLUDING ROW PARKING) = 1,046 STALLS
PARKING REMOVED = -132 STALLS
TOTAL PARKING PROVIDED = 914 STALLS (INCLUDING ADA STALLS)

PAVEMENT TYPES

CONCRETE SIDEWALK
CONCRETE PAVEMENT
LIGHT DUTY BITUMINOUS PAVEMENT
HEAVY DUTY BITUMINOUS PAVEMENT

NOTE:
SEE PAVEMENT SECTIONS FOR TYPE AND DEPTH INFORMATION.

CURB TYPES

B612 CURB & GUTTER (STANDARD)
B612 CURB & GUTTER (TIP OUT)
FLAT CURB & GUTTER (STANDARD)
FLAT CURB & GUTTER (TIP OUT)
SURMOUNTABLE CURB & GUTTER (STANDARD)
SURMOUNTABLE CURB & GUTTER (TIP OUT)

NOTE:
SEE CURB & GUTTER DETAILS

CALL BEFORE YOU DIG!
Gopher State One Call
TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

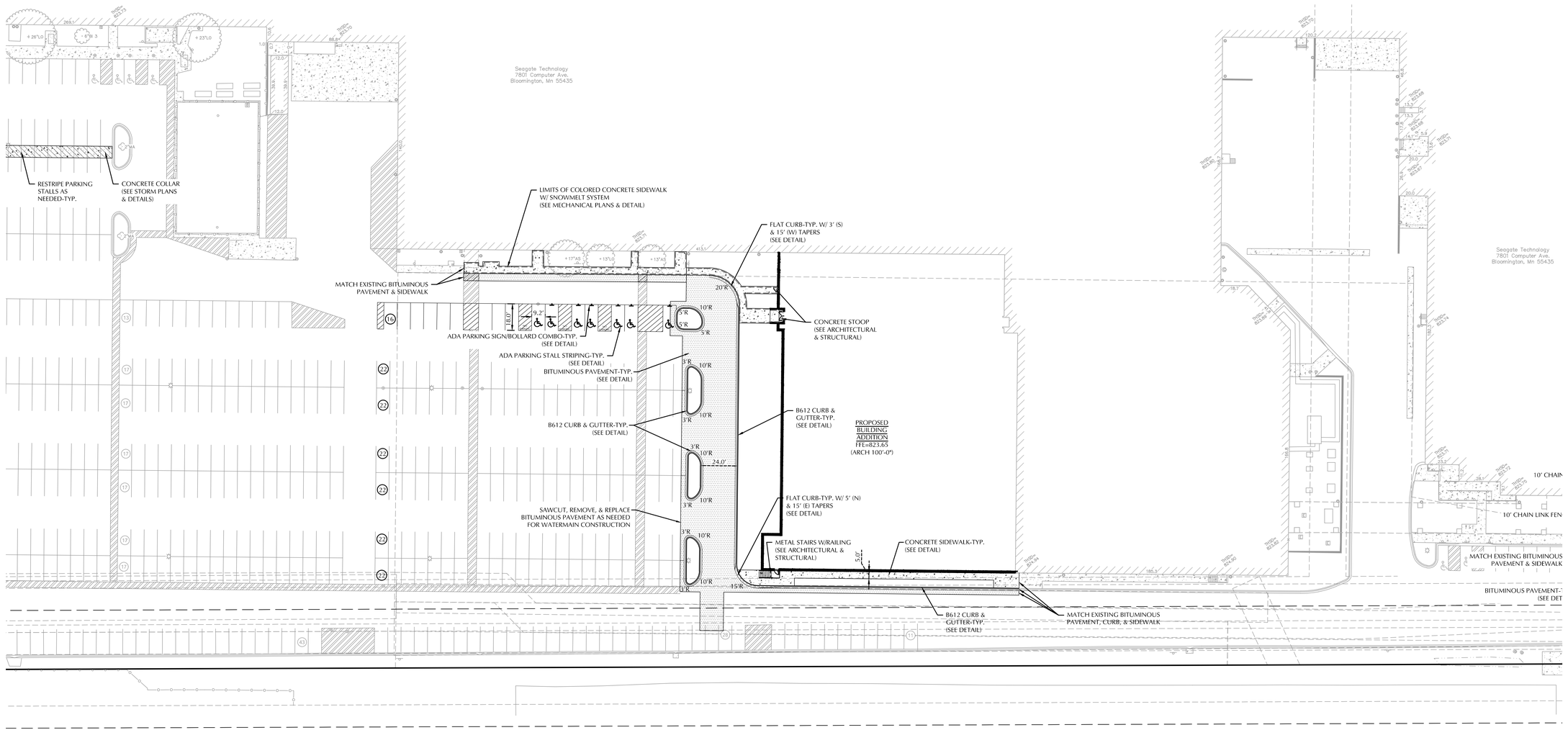
N

0 30 60
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SEWER SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
	CONTOUR	
	SPOT ELEVATION	
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants
LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moore - PE
Date 05-13-2026 Lic./Reg. No. 58688

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL SITE PLAN EAST

Sheet No.
220.2CS

Copyright BWBR

SITE NOTES

1. ALL PAVING, CONCRETE CURB, GUTTER AND SIDEWALK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN PER THE DETAIL SHEET(S) AND APPLICABLE GOVERNING AGENCY REQUIREMENTS.
2. ACCESSIBLE PARKING AND ACCESSIBLE ROUTES SHALL BE PROVIDED PER CURRENT ADA STANDARDS AND APPLICABLE GOVERNING AGENCY REQUIREMENTS.
3. ALL CURB DIMENSIONS SHOWN ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
4. ALL BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF WALL UNLESS OTHERWISE NOTED.
5. TYPICAL FULL SIZED PARKING STALL IS 9' X 18 UNLESS OTHERWISE NOTED.
6. ALL CURB RADII SHALL BE 5.0' UNLESS OTHERWISE NOTED.
7. BITUMINOUS IMPREGNATED FIBER BOARD TO BE PLACED AT FULL DEPTH OF CONCRETE ADJACENT TO EXISTING STRUCTURES AND BEHIND CURB ADJACENT TO DRIVEWAYS AND SIDEWALKS.
8. SEE SITE ELECTRICAL PLAN FOR SITE LIGHTING.
9. REFER TO THE GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   a. REUSE OF ONSITE SOILS
   b. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
      GROUNDWATER REMOVAL IS ANTICIPATED.
   c. SITE GRADING AND SUBGRADE PREPARATION.
   d. PAVEMENTS AND EXTERIOR SLABS.
   e. TRENCH EXCAVATION AND BACKFILL
   f. FROST PROTECTION

SIGNAGE AND STRIPING NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE SIGNAGE AND STRIPING AS SHOWN ON THIS PLAN.
2. CONTRACTOR SHALL PAINT ALL ACCESSIBLE STALLS, LOGOS AND CROSS HATCH LOADING AISLES WITH WHITE PAVEMENT MARKING PAINT, 4" IN WIDTH.
3. CONTRACTOR SHALL PAINT ANY/ALL DIRECTIONAL TRAFFIC ARROWS, AS SHOWN, IN WHITE PAINT.
4. ALL SIGNAGE SHALL INCLUDE POST, CONCRETE FOOTING AND STEEL CASING WHERE REQUIRED.
5. ALL SIGNAGE NOT PROTECTED BY CURB, LOCATED IN PARKING LOT OR OTHER PAVED AREAS TO BE PLACED IN STEEL CASING, FILLED WITH CONCRETE AND PAINTED YELLOW. REFER TO DETAIL(S).
6. ANY/ALL STOP SIGNS TO INCLUDE A 24" WIDE PAINTED STOP BAR IN WHITE PAINT, PLACED AT THE STOP SIGN LOCATION, A MINIMUM OF 4' FROM CROSSWALK IF APPLICABLE. ALL STOP BARS SHALL EXTEND FROM DIRECTIONAL TRANSITION BETWEEN LANES TO CURB.
7. ALL SIGNS TO BE PLACED 18" BEHIND BACK OF CURB UNLESS OTHERWISE NOTED.
8. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE. USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

SITE DATA

CURRENT ZONING: IT - INNOVATION AND TECHNOLOGY
PROPOSED ZONING: IT - INNOVATION AND TECHNOLOGY

PROPERTY AREA (GROSS): 34.05 ± AC

DISTURBED AREA: 2.47 ± AC
EXISTING IMPERVIOUS AREA: 1.36 ± AC (55.1%)*
PROPOSED IMPERVIOUS AREA: 1.35 ± AC (54.7%)*

*IMPERVIOUS AREAS BASED ON DISTURBED AREA ONLY

DEVELOPMENT AND DESIGN STANDARDS

YARD (BUILDING) SETBACKS:

FRONT	20 FT MINIMUM
SIDE	25 FT MINIMUM
SIDE (RESIDENTIAL)	50 FT MINIMUM
REAR	25 FT MINIMUM

OFF-STREET PARKING SETBACKS:

FRONT	20 FT MINIMUM
SIDE	5 FT MINIMUM

MINIMUM PARKING LAYOUT DIMENSIONS (90 DEGREE PATTERN):

PARKING SPACE WIDTH	= 9 FT
PARKING SPACE LENGTH	= 18 FT
DRIVE LANE WIDTH	= 24 FT

OFF-STREET PARKING CALCULATIONS

EXISTING CAMPUS PARKING (EXCLUDING ROW PARKING)	= 1,046 STALLS
PARKING REMOVED	= -132 STALLS
TOTAL PARKING PROVIDED	= 914 STALLS (INCLUDING ADA STALLS)

PAVEMENT TYPES

- CONCRETE SIDEWALK
- CONCRETE PAVEMENT
- LIGHT DUTY BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT

NOTE:
SEE PAVEMENT SECTIONS FOR TYPE AND DEPTH INFORMATION.

CURB TYPES

- B612 CURB & GUTTER (STANDARD)
- B612 CURB & GUTTER (TIP OUT)
- FLAT CURB & GUTTER (STANDARD)
- FLAT CURB & GUTTER (TIP OUT)
- SURMOUNTABLE CURB & GUTTER (STANDARD)
- SURMOUNTABLE CURB & GUTTER (TIP OUT)

NOTE:
SEE CURB & GUTTER DETAILS

CALL BEFORE YOU DIG!
Gopher State One Call
TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

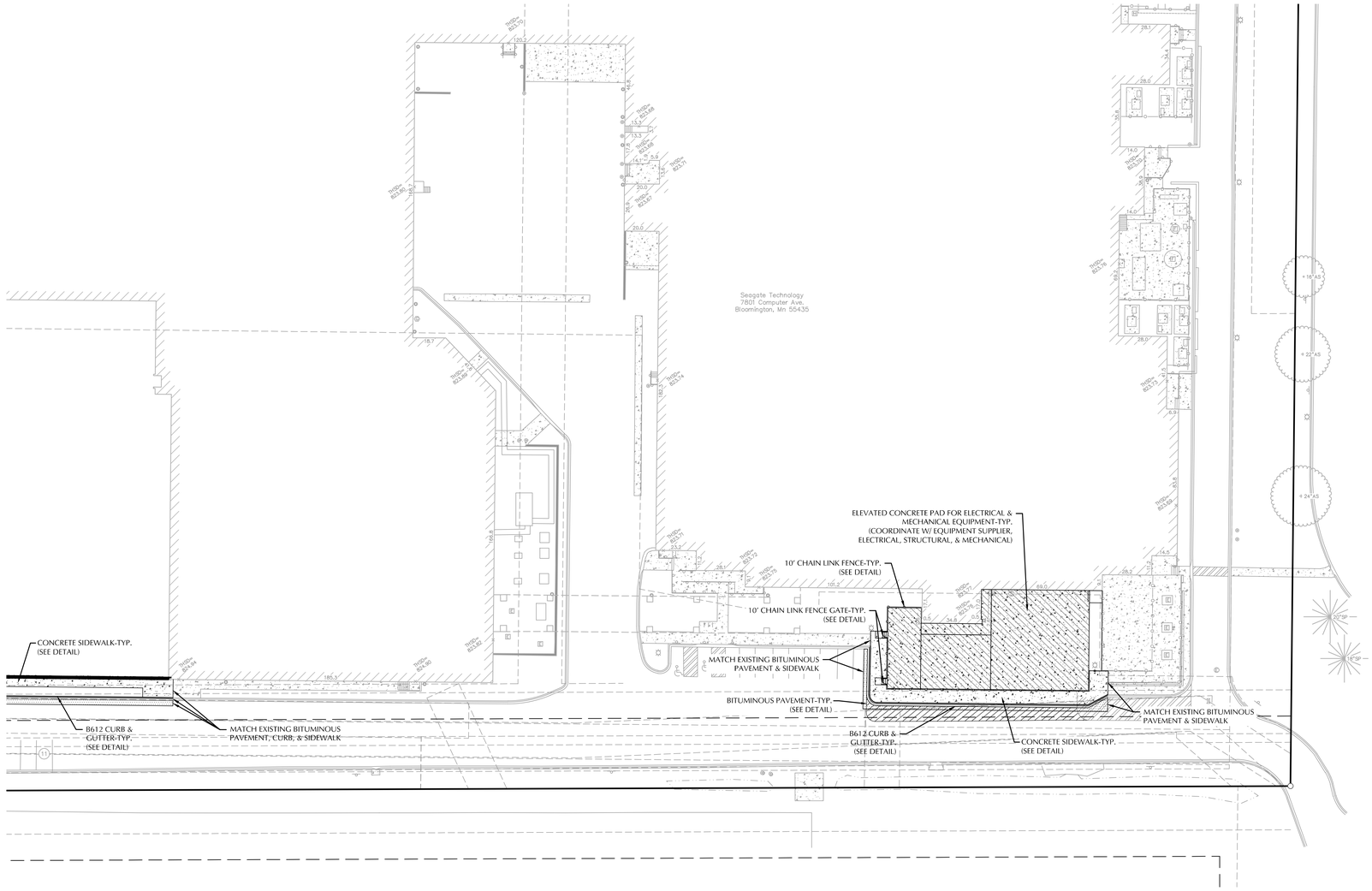
N

0 30 60
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
SS	STORM SEWER	
DT	DRAINTILE	DT
S	SANITARY SEWER	
FM	FORCEMAIN	FM
W	WATERMAIN	
S	SANITARY SEWER SERVICE	
W	WATER SERVICE	
ELE	UNDERGROUND ELECTRIC	ELE
FO	UNDERGROUND FIBER OPTIC	FO
GAS	UNDERGROUND GAS	GAS
TEL	UNDERGROUND TELEPHONE	TEL
OH	OVERHEAD UTILITY	OH
X X	FENCE	X X
O O	CHAIN LINK FENCE	O O
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
972	CONTOUR	972
972.5	SPOT ELEVATION	972.5
1.0%	DIRECTION OF FLOW	1.0%
	TREE LINE	
PSBL	PARKING SETBACK LINE	PSBL
BSBL	BUILDING SETBACK LINE	BSBL



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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 Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moore - PE
Date **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet.
Drawing Scales apply to Full Size Sheets.

FOR REFERENCE ONLY

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL SITE PLAN NITROGEN PLANT

Sheet No.
220.3CS

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call
TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES, THEY SHALL COOPRATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CONSTRUCTION STAKING
LOUCKS IS PLEASED TO OFFER CONSTRUCTION STAKING SERVICES. PLEASE CONTACT BRIAN PECHACEK FOR INQUIRIES.
EMAIL: BPECHACEK@LOUCKSINC.COM
PHONE: 763.424.5505

CITY OF BLOOMINGTON NOTES

1. UTILITY AS-BUILT MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
2. HDPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATERTIGHT MATERIALS UTILIZING AN A-LOK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL. WHERE THE ALIGNMENT PRECLUDES THE USE OF THE APPROVED WATERTIGHT METHODS, CONCEAL 231 WATER STOP SEALANT, OR APPROVED EQUAL, WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
3. UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563–8777) FOR PERMIT INFORMATION.
4. PHASE WATERMAIN CONSTRUCTION TO MINIMIZE DURATION OF FIRE HYDRANTS BEING OUT OF SERVICE.
5. TAPS OF LIVE MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
6. UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING
7. USE ZINC-COATED CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL V-BIO BASED POLY WRAP IS REQUIRED ON ALL DIP. SEE CITY CONSTRUCTION SPECIFICATIONS (CURRENT EDITION).
8. ALL UNUSED WATER AND SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.
9. COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR MJ TO FLANGE ADAPTER.
10. INSTALL INTERIOR CHIMNEY SEALS ON ALL SANITARY SEWER MANHOLES.
11. ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSI/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
12. USE SHORT CONE MANHOLES WITHOUT STEPS.
13. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE, USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

GRADING, DRAINAGE & EROSION CONTROL NOTES

1. SPOT ELEVATIONS REPRESENT FINISHED SURFACE GRADES, GUTTER/FLOW LINE, FACE OF BUILDING, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
2. ALL ACCESSIBLE ROUTES SHALL BE CONSTRUCTED WITH A CROSS SLOPE NOT EXCEEDING 2% AND A RUNNING SLOPE NOT EXCEEDING 5%.
3. AT TURNING POINTS ALONG THE ACCESSIBLE ROUTE THE PAVEMENT SHALL NOT EXCEED 2% IN ANY DIRECTION FOR AN AREA 60" IN DIAMETER.
4. ALL PUBLIC SIDEWALKS SHALL BE CONSTRUCTED WITH A CROSS SLOPE NOT EXCEEDING 2% AND A RUNNING SLOPE NOT EXCEEDING 5%.
5. CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.16 FEET. RIM ELEVATIONS SHOWN ON PLANS DO NOT REFLECT SUMPED ELEVATIONS.
6. REFER TO GEOTECHNICAL EVALUATION REPORT PREPARED BY BRAUN INTERTEC, FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   A. REUSE OF ON-SITE SOILS
   B. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
   C. SITE GRADING AND SUBGRADE PREPARATION.
   D. PAVEMENTS AND EXTERIOR SLABS.
   E. TRENCH EXCAVATION AND BACKFILL.
   F. EXTERIOR UTILITY SUPPORTS.
   G. FROST PROTECTION.
7. EXISTING SOILS ARE ASSUMED TO BE FINE TO MEDIUM (SP, SM, SP-SM, SC, CL, ML, OL, OL/OH, PT) PER THE UNIFIED SOIL CLASSIFICATION. CONTRACTOR TO NOTIFY ENGINEER IF EXISTING CONDITIONS DIFFER FROM ASSUMED SOIL CONDITIONS.
8. GRADING, INCLUDING BUT NOT LIMITED TO EXCAVATION AND BACKFILL, OF THE INFILTRATION AREA(S) SHALL BE ACCOMPLISHED USING LOW-IMPACT EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF THE UNDERLYING SOILS. SMALL TRACKED DOZERS AND BOBCATS WITH RUNNER TRACKS ARE RECOMMENDED. NO WHEELED MACHINES SHALL BE USED.
9. SOIL BENEATH THE INFILTRATION AREA(S) SHALL BE RIPPED WITH A TOOTHED BUCKET TO REMOVE SOIL INTERFACE PRIOR TO BACKFILL.
10. A FLOOD TEST OR DOUBLE RING INFILTROMETER TEST SHALL BE COMPLETED FOR THE INFILTRATION SYSTEM TO VERIFY INFILTRATION RATES ARE WITHIN THE ACCEPTABLE RANGE OF 1.63 IN/HR TO 8.3 IN/HR.
11. CITY AND WATERSHED SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO CONSTRUCTION OF STORMWATER BMPS.
12. ALL DISTURBED UNPAVED AREAS ARE TO RECEIVE MINIMUM OF 4 INCHES OF TOP SOIL AND SEED/MULCH OR SOD. THESE AREAS SHALL BE WATERED/MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION IS ESTABLISHED. REFER TO THE LANDSCAPE PLANS, DETAILS AND SPECIFICATIONS FOR FINAL SITE STABILIZATION.
13. FOR SITE RETAINING WALLS "TW" EQUALS SURFACE GRADE AT TOP FACE OF WALL (NOT TOP OF WALL), "GW" EQUALS SURFACE GRADE AT BOTTOM FACE OF WALL (NOT BOTTOM OF BURIED WALL COURSES).
14. FOR SITE STAIRS, "TS" EQUALS SURFACE ELEVATION AT TOP OF STAIRS AND "BS" EQUALS SURFACE ELEVATION AT BOTTOM OF STAIRS. REFER TO SITE PLAN FOR NUMBER OF RISERS AND RISER HEIGHT.
15. STREETS MUST BE CLEANED AND SWEPT WHENEVER TRACKING OF SEDIMENTS OCCURS AND BEFORE SITES ARE LEFT IDLE FOR WEEKENDS AND HOLIDAYS. A REGULAR SWEEPING SCHEDULE MUST BE ESTABLISHED.
16. DUST MUST BE ADEQUATELY CONTROLLED.
17. SEE SWPPP FOR ADDITIONAL EROSION CONTROL NOTES AND REQUIREMENTS.
18. SEE UTILITY PLAN FOR WATERMAIN, STORM SEWER, AND SANITARY SEWER INFORMATION.
19. SEE SITE PLAN FOR CURB AND BITUMINOUS TAPER LOCATIONS.
20. REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR BUILDING ELEVATIONS.
21. THE CONTRACTOR ALONG WITH THE OWNER SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM GOVERNING AUTHORITIES, INCLUDING ANY CITY PERMITS AND THE NPDES PERMIT.
22. INSTALL EROSION CONTROL AND TREE PROTECTION MEASURES BEFORE BEGINNING SITE GRADING ACTIVITIES. SOME EROSION CONTROLS SUCH AS BALE CHECKS AND TEMPORARY SILT PONDS MAY BE INSTALLED AS GRADING OCCURS IN SPECIFIC AREAS. MAINTAIN EROSION CONTROLS THROUGHOUT THE GRADING PROCESS AND REMOVE WHEN TURF HAS BEEN ESTABLISHED.
23. PER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM (NPDES/SDS) REQUIREMENTS, THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, CONCRETE, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS SHALL BE PROPERLY CONTAINED AND DISPOSED OF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND USING APPROVED METHODS OF CONTAINMENT SUCH AS PRE-FABRICATED WASHOUT CONTAINERS, CONCRETE WASHOUT TOTE, READY MIX TRUCKS WITH SELF-CONTAINED CHUTE CLEANOUT, ETC.
24. CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION OF GRADING ACTIVITIES AS NEEDED PER APPLICABLE PERMIT REQUIREMENTS AND/OR DEVELOPMENT AGREEMENTS.
25. NINE MILE CREEK WATERSHED DISTRICT MODEL ATLAS 14 100-YEAR FREQUENCY ELEVATION=822.7 M.S.L.

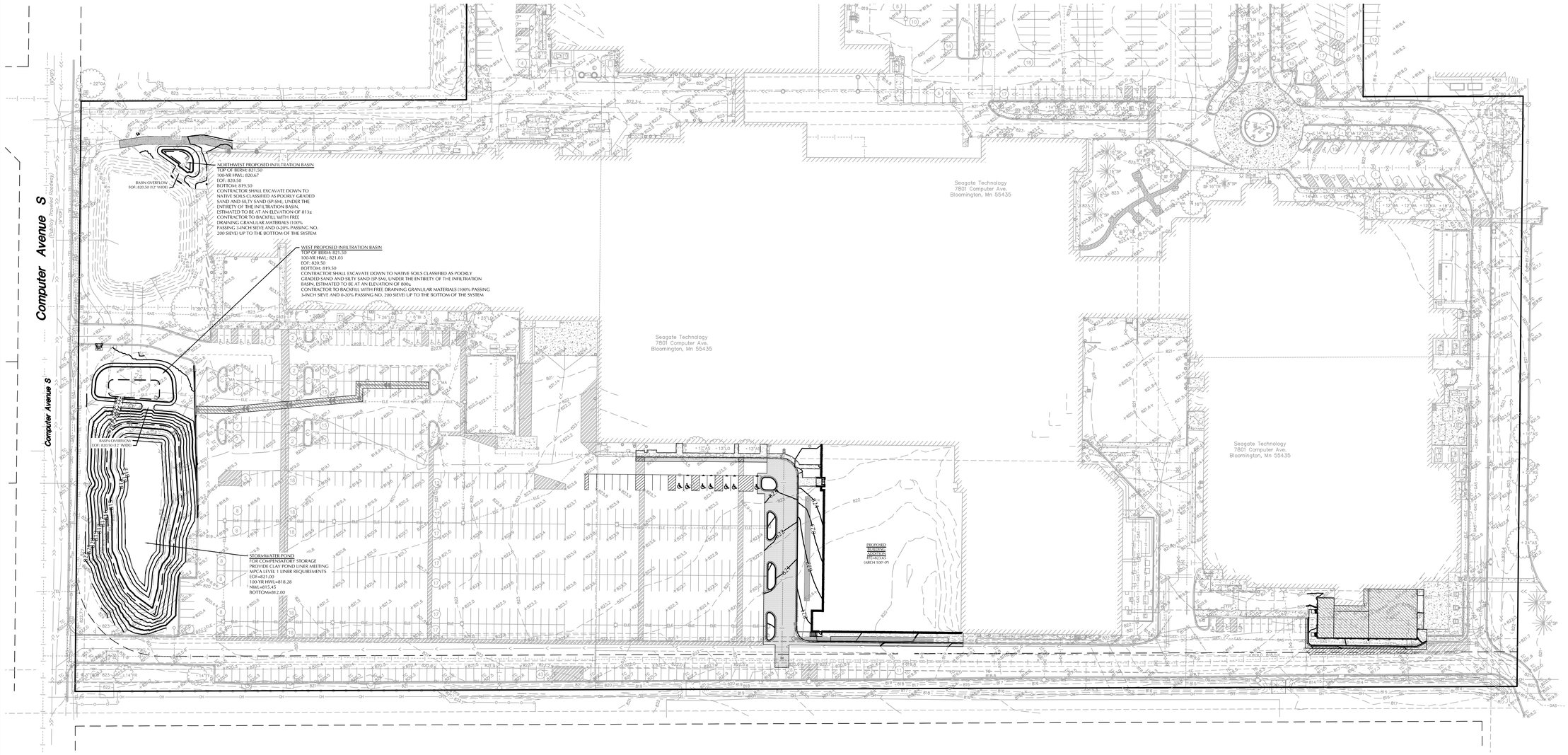
N

0 50 100
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
CB	CATCH BASIN	
MH	STORM MANHOLE	
	FLARED END SECTION	
SAN MH	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
PIV	POST INDICATOR VALVE	PIV
WMH	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
BM	BENCHMARK	
B#1	SOIL BORING	
2	PARKING STALL COUNT	2
	ACCESSIBLE PARKING STALL	
ST	STORM SEWER	
DT	DRAINTILE	DT
S	SANITARY SEWER	
FM	FORCEMAIN	FM
W	WATERMAIN	W
S	SANITARY SEWER SERVICE	S
W	WATER SERVICE	W
ELE	UNDERGROUND ELECTRIC	ELE
FO	UNDERGROUND FIBER OPTIC	FO
GAS	UNDERGROUND GAS	GAS
TEL	UNDERGROUND TELEPHONE	TEL
OH	OVERHEAD UTILITY	OH
X	FENCE	X
O	CHAIN LINK FENCE	O
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
972	CONTOUR	972
972.5	SPOT ELEVATION	972.5
LOW	DIRECTION OF FLOW	1.0%
	TREE LINE	
	PARKING SETBACK LINE	PSBL
	BUILDING SETBACK LINE	BSBL



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

B|W|B|R
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants
LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name Zachary B. Moos - PE
Date **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL GRADING PLAN OVERALL

Sheet No.
230.0CG

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES, THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CONSTRUCTION STAKING

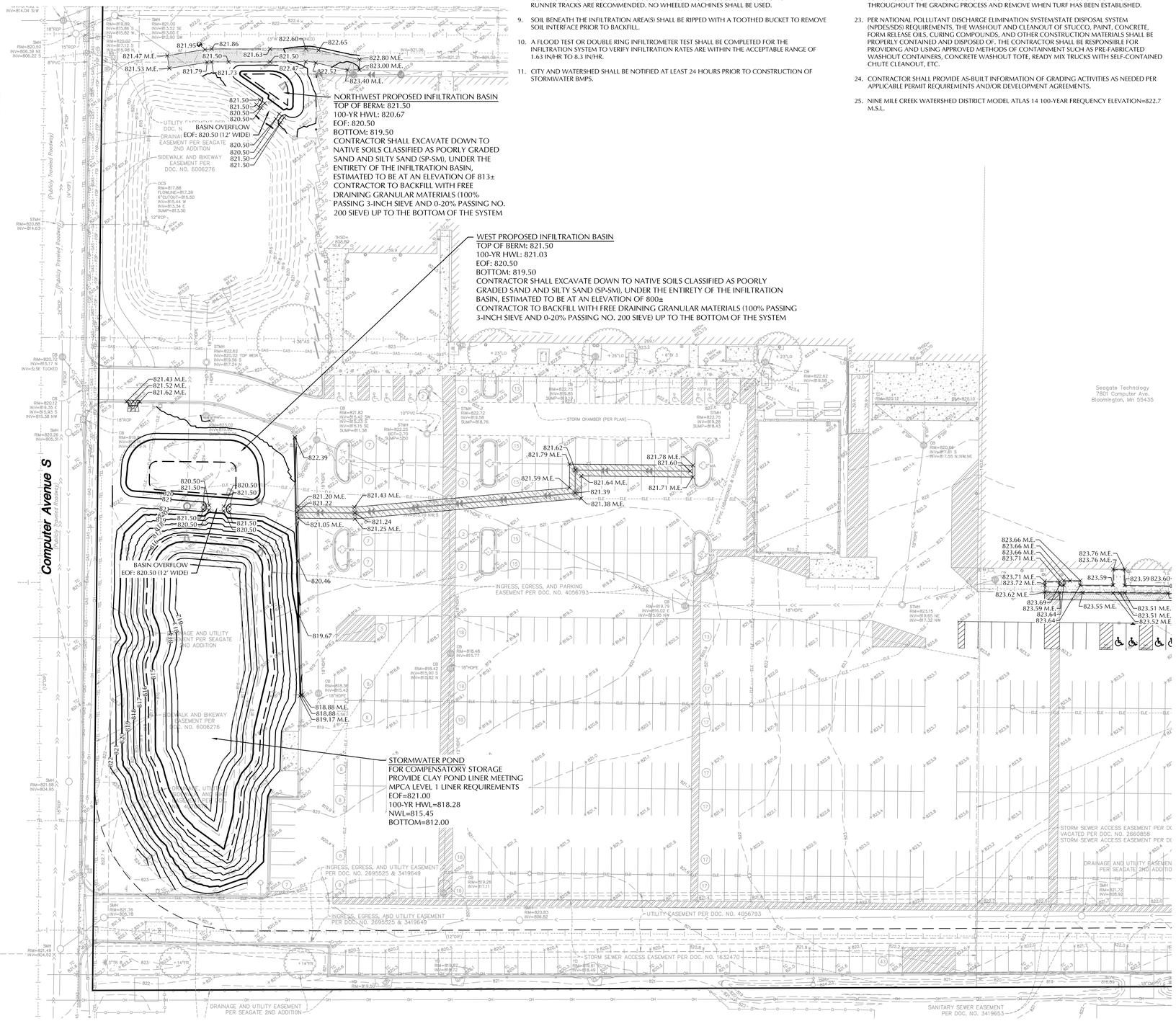
LOUCKS IS PLEASED TO OFFER CONSTRUCTION STAKING SERVICES. PLEASE CONTACT BRIAN PECHACEK FOR INQUIRIES.
EMAIL: BPECHACEK@LOUCKSINC.COM
PHONE: 763.424.5505

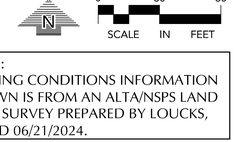
CITY OF BLOOMINGTON NOTES

1. UTILITY AS-BUILT MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
2. HDPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATERTIGHT MATERIALS UTILIZING AN A-LOK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL, WHERE THE ALIGNMENT PRECLUDES THE USE OF THE APPROVED WATERTIGHT METHODS, CONCEAL 231 WATER STOP SEALANT, OR APPROVED EQUAL, WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
3. UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563--8777) FOR PERMIT INFORMATION.
4. PHASE WATERMAIN CONSTRUCTION TO MINIMIZE DURATION OF FIRE HYDRANTS BEING OUT OF SERVICE.
5. TAPS OF LIVE MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
6. UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING
7. USE ZINC-COATED CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL V-BIO BASED POLY WRAP IS REQUIRED ON ALL DIP. SEE CITY CONSTRUCTION SPECIFICATIONS (CURRENT EDITION).
8. ALL UNUSED WATER AND SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.
9. COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR MJ TO FLANGE ADAPTER.
10. INSTALL INTERIOR CHIMNEY SEALS ON ALL SANITARY SEWER MANHOLES.
11. ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSI/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
12. USE SHORT CONE MANHOLES WITHOUT STEPS.
13. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE, USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

GRADING, DRAINAGE & EROSION CONTROL NOTES

1. SPOT ELEVATIONS REPRESENT FINISHED SURFACE GRADES, GUTTER/FLOW LINE, FACE OF BUILDING, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
2. ALL ACCESSIBLE ROUTES SHALL BE CONSTRUCTED WITH A CROSS SLOPE NOT EXCEEDING 2% AND A RUNNING SLOPE NOT EXCEEDING 5%.
3. AT TURNING POINTS ALONG THE ACCESSIBLE ROUTE THE PAVEMENT SHALL NOT EXCEED 2% IN ANY DIRECTION FOR AN AREA 60" IN DIAMETER.
4. ALL PUBLIC SIDEWALKS SHALL BE CONSTRUCTED WITH A CROSS SLOPE NOT EXCEEDING 2% AND A RUNNING SLOPE NOT EXCEEDING 5%.
5. CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.16 FEET. RIM ELEVATIONS SHOWN ON PLANS DO NOT REFLECT SUMPED ELEVATIONS.
6. REFER TO GEOTECHNICAL EVALUATION REPORT PREPARED BY BRAUN INTERTEC, FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   A. REUSE OF ON-SITE SOILS
   B. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
   C. SITE GRADING AND SUBGRADE PREPARATION.
   D. PAVEMENTS AND EXTERIOR SLABS.
   E. TRENCH EXCAVATION AND BACKFILL.
   F. EXTERIOR UTILITY SUPPORTS.
   G. FROST PROTECTION.
7. EXISTING SOILS ARE ASSUMED TO BE FINE TO MEDIUM (SP, SM, SP-SM, SC, CL, ML, OL, OL/OH, PT) PER THE UNIFIED SOIL CLASSIFICATION. CONTRACTOR TO NOTIFY ENGINEER IF EXISTING CONDITIONS DIFFER FROM ASSUMED SOIL CONDITIONS.
8. GRADING, INCLUDING BUT NOT LIMITED TO EXCAVATION AND BACKFILL, OF THE INFILTRATION AREA(S) SHALL BE ACCOMPLISHED USING LOW-IMPACT EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF THE UNDERLYING SOILS. SMALL TRACKED DOZERS AND BOBCATS WITH RUNNER TRACKS ARE RECOMMENDED. NO WHEELED MACHINES SHALL BE USED.
9. SOIL BENEATH THE INFILTRATION AREA(S) SHALL BE RIPPED WITH A TOOTHED BUCKET TO REMOVE SOIL INTERFACE PRIOR TO BACKFILL.
10. A FLOOD TEST OR DOUBLE RING INFILTROMETER TEST SHALL BE COMPLETED FOR THE INFILTRATION SYSTEM TO VERIFY INFILTRATION RATES ARE WITHIN THE ACCEPTABLE RANGE OF 1.63 IN/HR TO 8.3 IN/HR.
11. CITY AND WATERSHED SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO CONSTRUCTION OF STORMWATER BMPS.
12. ALL DISTURBED UNPAVED AREAS ARE TO RECEIVE MINIMUM OF 4 INCHES OF TOP SOIL AND SEED/MULCH OR SOD. THESE AREAS SHALL BE WATERED/MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION IS ESTABLISHED. REFER TO THE LANDSCAPE PLANS, DETAILS AND SPECIFICATIONS FOR FINAL SITE STABILIZATION.
13. FOR SITE RETAINING WALLS "TW" EQUALS SURFACE GRADE AT TOP FACE OF WALL (NOT TOP OF WALL), "GW" EQUALS SURFACE GRADE AT BOTTOM FACE OF WALL (NOT BOTTOM OF BURIED WALL COURSES).
14. FOR SITE STAIRS, "TS" EQUALS SURFACE ELEVATION AT TOP OF STAIRS AND "BS" EQUALS SURFACE ELEVATION AT BOTTOM OF STAIRS. REFER TO SITE PLAN FOR NUMBER OF RISERS AND RISER HEIGHT.
15. STREETS MUST BE CLEANED AND SWEPT WHENEVER TRACKING OF SEDIMENTS OCCURS AND BEFORE SITES ARE LEFT IDLE FOR WEEKENDS AND HOLIDAYS. A REGULAR SWEEPING SCHEDULE MUST BE ESTABLISHED.
16. DUST MUST BE ADEQUATELY CONTROLLED.
17. SEE SWPPP FOR ADDITIONAL EROSION CONTROL NOTES AND REQUIREMENTS.
18. SEE UTILITY PLAN FOR WATERMAIN, STORM SEWER, AND SANITARY SEWER INFORMATION.
19. SEE SITE PLAN FOR CURB AND BITUMINOUS TAPER LOCATIONS.
20. REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR BUILDING ELEVATIONS.
21. THE CONTRACTOR ALONG WITH THE OWNER SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM GOVERNING AUTHORITIES, INCLUDING ANY CITY PERMITS AND THE NPDES PERMIT.
22. INSTALL EROSION CONTROL AND TREE PROTECTION MEASURES BEFORE BEGINNING SITE GRADING ACTIVITIES, SOME EROSION CONTROLS SUCH AS BALE CHECKS AND TEMPORARY SILT PONDS MAY BE INSTALLED AS GRADING OCCURS IN SPECIFIC AREAS. MAINTAIN EROSION CONTROLS THROUGHOUT THE GRADING PROCESS AND REMOVE WHEN TURF HAS BEEN ESTABLISHED.
23. PER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM (NPDES/SDS) REQUIREMENTS, THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, CONCRETE, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS SHALL BE PROPERLY CONTAINED AND DISPOSED OF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND USING APPROVED METHODS OF CONTAINMENT SUCH AS PRE-FABRICATED WASHOUT CONTAINERS, CONCRETE WASHOUT TOTE, READY MIX TRUCKS WITH SELF-CONTAINED CHUTE CLEANOUT, ETC.
24. CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION OF GRADING ACTIVITIES AS NEEDED PER APPLICABLE PERMIT REQUIREMENTS AND/OR DEVELOPMENT AGREEMENTS.
25. NINE MILE CREEK WATERSHED DISTRICT MODEL ATLAS 14 100-YEAR FREQUENCY ELEVATION=822.7 M.S.L.





NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
	CONTOUR	
	SPOT ELEVATION	
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moes - PE

Date 05-13-2026 Lic./Reg. No. 58688

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL GRADING PLAN WEST

Sheet No.
230.1CG

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES, THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CONSTRUCTION STAKING

LOUCKS IS PLEASED TO OFFER CONSTRUCTION STAKING SERVICES. PLEASE CONTACT BRIAN PECHACEK FOR INQUIRIES.
EMAIL: BPECHACEK@LOUCKSINC.COM
PHONE: 763.424.5505

CITY OF BLOOMINGTON NOTES

1. UTILITY AS-BUILT MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
2. HDPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATERTIGHT MATERIALS UTILIZING AN A-LOK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL, WHERE THE ALIGNMENT PRECLUDES THE USE OF THE APPROVED WATERTIGHT METHODS, CONCEAL 231 WATER STOP SEALANT, OR APPROVED EQUAL, WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
3. UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563--8777) FOR PERMIT INFORMATION.
4. PHASE WATERMAIN CONSTRUCTION TO MINIMIZE DURATION OF FIRE HYDRANTS BEING OUT OF SERVICE.
5. TAPS OF LIVE MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
6. UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING
7. USE ZINC-COATED CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL V-BIO BASED POLY WRAP IS REQUIRED ON ALL DIP. SEE CITY CONSTRUCTION SPECIFICATIONS (CURRENT EDITION).
8. ALL UNUSED WATER AND SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.
9. COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR MJ TO FLANGE ADAPTER.
10. INSTALL INTERIOR CHIMNEY SEALS ON ALL SANITARY SEWER MANHOLES.
11. ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSI/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
12. USE SHORT CONE MANHOLES WITHOUT STEPS.
13. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE, USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

GRADING, DRAINAGE & EROSION CONTROL NOTES

1. SPOT ELEVATIONS REPRESENT FINISHED SURFACE GRADES, GUTTER/FLOW LINE, FACE OF BUILDING, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
2. ALL ACCESSIBLE ROUTES SHALL BE CONSTRUCTED WITH A CROSS SLOPE NOT EXCEEDING 2% AND A RUNNING SLOPE NOT EXCEEDING 5%.
3. AT TURNING POINTS ALONG THE ACCESSIBLE ROUTE THE PAVEMENT SHALL NOT EXCEED 2% IN ANY DIRECTION FOR AN AREA 60" IN DIAMETER.
4. ALL PUBLIC SIDEWALKS SHALL BE CONSTRUCTED WITH A CROSS SLOPE NOT EXCEEDING 2% AND A RUNNING SLOPE NOT EXCEEDING 5%.
5. CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.16 FEET. RIM ELEVATIONS SHOWN ON PLANS DO NOT REFLECT SUMPED ELEVATIONS.
6. REFER TO GEOTECHNICAL EVALUATION REPORT PREPARED BY BRAUN INTERTEC, FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   A. REUSE OF ON-SITE SOILS
   B. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
   C. SITE GRADING AND SUBGRADE PREPARATION.
   D. PAVEMENTS AND EXTERIOR SLABS.
   E. TRENCH EXCAVATION AND BACKFILL.
   F. EXTERIOR UTILITY SUPPORTS.
   G. FROST PROTECTION.
7. EXISTING SOILS ARE ASSUMED TO BE FINE TO MEDIUM (SP, SM, SP-SM, SC, CL, ML, OL, OL/OH, PT) PER THE UNIFIED SOIL CLASSIFICATION. CONTRACTOR TO NOTIFY ENGINEER IF EXISTING CONDITIONS DIFFER FROM ASSUMED SOIL CONDITIONS.
8. GRADING, INCLUDING BUT NOT LIMITED TO EXCAVATION AND BACKFILL, OF THE INFILTRATION AREA(S) SHALL BE ACCOMPLISHED USING LOW-IMPACT EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF THE UNDERLYING SOILS. SMALL TRACKED DOZERS AND BOBCATS WITH RUNNER TRACKS ARE RECOMMENDED. NO WHEELED MACHINES SHALL BE USED.
9. SOIL BENEATH THE INFILTRATION AREA(S) SHALL BE RIPPED WITH A TOOTHED BUCKET TO REMOVE SOIL INTERFACE PRIOR TO BACKFILL.
10. A FLOOD TEST OR DOUBLE RING INFILTROMETER TEST SHALL BE COMPLETED FOR THE INFILTRATION SYSTEM TO VERIFY INFILTRATION RATES ARE WITHIN THE ACCEPTABLE RANGE OF 1.63 IN/HR TO 8.3 IN/HR.
11. CITY AND WATERSHED SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO CONSTRUCTION OF STORMWATER BMPS.
12. ALL DISTURBED UNPAVED AREAS ARE TO RECEIVE MINIMUM OF 4 INCHES OF TOP SOIL AND SEED/MULCH OR SOD. THESE AREAS SHALL BE WATERED/MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION IS ESTABLISHED. REFER TO THE LANDSCAPE PLANS, DETAILS AND SPECIFICATIONS FOR FINAL SITE STABILIZATION.
13. FOR SITE RETAINING WALLS "TW" EQUALS SURFACE GRADE AT TOP FACE OF WALL (NOT TOP OF WALL), "GW" EQUALS SURFACE GRADE AT BOTTOM FACE OF WALL (NOT BOTTOM OF BURIED WALL COURSES).
14. FOR SITE STAIRS, "TS" EQUALS SURFACE ELEVATION AT TOP OF STAIRS AND "BS" EQUALS SURFACE ELEVATION AT BOTTOM OF STAIRS. REFER TO SITE PLAN FOR NUMBER OF RISERS AND RISER HEIGHT.
15. STREETS MUST BE CLEANED AND SWEPT WHENEVER TRACKING OF SEDIMENTS OCCURS AND BEFORE SITES ARE LEFT IDLE FOR WEEKENDS AND HOLIDAYS. A REGULAR SWEEPING SCHEDULE MUST BE ESTABLISHED.
16. DUST MUST BE ADEQUATELY CONTROLLED.
17. SEE SWPPP FOR ADDITIONAL EROSION CONTROL NOTES AND REQUIREMENTS.
18. SEE UTILITY PLAN FOR WATERMAIN, STORM SEWER, AND SANITARY SEWER INFORMATION.
19. SEE SITE PLAN FOR CURB AND BITUMINOUS TAPER LOCATIONS.
20. REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR BUILDING ELEVATIONS.
21. THE CONTRACTOR ALONG WITH THE OWNER SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM GOVERNING AUTHORITIES, INCLUDING ANY CITY PERMITS AND THE NPDES PERMIT.
22. INSTALL EROSION CONTROL AND TREE PROTECTION MEASURES BEFORE BEGINNING SITE GRADING ACTIVITIES. SOME EROSION CONTROLS SUCH AS BALE CHECKS AND TEMPORARY SILT PONDS MAY BE INSTALLED AS GRADING OCCURS IN SPECIFIC AREAS. MAINTAIN EROSION CONTROLS THROUGHOUT THE GRADING PROCESS AND REMOVE WHEN TURF HAS BEEN ESTABLISHED.
23. PER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM (NPDES/SDS) REQUIREMENTS, THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, CONCRETE, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS SHALL BE PROPERLY CONTAINED AND DISPOSED OF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND USING APPROVED METHODS OF CONTAINMENT SUCH AS PRE-FABRICATED WASHOUT CONTAINERS, CONCRETE WASHOUT TOTE, READY MIX TRUCKS WITH SELF-CONTAINED CHUTE CLEANOUT, ETC.
24. CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION OF GRADING ACTIVITIES AS NEEDED PER APPLICABLE PERMIT REQUIREMENTS AND/OR DEVELOPMENT AGREEMENTS.
25. NINE MILE CREEK WATERSHED DISTRICT MODEL ATLAS 14 100-YEAR FREQUENCY ELEVATION=822.7 M.S.L.

N

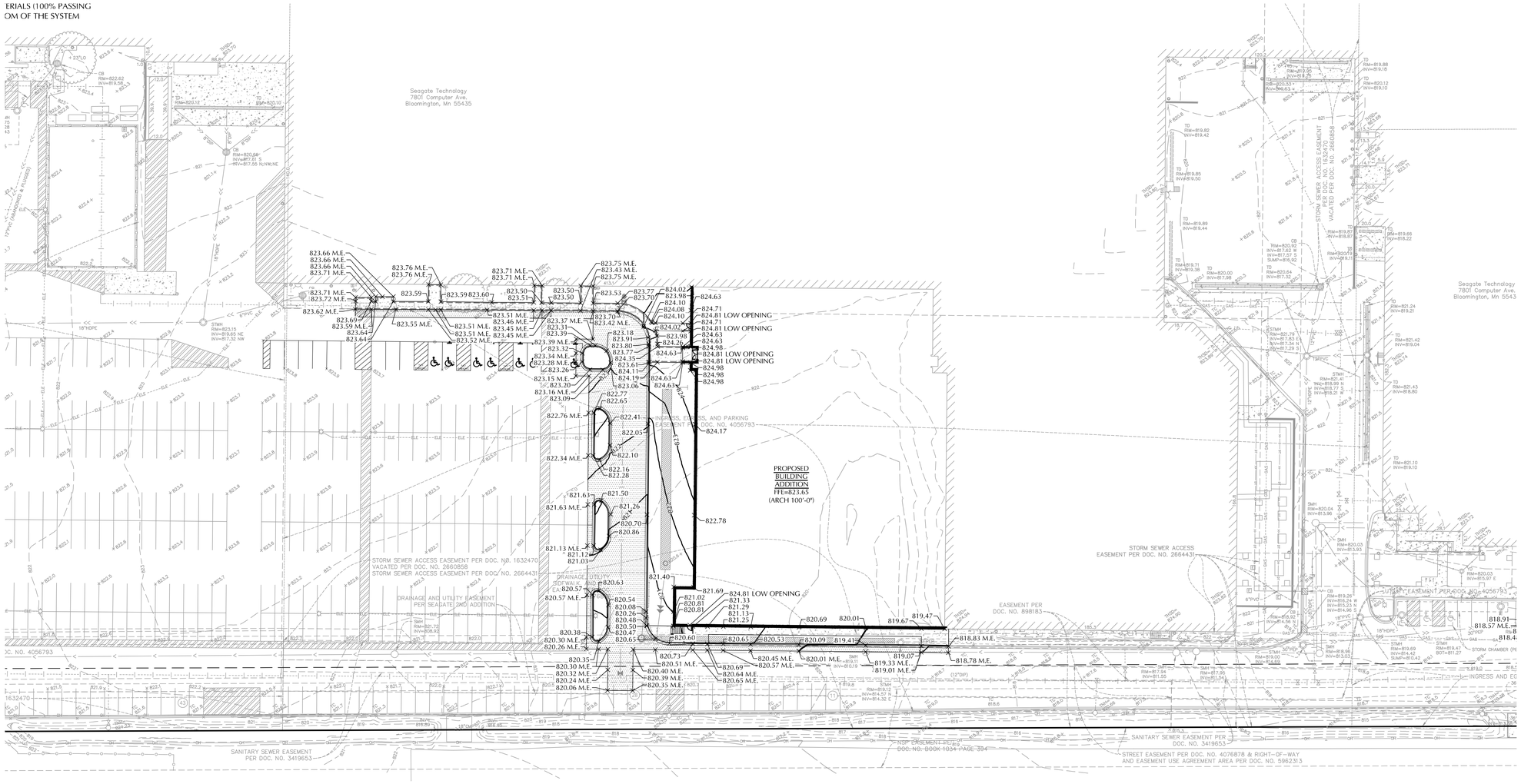
0 30 60
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SEWER SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
	CONTOUR	
	SPOT ELEVATION	
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	

ERIALS (100% PASSING
OM OF THE SYSTEM



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

B|W|B|R

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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 Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moore - PE

Date **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.

The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00

Drawn ZBM/JRM/MDC

Sheet Title
CIVIL GRADING PLAN EAST

Sheet No.
230.2CU

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES, THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CONSTRUCTION STAKING

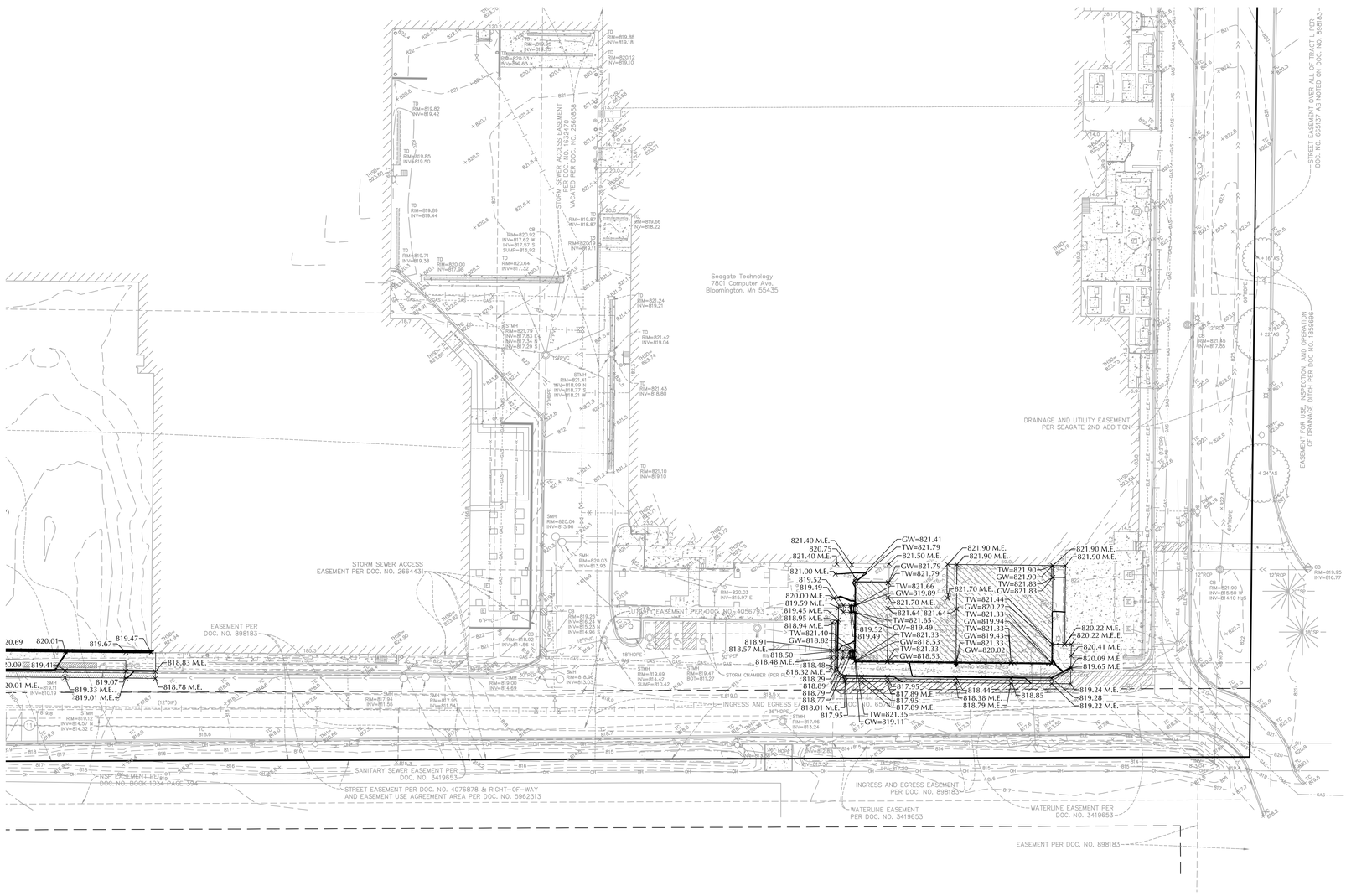
LOUCKS IS PLEASED TO OFFER CONSTRUCTION STAKING SERVICES. PLEASE CONTACT BRIAN PECHACEK FOR INQUIRIES.
EMAIL: BPECHACEK@LOUCKSINC.COM
PHONE: 763.424.5505

CITY OF BLOOMINGTON NOTES

1. UTILITY AS-BUILT MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
2. HDPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATERTIGHT MATERIALS UTILIZING AN A-LOK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL, WHERE THE ALIGNMENT PRECLUDES THE USE OF THE APPROVED WATERTIGHT METHODS, CONCEAL 231 WATER STOP SEALANT, OR APPROVED EQUAL, WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
3. UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563--8777) FOR PERMIT INFORMATION.
4. PHASE WATERMAIN CONSTRUCTION TO MINIMIZE DURATION OF FIRE HYDRANTS BEING OUT OF SERVICE.
5. TAPS OF LIVE MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
6. UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING
7. USE ZINC-COATED CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL V-BIO BASED POLY WRAP IS REQUIRED ON ALL DIP. SEE CITY CONSTRUCTION SPECIFICATIONS (CURRENT EDITION).
8. ALL UNUSED WATER AND SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.
9. COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR MJ TO FLANGE ADAPTER.
10. INSTALL INTERIOR CHIMNEY SEALS ON ALL SANITARY SEWER MANHOLES.
11. ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSI/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
12. USE SHORT CONE MANHOLES WITHOUT STEPS.
13. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE, USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

GRADING, DRAINAGE & EROSION CONTROL NOTES

1. SPOT ELEVATIONS REPRESENT FINISHED SURFACE GRADES, GUTTER/FLOW LINE, FACE OF BUILDING, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
2. ALL ACCESSIBLE ROUTES SHALL BE CONSTRUCTED WITH A CROSS SLOPE NOT EXCEEDING 2% AND A RUNNING SLOPE NOT EXCEEDING 5%.
3. AT TURNING POINTS ALONG THE ACCESSIBLE ROUTE THE PAVEMENT SHALL NOT EXCEED 2% IN ANY DIRECTION FOR AN AREA 60" IN DIAMETER.
4. ALL PUBLIC SIDEWALKS SHALL BE CONSTRUCTED WITH A CROSS SLOPE NOT EXCEEDING 2% AND A RUNNING SLOPE NOT EXCEEDING 5%.
5. CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.16 FEET. RIM ELEVATIONS SHOWN ON PLANS DO NOT REFLECT SUMPED ELEVATIONS.
6. REFER TO GEOTECHNICAL EVALUATION REPORT PREPARED BY BRAUN INTERTEC, FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   A. REUSE OF ON-SITE SOILS
   B. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
   C. SITE GRADING AND SUBGRADE PREPARATION.
   D. PAVEMENTS AND EXTERIOR SLABS.
   E. TRENCH EXCAVATION AND BACKFILL.
   F. EXTERIOR UTILITY SUPPORTS.
   G. FROST PROTECTION.
7. EXISTING SOILS ARE ASSUMED TO BE FINE TO MEDIUM (SP, SM, SP-SM, SC, CL, ML, OL, OL/OH, PT) PER THE UNIFIED SOIL CLASSIFICATION. CONTRACTOR TO NOTIFY ENGINEER IF EXISTING CONDITIONS DIFFER FROM ASSUMED SOIL CONDITIONS.
8. GRADING, INCLUDING BUT NOT LIMITED TO EXCAVATION AND BACKFILL, OF THE INFILTRATION AREA(S) SHALL BE ACCOMPLISHED USING LOW-IMPACT EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF THE UNDERLYING SOILS. SMALL TRACKED DOZERS AND BOBCATS WITH RUNNER TRACKS ARE RECOMMENDED. NO WHEELED MACHINES SHALL BE USED.
9. SOIL BENEATH THE INFILTRATION AREA(S) SHALL BE RIPPED WITH A TOOTHED BUCKET TO REMOVE SOIL INTERFACE PRIOR TO BACKFILL.
10. A FLOOD TEST OR DOUBLE RING INFILTROMETER TEST SHALL BE COMPLETED FOR THE INFILTRATION SYSTEM TO VERIFY INFILTRATION RATES ARE WITHIN THE ACCEPTABLE RANGE OF 1.63 IN/HR TO 8.3 IN/HR.
11. CITY AND WATERSHED SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO CONSTRUCTION OF STORMWATER BMPS.
12. ALL DISTURBED UNPAVED AREAS ARE TO RECEIVE MINIMUM OF 4 INCHES OF TOP SOIL AND SEED/MULCH OR SOD. THESE AREAS SHALL BE WATERED/MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION IS ESTABLISHED. REFER TO THE LANDSCAPE PLANS, DETAILS AND SPECIFICATIONS FOR FINAL SITE STABILIZATION.
13. FOR SITE RETAINING WALLS "TW" EQUALS SURFACE GRADE AT TOP FACE OF WALL (NOT TOP OF WALL), "GW" EQUALS SURFACE GRADE AT BOTTOM FACE OF WALL (NOT BOTTOM OF BURIED WALL COURSES).
14. FOR SITE STAIRS, "TS" EQUALS SURFACE ELEVATION AT TOP OF STAIRS AND "BS" EQUALS SURFACE ELEVATION AT BOTTOM OF STAIRS. REFER TO SITE PLAN FOR NUMBER OF RISERS AND RISER HEIGHT.
15. STREETS MUST BE CLEANED AND SWEPT WHENEVER TRACKING OF SEDIMENTS OCCURS AND BEFORE SITES ARE LEFT IDLE FOR WEEKENDS AND HOLIDAYS. A REGULAR SWEEPING SCHEDULE MUST BE ESTABLISHED.
16. DUST MUST BE ADEQUATELY CONTROLLED.
17. SEE SWPPP FOR ADDITIONAL EROSION CONTROL NOTES AND REQUIREMENTS.
18. SEE UTILITY PLAN FOR WATERMAIN, STORM SEWER, AND SANITARY SEWER INFORMATION.
19. SEE SITE PLAN FOR CURB AND BITUMINOUS TAPER LOCATIONS.
20. REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR BUILDING ELEVATIONS.
21. THE CONTRACTOR ALONG WITH THE OWNER SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM GOVERNING AUTHORITIES, INCLUDING ANY CITY PERMITS AND THE NPDES PERMIT.
22. INSTALL EROSION CONTROL AND TREE PROTECTION MEASURES BEFORE BEGINNING SITE GRADING ACTIVITIES. SOME EROSION CONTROLS SUCH AS BALE CHECKS AND TEMPORARY SILT PONDS MAY BE INSTALLED AS GRADING OCCURS IN SPECIFIC AREAS. MAINTAIN EROSION CONTROLS THROUGHOUT THE GRADING PROCESS AND REMOVE WHEN TURF HAS BEEN ESTABLISHED.
23. PER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM (NPDES/SDS) REQUIREMENTS, THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, CONCRETE, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS SHALL BE PROPERLY CONTAINED AND DISPOSED OF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND USING APPROVED METHODS OF CONTAINMENT SUCH AS PRE-FABRICATED WASHOUT CONTAINERS, CONCRETE WASHOUT TOTE, READY MIX TRUCKS WITH SELF-CONTAINED CHUTE CLEANOUT, ETC.
24. CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION OF GRADING ACTIVITIES AS NEEDED PER APPLICABLE PERMIT REQUIREMENTS AND/OR DEVELOPMENT AGREEMENTS.
25. NINE MILE CREEK WATERSHED DISTRICT MODEL ATLAS 14 100-YEAR FREQUENCY ELEVATION=822.7 M.S.L.



NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SEWER SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
	CONTOUR	
	SPOT ELEVATION	
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary R. Moore - PE
Date **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

[redacted] This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

FOR REFERENCE ONLY

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL GRADING PLAN NITROGEN PLANT

Sheet No.
230.3CG

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

GENERAL NOTES

SEE SHEET 232.SW FOR SWPPP NOTES AND DETAILS.

SWPPP LEGEND

- SF — SILT FENCE
- BIO ROLLS
- INLET PROTECTION
- EXISTING DRAINAGE PATTERN
- PROPOSED DRAINAGE PATTERN
- EROSION CONTROL BLANKET

ESTIMATED QUANTITIES

DESCRIPTION	UNIT	QUANTITY
TEMPORARY ROCK CONSTRUCTION ENTRANCE	EA	2
PREFABRICATED CONCRETE WASHOUT	EA	1
SILT FENCE (STANDARD)	LF	±750
EROSION CONTROL BLANKET	SY	±400
INLET PROTECTION	EA	7
BIOROLLS	LF	950

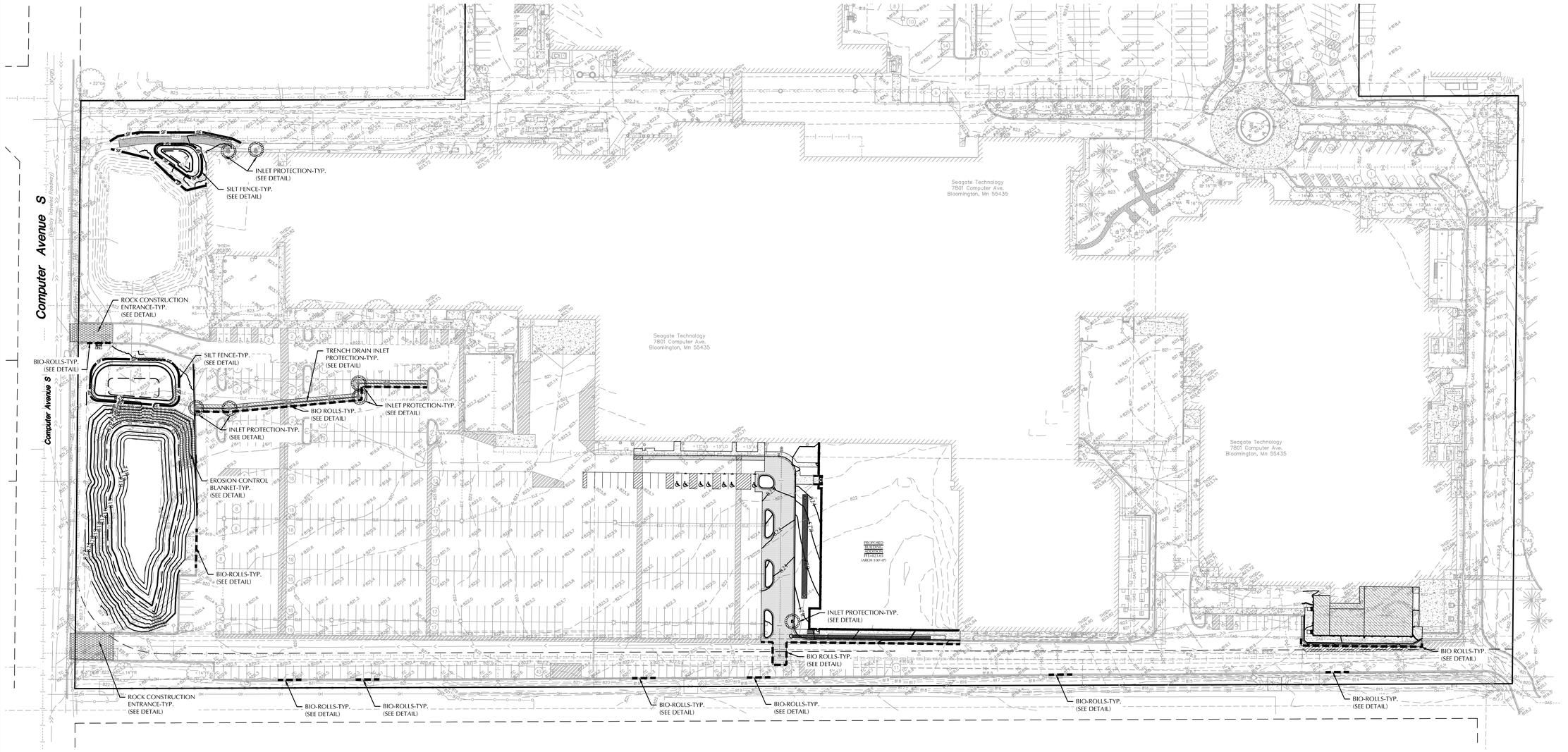
N

0 50 100
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SEWER SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
	CONTOUR	
	SPOT ELEVATION	
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name: Zachary B. Moos - PE

Date: **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00 | Drawn ZBM/JRM/MDC

Sheet Title
SWPP PLAN

Sheet No.
231.SW

Copyright BWBR

SWPPP NOTES

1. THE NATURE OF THIS PROJECT WILL CONSIST OF CONSTRUCTING A PROPOSED BUILDING ADDITION, SURFACE PAVEMENTS, UTILITIES, STORMWATER PONDS, INFILTRATION BASINS, AND UNDERGROUND STORMWATER MANAGEMENT SYSTEMS.

2. THE INTENDED SEQUENCING OF MAJOR CONSTRUCTION ACTIVITIES ARE AS FOLLOWS:

   A. INSTALL VEHICLE TRACKING BMP (SUMMER 2026)
   B. INSTALL INLET PROTECTION (SUMMER 2026)
   C. INSTALL SILT FENCE AROUND SITE (SUMMER 2026)
   D. CLEAR AND GRUB SITE (SUMMER 2026)
   E. STRIP AND STOCKPILE TOPSOIL (SUMMER 2026)
   F. REMOVE PAVEMENTS AND UTILITIES (SUMMER 2026)
   G. ROUGH GRADE SITE (FALL 2026)
   H. IMPORT CLEAN FILL FOR REPLACEMENT AND BALANCE (FALL 2026)
   I. INSTALL UTILITIES (FALL 2026)
   J. INSTALL BUILDING FOUNDATIONS (FALL 2026)
   K. INSTALL CURB AND GUTTER (FALL 2027)
   L. INSTALL PAVEMENTS AND WALKS (FALL 2027)
   M. FINAL GRADE SITE (FALL 2027)
   N. REMOVE ACCUMULATED SEDIMENT FROM STORMWATER SYSTEMS (FALL 2027)
   O. SEED AND MULCH (FALL 2027)
   P. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE SILT FENCE, INLET PROTECTION, AND RESEED ANY AREAS DISTURBED BY THE REMOVAL.

3. SITE DATA:

DISTURBED AREA:	2.47 AC
PRE-CONSTRUCTION IMPERVIOUS AREA:	1.36 AC
POST-CONSTRUCTION IMPERVIOUS AREA:	1.35 AC
GENERAL SOIL TYPE:	SEE GEOTECHNICAL EVALUATION REPORT BY BRAUN INTERTEC
HYDROLOGY INFORMATION:	SEE HYDROLOGY REPORT PREPARED BY LOUCKS

4. EROSION AND SEDIMENT CONTROLS WERE DESIGNED TO EFFECTIVELY CONTROL STORMWATER RUNOFF WITHIN THE PROJECT AREAS. EROSION AND SEDIMENT CONTROL HAVE BEEN PROPOSED TO MINIMIZE CHANNEL EROSION AND SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS. FACTORS THAT WERE CONSIDERED INCLUDE PROPOSED IMPERVIOUS AREAS, SLOPE OF IMPERVIOUS SURFACES, STORMWATER INFRASTRUCTURE DISCHARGE POINTS, AND ANNUAL AVERAGE PRECIPITATION DATA FOR THE PROJECT AREA.

5. HENNEPIN COUNTY RECEIVES AN AVERAGE OF 30.61 INCHES OF PRECIPITATION PER YEAR. THE FOLLOWING HENNEPIN COUNTY 24-HOUR STORM EVENTS ARE BASED ON ATLAS 14 RAINFALL DATA:

2-YR	2.86 INCHES
10-YR	4.26 INCHES
100-YR	7.32 INCHES

6. SEE "EXHIBIT: PROPOSED DRAINAGE AREAS" FOR SITE MAP WITH DRAINAGE AREA BOUNDARIES.

7. THE LOCATION OF AREAS NOT TO BE DISTURBED MUST BE IDENTIFIED WITH FLAGS, STAKES, SIGNS, SILT FENCE, ETC. BEFORE CONSTRUCTION BEGINS.

8. CONTRACTOR SHALL INSTALL RAIN GAUGE ON SITE.

9. GROUNDWATER & DEWATERING
   A. REFER TO THE GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR INFORMATION INCLUDING BUT NOT LIMITED TO GROUNDWATER CONDITIONS AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
   B. FOLLOW LOCAL, STATE, AND FEDERAL REGULATIONS FOR GROUNDWATER PUMPING AND OBTAIN ALL NECESSARY PERMITS. A WATER USE PERMIT FROM THE DNR IS REQUIRED WHEN WITHDRAWING MORE THAN 10,000 GALLONS OF WATER PER DAY OR 1 MILLION GALLONS PER YEAR.
   C. DISPERSE DISCHARGE USING APPROPRIATE ENERGY DISSIPATION MEASURES.
   D. BMPS SHALL BE USED TO PREVENT TURBID OR SEDIMENT LADEN WATERS FROM LEAVING SITE.
   E. DEWATERING SHALL NOT CAUSE NUISANCE CONDITIONS INCLUDING BUT NOT LIMITED TO EROSION OR SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS OR INUNDATION OF WETLANDS THAT CAUSES SIGNIFICANT ADVERSE IMPACTS TO THE WETLAND.

10. REFER TO THE GEOTECHNICAL REPORT PREPARED BY BRAUN INTERTEC FOR INFORMATION AND RECOMMENDATIONS RELATED TO SOIL CONTAMINATION.

11. ALL DISTURBED GROUND LEFT INACTIVE FOR SEVEN (7) OR MORE DAYS SHALL BE STABILIZED BY SEEDING OR SODDING (ONLY AVAILABLE PRIOR TO SEPTEMBER 15) OR BY MULCHING OR COVERING OR OTHER EQUIVALENT CONTROL MEASURE.

12. ON SLOPES 3:1 OR GREATER MAINTAIN SHEET FLOW AND MINIMIZE RILLS AND/OR GULLIES. SLOPE LENGTHS CAN NOT BE GREATER THAN 75 FEET.

13. ALL STORM DRAINS AND INLETS MUST BE PROTECTED UNTIL ALL SOURCES OF POTENTIAL DISCHARGE ARE STABILIZED.

14. SOIL COMPACTION SHALL BE MINIMIZED DURING CONSTRUCTION.

15. TEMPORARY SOIL STOCKPILES MUST HAVE EFFECTIVE SEDIMENT CONTROL AND CAN NOT BE PLACED IN SURFACE WATERS OR STORM WATER CONVEYANCE SYSTEMS. TEMPORARY STOCKPILES WITHOUT SIGNIFICANT AMOUNT OF SILT, CLAY, OR ORGANIC COMPOUNDS ARE EXEMPT EX: CLEAN AGGREGATE STOCK PILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES.

16. SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED ON ALL DOWNGRADIENT PERIMETERS AND UPGRADIENT OF ANY BUFFER ZONES.

17. SEDIMENT LADEN WATER MUST BE DISCHARGED TO A SEDIMENTATION BASIN WHENEVER POSSIBLE. IF NOT POSSIBLE, IT MUST BE TREATED WITH THE APPROPRIATE BMP'S.

18. SOLID WASTE MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.

19. NO VEHICLE WASHING ALLOWED ON SITE.

20. NO ENGINE DEGREASING IS ALLOWED ON SITE.

21. THE OWNER IS RESPONSIBLE FOR COMPLIANCE WITH ALL TERMS AND CONDITIONS OF THE PERMIT. THE OPERATOR IS RESPONSIBLE FOR COMPLIANCE WITH SECTIONS 3, 4, 6-22, 24 AND APPLICABLE REQUIREMENTS FOR CONSTRUCTION ACTIVITY IN SECTION 23.

22. TERMINATION OF COVERAGE-PERMITTEE(S) WISHING TO TERMINATE COVERAGE MUST SUBMIT A NOTICE OF TERMINATION (NOT) TO THE MPCA. ALL PERMITTEE(S) MUST SUBMIT A NOT WITHIN 30 DAYS AFTER THE FOLLOWING CONDITIONS HAVE BEEN MET:

   A. PERMIT TERMINATION CONDITIONS, PER NPDES PERMIT SECTION 13.1 HAVE BEEN ACHIEVED ON ALL PORTIONS OF THE SITE FOR WHICH THE PERMITTEE IS RESPONSIBLE.
   A.A. PERMANENT UNIFORM PERENNIAL VEGETATIVE COVER MUST BE ESTABLISHED AT 70% DENSITY OF ITS EXPECTED FINAL GROWTH.
   A.B. THE PERMANENT STORMWATER TREATMENT SYSTEM IS CONSTRUCTED, MEETS ALL REQUIREMENTS, AND IS OPERATING AS DESIGNED.
   A.C. ALL TEMPORARY SYNTHETIC EROSION PREVENTION AND SEDIMENT CONTROL BMPS MUST BE REMOVED.
   A.D. CLEAN OUT SEDIMENT FROM CONVEYANCE SYSTEMS AND PERMANENT STORMWATER TREATMENT SYSTEMS (RETURN TO DESIGN CAPACITY).

23. INSPECTIONS
   A. INITIAL INSPECTION FOLLOWING SILT FENCE INSTALLATION BY CITY REPRESENTATIVE IS REQUIRED.
   B. EXPOSED SOIL AREAS: ONCE EVERY 7 DAYS AND WITHIN 24 HOURS FOLLOWING A 0.5" OVER 24 HOUR RAIN EVENT.
   C. STABILIZED AREAS: ONCE EVERY 30 DAYS
   D. FROZEN GROUND: AS SOON AS RUNOFF OCCURS OR PRIOR TO RESUMING CONSTRUCTION.
   E. INSPECTION AND MAINTENANCE RECORDS MUST BE RETAINED FOR 3 YEARS AFTER FILING OF THE NOTICE OF TERMINATION AND MUST INCLUDE: DATE AND TIME OF ACTION, NAME OF PERSON(S) CONDUCTING WORK, FINDING OF INSPECTIONS AND RECOMMENDATIONS FOR CORRECTIVE ACTION, DATE AND AMOUNT OF RAINFALL EVENTS GREATER THAN 0.5 INCHES IN A 24 HOUR PERIOD.
   F. OBSERVE ANY DISCHARGE OCCURRING ONSITE AND DOCUMENT CORRECTIVE ACTIONS TAKEN. DISCHARGE SHOULD BE DESCRIBED AND PHOTOGRAPHED.

24. MINIMUM MAINTENANCE
   A. ALL NONFUNCTIONAL BMPS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY OR AS SOON AS FIELD CONDITIONS ALLOW.
   B. REPAIR, REPLACE, OR SUPPLEMENT ALL PERIMETER CONTROL DEVICES WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES ½ THE HEIGHT OF THE DEVICE.
   C. SEDIMENT BASINS DRAINED AND SEDIMENT REMOVED WHEN REACHES 1/2 STORAGE VOLUME.
   D. SEDIMENT REMOVED FROM SURFACE WATERS WITHIN (7)SEVEN CALENDAR DAYS OF DISCOVERY.
   E. CONSTRUCTION SITE EXITS INSPECTED, TRACKED SEDIMENT REMOVED WITHIN (1)ONE CALENDAR DAY.
   F. PROVIDE COPIES OF EROSION INSPECTION RESULTS TO CITY ENGINEER FOR ALL EVENTS GREATER THAN ½" IN 24 HOURS.

25. THE SWPPP, INCLUDING ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS MUST BE KEPT AT THE SITE DURING CONSTRUCTION ACTIVITY BY THE PERMITTEE(S) WHO HAVE OPERATIONAL CONTROL OF THE SITE.

26. OWNER MUST KEEP RECORDS OF ALL PERMITS REQUIRED FOR THE PROJECT, THE SWPPP, ALL INSPECTIONS AND MAINTENANCE, PERMANENT OPERATION AND MAINTENANCE AGREEMENTS, AND REQUIRED CALCULATIONS FOR TEMPORARY AND PERMANENT STORM WATER MANAGEMENT SYSTEMS. THESE RECORDS MUST BE RETAINED FOR THREE YEARS AFTER FILING NPDES NOTICE OF TERMINATION.

27. SWPPP MUST BE AMENDED WHEN:
   A. THERE IS A CHANGE IN DESIGN, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS THAT HAS A SIGNIFICANT EFFECT ON DISCHARGE
   B. INSPECTIONS INDICATE THAT THE SWPPP IS NOT EFFECTIVE AND DISCHARGE IS EXCEEDING WATER QUALITY STANDARDS.
   C. THE BMP'S IN THE SWPPP ARE NOT CONTROLLING POLLUTANTS IN DISCHARGES OR IS NOT CONSISTENT WITH THE TERMS AND CONDITIONS OF THE PERMIT.

28. CONCRETE WASHOUT AREA
   A. THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, CONCRETE, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS SHALL BE PROPERLY CONTAINED AND DISPOSED OF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND USING APPROVED METHODS OF CONTAINMENT SUCH AS PRE-FABRICATED WASHOUT CONTAINERS, CONCRETE WASHOUT TOTE, READY MIX TRUCKS WITH SELF-CONTAINED CHUTE CLEANOUT, ETC.
   B. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY.

29. IN THE EVENT OF ENCOUNTERING A WELL OR SPRING DURING CONSTRUCTION CONTRACTOR TO CEASE CONSTRUCTION ACTIVITY AND NOTIFY ENGINEER.

30. PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER.

31. FINAL STABILIZATION
   FINAL STABILIZATION REQUIRES THAT ALL SOIL DISTURBING ACTIVITIES HAVE BEEN COMPLETED AND THAT DISTURBED AREAS ARE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER WITH 70% OF THE EXPECTED FINAL DENSITY, AND THAT ALL PERMANENT PAVEMENTS HAVE BEEN INSTALLED. ALL TEMPORARY BMP'S SHALL BE REMOVED, DITCHES STABILIZED, AND SEDIMENT SHALL BE REMOVED FROM PERMANENT CONVEYANCES AND SEDIMENTATION BASINS IN ORDER TO RETURN THE POND TO DESIGN CAPACITY.

32. RESPONSIBILITIES
   A. THE OWNER MUST IDENTIFY A PERSON WHO WILL OVERSEE THE SWPPP IMPLEMENTATION AND THE PERSON RESPONSIBLE FOR INSPECTION AND MAINTENANCE:
   CONTACT: TBD
   COMPANY: TBD
   PHONE: TBD
   B. THE OWNER MUST IDENTIFY THE A PERSON WHO WILL BE RESPONSIBLE FOR LONG TERM OPERATIONS AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM:
   CONTACT: TBD
   COMPANY: TBD
   PHONE: TBD

33. THE WATERSHED DISTRICT OR THE CITY MAY HAVE REQUIREMENTS FOR INSPECTIONS OR AS-BUILT DRAWINGS VERIFYING PROPER CONSTRUCTION OF THE BMPS.

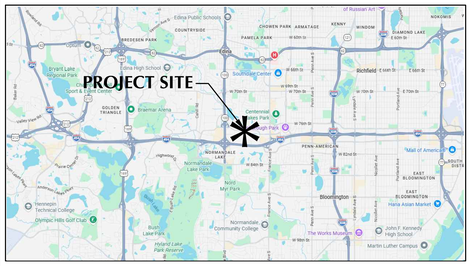
34. EROSION CONTROL DEVICES CANNOT BE REMOVED UNTIL THE WATERSHED DISTRICT HAS DETERMINED THE SITE HAS BEEN PERMANENTLY RESTABILIZED AND SHALL BE REMOVED WITHIN 30 DAYS THEREAFTER.

UNIVERSITY OF MINNESOTA

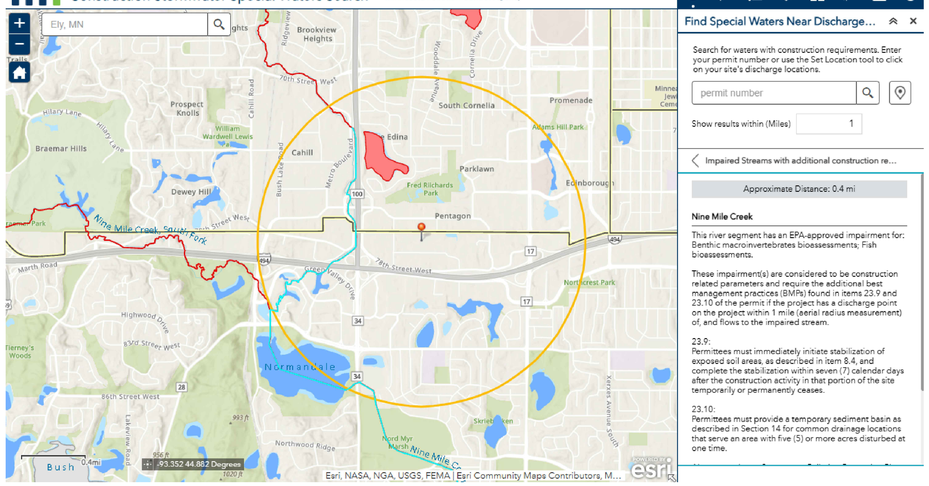
Jacob R. Mitzel

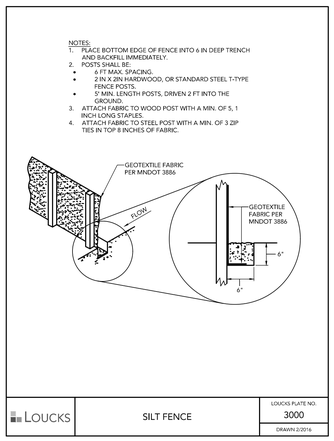
Construction Site Management (May 31 2024)
Design of Construction SWPPP (May 31 2026)

SITE VICINITY MAP

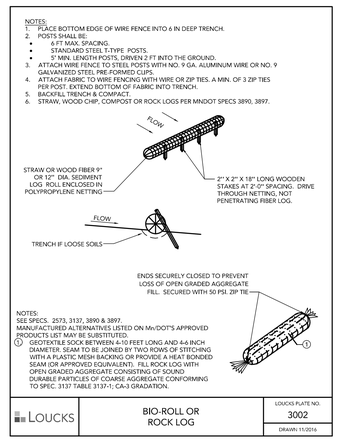


CONSTRUCTION STORMWATER SPECIAL WATERS SEARCH MAP

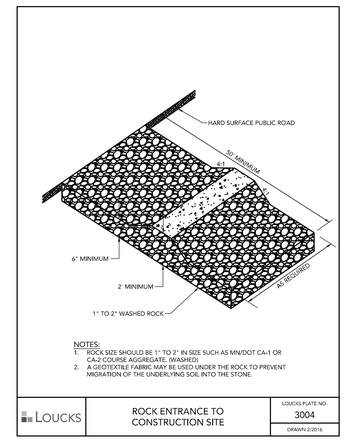




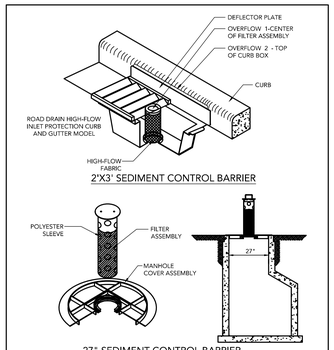
LOUCKS | SILT FENCE | LOUCKS PLATE NO. 3000 | DRAWN 2/2016



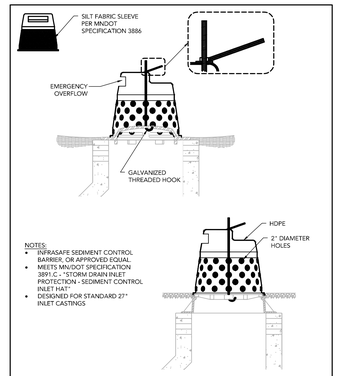
LOUCKS | BIO-ROLL OR ROCK LOG | LOUCKS PLATE NO. 3002 | DRAWN: 11/2016



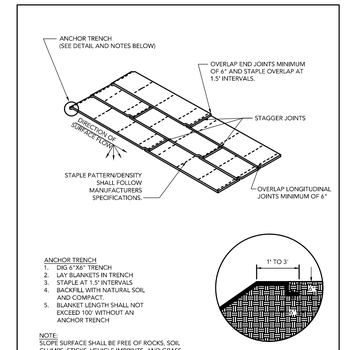
LOUCKS | ROCK ENTRANCE TO CONSTRUCTION SITE | LOUCKS PLATE NO. 3004 | DRAWN 2/2016



LOUCKS | INLET PROTECTION - EXISTING STORM STRUCTURES | LOUCKS PLATE NO. 3011 | DRAWN 2/2016



LOUCKS | INLET PROTECTION - HIGH FLOW AREA | LOUCKS PLATE NO. 3012 | DRAWN 2/2016



LOUCKS | EROSION CONTROL BLANKET | LOUCKS PLATE NO. 3016 | DRAWN 2/2016

ERTEC® Slot Guard™ - Installation Guide - For slotted or trench drain inlets with grates in paved areas

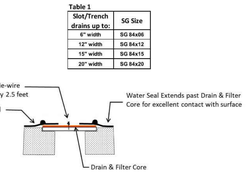
Installation Notes

1. **Placement**: Select correct size (Table 1). Lay the Slot Guard™ on top of the slot or trench drain grate. For safety, assure that grate is in place. Do not remove grate.
2. **Anchor method**: Attach with 16 gauge tie wire every 2.5 linear Feet (Fig 1). Cut wire to 12" lengths. Feed one end of wire down thru Slot Guard™, around grate bar, and back-up thru Slot Guard™. Above ground, pull tight and twist wires several times. Cut off excess and bend twisted nub down
3. **Overlap**: Slot Guard™ segments overlap for long slot/trench drains.
4. **Clean**: Accumulation of leaves, debris and sediment can cause backups! Clean after every storm or as necessary.
5. **Protect**: In stop and go traffic areas where exposed to constant tire abuse, it is useful to place traffic cones or delineators on or near Slot Guard to discourage run-overs. Slot Guard™ works well with periodic run-overs, but does not survive long in constant stop and start traffic.

Table 1

Slot/Trench drains up to:	SG Size
6" width	SG 84x06
12" width	SG 84x12
15" width	SG 84x15
20" width	SG 84x20

Fig. 1



Maintenance: Perform maintenance as required. Inspect following rainfall events and at least daily during prolonged rainfall. Maintain to provide an adequate sediment holding capacity. Debris shall be removed daily and sediment shall be removed when the sediment accumulation reaches 50% of the barrier height. Removed sediment shall be incorporated in the project at designated locations.

Disclaimer: ERTEC Environmental Systems, Inc. makes no warranty. The user should independently evaluate the suitability of each product for their application. ERTEC Environmental Systems makes no warranties as to the accuracy or completeness of the information, and disclaims any liability regarding its use. ERTEC Environmental System's only obligations are those in the ERTEC Environmental Systems Standard Terms and Conditions of Sale for this product. In no event shall ERTEC Environmental Systems be liable for any damages (including, but not limited to, consequential damages arising from the sale, resale, use or misuse of the product. Specifications are subject to change without notice. In addition, ERTEC Environmental Systems reserves the right to make changes without notification to Buyer, to processing or materials which do not affect compliance with any applicable specification.

ERTEC | 1110 Sabine Blvd., Suite 100 Waco, TX 76706 P: 866-513-4554 F: 510-521-3972 www.ertecsystems.com

U.S. and International Patents and Pending Patents Apply ©2009-2018 ERTEC Environmental Systems

File Name:	Drawing Size:	Sheet:
ERTEC – Installation Guide – Slot Guard.pdf	8.5"x11"	1 of 1
None		

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

B|W|B|R

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 202441

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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 Registered Professional Engineer under the laws of the State of Minnesota

Name: Zachary B. Moore - PE
Date: 05-13-2026 Lic./Reg. No. 58688

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
SWPPP NOTES & DETAILS

Sheet No.
232.SW

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CONSTRUCTION STAKING

LOUCKS IS PLEASED TO OFFER CONSTRUCTION STAKING SERVICES. PLEASE CONTACT BRIAN PECHACEK FOR INQUIRIES.
EMAIL: BPECHACEK@LOUCKSINC.COM
PHONE: 763.424.5505

CITY OF BLOOMINGTON NOTES

1. UTILITY AS-BUILT MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
2. HDPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATERTIGHT MATERIALS UTILIZING AN A-LOK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL. WHERE THE ALIGNMENT PRECLUDES THE USE OF THE APPROVED WATERTIGHT METHODS, CONCEAL 231 WATER STOP SEALANT, OR APPROVED EQUAL, WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
3. UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563--8777) FOR PERMIT INFORMATION.
4. PHASE WATERMAIN CONSTRUCTION TO MINIMIZE DURATION OF FIRE HYDRANTS BEING OUT OF SERVICE.
5. TAPS OF LIVE MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
6. UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING
7. USE ZINC-COATED CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL V-BIO BASED POLY WRAP IS REQUIRED ON ALL DIP. SEE CITY CONSTRUCTION SPECIFICATIONS (CURRENT EDITION).
8. ALL UNUSED WATER AND SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.
9. COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR MJ TO FLANGE ADAPTER.
10. INSTALL INTERIOR CHIMNEY SEALS ON ALL SANITARY SEWER MANHOLES.
11. ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSI/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
12. USE SHORT CONE MANHOLES WITHOUT STEPS.
13. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE, USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

SANITARY SEWER & WATERMAIN NOTES

1. ALL SANITARY SEWER AND WATERMAIN UTILITIES SHALL BE FURNISHED AND INSTALLED PER THE REQUIREMENTS OF THE SPECIFICATIONS,THE MINNESOTA PLUMBING CODE, THE LOCAL GOVERNING UNIT, AND THE STANDARD UTILITIES SPECIFICATION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), CURRENT EDITION.
2. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE PERFORMED PER THE REQUIREMENTS OF THE STATE AND LOCAL JURISDICTIONS. THE CITY DEPARTMENT OF ENGINEERING AND BUILDING INSPECTIONS DEPARTMENT AND THE CONSTRUCTION ENGINEER MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY, OR WORK IMPACTING PUBLIC UTILITIES.
3. ALL SITE UTILITY SERVICES SHALL TERMINATE 5' FROM THE EXTERIOR BUILDING WALL UNLESS OTHERWISE NOTED. THE SITE UTILITY CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR, MECHANICAL CONTRACTOR AND MECHANICAL ENGINEER TO DETERMINE THE RESPONSIBILITY OF BRINGING THE SERVICE(S) INTO THE BUILDING, INSPECTIONS AND TESTING PER APPLICABLE GOVERNING AGENCIES.
4. ALL NEW WATERMAIN AND SERVICES MUST HAVE A MINIMUM OF 8.0 FEET OF COVER. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. THE CONTRACTOR SHALL FIELD ADJUST WATERMAIN TO AVOID CONFLICTS WITH SANITARY SEWER, STORM SEWER, AND SERVICES AS REQUIRED. INSULATION OF WATERMAIN AND SANITARY SEWER LINES SHALL BE PROVIDED WHERE 8.0 FEET MINIMUM DEPTH CAN NOT BE ATTAINED.
5. PER MINNESOTA DEPARTMENT OF LABOR & INDUSTRY REQUIREMENTS, A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FROM WATERMAIN TO ANY MANHOLE, SEPTIC SYSTEM, CATCH BASIN, SEWER PIPE, OR OTHER SOURCE OF CONTAMINATION, MEASURED FROM THE OUTER EDGE OF THE PIPE TO THE OUTER EDGE OF THE CONTAMINATION SOURCE UNLESS OTHERWISE SHOWN.
6. CONTRACTOR TO SUBMIT SHOP DRAWINGS OF SANITARY STRUCTURE(S) AND UNDERGROUND SYSTEM(S) FOR ENGINEER'S REVIEW.
7. ALL FIRE HYDRANTS SHALL BE LOCATED 5 FEET BEHIND BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
8. HYDRANT USE: CONTRACTOR IS RESPONSIBLE TO NOTIFY PUBLIC UTILITIES DEPARTMENT WHEN THEY NEED TO USE A HYDRANT; ONLY PRE-AUTHORIZED HYDRANTS WILL BE USED. HYDRANTS TO BE OPERATED ONLY WITH PROPER EQUIPMENT SUCH AS A HYDRANT NUT WRENCH, NOT A PIPE WRENCH. HYDRANT METER IS AVAILABLE FROM PUBLIC UTILITIES DEPARTMENT. ANY TRUCK, ETC. FILLED FROM A HYDRANT MUST BE METERED, MUST HAVE PHYSICAL BREAK OR BACK-FLOW PREVENTER APPROVED BY PUBLIC UTILITIES DEPARTMENT. ALSO APPLIES TO SUBCONTRACTORS.
9. OPERATING VALVES FOR TURNING WATER MAIN ON/OFF: PUBLIC UTILITIES DEPARTMENT WILL OPERATE ALL VALVES AND FILL ALL WATER MAINS (PUBLIC AND PRIVATE). CONTRACTOR SHALL GIVE AT LEAST 24 HOURS NOTICE TO HAVE WATER SHUT OFF AND SHALL NOTIFY IN WRITING, ALL AFFECTED CUSTOMERS AT LEAST 24 HOURS IN ADVANCE BEFORE SHUT OFF; ATTACH TO DOOR, ETC., NOT IN MAILBOXES.
10. TEMPORARY SERVICE: THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICE IF SERVICE CANNOT BE RESTORED SAME DAY. IF USING HYDRANT FOR TEMPORARY SERVICE, NOTIFY PUBLIC UTILITIES DEPARTMENT AND USE ONLY PRE-APPROVED HYDRANT AND SUPPLIED HYDRO METER WITH BACK FLOW. THE CONTRACTOR'S TEMPORARY MAIN SHALL BE DISINFECTED, FLUSHED AND BACTERIOLOGICAL ANALYSIS SHOWN NEGATIVE PRIOR TO PUTTING THE TEMPORARY SYSTEM IN SERVICE. THE TEMPORARY WATER SYSTEM SHALL BE IN PLACE PRIOR TO THE PUBLIC UTILITIES DEPARTMENT SHUTTING OFF ANY WATER MAINS.
11. REFER TO GEOTECHNICAL EVALUATION REPORT AS PREPARED BY BRAUN INTERTEC, FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
    A. REUSE OF ON-SITE SOILS
    B. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
    C. SITE GRADING AND SUBGRADE PREPARATION.
    D. PAVEMENTS AND EXTERIOR SLABS.
    E. TRENCH EXCAVATION AND BACKFILL.
    F. EXTERIOR UTILITY SUPPORTS.
    G. FROST PROTECTION.
13. CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION OF CONSTRUCTED UTILITIES (RECOMMENDED PRIOR TO BACKFILLING) PER APPLICABLE PERMIT REQUIREMENTS AND/OR DEVELOPMENT AGREEMENTS.
14. ALL UNUSED UTILITY SERVICES SHALL BE ABANDONED PER THE REQUIREMENTS OF THE APPLICABLE GOVERNING AGENCIES.
15. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED UTILITY PERMITS FROM THE APPLICABLE GOVERNING AGENCIES.

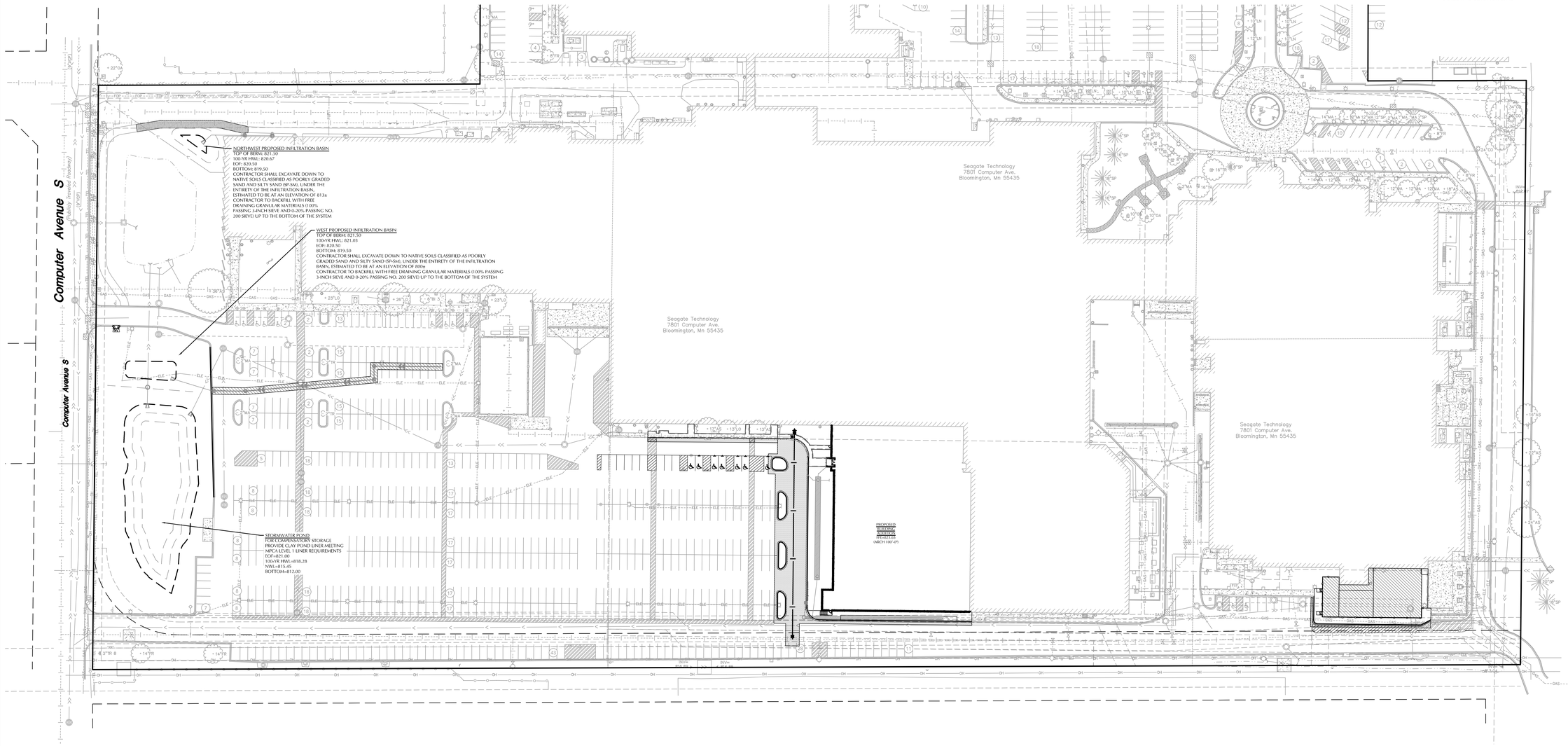
N

0 50 100
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SEWER SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
	CONTOUR	
	SPOT ELEVATION	
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	



Copyright BWBR

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

B|W|B|R
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moos - PE
Date **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL UTILITY PLAN SANITARY & WATERMAIN OVERALL

Sheet No.
240.0CU

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CONSTRUCTION STAKING

LOUCKS IS PLEASED TO OFFER CONSTRUCTION STAKING SERVICES. PLEASE CONTACT BRIAN PECHACEK FOR INQUIRIES.
EMAIL: BPECHACEK@LOUCKSINC.COM
PHONE: 763.424.5505

CITY OF BLOOMINGTON NOTES

1. UTILITY AS-BUILT MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
2. HDPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATERTIGHT MATERIALS UTILIZING AN A-LOK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL. WHERE THE ALIGNMENT PRECLUDES THE USE OF THE APPROVED WATERTIGHT METHODS, CONCEAL 231 WATER STOP SEALANT, OR APPROVED EQUAL, WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
3. UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563--8777) FOR PERMIT INFORMATION.
4. PHASE WATERMAIN CONSTRUCTION TO MINIMIZE DURATION OF FIRE HYDRANTS BEING OUT OF SERVICE.
5. TAPS OF LIVE MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
6. UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING
7. USE ZINC-COATED CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL V-BIO BASED POLY WRAP IS REQUIRED ON ALL DIP. SEE CITY CONSTRUCTION SPECIFICATIONS (CURRENT EDITION).
8. ALL UNUSED WATER AND SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.
9. COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR MJ TO FLANGE ADAPTER.
10. INSTALL INTERIOR CHIMNEY SEALS ON ALL SANITARY SEWER MANHOLES.
11. ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSI/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
12. USE SHORT CONE MANHOLES WITHOUT STEPS.
13. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE, USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

SANITARY SEWER & WATERMAIN NOTES

1. ALL SANITARY SEWER AND WATERMAIN UTILITIES SHALL BE FURNISHED AND INSTALLED PER THE REQUIREMENTS OF THE SPECIFICATIONS,THE MINNESOTA PLUMBING CODE, THE LOCAL GOVERNING UNIT, AND THE STANDARD UTILITIES SPECIFICATION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), CURRENT EDITION.
2. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE PERFORMED PER THE REQUIREMENTS OF THE STATE AND LOCAL JURISDICTIONS. THE CITY DEPARTMENT OF ENGINEERING AND BUILDING INSPECTIONS DEPARTMENT AND THE CONSTRUCTION ENGINEER MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY, OR WORK IMPACTING PUBLIC UTILITIES.
3. ALL SITE UTILITY SERVICES SHALL TERMINATE 5' FROM THE EXTERIOR BUILDING WALL UNLESS OTHERWISE NOTED. THE SITE UTILITY CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR, MECHANICAL CONTRACTOR AND MECHANICAL ENGINEER TO DETERMINE THE RESPONSIBILITY OF BRINGING THE SERVICE(S) INTO THE BUILDING, INSPECTIONS AND TESTING PER APPLICABLE GOVERNING AGENCIES.
4. ALL NEW WATERMAIN AND SERVICES MUST HAVE A MINIMUM OF 8.0 FEET OF COVER. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. THE CONTRACTOR SHALL FIELD ADJUST WATERMAIN TO AVOID CONFLICTS WITH SANITARY SEWER, STORM SEWER, AND SERVICES AS REQUIRED. INSULATION OF WATERMAIN AND SANITARY SEWER LINES SHALL BE PROVIDED WHERE 8.0 FEET MINIMUM DEPTH CAN NOT BE ATTAINED.
5. PER MINNESOTA DEPARTMENT OF LABOR & INDUSTRY REQUIREMENTS, A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FROM WATERMAIN TO ANY MANHOLE, SEPTIC SYSTEM, CATCH BASIN, SEWER PIPE, OR OTHER SOURCE OF CONTAMINATION, MEASURED FROM THE OUTER EDGE OF THE PIPE TO THE OUTER EDGE OF THE CONTAMINATION SOURCE UNLESS OTHERWISE SHOWN.
6. CONTRACTOR TO SUBMIT SHOP DRAWINGS OF SANITARY STRUCTURE(S) AND UNDERGROUND SYSTEM(S) FOR ENGINEER'S REVIEW.
7. ALL FIRE HYDRANTS SHALL BE LOCATED 5 FEET BEHIND BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
8. HYDRANT USE: CONTRACTOR IS RESPONSIBLE TO NOTIFY PUBLIC UTILITIES DEPARTMENT WHEN THEY NEED TO USE A HYDRANT; ONLY PRE-AUTHORIZED HYDRANTS WILL BE USED. HYDRANTS TO BE OPERATED ONLY WITH PROPER EQUIPMENT SUCH AS A HYDRANT NUT WRENCH, NOT A PIPE WRENCH. HYDRANT METER IS AVAILABLE FROM PUBLIC UTILITIES DEPARTMENT. ANY TRUCK, ETC. FILLED FROM A HYDRANT MUST BE METERED, MUST HAVE PHYSICAL BREAK OR BACK-FLOW PREVENTER APPROVED BY PUBLIC UTILITIES DEPARTMENT. ALSO APPLIES TO SUBCONTRACTORS.
9. OPERATING VALVES FOR TURNING WATER MAIN ON/OFF: PUBLIC UTILITIES DEPARTMENT WILL OPERATE ALL VALVES AND FILL ALL WATER MAINS (PUBLIC AND PRIVATE). CONTRACTOR SHALL GIVE AT LEAST 24 HOURS NOTICE TO HAVE WATER SHUT OFF AND SHALL NOTIFY IN WRITING, ALL AFFECTED CUSTOMERS AT LEAST 24 HOURS IN ADVANCE BEFORE SHUT OFF; ATTACH TO DOOR, ETC., NOT IN MAILBOXES.
10. TEMPORARY SERVICE: THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICE IF SERVICE CANNOT BE RESTORED SAME DAY. IF USING HYDRANT FOR TEMPORARY SERVICE, NOTIFY PUBLIC UTILITIES DEPARTMENT AND USE ONLY PRE-APPROVED HYDRANT AND SUPPLIED HYDRO METER WITH BACK FLOW. THE CONTRACTOR'S TEMPORARY MAIN SHALL BE DISINFECTED, FLUSHED AND BACTERIOLOGICAL ANALYSIS SHOWN NEGATIVE PRIOR TO PUTTING THE TEMPORARY SYSTEM IN SERVICE. THE TEMPORARY WATER SYSTEM SHALL BE IN PLACE PRIOR TO THE PUBLIC UTILITIES DEPARTMENT SHUTTING OFF ANY WATER MAINS.
11. REFER TO GEOTECHNICAL EVALUATION REPORT AS PREPARED BY BRAUN INTERTEC, FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
    - A. REUSE OF ON-SITE SOILS
    - B. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
    - C. SITE GRADING AND SUBGRADE PREPARATION.
    - D. PAVEMENTS AND EXTERIOR SLABS.
    - E. TRENCH EXCAVATION AND BACKFILL.
    - F. EXTERIOR UTILITY SUPPORTS.
    - G. FROST PROTECTION.
13. CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION OF CONSTRUCTED UTILITIES (RECOMMENDED PRIOR TO BACKFILLING) PER APPLICABLE PERMIT REQUIREMENTS AND/OR DEVELOPMENT AGREEMENTS.
14. ALL UNUSED UTILITY SERVICES SHALL BE ABANDONED PER THE REQUIREMENTS OF THE APPLICABLE GOVERNING AGENCIES.
15. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED UTILITY PERMITS FROM THE APPLICABLE GOVERNING AGENCIES.

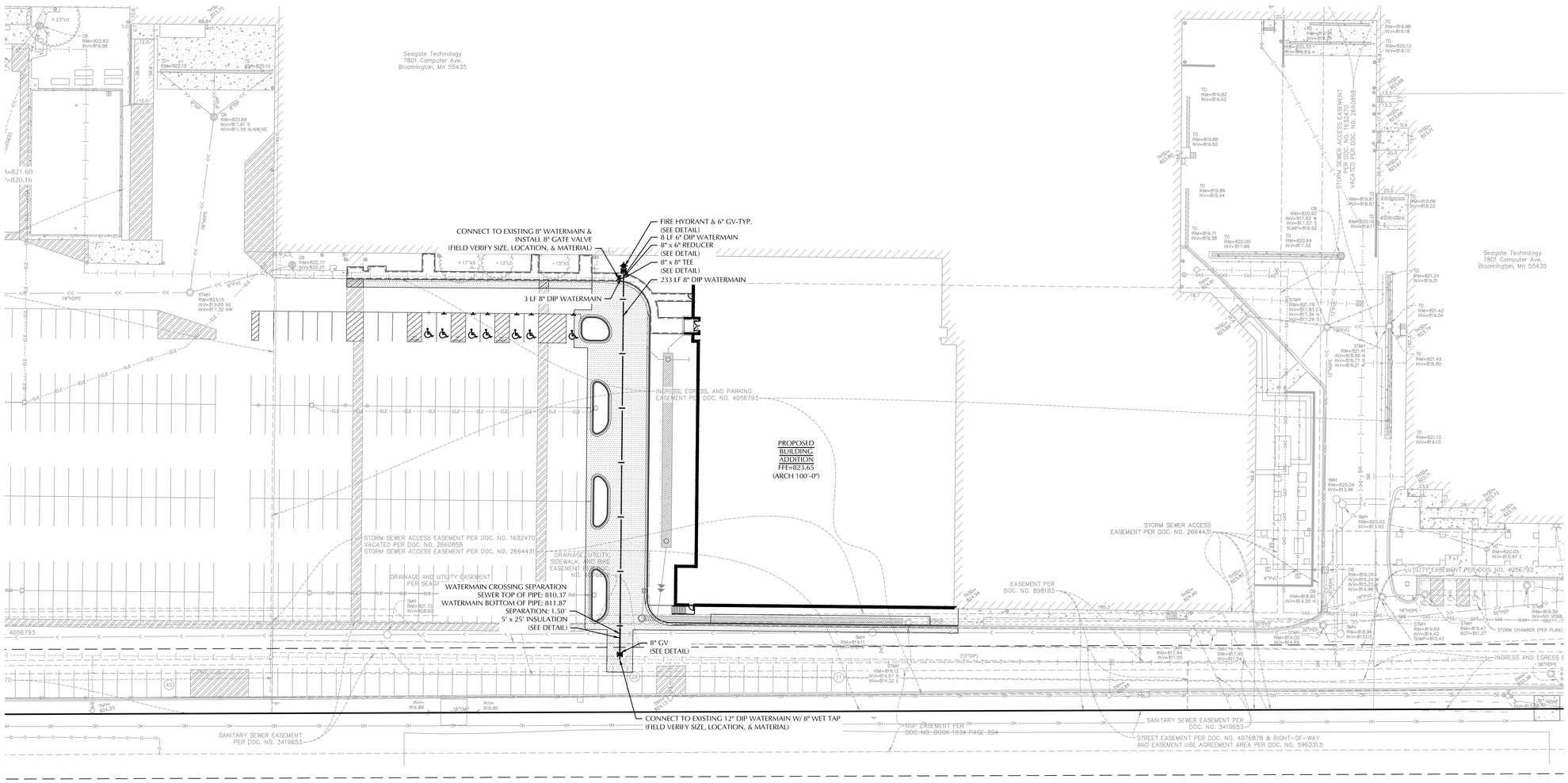
N

0 30 60
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SEWER SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
	CONTOUR	
	SPOT ELEVATION	
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moen - PE

Date **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL UTILITY PLAN SANITARY & WATERMAIN EAST

Sheet No.
240.1CU

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CONSTRUCTION STAKING

LOUCKS IS PLEASED TO OFFER CONSTRUCTION STAKING SERVICES. PLEASE CONTACT BRIAN PECHACEK FOR INQUIRIES.
EMAIL: BPECHACEK@LOUCKSINC.COM
PHONE: 763.424.5505

CITY OF BLOOMINGTON NOTES

1. UTILITY AS-BUILT MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
2. HDPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATERTIGHT MATERIALS UTILIZING AN A-LOK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL. WHERE THE ALIGNMENT PRECLUDES THE USE OF THE APPROVED WATERTIGHT METHODS, CONCEAL 231 WATER STOP SEALANT, OR APPROVED EQUAL, WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
3. UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563--8777) FOR PERMIT INFORMATION.
4. PHASE WATERMAIN CONSTRUCTION TO MINIMIZE DURATION OF FIRE HYDRANTS BEING OUT OF SERVICE.
5. TAPS OF LIVE MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
6. UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING
7. USE ZINC-COATED CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL V-BIO BASED POLY WRAP IS REQUIRED ON ALL DIP. SEE CITY CONSTRUCTION SPECIFICATIONS (CURRENT EDITION).
8. ALL UNUSED WATER AND SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.
9. COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR MJ TO FLANGE ADAPTER.
10. INSTALL INTERIOR CHIMNEY SEALS ON ALL SANITARY SEWER MANHOLES.
11. ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSI/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
12. USE SHORT CONE MANHOLES WITHOUT STEPS.
13. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE, USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

STORM SEWER NOTES

1. ALL STORM SEWER SHALL BE FURNISHED AND INSTALLED PER THE REQUIREMENTS OF THE SPECIFICATIONS,THE MINNESOTA PLUMBING CODE, THE LOCAL GOVERNING UNIT, AND THE STANDARD UTILITIES SPECIFICATION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), CURRENT EDITION.
2. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE PERFORMED PER THE REQUIREMENTS OF THE STATE AND LOCAL JURISDICTIONS. THE CITY DEPARTMENT OF ENGINEERING AND BUILDING INSPECTIONS DEPARTMENT AND THE CONSTRUCTION ENGINEER MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY, OR WORK IMPACTING PUBLIC UTILITIES.
3. ALL SITE UTILITY SERVICES SHALL TERMINATE 5' FROM THE EXTERIOR BUILDING WALL UNLESS OTHERWISE NOTED. THE SITE UTILITY CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR, MECHANICAL CONTRACTOR AND MECHANICAL ENGINEER TO DETERMINE THE RESPONSIBILITY OF BRINGING THE SERVICE(S) INTO THE BUILDING, INSPECTIONS AND TESTING PER APPLICABLE GOVERNING AGENCIES.
4. PER MINNESOTA DEPARTMENT OF LABOR & INDUSTRY REQUIREMENTS, A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FROM WATERMAIN TO ANY MANHOLE, SEPTIC SYSTEM, CATCH BASIN, SEWER PIPE, OR OTHER SOURCE OF CONTAMINATION, MEASURED FROM THE OUTER EDGE OF THE PIPE TO THE OUTER EDGE OF THE CONTAMINATION SOURCE UNLESS OTHERWISE SHOWN.
5. ALL STORM SEWER DOWNSPOUT COLLECTION PIPES AND WYES SHALL BE PVC (SCHEDULE 40).
6. CONTRACTOR TO SUBMIT SHOP DRAWINGS OF STORM STRUCTURE(S) AND UNDERGROUND SYSTEM(S) FOR ENGINEER'S REVIEW.
7. CONTRACTOR TO VERIFY UNDERLYING SOILS BENEATH ALL STORMWATER FACILITIES, AND PROVIDE DOCUMENTATION TO THE ENGINEER, PRIOR TO CONSTRUCTION OF THE FACILITIES.
8. ALL PORTIONS OF THE STORM SEWER SYSTEM, INCLUDING CATCH BASINS, LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED ACCORDANCE WITH MINNESOTA RULES, PART 4714.
9. REFER TO GEOTECHNICAL EVALUATION REPORT AS PREPARED BY BRAUN INTERTEC, FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   A. REUSE OF ON-SITE SOILS
   B. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
   C. SITE GRADING AND SUBGRADE PREPARATION.
   D. PAVEMENTS AND EXTERIOR SLABS.
   E. TRENCH EXCAVATION AND BACKFILL.
   F. EXTERIOR UTILITY SUPPORTS.
   G. FROST PROTECTION.
11. CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION OF CONSTRUCTED STORMWATER MANAGEMENT SYSTEMS & ASSOCIATED INFRASTRUCTURE (RECOMMENDED PRIOR TO BACKFILLING) PER APPLICABLE PERMIT REQUIREMENTS AND/OR DEVELOPMENT AGREEMENTS.
12. ALL UNUSED UTILITY SERVICES SHALL BE ABANDONED PER THE REQUIREMENTS OF THE APPLICABLE GOVERNING AGENCIES.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED UTILITY PERMITS FROM THE APPLICABLE GOVERNING AGENCIES.

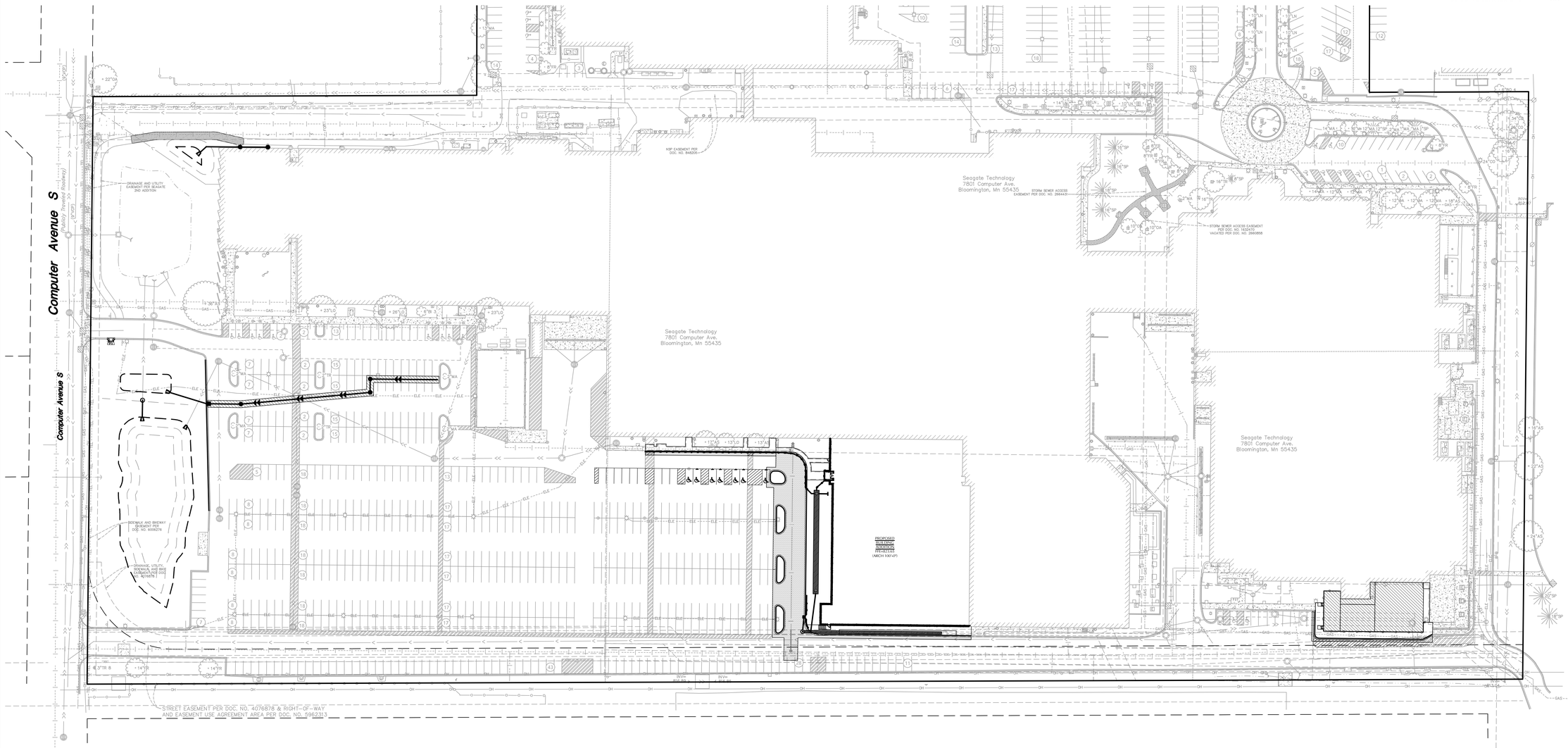
N

0 50 100
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SEWER SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
	CONTOUR	
	SPOT ELEVATION	
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	



Copyright BWBR

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE

12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name: Zachary B. Moore - PE

Date: **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00 | Drawn ZBM/JRM/MDC

Sheet Title
CIVIL UTILITY PLAN STORM SEWER OVERALL

Sheet No.
241.0CU

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CONSTRUCTION STAKING

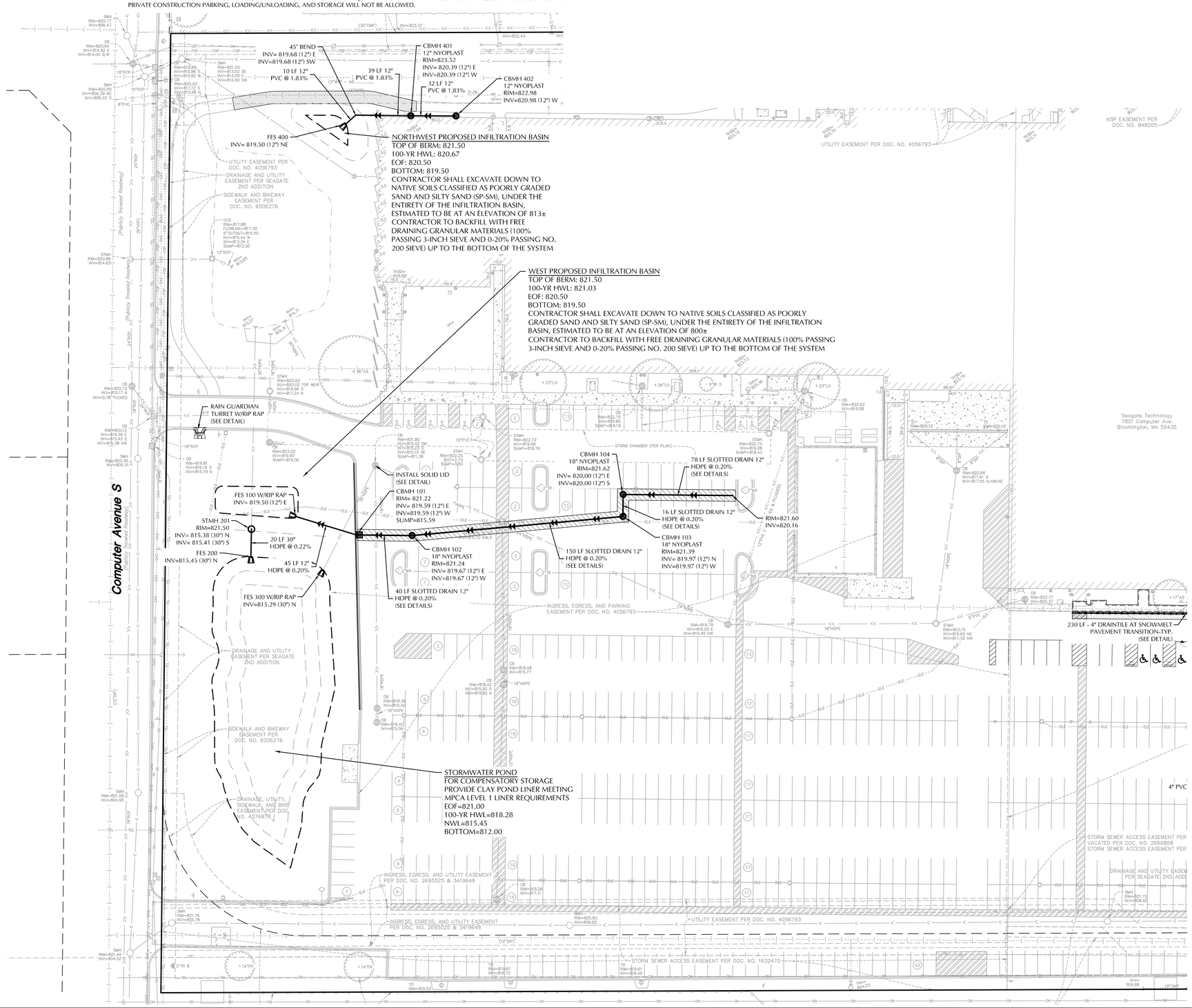
LOUCKS IS PLEASED TO OFFER CONSTRUCTION STAKING SERVICES. PLEASE CONTACT BRIAN PECHACEK FOR INQUIRIES.
EMAIL: BPECHACEK@LOUCKSINC.COM
PHONE: 763.424.5505

CITY OF BLOOMINGTON NOTES

1. UTILITY AS-BUILT MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
2. HDPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATERTIGHT MATERIALS UTILIZING AN A-LOK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL. WHERE THE ALIGNMENT PRECLUDES THE USE OF THE APPROVED WATERTIGHT METHODS, CONCEAL 231 WATER STOP SEALANT, OR APPROVED EQUAL, WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
3. UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563--8777) FOR PERMIT INFORMATION.
4. PHASE WATERMAIN CONSTRUCTION TO MINIMIZE DURATION OF FIRE HYDRANTS BEING OUT OF SERVICE.
5. TAPS OF LIVE MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
6. UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING
7. USE ZINC-COATED CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL V-BIO BASED POLY WRAP IS REQUIRED ON ALL DIP. SEE CITY CONSTRUCTION SPECIFICATIONS (CURRENT EDITION).
8. ALL UNUSED WATER AND SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.
9. COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR MJ TO FLANGE ADAPTER.
10. INSTALL INTERIOR CHIMNEY SEALS ON ALL SANITARY SEWER MANHOLES.
11. ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSI/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
12. USE SHORT CONE MANHOLES WITHOUT STEPS.
13. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE, USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

STORM SEWER NOTES

1. ALL STORM SEWER SHALL BE FURNISHED AND INSTALLED PER THE REQUIREMENTS OF THE SPECIFICATIONS, THE MINNESOTA PLUMBING CODE, THE LOCAL GOVERNING UNIT, AND THE STANDARD UTILITIES SPECIFICATION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), CURRENT EDITION.
2. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE PERFORMED PER THE REQUIREMENTS OF THE STATE AND LOCAL JURISDICTIONS. THE CITY DEPARTMENT OF ENGINEERING AND BUILDING INSPECTIONS DEPARTMENT AND THE CONSTRUCTION ENGINEER MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY, OR WORK IMPACTING PUBLIC UTILITIES.
3. ALL SITE UTILITY SERVICES SHALL TERMINATE 5' FROM THE EXTERIOR BUILDING WALL UNLESS OTHERWISE NOTED. THE SITE UTILITY CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR, MECHANICAL CONTRACTOR AND MECHANICAL ENGINEER TO DETERMINE THE RESPONSIBILITY OF BRINGING THE SERVICE(S) INTO THE BUILDING, INSPECTIONS AND TESTING PER APPLICABLE GOVERNING AGENCIES.
4. PER MINNESOTA DEPARTMENT OF LABOR & INDUSTRY REQUIREMENTS, A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FROM WATERMAIN TO ANY MANHOLE, SEPTIC SYSTEM, CATCH BASIN, SEWER PIPE, OR OTHER SOURCE OF CONTAMINATION, MEASURED FROM THE OUTER EDGE OF THE PIPE TO THE OUTER EDGE OF THE CONTAMINATION SOURCE UNLESS OTHERWISE SHOWN.
5. ALL STORM SEWER DOWNSPOUT COLLECTION PIPES AND WYES SHALL BE PVC (SCHEDULE 40).
6. CONTRACTOR TO SUBMIT SHOP DRAWINGS OF STORM STRUCTURE(S) AND UNDERGROUND SYSTEM(S) FOR ENGINEER'S REVIEW.
7. CONTRACTOR TO VERIFY UNDERLYING SOILS BENEATH ALL STORMWATER FACILITIES, AND PROVIDE DOCUMENTATION TO THE ENGINEER, PRIOR TO CONSTRUCTION OF THE FACILITIES.
8. ALL PORTIONS OF THE STORM SEWER SYSTEM, INCLUDING CATCH BASINS, LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED ACCORDANCE WITH MINNESOTA RULES, PART 4714.
9. REFER TO GEOTECHNICAL EVALUATION REPORT AS PREPARED BY BRAUN INTERTEC, FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   A. REUSE OF ON-SITE SOILS
   B. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
   C. SITE GRADING AND SUBGRADE PREPARATION.
   D. PAVEMENTS AND EXTERIOR SLABS.
   E. TRENCH EXCAVATION AND BACKFILL.
   F. EXTERIOR UTILITY SUPPORTS.
   G. FROST PROTECTION.
11. CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION OF CONSTRUCTED STORMWATER MANAGEMENT SYSTEMS & ASSOCIATED INFRASTRUCTURE (RECOMMENDED PRIOR TO BACKFILLING) PER APPLICABLE PERMIT REQUIREMENTS AND/OR DEVELOPMENT AGREEMENTS.
12. ALL UNUSED UTILITY SERVICES SHALL BE ABANDONED PER THE REQUIREMENTS OF THE APPLICABLE GOVERNING AGENCIES.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED UTILITY PERMITS FROM THE APPLICABLE GOVERNING AGENCIES.



N

0 30 60
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SEWER SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
	CONTOUR	
	SPOT ELEVATION	
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

B|W|B|R

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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 Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moore - PE
Date **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL UTILITY PLAN STORM SEWER WEST

Sheet No.
241.1CU

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CONSTRUCTION STAKING

LOUCKS IS PLEASED TO OFFER CONSTRUCTION STAKING SERVICES. PLEASE CONTACT BRIAN PECHACEK FOR INQUIRIES.
EMAIL: BPECHACEK@LOUCKSINC.COM
PHONE: 763.424.5505

CITY OF BLOOMINGTON NOTES

1. UTILITY AS-BUILT MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
2. HDPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATERTIGHT MATERIALS UTILIZING AN A-LOK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL. WHERE THE ALIGNMENT PRECLUDES THE USE OF THE APPROVED WATERTIGHT METHODS, CONCEAL 231 WATER STOP SEALANT, OR APPROVED EQUAL, WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
3. UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563--8777) FOR PERMIT INFORMATION.
4. PHASE WATERMAIN CONSTRUCTION TO MINIMIZE DURATION OF FIRE HYDRANTS BEING OUT OF SERVICE.
5. TAPS OF LIVE MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
6. UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING
7. USE ZINC-COATED CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL V-BIO BASED POLY WRAP IS REQUIRED ON ALL DIP. SEE CITY CONSTRUCTION SPECIFICATIONS (CURRENT EDITION).
8. ALL UNUSED WATER AND SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.
9. COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR MJ TO FLANGE ADAPTER.
10. INSTALL INTERIOR CHIMNEY SEALS ON ALL SANITARY SEWER MANHOLES.
11. ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSI/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
12. USE SHORT CONE MANHOLES WITHOUT STEPS.
13. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE, USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

STORM SEWER NOTES

1. ALL STORM SEWER SHALL BE FURNISHED AND INSTALLED PER THE REQUIREMENTS OF THE SPECIFICATIONS,THE MINNESOTA PLUMBING CODE, THE LOCAL GOVERNING UNIT, AND THE STANDARD UTILITIES SPECIFICATION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), CURRENT EDITION.
2. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE PERFORMED PER THE REQUIREMENTS OF THE STATE AND LOCAL JURISDICTIONS. THE CITY DEPARTMENT OF ENGINEERING AND BUILDING INSPECTIONS DEPARTMENT AND THE CONSTRUCTION ENGINEER MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY, OR WORK IMPACTING PUBLIC UTILITIES.
3. ALL SITE UTILITY SERVICES SHALL TERMINATE 5' FROM THE EXTERIOR BUILDING WALL UNLESS OTHERWISE NOTED. THE SITE UTILITY CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR, MECHANICAL CONTRACTOR AND MECHANICAL ENGINEER TO DETERMINE THE RESPONSIBILITY OF BRINGING THE SERVICE(S) INTO THE BUILDING, INSPECTIONS AND TESTING PER APPLICABLE GOVERNING AGENCIES.
4. PER MINNESOTA DEPARTMENT OF LABOR & INDUSTRY REQUIREMENTS, A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FROM WATERMAIN TO ANY MANHOLE, SEPTIC SYSTEM, CATCH BASIN, SEWER PIPE, OR OTHER SOURCE OF CONTAMINATION, MEASURED FROM THE OUTER EDGE OF THE PIPE TO THE OUTER EDGE OF THE CONTAMINATION SOURCE UNLESS OTHERWISE SHOWN.
5. ALL STORM SEWER DOWNSPOUT COLLECTION PIPES AND WYES SHALL BE PVC (SCHEDULE 40).
6. CONTRACTOR TO SUBMIT SHOP DRAWINGS OF STORM STRUCTURE(S) AND UNDERGROUND SYSTEM(S) FOR ENGINEER'S REVIEW.
7. CONTRACTOR TO VERIFY UNDERLYING SOILS BENEATH ALL STORMWATER FACILITIES, AND PROVIDE DOCUMENTATION TO THE ENGINEER, PRIOR TO CONSTRUCTION OF THE FACILITIES.
8. ALL PORTIONS OF THE STORM SEWER SYSTEM, INCLUDING CATCH BASINS, LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED ACCORDANCE WITH MINNESOTA RULES, PART 4714.
9. REFER TO GEOTECHNICAL EVALUATION REPORT AS PREPARED BY BRAUN INTERTEC, FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO;
   A. REUSE OF ON-SITE SOILS
   B. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
   C. SITE GRADING AND SUBGRADE PREPARATION.
   D. PAVEMENTS AND EXTERIOR SLABS.
   E. TRENCH EXCAVATION AND BACKFILL.
   F. EXTERIOR UTILITY SUPPORTS.
   G. FROST PROTECTION.
11. CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION OF CONSTRUCTED STORMWATER MANAGEMENT SYSTEMS & ASSOCIATED INFRASTRUCTURE (RECOMMENDED PRIOR TO BACKFILLING) PER APPLICABLE PERMIT REQUIREMENTS AND/OR DEVELOPMENT AGREEMENTS.
12. ALL UNUSED UTILITY SERVICES SHALL BE ABANDONED PER THE REQUIREMENTS OF THE APPLICABLE GOVERNING AGENCIES.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED UTILITY PERMITS FROM THE APPLICABLE GOVERNING AGENCIES.

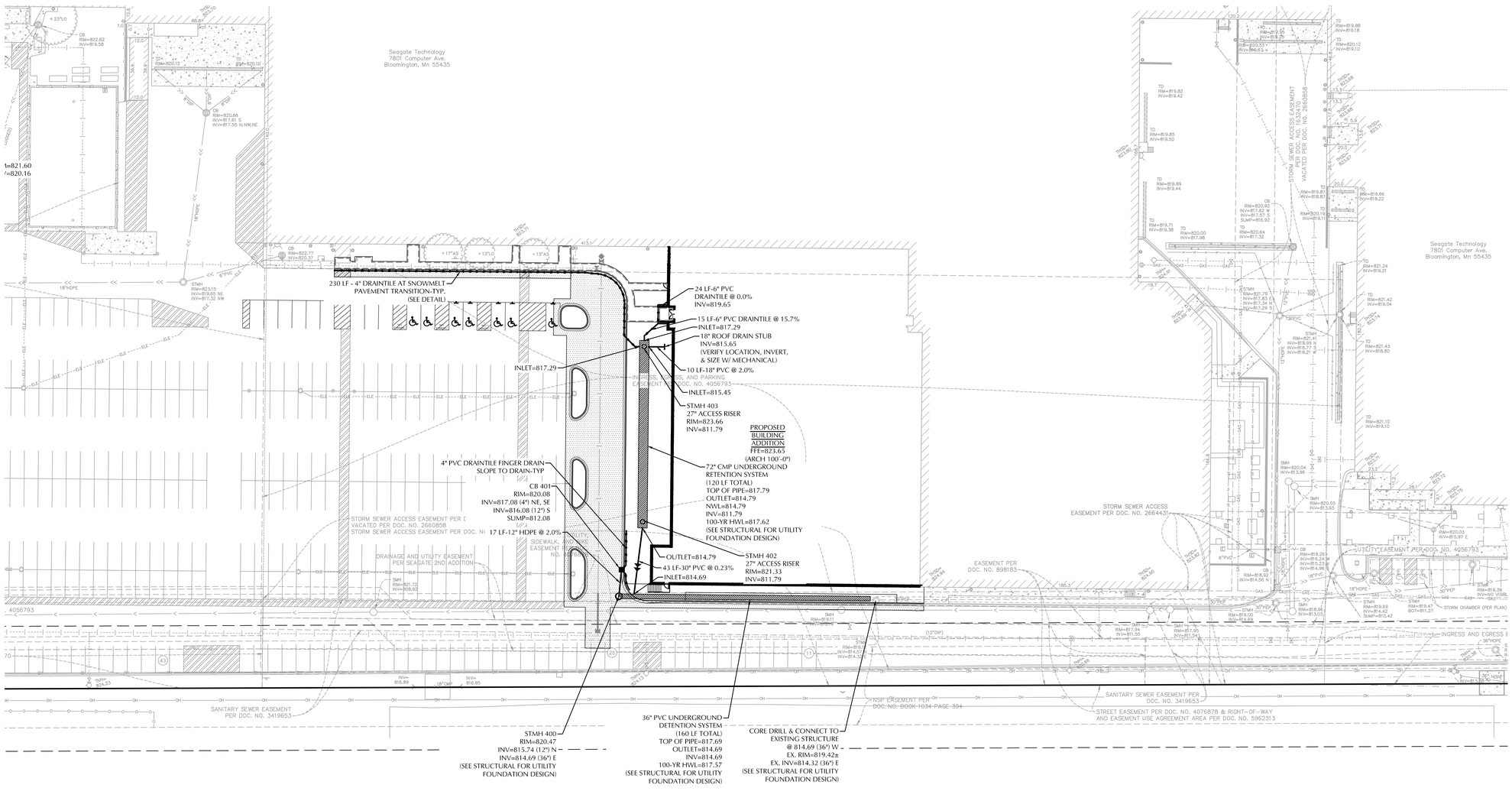
N

0 30 60
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SEWER SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
	CONTOUR	
	SPOT ELEVATION	
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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 Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moore - PE

Date **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL UTILITY PLAN STORM SEWER EAST

Sheet No.
241.2CU

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CONSTRUCTION STAKING

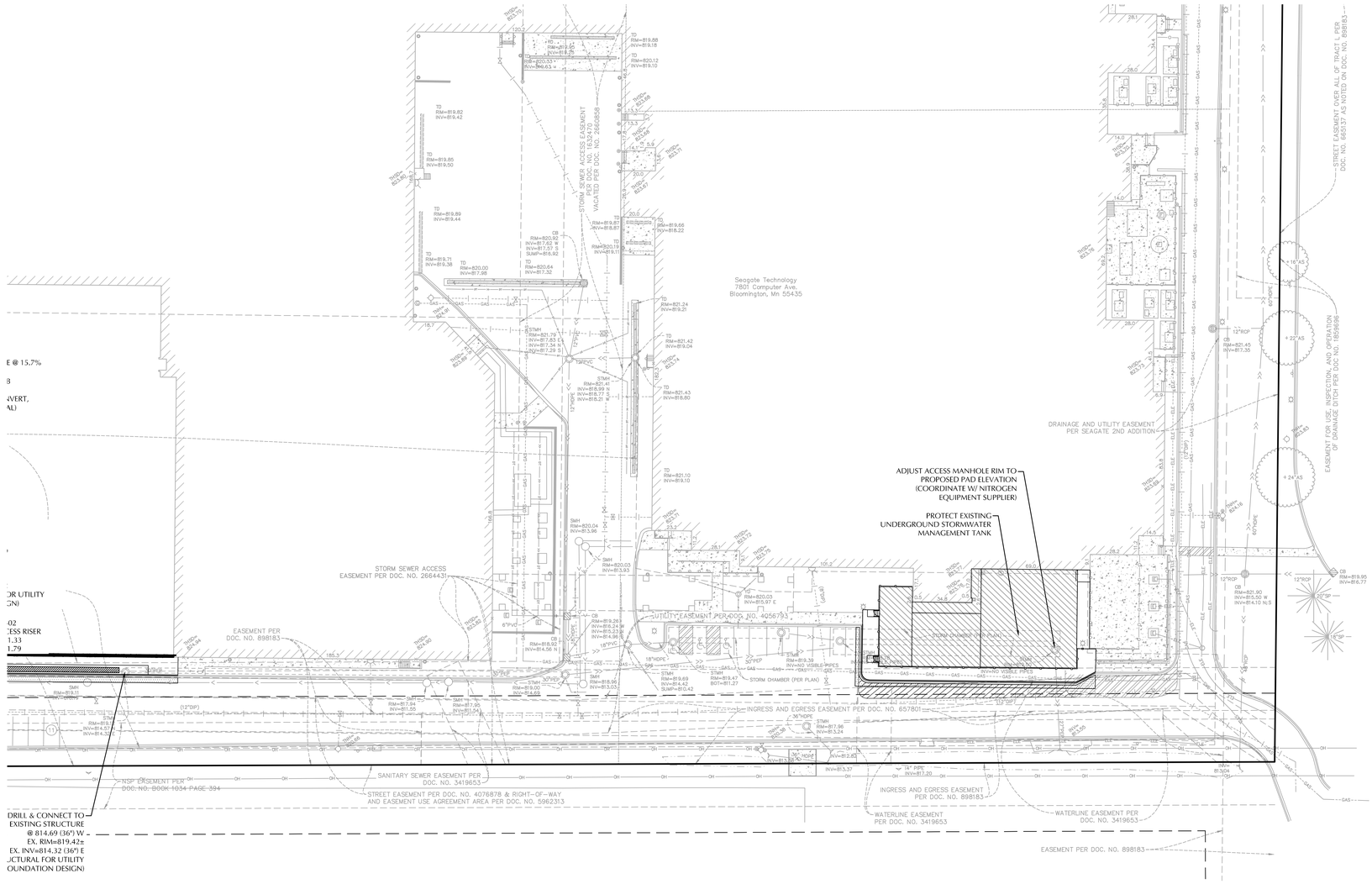
LOUCKS IS PLEASED TO OFFER CONSTRUCTION STAKING SERVICES. PLEASE CONTACT BRIAN PECHACEK FOR INQUIRIES.
EMAIL: BPECHACEK@LOUCKSINC.COM
PHONE: 763.424.5505

CITY OF BLOOMINGTON NOTES

1. UTILITY AS-BUILT MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
2. HDPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATERTIGHT MATERIALS UTILIZING AN A-LOK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL. WHERE THE ALIGNMENT PRECLUDES THE USE OF THE APPROVED WATERTIGHT METHODS, CONCEAL 231 WATER STOP SEALANT, OR APPROVED EQUAL, WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
3. UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563--8777) FOR PERMIT INFORMATION.
4. PHASE WATERMAIN CONSTRUCTION TO MINIMIZE DURATION OF FIRE HYDRANTS BEING OUT OF SERVICE.
5. TAPS OF LIVE MAINS ARE DONE BY CITY FORCES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
6. UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING
7. USE ZINC-COATED CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL V-BIO BASED POLY WRAP IS REQUIRED ON ALL DIP. SEE CITY CONSTRUCTION SPECIFICATIONS (CURRENT EDITION).
8. ALL UNUSED WATER AND SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.
9. COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR MJ TO FLANGE ADAPTER.
10. INSTALL INTERIOR CHIMNEY SEALS ON ALL SANITARY SEWER MANHOLES.
11. ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSI/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
12. USE SHORT CONE MANHOLES WITHOUT STEPS.
13. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE, USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

STORM SEWER NOTES

1. ALL STORM SEWER SHALL BE FURNISHED AND INSTALLED PER THE REQUIREMENTS OF THE SPECIFICATIONS,THE MINNESOTA PLUMBING CODE, THE LOCAL GOVERNING UNIT, AND THE STANDARD UTILITIES SPECIFICATION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), CURRENT EDITION.
2. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE PERFORMED PER THE REQUIREMENTS OF THE STATE AND LOCAL JURISDICTIONS. THE CITY DEPARTMENT OF ENGINEERING AND BUILDING INSPECTIONS DEPARTMENT AND THE CONSTRUCTION ENGINEER MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY, OR WORK IMPACTING PUBLIC UTILITIES.
3. ALL SITE UTILITY SERVICES SHALL TERMINATE 5' FROM THE EXTERIOR BUILDING WALL UNLESS OTHERWISE NOTED. THE SITE UTILITY CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR, MECHANICAL CONTRACTOR AND MECHANICAL ENGINEER TO DETERMINE THE RESPONSIBILITY OF BRINGING THE SERVICE(S) INTO THE BUILDING, INSPECTIONS AND TESTING PER APPLICABLE GOVERNING AGENCIES.
4. PER MINNESOTA DEPARTMENT OF LABOR & INDUSTRY REQUIREMENTS, A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FROM WATERMAIN TO ANY MANHOLE, SEPTIC SYSTEM, CATCH BASIN, SEWER PIPE, OR OTHER SOURCE OF CONTAMINATION, MEASURED FROM THE OUTER EDGE OF THE PIPE TO THE OUTER EDGE OF THE CONTAMINATION SOURCE UNLESS OTHERWISE SHOWN.
5. ALL STORM SEWER DOWNSPOUT COLLECTION PIPES AND WYES SHALL BE PVC (SCHEDULE 40).
6. CONTRACTOR TO SUBMIT SHOP DRAWINGS OF STORM STRUCTURE(S) AND UNDERGROUND SYSTEM(S) FOR ENGINEER'S REVIEW.
7. CONTRACTOR TO VERIFY UNDERLYING SOILS BENEATH ALL STORMWATER FACILITIES, AND PROVIDE DOCUMENTATION TO THE ENGINEER, PRIOR TO CONSTRUCTION OF THE FACILITIES.
8. ALL PORTIONS OF THE STORM SEWER SYSTEM, INCLUDING CATCH BASINS, LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED ACCORDANCE WITH MINNESOTA RULES, PART 4714.
9. REFER TO GEOTECHNICAL EVALUATION REPORT AS PREPARED BY BRAUN INTERTEC, FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   - A. REUSE OF ON-SITE SOILS
   - B. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
   - C. SITE GRADING AND SUBGRADE PREPARATION.
   - D. PAVEMENTS AND EXTERIOR SLABS.
   - E. TRENCH EXCAVATION AND BACKFILL.
   - F. EXTERIOR UTILITY SUPPORTS.
   - G. FROST PROTECTION.
11. CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION OF CONSTRUCTED STORMWATER MANAGEMENT SYSTEMS & ASSOCIATED INFRASTRUCTURE (RECOMMENDED PRIOR TO BACKFILLING) PER APPLICABLE PERMIT REQUIREMENTS AND/OR DEVELOPMENT AGREEMENTS.
12. ALL UNUSED UTILITY SERVICES SHALL BE ABANDONED PER THE REQUIREMENTS OF THE APPLICABLE GOVERNING AGENCIES.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED UTILITY PERMITS FROM THE APPLICABLE GOVERNING AGENCIES.



NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
	PARKING STALL COUNT	
	ACCESSIBLE PARKING STALL	
	STORM SEWER	
	DRAINTILE	
	SANITARY SEWER	
	FORCEMAIN	
	WATERMAIN	
	SANITARY SEWER SERVICE	
	WATER SERVICE	
	UNDERGROUND ELECTRIC	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND GAS	
	UNDERGROUND TELEPHONE	
	OVERHEAD UTILITY	
	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
	CONTOUR	
	SPOT ELEVATION	
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	
	BUILDING SETBACK LINE	

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

B|W|B|R

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name: Zachary B. Moore - PE

Date: **05-13-2026** Lic./Reg. No.: **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

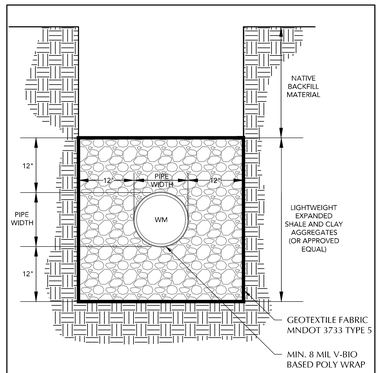
FOR REFERENCE ONLY

Comm. No.: P.2600023.00
Drawn: ZBM/JRM/MDC

Sheet Title
CIVIL UTILITY PLAN STORM SEWER NITROGEN PLANT

Sheet No.
241.3CU

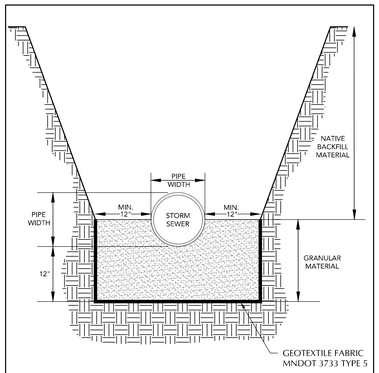
Copyright BWBR



NOTE:
MATERIALS FURNISHED FOR USE IN FOUNDATION, BEDDING, ENCASEMENT, OR BACKFILL CONSTRUCTION SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

- LIGHTWEIGHT AGGREGATE SHALL CONSIST OF EXPANDED SHALE AND CLAY (OR APPROVED EQUAL) WITH A MAXIMUM UNIT WEIGHT OF 65 PCF.
- SEPARATE EXCAVATED MATERIALS BASED ON SOIL TYPES. BACKFILL TO MATCH EXISTING ADJACENT SOIL PROFILES OF PEAT & FILL MATERIALS. BACKFILL MATERIAL SHALL BE FREE OF UNSUITABLE MATERIALS THAT MAY DAMAGE PIPE, PREVENT THOROUGH COMPACTION, OR INCREASE THE RISKS OF SETTLEMENT.

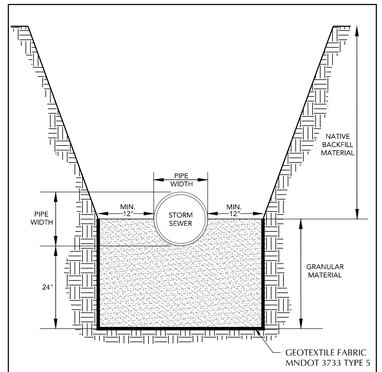
LOUCKS | 1 | WATERMAIN PIPE BEDDING | LOUCKS PLATE NO. CUSTOM | DRAWN 04/2022



NOTE:
MATERIALS FURNISHED FOR USE IN FOUNDATION, BEDDING, ENCASEMENT, OR BACKFILL CONSTRUCTION SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

- BEDDING MATERIALS FOR FLEXIBLE PIPE SHALL MEET THE REQUIREMENTS OF MNDOT SPECIFICATION 3149.2B1, GRANULAR BORROW, EXCEPT THAT 100% SHALL PASS THE ONE INCH (1") SIEVE.
- SEPARATE EXCAVATED MATERIALS BASED ON SOIL TYPES. BACKFILL TO MATCH EXISTING ADJACENT SOIL PROFILES OF PEAT & FILL MATERIALS. BACKFILL MATERIAL SHALL BE FREE OF UNSUITABLE MATERIALS THAT MAY DAMAGE PIPE, PREVENT THOROUGH COMPACTION, OR INCREASE THE RISKS OF SETTLEMENT.

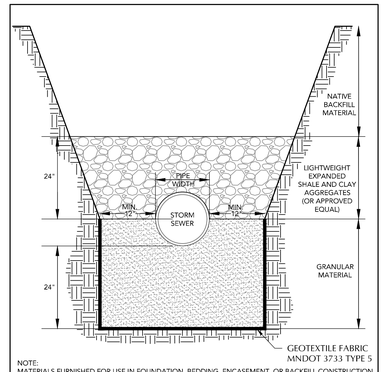
LOUCKS | 2 | STORM SEWER PIPE BEDDING SECTION A | LOUCKS PLATE NO. CUSTOM | DRAWN 04/2022



NOTE:
MATERIALS FURNISHED FOR USE IN FOUNDATION, BEDDING, ENCASEMENT, OR BACKFILL CONSTRUCTION SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

- BEDDING MATERIALS FOR FLEXIBLE PIPE SHALL MEET THE REQUIREMENTS OF MNDOT SPECIFICATION 3149.2B1, GRANULAR BORROW, EXCEPT THAT 100% SHALL PASS THE ONE INCH (1") SIEVE.
- SEPARATE EXCAVATED MATERIALS BASED ON SOIL TYPES. BACKFILL TO MATCH EXISTING ADJACENT SOIL PROFILES OF PEAT & FILL MATERIALS. BACKFILL MATERIAL SHALL BE FREE OF UNSUITABLE MATERIALS THAT MAY DAMAGE PIPE, PREVENT THOROUGH COMPACTION, OR INCREASE THE RISKS OF SETTLEMENT.

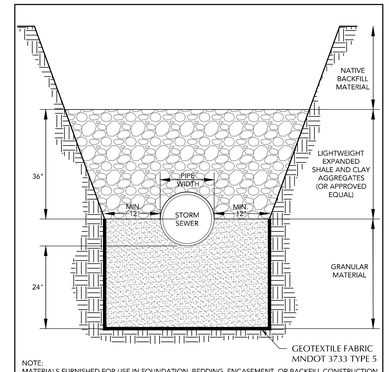
LOUCKS | 3 | STORM SEWER PIPE BEDDING SECTION B | LOUCKS PLATE NO. CUSTOM | DRAWN 04/2022



NOTE:
MATERIALS FURNISHED FOR USE IN FOUNDATION, BEDDING, ENCASEMENT, OR BACKFILL CONSTRUCTION SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

- LIGHTWEIGHT AGGREGATE SHALL CONSIST OF EXPANDED SHALE AND CLAY (OR APPROVED EQUAL) WITH A MAXIMUM UNIT WEIGHT OF 65 PCF.
- BEDDING MATERIALS FOR FLEXIBLE PIPE SHALL MEET THE REQUIREMENTS OF MNDOT SPECIFICATION 3149.2B1, GRANULAR BORROW, EXCEPT THAT 100% SHALL PASS THE ONE INCH (1") SIEVE.
- SEPARATE EXCAVATED MATERIALS BASED ON SOIL TYPES. BACKFILL TO MATCH EXISTING ADJACENT SOIL PROFILES OF PEAT & FILL MATERIALS. BACKFILL MATERIAL SHALL BE FREE OF UNSUITABLE MATERIALS THAT MAY DAMAGE PIPE, PREVENT THOROUGH COMPACTION, OR INCREASE THE RISKS OF SETTLEMENT.

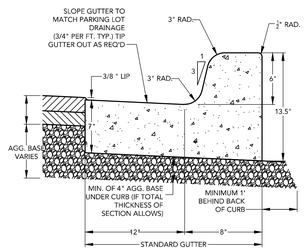
LOUCKS | 4 | STORM SEWER PIPE BEDDING SECTION C | LOUCKS PLATE NO. CUSTOM | DRAWN 04/2022



NOTE:
MATERIALS FURNISHED FOR USE IN FOUNDATION, BEDDING, ENCASEMENT, OR BACKFILL CONSTRUCTION SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

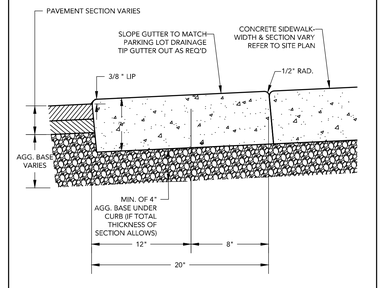
- LIGHTWEIGHT AGGREGATE SHALL CONSIST OF EXPANDED SHALE AND CLAY (OR APPROVED EQUAL) WITH A MAXIMUM UNIT WEIGHT OF 65 PCF.
- BEDDING MATERIALS FOR FLEXIBLE PIPE SHALL MEET THE REQUIREMENTS OF MNDOT SPECIFICATION 3149.2B1, GRANULAR BORROW, EXCEPT THAT 100% SHALL PASS THE ONE INCH (1") SIEVE.
- SEPARATE EXCAVATED MATERIALS BASED ON SOIL TYPES. BACKFILL TO MATCH EXISTING ADJACENT SOIL PROFILES OF PEAT & FILL MATERIALS. BACKFILL MATERIAL SHALL BE FREE OF UNSUITABLE MATERIALS THAT MAY DAMAGE PIPE, PREVENT THOROUGH COMPACTION, OR INCREASE THE RISKS OF SETTLEMENT.

LOUCKS | 5 | STORM SEWER PIPE BEDDING SECTION D | LOUCKS PLATE NO. CUSTOM | DRAWN 04/2022



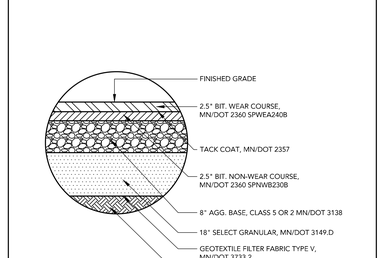
SPECIFICATION NOTES:
1. UPON COMPLETION, CURBING SHOULD BE SPRAYED WITH A MEMBRANE CURING COMPOUND PER MNDOT 3754.
2. EXPANSION JOINTS AT MAX. SPACING OF 200'.
3. CONSTRUCT IN ACCORDANCE WITH MNDOT 2531.

LOUCKS | 6 | B6-12 STYLE CONCRETE CURB AND GUTTER | LOUCKS PLATE NO. 2009 | DRAWN 2/2016

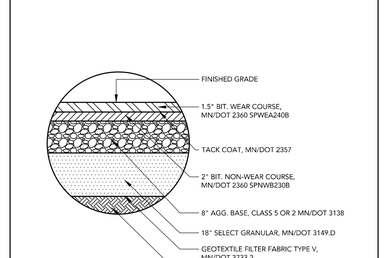


SPECIFICATION NOTES:
1. UPON COMPLETION, CURBING SHOULD BE SPRAYED WITH A MEMBRANE CURING COMPOUND PER MNDOT 3754.
2. EXPANSION JOINTS AT MAX. SPACING OF 200'.
3. CONSTRUCT IN ACCORDANCE WITH MNDOT 2531.

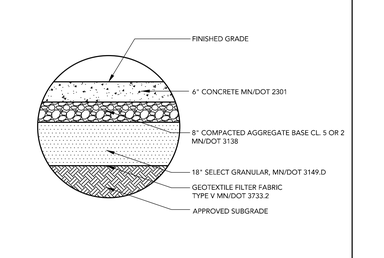
LOUCKS | 7 | FLAT CURB AND GUTTER (12") | LOUCKS PLATE NO. 2012 | DRAWN 2/2016



LOUCKS | 8 | HEAVY STANDARD BITUMINOUS PAVEMENT SECTION | LOUCKS PLATE NO. 2031 | DRAWN 12/2016

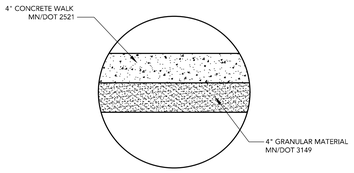


LOUCKS | 9 | STANDARD BITUMINOUS PAVEMENT SECTION | LOUCKS PLATE NO. 2031 | DRAWN 12/2016

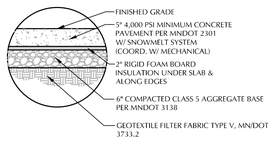


NOTES:
1. CONCRETE 6" THICK OR LESS SHALL BE REINFORCED WITH WELDED WIRE FABRIC OR REINFORCING BARS. CONCRETE 7" THICK OR GREATER SHALL BE REINFORCED PER GEOTECHNICAL RECOMMENDATIONS.
2. SAWED OR FORMED CONTROL JOINTS SHOULD BE INCLUDED FOR EACH 225 SQUARE FEET OF AREA OR LESS (15 FEET BY 15 FEET).
3. SAW CUTS SHOULD NOT CUT THROUGH THE WELDED WIRE FABRIC OR REINFORCING STEEL AND DOWELS SHOULD BE UTILIZED AT FORMED AND/OR COLD JOINTS.

LOUCKS | 10 | CONCRETE PAVEMENT SECTION | LOUCKS PLATE NO. 2033 | DRAWN 12/2016

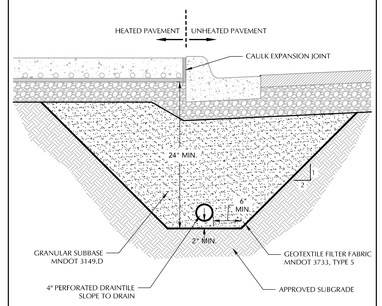


LOUCKS | 11 | CONCRETE SIDEWALK SECTION | LOUCKS PLATE NO. 2034 | DRAWN 12/2016

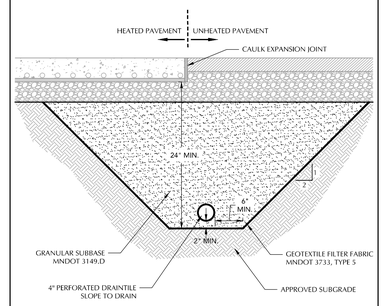


NOTES:
1. CONCRETE SHALL BE REINFORCED WITH 6X6 W2.9 X W2.9 EPOXY COATED WELDED WIRE FABRIC AT MIDPOINT OF SLAB.
2. SAWED OR FORMED CONTROL JOINTS SHOULD BE INCLUDED FOR EACH 225 SQUARE FEET OF AREA OR LESS (15 FEET BY 15 FEET).
3. SAW CUTS SHOULD NOT CUT THROUGH THE WELDED WIRE FABRIC OR REINFORCING STEEL AND DOWELS SHOULD BE UTILIZED AT FORMED AND/OR COLD JOINTS.

LOUCKS | 12 | CONCRETE PAVEMENT W/SNOWMELT SECTION | LOUCKS PLATE NO. 2033 | DRAWN 1/2014



LOUCKS | 13 | DRAINTILE AT SNOWMELT PAVEMENT TRANSITION W/ CURB | LOUCKS PLATE NO. CUSTOM | DRAWN 02/2026



LOUCKS | 14 | DRAINTILE AT SNOWMELT PAVEMENT TRANSITION | LOUCKS PLATE NO. CUSTOM | DRAWN 02/2026

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants
LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name Zachary B. Moore - PE
Date 05-13-2026 Lic./Reg. No. 58688

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

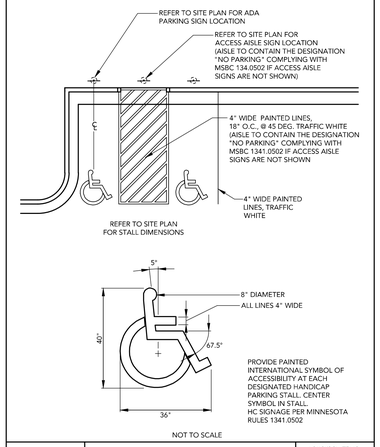
This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

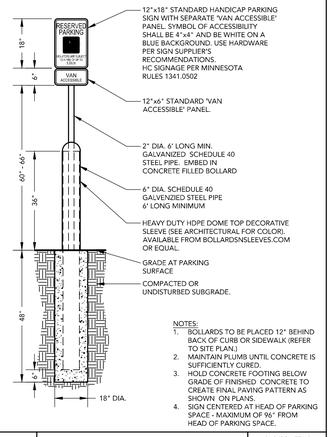
Sheet Title
CIVIL DETAILS

Sheet No.
250.CD

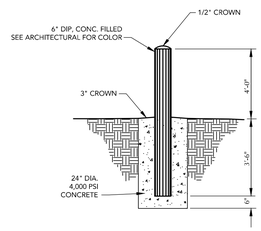
Copyright BWBR



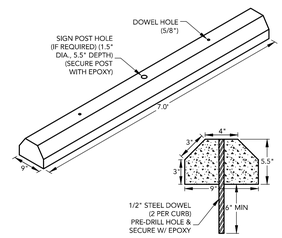
LOUCKS | 1 | TYPICAL ADA PARKING STALL STRIPING | LOUCKS PLATE NO. 2037 | DRAWN 03/2017



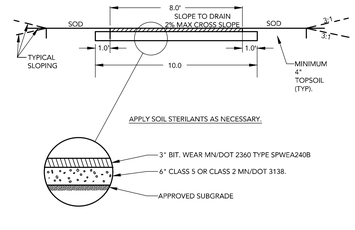
LOUCKS | 2 | TYPICAL ADA PARKING SIGN / BOLLARD COMBO | LOUCKS PLATE NO. 2038A | DRAWN 03/2017



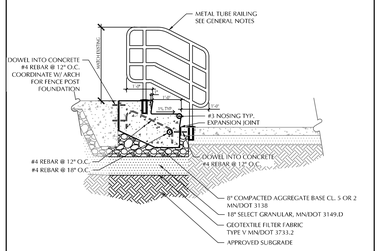
LOUCKS | 3 | BOLLARD | LOUCKS PLATE NO. 2039 | DRAWN 12/2016



LOUCKS | 4 | STOP BLOCK | LOUCKS PLATE NO. 2019 | DRAWN 2/2016

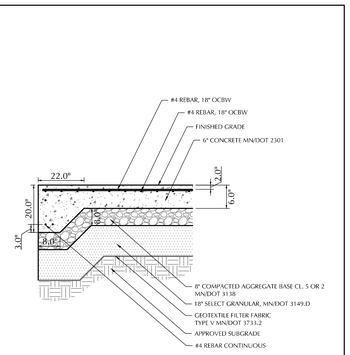


LOUCKS | 5 | BITUMINOUS TRAIL | LOUCKS PLATE NO. 2005 | DRAWN 2/2016



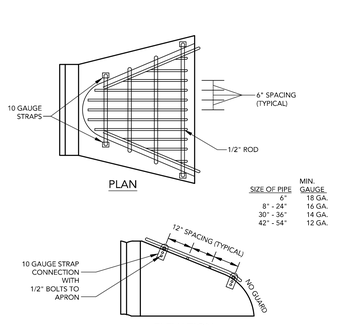
GENERAL NOTES:
- SEE GRADING PLAN FOR ALL ELEVATIONS AND EXACT NUMBER OF STAIRS.
- ALL REBAR TO BE COVERED BY 2" CONCRETE MIN.
- CONCRETE SURFACING TO BE MEDIUM BROOM FINISH PERPENDICULAR TO PEDESTRIAN CIRCULATION.
- CORE DRILL OR SLEEVE CONCRETE SURFACE TO RECEIVE RAILINGS, EPOXY GROUT, AND CONCEAL WITH DECORATIVE PLATES.
- MATCH EXISTING RAILING HEIGHT, INTERMEDIATE RAIL HEIGHT, AND FINISH.

LOUCKS | 6 | CONCRETE STAIRS AND RAILING | LOUCKS PLATE NO. CUSTOM | DRAWN 9/2018



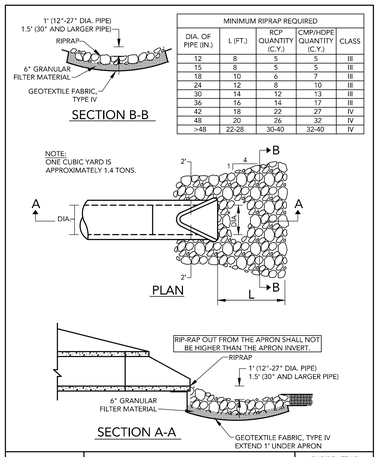
LOUCKS | 7 | THICKENED EDGE CONCRETE PAVEMENT SECTION | LOUCKS PLATE NO. CUSTOM | DRAWN 03/2023

RIPRAP REQUIRED: SEE STD. PLATE 4308 OR 4309



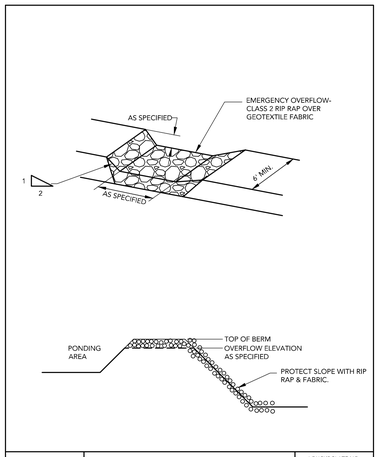
NOTES:
1. TRASH GUARD TO BE GALVANIZED AFTER FABRICATION.
2. THE SIZE OF EACH TRASH GUARD WILL VARY TO FIT APRON.

LOUCKS | 8 | TRASH GUARD CMP/HDPE APRON | LOUCKS PLATE NO. 4307 | DRAWN 2/2016

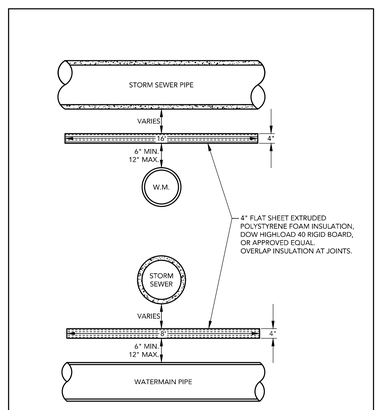


DIA. OF PIPE (IN.)	MINIMUM RIPRAP REQUIRED L (FT.)	RCP QUANTITY (C.Y.)	CMP/HDPE QUANTITY (C.Y.)	CLASS
12	8	5	5	III
15	8	5	5	III
18	10	6	7	III
24	12	8	10	III
30	14	12	13	III
36	16	14	17	III
42	18	22	27	IV
48	20	26	32	IV
>48	22-28	30-40	32-40	IV

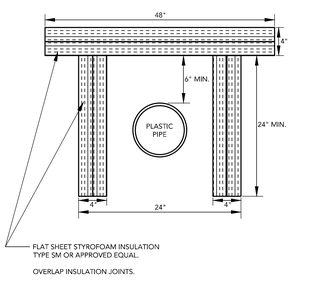
LOUCKS | 9 | RANDOM / HAND PLACED RIPRAP | LOUCKS PLATE NO. 4308 | DRAWN 2/2016



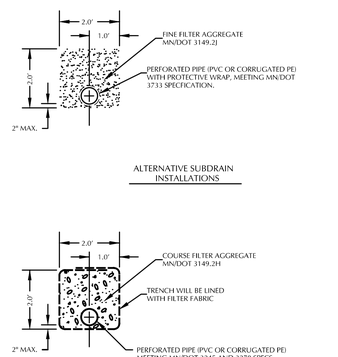
LOUCKS | 10 | BASIN OVERFLOW | LOUCKS PLATE NO. 3010 | DRAWN 2/2016



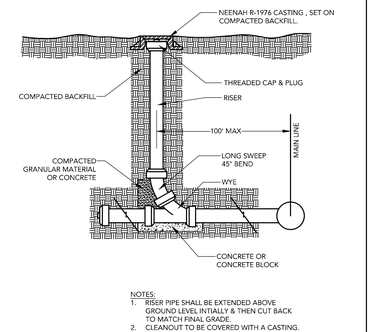
LOUCKS | 11 | TYPICAL WATERMAIN INSULATION | LOUCKS PLATE NO. 4608 | DRAWN 2/2016



LOUCKS | 12 | SHALLOW STORM SEWER INSULATION | LOUCKS PLATE NO. 4010 | DRAWN 2/2016



LOUCKS | 13 | TYPICAL PERFORATED DRAIN TILE DETAIL | | |



NOTES:
1. RISER PIPE SHALL BE EXTENDED ABOVE GROUND LEVEL INTIALLY & THEN CUT BACK TO MATCH FINAL GRADE.
2. CLEANOUT TO BE COVERED WITH A CASTING. NEENAH R-1976.

LOUCKS | 14 | CLEAN-OUT STRUCTURE | LOUCKS PLATE NO. 4006 | DRAWN 2/2016

Copyright BWBR

SEAGATE

SEAGATE TECHNOLOGY- NORMANDALE WAFER SOUTH ADDITION

BWBR
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants
LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary R. Moore - PE
Date 05-13-2026 Lic./Reg. No. 58688

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

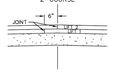
Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL DETAILS

Sheet No.
251.CD

1

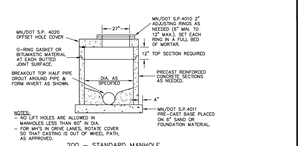
LONGITUDINAL JOINT DETAIL
2-COURSE



W:\Civil_Comm\Details Updated\D — STREET\117 — Long_Joint_(2-course)

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 117 – Long_Joint_(2-course)
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 6/5/2015
	LAST REVISED BY: KBO

2



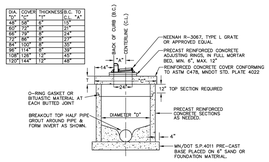
200 – STANDARD MANHOLE
DESIGN SPEC X, X & X
200 – STD_MH.dwg 6/2015

W:\Civil_Comm\Details Updated\D — 200 — STORM samples\200 — Std MH

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 200 – Std MH
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 9/13/2016
	LAST REVISED BY: KBO

3

DIA	COVER THICKNESS	B.C. TO C.
24"	7"	31"
30"	7"	37"
36"	7"	43"
42"	7"	49"
48"	7"	55"
54"	7"	61"
60"	7"	67"
66"	7"	73"
72"	7"	79"
78"	7"	85"
84"	7"	91"
90"	7"	97"
96"	7"	103"
102"	7"	109"
108"	7"	115"
114"	7"	121"

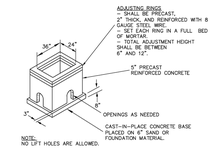


201 – STANDARD MANHOLE w/ 2x3" CASTING
201 – STD MH (2X3 COV).dwg

W:\Civil_Comm\Details Updated\D — 200 — STORM samples\201 — Std MH (2x3 Cov)

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 201 – Std MH (2x3 Cov)
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 9/13/2016
	LAST REVISED BY: KBO

4

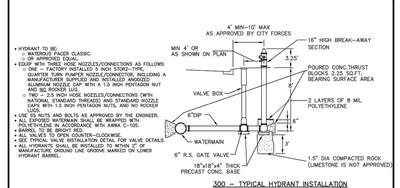


206 – STD CB
206 – Std CB.dwg 6/2015

W:\Civil_Comm\Details Updated\D — 200 — STORM samples\206 — Std CB

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 206 – Std CB
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 9/14/2016
	LAST REVISED BY: KBO

5

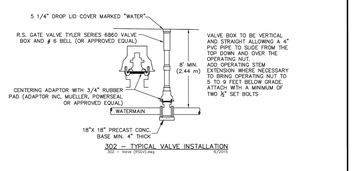


300 – TYPICAL HYDRANT INSTALLATION
300 – Hyd Installation 1/2020

W:\Civil_COMM\Details Updated\D_300 — WATER\300 — Hyd Install

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 300 – Hyd Install
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 1/15/2020
	LAST REVISED BY: JTR

6

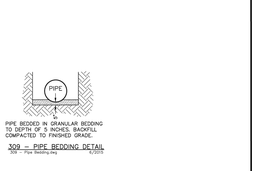


302 – TYPICAL VALVE INSTALLATION
302 – Valve (RSGV).dwg 6/2015

W:\Civil_Comm\Details Updated\D — 300 — WATER\300 — Valve (RSGV)

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 302 – Valve (RSGV)
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 2/24/2023
	LAST REVISED BY: KBO

7

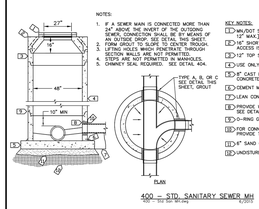


309 – PIPE BEDDING DETAIL
309 – Pipe Bedding.dwg 6/2015

W:\Civil_Comm\Details Updated\D — 300 — WATER\300 — Pipe Bedding

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 309 – Pipe Bedding
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 6/15/2015
	LAST REVISED BY: KBO

8

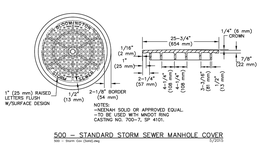


400 – STD. SANITARY SEWER MH
400 – Std San MH.dwg 6/2015

W:\Civil_Comm\Details Updated\D — 400 — SAN SEWER samples\400 — Std San MH

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 400 – Std San MH
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 8/27/2020
	LAST REVISED BY: KBO

9

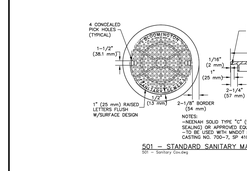


500 – STANDARD STORM SEWER MANHOLE COVER
500 – Storm Cov (Solid).dwg 6/2015

W:\Civil_Comm\Details Updated\D — CASTINGS\500 — Storm Cov (Solid)

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 500 – Storm Cov (Solid)
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 6/15/2015
	LAST REVISED BY: KBO

10



501 – STANDARD SANITARY MANHOLE COVER
501 – Sanitary Cov.dwg 6/2015

W:\Civil_COMM\Details Updated\D — CASTINGS\501 — Sanitary Cov

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 501 – Sanitary Cov
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 5/15/2015
	LAST REVISED BY: KBO

11

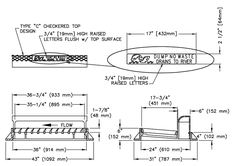
MN/DOT S.P. 4101D CASTING NO. 700–7

503 – RING CASTING FOR MANHOLE
503 – MH Frame.dwg 5/2015

W:\Civil_Comm\Details Updated\D — CASTINGS\503 — MH Frame

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 503 – MH Frame
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 5/15/2015
	LAST REVISED BY: KBO

12



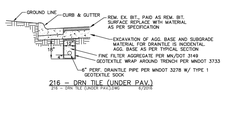
USE NEENAH R–3067 WITH TYPE L GRATE OR APPROVED EQUAL

504 – RECTANGULAR CATCH BASIN CASTING ASSEMBLY
504 – Rect. CB.dwg 5/2015

W:\Civil_Comm\Details Updated\D — CASTINGS\504 — Rect. CB

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 504 – Rect. CB
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 5/15/2015
	LAST REVISED BY: KBO

13

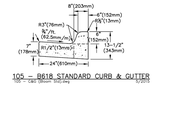


216 – DRN. TILE (UNDER PAV.)
216 – Drn Tile (Under Pav.)

W:\Civil_Comm\Details Updated\D — 200 — STORM samples\216 — Drn Tile (Under Pav.)

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 216 – Drn Tile (Under Pav.)
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 9/14/2016
	LAST REVISED BY: KBO

14

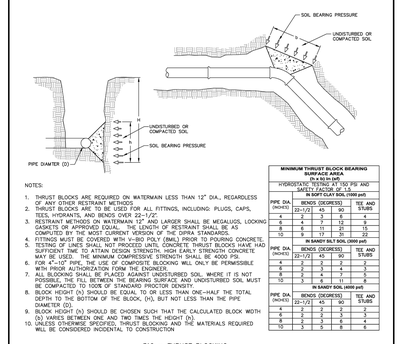


105 – 6618 STANDARD CURB & GUTTER
105 – C&G (Bloom Std).dwg 6/2015

W:\Civil_Comm\Details Updated\D — STREET\105 — C&G (Bloom Std)

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 105 – C&G (Bloom Std)
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 6/5/2015
	LAST REVISED BY: KBO

15



NOTES:
1. THRUST BLOCKS ARE REQUIRED ON WATERMAIN LESS THAN 12" DIA., REGARDLESS OF ANY OTHER RESTRAINT METHODS.
2. THRUST BLOCKS ARE TO BE USED FOR ALL FITTINGS, INCLUDING: PLUGS, CAPS, TEES, HYDRANTS, AND BENDS OVER 22–1/2".
3. RESTRAINT METHODS ON WATERMAIN 12" AND LARGER SHALL BE MEGALUGS, LOCKING GASKETS OR APPROVED EQUAL. THE LENGTH OF RESTRAINT SHALL BE AS COMPUTED BY THE MOST CURRENT VERSION OF THE DIPRA STANDARDS.
4. FITTINGS MUST BE COVERED WITH 1–BIO POLY (ONLY) PRIOR TO PLACING CONCRETE.
5. CONCRETE MIX DESIGN SHALL BE PROPORTIONED SUCH THAT BLOCKS HAVE HAD SUFFICIENT TIME TO ATTAIN DESIGN STRENGTH. HIGH EARLY STRENGTH CONCRETE MAY BE USED. THE MINIMUM COMPRESSIVE STRENGTH SHALL BE 4000 PSI.
6. FOR 4"–10" PIPE, THE USE OF COMPOSITE BLOCKING WILL ONLY BE PERMISSIBLE WITH PRIOR AUTHORIZATION FORM THE ENGINEER.
7. BLOCKS SHALL BEAR ON UNDISTURBED OR COMPACTED SOIL. WHERE IT IS NOT POSSIBLE THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO 100% OF STANDARD PROCTOR DENSITY.
8. BLOCK HEIGHT (h) SHOULD BE EQUAL TO OR LESS THAN ONE–HALF THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCK, (H), BUT NOT LESS THAN THE PIPE DIAMETER (D).
9. BLOCK HEIGHT (h) SHOULD BE CHOSEN SUCH THAT THE CALCULATED BLOCK WIDTH (b) VARIES BETWEEN ONE AND TWO TIMES THE HEIGHT (h).
10. UNLESS OTHERWISE SPECIFIED, THRUST BLOCKING AND THE MATERIALS REQUIRED WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION

MINIMUM THRUST BLOCK BEARING SURFACE AREA (ft x ft) (sf) HYDROSTATIC TESTING AT 150 PSI AND IN SOFT CLAY SOIL (1000 psf)			
PIPE DIA. (INCHES)	BENDS (DEGREES) 22–1/2	45	90	TEE AND STUBS
4	2	3	8	4
6	4	7	12	9
8	6	11	21	15
10	9	17	31	25
IN SANDY SILT SOIL (1000 psf)				
PIPE DIA. (INCHES)	BENDS (DEGREES) 22–1/2	45	90	TEE AND STUBS
4	2	3	7	3
6	3	5	9	5
8	5	8	16	8
10	7	13	24	13
IN SANDY SOIL (4000 psf)				
PIPE DIA. (INCHES)	BENDS (DEGREES) 22–1/2	45	90	TEE AND STUBS
4	2	2	3	2
6	2	3	4	3
8	2	3	6	4
10	3	5	8	6

310 – THRUST BLOCKING
310 – Thrust Blk (Solid).dwg 6/2015

W:\Civil_COMM\Details Updated\D_300 — WATER\310 — Thrust Blocking

CITY OF BLOOMINGTON MINNESOTA	PLATE NAME: 310 – Thrust Blocking
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT	LAST REVISED: 5/15/2023
	LAST REVISED BY: KBO

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants
LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moore - PE
Date 05-13-2026 Lic./Reg. No. 58688

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

[redacted] This Sheet may be a Reduced Copy.

The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

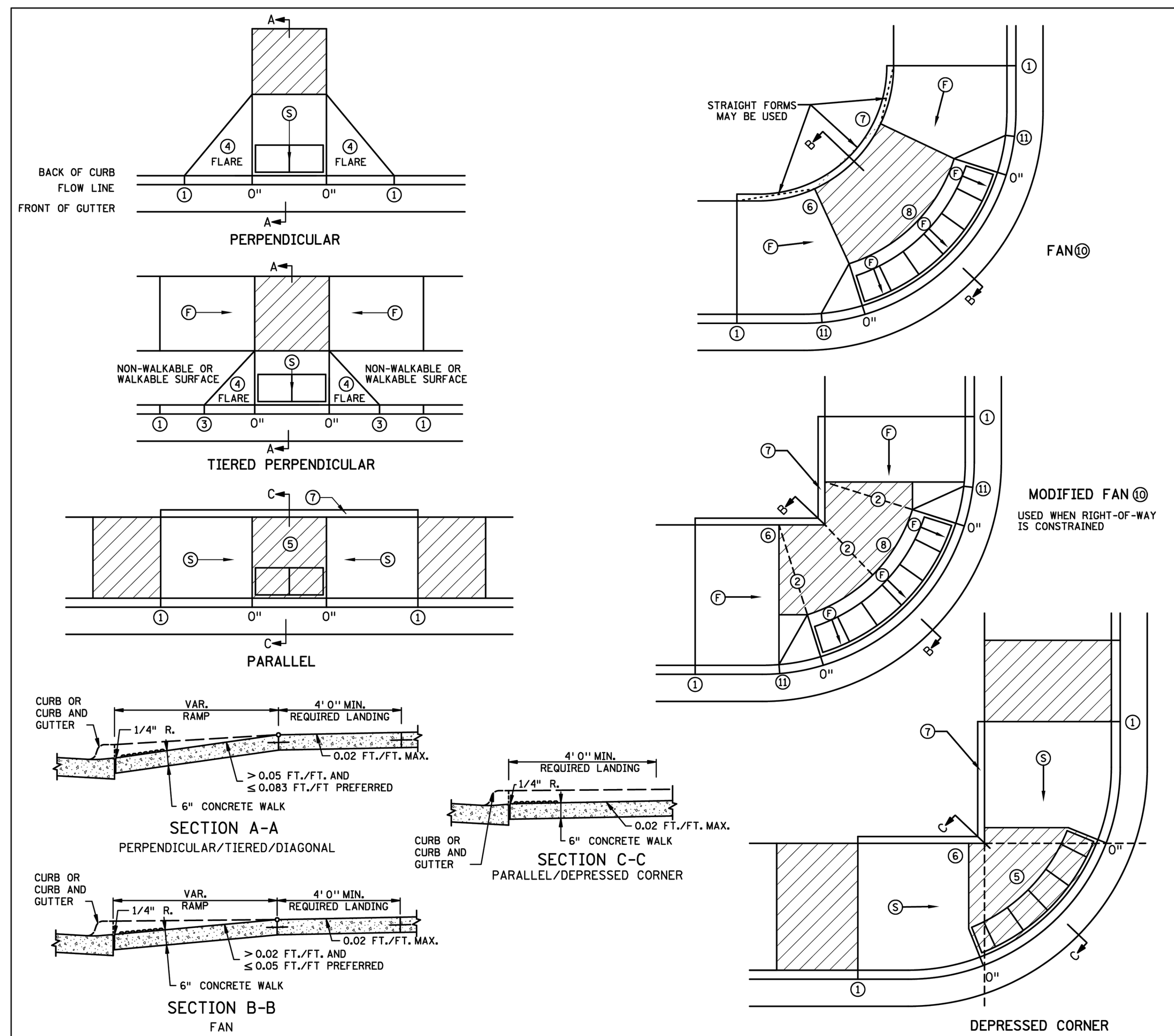
Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

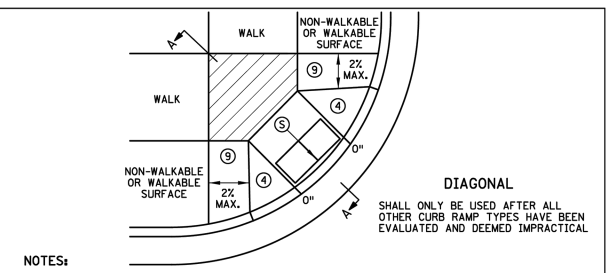
Sheet Title
CIVIL DETAILS

Sheet No.
252.CD

Copyright BWBR

1





NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL, THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN ⑥ BELOW.

TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.

WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

① MATCH FULL HEIGHT CURB.
② 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
③ 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
④ SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
⑤ DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
⑥ THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
⑦ WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
⑧ A 7' MIN TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.
⑨ PAVE FULL WALK WIDTH.
⑩ "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.
⑪ INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

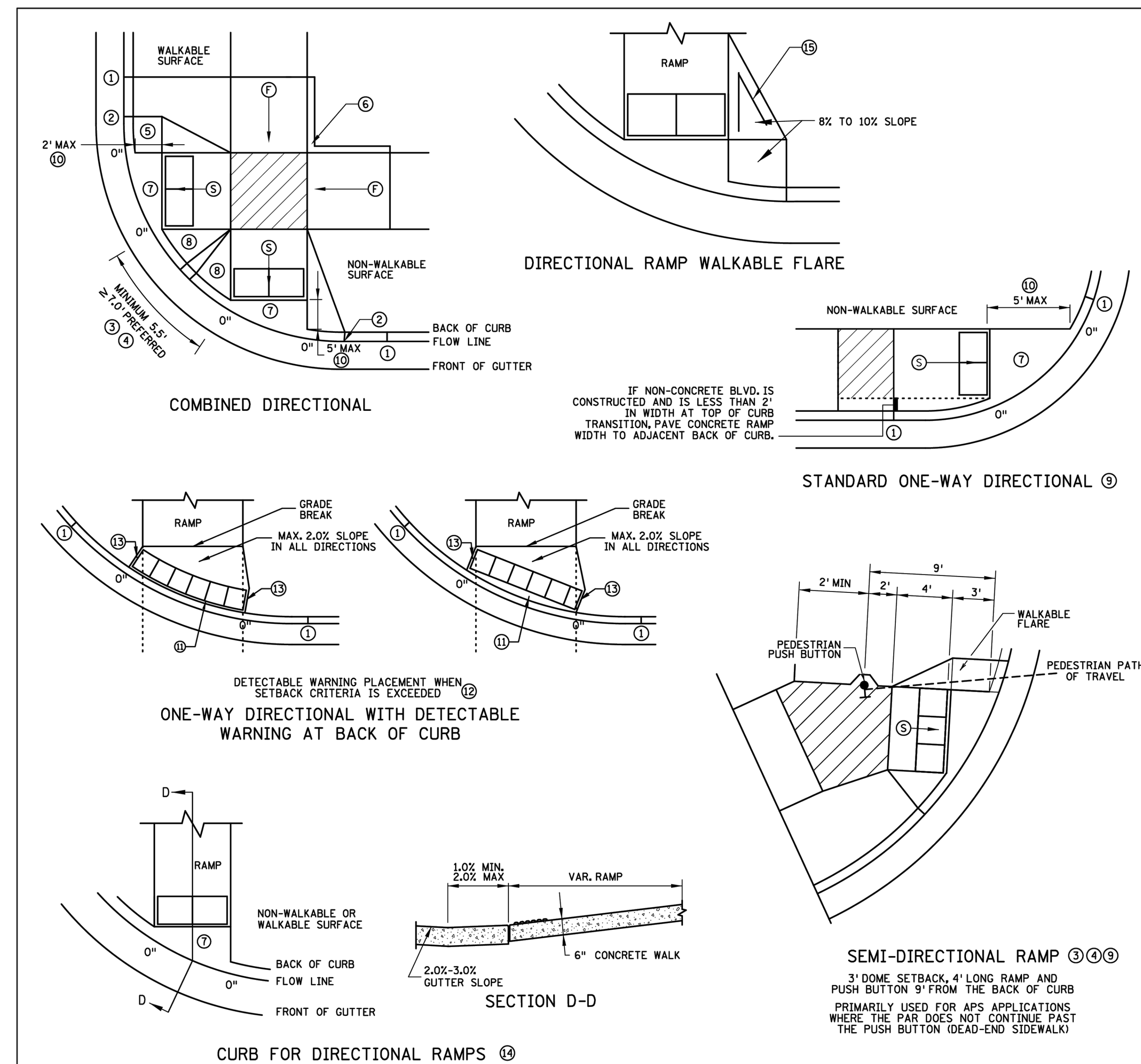
LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- Ⓢ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- Ⓕ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- (hatched) LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- X" CURB HEIGHT

LEAD EXPERT OFFICE	JEFFREY PERKINS OPERATIONS DIVISION	PEDESTRIAN CURB RAMP DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250	1 OF 6
	DEPARTMENT OF TRANSPORTATION	STANDARD PLAN		STATE PROJ. NO. / TRUNK HWY.	SHEET NO. / TOTAL SHEETS	

2



NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

① MATCH FULL CURB HEIGHT.
② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.
③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHALL BE USED. SEE THE DETAIL ON THIS SHEET.
⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
⑧ 8% TO 10% WALKABLE FLARE.
⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.
⑮ PLACE 2 NO. 4 BARS 4 INCHES FROM SIDE OF FORMS WITH A MINIMUM 2 INCHES OF CONCRETE COVER ALONG EACH SIDE OF FLARE (INCIDENTAL).

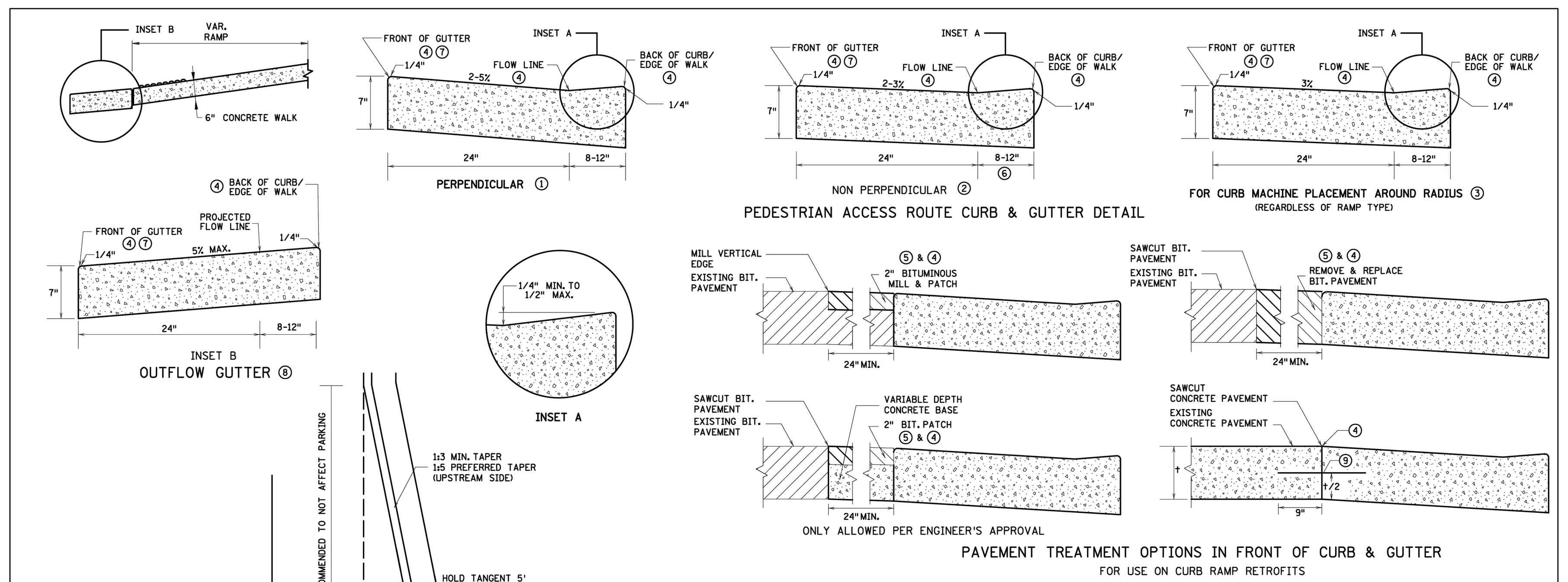
LEGEND

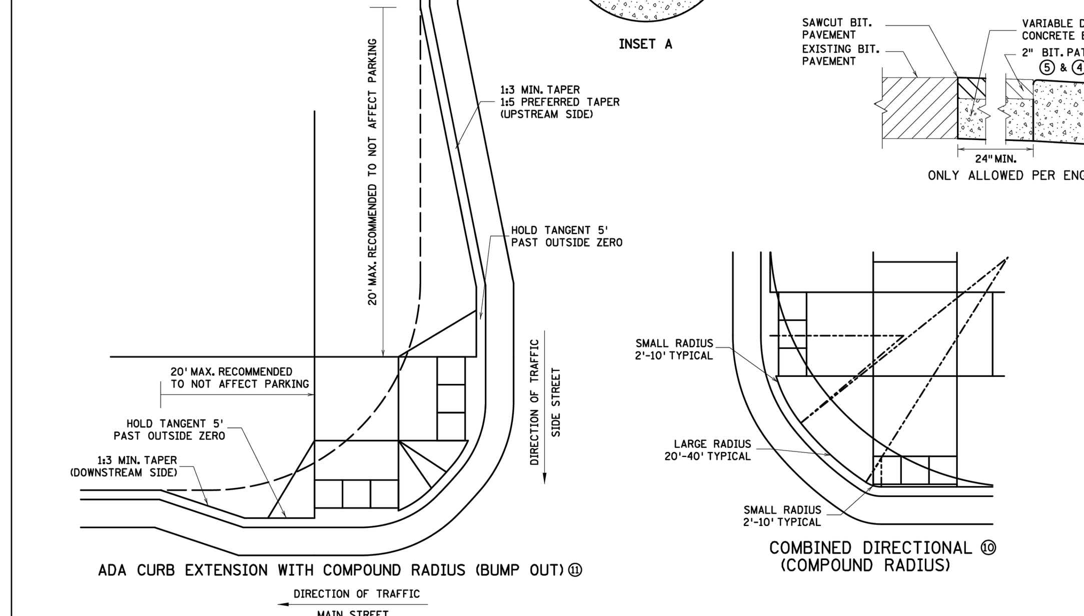
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- Ⓢ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- Ⓕ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- (hatched) LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- X" CURB HEIGHT

LEAD EXPERT OFFICE	JEFFREY PERKINS OPERATIONS DIVISION	PEDESTRIAN CURB RAMP DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250	2 OF 6
	DEPARTMENT OF TRANSPORTATION	STANDARD PLAN		STATE PROJ. NO. / TRUNK HWY.	SHEET NO. / TOTAL SHEETS	

3





NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

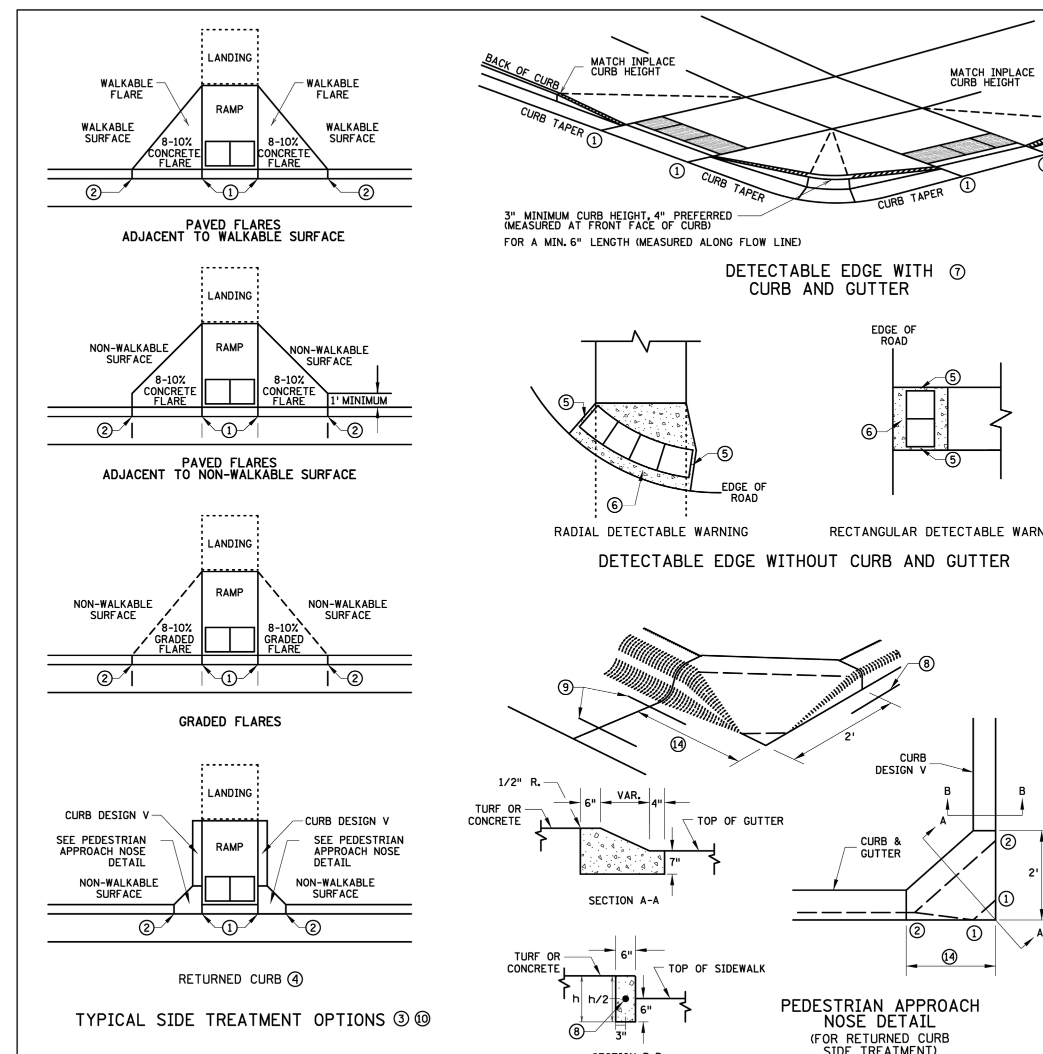
NO PONDING SHALL BE PRESENT IN THE PAR.

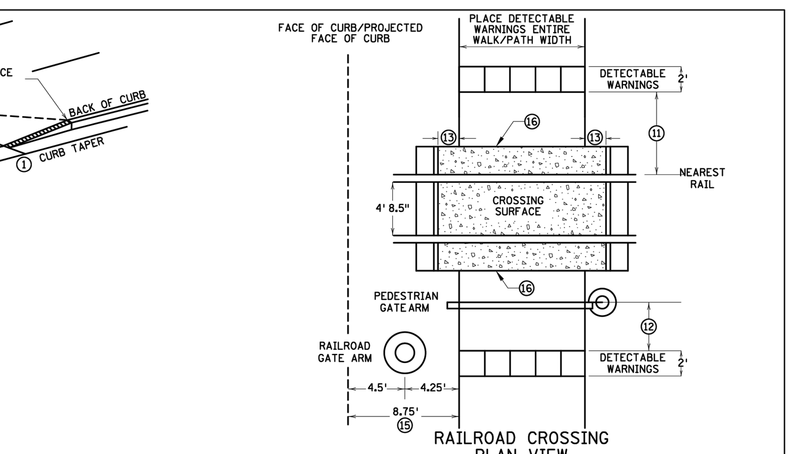
ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.
④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.
⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.
⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.
⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED.
PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

LEAD EXPERT OFFICE	JEFFREY PERKINS OPERATIONS DIVISION	PEDESTRIAN CURB RAMP DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250	3 OF 6
	DEPARTMENT OF TRANSPORTATION	STANDARD PLAN		STATE PROJ. NO. / TRUNK HWY.	SHEET NO. / TOTAL SHEETS	

4





NOTES:

INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3 INCH CURB HEIGHT. INCREASE CURB TAPER LENGTH AT LESS THAN 8% OR REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

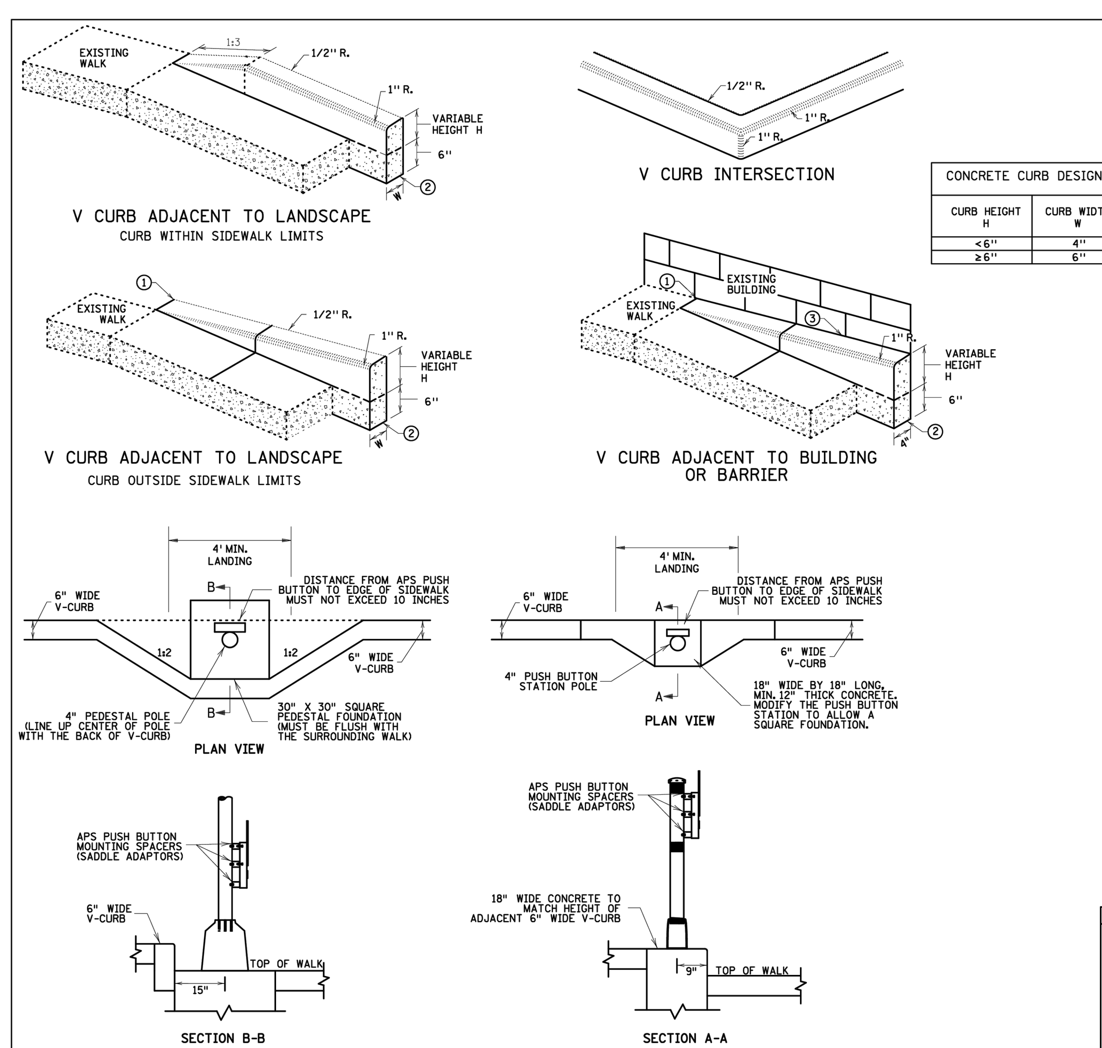
A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

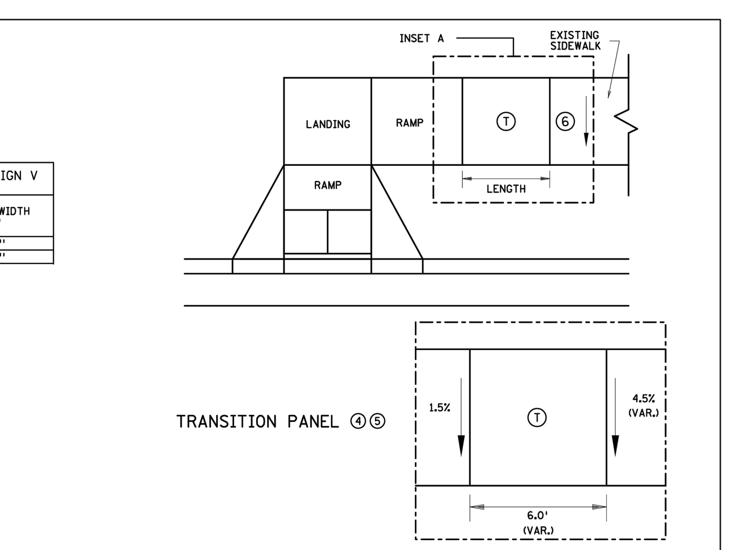
① 0" CURB HEIGHT. SEE INSET A ON SHEET 3 OF 6.
② FULL CURB HEIGHT.
③ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
④ TYPICALLY USED FOR MEDIANS AND ISLANDS.
⑤ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
⑥ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.
⑦ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS, AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.
⑧ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.
⑨ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.
⑩ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE. CONSTRUCT THESE TAPERS AT 0"-3" AT 8-10%, THEN LESS THAN 5% FROM 3" CURB TO FULL CURB HEIGHT.
⑪ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
⑫ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑪.
⑬ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
⑭ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.
⑮ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.
⑯ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

LEAD EXPERT OFFICE	JEFFREY PERKINS OPERATIONS DIVISION	PEDESTRIAN CURB RAMP DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250	4 OF 6
	DEPARTMENT OF TRANSPORTATION	STANDARD PLAN		STATE PROJ. NO. / TRUNK HWY.	SHEET NO. / TOTAL SHEETS	

5



CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
<6"	4"
≥6"	6"



NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
③ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM ½" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
④ THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
⑤ TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

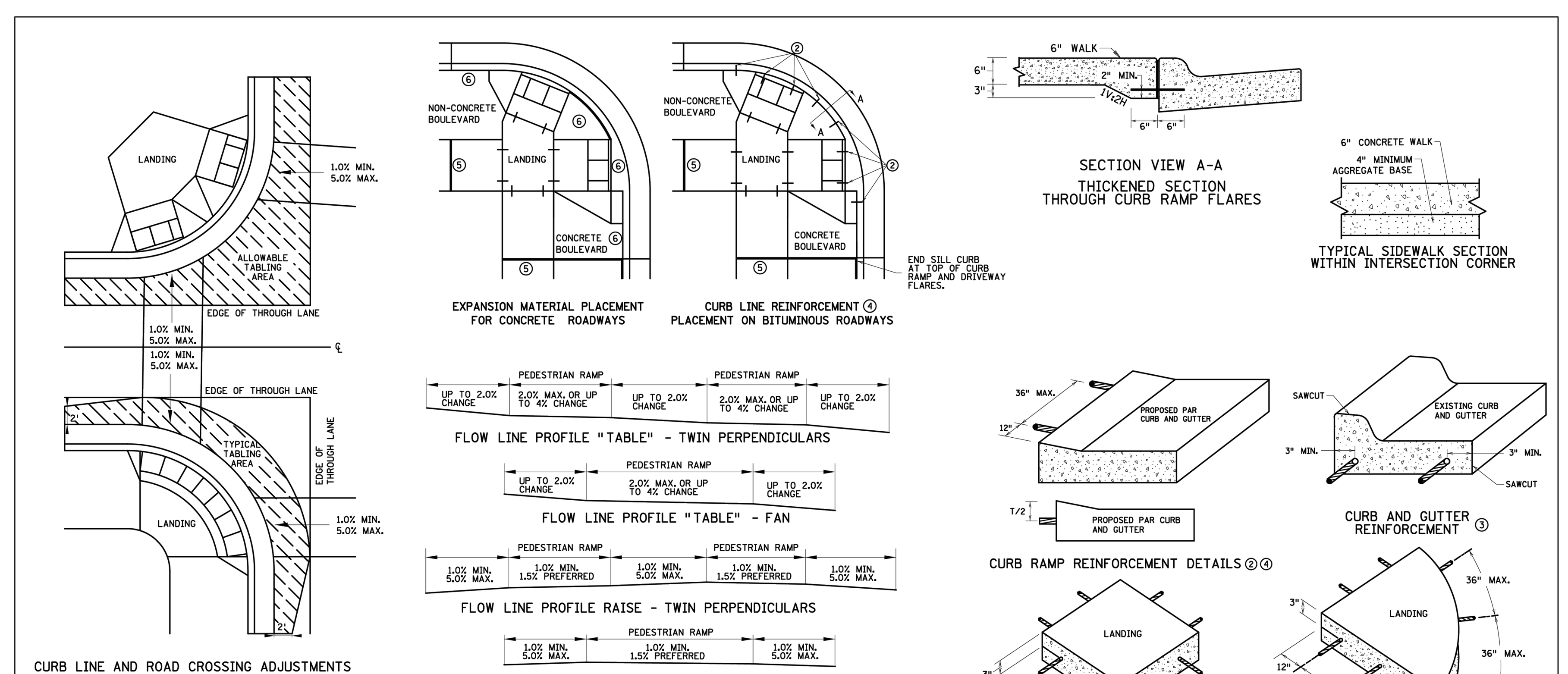
LEGEND

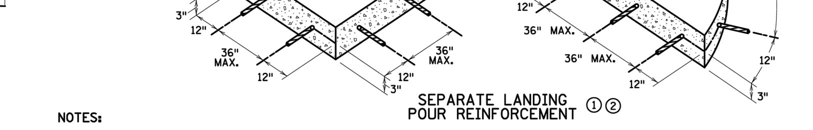
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- Ⓢ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- (hatched) LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- Ⓣ TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

LEAD EXPERT OFFICE	JEFFREY PERKINS OPERATIONS DIVISION	PEDESTRIAN CURB RAMP DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250	5 OF 6
	DEPARTMENT OF TRANSPORTATION	STANDARD PLAN		STATE PROJ. NO. / TRUNK HWY.	SHEET NO. / TOTAL SHEETS	

6





GENERAL NOTES:

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:
1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:
1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
3) 5.0% RECOMMENDED MAX. FLOW LINE
4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

① TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
② DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) AT 36" MAXIMUM CENTER TO CENTER MINIMUM 12" SPACING FROM CONSTRUCTION JOINTS. BARS TO BE ADJUSTED TO MATCH RAMP GRADE. BARS TO BE PAID BY EACH.
③ DRILL AND GROUT 2 - NO. 4 X 12" LONG (6" EMBEDDED) REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS. BARS TO BE PAID BY EACH.
④ THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS. FOR CONCRETE ROADWAYS, SEE NOTE 6.
⑤ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.
⑥ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

LEAD EXPERT OFFICE	JEFFREY PERKINS OPERATIONS DIVISION	PEDESTRIAN CURB RAMP DETAILS	APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250	6 OF 6
	DEPARTMENT OF TRANSPORTATION	STANDARD PLAN		STATE PROJ. NO. / TRUNK HWY.	SHEET NO. / TOTAL SHEETS	

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

B|W|B|R
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants
LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name Zachary B. Moen - PE
Date 05-13-2026 Lic./Reg. No. 58688

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

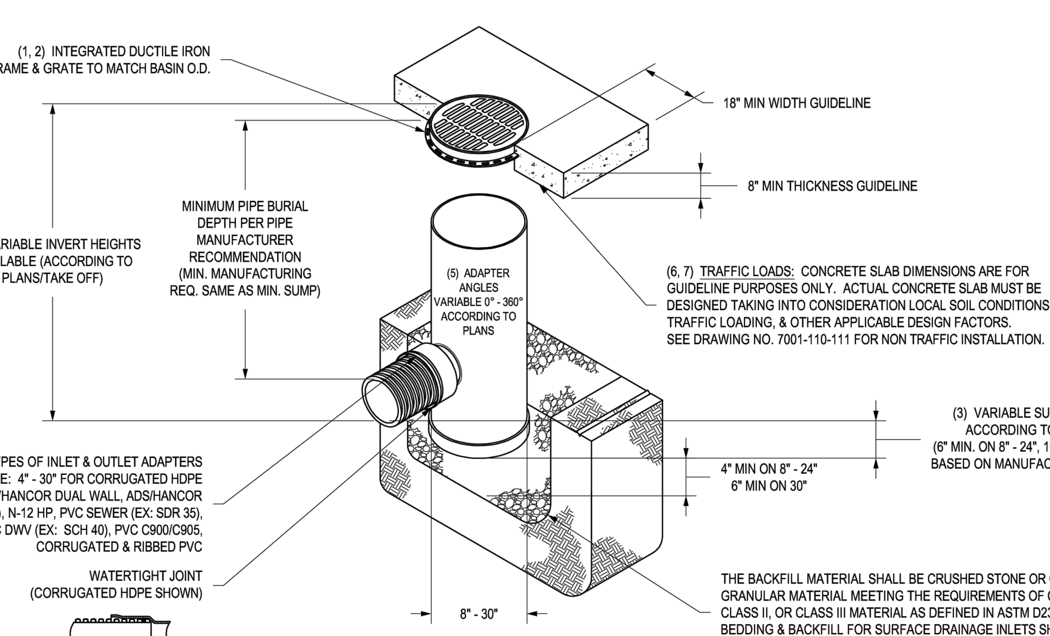
Comm. No. P.2600023.00
Drawn ZBM/JRM/MDC

Sheet Title
CIVIL DETAILS

Sheet No.
253.CD

Copyright BWBR

NYLOPLAST DRAIN BASIN WITH STANDARD GRATE



1 - 8" - 30" STANDARD GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. 8" & 10" STANDARD GRATES FIT DIRECTLY ONTO DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 12" - 30" STANDARD GRATES SHALL MEET H-20 LOAD RATING.
7 - 8" & 10" STANDARD GRATES ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY; NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

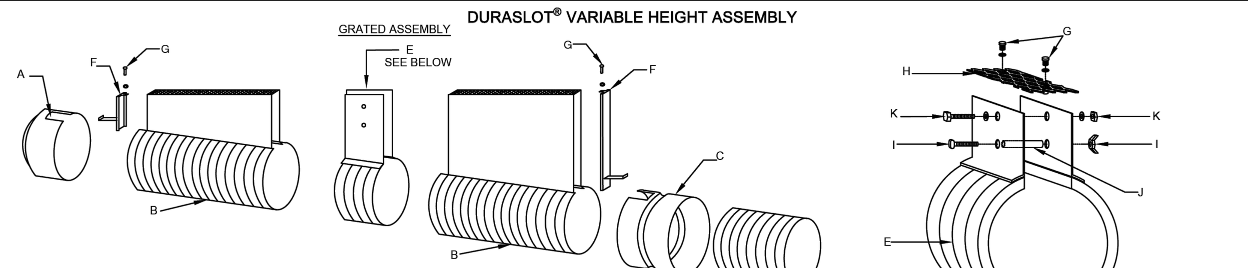
(OR APPROVED EQUAL)

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2011 NYLOPLAST

DRAWN BY EBC	MATERIAL	Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 1-23-06			
REVISED BY NMH	PROJECT NO./NAME	TITLE	DRAIN BASIN WITH STANDARD GRATE QUICK SPEC INSTALLATION DETAIL
DATE 03-11-16			
DWG SIZE A	SCALE 1:40 SHEET 1 OF 1	DWG NO. 7001-110-144	REV H

DURASLOT® VARIABLE HEIGHT ASSEMBLY

GRATED ASSEMBLY



A. DURASLOT END CAP OR TAYLOR PLUG FOR 30" & 36" PIPE
B. DURASLOT PIPE
C. DURASLOT ADAPTER
D. N-12 PIPE
E. DURASLOT COUPLER BAND
F. DURASLOT GRATE ANCHOR

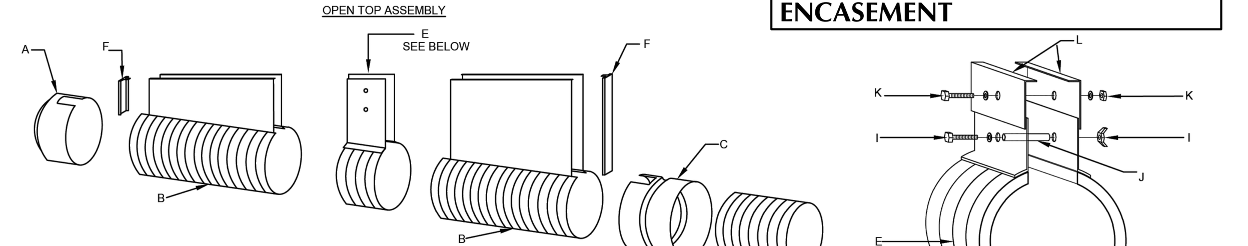
TAYLOR PLUG USED FOR 30" & 36" DIAMETER PIPE

G. ¼" SPHS X 1" LONG W/ WASHER
H. DURASLOT GRATE CONNECTOR
I. 5⁄16" HEX HEAD SCREW X 3½" LONG W/ WASHER & 5⁄16" WINGNUT
J. PLASTIC SLEEVE SPACER (GOES ON I. - NOT USED W/ 4" DIAM.)
K. HEX HEAD ASSEMBLY: 5⁄16" HEX HEAD SCREW X 3½" LONG W/ (2) WASHERS AND 5⁄16" HEX NUT

NOTES:
1. EACH CAP (A) & ADAPTER (C) COMES WITH AN ANCHOR (F)
2. EACH COUPLER BAND (E) COMES WITH HARDWARE - I,J,K, & L

NOTE: REFER TO MANUFACTURER INSTALLATION RECOMMENDATIONS FOR H-20 TRAFFIC LOADING CONCRETE ENCASEMENT

OPEN TOP ASSEMBLY



A. DURASLOT END CAP OR TAYLOR PLUG FOR 30" & 36" PIPE
B. DURASLOT ADAPTER
C. N-12 PIPE
D. DURASLOT COUPLER BAND
E. DURASLOT GRATE ANCHOR

I. HEX HEAD ASSEMBLY 5⁄16" HEX HEAD SCREW X 3½" LONG W/ WASHER & 5⁄16" WINGNUT
J. PLASTIC SLEEVE SPACER (GOES ON I. - NOT USED W/ 4" DIAM.)
K. HEX HEAD ASSEMBLY: 5⁄16" HEX HEAD SCREW X 3½" LONG W/ (2) WASHERS AND 5⁄16" HEX NUT
L. DURASLOT BAND FLANGES

NOTES:
1. EACH CAP (A) & ADAPTER (C) COMES WITH A CAP (F)
2. EACH COUPLER BAND (E) COMES WITH HARDWARE (I,J,K, & L)

(OR APPROVED EQUAL)

© 2019 ADS, INC.

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

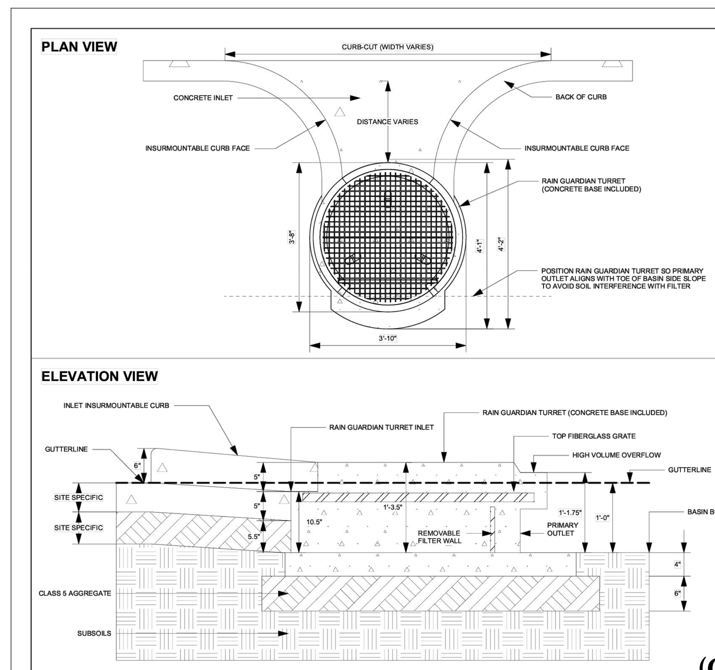
REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D

DRAWING NUMBER: STD-1408

ADS ADVANCED DRAINAGE SYSTEMS, INC. 4640 TRUEMAN BLVD HILLIARD, OHIO 43026

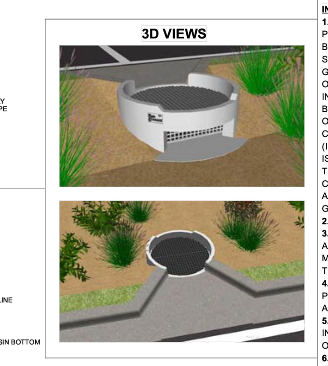
CWS | 2/1/2019 | KAK | NTS | 1 OF 1

RAIN GUARDIAN TURRET



PLAN VIEW NOTES
1. INLET WIDTH AND DISTANCE BETWEEN BACK OF CURB AND RAIN GUARDIAN TURRET MAY VARY WITH SITE CONDITIONS.
2. CONCRETE BASE EXTENDS BEYOND THE FILTER WALL OF THE RAIN GUARDIAN TURRET TO SERVE AS A SPLASH DISSIPATOR.

3D VIEWS



CROSS-SECTION VIEW NOTES
1. THE TOP OF THE CLASS 5 BASE (COMPACTED TO 95% STANDARD PROCTOR) IS PRECISELY 1' 4" BELOW THE GUTTERLINE ELEVATION.

SPECIFICATIONS
1. STEEL REINFORCED, COLD JOINT SECURED MONOLITHIC CONCRETE STRUCTURE (1,030 LBS). CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. CONCRETE AIR ENTRAINED (4% TO 8% BY VOLUME). MANUFACTURED AND DESIGNED TO ASTM C858.
2. THREE-POINT PICK USING RECESSED LIFTING POCKETS WITH A STANDARD HOOK.
3. TWO-PIECE FIBERGLASS TOP GRATE (16 LBS/PIECE, 1-1/2" THICK) - 1,760 LB CONCENTRATED LOAD OR 409 LB/SQ-FT UNIFORM LOAD.

INSTALLATION NOTES
1. INSTALL THE CLASS 5 BASE (COMPACTED TO 95% STANDARD PROCTOR). THE DISTANCE FROM THE BACK OF THE CURB MAY VARY BASED ON SITE CONDITIONS, BUT CONSIDERATIONS SHOULD INCLUDE SLOPE OF THE INLET AND BASIN SIDE SLOPES ADJACENT TO THE RAIN GUARDIAN TURRET. POSITION RAIN GUARDIAN TURRET SO PRIMARY OUTLET ALIGNS WITH TOE OF BASIN SIDE SLOPE TO AVOID SOIL INTERFERENCE WITH REMOVABLE FILTER WALL. EXCAVATE 1' 10" BELOW THE GUTTERLINE ELEVATION (I.E. THE BIORETENTION OVERFLOW ELEVATION) TO ACCOMMODATE THE 1' PONDING DEPTH, 6" CLASS 5 AGGREGATE, AND 4" RAIN GUARDIAN TURRET BASE (INCLUDED). THEREFORE, THE TOP OF THE CLASS 5 COMPACTED BASE IS PRECISELY 1' 4" BELOW THE GUTTERLINE ELEVATION. THE INLET TO THE RAIN GUARDIAN TURRET WILL BE 10-1/2" ABOVE THE TOP OF THE CONCRETE BASE AND 1-1/2" BELOW THE GUTTERLINE ELEVATION TO ACCOMMODATE A SLOPED INLET FROM THE GUTTER TO THE RAIN GUARDIAN TURRET.
2. SET RAIN GUARDIAN TURRET ON THE PREPARED CLASS 5 BASE.
3. INSTALL FRAMING FOR INLET BETWEEN RAIN GUARDIAN TURRET AND BACK OF CURB. TOP ELEVATIONS OF THE FRAMING SHOULD MATCH THE TOP OF THE CURB ON THE STREET SIDE AND THE TOP OF THE RAIN GUARDIAN TURRET ON THE BIORETENTION SIDE.
4. INSTALL EXPANSION/CONTRACTION JOINT MATERIAL OR A SHEET OF POLY TO SERVE AS A BOND BREAK BETWEEN RAIN GUARDIAN TURRET AND CONCRETE INLET BEFORE POURING INLET.
5. SIDE CURBS OF THE POURED INLET MUST HAVE AN INSURMOUNTABLE PROFILE TO PREVENT WATER FLOW FROM OVERTOPPING THE DOWNSTREAM SIDE OF THE INLET.
6. REMOVABLE FILTER WALL SHOULD BE INSTALLED WITH FILTER FABRIC FACING THE RAIN GUARDIAN TURRET INLET.

MANUFACTURED BY: FORTERRA Structural & Specialty

(OR APPROVED EQUAL)

RAIN GUARDIAN — PRETREATMENT FOR BIORETENTION — Rain Gardens • Swales • Filtration Basins • Infiltration Basins

RAIN GUARDIAN TURRET
PRETREATMENT CHAMBER
BIORETENTION PONDING DEPTH: 1'
TYPICAL DETAIL

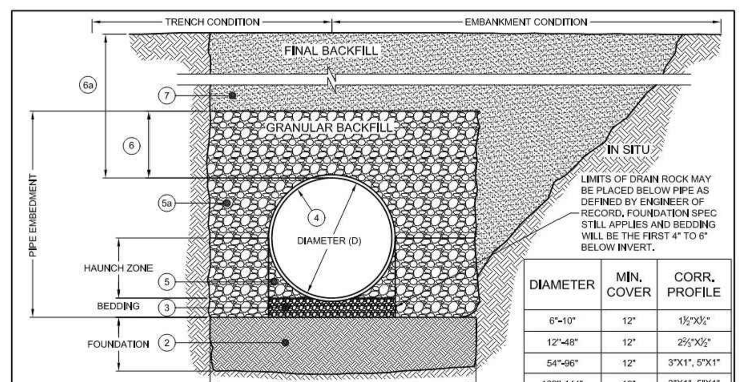
REVISION HISTORY

REV	BY	DATE	DESCRIPTION
A	MDH	08/29/18	TURRET - 1'

SCALE	VARIABLE
U.S. PATENT NOS.	8,501,016 AND 8,858,804

Anoka Conservation District
1318 McKay Dr. NE, Suite 300
Ham Lake, MN 55304
763-434-2030

232 - CSP ROUND STANDARD BACKFILL DETAIL RETENTION\UNDERDRAIN



DIAMETER	MIN. COVER	CORR. PROFILE
6"-10"	12"	1½"X¼"
12"-48"	12"	2⅔"X½"
54"-96"	12"	3"X1", 5"X1"
102"-144"	18"	3"X1", 5"X1"

(1) MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE. THE TRENCH WIDTH IS THE MINIMUM AMOUNT REQUIRED FOR PROPER INSTALLATION AND TO SUPPORT HORIZONTAL PRESSURE FROM THE PIPE. THE MANUFACTURER'S SUGGESTED MINIMUM VALUE IS: 1.5D + 12".

(1a) MINIMUM EMBANKMENT WIDTH (In feet) FOR INITIAL FILL ENVELOPE: 3.0D BUT NO LESS THAN D + 4'0".

(2) FOUNDATION SHALL BE WELL CONSOLIDATED & STABLE, CAPABLE OF SUPPORTING FILL MATERIAL LOAD.

(3) OPEN-GRADED GRANULAR BEDDING MATERIAL SHALL BE A RELATIVELY LOOSE MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, 4" TO 6" IN DEPTH. SUGGESTED PARTICLE SIZE OF 1/2 CORRUGATION DEPTH.

(4) CORRUGATED STEEL PIPE (CSP) [HEL-COR].

(5) HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION.

(5a) THE BACKFILL MATERIAL SHALL BE A FREE-DRAINING, ANGULAR, WASHED-STONE WITH A ½" - 2" RECOMMENDED PARTICLE SIZE. MATERIAL SHALL BE PLACED IN 12" MAXIMUM LIFTS AND SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR-TAMPER, VIBRATORY PLATE OR OTHER EFFECTIVE METHODS. COMPACTION IS CONSIDERED ADEQUATE WHEN A DENSITY EQUIVALENT TO 90% STANDARD PROCTOR IS ACHIEVED OR WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR OR UNDER FOOT. THE PROJECT ENGINEER OR HIS REPRESENTATIVE MUST BE SATISFIED WITH THE LEVEL OF COMPACTION. INADEQUATE COMPACTION CAN LEAD TO EXCESSIVE PIPE DEFLECTIONS AND SETTLEMENT OF THE SOILS OVER THE SYSTEM. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO-LIFT DIFFERENTIAL BETWEEN THE SIDES OF ANY PIPE IN THE SYSTEM AT ALL TIMES DURING THE BACKFILL PROCESS. BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON ANY PIPES IN THE SYSTEM.

(6) INITIAL OPEN GRADED GRANULAR BACKFILL ABOVE PIPE MAY INCLUDE ROAD BASE MATERIAL (AND RIGID PAVEMENT IF APPLICABLE). SEE TABLE ABOVE.

(6a) TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT.

(7) FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD.

NOTES:
- GEOTEXTILE SHALL BE USED AS REQUIRED TO PREVENT SOIL MIGRATION.
- FOR MULTIPLE BARREL INSTALLATIONS THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE PIPE DIA./2 BUT NO LESS THAN 12", OR 36" FOR PIPE DIAMETERS 72" AND LARGER. CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING.

232-CSP-STANDARD BACKFILL-ROUND-RETENTION

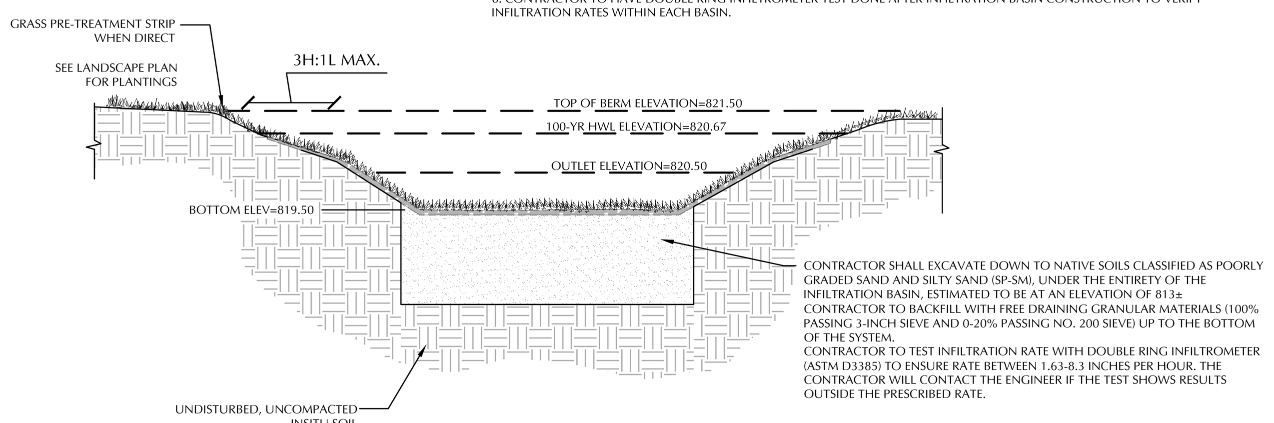
CONTECH ENGINEERED SOLUTIONS LLC www.ContechES.com 9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069 | CONTECH PIPE SOLUTIONS

800-338-1122 | 513-645-7000 | 513-645-7993 FAX | DATE DRAWN: 11/15/15 | REV #: — | REV DATE: — | SCALE: N.T.S. | DRAWING TYPE: —

NW INFILTRATION BASIN

GEBERAL NOTES
1. IN THE EVENT THAT SEDIMENT IS INTRODUCED INTO THE BMP DURING OR IMMEDIATELY FOLLOWING EXCAVATION, THIS MATERIAL SHALL BE REMOVED FROM THE PRACTICE PRIOR TO CONTINUING CONSTRUCTION.
2. SEE MINNESOTA STORMWATER MANUAL FOR SUBGRADE PREPARATION.

CONSTRUCTION SEQUENCING FOR BASIN
1. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL DEVICES TO PREVENT SEDIMENT FROM LEAVING OR ENTERING THE PRACTICE DURING CONSTRUCTION.
2. ALL DOWN GRADIENT PERIMETER CONTROL BMP'S MUST BE IN PLACE BEFORE ANY GRADIENT AND DISTURBING ACTIVITY BEGINS.
3. PERFORM CONTINUOUS INSPECTIONS OF EROSION CONTROL PRACTICES.
4. IF INFILTRATION BASIN IS BEING USED AS TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION, LEAVE A MINIMUM OF 1' COVER OVER THE PRACTICE TO PROTECT THE UNDERLYING SOILS FROM CLOGGING.
5. COMPLETE, STABILIZE, AND VEGETATE ALL OTHER SITE IMPROVEMENTS.
6. CONSTRUCT AND VEGETATE INFILTRATION DEVICE FOLLOWING STABILIZATION OF CONTRIBUTING DRAINAGE AREA. ENSURE THAT CRITICAL ELEVATIONS, SUCH AS UNDERDRAIN INVERT, TOP OF MULCH, AND INVERT OF OVERFLOW STRUCTURE ARE CORRECT.
7. REMOVE TEMPORARY EROSION CONTROL DEVICES AFTER THE CONTRIBUTING DRAINAGE AREA IS ADEQUATELY ESTABLISHED.
8. CONTRACTOR TO HAVE DOUBLE RING INFILTROMETER TEST DONE AFTER INFILTRATION BASIN CONSTRUCTION TO VERIFY INFILTRATION RATES WITHIN EACH BASIN.



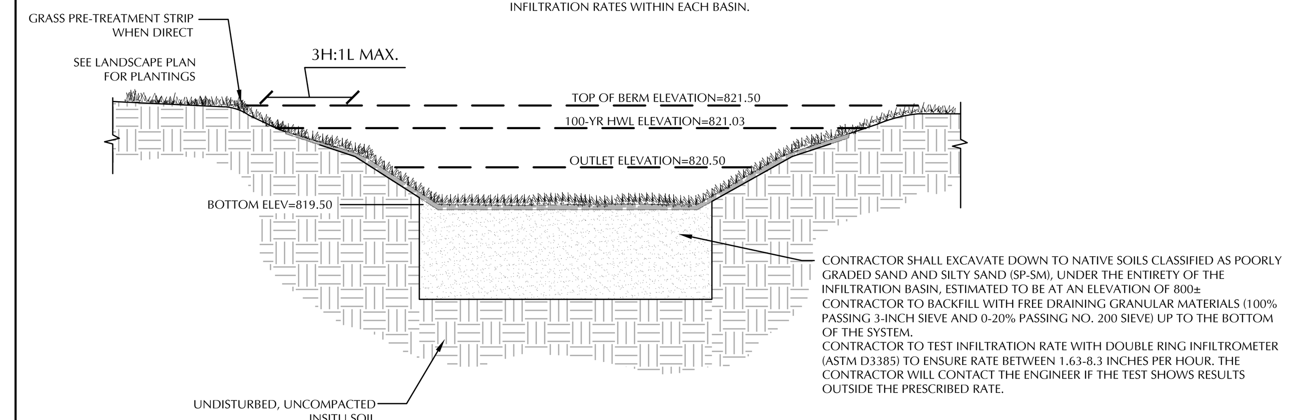
CONTRACTOR SHALL EXCAVATE DOWN TO NATIVE SOILS CLASSIFIED AS POORLY GRADED SAND AND SILTY SAND (SP-SM), UNDER THE ENTIRETY OF THE INFILTRATION BASIN, ESTIMATED TO BE AT AN ELEVATION OF 813±
CONTRACTOR TO BACKFILL WITH FREE DRAINING GRANULAR MATERIALS (100% PASSING 3-INCH SIEVE AND 0-20% PASSING NO. 200 SIEVE) UP TO THE BOTTOM OF THE SYSTEM.
CONTRACTOR TO TEST INFILTRATION RATE WITH DOUBLE RING INFILTROMETER (ASTM D3385) TO ENSURE RATE BETWEEN 1.63-8.3 INCHES PER HOUR. THE CONTRACTOR WILL CONTACT THE ENGINEER IF THE TEST SHOWS RESULTS OUTSIDE THE PRESCRIBED RATE.

LOUCKS | NW INFILTRATION BASIN | LOUCKS PLATE NO. | DRAWN 09/2023

W INFILTRATION BASIN

GEBERAL NOTES
1. IN THE EVENT THAT SEDIMENT IS INTRODUCED INTO THE BMP DURING OR IMMEDIATELY FOLLOWING EXCAVATION, THIS MATERIAL SHALL BE REMOVED FROM THE PRACTICE PRIOR TO CONTINUING CONSTRUCTION.
2. SEE MINNESOTA STORMWATER MANUAL FOR SUBGRADE PREPARATION.

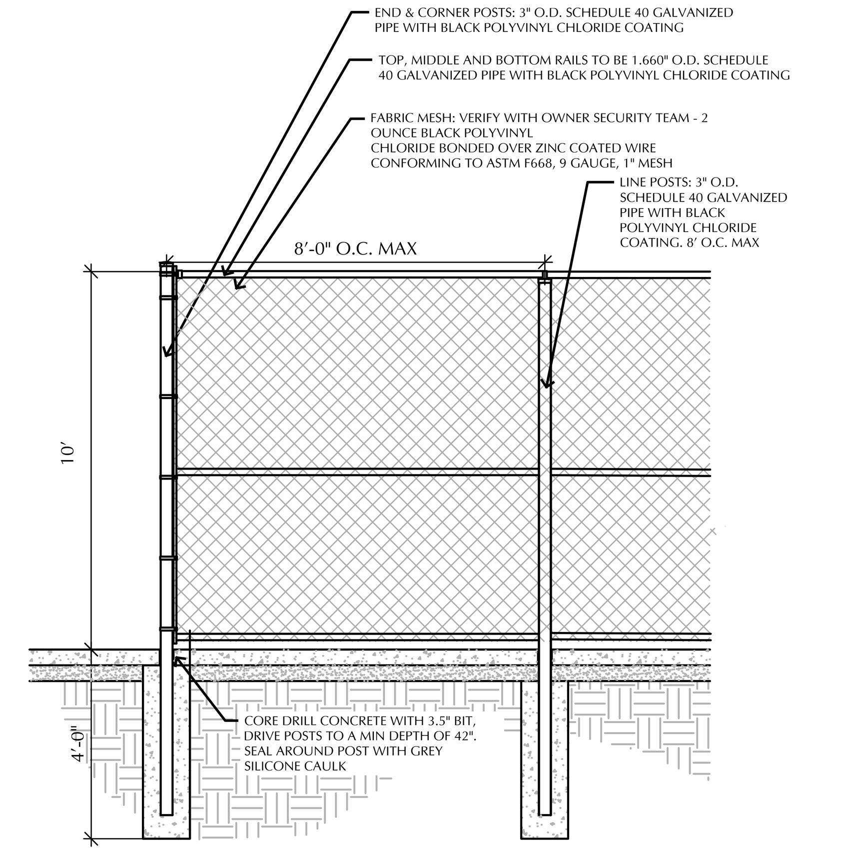
CONSTRUCTION SEQUENCING FOR BASIN
1. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL DEVICES TO PREVENT SEDIMENT FROM LEAVING OR ENTERING THE PRACTICE DURING CONSTRUCTION.
2. ALL DOWN GRADIENT PERIMETER CONTROL BMP'S MUST BE IN PLACE BEFORE ANY GRADIENT AND DISTURBING ACTIVITY BEGINS.
3. PERFORM CONTINUOUS INSPECTIONS OF EROSION CONTROL PRACTICES.
4. IF INFILTRATION BASIN IS BEING USED AS TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION, LEAVE A MINIMUM OF 1' COVER OVER THE PRACTICE TO PROTECT THE UNDERLYING SOILS FROM CLOGGING.
5. COMPLETE, STABILIZE, AND VEGETATE ALL OTHER SITE IMPROVEMENTS.
6. CONSTRUCT AND VEGETATE INFILTRATION DEVICE FOLLOWING STABILIZATION OF CONTRIBUTING DRAINAGE AREA. ENSURE THAT CRITICAL ELEVATIONS, SUCH AS UNDERDRAIN INVERT, TOP OF MULCH, AND INVERT OF OVERFLOW STRUCTURE ARE CORRECT.
7. REMOVE TEMPORARY EROSION CONTROL DEVICES AFTER THE CONTRIBUTING DRAINAGE AREA IS ADEQUATELY ESTABLISHED.
8. CONTRACTOR TO HAVE DOUBLE RING INFILTROMETER TEST DONE AFTER INFILTRATION BASIN CONSTRUCTION TO VERIFY INFILTRATION RATES WITHIN EACH BASIN.



CONTRACTOR SHALL EXCAVATE DOWN TO NATIVE SOILS CLASSIFIED AS POORLY GRADED SAND AND SILTY SAND (SP-SM), UNDER THE ENTIRETY OF THE INFILTRATION BASIN, ESTIMATED TO BE AT AN ELEVATION OF 800±
CONTRACTOR TO BACKFILL WITH FREE DRAINING GRANULAR MATERIALS (100% PASSING 3-INCH SIEVE AND 0-20% PASSING NO. 200 SIEVE) UP TO THE BOTTOM OF THE SYSTEM.
CONTRACTOR TO TEST INFILTRATION RATE WITH DOUBLE RING INFILTROMETER (ASTM D3385) TO ENSURE RATE BETWEEN 1.63-8.3 INCHES PER HOUR. THE CONTRACTOR WILL CONTACT THE ENGINEER IF THE TEST SHOWS RESULTS OUTSIDE THE PRESCRIBED RATE.

LOUCKS | W INFILTRATION BASIN | LOUCKS PLATE NO. | DRAWN 09/2023

10' VINYL COATED FENCE



NOTES:
1. END & CORNER POSTS SHALL BE SET 48" INTO A 12" DIA. CONCRETE FOOTING LINE POSTS SHALL BE SET 42" INTO A 8" DIA. CONCRETE FOOTING.
2. ALL FITTINGS SHALL BE GALVANIZED BLACK POLYVINYL CHLORIDE COATED PRESSED STEEL.
3. TIES SHALL BE 9 GAUGE VINYL COATED ALUMINUM, SPACED MAXIMUM 12" O.C. ON HORIZONTAL RAILS AND ON VERTICAL POSTS.
4. CONTRACTOR TO VERIFY UTILITY LOCATIONS AND FIELD ALTER POST LOCATIONS AS NEEDED.
5. PROVIDE SHOP DRAWINGS FOR OWNER AND LANDSCAPE ARCHITECT APPROVAL

10' VINYL COATED FENCE — LOUCKS
SCALE: NTS

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

B|W|B|R
380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants
LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name: Zachary B. Moen - PE
Date 05-13-2026 Lic./Reg. No. 58688

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00 — Drawn ZBM/JRM/MDC

Sheet Title
CIVIL DETAILS

Sheet No.
254.CD

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

OVERALL PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE
DECIDUOUS TREES						
	AC-S	15	ACER FREEMANII `SIENNA GLEN`	SIENNA GLEN MAPLE	B & B	2.5"CAL
	QU-C	14	QUERCUS ROBUR X Q. ALBA `CRIMSCHMIDT`	CRIMSON SPIRE OAK	B & B	2.5"CAL
		29	SUBTOTAL:			
EVERGREEN TREES						
	TH-T	4	THUJA OCCIDENTALIS 'TECHNY'	TECHNY ARBORVITAE	B&B	6` HGT
		4	SUBTOTAL:			
ORNAMENTAL TREES						
	MA-S	10	MALUS X `SPRING SNOW`	SPRING SNOW CRABAPPLE	B & B	2.5" CAL
		10	SUBTOTAL:			
SHRUBS						
	CO-A	24	CORNUS SERICEA `ARTIC FIRE`	ARCTIC FIRE DOGWOOD	CONT	#5
	RH-G	42	RHUS AROMATICA `GRO-LOW`	GRO-LOW FRAGRANT SUMAC	CONT	#5
		66	SUBTOTAL:			
CONIFEROUS SHRUBS						
	JU-B	37	JUNIPERUS HORIZONTALIS `BLUE CHIP`	BLUE CHIP JUNIPER	CONT	#5
	JU-S	5	JUNIPERUS CHINENSIS `SEA GREEN`	SEA GREEN JUNIPER	CONT	#5
		42	SUBTOTAL:			
SYMBOL	CODE		BOTANICAL NAME	COMMON NAME		
GROUND COVERS						
	SD-01		BWSR SEED MIX 32-242	NATIVE CONSTRUCTION GENERAL SEED MIX		
	SD-02		BWSR SEED MIX 33-261	WET DITCH SEED MIX		
	SM-01		GRAY (MATCH EXISTING)	STONE MULCH		
	TS-01		KENTUCKY BLUE GRASS BLEND	TURF SOD		

REFERENCE NOTES SCHEDULE

CODE	DESCRIPTION	MATERIAL	COLOR	COMMENTS
EDGING				
ED-01	LANDSCAPE EDGER	3/16" X 6" STEEL EDGING	BLACK	PROVIDE 15" STAKES

LANDSCAPE REQUIREMENTS

TREE & SHRUB REQUIREMENTS
1 TREE PER 2,500 SF OF DEVELOPMENT LANDSCAPING AREA
1 SHRUB PER 1,000 SF OF DEVELOPMENT LANDSCAPING AREA

DEVELOPMENT LANDSCAPING AREA:
107,593.20 SF (2.47 AC)
TREES REQUIRED: 43
SHRUBS REQUIRED: 108
EXISTING TREES WITHIN DEVELOPMENT LANDSCAPE AREA: 47 TREES
EXISTING TREES REMOVED: 43 TREES
EXISTING TREES SAVED: 4 TREES
NEW TREES PROVIDED : 43
NEW SHRUBS PROVIDED: 108

LANDSCAPE YARD PROVIDED ALONG COMPUTER AVE AND SITE PERIMETER

1 TREE PER PARKING LOT ISLAND PROVIDED

PARKING LOT SCREENING IS NOT REQUIRED, DISTANCE TO PARKING LOT FROM STREET IS GRATER THAN 40 FEET

SOIL FOR PARKING LOT ISLANDS SHOULD BE COMPOSED OF A 1:1:1 MIX OF SOIL, COMPOST AND SAND, THE EXISTING SOIL SHOULD BE EXCAVATED TO A MINIMUM DEPTH OF TWO FEET AND BE REPLACED WITH THE APPROVED SOILS MIX.

GENERAL NOTES

CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTING BID. HE SHALL INSPECT SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS RELATING TO THE NATURE AND SCOPE OF WORK.

VERIFY LAYOUT AND ANY DIMENSIONS SHOWN AND BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT ANY DISCREPANCIES WHICH MAY COMPROMISE THE DESIGN AND / OR INTENT OF THE PROJECT'S LAYOUT.

ASSURE COMPLIANCE WITH ALL APPLICABLE CODES AND REGULATIONS GOVERNING THE WORK OR MATERIALS SUPPLIED.

CONTRACTOR SHALL PROTECT ALL EXISTING ROADS, CURBS / GUTTERS, TRAILS, TREES, LAWNS AND SITE ELEMENTS DURING PLANTING OPERATIONS. ANY DAMAGE TO SAME SHALL BE REPAIRED AT NO COST TO THE OWNER.

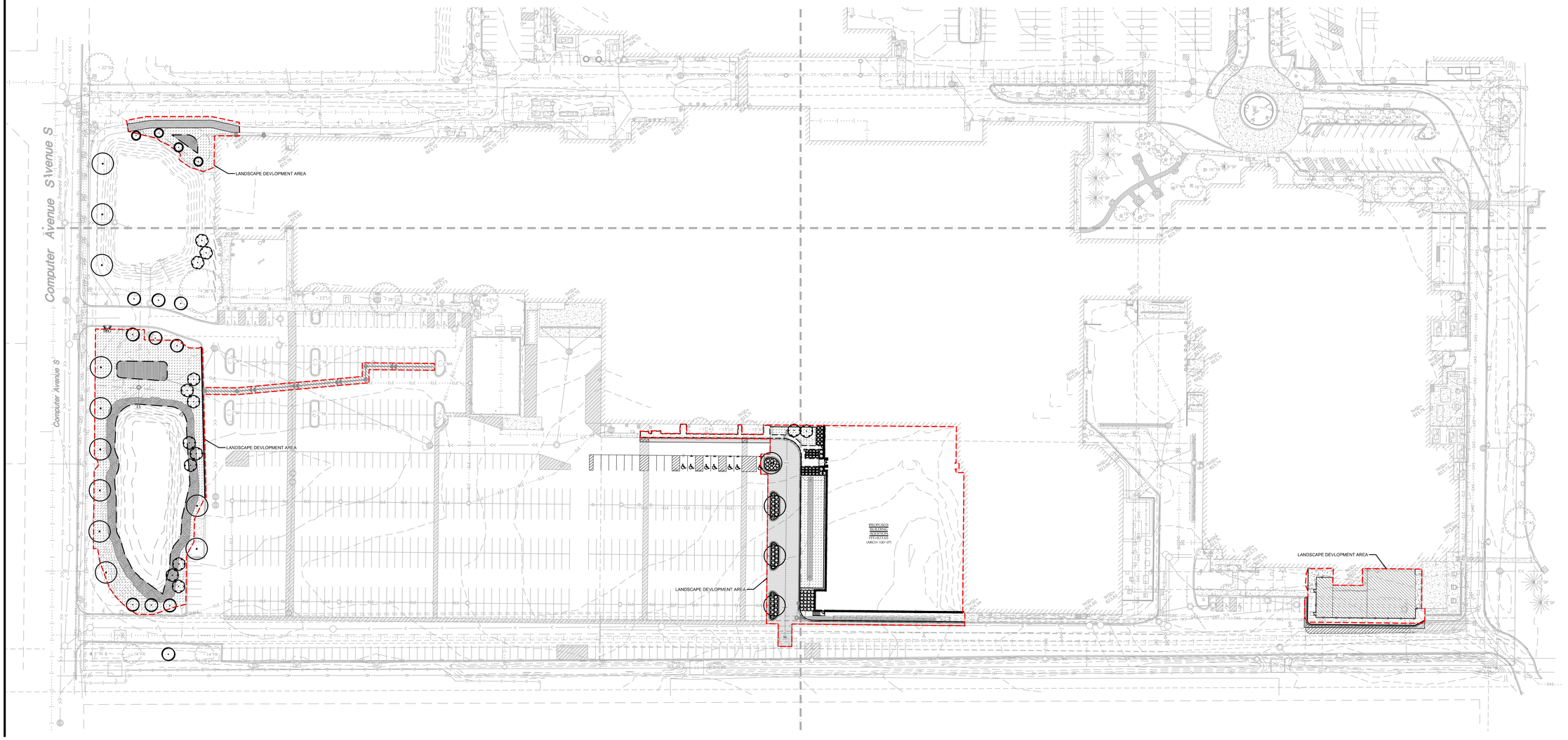
CONTRACTOR SHALL VERIFY ALIGNMENT AND LOCATION OF ALL UNDERGROUND AND ABOVE GRADE UTILITIES. CONTRACTOR TO PROVIDE THE NECESSARY PROTECTION FOR THE UTILITIES BEFORE CONSTRUCTION / MATERIAL INSTALLATION BEGINS. CONTRACTOR TO NOTIFY GENERAL CONTRACTOR OF ANY CONCERNS PRIOR TO INSTALLATION OF PLANTINGS.

EXISTING CONTOURS, TRAILS, VEGETATION, CURB / GUTTER AND OTHER EXISTING ELEMENTS BASED UPON INFORMATION SUPPLIED TO LANDSCAPE ARCHITECT BY OTHERS. CONTRACTOR SHALL VERIFY ANY AND ALL DISCREPANCIES PRIOR TO CONSTRUCTION AND NOTIFY LANDSCAPE ARCHITECT OF SAME.

THE ALIGNMENT AND GRADES OF THE PROPOSED WALKS, TRAILS AND / OR ROADWAYS ARE SUBJECT TO FIELD ADJUSTMENT REQUIRED TO CONFORM TO LOCALIZED TOPOGRAPHIC CONDITIONS AND TO MINIMIZE TREE REMOVAL AND GRADING. ANY CHANGE IN ALIGNMENT MUST BE APPROVED BY LANDSCAPE ARCHITECT.

0 50 100
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE

12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Landscape Architect under the laws of the State of Minnesota

Name
Kevin V. Kroen - LA

Date **05-13-2026** Lic./Reg. No. 53757

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet.
Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00

Drawn LJR/KVK/NWE

Sheet Title
LANDSCAPE PLAN

Sheet No.
270.0LP

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

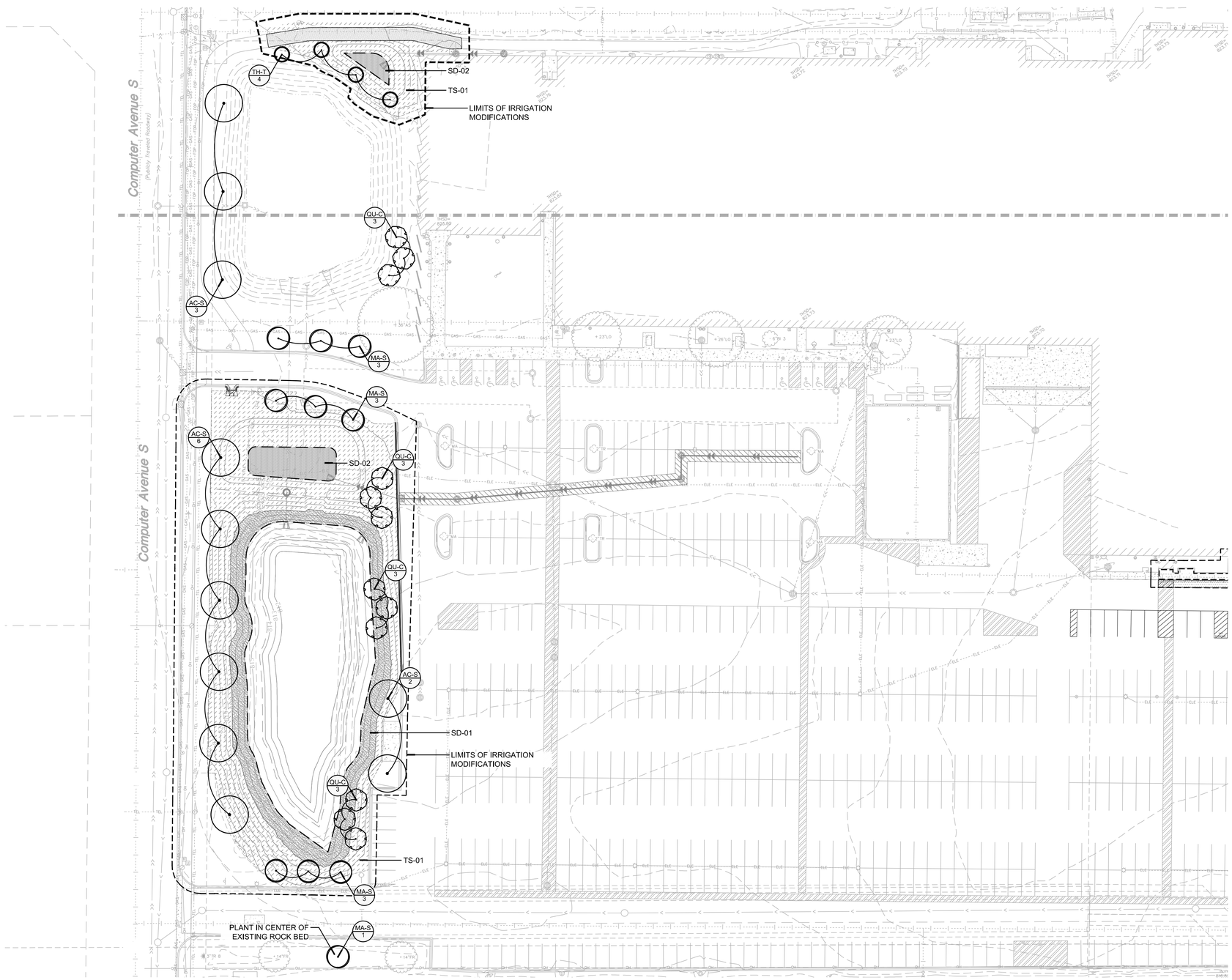
WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

PLANT SCHEDULE - WEST

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZ
DECIDUOUS TREES						
	AC-S	11	ACER FREEMANII `SIENNA GLEN`	SIENNA GLEN MAPLE	B & B	2.5"C
	QU-C	12	QUERCUS ROBUR X Q. ALBA `CRIMSCHMIDT`	CRIMSON SPIRE OAK	B & B	2.5"C
EVERGREEN TREES						
	TH-T	4	THUJA OCCIDENTALIS 'TECHNY'	TECHNY ARBORVITAE	B&B	6` HC
ORNAMENTAL TREES						
	MA-S	10	MALUS X `SPRING SNOW`	SPRING SNOW CRABAPPLE	B & B	2.5" C
SYMBOL	CODE		BOTANICAL NAME	COMMON NAME		
GROUND COVERS						
	SD-01		BWSR SEED MIX 32-242	NATIVE CONSTRUCTION GENERAL SEED MIX		
	SD-02		BWSR SEED MIX 33-261	WET DITCH SEED MIX		
	TS-01		KENTUCKY BLUE GRASS BLEND	TURF SOD		



0 30 60
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Landscape Architect under the laws of the State of Minnesota

Name
Kevin V. Rosen - LA

Date **05-13-2026** Lic./Reg. No. 53757

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00

Drawn LJR/KVK/NWE

Sheet Title
LANDSCAPE PLAN WEST

Sheet No.
270.1LP

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

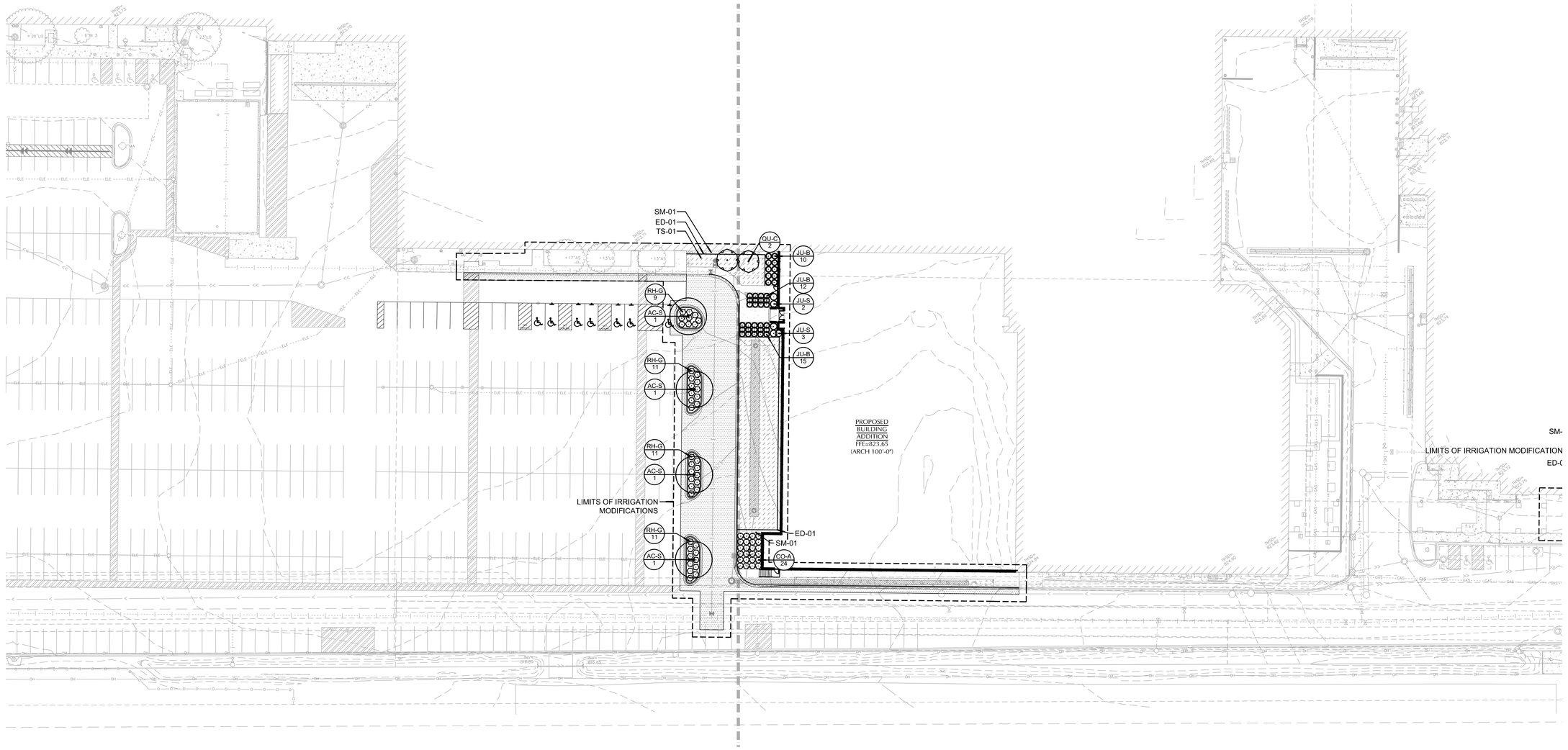
THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

PLANT SCHEDULE - EAST

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE
DECIDUOUS TREES						
	AC-S	4	ACER FREEMANII `SIENNA GLEN`	SIENNA GLEN MAPLE	B & B	2.5"CAL
	QU-C	2	QUERCUS ROBUR X Q. ALBA `CRIMSCHMIDT`	CRIMSON SPIRE OAK	B & B	2.5"CAL
SHRUBS						
	CO-A	24	CORNUS SERICEA `ARTIC FIRE`	ARCTIC FIRE DOGWOOD	CONT	#5
	RH-G	42	RHUS AROMATICA `GRO-LOW`	GRO-LOW FRAGRANT SUMAC	CONT	#5
CONIFEROUS SHRUBS						
	JU-B	37	JUNIPERUS HORIZONTALIS `BLUE CHIP`	BLUE CHIP JUNIPER	CONT	#5
	JU-S	5	JUNIPERUS CHINENSIS `SEA GREEN`	SEA GREEN JUNIPER	CONT	#5
SYMBOL	CODE		BOTANICAL NAME	COMMON NAME		
GROUND COVERS						
	SM-01		GRAY (MATCH EXISTING)	STONE MULCH		
	TS-01		KENTUCKY BLUE GRASS BLEND	TURF SOD		

REFERENCE NOTES SCHEDULE

CODE	DESCRIPTION
EDGING	
ED-01	LANDSCAPE EDGER



N

0 30 60

SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE

12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com

LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Landscape Architect under the laws of the State of Minnesota

Name
Kevin V. Rosen - LA

Date **05-13-2026** Lic./Reg. No. **53757**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00

Drawn LJR/KVK/NWE

Sheet Title
LANDSCAPE PLAN EAST

Sheet No.
270.2LP

Copyright BWBR

CALL BEFORE YOU DIG!

Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

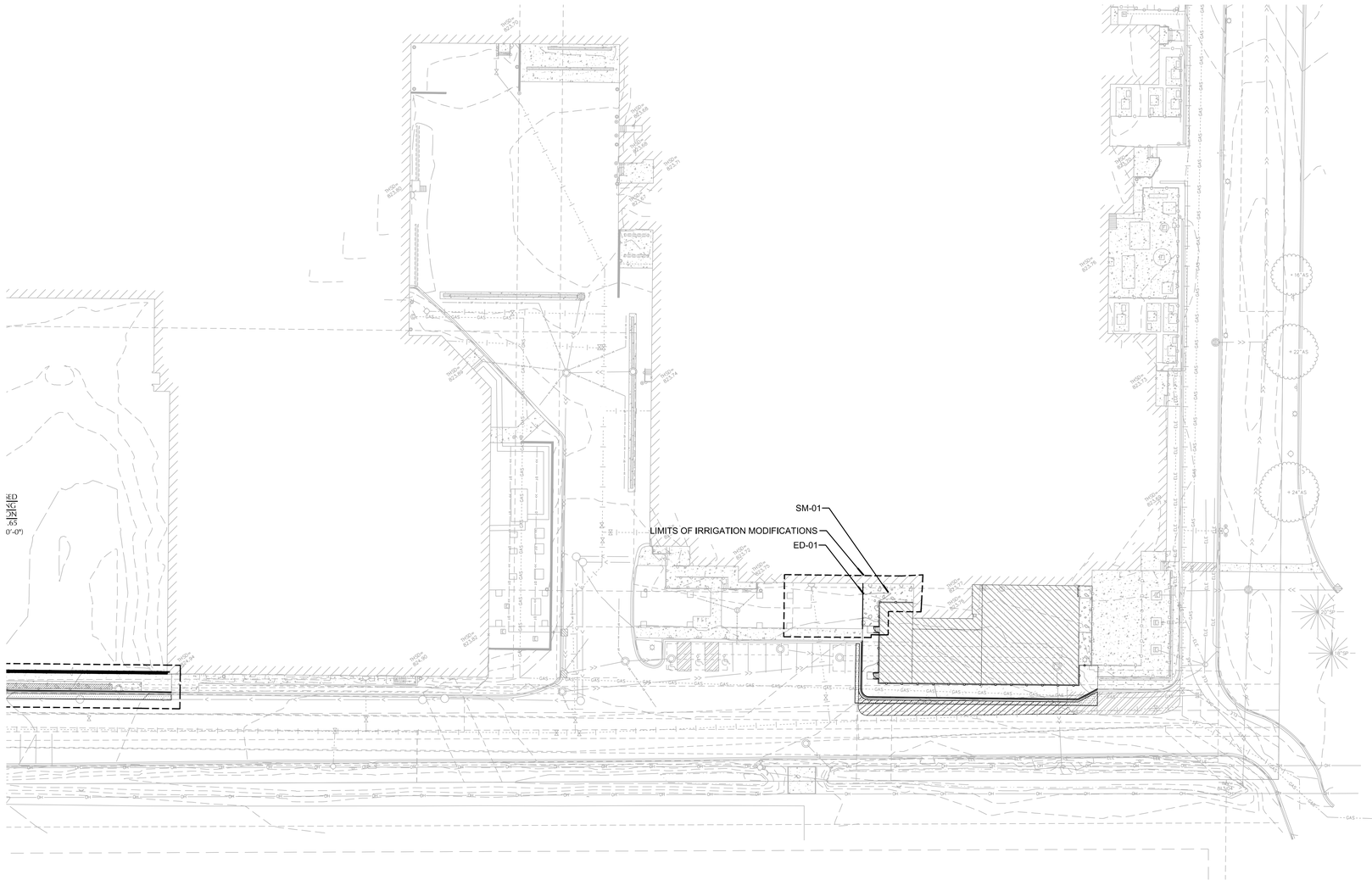
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

PLANT SCHEDULE - NITROGEN PLANT			
SYMBOL	CODE	BOTANICAL NAME	COMMON NAME
GROUND COVERS			
	SM-01	GRAY (MATCH EXISTING)	STONE MULCH

0 30 60
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

B|W|B|R

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE

12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Landscape Architect under the laws of the State of Minnesota

Name
Kevin V. Rosen - LA

Date **05-13-2026** Lic./Reg. No. 53757

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet.
Drawing Scales apply to Full Size Sheets.

FOR REFERENCE ONLY

Comm. No. P.2600023.00
Drawn LJR/KVK/NWE

Sheet Title
LANDSCAPE PLAN NITROGEN PLANT

Sheet No.
270.3LP

Copyright BWBR

LANDSCAPE INSTALLATION:

GENERAL NOTES

COORDINATE THE PHASES OF CONSTRUCTION AND PLANTING INSTALLATION WITH OTHER CONTRACTORS WORKING ON SITE.

NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.

ALL PLANTS TO BE INSTALLED AS PER PLANTING DETAILS. REMOVE ALL FLAGGING AND LABELS FROM PLANTS.

IF THE LANDSCAPE CONTRACTOR IS CONCERNED OR PERCEIVES ANY DEFICIENCIES IN THE PLANT SELECTIONS, SOIL CONDITIONS OR ANY OTHER SITE CONDITION WHICH MIGHT NEGATIVELY AFFECT PLANT ESTABLISHMENT, SURVIVAL OR GUARANTEE, THE CONTRACTOR MUST BRING THESE DEFICIENCIES TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO PROCUREMENT AND / OR INSTALLATION.

PROTECT ALL EXISTING TREES ON SITE SCHEDULED TO REMAIN. IF EXISTING TREES ARE DAMAGED IN ANY MANNER, ABOVE OR BELOW GROUND IN THE ROOT SYSTEM, AN ASPHALTIC TREE PRUNING PAINT SHOULD BE APPLIED IMMEDIATELY AFTER WOUNDING.

SOIL & GROUNDCOVER

ALL PLANTING AREAS RECEIVING PLANTED GROUND COVER, PERENNIALS, ANNUALS, AND/OR VINES SHALL RECEIVE A MINIMUM OF 24" DEPTH OF PLANTING SOIL (MNDOT 3877 - 2B OR EQUAL).

WHERE SOD / SEED ABUTS PAVED SURFACES, FINISHED GRADE OF SOD / SEED SHALL BE HELD 1" BELOW SURFACE ELEVATION OF TRAIL, SLAB, CURB, ETC.

SOD ALL DESIGNATED AREAS DISTURBED DUE TO GRADING. SOD SHALL BE LAID PARALLEL TO THE CONTOURS AND SHALL HAVE STAGGERED JOINTS. ON SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES, THE SOD SHALL BE STAKED TO THE GROUND.

LANDSCAPE CONTRACTOR SHALL VERIFY THAT SOIL AND COMPACTION CONDITIONS ARE ADEQUATE TO ALLOW FOR PROPER DRAINAGE AT AND AROUND THE BUILDING SITE.

PLANTINGS INFO

ALL PLANT MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMEN. UNLESS NOTED OTHERWISE, ALL SHRUBS SHALL HAVE AT LEAST 5 CANES AT THE SPECIFIED MINIMUM SHRUB HEIGHT OR WIDTH. ORNAMENTAL TREES SHALL HAVE NO V CROTCHES AND SHALL BEGIN BRANCHING NO LOWER THAN 3' ABOVE ROOT BALL. STREET AND BOULEVARD TREES SHALL BEGIN BRANCHING NO LOWER THAN 5' ABOVE FINISHED GRADE.

ANY CONIFEROUS TREE PREVIOUSLY PRUNED FOR CHRISTMAS TREE SALES SHALL NOT BE USED. ALL CONIFEROUS TREES SHALL BE FULL FORM, NATURAL TO THE SPECIES, WITHOUT PRUNING.

PRIOR TO PLANTING, FIELD VERIFY THAT THE ROOT COLLAR / ROOT FLAIR IS LOCATED AT THE TOP OF THE BALLED & BURLAP TREE. IF THIS IS NOT THE CASE, SOIL SHALL BE REMOVED DOWN TO THE ROOT COLLAR / ROOT FLAIR. WHEN THE BALLED & BURLAP TREE IS PLANTED, THE ROOT COLLAR / ROOT FLAIR SHALL BE EVEN OR SLIGHTLY ABOVE FINISHED GRADE.

ALL PROPOSED PLANTS SHALL BE LOCATED AND STAKED AS SHOWN ON PLAN. ADJUSTMENTS IN LOCATION OF PROPOSED PLANT MATERIALS MAY BE NEEDED IN FIELD. SHOULD AN ADJUSTMENT BE ADVISED, THE LANDSCAPE ARCHITECT MUST BE NOTIFIED.

PLAN TAKES PRECEDENCE OVER PLANT SCHEDULE IF DISCREPANCIES IN QUANTITIES EXIST. SPECIFICATIONS TAKE PRECEDENCE OVER NOTES.

NO PLANT MATERIAL SUBSTITUTIONS WILL BE ACCEPTED UNLESS APPROVAL IS REQUESTED OF THE LANDSCAPE ARCHITECT BY THE LANDSCAPE CONTRACTOR PRIOR TO THE SUBMISSION OF A BID AND / OR QUOTATION.

WRAPPING MATERIAL SHALL BE CORRUGATED PVC PIPING 1" GREATER IN CALIPER THAN THE TREE BEING PROTECTED OR QUALITY, HEAVY, WATERPROOF CREPE PAPER MANUFACTURED FOR THIS PURPOSE. WRAP ALL DECIDUOUS TREES PLANTED IN THE FALL PRIOR TO 12-1 AND REMOVE ALL WRAPPING AFTER 5-1.

FERTILIZER

ALL PLANT MATERIALS SHALL BE FERTILIZED UPON INSTALLATION WITH A 27-3-3 SLOW RELEASE FERTILIZER MIXED IN WITH THE PLANTING SOIL PER THE MANUFACTURER'S INSTRUCTIONS. PLANTS MAY BE TREATED FOR SUMMER AND FALL INSTALLATION WITH AN APPLICATION OF GRANULAR 27-3-3 AT 6 OZ PER 2.5" CALIPER PER TREE AND 3 OZ PER SHRUB WITH AN ADDITIONAL APPLICATION OF 27-3-3 THE FOLLOWING SPRING IN THE TREE SAUCER.

EDGING FOR PLANTING BEDS

BLACK METAL EDGER TO BE USED TO CONTAIN SHRUBS, PERENNIALS, AND ANNUALS WHERE BED MEETS SOD / SEED UNLESS NOTED OTHERWISE.

PLANTING BED PREPARATION

ALL ANNUAL AND PERENNIAL PLANTING BEDS TO RECEIVE 3" DEEP ROCK MULCH WITH WEED BARRIER.

ALL SHRUB BED MASSINGS TO RECEIVE 3" DEEP ROCK MULCH AND FIBER MAT WEED BARRIER.

ALL TREES NOT IN PLANTING BEDS TO RECEIVE 4" DEEP SHREDDED HARDWOOD MULCH RING WITH NO MULCH IN DIRECT CONTACT WITH TREE TRUNK.

SPREAD GRANULAR PRE EMERGENT HERBICIDE (PREEN OR EQUAL) PER MANUFACTURER'S RECOMMENDATIONS UNDER ALL MULCHED AREAS.

MAINTENANCE STRIPS TO HAVE EDGER AND MULCH AS SPECIFIED / INDICATED ON DRAWING OR IN SPECIFICATION.

INSPECTION AND WARRANTY

CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR THE OWNER ACCEPTANCE INSPECTION OF ALL LANDSCAPE AND SITE IMPROVEMENTS.

CONTRACTOR IS RESPONSIBLE FOR ON-GOING MAINTENANCE OF ALL NEWLY INSTALLED MATERIALS UNTIL TIME OF OWNER ACCEPTANCE. ANY ACTS OF VANDALISM OR DAMAGE WHICH MAY OCCUR PRIOR TO OWNER ACCEPTANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL PROVIDE THE OWNER WITH A MAINTENANCE PROGRAM INCLUDING, BUT NOT NECESSARILY LIMITED TO, PRUNING, FERTILIZATION AND DISEASE / PEST CONTROL.

CONTRACTOR SHALL GUARANTEE NEW PLANT MATERIAL THROUGH ONE (1) CALENDAR YEAR FROM THE DATE OF OWNER ACCEPTANCE.

WARRANTY (ONE (1) FULL GROWING SEASON) FOR LANDSCAPE MATERIALS SHALL BEGIN ON THE DATE OF ACCEPTANCE BY THE LANDSCAPE ARCHITECT AFTER THE COMPLETION OF PLANTING OF ALL LANDSCAPE MATERIALS. NO PARTIAL ACCEPTANCE WILL BE CONSIDERED.

TIMING OF INSTALLATION

UNLESS NOTED OTHERWISE THE APPROPRIATE DATES FOR SPRING PLANT MATERIAL INSTALLATION AND SEED / SOD PLACEMENT IS FROM THE TIME GROUND HAS THAWED TO JUNE 15.

FALL SODDING IS GENERALLY ACCEPTABLE FROM AUGUST 15 - NOVEMBER 1. FALL SEEDING FROM AUGUST 15 - SEPTEMBER 15; DORMANT SEEDING IN THE FALL SHALL NOT OCCUR PRIOR TO NOVEMBER 1. FALL CONIFEROUS PLANTING MAY OCCUR FROM AUGUST 15 - OCTOBER 1 AND DECIDUOUS PLANTING FROM THE FIRST FROST UNTIL NOVEMBER 15. PLANTING OUTSIDE THESE DATES IS NOT RECOMMENDED. ANY ADJUSTMENT MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.

TREES ARE NOT TO BE PRUNED, REMOVED OR TRANSPLANTED BETWEEN APRIL 15 AND JULY 1. NOTIFY LANDSCAPE ARCHITECT IF THESE DATES ARE UNAVOIDABLE.

NATIVE SEED PLANTING REQUIREMENTS:

- ENGAGEMENT OF AN EXPERIENCED INSTALLER WHO SPECIALIZES IN THE ESTABLISHMENT AND RESTORATION OF NATIVE PRAIRIE PLANT COMMUNITIES IS REQUIRED FOR THIS PROJECT. CONTRACTOR INSTALLING THE NATIVE SEEDING TO PROVIDE THE FOLLOWING:
- DOCUMENTATION OF SIMILAR PROJECT EXPERIENCE INCLUDING LOCATION, PROJECT SIZE, SEED TYPES, DATES OF INSTALLATION, AND INSTALLATION METHODS.
- SEEDING SCHEDULE INCLUDING DATES AND METHOD OF SEEDING FOR APPROVAL BY THE OWNERS REPRESENTATIVE PRIOR TO INSTALLATION OF ANY SEEDING.

IRRIGATION NOTES:

VERIFY EXISTING / PROPOSED IRRIGATION SYSTEM LAYOUT AND CONFIRM COMPLETE LIMITS OF IRRIGATION PRIOR TO SUPPLYING SHOP DRAWINGS.

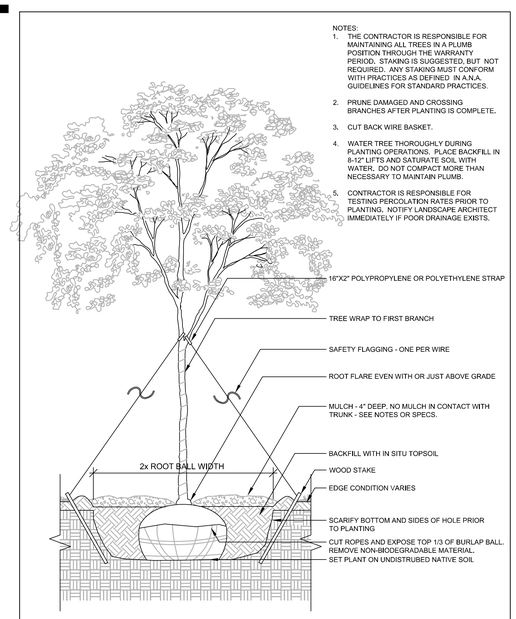
LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AN IRRIGATION LAYOUT PLAN AND SPECIFICATION AS A PART OF THE SCOPE OF WORK WHEN BIDDING. THESE SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO ORDER AND / OR INSTALLATION. IT SHALL BE THE LANDSCAPE CONTRACTORS RESPONSIBILITY TO INSURE THAT ALL SODDED / SEEDED AND PLANTED AREAS ARE IRRIGATED PROPERLY, INCLUDING THOSE AREAS DIRECTLY AROUND AND ABUTTING BUILDING FOUNDATION.

THE LANDSCAPE CONTRACTOR SHALL PROVIDE THE OWNER WITH AN IRRIGATION SCHEDULE APPROPRIATE TO THE PROJECT SITE CONDITIONS AND TO PLANT MATERIAL GROWTH REQUIREMENTS.

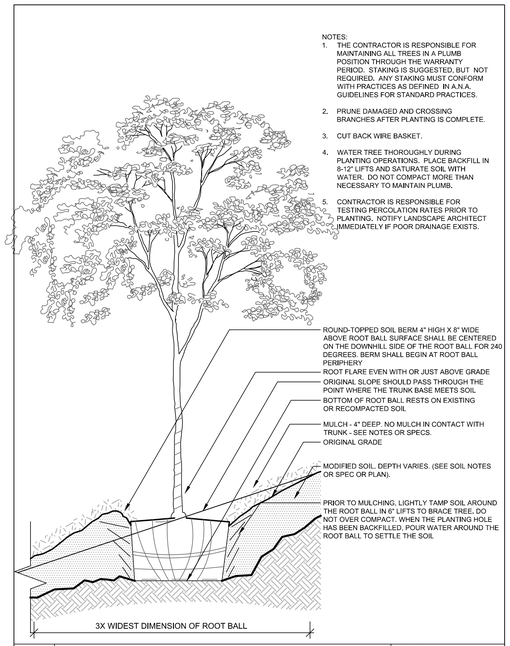
IRRIGATION SYSTEM IS NOT TO SPRINKLE ACROSS PAVEMENT NOR SHALL THE SYSTEM SPRINKLE THE BUILDING.

THE SYSTEM SHALL INCORPORATE A RAIN SENSOR INTO IRRIGATION SYSTEM.

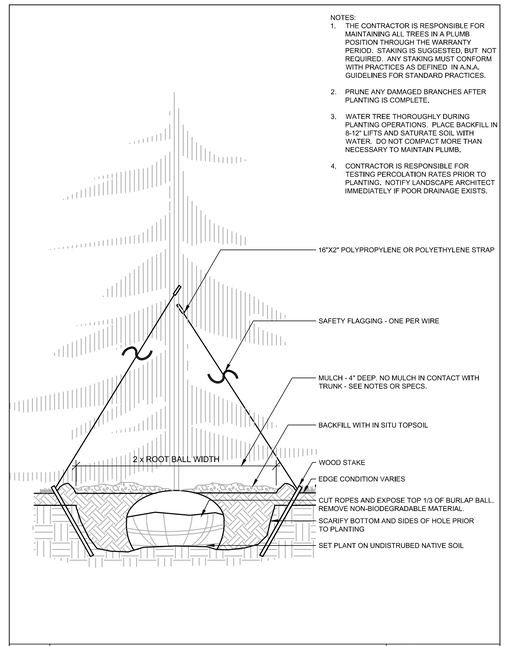
PLANTINGS OUTSIDE THE LIMITS OF IRRIGATION ARE TO BE WATERED REGULARLY UNTIL PLANTING / SOD / SEED HAS BEEN ESTABLISHED.



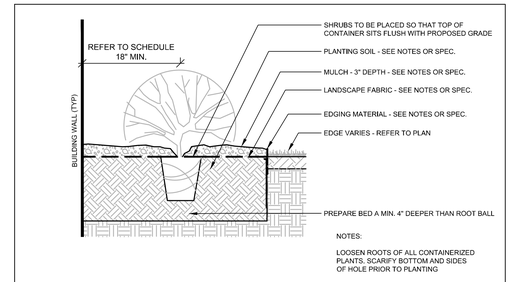
1	DETAIL - DECIDUOUS TREE	LOUCKS
	3/4" = 1'-0"	PROJ-20244I-01



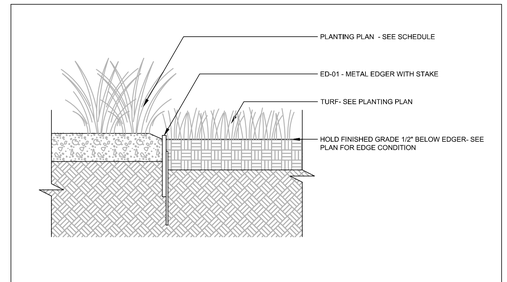
2	DETAIL - TREE PLANTING ON SLOPE (MODIFIED SOILS)	LOUCKS
	3/4" = 1'-0"	PROJ-20244I-03



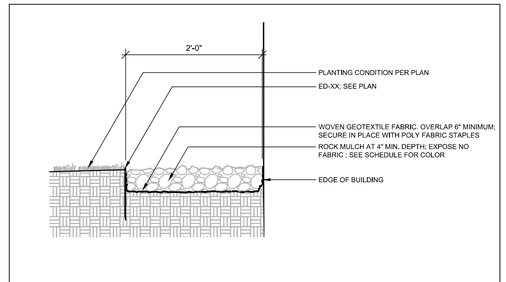
3	DETAIL - CONIFEROUS TREE	LOUCKS
	3/4" = 1'-0"	PROJ-20244I-05



4	DETAIL - SHRUB PLANTING	LOUCKS
	1" = 1'-0"	PROJ-20244I-04



5	ED-01 - LANDSCAPE EDGER, TYP.	LOUCKS
	1 1/2" = 1'-0"	PROJ-20244I-02



6	MAINTENANCE STRIP (24")	LOUCKS
	1 1/2" = 1'-0"	PROJ-20244I-06

SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Landscape Architect under the laws of the State of Minnesota

Name
Kevin V. Kissen - LA

Date **05-13-2026** Lic./Reg. No. 53757

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00
Drawn LJR/KVK/NWE

Sheet Title
LANDSCAPE DETAILS

Sheet No.
280.0LD

Copyright BWBR

CALL BEFORE YOU DIG!

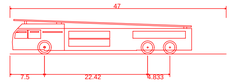
Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.



Bloomington-Ladder Fire Truck

Overall Length	47.000ft
Overall Width	8.420ft
Overall Body Height	7.515ft
Min Body Ground Clearance	0.765ft
Max Track Width	8.420ft
Lock-to-lock time	6.00s
Max Wheel Angle	33.00 °

MINIMUM OF 13'6" CLEARANCE FOR OVERHEAD OBSTRUCTIONS PER CITY OF BLOOMINGTON

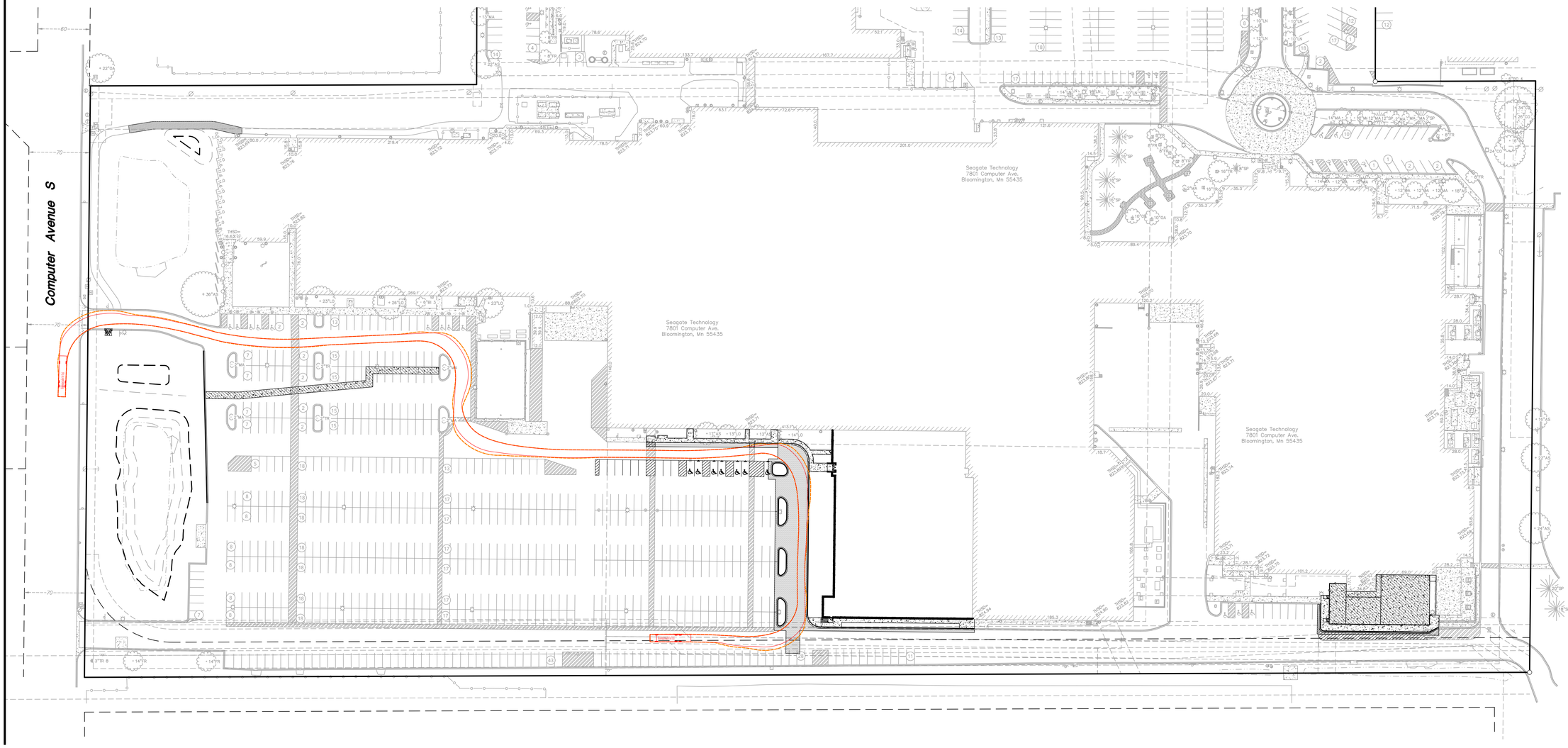
N

0 50 100
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
2	PARKING STALL COUNT	2
	ACCESSIBLE PARKING STALL	
SS	STORM SEWER	
DT	DRAINTILE	DT
S	SANITARY SEWER	
FM	FORCEMAIN	FM
W	WATERMAIN	
S	SANITARY SEWER SERVICE	
W	WATER SERVICE	
ELE	UNDERGROUND ELECTRIC	ELE
FO	UNDERGROUND FIBER OPTIC	FO
GAS	UNDERGROUND GAS	GAS
TEL	UNDERGROUND TELEPHONE	TEL
OH	OVERHEAD UTILITY	OH
X	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
972	CONTOUR	972
972.5	SPOT ELEVATION	972.5
	DIRECTION OF FLOW	1.0%
	TREE LINE	
	PARKING SETBACK LINE	PSBL
	BUILDING SETBACK LINE	BSBL



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE

12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moen - PE

Date **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00

Drawn ZBM/JRM/MDC

Sheet Title
FIRE TRUCK TURNING

Sheet No.
EXHIBIT

Copyright BWBR

CALL BEFORE YOU DIG!

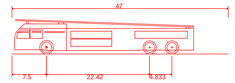
Gopher State One Call

TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.



Bloomington-Ladder Fire Truck	
Overall Length	47.000ft
Overall Width	8.420ft
Overall Body Height	7.515ft
Min Body Ground Clearance	0.765ft
Max Track Width	8.420ft
Lock-to-lock time	6.00s
Max Wheel Angle	33.00 °

MINIMUM OF 13'6" CLEARANCE FOR OVERHEAD OBSTRUCTIONS PER CITY OF BLOOMINGTON

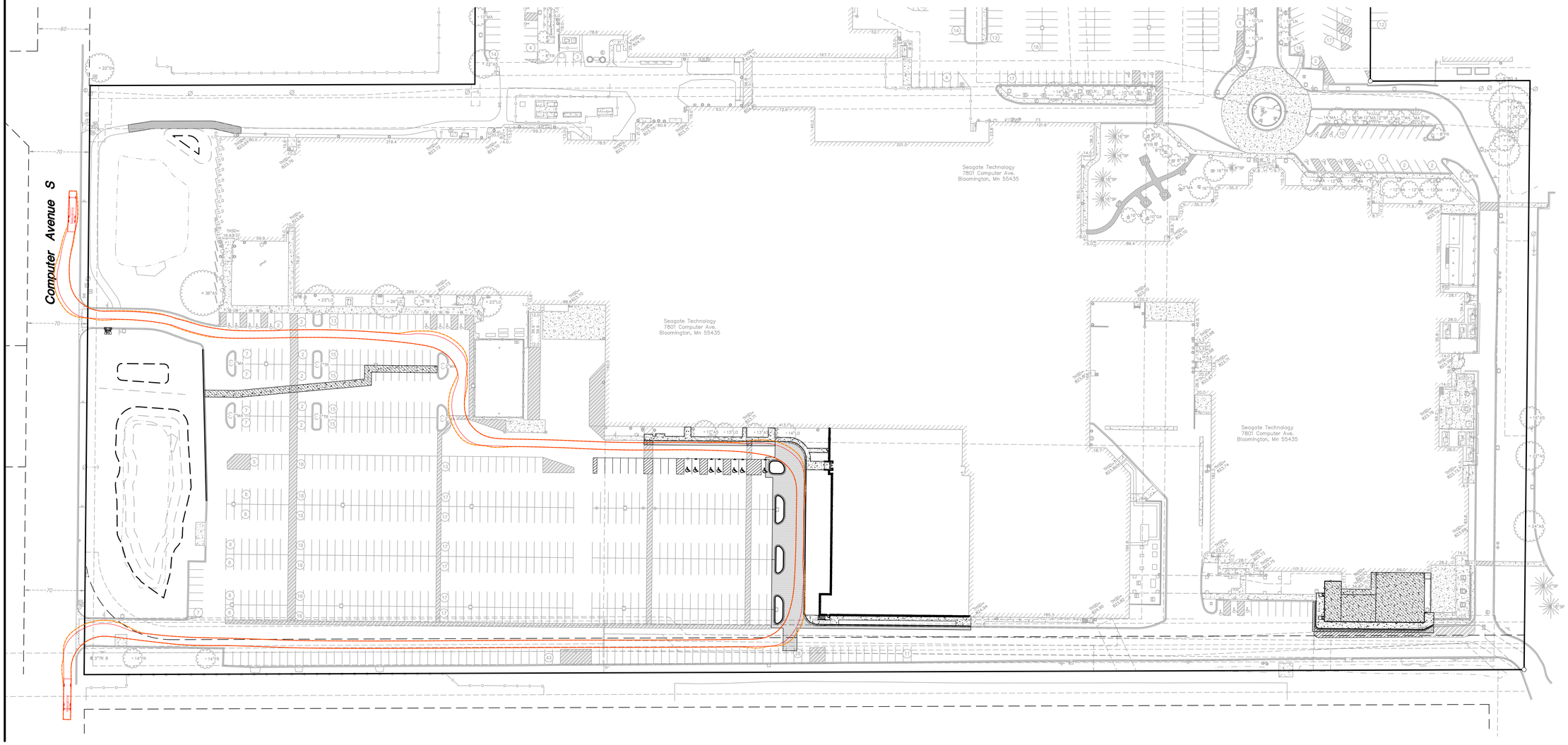
N

0 50 100
SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY LOUCKS, DATED 06/21/2024.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
	BENCHMARK	
	SOIL BORING	
2	PARKING STALL COUNT	2
	ACCESSIBLE PARKING STALL	
SS	STORM SEWER	
DT	DRAINTILE	DT
S	SANITARY SEWER	
FM	FORCEMAIN	FM
W	WATERMAIN	
S	SANITARY SEWER SERVICE	
W	WATER SERVICE	
ELE	UNDERGROUND ELECTRIC	ELE
FO	UNDERGROUND FIBER OPTIC	FO
GAS	UNDERGROUND GAS	GAS
TEL	UNDERGROUND TELEPHONE	TEL
OH	OVERHEAD UTILITY	OH
X	FENCE	
	CHAIN LINK FENCE	
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
972	CONTOUR	972
972.5	SPOT ELEVATION	972.5
	DIRECTION OF FLOW	1.0%
	TREE LINE	
	PARKING SETBACK LINE	PSBL
	BUILDING SETBACK LINE	BSBL



SEAGATE

SEAGATE TECHNOLOGY-NORMANDALE WAFER SOUTH ADDITION

BWBR

380 St. Peter Street, Ste. 600
Saint Paul, MN 55102
651.222.3701
bwbr.com

Consultants

LOUCKS
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE

12755 Highway 55, Suite R100
Plymouth, MN 55441
763.424.5505
www.loucksinc.com
LOUCKS PROJECT NO. 20244I

This document may be an electronic file or may be printed from an electronic file provided to the user. It is the sole responsibility of the user to ensure that the content and quality is consistent with the content and quality of the original documents on file at BWBR.

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/Registered Professional Engineer under the laws of the State of Minnesota

Name
Zachary B. Moen - PE

Date: **05-13-2026** Lic./Reg. No. **58688**

Issued For

Item	Date
SD ISSUE	04-20-2026
CITY/WATERSHED SUBMITTAL	05-13-2026

NOT FOR CONSTRUCTION

This Sheet may be a Reduced Copy.
The bar above is 1" long on a Full Size Sheet. Drawing Scales apply to Full Size Sheets.

Comm. No. P.2600023.00

Drawn ZBM/JRM/MDC

Sheet Title
FIRE TRUCK TURNING

Sheet No.
EXHIBIT

Copyright BWBR