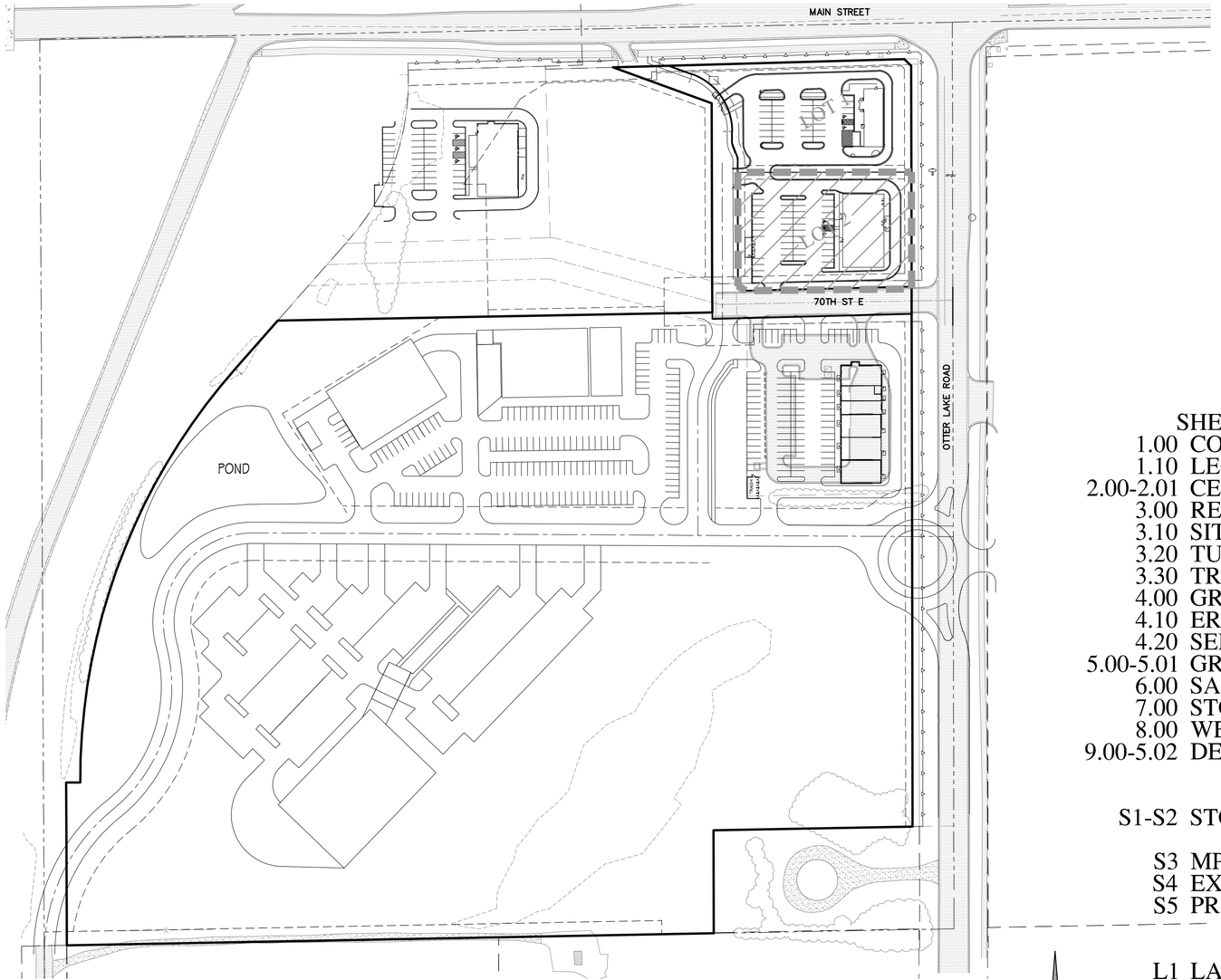
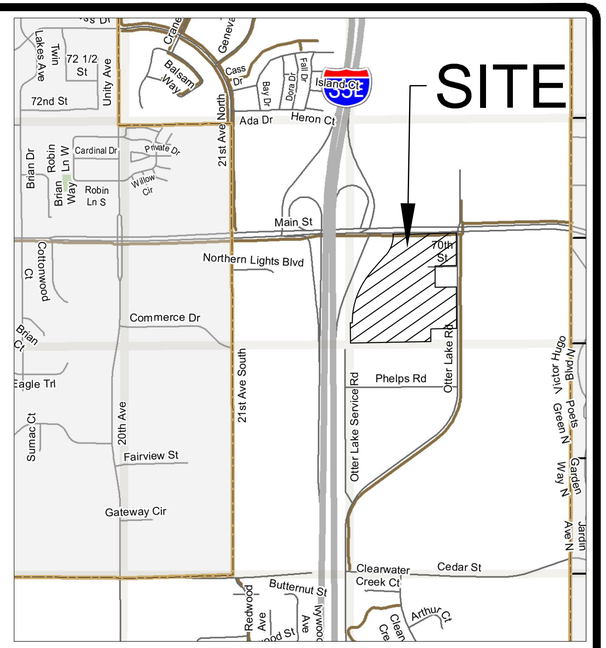
OTTER CROSSING SOUTH 2ND ADDITION
LOT 2 SITE PLAN
LINO LAKES, MINNESOTA





LOCATION MAP

SHEET INDEX

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

NOTE:
ALL CONSTRUCTION ACCESS MUST BE FROM 70TH STREET.

0 50 100 200
GRAPHIC SCALE IN FEET

BENCH MARK
TOP NUT HYDRANT IN N.W. QUAD. OF OTTER LAKE ROAD & PRIVATE DRIVE 370 FT. NORTH OF MAIN STREET
EL=920.47 NVGD88(DATUM)
02-ENG-119015-SHEET-COVR

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

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota
Name Paul J. Cherne
Reg. No. 19860 Date 02-09-2026

Revisions
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7. 05-20-2026 Sanitary Sewer Service
8. 05-27-2026 County Comments

Date 02-09-2026
Designed PJC
Drawn NJK,JLT

COVER SHEET

TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

1.00 OF 19

LEGEND

UTILITY LINES

EXISTING	PROPOSED	FUTURE	DESCRIPTION
			SANITARY MANHOLE
			SANITARY SEWER (SANITARY & WATERMAIN PLANS)
			SANITARY SEWER (STORM SEWER PLANS)
FM	FM	FM	FORCE MAIN
			HYDRANT
			GATE VALVE
			REDUCER
			CURB STOP
			WATERMAIN (SANITARY & WATERMAIN PLANS)
			WATERMAIN (STORM SEWER PLANS)
			CATCH BASIN
			BEEHIVE
			STORM MANHOLE
			FLARED END SECTION
			CONTROL STRUCTURE
			STORM SEWER (SANITARY & WATERMAIN PLANS)
			STORM SEWER (STORM SEWER PLANS)
			CULVERT
PERF	PERF	PERF	PERFORATED DRAINTILE
DT	DT	DT	SOLID DRAINTILE SERVICE
			CASING
e	e	e	UNDERGROUND ELECTRIC LINE
fo	fo	fo	UNDERGROUND FIBER OPTIC LINE
g	g	g	UNDERGROUND GAS PIPELINE
petro	petro	petro	UNDERGROUND PETROLEUM PIPELINE
t	t	t	UNDERGROUND TELEPHONE LINES
tv	tv	tv	UNDERGROUND TELEVISION LINE
oh	oh	oh	OVERHEAD UTILITY LINES

SITE LINES

EXISTING	PROPOSED	FUTURE	DESCRIPTION
			SURMOUNTABLE CURB & GUTTER
			B-STYLE CURB & GUTTER
			RIBBON CURB & GUTTER
			EDGE OF BITUMINOUS
			YELLOW PAVEMENT STRIPING (SINGLE/DOUBLE)
			WHITE PAVEMENT STRIPING (SINGLE/DOUBLE)
			PHASE LINE
			CENTERLINE
902	902	902	2' CONTOUR LINE
900	900	900	10' CONTOUR LINE
	OUTLET=987.0	OUTLET=987.0	BASIN OUTLET LINE
	HWL=900.2	HWL=900.2	BASIN HIGH WATER LINE
	84.3 x		PROPOSED SPOT ELEVATION
			EMERGENCY OVERFLOW
			DRAINAGE FLOW ARROW
			DELINEATED / PROPOSED WETLAND LINE
BUFFER	BUFFER	BUFFER	WETLAND BUFFER
			TREE LINE
FEMA	FEMA	FEMA	FEMA FLOODPLAIN BOUNDARY
			RETAINING WALL
X	X	X	FENCE (BARBED WIRE)
#	#	#	FENCE (CHAIN LINK)
[]	[]	[]	FENCE (WOOD)
	C		CONSERVATION AREA SIGN
	W		WETLAND BUFFER SIGN
			TYPE III BARRICADE
			LIGHT POLE
			STREET SIGNS
			PEDESTRIAN RAMP

SURVEY LINES

EXISTING	PROPOSED	FUTURE	DESCRIPTION
			BOUNDARY
			RIGHT OF WAY
			LOT LINE
			EASEMENT
			SET BACK LINE
			SECTION LINE
			RESTRICTED ACCESS

HATCH PATTERNS

- GRAVEL SURFACE
- BITUMINOUS SURFACE
- CONCRETE SURFACE
- RIP RAP

TOPOGRAPHIC SYMBOLS

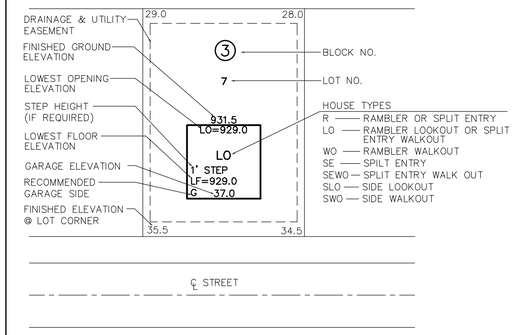
- CATCH BASIN
- CATCH BASIN BEEHIVE
- FLARED END SECTION
- GATE VALVE
- HYDRANT
- WATER SERVICE
- WATER WELL
- MONITORING WELL
- CLEANOUT
- HAND HOLE
- MANHOLE OTHER THAN SANITARY OR STORM
- SANITARY OR STORM MANHOLE
- LAWN SPRINKLER VALVE
- LAWN SPRINKLER HEAD
- UTILITY POLE
- TRANSFORMER BOX
- FIBER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

ABBREVIATIONS

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

LOT INFORMATION

(TYPICAL SECTION NOT TO SCALE)



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Date	02-09-2026
Designed	PJC
Drawn	NJK,JLT

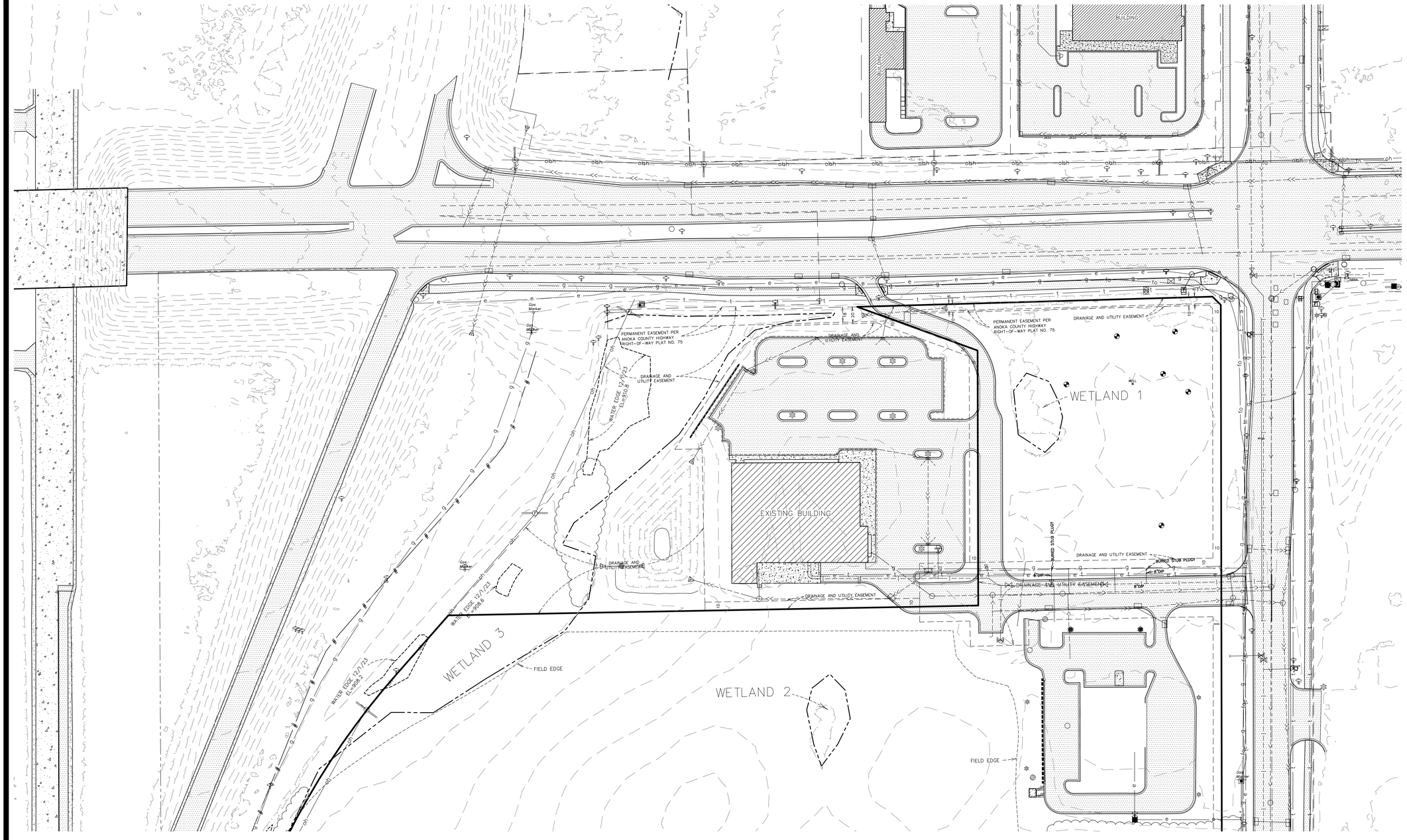
LEGEND

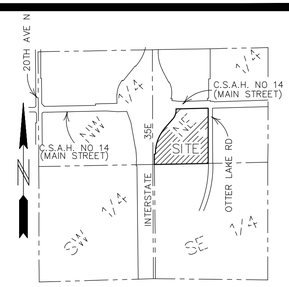
TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

02-ENG-119015-SHEET-LGND

1.10 OF 19





SECTION 24, TWP. 31, RGE. 22
ANOKA COUNTY, MINNESOTA
LOCATION MAP
NO SCALE

LEGEND

- Denotes concrete
- Denotes gravel
- Denotes bituminous
- Denotes tree line
- Denotes storm sewer line
- Denotes sanitary sewer line
- Denotes water line
- oh — Denotes overhead utility lines
- tv — Denotes underground television line
- t — Denotes underground telephone line
- fo — Denotes underground fiber optic line
- e — Denotes underground electric line
- Denotes underground petroleum lines
- g — Denotes underground gas line
- X — Denotes fence (barbed wire)
- # — Denotes fence (chain link)
- 100YR-FLD — Denotes 100 year flood level
- Denotes Fema flood plain boundary
- Denotes catch basin
- Denotes catch basin beehive
- Denotes flared end section
- Denotes gate valve
- Denotes hydrant
- Denotes service
- Denotes hand hole
- Denotes manhole other than sanitary or storm
- Denotes sanitary or storm manhole
- Denotes utility pole
- Denotes transformer box
- Denotes fiber optic box
- Denotes electric box
- Denotes light pole
- Denotes semaphore
- Denotes telephone box
- Denotes television box
- Denotes cast iron monument
- Denotes found iron pipe
- Denotes pk nail
- Denotes mailbox
- Denotes sign

* Document No.629739.003, declaration of easements, covenents and restriction, provides for future yet undetermined easements for: ingress and egress, utilities, temporary construction, sign and visibility. All future easements are design dependant.

LEGAL DESCRIPTION FOR PRELIMINARY PURPOSES ONLY

OUTLOT A, AND OUTLOT B, OTTER CROSSING SOUTH, according to the recorded plat thereof, Anoka County, minnesota.

60 30 0 60
Scale in Feet

BENCH MARK
TOP NUT HYDRANT IN N.W. QUAD. OF OTTER LAKE ROAD & PRIVATE DRIVE 370 FT. NORTH OF MAIN STREET
EL=920.47 NVGD88(DATUM)
EX02-SURV-119015-BASE.DWG

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Name Peter J. Hawkinson
Reg. No. 42299 Date 02-09-2026

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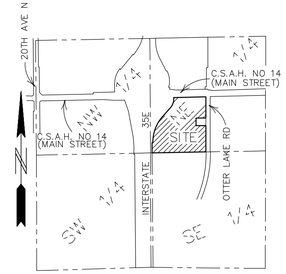
Designed	PJC
Drawn	NJK,JLT

CERTIFICATE OF SURVEY

TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

2.00 OF 19



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- Denotes mailbox
- Denotes sign

60 30 0 60
Scale in Feet

BENCH MARK
TOP NUT HYDRANT IN N.W. QUAD. OF OTTER LAKE ROAD & PRIVATE DRIVE 370 FT. NORTH OF MAIN STREET
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EX02-SURV-119015-BASE.DWG

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Designed	PJC
Drawn	NJK,JLT

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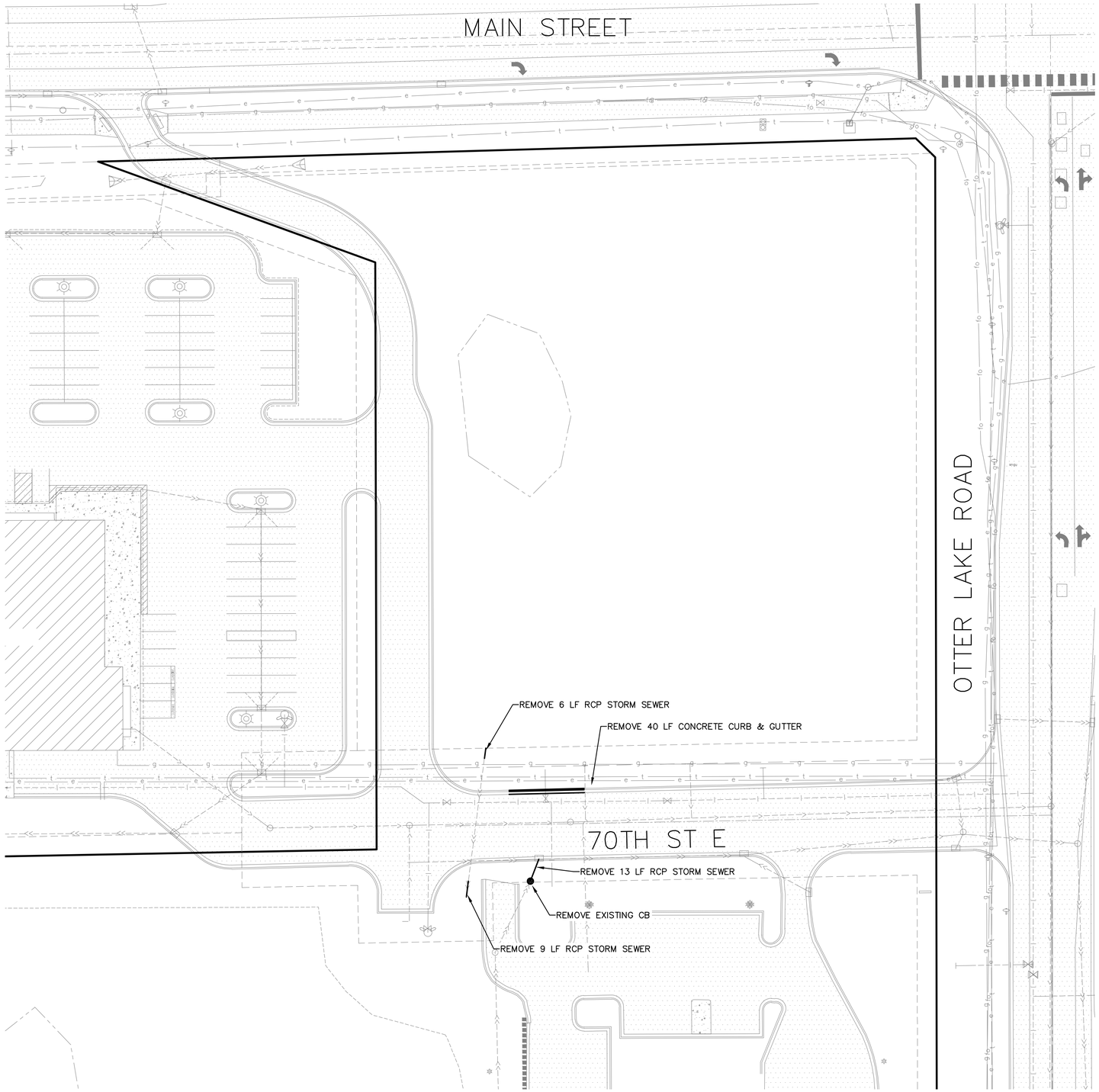
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

2.01 OF 19



0 15 30 60

GRAPHIC SCALE IN FEET

BENCH MARK
TOP NUT HYDRANT IN N.W. QUAD. OF OTTER LAKE ROAD & PRIVATE DRIVE 370 FT. NORTH OF MAIN STREET
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Drawn	NJK,JLT

REMOVALS PLAN

TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

3.00 OF 19

GENERAL SITE NOTES:
1. ALL CURB AND GUTTER SHALL BE B612 UNLESS OTHERWISE NOTED.
2. ALL PARKING STALL MARKINGS SHALL BE 4" WIDE WHITE PAINT.
3. ACCESSIBLE ACCESS AISLE SHALL BE PAINTED WITH 6" WHITE PERIMETER BORDER AND 4" WIDE STRIPES 18" ON CENTER AT 45° TO STALL.
4. PROVIDE PAINTED SYMBOL AND SIGN AT ACCESSIBLE PARKING STALLS.

ZONING: GB-GENERAL BUSINESS
MINIMUM LOT SIZE: 20,000 S.F.
MINIMUM LOT WIDTH: 100 FT.

SETBACK REQUIREMENTS
FROM STREETS
- PRINCIPAL BUILDING-LOCAL STREET 30'
- PRINCIPAL BUILDING-COLLECTOR 40'
- PARKING LOT/DRIVEWAY 15'

FROM SIDE YARD 10'

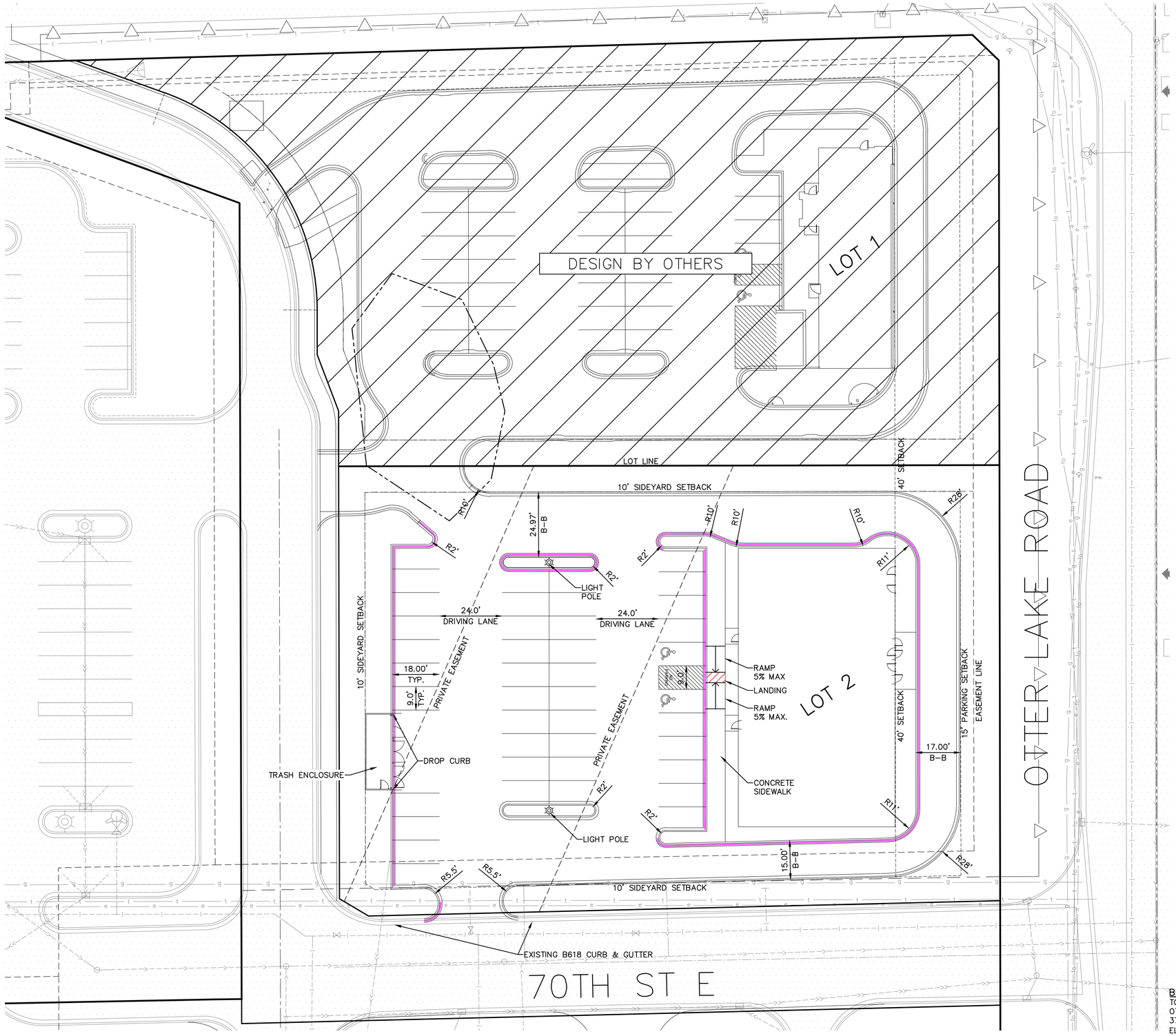
PARKING SUMMARY
REQUIRED PARKING STALLS: 32
(1 STALL/200 SF FLOOR AREA)
(6,400 SF FLOOR AREA) = 32 STALLS

PROPOSED PARKING STALLS:
HANDICAP PARKING STALLS 2
STANDARD PARKING STALLS 40
TOTAL PARKING STALLS 42

LOT 2 IMPERVIOUS CALCULATION
MAXIMUM IMPERVIOUS = 75% LOT AREA
LOT AREA = 0.984 AC
MAXIMUM IMPERVIOUS = 0.738 AC (0.984x0.75)
TOTAL IMPERVIOUS = 0.728 AC

CURB LEGEND

- 08.32 = GUTTER ELEVATION FOR B612 CURB
- 07.82 = BITUMINOUS ELEVATION
- = B612 CURB & GUTTER (SEE DETAIL)
- = B612 CURB & GUTTER (TIP OUT) (SEE DETAIL)
- = BITUMINOUS EDGE



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Date	02-09-2026
Designed	PJC
Drawn	NJK,JLT

SITE PLAN

TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

3.10 OF 19

Pumper Fire Truck	
Overall Length	40.000ft
Overall Width	8.167ft
Overall Body Height	7.745ft
Min Body Ground Clearance	0.656ft
Track Width	8.167ft
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°

N

0 20 40 80

GRAPHIC SCALE IN FEET

BENCH MARK
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EL=920.47 NVGD88(DATUM)
02-ENG-119015-SHEET-TURN-MOVE

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Drawn NJK,JLT

TURNING MOVEMENT PLAN

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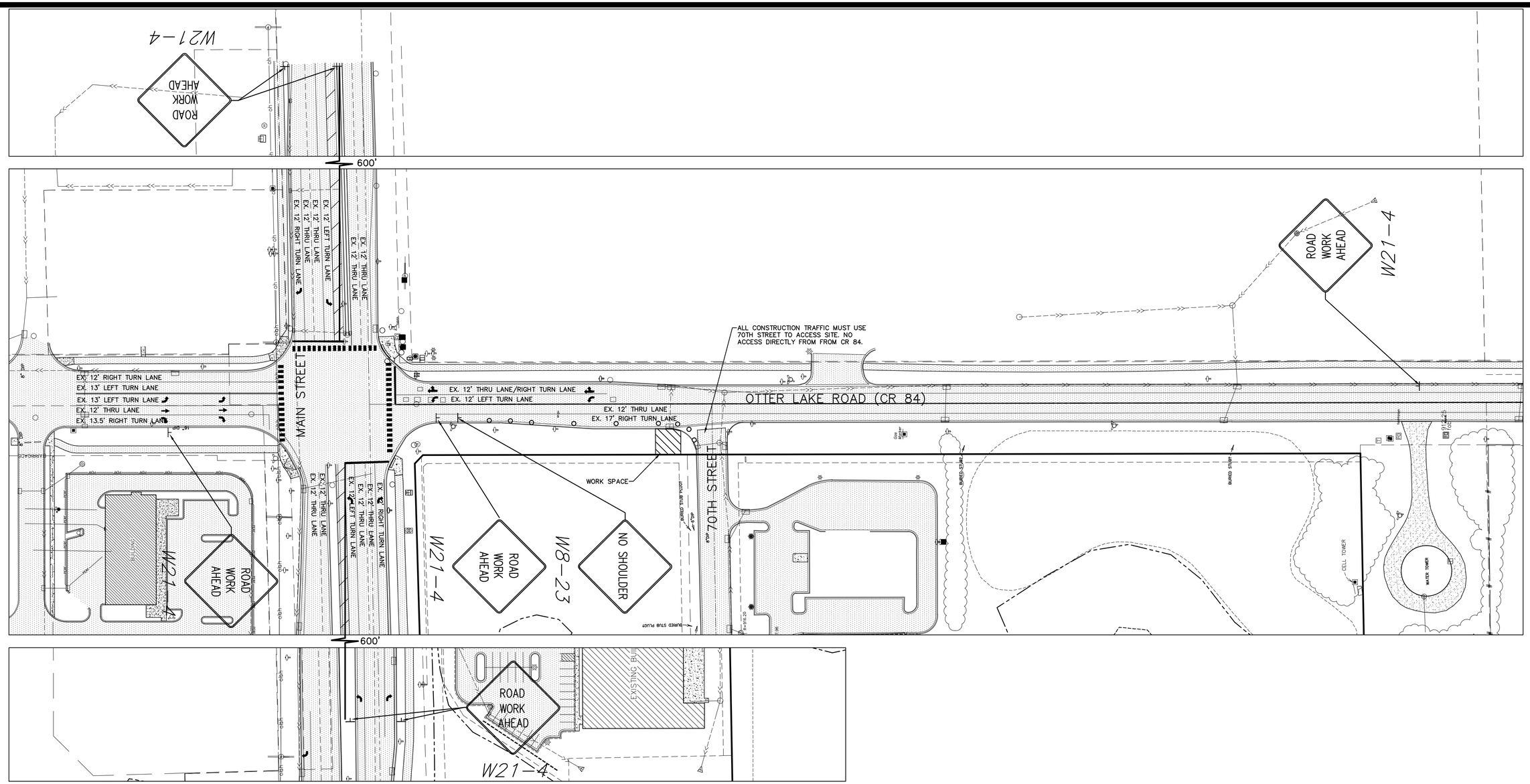
3.20 OF 19



GENERAL INFORMATION:

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MN MUTCD.
5. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN, THE CONTRACTOR SHALL PROVIDE COMPLETED REVISED TRAFFIC CONTROL PLANS TO BE APPROVED AY THE ENGINEER.
6. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD) AND PART VI, FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL	DESCRIPTION
⊥	TRAFFIC CONTROL SIGN
o	CHANNELIZING DEVICE / CONES

0 30 60 120
GRAPHIC SCALE IN FEET

APPROVED ANOKA COUNTY ENGINEER _____ Date _____

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EL=920.47 NVGD88(DATUM)
02-ENG-119015-SHEET-TRAFFIC-CONTROL

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Date	02-09-2026
Designed	PJC
Drawn	NJK,JLT

TRAFFIC CONTROL PLAN

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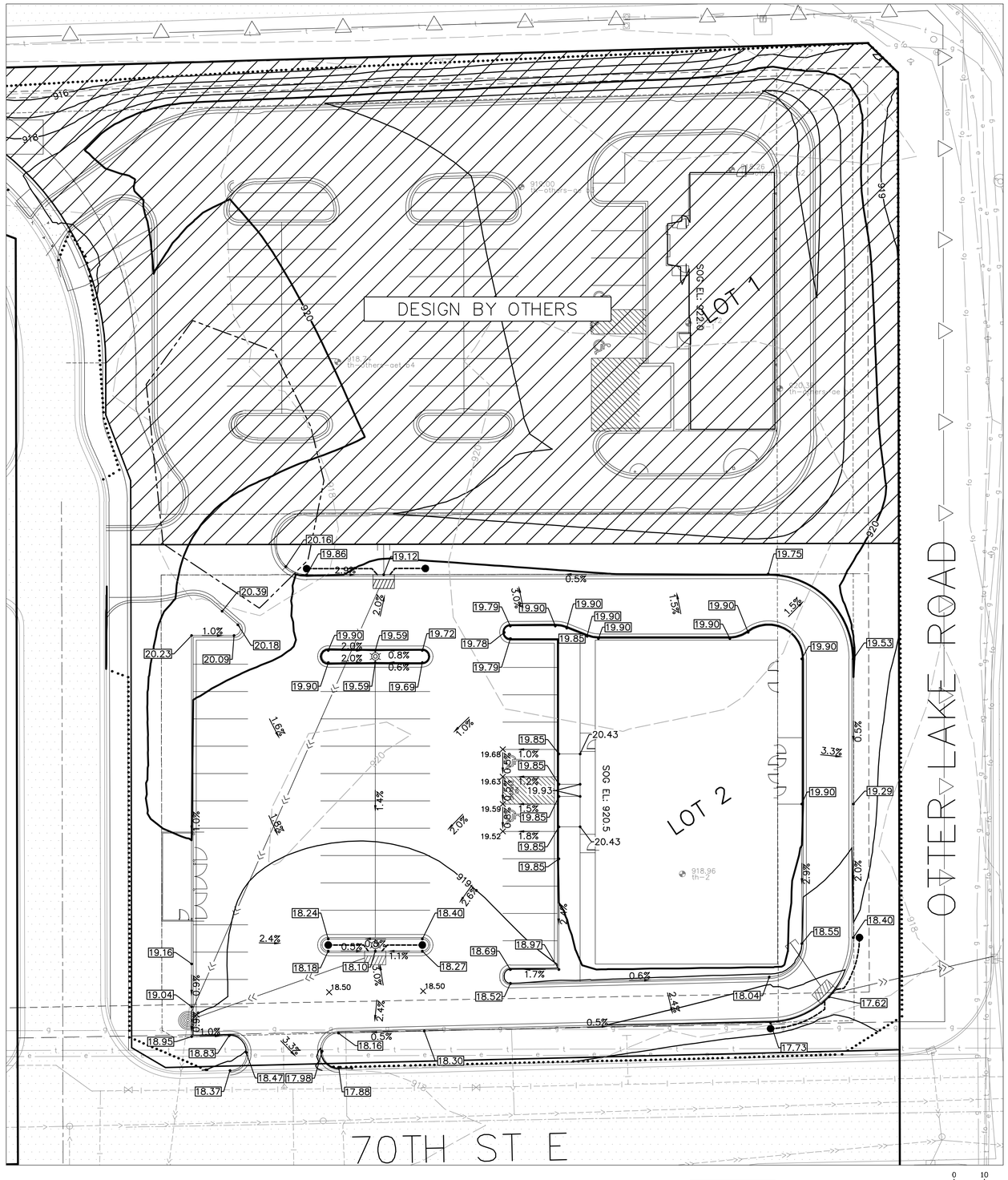
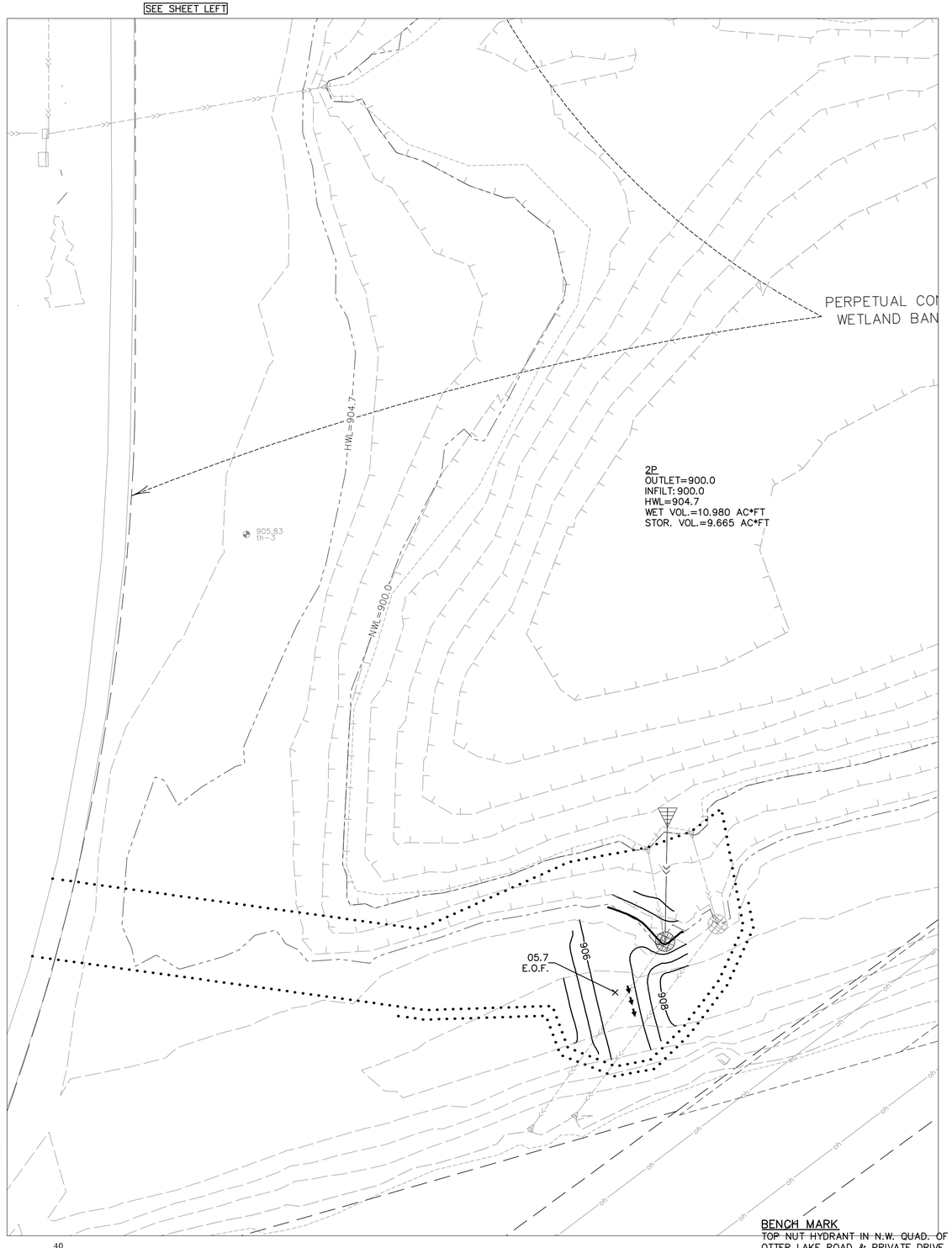
OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

3.30 OF 19





EXISTING BASIN 2P

GRAPHIC SCALE IN FEET
0 10 20 40

BENCH MARK
TOP NUT HYDRANT IN N.W. QUAD. OF OTTER LAKE ROAD & PRIVATE DRIVE 370 FT. NORTH OF MAIN STREET
EL=920.47 NVGD88(DATUM)
02-ENG-119015-SHEET-GRAD 20

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

Name Paul J. Cherne
Reg. No. 19860 Date 02-09-2026

Revisions
1. 02-10-2026 City Comments
2. 03-06-2026 Watershed Comments
3. 03-20-2026 Watershed Comments
4. 04-10-2026 City Comments
5. 04-20-2026 MDLI Submittal
6. 05-04-2026 MDLI Comments
7. 05-20-2026 Sanitary Sewer Service

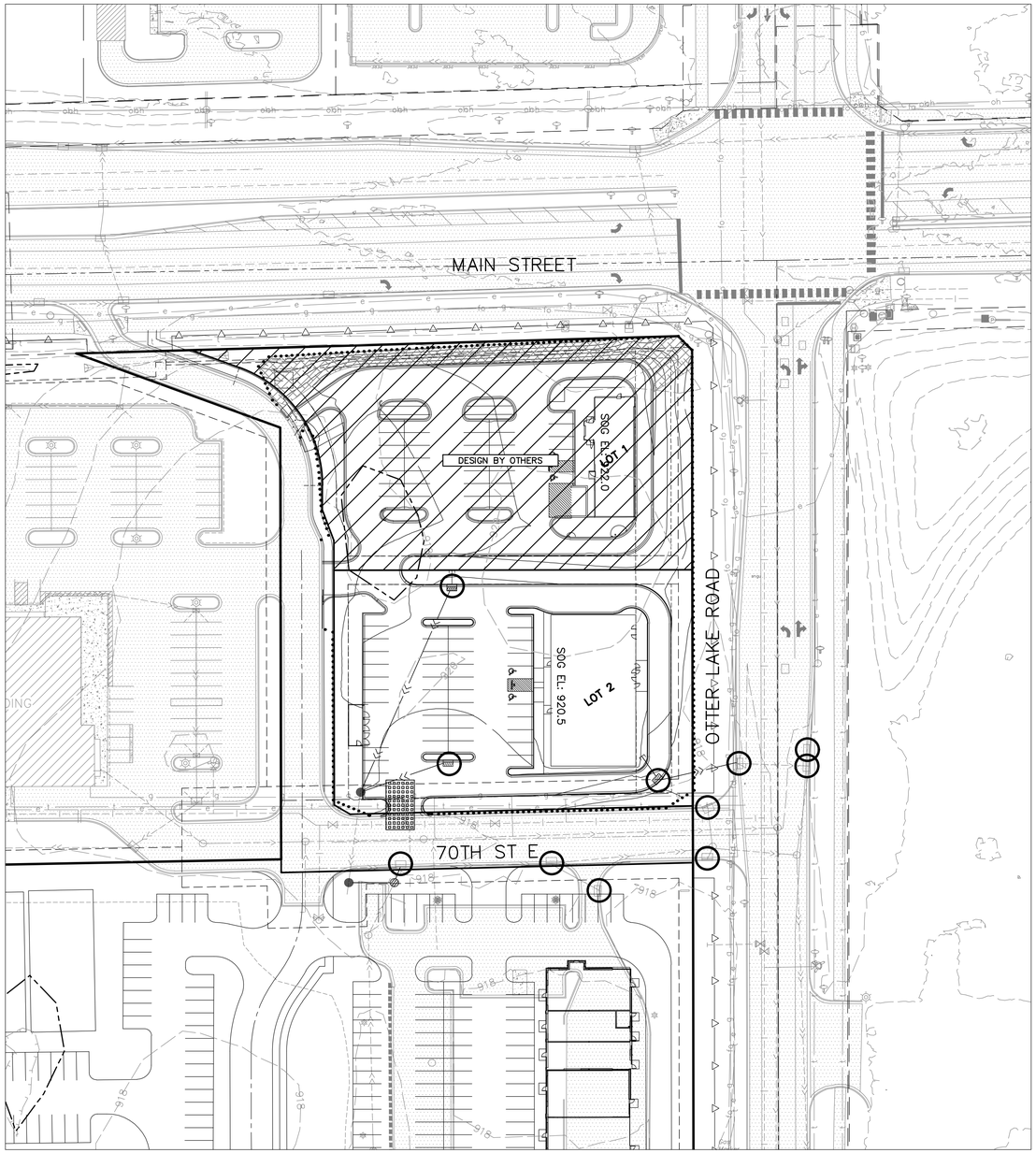
Date	02-09-2026
Designed	PJC
Drawn	NJK,JLT

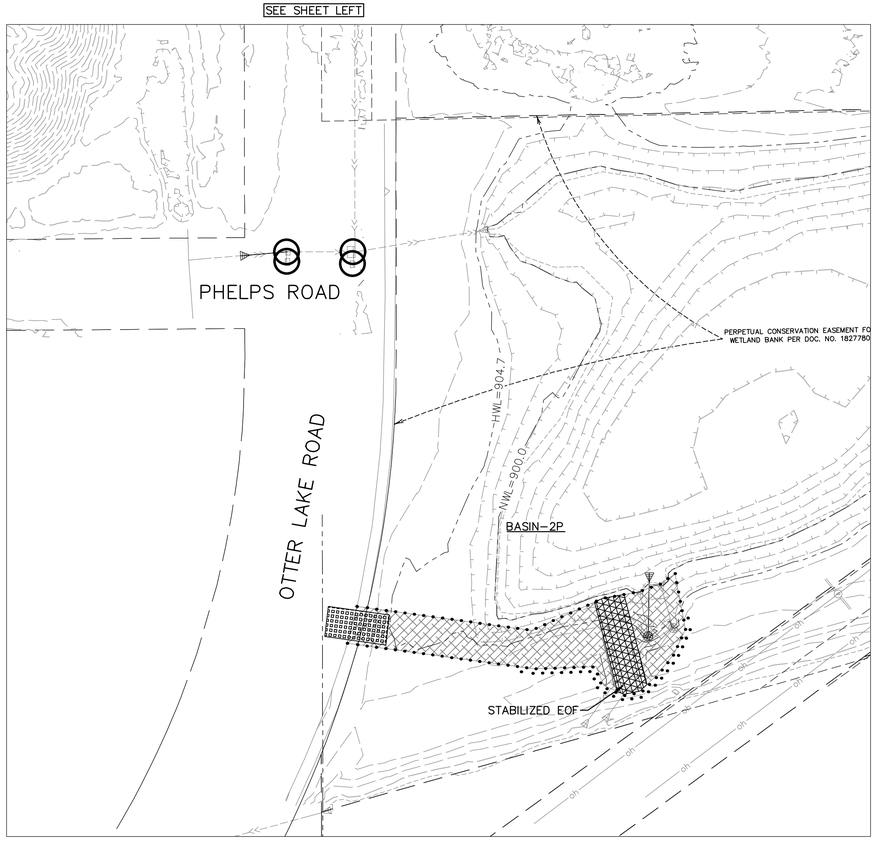
GRADING PLAN

TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

4.00 OF 19





EXISTING BASIN 2P

LEGEND

- ROCK CONSTRUCTION ENTRANCE INSTALL BEFORE START OF GRADING
- PERIMETER EROSION CONTROL FENCE. INSTALL BEFORE START OF GRADING
- HEAVY DUTY SECONDARY EROSION CONTROL FENCE TO BE INSTALLED 48 HOURS AFTER COMPLETION OF GRADING.
- CAT 20 BLANKET FROM BACK OF CURB TO ROW TO BE INSTALLED AFTER COMPLETION OF SIDEWALK CONSTRUCTION.
- BASIN ACCESS 7% SLOPE MAX.
- SUMPED RIP RAP PERMANENT ENERGY DISSIPATER, INSTALL WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER.
- CATCH BASIN INLET PROTECTION TO BE INSTALLED AFTER 1ST LIFT OF BITUMINOUS.
- CATCH BASIN INLET PROTECTION TO BE INSTALLED WITH CATCH BASIN GRATE.
- STRAW BIO ROLLS. INSTALL WITHIN 7 DAYS OF GRADING COMPLETION OR BEFORE 1ST RAINFALL EVENT WHICHEVER IS FIRST
- ROCK BERM. INSTALL WITHIN 7 DAYS OF GRADING COMPLETION OR BEFORE 1ST RAINFALL EVENT WHICHEVER IS FIRST
- MNDOT CAT 20 EROSION CONTROL BLANKET. INSTALL WITHIN 7 DAYS OF GRADING COMPLETION
- STABILIZED EMERGENCY OVERFLOW RIP RAP (SEE DETAIL) INSTALL WITHIN 7 DAYS OF GRADING COMPLETION

N

0 25 50 100
GRAPHIC SCALE IN FEET

BENCH MARK
TOP NUT HYDRANT IN N.W. QUAD. OF OTTER LAKE ROAD & PRIVATE DRIVE 370 FT. NORTH OF MAIN STREET
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Date 02-09-2026
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Drawn NJK,JLT

EROSION CONTROL PLAN

TYME PROPERTIES
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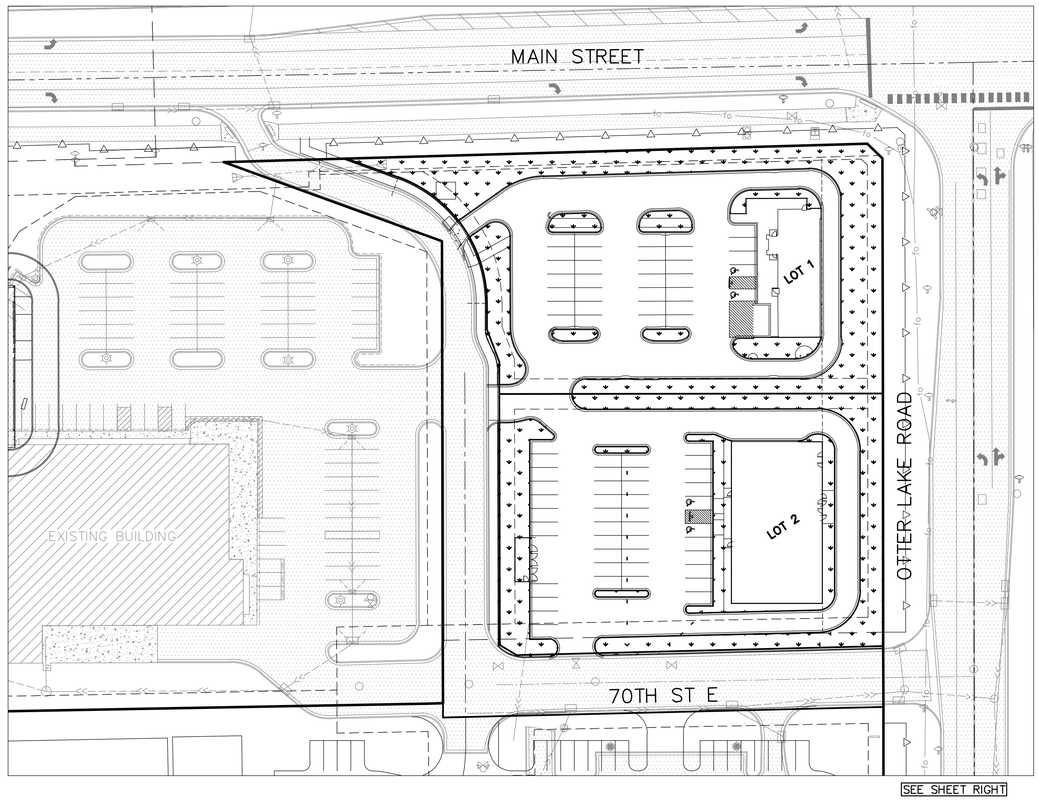
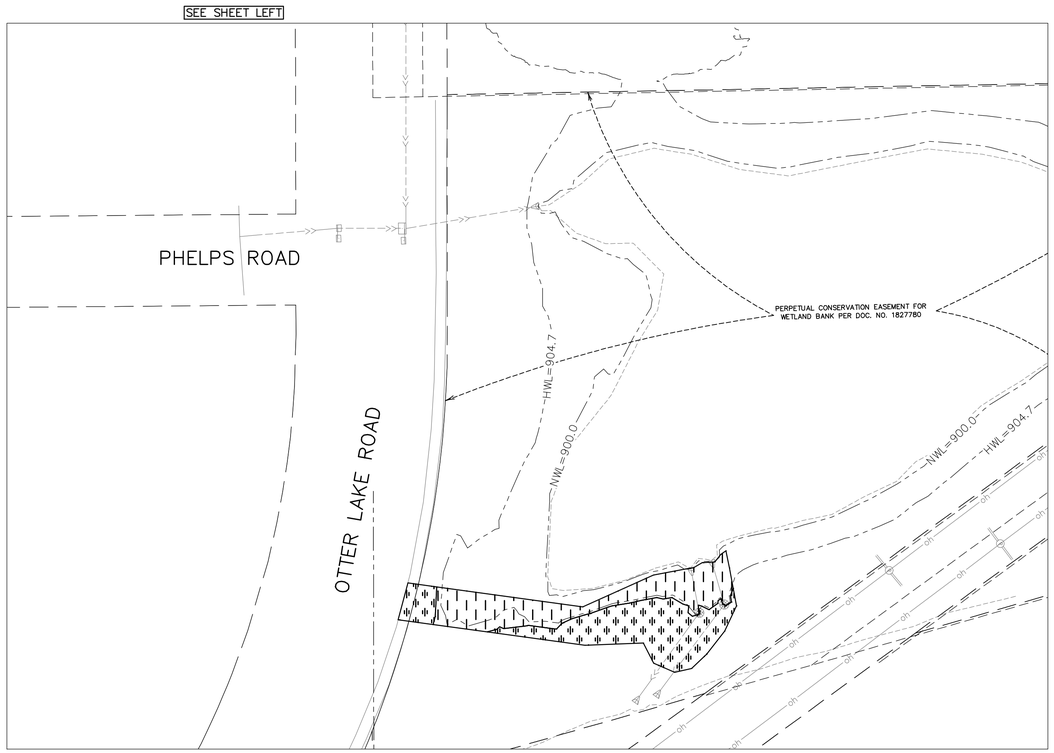
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

4.10 OF 19





EXISTING BASIN-2P

PERMANENT TURF RESTORATION SHALL BE DONE IN ACCORDANCE WITH MNDOT 2575 & 3876 CONSISTING OF:
- MINNESOTA STATE SEED MIXTURE 25-141 (MESIC GENERAL ROADSIDE) AT 59 POUNDS PER ACRE.
- MULCH SHALL BE MNDOT 3882, TYPE 1 @ 2 TONS PER ACRE OR APPROVED EQUAL AND DISK ANCHORED IN PLACE OR APPROVED EQUAL, INSTALLED TO MINIMUM 90% COVERAGE OF THE SURFACE AREA DISTURBED.
- MNDOT 3881, TYPE 3 SLOW-RELEASE FERTILIZER, 22-5-10, MINIMUM 70% WATER-INSOLUBLE NITROGEN @ 350 LBS PER ACRE.

PERMANENT BASIN SEEDING SHALL BE DONE IN ACCORDANCE WITH MNDOT 2575 & 3876 CONSISTING OF:
- WET BASIN BENCH/(IN)FILTRATION BASIN: MINNESOTA STATE SEED MIXTURE 33-261 (STORMWATER SOUTH AND WEST) AT 35 POUNDS PER ACRE.
- ABOVE BASIN BENCH TO HIGH WATER LEVEL: MINNESOTA STATE SEED MIXTURE 35-241 (MESIC PRAIRIE GENERAL) AT 36.5 POUNDS PER ACRE.
- MULCH SHALL BE MNDOT 3882, TYPE 3 @ 2 TONS PER ACRE OR APPROVED EQUAL AND DISK ANCHORED IN PLACE OR APPROVED EQUAL,
- MNDOT 3881, TYPE 4 NATURAL-BASED FERTILIZER, 18-1-8 @ 120 LBS PER ACRE OR 17-10-7 @ 150 LBS PER ACRE

UPLAND/NATURAL AREA SEEDING SHALL BE DONE IN ACCORDANCE TO MNDOT 2575 & 3876; CONSISTING OF:
- MINNESOTA STATE SEED MIXTURE 35-621 (DRY PRAIRIE SOUTHEAST) AT 11.0 POUNDS PER ACRE.
- MULCH SHALL BE MNDOT 3882, TYPE 3 @ 2 TONS PER ACRE OR APPROVED EQUAL AND DISK ANCHORED IN PLACE OR APPROVED EQUAL,
- MNDOT 3881, TYPE 4 NATURAL-BASED FERTILIZER, 18-1-8 @ 120 LBS PER ACRE OR 17-10-7 @ 150 LBS PER ACRE

N

0 25 50 100
GRAPHIC SCALE IN FEET

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Drawn NJK,JLT

SEEDING PLAN

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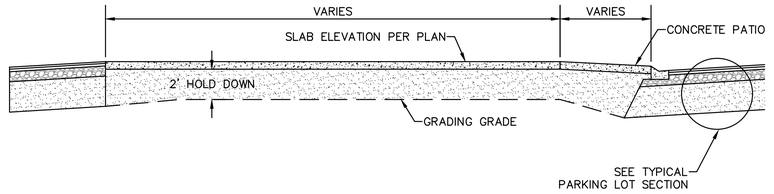
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

4.20 OF 19



BUILDING HOLD DOWN
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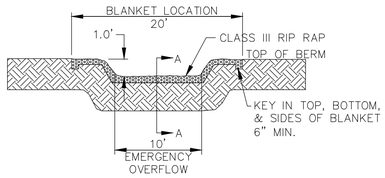
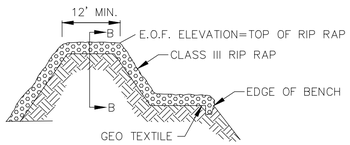
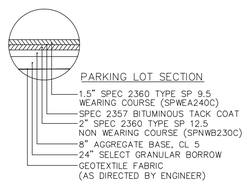
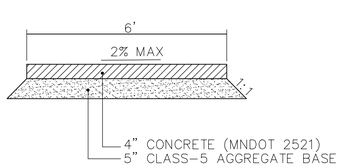


STABILIZED EMERGENCY OVERFLOW DETAIL
SECTION B–B



STABILIZED EMERGENCY OVERFLOW DETAIL
SECTION A–A





CONCRETE WALK
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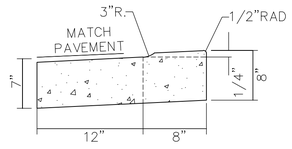
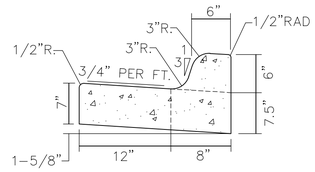
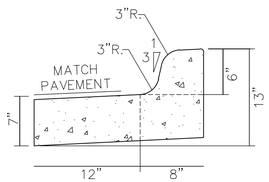


NOTE:
FOR MECHANICALLY LAID
CURB, SHOE MAY BE TILTED.

RIBBON CURB & GUTTER
(TYPICAL SECTION NOT TO SCALE)

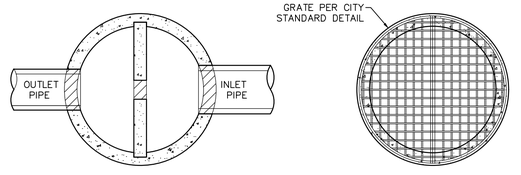


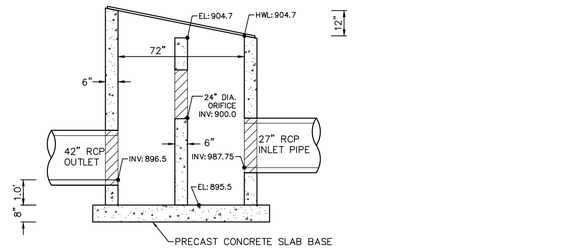
B612 CURB & GUTTER
(TYPICAL SECTION NOT TO SCALE)



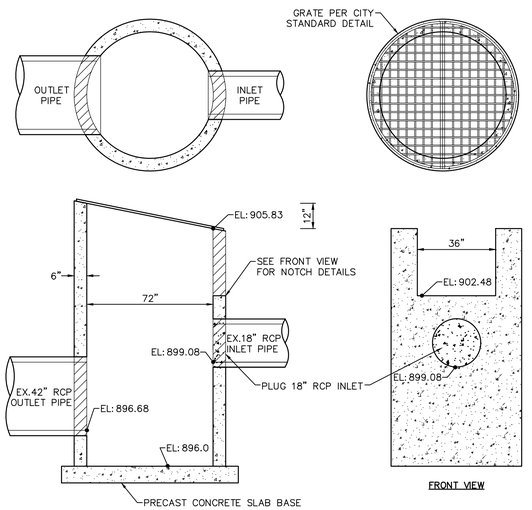
NOTE:
FOR MECHANICALLY LAID
CURB, SHOE MAY BE TILTED.

B612 CURB & GUTTER
(OUTFALL)





POND OUTLET CONTROL STRUCTURE OCS–400
(NOT TO SCALE)



EXISTING POND OUTLET CONTROL STRUCTURE 14–13
(NOT TO SCALE)

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Date	02-09-2026
Designed	PJC
Drawn	NJK,JLT

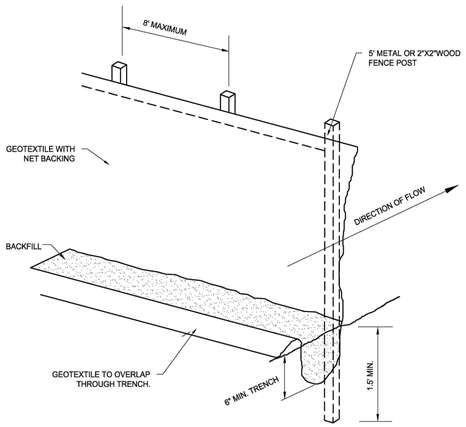
GRADING DETAILS

TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

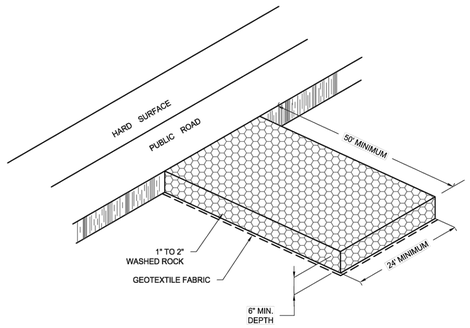
5.00 OF 19

02-ENG-119015-SHEET-DTLS-GRAD



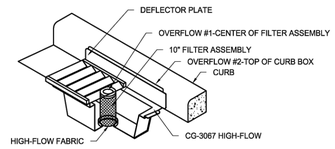
NOTES:
1. SILT FENCE SHALL CONFORM TO MNDOT 3886, (GTF 100 OR EQUAL)
2. FENCING SHALL BE PLACED ALONG CONTOURS OR AS DIRECTED BY ENGINEER.

CITY OF LINO LAKES	SILT FENCE	MAY 2013
		GEN-16



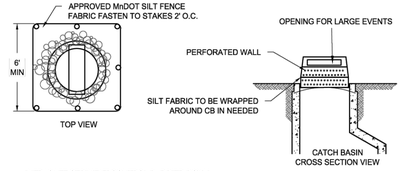
CITY OF LINO LAKES	ROCK CONSTRUCTION ENTRANCE	JUNE 2016
		GEN-17

NO SCALE



WIMCO MODEL # CG-3067 HIGH-FLOW INLET PROTECTION OR APPROVED EQUAL

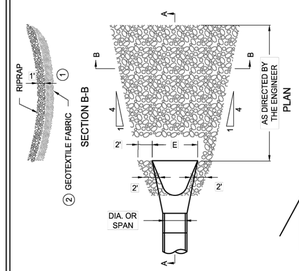
CURB AND GUTTER INLET PROTECTION



INFRASAFE SEDIMENT CONTROL BARRIER ROYAL ENVIRONMENTAL SERVICES OR AN ENGINEER APPROVED EQUAL

REAR YARD INLET PROTECTION

CITY OF LINO LAKES	INLET PROTECTION	MAY 2013
		GEN-19



NOTES:
1. FOR PIPES GREATER THAN OR EQUAL TO 48", USE 2.0'
2. THE FABRIC SHOULD COVER THE AREA OF THE RIPRAP AND EXTEND UNDER THE CULVERT APRON 3 FEET.
3. GROUT REQUIRED ON 24" & GREATER DIA. PIPE OR AS DIRECTED BY ENGINEER, SEE DETAIL SD-10

RCP AT OUTLETS

TABLE OF QUANTITIES

RIPRAP AT RCP OUTLETS

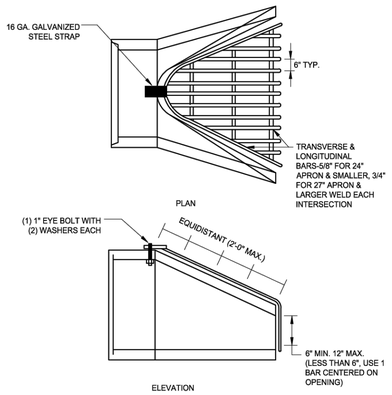
SPAN ROUND PIPE (IN)	CLASS III D_{50} = 6" 15" DEPTH RIPRAP (CY)	CLASS III D_{50} = 6" 7.5" DEPTH GRANULAR FILTER (CY)	CLASS IV D_{50} = 15" 15" DEPTH RIPRAP (CY)	CLASS IV D_{50} = 15" 9" DEPTH GRANULAR FILTER (CY)	CLASS V D_{50} = 15" 24" DEPTH RIPRAP (CY)	CLASS V D_{50} = 15" 12" DEPTH GRANULAR FILTER (CY)
12	2.2	1.1	3.5	1.7	4.8	2.3
15	2.9	1.4	3.5	1.7	4.8	2.3
18	3.6	1.8	4.6	2.2	6.4	3.1
21	4.6	2.3	5.6	2.8	7.4	3.7
24	5.6	2.8	6.8	3.4	9.4	4.6
27	6.8	3.4	8.3	4.1	11.5	5.6
30	8.3	4.1	9.9	5.0	13.2	6.6
36	11.5	5.6	13.2	6.6	17.6	8.6
42	13.6	6.8	16.4	8.2	24.8	10.9
48	19.8	9.6	23.1	11.9	31.6	15.8
54	19.8	9.6	23.1	11.9	31.6	15.8
60	27.0	13.5	32.4	16.2	49.2	21.6
66	27.0	13.5	32.4	16.2	49.2	21.6
72	35.1	15.6	37.4	18.7	49.8	24.9
84	45.5	22.8	54.6	27.3	72.8	36.4
90						

RIPRAP AT RCP-A OR BOXES OF EQUIVALENT SPAN WIDTH

SPAN ROUND PIPE (IN)	CLASS III D_{50} = 6" 15" DEPTH RIPRAP (CY)	CLASS III D_{50} = 6" 7.5" DEPTH GRANULAR FILTER (CY)	CLASS IV D_{50} = 15" 15" DEPTH RIPRAP (CY)	CLASS IV D_{50} = 15" 9" DEPTH GRANULAR FILTER (CY)	CLASS V D_{50} = 15" 24" DEPTH RIPRAP (CY)	CLASS V D_{50} = 15" 12" DEPTH GRANULAR FILTER (CY)
12	3.8	1.9	4.4	2.2	6.8	2.9
18	5.8	2.9	5.9	2.9	8.5	4.5
24	8.8	4.3	8.8	4.5	13.2	6.6
30	11.0	6.5	13.2	6.6	17.6	8.6
36	16.6	8.3	19.8	9.9	26.4	13.2
42	16.6	8.3	19.8	9.9	26.4	13.2
48	23.3	11.6	27.9	14.0	31.2	15.6
54	23.3	11.6	27.9	14.0	31.2	15.6
60	43.5	21.8	52.2	26.1	69.6	34.8
66	43.5	21.8	52.2	26.1	69.6	34.8
72	44.0	22.0	52.8	26.4	70.4	39.2
84	44.0	22.0	52.8	26.4	70.4	39.2
90	61.2	30.6	73.5	36.8	98.0	49.0
96	61.2	30.6	73.5	36.8	98.0	49.0
108	87.4	37.4	87.3	44.0	116.0	58.5

NOTE:
REQUIREMENTS FOR RIPRAP SIZE, THICKNESS, WILL BE DESIGNATED IN PLANS.

CITY OF LINO LAKES	RIPRAP AT RCP OUTLETS	MAY 2013
		STR-7



NOTES:
1. ENTIRE TRASH GUARD ASSEMBLY TO BE HOT-DIP GALVANIZED AFTER FABRICATION.
2. SIZE OF TRASH GUARD VARIABLE DEPENDENT ON SIZE OF FLARED END SECTION.
3. PLACE TRASH GUARDS ON APRONS 18" AND LARGER, MUST BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

CITY OF LINO LAKES	TRASH GUARDS	MAY 2013
		STR-8

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OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

5.01 OF 19

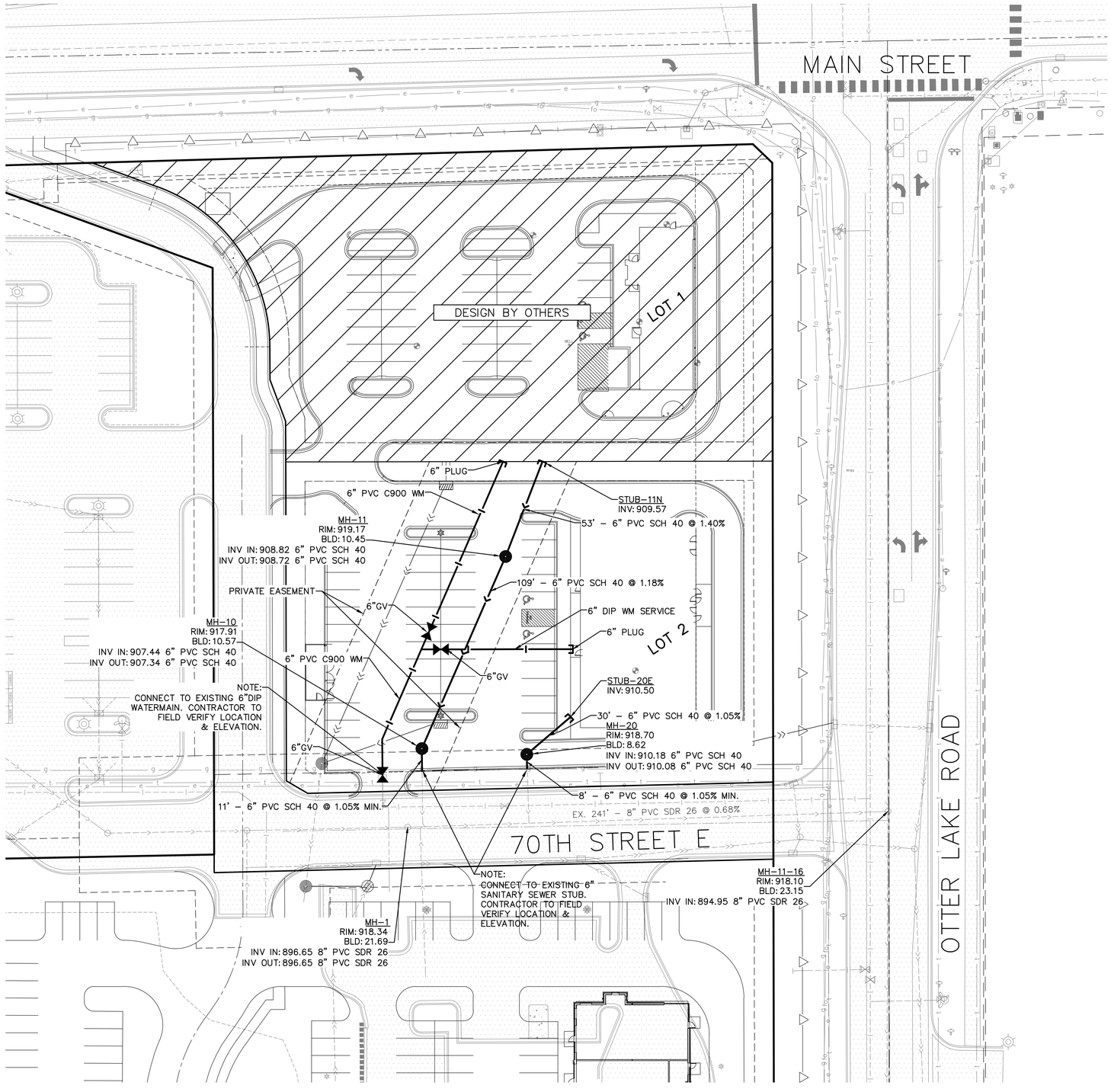
02-ENG-119015-SHEET-DTLS-GRAD

GENERAL UTILITY NOTES:
1. ALL UTILITIES SHALL CONFORM TO THE REQUIREMENTS OF THE MINNESOTA STATE PLUMBING CODE AND THE CITY OF LINO LAKES GENERAL SPECIFICATIONS AND STANDARD PLATES.

SANITARY SEWER NOTES:
1. TRACER WIRE REQUIRED ON ALL NON-CONDUCTIVE MAINLINE PIPE, LATERALS, SERVICES, MANHOLES, CATCH BASINS, STUBS, UTILITY LOCATION BOXES AS REQUIRED BY THE SPECIAL PROVISIONS.

WATERMAIN NOTES:
1. ALL WATERMAIN SHALL BE PVC C900 UNLESS OTHERWISE NOTED.
2. ALL FITTINGS SHALL MEET AWWA C153 REQUIRMENTS.
3. TRACER WIRE REQUIRED ON ALL NON-CONDUCTIVE PIPE PER CITY SPEC.
4. WATERMAIN SHALL HAVE A MINIMUM OF 7.5 FEET OF COVER.

SERVICE NOTES:
1. VERIFY THE LOCATION AND ELEVATION OF ALL SERVICE STUBS WITH BUILDING MECHANICAL PLANS PRIOR TO INSTALLATION.



N

0 15 30 60
GRAPHIC SCALE IN FEET

BENCH MARK
TOP NUT HYDRANT IN N.W. QUAD. OF OTTER LAKE ROAD & PRIVATE DRIVE 370 FT. NORTH OF MAIN STREET
EL=920.47 NVGD88(DATUM)
02-ENG-119015-SHEET-SSWR

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

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota
Name Paul J. Cherne
Reg. No. 19860 Date 02-09-2026

Revisions
1. 02-10-2026 City Comments
2. 03-06-2026 Watershed Comments
3. 03-20-2026 Watershed Comments
4. 04-10-2026 City Comments
5. 04-20-2026 MDLI Submittal
6. 05-04-2026 MDLI Comments
7. 05-20-2026 Sanitary Sewer Service

Date 02-09-2026
Designed PJC
Drawn NJK,JLT

SANITARY SEWER & WATERMAIN PLAN

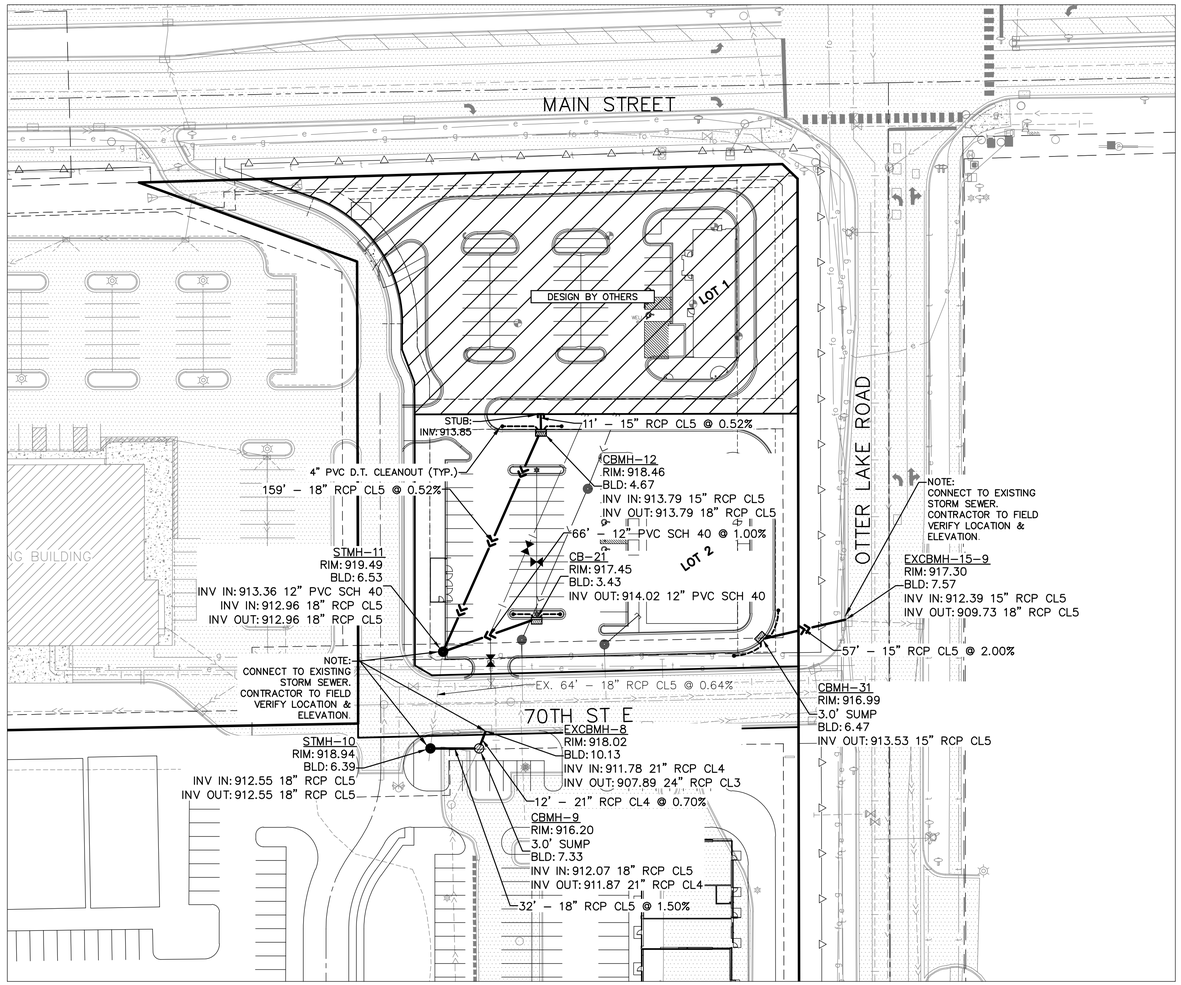
TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

6.00 OF 19

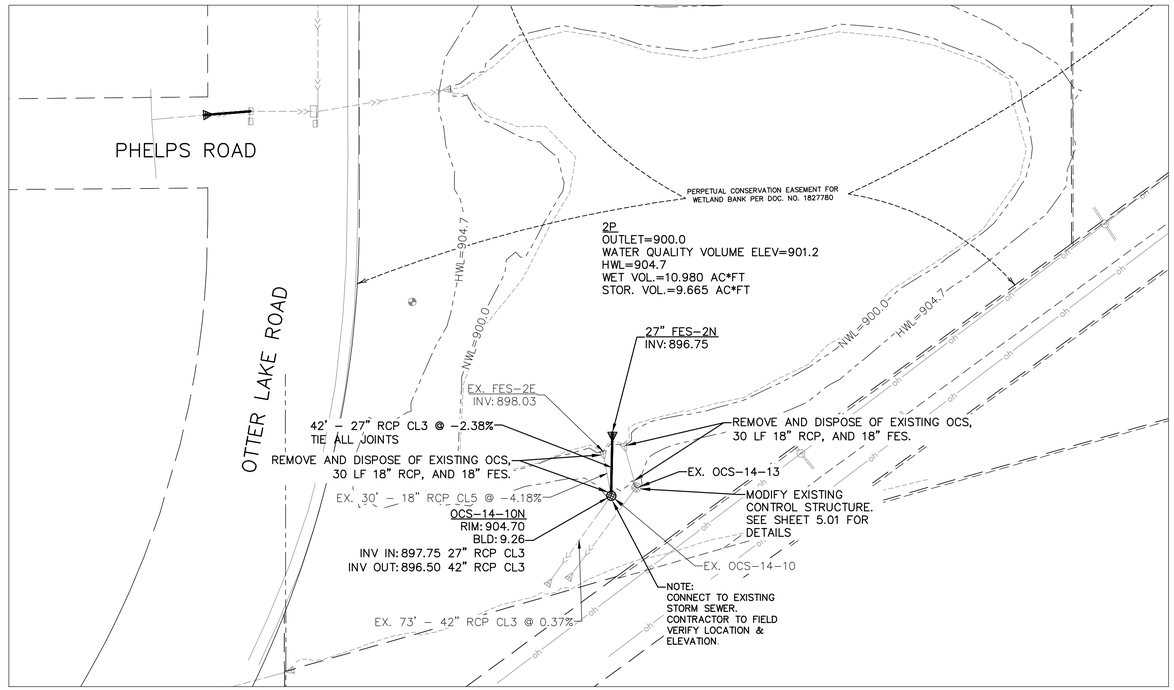
GENERAL UTILITY NOTES:
1. ALL UTILITIES SHALL CONFORM TO THE REQUIREMENTS OF THE MINNESOTA STATE PLUMBING CODE AND THE CITY OF LINO LAKES GENERAL SPECIFICATIONS AND STANDARD PLATES.

STRUCTURE TABLE				
STRUCTURE NAME	TYPE	STRUCTURE SIZE	NEENAH CASTING OR EQUAL	NOTES
9	CBMH	48" DIA.	R-4342	3' SUMP
10	STMH	48" DIA.	R-1642	
11	STMH	48" DIA.	R-1642	
12	CBMH	48" DIA.	R-3067 V	2-4"D.T.
21	CB	36"X24"	R-3067 V	2-4"D.T.
31	CBMH	48" DIA.	R-3067 V	2-4"D.T., 3' SUMP



SEE SHEET RIGHT

SEE SHEET LEFT



EXISTING BASIN 2P

BENCH MARK
TOP NUT HYDRANT IN N.W. QUAD. OF OTTER LAKE ROAD & PRIVATE DRIVE 370 FT. NORTH OF MAIN STREET
EL=920.47 NVGD88(DATUM)
02-ENG-119015-SHEET-STRM

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6. 05-04-2026 MDLI Comments
7. 05-20-2026 Sanitary Sewer Service
8. 05-27-2026 County Comments

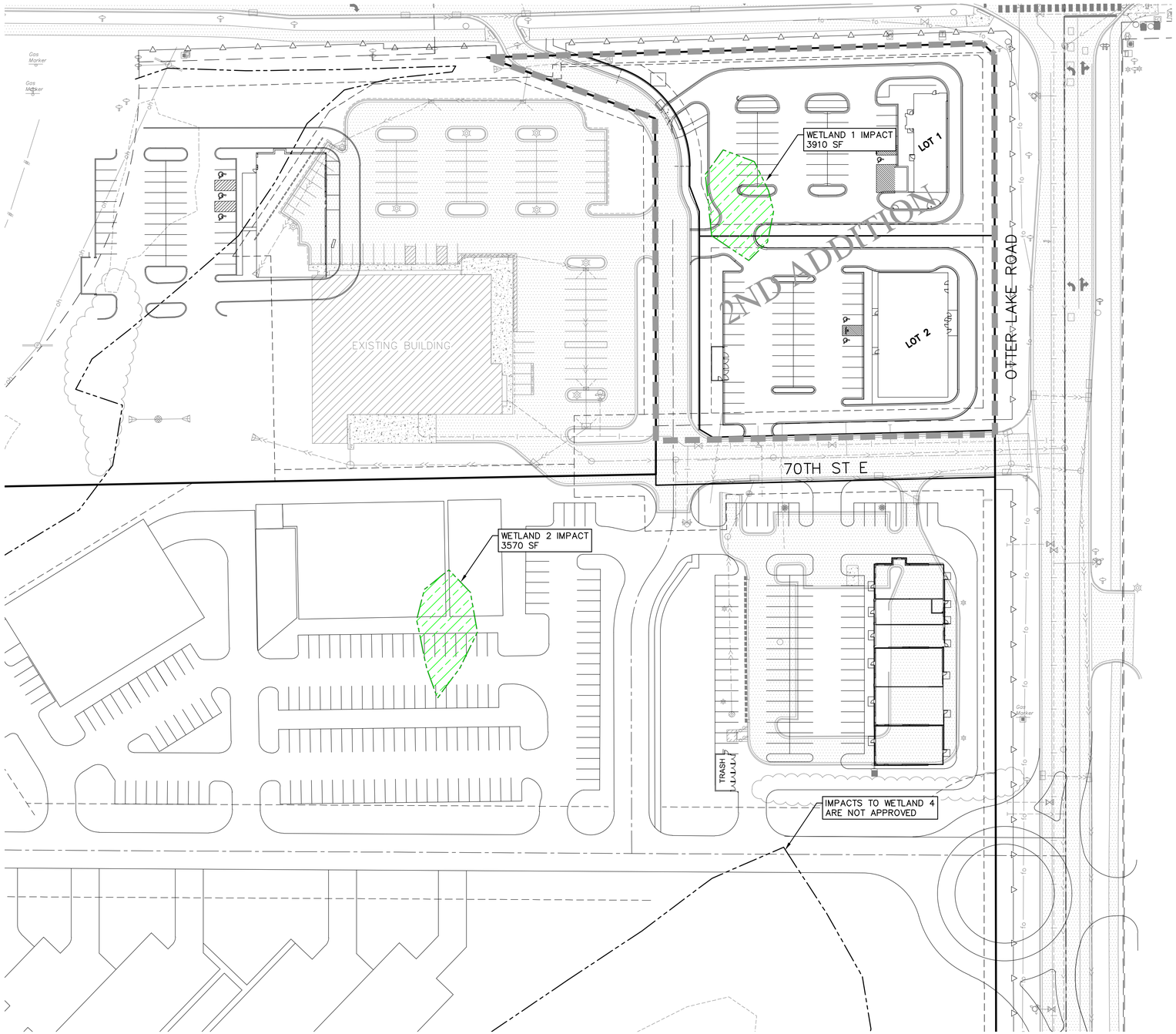
Date	02-09-2026
Designed	PJC
Drawn	NJK,JLT

STORM SEWER PLAN

TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

7.00 OF 19



BENCH MARK
TOP NUT HYDRANT IN N.W. QUAD. OF OTTER LAKE ROAD & PRIVATE DRIVE 370 FT. NORTH OF MAIN STREET
EL=920.47 NVGD88(DATUM)
02-ENG-119015-SHEET-WETL

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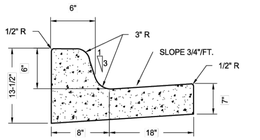
Date	02-09-2026
Designed	PJC
Drawn	NJK,JLT

WETLAND PLAN

TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

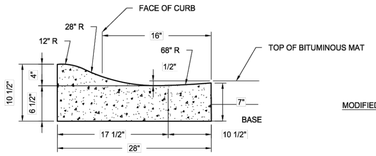
OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

8.00 OF 19



Mn/DOT B 618

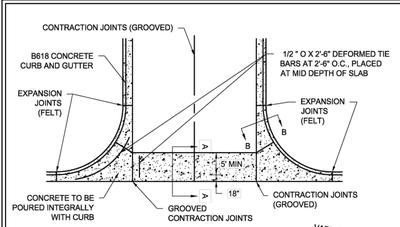
CY CONCRETE PER LIN. FT. = .0582
LIN. FT. PER CY OF CONCRETE = 17.2



MODIFIED 'S' DESIGN

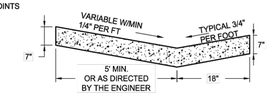
NOTES:
1. MINIMUM OF 3" AGGREGATE BASE, CL 5 UNDER ALL CURB AND GUTTER.
2. STAMP W FOR WATER SERVICE AND S FOR SANITARY SERVICE.

CITY OF LINO LAKES	CONCRETE CURB AND GUTER	JANUARY 2024
		GEN-4

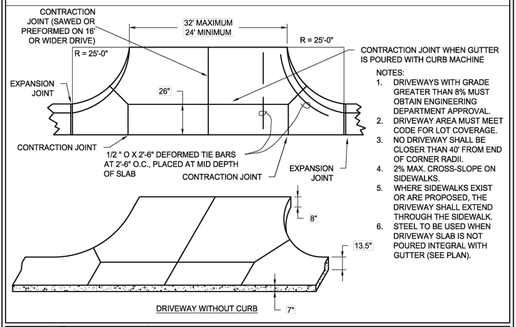


NOTES:
1. STEEL TO BE USED WHEN DRIVEWAY SLAB IS NOT POURED INTEGRAL WITH GUTTER (SEE ABOVE).
2. WHERE SIDEWALKS EXIST OR ARE PROPOSED, THE DRIVEWAY SHALL EXTEND THROUGH THE SIDEWALK WITH THE CURB DROPPED.
3. 2% MAXIMUM CROSS-SLOPE ON SIDEWALKS.
4. JOINT WIDTH SHALL BE AS SPECIFIED IN Mn/DOT 2521.

DRIVEWAY WITH CURB



SECTION A-A

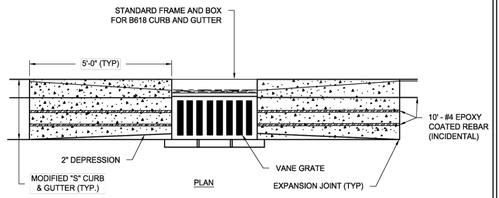


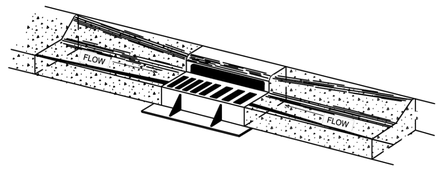
CONTRACTION JOINT WHEN GUTTER IS POURED WITH CURB MACHINE

NOTES:
1. DRIVEWAYS WITH GRADE GREATER THAN 8% MUST OBTAIN ENGINEERING DEPARTMENT APPROVAL.
2. DRIVEWAY AREA MUST MEET CODE FOR LOT COVERAGE.
3. NO DRIVEWAY SHALL BE CLOSER THAN 40' FROM END OF CORNER RADII.
4. 2% MAX. CROSS-SLOPE ON SIDEWALKS.
5. WHERE SIDEWALKS EXIST OR ARE PROPOSED, THE DRIVEWAY SHALL EXTEND THROUGH THE SIDEWALK.
6. STEEL TO BE USED WHEN DRIVEWAY SLAB IS NOT POURED INTEGRAL WITH GUTTER (SEE PLAN).

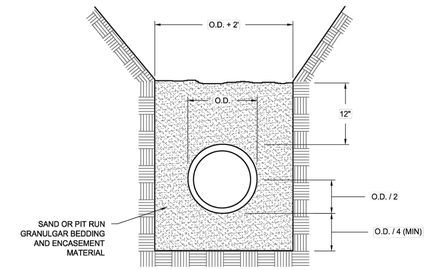
DRIVEWAY WITHOUT CURB

CITY OF LINO LAKES	COMMERCIAL / MULTI-FAMILY / INDUSTRIAL DRIVEWAY	JANUARY 2022
		GEN-6

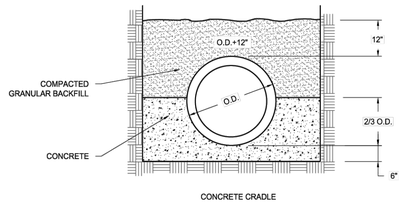




CITY OF LINO LAKES	CATCH BASIN INSTALLATION	MAY 2013
		GEN-8

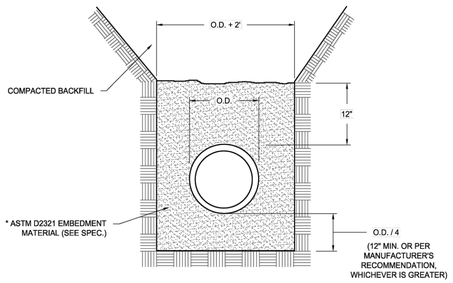


GRANULAR MATERIAL ENCASEMENT



CONCRETE CRADLE

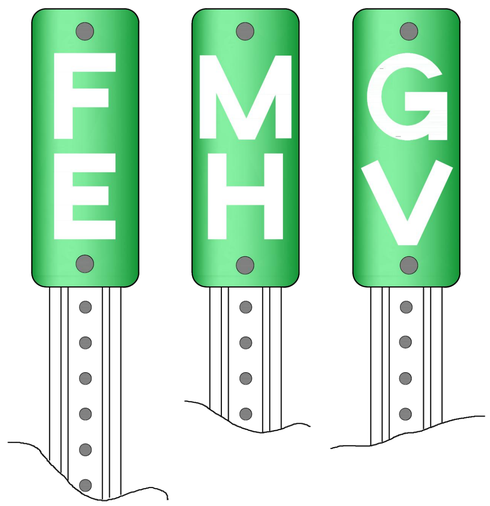
CITY OF LINO LAKES	PIPE BEDDING DETAILS	JANUARY 2024
		GEN-13



PIPE INSTALLATION IN ACCORDANCE WITH ASTM D2321, TABLE 2.

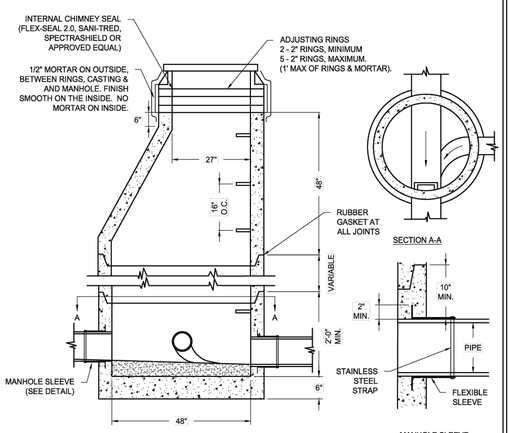
* EMBEDMENT MATERIAL SHALL CONFORM TO ASTM D2321, TABLE 1.

CITY OF LINO LAKES	GRANULAR MATERIAL BEDDING METHOD (FOR PVC PIPE)	JANUARY 2024
		GEN-14



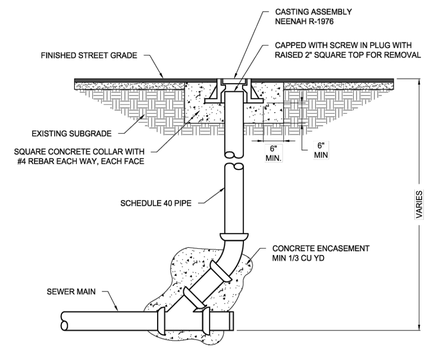
NOTES:
1. STRUCTURE MARKER SIGNS SHALL BE FURNISHED AND INSTALLED FOR ALL STRUCTURES LOCATED OUTSIDE OF THE STREET RIGHT OF WAY AND SHALL BE CONSIDERED INCIDENTAL.
2. 0.063" THICK ALUMINUM SIGN. WHITE LETTERS ON GREEN HIGH INTENSITY REFLECTORIZED BACKGROUND.
3. U-CHANNEL POST, MINIMUM 1.2LB./FT. 6'- 6" LONG, PAINTED GREEN.

CITY OF LINO LAKES	STREET MARKING SIGNS	MAY 2013
		GEN-21



NOTES:
1. INTERNAL CHIMNEY SEAL (FLEX-SEAL 2.0, SANI-TRED, SPECTRASHIELD OR APPROVED EQUAL) ALL JOINTS.
2. A URETHANE OR BUTYL SEAL SHALL BE USED TO SEAL THE TOP RING TO THE CASTING AND THE BOTTOM RING TO THE CONE OR TOP SLAB.
3. NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY. ADJUSTING RINGS MAY BE CONCRETE OR PLASTIC.
4. CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS.
5. MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC, PER ASTM C478. STEP LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.
6. PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS AND LUBRICANT EXCEPT AS OTHERWISE SPECIFIED. A 12" OR 18" BARREL SECTION SHALL BE INSTALLED UNDER THE CONE WHENEVER POSSIBLE.
7. PIPE CONNECTIONS TO MANHOLE SHALL BE MADE WATER TIGHT BY CAST INPLACE RUBBER BOOT AND CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.
8. PROTECT MANHOLE FROM RAINWATER, INFILTRATION AND SEDIMENT DURING CONSTRUCTION BY GRADING, SEALING AND COVERING.

CITY OF LINO LAKES	SANITARY SEWER MANHOLE TYPE 301 (PIPES 27" OR LESS)	JANUARY 2026
		SAN-1



NOTES:
1. BENDS AND RISER TO BE 4".
2. INSTALL EVERY 100' OR AS DIRECTED BY ENGINEER.
3. FOR LONG SERVICES, PIPE SEGMENT SHOULD HAVE C.O. EVERY 100'.
4. TEMPERATURE CLEANOUTS SHALL BE CAPPED 3' ABOVE FINISHED GRADE WITH A SCREW IN PLUG WITH RAISED 2" SQUARE TOP FOR REMOVAL. IT SHALL HAVE A STEEL FENCE POST INSTALLED ADJACENT. NO CONCRETE COLLAR NECESSARY FOR TEMPERATURE CLEANOUTS ON MAIN LINES.
5. ROCK BEDDING REQUIRED. SEE GEN-14

CITY OF LINO LAKES	SANITARY SEWER SERVICE CLEANOUT	JANUARY 2024
		SAN-5

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Date	02-09-2026
Designed	PJC
Drawn	NJK,JLT

DETAILS

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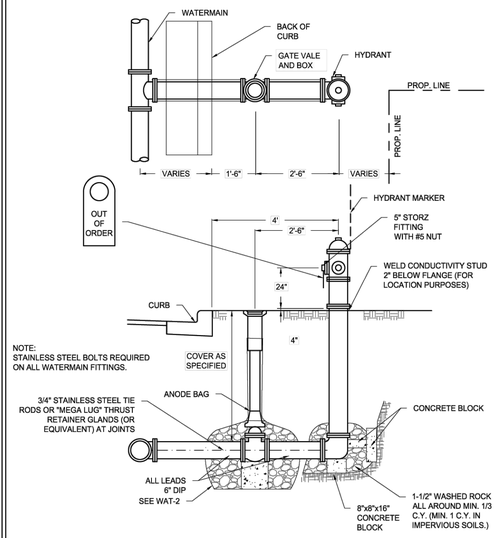
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

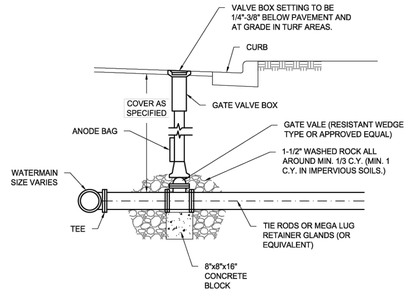
9.00 OF 19

02-ENG-119015-SHEET-DTLS-CITY



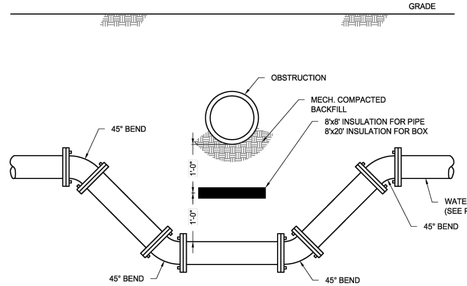
NOTES:
1. ALL FITTINGS SHALL BE MECHANICAL JOINTS.
2. MEGALUG OPTION PERMITTED UPON CITY REVIEW.
3. HYDRANTS SHALL HAVE 16" BREAKAWAY SECTION.
4. NO EXTENSIONS ARE ALLOWED.
5. GATE VALVE SHALL MEET ALL REQUIREMENTS OF WAT-2.
6. VENTED CAP.
7. HYDRANT TO BE INSTALLED WITH "OUT OF ORDER" TAG AND MARKER IN PLACE.

CITY OF LINO LAKES	TYPICAL HYDRANT DETAILS (VALVE IN BOULEVARD)	JANUARY 2026
		WAT-1



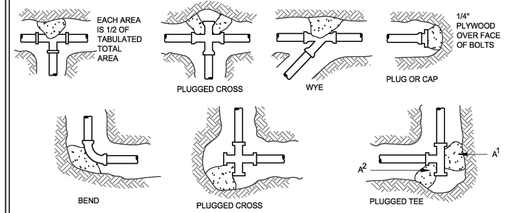
NOTES:
1. GATE VALVES SHOULD BE USED ON 6" THROUGH 16" WATERMAIN.
2. VALVE BOX INSERTS ARE NOT ALLOWED UNLESS APPROVED BY THE ENGINEER.
3. VALVE BOXES SHALL BE INSTALLED PLUMB AND SHALL ALLOW A 4" P.V.C. PIPE TO PASS ENTIRELY OVER THE GATE VALVE NUT AFTER INSTALLATION IS COMPLETE.
4. ALL VALVES SHALL BE TIED WITH 3/4" THREADED TIE RODS TO THE MAIN. MEGALUGS MAY BE USED IN LIEU OF TIE RODS.
5. THE INITIAL AND FINAL RAISING OF VALVE BOXES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
6. BONNET ADAPTOR SHALL BE INSTALLED ON TOP OF GATE VALVE.
7. STAINLESS STEEL BOLTS REQUIRED ON ALL WATERMAIN FITTINGS.

CITY OF LINO LAKES	GATE VALE AND BOX INSTALLATION	FEBRUARY 2020
		WAT-2



NOTES:
1. TIE ALL JOINTS WITH MEGALUGS (8 REQ.).
2. STAINLESS STEEL BOLTS REQUIRED ON ALL WATERMAIN FITTINGS.

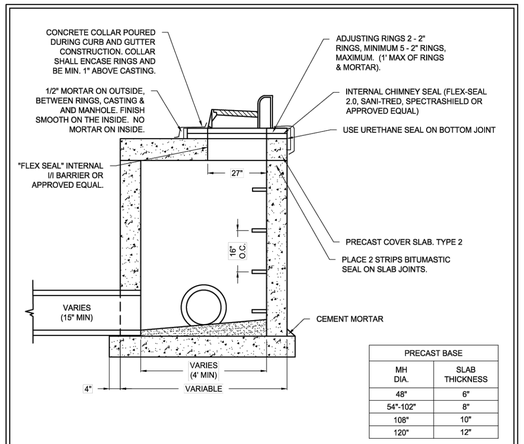
CITY OF LINO LAKES	WATERMAIN LOWERING	JANUARY 2024
		WAT-3



NOMINAL FITTING SIZE, INCHES	TEE, WYE, PLUG OR CAP	90° BEND, PLUGGED CROSS	TEE PLUGGED ON RUN		45° BEND	22-1/2° BEND	11-1/4° BEND
			A^1	A^2			
4	1.0	1.4	1.9	1.4	1.0	-	-
6	2.1	3.0	4.3	3.0	1.6	1.0	-
8	3.8	5.3	7.6	5.4	2.9	1.5	1.0
10	5.9	8.4	11.8	8.4	4.6	2.6	1.2
12	8.5	12.0	17.0	12.0	6.6	3.4	1.7
14	11.5	16.3	23.0	16.3	8.9	4.6	2.3
16	15.0	21.3	30.0	21.3	11.6	6.0	3.0
18	19.0	27.0	38.0	27.0	14.6	7.6	3.8
20	23.5	33.3	47.0	33.3	18.1	9.4	4.7
24	34.0	48.0	68.0	48.0	26.2	13.6	6.8

1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES.
3. REQUIRED BEARING AREAS AT FITTING SHALL BE AS NOTED ABOVE, UNLESS INDICATED OTHERWISE.
4. BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON THE PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN ON THIS STANDARD PLATE.
5. ABOVE BEARING AREAS BASED ON TEST PRESSURES OF 150 PSI AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 LBS. PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE/150) X (2000/SOIL BEARING STRESS) X (TABLE VALUE).

CITY OF LINO LAKES	DUCTILE IRON PIPE REACTION BLOCKING (FOR BENDS)	MAY 2013
		WAT-4

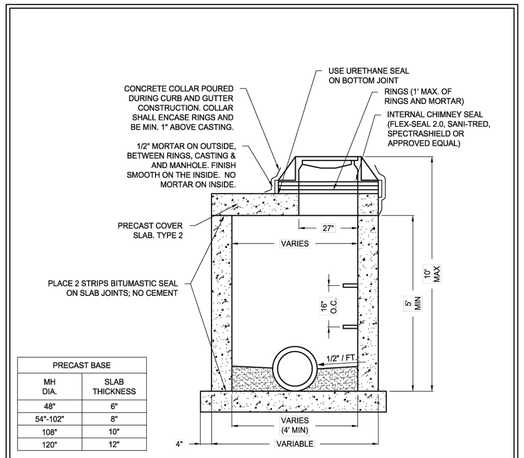


PRECAST BASE	
MH DIA.	SLAB THICKNESS
48"	6"
54"-102"	8"
108"	10"
120"	12"

1. INTERNAL CHIMNEY SEAL (FLEX-SEAL 2.0, SANI-TRED, SPECTRASHIELD OR APPROVED EQUAL) ALL JOINTS AND RINGS
2. A URETHANE OR BUTYL SEAL SHALL BE USED TO SEAL THE TOP RING TO THE CASTING AND THE BOTTOM RING TO THE CONE OR TOP SLAB.
3. NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.
4. RINGS MAY BE CONCRETE OR PLASTIC.
5. CAST IRON FRAME & GRATE CASTINGS PER SPECIFICATIONS.
6. MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.
7. PRECAST REINFORCED CONCRETE BASE SLAB & COVER SLAB PER ASTM C478,
8. PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, OR 8" CONCRETE MANHOLE BLOCK WITH 1/2" MORTARED EXTERIOR.
9. FURNISH PRECAST CONCRETE MANHOLE SECTIONS WITH O-RING GASKETS & LUBRICANT EXCEPT AS OTHERWISE SPECIFIED.
10. FILL OPENING BETWEEN PIPE AND MANHOLE WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.
11. MANHOLES THAT HOLD WATER AFTER CONSTRUCTION SHALL HAVE "FLEX SEAL" APPLIED TO ENTIRE INTERIOR OF STRUCTURE.

* MINIMUM PIPE COVER CAN BE REDUCED FROM 4' TO 2'-6" WITH INSTALLATION OF PERFORATED PIPE DRAIN PER "GRANULAR SUBCUT AND PERFORATED PIPE DRAIN" DETAIL.

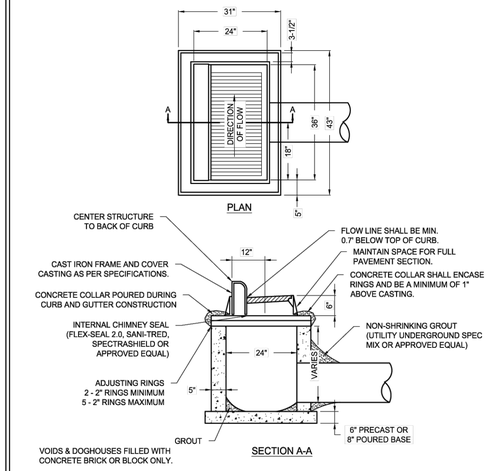
CITY OF LINO LAKES	CATCH BASIN TYPE 4020	JANUARY 2026
		STR-2



PRECAST BASE	
MH DIA.	SLAB THICKNESS
48"	6"
54"-102"	8"
108"	10"
120"	12"

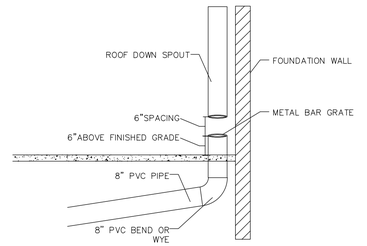
NOTES:
1. A URETHANE OR BUTYL SEAL SHALL BE USED TO SEAL THE TOP RING TO THE CASTING AND THE BOTTOM RING TO THE CONE OR TOP SLAB.
2. NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.
3. ADJUSTING RINGS MAY BE CONCRETE OR PLASTIC.
4. CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS.
5. MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.
6. PRECAST REINFORCED CONCRETE MANHOLE SECTIONS & BASE SLAB PER ASTM C478.
7. FURNISH PRECAST MANHOLE SECTIONS WITH O-RING GASKETS & LUBRICANT EXCEPT AS OTHERWISE SPECIFIED.
8. A 12" OR 18" BARREL SECTION SHALL BE INSTALLED UNDER THE CONE WHENEVER POSSIBLE.
9. FILL OPENING BETWEEN PIPE & MH WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

CITY OF LINO LAKES	STORM MANHOLE TYPE 4020	JANUARY 2026
		STR-5



NOTES:
1. REINFORCING TO CONSIST OF #4 BARS @ 8" O.C., 4' MINIMUM LENGTH, EACH SIDE OF CASTING.
2. GROUT BOTTOM TO DRAIN TO CENTER.
3. PIPE CUT-OUTS TO BE LOCATED WHERE REQUIRED.
4. ADJUSTING RINGS SHALL HAVE MORTAR JOINTS - PLASTER OUTSIDE, STRIKE CLEAN INSIDE.
5. CATCH BASINS THAT HOLD WATER AFTER CONSTRUCTION SHALL HAVE "FLEX SEAL" APPLIED TO ENTIRE INTERIOR OF STRUCTURE.
6. INLET PROTECTION TO BE INSTALLED IN CATCH BASIN AND MAINTAINED AS DIRECTED BY THE ENGINEER

CITY OF LINO LAKES	2 X 3 CATCH BASIN	FEBRUARY 2020
		STR-6



ROOF DOWN SPOUT PICKUP DETAIL
(TYPICAL SECTION NOT TO SCALE)

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

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota
Name Paul J. Cherne
Reg. No. 19860 Date 02-09-2026

Revisions
1. 02-10-2026 City Comments
2. 03-06-2026 Watershed Comments
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7. 05-20-2026 Sanitary Sewer Service

Date 02-09-2026
Designed PJC
Drawn NJK,JLT

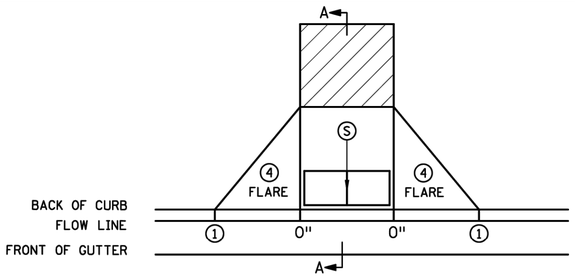
DETAILS

TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

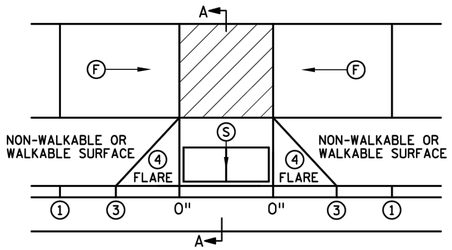
OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

02-ENG-119015-SHEET-DTLS-CITY

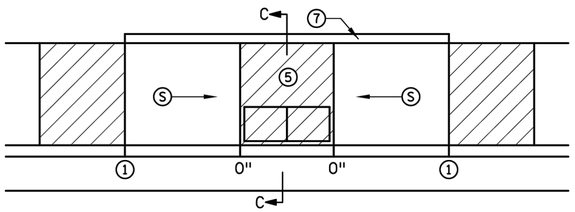
9.01 OF 19



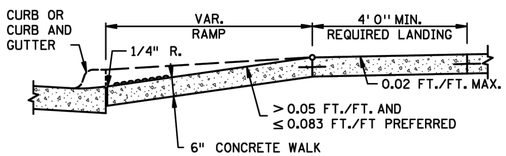
PERPENDICULAR



TIERED PERPENDICULAR

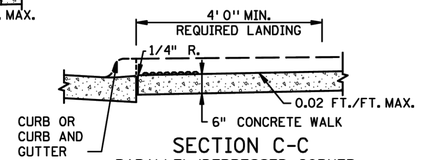


PARALLEL



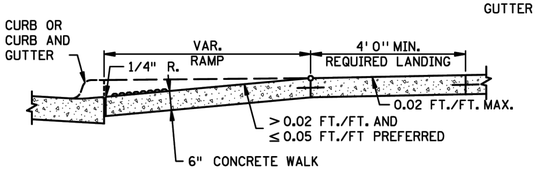
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



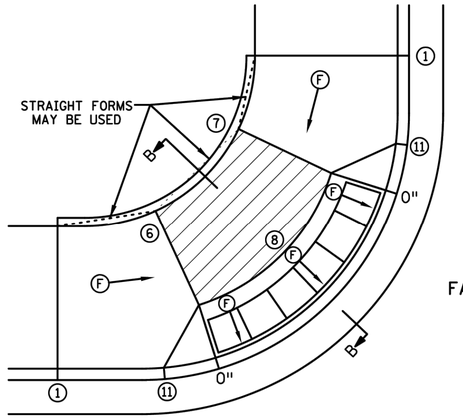
SECTION C-C

PARALLEL/DEPRESSED CORNER

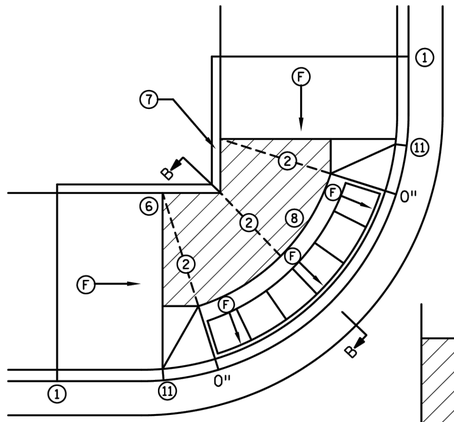


SECTION B-B

FAN

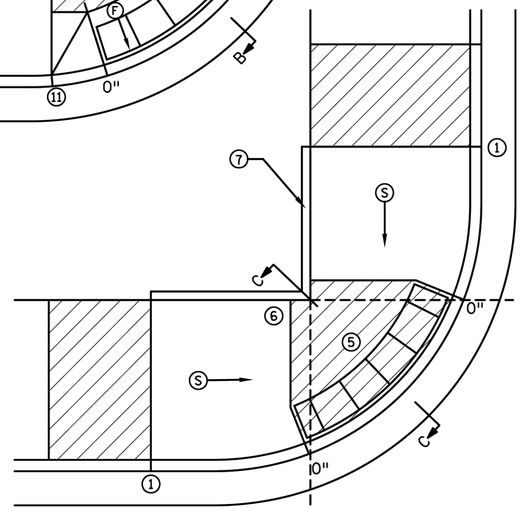


FAN ⑩

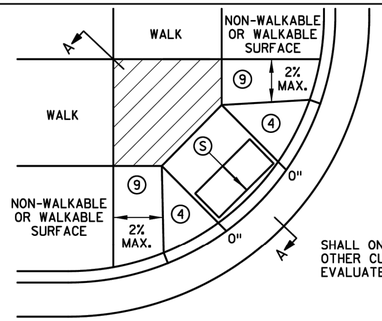


MODIFIED FAN ⑩

USED WHEN RIGHT-OF-WAY
IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

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.

(S) 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%.

(F) 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%.

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.		SHEET NO.	
				TRUNK HWY.		TOTAL SHEETS	

PIONEER engineering
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(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 02-09-2026

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Date	02-09-2026
Designed	PJC
Drawn	NJK,JLT

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3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

9.02 OF 19

02-ENG-119015-SHEET-DTLS-CITY

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

TO COMPLY WITH THE GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY

THE FULL STORMWATER MANAGEMENT PLAN IS A SEPARATE DOCUMENT AVAILABLE UPON REQUEST

CONSTRUCTION ACTIVITY INFORMATION

PROJECT NAME: OTTER CROSSING SOUTH
PROJECT LOCATION:
MAIN STREET & OTTER CREEK ROAD
LINO LAKES, MINNESOTA 55038
ANOKA COUNTY
LATITUDE/LONGITUDE: 45.163735, −93.026011

TOTAL PROJECT AREA DISTURBED: 2.31 ACRES
TOTAL EXISTING IMPERVIOUS AREA: 0.98 ACRES
TOTAL PROPOSED IMPERVIOUS AREA: 3.1 ACRES

RECEIVING WATERS:
CLEARWATER CREEK

DATES OF CONSTRUCTION:
CONSTRUCTION START DATE: MONTH 1, 202Y **EST. COMPLETION DATE:** MONTH 1, 202X

CONTACT INFORMATION

PROJECT OWNER
XXCOMPANYXX
FIRST LASTNAME – TITLE
XXX HIGHWAY X
City, State Zip
PHONE XXX–XXX–XXXX
EMAIL: XXX@XXXXXXXXXX.COM

CONTRACTOR:
XXCOMPANYXX
FIRST LASTNAME – TITLE
XXX HIGHWAY
City, State Zip
PHONE XXX–XXX–XXXX
EMAIL: XXX@XXXXXXXXXX.COM

GENERAL CONSTRUCTION PROJECT INFORMATION

THE CONSTRUCTION OF 2 NEW LOTS FOR COMMERCIAL DEVELOPMENT. THIS CONSTRUCTION WILL COMPLETE GRADING, INSTALLATION OF SANITARY SEWER, WATERMAIN, STORM SEWER, CONCRETE CURB AND GUTTER, BITUMINOUS SURFACING, STREET LIGHTING, LANDSCAPING, EROSION CONTROL, AND TURF ESTABLISHMENT.

BASED ON THE SOIL BORINGS THAT WERE RETRIEVED FROM THE SITE, SOILS ENCOUNTERED ON SITE **ARE** PEAT, ORGANIC CLAY, CLAYEY SAND, SILTY SAND, SANDY LEAN CLAY, AND POORLY GRADED SAND.

GENERAL SITE INFORMATION (III.A)

1. THE PROJECT IS REQUIRED TO MEET THE CONSTRUCTION STORMWATER REQUIREMENTS FOR THE NPDES GENERAL STORMWATER PERMIT AND MNDOT SPEC. 1717, 2573, AND 2575.
2. THE CONTRACTOR SHALL INSTALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH MNDOT GENERAL CONDITIONS 2573 TO BE INSPECTED BY THE CITY PRIOR TO STARTING ANY CONSTRUCTION OPERATION THAT MAY CAUSE ANY SEDIMENTATION OR SILTATION AT THE SITE.
3. LOCATIONS, TYPE AND QUANTITY OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES CAN BE FOUND WITHIN THE CONSTRUCTION PLANS.
4. THE PROJECT IS LOCATED WITHIN 1 MILE AND FLOWS TO AN IMPAIRED WATER BODY. THEREFORE, THE PROJECT WILL NEED TO STABILIZE ALL EXPOSED SOILS NO LATER THAN 7 DAYS. DITCHES OR RAVINES THROUGHOUT THE PROJECT THAT ARE DISTURBED SHALL BE STABILIZED WITHIN 24 HOURS.
5. THE PROJECT IS LOCATED WITH 1 MILE AND FLOWS TO AN IMPAIRED WATER BODY. THEREFORE, TEMPORARY SEDIMENT BASINS ARE NEEDED FOR DRAINAGE AREAS OF 5 ACRES OR MORE FLOWING TO A COMMON LOCATION.
6. THE CONTRACTOR SHALL INSTALL ADDITIONAL BMP'S AS NECESSARY TO PREVENT SEDIMENT TRANSPORT PER PERMIT REQUIREMENTS
7. INLET PROTECTION, SILT FENCE AND BIOROLLS SHALL BE INSTALLED IN THE FIELD AS SHOWN ON THE PLANS AS DIRECTED BY THE ENGINEER.
8. PERMIT COVERAGE FOR THIS PROJECT CANNOT BE ISSUED UNTIL ALL OF THE REQUIREMENTS OF SECTION 22 OF THE GENERAL STORMWATER PERMIT WITH REGARDS TO WETLAND PERMITTING, DECISIONS, AND MITIGATIVE SEQUENCING HAVE BEEN FINALIZED AND DOCUMENTED.

THE INTENDED SEQUENCING OF MAJOR CONSTRUCTION ACTIVITIES IS AS FOLLOWS:
1. INSTALL STABILIZED ROCK CONSTRUCTION ENTRANCE
2. INSTALLATION OF SILT FENCE AROUND SITE
3. INSTALL DOUBLE SILT FENCE AROUND WETLAND AREAS
4. INSTALL ORANGE CONSTRUCTION FENCING AROUND INFILTRATION AREAS.
5. CLEAR AND GRUB FOR TEMPORARY SEDIMENT BASIN/POND INSTALL.
6. CONSTRUCT TEMP PONDS – CAN USE PROPOSED BASINS AS TEMP PONDS
7. CLEAR AND GRUB REMAINDER OF SITE
8. STRIP AND STOCKPILE TOPSOIL
9. ROUGH GRADING OF SITE
10. STABILIZE DENUDED AREAS AND STOCKPILES
11. INSTALL SANITARY SEWER, WATER MAIN, STORM SEWER AND SERVICES
12. INSTALL SILT FENCE/INLET PROTECTION AROUND CB'S
13. INSTALL STREET SECTION
14. INSTALL CURB AND GUTTER
15. BITUMINOUS ON STREETS
16. INSTALL SMALL UTILITIES (GAS, ELECTRIC, PHONE, CABLE, ETC.)
17. FINAL GRADE BOULEVARD, INSTALL SEED AND MULCH
18. REMOVE ACCUMULATED SEDIMENT FROM BASIN/POND
19. FINAL GRAD POND/INFILTRATION BASINS (DO NOT COMPACT SOILS IN INFILTRATION AREAS.)
20. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED BY EITHER SEED OR SOD/LANDSCAPING, REMOVE SILT FENCE AND RESEED AREAS DISTURBED BY THE REMOVAL.

ENVIRONMENTALLY SENSITIVE AREAS:
WETLANDS – THERE ARE IMPACTS TO WETLANDS PER SECTION 22 OF THE PERMIT. SEE ATTACHED WETLAND PLAN FOR IMPACTS AND MITIGATION. THE APPROVED WETLANDS PERMIT IS ON FILE WITH THE OWNER.

SPECIAL AND IMPAIRED WATERS – CLEARWATER CREEK **IMPAIRMENT(S):** DISSOLVED OXYGEN

TMDL – N/A

SCIENTIFIC OR NATURAL AREAS – THERE ARE NO **SNA WITHIN 1 MILE OF THE PROJECT.**

KARST AREA – THE PROJECT IS NOT LOCATED WITHIN A KARST AREA.

CALCAREOUS FENS – THE PROJECT DOES NOT DISCHARGE TO A FEN.

TRAINING (21.1)

THE CONTRACTOR SHALL ENSURE THAT THE TRAINING REQUIREMENTS IN PART 21.1 OF THE GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY ARE COMPLIED WITH. THE INDIVIDUALS TRAINED WILL BE RECORDED IN THE SWPPP BEFORE THE START OF CONSTRUCTION OR AS SOON AS PERSONNEL FOR THE PROJECT HAVE BEEN DETERMINED. PROVIDE INFORMATION IN THE SPACE PROVIDED BELOW FOR ADDITIONAL PERSONNEL ON THE PROJECT AS REQUIRED BY THE PERMIT.

SWPPP DESIGNER	COMPANY	CERTIFICATION
SWPPP INSTALLER		
SWPPP INSPECTOR		

PERMANENT STORMWATER MANAGEMENT SYSTEM (15.1)

1. THE PROJECT WILL CREATE A NEW CUMULATIVE IMPERVIOUS SURFACE GREATER THAN OR EQUAL TO ONE ACRE. THE PROJECT PROPOSES TO CONSTRUCT A STORMWATER TREATMENT SYSTEM TO COLLECT RUNOFF TO BE DISCHARGED OFFSITE. TREATMENT FOR THE RUNOFF IS TO BE EXECUTED BY THE PROPOSED STORMWATER MANAGEMENT SYSTEM. CALCULATIONS DETAILING THE BASINS ARE AVAILABLE UPON REQUEST.

BMP SELECTION & STORMWATER MANAGEMENT (7.1)

1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN THE BMPS IDENTIFIED IN THIS PLAN IN AN APPROPRIATE AND FUNCTIONAL MANNER AND IN ACCORDANCE WITH RELEVANT MANUFACTURER SPECIFICATIONS AND ACCEPTED ENGINEERING PRACTICES TO MINIMIZE THE DISCHARGE OF POLLUTANTS IN STORMWATER FROM CONSTRUCTION ACTIVITIES. THESE BMPS SHALL BE INSPECTED BY THE CITY.
2. THE CONTRACTOR SHOULD CONSTRUCT TEMPORARY OR PERMANENT WET SEDIMENTATION BASINS IDENTIFIED IN THIS PLAN (WHEN REQUIRED, SEE SECTION 14 AND 15) AS A FIRST STEP IN CONSTRUCTION AND STORMWATER ROUTED TO THESE.
3. THE CONTRACTOR MUST PHASE CONSTRUCTION SO TO LIMIT DISTURBED LAND TO AREAS THAT CAN BE EFFECTIVELY INSPECTED AND MAINTAINED. PER SECTION 11 OF THE PERMIT.
4. ALL EROSION CONTROL NETTING USED ON THE SITE AS PART OF THE SOIL STABILIZATION TECHNIQUES, ARE ENCOURAGED TO USE PRODUCTS THAT HAVE BEEN SHOWN TO MINIMIZE IMPACTS ON WILDLIFE. THE U.S. FISH & WILDLIFE SERVICE RECOMMENDS USING TYPES OF NETTING PRACTICES THAT ARE CONSIDERED "WILDLIFE FRIENDLY," INCLUDING THOSE THAT USE NATURAL FIBER OR 100 PERCENT BIODEGRADABLE MATERIALS AND THAT USE A LOOSE WEAVE WITH A NON–WELDED, MOVABLE JOINTED NETTING.

EROSION PREVENTION PRACTICES (8.1)

1. THE CONTRACTOR SHALL PHASE THE WORK TO LIMIT THE OVERALL DISTURBANCE OF THE PROJECT AT ANY GIVEN TIME. NATURAL VEGETATIVE BUFFERS SHALL BE MAINTAINED BETWEEN THE WORK LIMITS AND ALL SURFACE WATERS OR WETLANDS THROUGHOUT THE COURSE OF CONSTRUCTION.
2. THE AREAS NOT TO BE DISTURBED WILL BE DELINEATED THROUGH THE USE OF SILT FENCE, BIOROLLS AND CONSTRUCTION STAKING.
3. THE CONTRACTOR SHALL MAINTAIN A NATURAL, VEGETATED BUFFER ADJACENT TO THE WETLANDS WHEREVER POSSIBLE DURING CONSTRUCTION.
4. TEMPORARY COVER SHALL BE PROVIDED USING TEMPORARY SEED WITH EROSION CONTROL BLANKET OR HYDROMULCH.
5. PERMANENT COVER SHALL BE PROVIDED AS DETAILED ON THE CONSTRUCTION PLANS USING SEED WITH EROSION CONTROL BLANKET OR HYDROMULCH. PERMITTEES MUST NOT USE MULCH, HYDROMULCH, TACKIFIER, POLYACRYLAMIDE OR SIMILAR EROSION PREVENTION PRACTICES WITHIN ANY PORTION OF THE NORMAL WETTED PERIMETER OF A TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE SECTION WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT
6. THE CONTRACTOR IS REQUIRED TO PROVIDE ANY ADDITIONAL EROSION PREVENTION MEASURES NECESSARY FOR CONFORMANCE TO THE NPDES CONSTRUCTION PERMIT THROUGHOUT CONSTRUCTION.
7. STABILIZATION TIME FRAMES – INITIATE STABILIZATION IMMEDIATELY WHEN CONSTRUCTION TEMPORARILY OR PERMANENTLY CEASES ON A PORTION OF THE SITE. COMPLETE STABILIZATION WITHIN THE TIME FRAMES LISTED.

7.1.	LAST 200 LINEAL FEET OF DITCH OR SWALE	24 HOURS OF CONNECTION TO SURFACE WATERS
7.2.	REMAINING DITCH OR SWALE	7 DAYS
7.3.	PIPE AND CULVERT OUTLETS	24 HOURS
7.4.	EXPOSED SOIL AND STOCKPILES	7 DAYS

SEDIMENT CONTROL PRACTICES (9.1)

1. SILT FENCE AND ALL OTHER DOWN GRADIENT PERIMETER CONTROL DEVICES SHALL BE INSTALLED AND INSPECTED BY THE CITY PRIOR TO ANY LAND DISTURBANCE ACTIVITY.
2. EROSION CONTROL BLANKET AND BIOROLLS SHALL BE PLACED WITHIN THE DITCH BOTTOMS WITHIN 24 HOURS AFTER FINE GRADING.
3. PRIOR TO STOCKPILING SOIL, SEDIMENT CONTROLS AT THE BASE OF THE STOCKPILE NED TO BE INSTALLED. STOCKPILES LOCATED ON SITE SHALL BE SEEDED, MULCHED OR BLANKETED AND HAVE SILT FENCE OR A BMP APPROVED BY THE ENGINEER IN THE FIELD PLACED AROUND THE BASE OF THE STOCKPILE.
4. MAINTAIN A 50–FOOT NATURAL BUFFER DOWN GRADIENT OF THE SITE OR REDUNDANT SEDIMENT CONTROLS IF BUFFER IS NOT FEASIBLE, WHEN THE CONSTRUCTION IS WITHIN 50 FEET OF A SURFACE WATER.
5. MINIMIZE SOIL COMPACTION BY NOT DISTURBING AREAS OUTSIDE OF THE CONSTRUCTION LIMITS. DELINEATE AREAS NOT TO BE DISTURBED PRIOR TO STARTING GROUND DISTURBING ACTIVITIES. PRESERVE ALL NATURAL BUFFERS SHOWN ON THE PLANS. NO HEAVY CONSTRUCTION EQUIPMENT ALLOWED IN FILTRATION OR INFILTRATION AREAS PER PLANS.
6. CONTRACTOR SHALL USE STREET SWEEPING IN ADDITION TO VEHICLE TRACKING BMPS IF THESE BMPS ALONE ARE NOT ADEQUATE TO PREVENT SEDIMENT TRACKING ONTO THE STREET.
7. ANY SEDIMENT CONTROL PRACTICE USING SOIL IMPLEMENTED BY THE CONTRACTOR SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 24 HOURS OF INSTALLATION.

SEE FOLLOWING SHEET FOR CONTINUED SWPPP NOTES

DEWATERING AND BASIN DRAINING (10.1)

1. DEWATERING IS NOT ANTICIPATED ON THIS PROJECT. HOWEVER, IF DEWATERING IS NECESSARY, THE CONTRACTOR SHALL SUBMIT A PLAN TO THE ENGINEER FOR ACCEPTANCE.
2. IF DEWATERING IS NECESSARY, IT MUST NOT CAUSE NUISANCE CONDITIONS IN SURFACE WATERS FROM DEWATERING AND BASIN DRAINING DISCHARGE.
3. IF THE DEWATERING OR PUMPING PROCESS IS TURBID OR CONTAINS SEDIMENT LADEN WATER, IT MUST BE TREATED THROUGH THE USE OF A SEDIMENT CONTROL (TRAPS, VEGETATIVE FILTER STRIPS, FLOCCULANTS OR OTHER SEDIMENT REDUCING MEASURES) SUCH THAT DISCHARGE DOES NOT VISIBLY CONTAIN MORE TURBIDITY THAN THE RECEIVING WATER.
4. WHEN POSSIBLE, USE WELL VEGETATED (EG. GRASSY OR WOODED) UPLAND AREAS ON THE SITE TO INFILTRATE DEWATERING WATERS BEFORE DISCHARGED OFF SITE.
5. DISCHARGE DIRECTLY INTO A SURFACE WATER OR WETLAND IS NOT PERMITTED. RECEIVING WATERS CANNOT BE USED AS PART OF THE TREATMENT AREA.
6. ALL CONSTRUCTION DEWATERING SHALL BE DISCHARGED TO AN APPROVED LOCATION FOR TREATMENT PRIOR TO DISCHARGE TO THE RECEIVING WATER. THE DEWATERING PLAN SHALL BE DEVELOPED AND SUBMITTED TO THE ENGINEER FOR REVIEW IN ACCORDANCE WITH MNDOT SPEC. 1717.2E.
7. CONDITIONS OF THE SITE MAY REQUIRE A PERMIT TO BE OBTAINED FROM THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES FOR WATER APPROPRIATIONS. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS FOR DEWATERING.
8. THE DISCHARGE POINT OF DEWATERING WATERS SHOULD BE VISUALLY INSPECTED AND PHOTOGRAPHED AT THE BEGINNING OF OPERATION AND AT LEAST ONCE EVERY 24 HOURS OF OPERATION TO ENSURE EXCESS TURBIDITY IS NOT BEING RELEASED TO THE RECEIVING WATERS.'
9. IF NUISANCE CONDITIONS RESULT FROM THE DISCHARGE, PERMITTEES MUST CEASE DEWATERING IMMEDIATELY AND CORRECTIVE ACTIONS MUST OCCUR BEFORE DEWATERING IS RESUMED. NUISANCE CONDITIONS INCLUDES, BUT IS NOT LIMITED TO, A SEDIMENT PLUME IN THE DISCHARGE OR THE DISCHARGE APPEARS CLOUDY, OR OPAQUE, OR HAS A VISIBLE CONTRAST, OR HAS A VISIBLE OIL FILM, OR HAS AQUATIC HABITAT DEGRADATION THAT CAN BE IDENTIFIED BY AN OBSERVER.

INSPECTIONS AND MAINTENANCE (11.1)

1. THE CONTRACTOR SHALL IDENTIFY A CERTIFIED EROSION AND SEDIMENT CONTROL SUPERVISOR TO CONDUCT INSPECTIONS FOR THE PROJECT.
2. THE CONSTRUCTION SITE SHALL BE OBSERVED AT LEAST ONCE EVERY 7 DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS AND 7 DAYS AFTER THAT. PER SECTION 11.11 THE INSPECTION CAN BE ADJUSTED AS FOLLOW:
   - AREAS WITH PERMANENT COVER CAN BE REDUCED TO ONCE A MONTH
   - SITES WITH PERMANENT COVER AND NO CONSTRUCTION ACTIVITY CAN BE REDUCED TO ONCE A MONTH
   - WHERE CONSTRUCTION ACTIVITY HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, INSPECTION MAY BE SUSPENDED AND RESUME WITHIN 24 HOURS OF RUNOFF OCCURRING
3. WHEN SEDIMENT IS OBSERVED UP TO APPROXIMATELY ONE–THIRD OF THE HEIGHT OF SILT FENCE, SEDIMENT SHALL BE REMOVED. SILT FENCE WILL BE REPLACED, OR SUPPLEMENTED IF IT BECOMES NON–FUNCTIONAL.
4. THE CITY OF LINO LAKES IS RESPONSIBLE TO MAINTAIN PERMANENT BMP'S.
5. DURING EACH INSPECTION THE FOLLOWING SHALL BE OBSERVED:
   - ALL EROSION PREVENTION AND SEDIMENT CONTROL BMP'S AND POLLUTION PREVENTION MEASURES.
   - SURFACE WATERS – INCLUDING DITCHES AND CONVEYANCE SYSTEMS NEED TO BE OBSERVED FOR EROSION AND SEDIMENT.
   - CONSTRUCTION SITE VEHICLE EXIT LOCATIONS FOR EVIDENCE OF TRACKING ONTO PAVED SURFACES.
   - INSPECT SURROUNDING PROPERTIES FOR EVIDENCE OF OFF SITE SEDIMENT ACCUMULATION.
   - INFILTRATION AREAS FOR SIGNS OF SEDIMENT DEPOSITION AND COMPACTION (TO ENSURE THAT EQUIPMENT IS NOT BEING DRIVEN ACROSS THE AREA).
7. RECORD ALL INSPECTIONS AND MAINTENANCE ACTIVITIES IN WRITING WITHIN 24 HOURS. SUBMIT INSPECTION REPORTS IN A FORMAT THAT IS ACCEPTABLE TO THE PROJECT ENGINEER. INCLUDE THE FOLLOWING IN THE RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY:
   - DATE AND TIME OF INSPECTIONS
   - NAME OF PERSONS CONDUCTING INSPECTIONS
   - FINDINGS OF INSPECTIONS WITH PHOTOGRAPHS AND RECOMMENDATIONS FOR CORRECTIVE ACTIONS
   - CORRECTIVE ACTIONS TAKEN, INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES
   - DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCH IN 24 HOURS
   - DOCUMENT AND DISCHARGES, DEWATERING OPERATIONS AND NUISANCE CONDITIONS WITH PHOTOGRAPHS.
   - DOCUMENTS AND CHANGES MADE TO THE SWPPP
8. REPLACE, REPAIR OR SUPPLEMENT ALL NONFUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY FOLLOWING DISCOVERY UNLESS LISTED DIFFERENTLY BELOW:
   - A. REPAIR, REPLACE, OR SUPPLEMENT PERIMETER CONTROL DEVICES WHEN IT BECOMES NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT OF THE DEVICE. COMPLETE REPAIRS BY THE END OF THE NEXT BUSINESS DAY FOLLOWING DISCOVERY.
   - B. REPAIR OR REPLACE INLET PROTECTION DEVICES WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT AND/OR DEPTH OF THE DEVICE.
   - C. DRAIN AND REMOVE SEDIMENT FROM TEMPORARY AND PERMANENT SEDIMENT BASINS ONCE THE SEDIMENT HAS REACHED 1/2 THE STORAGE VOLUME. COMPLETE WORK WITHIN 72 HOURS OF DISCOVERY.
   - D. REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS. RESTABILIZE ANY AREAS THAT ARE DISTURBED BY SEDIMENT REMOVAL OPERATIONS. SEDIMENT REMOVAL AND STABILIZATION MUST BE COMPLETED WITHIN 7 DAYS OF DISCOVERY. PREPARE AND SUBMIT A SITE MANAGEMENT PLAN FOR WORKING IN SURFACE WATERS. CONTACT ALL APPROPRIATE AUTHORITIES PRIOR TO WORKING IN SURFACE WATERS.
   - E. REMOVE TRACKED SEDIMENT FROM PAVED SURFACES BOTH ON AND OFF SITE WITHIN 24 HOURS OF DISCOVERY. STREET SWEEPING MAY HAVE TO OCCUR MORE OFTEN TO MINIMIZE OFF SITE IMPACTS. LIGHTLY WET THE PAVEMENT PRIOR TO SWEEPING.
   - F. MAINTAIN ALL BMPS UNTIL WORK HAS BEEN COMPLETED, SITE HAS GONE UNDER FINAL STABILIZATION, AND THE NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED TO THE MPCA.

POLLUTION PREVENTION MANAGEMENT MEASURES (12.1)

ALL WORK NECESSARY TO PROVIDE PROPER POLLUTION PREVENTION MEASURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
1. COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, AND OTHER WASTE MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.
2. CONSTRUCTION MATERIALS NEED TO BE COVERED TO MINIMIZE STORMWATER INTERACTION UNLESS MATERIAL IS NOT A POTENTIAL SOURCE OF STORMWATER CONTAMINATION.
3. OIL, GASOLINE, PAINT AND ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGES. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.
4. EXTERNAL WASHING OF TRUCKS AND OTHER CONSTRUCTION VEHICLES IS NOT ALLOWED ON SITE. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE.
5. ALL LIQUID AND SOLID WASTE GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK–PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER THE GROUND WATER IS CONSIDERED AN IMPERMEABLE LINER. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND, AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTE MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

02-ENG-119015-SHEET-SWPPP

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Name Paul J. Cherne
Reg. No. 19860 Date 02-09-2026

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2. 03-20-2026 Watershed Comments
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Date 02-09-2026
Designed PJC
Drawn NJK,JLT

STORMWATER POLLUTION PREVENTION PLAN

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LINO LAKES, MINNESOTA

S1 OF S5

5. ANY SPILLS OF HAZARDOUS MATERIALS AND/OR A MINIMUM OF 5-GALLONS PETROLEUM SHALL BE IMMEDIATELY REPORTED TO THE MPCA (STATE DUTY OFFICER: 1.800.422.0798 OR 651.297.8610). ANY SPILLS ABOVE THE REPORTABLE QUANTITIES LIMITS IN THE CODE OF FEDERAL REGULATIONS (CFR) TITLE 40, PART 302 SHALL BE REPORTED TO THE EPA NATIONAL RESPONSE CENTER (1.800.424.8802). IN ORDER TO REDUCE THE RISK OF HAZARDOUS MATERIALS COMING INTO CONTACT WITH STORM WATER, THE FOLLOWING PRACTICES WILL BE FOLLOWED: A) AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCTS REQUIRED TO DO THE WORK, B) ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND IF POSSIBLE, UNDER COVER, C) PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL UNLESS THE ORIGINAL CONTAINER CANNOT BE RESEALED, IN WHICH CASE THE ORIGINAL LABEL AND MATERIALS SAFETY DATA SHALL BE RETAINED, D) SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER, E) WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED BEFORE DISPOSING OF THE CONTAINER, F) THE MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED, AND G) THE OPERATOR WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ON SITE. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

6. ALL SANITARY WASTE WILL BE COLLECTED BY TEMPORARY SANITARY FACILITIES PROVIDED AT THE SITE BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROJECT. ALL CONSTRUCTION PERSONNEL SHALL UTILIZE TEMPORARY SANITARY FACILITIES, WHICH SHALL BE REGULARLY SERVICE BY A COMMERCIAL OPERATOR. TEMPORARY SANITARY FACILITIES SHALL BE PLACED IN A LOCATION WHERE ACCIDENTAL SPILLAGE OF THE FACILITY SHALL NOT DISCHARGE TO THE STORM SEWER SYSTEM.

TEMPORARY SEDIMENTATION BASINS (14.2)

1. TEMPORARY SEDIMENTATION BASINS ARE REQUIRED WHERE 10 OR MORE ACRES DRAIN TO A COMMON LOCATION TO PROVIDE TREATMENT OF THE RUNOFF BEFORE IT LEAVES THE CONSTRUCTION SITE OR ENTERS SURFACE WATERS. WHEN A CONSTRUCTION SITE DISCHARGES TO AN IMPAIRED WATER BODY, TEMPORARY SEDIMENTATION BASINS ARE REQUIRED WHERE 5 OR MORE ACRES DRAIN TO A COMMON LOCATION. TEMPORARY SEDIMENTATION BASINS CAN BE CONVERTED TO PERMANENT BASINS AFTER CONSTRUCTION IS COMPLETE.

2. THE TEMPORARY BASIN MUST PROVIDE LIVE STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A TWO (2)-YEAR, 24-HOUR STORM FROM EACH ACRE DRAINED TO THE BASIN OR 1,800 CUBIC FEET OF LIVE STORAGE PER ACRE DRAINED, WHICHEVER IS GREATER. WHERE PERMITTEES HAVE NOT CALCULATED THE TWO (2)-YEAR, 24-HOUR STORM RUNOFF AMOUNT, THE TEMPORARY BASIN MUST PROVIDE 3,600 CUBIC FEET OF LIVE STORAGE PER ACRE OF THE BASINS DRAINAGE AREA.

3. PERMITTEES MUST DESIGN THE OUTLET STRUCTURE TO WITHDRAW WATER FROM THE SURFACE TO MINIMIZE THE DISCHARGE OF POLLUTANTS. PERMITTEES MAY TEMPORARILY SUSPEND THE USE OF A SURFACE WITHDRAWAL MECHANISM DURING FROZEN CONDITIONS. THE BASIN MUST INCLUDE A STABILIZED EMERGENCY OVERFLOW TO PREVENT FAILURE OF POND INTEGRITY. PROVIDE ENERGY DISSIPATION FOR THE BASIN OUTLET WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER.

4. WHERE A TEMPORARY SEDIMENT BASIN MEETING THE REQUIREMENTS OF THE ABOVE IS INFEASIBLE, PERMITTEES MUST INSTALL EFFECTIVE SEDIMENT CONTROLS SUCH AS SMALLER SEDIMENT BASINS AND/OR SEDIMENT TRAPS, SILT FENCES, VEGETATIVE BUFFER STRIPS OR ANY APPROPRIATE COMBINATION OF MEASURES AS DICTATED BY INDIVIDUAL SITE CONDITIONS. IN DETERMINING WHETHER INSTALLING A SEDIMENT BASIN IS INFEASIBLE, PERMITTEES MUST CONSIDER PUBLIC SAFETY AND MAY CONSIDER FACTORS SUCH AS SITE SOILS, SLOPE, AND AVAILABLE AREA ON-SITE. PERMITTEES MUST DOCUMENT THIS DETERMINATION OF INFEASIBILITY IN THE SWPPP.

FINAL STABILIZATION (4.1)

1. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED AS SHOWN ON THE CONSTRUCTION PLANS. METHODS TO ACHIEVE FINAL STABILIZATION INCLUDE: SEED WITH MULCH OR EROSION CONTROL BLANKET AND SOD.

2. ALL AREAS SEEDED BY MEANS OF BROADCAST SEEDING SHALL BE HAND RAKED TO INCORPORATE THE SEEDS INTO THE TOPSOIL.

3. EROSION CONTROL BLANKETS SHALL BE PLACED IN THE DITCH BOTTOM WITHIN 24 HOURS AFTER FINE GRADING. BIOROLLS SHALL BE PLACED IN CONJUNCTION WITH THE BLANKET IN THE DITCH BOTTOMS. THE BIOROLLS ARE INTENDED TO SERVE AS PERMANENT DITCH CHECKS.

4. THE PERMITTEE WILL SUBMIT A NOTICE OF TERMINATION (NOT) WITHIN 30 DAYS AFTER FINAL STABILIZATION. FINAL STABILIZATION SHALL CONSIST OF A UNIFORM PERENNIAL VEGETATIVE COVER OF AT LEAST 70 PERCENT OF THE EXPECTED FINAL VEGETATIVE GROWTH DENSITY OR OTHER PERMANENT COVER HAS BEEN ESTABLISHED OVER THE ENTIRE PERVIOUS SURFACES.

5. PERMIT COVERAGE TERMINATES ON INDIVIDUAL LOTS IF THE STRUCTURES ARE FINISHED AND TEMPORARY EROSION PREVENTION AND DOWNGRADIENT PERIMETER CONTROL IS COMPLETE, THE RESIDENCE SELLS TO THE HOMEOWNER, AND THE PERMITTEE DISTRIBUTES THE MPCA'S "HOMEOWNER FACT SHEET" TO THE HOMEOWNER.

PERMIT TERMINATION CONDITIONS (13.1)

1. PERMITTEES MUST COMPLETE ALL CONSTRUCTION ACTIVITY AND MUST INSTALL PERMANENT COVER OVER ALL AREAS PRIOR TO SUBMITTING THE NOTICE OF TERMINATION (NOT). VEGETATIVE COVER MUST CONSIST OF A UNIFORM PERENNIAL VEGETATION WITH A DENSITY OF 70 PERCENT OF ITS EXPECTED FINAL GROWTH. VEGETATION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA DICTATES NO VEGETATION, SUCH AS IMPERVIOUS SURFACES OR THE BASE OF A SAND FILTER.

2. FOR RESIDENTIAL CONSTRUCTION ONLY, PERMIT COVERAGE TERMINATES ON INDIVIDUAL LOTS IF THE LOT IS SOLD TO THE HOMEOWNER, STRUCTURES ARE FINISHED, AND PERMANENT COVER HAS BEEN ESTABLISHED. FOR LOTS THAT ARE SOLD TO THE HOMEOWNER WHERE PERMANENT COVER HAS NOT BEEN ESTABLISHED, COVERAGE TERMINATES IF TEMPORARY EROSION PREVENTION AND DOWNGRADIENT PERIMETER CONTROL IS PROPERLY INSTALLED, AND THE PERMITTEE DISTRIBUTES THE MPCA'S "HOMEOWNER FACT SHEET" TO THE HOMEOWNER.

3. WHEN SUBMITTING THE NOT PERMITTEES MUST INCLUDE EITHER GROUND OR AERIAL PHOTOGRAPHS SHOWING THE REQUIREMENTS OF 13.2 HAVE BEEN MET. PERMITTEES ARE NOT REQUIRED TO TAKE PHOTOGRAPHS OF EVERY DISTINCT PART OF THE SITE, HOWEVER THE CONDITIONS PORTRAYED MUST BE SUBSTANTIALLY SIMILAR TO THOSE AREAS THAT ARE NOT PHOTOGRAPHED. PHOTOGRAPHS MUST BE CLEAR AND IN FOCUS AND MUST INCLUDE THE DATE THE PHOTO WAS TAKEN.

RECORDS RETENTION (5.1&6.1)

1. RECORDS MUST BE KEPT ON SITE IN A PHYSICAL OR ELECTRONIC FORMAT DURING NORMAL WORKING HOURS WITH PERSONNEL WHO HAVE OPERATIONAL CONTROL OVER THE APPLICABLE PORTION OF THE SITE. THESE RECORDS MUST INCLUDE:
   A. COPY OF THE SWPPP AND AMENDMENTS
   B. TRAINING DOCUMENTATION
   C. INPSECTION AND MAINTENANCE RECORDS

2. THIS SWPPP WILL BE AMENDED AS NEEDED AND/OR AS REQUIRED BY PROVISIONS OF THE PERMIT. ANY CHANGES TO THE SWPPP SHALL BE NOTED BELOW AND ON THE APPLICABLE PLAN SHEETS. ANY AMENDMENTS TO THE SWPPP MUST BE INCORPORATED WITHIN 7 DAYS TO INCLUDE ADDITIONAL OR MODIFIED BMPS.

3. THE CONTRACTOR WILL RECORD CHANGES TO THE SWPPP AND MAINTAIN DOCUMENTATION OF THESE CHANGES ON SITE AT ALL TIMES. A SUMMARY MAINTENANCE/CONSTRUCTION OBSERVATION REPORT WILL BE RECORDED AFTER EACH SITE INSPECTION/OBSERVATION.

4. THE CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN AND REPAIR THE EROSION AND SEDIMENT CONTROL BMP'S UNTIL FINAL STABILIZATION IS COMPLETE AND A NOTICE OF TERMINATION (NOT) IS SUBMITTED.

ITEM DESCPRIPTION	UNIT	ESTIMATED QUANTITY
CONSTRUCTION LIMIT STAKING	LF	3855
ROCK CONSTRUCTION ENTRANCE	EA	1
ROCK CONSTRUCTION ENTRANCE MAINTENANCE	EA	1
EROSION CONTROL FENCE	LF	3855
MAINTENANCE OF PERIMETER EROSION CONTROL	YR	1
BIOROLL DITCH CHECK	EA	0
STREET SWEEPING AND VACUUMING	YR	1
STORM DRAIN INLET PROTECTION	EA	16
TEMPORARY SEED AND MULCH	AC	1.6
PERMANENT SEED AND MULCH	SY	1700
MAINTAIN SEED AND MULCH	SY	1700
EROSION CONTROL BLANKET (MNDOT CAT. 20)	SY	1700
VEHICLE AND EQUIPMENT CLEANING	LS	1
VEHICLE AND EQUIPMENT FUELING	LS	1
VEHICLE AND EQUIPMENT MAINTENANCE	LS	1
SPILL PREVENTION AND CONTROL	LS	1
ROCK BERM EROSION CONTROL	LS	1
RIP RAP ENERGY DISSIPATOR	CY	0

AMENDMENT	BY	DATE

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Name Paul J. Cherne
Reg. No. 19860 Date 02-09-2026

Revisions
1. 03-06-2026 Watershed Comments
2. 03-20-2026 Watershed Comments
3. 04-10-2026 City Comments

Date 02-09-2026
Designed PJC
Drawn NJK,JLT

STORMWATER POLLUTION PREVENTION PLAN

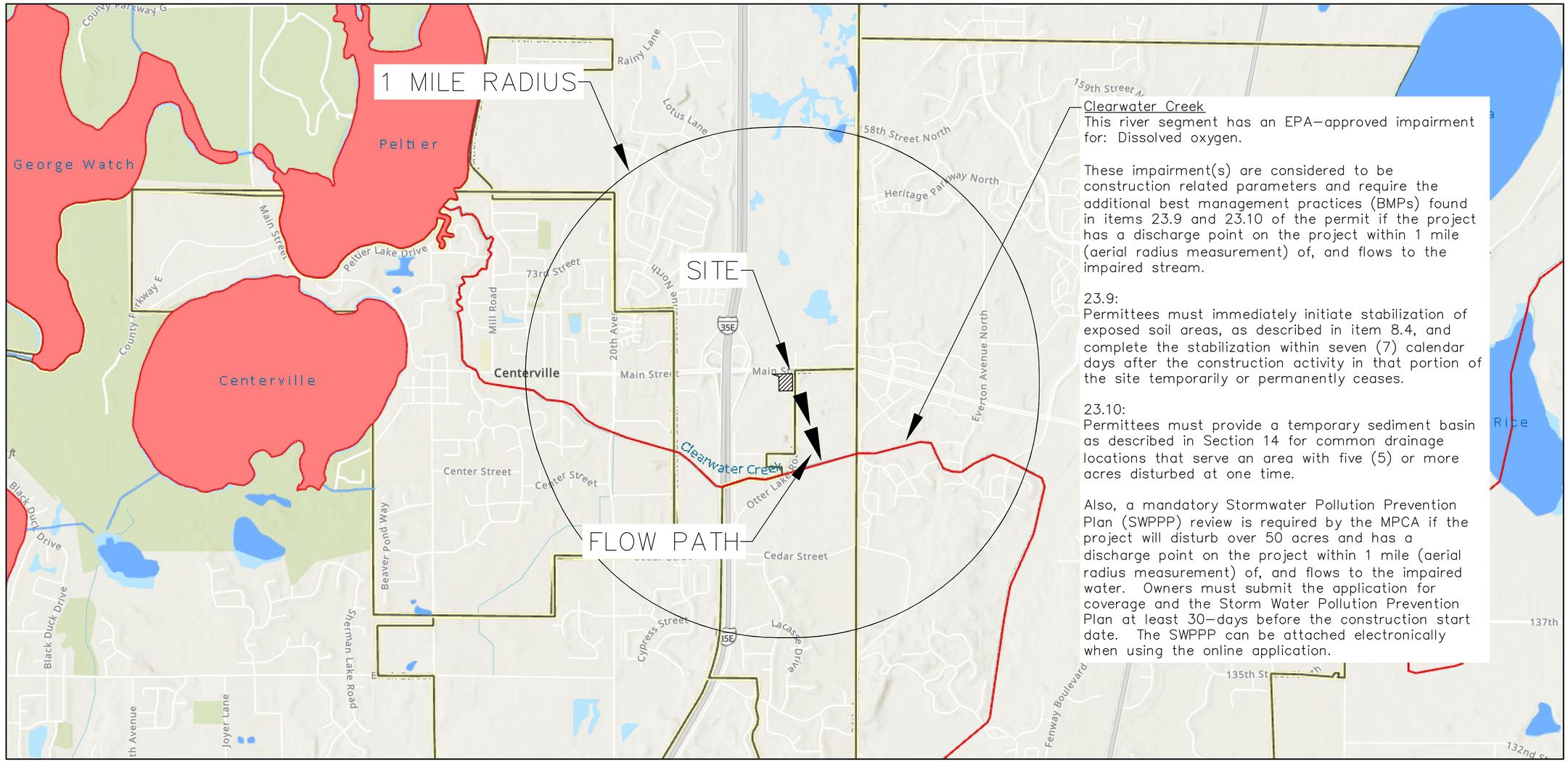
TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH
LINO LAKES, MINNESOTA

S2 OF S5

02-ENG-119015-SHEET-SWPPP

MPCA's Construction Stormwater Special Waters Search



Clearwater Creek
This river segment has an EPA–approved impairment for: Dissolved oxygen.

These impairment(s) are considered to be construction related parameters and require the additional best management practices (BMPs) found in items 23.9 and 23.10 of the permit if the project has a discharge point on the project within 1 mile (aerial radius measurement) of, and flows to the impaired stream.

23.9:
Permittees must immediately initiate stabilization of exposed soil areas, as described in item 8.4, and complete the stabilization within seven (7) calendar days after the construction activity in that portion of the site temporarily or permanently ceases.

23.10:
Permittees must provide a temporary sediment basin as described in Section 14 for common drainage locations that serve an area with five (5) or more acres disturbed at one time.

Also, a mandatory Stormwater Pollution Prevention Plan (SWPPP) review is required by the MPCA if the project will disturb over 50 acres and has a discharge point on the project within 1 mile (aerial radius measurement) of, and flows to the impaired water. Owners must submit the application for coverage and the Storm Water Pollution Prevention Plan at least 30–days before the construction start date. The SWPPP can be attached electronically when using the online application.

2/2/2026, 12:42:43 PM

- Waterbody Units - Lakes (1)
- Waterbody Units - Streams (1)
- Impaired Lakes with additional construction requirements
- Impaired Streams with additional construction requirements
- MS4 - MNDOT
- MS4 - County
- MS4 - Watershed District
- MS4 - City or Township

1:36,112

0 0.28 0.55 1.1 mi
0 0.45 0.9 1.8 km

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Minnesota Pollution Control Agency

Esri, NASA, NGA, USGS, FEMA | Esri Community Maps Contributors, Metropolitan Council, MetroGIS, MN Dept Natural Resources, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS | MPCA; US Census Bureau; MNDoT; | MDH |

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Drawn NJK,JLT

MPCA MAP

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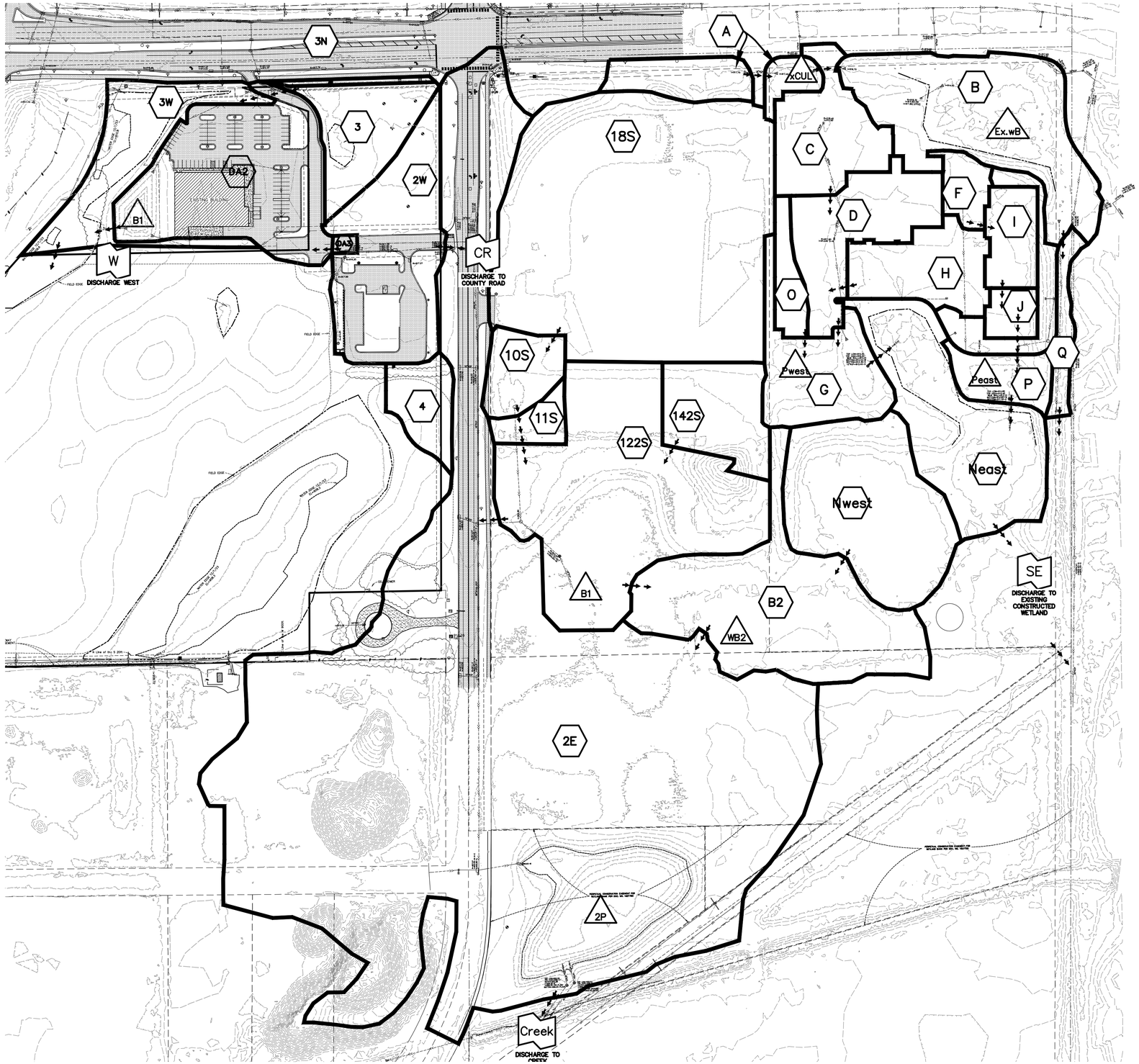
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH
LINO LAKES, MINNESOTA

02-ENG-119015-SHEET-MPCA

S3 OF S5



BENCH MARK
TOP NUT HYDRANT IN N.W. QUAD. OF OTTER LAKE ROAD & PRIVATE DRIVE 370 FT. NORTH OF MAIN STREET
EL=920.47 NVGD88(DATUM)

LEGEND

1 SUBCATCHMENT

200P POND

EP-025a LINK

N

0 60 120 240

GRAPHIC SCALE IN FEET

BENCH MARK
TOP NUT HYDRANT IN N.W. QUAD. OF OTTER LAKE ROAD & PRIVATE DRIVE 370 FT. NORTH OF MAIN STREET
EL=920.47 NVGD88(DATUM)
02-ENG-119015-SHEET-HYDR-EXIS

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EXISTING HYDROLOGY

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S4 OF S5

BENCH MARK
TOP NUT HYDRANT IN N.W. QUAD. OF OTTER LAKE ROAD & PRIVATE DRIVE 370 FT. NORTH OF MAIN STREET
EL=920.47 NVGD88(DATUM)

LEGEND

- 1 — SUBCATCHMENT
- 200P — POND
- EP-025a — LINK

N

0 60 120 240
GRAPHIC SCALE IN FEET

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02-ENG-119015-SHEET-HYDR-PROP

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
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(651) 681-1914
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www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota
Name Paul J. Cherne
Reg. No. 19860 Date 02-09-2026

Revisions
1. 03-06-2026 Watershed Comments
2. 03-20-2026 Watershed Comments
3. 04-10-2026 City Comments

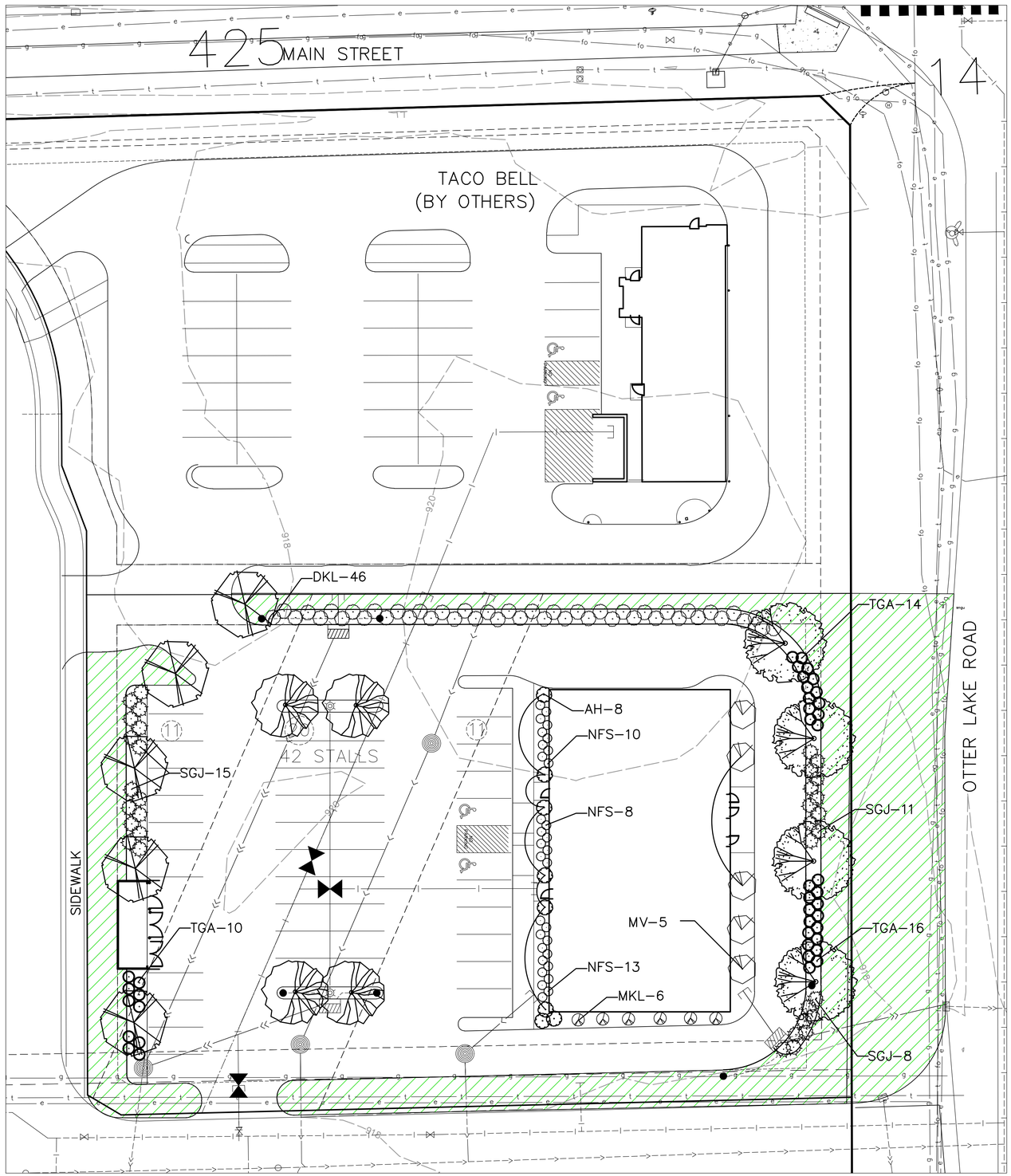
Date	02-09-2026
Designed	PJC
Drawn	NJK,JLT

PROPOSED HYDROLOGY

TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH
LINO LAKES, MINNESOTA

S5 OF S5



PLANTING SCHEDULE

KEY	COMMON NAME/SCIENTIFIC NAME	ROOT	QUANTITY
	OVERSTORY TREES		
	THORNLESS HONEYLOCUST/GLEDITSIA TRIACANTHOS VAR INEMIS	2.5" B&B	5
	NORTHWOOD MAPLE/ACER RUBRUM 'NORTHWOOD'	2.5" B&B	4
	SENTRY LINDEN/TILIA AMERICANA 'SENTRY'	2.5" B&B	4
	SHRUBS		
NFS	NEON FLASH SPIREA/SPIRAEA X BUMALDA 'NEON FLASH'	#3 POT	31
DKL	DWARF KOREAN LILAC/SYRINGA MEYERI 'PALABIN'	#3 POT	46
SGJ	SEA GREEN JUNIPER/JUNIPERUS CHINENSIS 'SEA GREEN'	#3 POT	34
TGA	TECHNY GLOBE ARBORVITAE/THUJA OCCIDENTALIS 'TECHNY GLOBE'	#3 POT	40
AH	ANNABELLE HYDRANGEA/HYDRANGEA ARBORESCENS 'ANNABELLE'	#3 POT	8
MV	ANNABELLE HYDRANGEA/HYDRANGEA ARBORESCENS 'ANNABELLE'	#3 POT	5
MKL	MISS KIM LILAC/SYRINGA PUBESCENS SUBSP. PATULA 'MISS KIM'	#3 POT	6

CITY LANDSCAPE REQUIREMENTS

1. CANOPY COVERAGE
   40% OF VEHICULAR HARDSCAPE COVERAGE WITH CANOPY
   VEHICULAR HARDSCAPE: 23,700 SQ FT
   40% REQUIREMENT=9,480 SQ FT
   ASSIGNED CANOPY COVER VALUE:
   OVERSTORY TREE IN ISLANDS: 950 SF
   OVERSTORY TREES WITHIN 7' OF PARKING LOT: 600'
   13 OVERSTORY TREES PROPOSED: 9,550 SF
   5 ISLAND TREES: 4,750 SF
   8 TREES WITHIN 7' OF PARKING LOT: 4,800 SF

2. FOUNDATION LANDSCAPE
   2 LARGE TREES AND 6 SHRUBS PER 100 LF OF BUILDING ALONG FRONT AND STREETS
   60' ON SOUTH SIDE, 107' ALONG FRONT AND REAR
   REQUIRED: 274 LF TOTAL; 16 LARGE SHRUBS AND 5 LARGE TREES
   PROPOSED: 31 SMALL SHRUBS, 14 MEDIUM SHRUBS, 5 LARGE SHRUBS (TREES CANNOT FIT HERE)

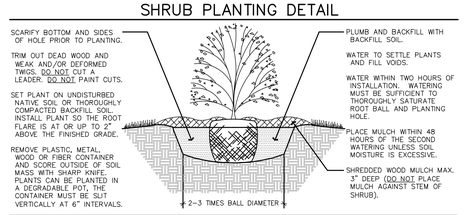
3. OPEN AREA LANDSCAPING
   1 LARGE TREE, 2 LARGE SHRUBS PER 2500 SF
   7,285 SF OPEN AREA (EXCLUDING OTHER LANDSCAPE AREAS SUCH AS PARKING SCREENING AND FOUNDATION LANDSCAPING).
   REQUIRED: 3 LARGE TREES, 9 LARGE SHRUBS
   PROPOSED: THIS IS FULFILLED WITH PLANTINGS IN OTHER REQUIRED LANDSCAPE AREAS.

4. BUFFER SCREEN STANDARDS
   LANDSCAPE SCREENING BETWEEN PARKING LOT AND ROAD.
   CREATE A CONTINUOUS SCREEN AT A HEIGHT OF 30".
   DOUBLE ROW OF PLANTS WITH TRIANGULATED SPACING.
   SHRUBS PROPOSED: 120

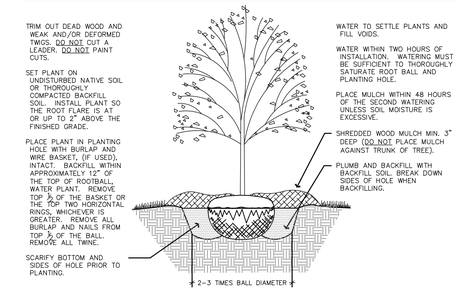
AREAS TO BE SODDED (APPROX. 12,750 SF)

ADDITIONAL NOTES:
1. PLANTING BEDS THAT ABUT SOD SHALL BE EDGED WITH STEEL EDGER
2. PLANTING BEDS TO BE MULCHED WITH 1.25–1.5" RIVER ROCK TO A DEPTH OF 3"
3. RIVER ROCK LAID OVER FIBER MAT WEED BARRIER
4. SODDED AREAS AS NOTED ON PLAN TO BE IRRIGATED.
5. SOD USED BETWEEN PLANTING BEDS AND ADJACENT STREET CURBS.
6. IRRIGATION DESIGNED BY OTHERS.

SHRUB PLANTING DETAIL



DECIDUOUS TREE PLANTING DETAIL



LANDSCAPE NOTES

– THE LANDSCAPE CONTRACTOR SHALL VISIT THE PROJECT SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID.

– THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF PROPOSED PHYSICAL START DATE AT LEAST 7 DAYS IN ADVANCE.

– THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FIELD VERIFICATION OF ALL EXISTING UTILITY LOCATIONS ON THE PROJECT SITE WITH GOPHER STATE ONE CALL 1–800–252–1166 PRIOR TO COMMENCING WORK. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF EXISTING UTILITIES DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS TO FACILITATE PLANT RELOCATION.

– GRADING TO BE PERFORMED BY OTHERS.

– NO PLANT MATERIAL SHALL BE INSTALLED UNTIL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.

– ALL PLANT MATERIAL SHALL MEET THE STANDARDS FOUND IN THE AMERICAN ASSOCIATION OF NURSERYMEN–AMERICAN STANDARD FOR NURSERY STOCK.

– ALL CONTAINER MATERIAL TO BE GROWN IN THE CONTAINER A MINIMUM OF SIX (6) MONTHS PRIOR TO PLANTING ON SITE.

– DECIDUOUS AND CONIFEROUS TREES SHALL NOT BE STAKED, BUT THE LANDSCAPE CONTRACTOR MUST GUARANTEE STANDABILITY TO A WIND SPEED OF 60 M.P.H.

– THE LANDSCAPE CONTRACTOR SHALL PROVIDE A MINIMUM GUARANTEE OF ONE YEAR ONE TIME REPLACEMENT ON NEW PLANT MATERIALS. GUARANTEE SHALL BE AGREED UPON BY DEVELOPER/BUILDER AND LANDSCAPE CONTRACTOR.

– THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANTS WHICH ARE DEEMED UNSATISFACTORY BEFORE, DURING OR AFTER INSTALLATION.

– IF THERE IS A DESCREPANCY BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLAN AND THE NUMBER SHOWN ON THE PLANT LIST, THE NUMBER SHOWN ON THE PLAN WILL TAKE PRECEDENCE.

–THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MULCHES AND PLANTING SOIL QUANTITIES TO COMPLETE WORK SHOWN ON THE PLAN. THE LANDSCAPE CONTRACTOR SHALL VERIFY ALL QUANTITIES SHOWN ON THE PLANT SCHEDULE.

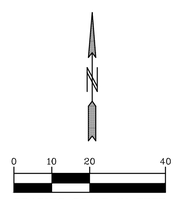
– COMMERCIAL GRADE POLY LAWN EDGING SHALL BE INSTALLED WHERE NOTED.

– THE LANDSCAPE CONTRACTOR SHALL REPAIR ALL DAMAGE TO THE SITE CAUSED BY THE PLANTING OPERATION AT NO COST TO THE OWNER.

– THE LANDSCAPE CONTRACTOR SHALL KEEP PAVEMENTS CLEAN UNSTAINED. ALL PEDESTRIAN AND VEHICLE ACCESS TO BE MAINTAINED THROUGHOUT CONSTRUCTION PERIOD. ALL WASTES SHALL BE PROMPTLY REMOVED FROM THE SITE. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

– THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE CODES, REGULATIONS AND PERMITS GOVERNING THE WORK.

– STORAGE OF MATERIALS OR SUPPLIES ON–SITE WILL NOT BE ALLOWED.



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Name Jennifer L. Thompson
Reg. No. 44763 Date 5-20-2026

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4. 04-10-2026 City Comments
5. 04-20-2026 MDLI Submittal
6. 05-04-2026 MDLI Comments
7. 05-20-2026 Sanitary Sewer Service

Date 02-09-2026
Designed JLT
Drawn JLT

LANDSCAPE PLAN

TYME PROPERTIES
3435 LABORE ROAD SUITE 150
VADNAIS HEIGHTS, MN 55110

OTTER CROSSING SOUTH 2ND ADD.
LINO LAKES, MINNESOTA

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