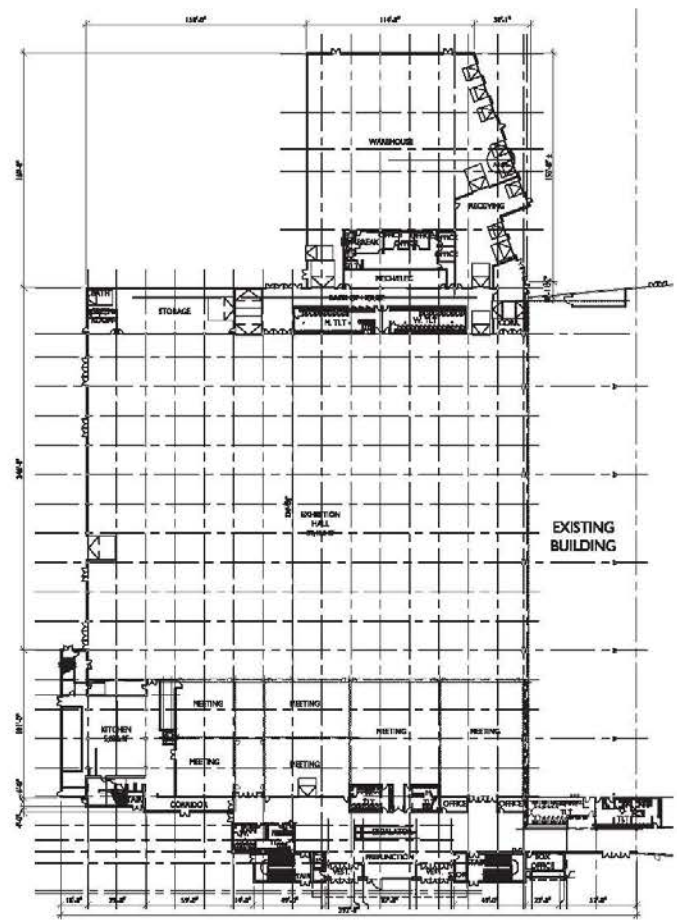


MEZZANINE LEVEL PLAN - 31,181 SF TOTAL
SCALE 1/8" = 1'-0"



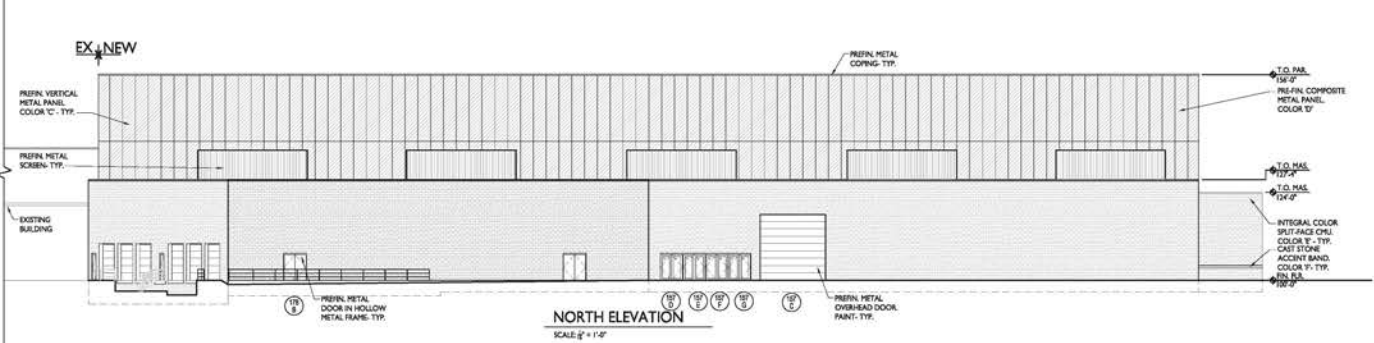
GROUND LEVEL PLAN - 141,134 SF TOTAL
SCALE 1/8" = 1'-0"



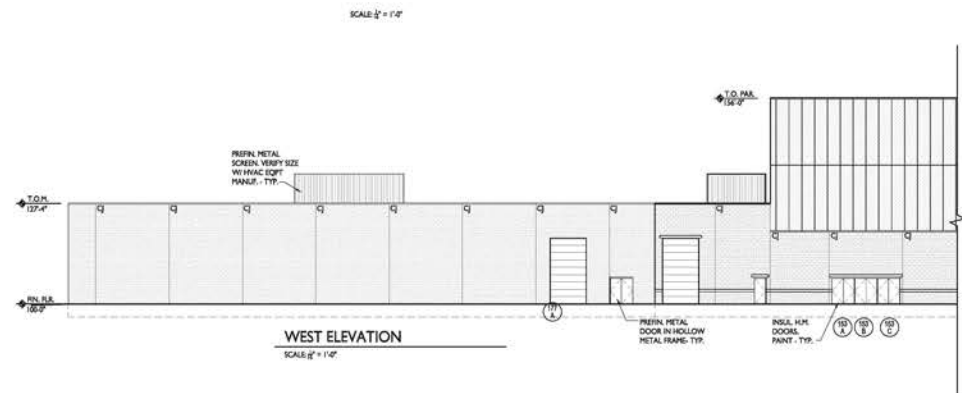
© SCOTT POWERS ARCHITECT



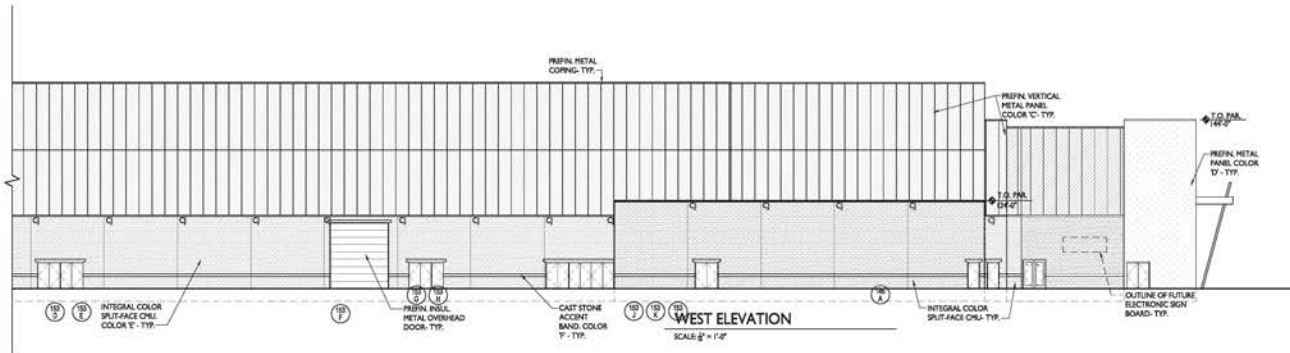
ELEVATION MATERIALS TOTALS							
MATERIAL	TAG	NORTH	SOUTH	EAST	WEST	TOTAL	RATIO
Composite Metal Panel	B	-	887	90	20	997	1.4%
Vertical Metal Panel	C	8,503	6,852	7,300	11,773	34,428	48.3%
Horizontal Metal Panel	D	-	4,328	505	859	5,492	7.6%
Integrated Split-Face CMU	E	6,799	5,512	3,980	11,235	27,526	38.4%
Cast Stone	F	12	119	8	239	378	0.5%
Anod. Alum. Glazing	I	382	2,454	-	-	2,836	3.9%
Accent Metal Panel	H	-	201	-	-	201	0.3%
TOTAL		15,494	20,128	11,883	24,126	71,631	100%



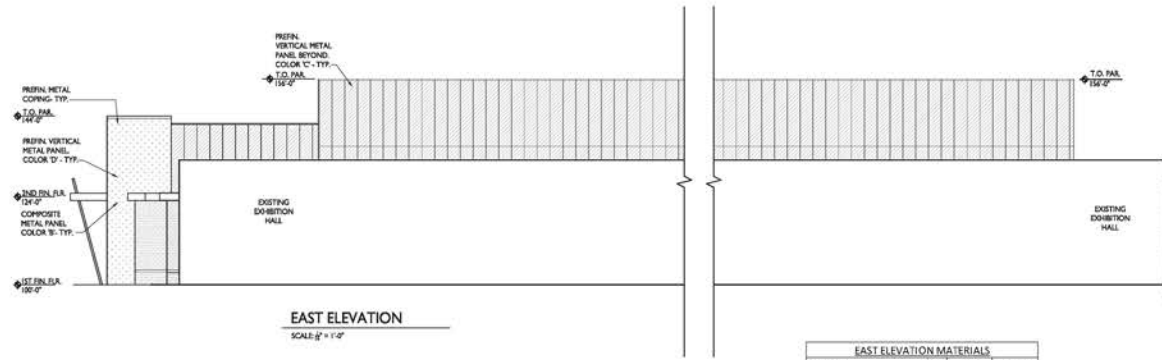
NORTH ELEVATION MATERIALS			
MATERIAL	TAG	SF	RATIO
Composite Metal Panel	B	-	0.0%
Vertical Metal Panel	C	8,503	54.9%
Horizontal Metal Panel	D	-	0.0%
Integrated Split-Face CMU	E	6,799	43.5%
Cast Stone	F	12	0.1%
Anod. Alum. Glazing	I	382	1.2%
Accent Metal Panel	H	-	0.0%
TOTAL		15,494	100%



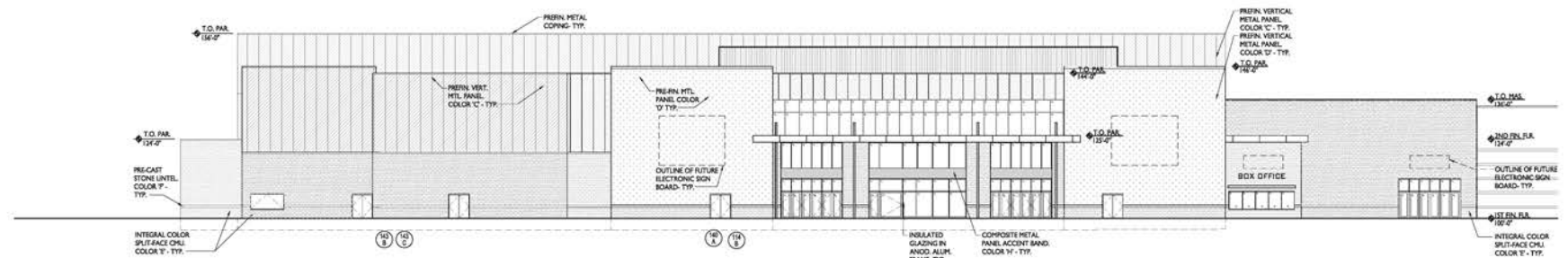
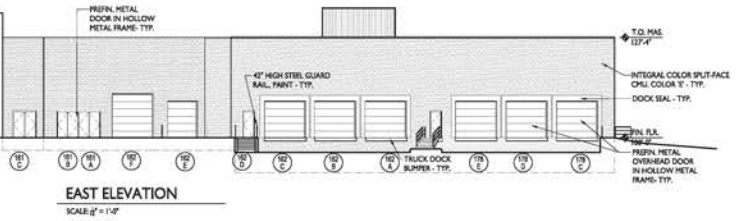
WEST ELEVATION MATERIALS			
MATERIAL	TAG	SF	RATIO
Composite Metal Panel	B	20	0.1%
Vertical Metal Panel	C	11,773	48.3%
Horizontal Metal Panel	D	859	3.5%
Integrated Split-Face CMU	E	11,235	46.6%
Cast Stone	F	239	1.0%
Anod. Alum. Glazing	I	-	0.0%
Accent Metal Panel	H	-	0.0%
TOTAL		24,126	100%



ELEVATION MATERIALS TOTALS							
MATERIAL	TAG	NORTH	SOUTH	EAST	WEST	TOTAL	RATIO
Composite Metal Panel	B	-	887	90	20	997	1.4%
Vertical Metal Panel	C	8,501	6,851	7,300	11,773	34,425	48.1%
Horizontal Metal Panel	D	-	4,103	905	899	5,907	7.6%
Integrated Split-Face CMU	E	6,799	5,512	3,980	11,235	27,526	38.4%
Cast Stone	F	12	119	8	239	378	0.5%
Anod. Alum. Glazing	G	182	2,454	-	-	2,636	3.7%
Accent Metal Panel	H	-	202	-	-	202	0.3%
TOTAL		15,494	20,128	11,883	24,126	71,631	100%

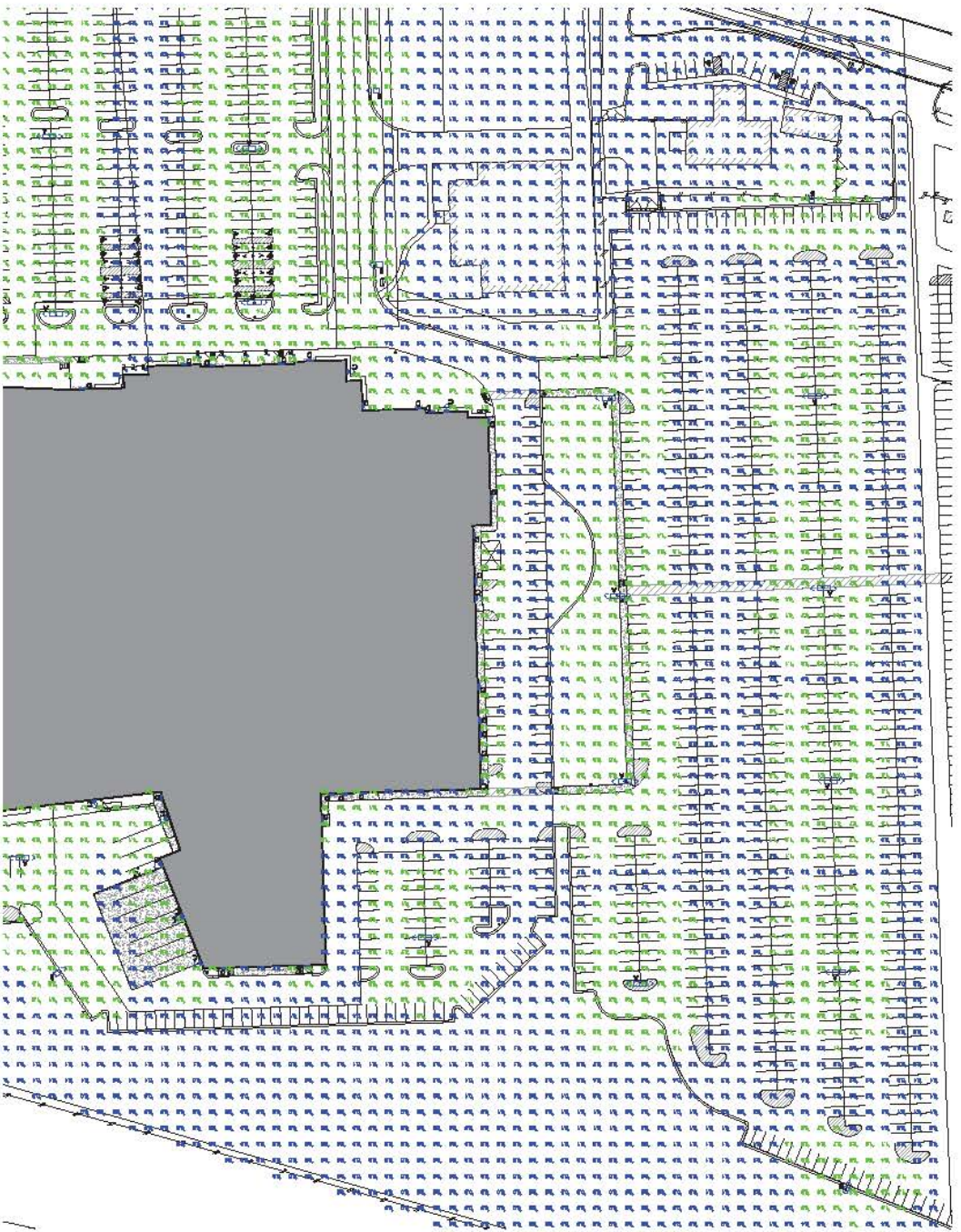


EAST ELEVATION MATERIALS			
MATERIAL	TAG	SF	RATIO
Composite Metal Panel	B	90	0.8%
Vertical Metal Panel	C	7,300	61.4%
Horizontal Metal Panel	D	525	4.2%
Integrated Split-Face CMU	E	3,980	33.5%
Cast Stone	F	8	0.1%
Anod. Alum. Glazing	G	-	0.0%
Accent Metal Panel	H	-	0.0%
TOTAL		11,883	100%



SOUTH ELEVATION MATERIALS			
MATERIAL	TAG	SF	RATIO
Composite Metal Panel	B	857	4.4%
Vertical Metal Panel	C	6,851	34.0%
Horizontal Metal Panel	D	4,103	20.4%
Integrated Split-Face CMU	E	5,512	27.4%
Cast Stone	F	119	0.6%
Anod. Alum. Glazing	G	2,454	12.2%
Accent Metal Panel	H	202	1.0%
TOTAL		20,128	100%



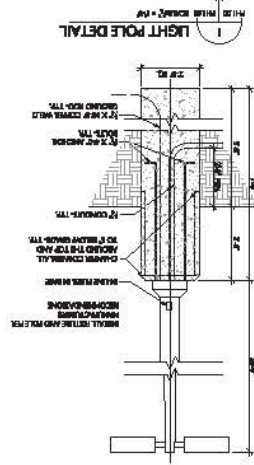


PHOTOMETRIC PLAN
SHEET # 01

- GENERAL NOTE:**
- 1. ALL DIMENSIONS ARE PER PLAN AND LINE DRAWING TO BE USED TO DETERMINE THE NUMBER OF FIXTURES TO BE INSTALLED.
 - 2. DIMENSIONS SHALL BE IN FEET AND INCHES.
 - 3. DIMENSIONS SHALL BE IN METERS.
 - 4. DIMENSIONS SHALL BE IN METERS.
 - 5. DIMENSIONS SHALL BE IN METERS.

Zone	Area	Lighting	Foot	Meters
Zone 1	12.5	150	4.27	1.30
Zone 2	12.5	150	4.27	1.30
Zone 3	12.5	150	4.27	1.30
Zone 4	12.5	150	4.27	1.30
Zone 5	12.5	150	4.27	1.30

Zone	Area	Lighting	Foot	Meters
Zone 1	12.5	150	4.27	1.30
Zone 2	12.5	150	4.27	1.30
Zone 3	12.5	150	4.27	1.30
Zone 4	12.5	150	4.27	1.30
Zone 5	12.5	150	4.27	1.30



PH1.00

SHEET + NUMBER

15001PH1000.dwg

PHOTOMETRIC

SHEET + TITLE

ISSUE + DATE

17 AUG 2016 SITE RESUB	20 SEP 2016 SITE RESUB	22 NOV 2016 SITE RESUB
23 JUN 2017 SITE RESUB		

PROJECT + NUMBER

15-001

PROJECT INFORMATION

SUBURBAN COLLECTION
SHOWPLACE
4010 SPENDING BIRCH AVENUE
MONI, WISCONSIN

CONSULTANT + NAME

BOWERS ASSOCIATES
1212 WEST WISCONSIN STREET
MILWAUKEE, WISCONSIN 53233
2020 SOUTH HALEY DRIVE SUITE 400 ANTLER, WI 53010
P: 414.224.2200
WWW.BOWERSASSOCIATES.COM

D-Series Size 2 LED Area Luminaire

Specifications
 Series: D-Series
 Length: 14.75"
 Height: 1.75"
 Depth: 1.75"

Introduction
 The D-Series Size 2 LED Area Luminaire is a compact, high-quality, and energy-efficient luminaire designed for use in a variety of applications. It features a sleek, modern design and is available in multiple finish options to match your space's aesthetic.

Ordering Information
 EXAMPLE: DD24 LED-DC-1000 4K-TM-MOUNT SPA-DESK

Code	Series	Color	Beam Angle	Mounting	Finish	Notes
DD24	D-Series	White	120°	DMX	Splatter Black	Standard luminaire

Technical Data

Model	Power (W)	Current (A)	Voltage (V)	Beam Angle (°)	Foot Candles (fc)	Photometric Curve
DD24	24	0.24	100	120	1.6	

General & Details

- Dimensions:** 14.75" L x 1.75" H x 1.75" D
- Weight:** 0.4 lbs
- Material:** Die-cast aluminum
- Finish:** Splatter Black, White, Silver, Gold, Rose Gold, Gunmetal
- Mounting:** DMX, Flush Mount, Surface Mount
- Input Voltage:** 100V-277V AC
- Output:** 4000K, 5000K, 5700K, 6500K
- Beam Angle:** 30°, 45°, 60°, 75°, 90°, 120°

Beam Mounting Options

Mounting	DMX	Flush Mount	Surface Mount
DMX	1.00" x 1.00" x 1.00"	1.00" x 1.00" x 1.00"	1.00" x 1.00" x 1.00"

Photometric Diagram

Performance Data

Lumen Output

Model	Power (W)	Current (A)	Voltage (V)	Beam Angle (°)	Foot Candles (fc)	Photometric Curve
DD24	24	0.24	100	120	1.6	

Electrical Load

Model	Power (W)	Current (A)	Voltage (V)
DD24	24	0.24	100

Project LED Luminaire

Model	Power (W)	Current (A)	Voltage (V)	Beam Angle (°)
DD24	24	0.24	100	120

Performance Data

Lumen Output

Model	Power (W)	Current (A)	Voltage (V)	Beam Angle (°)	Foot Candles (fc)	Photometric Curve
DD24	24	0.24	100	120	1.6	
DD24	24	0.24	100	90	2.1	
DD24	24	0.24	100	60	3.2	
DD24	24	0.24	100	45	4.3	
DD24	24	0.24	100	30	6.4	

Performance Data

Lumen Output

Model	Power (W)	Current (A)	Voltage (V)	Beam Angle (°)	Foot Candles (fc)	Photometric Curve
DD24	24	0.24	100	120	1.6	
DD24	24	0.24	100	90	2.1	
DD24	24	0.24	100	60	3.2	
DD24	24	0.24	100	45	4.3	
DD24	24	0.24	100	30	6.4	

Performance Data

Lumen Output

Model	Power (W)	Current (A)	Voltage (V)	Beam Angle (°)	Foot Candles (fc)	Photometric Curve
DD24	24	0.24	100	120	1.6	
DD24	24	0.24	100	90	2.1	
DD24	24	0.24	100	60	3.2	
DD24	24	0.24	100	45	4.3	
DD24	24	0.24	100	30	6.4	

Performance Data

Notes & Discontinuations

Discontinuation:

- DD24-1000 4K-TM-MOUNT SPA-DESK is discontinued due to component obsolescence.
- DD24-5000K 4K-TM-MOUNT SPA-DESK is discontinued due to component obsolescence.

D-Series Size 2 LED Wall Luminaire

Specifications
 Series: D-Series
 Length: 14.75"
 Height: 1.75"
 Depth: 1.75"

Introduction
 The D-Series Size 2 LED Wall Luminaire is a sleek, high-quality, and energy-efficient luminaire designed for use in a variety of applications. It features a modern design and is available in multiple finish options to match your space's aesthetic.

Ordering Information
 EXAMPLE: DD24 LED-DC-1000 4K-TM-MOUNT SPA-DESK

Code	Series	Color	Beam Angle	Mounting	Finish	Notes
DD24	D-Series	White	120°	DMX	Splatter Black	Standard luminaire

Technical Data

Model	Power (W)	Current (A)	Voltage (V)	Beam Angle (°)	Foot Candles (fc)	Photometric Curve
DD24	24	0.24	100	120	1.6	

General & Details

- Dimensions:** 14.75" L x 1.75" H x 1.75" D
- Weight:** 0.4 lbs
- Material:** Die-cast aluminum
- Finish:** Splatter Black, White, Silver, Gold, Rose Gold, Gunmetal
- Mounting:** DMX, Flush Mount, Surface Mount
- Input Voltage:** 100V-277V AC
- Output:** 4000K, 5000K, 5700K, 6500K
- Beam Angle:** 30°, 45°, 60°, 75°, 90°, 120°

Performance Data

Lumen Output

Model	Power (W)	Current (A)	Voltage (V)	Beam Angle (°)	Foot Candles (fc)	Photometric Curve
DD24	24	0.24	100	120	1.6	
DD24	24	0.24	100	90	2.1	
DD24	24	0.24	100	60	3.2	
DD24	24	0.24	100	45	4.3	
DD24	24	0.24	100	30	6.4	

Performance Data

Lumen Output

Model	Power (W)	Current (A)	Voltage (V)	Beam Angle (°)	Foot Candles (fc)	Photometric Curve
DD24	24	0.24	100	120	1.6	
DD24	24	0.24	100	90	2.1	
DD24	24	0.24	100	60	3.2	
DD24	24	0.24	100	45	4.3	
DD24	24	0.24	100	30	6.4	

BOWERS ASSOCIATES
 2400 SOUTH HUNTER PARKWAY • ANAHEIM, CA 92803
 P O BOX 995370 • DENVER, CO 80299
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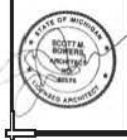
PROJECT + INFORMATION
SUBURBAN COLLECTION
SHOWPLACE
 4115 GRAND RIVER AVENUE
 NOVI, MICHIGAN

PROJECT + NUMBER

15-001

ISSUE + DATE

17 AUG 2016	SITE RESUB
22 NOV 2016	SITE RESUB
3 JAN 2017	SITE RESUB



SHEET + TITLE

PHOTOMETRIC SPECIFICATIONS

1501PH100D.dwg

SHEET + NUMBER

PH1.01

LITHONIA LIGHTING

OLW

FEATURES & SPECIFICATIONS

PHOTOMETRICS

lighting facts

lighting facts

PHOTOMETRIC DATA

Beam Angle	Beam Diameter (ft)	Beam Diameter (m)	Beam Area (sq ft)	Beam Area (sq m)	Footcandle (fc)	Footcandle (lm/m²)
10°	0.5	0.15	0.2	0.023	100	1109
15°	0.75	0.23	0.45	0.051	44	478
20°	1.0	0.30	0.8	0.093	22	238
30°	1.5	0.46	1.8	0.206	11	119
40°	2.0	0.61	3.1	0.357	7	75
50°	2.5	0.76	4.4	0.507	5	54
60°	3.0	0.91	6.0	0.672	4	43
70°	3.5	1.06	7.7	0.853	3	32
80°	4.0	1.22	9.6	1.051	2.5	27
90°	4.5	1.37	11.8	1.277	2	21

LITHONIA LIGHTING

gotham

4" x 8" Edge Mounting

PHOTOMETRIC DATA

Beam Angle	Beam Diameter (ft)	Beam Diameter (m)	Beam Area (sq ft)	Beam Area (sq m)	Footcandle (fc)	Footcandle (lm/m²)
10°	0.5	0.15	0.2	0.023	100	1109
15°	0.75	0.23	0.45	0.051	44	478
20°	1.0	0.30	0.8	0.093	22	238
30°	1.5	0.46	1.8	0.206	11	119
40°	2.0	0.61	3.1	0.357	7	75
50°	2.5	0.76	4.4	0.507	5	54
60°	3.0	0.91	6.0	0.672	4	43
70°	3.5	1.06	7.7	0.853	3	32
80°	4.0	1.22	9.6	1.051	2.5	27
90°	4.5	1.37	11.8	1.277	2	21

gotham

gotham

4" x 8" Edge Mounting

PHOTOMETRIC DATA

Beam Angle	Beam Diameter (ft)	Beam Diameter (m)	Beam Area (sq ft)	Beam Area (sq m)	Footcandle (fc)	Footcandle (lm/m²)
10°	0.5	0.15	0.2	0.023	100	1109
15°	0.75	0.23	0.45	0.051	44	478
20°	1.0	0.30	0.8	0.093	22	238
30°	1.5	0.46	1.8	0.206	11	119
40°	2.0	0.61	3.1	0.357	7	75
50°	2.5	0.76	4.4	0.507	5	54
60°	3.0	0.91	6.0	0.672	4	43
70°	3.5	1.06	7.7	0.853	3	32
80°	4.0	1.22	9.6	1.051	2.5	27
90°	4.5	1.37	11.8	1.277	2	21

gotham

gotham

4" x 8" Edge Mounting

PHOTOMETRIC DATA

Beam Angle	Beam Diameter (ft)	Beam Diameter (m)	Beam Area (sq ft)	Beam Area (sq m)	Footcandle (fc)	Footcandle (lm/m²)
10°	0.5	0.15	0.2	0.023	100	1109
15°	0.75	0.23	0.45	0.051	44	478
20°	1.0	0.30	0.8	0.093	22	238
30°	1.5	0.46	1.8	0.206	11	119
40°	2.0	0.61	3.1	0.357	7	75
50°	2.5	0.76	4.4	0.507	5	54
60°	3.0	0.91	6.0	0.672	4	43
70°	3.5	1.06	7.7	0.853	3	32
80°	4.0	1.22	9.6	1.051	2.5	27
90°	4.5	1.37	11.8	1.277	2	21

gotham

gotham

4" x 8" Edge Mounting

PHOTOMETRIC DATA

Beam Angle	Beam Diameter (ft)	Beam Diameter (m)	Beam Area (sq ft)	Beam Area (sq m)	Footcandle (fc)	Footcandle (lm/m²)
10°	0.5	0.15	0.2	0.023	100	1109
15°	0.75	0.23	0.45	0.051	44	478
20°	1.0	0.30	0.8	0.093	22	238
30°	1.5	0.46	1.8	0.206	11	119
40°	2.0	0.61	3.1	0.357	7	75
50°	2.5	0.76	4.4	0.507	5	54
60°	3.0	0.91	6.0	0.672	4	43
70°	3.5	1.06	7.7	0.853	3	32
80°	4.0	1.22	9.6	1.051	2.5	27
90°	4.5	1.37	11.8	1.277	2	21

gotham

BOWERS ASSOCIATES
 CONSULTANT + NAME

CONSULTANT + NAME

PROJECT + INFORMATION
SUBURBAN COLLECTION
SHOWPLACE
 4000 GRAND RIVER AVENUE
 NOVI, MICHIGAN

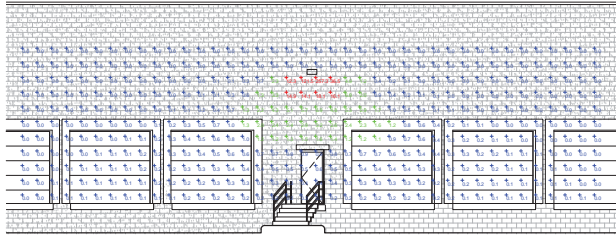
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ISSUE + DATE
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 22 NOV 2016 SITE RESUB
 3 JAN 2017 SITE RESUB

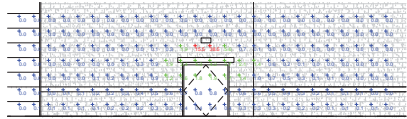


SHEET + TITLE
 PHOTOMETRIC SPECIFICATIONS
 15001PH1000.dwg

SHEET + NUMBER
 PH1.02



TYPICAL WALL AREA LIGHT
PHOTOMETRIC ELEVATION
SCALE: 1/8" = 1'-0"



TYPICAL WALL SECURITY LIGHT
PHOTOMETRIC ELEVATION
SCALE: 1/8" = 1'-0"

BOWERS ASSOCIATES
 2400 SOUTH HURON PARKWAY • ANN ARBOR, MI 48106
 P: 734.769.1210
 WWW.BOWERSA.COM

CONSULTANT + NAME

PROJECT + INFORMATION
SUBURBAN COLLECTION
SHOWPLACE
 4810 GRAND RIVER AVENUE
 NOVI, MICHIGAN

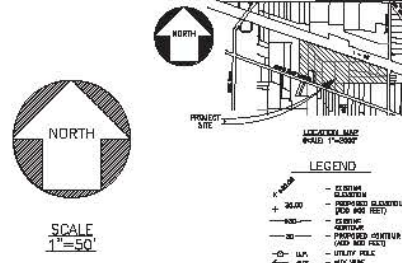
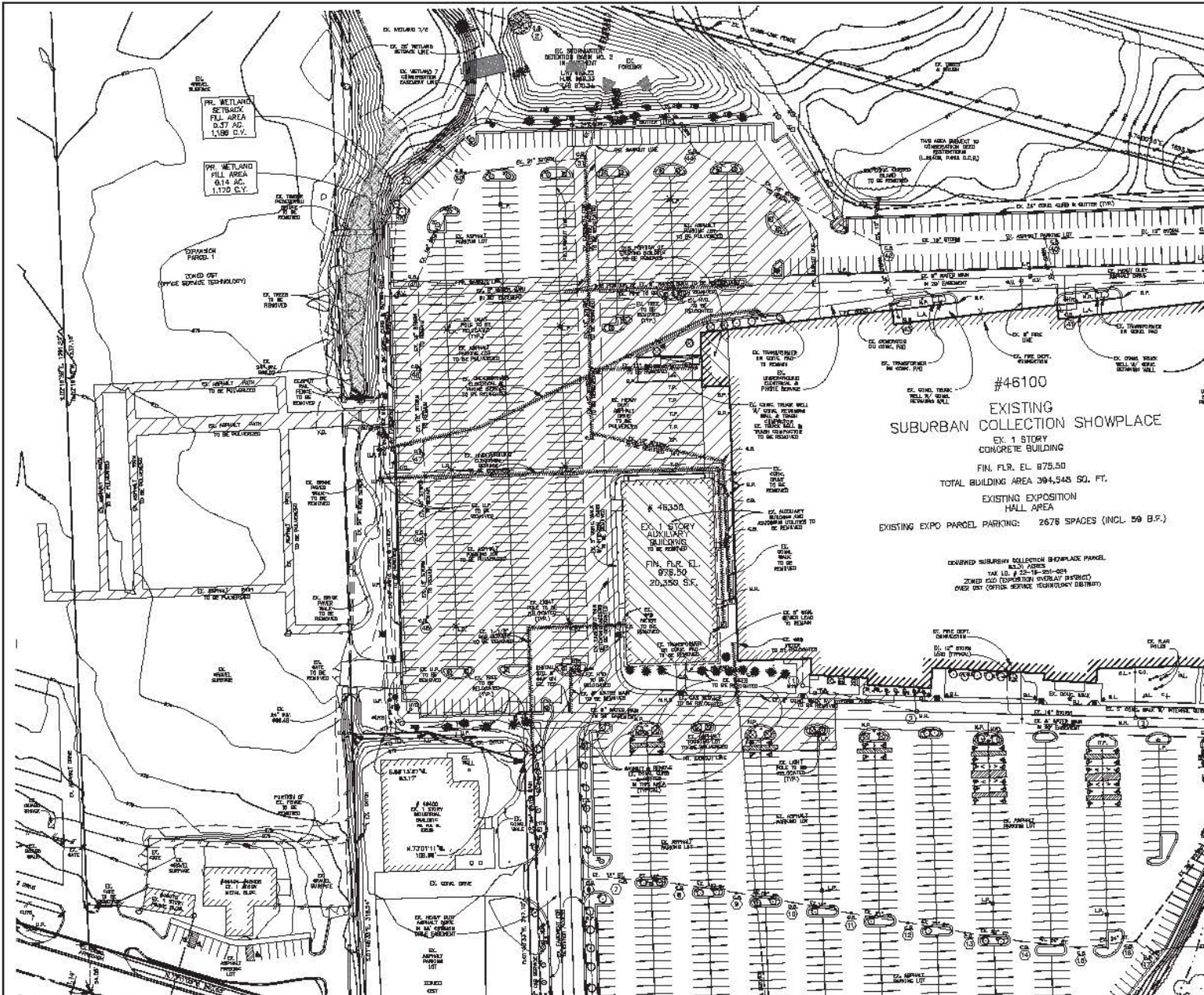
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 15-001

ISSUE + DATE
 3 JAN 2017 SITE RESUB



SHEET + TITLE
 TYPICAL WALL LIGHTING
 PHOTOMETRIC
 ELEVATIONS
 15001PH1.03.dwg

SHEET + NUMBER
 PH1.03



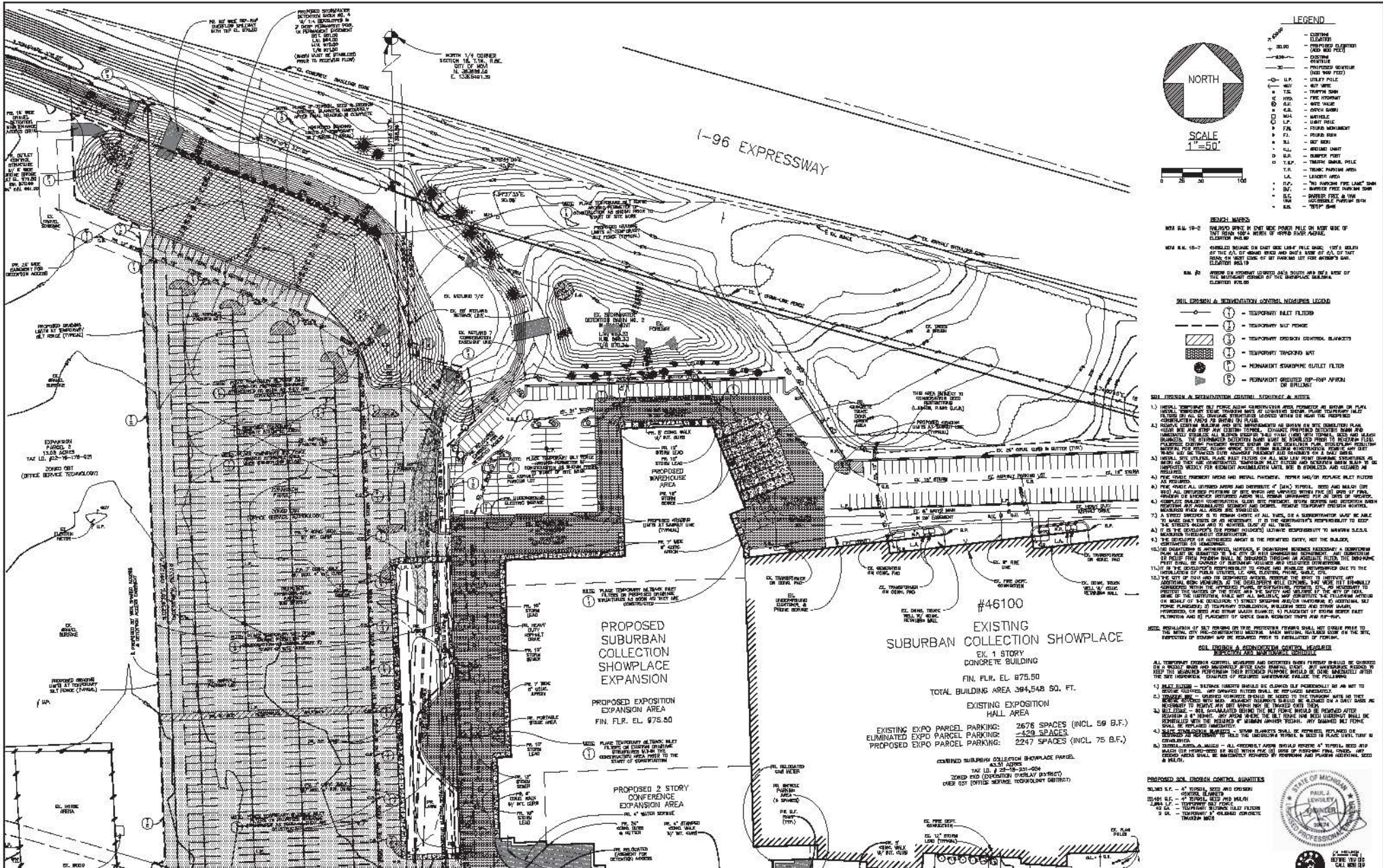
#48100
EXISTING SUBURBAN COLLECTION SHOWPLACE
 EX. 1 STORY CONCRETE BUILDING
 FIN. FLR. EL. 875.50
 TOTAL BUILDING AREA 394,548 SQ. FT.
 EXISTING EXHIBITION HALL AREA
 EXISTING EXPO PARCEL PARKING: 2678 SPACES (INCL. 59 B.F.)

#48300
EXISTING AUXILIARY BUILDING
 FIN. FLR. EL. 878.50
 20,250 S.F.

- CONSTRUCTION NOTES**
- 1) ALL EX. WORK INCLUDING DEMOLITION SHALL BE IN ACCORDANCE WITH THE CURRENT ORDINANCES AND SPECIFICATIONS OF THE CITY OF BIRMINGHAM.
 - 2) ALL EX. WORK INCLUDING DEMOLITION SHALL BE IN ACCORDANCE WITH THE CURRENT ORDINANCES AND SPECIFICATIONS OF THE CITY OF BIRMINGHAM.
 - 3) THE EX. DEMOLITION SHALL BE COMPLETED AND REMOVED FROM THE SITE BY THE DATE SPECIFIED IN THE PERMITTING DOCUMENTS. ALL EX. WORK SHALL BE COMPLETED BY THE DATE SPECIFIED IN THE PERMITTING DOCUMENTS.
 - 4) ALL EX. WORK INCLUDING DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF BIRMINGHAM ORDINANCES AND SPECIFICATIONS.
 - 5) ALL EX. WORK INCLUDING DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF BIRMINGHAM ORDINANCES AND SPECIFICATIONS.
 - 6) ALL EX. WORK INCLUDING DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF BIRMINGHAM ORDINANCES AND SPECIFICATIONS.
 - 7) ALL EX. WORK INCLUDING DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF BIRMINGHAM ORDINANCES AND SPECIFICATIONS.
- DEMOLITION NOTES**
- 1) ALL EX. WORK INCLUDING DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF BIRMINGHAM ORDINANCES AND SPECIFICATIONS.
 - 2) ALL EX. WORK INCLUDING DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF BIRMINGHAM ORDINANCES AND SPECIFICATIONS.
- UTILITY NOTES**
- 1) ALL EX. WORK INCLUDING DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF BIRMINGHAM ORDINANCES AND SPECIFICATIONS.
 - 2) ALL EX. WORK INCLUDING DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF BIRMINGHAM ORDINANCES AND SPECIFICATIONS.

TBM, LLC 46100 GRAND RIVER AVE. NOV, MICHIGAN 48874 PHONE: 248/348-9833	REVISION 06/22/18 - FOR PRELIMINARY SITE PLAN APPROVAL SUBMITTAL. REVISION 06/27/18 - FOR FINAL SITE PLAN APPROVAL SUBMITTAL. REVISION 06/28/18 - FOR STAMPING SET SUBMITTAL. REVISION 11/16/18 - FOR CLIENT	PROPOSED EXPANSION AT SUBURBAN COLLECTION SHOWPLACE SECTION 18 CITY OF NOV OAKLAND COUNTY MICHIGAN	SITE DEMOLITION PLAN Environmental engineers, Inc. 18800 WEST 201 AVE. ROAD SOUTHFIELD, MICHIGAN 48075 PHONE: 248/424-8610 FAX: 248/424-2964	SHEET NO. 18 DATE 05/19/18 PROJECT NO. C-4
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LEGEND

SOIL EROSION CONTROL MEASURES

- 1. Silt Fence
- 2. Temporary Erosion Control Blanket
- 3. Temporary Sediment Basin
- 4. Temporary Tracked Mat
- 5. Permanent Stormwater Outlet Filter
- 6. Permanent Grouted Rip-rap Apron of Retention

SOIL EROSION & SEDIMENTATION CONTROL MEASURES

- 1. Temporary Silt Fence
- 2. Temporary Silt Fence
- 3. Temporary Erosion Control Blanket
- 4. Temporary Tracked Mat
- 5. Permanent Stormwater Outlet Filter
- 6. Permanent Grouted Rip-rap Apron of Retention

SOIL EROSION & SEDIMENTATION CONTROL MEASURES

- 1. Temporary Silt Fence
- 2. Temporary Silt Fence
- 3. Temporary Erosion Control Blanket
- 4. Temporary Tracked Mat
- 5. Permanent Stormwater Outlet Filter
- 6. Permanent Grouted Rip-rap Apron of Retention

NOTES

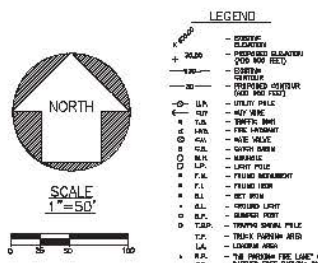
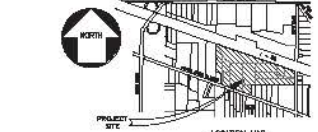
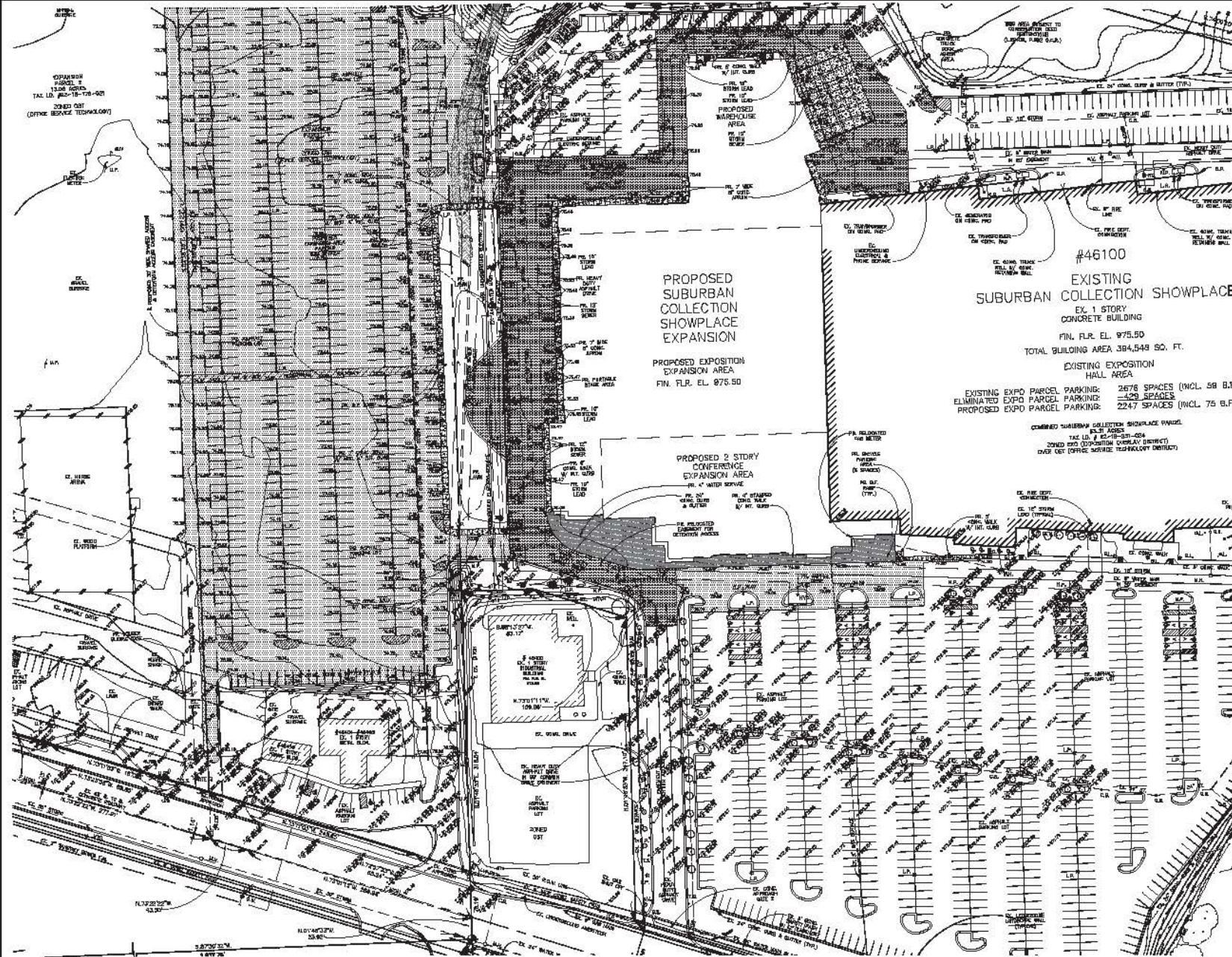
1. THE PROPOSED EXPANSION SHALL BE CONSTRUCTED WITHIN THE EXISTING FOOTPRINT OF THE PROPOSED EXPANSION AREA.

2. THE PROPOSED EXPANSION SHALL BE CONSTRUCTED WITHIN THE EXISTING FOOTPRINT OF THE PROPOSED EXPANSION AREA.

3. THE PROPOSED EXPANSION SHALL BE CONSTRUCTED WITHIN THE EXISTING FOOTPRINT OF THE PROPOSED EXPANSION AREA.

#4100
EXISTING SUBURBAN COLLECTION SHOWPLACE
 EX. 1 STORY CONCRETE BUILDING
 FIN. FLR. EL. 875.50
 TOTAL BUILDING AREA 394,548 SQ. FT.
 EXISTING EXPOSITION HALL AREA
 EXISTING EXPO PARCEL PARKING: 2676 SPACES (INCL. 56 B.F.)
 ELIMINATED EXPO PARCEL PARKING: 429 SPACES
 PROPOSED EXPO PARCEL PARKING: 2247 SPACES (INCL. 75 B.F.)

REVISION REVISION 09/22/18 - FOR PRELIMINARY SITE PLAN APPROVAL SUBMITTAL REVISION 09/17/18 - FOR FINAL SITE PLAN APPROVAL SUBMITTAL REVISION 09/17/18 - FOR STAMPING SET SUBMITTAL REVISION 11/16/18 - FOR CLIENT	PROPOSED EXPANSION AT SUBURBAN COLLECTION SHOWPLACE IN SECTION 16 OAKLAND COUNTY MICHIGAN	NORTHERLY SITE SOIL EROSION CONTROL PLAN Environmental Engineers, Inc. 10801 WEST 101 MILE ROAD SOUTHFIELD, MICHIGAN 48075 PHONE: 248/424-8610 FAX: 248/424-2964	PROJECT NO.: 18-011 DATE ISSUED: 06/22/18 SHEET NO.: C-8
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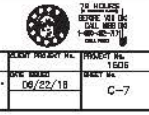
#46100
EXISTING
SUBURBAN COLLECTION SHOWPLACE
 EX. 1 STORY
 CONCRETE BUILDING
 FIN. FLR. EL. 975.50
 TOTAL BUILDING AREA 394,544 SQ. FT.
 EXISTING EXPOSITION
 HALL AREA
 EXISTING EXPO PARCEL PARKING: 2676 SPACES (INCL 58 B.F.)
 ELIMINATED EXPO PARCEL PARKING: 1429 SPACES
 PROPOSED EXPO PARCEL PARKING: 2247 SPACES (INCL 75 B.F.)

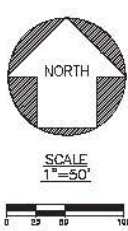
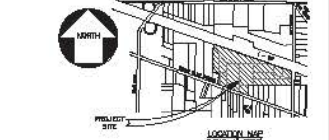
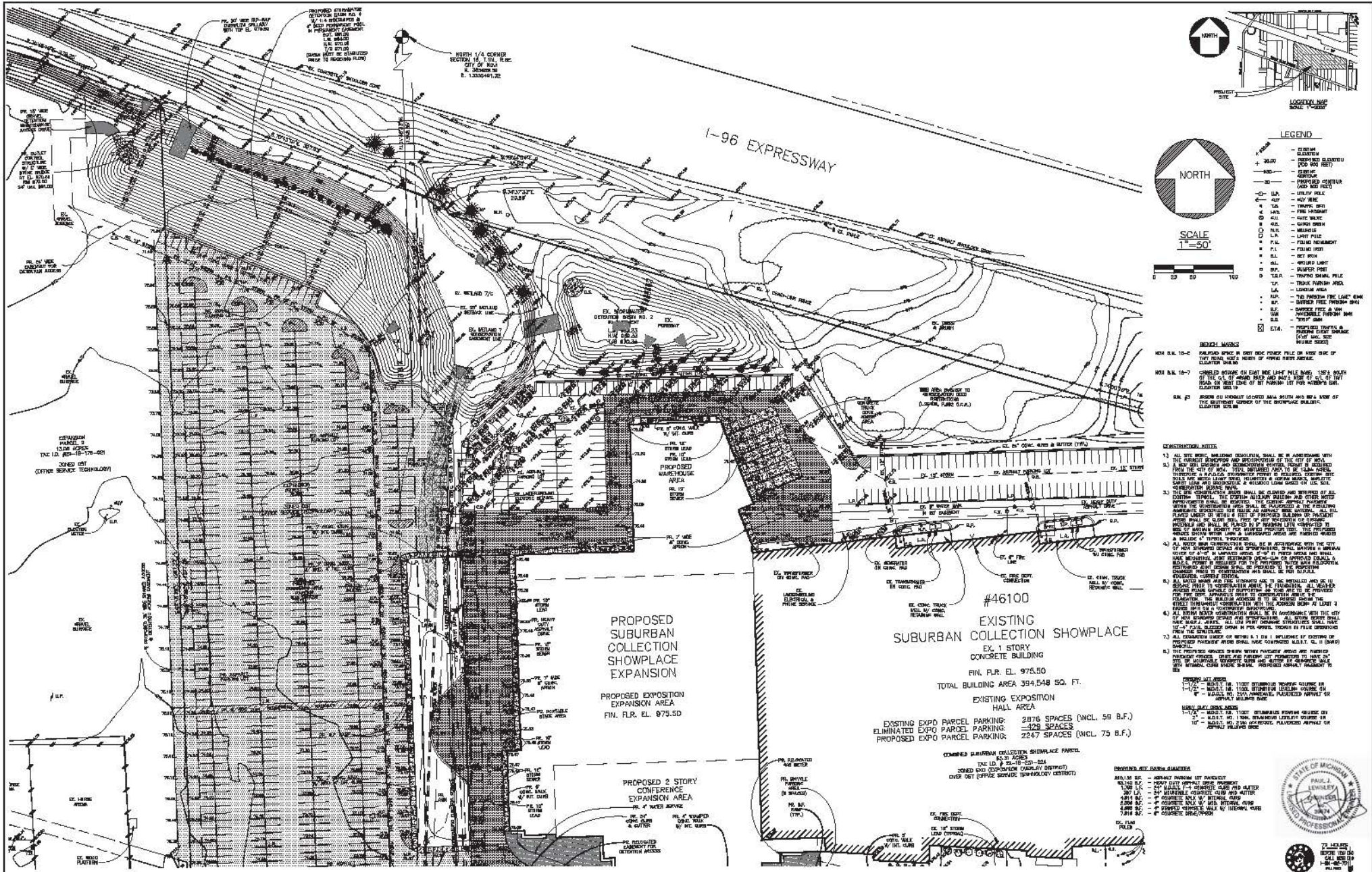
PROPOSED 2 STORY
CONFERENCE
EXPANSION AREA
 EX. 2 STORY
 CONCRETE BUILDING
 FIN. FLR. EL. 975.50

- NOTES:**
- EXISTING EXPO PARCEL PARKING: 2676 SPACES (INCL 58 B.F.)
 - ELIMINATED EXPO PARCEL PARKING: 1429 SPACES
 - PROPOSED EXPO PARCEL PARKING: 2247 SPACES (INCL 75 B.F.)

- CONSTRUCTION NOTES:**
- ALL SITE WORK, INCLUDING EXCAVATION, SHALL BE IN ACCORDANCE WITH THE CURRENT ORDINANCES AND DEPARTMENTS OF THE CITY OF DETROIT.
 - ALL NEW EXCAVATION AND RESTORATION WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF DETROIT'S STANDARD SPECIFICATIONS FOR EXCAVATION, RESTORATION AND REPAIR WORK. ALL EXCAVATION SHALL BE PROTECTED BY SHIELDING AND SHIELDING SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
 - ALL EXCAVATION SHALL BE PROTECTED BY SHIELDING AND SHIELDING SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
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 - ALL EXCAVATION SHALL BE PROTECTED BY SHIELDING AND SHIELDING SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

TEBDI, LLC 46100 GRAND RIVER AVE. DETROIT, MICHIGAN 48274 PHONE: 313/458-0800	REVISION 04/25/18 - FOR PRELIMINARY 4E PLAN APPROVAL SUBMITTAL	REVISION 11/16/18 - FOR 4E/ST	PROPOSED EXPANSION AT SUBURBAN COLLECTION SHOWPLACE IN SECTION 16	SOUTHERLY SITE GRADING & PAVING PLAN	SHEET NO. 16 DATE: 06/22/18
	REVISION 07/25/18 - FOR 4E/ST PLAN APPROVAL SUBMITTAL	REVISION 06/17/18 - FOR FINAL SITE PLAN APPROVAL SUBMITTAL	CITY OF DETROIT OKLAND COUNTY	Environmental engineers, Inc. 1800 WEST 7TH AVE. SUITE 200 ANN ARBOR, MI 48106 PHONE: 313/458-0800 FAX: 313/458-0864	SHEET NO. 16 DATE: 06/22/18
	REVISION 08/10/18 - FOR STAMP#4 SET SUBMITTAL	REVISION 08/10/18 - FOR STAMP#4 SET SUBMITTAL	CITY OF DETROIT OKLAND COUNTY	Environmental engineers, Inc. 1800 WEST 7TH AVE. SUITE 200 ANN ARBOR, MI 48106 PHONE: 313/458-0800 FAX: 313/458-0864	SHEET NO. 16 DATE: 06/22/18
	REVISION 08/10/18 - FOR STAMP#4 SET SUBMITTAL	REVISION 08/10/18 - FOR STAMP#4 SET SUBMITTAL	CITY OF DETROIT OKLAND COUNTY	Environmental engineers, Inc. 1800 WEST 7TH AVE. SUITE 200 ANN ARBOR, MI 48106 PHONE: 313/458-0800 FAX: 313/458-0864	SHEET NO. 16 DATE: 06/22/18





- LEGEND**
- STREAM ELEVATION (FOOT AND FEET)
 - FILL
 - EXISTING UTILITY (FOOT AND FEET)
 - EXISTING ASPHALT DRIVE
 - EXISTING CONCRETE DRIVE (FOOT AND FEET)
 - UTILITY POLE
 - 4\"/> - 6\"/> - 8\"/> - 12\"/> - 18\"/> - 24\"/> - 30\"/> - 36\"/> - 42\"/> - 48\"/> - 54\"/> - 60\"/> - 66\"/> - 72\"/> - 78\"/> - 84\"/> - 90\"/> - 96\"/> - 102\"/> - 108\"/> - 114\"/> - 120\"/> - 126\"/> - 132\"/> - 138\"/> - 144\"/> - 150\"/> - 156\"/> - 162\"/> - 168\"/> - 174\"/> - 180\"/> - 186\"/> - 192\"/> - 198\"/> - 204\"/> - 210\"/> - 216\"/> - 222\"/> - 228\"/> - 234\"/> - 240\"/> - 246\"/> - 252\"/> - 258\"/> - 264\"/> - 270\"/> - 276\"/> - 282\"/> - 288\"/> - 294\"/> - 300\"

- REMARKS**
- NO. 44-10-C CONCRETE DRIVE TO BE ADJUSTED TO THE NEW GRADE TO MAINTAIN PROPER DRAINAGE TO THE WEST
- NO. 44-10-D CONCRETE DRIVE TO BE ADJUSTED TO THE NEW GRADE TO MAINTAIN PROPER DRAINAGE TO THE WEST
- NO. 44-10-E CONCRETE DRIVE TO BE ADJUSTED TO THE NEW GRADE TO MAINTAIN PROPER DRAINAGE TO THE WEST

- CONSTRUCTION NOTES**
1. THE PROPOSED IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE CURRENT ORDINANCES AND REGULATIONS OF THE CITY OF NOVI, MICHIGAN.
 2. THE EXISTING UTILITIES SHALL BE DELETED FROM THE SITE AND RELOCATED TO THE WEST SIDE OF THE PROPOSED DRIVE.
 3. THE PROPOSED DRIVE SHALL BE 24' WIDE WITH 12' SIDING AND 12' CENTERLINE.
 4. THE PROPOSED DRIVE SHALL BE ADJUSTED TO THE NEW GRADE TO MAINTAIN PROPER DRAINAGE TO THE WEST.
 5. THE PROPOSED DRIVE SHALL BE ADJUSTED TO THE NEW GRADE TO MAINTAIN PROPER DRAINAGE TO THE WEST.
 6. THE PROPOSED DRIVE SHALL BE ADJUSTED TO THE NEW GRADE TO MAINTAIN PROPER DRAINAGE TO THE WEST.
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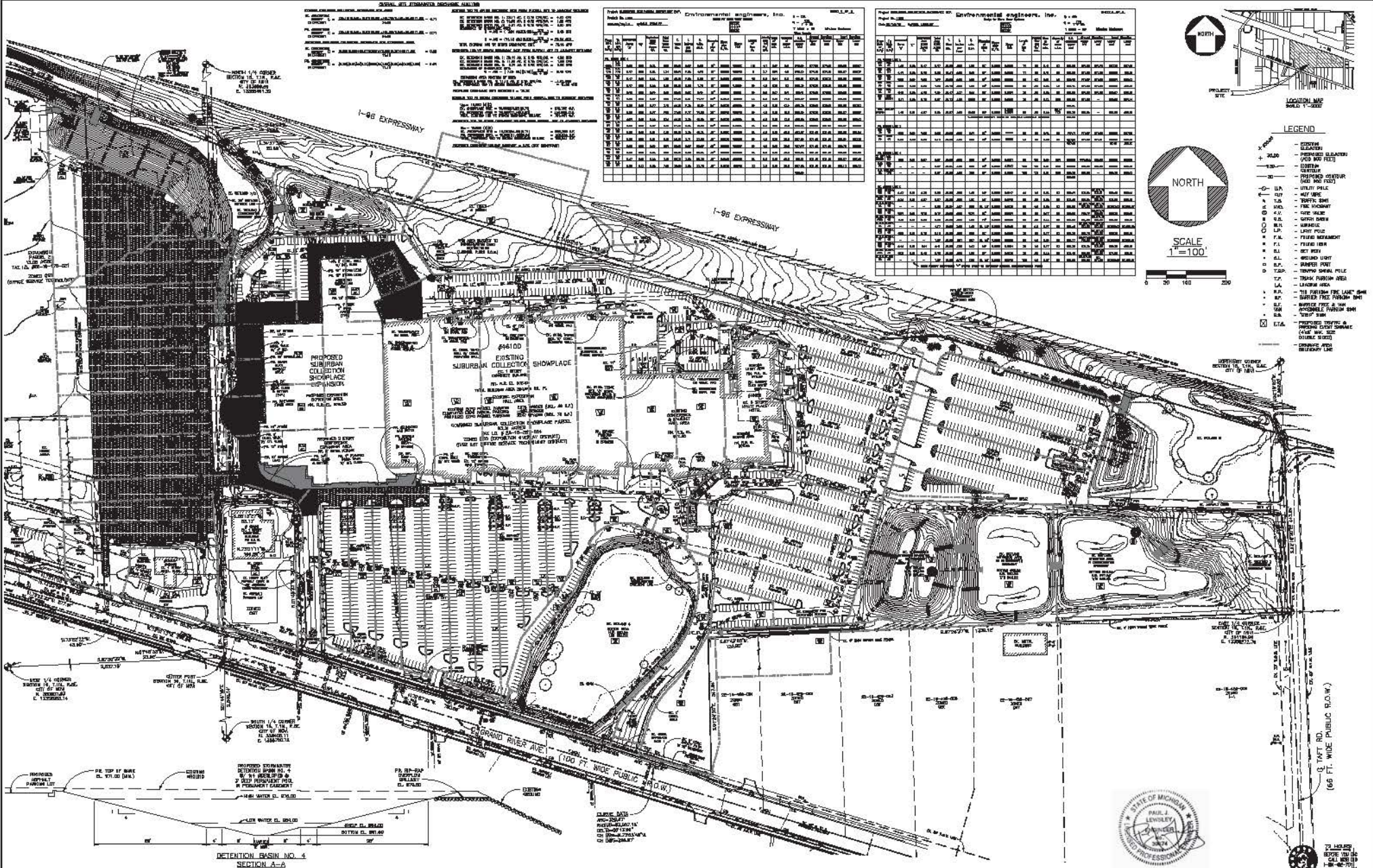
#46100
EXISTING SUBURBAN COLLECTION SHOWPLACE
EX. 1 STORY CONCRETE BUILDING
FIN. FL. EL. 975.50
TOTAL BUILDING AREA 394,548 SQ. FT.
EXISTING EXPOSITION HALL AREA
EXISTING EXPO PARCEL PARKING: 2876 SPACES (INCL. 59 B.F.)
ELIMINATED EXPO PARCEL PARKING: 428 SPACES
PROPOSED EXPO PARCEL PARKING: 2247 SPACES (INCL. 75 B.F.)

CLIENT: TRON, LLC 46100 GRAND RIVER AVE. NOVI, MICHIGAN 48274 PHONE: 248/348-0800	REVISED 06/22/18 - FOR PRELIMINARY SITE PLAN APPROVAL SUBMITTAL	REVISION 11/16/18 - FOR CLIENT
	REVISED 02/28/18 - FOR ALDOTT PERMIT APPLICATION	
	REVISED 09/27/18 - FOR FINAL SITE PLAN APPROVAL SUBMITTAL	
	REVISED 08/07/18 - FOR AT&T/JET SUBMITTAL	

PROPOSED EXPANSION AT
SUBURBAN COLLECTION SHOWPLACE
IN SECTION 10
OWASCO COUNTY
MICHIGAN

NORTHERLY SITE GRADING & PAVING PLAN, Inc.
13880 WEST TOWN AVE. SUITE 200
SOUTHFIELD, MICHIGAN 48075
PHONE: 248/424-8010 FAX: 248/424-2864

PROJECT NO.	18015
DATE REVISION	06/22/18
REVISION NO.	C-9



REVISIONS

NO.	DATE	DESCRIPTION
1	06/22/18	FOR PRELIMINARY SITE PLAN APPROVAL SUBMITTAL.
2	07/22/18	FOR M.D.P.T. PERMIT APPLICATION.
3	09/27/18	FOR FINAL SITE PLAN APPROVAL SUBMITTAL.
4	09/27/18	FOR STAMPING SET SUBMITTAL.

REVISIONS

NO.	DATE	DESCRIPTION
1	06/22/18	FOR PRELIMINARY SITE PLAN APPROVAL SUBMITTAL.
2	07/22/18	FOR M.D.P.T. PERMIT APPLICATION.
3	09/27/18	FOR FINAL SITE PLAN APPROVAL SUBMITTAL.
4	09/27/18	FOR STAMPING SET SUBMITTAL.

CITY OF NOVI

PROPOSED EXPANSION AT
SUBURBAN COLLECTION SHOWPLACE
IN SECTION 16
OWANB COUNTY
MICHIGAN

PROPOSED SITE STORMWATER MANAGEMENT PLAN
Environmental engineers, Inc.
18600 WEST TEN MILE ROAD SOUTHFIELD, MICHIGAN 48075
PHONE: 248/254-8610 FAX: 248/254-2964

DATE: 06/22/18
SCALE: 1"=100'
PROJECT NO.: 18029
SHEET NO.: C-10

PROFESSOR OF ENGINEERING
PAUL J. LAWLEY
MICHIGAN PROFESSIONAL ENGINEER

STORMWATER MANAGEMENT CALCULATIONS FOR PROPOSED EXPANSION AT SUBURBAN COLLECTION SHOWPLACE

USE CHANAL DRAINAGE FORMS TO DETERMINE CHANNEL TO DRAINAGE SYSTEM... CHANNEL DRAINAGE FORMS TO DETERMINE CHANNEL TO DRAINAGE SYSTEM...

Q = (C * I * A) / 3.6 * 1000 (CFS)
Q = (0.015 * 1.5 * 1000) / 3.6 * 1000 = 0.625 CFS
V = Q / A = 0.625 / 1.5 = 0.417 FPS

Vp = 1.48 * (Q / A)^(0.586)
Vp = 1.48 * (0.625 / 1.5)^(0.586) = 0.417 FPS
Vp = 0.417 FPS

Table with 5 columns: CHANNEL, AREA, PERCENT, VELOCITY, CHANNEL. Rows for 1.5' x 1.5' and 2.0' x 2.0' channels.

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TOTAL DRAINAGE AREA = 1.50 AC

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STORMWATER MANAGEMENT CALCULATIONS FOR PROPOSED EXPANSION AT SUBURBAN COLLECTION SHOWPLACE

USE CHANAL DRAINAGE FORMS TO DETERMINE CHANNEL TO DRAINAGE SYSTEM... CHANNEL DRAINAGE FORMS TO DETERMINE CHANNEL TO DRAINAGE SYSTEM...

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STORMWATER MANAGEMENT CALCULATIONS FOR PROPOSED EXPANSION AT SUBURBAN COLLECTION SHOWPLACE

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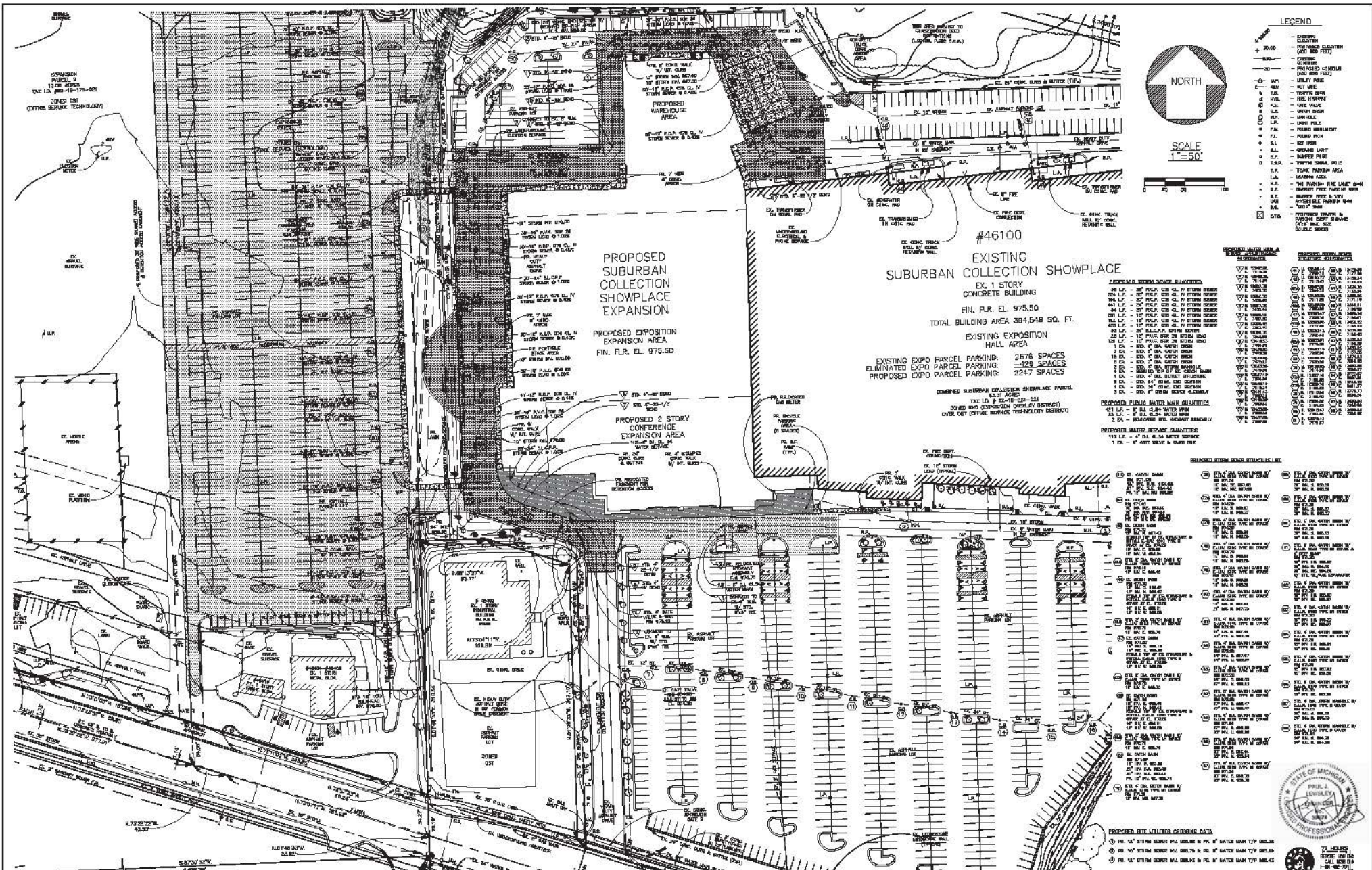
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TOTAL DRAINAGE AREA = 1.50 AC





TBDM, LLC
46100 GRAND RIVER AVE.
NORWICH, MICHIGAN 48874
PHONE: 588-348-0300

REVISED 06/22/18 - FOR PRELIMINARY SITE PLAN APPROVAL SUBMITTAL	REVISED 11/16/18 - FOR CLIENT
REVISED 02/20/18 - FOR ALDOTT PERMIT APPLICATION	
REVISED 06/17/18 - FOR FINAL SITE PLAN APPROVAL SUBMITTAL	
REVISED 02/02/18 - FOR SUBMITTAL SET SUBMITTAL	

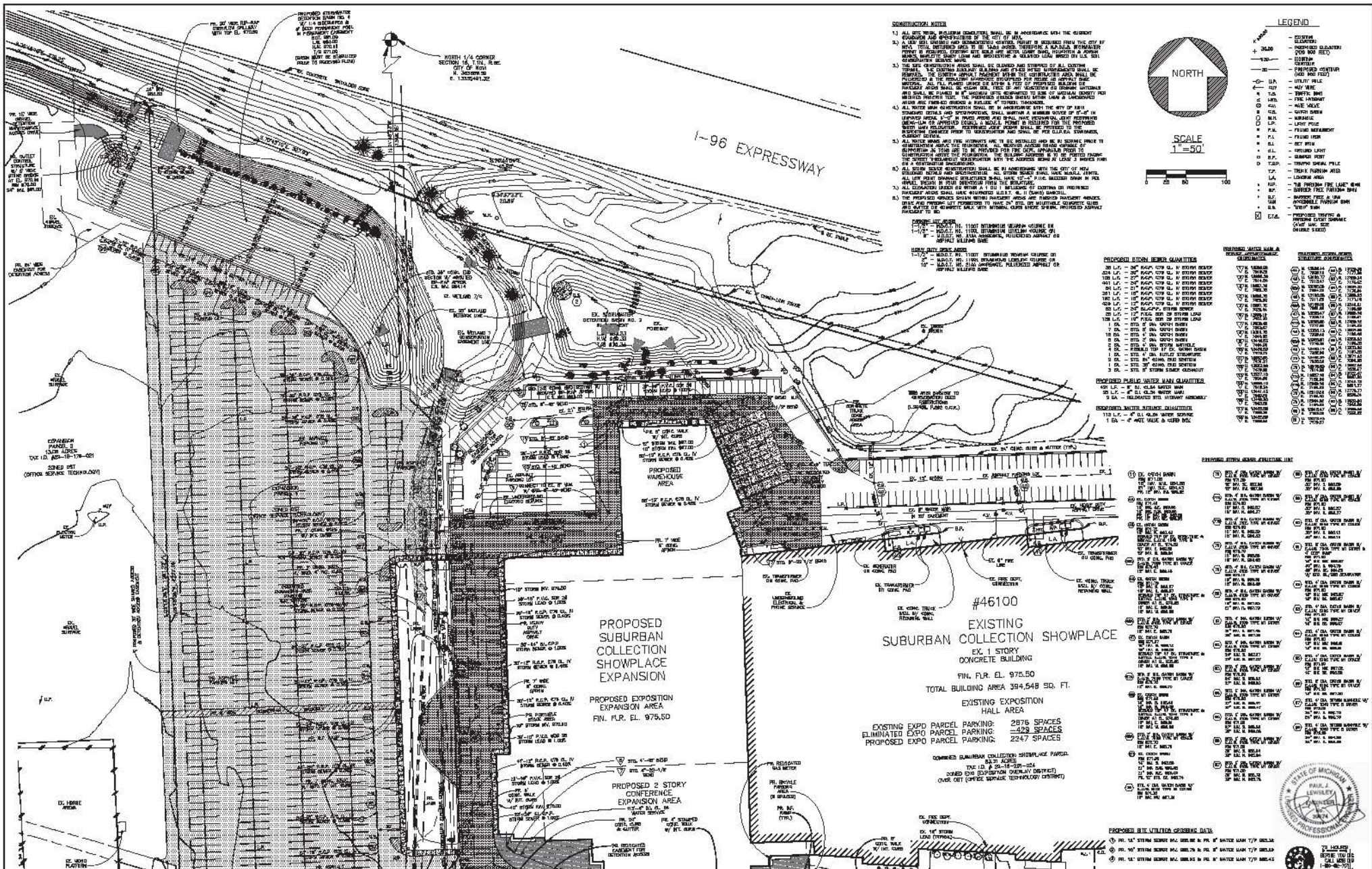
PROPOSED EXPANSION AT
SUBURBAN COLLECTION SHOWPLACE
IN SECTION 16
CITY OF NORWICH
OWASCO COUNTY
MICHIGAN

SOUTHERLY SITE UTILITIES PLAN

 Environmental Engineers, Inc.
 18000 WEST TOWN HALL ROAD, SOUTHWILAND, MICHIGAN 48870
 PHONE: 248/424-8010 FAX: 248/424-2964

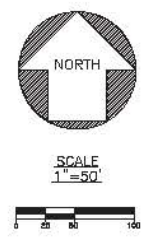
PROJECT NO.: 18015
 DATE: 06/22/18
 SHEET NO.: C-12





CONSTRUCTION NOTES

1. ALL SITE WORK SHALL BE ACCORDING TO THE CITY OF NORTHERLY SUBURBAN COLLECTION SHOWPLACE SITE PLAN.
2. ALL UTILITIES SHALL BE LOCATED AND DEPTH SHALL BE ACCORDING TO THE CITY OF NORTHERLY SUBURBAN COLLECTION SHOWPLACE SITE PLAN.
3. THE EXISTING SEWER MAIN SHALL BE RECONSTRUCTED TO ALL DEPTHS TO THE EXISTING MANHOLE. THE EXISTING WATER MAIN SHALL BE RECONSTRUCTED TO ALL DEPTHS TO THE EXISTING MANHOLE. THE EXISTING STORM MAIN SHALL BE RECONSTRUCTED TO ALL DEPTHS TO THE EXISTING MANHOLE. ALL UTILITIES SHALL BE RECONSTRUCTED TO ALL DEPTHS TO THE EXISTING MANHOLE.
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10. ALL UTILITIES SHALL BE RECONSTRUCTED TO ALL DEPTHS TO THE EXISTING MANHOLE.



LEGEND

—	UTILITY	—	PROPOSED SEWER
—	EXISTING SEWER	—	PROPOSED WATER
—	EXISTING WATER	—	PROPOSED STORM
—	EXISTING STORM	—	PROPOSED GAS
—	EXISTING GAS	—	PROPOSED CONCRETE
—	EXISTING CONCRETE	—	PROPOSED ASPHALT
—	EXISTING ASPHALT	—	PROPOSED GRAVEL
—	EXISTING GRAVEL	—	PROPOSED SAND
—	EXISTING SAND	—	PROPOSED FILL
—	EXISTING FILL	—	PROPOSED REMOVAL
—	EXISTING REMOVAL	—	PROPOSED EXCAVATION
—	EXISTING EXCAVATION	—	PROPOSED STRUCTURE
—	EXISTING STRUCTURE	—	PROPOSED ROOF
—	EXISTING ROOF	—	PROPOSED FLOOR
—	EXISTING FLOOR	—	PROPOSED WALL
—	EXISTING WALL	—	PROPOSED WINDOW
—	EXISTING WINDOW	—	PROPOSED DOOR
—	EXISTING DOOR	—	PROPOSED SIGN
—	EXISTING SIGN	—	PROPOSED LIGHT
—	EXISTING LIGHT	—	PROPOSED PAINT
—	EXISTING PAINT	—	PROPOSED LANDSCAPE
—	EXISTING LANDSCAPE	—	PROPOSED PLANTING
—	EXISTING PLANTING	—	PROPOSED FURNITURE
—	EXISTING FURNITURE	—	PROPOSED UTILITIES
—	EXISTING UTILITIES	—	PROPOSED OTHER

PROPOSED SEWER MAIN DIMENSIONS

36" I.P.	36" I.P.	36" I.P.	36" I.P.	36" I.P.	36" I.P.
30" I.P.	30" I.P.	30" I.P.	30" I.P.	30" I.P.	30" I.P.
24" I.P.	24" I.P.	24" I.P.	24" I.P.	24" I.P.	24" I.P.
18" I.P.	18" I.P.	18" I.P.	18" I.P.	18" I.P.	18" I.P.
12" I.P.	12" I.P.	12" I.P.	12" I.P.	12" I.P.	12" I.P.
6" I.P.	6" I.P.	6" I.P.	6" I.P.	6" I.P.	6" I.P.

PROPOSED WATER MAIN DIMENSIONS

36" I.P.	36" I.P.	36" I.P.	36" I.P.	36" I.P.	36" I.P.
30" I.P.	30" I.P.	30" I.P.	30" I.P.	30" I.P.	30" I.P.
24" I.P.	24" I.P.	24" I.P.	24" I.P.	24" I.P.	24" I.P.
18" I.P.	18" I.P.	18" I.P.	18" I.P.	18" I.P.	18" I.P.
12" I.P.	12" I.P.	12" I.P.	12" I.P.	12" I.P.	12" I.P.
6" I.P.	6" I.P.	6" I.P.	6" I.P.	6" I.P.	6" I.P.

PROPOSED STORM MAIN DIMENSIONS

36" I.P.	36" I.P.	36" I.P.	36" I.P.	36" I.P.	36" I.P.
30" I.P.	30" I.P.	30" I.P.	30" I.P.	30" I.P.	30" I.P.
24" I.P.	24" I.P.	24" I.P.	24" I.P.	24" I.P.	24" I.P.
18" I.P.	18" I.P.	18" I.P.	18" I.P.	18" I.P.	18" I.P.
12" I.P.	12" I.P.	12" I.P.	12" I.P.	12" I.P.	12" I.P.
6" I.P.	6" I.P.	6" I.P.	6" I.P.	6" I.P.	6" I.P.

PROPOSED SUBURBAN COLLECTION SHOWPLACE EXPANSION

PROPOSED EXHIBITION EXPANSION AREA
FIN. FLR. EL. 975.50

PROPOSED 2 STORY CONFERENCE EXPANSION AREA
FIN. FLR. EL. 975.50

#46100 EXISTING SUBURBAN COLLECTION SHOWPLACE

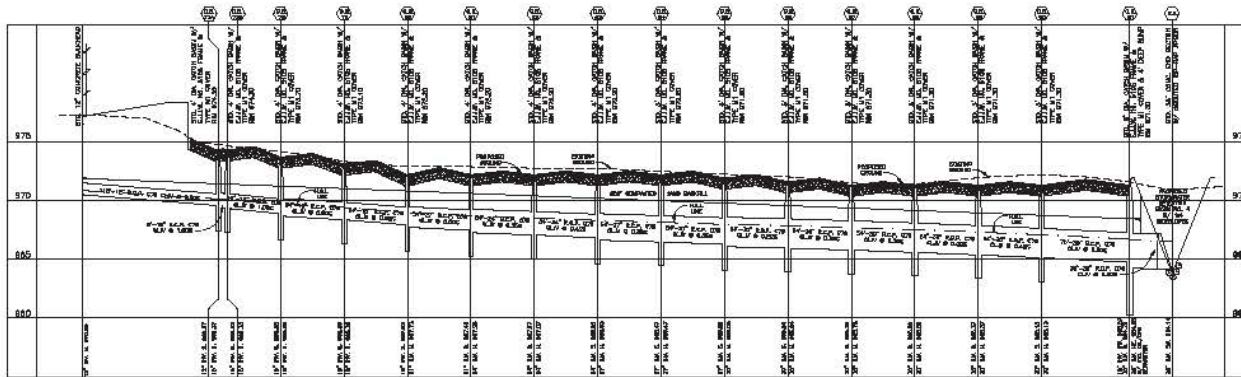
EX-1 STORY CONCRETE BUILDING
FIN. FLR. EL. 975.50
TOTAL BUILDING AREA 394,548 SQ. FT.

EXISTING EXHIBITION HALL AREA

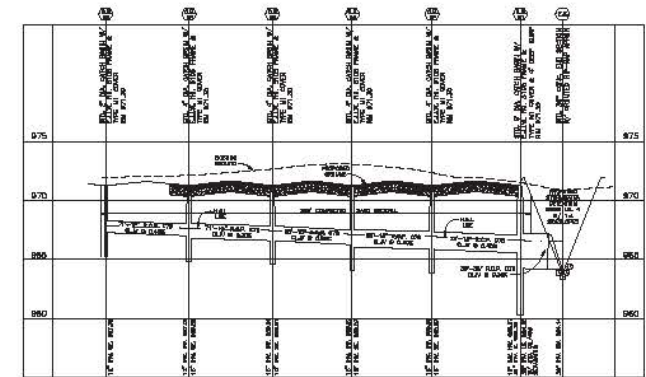
EXISTING EXPO PARCEL PARKING: 2875 SPACES
ELIMINATED EXPO PARCEL PARKING: 429 SPACES
PROPOSED EXPO PARCEL PARKING: 2247 SPACES

PROPOSED UTILITIES CROSSING LIST

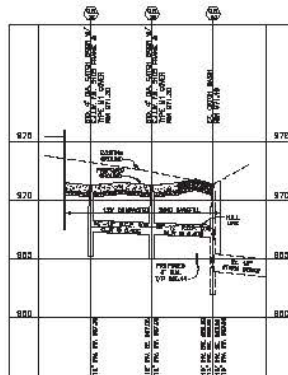
1. 12" I.P. STORM MAIN	12. 12" I.P. STORM MAIN	23. 12" I.P. STORM MAIN	34. 12" I.P. STORM MAIN
2. 18" I.P. STORM MAIN	13. 18" I.P. STORM MAIN	24. 18" I.P. STORM MAIN	35. 18" I.P. STORM MAIN
3. 24" I.P. STORM MAIN	14. 24" I.P. STORM MAIN	25. 24" I.P. STORM MAIN	36. 24" I.P. STORM MAIN
4. 30" I.P. STORM MAIN	15. 30" I.P. STORM MAIN	26. 30" I.P. STORM MAIN	37. 30" I.P. STORM MAIN
5. 36" I.P. STORM MAIN	16. 36" I.P. STORM MAIN	27. 36" I.P. STORM MAIN	38. 36" I.P. STORM MAIN
6. 12" I.P. WATER MAIN	17. 12" I.P. WATER MAIN	28. 12" I.P. WATER MAIN	39. 12" I.P. WATER MAIN
7. 18" I.P. WATER MAIN	18. 18" I.P. WATER MAIN	29. 18" I.P. WATER MAIN	40. 18" I.P. WATER MAIN
8. 24" I.P. WATER MAIN	19. 24" I.P. WATER MAIN	30. 24" I.P. WATER MAIN	41. 24" I.P. WATER MAIN
9. 30" I.P. WATER MAIN	20. 30" I.P. WATER MAIN	31. 30" I.P. WATER MAIN	42. 30" I.P. WATER MAIN
10. 36" I.P. WATER MAIN	21. 36" I.P. WATER MAIN	32. 36" I.P. WATER MAIN	43. 36" I.P. WATER MAIN
11. 12" I.P. SEWER MAIN	22. 12" I.P. SEWER MAIN	33. 12" I.P. SEWER MAIN	44. 12" I.P. SEWER MAIN
12. 18" I.P. SEWER MAIN	23. 18" I.P. SEWER MAIN	34. 18" I.P. SEWER MAIN	45. 18" I.P. SEWER MAIN
13. 24" I.P. SEWER MAIN	24. 24" I.P. SEWER MAIN	35. 24" I.P. SEWER MAIN	46. 24" I.P. SEWER MAIN
14. 30" I.P. SEWER MAIN	25. 30" I.P. SEWER MAIN	36. 30" I.P. SEWER MAIN	47. 30" I.P. SEWER MAIN
15. 36" I.P. SEWER MAIN	26. 36" I.P. SEWER MAIN	37. 36" I.P. SEWER MAIN	48. 36" I.P. SEWER MAIN



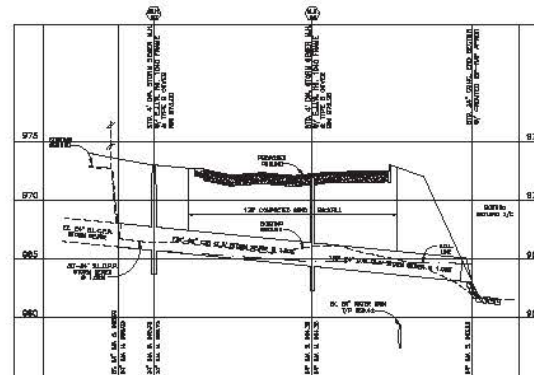
STORM SEWER NO. 1 PROFILE
SCALE: 1"=50' HORIZONTAL
1"=4' VERTICAL



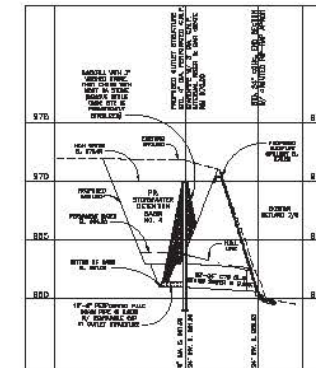
STORM SEWER NO. 2 PROFILE
SCALE: 1"=50' HORIZONTAL
1"=4' VERTICAL



STORM SEWER NO. 3 PROFILE
SCALE: 1"=50' HORIZONTAL
1"=4' VERTICAL



STORM SEWER NO. 4 PROFILE
SCALE: 1"=50' HORIZONTAL
1"=4' VERTICAL



DETENTION BASIN NO. 4
STORM SEWER PROFILE
SCALE: 1"=50' HORIZONTAL
1"=4' VERTICAL



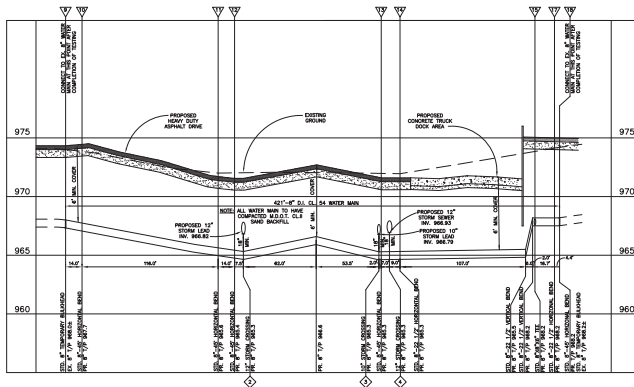
TBDM, LLC
46100 GRAND RIVER AVE.
NOVA, MICHIGAN 48574
PHONE: 248/248-0300

REVISIONS
REVISION 07/22/18 - PER INDUSTRY FIRM APPLICATION
REVISION 08/17/18 - PER FINAL SITE PLAN APPROVAL SUBMITTAL
REVISION 09/07/18 - PER STORMING SET SUBMITTAL
REVISION 11/16/18 - PER CLIENT

PROPOSED EXPANSION AT
SUBURBAN COLLECTION SHOWPLACE
CITY OF NOVA OAKLAND COUNTY MICHIGAN

SITE STORM SEWER PROFILES
Environmental Engineers, Inc.
1800 WEST TON AVE. SUITE 200 SOUTHFIELD, MICHIGAN 48075
PHONE: 248/248-8610 FAX: 248/248-2964

PROJECT NO.: 18015
DATE: 07/22/18
SHEET NO.: C-14



NORTH WATER MAIN RELOCATION PROFILE
 SCALE: 1"=50' HORIZONTAL
 1"=3' VERTICAL



72 HOURS
 BEFORE YOU GO
 CALL MISS DE
 1-800-451-7911
 (TOLL FREE)

CLIENT:
 TBOJ, LLC
 46100 GRAND RIVER AVE.
 NOVI, MICHIGAN 48374
 PHONE: 248/248-9600

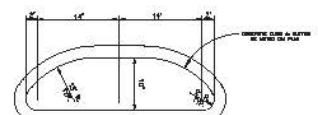
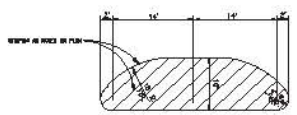
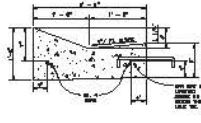
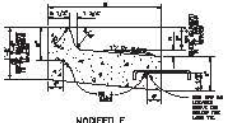
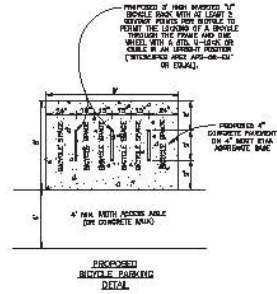
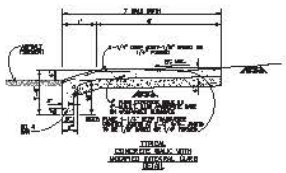
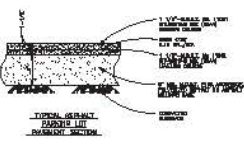
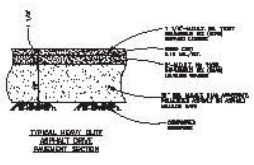
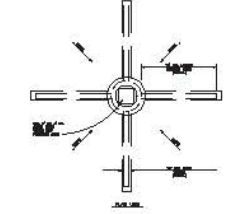
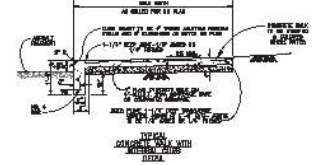
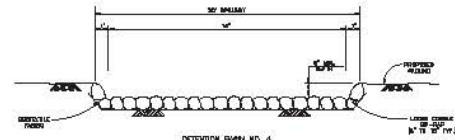
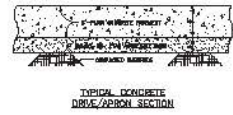
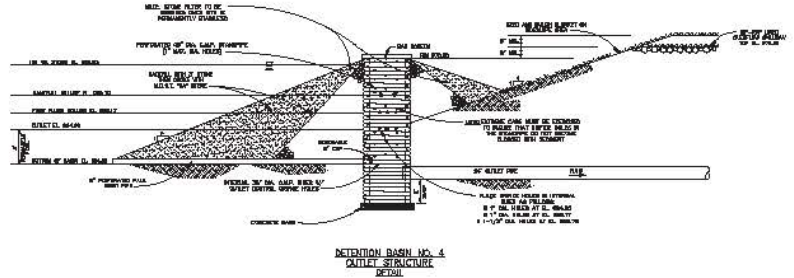
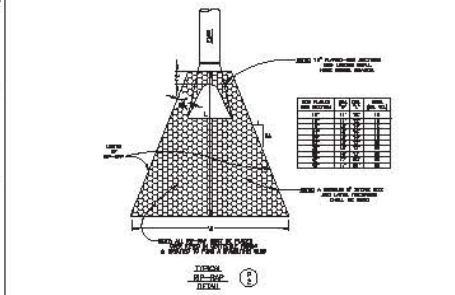
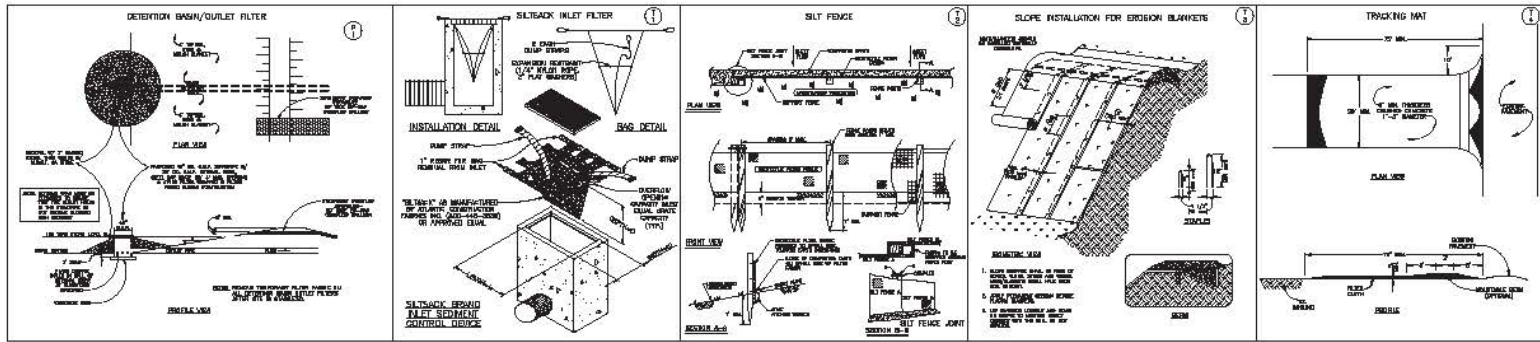
REVISIONS	
REVISED 08/17/16	- FOR FINAL SITE PLAN APPROVAL SUBMITTAL
REVISED 09/07/16	- FOR STAMPING SET SUBMITTAL
REVISED 11/18/16	- PER CLIENT

PROPOSED EXPANSION AT
SUBURBAN COLLECTION SHOWPLACE
 CITY OF NOVI OAKLAND COUNTY MICHIGAN

SITE WATER MAIN PROFILES

 Environmental engineers, Inc.
 18620 WEST TEN MILE ROAD SOUTHFIELD, MICHIGAN 48075
 PHONE: 248/424-9510 FAX: 248/424-2954

CLIENT PROJECT No.	PROJECT No.
DATE ISSUED	SHEET No.
08/17/16	C-15

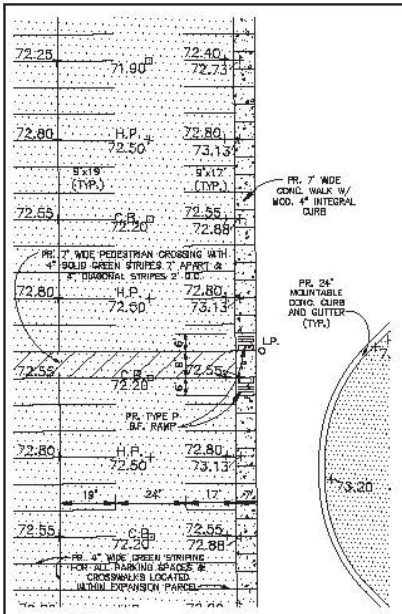


DETAIL	WIDTH	DEPTH	REINFORCEMENT	CONCRETE	FINISH
F1	1'-0"	7 1/2"	4#4 @ 12"	2400 PSI	ASPHALT
F2	2'-0"	11 1/2"	4#4 @ 12"	2400 PSI	ASPHALT
F3	2'-0"	11 1/2"	4#4 @ 12"	2400 PSI	ASPHALT
F4	2'-0"	11 1/2"	4#4 @ 12"	2400 PSI	ASPHALT
F5	2'-0"	11 1/2"	4#4 @ 12"	2400 PSI	ASPHALT

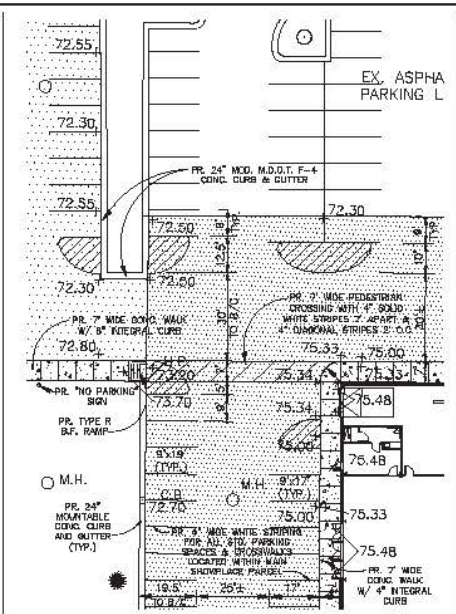
NOTE: ALL FINISH DIMENSIONS SHOWN WITH A CURVE OR RADIUS ARE TO THE FACE OF CURVE UNLESS NOTED OTHERWISE. ALL OTHER DIMENSIONS ARE TO THE FACE OF CURVE UNLESS NOTED OTHERWISE. ALL DIMENSIONS ARE TO THE FACE OF CURVE UNLESS NOTED OTHERWISE. ALL DIMENSIONS ARE TO THE FACE OF CURVE UNLESS NOTED OTHERWISE.



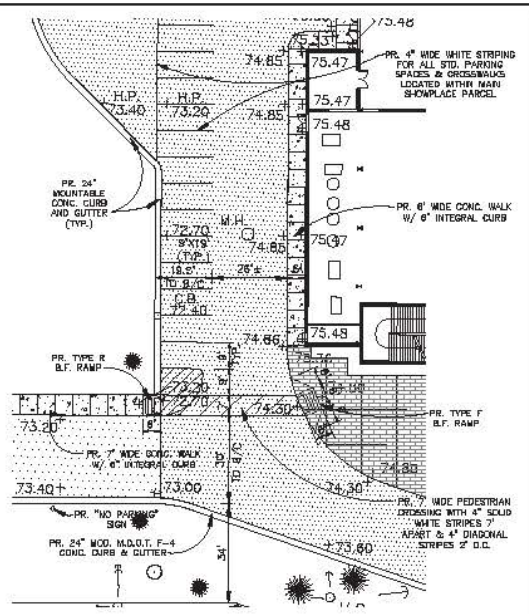
CLIENT: TERN, LLC 46100 GRAND RIVER AVE. NOVI, MICHIGAN 48274 PHONE: 248/454-8800	REVISION: REVISED 06/22/18 - FOR PRELIMINARY SITE PLAN APPROVAL SUBMITTAL.	REVISION: REVISED 11/16/18 - FOR CLIENT	PROPOSED EXPANSION AT SUBURBAN COLLECTION SHOWPLACE OAKLAND COUNTY MICHIGAN	SITE ENGINEERING DETAILS Environmental engineers, Inc. 18800 WEST TON AVE. NOVI SOUTHFIELD, MICHIGAN 48275 PHONE: 248/454-8810 FAX: 248/454-2864	SHEET NO.: 1503
	REVISION: REVISED 07/22/18 - FOR M.B.O.T. PERMIT APPLICATION	REVISION: REVISED 08/17/18 - FOR FINAL SITE PLAN APPROVAL SUBMITTAL.			SHEET NO.: 1504
	REVISION: REVISED 08/17/18 - FOR FINAL SITE PLAN APPROVAL SUBMITTAL.	REVISION: REVISED 08/17/18 - FOR STAMPING SET SUBMITTAL.			SHEET NO.: 1505
	REVISION: REVISED 08/17/18 - FOR STAMPING SET SUBMITTAL.	REVISION: REVISED 08/17/18 - FOR STAMPING SET SUBMITTAL.			SHEET NO.: 1506



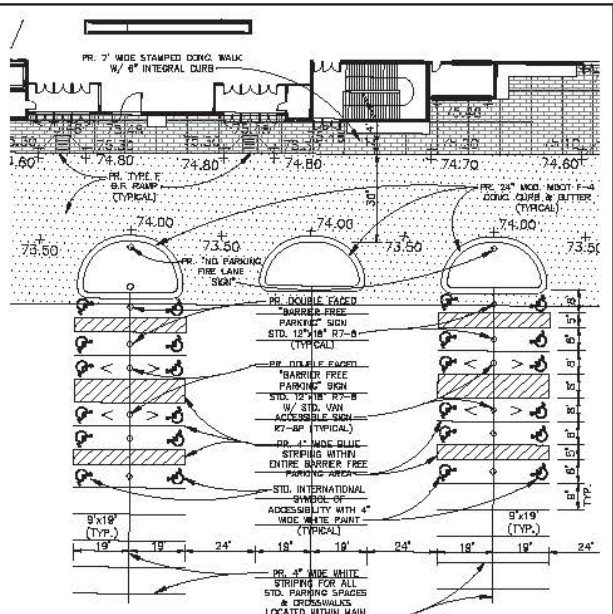
PROPOSED WESTERN BORDER BARRIER FREE RAMP & CROSSWALK DETAIL
SCALE: 1"=20'



PROPOSED NORTHERLY BARRIER FREE RAMP & CROSSWALK DETAIL
SCALE: 1"=20'

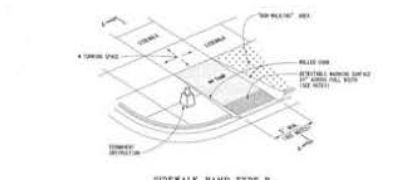


PROPOSED SOUTHERLY BARRIER FREE RAMP & CROSSWALK DETAIL
SCALE: 1"=20'

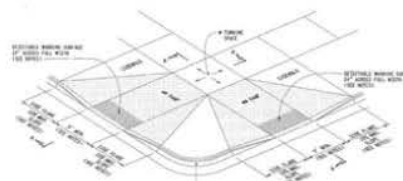


PROPOSED BARRIER FREE PARKING AREA DETAIL
SCALE: 1"=20'

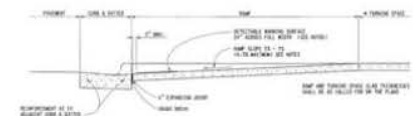
* NUMBER INDICATES CURB CURVE TO BE USED IN THIS SECTION BY THE USER. * NUMBER INDICATES CURB CURVE TO BE USED IN THIS SECTION BY THE USER.



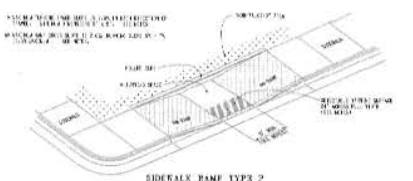
SIDEWALK RAMP TYPE B
SLOPE: 1:12



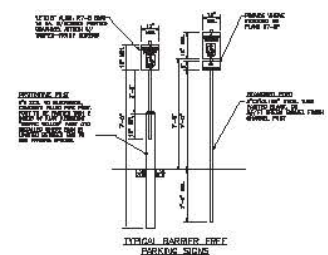
SIDEWALK RAMP TYPE F
SLOPE: 1:12



SECTION THROUGH CURB CUT
SLOPE: 1:12



SIDEWALK RAMP TYPE D
SLOPE: 1:12



TYPICAL BARRIER FREE PARKING SIGN



TYPICAL INTERNATIONAL SYMBOL OF ACCESSIBILITY DETAIL



TERO, LLC
48100 GRAND RIVER AVE.
NOVA, MICHIGAN 48574
PHONE: 248/348-3600

REVISED 06/17/18 - PER FINAL SITE PLAN APPROVAL (SUBMITTAL)
REVISED 06/29/18 - PER STAMPING SET SUBMITTAL
REVISED 11/28/18 - PER CLIENT

PROPOSED EXPANSION AT
SUBURBAN COLLECTION SHOWPLACE
CITY OF NOVA OAKLAND COUNTY MID-ORION

SITE TRAFFIC CONTROL DETAILS
Environmental engineers, Inc.
18820 WEST TEN MILE ROAD SOUTHFIELD, MICHIGAN 48075
PHONE: 248/328-8510 FAX: 248/328-2634

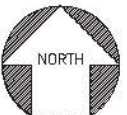
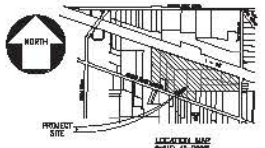
PROJECT NO.: 1625
DATE ISSUED: 08/17/18
SHEET NO.: 0-17

CONVEYANCE RECORD 3, PROPERTY DESCRIPTION: THE 1/4, S. 22-18-17E-161
 PART OF THE NORTHWEST 1/4 OF SECTION 16, T22N 18N, R17E, RANGE 8 EAST, CITY OF ROA, OAKLAND COUNTY, MICHIGAN, LIND NORTH OF THE CENTERLINE OF GRAND RIVER AVENUE, DIMENSIONED AS COMPARISON OF CENTER SECTION 16, THENCE S60°00'00" W, 324.00 FEET ALONG NORTH AND SOUTH 1/4 LINE OF SECTION 16 TO CENTERLINE OF GRAND RIVER AVENUE, THENCE S60°00'00" W, 324.00 FEET AND S20°00'00" W, 43.00 FEET ALONG CENTERLINE OF GRAND RIVER AVENUE TO THE POINT OF BEGINNING, THENCE ALTERNATELY 277.01 FEET ALONG S60°00'00" W, 43.00 FEET, THENCE ALTERNATELY 10.00 FEET, THENCE S60°00'00" W, 304.00 FEET, THENCE ALTERNATELY 10.00 FEET, THENCE S60°00'00" W, 304.00 FEET TO THE POINT OF BEGINNING, EXCEPT THAT THAT PORTION OF SAID PARCEL AS DIMENSIONED AS COMPARISON OF CENTER SECTION 16, L. 22884, PART OF OAKLAND COUNTY RECORDS.

CONVEYANCE RECORD 3, PROPERTY DESCRIPTION: THE 1/4, S. 22-18-17E-161
 A PORTION OF LAND IN THE NORTHWEST 1/4, SECTION 16 AND THE SOUTHWEST 1/4 OF SECTION 16, T22N 18N, R17E, RANGE 8 EAST, CITY OF ROA, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS: BEGINNING AT THE EAST 1/4 CORNER OF SAID SECTION 16, THENCE ALONG A LINE AS DIMENSIONED AND BEARING AS FOLLOWS: S60°00'00" W, 161.12 FEET AND S20°00'00" W, 15.00 FEET, THENCE S60°00'00" W, 43.00 FEET TO THE POINT OF BEGINNING, THENCE ALTERNATELY 10.00 FEET, THENCE S60°00'00" W, 304.00 FEET, THENCE ALTERNATELY 10.00 FEET, THENCE S60°00'00" W, 304.00 FEET TO THE POINT OF BEGINNING, EXCEPT THAT THAT PORTION OF SAID PARCEL AS DIMENSIONED AS COMPARISON OF CENTER SECTION 16, L. 22884, PART OF OAKLAND COUNTY RECORDS.

CONVEYANCE RECORD 3, PROPERTY DESCRIPTION: THE 1/4, S. 22-18-17E-161
 PART OF THE NORTHWEST 1/4 OF SECTION 16, T22N 18N, RANGE 8 EAST, CITY OF ROA, OAKLAND COUNTY, MICHIGAN, LIND NORTH OF THE CENTERLINE OF GRAND RIVER AVENUE, DIMENSIONED AS COMPARISON OF CENTER SECTION 16, THENCE ALTERNATELY 277.01 FEET ALONG NORTH AND SOUTH 1/4 LINE SECTION 16 TO CENTERLINE OF GRAND RIVER AVENUE, THENCE S60°00'00" W, 43.00 FEET AND S20°00'00" W, 43.00 FEET ALONG CENTERLINE OF GRAND RIVER AVENUE TO THE POINT OF BEGINNING, THENCE ALTERNATELY 10.00 FEET, THENCE S60°00'00" W, 304.00 FEET, THENCE ALTERNATELY 10.00 FEET, THENCE S60°00'00" W, 304.00 FEET TO THE POINT OF BEGINNING, EXCEPT THAT THAT PORTION OF SAID PARCEL AS DIMENSIONED AS COMPARISON OF CENTER SECTION 16, L. 22884, PART OF OAKLAND COUNTY RECORDS.

CONVEYANCE RECORD 3, PROPERTY DESCRIPTION: THE 1/4, S. 22-18-17E-161
 A PORTION OF LAND IN THE NORTHWEST 1/4, SECTION 16 AND THE SOUTHWEST 1/4 OF SECTION 16, T22N 18N, R17E, RANGE 8 EAST, CITY OF ROA, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS: BEGINNING AT THE EAST 1/4 CORNER OF SAID SECTION 16, THENCE ALONG A LINE AS DIMENSIONED AND BEARING AS FOLLOWS: S60°00'00" W, 161.12 FEET AND S20°00'00" W, 15.00 FEET, THENCE S60°00'00" W, 43.00 FEET TO THE POINT OF BEGINNING, THENCE ALTERNATELY 10.00 FEET, THENCE S60°00'00" W, 304.00 FEET, THENCE ALTERNATELY 10.00 FEET, THENCE S60°00'00" W, 304.00 FEET TO THE POINT OF BEGINNING, EXCEPT THAT THAT PORTION OF SAID PARCEL AS DIMENSIONED AS COMPARISON OF CENTER SECTION 16, L. 22884, PART OF OAKLAND COUNTY RECORDS.



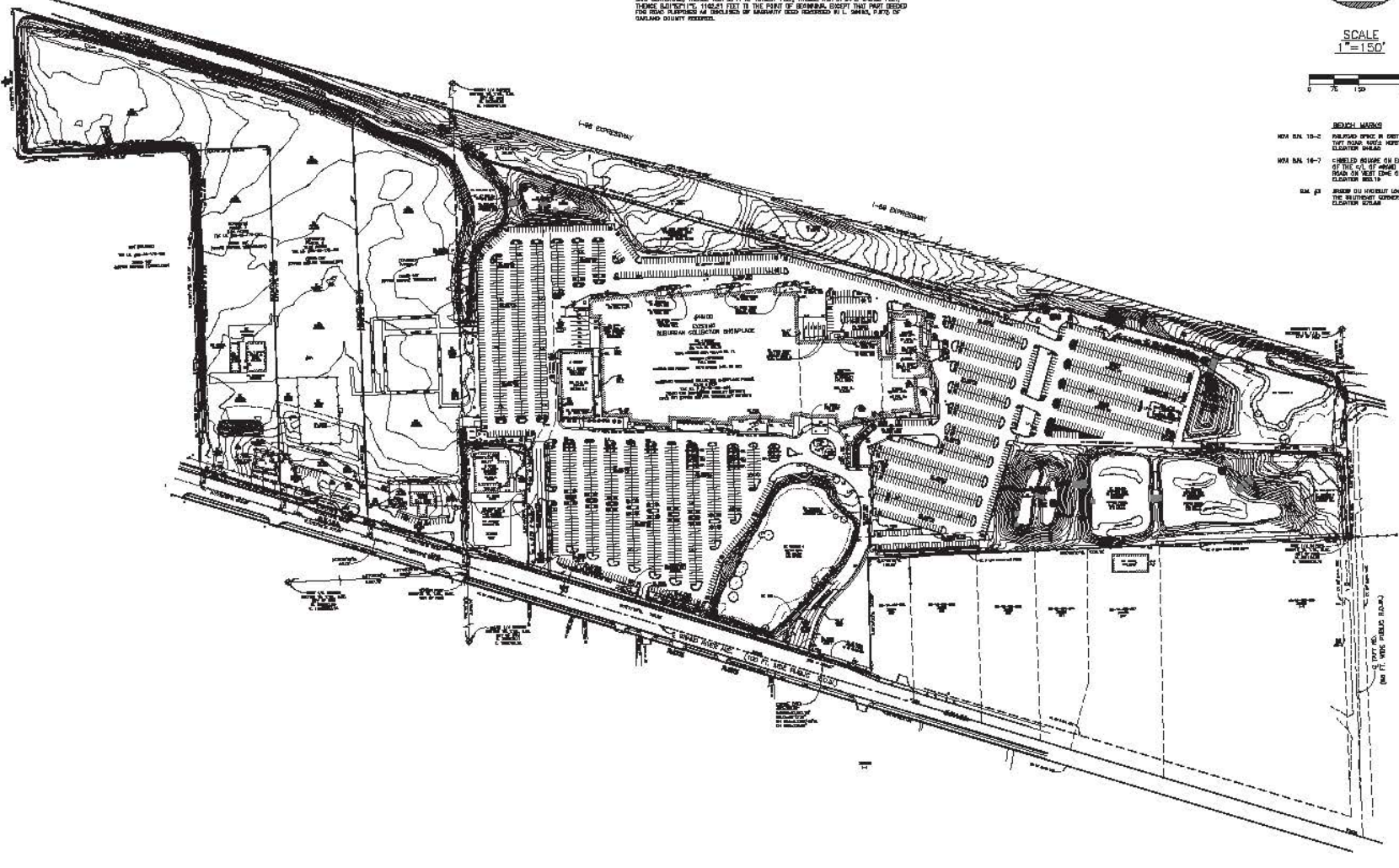
SCALE
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LEGEND

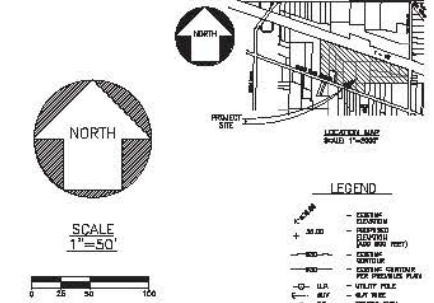
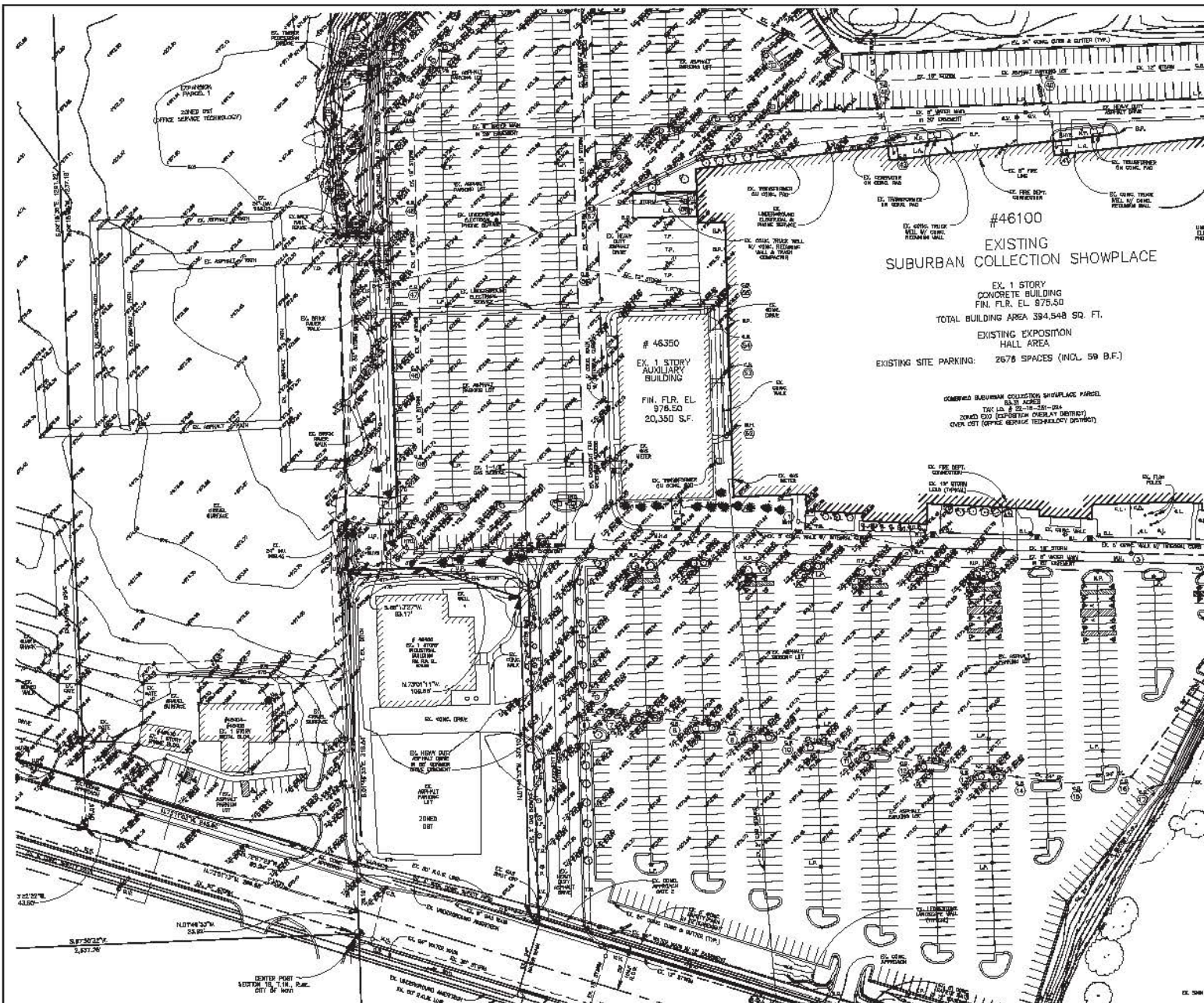
---	EXISTING EASEMENTS
---	PROPOSED EASEMENTS (AND NEW FEET)
---	EXISTING EASEMENTS
---	EXISTING EASEMENTS PER PERMITTED PLAN
---	UTILITY POLE
---	WATER MAIN
---	SEWER MAIN
---	STORM SEWER
---	WATER MAIN
---	SEWER MAIN
---	STORM SEWER
---	EXISTING EASEMENTS
---	PROPOSED EASEMENTS
---	EXISTING EASEMENTS
---	UTILITY POLE
---	WATER MAIN
---	SEWER MAIN
---	STORM SEWER
---	WATER MAIN
---	SEWER MAIN
---	STORM SEWER
---	EXISTING EASEMENTS
---	PROPOSED EASEMENTS
---	EXISTING EASEMENTS
---	UTILITY POLE
---	WATER MAIN
---	SEWER MAIN
---	STORM SEWER
---	WATER MAIN
---	SEWER MAIN
---	STORM SEWER

NOTICE: THIS PLAN SHOWS THE EXISTING AND PROPOSED UTILITIES AND EASEMENTS FOR THE PROJECT. THE EXISTING UTILITIES AND EASEMENTS ARE SHOWN AS DIMENSIONED AND BEARING AS FOLLOWS: ...



THIS PORTION OF SITE TYPING INFORMATION TAKEN FROM TOPOGRAPHY SURVEY PREPARED BY JAC. WILSON, INC. UNDER AGREEMENT WITH CLIENT. SITE METADATA GENERATED BY XENON & NON-RENDER ENVIRONMENTAL, INC.

TSDM, LLC 46100 GRAND RIVER AVE. NOVA, MICHIGAN 48574 PHONE: 248/348-9300	REVISION 06/22/18 - FOR PRELIMINARY SITE PLAN APPROVAL SUBMITTAL.	PROPOSED EXPANSION AT SUBURBAN COLLECTION SHOWPLACE IN SECTION 16 OAKLAND COUNTY CITY OF NOVA	OVERALL EXISTING CONDITIONS PLAN Environmental engineers, Inc. 18800 WEST TOWN HALE ROAD SOUTHFIELD, MICHIGAN 48075 PHONE: 248/424-9610 FAX: 248/724-2964	PROJECT NO.: 1805
	REVISION 06/27/18 - FOR FINAL SITE PLAN APPROVAL SUBMITTAL.			DATE ISSUED: 05/19/18
	REVISION 06/22/18 - FOR STAMPING SET SUBMITTAL.			



#46100
 EXISTING
 SUBURBAN COLLECTION SHOWPLACE
 EX. 1 STORY
 CONCRETE BUILDING
 FIN. FLR. EL. 975.50
 TOTAL BUILDING AREA: 394,548 SQ. FT.
 EXISTING EXPOSITION
 HALL AREA
 EXISTING SITE PARKING: 2676 SPACES (INCL. 59 B.F.)

COMBINED SEWER MAIN COLLECTION SHOWPLACE PARCEL
 TAX ID # 22-18-281-224
 ZONED CDD (COMMERCIAL OVERLAY DISTRICT)
 OVERLIES OFFICE SERVICE TECHNOLOGY DISTRICT

REMARKS
 1. THIS PLAN SHOWS IN RED THE PROPOSED PAVEMENT AND CURB OF THE EXISTING ROAD AND THE PROPOSED PAVEMENT AND CURB OF THE PROPOSED ROAD.
 2. THE EXISTING ROAD AND THE PROPOSED ROAD ARE SHOWN IN RED.
 3. THE PROPOSED ROAD IS SHOWN IN RED.
 4. THE PROPOSED ROAD IS SHOWN IN RED.

EXISTING STORM SEWER STRUCTURES

ID	DESCRIPTION	DEPTH	INVERT	OUTLET
1	12" DIA. STORM SEWER	12"	975.50	975.50
2	12" DIA. STORM SEWER	12"	975.50	975.50
3	12" DIA. STORM SEWER	12"	975.50	975.50
4	12" DIA. STORM SEWER	12"	975.50	975.50
5	12" DIA. STORM SEWER	12"	975.50	975.50
6	12" DIA. STORM SEWER	12"	975.50	975.50
7	12" DIA. STORM SEWER	12"	975.50	975.50
8	12" DIA. STORM SEWER	12"	975.50	975.50
9	12" DIA. STORM SEWER	12"	975.50	975.50
10	12" DIA. STORM SEWER	12"	975.50	975.50
11	12" DIA. STORM SEWER	12"	975.50	975.50
12	12" DIA. STORM SEWER	12"	975.50	975.50
13	12" DIA. STORM SEWER	12"	975.50	975.50
14	12" DIA. STORM SEWER	12"	975.50	975.50
15	12" DIA. STORM SEWER	12"	975.50	975.50
16	12" DIA. STORM SEWER	12"	975.50	975.50
17	12" DIA. STORM SEWER	12"	975.50	975.50
18	12" DIA. STORM SEWER	12"	975.50	975.50
19	12" DIA. STORM SEWER	12"	975.50	975.50
20	12" DIA. STORM SEWER	12"	975.50	975.50
21	12" DIA. STORM SEWER	12"	975.50	975.50
22	12" DIA. STORM SEWER	12"	975.50	975.50
23	12" DIA. STORM SEWER	12"	975.50	975.50
24	12" DIA. STORM SEWER	12"	975.50	975.50
25	12" DIA. STORM SEWER	12"	975.50	975.50
26	12" DIA. STORM SEWER	12"	975.50	975.50
27	12" DIA. STORM SEWER	12"	975.50	975.50
28	12" DIA. STORM SEWER	12"	975.50	975.50
29	12" DIA. STORM SEWER	12"	975.50	975.50
30	12" DIA. STORM SEWER	12"	975.50	975.50
31	12" DIA. STORM SEWER	12"	975.50	975.50
32	12" DIA. STORM SEWER	12"	975.50	975.50
33	12" DIA. STORM SEWER	12"	975.50	975.50
34	12" DIA. STORM SEWER	12"	975.50	975.50
35	12" DIA. STORM SEWER	12"	975.50	975.50
36	12" DIA. STORM SEWER	12"	975.50	975.50
37	12" DIA. STORM SEWER	12"	975.50	975.50
38	12" DIA. STORM SEWER	12"	975.50	975.50
39	12" DIA. STORM SEWER	12"	975.50	975.50
40	12" DIA. STORM SEWER	12"	975.50	975.50
41	12" DIA. STORM SEWER	12"	975.50	975.50
42	12" DIA. STORM SEWER	12"	975.50	975.50
43	12" DIA. STORM SEWER	12"	975.50	975.50
44	12" DIA. STORM SEWER	12"	975.50	975.50
45	12" DIA. STORM SEWER	12"	975.50	975.50
46	12" DIA. STORM SEWER	12"	975.50	975.50
47	12" DIA. STORM SEWER	12"	975.50	975.50
48	12" DIA. STORM SEWER	12"	975.50	975.50
49	12" DIA. STORM SEWER	12"	975.50	975.50
50	12" DIA. STORM SEWER	12"	975.50	975.50

NO.	DESCRIPTION	DEPTH	INVERT	OUTLET
1	12" DIA. STORM SEWER	12"	975.50	975.50
2	12" DIA. STORM SEWER	12"	975.50	975.50
3	12" DIA. STORM SEWER	12"	975.50	975.50
4	12" DIA. STORM SEWER	12"	975.50	975.50
5	12" DIA. STORM SEWER	12"	975.50	975.50
6	12" DIA. STORM SEWER	12"	975.50	975.50
7	12" DIA. STORM SEWER	12"	975.50	975.50
8	12" DIA. STORM SEWER	12"	975.50	975.50
9	12" DIA. STORM SEWER	12"	975.50	975.50
10	12" DIA. STORM SEWER	12"	975.50	975.50
11	12" DIA. STORM SEWER	12"	975.50	975.50
12	12" DIA. STORM SEWER	12"	975.50	975.50
13	12" DIA. STORM SEWER	12"	975.50	975.50
14	12" DIA. STORM SEWER	12"	975.50	975.50
15	12" DIA. STORM SEWER	12"	975.50	975.50
16	12" DIA. STORM SEWER	12"	975.50	975.50
17	12" DIA. STORM SEWER	12"	975.50	975.50
18	12" DIA. STORM SEWER	12"	975.50	975.50
19	12" DIA. STORM SEWER	12"	975.50	975.50
20	12" DIA. STORM SEWER	12"	975.50	975.50
21	12" DIA. STORM SEWER	12"	975.50	975.50
22	12" DIA. STORM SEWER	12"	975.50	975.50
23	12" DIA. STORM SEWER	12"	975.50	975.50
24	12" DIA. STORM SEWER	12"	975.50	975.50
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26	12" DIA. STORM SEWER	12"	975.50	975.50
27	12" DIA. STORM SEWER	12"	975.50	975.50
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46	12" DIA. STORM SEWER	12"	975.50	975.50
47	12" DIA. STORM SEWER	12"	975.50	975.50
48	12" DIA. STORM SEWER	12"	975.50	975.50
49	12" DIA. STORM SEWER	12"	975.50	975.50
50	12" DIA. STORM SEWER	12"	975.50	975.50



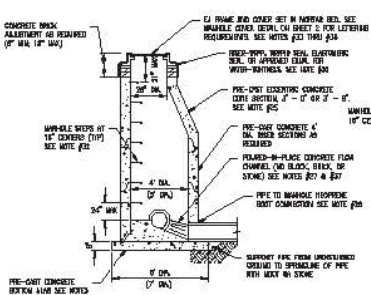
PROPOSED EXPANSION AT
SUBURBAN COLLECTION SHOWPLACE
 IN SECTION 18
 OAKLAND COUNTY
 CITY OF NOVI

SOUTHERLY SITE TOPOGRAPHIC SURVEY
Environmental Engineers, Inc.
 18000 WEST TOWN HALL ROAD SOUTHFIELD, MICHIGAN 48075
 PHONE: 248/424-8610 FAX: 248/424-2964

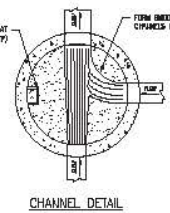
DATE: PARTIAL OF SITE TOPOGRAPHIC INFORMATION FROM TOPOGRAPHIC SERVICE PROVIDED BY A.C. BRIDGES, INC. IN 2014 IN ACCORDANCE WITH 2014 SITE VISUALIZATION PERFORMED BY KIM & MARGUERITE ENVIRONMENTAL, INC.

REVISIONS:
 REVISION 06/26/18 - TO INCLUDE TREE INFORMATION
 REVISION 06/26/18 - FOR PRELIMINARY SITE PLAN APPROVAL SUBMITTAL
 REVISION 06/27/18 - FOR FINAL SITE PLAN APPROVAL SUBMITTAL
 REVISION 06/27/18 - FOR STAMPING SET SUBMITTAL

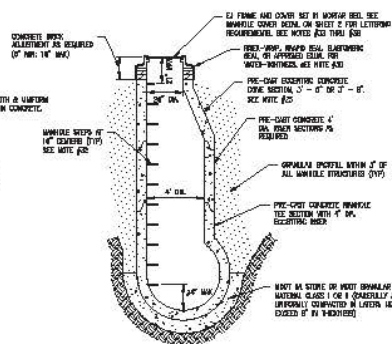
PROJECT NO.: 18-18-0118
 SHEET NO.: TS-3
 DATE: 05/19/18



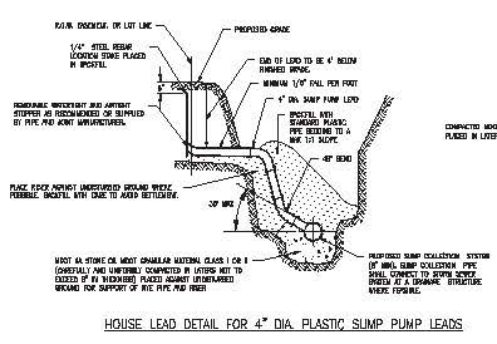
STANDARD PRECAST MANHOLE
SEE NOTE #24



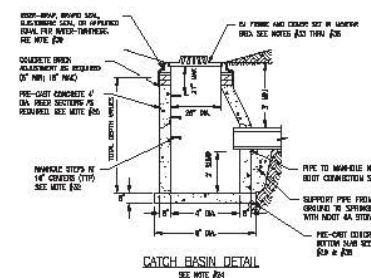
CHANNEL DETAIL
SEE NOTE #27



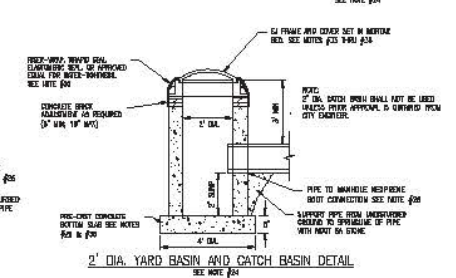
PRE-CAST TEE MANHOLE DETAIL
SEE NOTE #28



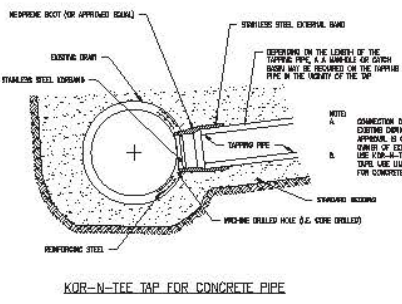
HOUSE LEAD DETAIL FOR 4\"/>



CATCH BASIN DETAIL
SEE NOTE #24



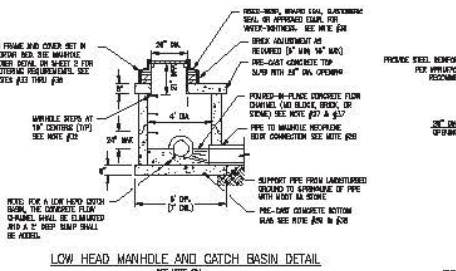
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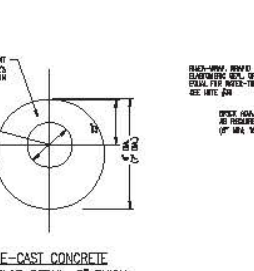
KOR-N-TEE TAP FOR CONCRETE PIPE

MANHOLE DIAMETER	MAXIMUM PIPE SIZE FOR STRAIGHT THRU INSTALLATION		NAONAL PIPE SIZE FOR RIGHT ANGLE INSTALLATION	
	1\"/>			
4\"/>				
6\"/>				
8\"/>				
10\"/>				
12\"/>				
14\"/>				
16\"/>				
18\"/>				
20\"/>				

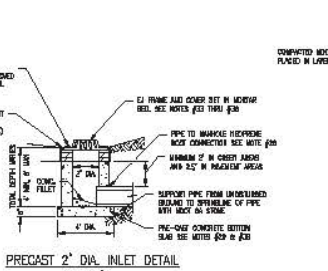
MANHOLE SIZING CHART
SEE NOTES #25 & #26



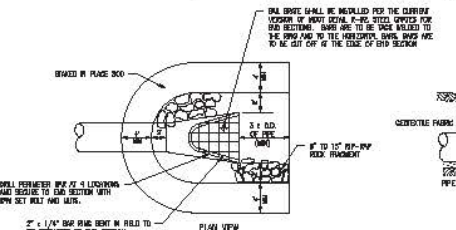
LOW HEAD MANHOLE AND CATCH BASIN DETAIL
SEE NOTE #24



PRE-CAST CONCRETE TOP SLAB DETAIL, 8\"/>

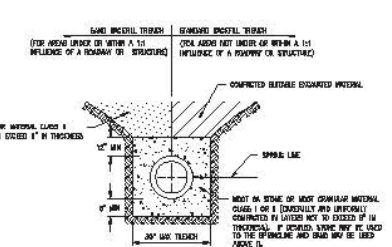


PRECAST 2\"/>

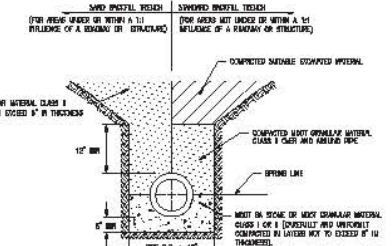


END SECTION AND BAR SCREEN DETAIL

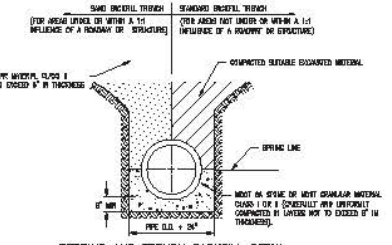
- NOTES:
 A. BAR SCREEN SHOULD BE SET-OFF/SHIMMED AFTER INSTALLATION IS COMPLETE.
 B. UNIFORM SPACING SHALL BE REQUIRED FOR REMOVAL OF PIPE COVER OR MOST REMOVAL UNLESS OTHERWISE SPECIFIED.
 C. BAR-SP SHALL NOT CONTAIN ANY REINFORCING CONCRETE. STANDARD BAR-SP 4\"/>



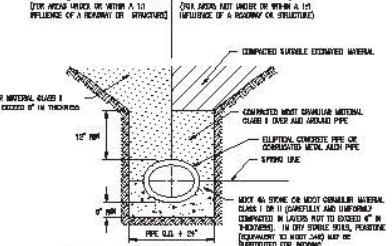
BEDDING AND TRENCH BACKFILL DETAIL FOR 12\"/>



BEDDING AND TRENCH BACKFILL DETAIL FOR 24\"/>

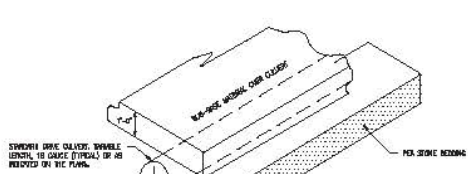


BEDDING AND TRENCH BACKFILL DETAIL FOR 36\"/>

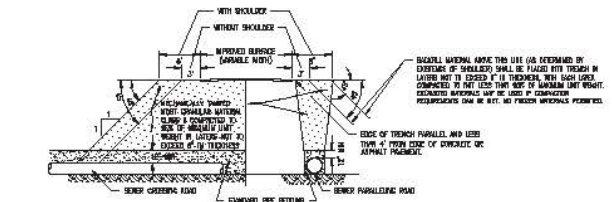


BEDDING AND TRENCH BACKFILL DETAIL FOR ELLIPTICAL CONCRETE PIPE OR CORRUGATED METAL ARCH PIPE
SEE NOTES #16 THRU #23

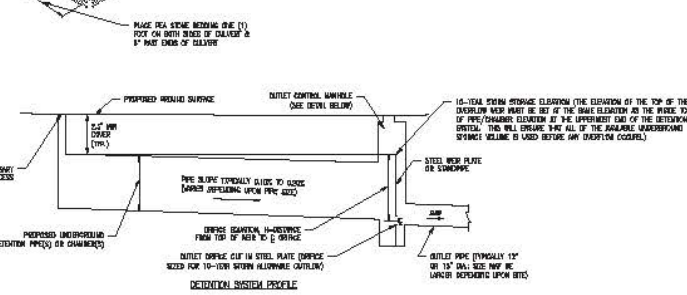
CITY OF NOVI
 ENGINEERING
 STORM SEWER STANDARD DETAILS
 SHEET 1 OF 2



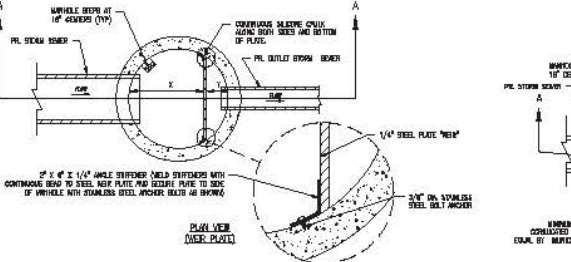
DRIVE CULVERT BEDDING DETAIL



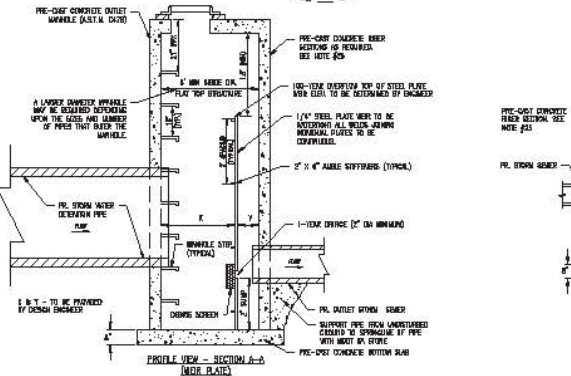
SAND OR GRAVEL BACKFILL DETAILS FOR SEWERS UNDER GRAVEL, CONCRETE OR ASPHALT PAVEMENTS, SIDEWALKS, DRIVEWAYS AND PARKING AREAS



DETENTION SYSTEM PROFILE

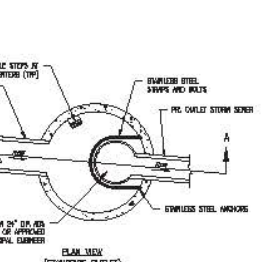


PLAN VIEW (BASE PLATE)

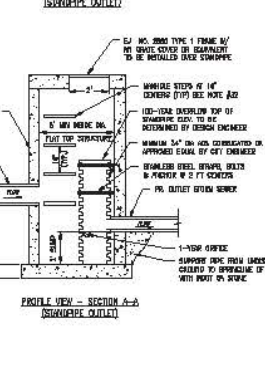


TYPICAL UNDERGROUND DETENTION AND OUTLET MANHOLE DETAILS

SEE NOTE #38

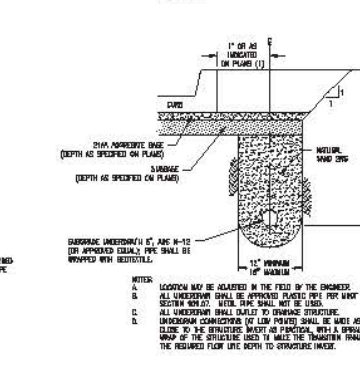
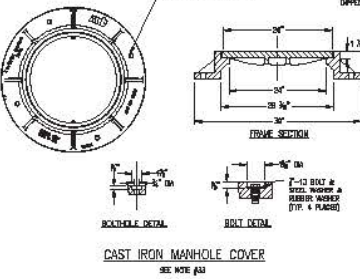
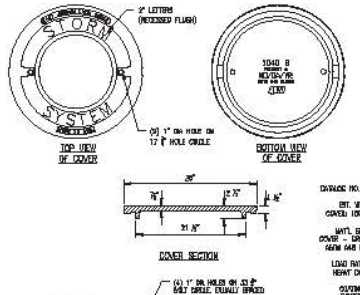


PLAN VIEW (STEEL/PLATE OUTLET)



TYPICAL UNDERGROUND DETENTION AND OUTLET MANHOLE DETAILS

SEE NOTE #38



CAST IRON MANHOLE COVER

SEE NOTE #38

STORM SEWER CONSTRUCTION NOTES

- GENERAL NOTES**
- 1. All structures and accessories shall be in accordance with the standards and specifications of the City of Nowi.
 - 2. No storm sewer to be installed without the City Engineer present.
 - 3. Three (3) working days prior to construction, the Contractor shall complete all requirements of the City Engineer, including utility markings and all other necessary information, to allow for construction of the storm sewer.
 - 4. Trenches shall be to full open completed and be enclosed with suitable leveling and backfill.
 - 5. The materials specified herein may be substituted with an equivalent material as approved by the City.
 - 6. All work shall be done in accordance with the City Engineer's specifications.
- GENERAL NOTES**
- 1. All structures and accessories shall be in accordance with the standards and specifications of the City of Nowi.
 - 2. No storm sewer to be installed without the City Engineer present.
 - 3. Three (3) working days prior to construction, the Contractor shall complete all requirements of the City Engineer, including utility markings and all other necessary information, to allow for construction of the storm sewer.
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 - 2. No storm sewer to be installed without the City Engineer present.
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 - 2. No storm sewer to be installed without the City Engineer present.
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 - 4. Trenches shall be to full open completed and be enclosed with suitable leveling and backfill.
 - 5. The materials specified herein may be substituted with an equivalent material as approved by the City.
 - 6. All work shall be done in accordance with the City Engineer's specifications.

SUBGRADE UNDERDRAIN, 6"



SUBGRADE UNDERDRAIN, 6"

DRAINAGE STRUCTURE REQUIREMENTS



DRAINAGE STRUCTURE REQUIREMENTS

SEE NOTE #38

DRAINAGE STRUCTURE REQUIREMENTS



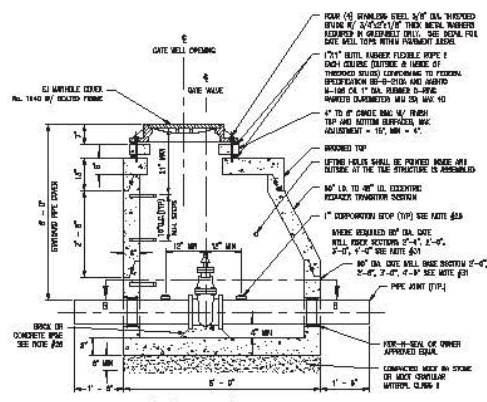
DRAINAGE STRUCTURE REQUIREMENTS

OIL/GAS SEPARATOR DETAIL FOR 18" DIAMETER AND SMALLER OUTLET PIPE

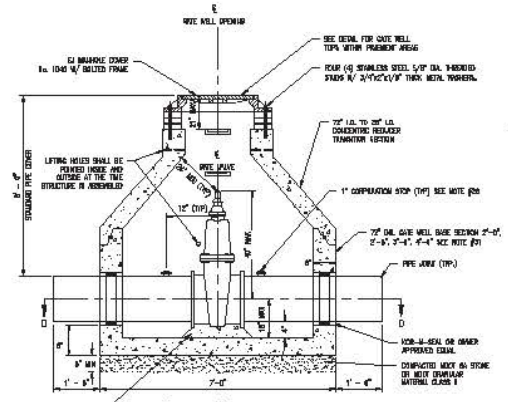


OIL/GAS SEPARATOR DETAIL FOR 18" DIAMETER AND SMALLER OUTLET PIPE

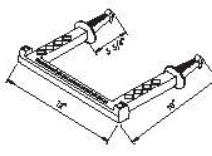




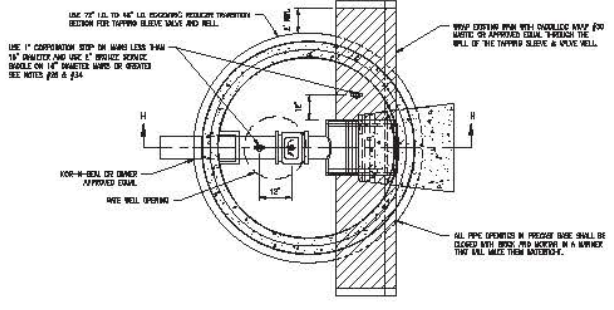
6", 8" AND 10" GATE WELL
(A-A)
(SEE NOTE #28)



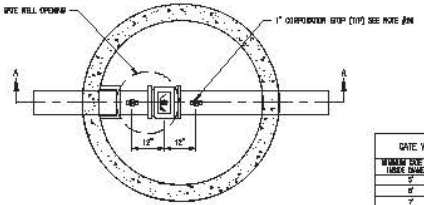
12" AND 16" GATE WELL
(C-C)
(SEE NOTE #28)



MANHOLE STEP

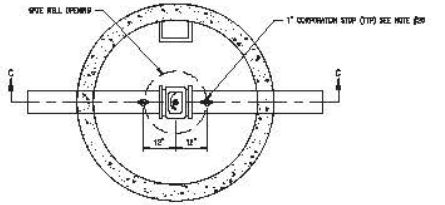


TAPPING SLEEVE & WELL TYPICAL
(PLAN VIEW, B-B)
(SEE NOTE #23)

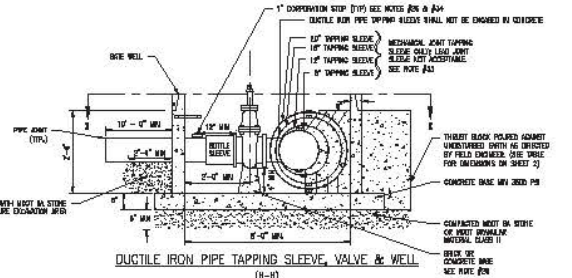


6", 8" AND 10" GATE WELL TYPICAL
(PLAN VIEW, D-D)

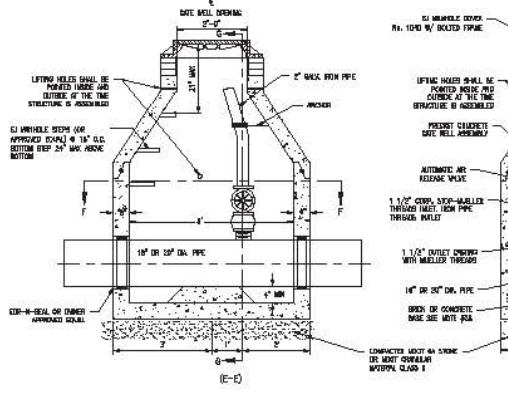
GATE WELL SIZING CHART	
MINIMUM GATE WELL DIAMETER	MINIMUM MAIN DIAMETER
6"	8" - 10"
8"	12" - 16"
10"	16" - 20"



12" AND 16" GATE WELL TYPICAL
(PLAN VIEW, D-D)

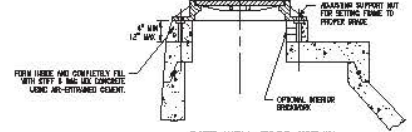


DUCTILE IRON PIPE TAPPING SLEEVE, VALVE & WELL
(H-H)

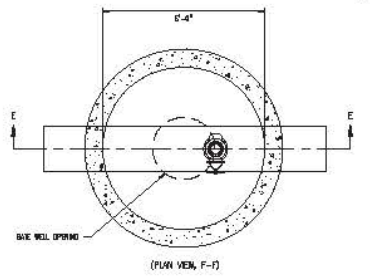


STANDARD AIR RELEASE VALVE & WELL
FOR 16" & 20" WATER MAIN

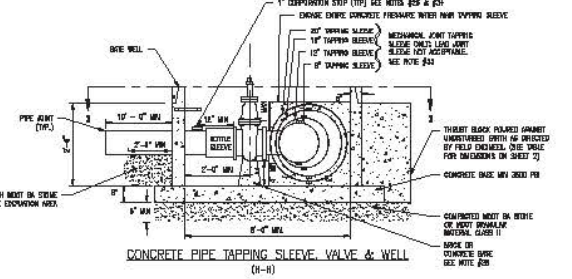
NOTE: ALL AIR RELEASE VALVES SHALL BE AUTOMATIC PER CITY OF NOVI OPS REQUIREMENTS.



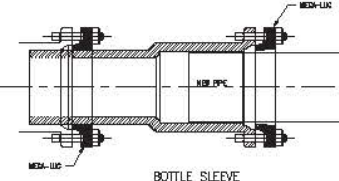
GATE WELL TOPS WITHIN PAVEMENT AREAS



(PLAN VIEW, F-F)



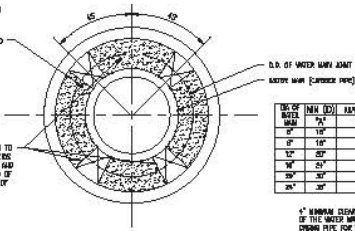
CONCRETE PIPE TAPPING SLEEVE, VALVE & WELL
(H-H)



BOTTLE SLEEVE

NOTE: ALL BOTTLE SLEEVES SHALL BE DUAL-PURPOSE CUTTING-IN SLEEVE OR APPROVED EQUAL.

DETAILS ARE TYPICAL FOR WATER MAIN CONSTRUCTED IN CASING PIPE.
IF BRICK BELLINGS SHALL BE PLACED AT EACH END OF CASING PIPE WITH PIPE INSULATOR.

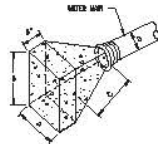


WATER MAIN SHALL BE STRAPPED TO 2" x 4" POLYMERIZED STEEL SIDING SHALL BE SET OF PIPE LAYOUT AND SHALL TERMINATE 1/2" FROM END OF CASING TO ALLOW DRAINAGE OF EXCESS PIPE UNDERDRIVE.

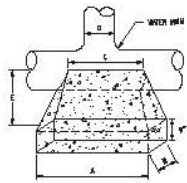
PIPE BARREL SUPPORT FOR WATER MAIN CONSTRUCTED IN CASING PIPE

SIZE OF WATER MAIN	MIN. THICKNESS	MAX. THICKNESS	MINIMUM CLEARANCE
4"	1/2"	3/8"	3/8"
6"	1/2"	3/8"	3/8"
8"	1/2"	3/8"	3/8"
10"	1/2"	3/8"	3/8"
12"	1/2"	3/8"	3/8"
14"	1/2"	3/8"	3/8"
16"	1/2"	3/8"	3/8"
18"	1/2"	3/8"	3/8"
20"	1/2"	3/8"	3/8"
24"	1/2"	3/8"	3/8"

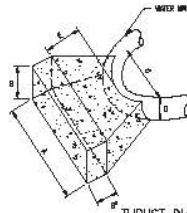
1" MINIMUM CLEARANCE BETWEEN INS. CO. OF THE WATER MAIN AND THE I.A. OF THE CASING PIPE FOR THE TOP AND BOTTOM (SEE DETAIL).



FOR MAINS				
D	A	B	C	E MIN.
8"	2"	2"	2"	2.5"
10"	4-10"	4-10"	2"	2"
12"	4-10"	2"	1-4"	2"
14"	2"	2"	1-4"	2"
16"	2"	2"	1-4"	2"
18"	2"	2"	1-4"	2"

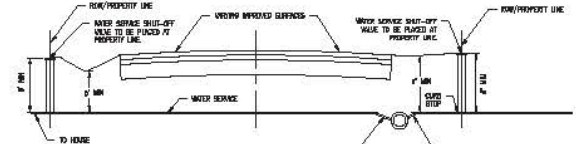


FOR TRENCH AND TAPPING BELLINGS				
D	A	B	C	E MIN.
8"	4-6"	4-6"	2.5"	2.5"
10"	4"	2"	2.5"	2.5"
12"	4"	2"	2.5"	2.5"
14"	4"	2"	2.5"	2.5"
16"	4"	2"	2.5"	2.5"
18"	4"	2"	2.5"	2.5"



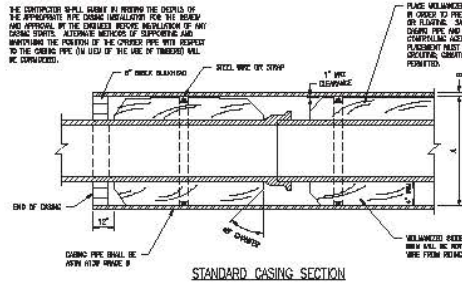
FOR MINIMUM COVER				
D	A	B	C	E MIN.
8"	4"	4"	2.5"	2.5"
10"	4"	2"	2.5"	2.5"
12"	4"	2"	2.5"	2.5"
14"	4"	2"	2.5"	2.5"
16"	4"	2"	2.5"	2.5"
18"	4"	2"	2.5"	2.5"

NOTE: 1. USE FOR CONCRETE TO BE USED. TYPICAL BLOCKS TO BE SET AND NOT ADJUST. UNLESS NOTED ELSE, OR EXCEPT OTHERWISE TO BE OTHERWISE SPECIFIED.
2. THESE BLOCKS NOT PERMITTED ON MAIN OWN MUST BE USED IN CONFORMANCE WITH RESISTANCE REQUIREMENTS. SEE NOTE #14.



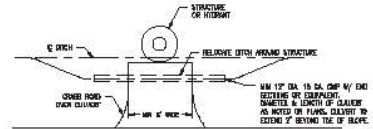
TYPICAL PUBLIC ROAD WATER SERVICE CONNECTION

WATER SERVICE SHUT-OFF VALVE TO BE PLACED AT PROPERTY LINE.

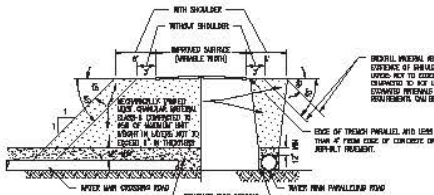


STANDARD CASING SECTION

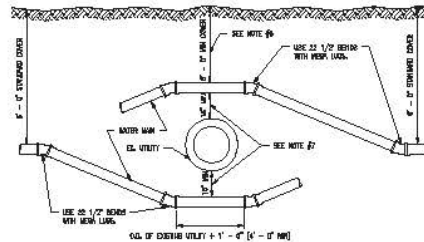
PLATE POLYMERIZED STEEL SIDING SHALL BE PLACED ON THE INSIDE OF THE CASING PIPE TO PROTECT THE WATER MAIN FROM THE CASING PIPE. THE SIDING SHALL BE SET OF PIPE LAYOUT AND SHALL TERMINATE 1/2" FROM END OF CASING TO ALLOW DRAINAGE OF EXCESS PIPE UNDERDRIVE.



DITCH ENCLOSURE AT GATE WELL OR HYDRANT

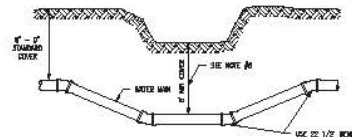


SAND OR GRAVEL BACKFILL DETAILS FOR WATER MAINS UNDER GRAVEL CONCRETE OR ASPHALT PAVEMENTS, SIDEWALKS, DRIVEWAYS AND PARKING AREAS (SEE NOTE #24)

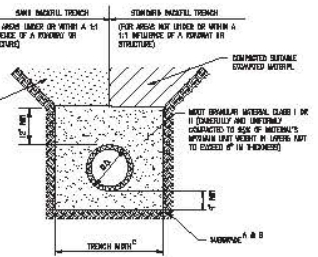


TYPICAL WATER MAIN UTILITY CROSSING (SEE NOTE #17)

NOTE: 1. COMPACTED SAND BACKFILL SHALL EXTEND 4" OVER SIDE OF EXISTING PIPE. 2" OVER EXISTING PIPE AND SHALL SLOPE AT A ONE IN ONE SLOPE TO THE BOTTOM OF THE TRENCH OR TO FINAL TOP GRADE IF OTHER PROVIDED.



DITCH, STREAM OR WETLAND CROSSING



BEDDING AND TRENCH BACKFILL DETAIL (SEE NOTE #24)

NOTE: 1. IF THE EXISTING SURFACE SLOPE MEETS THE REQUIREMENTS FOR SAND BACKFILL, THE SAND SHALL NOT BE USED OVER THE COMPACTED BACKFILL. 2. IF THE EXISTING SURFACE SLOPE DOES NOT MEET THE REQUIREMENTS, THE SAND SHALL BE USED OVER THE COMPACTED BACKFILL. 3. IF THE EXISTING SURFACE SLOPE DOES NOT MEET THE REQUIREMENTS, THE SAND SHALL BE USED OVER THE COMPACTED BACKFILL.

MINIMUM TRENCH WIDTHS	
UT. PIPE SIZE	TRENCH WIDTH
1/2" TO 2"	30"
2" TO 4"	36"
4" TO 6"	42"
6" TO 8"	48"
8" TO 12"	54"
12" TO 18"	60"
18" TO 24"	66"
24" TO 30"	72"
30" TO 36"	78"
36" TO 42"	84"
42" TO 48"	90"
48" TO 54"	96"
54" TO 60"	102"
60" TO 66"	108"
66" TO 72"	114"
72" TO 78"	120"
78" TO 84"	126"
84" TO 90"	132"
90" TO 96"	138"
96" TO 102"	144"
102" TO 108"	150"
108" TO 114"	156"
114" TO 120"	162"
120" TO 126"	168"
126" TO 132"	174"
132" TO 138"	180"
138" TO 144"	186"
144" TO 150"	192"
150" TO 156"	198"
156" TO 162"	204"
162" TO 168"	210"
168" TO 174"	216"
174" TO 180"	222"
180" TO 186"	228"
186" TO 192"	234"
192" TO 198"	240"
198" TO 204"	246"
204" TO 210"	252"
210" TO 216"	258"
216" TO 222"	264"
222" TO 228"	270"
228" TO 234"	276"
234" TO 240"	282"
240" TO 246"	288"
246" TO 252"	294"
252" TO 258"	300"
258" TO 264"	306"
264" TO 270"	312"
270" TO 276"	318"
276" TO 282"	324"
282" TO 288"	330"
288" TO 294"	336"
294" TO 300"	342"
300" TO 306"	348"
306" TO 312"	354"
312" TO 318"	360"
318" TO 324"	366"
324" TO 330"	372"
330" TO 336"	378"
336" TO 342"	384"
342" TO 348"	390"
348" TO 354"	396"
354" TO 360"	402"
360" TO 366"	408"
366" TO 372"	414"
372" TO 378"	420"
378" TO 384"	426"
384" TO 390"	432"
390" TO 396"	438"
396" TO 402"	444"
402" TO 408"	450"
408" TO 414"	456"
414" TO 420"	462"
420" TO 426"	468"
426" TO 432"	474"
432" TO 438"	480"
438" TO 444"	486"
444" TO 450"	492"
450" TO 456"	498"
456" TO 462"	504"
462" TO 468"	510"
468" TO 474"	516"
474" TO 480"	522"
480" TO 486"	528"
486" TO 492"	534"
492" TO 498"	540"
498" TO 504"	546"
504" TO 510"	552"
510" TO 516"	558"
516" TO 522"	564"
522" TO 528"	570"
528" TO 534"	576"
534" TO 540"	582"
540" TO 546"	588"
546" TO 552"	594"
552" TO 558"	600"
558" TO 564"	606"
564" TO 570"	612"
570" TO 576"	618"
576" TO 582"	624"
582" TO 588"	630"
588" TO 594"	636"
594" TO 600"	642"
600" TO 606"	648"
606" TO 612"	654"
612" TO 618"	660"
618" TO 624"	666"
624" TO 630"	672"
630" TO 636"	678"
636" TO 642"	684"
642" TO 648"	690"
648" TO 654"	696"
654" TO 660"	702"
660" TO 666"	708"
666" TO 672"	714"
672" TO 678"	720"
678" TO 684"	726"
684" TO 690"	732"
690" TO 696"	738"
696" TO 702"	744"
702" TO 708"	750"
708" TO 714"	756"
714" TO 720"	762"
720" TO 726"	768"
726" TO 732"	774"
732" TO 738"	780"
738" TO 744"	786"
744" TO 750"	792"
750" TO 756"	798"
756" TO 762"	804"
762" TO 768"	810"
768" TO 774"	816"
774" TO 780"	822"
780" TO 786"	828"
786" TO 792"	834"
792" TO 798"	840"
798" TO 804"	846"
804" TO 810"	852"
810" TO 816"	858"
816" TO 822"	864"
822" TO 828"	870"
828" TO 834"	876"
834" TO 840"	882"
840" TO 846"	888"
846" TO 852"	894"
852" TO 858"	900"
858" TO 864"	906"
864" TO 870"	912"
870" TO 876"	918"
876" TO 882"	924"
882" TO 888"	930"
888" TO 894"	936"
894" TO 900"	942"
900" TO 906"	948"
906" TO 912"	954"
912" TO 918"	960"
918" TO 924"	966"
924" TO 930"	972"
930" TO 936"	978"
936" TO 942"	984"
942" TO 948"	990"
948" TO 954"	996"
954" TO 960"	1002"
960" TO 966"	1008"
966" TO 972"	1014"
972" TO 978"	1020"
978" TO 984"	1026"
984" TO 990"	1032"
990" TO 996"	1038"
996" TO 1002"	1044"
1002" TO 1008"	1050"
1008" TO 1014"	1056"
1014" TO 1020"	1062"
1020" TO 1026"	1068"
1026" TO 1032"	1074"
1032" TO 1038"	1080"
1038" TO 1044"	1086"
1044" TO 1050"	1092"
1050" TO 1056"	1098"
1056" TO 1062"	1104"
1062" TO 1068"	1110"
1068" TO 1074"	1116"
1074" TO 1080"	1122"
1080" TO 1086"	1128"
1086" TO 1092"	1134"
1092" TO 1098"	1140"
1098" TO 1104"	1146"
1104" TO 1110"	1152"
1110" TO 1116"	1158"
1116" TO 1122"	1164"
1122" TO 1128"	1170"
1128" TO 1134"	1176"
1134" TO 1140"	1182"
1140" TO 1146"	1188"
1146" TO 1152"	1194"
1152" TO 1158"	1200"
1158" TO 1164"	1206"
1164" TO 1170"	1212"
1170" TO 1176"	1218"
1176" TO 1182"	1224"
1182" TO 1188"	1230"
1188" TO 1194"	1236"
1194" TO 1200"	1242"
1200" TO 1206"	1248"
1206" TO 1212"	1254"
1212" TO 1218"	1260"
1218" TO 1224"	1266"
1224" TO 1230"	1272"
1230" TO 1236"	1278"
1236" TO 1242"	1284"
1242" TO 1248"	1290"
1248" TO 1254"	1296"
1254" TO 1260"	1302"
1260" TO 1266"	1308"
1266" TO 1272"	1314"
1272" TO 1278"	1320"
1278" TO 1284"	1326"
1284" TO 1290"	1332"
1290" TO 1296"	1338"
1296" TO 1302"	1344"
1302" TO 1308"	1350"
1308" TO 1314"	1356"
1314" TO 1320"	1362"
1320" TO 1326"	1368"
1326" TO 1332"	1374"
1332" TO 1338"	1380"
1338" TO 1344"	1386"
1344" TO 1350"	1392"
1350" TO 1356"	1398"
1356" TO 1362"	1404"
1362" TO 1368"	1410"
1368" TO 1374"	1416"
1374" TO 1380"	1422"
1380" TO 1386"	1428"
1386" TO 1392"	1434"
1392" TO 1398"	1440"
1398" TO 1404"	1446"
1404" TO 1410"	1452"
1410" TO 1416"	1458"
1416" TO 1422"	1464"
1422" TO 1428"	1470"
1428" TO 1434"	1476"
1434" TO 1440"	1482"
1440" TO 1446"	1488"
1446" TO 1452"	1494"
1452" TO 1458"	1500"
1458" TO 1464"	1506"
1464" TO 1470"	1512"
1470" TO 1476"	1518"
1476" TO 1482"	1524"
1482" TO 1488"	1530"
1488" TO 1494"	1536"
1494" TO 1500"	1542"
1500" TO 1506"	1548"
1506" TO 1512"	1554"
1512" TO 1518"	1560"
1518" TO 1524"	1566"
1524" TO 1530"	1572"
1530" TO 1536"	1578"
1536" TO 1542"	1584"
1542" TO 1548"	1590"
1548" TO 1554"	1596"
1554" TO 1560"	1602"
1560	



CITY OF NOVI WATER MAINS DEPARTMENT

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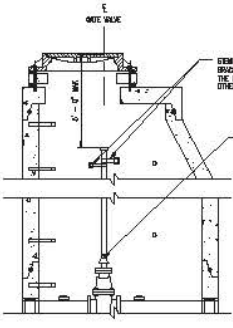
CITY OF NOVI WATER MAINS DEPARTMENT

CITY OF NOVI WATER MAINS DEPARTMENT

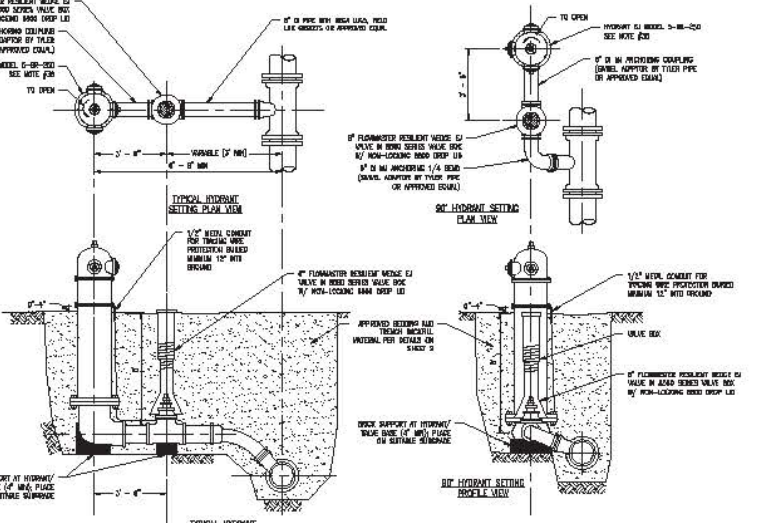
WATER MAIN CONSTRUCTION NOTES

GENERAL NOTES

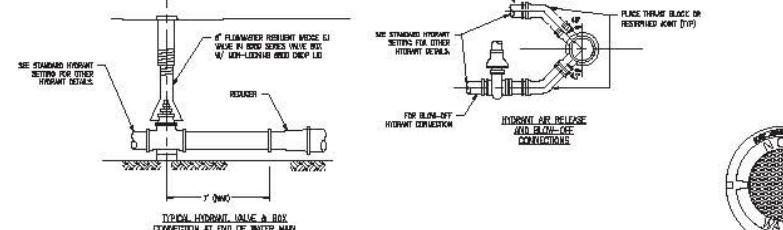
- All construction standards and materials used on all water main projects shall conform to the NOVI Standard and Specification Department and the City of Novi Standard and Specification.
- No water main to be installed without City inspection.
- Three (3) working days prior to installation, the Contractor shall prepare NOVI (D11 or 1-100-102-717) for underground facilities location and shall also notify Hydrographer at other offices located in the vicinity of the work.
- When work is to be performed in the vicinity of a City of Detroit water main, contractor shall notify the Detroit Metropolitan Sewer Service Inspection Department (313) (313-522) three (3) working days prior to start of construction and request on location of the job.
- All pipe and pipe fittings shall be made in the U.S.A.
- Unless otherwise specified in plan, top of water main shall be at (6) feet below existing or proposed road surface, or (6) feet below existing or proposed grade, whichever results in lower elevation. A minimum cover of six (6) feet shall be maintained when crossing a utility water main and have a minimum of 52 inch of cover over horizontal crossing or 48 inch, as measured from the lowest point in the plan cross section.
- Whenever a water main is required under existing utility, the installation shall be made to prevent support or disturbance of existing utilities to avoid any settlement and if possible within the same trench. A method inspection of at least 12 inches between the utility and the water main shall be provided (excavated back to level).
- All required cover construction details shall be installed as required by the local governing authority and in accordance with the standards of the Michigan Department of Environmental Quality Water Resources Division and the Michigan Department of Public Safety.



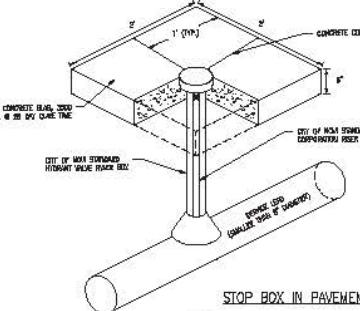
STEEL EXTENSION DETAIL



TYPICAL HYDRANT SETTING PLAN VIEW

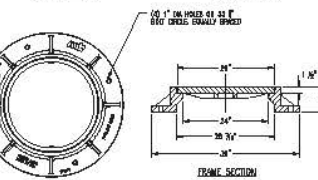
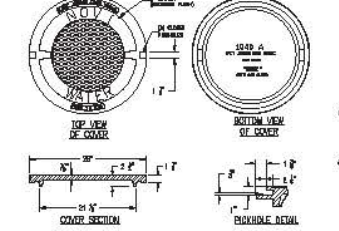


DETAIL OF HYDRANT SETTINGS



STOP BOX IN PAVEMENT DETAIL

NOTE: WHERE OTHER REPAIRS COMPOSITION BOX SHALL WITHIN A PAVED AREA (DRIVEWAY LOT, DRIVEWAY DRIVE PAVEMENT) THE STOP BOX SHALL BE PLACED IN A DRIVEWAY (DRIVEWAY VALVE BOX). THE VALVE BOX SHALL BE CONCRETE BY A 2'x3'x4\"/>



CAST IRON GATE WELL FRAME AND COVER

(SEE NOTE #30)

- Working area shall be provided for all water main operations of the material. These areas shall be maintained. When P.C. is installed for a water main, working area shall be provided for the material. The area shall be maintained. Working area shall be provided for the material. The area shall be maintained.
- Excavation to be installed water main shall be made only after clearance and handling of all other utilities has been completely completed. The city engineer shall be notified for the location of all other utilities. The water main shall be installed in a trench with a minimum of 52 inch of cover over horizontal crossing or 48 inch, as measured from the lowest point in the plan cross section.
- The City of Novi shall maintain the connection of the water main to the existing water main. After the connection is made, the contractor shall be notified of the location of the water main. The water main shall be installed in a trench with a minimum of 52 inch of cover over horizontal crossing or 48 inch, as measured from the lowest point in the plan cross section.
- Whenever a water main is required under existing utility, the installation shall be made to prevent support or disturbance of existing utilities to avoid any settlement and if possible within the same trench. A method inspection of at least 12 inches between the utility and the water main shall be provided (excavated back to level).
- When temporary water main joints are used during water main construction, a hydraulic release shall be provided for the joints. The hydraulic release shall be installed in a trench with a minimum of 52 inch of cover over horizontal crossing or 48 inch, as measured from the lowest point in the plan cross section.
- The materials specified herein may be substituted with an approved equal as determined by the City. A 1/2 inch diameter of the City is determined if a material is acceptable and not a substitute. Written authorization must be obtained prior to ordering or installing the approved equal.

STEEL MAIN NOTES

- All water main shall be ductile iron or concrete. HDPE water main may be permitted upon City approval. Water main shall be per the following specifications:
 - Ductile iron shall be ANSI/AWWA C151/C152, covered steel with aluminum zinc coat, class 30 for 3\"/>
 - High Density Polyethylene (HDPE) pipe shall meet the requirements of ANSI/AWWA C200 (D11) with base and or end fittings.
- Water main shall be 12\"/>
- The maximum diameter of joints for ductile pipe water main shall be per manufacturer's maximum. On 4\"/>
- Play-way may be required by the City and shall be placed below the water main per manufacturer's specifications.
- MATERIALS shall be placed at all utility, bridge, road, slope, hydrants and manholes. Surrounding areas shall be maintained with L.S.P. that will provide an approved equal and shall be per the manufacturer's L.S.P. surrounding materials and the latest edition of SPM's. That includes ductile iron pipe.
- Water main joints shall be tight. Flexible, mechanical or approved equal in accordance with ANSI/AWWA C111/C112.

- Reinforced joints are required in lieu of street boxes. Reinforced joints for pipe sizes up to 18\"/>
- Street manholes shall be installed in accordance with the standards of the Michigan Department of Environmental Quality (MDEQ) (313) (313-522) for underground facilities location and shall also notify Hydrographer at other offices located in the vicinity of the work.
- Street manholes shall be installed in accordance with the standards of the Michigan Department of Environmental Quality (MDEQ) (313) (313-522) for underground facilities location and shall also notify Hydrographer at other offices located in the vicinity of the work.
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WELL & VALVE NOTES

- Wells shall be installed in accordance with the standards of the Michigan Department of Environmental Quality (MDEQ) (313) (313-522) for underground facilities location and shall also notify Hydrographer at other offices located in the vicinity of the work.
- Valves shall be installed in accordance with the standards of the Michigan Department of Environmental Quality (MDEQ) (313) (313-522) for underground facilities location and shall also notify Hydrographer at other offices located in the vicinity of the work.
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- Hydrant valves shall be installed in accordance with the standards of the Michigan Department of Environmental Quality (MDEQ) (313) (313-522) for underground facilities location and shall also notify Hydrographer at other offices located in the vicinity of the work.
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HYDRANT NOTES

- Hydrants shall be installed in accordance with the standards of the Michigan Department of Environmental Quality (MDEQ) (313) (313-522) for underground facilities location and shall also notify Hydrographer at other offices located in the vicinity of the work.
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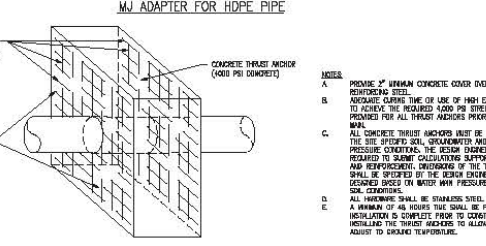
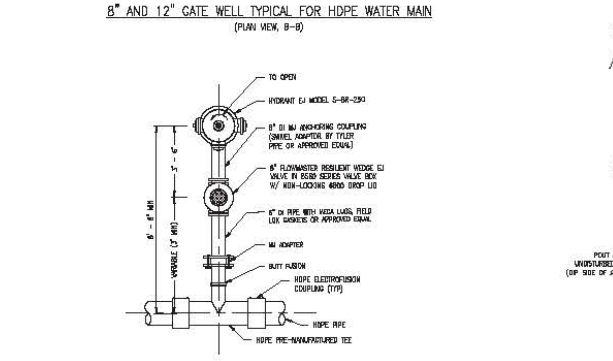
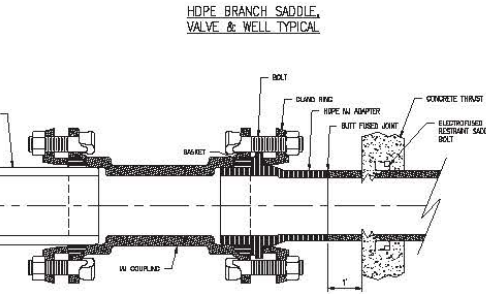
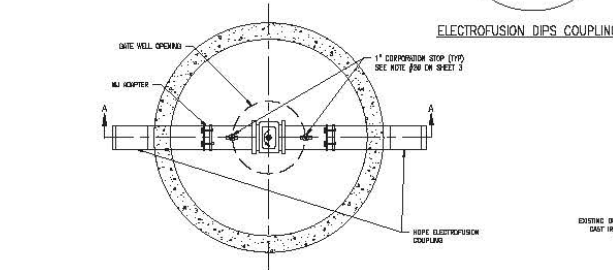
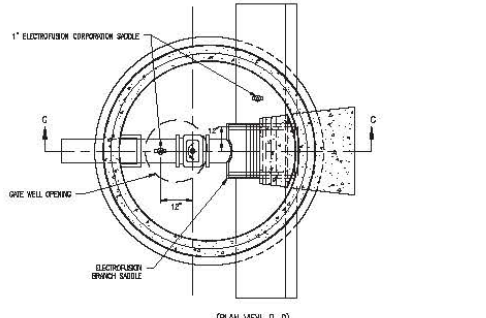
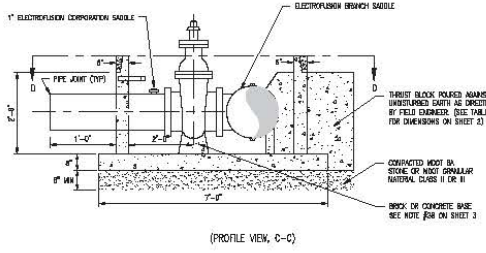
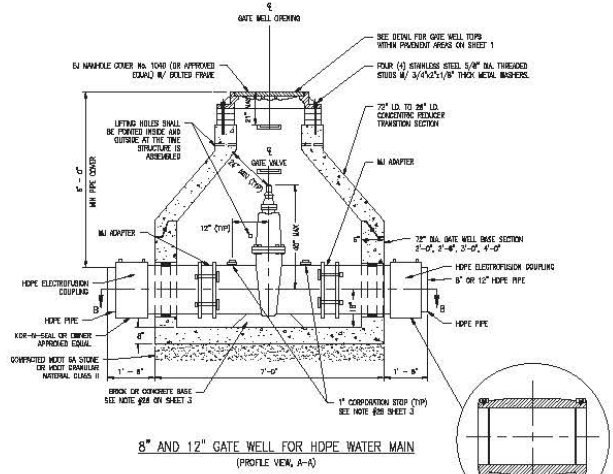
CITY OF NOVI WATER MAIN STANDARD DETAILS

HIGH-DENSITY POLYETHYLENE (HDPE) WATER MAIN NOTES

In addition to the water main notes listed on sheet 3 of the standard details the following notes will apply to construction projects using HDPE water main:

- NOTES:**
- HDPE pipe, appurtenances, and installation methods shall conform to the most current edition of AWWA standard C900.
 - HDPE pipe shall be manufactured out of virgin material as defined by ASTM D3355. The pipe shall be made from high density PE (HDPE) polyethylene resin that is listed and approved for use under NSF/ANSI Standard 14 and 61. HDPE pipe shall have a standard dimension ratio (SDR) of 11 or less, a hydrostatic design basis (HDB) of 1500 psi for water at 73.5°F and a minimum working pressure rating of 150 psi. No record except that obtained from the manufacturer's own production of the same formulation shall be used. The pipe shall be homogeneous throughout and shall be free of visible cracks, holes, foreign materials, inclusions, or other imperfections. A "Certificate of Compliance" shall be furnished for all materials supplied.
 - The physical appearance of the pipe having imperfections such as unaccounted ridges, depressions, excessive joint roughness, pits, scoring and abrasions, etc., which constitute surface flaws for installation of pipe with gaskets, rings, clamps or any physical damage that occurred during storage and/or handling which are visible or deeper than 1/64" of the wall thickness shall not be used and must be removed from the construction site. Any pipe that has been damaged or does not meet the City's approval shall be replaced at the Contractor's expense.
 - Unfinished fittings used with HDPE pipe shall be specifically designed for or listed and found to be acceptable for use with HDPE by the fitting manufacturer. Unfinished fittings designed for other materials shall not be used.
 - Water service valves on HDPE water main shall be "1" Electrofusion Service Saddle by Fiston, Inc. or approved equal.
 - The maximum joint fittings must conform to outside diameter requirements of AWWA/ANSI C111/A21.1 or AWWA/ANSI C153/A21.53 depending size. Joint restraint fittings shall meet AWWA C900 dimensional requirements.
 - Bells, rinks, gaskets, and gasket seating AWWA C111/A21.1 and AWWA C153/A21.53 are recommended.
 - Pipe and fittings must be marked as prescribed by AWWA C900 and NSF. Pipe markings shall include nominal size, D, DR, dimension ratio, pressure class, working pressure rating, AWWA C900, manufacturer designation "PE 3618", manufacturer's name, manufacturer's production code including day, month, year, extrusion, and manufacturer's plant and location data and NSF logo. Permanent identification of fitting shall be provided by an extrusion identification line across the entire surface of the pipe (larger pieces or piping may not be acceptable) or the pipe markings shall be spaced with a 30' interval.
 - Storage site shall be provided per the City's specifications and details for all water main. Site shall be approved, 8' high elevated, blue lined and per City's requirements and shall be brought through each gate well and connected to the top step. In addition, an approved ventilation marking tape shall be placed one foot above the HDPE pipe. Underground marking tape shall be furnished, if applicable, for installed lines. Call 311-522 for Empire Land Manufacturing Co., or approved equal.
 - Personnel trained in the use of built-in restraint shall perform the joining of polyethylene pipe by methods recommended for new pipe connections. Personnel directly trained with installing the new pipe shall have received training in the proper methods for handling and installing the HDPE pipe by a qualified representative and satisfaction of this training will be provided to the City.
 - Connections to HDPE pipe shall not be made immediately after the pipe has been installed. The buried pipe shall be laid in the trench and be allowed to reach an equilibrium temperature overnight (24-hour period) if its surrounding environment.
 - The HDPE pipe must be properly aligned at all transitions to conventional or HDPE water main and appurtenances.
- TESTING:**
- The polyethylene pipe shall be pressure tested after the line and all fittings and valves have been installed. Connections may be left unsealed for short term inspection. Under no circumstances shall HDPE pipe be pressure tested when the temperature of the pipe is above 80°F.
 - The newly installed polyethylene water main shall be deflected by the Contractor and samples obtained for complete distribution by the City of Novi. The number of samples and sampling points will be determined by the City.
- PIPE REPAIRING PRODUCTS:**
- The method approved for rehabilitation of existing water main by pipe lining and installation of new HDPE pipe is T.T. Technology (TRENCHLESS SYSTEMS, 800-333-0700) or approved equal. All contractors must be licensed to use the particular technology proposed for this work.
 - The pipe-lining tool shall be designed and manufactured to force the key through existing pipe material by fragmenting the pipe and compressing the old pipe sections into the surrounding soil as it progresses. The boring unit shall be pneumatic and shall generate enough force to burst and compact the existing pipe.
 - The manufacturer's specifications shall dictate what soil test should be used in what diameter pipe or soil or permeability of what soil for percentage of water allowed.
 - Prior to construction, the Contractor shall develop and provide to the City of Novi for review and approval a temporary water system plan to include locating, distribution, loading and service connection operations. Temporary service connections shall be made of the water service also by disconnecting the existing water service and connecting the temporary water line to the stop tap.

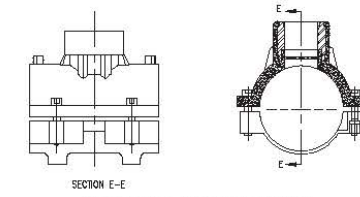
MINIMUM PIPE SIZE (OD, SEE INCHES)	MINIMUM WALL THICKNESS (SDR 11) (IN, SEE INCHES)
8"	0.827
8"	0.827
12"	1.000
16"	1.302
20"	1.664
24"	2.026



FIRE HYDRANT ASSEMBLY WITH HDPE PRE-MANUFACTURED TEE

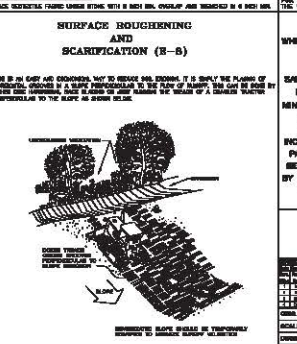
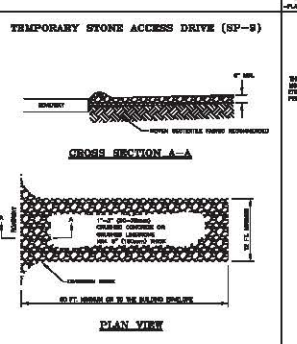
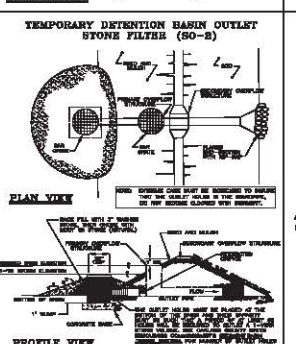
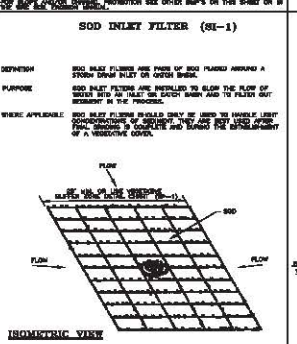
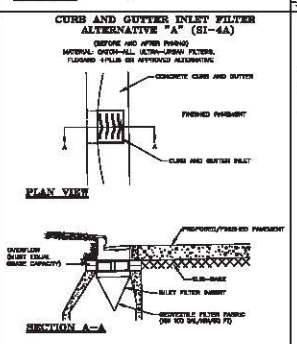
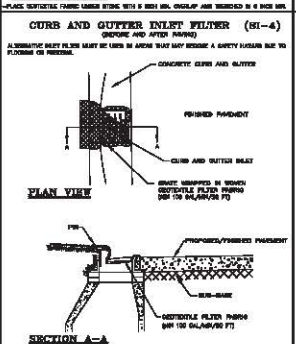
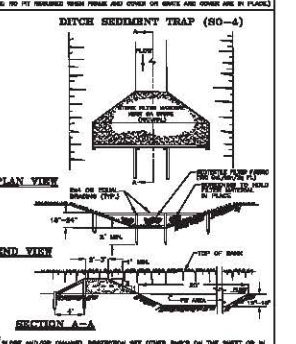
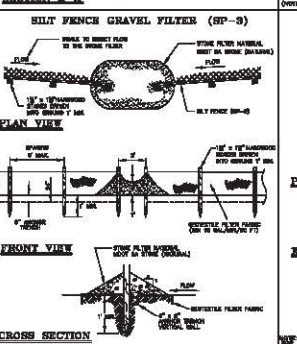
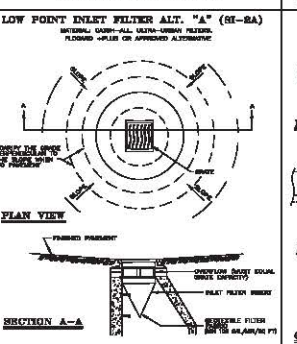
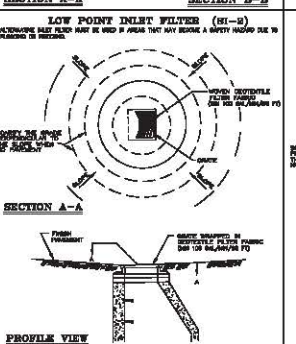
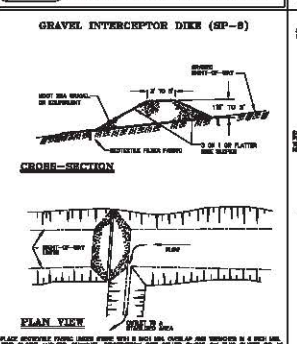
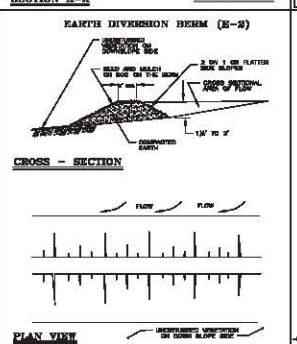
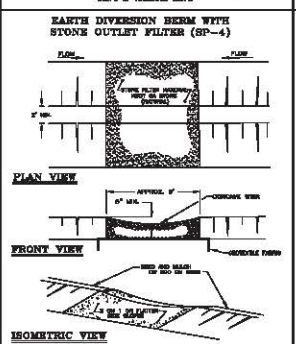
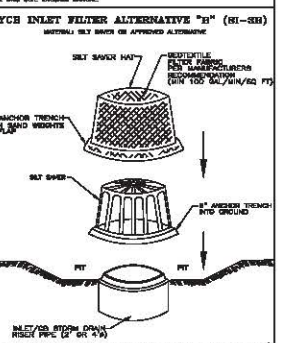
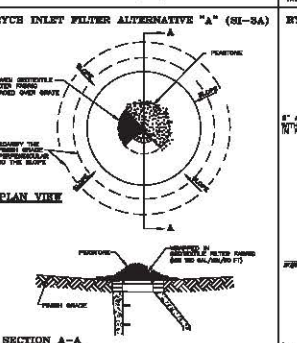
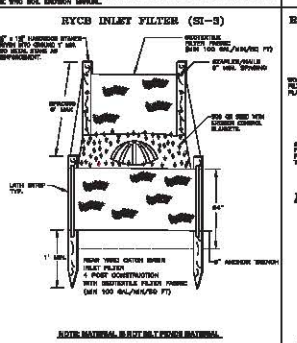
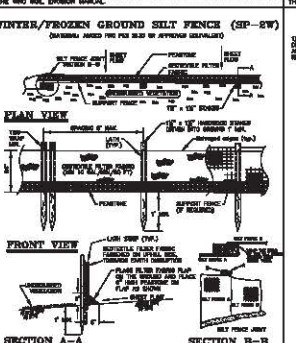
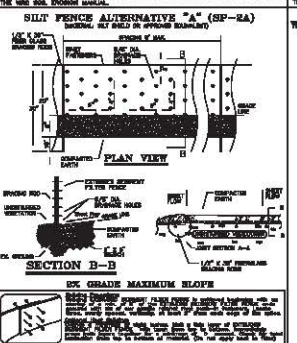
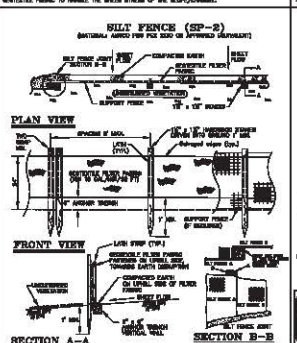
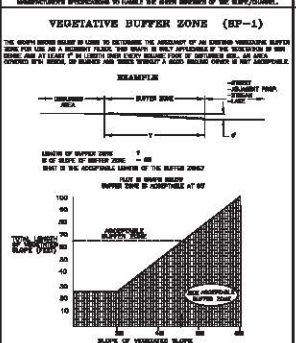
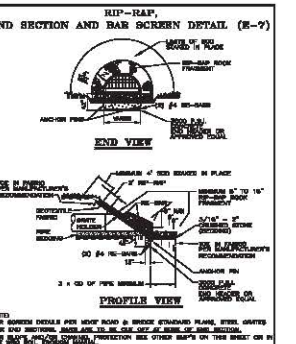
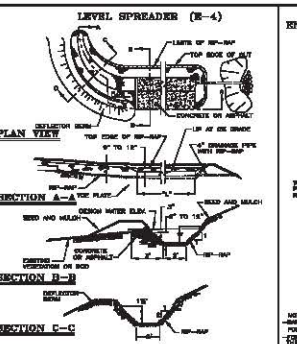
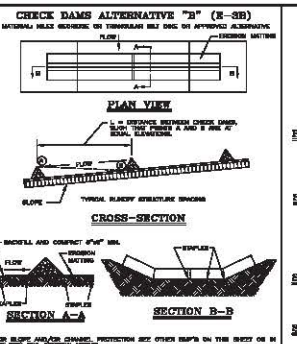
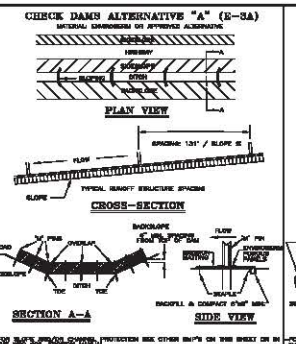
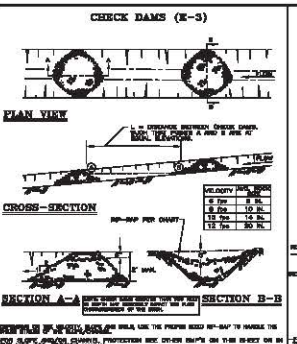
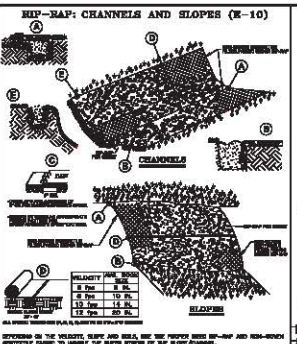
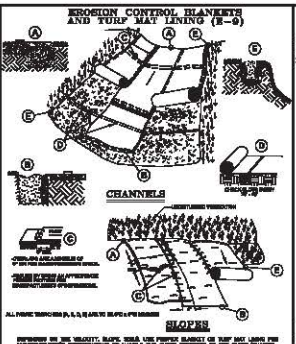
CONCRETE THRUST ANCHOR FOR HDPE PIPE

HDPE WATER MAIN JOINT RESTRAINT (FOR CONNECTING HDPE PIPE TO DUCTILE IRON PIPE)



ELECTROFUSION BRANCH SADDLE DETAIL

DRAWING DATE: 12/20/2014 11:52AM 12/20/2014 11:52AM



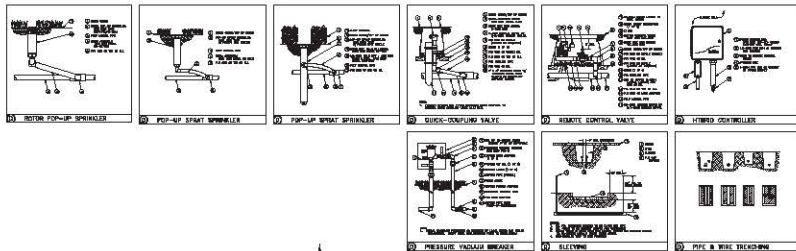
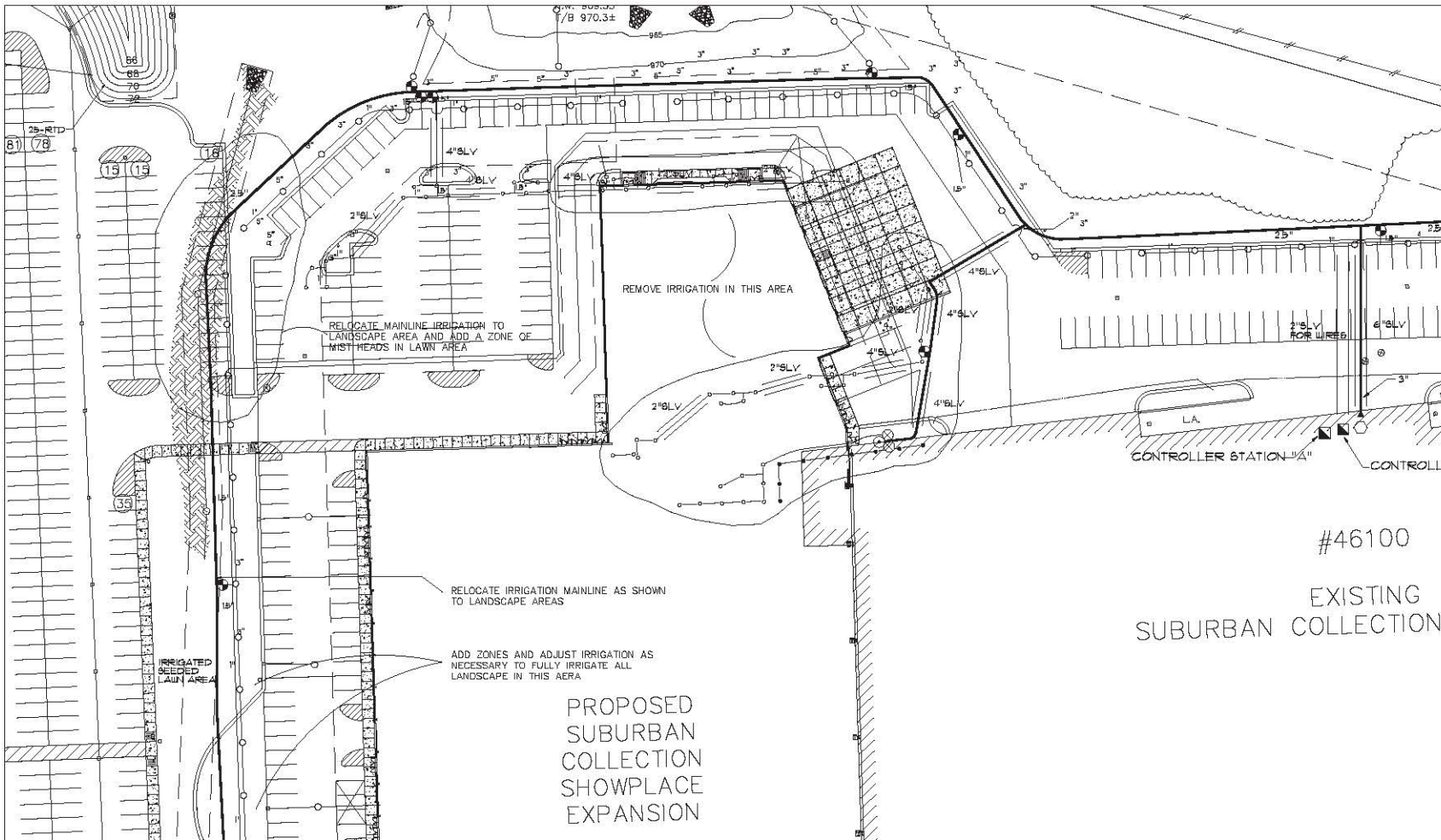
NOTE:

WHILE PERFORMING WORK INVOLVING MAINTENANCE AND/OR THE CONSTRUCTION/MAINTENANCE OF ANY INFRASTRUCTURE, INCLUDING ROADS, WATER LINES, SANITARY SEWERS, STORM DRAINAGE AND STORM WATER BEST MANAGEMENT PRACTICES (BMPs), CONTRACTORS SHALL MINIMIZE POLLUTION FROM STORM WATER RUNOFF THAT CAN AFFECT WATER QUALITY RELATED TO WORK ACTIVITIES. POLLUTANTS THAT COULD IMPAIR WATER QUALITY MAY INCLUDE FUEL, GREASE AND OIL, NUTRIENTS, BACTERIA AND PATHOGENS, LITTER AND DEBRIS, AND SOIL EROSION AND SEDIMENTATION. APPLICABLE BMPs SHALL BE IMPLEMENTED BY THE CONTRACTOR TO THE MAXIMUM EXTENT PRACTICABLE TO PROTECT WATER QUALITY AND WILDLIFE HABITAT.

SOIL EROSION SEDIMENTATION CONTROL DETAILS

DATE:	
SCALE:	
PROJECT:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	

WRC
WATER RESOURCES CORPORATION



- IRRIGATION LEGEND**
- RAIN BIRD 8000 SERIES MOTOR DRIVEN ROTOR
 - RAIN BIRD 4\"/>

- IRRIGATION NOTES**
1. ALL WORK IS TO BE IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL CODES AND ORDINANCES.
 2. ALL UNDERGROUND ELECTRICAL CONNECTIONS ARE TO BE MADE WITH KING WIRE CONNECTORS.
 3. ALL AUTO CONTROL VALVES ARE TO BE INSTALLED IN DURA VALVE BOXES OF APPROPRIATE SIZE.
 4. ALL CONTROL WIRE DOWNSTREAM OF THE CONTROLLER IS TO BE 14 AWG, UL APPROVED FOR DIRECT BURY.
 5. ALL ROTORS AND SPRAY HEADS SHALL BE INSTALLED ON POLY BUNG PIPE.
 6. ALL QUICK COUPLING VALVES SHALL BE INSTALLED ON 3/8\"/>

IRRIGATION PIPE CHART

1 - 12 GPM	1\"/>
13 - 30 GPM	1.5\"/>
31 - 48 GPM	2\"/>

P.O. Box 242
 Lake Orion, Michigan 48041-0242
 P: 248.812.3033
 F: 248.690.7104

Patrick S. Conroy
 AND ASSOCIATES
 Landscape Architecture & Construction • Construction Management
 Site Planning • Civil Contract Administration

NOTES & DETAILS

REVISION	DATE	DESCRIPTION
1	9-12-18	ISSUE FOR PERMIT
2	9-19-18	ISSUE FOR PERMIT
3	11-28-18	ISSUE FOR PERMIT

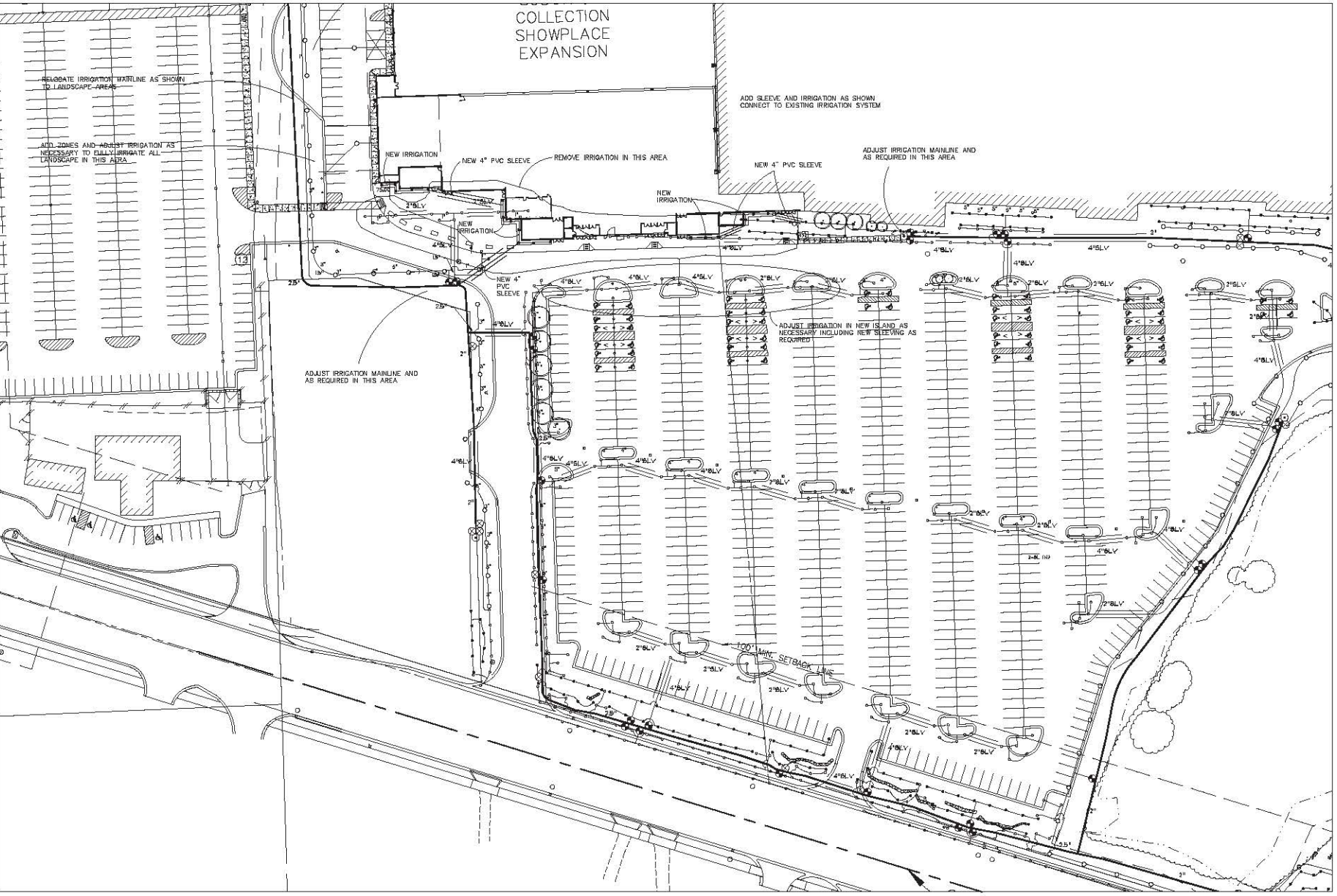
SUBURBAN COLLECTION SHOWPLACE

PROJECT: SUBURBAN COLLECTION SHOWPLACE
 LOCATION: 11.6 C. JACOBS LANE AND RIVER AVE., NOVY, MI 48755

DESIGNED BY: VYN
 DATE: 04/12/2018

PROJECT NO: **16.112**

Sheet: **I-1**



SITE IRRIGATION PLAN

PATRICK S.
Conroy
AND ASSOCIATES
INC.

P.O. Box 592
Lake Orion, Michigan 48361-0592
P: 248.214.8802
F: 248.691.7104

Landscape Architecture & Construction • Construction Management
Site Planning • Golf Course Architecture

NOTES & DETAILS

REVISION	DATE	DESCRIPTION

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE SPECIFIED.
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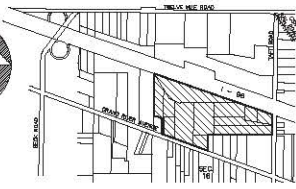
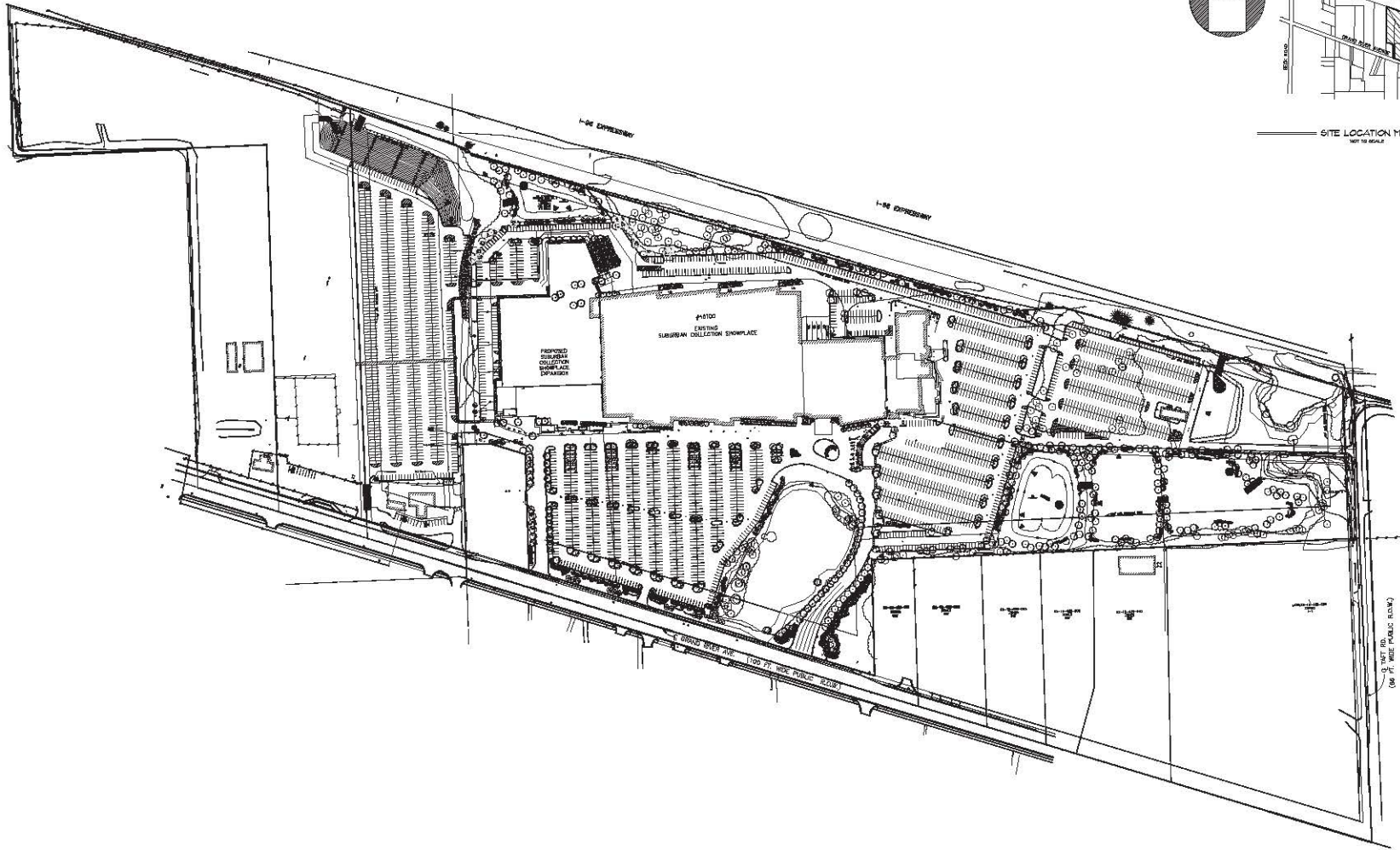
SUBURBAN COLLECTION SHOWPLACE

NOV, MI

1200 S. ILLINOIS
NOV, MI 48375

PROJECT NO: VM
DATE: 04/12/2016

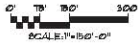
16.112
I-2



SITE LOCATION MAP
NOT TO SCALE



OVERALL EXISTING LANDSCAPE PLAN



Patrick & Conroy



3 BRIDGE ROAD
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1-800-442-7171
(TOLL FREE)

CONCEPTUAL PLAN
NOT FOR CONSTRUCTION

P.O. Box 542
Ann Arbor, Michigan 48101-0542
P: 734.814.8000
F: 734.814.8000
F: 734.890.7154

PATRICK & CONROY ARCHITECTS AND ASSOCIATES

Landscape Architecture • Construction Management
Site Planning • Civil/Cover Architecture

OVERALL EXISTING LANDSCAPE PLAN

REVISION	DATE	DESCRIPTION
MUSICAL REVIEW	4-15-16	STAMPED SET REV.
MUSICAL REVIEW	4-21-16	MUSICAL REVIEW
MUSICAL REVIEW	6-21-16	MUSICAL REVIEW
MUSICAL REVIEW	8-17-16	MUSICAL REVIEW
STAMPED SET	8-17-16	
STAMPED SET	8-18-16	

ALL GENERAL NOTES AND NOTES ON THESE PLANS APPLY TO ALL SHEETS. REVISED NOTES AND SHEETS MUST BE REFERENCED TO THE ORIGINAL SHEET AND SHEETS MUST BE REFERENCED TO THE ORIGINAL SHEET. ANY CHANGES TO THE ORIGINAL DESIGN SHALL BE INDICATED BY A REVISION NUMBER AND DATE. THE ORIGINAL DESIGN SHALL BE INDICATED BY A REVISION NUMBER AND DATE. THE ORIGINAL DESIGN SHALL BE INDICATED BY A REVISION NUMBER AND DATE.

SUBURBAN COLLECTION SHOWPLACE

NOV1, MI

TRON, LLC
46100 GRAND RIVER AVE.
NOV1, MI 48315

NOV1, MI

16.112

L-1

© 2016

TRANSPLANTED MATERIALS GUIDELINES

1. ALL COLLECTED TREES SHALL BE FROM ON-SITE AND INSPECTED BY THE CITY. TREES MAY BE REJECTED FOR REASONS OF INSECT INFESTATION, DISEASE OR STANDARDS SET FORTH IN THIS ORDINANCE. SUCH PLANT MATERIAL MAY BE REJECTED EITHER IN FULL OR IN PART.
2. ALL TRANSPLANTED TREES SHALL CONFORM TO STANDARDS SET FORTH IN SECTION 3C.
3. THE ROOT BALL OF ANY TRANSPLANTED TREE SHALL MEASURE 1 FOOT FOR EACH INCH OF TRUNK DIAMETER MEASURED 12" ABOVE THE GROUND.
4. IF TREES ARE TO BE STORED, THEY SHALL BE BURLAPPED AND HEELED IN WITH MULCH IN A PRE-DETERMINED AREA APPROVED BY THE CITY.
5. THE TREES SHALL BE PROVIDED WITH A WORKING IRRIGATION SYSTEM APPROVED BY THE CITY TO INSURE THEIR VIABILITY DURING STORAGE.

TRANSPLANTED (T) PLANT LIST

QTY.	KEY	BOTANICAL NAME	COMMON NAME	ROOT
21	EO	QUERCUS ROBAR	ENGLISH OAK	90" SPADE
3	ABM	ACER R. X. F. 'AUTUMN BLAZE'	AUTUMN BLAZE MAPLE	90" SPADE
9	GL	TILIA G. 'GREENSPIRE'	GREENSPIRE LINDEN	90" SPADE
2	CM	ACER P. 'COLUNNARE'	COLUNNARE NORWAY MAPLE	90" SPADE
15	NS	PICEA F. 'NIGRA'	COLORADO SPRUCE	90" SPADE
1	NS	ZELKOYA BERRATA	ZELKOYA	90" SPADE
TOTAL: 48				

EXISTING (E) SURROUNDING PLANT LIST TO REMAIN

QTY.	KEY	BOTANICAL NAME	COMMON NAME	ROOT
5	EO	QUERCUS ROBAR	ENGLISH OAK	EXISTING
21	ABM	ACER R. X. F. 'AUTUMN BLAZE'	AUTUMN BLAZE MAPLE	EXISTING
6	GL	TILIA G. 'GREENSPIRE'	GREENSPIRE LINDEN	EXISTING
11	NS	FRAXINUS C. 'CLEVELAND SELECT'	CLEVELAND SELECT PEAR	EXISTING
5	NS	PLATANUS ACERIFOLIA	LONDON PLANE TREE	EXISTING
11	NS	FRAXINUS R. 'RED JEWEL'	RED JEWEL OAK	EXISTING
2	NS	ACER SACCHARUM	SUGAR MAPLE	EXISTING
1	NS	ACER P. 'COLUNNARE'	COLUNNARE NORWAY MAPLE	EXISTING
7	NS	QUERCUS T. 'SCOTLINE'	SCOTLINE LOCUST	EXISTING
22	NS	EVERGREEN MIX	EVERGREEN MIX	EXISTING

KEY

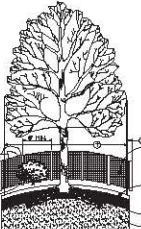
- EXISTING (E) DECIDUOUS TREES TO BE SAVED
- EXISTING (E) EVERGREEN TREES TO BE SAVED
- EXISTING (T) DECIDUOUS TREES TO BE TRANSPLANTED
- EXISTING (T) EVERGREEN TREES TO BE TRANSPLANTED

TREE PROTECTION FENCE

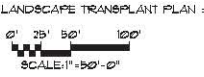
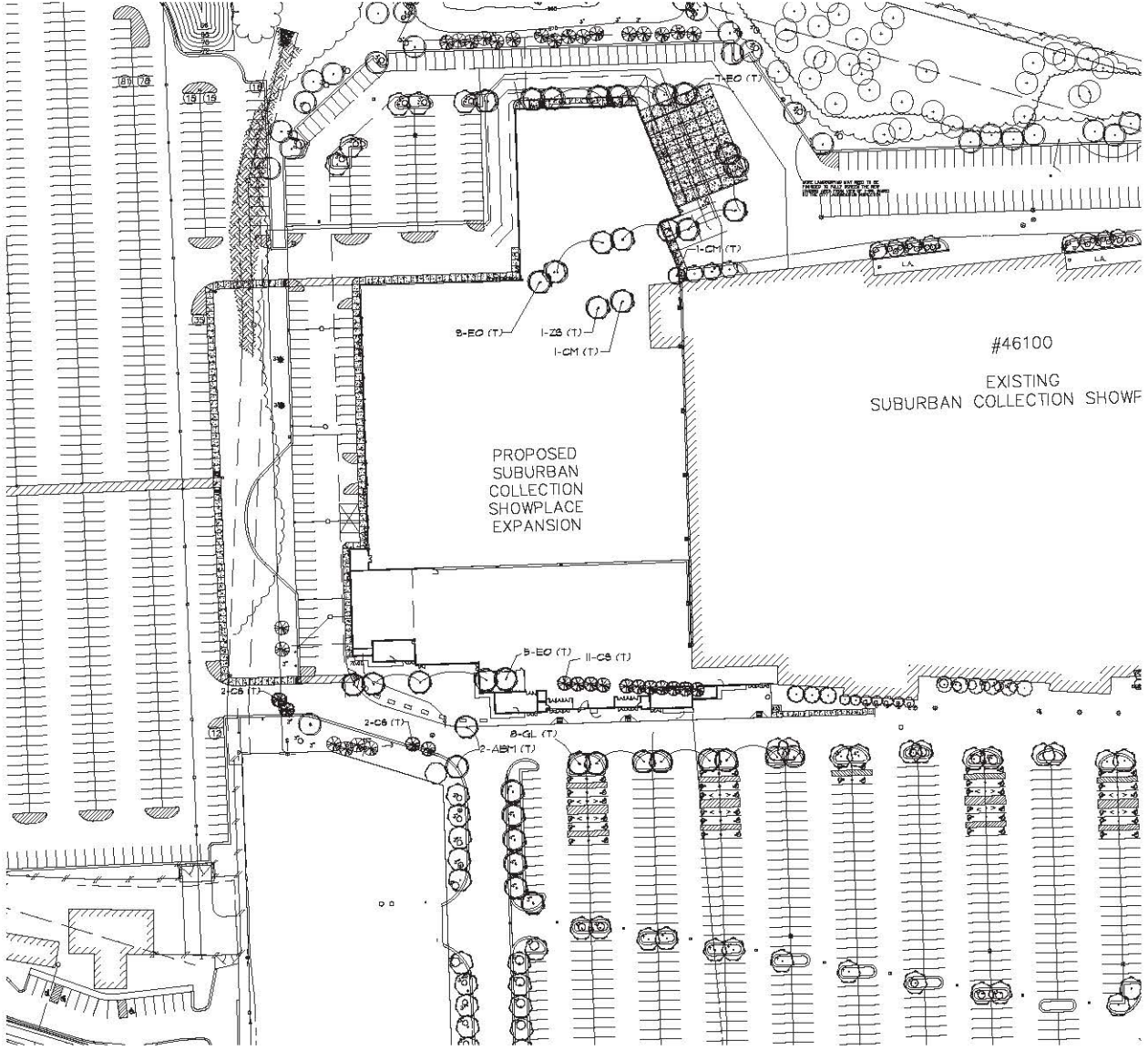
NOTE

1. ON SITE TREE TRANSPLANT LOCATIONS TO BE DETERMINED IN FIELD BY LANDSCAPE ARCHITECT.
2. ANY NEW UTILITY BOXES WILL BE SCREENED PER THE CITY OF NOVI STANDARDS SCREENING DETAIL, AS SHOWN ON SHEET L-6

- TREE PROTECTION FENCE**
1. PREPARE PROTECTIVE FENCE TO BE INSTALLED AT THE BASE OF THE TREE TO BE PROTECTED. THE FENCE SHALL BE 6 FEET HIGH AND SHALL BE MADE OF 2x4 PLYWOOD OR EQUIVALENT MATERIAL. THE FENCE SHALL BE SET BACK 18 INCHES FROM THE TRUNK OF THE TREE.
 2. THE FENCE SHALL BE INSTALLED AT THE BASE OF THE TREE TO BE PROTECTED. THE FENCE SHALL BE 6 FEET HIGH AND SHALL BE MADE OF 2x4 PLYWOOD OR EQUIVALENT MATERIAL. THE FENCE SHALL BE SET BACK 18 INCHES FROM THE TRUNK OF THE TREE.
 3. THE FENCE SHALL BE INSTALLED AT THE BASE OF THE TREE TO BE PROTECTED. THE FENCE SHALL BE 6 FEET HIGH AND SHALL BE MADE OF 2x4 PLYWOOD OR EQUIVALENT MATERIAL. THE FENCE SHALL BE SET BACK 18 INCHES FROM THE TRUNK OF THE TREE.
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 6. THE FENCE SHALL BE INSTALLED AT THE BASE OF THE TREE TO BE PROTECTED. THE FENCE SHALL BE 6 FEET HIGH AND SHALL BE MADE OF 2x4 PLYWOOD OR EQUIVALENT MATERIAL. THE FENCE SHALL BE SET BACK 18 INCHES FROM THE TRUNK OF THE TREE.
 7. THE FENCE SHALL BE INSTALLED AT THE BASE OF THE TREE TO BE PROTECTED. THE FENCE SHALL BE 6 FEET HIGH AND SHALL BE MADE OF 2x4 PLYWOOD OR EQUIVALENT MATERIAL. THE FENCE SHALL BE SET BACK 18 INCHES FROM THE TRUNK OF THE TREE.
 8. THE FENCE SHALL BE INSTALLED AT THE BASE OF THE TREE TO BE PROTECTED. THE FENCE SHALL BE 6 FEET HIGH AND SHALL BE MADE OF 2x4 PLYWOOD OR EQUIVALENT MATERIAL. THE FENCE SHALL BE SET BACK 18 INCHES FROM THE TRUNK OF THE TREE.
 9. THE FENCE SHALL BE INSTALLED AT THE BASE OF THE TREE TO BE PROTECTED. THE FENCE SHALL BE 6 FEET HIGH AND SHALL BE MADE OF 2x4 PLYWOOD OR EQUIVALENT MATERIAL. THE FENCE SHALL BE SET BACK 18 INCHES FROM THE TRUNK OF THE TREE.
 10. THE FENCE SHALL BE INSTALLED AT THE BASE OF THE TREE TO BE PROTECTED. THE FENCE SHALL BE 6 FEET HIGH AND SHALL BE MADE OF 2x4 PLYWOOD OR EQUIVALENT MATERIAL. THE FENCE SHALL BE SET BACK 18 INCHES FROM THE TRUNK OF THE TREE.



TREE PROTECTION FENCE DETAIL
NOT TO SCALE



CONCEPTUAL PLAN
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PATRICK &
Conroy
AND ASSOCIATES
Landscape Architecture & Construction • Construction Management
Site Remediation • Golf Course Architecture

P.O. Box 542
Farmington Hills, Michigan 48331-0542
P: 248.814.8888
F: 248.890.7154

EXISTING LANDSCAPE TRANSPLANT PLAN

NO.	DATE	DESCRIPTION	BY	CHKD
1	04-12-2016	CONCEPTUAL PLAN	VM	VM
2	04-12-2016	CONCEPTUAL PLAN	VM	VM
3	04-12-2016	CONCEPTUAL PLAN	VM	VM
4	04-12-2016	CONCEPTUAL PLAN	VM	VM
5	04-12-2016	CONCEPTUAL PLAN	VM	VM
6	04-12-2016	CONCEPTUAL PLAN	VM	VM
7	04-12-2016	CONCEPTUAL PLAN	VM	VM
8	04-12-2016	CONCEPTUAL PLAN	VM	VM
9	04-12-2016	CONCEPTUAL PLAN	VM	VM
10	04-12-2016	CONCEPTUAL PLAN	VM	VM

SUBURBAN COLLECTION SHOWPLACE

NOVI, MI

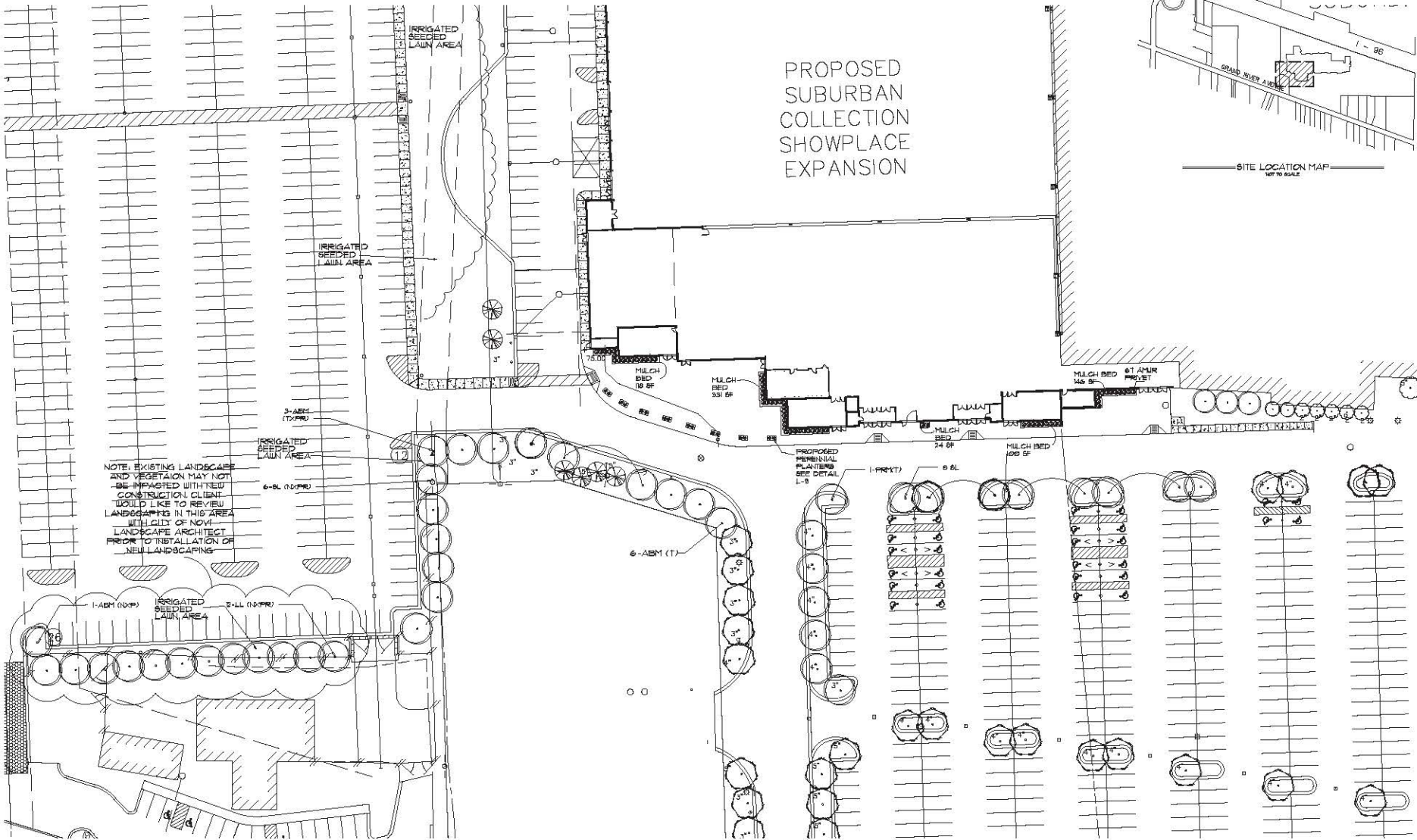
TRIXY, LLC
66100 GRAND RIVER AVE
NOVI, MI 48255

PROJECT NO. 16.112

SHEET NO. L-2

DATE: 04/12/2016

NOTE: PERIMETER OF PARKING LOT TAKEN ON NORTHEAST AND WEST SIDES



PROPOSED
SUBURBAN
COLLECTION
SHOWPLACE
EXPANSION

— SITE LOCATION MAP —
NOT TO SCALE

NOTE: EXISTING LANDSCAPE AND VEGETATION MAY NOT BE IMPACTED WITH NEW CONSTRUCTION. CLIENT WOULD LIKE TO REVIEW LANDSCAPING IN THIS AREA WITH CLD OF NOV. LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF NEW LANDSCAPING.

PROPOSED PERENNIAL PLANTINGS SEE DETAIL L-8

NOTE: LANDSCAPE CONTRACTOR TO TOPSOIL, SEED, AND FERTILIZE AND MULCH ALL DISTURBED AREAS.



PROPOSED SITE LANDSCAPE PLAN
0' 15' 30' 60'
SCALE: 1" = 30'-0"

3 SHOWN OVER BEFORE YOU DIG CALL MISS DIG (800-482-7171) (TOLL FREE)

CONCEPTUAL PLAN
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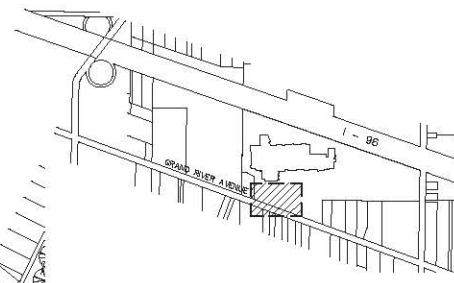
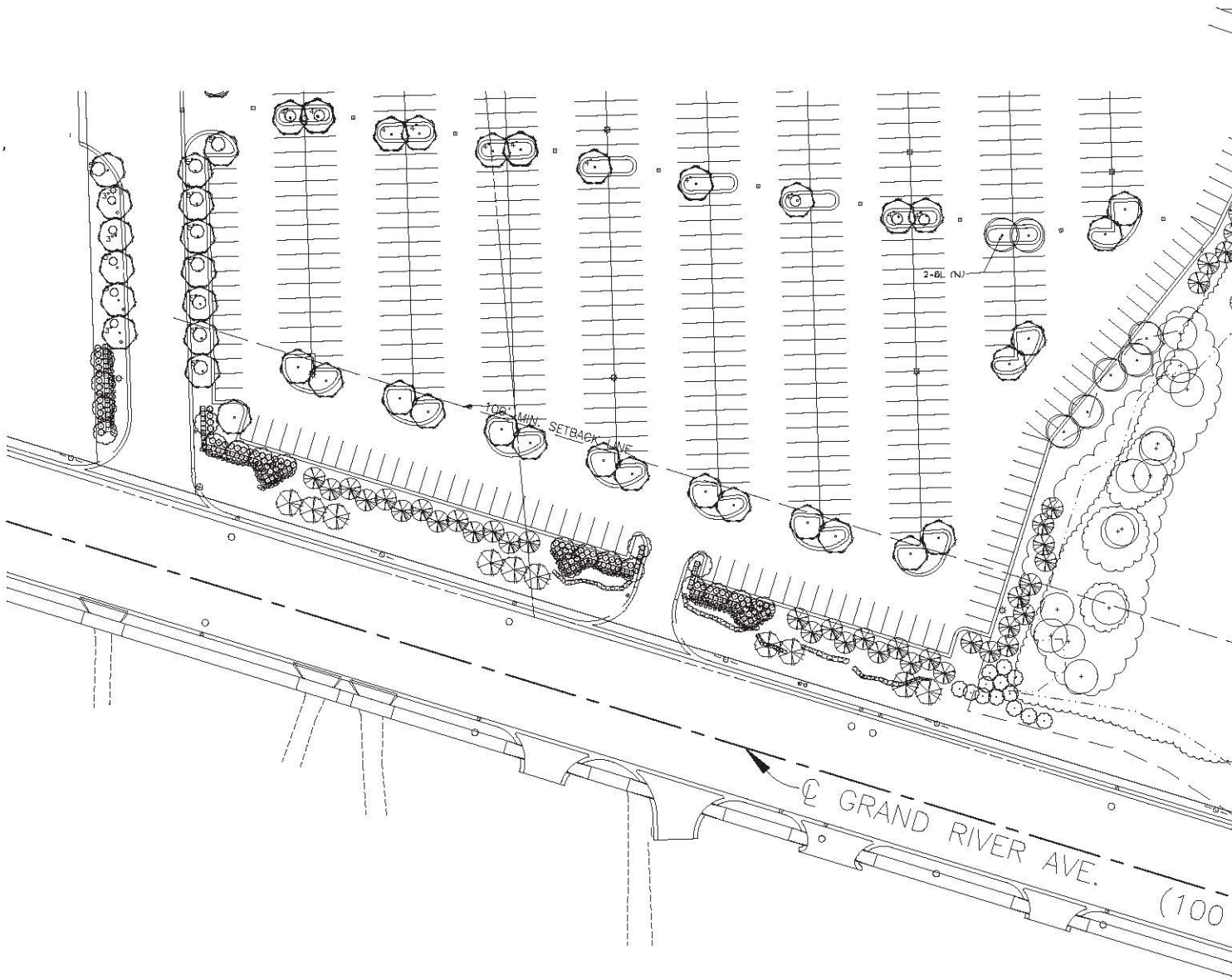
P.O. Box 542
14000 Highway 4861-4504
P. 248.814.888
F. 248.690.7154

LANDSCAPE PLANS

NO.	DATE	DESCRIPTION
1	04-15-16	STAMPED SET FOR PERENNIAL PLANTINGS
2	04-15-16	STAMPED SET FOR MULCH BEDS
3	04-15-16	STAMPED SET FOR IRRIGATED SEEDING
4	04-15-16	STAMPED SET FOR TREE PLANTINGS
5	04-15-16	STAMPED SET FOR FINISH LAYOUT
6	04-15-16	STAMPED SET FOR CONSTRUCTION

PROJECT: SUBURBAN COLLECTION SHOWPLACE
NOV1, MI
TERRY, LLC
46100 GRAND RIVER AVE
NOV1, MI 48375

DATE: 04/12/2016
16.112
L-3



SITE LOCATION MAP
NOT TO SCALE

- KEY
- EXISTING (E) DECIDUOUS TREES TO BE SAVED
 - EXISTING (E) EVERGREEN TREES TO BE SAVED
 - TRANSPLANTED (T) & NEW (N) DECIDUOUS TREE LOCATIONS
 - TRANSPLANTED (T) & NEW (N) EVERGREEN TREE LOCATIONS

Conroy

PROPOSED SITE LANDSCAPE PLAN

SCALE: 1" = 30'-0"



CONCEPTUAL PLAN
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PATRICK &
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Site Planning • Civil Engineer/Architect

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St. Louis, MO 63164-0542
P: 248.814.8888
F: 248.890.7154

LANDSCAPE PLANS

PROJECT	DATE	DESCRIPTION	DATE
MUNICIPAL REVIEW	4-15-16	STAMPAK SET PLAN	8-20-15
MUNICIPAL REVIEW	4-29-16	MUNICIPAL REVIEW	11-20-15
MUNICIPAL REVIEW	6-23-16	MUNICIPAL REVIEW	11-20-15
MUNICIPAL REVIEW	8-17-16		
STAMPAK SET	8-17-16		
STAMPAK SET	8-18-16		

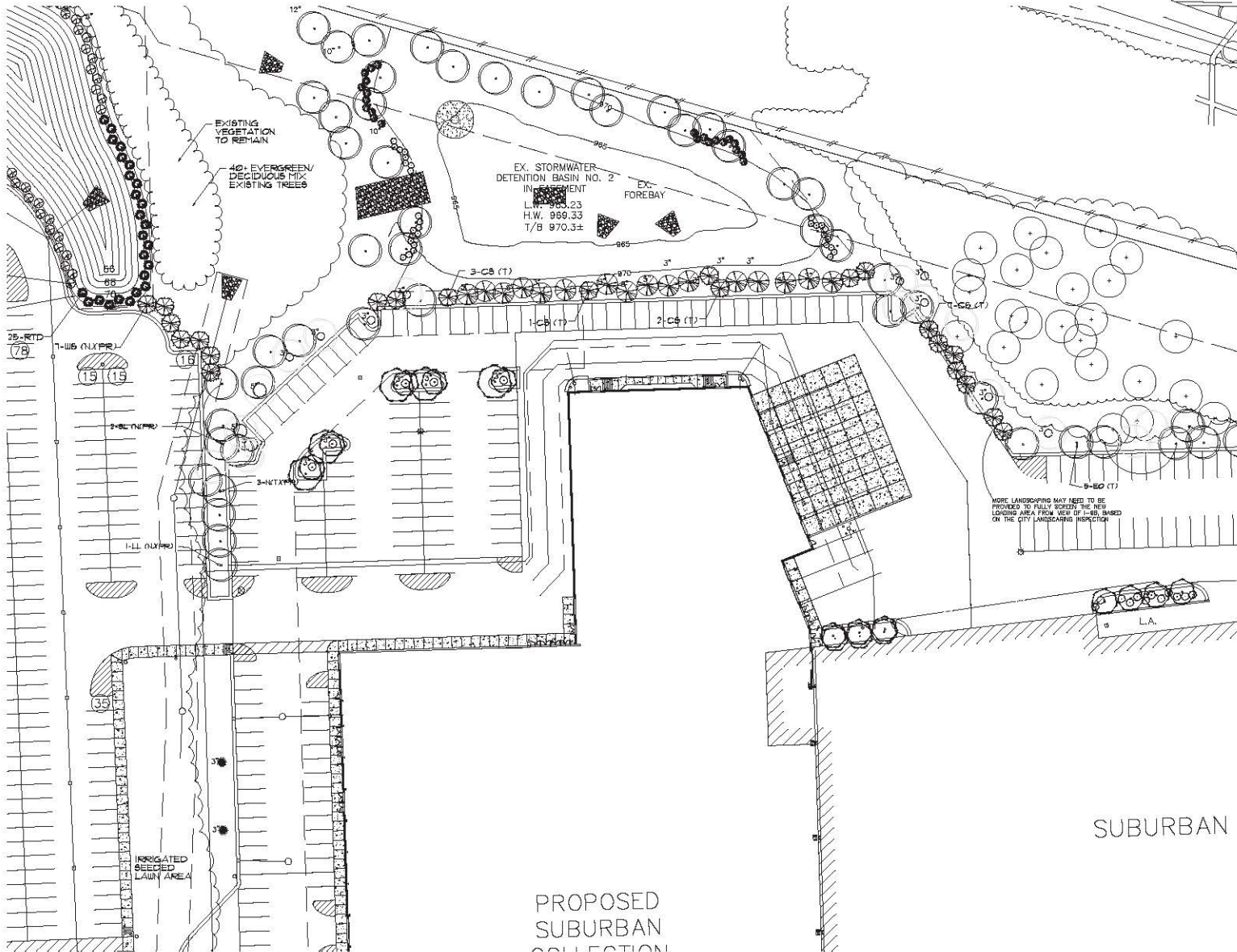
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PROJECT: SUBURBAN COLLECTION SHOWPLACE
NOV1, MI

CLIENT: TRXN, LLC
65100 GRAND RIVER AVE
NOV1, MI 48375

DATE: 04/12/2016

16.112
L-4



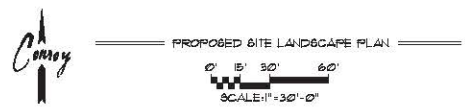
SITE LOCATION MAP
NOT TO SCALE

- KEY
- EXISTING (E) DECIDUOUS TREES TO BE SAVED
 - EXISTING (E) EVERGREEN TREES TO BE SAVED
 - TRANSPLANTED (T) & NEW (N) DECIDUOUS TREE LOCATIONS
 - TRANSPLANTED (T) & NEW (N) EVERGREEN TREE LOCATIONS

NOTE: LANDSCAPING MAY NEED TO BE PROVIDED TO FULFILL VORLES. THE NEW LOCATING AREA FROM VIEW OF 1-180 BASED ON THE CITY LANDSCAPING INSPECTION

PROPOSED
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SUBURBAN



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AND
ASSOCIATES
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10000 Michigan Ave
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F. 248.814.8884
P. 248.800.7154

LANDSCAPE PLANS

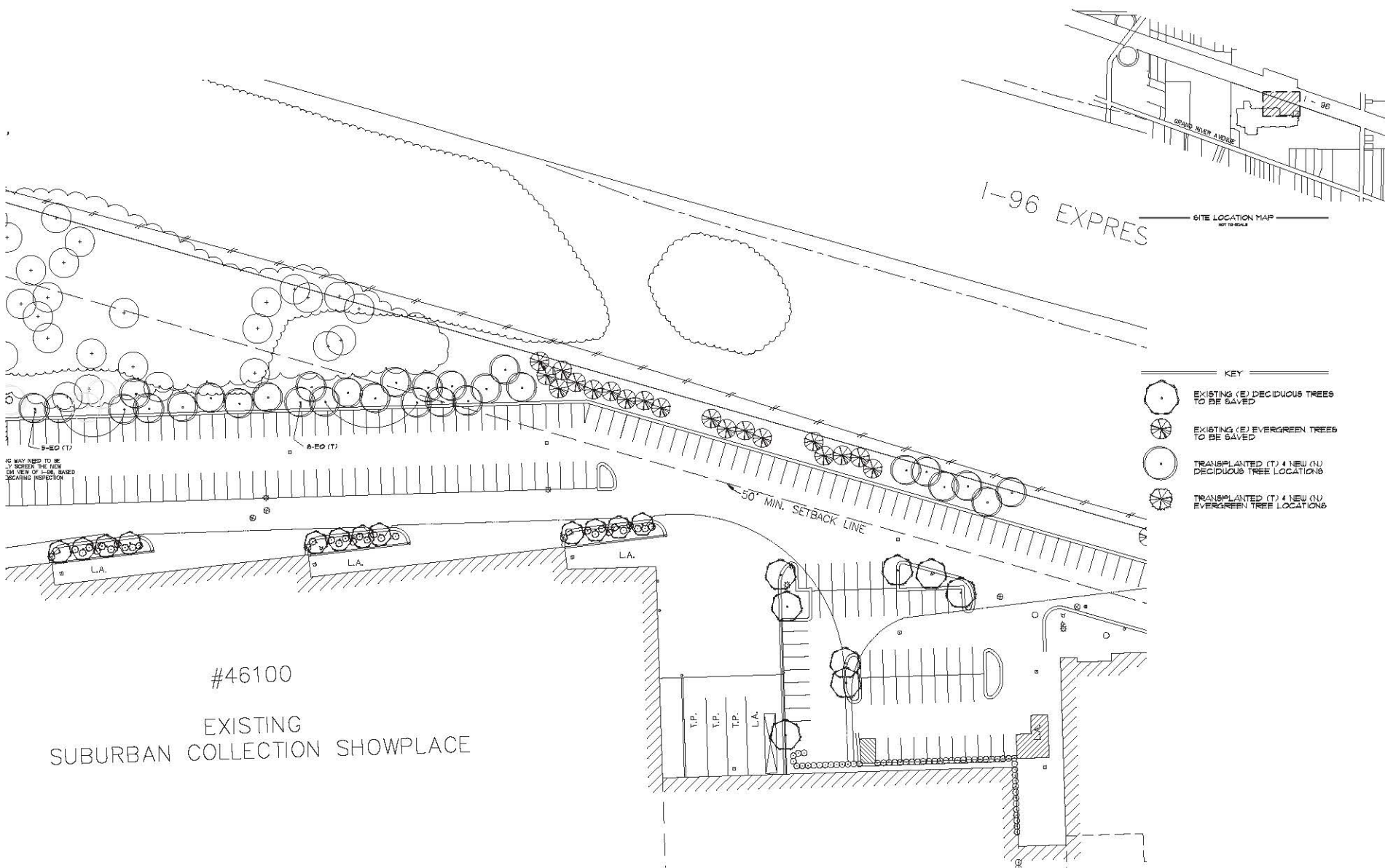
PROJECT	DATE	REVISION
MUNICIPAL REVIEW	4-15-16	STAMPED SET REVISION 9-20-15
MUNICIPAL REVIEW	4-22-16	MUNICIPAL REVIEW 11-20-15
MUNICIPAL REVIEW	6-22-16	MUNICIPAL REVIEW 11-20-15
MUNICIPAL REVIEW	8-12-16	REVISION FROM STAMPED SET 11-20-15
STAMPED SET	8-12-16	REVISION FROM STAMPED SET 11-20-15
STAMPED SET	8-12-16	REVISION FROM STAMPED SET 11-20-15

PROJECT: SUBURBAN COLLECTION SHOWPLACE
NOV1, MI
DESIGNER: TRKXN, LLC
46100 GRAND RIVER AVE
NOV1, MI 48375

DATE: 04/12/2016
16.112
L-5

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I-96 EXPRES

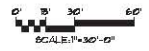
SITE LOCATION MAP
NOT TO SCALE

- KEY
- EXISTING (E) DECIDUOUS TREES TO BE SAVED
 - EXISTING (E) EVERGREEN TREES TO BE SAVED
 - TRANSPLANTED (T) & NEW (N) DECIDUOUS TREE LOCATIONS
 - TRANSPLANTED (T) & NEW (N) EVERGREEN TREE LOCATIONS

#46100
EXISTING
SUBURBAN COLLECTION SHOWPLACE



PROPOSED SITE LANDSCAPE PLAN



CONCEPTUAL PLAN
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Site Remediation • Civil/Construction Professional

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Grand Haven, Michigan 49431-0542
P: 248.814.8888
F: 248.890.7154

LANDSCAPE PLANS

PROJECT NAME	DATE	SCALE
MUNICIPAL REVIEW	4-15-16	STANDARD SET (1/8" = 1'-0")
MUNICIPAL REVIEW	4-29-16	MUNICIPAL REVIEW
MUNICIPAL REVIEW	6-23-16	MUNICIPAL REVIEW
MUNICIPAL REVIEW	8-17-16	MUNICIPAL REVIEW
STANDARD SET	9-12-16	9-12-16
STANDARD SET	9-12-16	9-12-16

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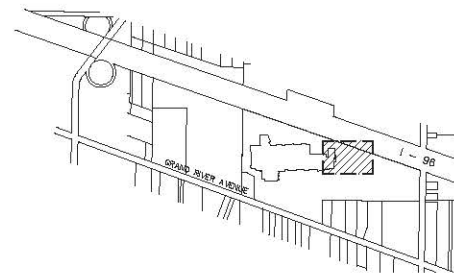
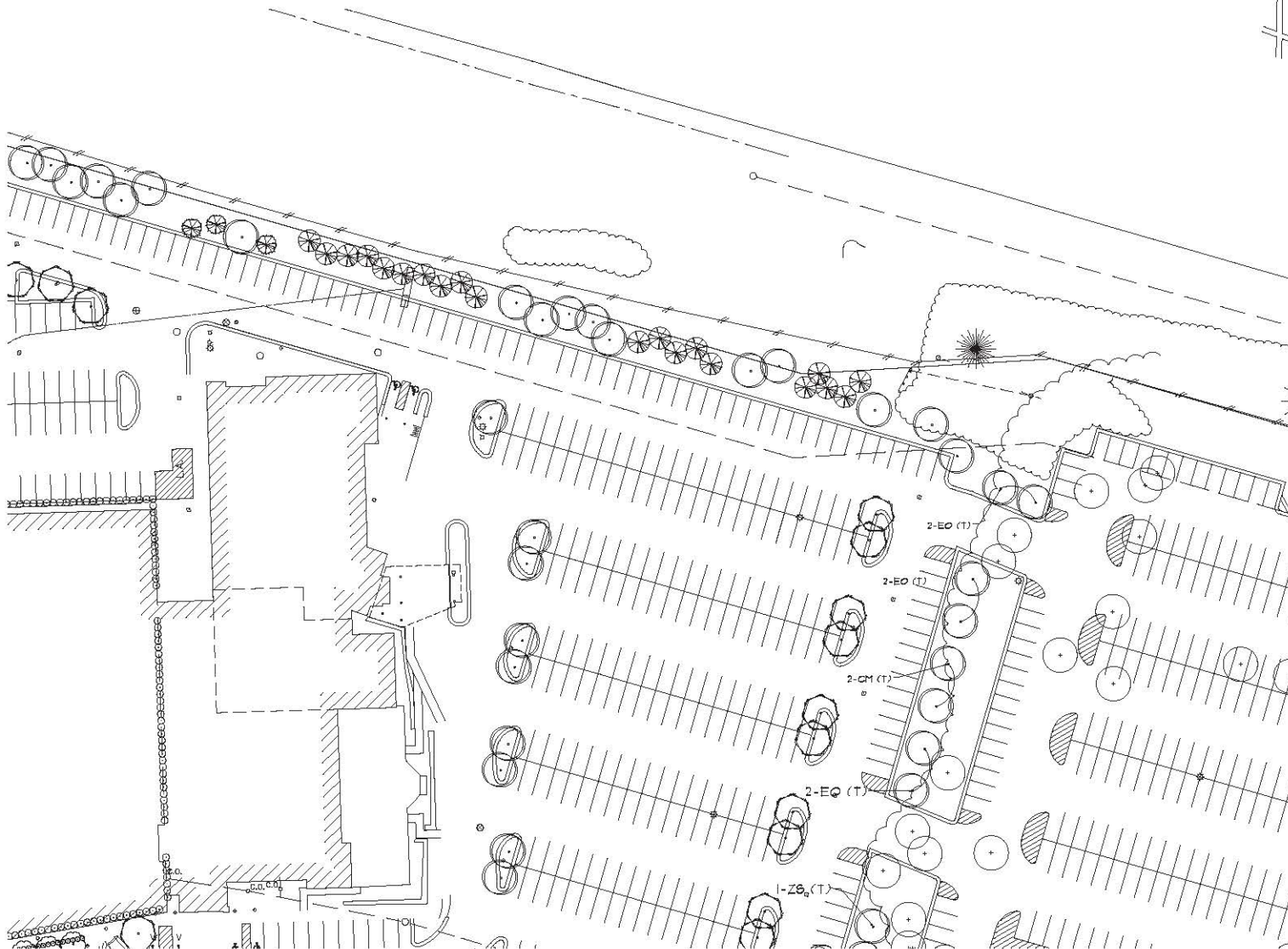
PROJECT: SUBURBAN COLLECTION SHOWPLACE
NOV1, MI

CLIENT: TRINITY LLC
46100 GRAND RIVER AVE
NOVI, MI 48375

DATE: 04/12/2016

16.112

L-6



— SITE LOCATION MAP —
NOT TO SCALE

- KEY
- EXISTING (E) DECIDUOUS TREES TO BE SAVED
 - EXISTING (E) EVERGREEN TREES TO BE SAVED
 - TRANSPLANTED (T) & NEW (N) DECIDUOUS TREE LOCATIONS
 - TRANSPLANTED (T) & NEW (N) EVERGREEN TREE LOCATIONS



PROPOSED SITE LANDSCAPE PLAN
 0' 15' 30' 60'
 SCALE: 1" = 30' - 0"



CONCEPTUAL PLAN
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 AND ASSOCIATES
 Landscape Architecture & Construction • Construction Management
 Site Planning • Civil/Construction/Infrastructure

P.O. Box 542
 2448 N. Michigan
 P.O. Box 814, 4806
 P.O. Box 690, 7154

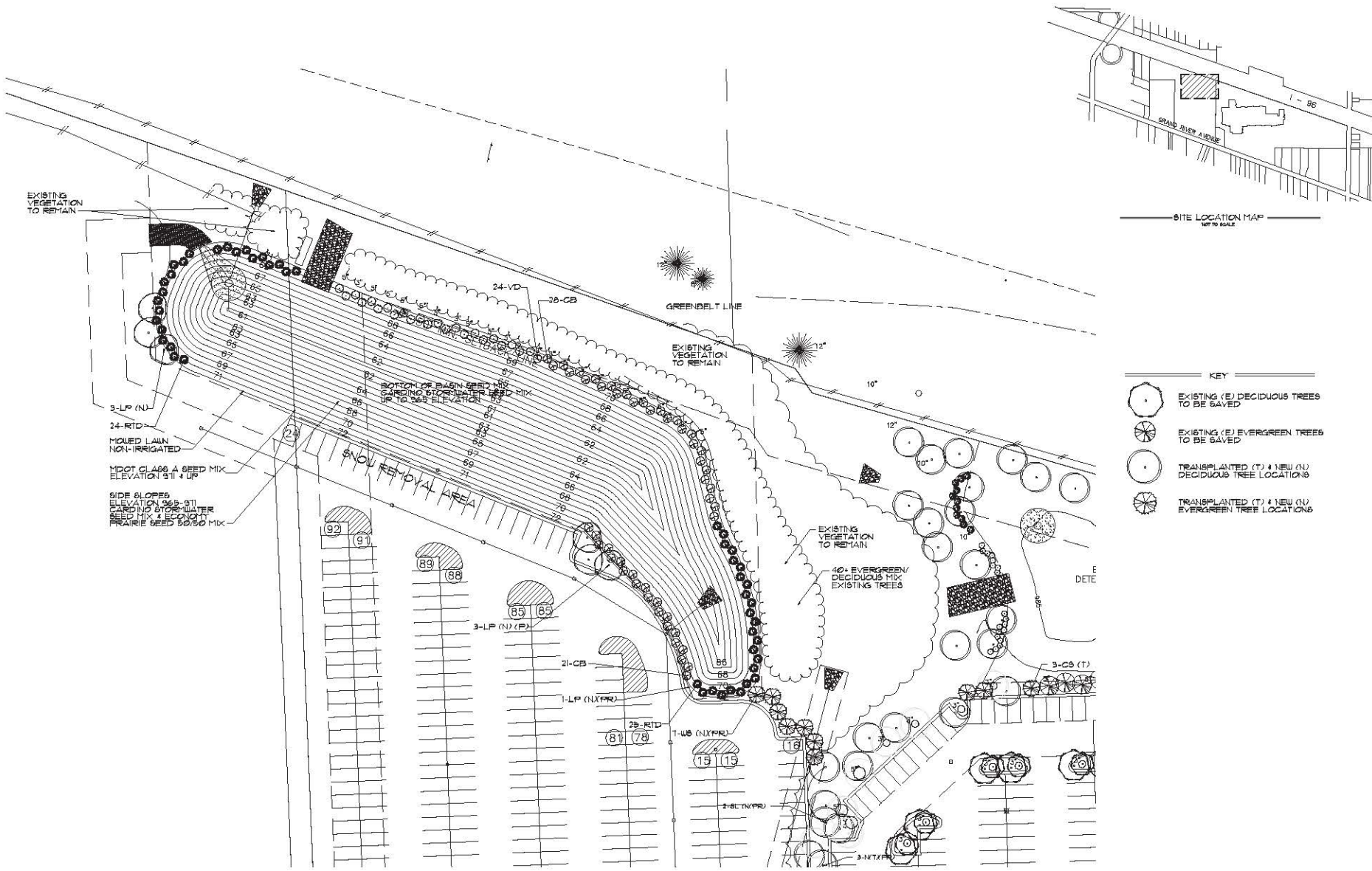
LANDSCAPE PLANS

PROJECT NAME	DATE	REVISIONS
MUNICIPAL REVIEW	4-15-16	STAMPING SET (T)
MUNICIPAL REVIEW	4-22-16	STAMPING SET (T)
MUNICIPAL REVIEW	4-29-16	MUNICIPAL REVIEW
MUNICIPAL REVIEW	6-23-16	MUNICIPAL REVIEW
MUNICIPAL REVIEW	8-17-16	MUNICIPAL REVIEW
STAMPING SET	9-14-16	STAMPING SET

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PROJECT: SUBURBAN COLLECTION SHOWPLACE
 NOV1, MI
 CLIENT: TRXN, LLC
 66100 GRAND RIVER AVE
 NOV1, MI 48375

NOV1, MI 04/12/2016
 16.112
 L-7



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AND ASSOCIATES
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Site Remediation • Golf Course Architecture

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Ann Arbor, Michigan 48101-0542
P: 248.814.8888
F: 248.800.7154

LANDSCAPE PLANS

DATE	DESCRIPTION	BY	CHKD
11-20-15	REVISIONS		
11-20-15	REVISIONS		
11-20-15	REVISIONS		
11-20-15	REVISIONS		
11-20-15	REVISIONS		
11-20-15	REVISIONS		
11-20-15	REVISIONS		
11-20-15	REVISIONS		
11-20-15	REVISIONS		
11-20-15	REVISIONS		

SUBURBAN COLLECTION SHOWPLACE

NOV1, MI

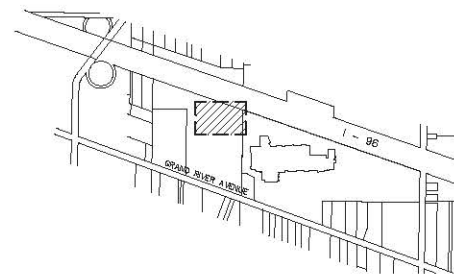
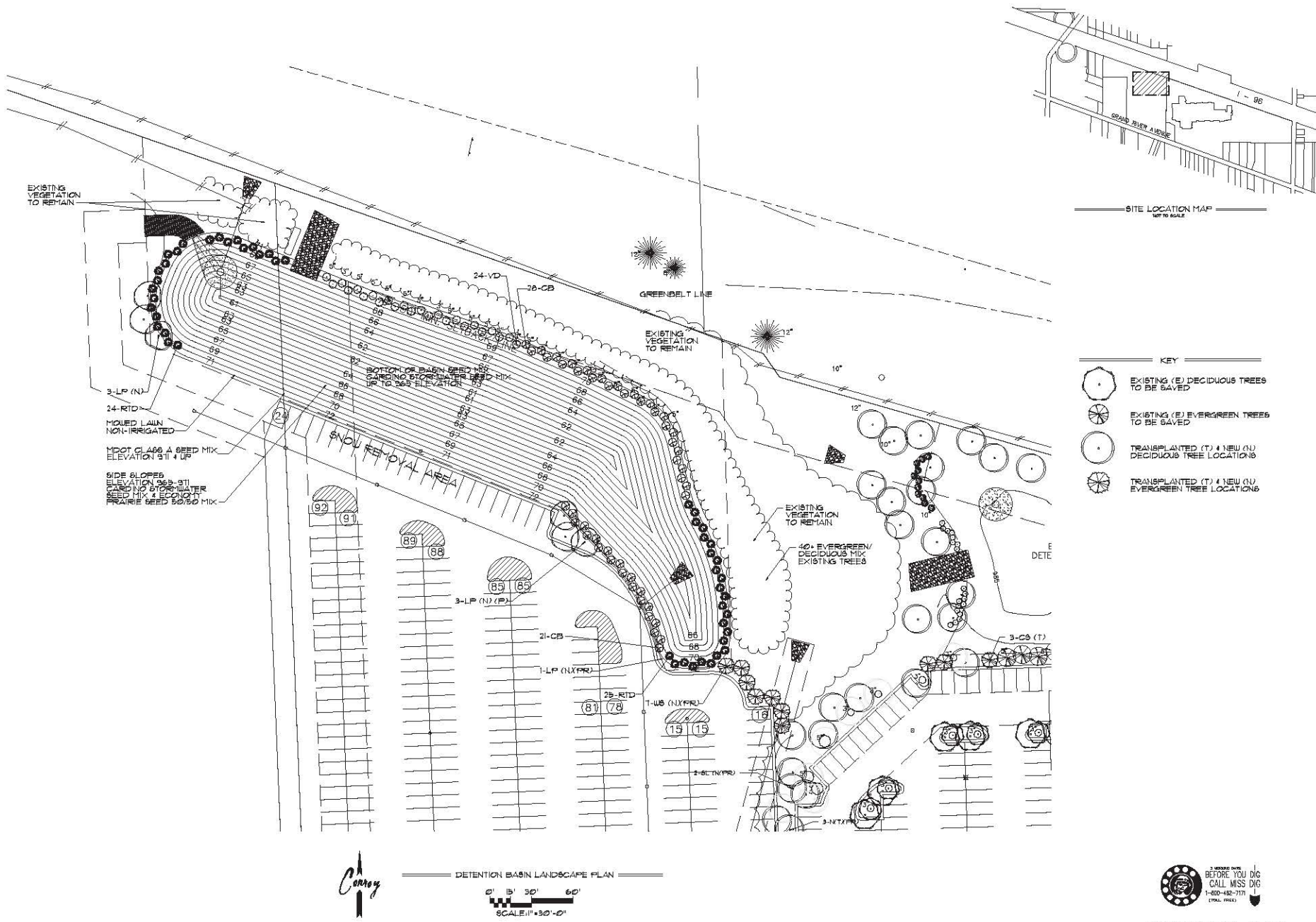
TRIXIA, LLC
46100 GRAND BLVD AVE
NOV1, MI 48175

16.112

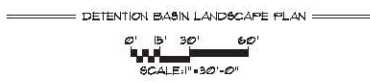
L-8

3 SHOWN OVER
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(TOLL FREE)

CONCEPTUAL PLAN
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- KEY
- EXISTING (E) DECIDUOUS TREES TO BE SAVED
 - EXISTING (E) EVERGREEN TREES TO BE SAVED
 - TRANSPLANTED (T) & NEW (N) DECIDUOUS TREE LOCATIONS
 - TRANSPLANTED (T) & NEW (N) EVERGREEN TREE LOCATIONS



CONCEPTUAL PLAN
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Site Remediation • Golf Course Architecture

P.O. Box 542
Ann Arbor, Michigan 48101-0542
P: 248.814.8888
F: 248.890.7154

LANDSCAPE PLANS

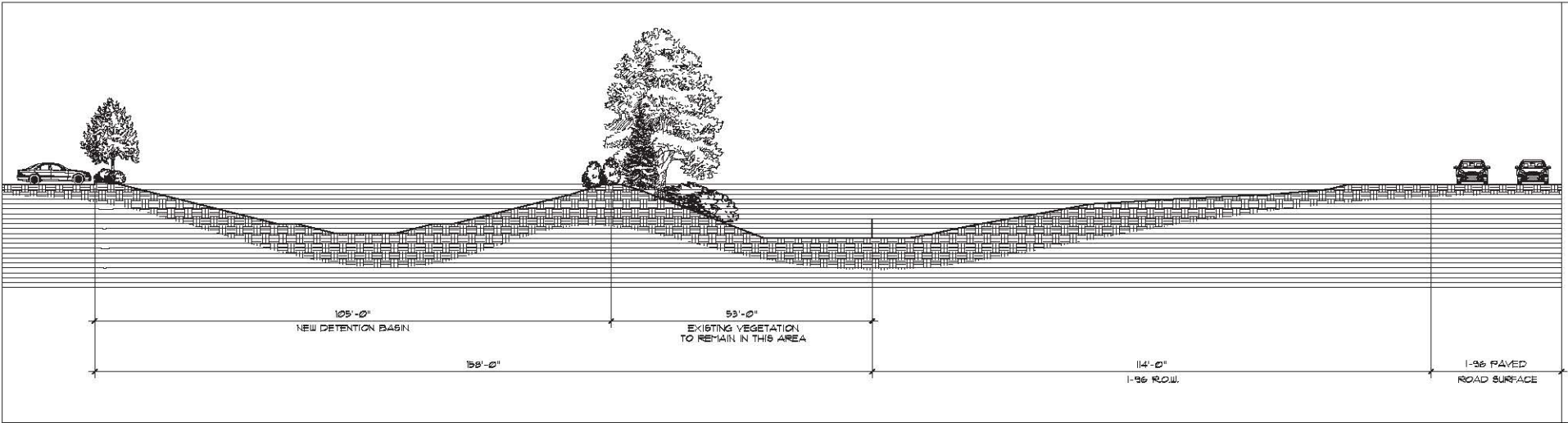
DATE	DESCRIPTION	BY	CHKD
11-20-15	STAMPING SET PER		
11-20-15	MUNICIPAL REVIEW		
11-20-15	MUNICIPAL REVIEW		
11-20-15	MUNICIPAL REVIEW		
11-20-15	MUNICIPAL REVIEW		
11-20-15	STAMPING SET		

ALL SPECIAL DETAILS AND NOTES MUST BE PROVIDED TO THE CLIENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL INFORMATION PROVIDED TO THE ARCHITECT. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR ANY INFORMATION PROVIDED TO THE ARCHITECT BY THE CLIENT OR ANY OTHER PARTY. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR ANY INFORMATION PROVIDED TO THE ARCHITECT BY THE CLIENT OR ANY OTHER PARTY.

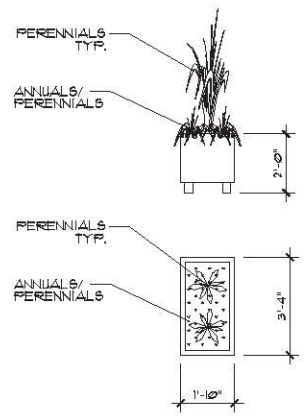
PROJECT: SUBURBAN COLLECTION SHOWPLACE
NOV1, MI

CLIENT: TRIXIA, LLC
66100 GRAND BIVIER AVE
NOV1, MI 48175

DATE: 04/12/2016
16.112
L-8



SECTION C-C
SCALE: 1/4" = 1'-0"



TYPICAL PLANTER DETAIL
SCALE: 1/4" = 1'-0"

P.O. Box 542
 4600 Gland River Ave
 Novi, MI 48245
 P: 248.814.8888
 F: 248.890.7154

PATRICK & Conroy AND ASSOCIATES
 Landscape Architecture & Construction • Construction Management
 Site Remediation • Civil/Construction

SECTIONS & DETAILS

SECTION	DATE	DESCRIPTION
MUNICIPAL REVIEW	8-20-15	STAMPING SET
MUNICIPAL REVIEW	11-20-15	MUNICIPAL REVIEW
MUNICIPAL REVIEW	11-20-15	MUNICIPAL REVIEW
MUNICIPAL REVIEW	8-17-16	MUNICIPAL REVIEW
MUNICIPAL REVIEW	8-17-16	MUNICIPAL REVIEW
STAMPING SET	8-17-16	STAMPING SET

PROJECT
 SUBURBAN COLLECTION SHOWPLACE
 NOVI, MI

CLIENT
 TRXN, LLC
 4600 GLAND RIVER AVE
 NOVI, MI 48245

DATE: 04/12/2016

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CONCEPTUAL PLAN
 NOT FOR CONSTRUCTION

