Date: 02/06/2014

To: Joan Bonack, P.E.
WisDOT SE Region Local Program, Project Manager

From: Stan Lukasz, P.E.
DAAR Engineering, Inc. – SE Region Local Program Management Consultant

Subject: DESIGN STUDY REPORT
1693-34-05
Ozaukee County/Downtown Milwaukee Connector
Hampton Avenue to Mill Road
Milwaukee County

Having considered the economic and social effects of this project, its impact on the environment, and its consistency with the goals of community planning, we request your approval of the attached design study report.

Approved:

Stan Lukasz, PE, SELP MC, PM
DAAR Engineering, Inc

2/6/14
Date

Concur:

Joan T. Bonack
Joan Bonack, PM, WisDOT SELP, PM

2/10/2014
Date

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DESIGN STUDY REPORT

Project I.D. 1693-34-05

Oak Leaf Trail

Ozaukee County/Downtown Milwaukee Connector
Hampton Avenue to Mill Road

Non-Highway

Milwaukee County

Dec. 31, 2013

PREPARED BY:

Milwaukee County Department of Administrative Services

Milwaukee, WI

DESIGN STUDY REPORT

1.0 PROJECT DESCRIPTION AND NEED

1.1. Federal Oversight Project (Yes or No): No

1.2. Project Length & Termini

Project Length: 3.1 miles

Termini/Limits:

The development of the pedestrian trail uses an abandoned Union Pacific Railroad corridor. The corridor extends from the Northeast corner of Milwaukee County's Estabrook Park (Station 0+00), approximately 3.1 miles to the Northwest to Sydney Place (approximately 2000' south of Mill Road at Station 144+25.45). See Exhibit A for location map.

1.3. Functional Classification/Access Control

Roadway Name	Functional Class (Arterial, Collector or Local)	Rural, Urban or Transitional	Corridors 2020 or Backbone (No or State which)	NHS Route (Yes or No)	Long Truck Route(No or state Federal or State)	Access Control Tier	On Ped. Trans. Plan (Yes or No)	On Bike Trans. Plan (Yes or No)
Not Applicable								

1.4. Need for the Project

The purpose of the project is to provide a system linkage for pedestrians and bike travelers for enhanced commuting and recreation. The trail not only connects downtown Milwaukee and its lakefront with trails in Ozaukee County, but it also enhances connectivity between County parks. The potential for readership is high given the proximity to residential areas and the connections it would provide to schools, employment centers, commercial centers and recreation sites. Having an off-road path to use will provide a safer mode of transportation especially for the inexperienced rider and will increase safety of the adjacent roads by removing pedestrian hazards as well. Providing an alternative mode of transportation for people to use increases the capacity of adjacent roads.

The existing terrain for the proposed alignment is unsuitable for use as a multi-use trail, and system linkage between neighboring recreation trails does not exist. The existing adjacent roadways are not ideal for bicycle travel and have no bike lanes or signage. Inn their current state, the roadways adjacent to the proposed alignment do not promote alternative means of transportation such as walking and biking. An increase in walking/bicycle commuting and recreation will mean improved safety for pedestrians and motorists alike.

The project is CMAQ funded through the preliminary design and real estate phases of the project. The final design and construction phases will be BPFP funded.

2.0 PRESENT FACILITY

2.1. Posted Speed

Roadway or Roadway Segment	Posted Speed	Advisory Speed
Not Applicable	N/A	N/A

2.2. Geometrics

2.2.1. * Horizontal Alignment Features Outside of Desirable or Minimum Design Standards.

* Horizontal Feature (Curve, P.I. Deflection, etc.)	Location (Stationing)	* Size (Radius, P.I. Deflection, etc.)*	* Super-Elevation (s.e.)	Speed Rating
Not Applicable				

*Controlling Criteria

Comments:

2.2.2. * Vertical Alignment Features/SSD Outside Desirable or Minimum Design Standards.

* Vertical Feature (Curve, Vertical Grade Deflection, etc.)	Location (Stationing)	Sag or Crest	* % Grades	K Value/ Grade Deflection	Speed Rating	* SSD** Met (Yes or No/ Length)	DSD Met (Yes or No/ Length)
Not Applicable							

*Controlling Criteria **SSD = Stopping Sight Distance

Comments:

2.2.3 * Grades and Vertical Clearance Outside Desirable or Minimum Design Standards.

Location (Stationing, Overpass Structures, etc.)	* % Grade	* Vertical Clearance
Not Applicable		

*Controlling Criteria

Comments:

2.3 Side-Roads/Intersections/Interchanges

2.3.1 Side-roads

Roadway Name	Functional Class	Posted Speed (MPH)	Existing Traffic*** (AADT)	Approach Grades	Pedestrian Facilities (Yes or No)	Bicycle Facilities (Yes or No)
Hampton Ave.	Urban	30	11800 in 2007	0.7%	Yes	No
Lydell Ave.	Urban	25	4300 in 2004 or older	2.2%	Yes	No

***If Existing Traffic volumes are not available, then state at a minimum whether AADT is assumed to be <100 or >100.

Comments:

2.3.2 Intersections

Intersecting Roadway Names	Intersect. Type	* Intersect. Angle	Traffic Control	* SSD** Met [(Y/N) / Length]	ISD** Met [(Y/N) / Length]	DSD** Met [(Y/N) / Length]	Vision Triangle (Y/N)	Corner Clearance To Driveways Present (Y/N)
Hampton Ave	Urban	42°	None	Y	Y	Y	Y	N/A
Lydell Ave.	Urban	50°	None	Y	Y	Y	Y	N/A

*Controlling Criteria

**SSD=Stopping Sight Distance, ISD=Intersection Sight Distance, and DSD=Decision Sight Distance (See FDM 11-25-1).

Comments:

2.3.3 Interchanges

Intersecting Roadway Names	Interchange Type	Ramp Types	Ramp Design Speed	Horizontal Curve on Ramp	Vertical Curve on Ramp	Ramp Grades	* SSD** [(Met (Y/N) / Length]	DSD** [Met (Y/N) / Length]
Not Applicable								

*Controlling Criteria

**SSD = Stopping Sight Distance & DSD = Decision Sight Distance (See FDM 11-25-1).

Comments:

2.4 Cross Section - Existing Abandoned Union Pacific Railroad Corridor (Future shared use path section)

Number of roadways: Currently corridor is abandoned railroad
Number of lanes: Not Applicable
Median width: Not Applicable
* Lane width: Not Applicable
* Shoulder width (Total and Paved or Curb & Gutter): Not Applicable
Bicycle Facility Type: Not applicable
Sidewalk and curb ramps: Not Applicable
* Cross slope: -2% to 2%
* Super-elevation: Not Applicable
* Horizontal clearance: Not Applicable
Clear Zone: Not Applicable
* Vertical clearance: Not Applicable
Side-slopes and Ditch sections: Varies 2:1 to 6:1

*Controlling Criteria

See Attachment B – Existing Typical Section

2.5 Pavement Structure/Condition

Roadway	Pavement Types & Thicknesses	Physical Description
Union Pacific Railroad	Railroad tracks and ties	

2.6 Right Of Way

2.6.1 Encroachments

Location (Station & Distance Left or Right)	Encroachment Type
Sta. 6+00 to Sta. 9+00 Right	Asphalt Parking Lot
Sta. 21+50 to Sta. 30+20 Right	Asphalt Parking Lot

2.6.2 Unique Right of Way Issues:

None

2.7 Structures

Existing Structure I.D. #	Feature Crossed	Structure Type	Sufficiency Rating	* Clear Roadway Width	Railing Type	* Structurally Deficient or Functionally Obsolete	* Inventory Load Rating
B-40-0994	Port Washington Rd	Abandoned Single Span Through Plate Girder Railroad Bridge with Balasted Deck	N/A	33'-0"	Girder	No	N/A
B-40-0051	I-43	Abandoned Two Span Through Plate Girder Railroad Bridge with Balasted Deck	N/A	33'-0"	Girder	No	N/A
B-40-981	Milwaukee River	Abandoned Three Span Through Plate Girder Railroad Bridge	N/A	32'-2"	Girder	No	N/A
P-40-0541	Milwaukee River Pkwy	Abandoned Two Span Concrete Railroad Bridge with Full Retaining Concrete Abutments	N/A	30'-0"	Girder	No	N/A
B-40-0391	Silver Spring Drive	Abandoned Two Span Through Plate Girder Railroad Bridge with Balasted Deck	N/A	18'-8" 33'-0"	Girder	No	N/A
B-40-0956	Green Bay Avenue	Abandoned Single Span Through Plate Girder Railroad Bridge with Balasted Deck	N/A	33'-0"	Girder	No	N/A

*Controlling Criteria

Comments:

Bridge B-40-0994 is a former railroad bridge to be rehabilitated for use as a bicycle and pedestrian bridge.

B-40-0051 is a former railroad bridge to be rehabilitated for use as a bicycle and pedestrian bridge.

B-40-981 is a former railroad bridge to be rehabilitated for use as a bicycle and pedestrian bridge.

P-40-0541 is a former railroad bridge to be rehabilitated for use as a bicycle and pedestrian bridge.

B-40-0391 is a former railroad bridge to be rehabilitated for use as a bicycle and pedestrian bridge.

B-40-0956 is a former railroad bridge to be rehabilitated for use as a bicycle and pedestrian bridge.

2.8 Utilities

Utility Name	Type of Utility	General Location	Underground/ Overhead/Both
MMSD	Interceptor Sewer	Crossing railroad corridor	Underground
ATC	138 KV Pipeline	Crossing railroad corridor at N. Lydell Ave. & W. Marne Ave.	Underground
City of Milwaukee	Communications (BES), storm and sanitary sewers, water	Crossing railroad corridor	Underground
City of Glendale	Sanitary sewers, Water	Crossing railroad corridor	Underground
ATC	Power Lines	Crossing railroad corridor at Sidney Place	Overhead
We Energies	Power Lines	Crossing railroad corridor at Sidney Place	Overhead

Comments:

2.9 Railroad Crossings

Location (Sta.)	Railroad Name	No. of Tracks	Function	Crossing Type
Not Applicable				

Comments: The development of the pedestrian trail uses an abandoned Union Pacific Railroad corridor.

2.10 Special Soils Conditions

Undercut, if necessary, will be as directed by the engineer.

2.11 Unique Project Features

None

3.0 TRAFFIC

3.1 Traffic Volumes/Conditions

3.1.1 See attached Traffic Forecast Report - Attachment Not Applicable

3.1.2 Highway Capacity Analysis

Location (Roadway Segment or Intersection)	Existing Level of Service	Design Year Level of Service Under Existing Roadway	Design Year Level of Service Under Proposed Roadway
Not Applicable			

Comments:

3.2 Crash Analysis

3.2.1 Project Crash Information

Roadway	Crash Rate [1] (Year.)	Statewide Crash Rate [1] (Year)	Number & Severity of Crashes			
			Fatal	Injury	Property Damage	Total No. Crashes
Not Applicable						

(1) Crash rate based on 100 million vehicles miles traveled (100 MVMT)

Comments:

3.2.2 Significant Crash Locations or Patterns

Location or Pattern	Year	Number & Severity of Crashes				Crash Rate(2)	Possible Factors Contributing to Crashes
		Fatal	Injury	Property Damage	Total		
Not Applicable							

(2) Crashes per million entering vehicles (MEV)

Comments:

4.0 PROPOSED DESIGN CRITERIA

4.1 Design Class

Roadway or Roadway Segment	Design Class
Shared Use Trail (10' wide, 2' shoulders, and 3' clear zone, typical)	Not Applicable

4.2 * Design Speed

Roadway or Roadway Segment	Design Speed	Posted Speed
Shared Use Trail	20 mph	Not Applicable

* Controlling Criteria

4.3 Design Criteria Outside Of Desirable Standards

BRIDGE:

The railroad bridge P-40-981 over the Milwaukee River will be converted to a bike trail bridge. The existing railroad bridge is an open deck bridge with solid steel girders on the outsides of the bridge that extend 6' above the bridge deck. The bike trail bridge will be constructed on the railroad bridge deck superstructure. New trail bridge railings will have a clear width of 12' between the inside face of the railings. The bike trail railing will be independent of the steel girders.

The trail bridge width will be 12'. The desirable standard width is 14' clear. A main reason for the desirable width is to add additional space for bikers/pedestrian stopped on the bridge to enjoy the view. However, the existing steel girders will extend 6'+/- above the above the trail surface blocking the view of the river and surrounding area. The lack of a scenic view will discourage trail users from stopping on the bridge. The standard 12' clear width will be sufficient for this location.

CURVES:

Main trail: Curves at Stations 143+83 and 144+14 both have centerline radii or 36'. These curves are at the very end of the proposed trail improvements. The proposed trail forms a "T" intersection with an existing bike trail at this location. This is a stopping condition that will be appropriately signed with warning and regulatory "Stop Ahead" and "Stop" signs. The beginning of the 1st curve (Sta 143+83) is approximately 50' from the "T" intersection where the stop sign will be locates. The curves are short in length and within the section of trail the user will have slowed to no more than 12 MPH, which is the recommended speed for a 36' radius curve per

Table 4-1 of the Wisconsin Bicycle Facilities Design Handbook, in preparation for the stop ahead.

Milwaukee River Parkway Access Trail: This segment of trail is a short access trail less than 250' in length connecting an existing bike trail running through the Milwaukee River Parkway with the proposed trail on the former railroad right of way. The short access trail weaves through a wooded area. There are three short curves at Station 200+30 (36' R), Station 200+74 (56' R) and 201+00 (56' R) that allow the short access trail to traverse through a wooded area staying outside the drip lines of mature trees. The proposed access trail forms a "T" intersection at each end with the proposed through trail on the former railroad right of way and the existing trail on the Milwaukee River Parkway. This is a low speed, low volume access route. A stopping condition exists at the "T" intersections at each end of the access trail. The intersections will be appropriately signed with warning and regulatory "Stop Ahead" and "Stop" signs. Given the short distance of the access route and stopping conditions at each end of the route, a 15 MPH speed limit which is the recommended speed for a 56' radius curve per Table 4-1 of the Wisconsin Bicycle Facilities Design Handbook for the trail, is appropriate. The 36' curve is directly adjacent to the stop condition.

Silver Spring Access Trail: This segment of trail is a short access trail approximately 300' in length connecting the sidewalk along Silver Spring Drive with the proposed trail on the former railroad right of way. There are two short curves at Station 200+35 (36' R) and 304+00 (9.5' R). The proposed access trail forms a "T" intersection at each end with the proposed through trail on the former railroad right of way and the sidewalk at Silver Spring Drive. This is a low speed, low volume access route. The curves are short in length and directly adjacent to the stop condition that exists at the "T" intersections. The intersections will be appropriately signed with warning and regulatory "Stop Ahead" and "Stop" signs.

4.4 Exceptions To Standards

None

4.4.1 Safety Screening Analysis (SSA) and Programmatic Exception to Standards per FDM 11-1-4 (3R projects and Preventive Maintenance (PM) Group I and Group II pavement strategy projects)

See attached Safety Screening worksheets for locations and details of Crash Flags, Improvement Flags, and Programmatic Exceptions to Standards within the project limits.

Not applicable

National Highway System (NHS) Roadway- Substandard Geometric Features Covered by a Programmatic Exception to Standards (3R & PM projects)

NHS roadway name:

Location				Feature Type	Magnitude of Variance
Sta.	to Sta.	RP	to RP		

* This documentation is required only for 3R projects on the National Highway System.

These substandard features are located on highway segments containing no flags or only Crash Type Flags. These features do not contribute significantly to the crash situation on these segments of highway so these highway segments are covered by the Programmatic Exception to Standards.

See attached map

Comments:

Substandard Geometric Features NOT Covered by a Programmatic Exception to Standards and NOT

corrected as part of PM project (PM Group I and Group II pavement strategy projects)

Roadway Name:

Location				Feature Type	Magnitude of Variance	Operational Improvements
Sta.	to Sta.	RP	to RP			

Construction is required for safety improvements or to correct the above sub-standard features. The region will either consider this construction for HSIP funding or address this construction with future programming. Operational improvements will be incorporated into the PM project at these locations that are consistent with the scope of the preventive maintenance work and appropriate based on the analysis of crash types.

Comments:

4.5 Typical Cross Section Elements Considered

The project includes a two way shared use trail. The typical cross section consists of a 10 foot wide HMA trail with 2 foot graded shoulder. This is the typical section used for most trail conditions, as described in the Wisconsin Bicycle facility Design Handbook. There is no indication that the projected use of this trail would necessitate a wider paved section.

5.0 PROPOSED DESIGN IMPROVEMENT

5.1 Improvement Type

The project will include the construction of a multi-use trail on former railroad right of way. The tracks and railroad ties will be removed and a 10 foot wide HMA paved trail with 2 foot graded shoulders will be constructed. As part of the project, six former railroad bridges will be rehabilitated for use as bicycle and pedestrian bridges.

5.2 Geometrics

5.2.1 * Horizontal alignment

The horizontal alignment extends from the Northeast corner of Milwaukee County's Estabrook Park (Station 0+00), approximately 3.1 miles to the Northwest to a point near the intersection of Teutonia Ave. and W. Mill Road (Station 144+25.45). See preliminary plan sheets.

A short access trail route at Silver Spring Drive includes a centerline curve with R=9.5'. The curve is at a stopping condition where the access trail forms a "T" intersection with proposed through trail on the former railroad right of way. The curve will be mitigated with appropriate "Stop Ahead" and "Stop" signage.

5.2.2 * Vertical alignment/Stopping sight distance

The vertical alignment of the trail will follow the existing ground of the railroad tracks for most of the trail. At the north end of the project, the trail alignment diverges from the tracks to the bottom of the slope at a 5% grade. Access ramps to the trail from Milwaukee River Parkway and from West Silver Spring Drive have a maximum slope of 5%. See preliminary plan sheets

5.2.3 * Grades

Longitudinal grades on the proposed trail are all less than or equal to 5% maximum recommended grade. See preliminary plan sheets

* Controlling Criteria

5.3 Sideroads/Intersections/Interchanges

5.3.1 Side-roads

Roadway Name	Functional Class	Design Speed (MPH)	Design Year Traffic (AADT)	Design Class	Approach Grades	Ped. Facilities (Y / N)	Bike Facilities (Y / N)
Hampton Ave.	Urban	30	11800 in 2007	Local Road	0.7%	Y	N
Lydell Ave.	Urban	25	4300 in 2004 or older	Local Road	2.2%	Y	N

Comments:

5.3.2 Intersections

Intersecting Roadway Names	Intersect. Type	* Intersect. Angle	Traffic Control	* SSD** Met [(Y/N) / Length]	ISD** Met [(Y/N) / Length]	DSD** Met [(Y/N)/ Length]	Vision Triangles Proposed (Y / N)	Corner Clearance To Driveways Met (Y / N)
Hampton Ave.	Urban	42°	Stop Sign	Y	Y	Y	Y	N/A
Lydell Ave.	Urban	50°	Stop Sign	Y	Y	Y	Y	N/A

* Controlling Criteria

**SSD = Stopping Sight Distance, ISD = Intersection Sight Distance & DSD = Decision Sight Distance (See FDM 11-25-1).

Comments: Stop signs will be installed on the trail at each intersection crossing as well as a detectable warning field. The crosswalk will also be painted and trail signs posted to alert drivers of a pedestrian crossing. Advance trail crossing signs will be posted to alert drivers on each side street.

5.3.3 Interchanges

Name of Intersecting Roadways	Interchange Type	Ramp Type	Ramp Design Speed	Ramp Grades	* SSD** Met [(Y/N) / Length]	DSD** Met [(Y/N) / Length]	Vision Triangle (Yes or No)
Not Applicable							

* Controlling Criteria

**SSD = Stopping Sight Distance & DSD = Decision Sight Distance (See FDM 11—25-1).

Comments:

5.4 Roundabouts

Not Applicable

5.5 Cross Section/Pavement Structure

Number of roadways: One multi-use trail

Number of lanes:2

Median width/Type: N/A

* Lane width/Type (Driving, Parking, Bike Lane, etc.): Two 5-foot lanes. Centerline of trail will not be marked unless noted on plan.

* Shoulder width (Total & Paved or Curb & Gutter): 2' graded shoulder at 1:6 slope

Bike facilities proposed: 10-foot HMA, two-way, multi-use trail

Pedestrian facilities / sidewalk proposed: Pedestrians allowed on multi-use tail

* Cross slope: 1.5% typical with 2.0% maximum towards low side of topography

* Super-elevation: 2% maximum

* Horizontal clearance: 3' typical, 2' along wall, railing or fence.

* Vertical clearance: There are no underpasses in the project area. Minimum 10 foot clearance for overhead vegetation will be maintained. Overhead utility lines are greater than 18' clearance from proposed trail

Pavement Structure: 3.5 inches E-0.3 HMA over 3 to 6 inches Base Aggregate, Dense 1 ¼ inch (base is 3 inches over existing rail bed/ballast).

Clear Zone: Varies (3' typical, 2' minimum along continuous obstructions such as a fence, wall or railing.

Side-slope / Ditch Sections: A minimum 2 foot wide graded shoulder at a 6:1 slope will be maintained on both sides of the path. The maximum side slope is 3:1 in a fill section and a maximum side slope of 2.5:1 in a cut section.

* Controlling Criteria

5.6 Street Lighting

Location	Type	Break-away Requirements
Not Applicable		

5.7 Structures

5.7.1 Bridge Structures

Structure I.D. #	Location	Structure Type	Length	* Clear Width	No. of Spans	* Vertical Clearance	* Horizontal Clearance
B-40-0994	Port Washington Rd. Sta. 38+75	Plate girder RR bridge with balasted deck	83'-1 3/8"	33'-0"	1	overpass	11'-6"
	Proposed Improvement: Modify railroad bridge to be a pedestrian/bicycle overpass.						
B-40-0051	I-43 Sta. 40+25	Plate girder RR bridge with balasted deck	169'-6"	33'-0"	2	overpass	11'-6"
	Proposed Improvement: Modify railroad bridge to be a pedestrian/bicycle overpass.						
B-40-981	Milwaukee River Sta. 63+50	Plate girder RR bridge	240'-0"	32'-2"	3	overpass	11'-1"
	Proposed Improvement: Modify railroad bridge to be a pedestrian/bicycle overpass. Trail bridge will be built with its own riding surface and railing with clear width of 12'-0". Trail bridge will be built on existing railroad bridge superstructure.						
P-40-0541	Milwaukee River Pkwy Sta. 69+00	Concrete Railroad Bridge with Full Retaining Concrete Abutments	66'-10"	30'-0"	2	overpass	10'-0"
	Proposed Improvement: Modify railroad bridge to be a pedestrian/bicycle overpass.						
B-40-0391	Silver Spring Drive Sta. 90+50	Plate girder RR bridge with balasted deck	186'-0 ½"	18'-8" 33'-0"	2	overpass	11'-6"
	Proposed Improvement: Modify railroad bridge to be a pedestrian/bicycle overpass.						

B-40-0956	Green Bay Ave. Sta. 105+25	Plate girder RR bridge with balasted deck	90'-8"	33'-0"	1	overpass	11'-6"
	Proposed Improvement: Modify railroad bridge to be a pedestrian/bicycle overpass.						

* Controlling Criteria

Comments:

5.7.2 Box Culverts and Multiple Pipe Structures

Structure I.D. #	Location	Type	Length	No. Pipes
Not Applicable				
	Proposed Improvement:			
	Proposed Improvement:			

Comments:

5.7.3 Retaining Walls and Noise Barrier Structures

Structure I.D. #	Location	Type	Length	Height
Not Applicable	Trail access Station 300+25+/- to 302+75+/-, located adjacent to Main Trail Station 96+00	Modular block wall	250'+/-	Height varies - less than 5'
	Proposed Improvement:			
	Proposed Improvement:			

Comments:

5.7.4 Sign Bridge Structures

Structure I.D. #	Location	Type	Length	Clear Roadway Width	* Vertical Clearance	* Horizontal Clearance	Clear Zone Under
Not Applicable							
	Proposed Improvement:						
	Proposed Improvement:						

* Controlling Criteria

Comments:

5.7.5 Tunnel Structures

Structure I.D. #	Location	Type (Veh.,Ped., Bicycle, etc.)	Length	Lighting Type	* Vertical Clearance	* Horizontal Clearance
Not Applicable						
	Safety Features			Coordination with Local Emergency Responders		
	Proposed Improvement:					
	Safety Features			Coordination with Local Emergency Responders		
	Proposed Improvement:					

* Controlling Criteria

Comments:

5.8 Permanent Traffic Control

Will permanent signs be installed (Yes or No)? Yes

Are non-standard sign layout details needed (Yes or no)? No

Comments: Oak Leaf Bike Trail information signs will be required.

5.9 Transportation Management Plan

See the Transportation Management Plan Attachment:

5.10 Safety Enhancements/Mitigation Measures

The pedestrian trail would serve as an alternative transportation facility designed for non-motorized use. It creates a straight-line connection between destinations and offers easy accessibility and connectivity with the bridges

5.11 Real Estate

5.11.1 Real Estate Acquisition

Plat I.D.:1693-34-05

Relocations Type	Number	Land (Acres)	Permanent Easements	Temporary Easements	Construction Permits
Union Pacific Railroad	1	36.34			

Comments: The acres shown in the table above encompass the entire width of the Union Pacific Railroad right of way from Station 10+72 at Hampton Avenue on the south to the north end of the proposed trail to Station 144+22. Milwaukee County will prepare a plat that only seeks to purchase a strip of land within UP's right of way approximately 50' wide which is sufficient to construct the proposed trail. The width of the strip of land will

widen beyond 50' where necessary at the existing bridges and to incorporate grading limits at access routes. It should be noted that it is unlikely that UP will accept selling a strip of land through their right of way that leaves uneconomic remnant parcels on both sides of their right of way unuseable for railroad purposes. The County will likely need to counter with an offer to purchase the entire width of the right of way.

5.11.2 Encroachment Actions

Encroachment Location	Encroachment Type	What is to be Done? (Removed, Revocable Permit, etc.)
Sta. 6+00 to Sta. 9+00 Right	Asphalt Parking Lot	Revocable Permit
Sta. 21+50 to Sta. 30+20 Right	Asphalt Parking Lot	Remove portion of parking lot and Revocable Permit

Comments:

5.12 Utilities

Is Project Trans 220 Utility Project (Yes or No)? No

Describe any special design features to accommodate utilities:

The trail's horizontal and vertical alignment has been adjusted to minimize impacts to the utilities. The shared use path alignment avoids overhead utility poles by 3' or more and does not impact underground utilities, other than minor adjustments to manhole covers.

Major Utility Agreements:

None

Comments:

5.13 Railroads

Describe improvements to Railroad Facilities:

Not Applicable

Railroad Agreements:

None

Comments:

The construction of a multi-use trail will be on former railroad right of way. The tracks and railroad ties will be removed and a 10 foot wide HMA paved with two foot graded shoulders will be constructed.
As part of the project, six former railroad bridges will be rehabilitated for use as a bicycle and pedestrian bridge.

5.14 Financing And Scheduling

Construction I.D.	Cost Estimate	Type of Funding			Proposed Timeframe For Construction	Ties to Other Work or Projects	Incentive/ Disincentive Clauses (Yes or No)
		% Fed.	% State	% Local			
1693-34-25	$3,090,721	80	0	20	2014	No	No
2984-20-72	$2,354,543	80	0	20	2014	No	No

Describe Incentive/Disincentive Clauses:

Not Applicable

Non-participating Work:

Not Applicable

Deferred Construction Work (Preventative Maintenance projects)

Not Applicable

5.15 Unique Or Non-standard Features

5.15.1 Hazardous Waste

A Phase 1 Hazardous Materials Assessment was submitted to DAAR on 10/16/12 for review and approval. The document was approved on 11/29/12. It is not recommended to perform a Phase 2 Assessment.

5.15.2 Environmental Commitments

See Attachment

5.15.3 Community Sensitive Design/Public Involvement

Comments received from the Public Information Meeting regarding the design of the trail and bridges have been incorporated into the design.

5.15.4 Value Engineering

Not Applicable

6.0 SYNOPSIS

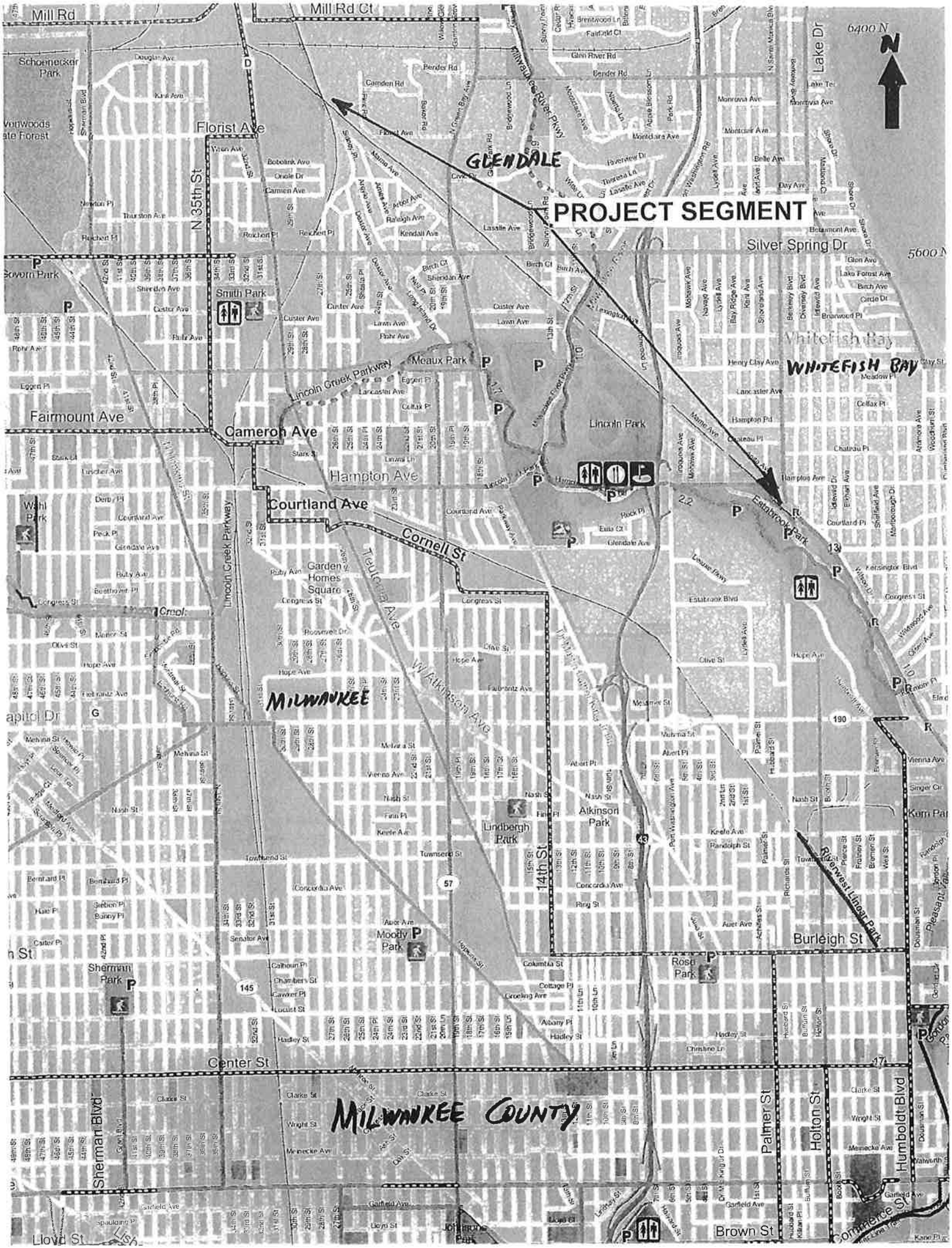
	Completion/Approval Dates	Status of Coordination or Other Information as Needed
Concept Definition Report	4/25/11	
Scoping Document	1/23/12	
Public Involvement Plan	5/24/12	
Final Aesthetic & Visual Level of Impact Worksheet	N/A	
Speed Limit Change Declaration	N/A	
Environmental Document (Type: 2-ER)	12/23/13	
Public Hearing/Public Information Meetings	5/24/12	
SHPO Involvement	3/12/13	
DNR Involvement		8/20/12 Grant Approval
Agricultural Impact Statement	N/A	
Pavement Design Report	N/A	
Roundabout Review	N/A	
Transportation Management Plan (Type: 2)		Submit with DSR
Permits Required (Storm Water, Chap 30, WRAPP)	Will submit with final	Environmental Commitment
Local Project Agreements	2/11/11	
Value Engineering Study	N/A	
Status of Statutory Actions	N/A	

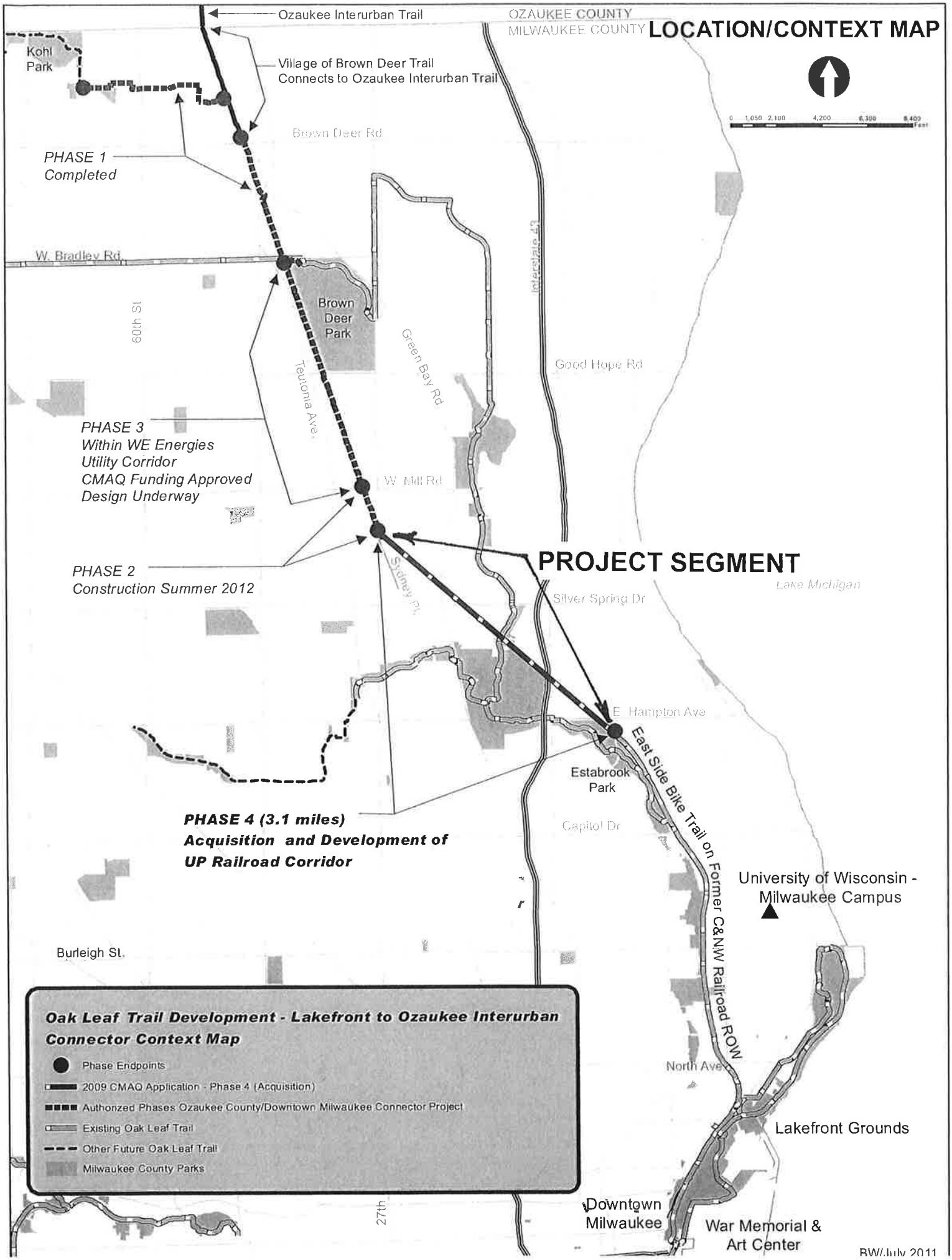
7.0 ATTACHMENTS

- ATTACHMENT A: Project Location/Overview Map
- ATTACHMENT B: Existing Typical Cross Section(s)
- ATTACHMENT C: Proposed Typical Cross Section(s)
- ATTACHMENT D: Preliminary Plan Sheet(s)
- ATTACHMENT E: Preliminary Bridge Plans
- ATTACHMENT F: Environmental Commitments Basic Sheet (if applicable) (include coordination letters)
- ATTACHMENT G: Transportation Management Plan Documentation and Request for Approval Form

ATTACHMENT A

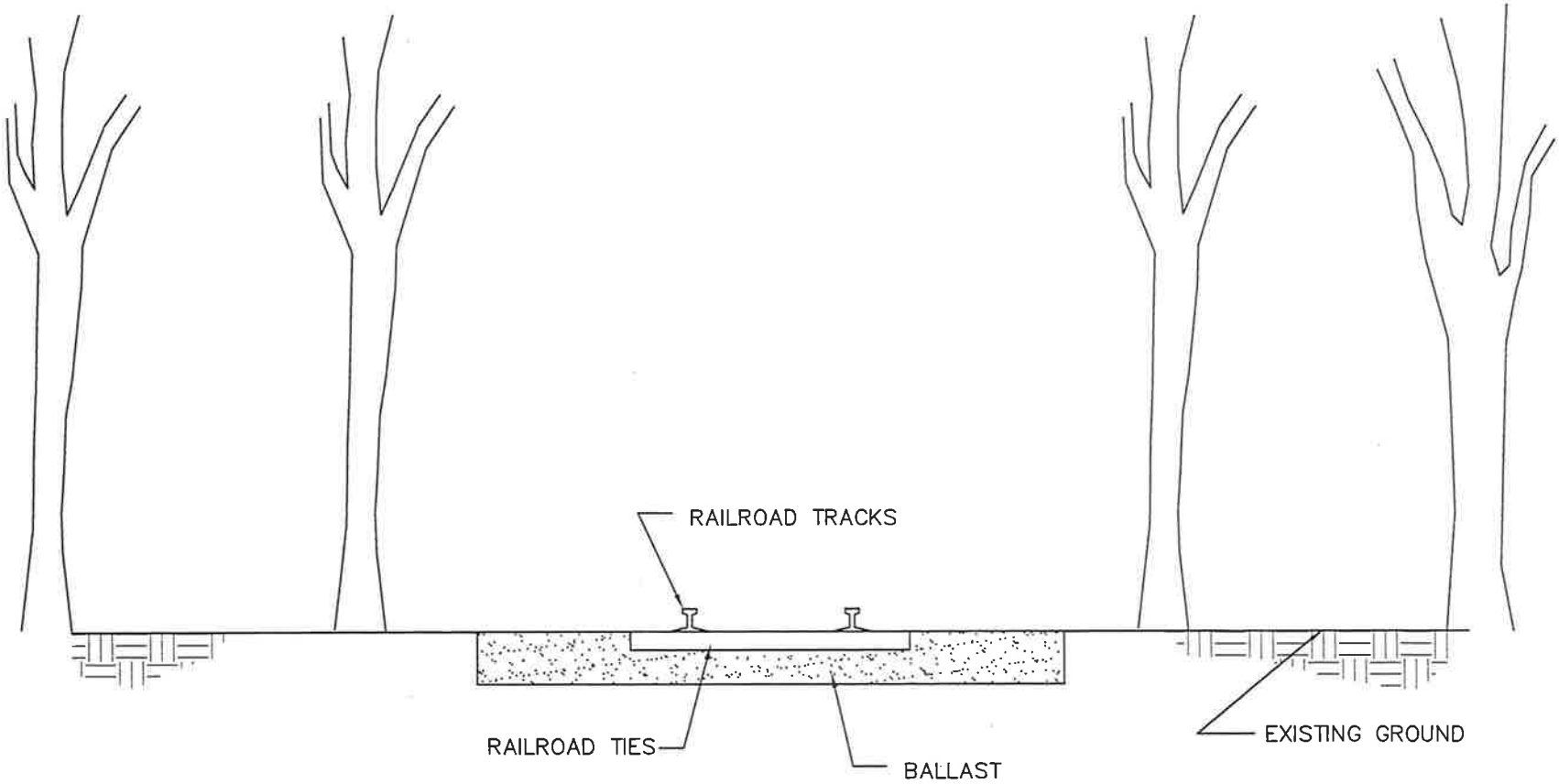
PROJECT LOCATION / OVERVIEW MAP


PROJECT SEGMENT
GLENDALE
WHITEFISH BAY
MILWAUKEE
MILWAUKEE COUNTY
Mill Rd
Mill Rd Ct
Schoenecker Park
Florist Ave
N 35th St
Smith Park
Meaux Park
Lincoln Creek Parkway
Fairmount Ave
Cameron Ave
Hampton Ave
Courtland Ave
Cornell St
Lincoln Park
Estabrook Park
Silver Spring Dr
Whitefish Bay
Lake Dr
6400 N
5600 N
Wahl Park
Garden Homes Square
Teutonia Ave
W Atkinson Ave
Lindbergh Park
Atkinson Park
14th St
Moody Park
Sherman Park
Rose Park
Burleigh St
Riverwest Linear Park
Center St
Sherman Blvd
Palmer St
Holton St
Humboldt Blvd
Brown St
Lloyd St
Johnsons Park


LOCATION/CONTEXT MAP
Ozaukee Interurban Trail
OZAUKEE COUNTY
MILWAUKEE COUNTY
Kohl Park
Village of Brown Deer Trail Connects to Ozaukee Interurban Trail
Brown Deer Rd
PHASE 1 Completed
W. Bradley Rd.
Brown Deer Park
Green Bay Rd
Teutonia Ave.
Good Hope Rd
PHASE 3 Within WE Energies Utility Corridor CMAQ Funding Approved Design Underway
W. Mill Rd
PHASE 2 Construction Summer 2012
PROJECT SEGMENT
Silver Spring Dr
Lake Michigan
E. Hampton Ave
East Side Bike Trail on Former C&NW Railroad ROW
Estabrook Park
Capitol Dr
PHASE 4 (3.1 miles) Acquisition and Development of UP Railroad Corridor
University of Wisconsin - Milwaukee Campus
Burleigh St.
North Ave
Lakefront Grounds
Downtown Milwaukee
War Memorial & Art Center
Oak Leaf Trail Development - Lakefront to Ozaukee Interurban Connector Context Map
Phase Endpoints
2009 CMAQ Application - Phase 4 (Acquisition)
Authorized Phases Ozaukee County/Downtown Milwaukee Connector Project
Existing Oak Leaf Trail
Other Future Oak Leaf Trail
Milwaukee County Parks
BW/July 2011

ATTACHMENT B

EXISTING TYPICAL CROSS SECTION



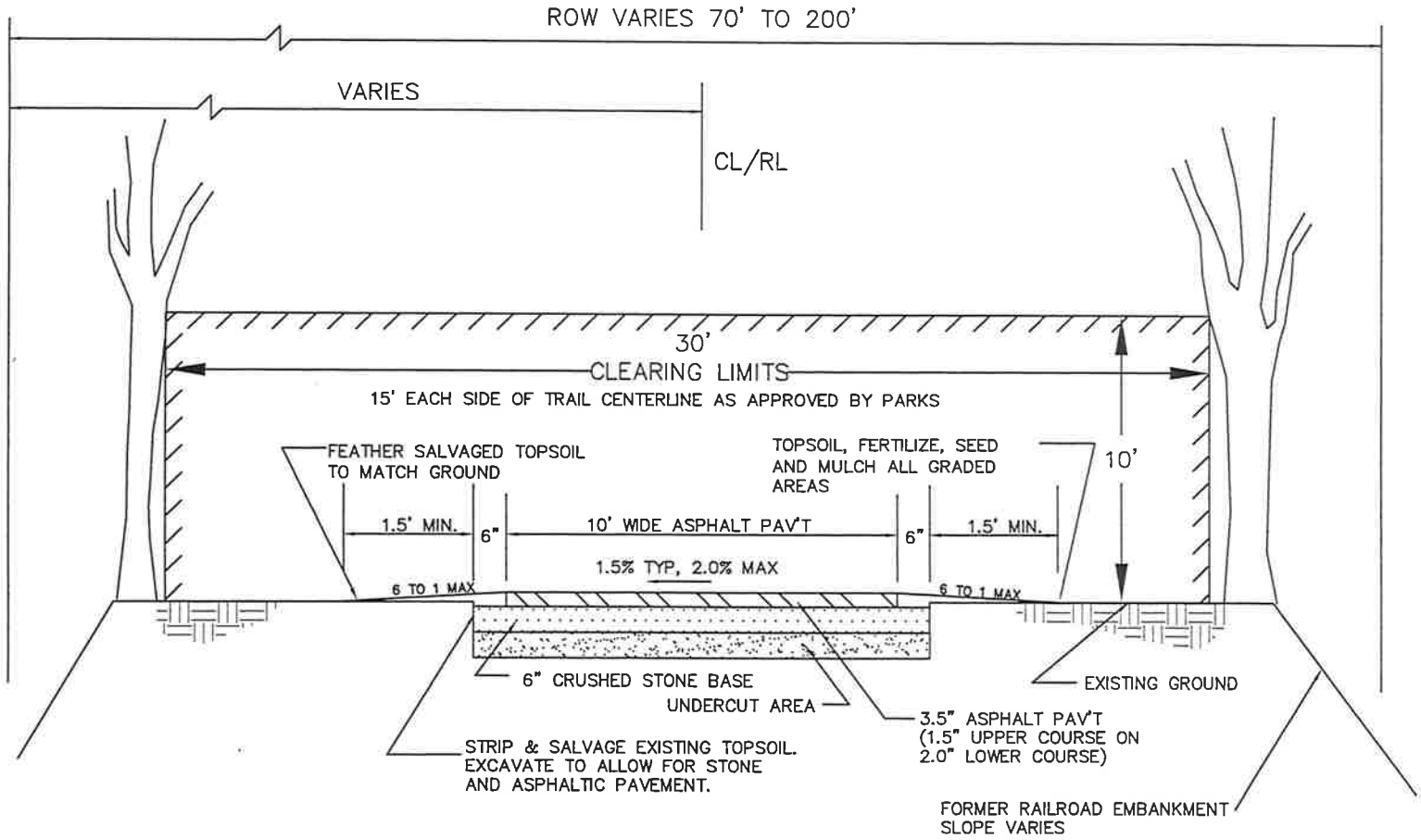
EXISTING BIKE TRAIL SECTION
NO SCALE

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

DRAWN BY	DSG
CHECKED BY	KDS
SCALE	N.T.S.
DATE	7/11/13
PROJECT TITLE	OAK LEAF TRAIL PHASE 4 HAMPTON AVE – MILL RD.
SHEET DESCRIPTION	EXISTING TYPICAL SECTION
PROJECT NO.	P131-12605

ATTACHMENT C

PROPOSED TYPICAL CROSS SECTION(S)



NOTES:

1. CLEAR LIMITS SHOWN APPLY TO ALL TYPICAL SECTIONS.
2. PROVIDE CLEAR ZONE WITH NO VERTICAL OBSTRUCTION WITHIN 3' FROM EDGE OF TRAIL UNLESS SHOWN OTHERWISE ON THE PLAN.
3. UNDERCUT ONLY WHERE DIRECTED BY ENGINEER.
4. CROSS SLOPE OF PAVEMENT SHALL BE TO LOW SIDE OF TOPOGRAPHY.

TYPICAL BIKE TRAIL SECTION ON GRADE
NO SCALE

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 841 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53206

DRAWN BY	DSG
CHECKED BY	KDS
SCALE	N.T.S.
DATE	7/11/13
PROJECT TITLE	OAK LEAF TRAIL PHASE 4 HAMPTON AVE – MILL RD.
SHEET DESCRIPTION	PROPOSED TYPICAL SECTION
PROJECT NO.	P131-12805

ATTACHMENT D

PRELIMINARY PLAN SHEET(S)

OAK LEAF TRAIL (PHASE 4)

HAMPTON AVENUE TO MILL ROAD

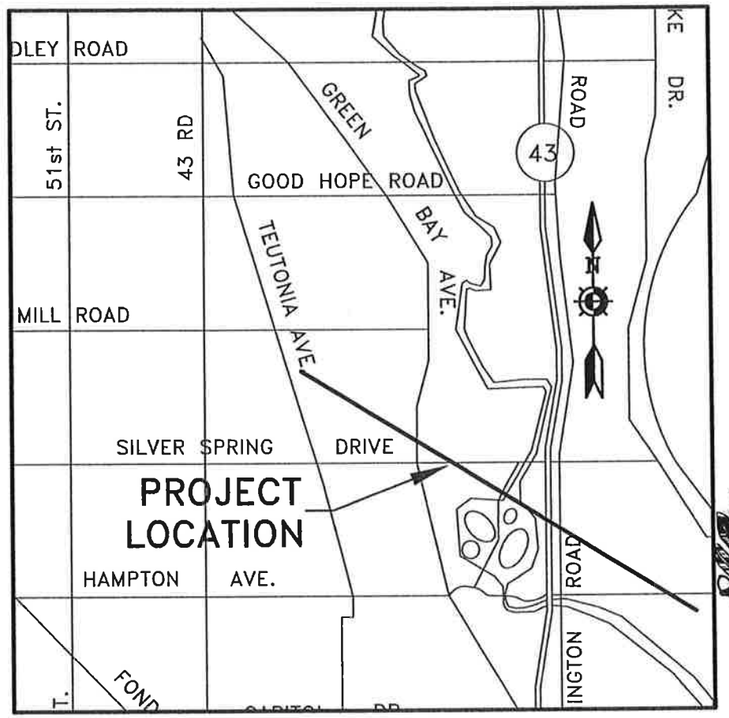
STATE PROJECT NO. 2984-20-72

MILWAUKEE COUNTY PROJECT NO. P131-12605

PROJECT INCLUDES A DBE GOAL OF 10%

NON - HIGHWAY / FEDERALLY FUNDED - TRANSPORTATION BPFP PROGRAM

PRELIMINARY PLAN SET



MILWAUKEE COUNTY PARKS

7/11/13

ABBREVIATIONS:

ASP	ASPHALT	MH	MANHOLE
CABC	CRUSHED AGGREGATE BASE COURSE	N	NORTHING
CB	CATCH BASIN	O.C.	ON CENTER
C.I.	CAST IRON	PAVT	PAVEMENT
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COND	CONDUIT	PL	PROPERTY LINE
DIA.	DIAMETER	R	RADIUS
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EL	ELEVATION	RCP	REINFORCED CONRETE PIPE
EXST	EXISTING	RD	ROAD
E	EASTING	SAN	SANITARY SEWER
F TO F	FACE TO FACE	SS	STORM SEWER
G	GAS	ST	STREET
G.W.I.	GALVANIZED WROUGHT IRON	STA	STATION
HOR	HORIZONTAL	T	TELEPHONE
HP	HIGH POINT	TYP	TYPICAL
I.E.	INVERT ELEVATION	UD	UNDER DRAIN
LT	LEFT	VERT	VERTICAL
L	LIGHTING CABLE/CONDUIT	W	WATER
MAX	MAXIMUM	WEPCO	WI ELECTRICAL POWER CO
MIN	MINIMUM	X	EXTRA

LEGEND:

- EXISTING GAS METER
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- EXISTING TRANSFORMER
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- —W— EXISTING WATER LINE
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- BUTT JOINT
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GENERAL NOTES

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DRAWING INDEX:

COVER SHEET	1 OF 46
DETAILS	2 - 4 OF 46
PLAN & PROFILE	5 - 20 OF 46
CROSS SECTIONS	21 - 46 OF 46

MILWAUKEE COUNTY DEPARTMENT OF Administrative Services
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

RECOMMENED FOR APPROVAL BY
DATE
PROJECT APPROVAL BY
DIRECTOR-DAS
DATE
PROJECT MANAGER REVIEW BY:
DATE:

REVISIONS:

BUILDING NO.

SITE NO. 694

PROJECT NO. P131-12605

SHEET NO. 1 OF XX

FILE NO.

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OAK LEAF TRAIL (PHASE 4)

HAMPTON AVENUE TO MILL ROAD

STATE PROJECT NO. 2984-20-72

MILWAUKEE COUNTY PROJECT NO. P131-12605

PROJECT INCLUDES A DBE GOAL OF 10%

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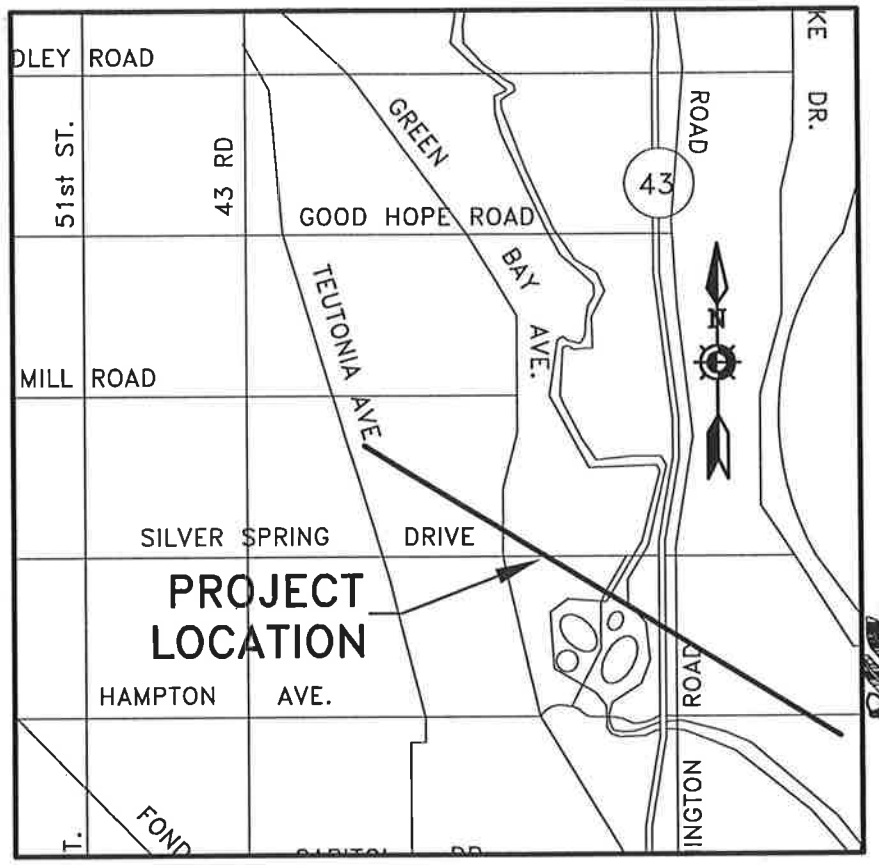

MILWAUKEE COUNTY PARKS

7/11/13

PRELIMINARY PLAN SET

ABBREVIATIONS:

ASP	ASPHALT	MH	MANHOLE
CABC	CRUSHED AGGREGATE BASE COURSE	N	NORTHING
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I.E.	INVERT ELEVATION	UD	UNDER DRAIN
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EXISTING TRANSFORMER	BUTT JOINT
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EXISTING CATCH BASIN OR INLET	PROPOSED CATCH BASIN
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EXISTING PAVEMENT	PROPOSED PAVEMENT
EXISTING CURBFACE	PROPOSED CURBFACE
EXISTING TREE/BUSH LINE	PROPOSED TREE/BUSH LINE
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COVER SHEET	1 OF 46
DETAILS	2 – 4 OF 46
PLAN & PROFILE	5 – 20 OF 46
CROSS SECTIONS	21 – 46 OF 46

MILWAUKEE COUNTY DEPARTMENT OF Administrative Services
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53233

RECOMMENED FOR APPROVAL BY
DATE
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REVISIONS:

BUILDING NO.

SITE NO. 694

PROJECT NO. P131-12605

SHEET NO. 1 OF XX

FILE NO.

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ATTACHMENT D

OAK LEAF TRAIL (PHASE 4)

HAMPTON AVENUE TO MILL ROAD

STATE PROJECT NO. 2984-20-72

MILWAUKEE COUNTY PROJECT NO. P131-12605

PROJECT INCLUDES A DBE GOAL OF 10%

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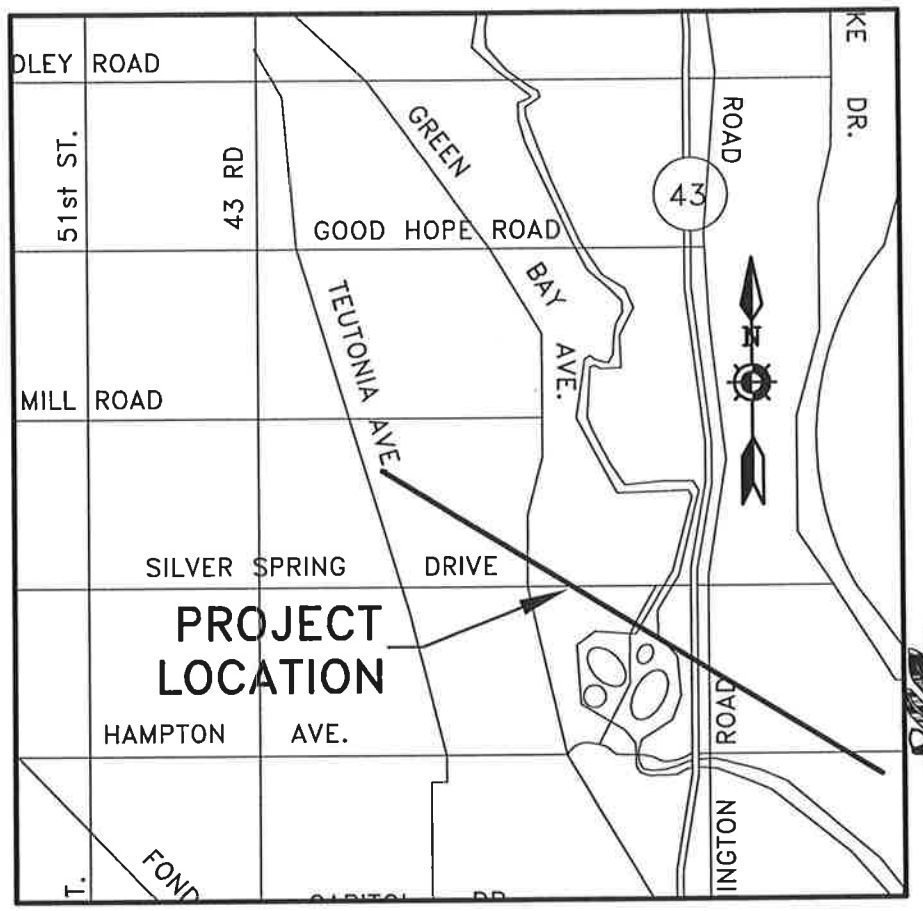
PRELIMINARY PLAN SET



MILWAUKEE COUNTY PARKS

7/11/13

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COVER SHEET	1 OF 46
DETAILS	2 – 4 OF 46
PLAN & PROFILE	5 – 20 OF 46
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MILWAUKEE COUNTY DEPARTMENT OF
Administrative Services
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

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SHEET NO. 1 OF XX

FILE NO.

H:\CADD\P\P131-12605\12605_COVER.DWG

UTILITY AND LIAISON LISTING

MILWAUKEE COUNTY DEPT. OF PARKS, RECREATION & CULTURE 9480 WATERTOWN PLANK RD. WAUWATOSA, WI 53226
ATTN: MR. KEVIN HALEY
PHONE: (414) 257-6242
KHALEY@MILWCNTY.COM

MILWAUKEE COUNTY DEPT. OF ADMINISTRATIVE SERVICES A & E SECTION, 2711 W. WELLS ST., SUITE 200 MILWAUKEE, WI 53208 ATTN: MR. DAVID GULGOWSKI, P.E. PHONE: (414) 278-4942.
DGULGOWSKI@MILWCNTY.COM

MILWAUKEE COUNTY DPRC
PARKS MAINTENANCE
1150 N. 68TH STREET
WAUWATOSA, WI 53213
ATTN: MR. GENE ANDRZEJAK
PHONE: (414) 258-2322
GENE.ANDRZEJAK@MILWCNTY.COM

VILLAGE OF WHITEFISH BAY
5300 N. MARLBOROUGH DR.
WHITEFISH BAY, WI 53217
ATTN:
PHONE: (414) 926-6690
ENGINEER@WFBVILLAGE.ORG

CITY OF GLENDALE
5909 N. MILWAUKEE RIVER PRKWY
GLENDALE, WI 53209
ATTN: MR. DAVE EASTMAN
PHONE: (414) 228-1746
D.EASTMAN@GLENDALE-WI.ORG

CITY OF MILWAUKEE
MUNCIPAL BUILDING, ROOM 701
841 N. BROADWAY
MILWAUKEE, WI 53202
ATTN: MR. JEFFREY POLENSKE, P.E.
PHONE: (414) 286-2400
JEFFREY.POLENSKE@MILWAUKEE.GOV

STREET LIGHTING
ATTN: TOM MANZKE (414) 286-3481 (O)
THOMAS.MANZKE@MILWAUKEE.GOV

WATER WORKS
ATTN: DAVE GOLDAPP (414) 286-6301 (O)
(414) 708-2695 (C)

CITY OF MILWAUKEE UTILITY COORDINATOR
ATTN: MUSA ABU-KHADER
841 NORTH BROADWAY, ROOM 920
MILWAUKEE, WI 53202
PHONE (414) 708-2529
MUSA.ABU-KHADER@MILWAUKEE.GOV

TIME WARNER CABLE COMMUNICATIONS
1320 N. MARTIN LUTHER KING DR.
MILWAUKEE, WI 53212
ATTN: MR. LUKAS LA CROSSE
PHONE: (414) 430-9321
LUKAS.LACROSSE@TWCABLE.COM

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT (MMSD)
260 W. SEEBOTH ST.
MILWAUKEE, WI 53204-1446
ATTN: MS. DEBRA JENSEN
PHONE: (414) 225-2143
DJENSEN@MMSD.COM

AMERICAN TRANSMISSION COMPANY
W234 N2000 RIDGEVIEW PARKWAY COURT
WAUKESHA, WI 53188-1022
ATTN: MS. KIM STRATTON
PHONE: (262) 506-6876 (OFFICE)
OR (414) 424-4189 (CELL)
KSTATTON@ATCLLC.COM

AT&T WISCONSIN
7721 W. FOND DU LAC AVE., 1ST FL.
MILWAUKEE, WI 53218
ATTN: MS. CAROLYNNE COVILLARD
PHONE: (414) 536-2629

WE ENERGIES (GAS OPERATIONS)
333 W. EVERETT ST. – A279
MILWAUKEE, WI 53203
ATTN: MR. DAN SANDE, PROJECT MANAGER
PHONE: (414) 221-4578

WE ENERGIES (ELECTRIC) 333
W. EVERETT ST. – A279
MILWAUKEE, WI 53203
ATTN: MR. LEONARD WILSON
PHONE: (414) 944-5690
LEONARD.WILSON@WE-ENERGIES.COM

WE ENERGIES (REAL ESTATE)
231 W. MICHIGAN ST. – A252
MILWAUKEE, WI 53203
ATTN: MS JULIE SIMMONS
PHONE: (414) 221-2715
JULIE.SIMMONS@WE-ENERGIES.COM

AMERICAN TRANSMISSION COMPANY (ATC) NOTES:

1. Signs and markers may not be attached to ATC structures. Small signs or markers may not be placed on the ground within 10' of any structure. The large, billboard trail signs may not be placed within 30' of any transmission structure and may not obstruct access to the WE Energies ROW.
2. Three feet of space between the paved portion of the trail and the base of ATC
3. No stockpiling or staging of equipment/materials under or near the ATC transmission lines and towers. Unobstructed ATC access to the transmission lines and towers must be maintained at all times. After hours, equipment must be parked in an area that would allow a maintenance vehicle access to the conductors and structures.
4. Excavation is not allowed within 20' of the face of any structure except for minor excavation for trail construction. Fill may not be placed against any structure.
5. Transmission structures may have multiple ground rods. These ground rods could be located a significant distance from the structure. All ground rods are connected to the structure via a ground wire and could be buried to a depth of eighteen (18) inches or deeper. If the ground rods are disturbed through construction activities, the location must be noted and promptly reported to ATC
6. Maintain OSHA Safe Working Clearance from the ATC 138kV line based on the latest OSHA requirements.

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

DIGGERS HOTLINE

Call 811 3 Work Days Before You Dig
or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

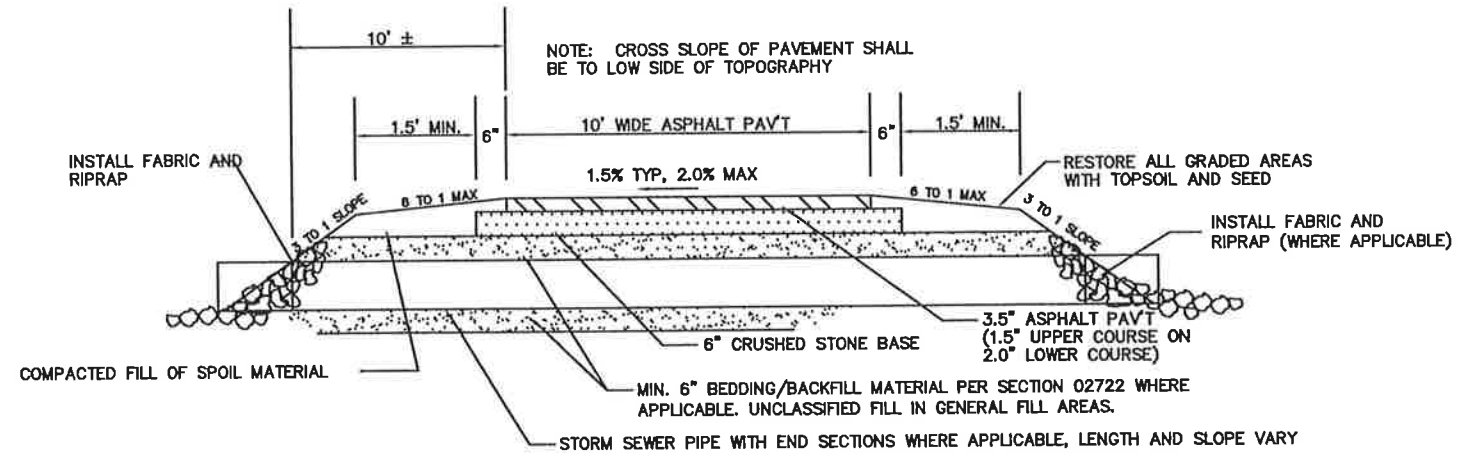
PARKS MAINTENANCE DIVISION

(414) 258-2322

BY:
DATE: REVISION DESCRIPTION:

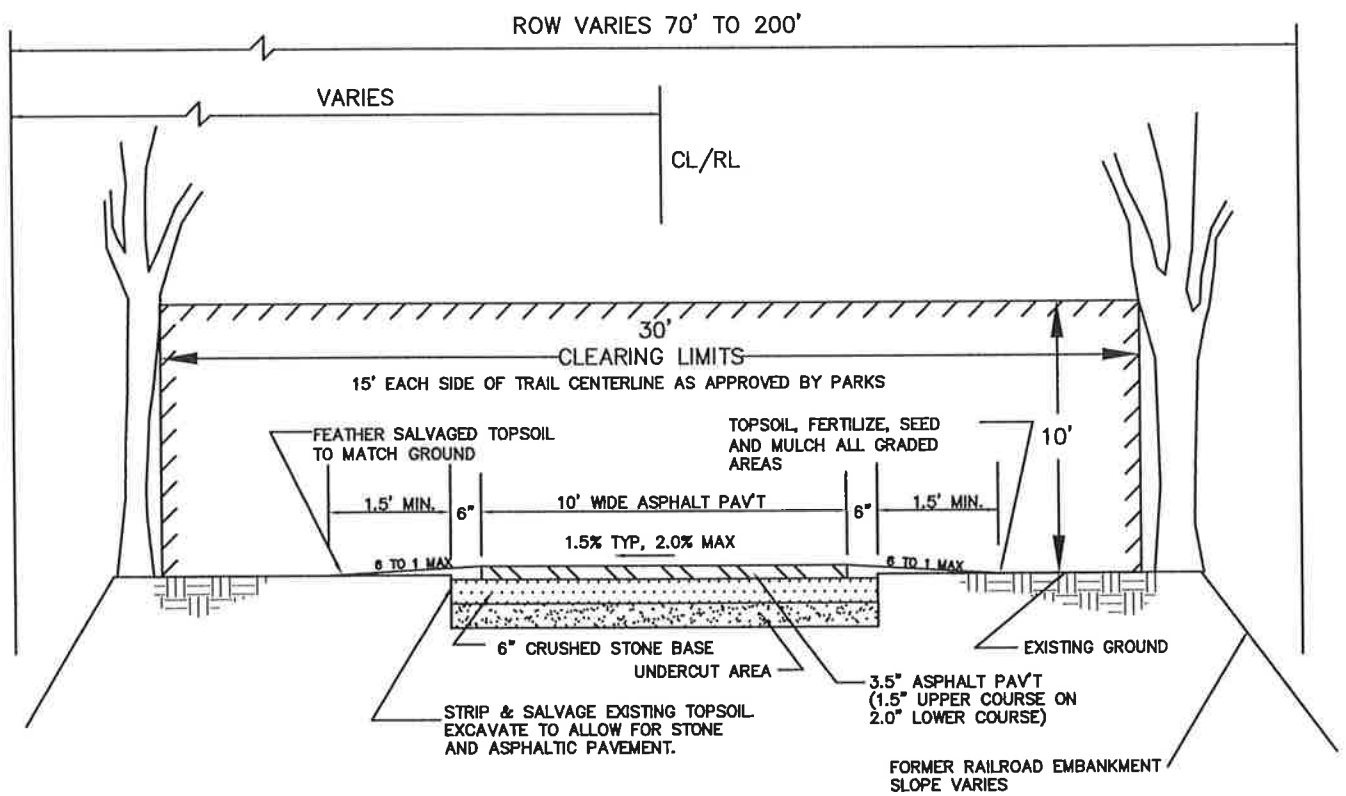
MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

DRAWN BY: DSG
CHECKED BY: KDS
SCALE: N.T.S.
DATE: 7/11/13
PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE – MILL RD.
SHEET DESCRIPTION: DETAILS
SITE NO. 694
BUILDING NO.
PROJECT NO. P131-12605
2984-20-72
SHEET NO. 2 OF XX
2



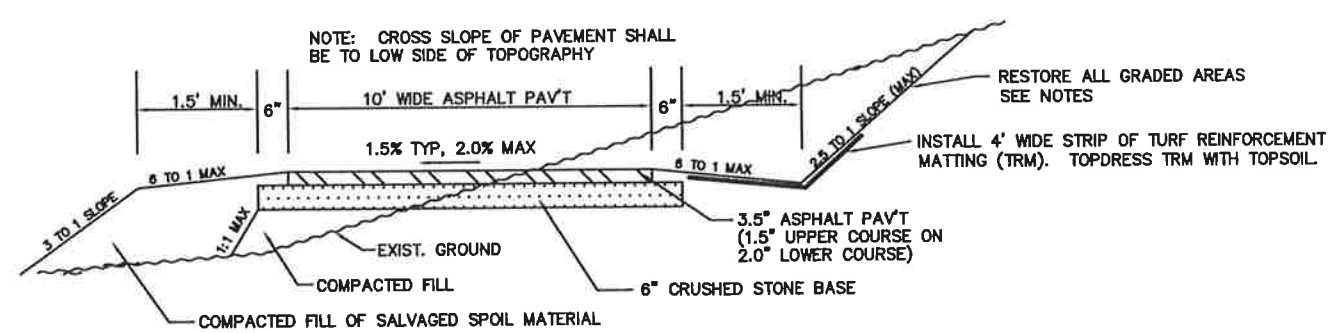
NOTES:
1. GRADE MAX 6 TO 1 SLOPE FOR 2 FT. FROM EDGE OF TRAIL. OUTSIDE OF THAT, USE A MAX 4 TO 1 SLOPE UNLESS OTHERWISE NOTED ON PLAN.
2. STRIP AND STOCKPILE EXISTING TOPSOIL FOR USE WITHIN THE PROJECT LIMITS.
3. PLACE EROSION MATTING ON ALL SLOPES 3:1 OR GREATER.
4. PROVIDE CLEAR ZONE WITH NO VERTICAL OBSTRUCTION WITHIN 3' FROM EDGE OF TRAIL UNLESS SHOWN OTHERWISE ON THE PLAN.

TYPICAL TRAIL SECTION IN FILL AREA OR WITH CULVERT PIPE
NO SCALE



NOTES:
1. CLEAR LIMITS SHOWN APPLY TO ALL TYPICAL SECTIONS.
2. PROVIDE CLEAR ZONE WITH NO VERTICAL OBSTRUCTION WITHIN 3' FROM EDGE OF TRAIL UNLESS SHOWN OTHERWISE ON THE PLAN.
3. UNDERCUT ONLY WHERE DIRECTED BY ENGINEER.
4. CROSS SLOPE OF PAVEMENT SHALL BE TO LOW SIDE OF TOPOGRAPHY.

TYPICAL BIKE TRAIL SECTION ON GRADE
NO SCALE



NOTES:
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2. STRIP AND STOCKPILE EXISTING TOPSOIL FOR USE WITHIN THE PROJECT LIMITS.
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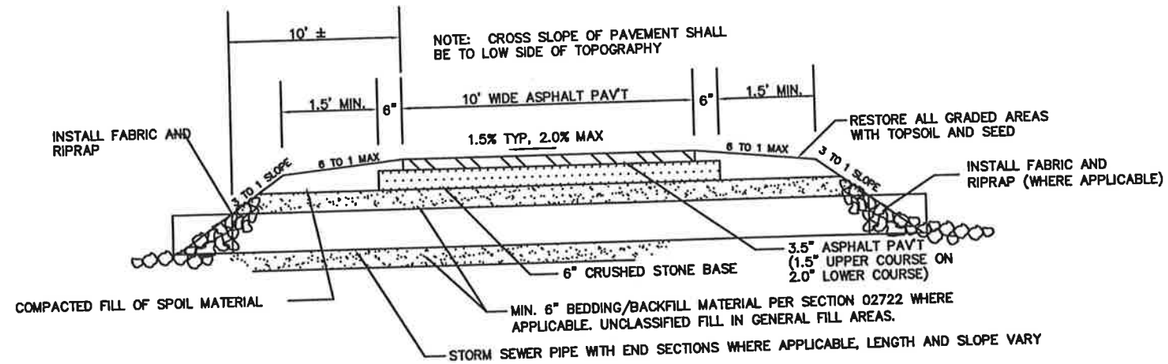
4. PROVIDE CLEAR ZONE WITH NO VERTICAL OBSTRUCTION WITHIN 3' FROM EDGE OF TRAIL UNLESS SHOWN OTHERWISE ON THE PLAN.

TYPICAL SECTION ON SIDE SLOPE
NO SCALE

BY:
REVISION DESCRIPTION:
DATE:

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

DRAWN BY: DSG
CHECKED BY: KDS
SCALE: N.T.S.
DATE: 7/11/13
PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE – MILL RD.
SHEET DESCRIPTION: DETAILS
SITE NO. 694
BUILDING NO.
PROJECT NO. P131-12605
SHEET NO. 3 OF XX
3
2984-20-72
FILE NO.



NOTES:
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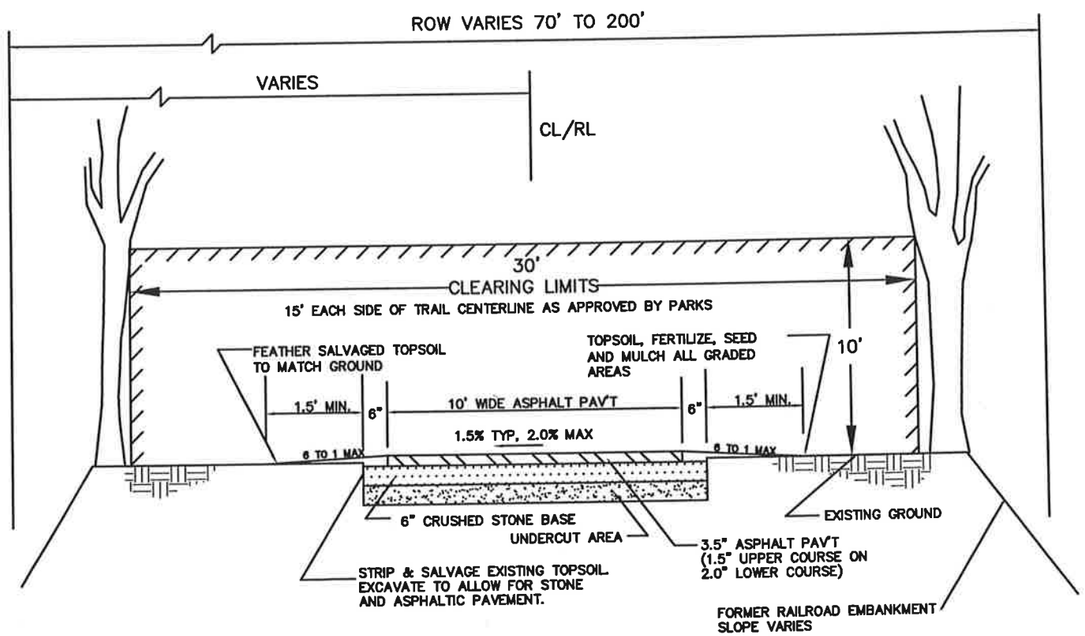
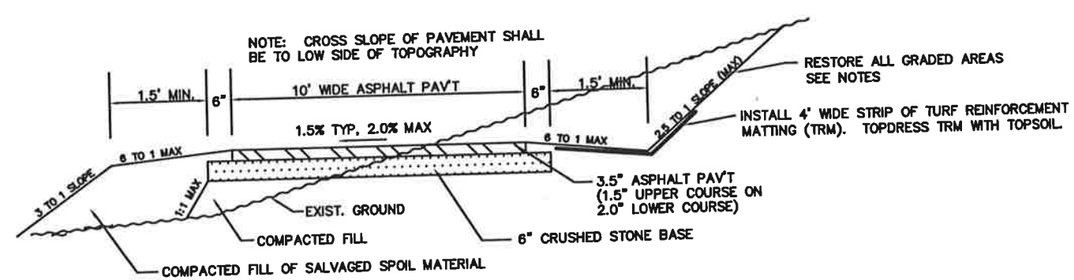
2. STRIP AND STOCKPILE EXISTING TOPSOIL FOR USE WITHIN THE PROJECT LIMITS.
3. PLACE EROSION MATTING ON ALL SLOPES 3:1 OR GREATER.

TYPICAL TRAIL SECTION IN FILL AREA OR WITH CULVERT PIPE
NO SCALE



NOTES:
1. CLEAR LIMITS SHOWN APPLY TO ALL TYPICAL SECTIONS.
2. PROVIDE CLEAR ZONE WITH NO VERTICAL OBSTRUCTION WITHIN 3' FROM EDGE OF TRAIL UNLESS SHOWN OTHERWISE ON THE PLAN.
3. UNDERCUT ONLY WHERE DIRECTED BY ENGINEER.
4. CROSS SLOPE OF PAVEMENT SHALL BE TO LOW SIDE OF TOPOGRAPHY.

TYPICAL BIKE TRAIL SECTION ON GRADE
NO SCALE



NOTES:
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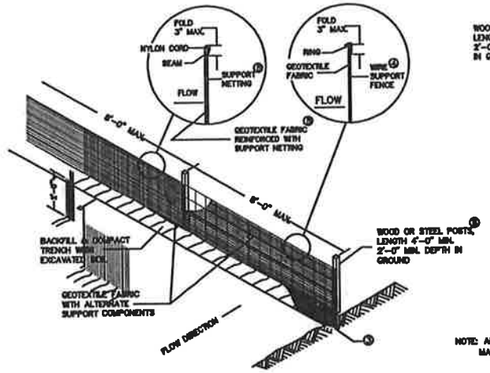
3. PLACE EROSION MATTING ON ALL SLOPES 3:1 OR GREATER.

TYPICAL SECTION ON SIDE SLOPE
NO SCALE

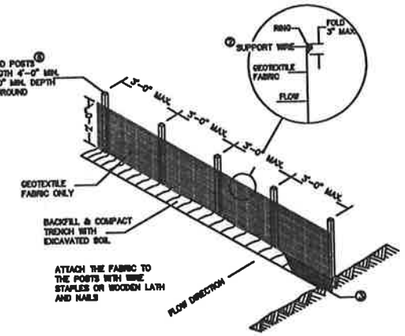
BY:
REVISION DESCRIPTION:
DATE:

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

DRAWN BY: DSG
CHECKED BY: KDS
SCALE: N.T.S.
DATE: 7/11/13
PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE – MILL RD.
SHEET DESCRIPTION: DETAILS
SITE NO. 694
BUILDING NO.
PROJECT NO. P131-12605
SHEET NO. 3 OF XX
3
2984-20-72



ALTERNATE "A"



ALTERNATE "B"

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

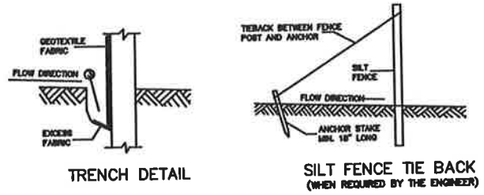
GENERAL SILT FENCE NOTES

DETAIL OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

WHEN POSSIBLE THE SILT FENCE SHOULD BE CONSTRUCTED IN AN ARC OR HORSESHOE SHAPE, WITH THE ENDS POINTING UPSLOPE TO MAXIMIZE BOTH STRENGTH AND EFFECTIVENESS.

1. CROSS BRACE WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS AS DIRECTED BY THE ENGINEER.
2. MINIMUM 14 GAGE WIRE REQUIRED. FOLD FABRIC 3" OVER THE WIRE AND STAPLE OR PLACE WIRE RINGS ON 12" C-C.
3. EXCAVATE A TRENCH A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
4. WIRE SUPPORT FENCE SHALL BE 14 GAGE MINIMUM WOVEN WIRE WITH A MAXIMUM MESH SPACING OF 8". SECURE TOP OF GEOTEXTILE FABRIC TO TOP OF FENCE WITH STAPLES OR WIRE RINGS AT 12" C-C.
5. GEOTEXTILE FABRIC SHALL BE REINFORCED WITH AN INDUSTRIAL POLYPROPYLENE NETTING WITH A MAXIMUM MESH SPACING OF 3/4". OR EQUAL. A HEAVY DUTY NYLON TOP SUPPORT CORD OR EQUIVALENT IS REQUIRED.
6. STEEL POSTS SHALL BE STUDDED "TEE" OR "U" TYPE WITH A MINIMUM WEIGHT OF 1.25 LBS/LINEAL FOOT (WITHOUT ANCHOR). FIN ANCHORS SUFFICIENT TO RESIST POST MOVEMENT ARE REQUIRED. WOOD POSTS SHALL BE A MINIMUM SIZE OF 4" DIA. OR 1 1/2" X 3 1/2" EXCEPT WOOD POSTS FOR GEOTEXTILE FABRIC REINFORCED WITH NETTING SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OAK OR HICKORY.

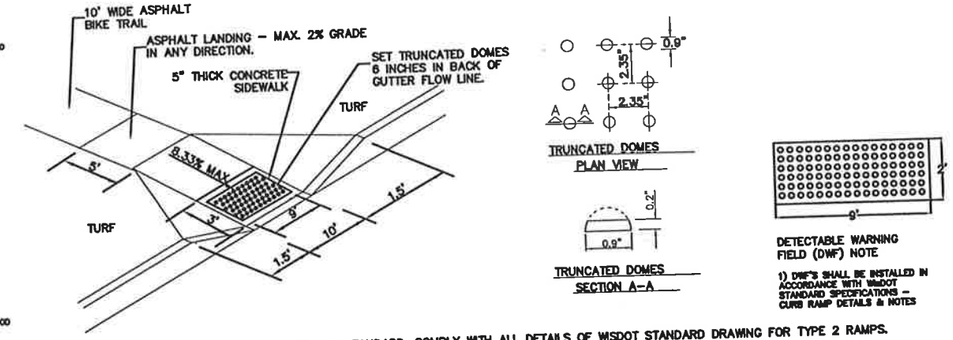
ALTERNATES A & B ARE EQUAL AND EITHER MAY BE USED.



TRENCH DETAIL

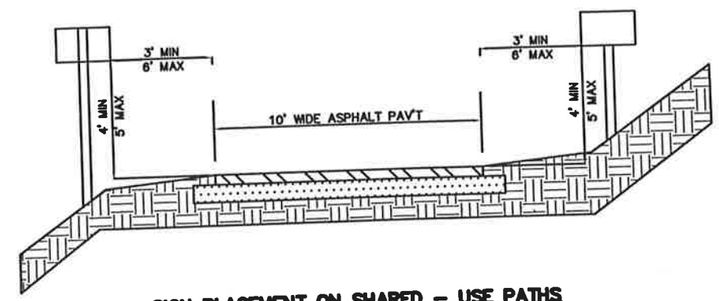
SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE
NOT TO SCALE

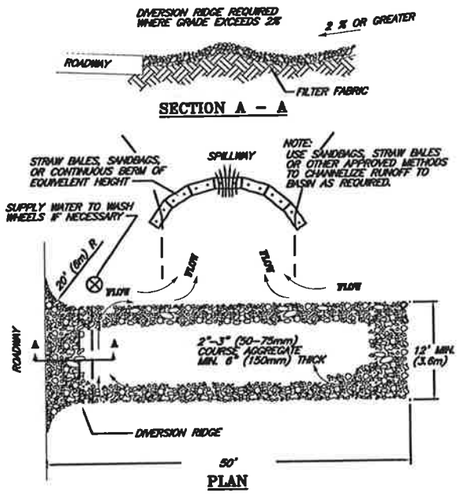


NOTE: IF DIFFERENT FROM WISDOT STANDARD, COMPLY WITH ALL DETAILS OF WISDOT STANDARD DRAWING FOR TYPE 2 RAMPS.

DETECTABLE WARNING FIELD TYPE 2 RAMP
NO SCALE



SIGN PLACEMENT ON SHARED – USE PATHS
NO SCALE



NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

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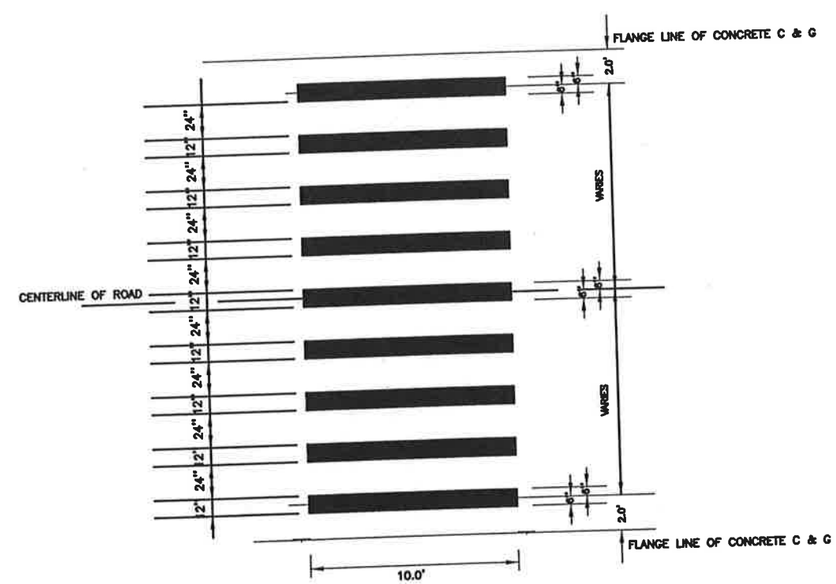
FILE SERVICE

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE / EXIT
NOT TO SCALE



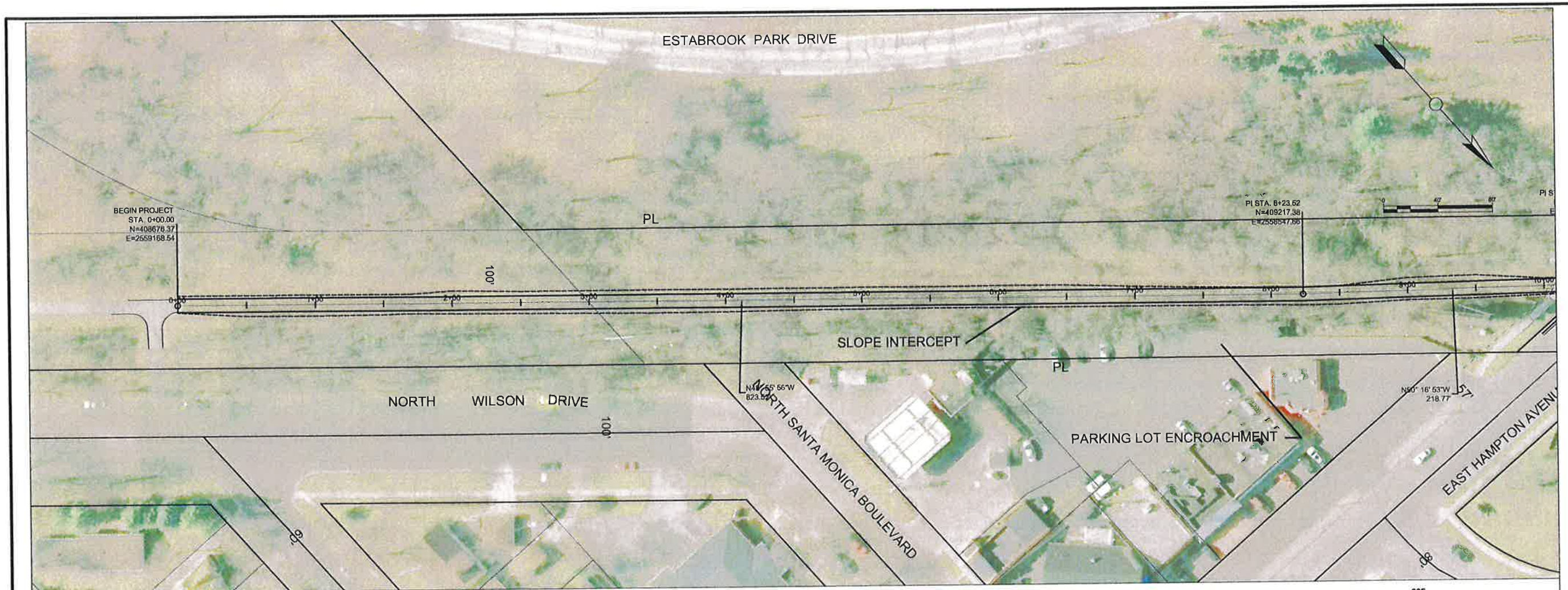
CROSSWALK DETAIL
NO SCALE

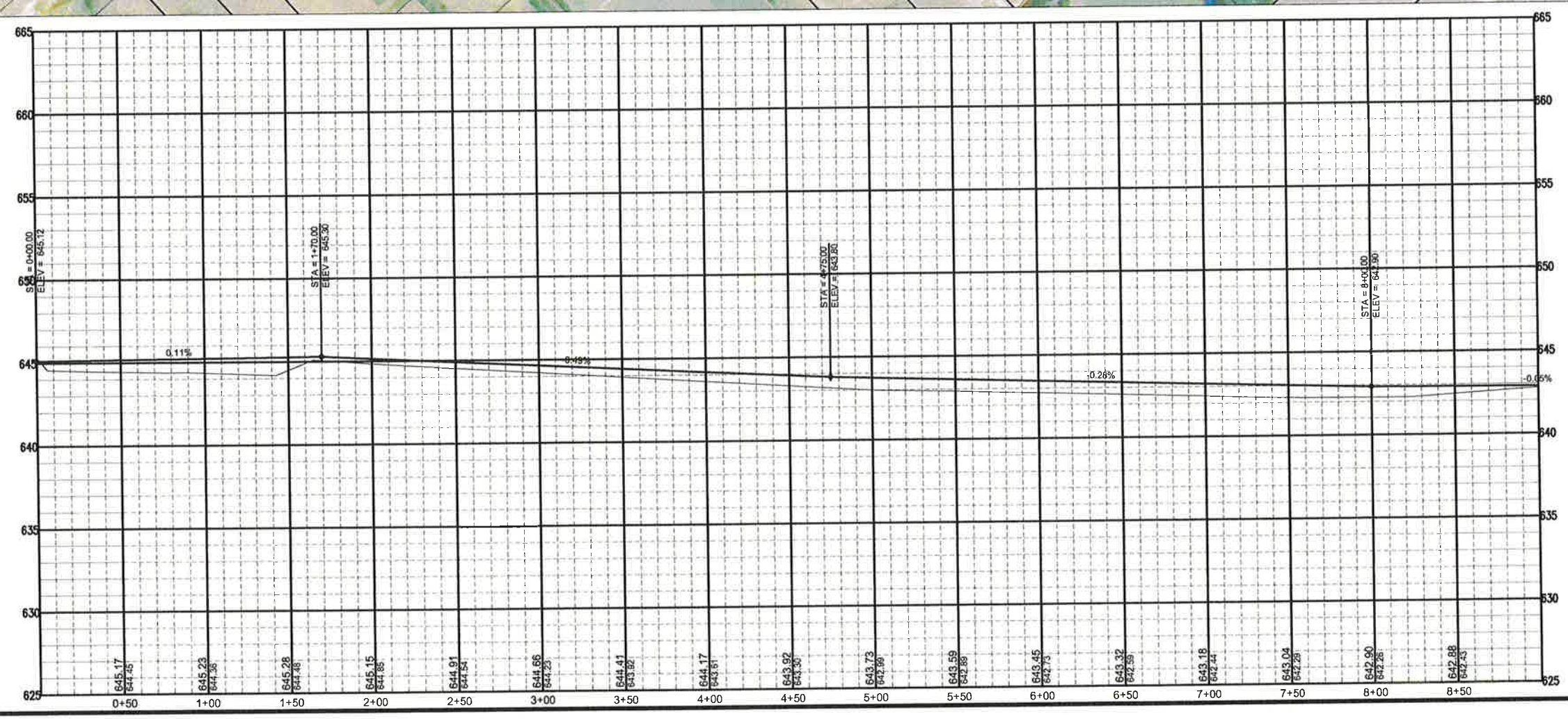
DATE	REVISION DESCRIPTION	BY

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

DRAWN BY: DSG	CHECKED BY: KDS
SCALE: N.T.S.	DATE: 7/11/13
PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	SHEET DESCRIPTION: DETAILS
SITE NO. 694	BUILDING NO.
PROJECT NO. P131-12605	
SHEET NO. 4 OF xx	4

2984-20-72

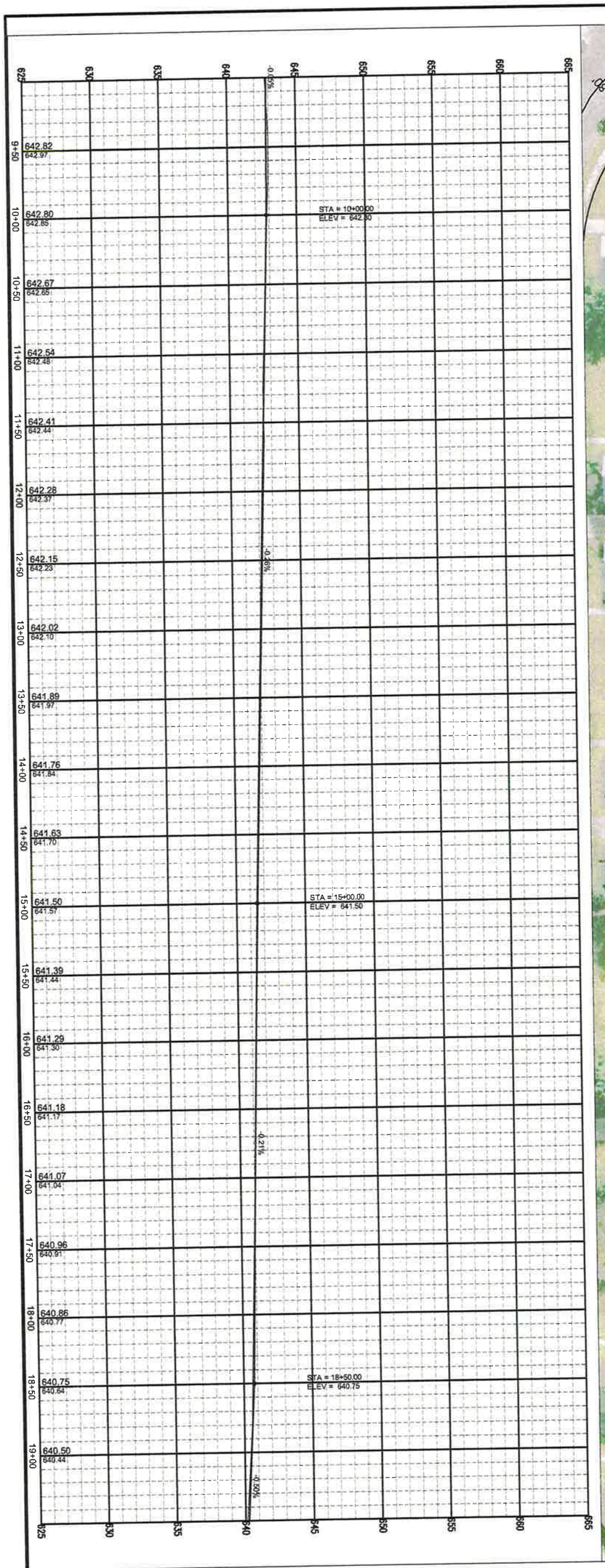


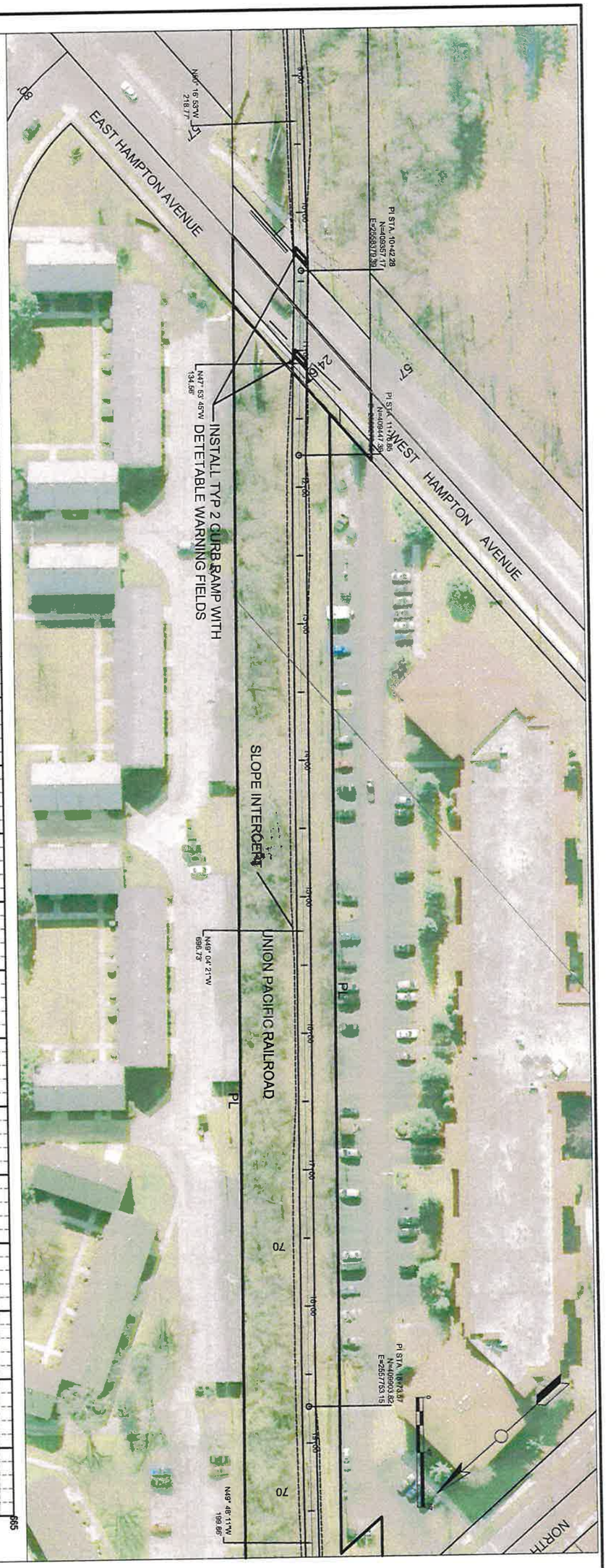


DATE	REVISION DESCRIPTION	BY

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

PROJECT TITLE	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.
SCALE	1" = 40'
DRAWN BY	DSG
DATE	7/11/13
CHECKED BY	KDS
SHEET DESCRIPTION	PLAN & PROFILE
SITE NO.	694
BUILDING NO.	
PROJECT NO.	P131–12605
	2984-20-72
SHEET NO.	6 OF xx
FILE NO.	

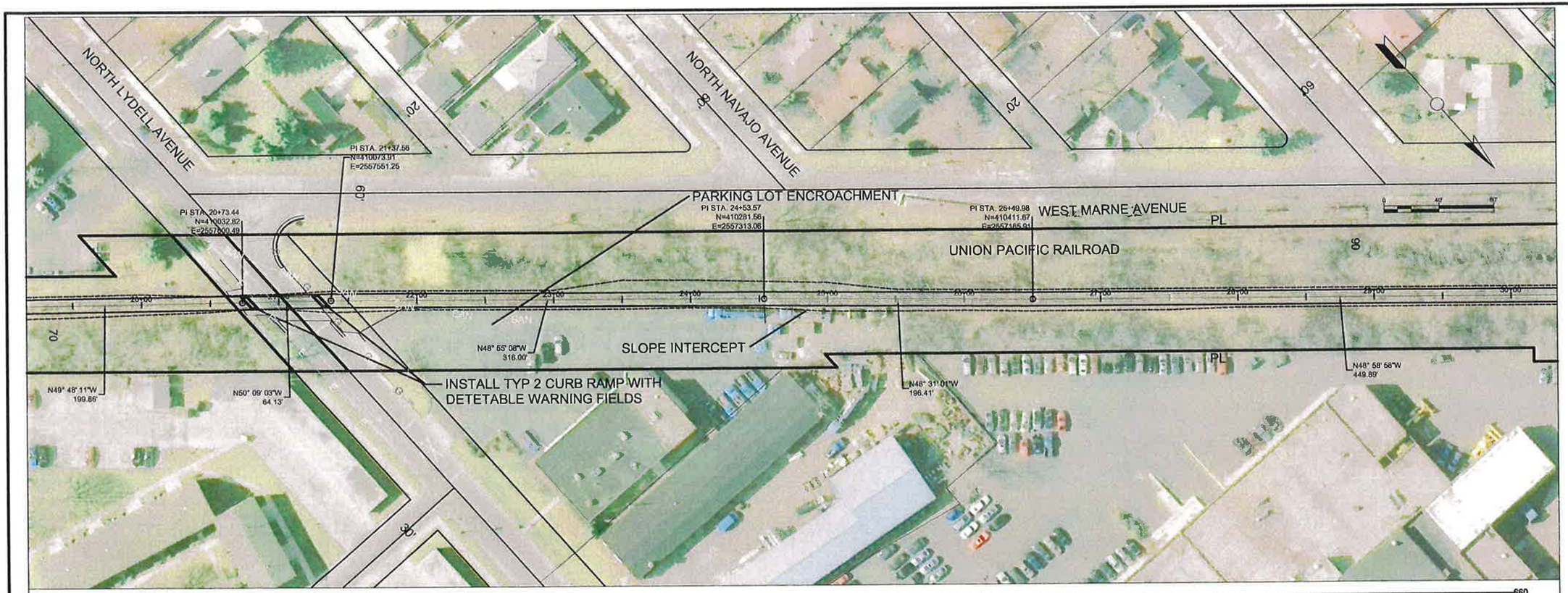


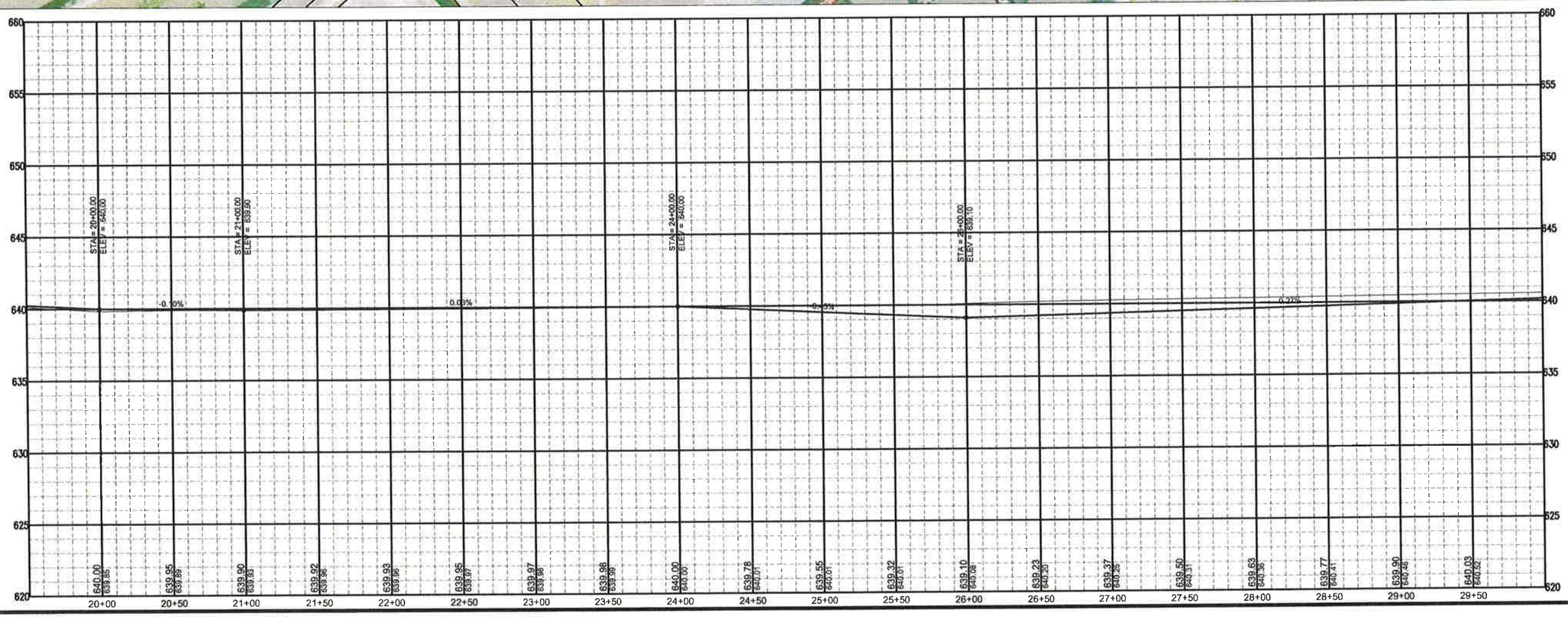


DATE:	REVISION DESCRIPTION:	BY:

SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE	SCALE	DRAWN BY:
7 OF XX 76	P131-12605	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 40'	DSG
FILE NO.	2984-20-72	BUILDING NO.	SHEET DESCRIPTION: PLAN & PROFILE	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208





REVISION DESCRIPTION	DATE	BY

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

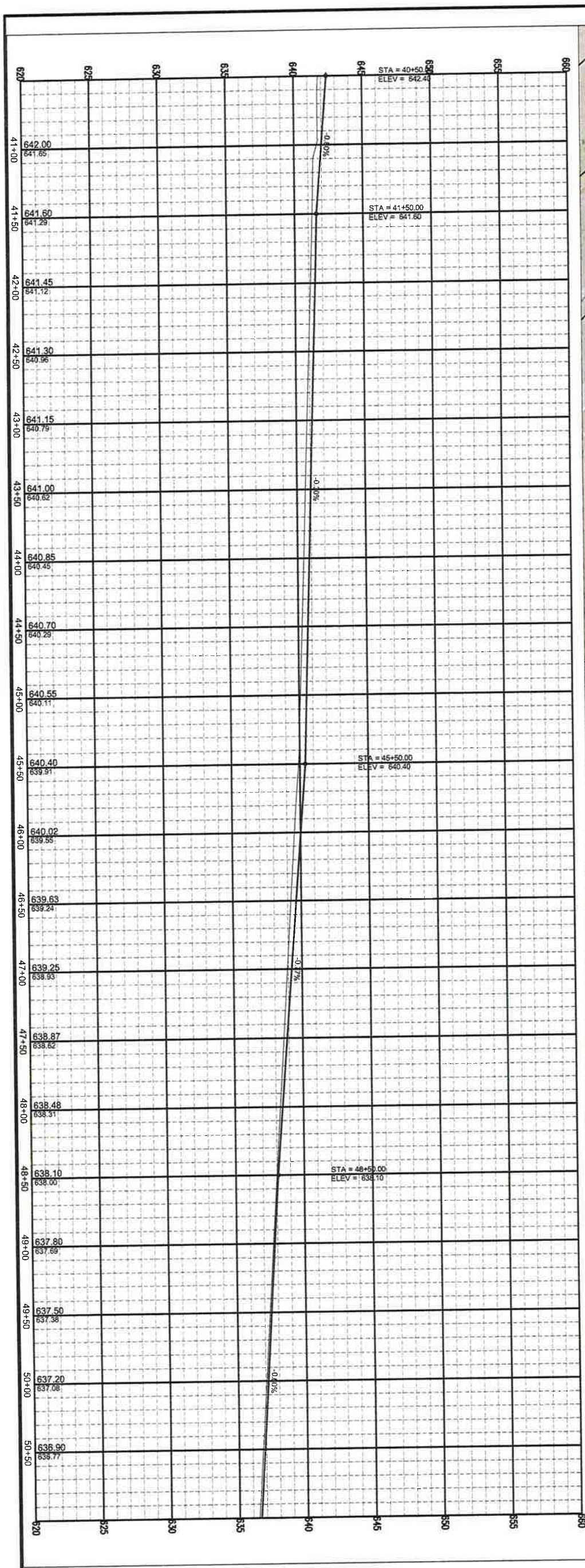
DRAWN BY:	DSG
CHECKED BY:	KDS
SCALE	1" = 40'
DATE	7/11/13
PROJECT TITLE	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.
SHEET DESCRIPTION	PLAN & PROFILE
SITE NO.	694
BUILDING NO.	
PROJECT NO.	P131-12605
	2984-20-72
SHEET NO.	8 OF XX
	8
FILE NO.	

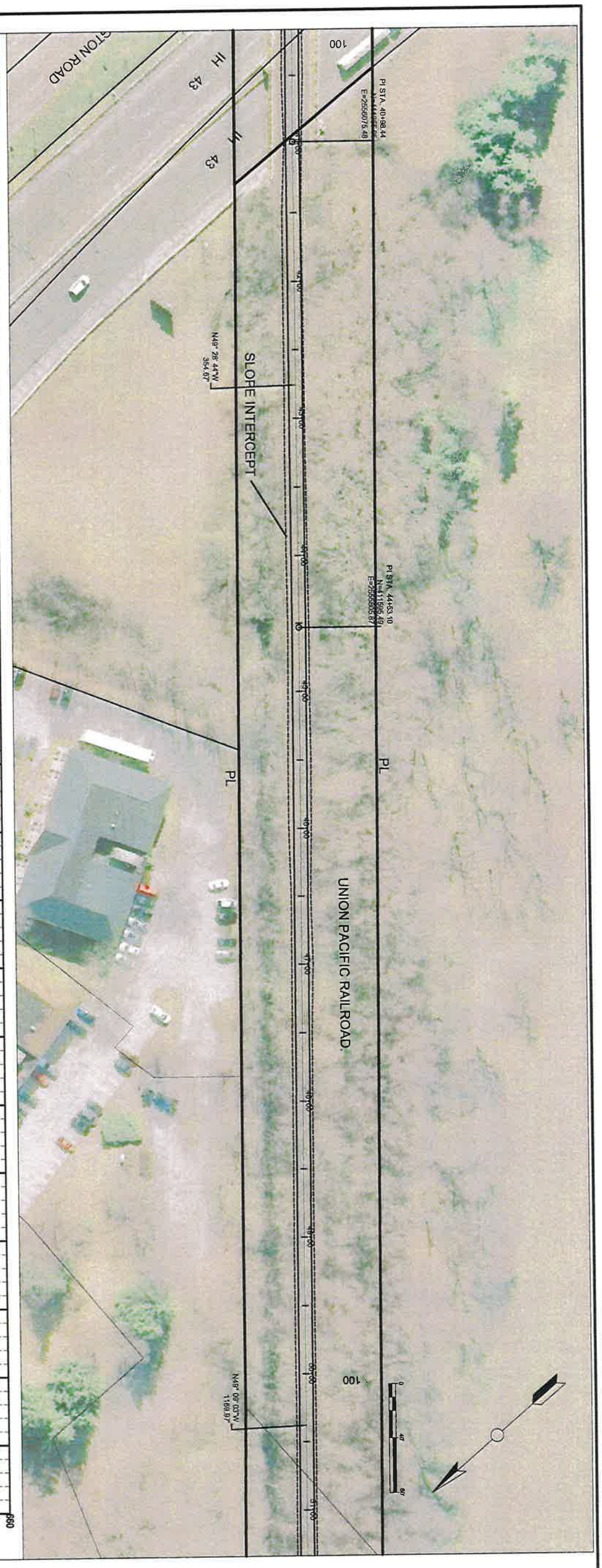
DATE | REVISION DESCRIPTION | BY

MILWAUKEE COUNTY DEPARTMENT OF
ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section

CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

DRAWN BY: DSG
CHECKED BY: KDS
SCALE: 1" = 40'
DATE: 7/11/13
PROJECT TITLE: OAK LEAF TRAIL PHASE 4
HAMPTON AVE. – MILL RD.
SITE NO. 694
BUILDING NO.
SHEET DESCRIPTION: PLAN & PROFILE
SHEET NO. 9 OF XX
PROJECT NO. P131-12605
2984-20-72
FILE NO.



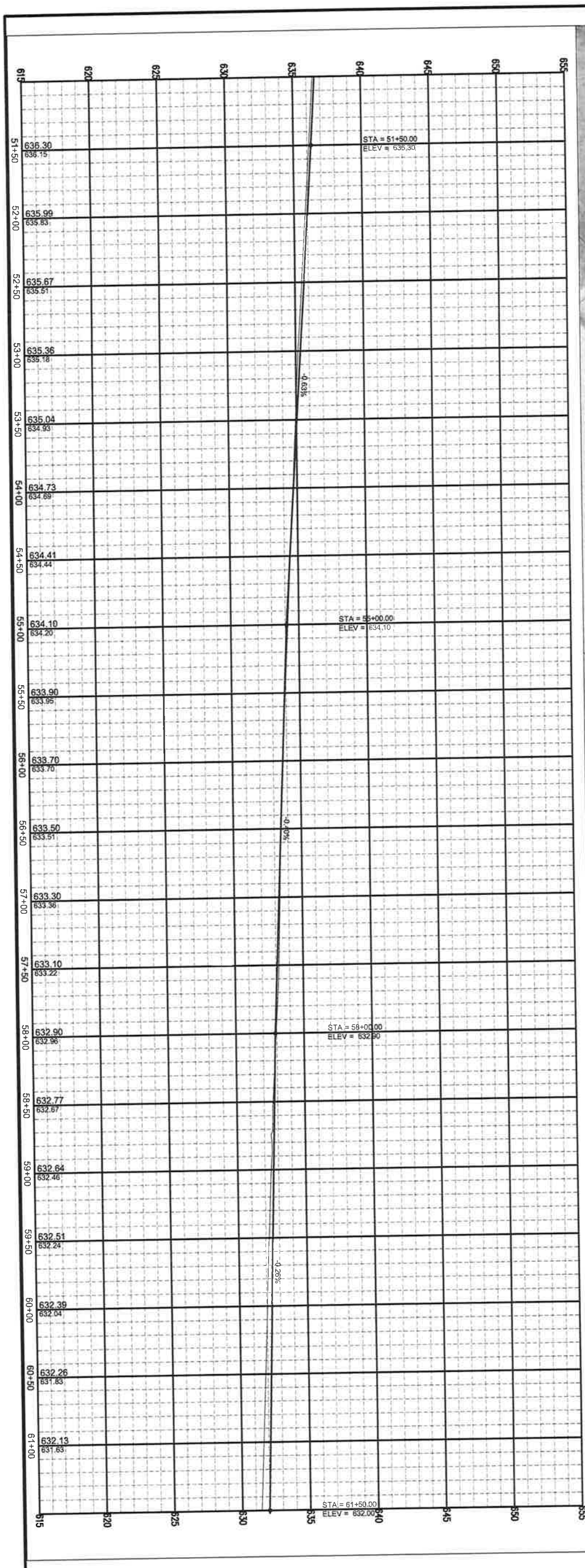


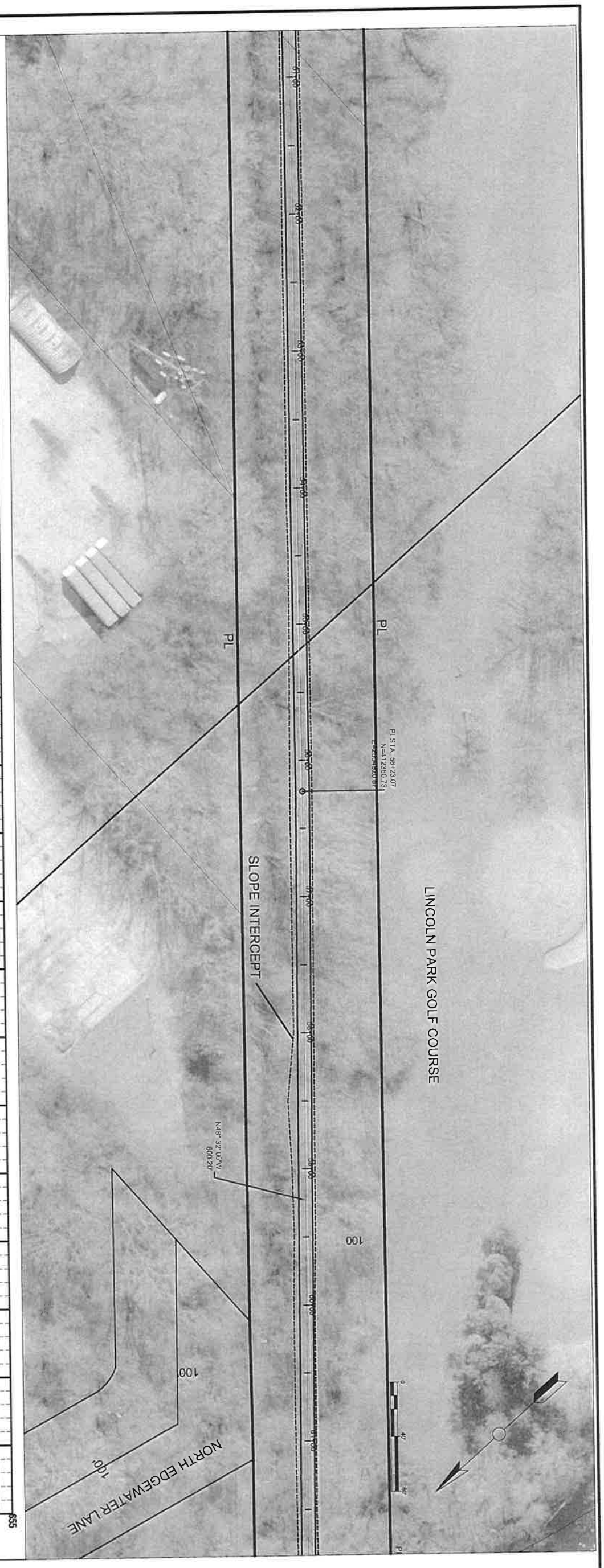
DATE:	REVISION DESCRIPTION:	BY:

SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
10 OF XX	P131-12605	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 40'	DSG
10 9	2984-20-72	BUILDING NO.	SHEET DESCRIPTION: PLAN & PROFILE	DATE: 7/11/13	CHECKED BY: KDS
FILE NO.					

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section

CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

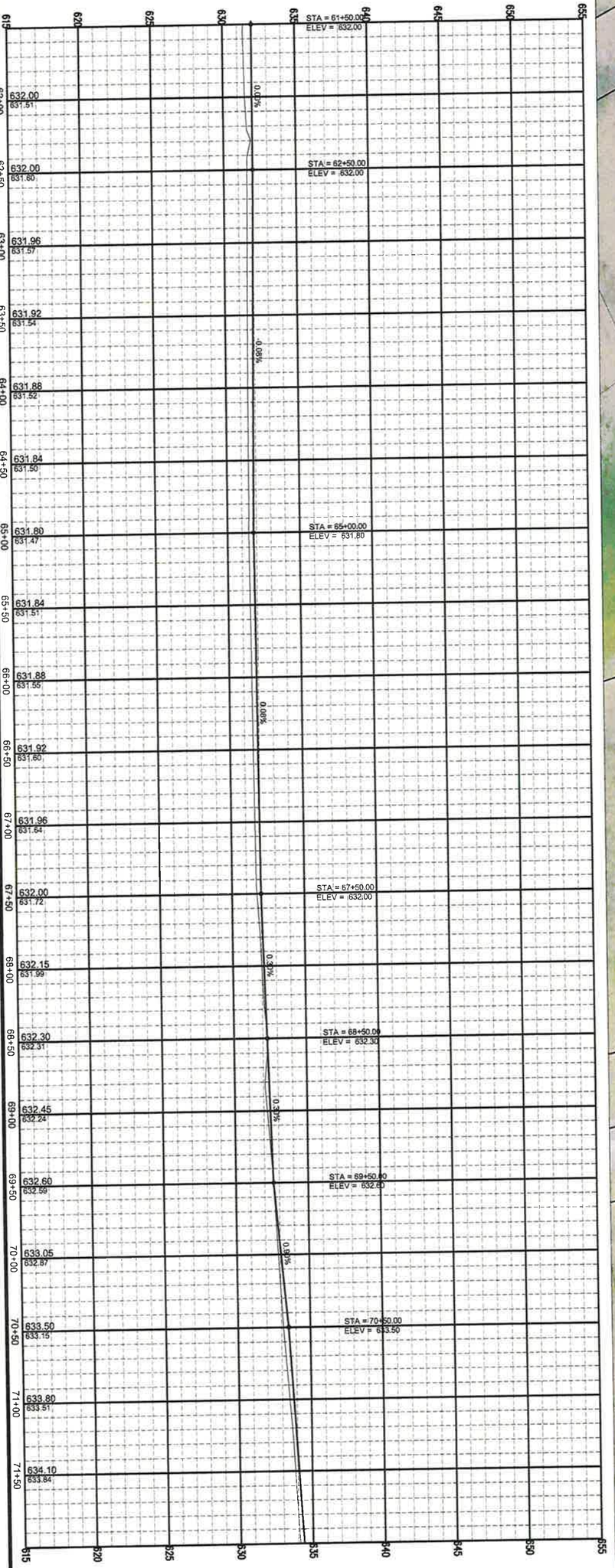


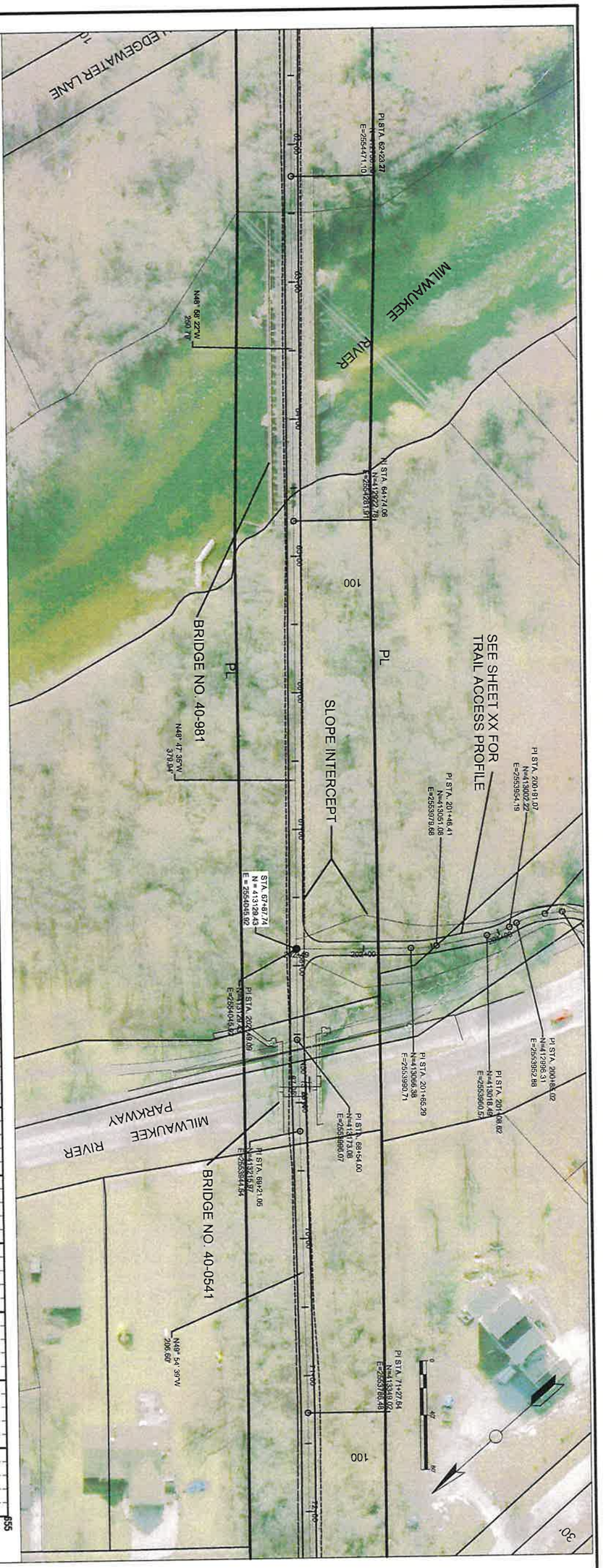


DATE:	REVISION DESCRIPTION:	BY:

SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
11 OF XX ~~11~~ 10	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 40'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: PLAN & PROFILE	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

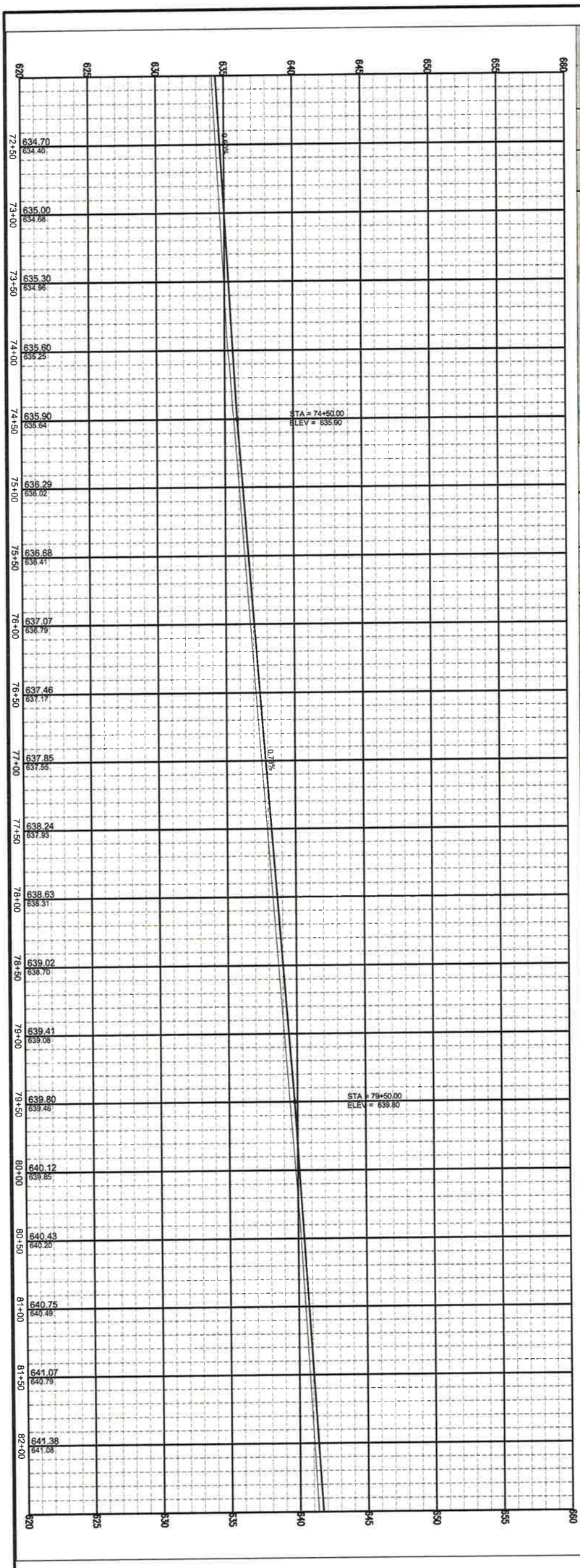


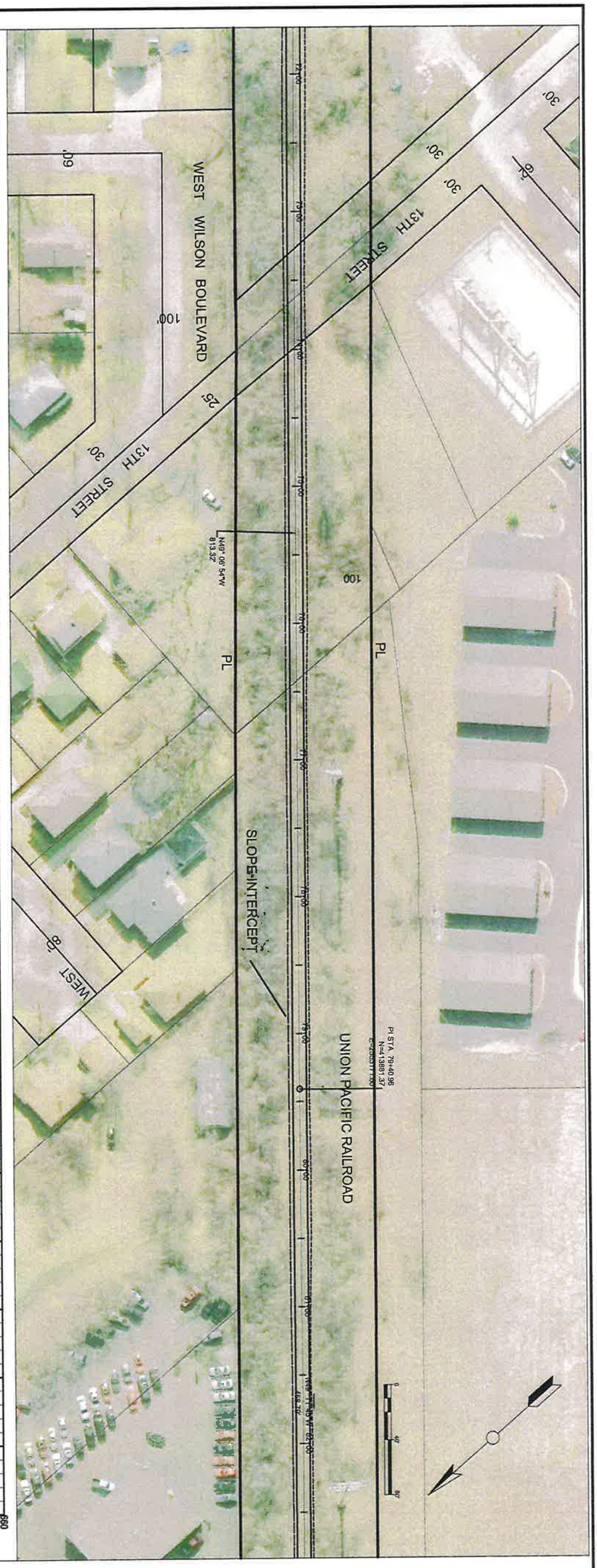


DATE:	REVISION DESCRIPTION:	BY:

SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
12 OF XX ~~12~~ 11	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 40'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: PLAN & PROFILE	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

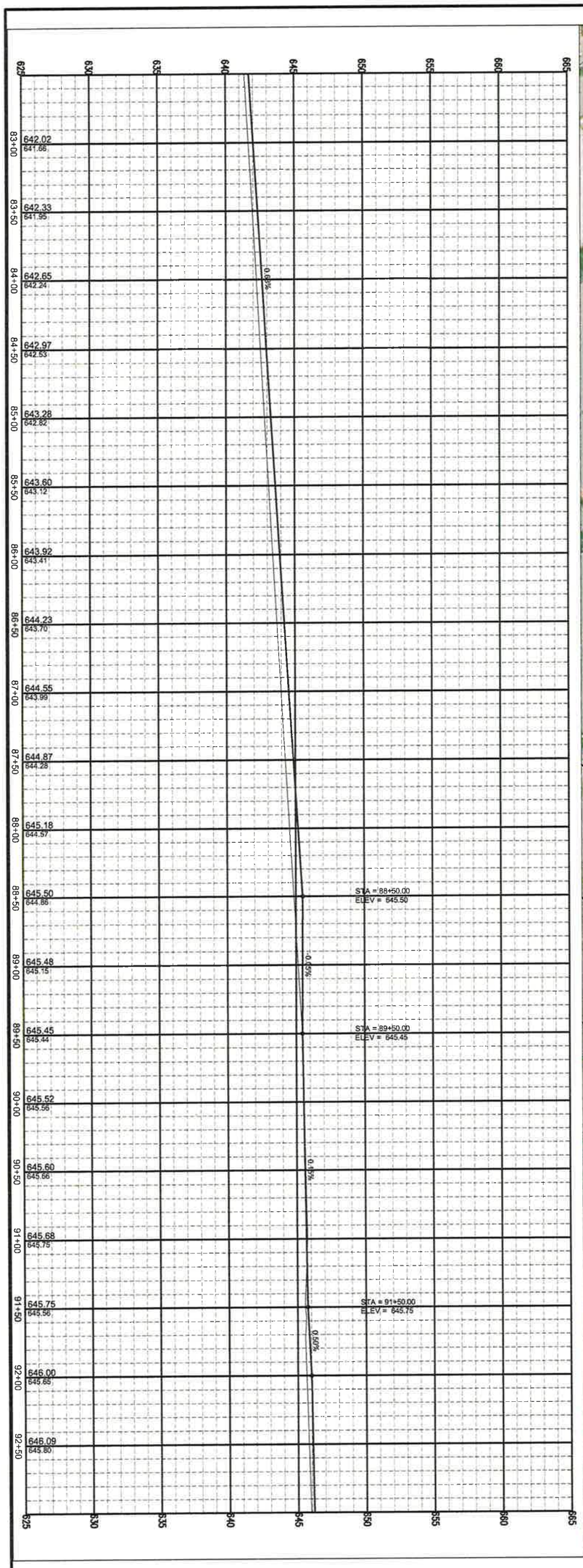


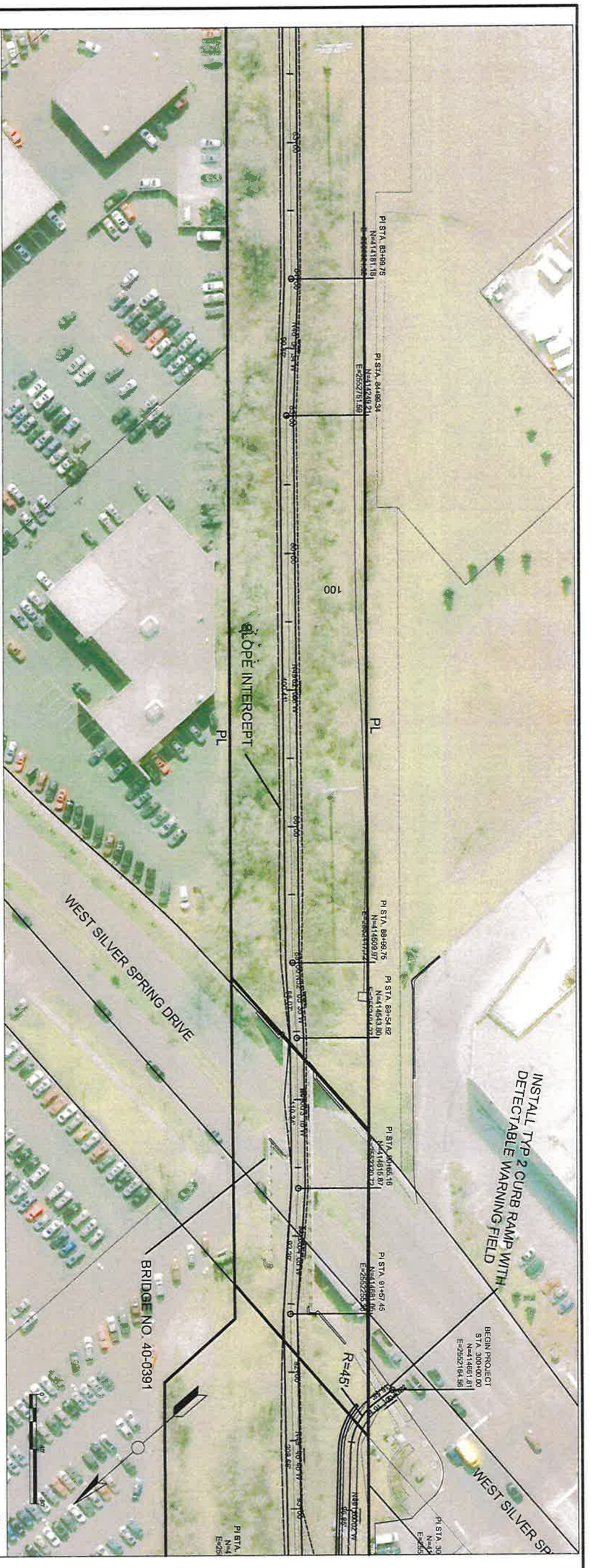


DATE:	REVISION DESCRIPTION:	BY:

SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
13 OF XX ~~13~~ /2	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 40'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: PLAN & PROFILE	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

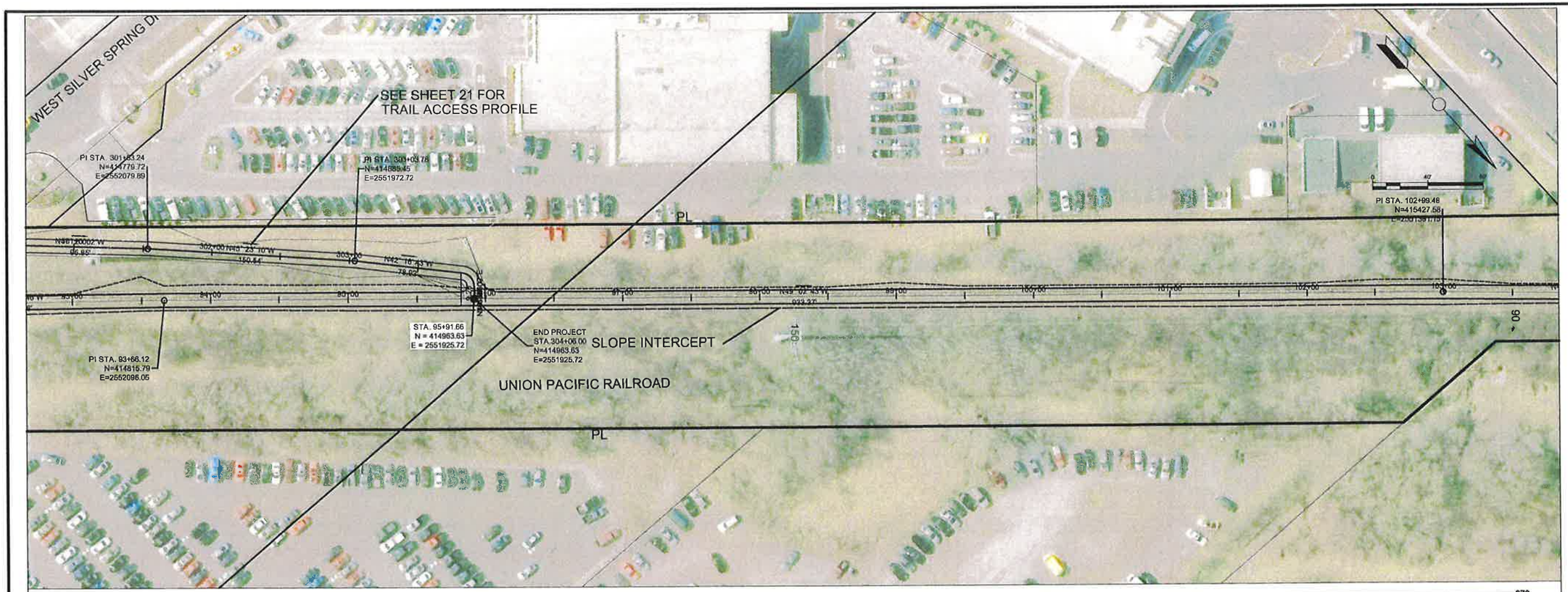


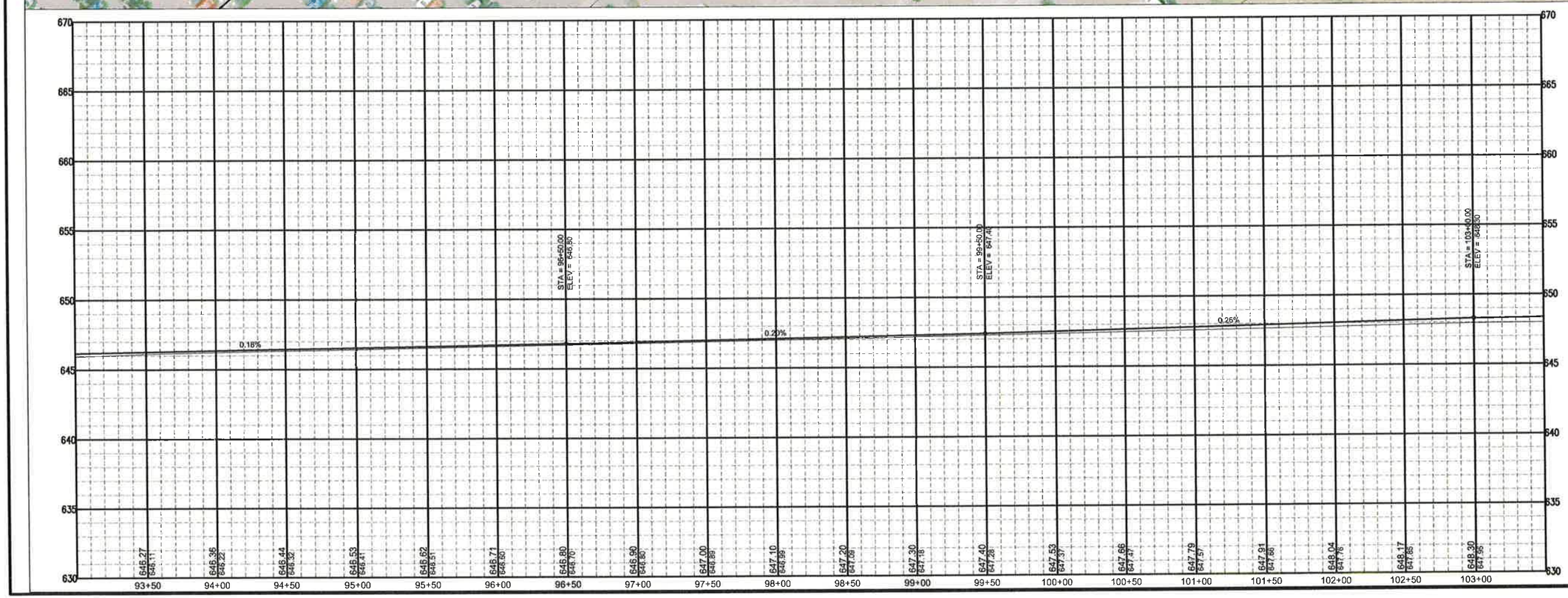


DATE:	REVISION DESCRIPTION:	BY:

SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE	SCALE	DRAWN BY:
14 OF XX ~~14~~ 13	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 40'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: PLAN & PROFILE	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

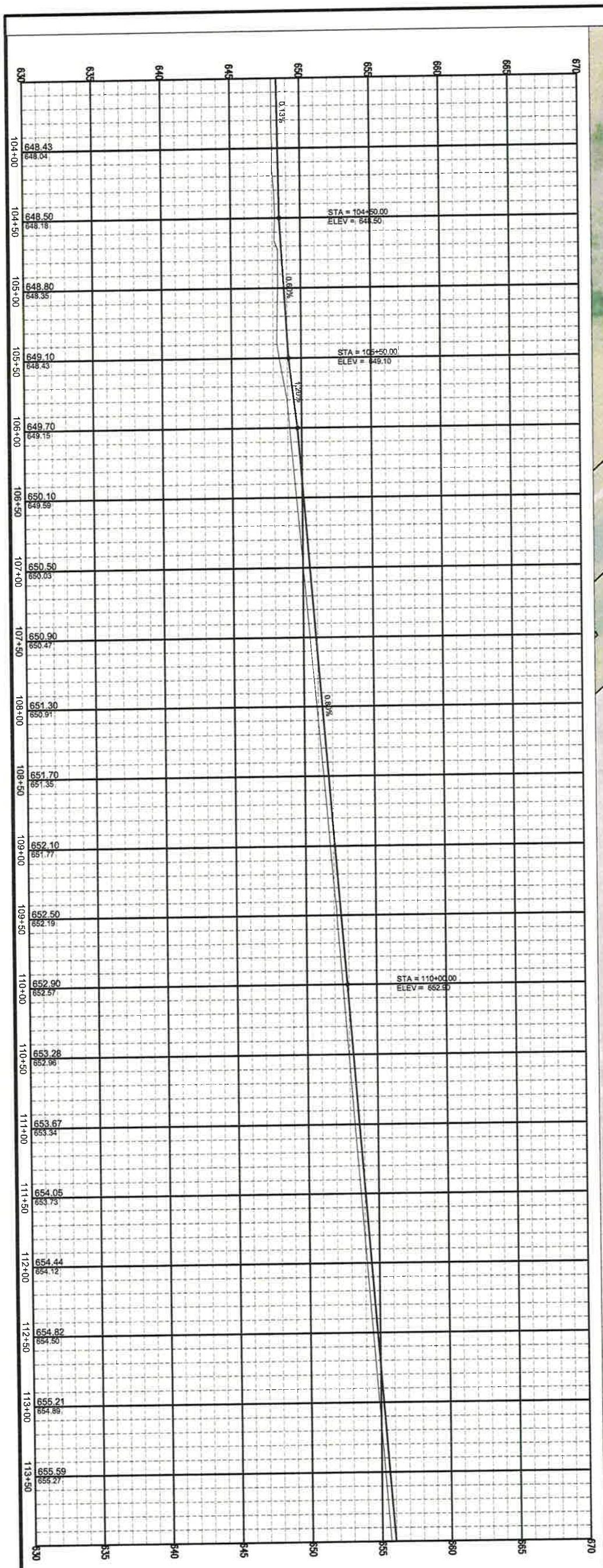


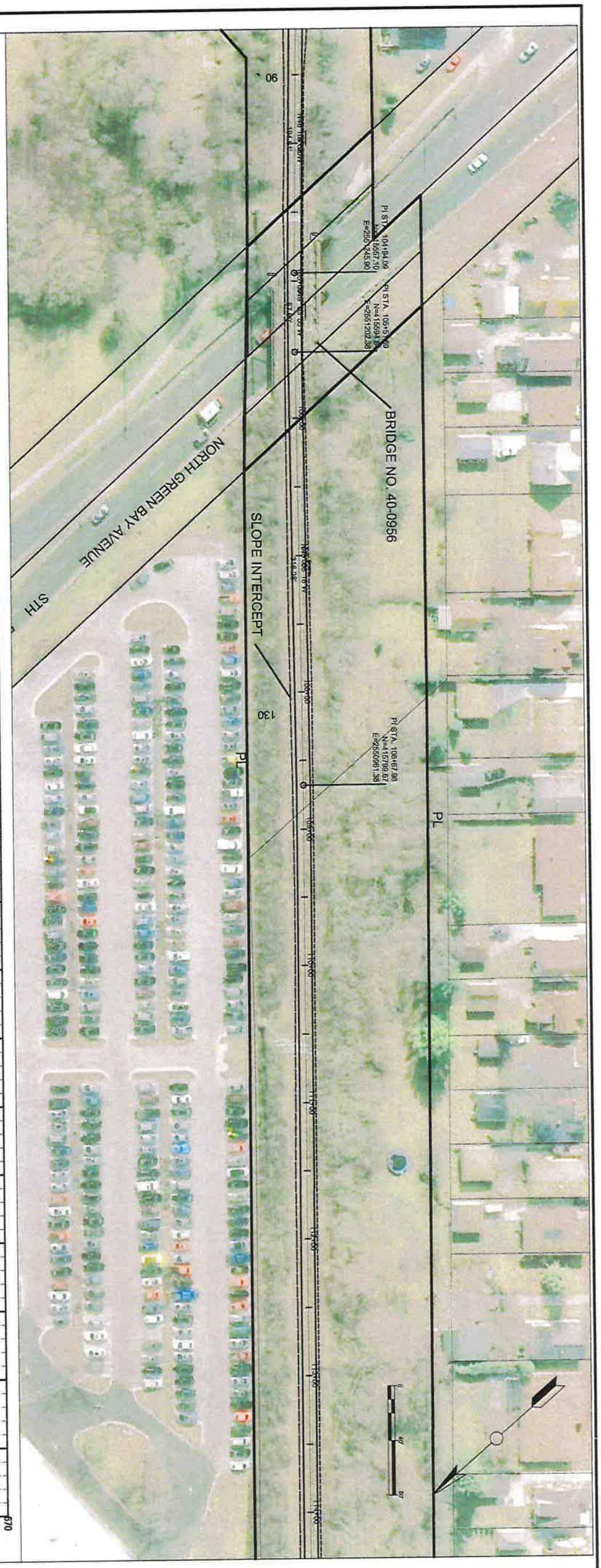


DATE	REVISION DESCRIPTION	BY

MILWAUKEE COUNTY DEPARTMENT OF
ADMINISTRATIVE SERVICES
Architecture, Engineering &
Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

DRAWN BY:	DSG
CHECKED BY:	KDS
SCALE:	1" = 40'
DATE:	7/11/13
PROJECT TITLE:	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.
SHEET DESCRIPTION:	PLAN & PROFILE
SITE NO.	694
BUILDING NO.	
PROJECT NO.	P131–12605
	2984-20-72
SHEET NO.	15 OF xx
	15/4
TILE NO.	



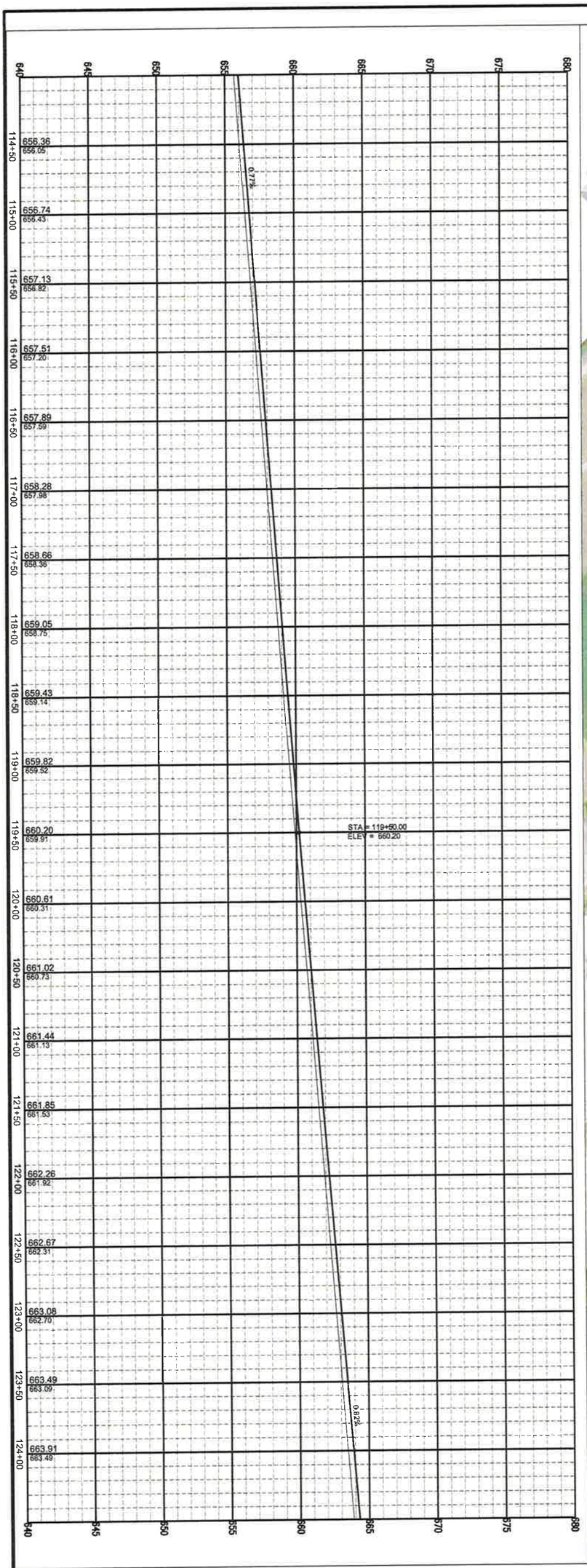


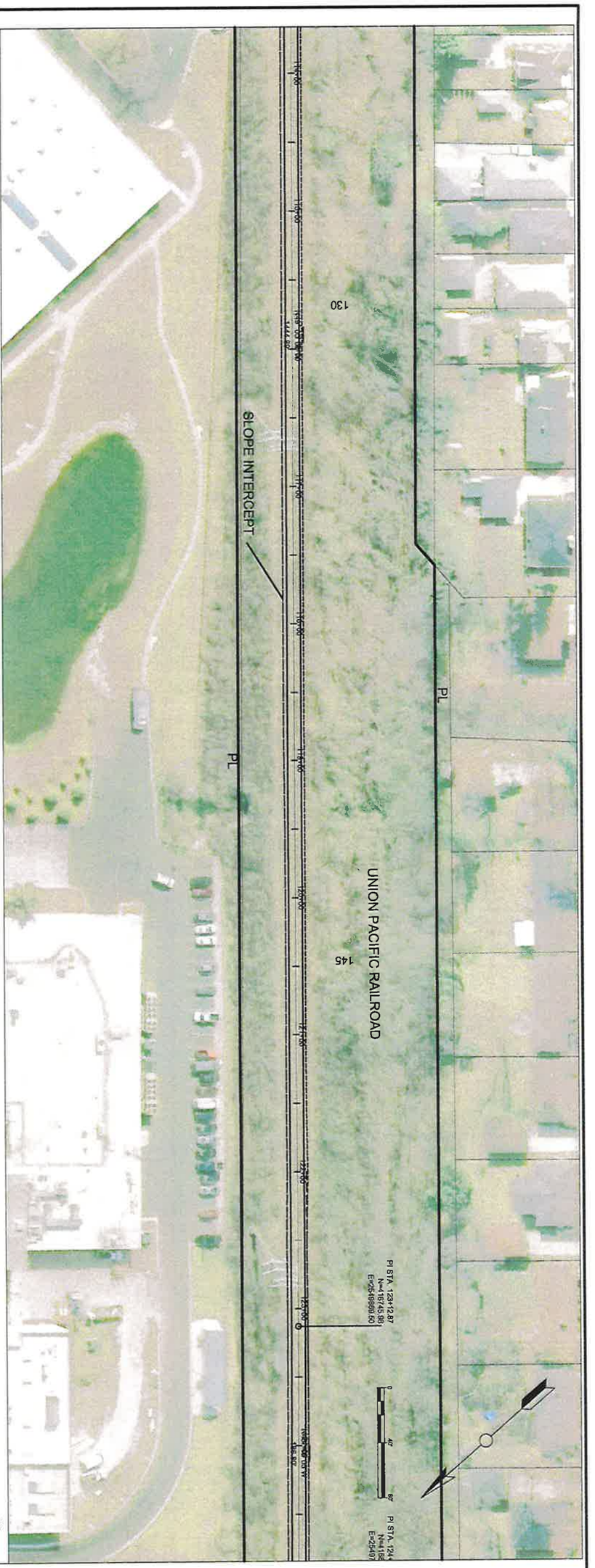
BRIDGE NO. 40-0956
SLOPE INTERCEPT
NORTH GREEN BAY AVENUE
STH
PL
PL
130
90
PI STA. 104+94.09
N=41556?.10
E=2552345.90
PI STA. 105+5?.?9
N=415594.??
E=2551202.38
PI STA. 108+67.98
N=415799.87
E=2550961.38

DATE | REVISION DESCRIPTION | BY

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering &
Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

SHEET NO. 16 OF XX ~~16~~ /15	PROJECT NO. P131-12605 2984-20-	SITE NO. 694	PROJECT TITLE OAK LEAF TRAIL PHASE 4 HAMPTON AVE. - MILL RD.	SCALE 1" = 40'	DRAWN BY DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION PLAN & PROFILE	DATE 7/11/13	CHECKED BY KDS

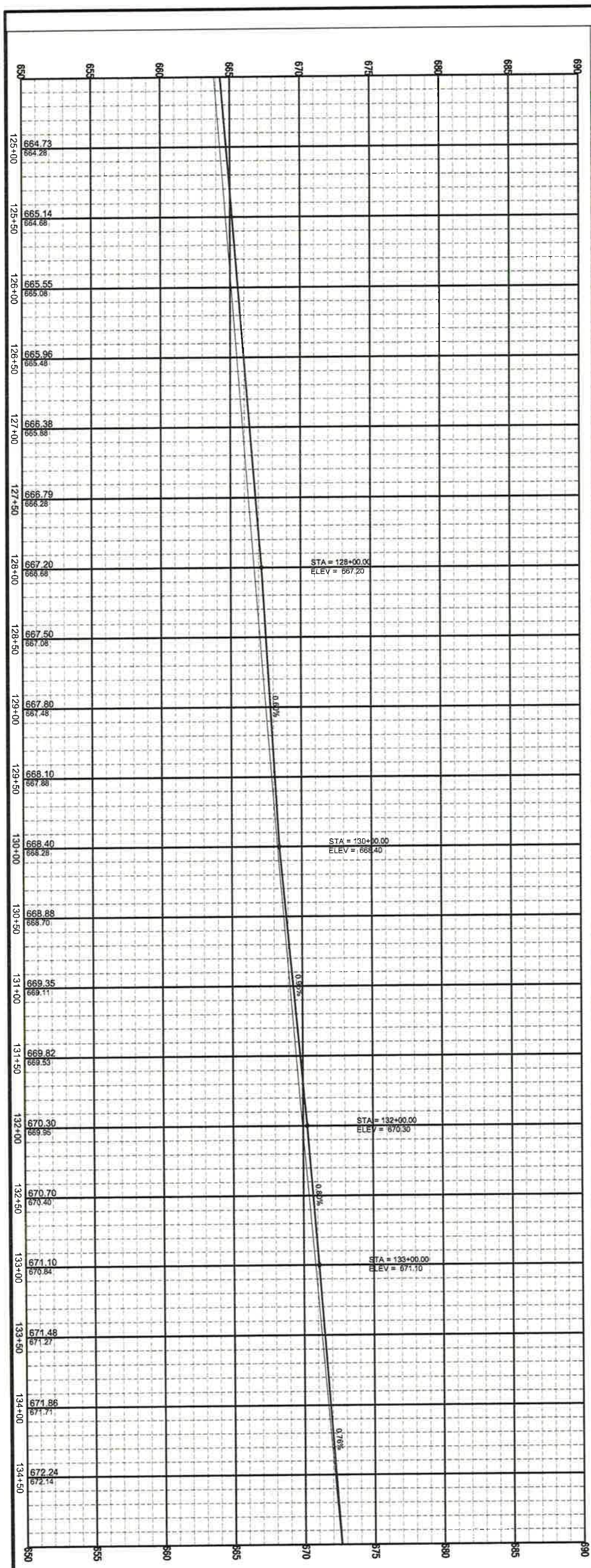


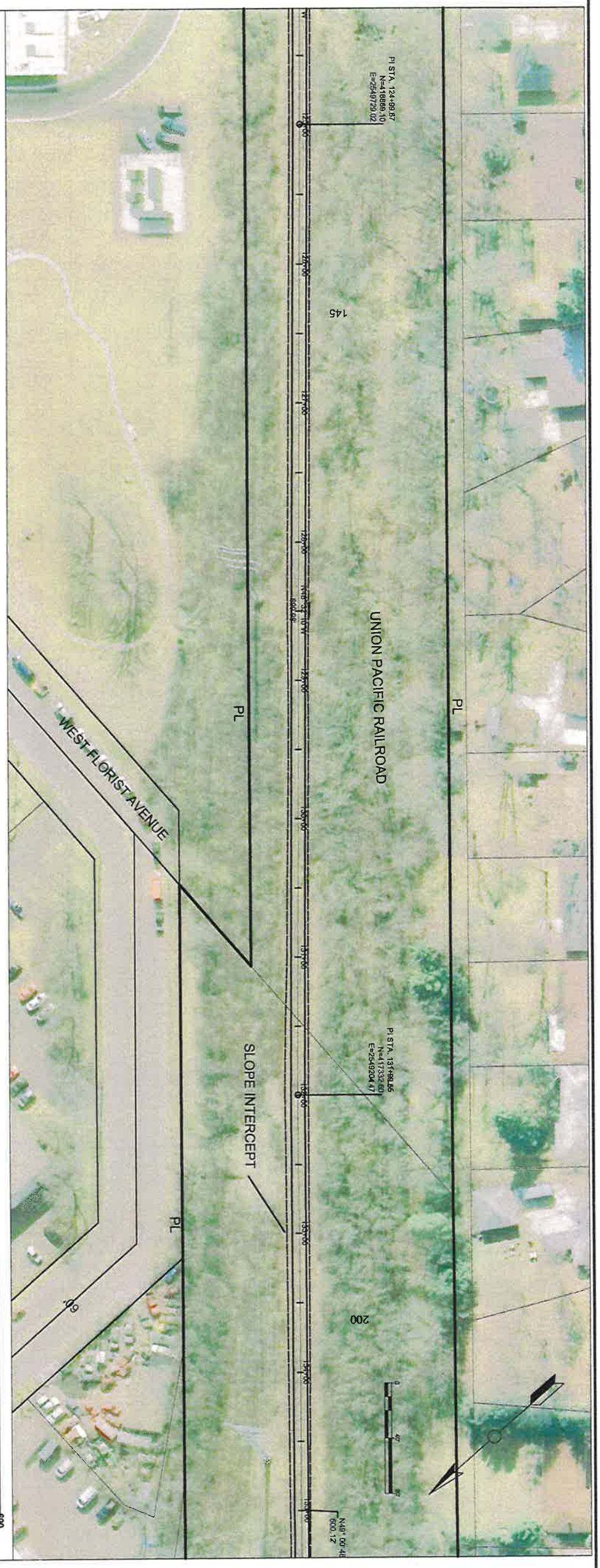


DATE:	REVISION DESCRIPTION:	BY:

SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	SCALE: 1" = 40'	DRAWN BY: DSG
17 OF XX ~~17~~ 16	P131–12605	694			
	2984-20-7	BUILDING NO.	SHEET DESCRIPTION: PLAN & PROFILE	DATE: 7/11/13	CHECKED BY: KDS
FILE NO.					

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

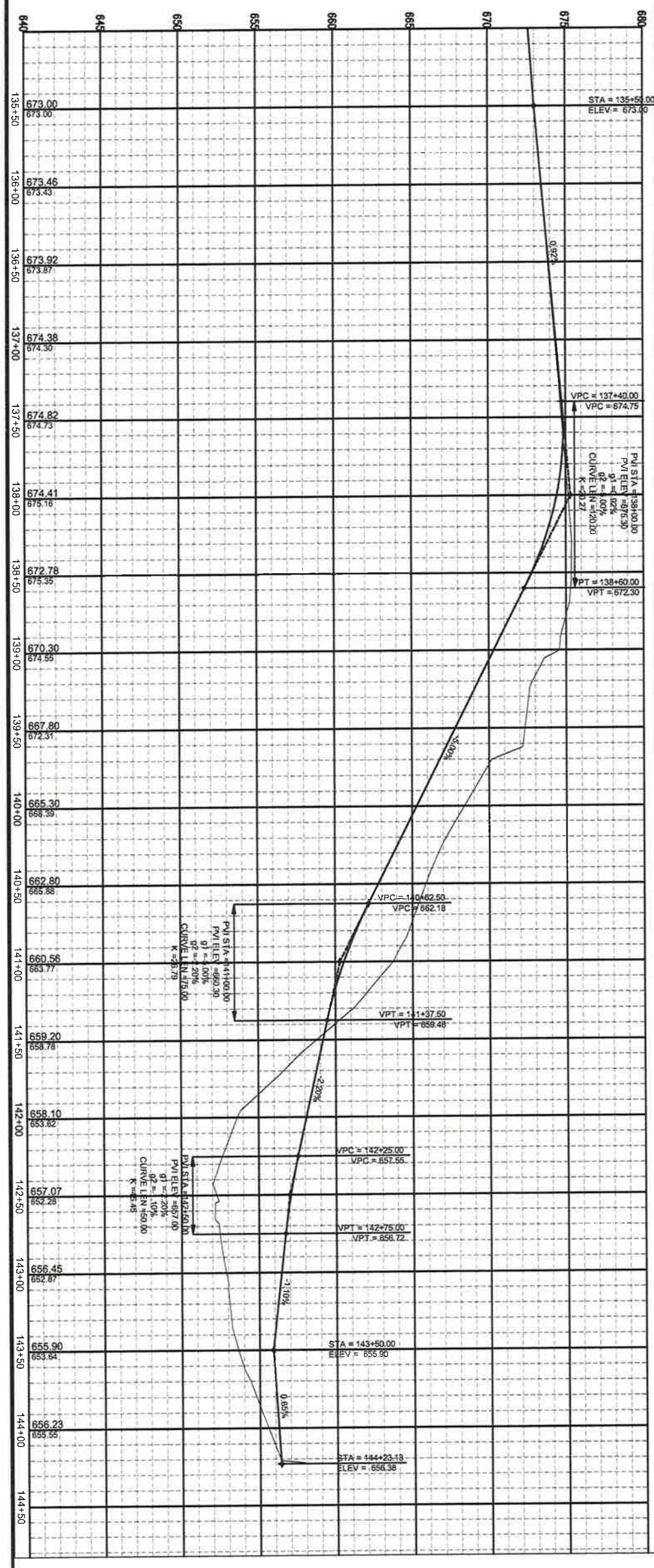


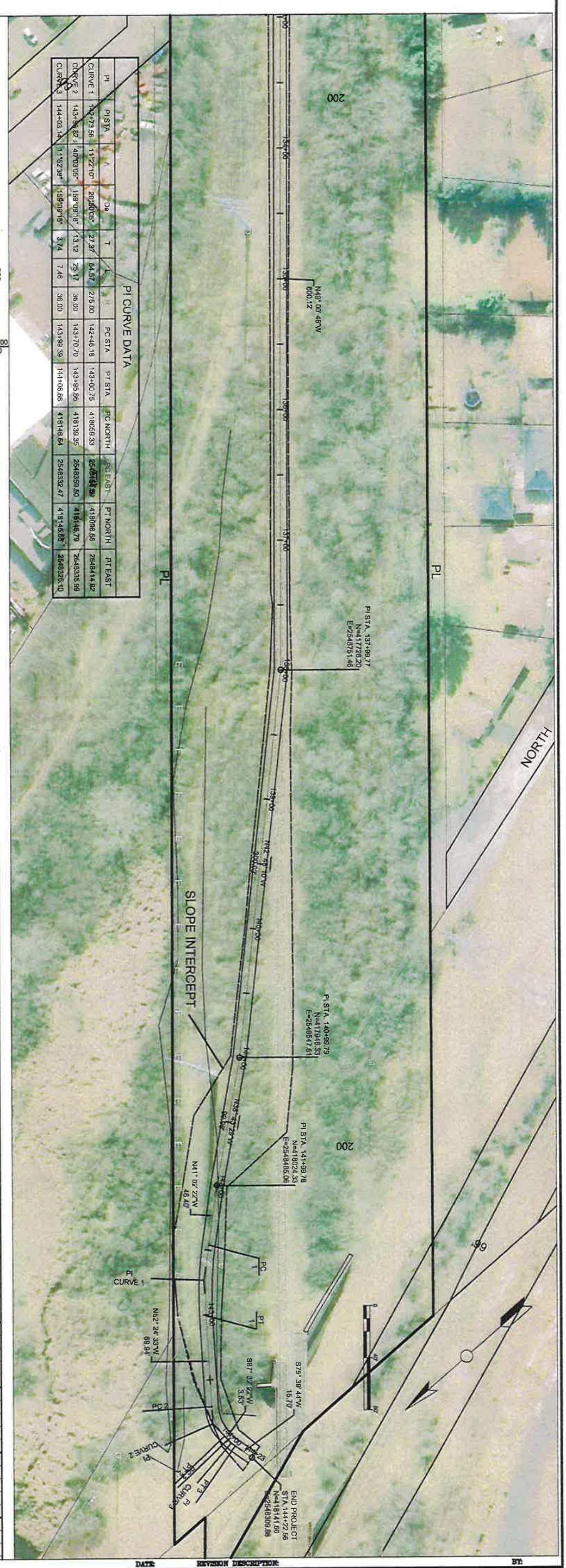


DATE	REVISION DESCRIPTION:	BY:

SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
18 OF XX	P131-12605	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 40'	DSG
~~18~~ 12	2984-20-72	BUILDING NO.	SHEET DESCRIPTION: PLAN & PROFILE	DATE: 7/11/13	CHECKED BY: KDS
FILE NO.					

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208





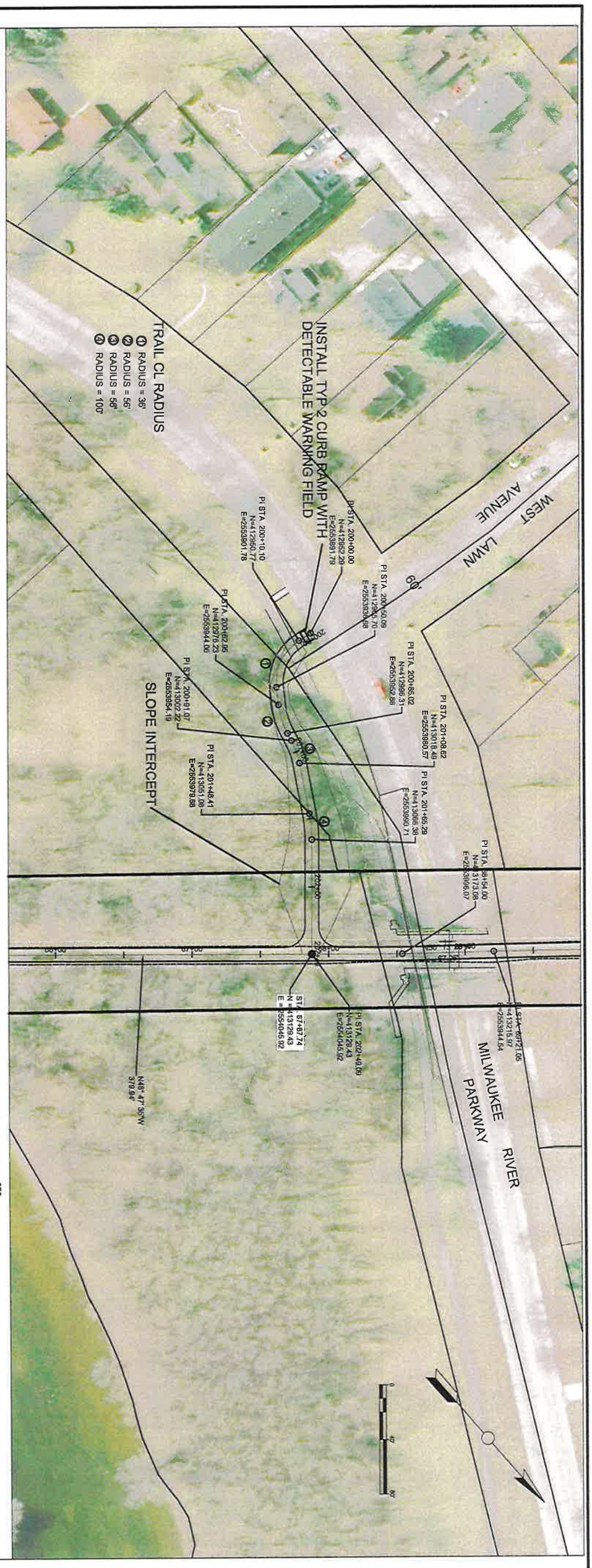
PI CURVE DATA

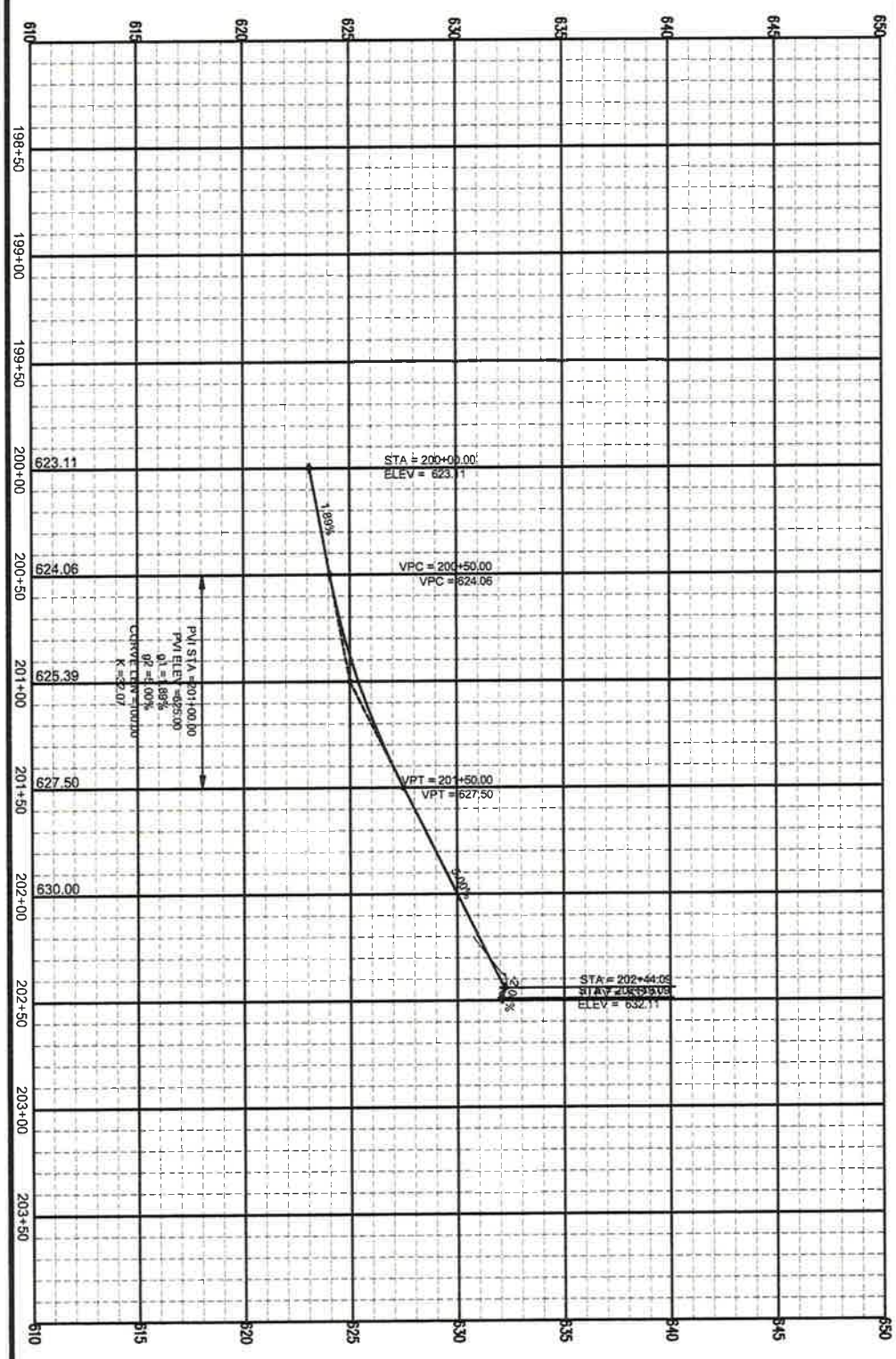
PI	PI STA	Δ	Da	T	L	PC STA	PT STA	PC NORTH	PC EAST	PT NORTH	PT EAST
CURVE 1	142+73.56	11°22'10"	20°30'05"	27.97	54.57	142+46.18	143+00.75	418069.33	2548[illegible]	418096.56	2548414.82
CURVE 2	143+98.82	40°13'05"	159°09'18"	13.12	25.17	143+70.70	143+95.86	418139.35	2548359.60	418146.79	2548335.99
CURVE 3	144+03.14	11°52'36"	159°09'18"	3.74	7.46	143+99.39	144+06.86	418146.64	2548332.47	418145.88	2548326.10

DATE:	REVISION DESCRIPTION:	BY:

SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE	SCALE	DRAWN BY:
19 OF XX ~~19~~/8	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 40'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: PLAN & PROFILE	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

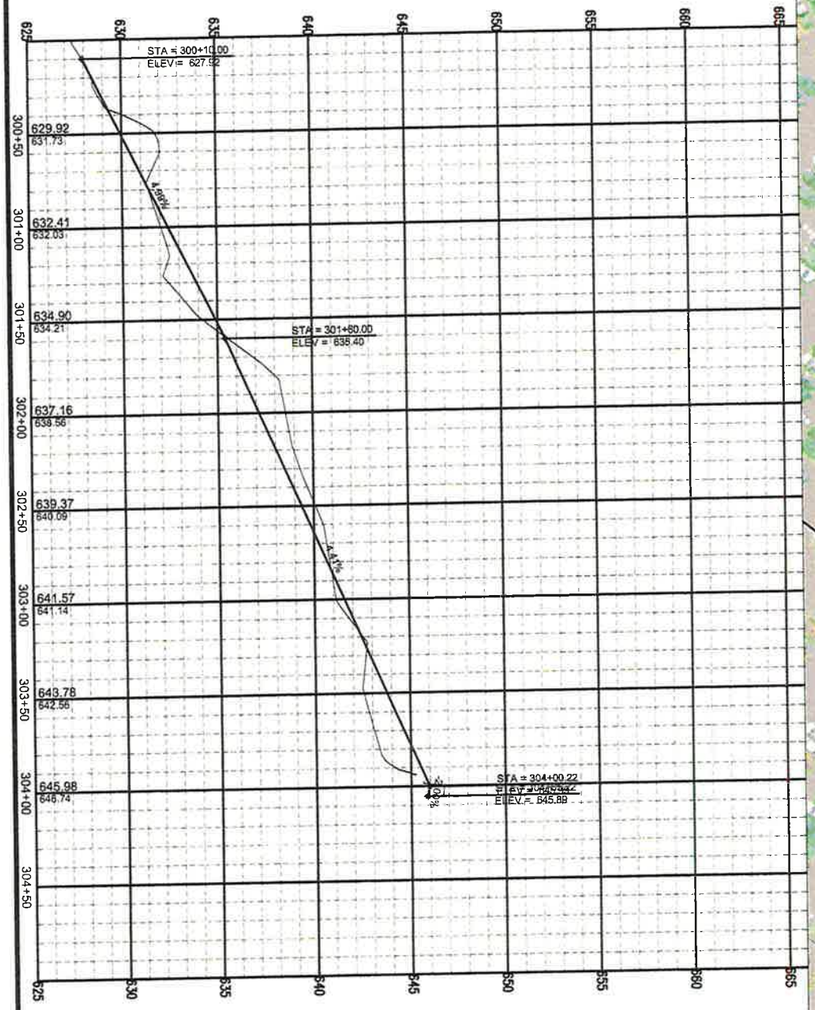


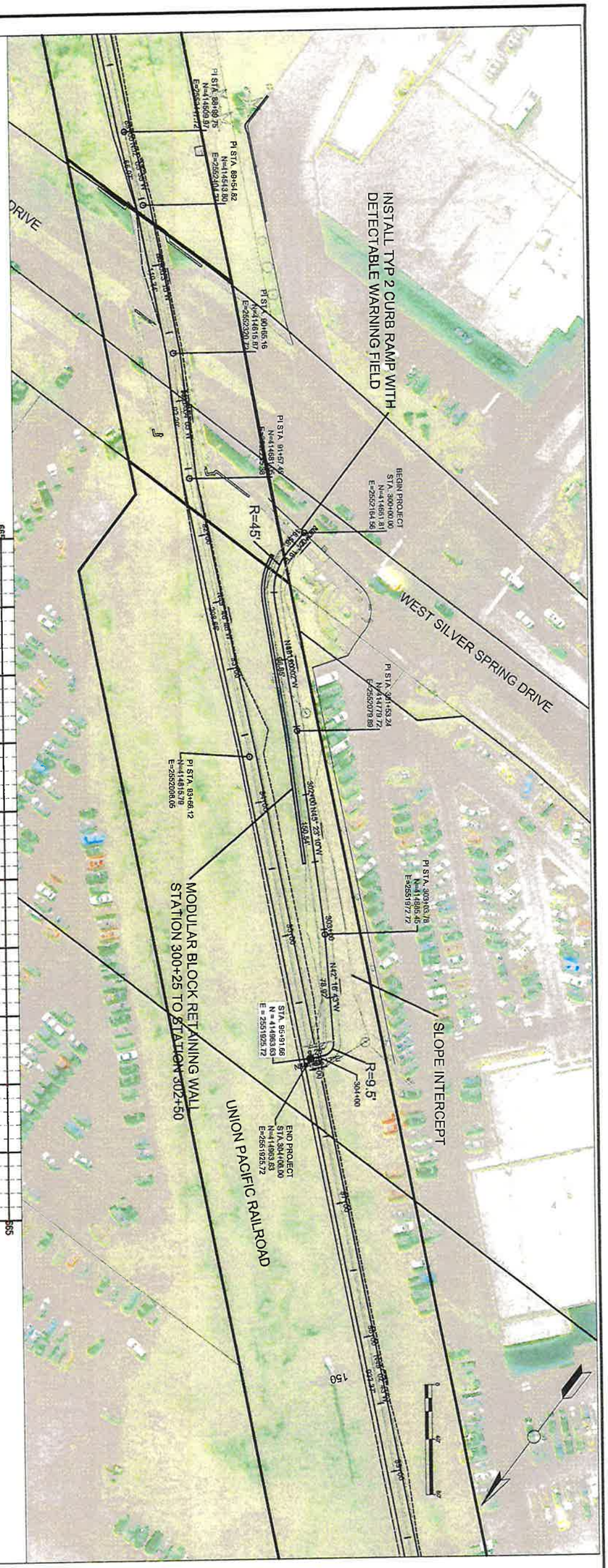


DATE:	REVISION DESCRIPTION:	BY:

SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
20 OF XX	P131-12605	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 40'	DSG
~~20~~19	2984-20-72	BUILDING NO.	SHEET DESCRIPTION:	DATE:	CHECKED BY:
FILE NO.			MILWAUKEE RIVER PARKWAY PLAN & PROFILE	7/11/13	KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208



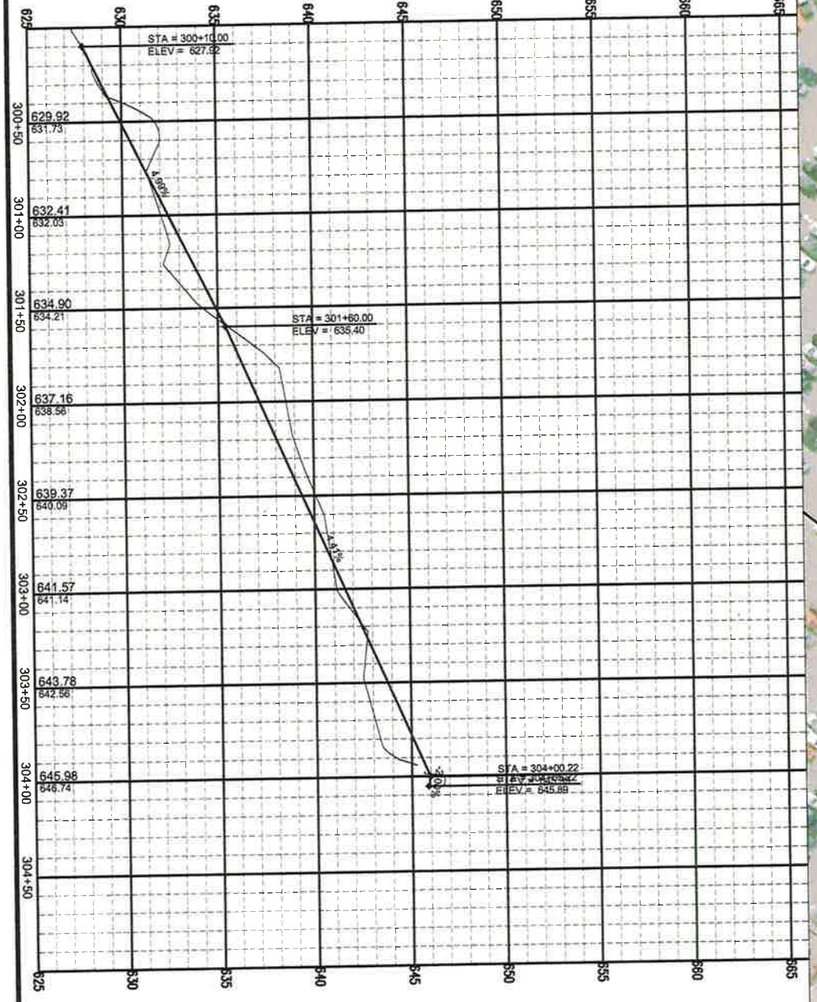


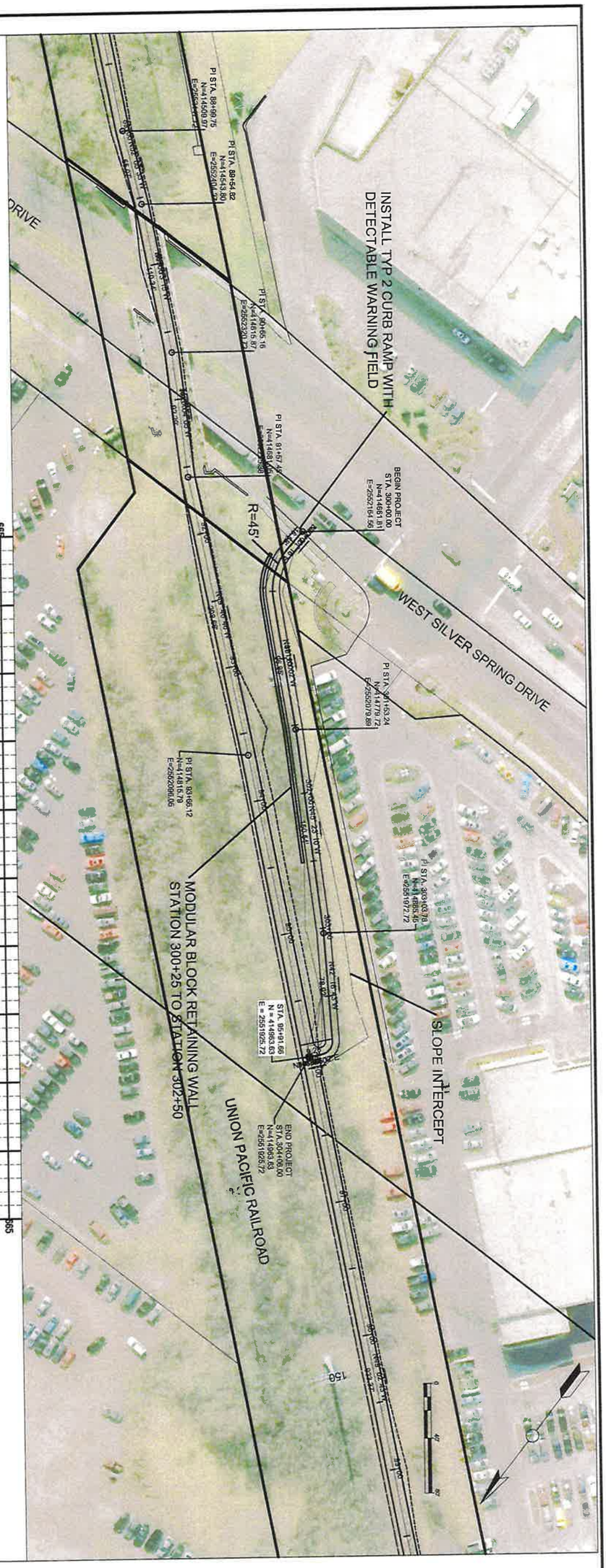
DATE:	REVISION DESCRIPTION:	BY:

SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	SCALE: 1" = 40'	DRAWN BY: DSG
21 OF XX 21	P131-12605 2984-20-72	694			
		BUILDING NO.	SHEET DESCRIPTION: SILVER SPRING RAMP PLAN & PROFILE	DATE: 7/11/13	CHECKED BY: KDS
FILE NO.					

MILWAUKEE COUNTY

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53233

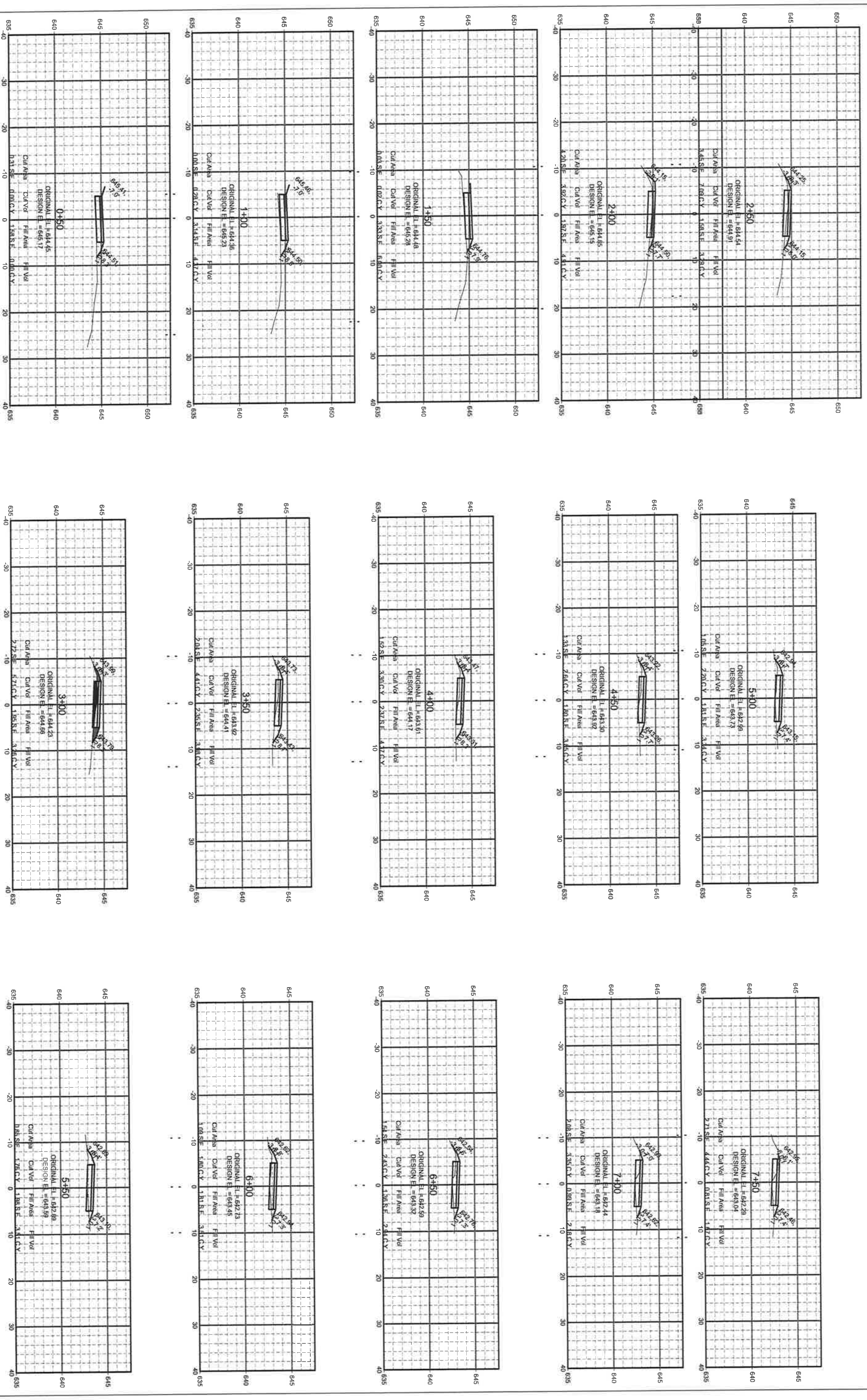




DATE:	REVISION DESCRIPTION:	BY:

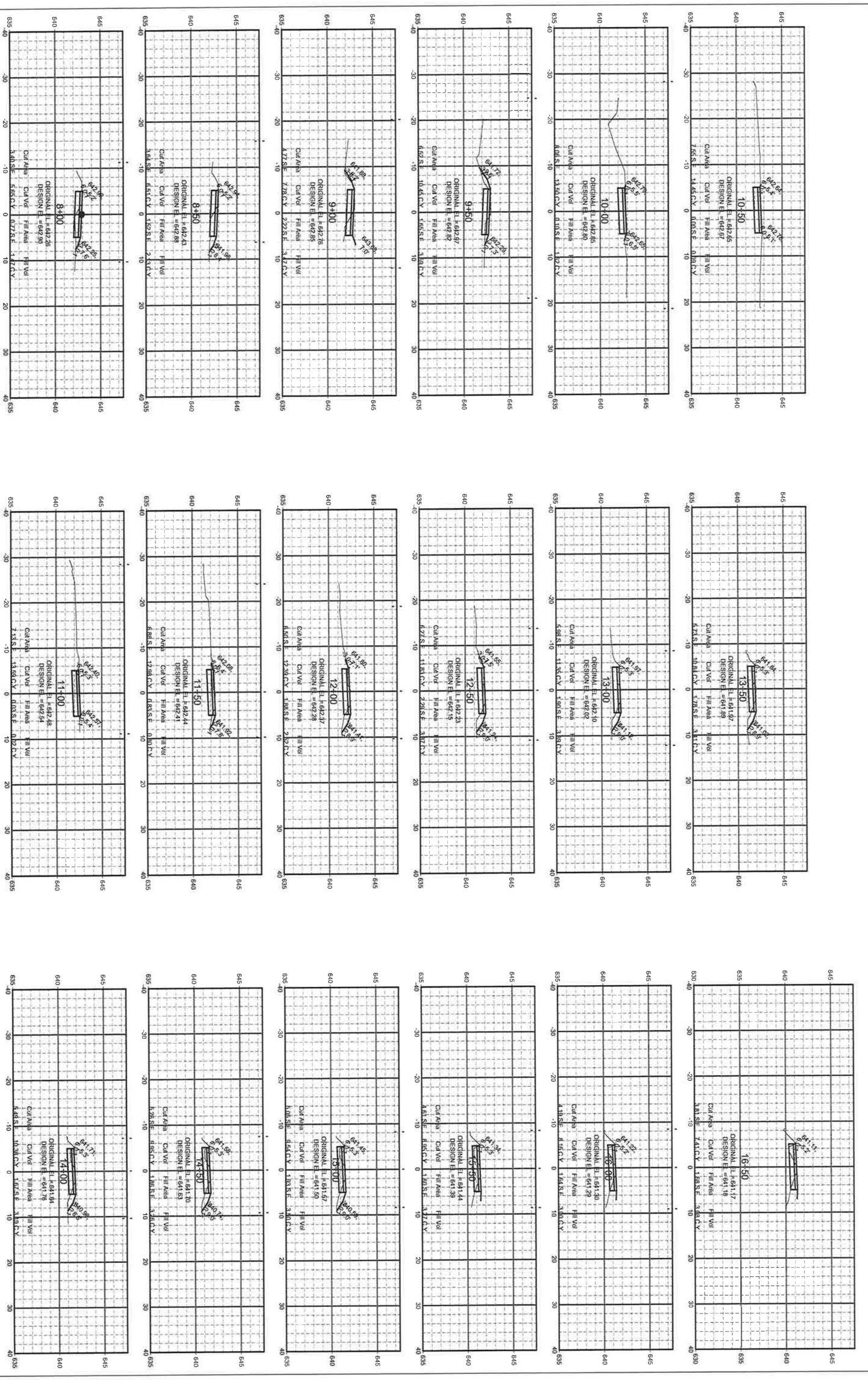
SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
21 OF XX ~~21~~ 20	P131-12605	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 40'	DSG
FILE NO.	2984-20-72	BUILDING NO.	SHEET DESCRIPTION: SILVER SPRING RAMP PLAN & PROFILE	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208



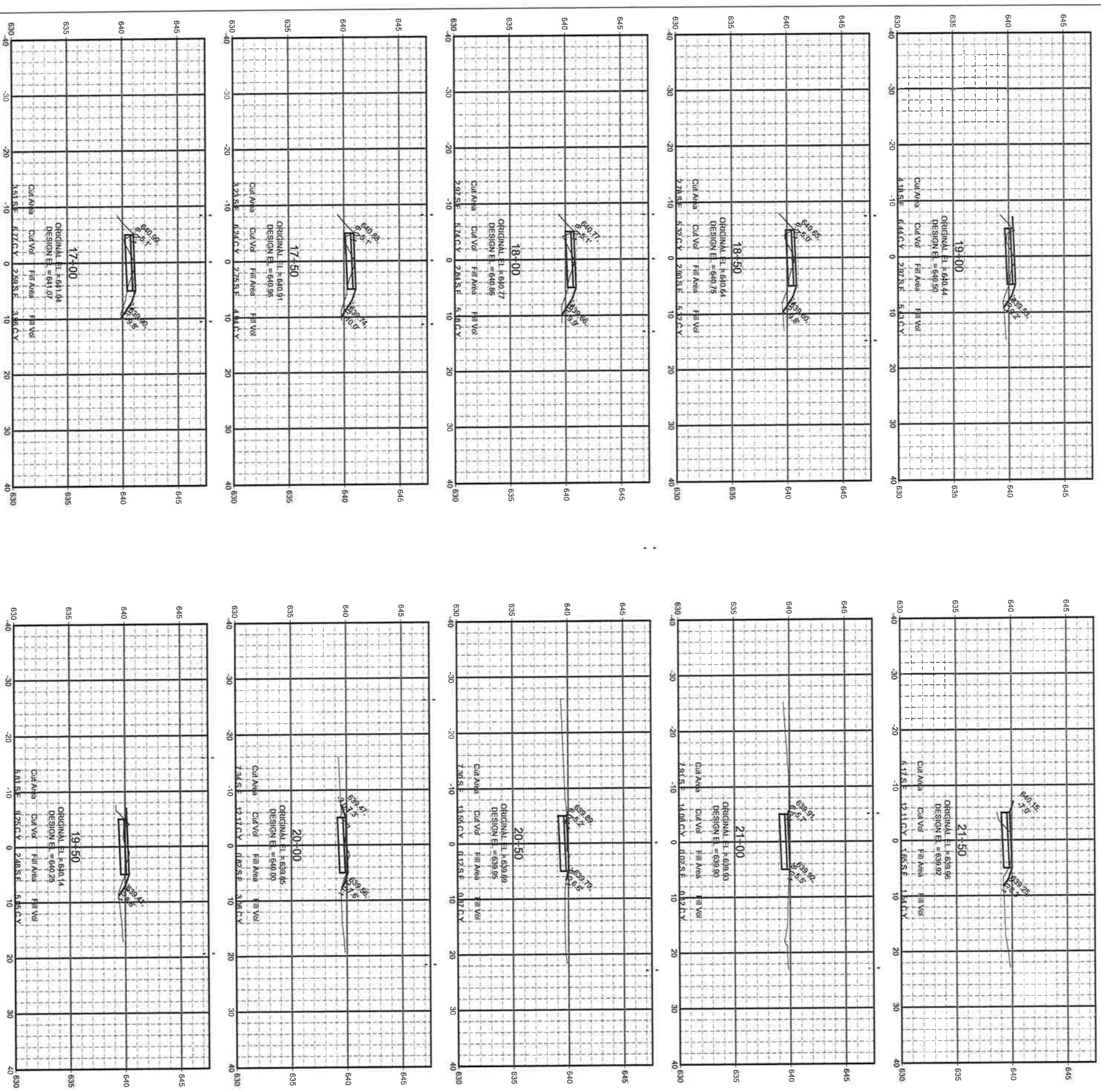
SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
20 OF xx ~~20~~ 21	P131–12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208



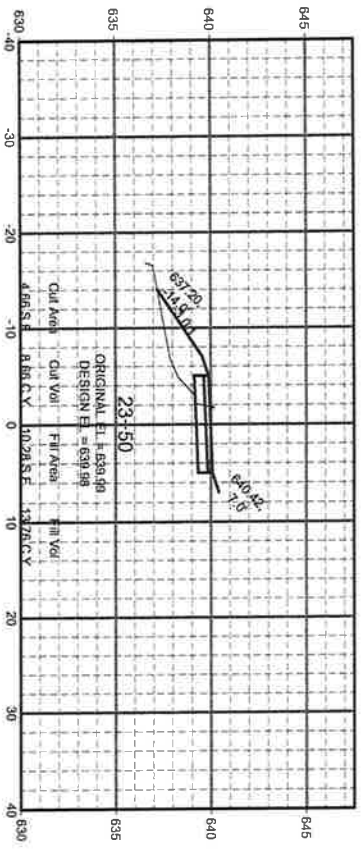
SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
21 OF XX ~~21~~ 22	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

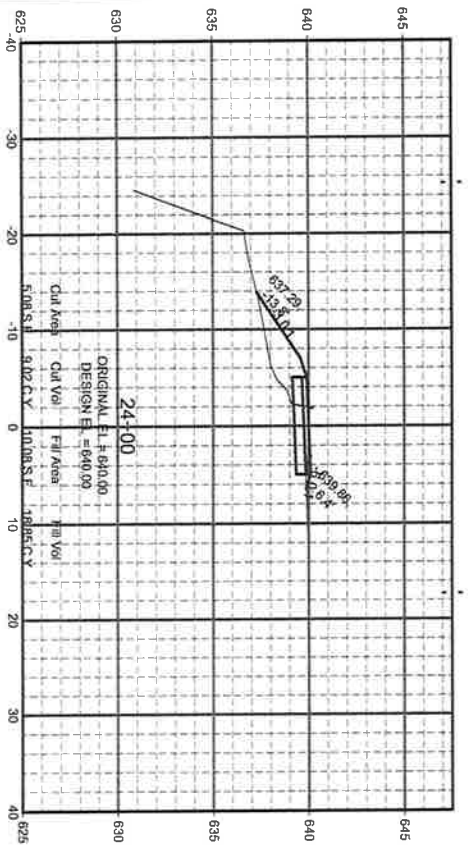
MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

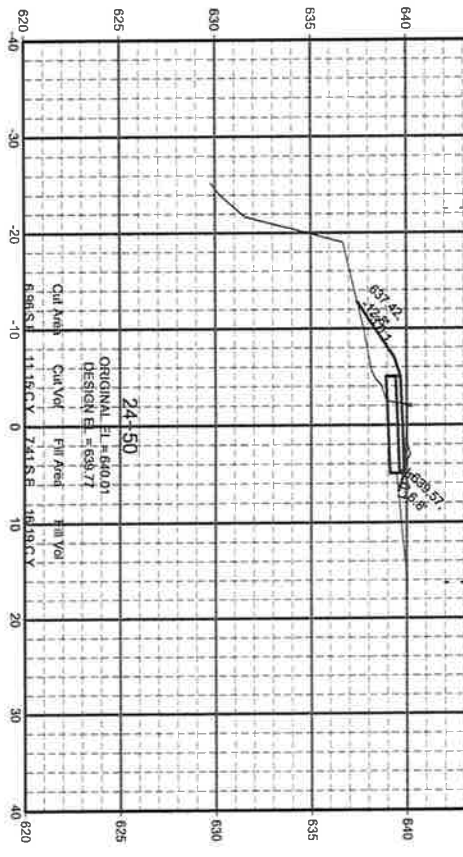


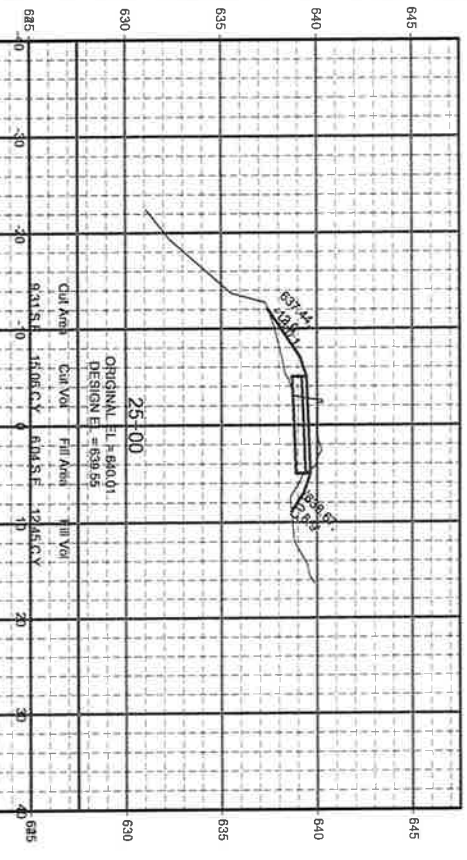
SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
22 OF XX ~~22~~ 23	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

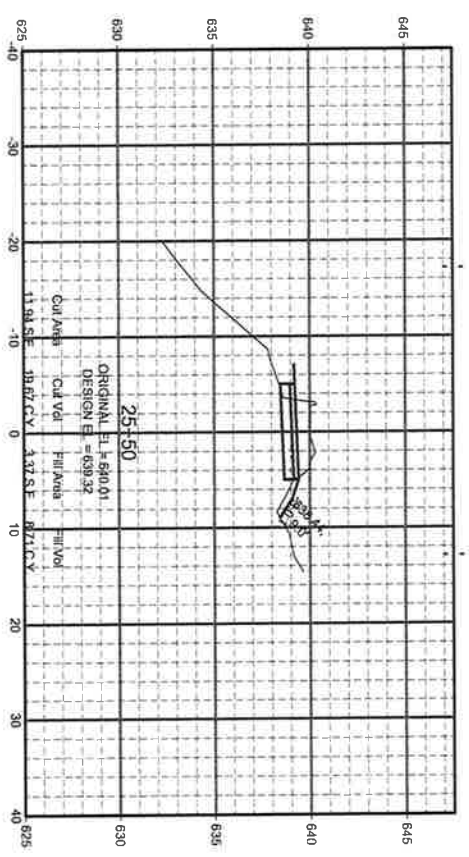
MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

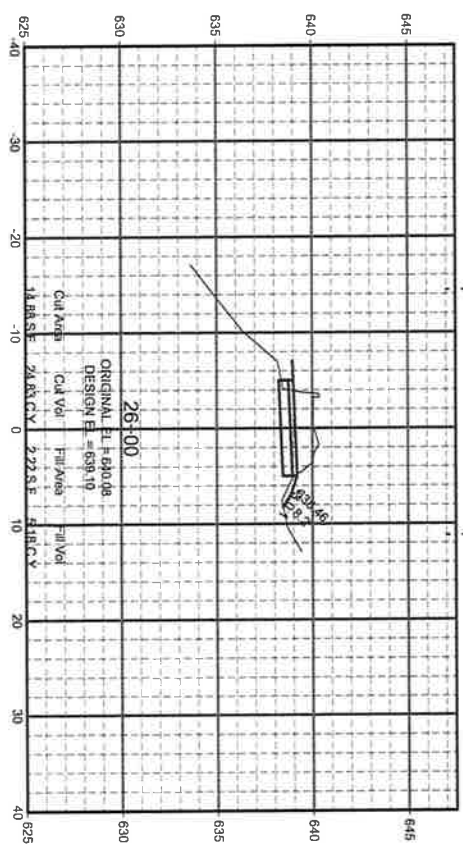


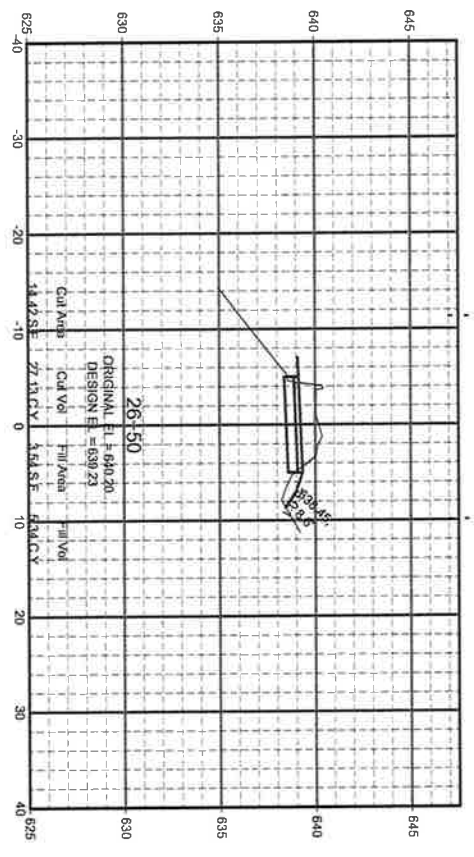


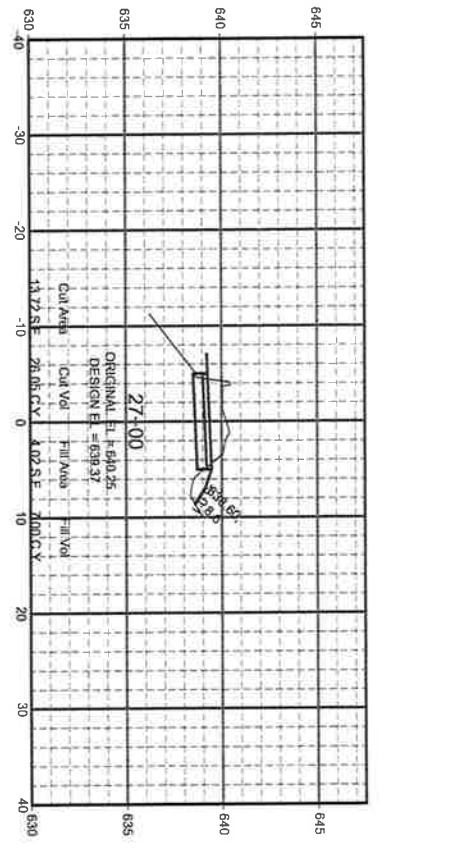


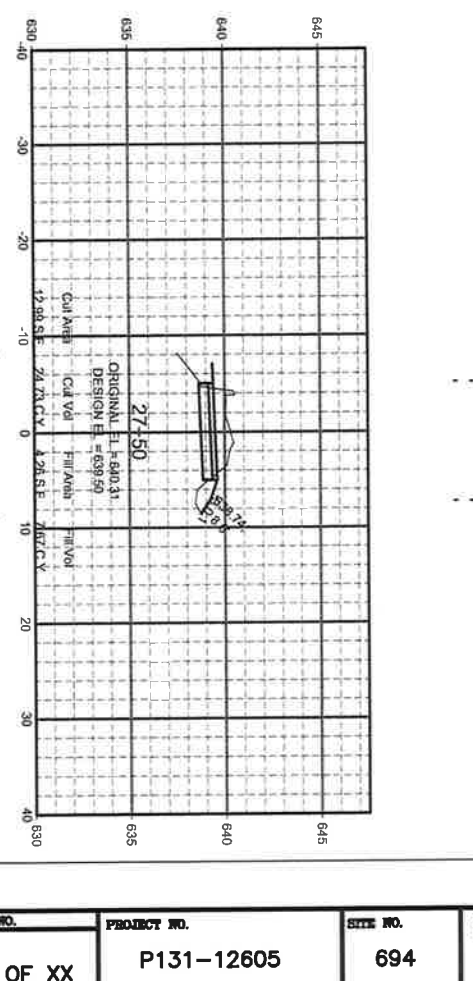


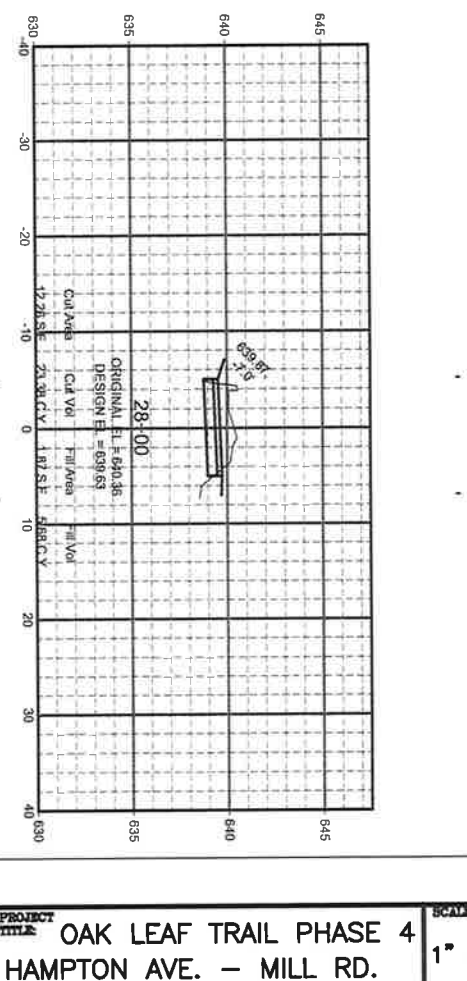


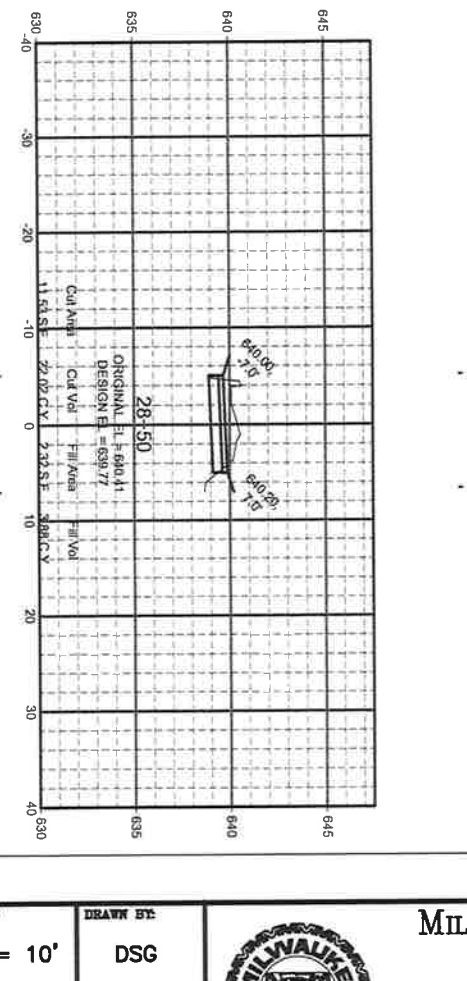


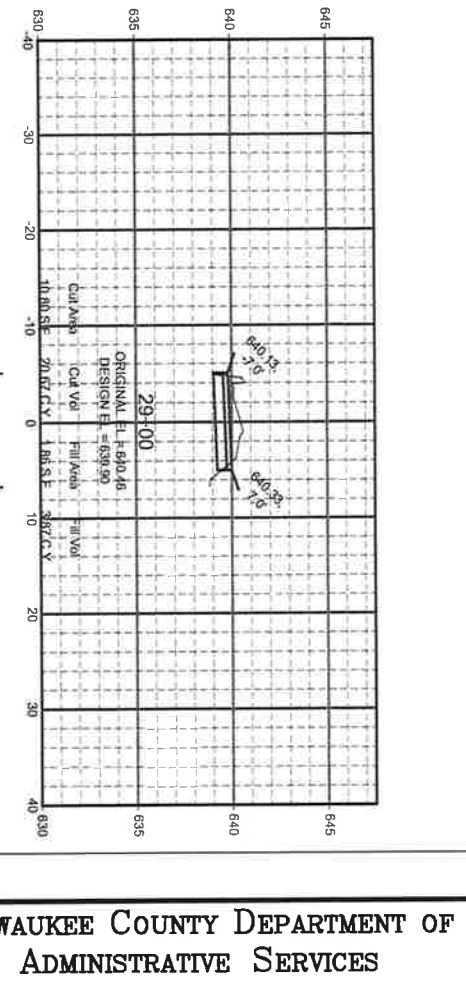




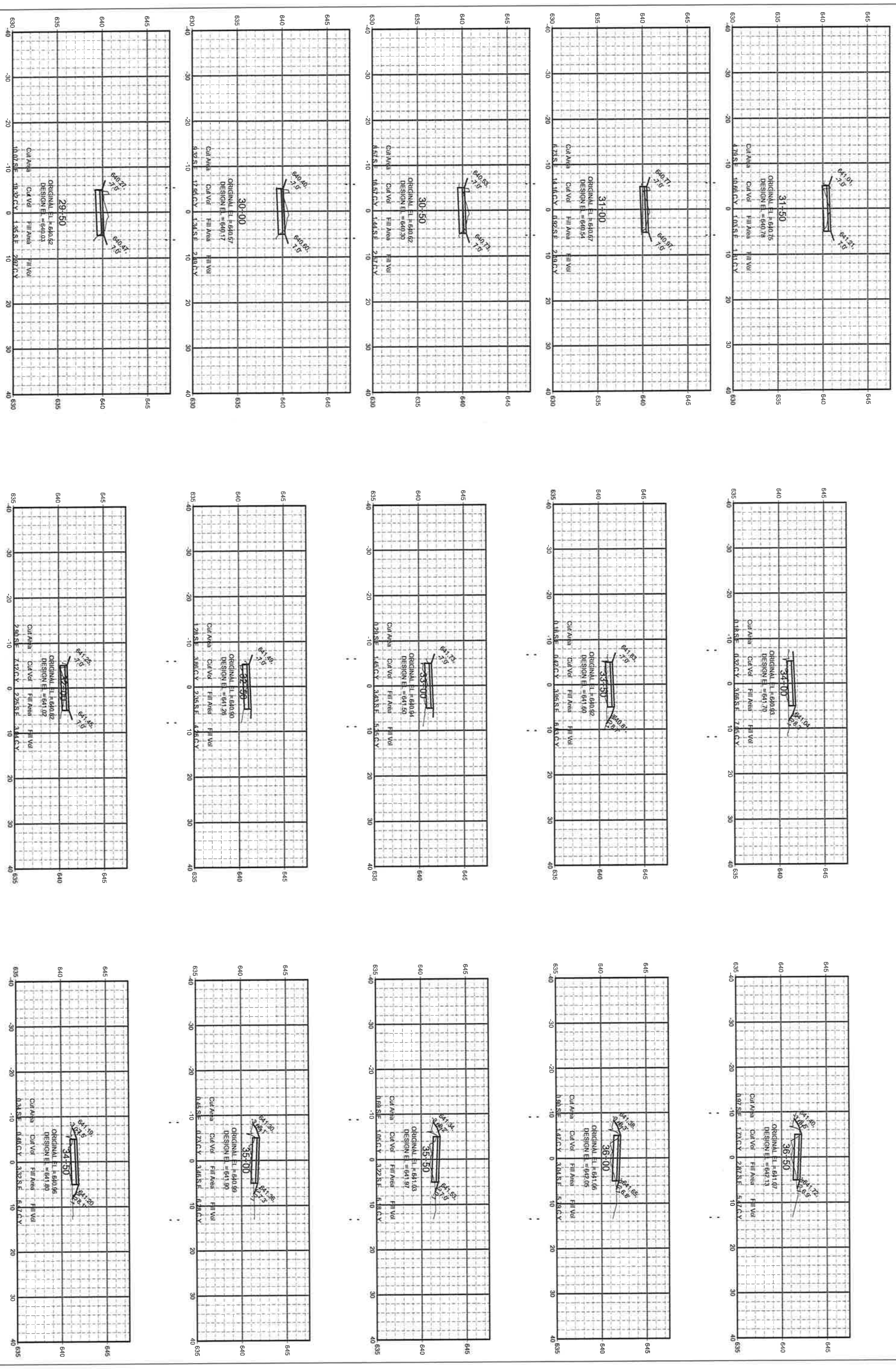








SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE	DRAWN BY:	
23 OF XX ~~23~~ 24	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG	MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES Architecture, Engineering & Environmental Services Section
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS	CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208



SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
24 OF XX ~~24~~ 25	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

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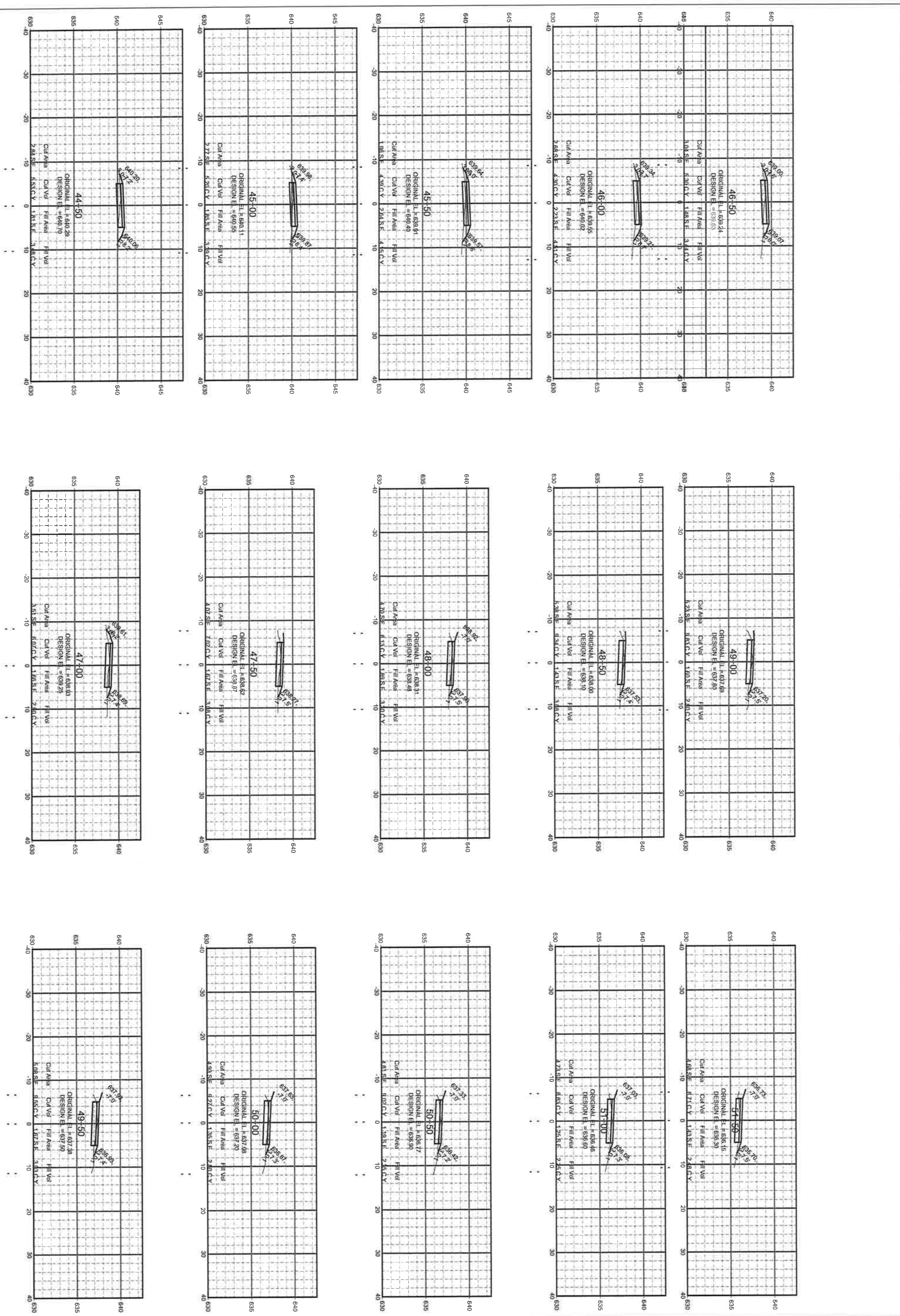
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

DRAWN BY: DSG	CHECKED BY: KDS
SCALE: 1" = 10'	DATE: 7/11/13
PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	SHEET DESCRIPTION: CROSS SECTIONS
SITE NO. 694	BUILDING NO.
PROJECT NO. P131-12605 2984-20-72	FILE NO.
SHEET NO. 25 OF XX 25	



44+50
ORIGINAL EL = 640.29
DESIGN EL = 640.70
45+00
ORIGINAL EL = 640.11
DESIGN EL = 640.55
45+50
ORIGINAL EL = 639.91
DESIGN EL = 640.40
46+00
ORIGINAL EL = 639.55
DESIGN EL = 640.02
46+50
ORIGINAL EL = 639.24
DESIGN EL = 639.63
47+00
ORIGINAL EL = 638.93
DESIGN EL = 639.25
47+50
ORIGINAL EL = 638.62
DESIGN EL = 638.87
48+00
ORIGINAL EL = 638.31
DESIGN EL = 638.48
48+50
ORIGINAL EL = 638.00
DESIGN EL = 638.10
49+00
ORIGINAL EL = 637.69
DESIGN EL = 637.80
49+50
ORIGINAL EL = 637.38
DESIGN EL = 637.50
50+00
ORIGINAL EL = 637.08
DESIGN EL = 637.20
50+50
ORIGINAL EL = 636.77
DESIGN EL = 636.90
51+00
ORIGINAL EL = 636.46
DESIGN EL = 636.60
51+50
ORIGINAL EL = 636.15
DESIGN EL = 636.30
Cut Area
Cut Vol
Fill Area
Fill Vol

SHEET NO. 26 OF XX ~~26~~ 27	PROJECT NO. P131-12605 2984-20-72	SITE NO. 694	PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE. — MILL RD.	SCALE: 1" = 10'	DRAWN BY: DSG	MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES Architecture, Engineering & Environmental Services Section
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS	CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

MILWAUKEE COUNTY DEPARTMENT OF
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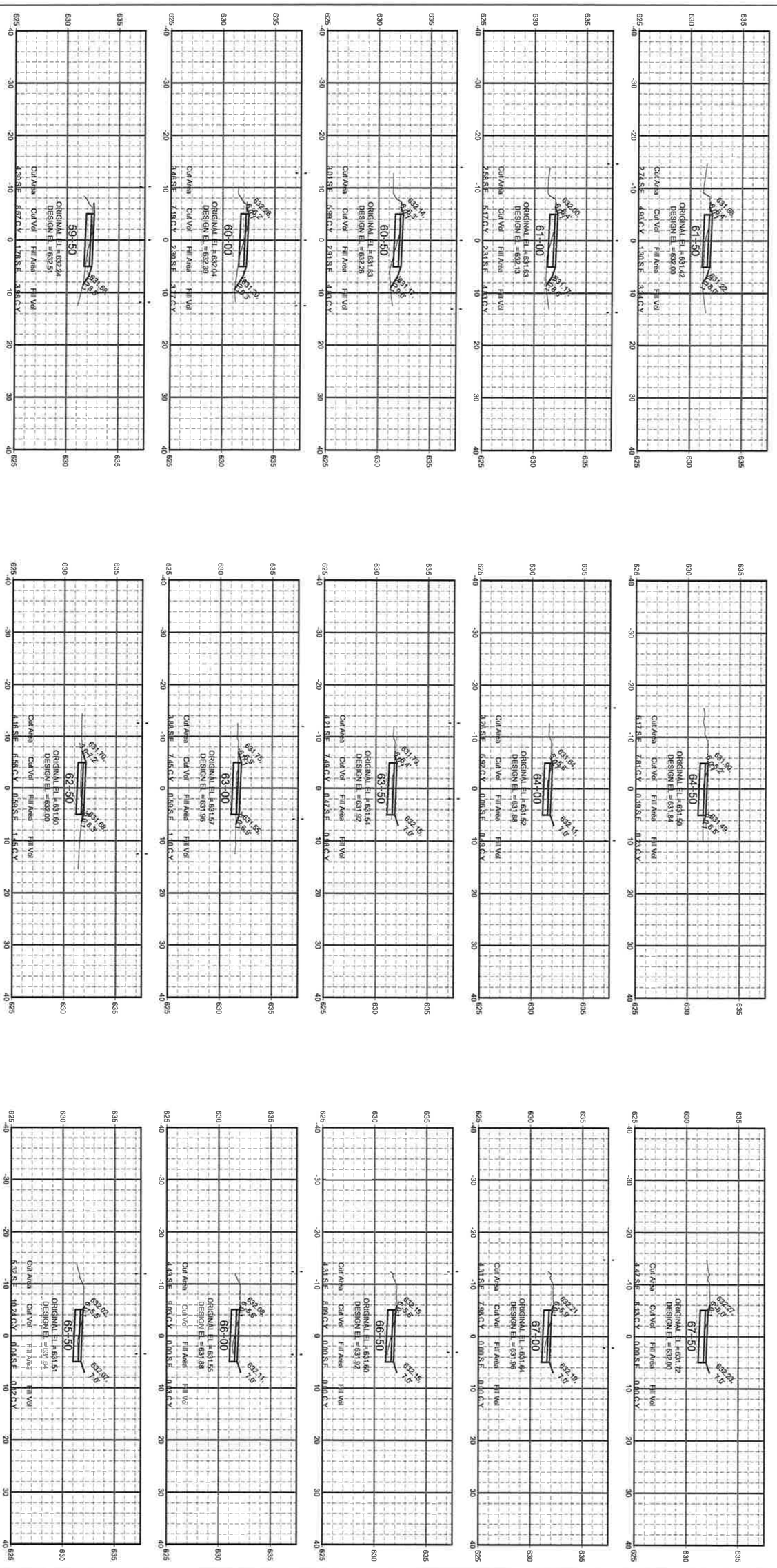
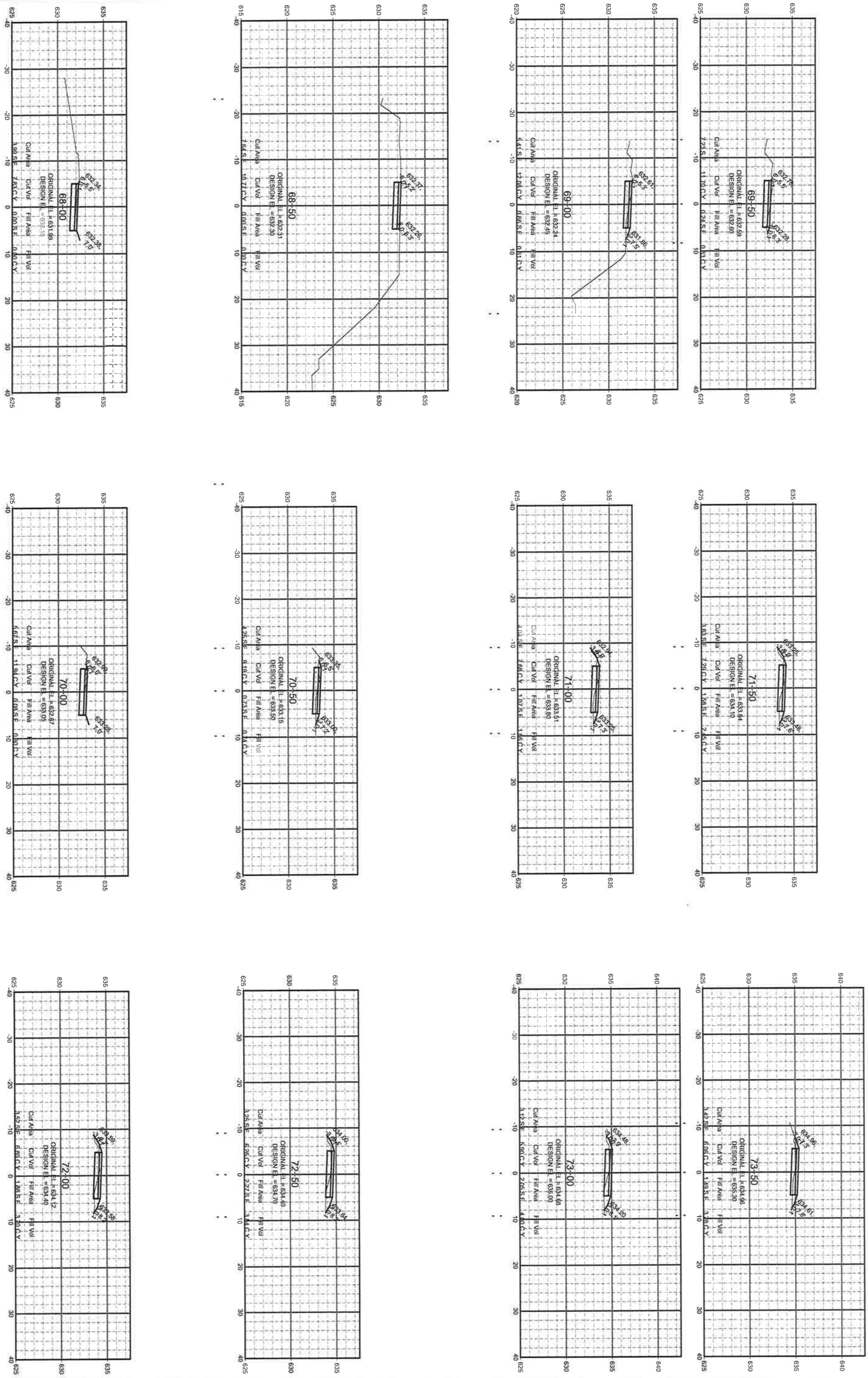
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

DRAWN BY: DSG	CHECKED BY: KDS
SCALE: 1" = 10'	DATE: 7/11/13
PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	SHEET DESCRIPTION: CROSS SECTIONS
SITE NO. 694	BUILDING NO.
PROJECT NO. P131-12605	2984-20-72
SHEET NO. 27 OF XX 27 28	FILE NO.



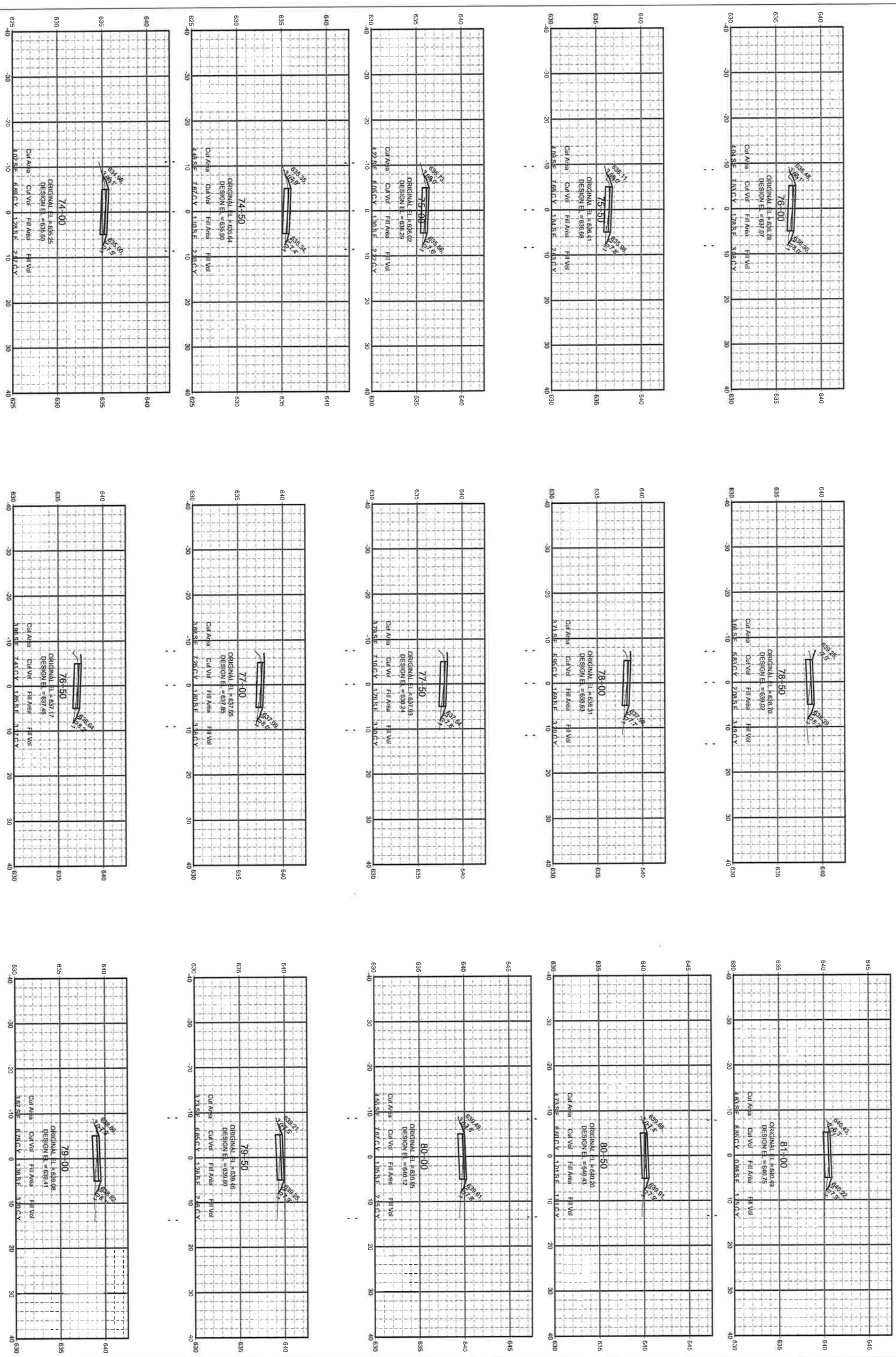
SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	SCALE: 1" = 10'	DRAWN BY: DSG
28 OF XX ~~28~~ 29	P131-12605	694			
	2984-20-72	BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS
FILE NO.					

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208



SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE	SCALE	DRAWN BY
29 OF XX ~~29~~ 30	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208



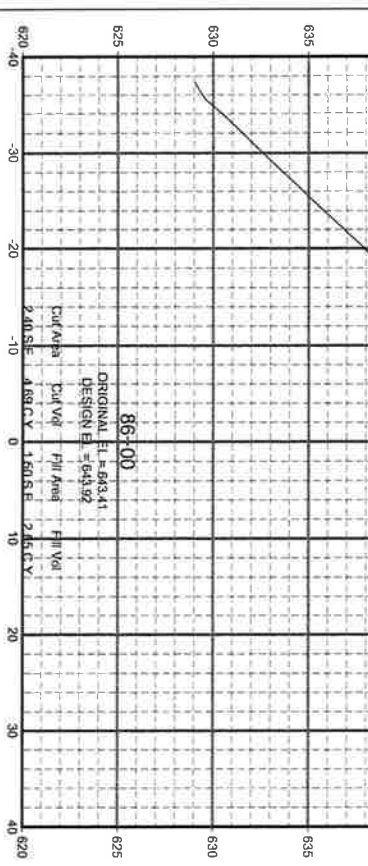
SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE	SCALE	DRAWN BY:
30 OF XX 30 31	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS
FILE NO.					

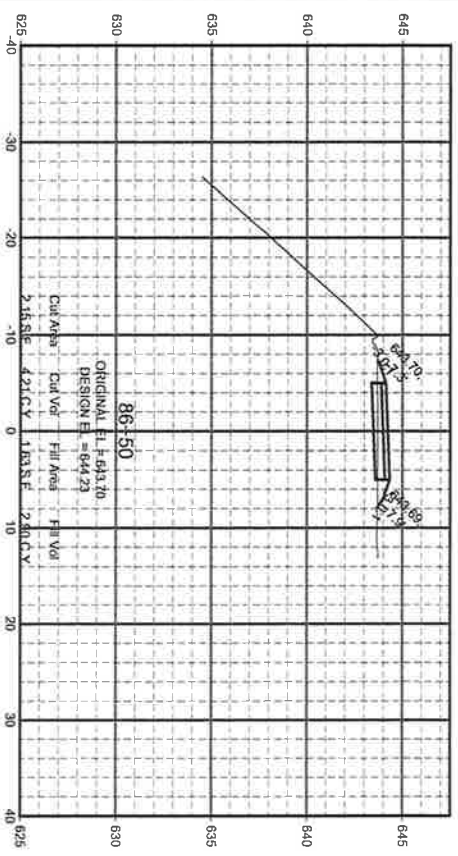
MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section

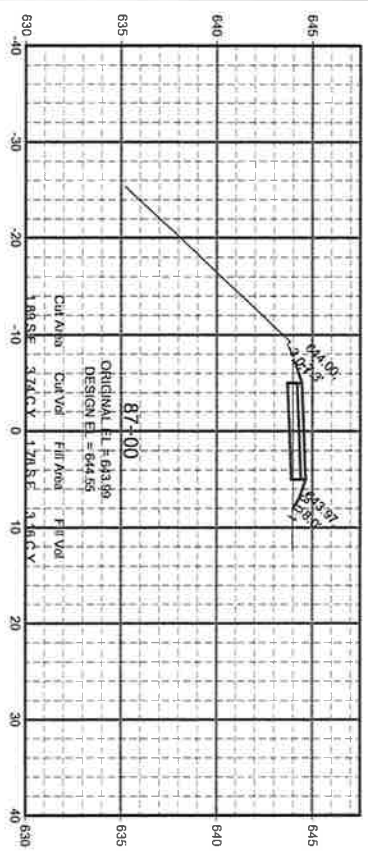
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

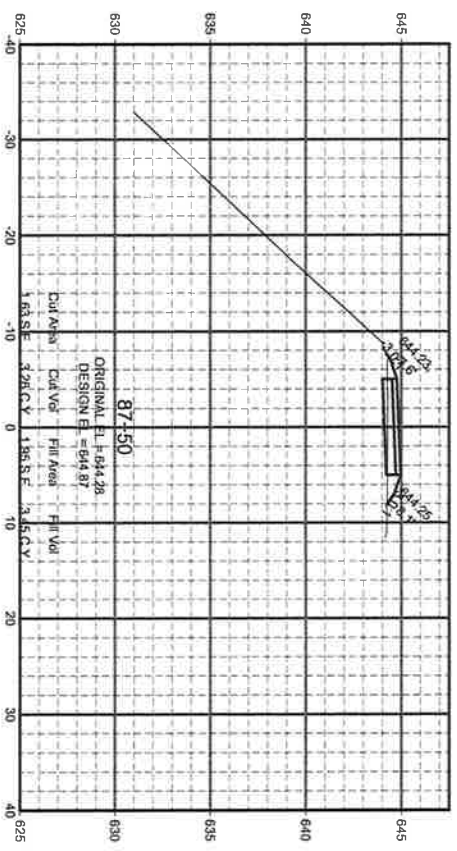
MILWAUKEE COUNTY DEPARTMENT OF
ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

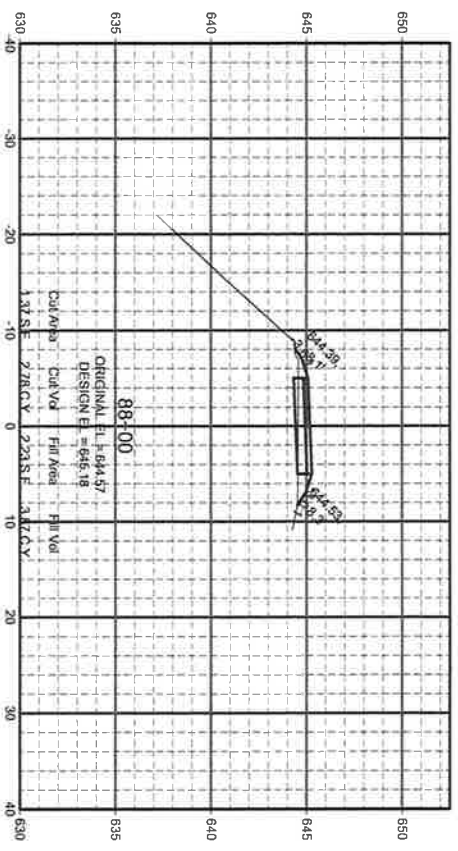
DRAWN BY: DSG	CHECKED BY: KDS
SCALE: 1" = 10'	DATE: 7/11/13
PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	SHEET DESCRIPTION: CROSS SECTIONS
SITE NO. 694	BUILDING NO.
PROJECT NO. P131-12605 2984-20-72	
SHEET NO. 31 OF XX 31 32	FILE NO.

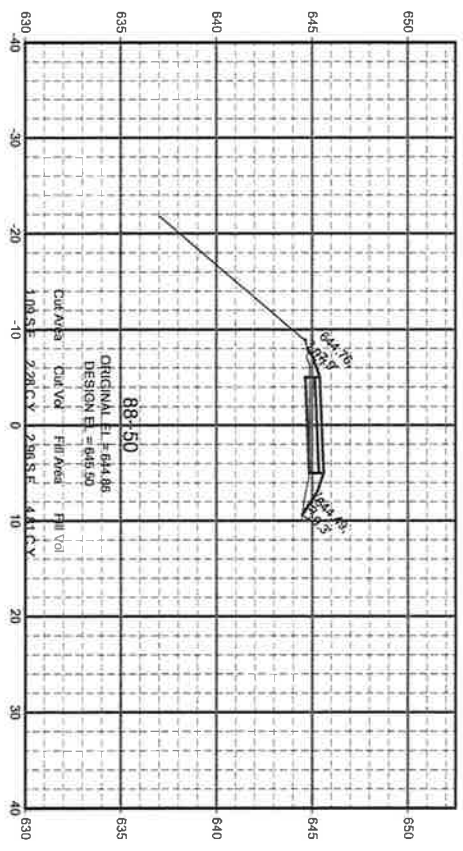


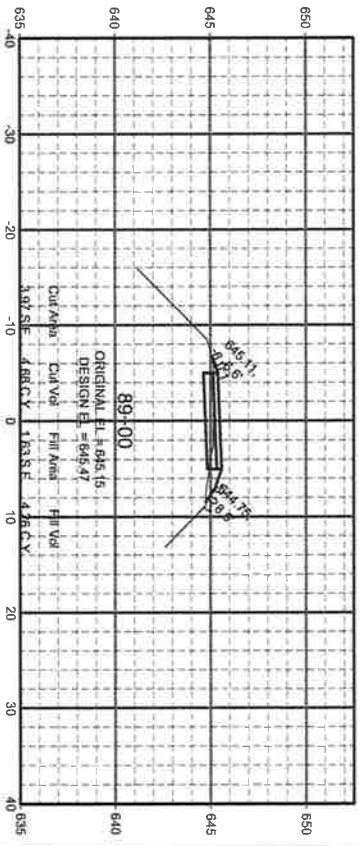












SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
32 OF XX ~~32~~ 33	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

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Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53206

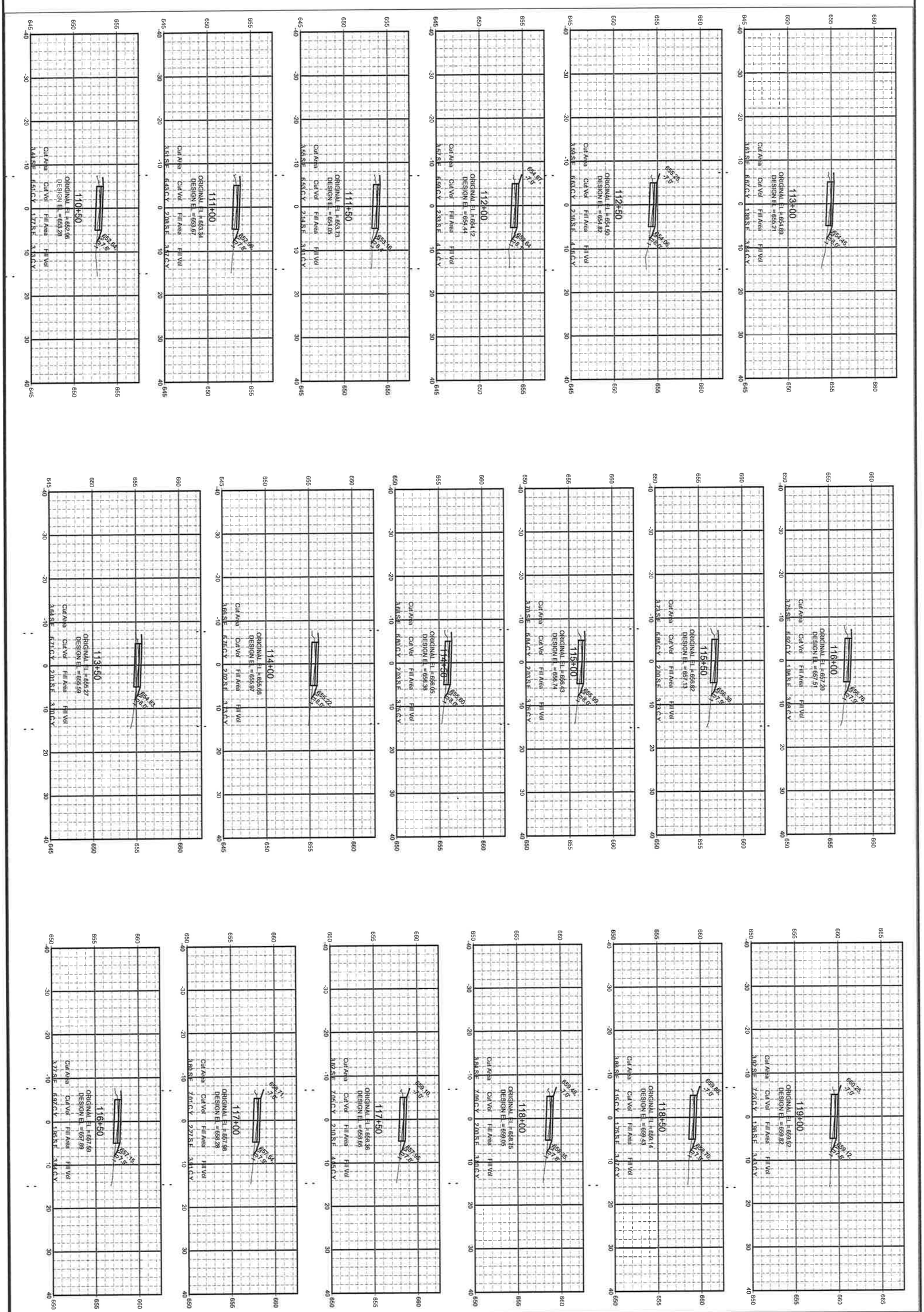
PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE. - MILL RD.	SHEET DESCRIPTION: CROSS SECTIONS
SITE NO. 694	BUILDING NO.
PROJECT NO. P131-12605	2984-20-72
SCALE 1" = 10'	DATE 7/11/13
DRAWN BY: DSG	CHECKED BY: KDS
SHEET NO. 33 OF XX	FILE NO. 33

MILWAUKEE COUNTY DEPARTMENT OF
ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

DRAWN BY: DSG	CHECKED BY: KDS
SCALE: 1" = 10'	DATE: 7/11/13
PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	SHEET DESCRIPTION: CROSS SECTIONS
SITE NO. 694	BUILDING NO.
PROJECT NO. P131-12605 2984-20-72	
SHEET NO. 34 OF XX 34	FILE NO.

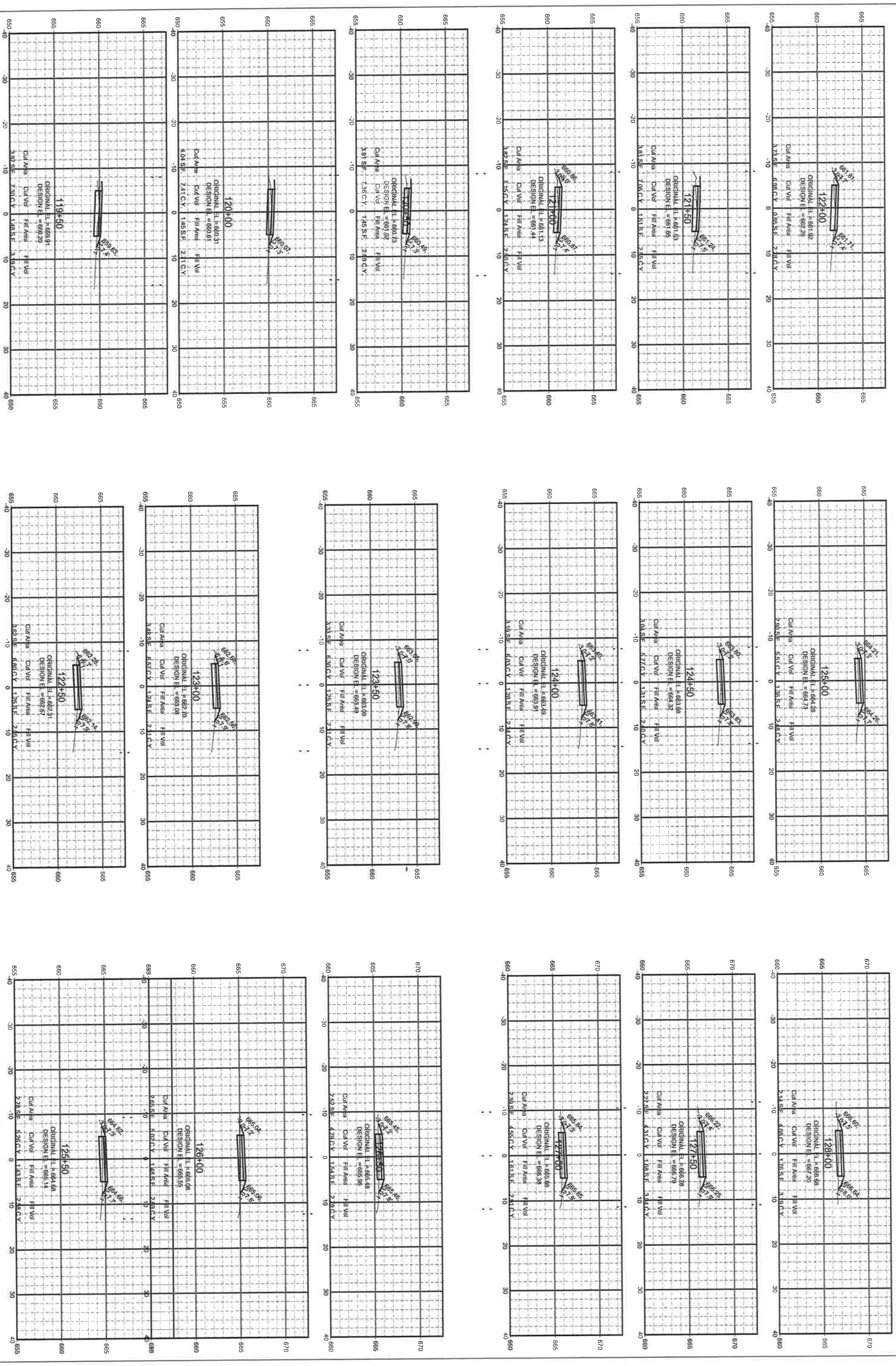
MILWAUKEE COUNTY DEPARTMENT OF
ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

DRAWN BY: DSG	CHECKED BY: KDS
SCALE: 1" = 10'	DATE: 7/11/13
PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	SHEET DESCRIPTION: CROSS SECTIONS
SITE NO. 694	BUILDING NO.
PROJECT NO. P131-12605	2984-20-72
SHEET NO. 35 OF XX 35 of	FILE NO.



SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE	SCALE	DRAWN BY:
36 OF XX ~~36~~ 32	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208



SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
37 OF XX ~~37~~ 38	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

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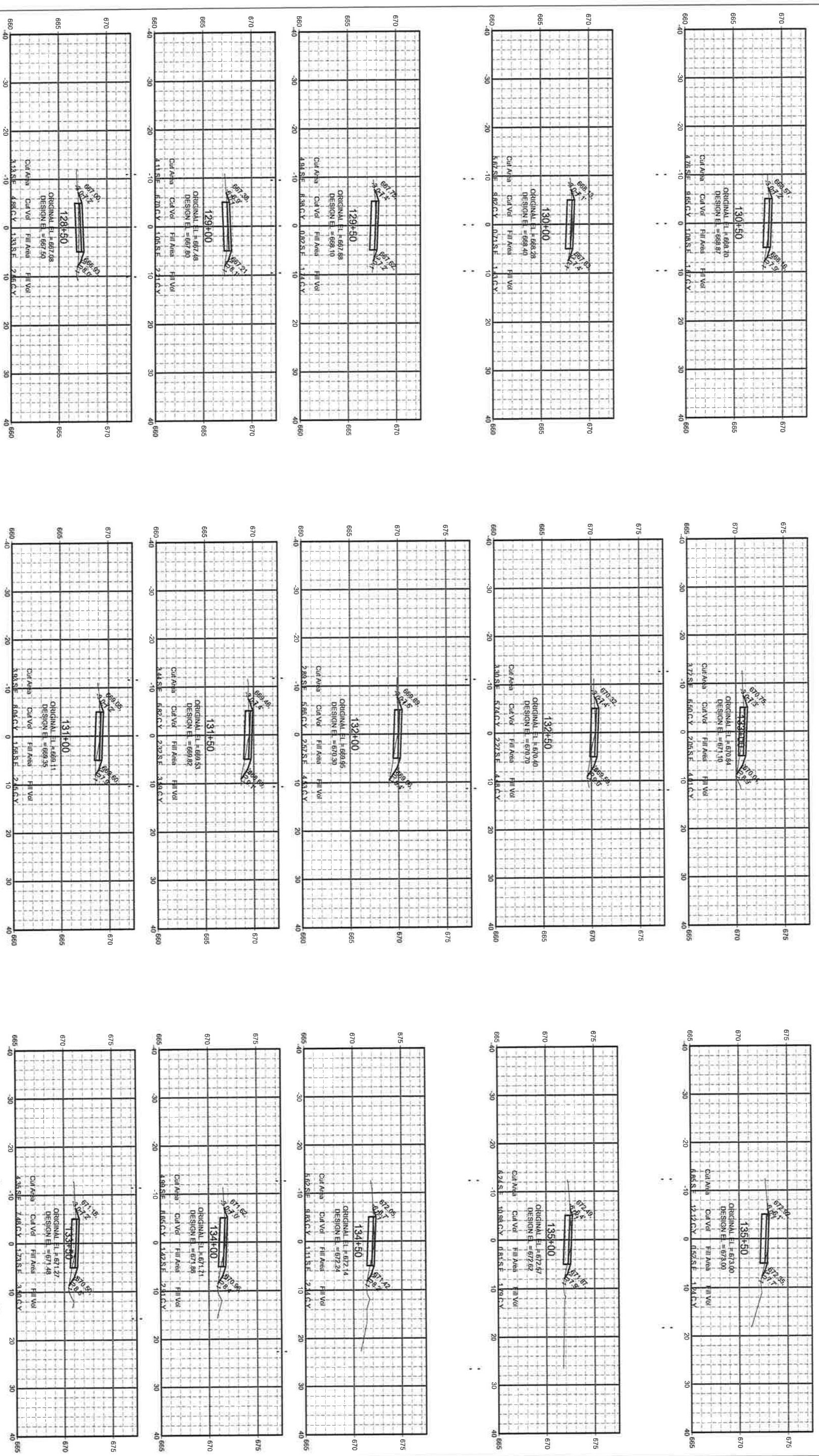
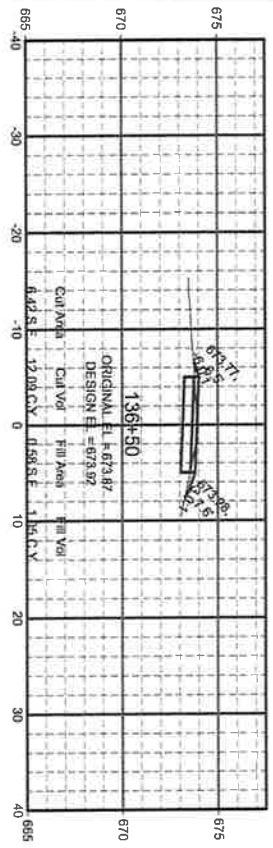
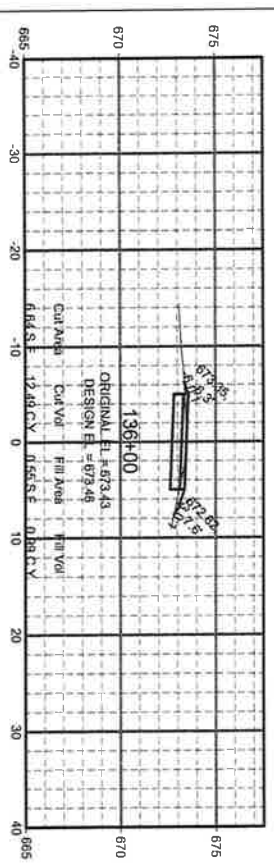
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

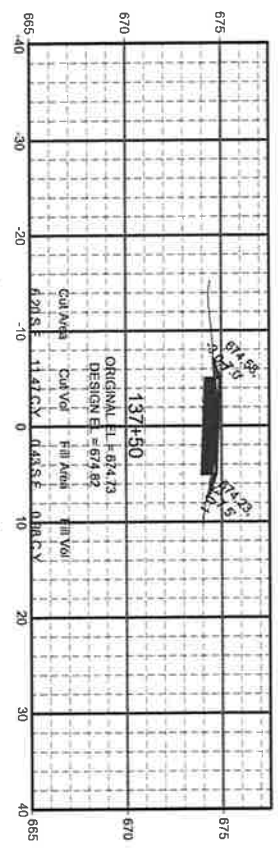


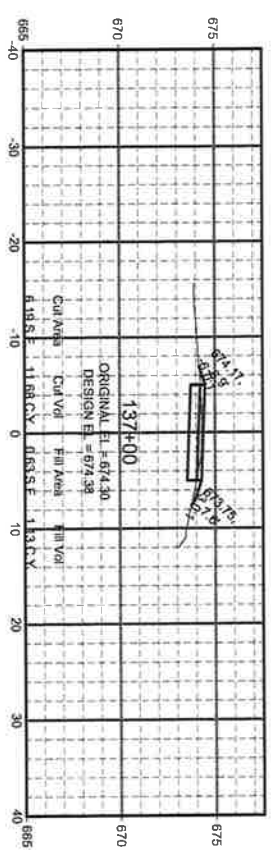
SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
38 OF XX ~~38~~ 39	P131-12605	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.	2984-20-72	BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

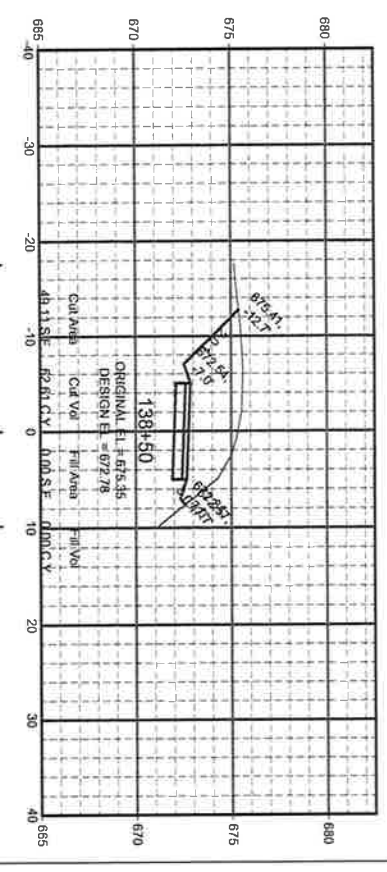
MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

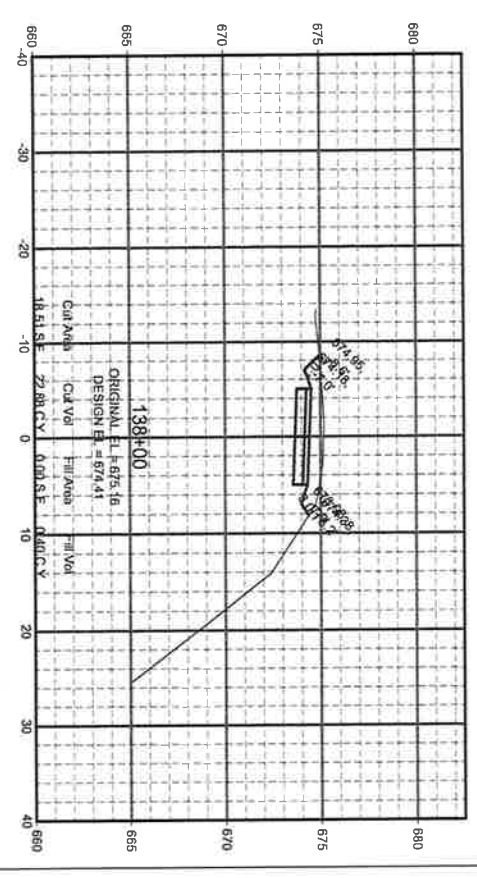




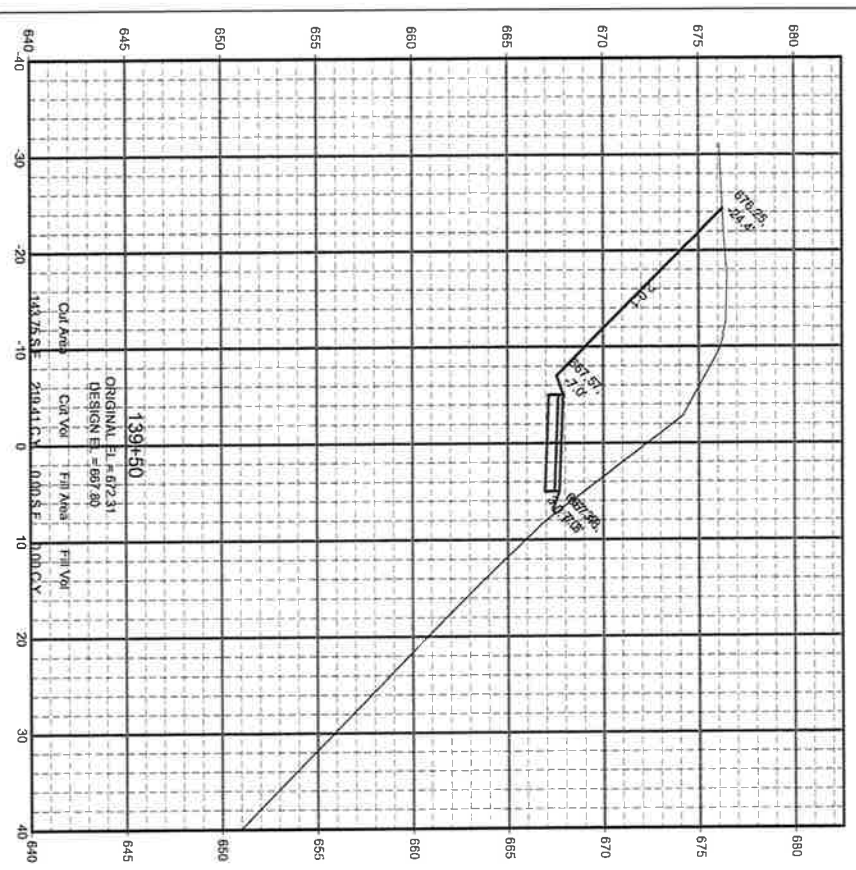


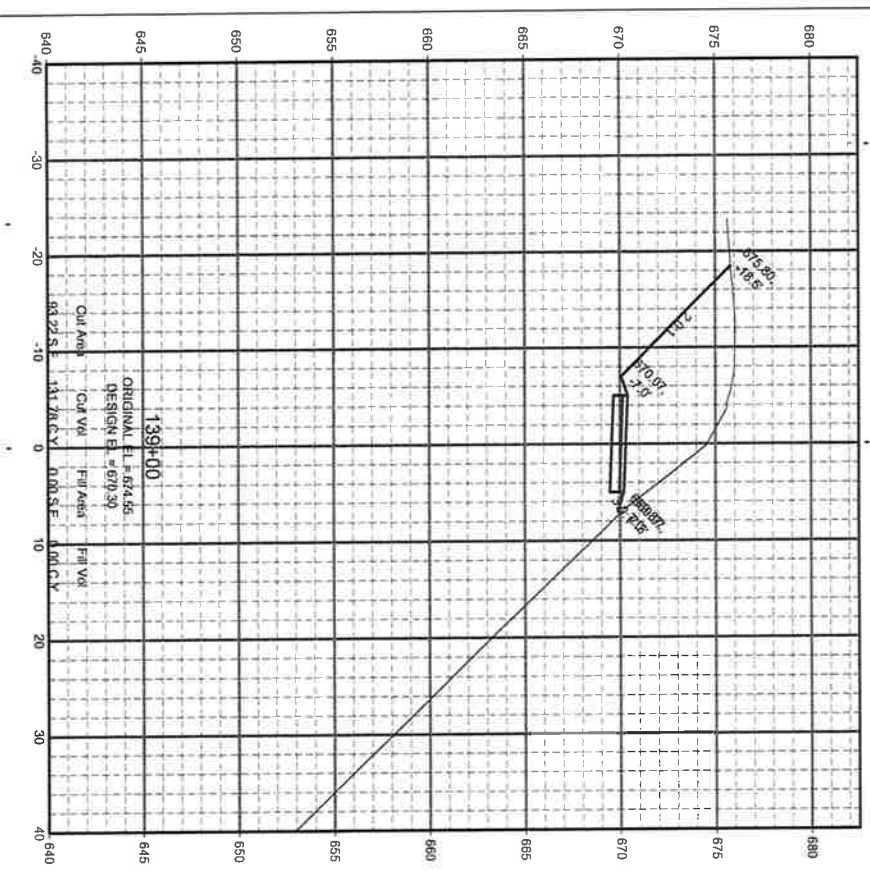


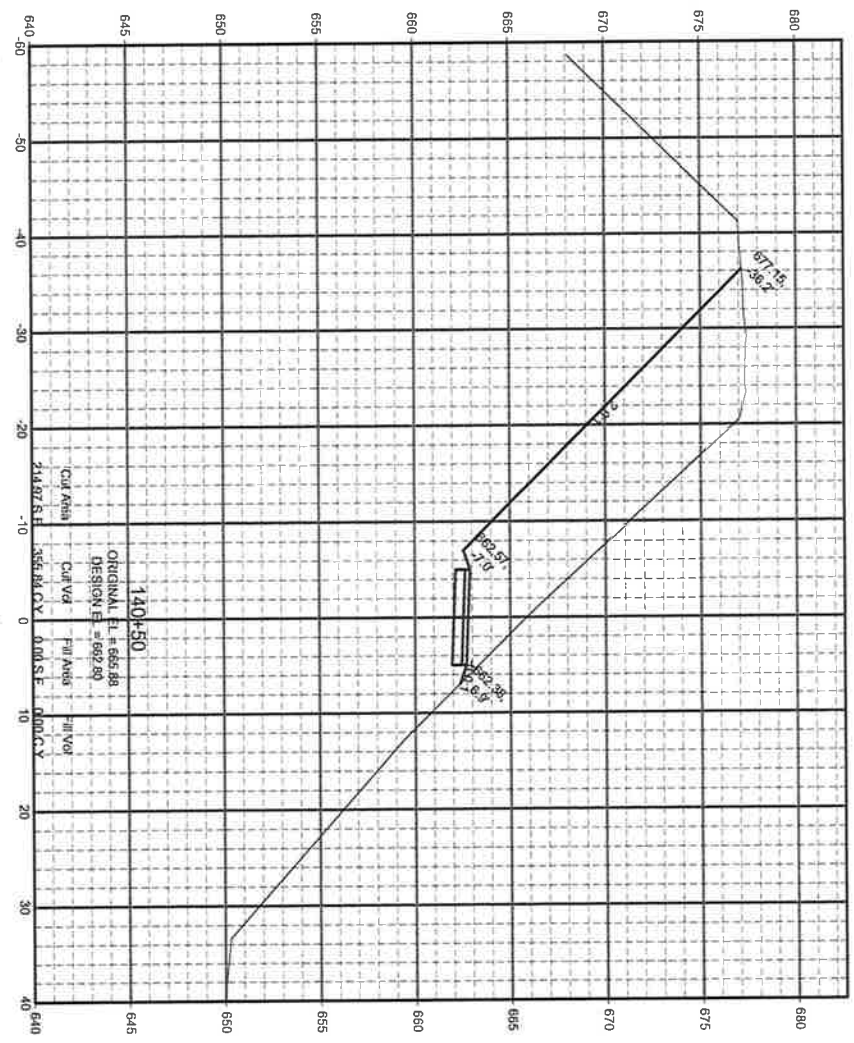


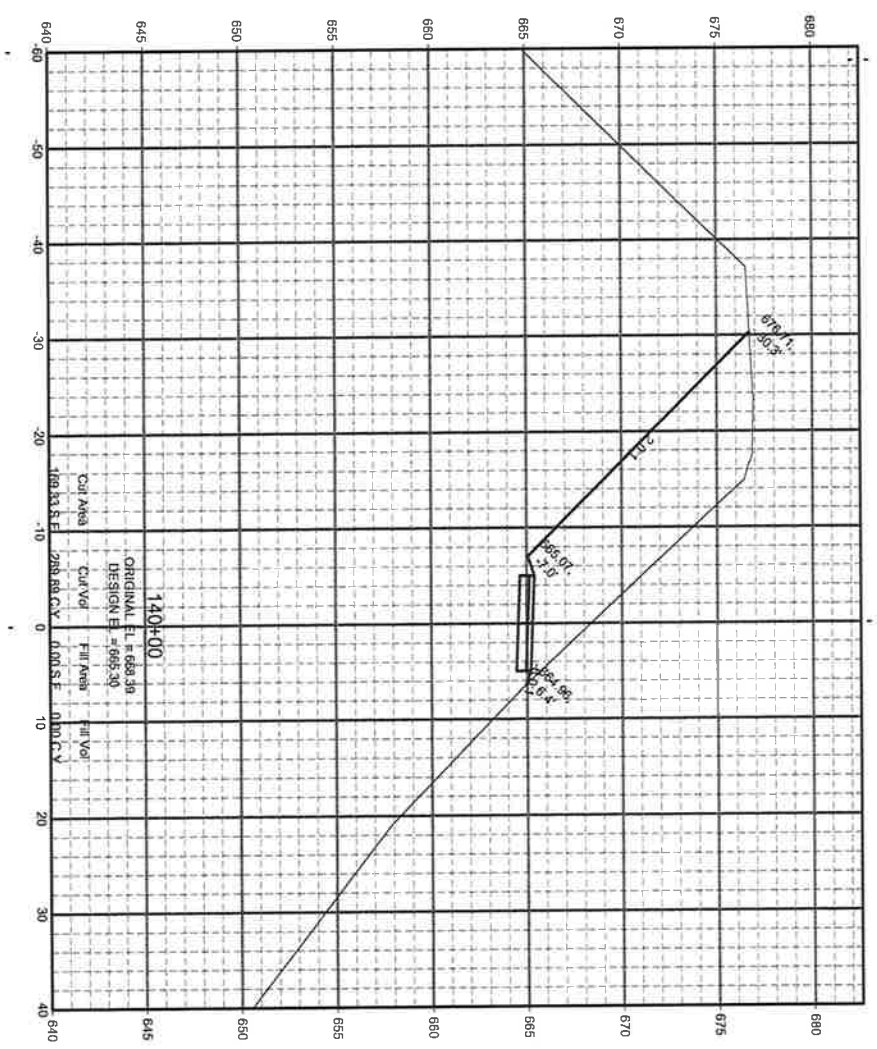


SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE: OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	SCALE: 1" = 10'	DRAWN BY: DSG	MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES Architecture, Engineering & Environmental Services Section
39 OF XX ~~39~~ %	P131-12605 2984-20-72	694				
		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS	CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208
FILE NO.						



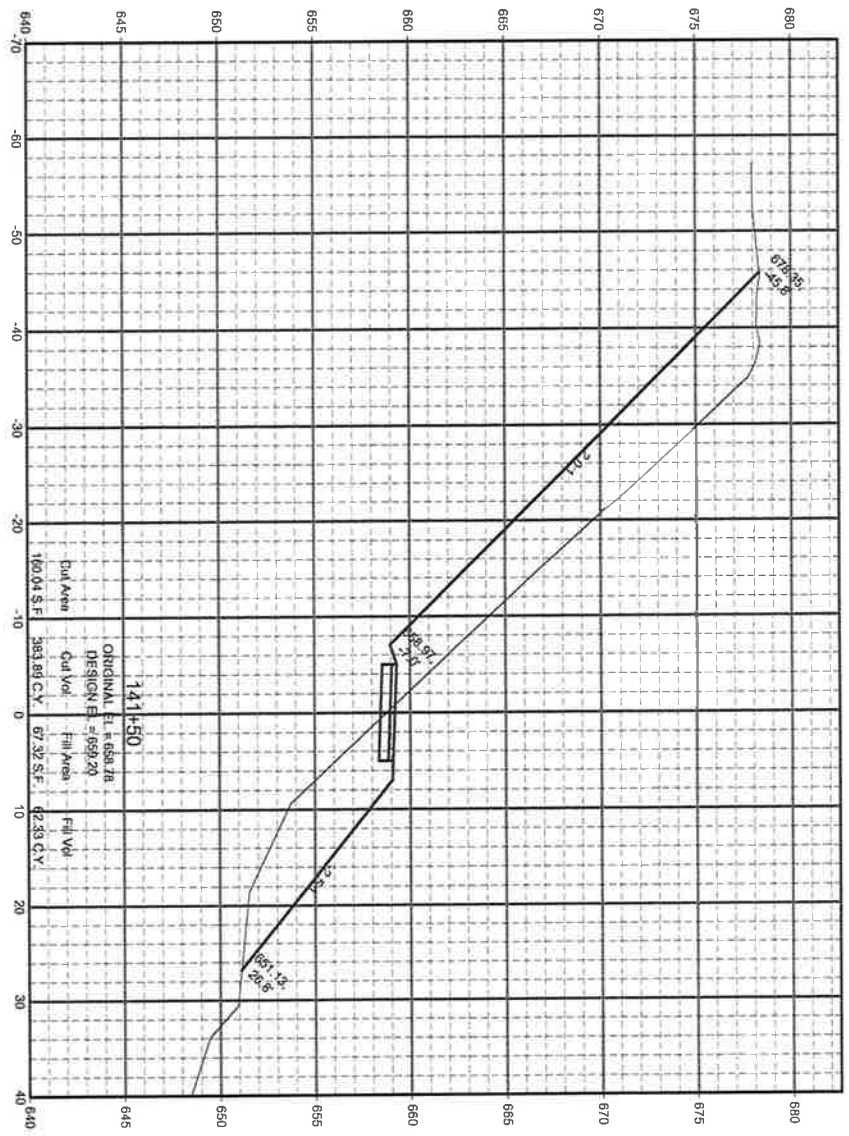


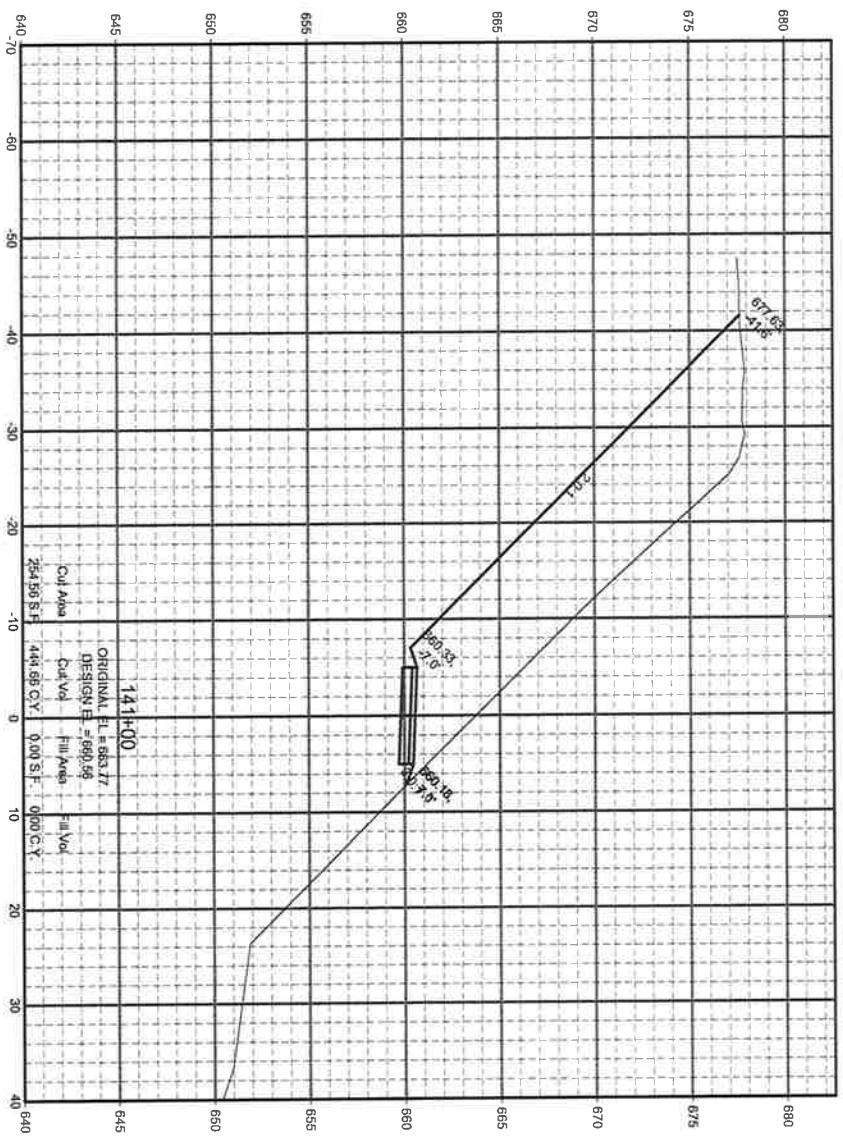


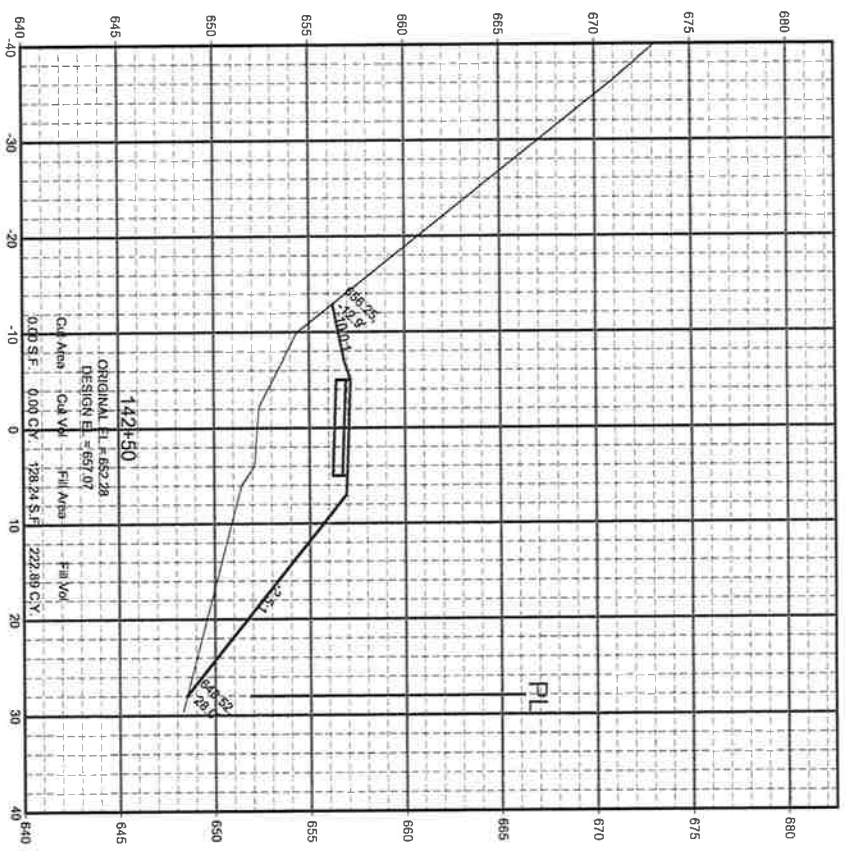


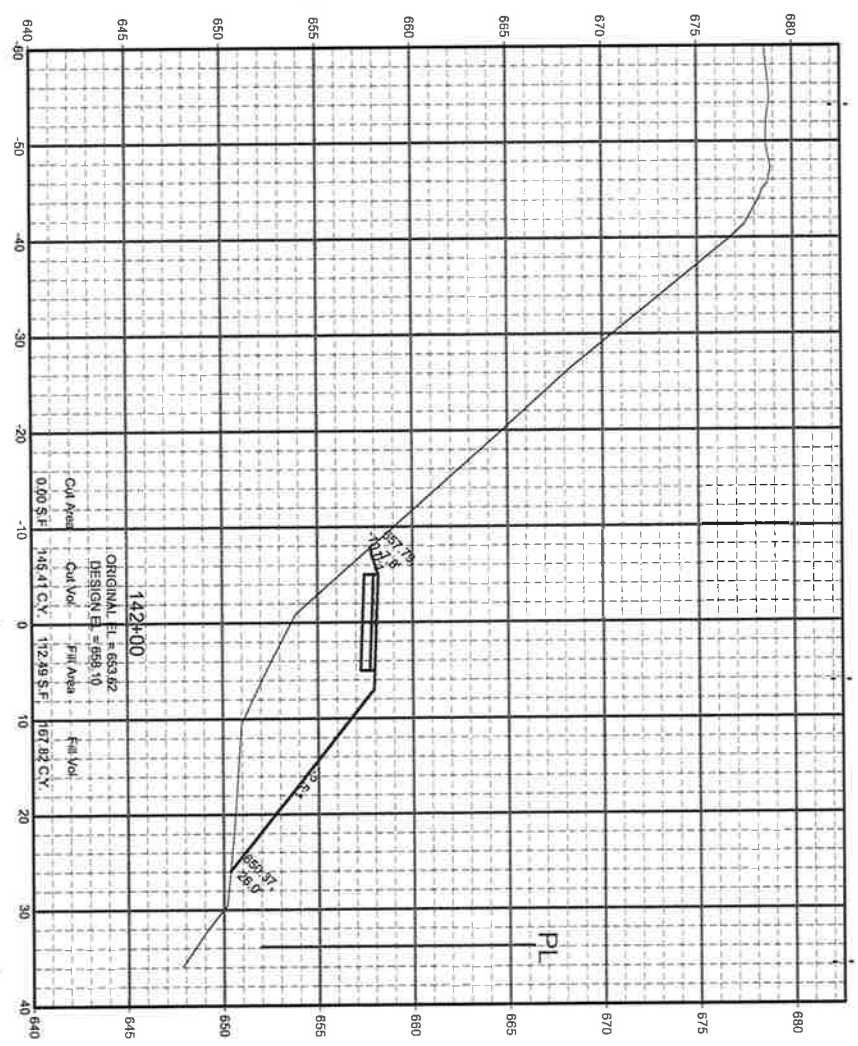
SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
40 OF XX ~~40~~ 41	P131-12605	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.	2984-20-72	BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208



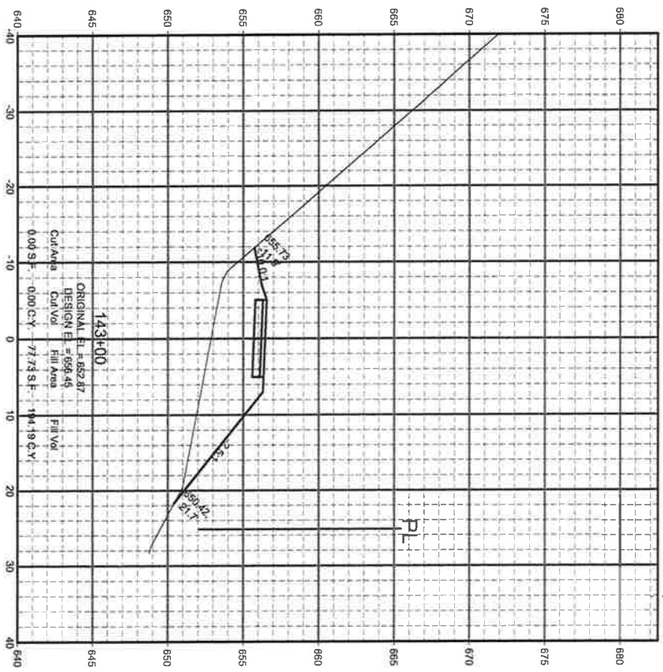


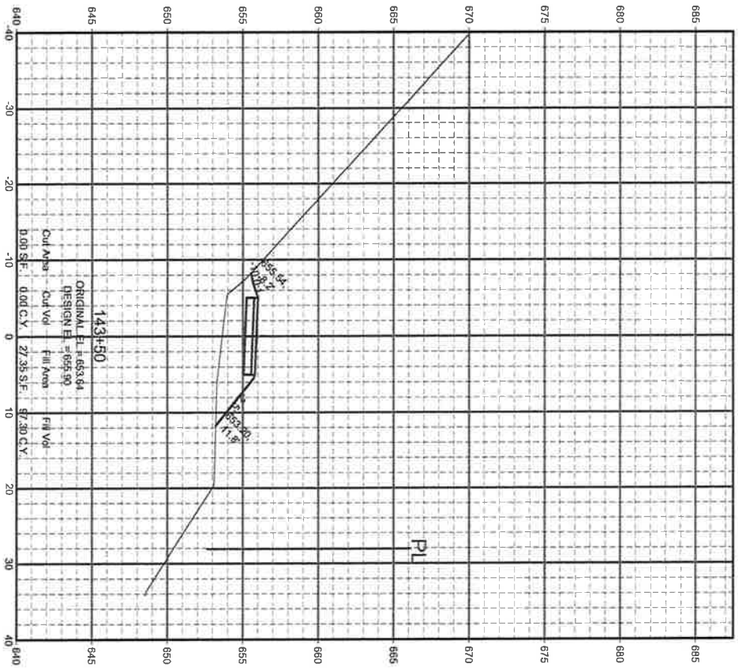


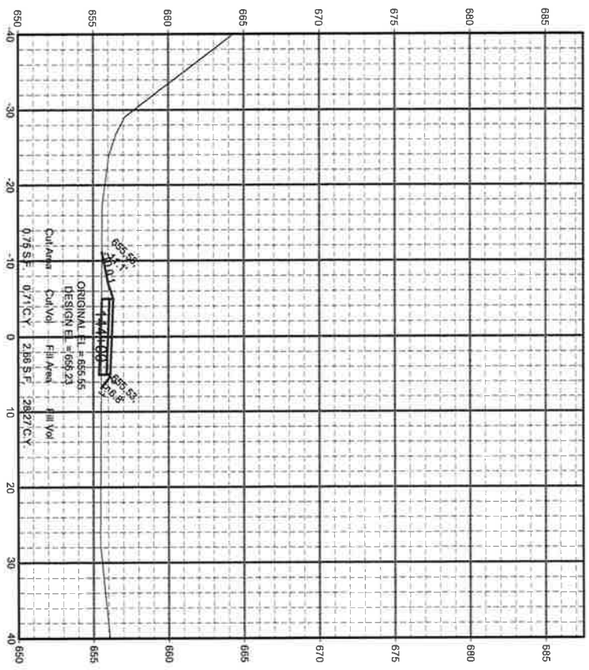


SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
41 OF XX ~~41~~ 42	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

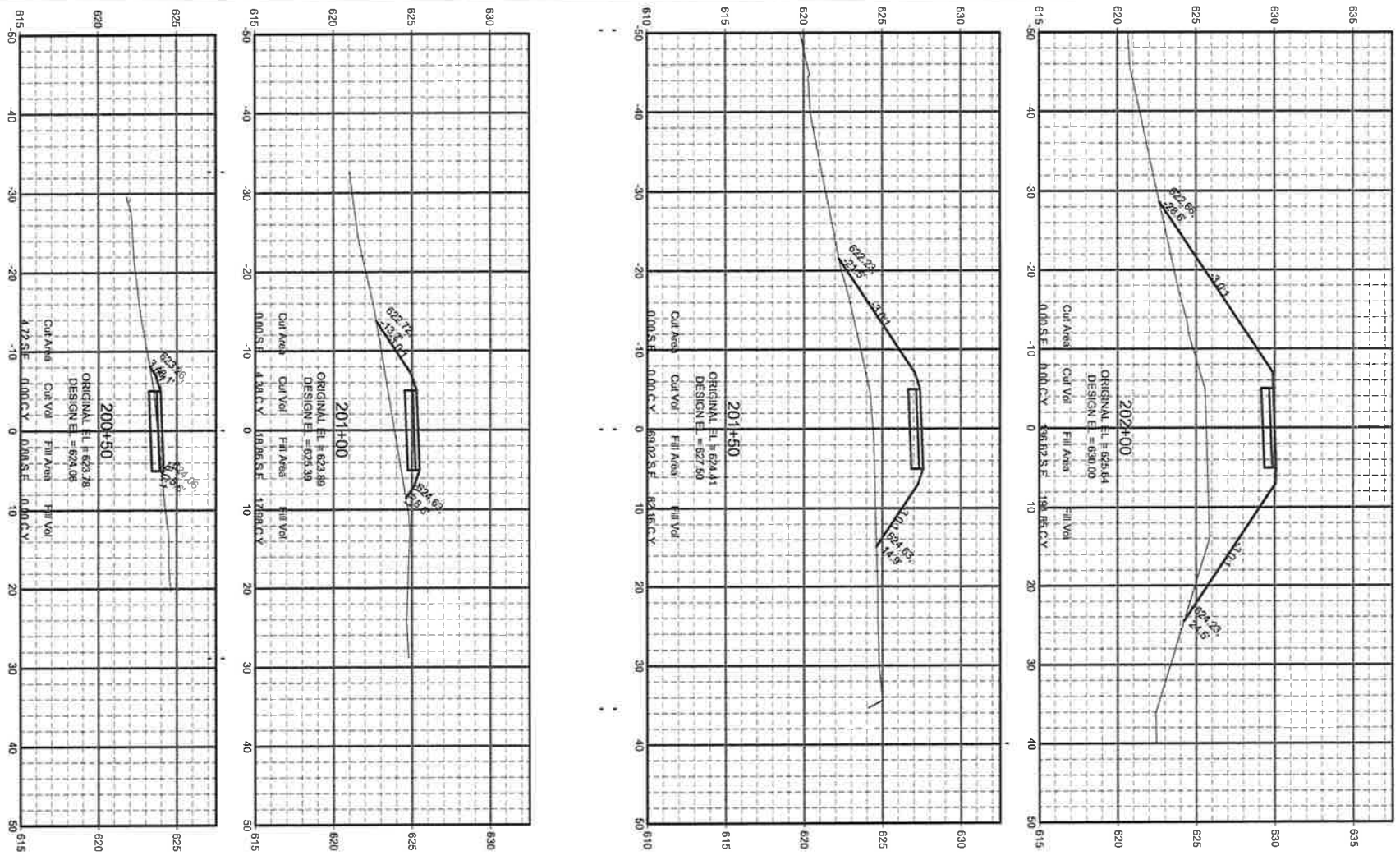






SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
42 OF XX ~~42~~ 43	P131-12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208



200+50
ORIGINAL EL = 623.78
DESIGN EL = 624.06
Cut Area
4.72 S.F
Cut Vol
0.00 C.Y
Fill Area
0.88 S.F
Fill Vol
0.00 C.Y
623.78'
624.06'
-50
-40
-30
-20
-10
0
10
20
30
40
50
615
620
625

201+00
ORIGINAL EL = 623.89
DESIGN EL = 625.39
Cut Area
0.00 S.F
Cut Vol
4.38 C.Y
Fill Area
18.85 S.F
Fill Vol
17.98 C.Y
622.72'
-13.3'
3.0:1
624.63'
8.6'
-50
-40
-30
-20
-10
0
10
20
30
40
50
615
620
625
630

201+50
ORIGINAL EL = 624.41
DESIGN EL = 627.50
Cut Area
0.00 S.F
Cut Vol
0.00 C.Y
Fill Area
69.02 S.F
Fill Vol
62.16 C.Y
622.23'
-21.5'
3.0:1
3.0:1
624.63'
14.9'
-50
-40
-30
-20
-10
0
10
20
30
40
50
610
615
620
625
630

202+00
ORIGINAL EL = 625.64
DESIGN EL = 630.00
Cut Area
0.00 S.F
Cut Vol
0.00 C.Y
Fill Area
136.12 S.F
Fill Vol
191.85 C.Y
622.66'
-28.6'
3.0:1
3.0:1
624.23'
24.6'
-50
-40
-30
-20
-10
0
10
20
30
40
50
615
620
625
630
635

SHEET NO.
43 OF XX
~~43~~ 44
FILE NO.

PROJECT NO.
P131-12605
2984-20-72

SITE NO.
694
BUILDING NO.

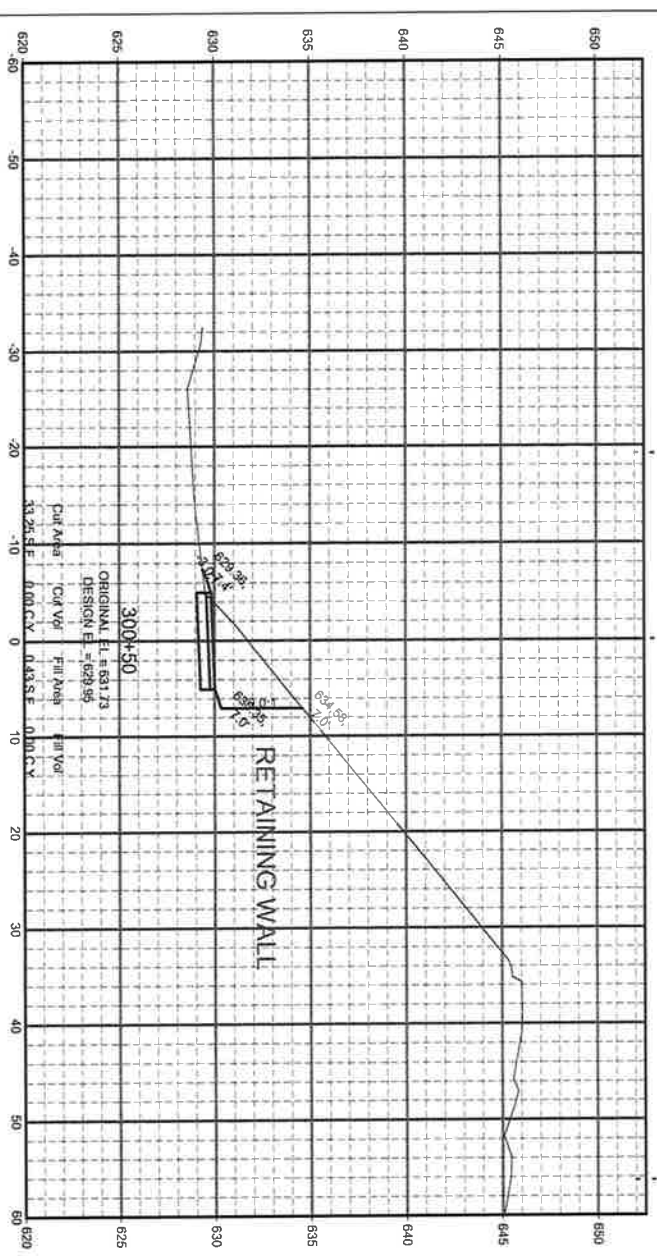
PROJECT TITLE: OAK LEAF TRAIL PHASE 4
HAMPTON AVE. – MILL RD.
SHEET DESCRIPTION:
MILWAUKEE RIVER PARKWAY
CROSS SECTIONS

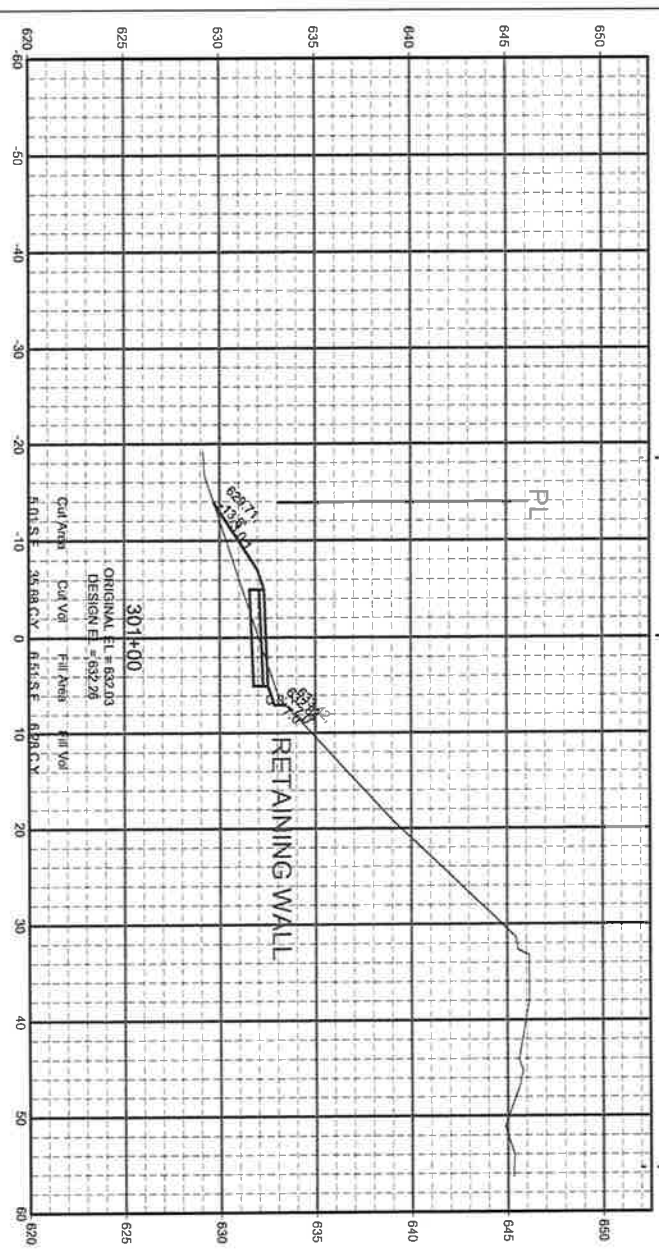
SCALE:
1" = 10'
DATE:
7/11/13

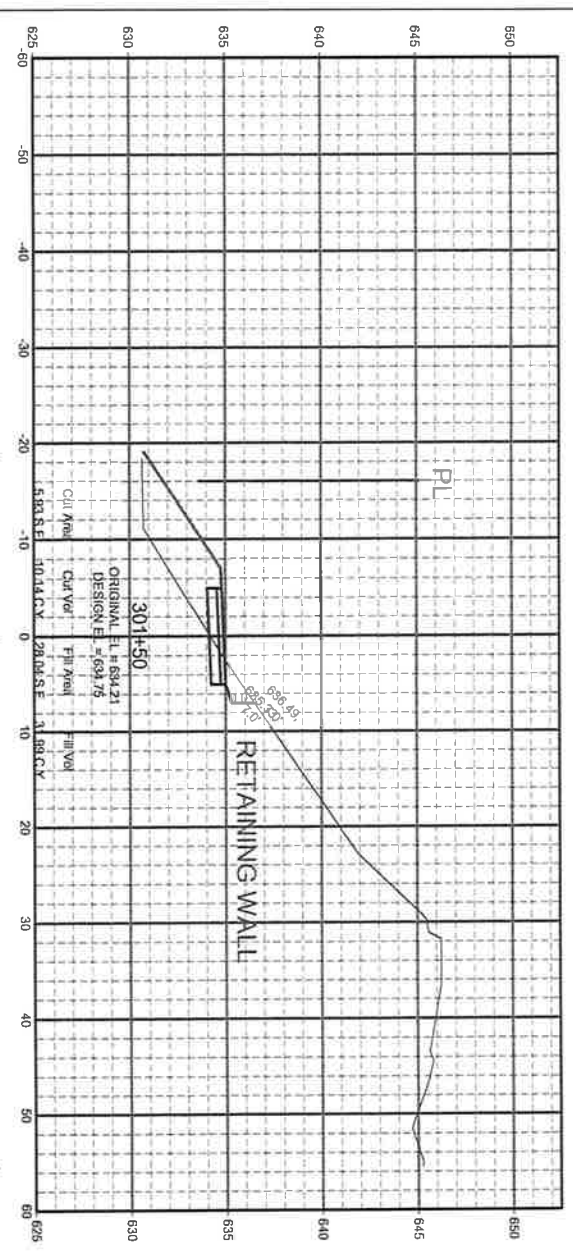
DRAWN BY:
DSG
CHECKED BY:
KDS

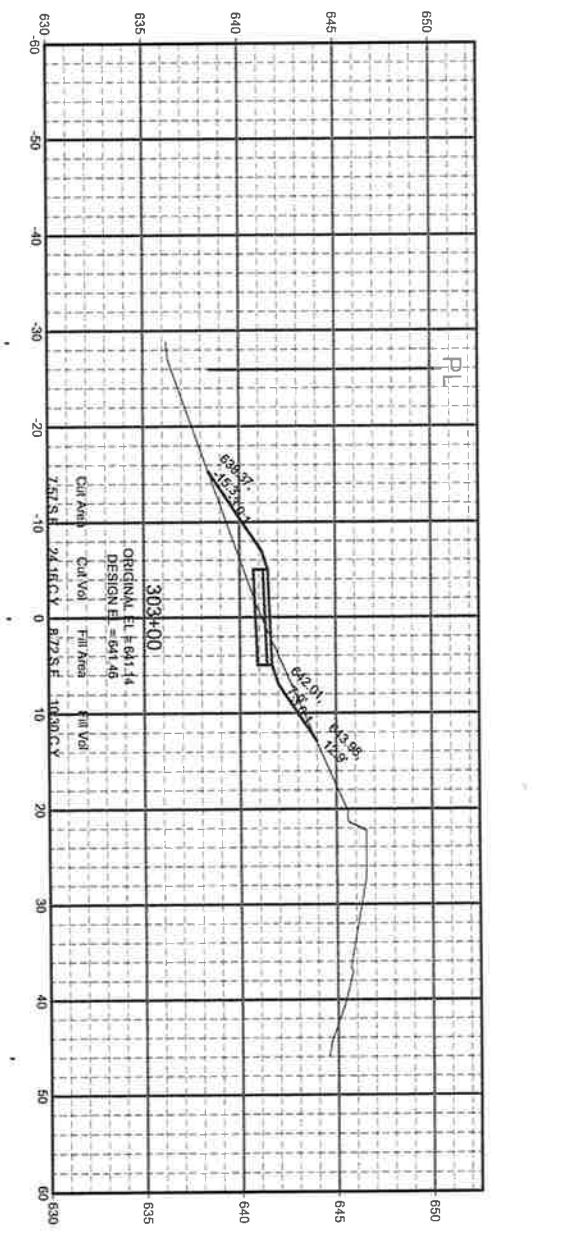
MILWAUKEE COUNTY DEPARTMENT OF
ADMINISTRATIVE SERVICES
Architecture, Engineering &
Environmental Services Section

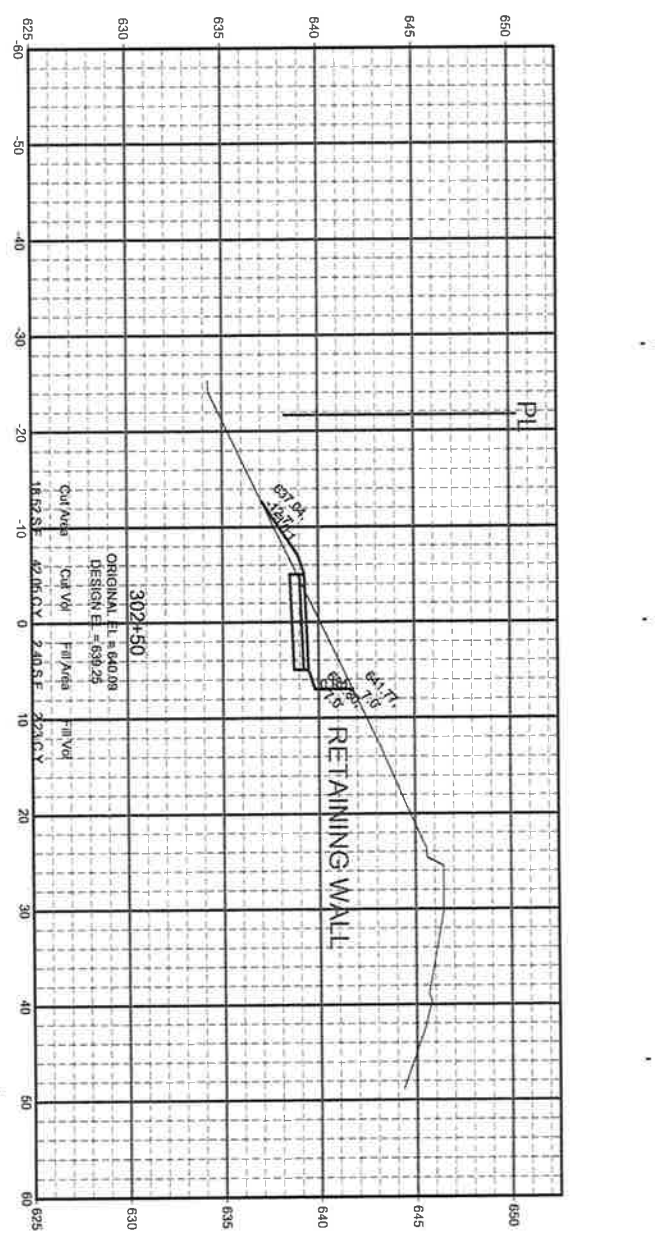
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

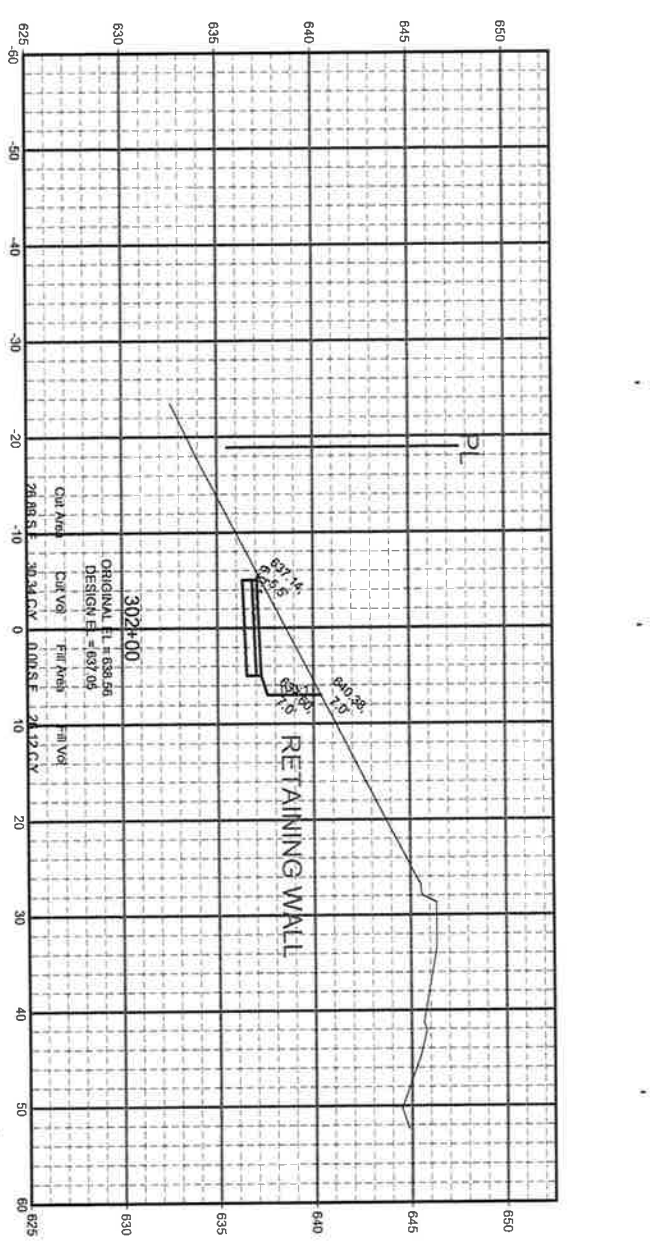






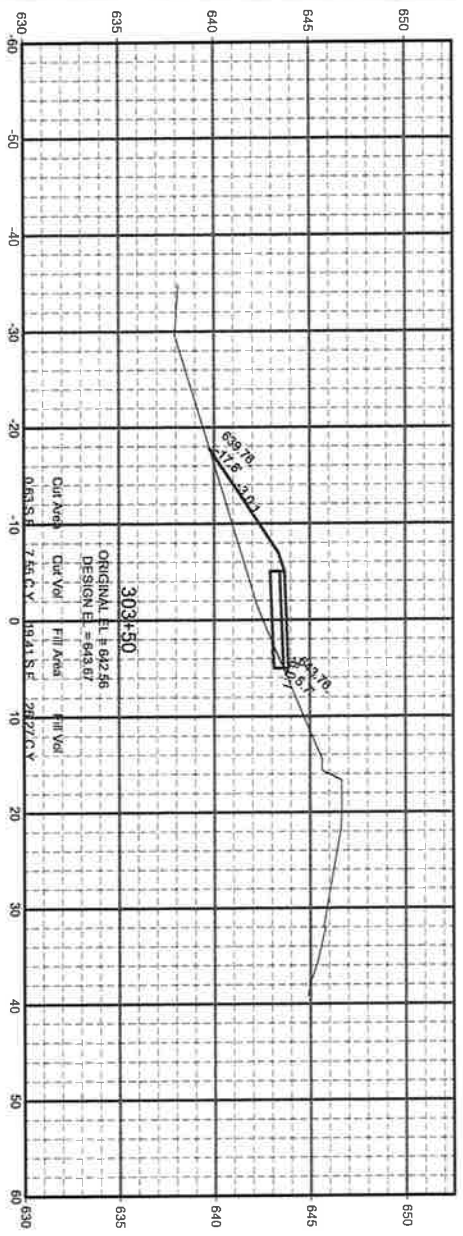






SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
44 OF XX ~~44~~ 45	P131–12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

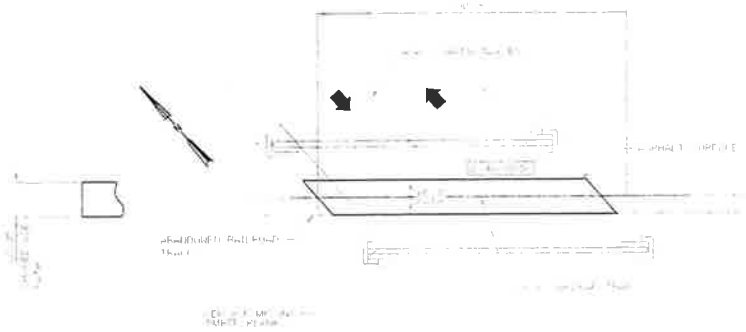


SHEET NO.	PROJECT NO.	SITE NO.	PROJECT TITLE:	SCALE:	DRAWN BY:
45 OF XX ~~45~~-46	P131–12605 2984-20-72	694	OAK LEAF TRAIL PHASE 4 HAMPTON AVE. – MILL RD.	1" = 10'	DSG
FILE NO.		BUILDING NO.	SHEET DESCRIPTION: CROSS SECTIONS	DATE: 7/11/13	CHECKED BY: KDS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

ATTACHMENT E

PRELIMINARY BRIDGE PLAN



PLAN

ELEVATION

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION, EDITION OF [illegible].

CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO [illegible].

INFORMATION IN THE DRAWINGS RELATED TO THE EXISTING BRIDGE [illegible] OF AN LIMITED FIELD OBSERVATION. NO GUARANTEE OR WARRANTY IS MADE THAT THE INFORMATION IS [illegible] THEREFORE THE CONTRACTOR SHALL MAKE IT OWN DETERMINATION OF THE ACTUAL CONDITIONS TO BE ENCOUNTERED.

THE EXISTING STRUCTURE IS AN ABANDONED SINGLE-SPAN THROUGH PLATE GIRDER RAILROAD BRIDGE WITH BALASTED DECK. THE CONTRACTOR SHALL DECK AREA TO BE REMOVED AND [illegible] WITH A SPHALT GASEMENT ON BASE AS SPECIFIED.

LIST OF DRAWINGS

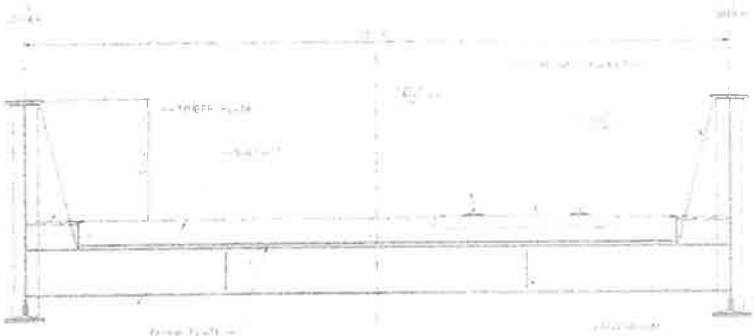
PLAN AND ELEVATION

THIS IS A PRELIMINARY ENGINEERING DOCUMENT THAT IS NOT IN FINAL FORM, BUT IS BEING TRANSMITTED TO RECEIVE AGENCY REVIEWS, COMMENTS AND INTERPRETATION.

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

1 OF 2	P131-11625
A-1	
OAK LEAF TRAIL PHASE 4	NTS
GREEN BAY ROAD PLAN AND ELEVATION	8/8/2012
	JOH

GreenBayRd_ShtA01.dgn 9/4/2012 2:13:41 PM



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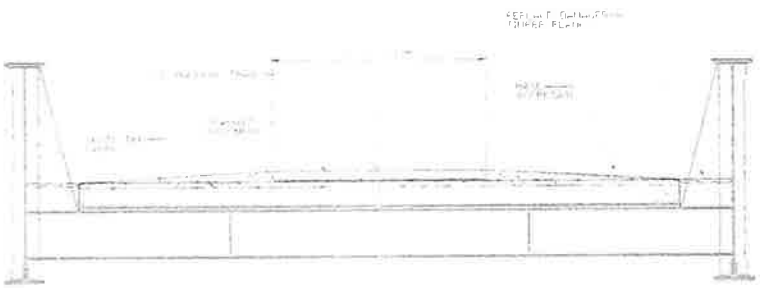


PROPOSED CROSS SECTION

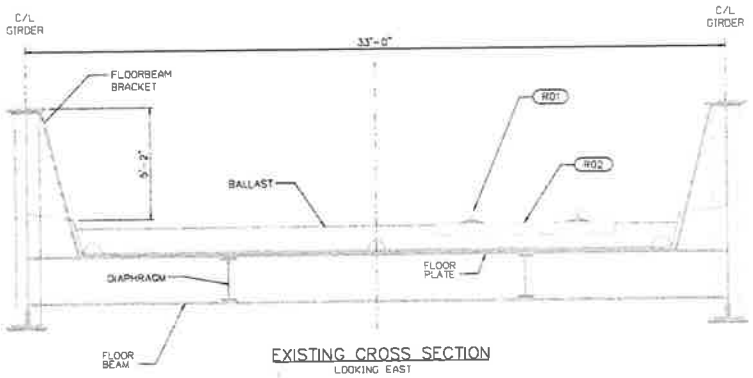
NOTES:

THIS IS A PRELIMINARY ENGINEERING DOCUMENT THAT IS NOT IN FINAL FORM, BUT IS BEING TRANSMITTED TO RECEIVE SOLICITED REVIEW COMMENTS AND INTERPRETATIONS.

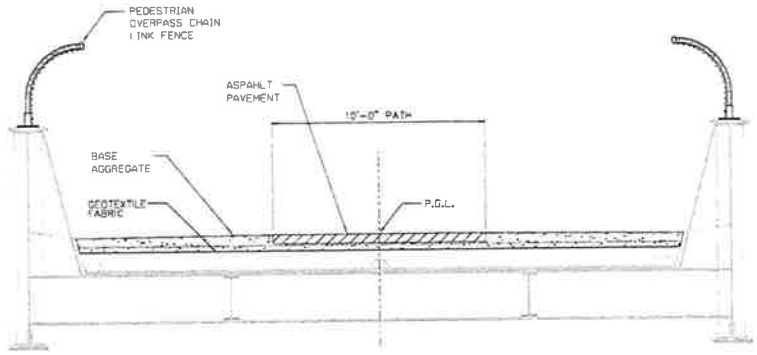
MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture Engineering & Environmental Services Section

OAK LEAF TRAIL PHASE 4	NTS
GREEN BAY ROAD CROSS SECTIONS	8/8/2012
P131-11625	JOH
2 OF 2	A-2

GreenBayRd_ShtA02.dgn 9/4/2012 2:12:28 PM



EXISTING CROSS SECTION
LOOKING EAST



PROPOSED CROSS SECTION
LOOKING EAST

NOTES:

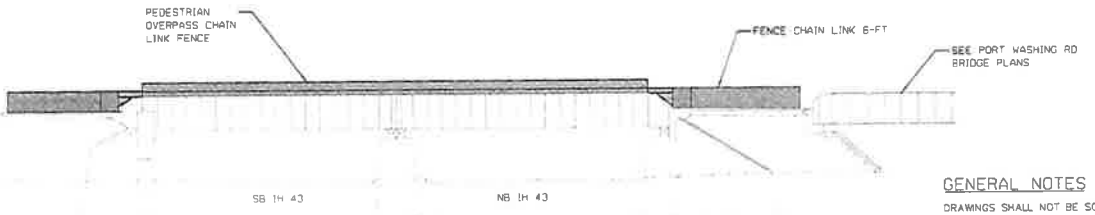
(RO1) REMOVE RUNNING RAILS
(RO2) REMOVE BRIDGE TIES

THIS IS A PRELIMINARY ENGINEERING DOCUMENT THAT IS NOT IN FINAL FORM, BUT IS BEING TRANSMITTED TO RECEIVE AGENCY REVIEWS, COMMENTS AND INTERPRETATIONS.

DATE	REVISION DESCRIPTION	BY

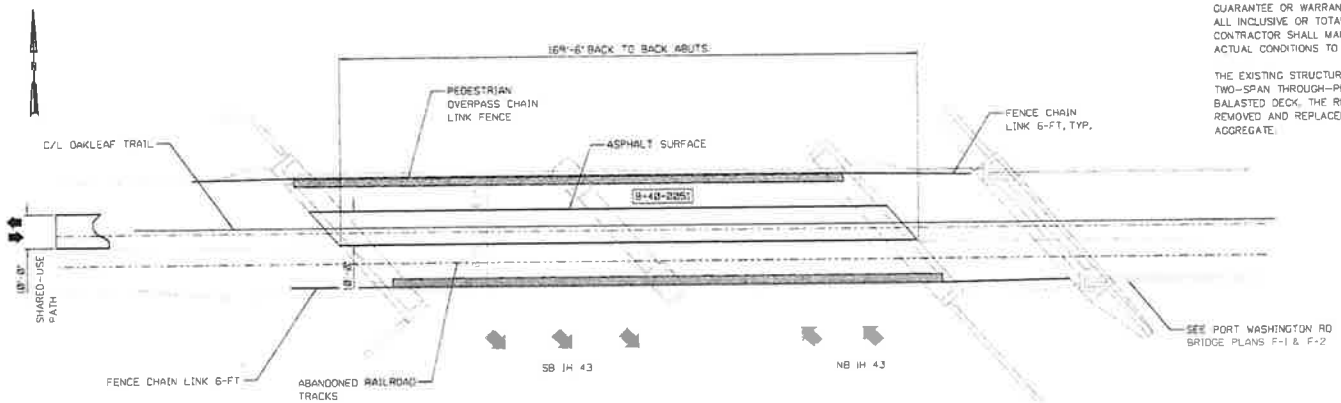
MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 9711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

DRAWN BY	
CHECKED BY	JOH
SCALE	NTS
DATE	8/8/2012
PROJECT TITLE	OAK LEAF TRAIL PHASE 4
SHEET DESCRIPTION	IH 43 CROSS SECTIONS
SITE NO	
BUILDING NO	
PROJECT NO	P131-11625
SHEET NO	2 OF 2
FILE NO	E-2



ELEVATION

LOOKING NORTH



PLAN

2 SPAN THROUGH PLATE GIRDER

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED

ALL DIMENSIONS ARE IN FEET AND INCHES ALL STATIONS AND ELEVATIONS ARE IN FEET

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION, EDITION OF 2013.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION AND CONSTRUCTION.

INFORMATION ON THESE DRAWINGS RELATED TO THE EXISTING BRIDGE IS BASED UPON LIMITED FIELD OBSERVATIONS, NO GUARANTEE OR WARRANTY IS MADE THAT THE INFORMATION IS ALL INCLUSIVE OR TOTALLY ACCURATE. THEREFORE THE CONTRACTOR SHALL MAKE ITS OWN DETERMINATION OF THE ACTUAL CONDITIONS TO BE ENCOUNTERED.

THE EXISTING STRUCTURE B-40-0051 IS AN ABANDONED TWO-SPAN THROUGH-PLATE GIRDER RAILROAD BRIDGE WITH BALASTED DECK. THE RUNNING RAILS AND TIES ARE TO BE REMOVED AND REPLACED WITH ASPHALT PAVEMENT ON BASE AGGREGATE.

LIST OF DRAWINGS

1. PLAN AND ELEVATION
2. CROSS SECTION

THIS IS A PRELIMINARY ENGINEERING DOCUMENT THAT IS NOT IN FINAL FORM, BUT IS BEING TRANSMITTED TO RECEIVE AGENCY REVIEWS, COMMENTS AND INTERPRETATIONS.

DATE | REVISION DESCRIPTION | BY

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W WELLS ST. SECOND FLOOR MILWAUKEE, WI 53233

DRAWN BY	
CHECKED BY	JOH
SCALE	NTS
DATE	8/8/2012
PROJECT TITLE	OAK LEAF TRAIL PHASE 4
SHEET DESCRIPTION	IH 43 PLAN AND ELEVATION
SHEET NO	
PROJECT NO	P131-11625
SHEET NO	1 OF 2
FILE NO	E-1

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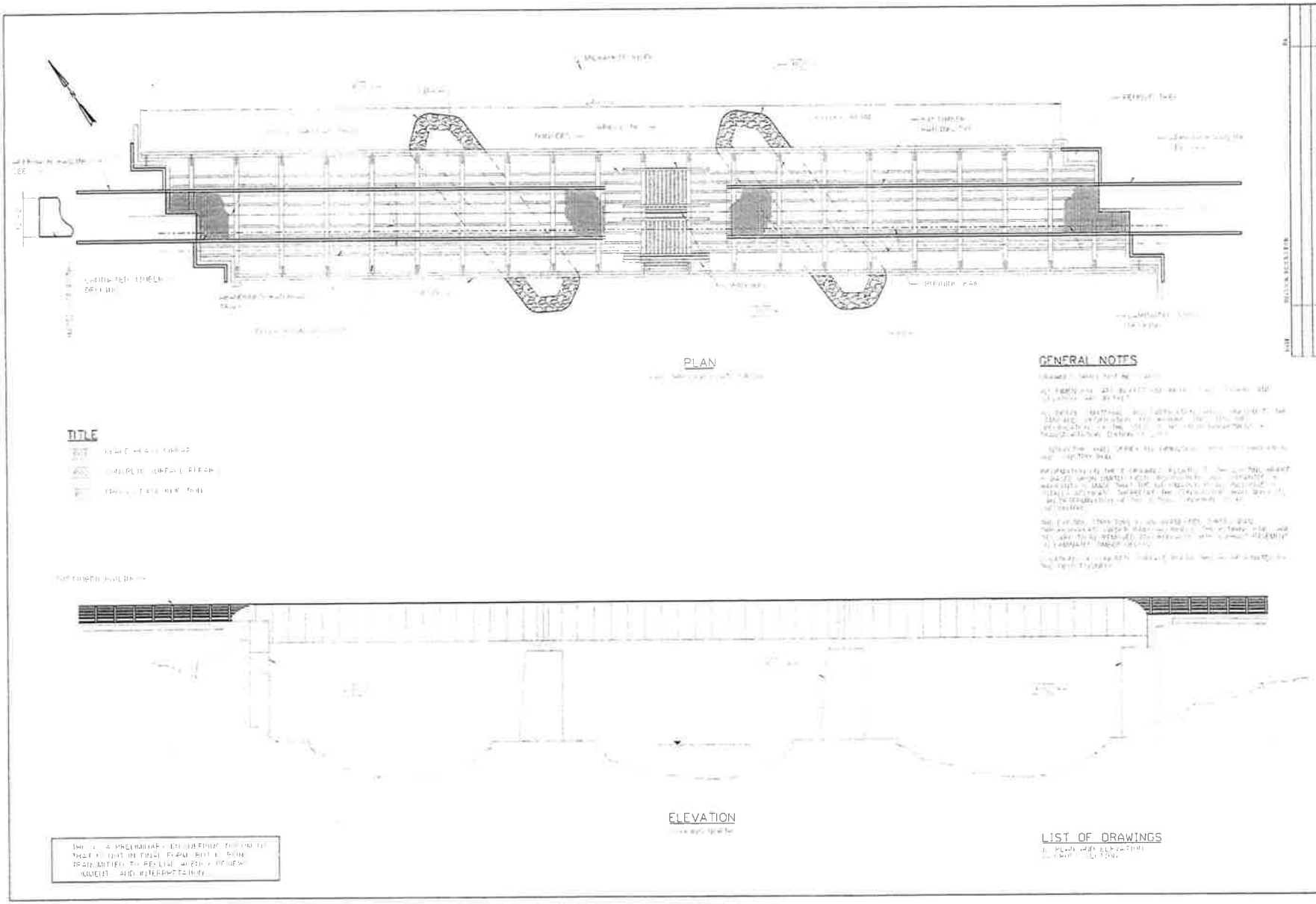

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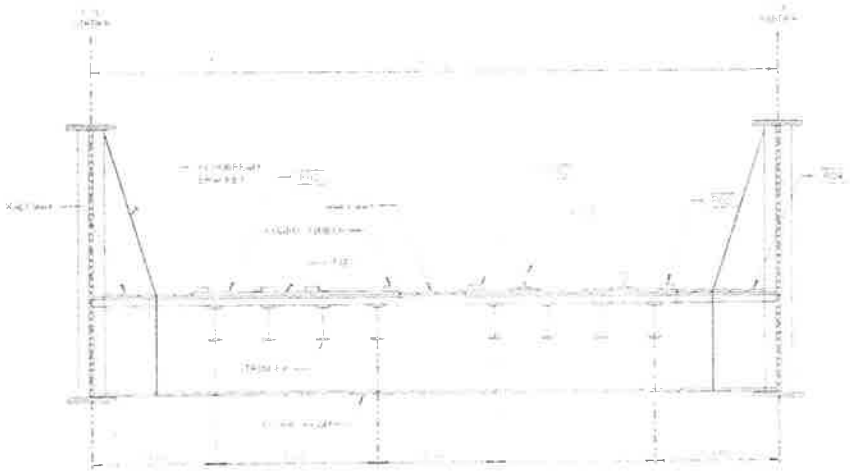
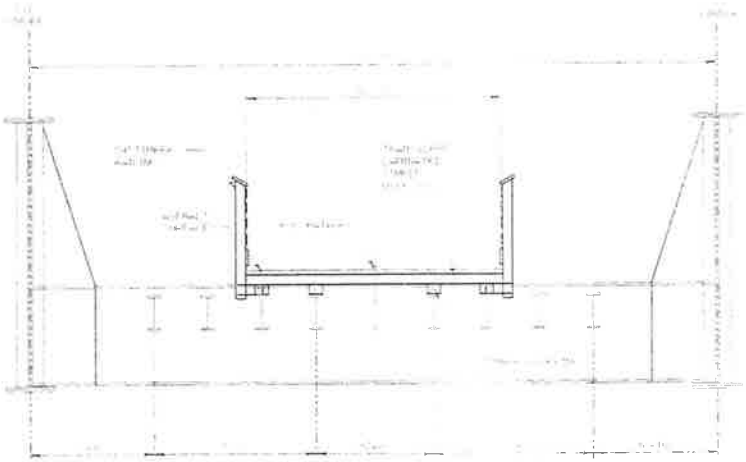


EXISTING CROSS SECTION



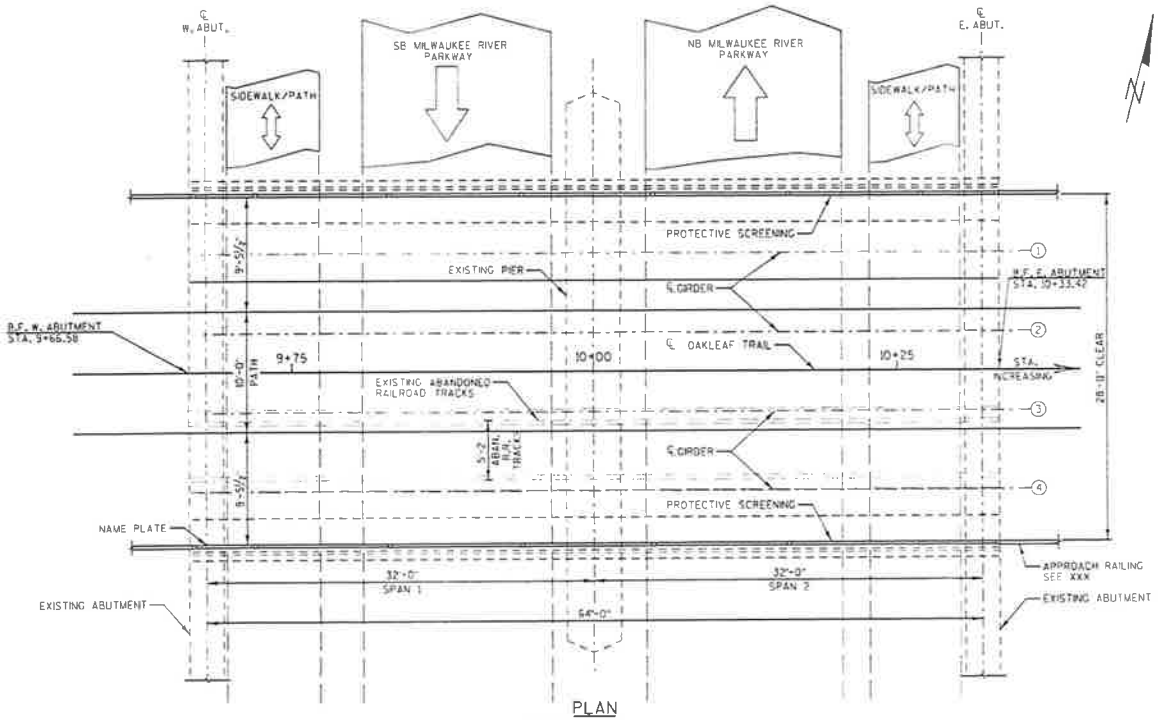
PROPOSED CROSS SECTION

NOTES:

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

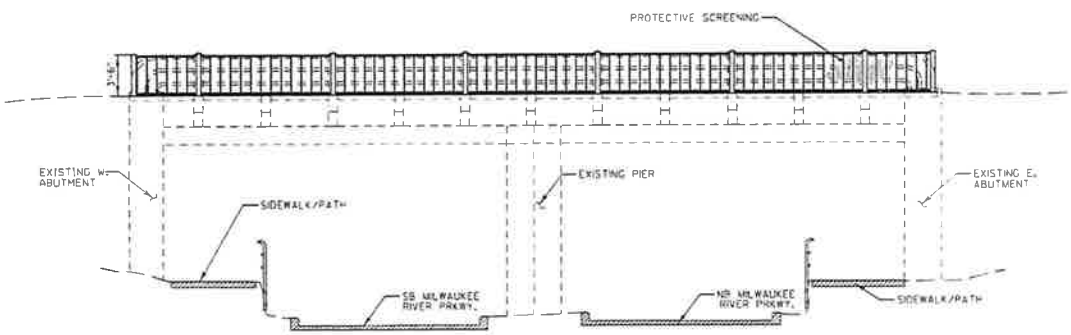
SCALE	NTS
DATE	8/8/2012
DRAWN BY	JOH
PROJECT TITLE	OAK LEAF TRAIL PHASE 4
SUB TITLE	MILWAUKEE RIVER CROSS SECTIONS
PROJECT NO.	P131-11625
SHEET NO.	2 OF 2
FILE NO.	D-2

MilwRiver_ShtD02.dgn 9/4/2012 2:17:16 PM



PLAN

2 SPAN CONCRETE GIRDER BRIDGE



ELEVATION

(LOOKING SOUTH)

GENERAL NOTES

THE PROPOSED WORK INCLUDES CONCRETE SURFACE REPAIR, REMOVAL OF THE EXISTING RAILROAD TRACKS, PLACEMENT OF AN ASPHALTIC PATH, AND PLACEMENT OF PROTECTIVE SCREENING.

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED. ALL STATIONS AND ELEVATIONS ARE IN FEET.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE EXISTING ABUTMENTS, PIERS, AND THE SUPERSTRUCTURE ARE TO REMAIN IN PLACE, AS SHOWN, AND INCORPORATED INTO THE NEW CONSTRUCTION.

DIMENSIONS SHOWN ARE BASED ON APPROXIMATE FIELD MEASUREMENTS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION.

THE EXISTING STRUCTURE IS AN ABANDONDED 2 SPAN CONCRETE RAILROAD BRIDGE WITH FULL-RETAINING CONCRETE ABUTMENTS.

BENCH MARKS

NO.	STATION	OFFSET	DESCRIPTION	ELEVATION
1	XX+XX.XX	XX.XX'LT.	MONUMENT NE QUAD.	XXX.XX

LIST OF DRAWINGS:

C-1. GENERAL PLAN & ELEVATION
C-2. CROSS SECTIONS & QUANTITIES
C-3. CONCRETE SURFACE REPAIR
C-4. PROTECTIVE SCREENING DETAILS

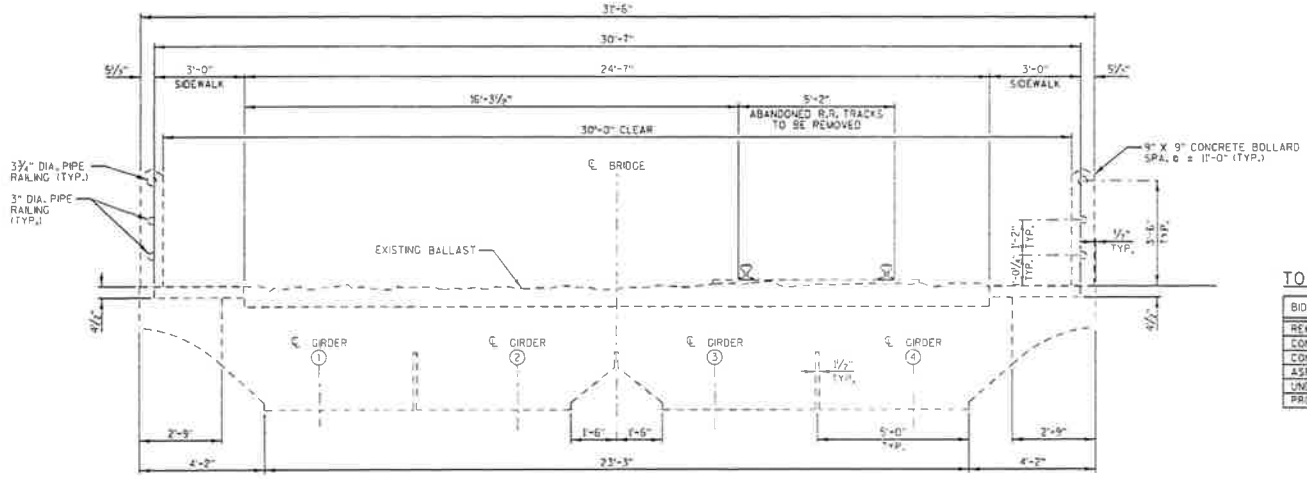
PRELIMINARY

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

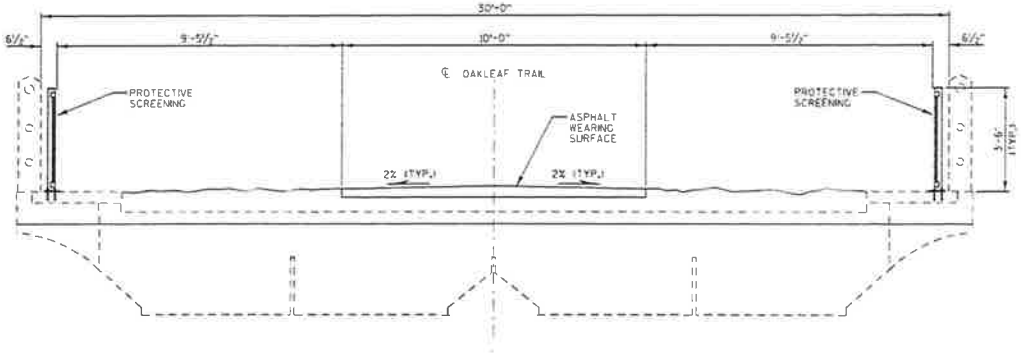
CONSULTANT CONTACT:
BILL HOVE (608) 828-1011

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE WI 53208

DESIGN BY	TMD
CHECKED BY	BH
SCALE	NTS
DATE	8/21/2012
PROJECT	OAKLEAF TRAIL PHASE 4
INDEX DESCRIPTION	MILWAUKEE RIVER PARKWAY GENERAL PLAN & ELEVATION
PROJECT NO.	P131-11625
SHEET NO.	1 OF 4
FILE NO.	C-1



EXISTING CROSS SECTION
(LOOKING EAST)



PROPOSED CROSS SECTION
(LOOKING EAST)

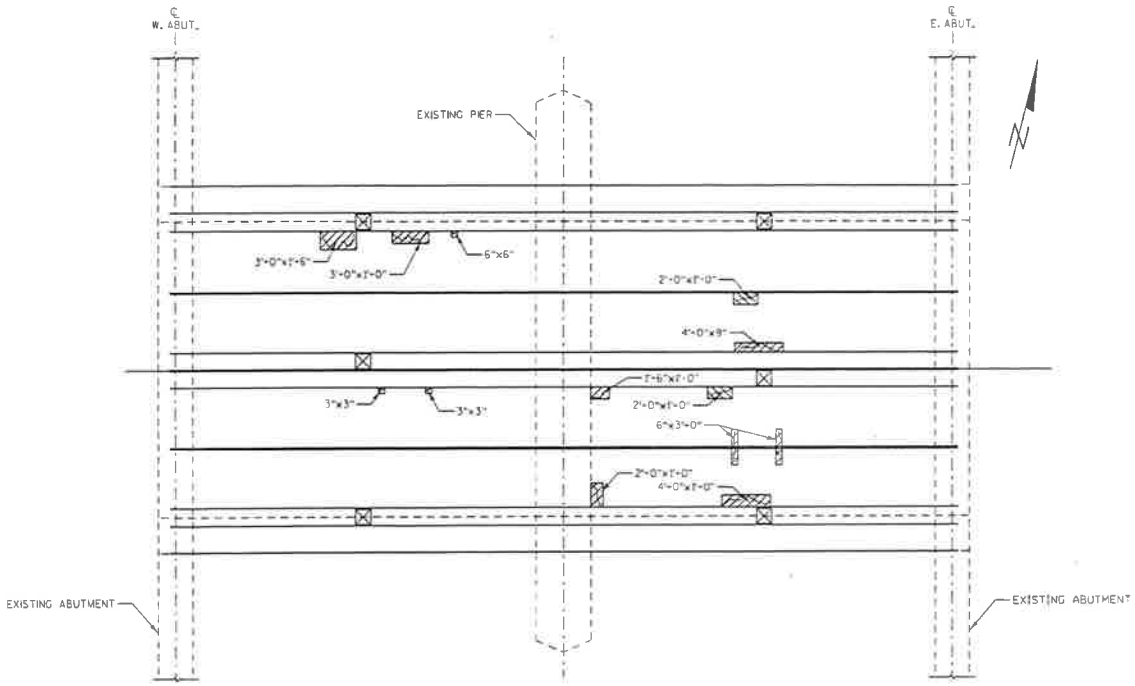
TOTAL ESTIMATED QUANTITIES

BID ITEM DESCRIPTION	UNIT	TOTAL
REMOVING RAILROAD TRACK	LF	
CONCRETE MASONRY ANCHORS TYPE S 1/2"-INCH	EACH	
CONCRETE SURFACE REPAIR	SF	
ASPHALT	TONS	
UNDERDECK LIGHTING REPAIR	LS	
PROTECTIVE SCREENING	LS	

PRELIMINARY

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architectural, Engineering & Environmental Services Section

DESIGNED BY	TMD
DRAWN BY	BH
SCALE	NTS
DATE	8/16/2012
PROJECT TITLE	OAKLEAF TRAIL PHASE 4
DRAWING TITLE	MILWAUKEE RIVER PARKWAY CROSS SECTION & QUANTITIES
PROJECT NO.	P131-11625
SHEET NO.	2 OF 4
FILE NO.	C-2



CONCRETE SURFACE REPAIR PLAN

(UNDERSIDE OF BRIDGE)

GENERAL NOTES

CONCRETE SURFACE REPAIR LOCATIONS AND QUANTITIES ARE APPROXIMATE. REPAIR LOCATIONS AND LIMITS SHALL BE AS DESIGNATED BY THE ENGINEER.

HAIRLINE CRACKING WITH EFFLORESCENCE WAS OBSERVED ON THE SUBSTRUCTURE UNITS, SPALLS AND/OR DELAMINATIONS WERE NOT OBSERVED. CONCRETE SURFACE REPAIR IS NOT ANTICIPATED ON THE SUBSTRUCTURES. IF THE ENGINEER DIRECTS SURFACE REPAIR FOR ADDITIONAL LOCATIONS, IT WILL BE PAID FOR AT THE UNIT PRICE BID FOR THIS ITEM.

LEGEND

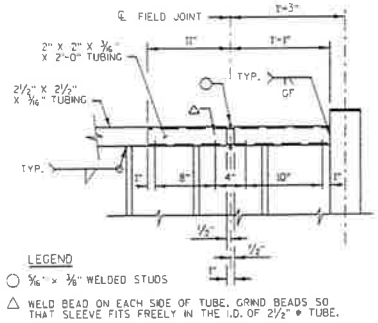
CONCRETE SURFACE REPAIR

EXISTING UNDERDECK LIGHTING

PRELIMINARY

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architectural, Engineering & Environmental Services Section

SCALE	NTS
DRAWN BY	TWD
DATE	8/24/2012
CHECKED BY	BH
PROJECT TITLE	OAKLEAF TRAIL PHASE 4
PROJECT LOCATION	MILWAUKEE RIVER PARKWAY CONCRETE SURFACE REPAIR
PROJECT NO.	P131-11625
SHEET	3 OF 4
SHEET NO.	C-3

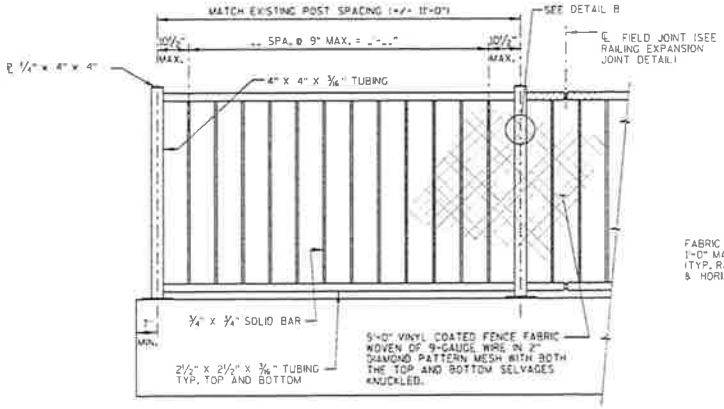


LEGEND

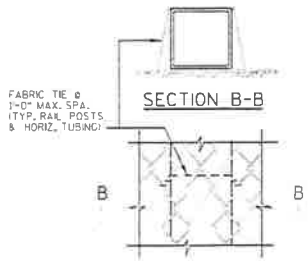
○ 5/16" x 3/8" WELDED STUDS

△ WELD BEAD ON EACH SIDE OF TUBE. GRIND BEADS SO THAT SLEEVE FITS FREELY IN THE I.D. OF 2½" ⌀ TUBE.

RAILING EXPANSION JOINT DETAIL



INSIDE ELEVATION OF RAILING



DETAIL B

NOTES

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

RAILS AND POSTS TO BE A.S.T.M. A500, GRADE B. BASE PLATES AND SHIMS TO BE A.S.T.M. A709, GRADE 36. ALL GALVANIZED AFTER FABRICATION.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET POSTS NORMAL TO GRADE.

ALL POST SPA. ARE TAKEN HORIZ. ALONG CENTER LINE OF RAILING AT BASE OF POST.

SHIMS SHALL BE USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR A.S.T.M. 307. IF 307 IS USED. ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

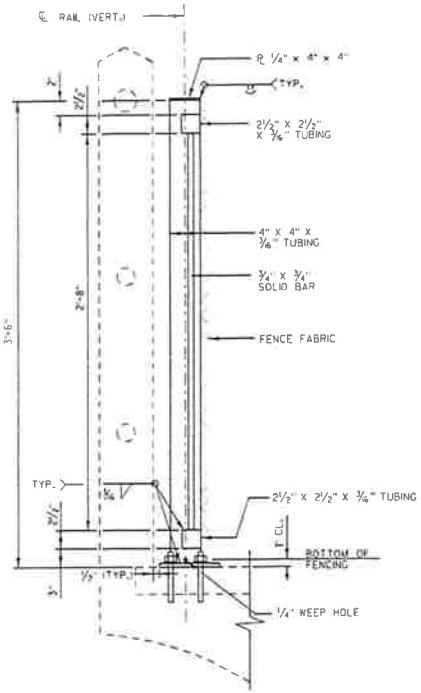
RAILING TO BE PAINTED AND FENCE FABRIC AND TIES TO BE VINYL COATED. FEDERAL COLOR NO. _____

THE BID ITEM FOR PROTECTIVE SCREENING SHALL INCLUDE ALL ITEMS SHOWN.

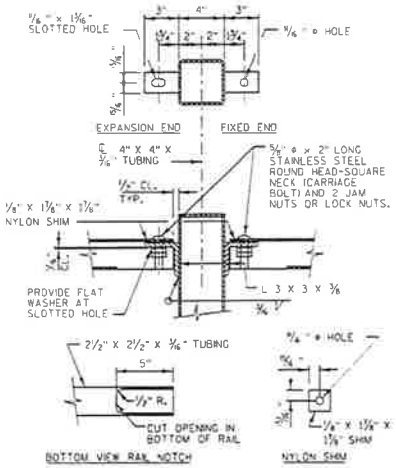
RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE NOT MORE THAN 3 POSTS.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING.

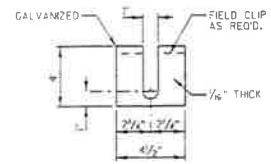
ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A #6 BLAST CLEANING BY SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH APPROVED TIE COAT AND TOPCOAT.



SECTION THRU RAILING

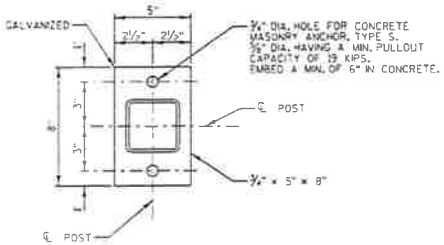


TOP RAIL CONNECTION FOR ALTERNATE DETAIL



POST SHIM DETAIL

PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.

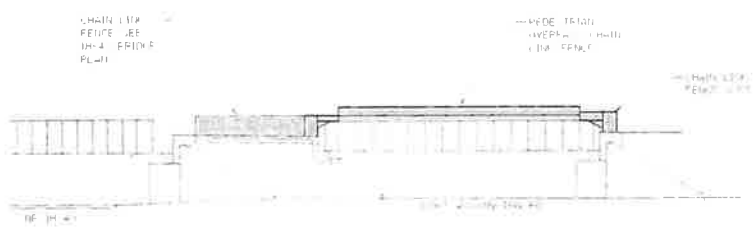


BASE PLATE DETAIL

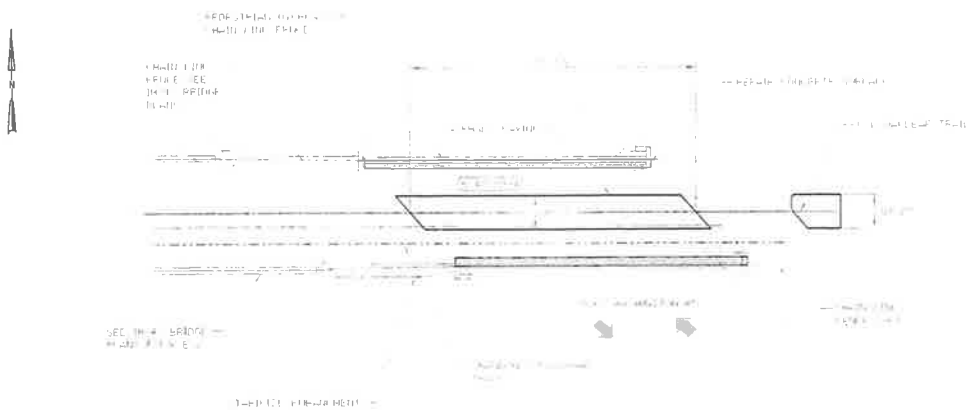
PRELIMINARY

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section

DESIGNED BY	TMD
DRAWN BY	BH
SCALE	NTS
DATE	6/16/2012
PROJECT TITLE	OAKLEAF TRAIL PHASE 4
DRAWING TITLE	MILWAUKEE RIVER PARKWAY PROTECTIVE SCREENING DETAILS
PROJECT NO.	P131-11625
SHEET NO.	4 OF 4
DRAWING NO.	C-4



ELEVATION



PLAN

GENERAL NOTES

[illegible]

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION, EDITION [illegible].

CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION AND CONSTRUCTION.

INFORMATION ON THESE DRAWINGS RELATED TO THE EXISTING [illegible] LIMITED FIELD OBSERVATIONS. NO GUARANTEE OF WARRANTY IS MADE THAT THE INFORMATION IS [illegible] THEREFORE THE CONTRACTOR SHALL NOT BE OWN DETERMINATION OF THE [illegible] ENCOUNTERED.

[illegible] AN ABANDONED SINGLE-SPAN [illegible] RAILROAD BRIDGE WITH BALASTED DECK. THE [illegible] ARE TO BE REMOVED AND [illegible] WITH [illegible] PAVEMENT ON PAGE AGGREGATE.

LIST OF DRAWINGS

[illegible]

THIS IS A PRELIMINARY ENGINEERING DOCUMENT THAT IS NOT IN FINAL FORM, BUT IS BEING TRANSMITTED TO RECEIVE AGENCY REVIEW, COMMENTS AND INTERPRETATIONS.

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture, Engineering & Environmental Services Section
CITY CAMPUS 2711 W. MELLS ST. SECOND FLOOR MILWAUKEE, WI 53208

NTS	
8/8/2012	JDH
OAK LEAF TRAIL PHASE 4	
PORT WASHINGTON ROAD PLAN AND ELEVATION	
P131-11625	
1 OF 2	
F-1	

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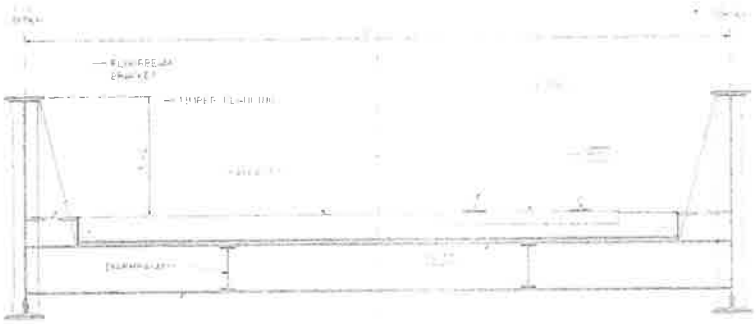
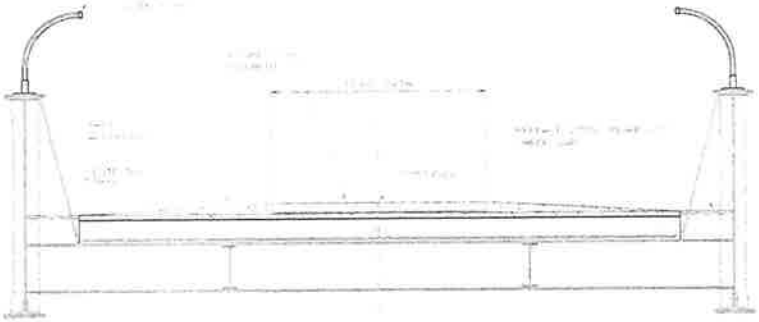


EXISTING CROSS SECTION



PROPOSED CROSS SECTION

NOTES:

THIS IS A PRELIMINARY ENGINEERING DOCUMENT THAT IS NOT IN FINAL FORM BUT IS BEING TRANSMITTED TO PEOPLE FOR REVIEW COMMENTS AND INTERPRETATIONS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture Engineering & Environmental Services Section

SCALE	NTS
DATE	8/8/2012
DRAWN BY	JOH
PROJECT NAME	OAK LEAF TRAIL PHASE 4
SHEET TITLE	PORT WASHINGTON ROAD CROSS SECTIONS
PROJECT NO.	P131-11625
SHEET NO.	2 OF 2
FILE NO.	F-2

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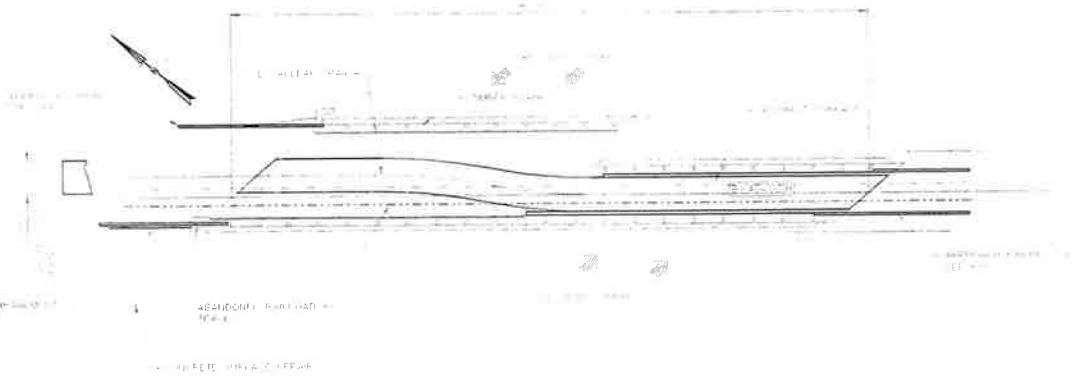
ELEVATION



PLAN

GENERAL NOTES

LIST OF DRAWINGS

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture Engineering & Environmental Services Section
CITY CAMPUS 2711 W. WELLS ST. SECOND FLOOR MILWAUKEE WI 53233

SCALE	NTS
DATE	8/8/2012
DRAWN BY	JOH
PROJECT TITLE	OAK LEAF TRAIL PHASE 4
DRAWING TITLE	SILVER SPRING ROAD PLAN AND ELEVATION
PROJECT NO.	P131-11625
SHEET NO.	1 OF 2
FILE NO.	B-1

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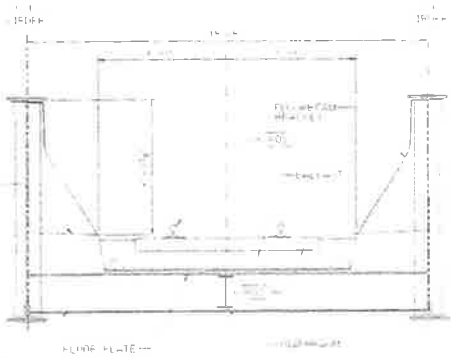
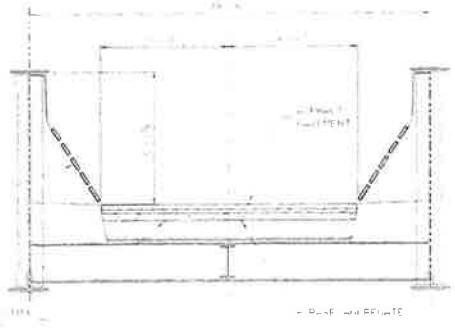


EXISTING CROSS SECTION

EXISTING CROSS SECTION



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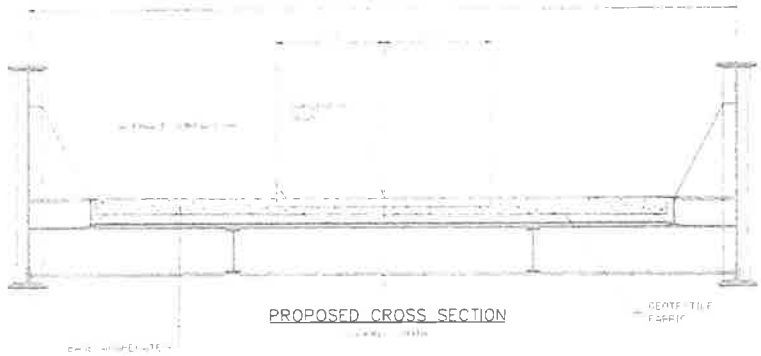

PROPOSED CROSS SECTION

NOTES:

MILWAUKEE COUNTY DEPARTMENT OF ADMINISTRATIVE SERVICES
Architecture Engineering & Environmental Services Section

SCALE	NTS
DATE	8/8/2012
DRAWN BY	JOH
PROJECT NAME	OAK LEAF TRAIL PHASE 4
DRAWING TITLE	SILVER SPRING ROAD CROSS SECTIONS
PROJECT NO.	P131-11625
SHEET NO.	2 OF 2
	B-2

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ATTACHMENT F

ENVIRONMENTAL COMMITMENTS BASIC SHEET

☐ Yes – Explain or indicate where addressed.

Basic Sheet 8
Environmental Commitments

Identify and describe any commitments made to protect the environment. Indicate when the commitment should be implemented and who in WisDOT will have jurisdiction to assure fulfillment for each commitment. Note if the commitment will be recorded in the plans, "special provisions", "notes to construction" or some other written format. Note if the commitment is mandated by law, and therefore legally binding.

Commitments on Basic Sheet 8 supplement environmental commitments incorporated in WisDOT's Standard Specifications for Highway and Bridge Construction.

ATTACH A COPY OF THIS PAGE TO THE DESIGN STUDY REPORT AND THE PS&E SUBMITTAL PACKAGE

Factors	Commitments
A-1 General Economics	No commitments needed.
A-2 Business	No commitments needed.
A-3 Agriculture	No commitments needed.
B-1 Community or Residential	No commitments needed.
B-2 Indirect Effects	No commitments needed.
B-3 Cumulative Effects	No commitments needed.
B-4 Environmental Justice	No commitments needed.
B-5 Historic Resources	No commitments needed
B-6 Archaeological Sites	Commitments made. WisDOT will ensure a qualified archaeologist is present to monitor project related activities within the boundaries of the archaeological sites, and will also take measures to ensure that the Stewart Farm Village area is not used for borrow or waste and that the area not capped by asphalt/concrete will not be used for staging. The trail shall be constructed per the plans and specifications and is legally binding.
B-7 Tribal Issues	Commitments made. Milwaukee County will forward results of any archival, archaeological, or cultural resource investigations to the Forest County Potawatomi Community as requested in their correspondence dated June 6, 2012. The trail shall be constructed per the plans and specifications and is legally binding.
B-8 Section 4(f) and 6(f) or Other Unique Areas	Commitments made. Impacts to parkland will be minimal and is limited to exit ramps to the path. The addition of exit ramps on parkland will be beneficial providing better off street access to the parkway and the new bike trail. There is also a categorical exclusion for the building of bike trails. The trail shall be constructed per the plans and specifications and is legally binding.
B-9 Aesthetics	No commitments needed.
C-1 Wetlands	No commitments needed.
C-2 Rivers, Streams & Floodplains	Commitments made. The addition of riprap around the piers of the Milwaukee River bridge will require a Chapter 30 Permit from the Wisconsin DNR. The trail shall be constructed per the plans and specifications and is legally binding.

C-3 Lakes or other Open Water	No commitments needed.
C-4 Groundwater, Wells and springs	No commitments needed.
C-5 Upland Wildlife and Habitat	No commitments needed.
C-6 Coastal Zones	No commitments needed.
C-7 Threatened and Endangered Species	Commitments made. The WDNR Endangered Species Review identifies two species of fish and one flowering plant that are listed as threatened or endangered and have a potential to be found in the project area. The Endangered Species review indicates that if proper erosion control measures are taken the two fish species should be unaffected by the project. Erosion control measures will be taken to prevent sediment from entering the river. Suitable habitat for the forked aster does not exist within the area disturbed by the project. The trail shall be constructed per the plans and specifications and is legally binding.
D-1 Air Quality	No commitments needed.
D-2 Construction Stage Sound Quality	Check all that apply: X_ (box) WisDOT Standard Specification 107.8(6) and 108.7.1 will apply. _ (box) Special construction stage noise abatement measures will be required. Describe:
D-3 Traffic Noise	No commitments needed.
D-4 Hazardous Substances or Contamination	No commitments needed.
D-5 Stormwater	No commitments needed.
D-6 Erosion Control	Commitments made. Best Management Practices during construction will be implemented to minimize impacts. Disturbed areas will be restored. Milwaukee County construction coordinator will assure fulfillment. The Wisconsin DNR has jurisdiction over the project area. The trail shall be constructed per the plans and specifications and is legally binding.
E Other	No commitments needed.

ATTACHMENT G

TRANSPORTATION MANAGEMENT PLAN

TMP DOCUMENTATION AND REQUEST FOR APPROVAL

We are requesting approval of the Transportation Management Plan (TMP) for the project detailed below. This project is categorized as TMP type2. Impacts resulting from project activities meet the current work zone policies of the Wisconsin Department of Transportation.

TMP/Project Type	Action
A. Project that requires a DSR and is TMP Type 1, 2 or 3.	Complete and submit this document and any attachments to BPD project services liaison.
B. Project that requires a DSR and is TMP Type 4.	Complete this document as the TMP Executive Summary and submit along with separate TMP report to BPD project services liaison.
C. Project does not require DSR and is TMP Type 1, 2 or 3.	Complete and submit this document and any attachments to BPD project services liaison.
For Federal Oversight projects, coordinate early in TMP development with BPD & FHWA project liaisons.	

1. Project Information

Design ID:	1693-34-05	PS&E Date:	February, 2013
Project Title:	Oak Leaf Trail	Let Date:	May 2013
Project Limits:	Hampton Avenue to Mill Road	Project Length	3.1 Miles
Highway:	Trail, Non-Highway	Project Duration	___Days
		___ Month(s)	4 Month(s)
County:	Milwaukee County	AADT	N/A AADT count year

Project type (recst., recondition, SHRM, etc.): Multi-use trail (CMAQ)
Engineer's Estimate: $3M-10M
Is the project a National Highway System (NHS) route? No
Is the project Federal Oversight? No
OSOW Route? No

2. Brief description of work activities:
The development of the pedestrian trail uses an abandoned Union Pacific Railroad corridor. The corridor extends from the Northeast corner of Milwaukee County's Estabrook Park (Station 0+00), approximately 3.1 miles to the Norhtwest to a point near the intersection of Teutonia Ave. and W. Mill Road (Station 144+25.45). At grade intersections are located at Hampton Ave. Sta. 10+60 and Lydell Ave. Sta. 21+00. The existing railroad tracks will require removal through the intersections. The disturbed area will be restored with crushed aggregate and hot mix asphalt. The crosswalk area will be striped per MUTCD guidelines. There are six existing railroad bridges that will be converted to multi-use trail bidges that provide grade separations between the trail and roadway users.

3. Briefly describe the staging planned for maintaining traffic:
Hampton Avenue is approximately 44 feet wide. This is marked as one lane of traffic in each direction with a parking lane on each side. With signs and barricades, the traffic will be shifted so that the work can be completed in two stages by doing half the roadway at a time. The total time to complete the work in the intersection is 5 days. Lydell Ave is approximately 30 feet wide face to face. The roadway is too narrow to complete the work under traffic. The roadway will be closed to through traffic and a detour using the neighboring streets will be set up. The work and detour route is expected to last for 3 days.

4. Will there be restrictions on pedestrian/bicycle access? NOT APPLICABLE
If Yes:
a) Will sidewalk/multiuse path be closed? Yes No
b) Describe how pedestrian and bicyclists will be accommodated (e.g., temporary paths, surface material, separation and protection from construction activities and drop-offs, etc.)

The corridor is an abandoned railroad track and is currently not used for pedestrian/bicycle access.

c) Will crosswalks be provided? Yes No
What is the spacing of crosswalks (measured in blocks or feet)? Consideration should be made for adequate spacing (measured in blocks or feet)

d) Describe how the strategies are in compliance with ADA?

5. Briefly describe how access to traffic generators, businesses, school buses, garbage trucks, and postal services will be mitigated (alternate routes, etc.): Access will be maintained to all businesses and residences for all who need to gain access. The trail and bridge conversion construction efforts will be on a former railroad corridor that will have little impact to surrounding streets. Traffic control will be set up where needed to safely move traffic past/through the limited construction zones. Pedestrian and bicycle access for surrounding areas will remain the same during construction.

6. Will the project have lane closures? Yes
If Yes:

a. Are there restrictions on when lane closures are allowed? Yes
b. What hours/days are lane closures permitted? 7 AM to 7 PM
c. How were traffic counts used in determining permitted lane closure times? (For multi-lane road, indicate typical peak hour volume per direction of travel. For two-lane, two-way road indicate AADT) Traffic counts were not used. Hampton Ave, the highest volume roadway impacted will have lanes shifted to allow work to occur, but no lanes closed. Lydell Ave is a much lower volume street (single lane in each direction) with detour options for local residents/businesses. Lydell will be closed to through traffic for the duration of work in the right of way, which is anticipated to be no more than 3 days.

7. Please provide the following:

a. Minimum lane width to be maintained. 11'
b. Minimum height (if less than typically available) N/A
c. Available roadway width (lanes + shoulder) Hampton Ave is 44', Lydell is 30'
d. Total number of lanes maintained N/A

8. Will the project be detoured? Yes
If yes:

a. Explain length of detour, travel times, improvements required for signal timing, surface and shoulder conditions, capacity, etc.: Maximum detour length is 0.5 miles. No modifications to the nearby signal and Hampton Avenue and Lydell is needed. No surface/shoulder improvements are needed to accommodate the detour for Lydell or the lane shifts at Hampton.
b. Are there width and height restrictions on the detour? No

9. List major special events and holidays, and how traffic disruptions will be minimized: Special events and holidays are not expected to be impacted during construction.

10. Describe the method(s) (LCAT, Quadro, FDM 11-50-30, Synchro, etc.) used to estimate motorist delays or queue length? (Applicable only for freeways, expressways, and signalized corridors). N/A

11. What is the anticipated travel delay during peak travel periods for freeways and expressways (also indicate frequency, e.g. daily and duration).

Please compare the peak hour volumes per lane with the work zone capacity criteria in 11-50-30. If it exceeds the estimated capacity, a delay calculation is required. If the delay is more than 15 minutes, the TMP will be a type 3 and if less than 15 minutes, it generally will be a type 2. The Regional Work Zone Engineer can assist you in determining your delay. N/A

12. Identify alternate routes anticipated, and any alternate route improvements or signing planned. No alternate route improvements or signing is anticipated.

13. Are any intersection traffic control changes proposed such as temporary signals, temporary changes to an all way stop, etc? No.

14. Are there anticipated traffic impacts from the proposed project on other roads/routes in the region/corridor? Identify other projects in the corridor (only if delay anticipated on this project) The path would serve as an alternative transportation facility designed for non-motorized use. It creates a straight line connection between destinations and offers easy accessibility and connectivity by utilizing the six existing railroad bridges. The existing bridges will be modified to accommodate pedestrian trail use. This project is the fourth phase of a larger initiative. The other three segments of trail terminate at existing streets or have access trail connections to an adjacent street. None of the existing trail segments are deadended so no trail closed ahead signage will be necessary while construction of the new trail segment is underway.

15. Does the project affect other regions/states? No
If yes, explain coordination and mitigation strategies:

16. Check mitigation strategies planned

STRATEGY	COMMENTS
Public information campaigns	Information will be provided on the Parks website.
Off-peak lane closures	
Extra law enforcement	
Temporary widening to maintain traffic lanes	
Changeable message signs (PCMS)	
Ramp closures	
Temporary signals/timing revisions	
Coordination with adjacent projects	
Innovative contracting, (lane rental, A+B, etc)	
Temporary Emergency Pullouts	
Motorist service patrols	
Nighttime Work	
Enhanced Traffic control devices (Wet reflective pavement marking, temp concrete barrier, etc)	
Reduced regulatory speed limit (requires declaration approved by Regional Traffic Engineer, & by BHO if 65-mph hwy.)	

Other (identify):

17. Describe public information strategies planned (coordinate this activity with your Regional Communications Manager): Information about the project will be provided on the Parks website.

18. Describe incident management strategies planned: None

19. Describe how transit impacts will be mitigated:
a) Is access to bus stops affected? No. If yes, explain

Attachment(s) No
Please list: None

Project ID: 1693-34-05

Preparer of TMP: David S. Gulgowski, P.E. Title/Company: Milwaukee County
60% DSG (initials) 90% (initials)

Approval
Project Manager: X Date: ___ Telephone: 414-935-4360

Reviewer (Regional Traffic or Local Prog. Mgmt. Consultant) 2/6/14 Date
60% M (initials) 90% (initials)

Joan T. Bonack 2/10/2014
Region Project Development Chief or Local Program Manager Date

60% JB (initials) 90% (initials)

Concurrence:

BPD Project Services Chief Date
60% (initials) 90% (initials)

FHWA (Federal Oversight Projects Only) Date