

**INVER GROVE HEIGHTS
PLANNING COMMISSION AGENDA**

**Tuesday, February 20, 2018 – 7:00 p.m.
City Council Chambers - 8150 Barbara Avenue**

1. CALL TO ORDER

2. PLANNING COMMISSION MINUTES FOR FEBRUARY 7, 2018 ARE NOT YET AVAILABLE; THEY WILL BE INCLUDED WITH THE NEXT AVAILABLE PACKET

3. APPLICANT REQUESTS AND PUBLIC HEARINGS

3.01 JAYME QUINELL - CASE NO. 18-05V

Consider a **Variance** from the side yard setback to allow a porch six-feet from the property line whereas 10-feet is required for the property located at 9304 Avalon Court.

Planning Commission Action _____

3.02 GREGORY GROVER - CASE NO. 18-06V

Consider a **Variance** from the front yard setback to construct a garage 26-feet from the front property line whereas 50-feet is required for the property located at 7231 Cahill Avenue.

Planning Commission Action _____

3.03 INDUSTRIAL EQUITIES, LLP - CASE NO. 18-09PUD

Consider a **Preliminary Plat and Preliminary PUD Development Plan** for a one lot plat to construct a 95,250 square foot industrial warehouse building for the property identified as 20-29300-00-010.

Planning Commission Action _____

3.04 MWF PROPERTIES - CASE NO. 18-08PA

Consider a **Comprehensive Plan Amendment** to change the land use designation from CC, Community Commercial to HDR, High Density Residential for the property identified as PID No. 20-81403-00-020.

Planning Commission Action _____

3.05 INTERSTATE DEVELOPMENT CORPORATION - CASE NO. 18-07PDA

Consider the following land use requests for the property located at 9015 Broderick Boulevard:

- a) An **Ordinance Amendment** to change the Arbor Pointe PUD ordinance to allow Special Education School as a permitted use in the CSC, Community Shopping Center District; and
- b) A **Planned Unit Development Amendment** to amend the approved site plan to allow for a special education school in the existing building.

Planning Commission Action _____

3.06 PINE BEND LANDFILL – CASE NO. 17-36NCUC

Consider the following requests for the property located at 2495 117th Street E:

- a) A **Zoning Code Amendment** to allow a side slope capacity expansion of existing sanitary landfills as a conditional use permit, providing the landfills have a non-conforming use certificate, are in compliance with that certificate, and meet other conditions regarding final cover, liners, leachate collection, gas extraction, height, property boundaries, waste capacity, and acceptable wastes; and
- b) A **Conditional Use Permit Amendment** to allow a side slope capacity expansion of the Pine Bend Landfill of 4.1 million cubic yards, including 3.5 million cubic yards of waste, and any other Variances related thereto. The expansion would not increase the height or base of the landfill; and
- c) A **Non-Conforming Use Certificate Amendment** to allow the capacity expansion.

Planning Commission Action _____

4. OTHER BUSINESS

5. ADJOURN

P L A N N I N G R E P O R T
C I T Y O F I N V E R G R O V E H E I G H T S

HEARING DATE: February 20, 2018

CASE NO: 18-05V

APPLICANT: Jayme Quinnell

PROPERTY OWNER: Scott Ganje

REQUEST: Variance from the side yard setback

LOCATION: 9304 Avalon Court

COMPREHENSIVE PLAN: Low Density Residential

ZONING: R-1C, Single-family Residential

REVIEWING DIVISIONS: Planning

PREPARED BY: Heather Botten
Associate Planner



BACKGROUND

The applicant is requesting a Variance from the side yard setback to allow the construction of a porch six feet from the side property line whereas 10 feet is required. The property is located in a cul-de-sac on an irregular shaped lot. The house has an existing deck in this location which meets the required five (5) foot setback for an accessory structure. The applicant is proposing to construct a three-season porch in place of the existing deck. A porch is considered a principle structure and therefore must meet a minimum 10-foot setback from the side property line.

EVALUATION OF THE REQUEST

SURROUNDING USES: The subject site is surrounded by the following uses:

- North - Residential; zoned R-1C, single-family; guided LDR, Low Density Residential
- East - Residential; zoned R-1C, single-family; guided LDR, Low Density Residential
- West - Residential; zoned R-1C, single-family; guided LDR, Low Density Residential
- South - Residential; zoned R-1C, single-family; guided LDR, Low Density Residential

The proposed three-season porch would be in compliance with all other setbacks, exterior building materials and impervious surface standards. Engineering has reviewed the request and takes no exception to the proposed addition.

VARIANCE REVIEW

City Code Title 11, Chapter 3. **Variances**, states that the City Council may grant variances when they are in harmony with the general purposes and intent of the zoning ordinance and consistent with the comprehensive plan and establishes that there are practical difficulties in

complying with the official control. In order to grant the requested variances, City Code identifies criteria which are to be considered practical difficulties. The applicant's request is reviewed below against those criteria.

1. *The variance request is in harmony with the general purpose and intent of the city code and consistent with the comprehensive plan.*

The general intent of this standard is to limit the precedent that could be set if the variance was granted. The area is developed with single-family homes. The porch addition would be consistent with residential use of the neighborhood and would be consistent with the Comprehensive Plan. There does not appear, however, to be any other properties with principle structure setback encroachments in the area. The use would still be in harmony with the purpose of the code and comp plan.

2. *The property owner proposes to use the property in a reasonable manner not permitted by the zoning ordinance.*

The porch would be constructed in place of an existing deck. New footings would be required for the increased loads, but the distance from the side property line would be slightly greater than what exists today. Converting a deck into a porch is a typical improvement seen on residential properties and thus the property seems to be used in a reasonable manner. Only a portion of the porch would not meet setbacks; the addition would be about 6 feet from the property line at the north corner and about 12 feet from the south corner. If the existing deck were at the 5-foot setback and a porch was to be constructed with the same five foot setback in its entirety, that may not be consistent with the intent of the code and may fall out of the boundaries of property being used in a reasonable manner.

3. *The plight of the landowner is due to circumstances unique to the property not created by the landowner.*

The applicant is proposing a porch that is slightly smaller than the footprint of the existing deck. The porch would have a four-foot encroachment on the northern corner of the addition and would meet setbacks on the southern corner. Due to the irregular shape of the lot and position of the house, the house is not perpendicular to the side lot line creating a unique situation that only a portion of the porch would be encroaching into the required setback.

4. *The variance will not alter the essential character of the locality.*

Staff does not believe this variance would alter the essential character of the locality. The three-season porch would still be approximately 57 feet from the house on the adjoining lot and would be in compliance with other zoning code requirements such as

impervious surface and exterior building materials. A three-season porch is a typical addition to a home.

5. *Economic considerations alone do not constitute an undue hardship.*

Economic considerations do not appear to be a basis for this request.

ALTERNATIVES

The Planning Commission has the following alternatives for the requested action:

Approval: If the Planning Commission finds the Variance to be acceptable, the Commission has the following options:

A. Approval of the Variance to allow the construction of a porch addition six feet from the side property line whereas 10 feet is required subject to the following conditions:

1. The construction of the addition shall be in substantial conformance with the site plan on file with the Planning Department.

Denial: If the Planning Commission does not favor the proposed Variance, the above request should be recommended for denial. With a recommendation for denial, findings or the basis for the denial should be given.

RECOMMENDATION

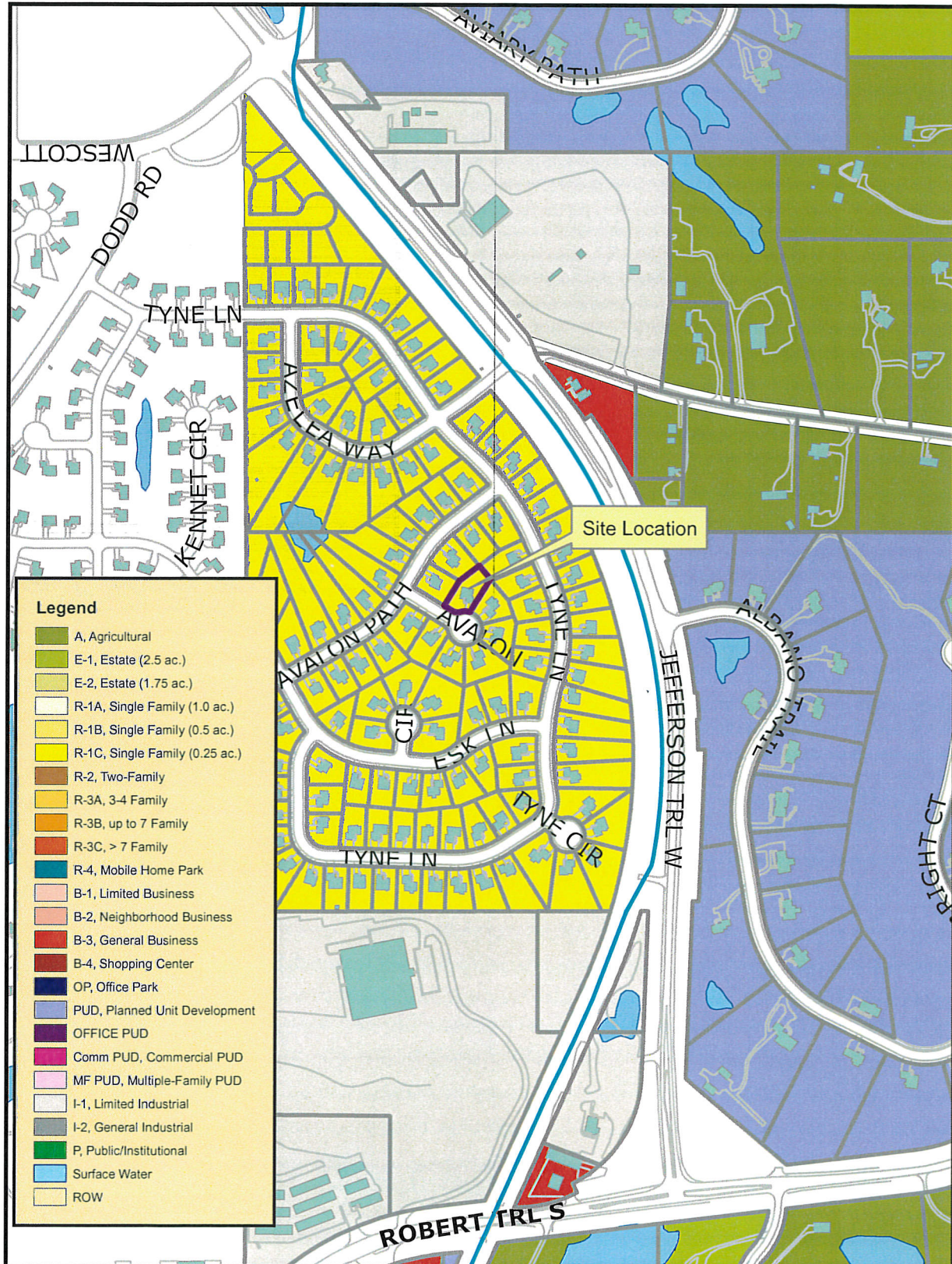
Staff believes the proposed porch addition would not be out of character of the neighborhood and is consistent with the comprehensive plan. The request to replace a deck with a three-season porch is a reasonable use of the property. A practical difficulty can be found for the side yard setback due to the irregular shape of the property and placement of the house; the house is not perpendicular to the side lot line creating a unique situation that only a portion of the porch would be encroaching into the required setback.

Based on the information in the preceding report and the condition listed in Alternative A, staff is recommending approval of the side yard setback variance.

Attachments: Zoning & Location Map
 Applicant Narrative
 Site Plan
 Aerial Photo



Quinnell - Case No. 18-05V 9304 Avalon Court



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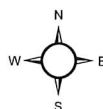


Exhibit A
Zoning and Location Map
Map not to scale



January 18, 2018

Ganje Variance Narrative

City of Inver Grove Heights Planning Commission

To Whom It May Concern:

A variance for the Ganje Residence located at 9304 Avalon Ct in Inver Grove Heights is requested for a 3 season porch (screen room). The proposed porch is to be 16x16 which is a slightly smaller deck floor than existing and is located where the current deck is located. With roof lines, this porch would be approximately 6' from the property line at the tightest corner and would meet setback requirements at the other end by 2 feet. The request for variance is due to the irregular shape of the lot that creates a practical difficulty not created by the homeowner. The homeowner would like to upgrade their current outdoor experience, but due to Minnesota and its mosquito issues, the homeowner is not able to use their outdoor space with the frequency that they would like.

Jayne Quinnell
Outdoor Spaces Design & Build Co.
5378 193rd St W
Farmington, MN 55024
(651) 235-1100
jayme@osdab.com

A handwritten signature in blue ink, appearing to be the letter 'B' with a stylized flourish.

SECTION 19, T27N, R22W



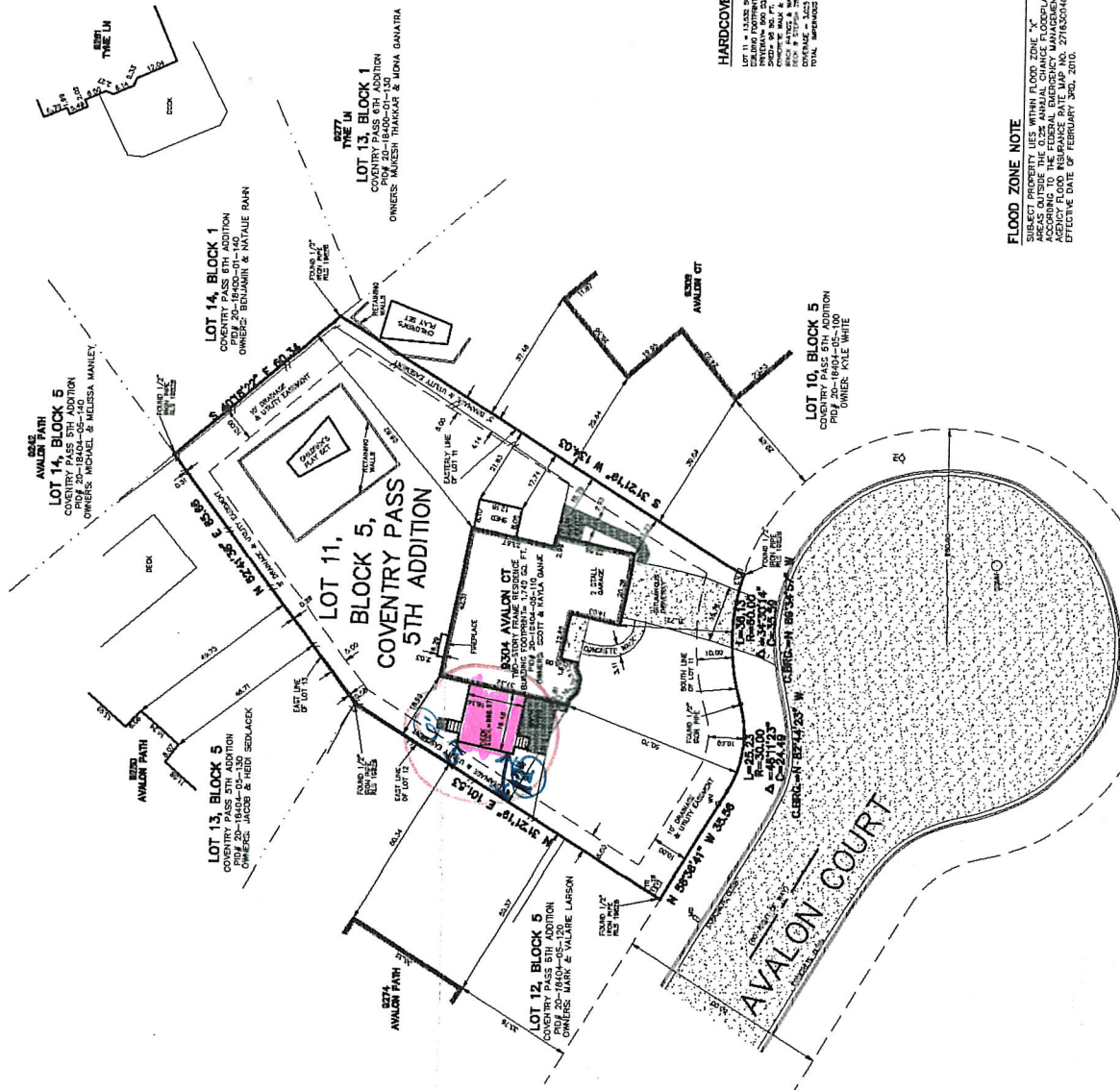
VICINITY MAP
(NO SCALE)

THE GANJE RESIDENCE

9304 AVALON COURT
LOT 11, BLOCK 5, COVENTRY PASS 5TH ADDITION
CITY OF INVER GROVE HEIGHTS, DAKOTA COUNTY, MINNESOTA



FRONT OF 9304 AVALON COURT
CITY OF INVER GROVE HEIGHTS,
DAKOTA COUNTY, MINNESOTA



LEGAL DESCRIPTION
LOT 11, BLOCK 5, COVENTRY PASS 5TH ADDITION
DAKOTA COUNTY, MINNESOTA

LOT 11 AREA =
1.00 ACRES
OR 0.100 ACRES

LEG

DATA	DATA
POWER	POWER
PIPE	PIPE
WATER	WATER
ELECTR	ELECTR
SEWER	SEWER
MAIL	MAIL
PHONE	PHONE
TELEPH	TELEPH
ELECTR	ELECTR
WOOD	WOOD
ROCK	ROCK
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL

HARDWARE SUMMARY
LOT 11 = 13,332 SQ. FT. OR 0.306 ACRES
TOTAL HARDWARE = 1,740 SQ. FT.
SHEDS = 90 SQ. FT. (10' x 30' x 10' & 10' x 30' x 10')
GARAGE = 4,000 SQ. FT. (20' x 20' x 10')
TOTAL IMPROVED SURFACE (25.4% OF LOT AREA)

FLOOD ZONE NOTE
SUBJECT PROPERTY LIES WITHIN FLOOD ZONE "X".
AS SHOWN ON THE FLOOD INSURANCE RATE MAP NO. 27183Z0100E
ISSUED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY
EFFECTIVE DATE OF FEBRUARY 2001.



REAR OF 9304 AVALON COURT
CITY OF INVER GROVE HEIGHTS,
DAKOTA COUNTY, MINNESOTA



DATE OF SURVEY
28.06.2005 PM 11:11



Quinnell - Case No. 18-05V 9304 Avalon Court



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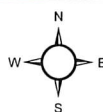


Exhibit D
Aerial Photo
Map not to scale

PLANNING REPORT CITY OF INVER GROVE HEIGHTS

HEARING DATE: February 20, 2018

CASE NO.: 18-06V

APPLICANT & PROPERTY OWNER: Gregory Grover

REQUEST: Variance from the front yard setback

LOCATION: 7231 Cahill Avenue

COMPREHENSIVE PLAN:

ZONING: R-1C, Single-family residential

REVIEWING DIVISIONS: Planning
Engineering

PREPARED BY: Heather Botten
Associate Planner



BACKGROUND

The applicant is proposing to construct a 1,000 square foot detached garage 26 feet from the front property line whereas 50 feet is required. There is currently no attached or detached garage on the property. The applicant would like to construct the garage for his own personal use. The property has some challenging topography which limits the location of a detached building.

The property is .56 acres in size and zoned R-1C, single-family residential; setbacks in this district from roads classified as Arterial Roadways, such as Cahill Avenue, is 50 feet. The house is setback about 55 feet from the property line. The applicant is proposing to build the detached accessory building in front of the home about 26 feet from Cahill Avenue.

As mentioned, the property is located along Cahill Avenue, which provides a number of different land uses including commercial, churches, multi-family and older single-family homes. There are a number of homes and accessory buildings that were built in the late 50's to early 70's that are located within the 50-foot setback.

The following specific application is being requested:

- a.) A **Variance** from front yard setback to construct a detached accessory building 26 feet from the front property line whereas 50 feet is required.

SURROUNDING USES

The following land uses, zoning districts, and comprehensive plan designations surround the subject property:

North – Residential; zoned R-1C, Single Family Residential; guided LDR, Low density residential

East - Residential; zoned R-1C, Single Family Residential; guided LDR, Low density residential
West - South Valley Park; zoned P, Public/Institutional; guided Public Open Space
South - Residential; zoned R-1C, Single Family Residential; guided LDR, Low density residential

ENGINEERING

Engineering has reviewed the request and noted that a storm water management plan would be required for land disturbances over 1,000 square feet. Engineering has made recommendations on conditions that are included with this report. The applicant shall work with the City to secure final approval of the construction plans.

EVALUATION OF THE REQUEST

VARIANCE

City Code Title 11, Chapter 3. **Variances**, states that the City Council may grant variances when they are in harmony with the general purposes and intent of the zoning ordinance and consistent with the comprehensive plan and establishes that there are practical difficulties in complying with the official control. In order to grant the requested variance, City Code identifies criteria which are to be considered practical difficulties. The applicant's request is reviewed below against those criteria.

1. *The variance request is in harmony with the general purpose and intent of the city code and consistent with the comprehensive plan.*

With the exception of the park to the west, the surrounding properties are zoned and developed residential. Allowing an accessory building on the property would be in harmony with the general purpose and intent of the comprehensive plan which is a single-family housing neighborhood. The zoning code allows one structure up to 1,000 gross square feet in the R-1 zoning district. The proposed structure would meet all other code requirements including number and size of accessory buildings, impervious surface and exterior building material requirements.

2. *The property owner proposes to use the property in a reasonable manner not permitted by the zoning ordinance.*

Cahill Avenue provides a number of different land uses along this corridor including commercial, churches, multi-family and older single-family homes. The applicant is proposing the building within the most reasonable area of the property that provides the least amount of land alteration while meeting the needs of the applicant. The accessory building does not appear to conflict with any other performance standards of the zoning ordinance such as size, impervious surface or building materials.

3. *The plight of the landowner is due to circumstances unique to the property not created by the landowner.*

Due to the topography of the property, there are currently 12 steps from the parking area to the front door. The applicant would like to reduce the number of steps to get into the home. Constructing a detached accessory building provides a space for vehicles and personal equipment to be stored inside while providing the applicant a near level access into to the home. Due to the large right-of-way the building would still be setback about 48 feet from Cahill.

4. *The variance will not alter the essential character of the locality.*

The proposed structure does not appear to alter the essential character of the area. The structure would be located in front of the existing home so aesthetically the view from Cahill and surrounding properties would change but overall the essential character of the locality would not as the property directly to the north has a detached structure located about 30 feet from the front property line and principle structures across the street and four houses to the south are located closer to a 30 foot setback from Cahill Avenue instead of 50 feet.

5. *Economic considerations alone do not constitute an undue hardship.*

Economic considerations do not appear to be a basis for this request.

ALTERNATIVES

The Planning Commission has the following actions available for the proposed requests:

A. Approval. If the Planning Commission finds the application to be acceptable, the Commission should recommend approval of the request with at least the following conditions:

- Approval of a **Variance** to allow the detached accessory building with a front setback of 26 feet, whereas 50 feet is required along an arterial roadway, subject to the following conditions:
 1. The accessory building shall be in substantial conformance with the plans on file with the Planning Department except as may be modified by the conditions below.
 2. The applicant shall meet the conditions outlined in the City Engineers review letters and subsequent correspondence.

B. Denial If the Planning Commission does not favor the proposed variance, the above request should be recommended for denial. With a recommendation for denial, findings or the basis for the denial should be given.

RECOMMENDATION

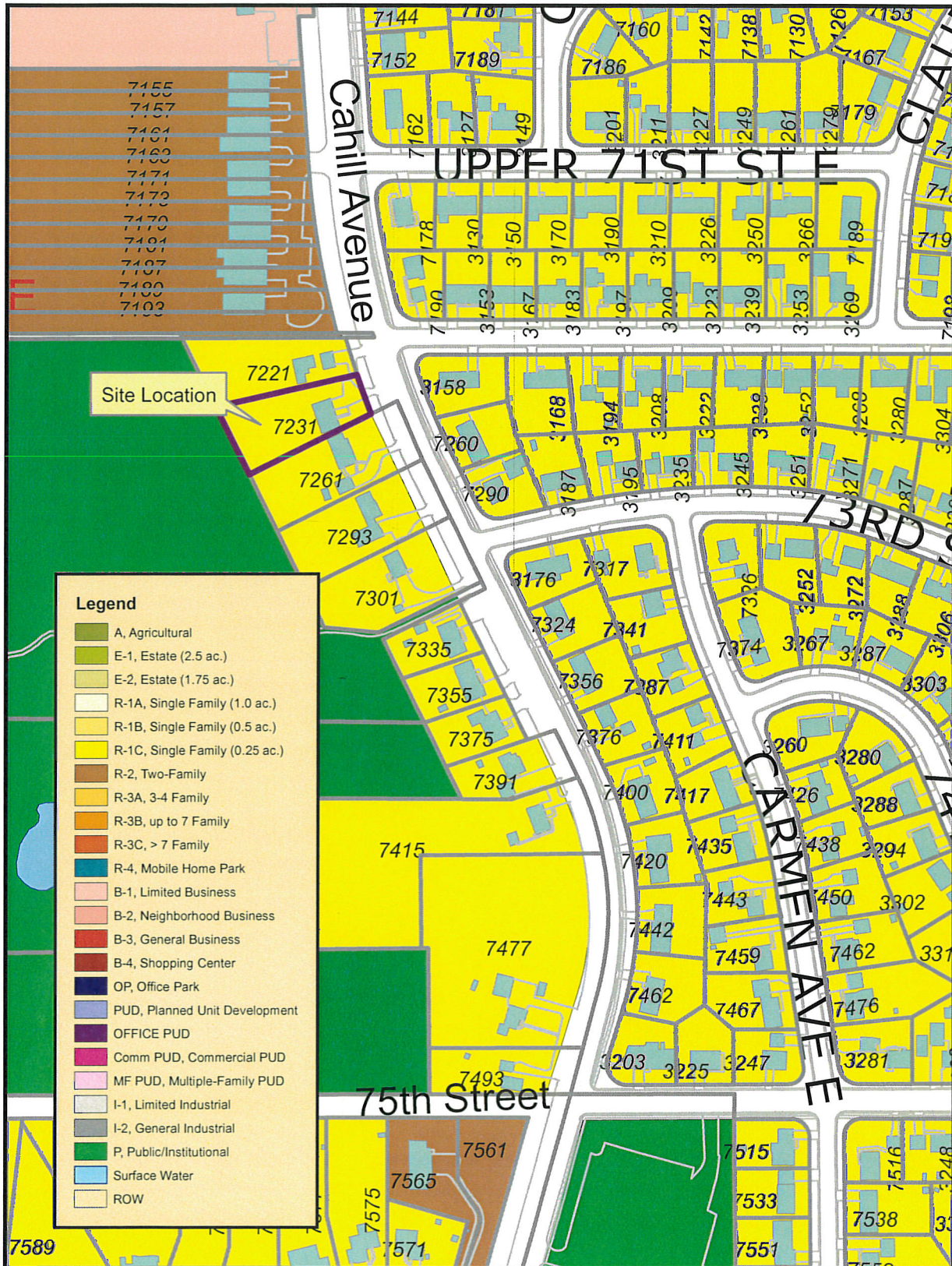
Based on the information in the preceding report staff is recommending denial of the proposed request to locate the accessory building 26 feet from the front property line as the facts presented do not satisfy the criteria needed to show a practical difficulty on the lot to support granting a 24 foot variance; the size and location of the garage may be considered a convenience to the applicant, not a practical difficulty.

Staff believes adding an accessory building would be a reasonable use of the residential property. Staff would be in support of a 30-foot setback based on the fact that the Cahill Corridor has a mix of land uses and a number of residential structures that encroach into the setback and 30 feet is the required front setback for residential structures along local streets. Additionally, the site has topographical challenges that reduce the area an accessory building could be located. Staff would recommend approval of the 30 foot setback with the two conditions listed.

Attachments: Location/Zoning Map
Applicant Narrative
Site Plan



Grover - Case No. 18-06V 7231 Cahill Avenue



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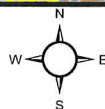


Exhibit A
Zoning and Location Map
Map not to scale

The hardship in this variance request is the 12 steps from the parking area to the front entry and the steep incline to access Cahill Ave .The proposed garage will eliminate 9 steps and allow near level access to Cahill Ave.

My neighbor to the north has a garage with the same setback and if you drive down Cahill the majority of houses are about 50 feet setback.

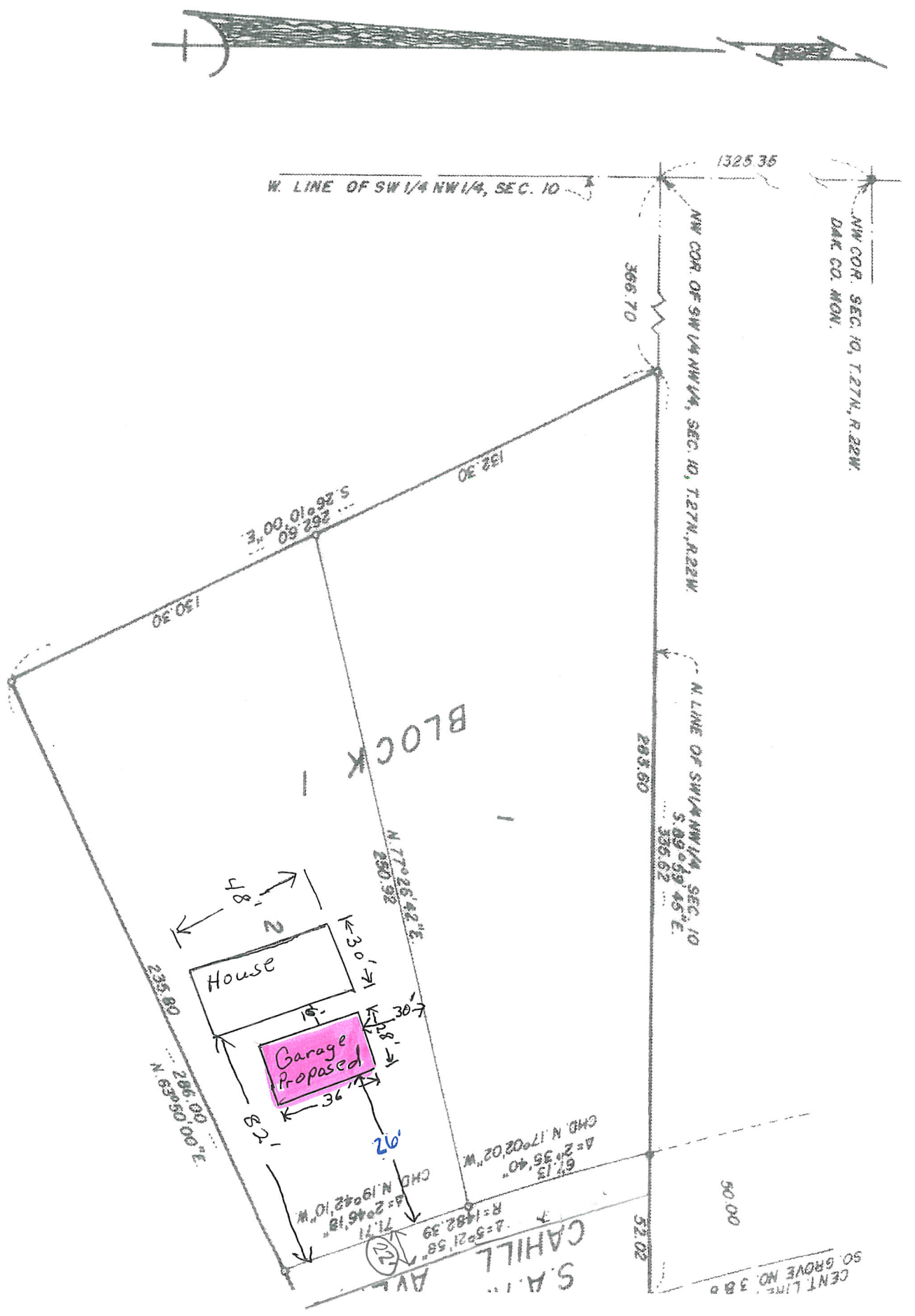
My back yard has a steep decline into South Valley Park and would it be unsuitable to build there and it would not eliminate the stair problem.

Greg Grover

SHIRLEY ADD.

Scale-- 1 inch = 50 feet
 • Indicates iron marked 3559
 PAUL R. McLAG
 Reg. Land Surv.
 SCALE
 0 50 100 150 200
 IN FEET

NOTE: ALL BEARINGS ARE ASSUMED AND RELATIVE TO EACH OTHER.



Proposed
 Garage
 36' x 28' Deep
 48' From Cahill
 6' From House
 30' From N Neighbor

Property ID
 20-67700-01-020
 7231 Cahill Ave.
 Block 1 Lot 2

REPORT DATE: February 16, 2018 **CASE NO:** 18-09PUD

HEARING DATE: February 20, 2018

APPLICANT: Industrial Equities, LLP

PROPERTY OWNER: Zion Pentecostal Assembly

REQUEST: Preliminary Plat and Preliminary PUD for a one lot subdivision and a 95,250 square foot office/warehouse project

LOCATION: Auburn Path and Argenta Trail

COMPREHENSIVE PLAN: P, Public/Institutional (application pending to change to GI)

ZONING: P, Institutional (application pending rezoning to I-2)

REVIEWING DIVISIONS: Planning
Engineering
Park and Recreation

PREPARED BY: Allan Hunting
City Planner

The applicant is proposing to develop the site with a 95,250 square foot office warehouse building. Based on a tenant mix of other projects they have completed, they expect occupancy to be approximately 20% office, 30% manufacturing and 50% warehousing. The type of tenant users includes; office, warehouse, distribution, manufacturing, biotech, and high-tech companies.

REQUESTS

1. A **Preliminary Plat** for a one (1) lot subdivision.

2. A Preliminary PUD Development Plan for a 95,250 square foot office warehouse building.

SURROUNDING USES

The subject property is surrounded by:

- North Large lot single family residential; zoned A; guided Low-Medium Density Residential.
East Cemetery, large lot residential; zoned P and A; guided Public/Institutional and Rural Residential.
West Industrial (City of Eagan).
South Industrial, Emerald Hills manufactured home park; zoned I-1, R-4; guided LI, MDR.

PRELIMINARY PLAT

The applicant is proposing to plat the existing two outlots into one lot. There is an existing public roadway easement on Outlot D of the existing plat. This has been planned as a future public road connection leading northward to join Yankee Doodle Road. The applicant is proposing to utilize this area as private access to the site with a driveway connection from Auburn Path. With this plat, either the outlot should be dedicated as public right-of-way and a public street be constructed to the north property line, or Council determines the future road extension is not needed and then the road easement should be vacated, and the entrance road would be a private road.

NATURAL AREA/OPEN SPACE

The Northwest Area Overlay District establishes requirements for open space preservation. Based on the net developable area the project contains the following:

	Square Feet	Required Acres	Proposed Acres
<i>Total Net Developable Area</i>	<i>400,752</i>	<i>9.27</i>	<i>NA</i>
Minimum Open Space Required = 20% of net area	80,150	1.84	4.20
Required contiguous area = 75% of required open space with a minimum 100 foot corridor width	60,112	1.38	1.87
Area to be undisturbed = 50% of required open space	40,075	0.92	0.0

Based on the net developable area calculated above, a total of 80,150 sq ft or 1.84 acres must be preserved as open space. The Northwest Area Overlay District Ordinance requires the natural area/open space be designated based upon four criteria that are defined in Section 515.80. Subd. 39. F. 4. b. The site does not have features defined in criteria i-iii. The forth criteria is to create open space in and around neighborhoods or to provide corridors that connect open space or provide buffers between incompatible or conflicting land uses. The project provides open space

along the west boundary and along the north boundary. Part of the west boundary open space is to be set aside for the Dakota County Mendota-Lebanon Regional Trail. A 30 foot wide strip along the west boundary is to be preserved by trail easement for the future trail.

The project complies with overall proposed open space and contiguous open space. The required amount of undisturbed open space is not being met. The applicant is requesting flexibility from this requirement because the nature of commercial or industrial development on smaller sites require a larger amount of developed area and thus more land would be disturbed. The entire area needed for the required storm water ponding will be disturbed and graded to meet the storm water construction design. The applicant has provided a narrative regarding this flexibility request.

The Northwest Area Overlay District Ordinance requires the entire area set aside for natural area/open space shall be maintained in perpetuity and the restriction shall run with the land and be binding on the current and future land owners.

BULK STANDARDS

Building setbacks. Building complies with all setbacks including 30 feet from the road easement (east side), should this become a public street and the 100 foot setback required when next to residential property. All required parking lot setbacks are met.

Building height. Maximum building height in the Northwest Area for industrial buildings is 60 feet. The proposed buildings would be 38 feet high. The maximum building height requirement has been met.

Building coverage & Impervious surface coverage.

The Northwest Area Ordinance provides maximum building coverage and overall impervious surface coverage for the different zoning districts. Industrial properties are allowed 70% impervious surface and 40% building coverage.

Base Zoning District	Area in acres	Proposed Impervious Surface	Impervious Surface Coverage	Maximum Impervious Surface Coverage	
I-2	9.2	4.9 ac	54.0%	70%	

Base Zoning District	Area in acres	Proposed Building Area	Building Coverage	Maximum Building Coverage Allowed	
I-2	9.2	2.19 ac	24.0%	40%	

The project complies with building coverage and total impervious surface standards.

PARKS/TRAILS

As stated earlier, the Dakota County Mendota-Lebanon Regional Trail identifies a path along the west boundary of this site as one of the segments for the trail. Dakota County has provided comments regarding this site plan and how to integrate the future trail. A 30 foot wide easement will be required to be dedicated to provide area for the trail.

To meet park dedication requirements, a cash contribution will be required based a formula of \$5,000 per acre. This fee is collected at time of plat release for recording.

PARKING

The Northwest Area Overlay District Ordinance establishes parking standards based on minimum and maximum. Based on the applicant's experience with tenant mix in buildings, they have figured a ratio of 20% office, 30% manufacturing/processing and 50% warehouse. Based on this breakdown, a total 271 spaces would be required. The applicant is proposing 184 parking spaces. Parking is located on the north and south ends of the building where the main entrance doors would be. There is also parking located along the west boundary of the site.

The Northwest Area Overlay District Ordinance states that the minimum parking spaces allowed shall be no less than 75% of the minimum parking required for the underlying zoning district. Therefore, in this case, the 75% minimum is 203 spaces. While the 184 is less than the 203 minimum required, we believe the tenant mix calculation is more accurate which minimizes impervious surface which is a goal of the Northwest Area District.

ACCESS/STREETS

The plan provides two access points on the north and south ends of the site. The proposed plan assumes the outlot with the road easement would not be necessary and the property could be then utilized as a private driveway.

Auburn Path is planned to extend north at some future time. There is an existing public road easement within Outlot D of the existing plat that was created for a possible future extension northward to serve the properties to the north of the subject site. There is an existing curb cut on Yankee Doodle at approximately the Eagan/Inver Grove Heights boundary that could be used as the intersection point for a future extension of Auburn Path. This curb opening does not line up well with the road easement and is not favored by Dakota County as a street access at that location. An alternative route would be northward then east through residential property to intersect with Argenta Trail at Alberta Way. This provides a second access to the location but would have a significant impact to the residential property to the north.

A determination should be made at this point whether the extension of Auburn Path should be built as a public street at this time, or if the road should not be extended and allow the easement to be vacated and access to the site would be by a private access driveway. Staff is requesting Planning Commission to make a recommendation on this issue with this request. The City Council should also make a final determination on this issue with this request.

Access to the site can be obtained via the intersection of Yankee Doodle Road and Argenta Trail or Opperman Drive to Hwy 149 in Eagan. Traffic has been raised as an issue by neighboring residents in the past. A traffic analysis has not been submitted by the applicant and no other traffic studies have been done. If Planning Commission or City Council wanted more definitive information, a traffic generation study could be required to look at the main nearby streets and analyze current background traffic to anticipated new traffic generation, based on current and proposed land uses.

LANDSCAPING/TREE PRESERVATION

The Zoning Ordinance has requirements for industrial developments based one (1) tree per 1,000 square feet of building area. Based on the proposed plans, a total of 95 over story trees are required to meet the landscaping standards.

The developer has also provided a tree inventory to verify tree preservation. The Tree Preservation Ordinance allows up to 60% removal before replacement is required. The plan submitted shows grading on all the site and therefore all the significant trees would be removed. Based on the type of species, a total of 236 trees are required to be replanted to satisfy tree preservation requirements.

Combining the two requirements, a total of 331 trees or, the equivalent of, is required for the proposed development. The applicant is proposing a total of 249 trees. The plan is short 82 trees. Either the plan must be modified to meet the requirement, or the remaining plantings must be either planted off site or payment to the tree replacement fund. If no additional trees can be placed on the property, the City Council shall determine the option.

Ordinance requires screening along properties zoned for residential. The plan provides for a number of trees along the north boundary to provide for the required screening.

The landscape plan must be modified to remove any trees within the 30 foot wide area for the future County Trail.

The plan provides for landscaping within the existing outlot with the road easement. If this is to become a public street, then the landscape plan must be modified to remove all trees out of this area.

WETLANDS

A wetland report has been submitted indicating no wetlands exist. Dakota County Soil and Water Conservation District will review the report to verify the findings.

BUILDING EXTERIOR

The proposed exterior building materials would consist of exposed aggregate ribbed precast concrete which would comply with exterior material standards. Any roof-top or ground mounted mechanical equipment must be substantially screened from view.

ENGINEERING

The Engineering Department has reviewed the plans and have prepared a list of issues for the applicant. In general, the plan would meet the concepts of the Northwest Area, but there are a number of details that need to be worked out on the final plans. A standard condition of approval is that the applicant must address the comments in the Engineers memo as part of the final PUD plan set.

UTILITIES

The applicant is proposing to connect to the Eagan system for water and sewer through the existing Joint Powers Agreement. The property is in the Northwest Area and the plan would be to bring sewer to the properties south of Hwy 55 from a main trunk line near Target. With this plan, sewer would not be available for several years. The City Council would have to approve the change to allow this site sewer access from Eagan. The Northwest Area trunk sewer and water costs are charged to a development through plat connection fees and building permit connection fees. Based on what Council decides for sewer service, this will determine what fees would be collected.

LIGHTING

The plan identifies parking lot light on 25 foot high poles. All parking lot and building lighting on site shall be a down cast “shoe-box” style and the bulb shall not visible from property lines. A lighting/Illumination plan must be submitted with the final plans to verify compliance with ordinance standards.

SIGNAGE

Signage has not been reviewed for the project. All signage will need to comply with city codes and policies.

IMPROVEMENT AGREEMENT

The Developer and Owner shall enter into an agreement with the City. The document to layout responsibilities for construction of improvements and storm water system. This is part of the final plan approval.

ALTERNATIVES

The Planning Commission has the following actions available on the proposed project:

- A. **Approval.** If the Planning Commission finds the application to be acceptable, the following actions should be recommended for approval:
- Approval of the **Preliminary Plat and Preliminary PUD Development Plan** for a one (1) lot subdivision, and a 95,250 sq. ft. office/warehouse project subject to the following conditions:

1. The final plat and accompanying site plans shall be in substantial conformance with the following plans on file with the Planning Department except as may be modified by the conditions below.

Preliminary Plat	dated 1/19/18
Preliminary Site Plan	dated 2/14/18
Preliminary Grading and Drainage Plan	dated 12/17/17
Preliminary Utility Plan	dated 12/17/17
Preliminary Landscape Plan	dated 2/12/18
Elevation Plan	dated 2/12/18

2. Prior to final plat and plan approval, the final grading, drainage and erosion control, and utility plans shall be approved by the Director of Public Works. The final plan set shall also address all items listed in the memo from the City Engineer dated 1/31/18.
3. Drainage and utility easements shall be provided on the final plat as required by the Director of Public Works.
4. A 30 foot wide easement shall be dedicated along the western boundary for the future Dakota County Mendota-Lebanon Regional Trail. The final plan set shall also address all comments received from Dakota County in response dated 2/9/18.
5. Park dedication shall consist of a cash contribution equal to the rates in effect at the time the final plat is approved.
6. Either the outlot shall be dedicated as public right-of-way and a public street be constructed to the north property line, or Council determines the future road extension is not needed and then the road easement should be vacated, and the entrance road be a private road.
7. As part of the final plan submittal, a trip generation report shall be submitted. If Council determines more review is required, a more detailed traffic generation study shall be required analyzing current background traffic and proposed traffic to determine any necessary improvements.
8. As part of the final plan submittal, the landscape plan shall either be modified to provide for all necessary tree reforestation on site, or Council approve the shortage with off-site plantings or cash contribution to the Tree Preservation fund.
9. As part of the final plan submittal, the landscape plan shall be modified to remove proposed plantings out of the 30 foot wide easement for the future county trail.
10. Final plans subject to wetland report review by the Dakota County Soil and Water Conservation District.

11. Any roof top or ground mounted mechanical equipment shall be substantially screened from view.
12. All parking lot and building lighting on site shall be a down cast “shoe-box” style and the bulb shall not be visible from property lines.
13. All plans shall be subject to the review and approval of the Fire Marshal.
14. Utility plans subject to Council approving access to the Eagan system via the Joint Powers Agreement. Applicable sewer and water utility fees will be determined at that point.
15. As part of the final plan set, a lighting illumination plan shall be required to verify compliance with maximum illumination standards.
16. Prior to execution of the plat by the City and prior to recording of the plat with the County, the Owner shall execute a Storm Water Facilities Maintenance Agreement with the City whereby the Owner of the property shall be responsible for the maintenance of storm water improvements on such lots.

The Agreement shall provide that the storm water improvements shall be maintained by the approved entities; in instances where the City is not responsible for maintenance of the storm water improvements, the City shall nonetheless have the right to repair, maintain and replace the improvements if the responsible party does not fulfill its responsibility and the City shall have the right to charge the costs to the responsible party and impose the charges on the property if the responsible party fails to pay the costs.

17. Prior to execution of the plat by the City and prior to recording of the plat with the County, the Owner shall execute a Conservation and Open Space Easement over portions of the lot. The easement shall provide that the area must be retained in open space.
15. As determined by City Council and prior to execution of the plat by the City and prior to recording of the plat with the County, the Developer must pay the City utility plat connection fees consisting of a Water Utility Fee, Sanitary Sewer Utility fee and Storm Water Sewer Utility fee according to the formulas adopted by city ordinance.
16. In the Development Contract, the Developer and Owner shall acknowledge that at the time the building permits are obtained additional connection fees for the water utility system and sanitary sewer utility system are due and owing.

17. In the Development Contract, the Developer and Owner shall agree that the following elements of the Planned Unit Development shall not be altered, changed or removed without first obtaining the following consents:

Site Plan Element	Consent Required By
Building Location	City Council
Landscaping	Planning Department
Location of Utilities	Engineering Department
Location of Conservation Easement and Open Space	City Council
Parking Areas	City Council

18. The Developer and Owner shall execute an Acknowledgement of Planned Unit Development Zoning. This Acknowledgement shall state that property within the plat is subject to the approved PUD plans and PUD zoning and that the development on the property must conform to the PUD plans and PUD zoning. This Acknowledgement shall be recorded when the plat is recorded.
19. The Developer and Owner shall enter into a Development Contract with the City. The form of Development Contract shall substantially comply with the model Development Contract which is part of the Administrative Code, taking into account the particular requirements of the Planned Unit Development plans.
20. The following documents shall be recorded when the plat is recorded:
- Development Contract;
 - Storm Water Facilities Maintenance Agreement;
 - Conservation Open Space Easement; and
 - Acknowledgement of PUD Zoning.

- B. **Denial:** Should the proposed request or portions thereof, not be found to be acceptable, the appropriate requests described above should be denied. The basis for denial must be stated in any such motion.

RECOMMENDATION

Some issues need to be resolved as part of the preliminary approval process.

- Council must determine what to do with the road easement and possible extension and construction of Auburn Path.
- Council must determine if access to utilities to Eagan through the Joint Powers Agreement is acceptable, or if this area is to be served by the future Inver Grove Heights system.

Provided these issues are addressed and provided Council approves the Comp Plan Amendment and Rezoning requests, Staff would recommend approval of the preliminary plans subject to the conditions listed in the report.

Attachments:

- Location Map
- Applicant Narrative
- Open Space Flexibility Narrative
- Preliminary Plat
- Site Plan
- Grading and Drainage Plan
- Utility Plan
- Landscape Plan
- Exterior Elevations
- Memo from Dakota County dated 2/9/18

The proposed project is a state of the art industrial flex facility designed to accommodate single or multiple corporate office, warehouse, and manufacturing real estate requirements.

Project features will include energy efficient and upgraded aggregate designer precast panels, attractive corporate like glass entries, gracious perimeter landscaping, perimeter warehouse daylight windows at 26 ft. for natural light, ESFR sprinklers, and ample parking.

Additionally, the design has all truck access docks facing to the west, with the building shielding the truck court from the neighbors and cemetery property to the east.

The site plan provides for the drainage easement along the north 60 feet of the property, area for the county bike path along the west property line, and the required circulation for fire and safety vehicles around the facility. The project is designed to be sensitive to and comply with city requirements.

Zoning request: Industrial Equities has a portfolio of 3.1 million square feet in the Twin Cities metropolitan area. Within this portfolio of buildings, which are substantially similar to the proposed project, are multiple corporate 500 and strong regional corporate tenants. The mix uses include office, warehouse, distribution, manufacturing, biotech, and high-tech companies. Each of the uses often have a combination of these elements. Industrial Equities anticipates a demand at this project will be very similar, and therefore requests an I-2 zoning to accommodate a broader range of the typical industrial users within our portfolio.

Since the site is not currently serviced with city sewer and water, and subject to the approval of both the cities of Inver Grove Heights and Eagan, utility service will be provided with an easement acquired from the contiguous property owner and the appropriate municipal inter local agreements.

The proposed developer, Industrial Equities is a privately held investment, development, and management firm with long term ownership of over 3 million square feet of newer institutional grade, high quality industrial type project in 15 different metropolitan communities. This project would be incorporated into that portfolio.

In the surrounding area Industrial Equities owns the 120,000 square foot Eagan Distribution Center, developed in 2001, to the immediate west of the proposed project, and the 4 building, 250,000 square foot Flagship Business Center on 494 and Dodd Road, which was developed in 1995.

The proposed Inver Grove Heights Corporate Center is designed with ponds, open areas, and setbacks that limit the site coverage to only 23.6 per cent which fulfills the goals of the Northwest Ordinance and represent a project density that is significantly below similarly situated developments in other municipalities that allow up to 40% multiple value add design elements to attract the most desirable users of these facilities.

Successful industrial high tech flex properties throughout the metropolitan area incorporate multiple value add elements into the projects.

These value add features in the shell design, include attractive entries for corporate appearance, gracious landscaping, natural light in the warehouses, flexible and extensive underground sanitary and overhead water (for medical, lab and high tech requirements), and most importantly, adequate parking for the high tech, medical, or engineering manufacturing companies as they are people intensive and typically lead the market in employee compensation.

Without the ability to provide this parking for these users, the prospective tenant types are clearly more distribution and warehousing which provide fewer employees and lower wages. Industrial Equities' sense is that this location, within your community, with its current and growing amenities, and its educated population base, close proximity to the airport, and with a gateway to the Mayo location will attract now and in the future companies like this and therefore the project parking is an appropriate element.

The proposed site plan provides for 184 parking spaces. Because this is a speculative project exact certainty as to the type of tenants both today and in the future is unknown, but our portfolio mix with over 50 building, and the nature of this location provides reasonable insight in to the probable use mix.

Based on a plausible leasing and use projection of 20% office, (19,050 sq. ft.) and 30% manufacturing, assembly, production, (28,575sq. ft.) and 50 warehouses, (47,625 sq. ft.) the total required parking as per city code would be 271 parking spaces. Inver Grove Heights Northwest Section Overlay District allows for 75% of the parking requirements before remediation or a requirement 203 stalls. Our site plan calls for 184 with the required 6 ADA spaces and is therefore in compliance with the Districts requirements and goals of minimizing impervious surfaces.

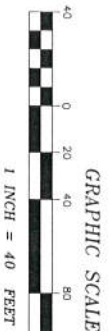
The proposed Inver Grove Heights Corporate Center has a site coverage of only 23.6 which represents a very low coverage ratio for any industrial project within the metropolitan area.

Industrial projects universally require site grading to provide a flat and fixed continual warehouse floor elevation, a truck court graded to four feet below the warehouse floors, the drive transition to the site and from the front to the back of the building, installation of sewer and water, and ponding to hold on site storm water for treatment.

The sum total of all of the given industrial project engineering and site grading requirements is that the overall impact on the site to have a functional project that is serviced with utilities and complies with city storm water requirements unavoidable higher, requiring flexibility in area of disturbance but upon completion delivering all landscaping area, ponding, trail ways, and drainage areas as required.

PRELIMINARY PLAT

~of~ INDUSTRIAL EQUITIES ADDITION
~for~ INDUSTRIAL EQUITIES GROUP, LLC
321 First Avenue North, Minneapolis, MN 55401
Tel: (612) 279-2622



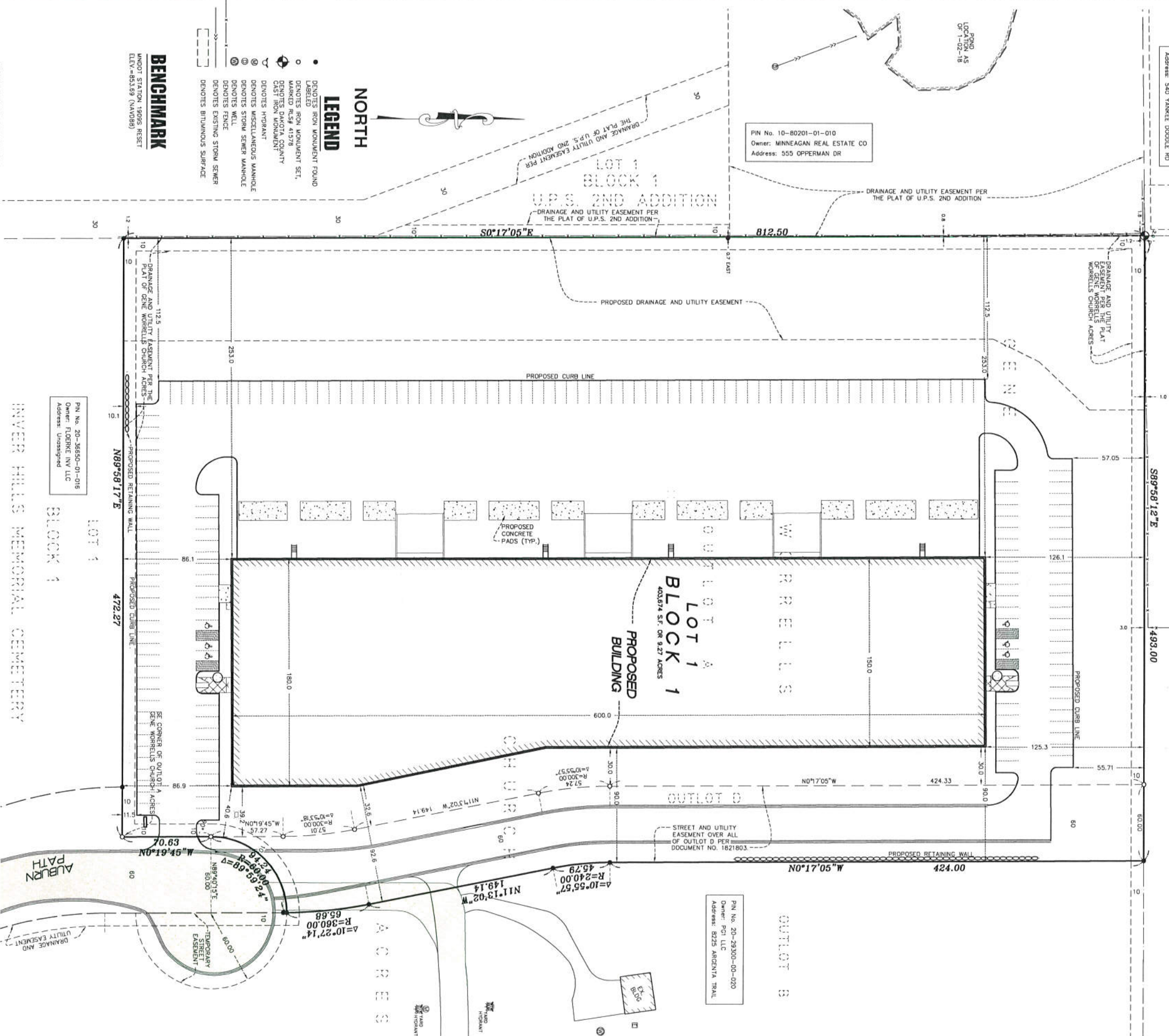
E.G. RUD & SONS, INC.
Professional Land Surveyors
6776 Lake Drive NE, Suite 110
Lino Lakes, MN 55014
Tel. (651) 361-8200 Fax (651) 361-8701

PIN No. 10-01200-77-020
Owner: DANNEF FAMILY LIMITED
PARTNERSHIP
Address: 340 YANKEE DOODLE RD

PIN No. 20-00700-52-030
Owner: DAVID E JANSEN
Address: 7885 ARGENTIA TRL

PIN No. 10-80201-01-010
Owner: MINNEAGAN REAL ESTATE CO
Address: 555 OPPERMAN DR

PIN No. 20-29300-00-020
Owner: PGI LLC
Address: 8225 ARGENTIA TRAIL



LEGEND

- DENOTES IRON MONUMENT FOUND
- DENOTES IRON MONUMENT SET, MARKED RLS# 41578
- DENOTES DAKOTA COUNTY CAST IRON MONUMENT
- DENOTES HYDRANT
- DENOTES MISCELLANEOUS MANHOLE
- DENOTES STORM SEWER MANHOLE
- DENOTES WELL
- DENOTES EXISTING STORM SEWER
- DENOTES BITUMINOUS SURFACE

BENCHMARK

MINOT STATION 1990S RESET
ELEV.=853.69 (NAVD83)

VICINITY MAP



PART OF SEC. 18, TWP. 27, R1NG. 22

DESCRIPTION

Outlot A and Outlot D, CENE WORRELLS CHURCH ACRES, Dakota County, Minnesota.

AREA COMPUTATIONS

Total Site Area: 9.27 acres

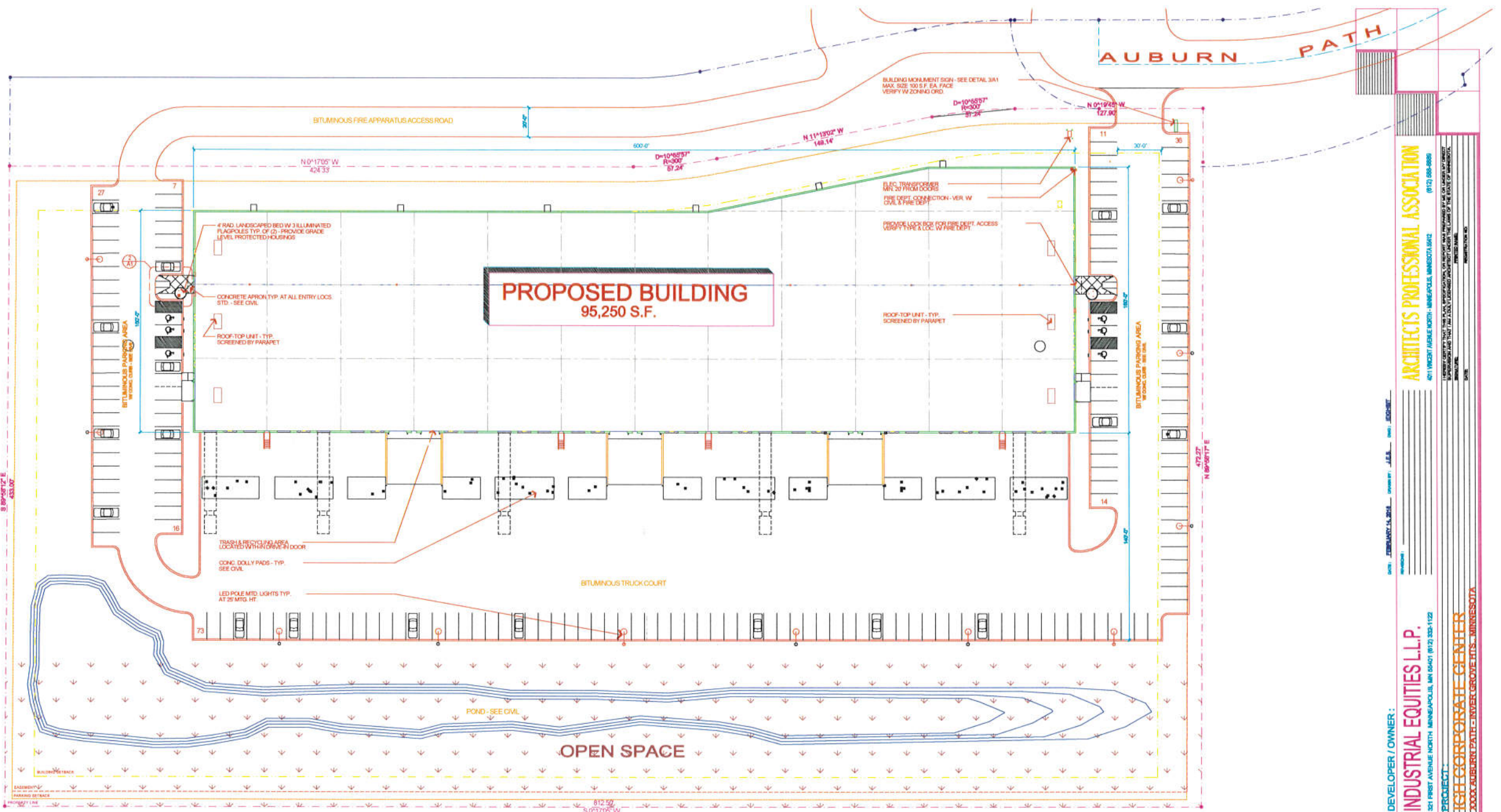
ZONING AND SETBACKS

Current Zoning is P - Public Institution
Proposed Zoning is I-2 - General Industrial District
Building Setbacks: Front = 40 Feet
Side = 30 Feet
Rear = 30 Feet

NOTES

- Field survey was completed by E.G. Rud and Sons, Inc. on 07/19/18.
- Bearings shown are on Dakota County Coordinate System.
- Curve shots are taken at the top and back of curve. 53882 prepared by E.G. Rud and Sons, Inc. on 07/19/18.
- Title Insurance Company, dated May 1st, 2017.
- Due to field work being completed during the winter season there may be some discrepancies between the field notes and the plat.
- Fee ownership is vested in Zion Pentecostal Assembly, a Minnesota corporation.
- Parcel ID Numbers: 20-29300-00-010 Outlot A, 20-29300-00-040 Outlot D.
- Boundary area of the surveyed premises: 403,674 sq. ft. (9.27 acres).
- According to the availability of Inver Grove Heights website. The surveyed premises are located within the Inver Grove Heights city limits.
- Contours for the surveyed premises were field shot. Surrounding contours were taken from MNCDO Labor Topography.
- 1-10-18. Site Plan information provided by Howe Engineering, Inc. on 07/19/18.
- See Certificate of Survey for existing conditions.

DRAWN BY: JEN	JOB NO: 17991BT	DATE: 07/19/18
CHECK BY: JER	SCANNED	
1		
2		
3		
NO	DATE	DESCRIPTION
		BY

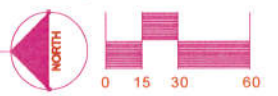


1 SITE PLAN
A-1
SCALE: 1" = 30'

PROJECT DATA :					
OWNER:	INDUSTRIAL EQUITIES LLP, 321 FIRST AVENUE NORTH MINNEAPOLIS, MINNESOTA 55401 (612) 332-0332	ARCHITECT:	ARCHITECTS PROFESSIONAL ASSOCIATION 4011 VINCENT AVENUE NORTH MINNEAPOLIS, MINNESOTA 55412 (612) 588-8889	BUILDING CODES:	2015 MN BUILDING CODE 2015 MN ACCESSIBILITY CODE
CIVIL ENGINEER:	PLOME ENGINEERING, INC. 6775 LAKE DRIVE - SUITE 110 LINO LAKES, MINNESOTA 55014 (651) 361-6210	STRUCTURAL ENGINEER:	INNOVATIVE STRUCTURAL SOLUTIONS 5270 MYLER AVENUE NE MAPLE GROVE, MINNESOTA 55309 (763) 425-9990	SITE AREA:	403,676 S.F. (9.3 ACRES.)
LANDSCAPE ARCHITECT:	CALYX DESIGN GROUP, LLC 1583 BERRIGLEY AVENUE ST. PAUL, MINNESOTA 55105 (651) 334-5489			BUILDING AREA:	95,250 S.F.
				SITE COVERAGE:	23.6%
				PARKING REQUIRED:	OFFICE 20% (19,050/200) = 96 MFR/TECH 30% (28,575/250 + 1800) = 151 VH/SE 50% (47,632/2,000) = 24 TOTAL REQUIRED = 271 SPACES (79% = 203)
				PARKING PROVIDED:	184 SPACES @ 9' x 18' INCLU 6 ADA SPACES
				IMPERVIOUS AREA:	217,725 S.F. 60.2% OF LOT 1
				ZONE:	NORTHWEST SECTION OVERLAY DISTRICT
				OPEN SPACE DATA:	DEVELOPMENT AREA = 403,676 S.F. OPEN SPACE (20%) REQD MT = 80,736 S.F. CONTIGUOUS (100' DEEP) SPACE = 81,245 S.F.
				OCCUPANCY:	B, F, & S
				CONSTRUCTION TYPE:	IB WW AUTOMATIC SPRINKLER
				CLEAR STORAGE HEIGHT:	28'
				ALLOWABLE BUILDING AREA:	UNLIMITED PER IBC SEC. 507

DRAWING INDEX :

A-1	SITE PLAN & PROJECT DATA
A-2	FLOOR PLAN
A-3	ELEVATIONS

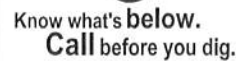


DEVELOPER / OWNER :
INDUSTRIAL EQUITIES L.L.P.
321 FIRST AVENUE NORTH MINNEAPOLIS, MN 55401 (612) 332-1122

ARCHITECT:
ARCHITECTS PROFESSIONAL ASSOCIATION
4011 VINCENT AVENUE NORTH - MINNEAPOLIS, MINNESOTA 55412 (612) 588-8889

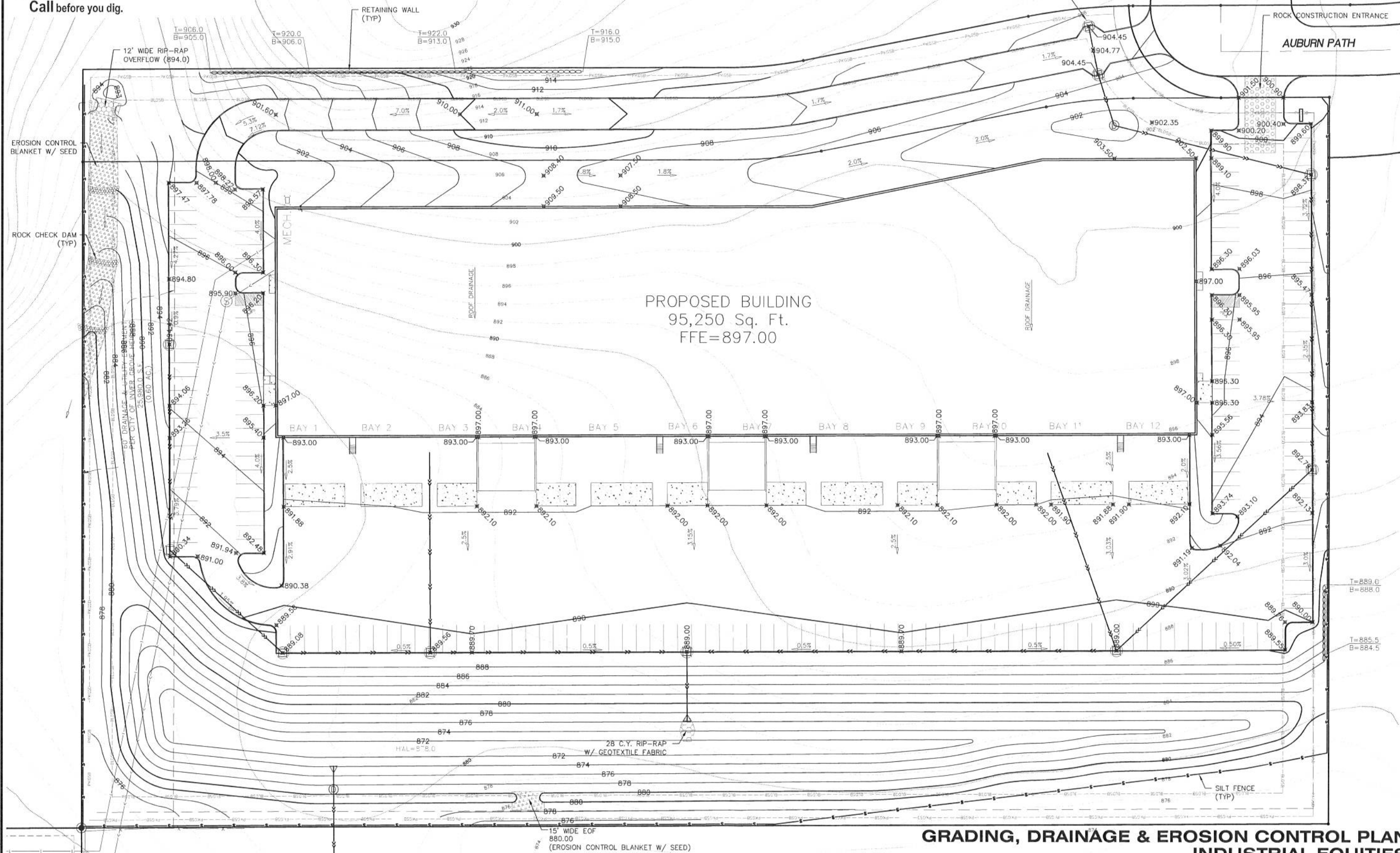
PROJECT:
HIGH CORPORATE CENTER
XXXX AUBURN PATH - INVER GROVE HTS., MINNESOTA

SITE PLAN AND DATA
A-1
1 OF 3



NOTE:
T = TOP OF WALL
B = GROUND ELEV AT
BOTTOM OF WALL

PROVIDE INLET SEDIMENT CONTROL FOR ALL STORM SEWER
INLETS WITHIN 24 HOURS OF STRUCTURE INSTALLATION.
PROVIDE ALSO FOR EXISTING STORM SEWER INLETS THAT
WILL RECEIVE RUN-OFF DURING SITE CONSTRUCTION.
LEAVE IN-PLACE UNTIL SITE HAS BEEN STABILIZED.
(TYP)



GRADING, DRAINAGE & EROSION CONTROL PLAN INDUSTRIAL EQUITIES

DRAWN BY: C.M.	DESIGN BY: C.W.P.
CHECKD BY: C.W.P.	PROJ. NO. 17-1692
ORIGINAL DATE: NOVEMBER 3, 2017	

[illegible]

or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Charles W. Plowe
CHARLES W. PLOWE
DATE: 12.29.2017 LIC. NO. 18527

INDUSTRIAL EQUITIES
INVER GROVE HEIGHTS, MN
GRADING, DRAINAGE & EROSION
CONTROL PLAN

PREPARED FOR:
INDUSTRIAL
EQUITIES



**SITE PLANNING
& ENGINEERING**

PLOWE
ENGINEERING, INC.

776 LAKE DRIVE
SUITE 110
MINO LAKES, MN 55014
PHONE: (651) 361-8210
FAX: (651) 361-8701

NORTH



C3



EXTEND SAN SEWER, WATER, AND
ROOF DRAIN LEADS INTO BLDG AT
LOCATIONS DETERMINED BY OWNER

60' DRAINAGE & UTILITY EASEMENT -
PER CITY OF INVER GROVE HEIGHTS
25,980.0 S.F.
(0.60 AC.)

P WATERMAIN

OUTLET CONTROL STRUCTURE
RE 879.70
IE 876.40 (E)
IE 872.00 (W)
(SEE DETAIL - SHEET C4.2)

-SAN MH
RE 871.00
IE 864.52

12" APRON
IE 873.50

$$H_{\text{eff}} = g^{-1}g$$

45'-36" RCP -
@ 0.22%

APRON
IE 876.00

RE 904.35
IE 898.60

32'-12" RCP
@ 0.94%

CBMH —
RE 904.35
IE 898.30

5" HDPE @ 0.86%

CBMH
RE 901.50
IF 898.00

AUBURN PATH

CBMH
RE 898.27
IF 893.27

192'-18" HDPE @ 2.91%

	CBMH	-
RE	892.69	
IF	887.69	

DRAWN BY: C.M.	DESIGN BY: C.W.P.
CHKD BY: C.W.P.	PROJ. NO. 17-1692
ORIGINAL DATE: NOVEMBER 3, 2017	

[illegible]

DATE: 12-29-2017

INDUSTRIAL EQUITIES
INVER GROVE HEIGHTS, MN
UTILITY PLAN

PREPARED FOR:
**INDUSTRIAL
EQUITIES**



SITE PLANNING
& ENGINEERING

PLOWE
ENGINEERING, INC.

6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014

PHONE: (651) 361-8210
FAX: (651) 361-8701

NORTH



UTILITY PLAN
INDUSTRIAL EQUITIES

General Notes:

1. Refer to Sheet L2 for Plant Schedule, Details, Notes, Seeding Mix, and Other Landscape Requirements.
2. See Civil Engineer's plans for site plan layout and dimensions.
3. Contractor to coordinate all work in the city right-of-way with City of Inver Grove Heights Public Works Department.
4. See Architect's plans for additional requirements regarding the site plan layout.

5. Landscape contractor is responsible for watering all trees, shrubs, & turf grass outside the irrigation limits for 30 days after installation or until plant establishment.
6. Refer to Sheet L0 for Tree Mitigation (Re-Forestry) Plan.
7. Refer to Sheet L1 for New Development Landscape Plan.

Site Landscape Data:

Number of Original Trees On-Site: 99
Number of New Trees Proposed: 249
Tree Cover Net Density Increase: 250%

Landscape Symbols Legend:

- 37 Proposed Deciduous Overstory Trees
- 32 Proposed Ornamental Trees
- 26 Proposed Proposed Coniferous Trees
- 52 Proposed Mitigation Deciduous Overstory Trees
- 72 Proposed Mitigation Coniferous Overstory Trees
- 30 Proposed Mitigation Deciduous Understory Trees

DRAWN BY:	M.F.	DESIGN BY:	B.H.
CHKD BY:	B.H.	PROJ. NO.	18-108
ORIGINAL DATE:	JANUARY 10, 2018		
DATE	2/12/2018	REVISION DESCRIPTION	CITY RE-SUBMITTAL
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of MINNESOTA.			
BENJAMIN D. HARTBERG, PLA			LIC. NO.
DATE:			

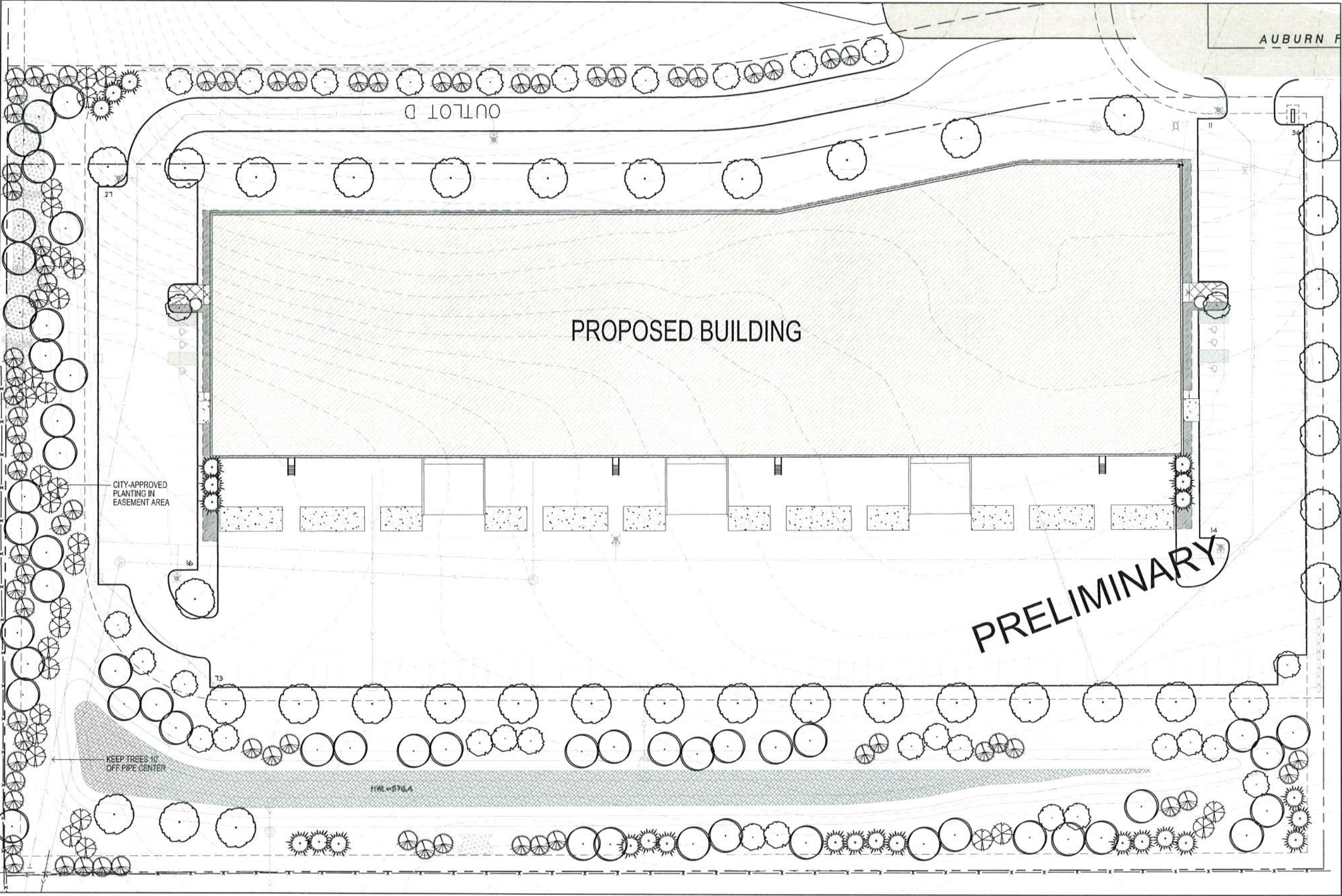
INDUSTRIAL EQUITIES
OFFICE / WAREHOUSE
INVER GROVE HEIGHTS, MN
OVERALL TREE PLANTING PLAN

PREPARED FOR:
INDUSTRIAL EQUITIES

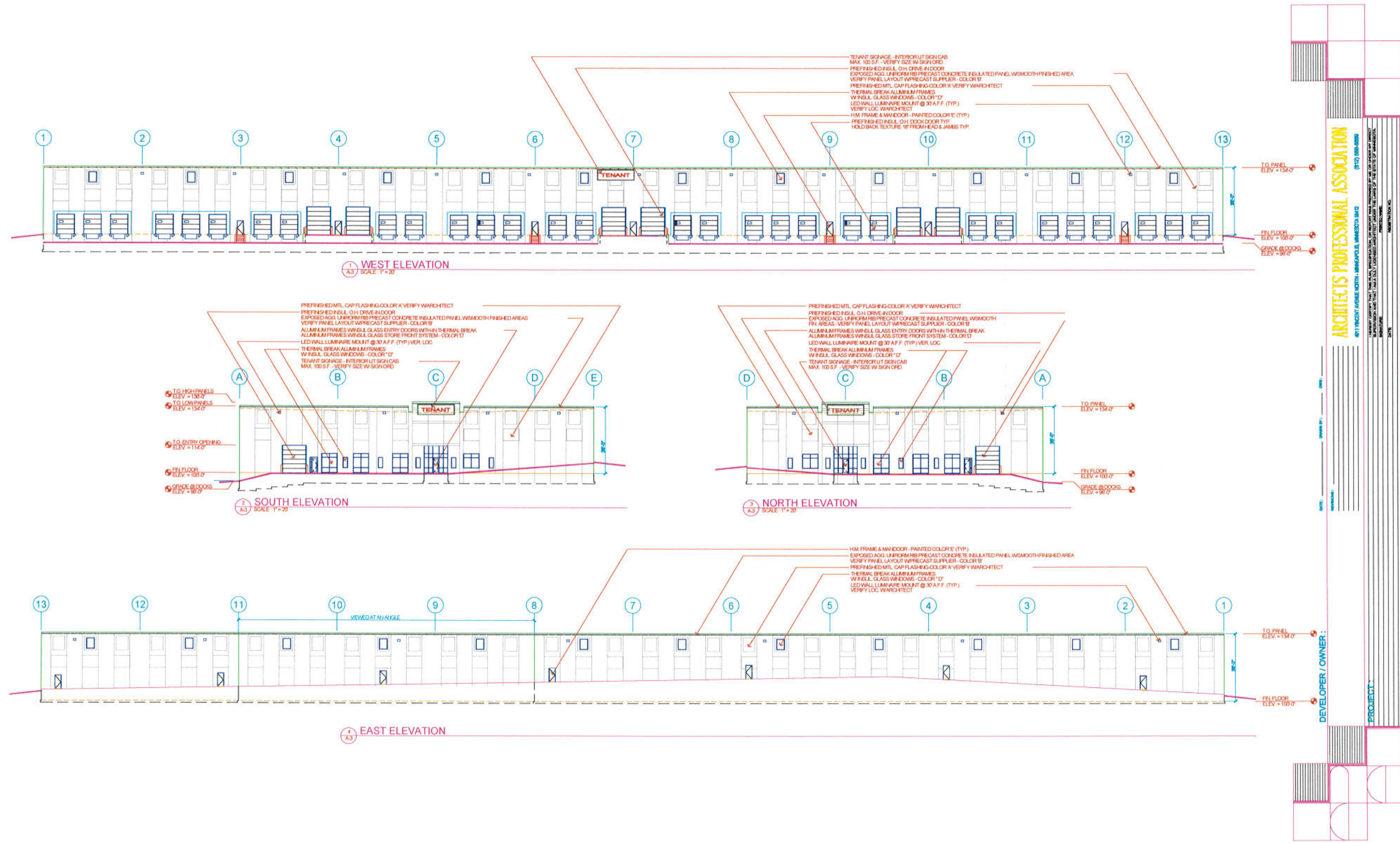
SITE PLANNING & ENGINEERING
PLOWE ENGINEERING, INC.
6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014
PHONE: (651) 361-8210
FAX: (651) 361-8701

cdg
CALYX DESIGN GROUP
Landscape Architecture
Sustainable Design
Planning
310 Selby Avenue
Oakdale Building, Suite 201
Saint Paul, MN 55102
Telephone: 651.788.9018
Internet: www.calyxdesigngroup.com

L3



OVERALL TREE PLANTING PLAN:



Industrial Equities - Comp Plan Amendment

- X I acknowledge receipt of the above cited comprehensive plan notification for the Industrial Equities comp plan amendment and waive further review/comment on the amendment.
- X I offer the following comments regarding the comprehensive plan notification for the Industrial Equities comp plan amendment.

In 2013 the Dakota County Board of Commissioners adopted the Mendota to Lebanon Hills Regional Greenway Master Plan. The plan establishes the alignment for the 8.5 mile greenway/trail connecting through Mendota Heights, Inver Grove Heights and Eagan. The master plan was developed in coordination with our partner communities, the City of Inver Grove Heights passed a resolution supporting the greenway master plan. Dakota County is the responsible agency for the implementation of the Mendota to Lebanon Hills Regional Greenway.

The proposed Industrial Equities development application and corresponding comprehensive plan change request provides the opportunity to integrate the Mendota to Lebanon Hills Greenway as part of the development process. Based on the preliminary site plan, Dakota County is requesting a 30 ft. trail & utility easement along the western property line that allows for construction of a future regional trail. Dakota County is also requesting that the developer include a 14ft trail bench in the final grading plan to ensure that the trail works in conjunction with the overall site plan, specifically the storm water ponding and infiltration. If needed the benched area/future trail could also serve as access for ponding maintenance.

Link to the Mendota to Lebanon Hills Greenway Master Plan

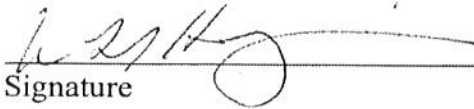
<https://www.co.dakota.mn.us/parks/Planning/Greenways/Documents/MendotaLebanonHillsGreenwayMasterPlan.pdf>

Dakota County

Organization

W. Taud Hoopingarner

Name



Signature

Operations Management Director

Title

02/9/2018

Date

**PLANNING REPORT
CITY OF INVER GROVE HEIGHTS**

HEARING DATE:	February 20, 2018	CASE NO.: 18-08PA
APPLICANT:	MWF Properties	
PROPERTY OWNER:	State of MN	
REQUEST:	Comprehensive Plan Amendment to change land use designation from CC, Community Commercial to HDR, High Density Residential	
LOCATION:	Outlot B, Valley View 4 th Addition (65 th Street and Buckley)	
COMPREHENSIVE PLAN:	CC, Community Commercial	
ZONING:	B-3, General Business	
REVIEWING DIVISIONS:	Planning	PREPARED BY: Heather Botten Associate Planner 

BACKGROUND

The applicant is proposing to change the land use designation of approximately 2.57 acres from CC, Community Commercial to HDR, High Density Residential. The applicant is anticipating developing the parcel with an approximate 55-unit, three-story multifamily apartment complex with underground parking. MWF would pursue housing tax credits from the Dakota County CDA for an affordable housing complex. A concept plan is attached for your review; at this time no site details have been reviewed or commented on. If the comprehensive plan amendment is successful, an application for a rezoning, final plat and conditional use permit would be required. This subsequent process provides for public review and comment on the actual site plan.

The property is vacant and located in a known abandoned MPCA Dump Site. The "Rubbish Ranch Dump" is located just west of Cahill Avenue at 65th Street and Buckley Way, extending on either side of 65th and west into the City's park. The Rubbish Ranch operated from approximately 1950 until 1971. Since the closure, 65th Street and Buckley Way have been built, which split the property.

During the time of operation, regulations were minimal. Historical information suggests that the wastes received at the Rubbish Ranch included mixed residential, commercial, institutional, industrial, demolition and yard wastes. As environmental standards were put into place, the Minnesota Pollution Control Agency (MPCA) required the Rubbish Ranch to be closed. Over the past several decades, intermittent surface dumping has occurred.

If the property is to undergo development the owner will need to provide soil testing and reports and work with Dakota County Environmental Service and the MPCA to come up with a Response Action Implementation Report (RAP). Any development proposal would be contingent on-site cleanup approved by Dakota County. MWF Properties would pursue contamination cleanup funds via Dakota County, DEED, and Met Council to make the site suitable for development.

SURROUNDING USES

The subject property is surrounded by:

North	Vacant; zoned B-3, General Business and R-1C, Single-family Residential; guided CC, Community Commercial and Low Density Residential.
East	Vacant; zoned B-3, General Business; guided CC, Community Commercial.
West	City Property; zoned P, Public/Institutional; guided Public Open Space
South	Multi-family; zoned R-3C, Multi-family; guided MDR, Medium-density residential

EVALUATION OF REQUEST **COMPREHENSIVE PLAN AMENDMENT**

As stated earlier, the current designation of the area in question is CC, Community Commercial. The proposed use of the property requires a change to the comprehensive plan land use designation from Community Commercial to High Density Residential.

The property has been vacant since it discontinued use as a landfill in 1971. The lack of activity at this site may indicate that commercial is not suitable for this location. The property has multifamily to the south, parkland to the west, and commercial to the east and north. High density multi-family at this location would be a reasonable transition from the medium density to the south to the commercial to the north.

2030 Comprehensive Plan

The following lists the definition of the proposed and existing land use designations and also lists policies that appear to be most relevant to the project for each category in the 2030 comprehensive plan.

High Density Residential (HDR)

Areas designated as high density residential are intended to accommodate multi-family housing at densities exceeding 12 units per acre. Uses in this category will be principally limited to higher density apartment or condominium buildings for either general occupancy or for specific segments of the population such as senior housing.

Established and Future Development Area Policies:

- “Create planned neighborhoods with common facilities and amenities that establish a sense of identity and that helps promote long-term maintenance and value stability.”

- “Provide a broad range of housing opportunities.”
- “Encourage diverse housing styles consistent with the inherent characteristics of the site.”
- “Insure that new development area are compatible in size and scale with existing, adjacent neighborhoods.”
- “Provide commercial areas that are convenient to residential neighborhoods.”
- “Encourage creative land planning to create neighborhood areas that have a unique personality reflecting the natural beauty of the area as well as the overall context of the community.”

From Housing Chapter:

Developing and maintaining a diversity of housing opportunities is a key guiding principle of the Comprehensive Plan. Ensuring opportunities for diversity in housing also helps achieve community sustainability. To be sustainable, IGH approach to housing is to provide opportunities for housing at all stages of the life-cycle and at a full range of price level and design patterns.

Housing Policies:

- “Maintain a balanced housing supply with housing available for people at all income levels and unit types that meet the varying life-cycle needs of Inver Grove Heights residents.”
- “Continue to utilize City ordinances that allow planned developments that provide a mix of housing types.”
- “Promote the development of multi-family housing in areas that are physically suited to higher densities.”
- “Promote higher density housing in the mixed-use area of the City.”

From a housing perspective, the Inver Grove Heights Housing Committee has reviewed the applicant’s request for a Comprehensive Plan Amendment and recommends the Planning Commission and City Council approve the request.

Community Commercial (CC)

Community commercial areas include lots or parcels that contain retail sales and services located along community collector and arterial roadways that serve the community.

Community commercial areas differ from neighborhood commercial areas in that they are more

intensive and are designed to attract customers from a wider trade area. As such, the goods and services that are available in community commercial areas are broader in scope such as restaurants, private recreational facilities, professional service offices, small-scale printing, etc.

Community Commercial Area Policies:

- “Provide goods and services that are needed by Inver Grove Heights residents in environments that serve as identifiable community shopping nodes.”
- “Ensure pedestrian connectivity via trails and sidewalks within community commercial districts as well as to adjacent and nearby neighborhoods.”
- “Provide safe and convenient pedestrian accesses within and connecting to community commercial areas and adjacent neighborhoods.”
- “Carefully regulate uses that have the potential to create adverse secondary land use impacts such as adult uses, pawn shops, etc.”

ALTERNATIVES

The Planning Commission has the following alternatives available for the proposed request:

A. **Approval** If the Planning Commission finds the application acceptable, the Commission should make the following recommendations:

- Approval of the **Comprehensive Plan Amendment** to change the land use designation from CC, Community Commercial to HDR, High Density Residential (12+ units/acre) subject to the following conditions:
 1. The comprehensive plan land use change shall not become effective until a rezoning, plat, and development plan has been approved by the City Council.
 2. Prior to any work being done on the property, the applicant shall obtain all necessary federal, state, and local permits including, but not limited to approval from Dakota County Environmental Management.
 3. The Metropolitan Council shall not require any significant modifications to the comprehensive plan amendment.
 4. The Metropolitan Council shall not make a finding that the comprehensive plan amendment has a substantial impact or contain a substantial departure from any metropolitan systems plan.

B. Denial If the Planning Commission does not favor the comprehensive plan amendment, a recommendation of denial should be forwarded to the City Council. With a recommendation of denial, findings or the basis for the denial should be given.

RECOMMENDATION

Based on the information in the preceding report and the conditions listed in Alternative A, staff is recommending approval of the request as presented.

Our recommendation is based on the following:

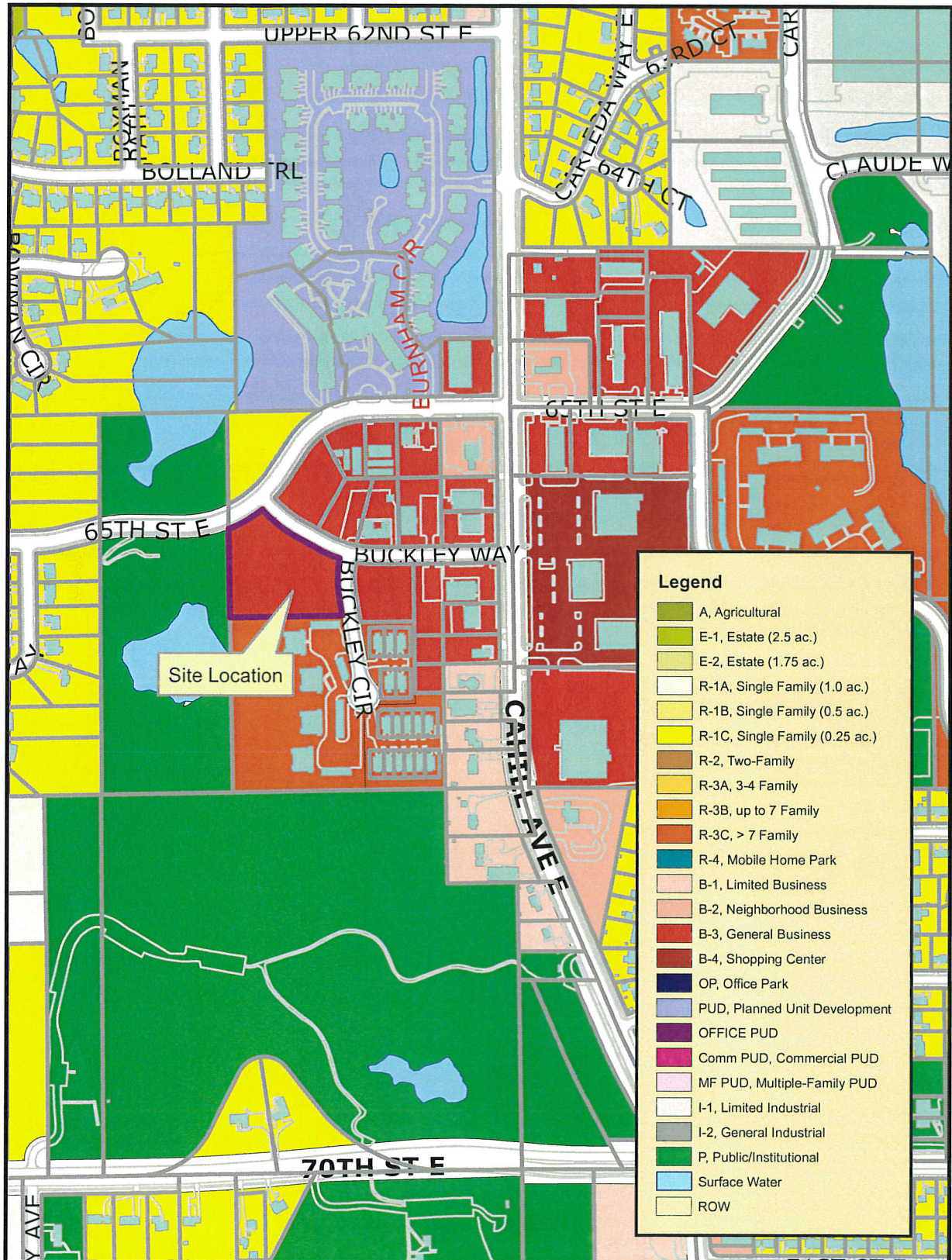
- Internet retail has changed the way retailers do business and fewer brick and mortar stores are being constructed. Additionally, the property is not visible from Cahill, reducing the commercial demand along with the fact there are other vacant commercial sites available in the area.
- The addition of more residential in the area should create shopping demand that would benefit the Cahill Corridor.
- The project would provide affordable housing and a good land use transition between multi-family and commercial property.
- The project would clean-up a contaminated, vacant piece of property.

Attachments:

Exhibit A: Zoning and Location Map
Exhibit B: Applicant Narrative
Exhibit C: Existing/Proposed Comp Plan Map
Exhibit D: Draft Sketch Plan
Exhibit E: Topography Map



MWF Properties - Case No. 18-08PA



THIS DRAWING IS NEITHER A LEGALLY RECORDED MAP NOR A SURVEY AND IS NOT INTENDED TO BE USED AS ONE. THIS DRAWING IS A COMPILATION OF RECORDS, INFORMATION AND DATA LOCATED IN VARIOUS CITY, COUNTY AND STATE OFFICES AND OTHER SOURCES AND IS TO BE USED FOR REFERENCE PURPOSES ONLY. THE CITY OF INVER GROVE HEIGHTS IS NOT RESPONSIBLE FOR ANY INACCURACIES HEREIN CONTAINED.
Map produced by the City of Inver Grove Heights GIS Dept.
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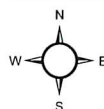


Exhibit A
Zoning and Location Map
Map not to scale

Narrative

Introduction

This application is to request a comprehensive plan amendment for the 2.57 acre parcel identified as Outlot B, Valley View 4th addition or Schultz Vacant lot from "Community Commercial" to "High Density Residential". Included in this narrative is the land use map with the property circled in blue.

Background on site

The property's previous use was a private landfill known as the "Rubbish Ranch" where it accepted waste from 1950 to 1971. Since the dump has closed, the parcel has been vacant and subsequently was transferred to the State of Minnesota due to tax forfeiture. The State of Minnesota is the current owner of the parcel. Dakota County has conducted a number of environmental tests on the site which indicates the presence of a number of hazardous substances that make the site difficult to develop.

Requests

MWF Properties respectfully requests the City of Invergrove Heights consider an amendment to the comprehensive plan for this parcel to allow for the construction of a three-story multifamily apartment complex. MWF Properties believes this is a reasonable request for the following reasons:

1. The property has multifamily to the south, parkland to the west, and commercial to the east and north. High density multifamily at this location would be a reasonable transition from the medium density to the south to the commercial to the north.
2. The extreme topography of the site makes it suitable for multifamily housing. MWF Properties intends to incorporate the topography into the site plan with the use of underground parking.
3. The site has been vacant since it discontinued use as a landfill in 1971. The lack of activity at this site may indicate that commercial is not suitable for this location.

Proposed project

If the comprehensive plan amendment is approved, MWF Properties would pursue contamination cleanup funds via Dakota County, DEED, and Met Council to make the site suitable for development. If awarded funds, MWF would then pursue the remaining land use approvals necessary to construct a multifamily development project three stories in height with approximately fifty units. For financing MWF would pursue housing tax credits from the Dakota County CDA and would restrict rents to households earning 60% or less of the area median income (\$54,240 for a family of 4). A preliminary site plan is included within this comprehensive plan amendment application.

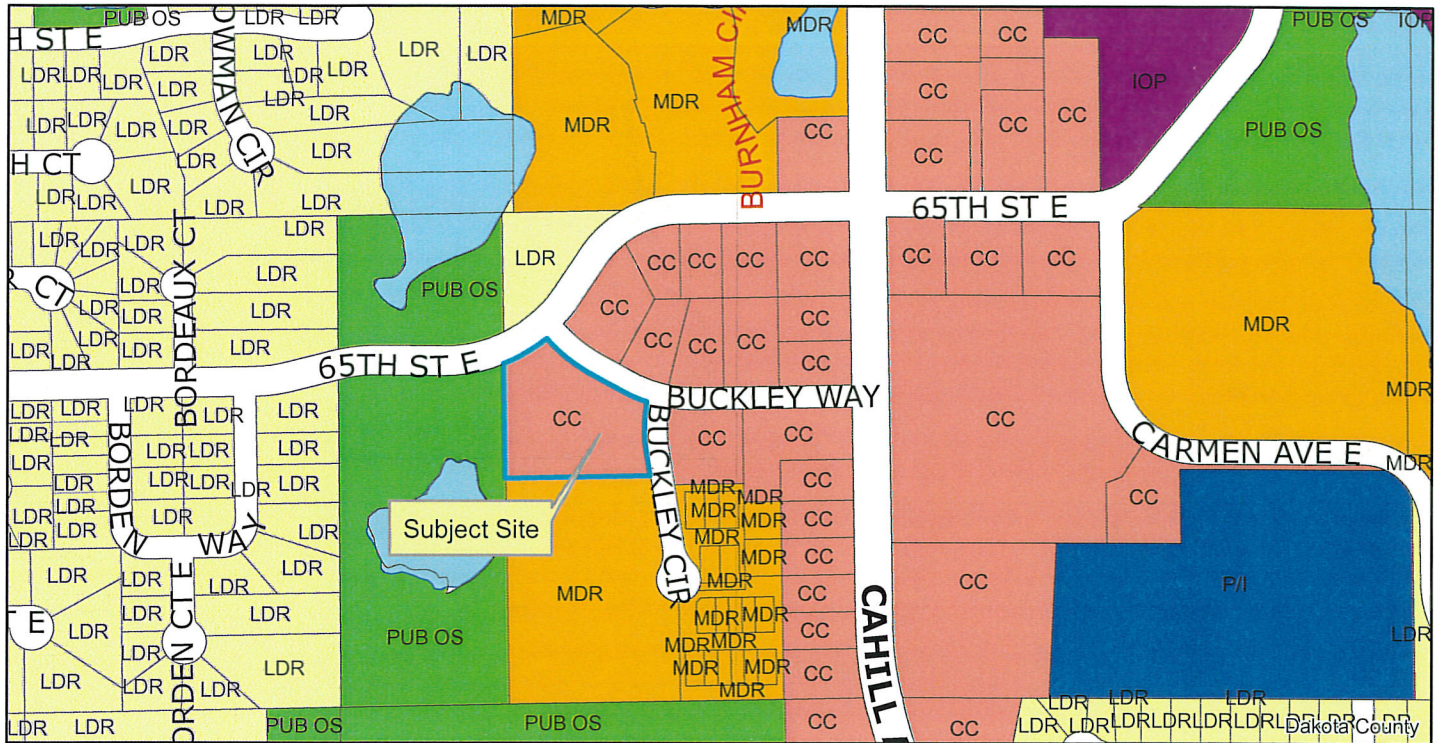
B



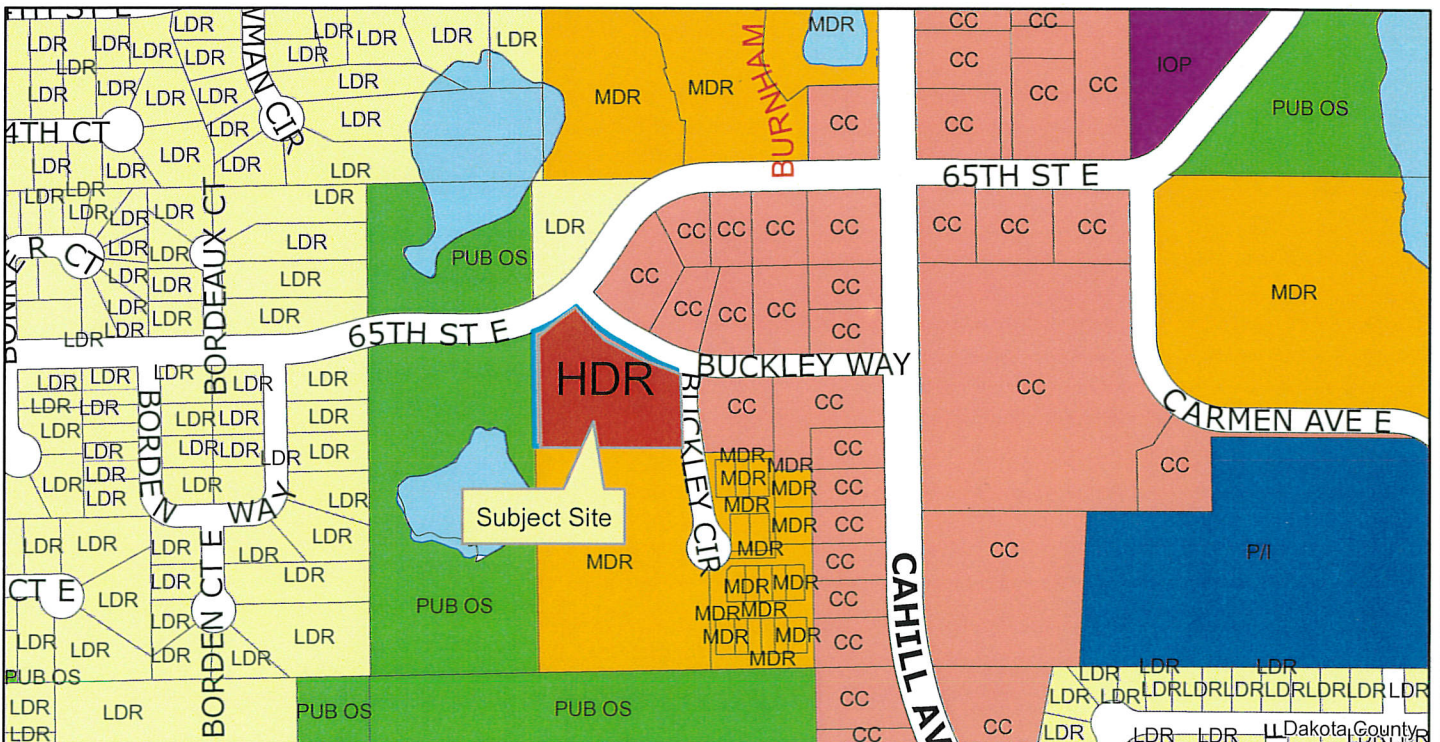
Case No. 18-08PA MWF Properties



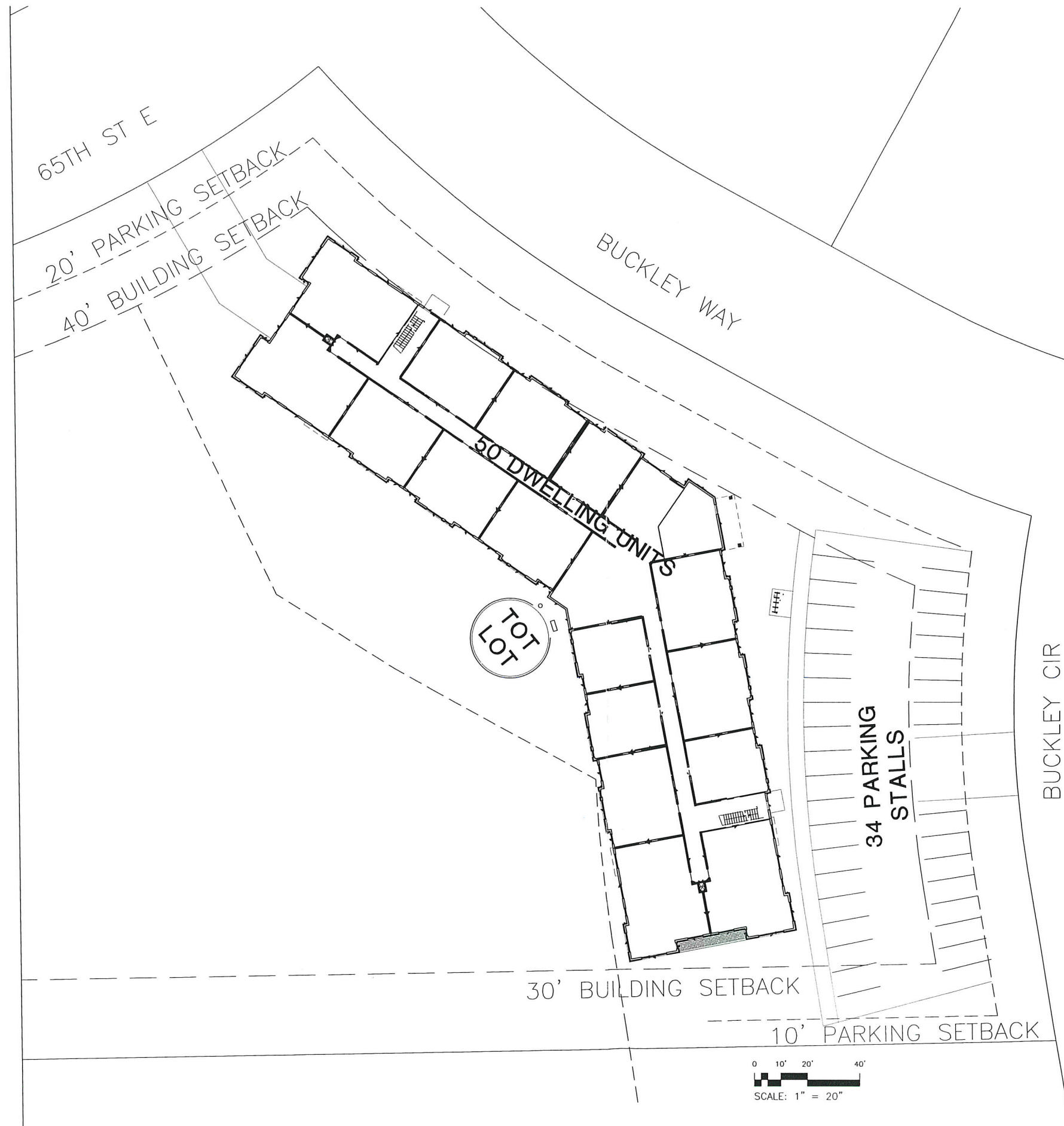
Current Comp Plan



Proposed Comp Plan



C



DRAFT

1



SW CORNER OF BUCKLEY WAY AND BUCKLEY CIR., INVER GROVE HEIGHTS		EXISTING SITE PLAN	
	Project Number:	Revision Number:	EX1.0
	Issue Date:	Revision Date:	

7

P L A N N I N G R E P O R T
CITY OF INVER GROVE HEIGHTS

REPORT DATE: February 16, 2018

CASE NO: 18-07PDA

APPLICANT: Interstate Development Corporation

REQUEST: Arbor Pointe PUD Ordinance Amendment and PUD Site Plan Amendment

HEARING DATE: February 20, 2018

LOCATION: 9015 Broderick Boulevard

COMPREHENSIVE PLAN: RC, Regional Commercial

ZONING: Arbor Pointe PUD/CSC, Community Shopping Center District

REVIEWING DIVISIONS: Planning
Engineering

PREPARED BY: Allan Hunting
City Planner

BACKGROUND

An application has been received to amend the Arbor Pointe PUD Ordinance to allow Special Education School to be added to the list of permitted uses in the CSC district and to amend the PUD site plan for the old Rainbow Foods site to allow for minor modifications to the site and remodel of the building for a special education school. The applicant, Interstate Development, would purchase the building and property, and lease the building to Intermediate School District 917 for the school.

Intermediate School District 917 is one of four intermediate districts in Minnesota created by the legislature in the early 1970's. The District acts as complementary overlay to nine independent school districts in Dakota County providing specialized services for students from K-12. The services include; special education, career and technical education and alternative learning programs. The students are referred to Intermediate District 917 by the member districts which include; Bloomington Schools, Burnsville-Egan Savage ISD 191, Farmington Area Public Schools, Hastings Public Schools, Inver Grove Heights Community Schools, Lakeville Area Public Schools, Randolph Public Schools, South St. Paul, and West St Paul-Mendota Heights-Eagan.

The building would be completely remodeled on the inside creating offices and classrooms. There would be minor changes to the exterior of the building including more windows and modified main entrance.

The students would be bussed to the site via their home school districts and the parking pick up and drop off would be located on the east side of the building. There would be a small playground area created next to the building on the northwest corner. The school would employ approximately 75 employees at this location.

The specific applications being requested are:

1. Amendment to the Arbor Pointe PUD Ordinance #789 to allow “Special Education Schools” as a permitted use within the CSC, Community Shopping Center District.
2. A PUD Plan Amendment to modify the site plan to allow for the school.

EVALUATION OF THE REQUEST

The following land uses, zoning districts and comprehensive plan designations surround the subject property:

North -Apartment Complex; zoned R-3C/PUD; guided High Density Residential.

East - Golf Course, mixed commercial development; zoned Open Space, CSC; guided Open Space, Community Commercial

West - Highway 52/55.

South - Commercial; zoned CSC; guided Regional Commercial.

ORDINANCE AMENDMENT

The property is governed by the Arbor Pointe Planned Unit Development. It was approved with a master land use plan and ordinance. Each area was zoned a particular land use based on the plan. In this case, this parcel has been designated CSC since the PUD was approved in 1992. Any change to a land use requires an amendment to the Arbor Pointe Ordinance. The land use table for the CSC district currently allows for “trade schools”. While the request would not be considered a trade school, it does indicate that the original thought for the CSC district was to allow some type of schools. Allowing the special school district would be consistent with similar uses already allowed.

The property has not had a permanent tenant since Rainbow closed in 2014. Over the years, there have been a few inquiries about uses for the building such as enclosed mini-storage or an automobile dealership, but no applications have ever been submitted.

Because of the number of stores that have closed over the years in this area, Council authorized a market study for this area to see what challenges exist what is the future for commercial in this area. The Arbor Pointe Retail Analysis was completed in 2014. The Arbor Pointe commercial area has also come up during the 2040 Comprehensive Plan Update and the need to do further analysis such as a small area plan to get into the specifics of possible redevelopment of the area. This would look at the current use mix, the zoning of the area and what uses might work best here based on current world economics and demand. If a small area study were pursued, it would most likely be a year or two away.

With that in mind, Staff has prepared some bullet points suggesting pros and cons for the project:

PROS

- Project would bring daily activity to the area.
- Project would bring in good employment opportunities with a staff of approximately 75. Additional activity should be a positive for other surrounding businesses in the area.
- The Ordinance Amendment would leave the current commercial zoning in place which would leave future commercial opportunities open.
- There would be a significant investment in the building which would raise building valuation and increase taxes collected.
- Would not have a negative impact on parking in the area. The existing parking lot would provide more than enough parking for employees and any special events that might take place.
- Provides unique services to the community and school districts. Independent School District 199 is in favor of the request as it would provide space and programs the schools cannot currently provide.

CONS

- Takes away possible commercial opportunities for a re-use of the building for other retail uses.
- This could possibly be a long term use of the property and takes a large piece of the puzzle out of play for any possible redevelopment of the area. Could impact the need for a small area study to be conducted.
- Has the potential to become tax exempt. The applicant indicates they hold properties and lease to tenants. However, the possibility of selling the property always exists and a school district would be a tax exempt use.

PUD DEVELOPMENT PLAN AMENDMENT

Parking. The applicant has provided a site plan with the parking demand and location of parking for the facility. A total of 135 spaces have been designated. The entire parcel contains nearly double this amount. The strip center is located on its own lot and there is parking for that center on its lot. Staff sees no parking issues with the proposed use.

Traffic and Circulation. The School District indicates the students would be bussed to the site and no students are driving themselves. There would be no planned student drop off by parents. The buses would stack along the east side of the building for pick-up and drop-off. This would provide direct access to the sidewalk around the building and no student would have to cross a traffic lane to enter the building. The buses would either leave via the curb opening near the front of the old store, or they could circle around the building if needed. There does not appear to be any traffic issues or conflicts at the two entrance sites to the property.

Exterior. The applicant indicated there would be some modifications to the exterior to the building, notably more windows on the west side and possible changes to the main entrance. No major changes to the exterior are planned. Staff notes that there is a design manual that governs Arbor Pointe and one of the paint scheme standards to include “Arbor Pointe Green” in the color scheme. If any repainting of the exterior occurs, there must be a green color component similar to the existing color scheme on the building or to others in the area.

Rooftop Equipment. If there are any changes made to roof top equipment, or adding equipment, all roof top equipment must be substantially screened from the street (Broderick Boulevard). Any large scale ground mechanical equipment must also be screened with adequate landscape material.

Parking Lot and Building Lighting. No changes to parking lot lighting is proposed. Any new lighting must comply with the standard shoe-box style fixture with flat lens. The source of light must be screened.

Playground Area. The applicant is proposing to convert a portion of existing asphalt in the back northwest corner of the site into a playground area. The area would be fenced and a suitable surface would replace asphalt.

Engineering. Engineering has reviewed the applicant and provides a review memo (attached to this report). Most conditions address easements needed for the sewer work to serve the new fire station and updating any storm water plans or documents. This memo should become a condition of approval.

ALTERNATIVES

The Planning Commission has the following actions available on the following requests:

- A. **Approval.** If the Planning Commission finds the application to be acceptable, the following action should be taken:

- o Approval of An **Ordinance Amendment** to the Arbor Pointe PUD Ordinance #789 to allow “Special Education Schools” as a permitted use within the CSC, Community Shopping Center District.

- o Approval of the **PUD Development Plan** Amendment to modify the site plan to allow for the school subject to the following conditions:

1. The final plat and accompanying site plans shall be in substantial conformance with the following plans on file with the Planning Department except as may be modified by the conditions below.

Site Plan

dated 1/22/18

2. If any repainting of the exterior occurs, the Arbor Pointe green color specified in the Design Manual must be used similar to other commercial buildings in the area.
3. If there are any changes made to roof top equipment, or adding equipment, all roof top equipment must be substantially screened from the street (Broderick Boulevard). Any large scale ground mechanical equipment must also be screened with adequate landscape material.
4. If there are any changes made to lighting on the site, all parking lot and building lighting on site shall be a down cast “shoe-box” style or cut-off style and the bulb shall not visible from property lines.
5. Approvals subject to the comments contained in the memo dated 1/31/18 from the City Engineer.

- B. Denial.** If the Planning Commission does not favor the proposed applications or portions thereof, the above request or requests should be recommended for denial. With a recommendation for denial, findings or the basis for the denial should be given.

RECOMMENDATION

Allowing the school district use would bring some activity to the area and could kick start some further activity by filling a vacant building. On the other hand, the Council could determine that the best course of action is to hold out, conduct a small area study for Arbor Pointe to determine the best uses or redevelopment potential.

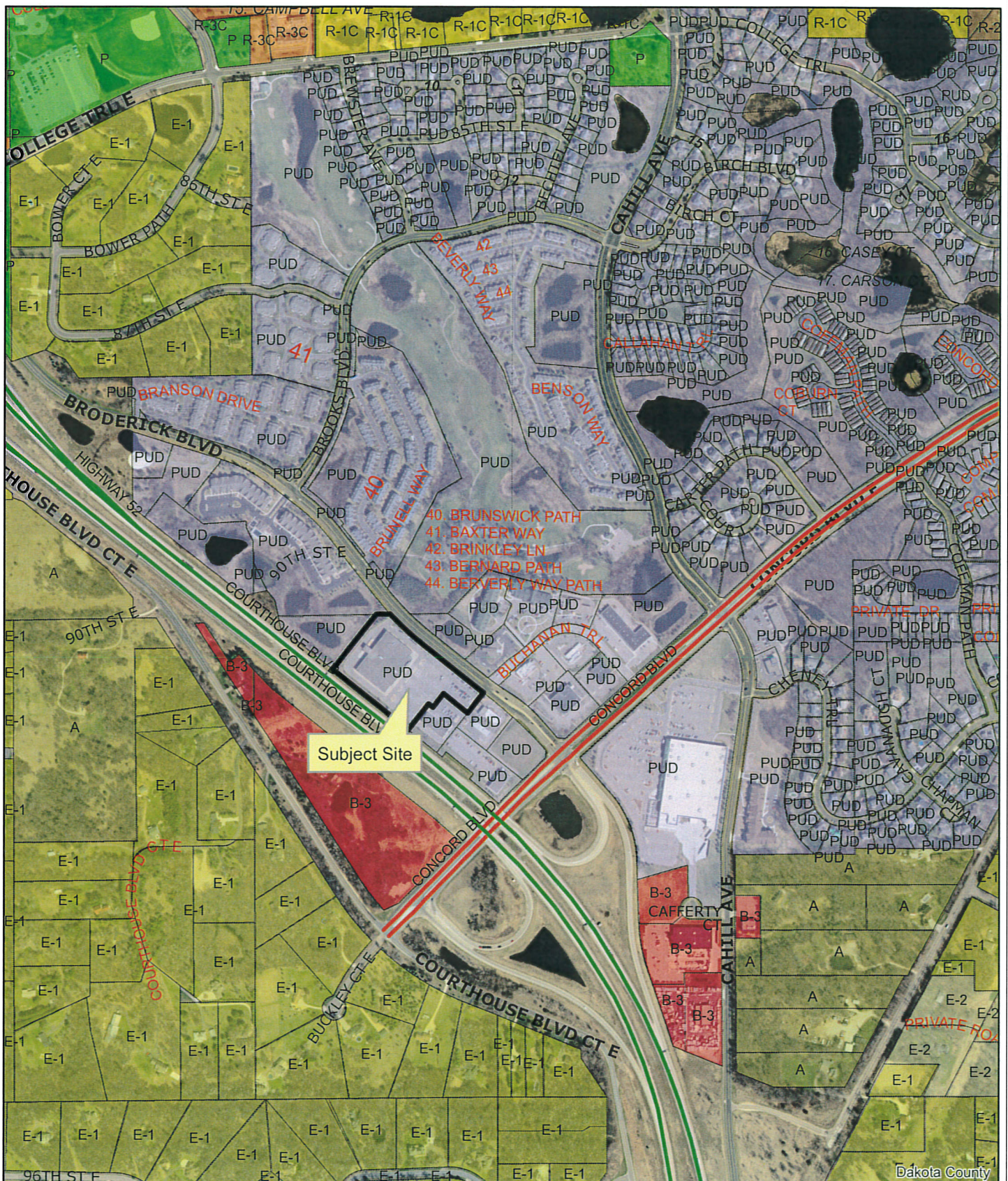
Staff does not have a strong recommendation either way and therefore provides a report with pros and cons for the request. Action is ultimately is a policy decision Council must make on redevelopment of the Arbor Pointe commercial area. If the Planning Commission and City Council chose to approve the request, Planning recommends the action be subject to the conditions listed in this report.

Attachments: Location Map
Applicant Narrative
Site Plan
City Engineer Memo



Location Map

Case No. 18-07PDA



January 16, 2018

Alan Hunting
City of Inver Grove Heights
8150 Barbara Avenue
Inver Grove Heights, MN 55077



via e-mail: ahunting@invergroveheights.org

RE: PLANNED USE DEVELOPMENT AMENDMENT - NARRATIVE

Dear Mr. Hunting:

Interstate Development Corporation (the "Applicant") is requesting the city of Inver Grove Heights consider an amendment to the Arbor Pointe Planned Use Development. The Applicant is requesting the amendment to the PUD in order to allow their proposed use of the property located at 9015 Broderick Blvd, Inver Grove Heights.

The subject property includes an existing, 56,202 square foot building, on approximately 5.77 acres of land. The building was constructed in 2000 and was previously occupied by a Rainbow Foods. The building has been vacant for approximately 3.5 years.

The subject property is currently zoned (PUD) Planned Unit Development and allows "Trade Schools". The Applicant is requesting the PUD be amended to allow for "Special Education," or other such description that would include Applicant's proposed use.

The Applicant, is proposing to demolish all existing interior finishes in the existing building. The interior of the facility will be 100% built-out for classrooms and office space. All interior flooring, walls, ceiling and mechanical equipment will be replaced. The Applicant is also proposing to replace the roof, mill & overlay the parking lot and update, replace and refresh most of the landscaping.

The Applicant will enter into a long-term lease with Intermediate School District #917 ("917") for their sole use and occupancy of the building and premises. 917 is an Intermediate School District, serving low incidence needs of students receiving special education services. 917 specializes in addressing the needs of children who require intensive educational services utilizing unique teaching and educational approaches.

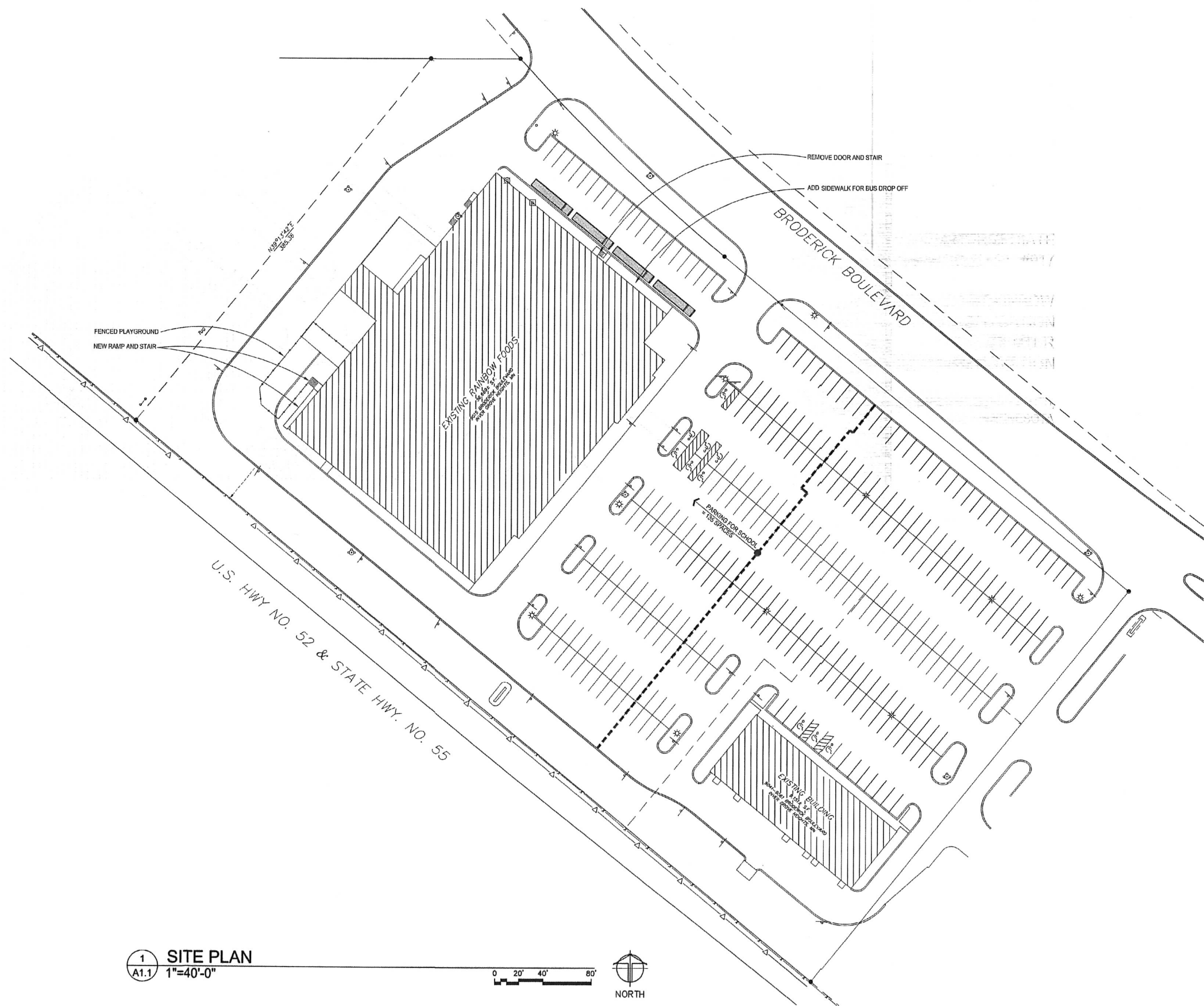
917 will employ more than 75 people at the location. Positions include those licensed in various education fields as well as support staff. 917 offers competitive wages that range from annual salaries between \$38,500 and \$84,000 for licensed staff and hourly wages between \$17 and \$30 per hour for support staff.

The Applicant is privately held real estate investment and develop company, headquartered in the Twin Cities. The Applicant owns and /or manages approximately 1,000,000 square feet of commercial property in Dakota County. The Applicant intends to hold the property in its portfolio. The property will *not* be tax-exempt during the Applicant's ownership and / or during the ownership of any subsequent private party.

Sincerely,

A handwritten signature in dark ink, appearing to read "Lonnie Provencher", is written over a printed name.

Lonnie Provencher
Interstate Development
www.interstatedevelopment.com



1 SITE PLAN
A1.1 1"=40'-0"

0 20' 40' 80'



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INTERMEDIATE
SCHOOL DIST. #917

RAINBOW
EDUCATION
CENTER
RENOVATION

INVER GROVE HEIGHTS,
MINNESOTA

SITE PLAN

Issues and Revisions:
PUD AMENDMENT 1-22-18

Commission No. 35726-17185
Drawn by JL
Checked by PH

SHEET

A1.1

TRUE SHEET SCALE
1" = 40'

MEMO

CITY OF INVER GROVE HEIGHTS

TO: Heather Botten, Associate City Planner

FROM: Tom Kaldunski, City Engineer 
Mike Wright, Engineering Technician

DATE: January 31, 2018

SUBJECT: Planned Unit Development Amendment
Interstate Development Corporation-Case No. 18-07PDA
Plan submittal January 22, 2018

This is a review of the proposed Interstate Development Corporation Planned Unit Development Amendment on PID # 201186101010 located at 9015 Broderick Blvd to amend the Arbor Pointe PUD to allow Special Education School as a permitted use in the CSC district and a Planned Unit Development Amendment to allow for the special education school by amending the approved site plan.

1. The City is interested in securing permanent and temporary easements over existing water main loop to service proposed fire station west of T.H. 52.
2. The City is looking to secure connection to water main loop to service proposed fire station west of T.H. 52.
3. The City is interested in securing permanent and temporary easements over a proposed sanitary sewer system.
4. The City is looking to secure a 20' access agreement.
5. The City would like to take over maintenance of private hydrants regarding Hydrant Maintenance Agreement.
6. The parking lot conveys storm water to a pond to the northwest. A D&U Easement would be required over this pond because public water drains thru the facilities.
7. The storm water management standards are to infiltrate the first 1" of runoff and manage Atlas 14 100-year storm water event. The City would request a copy of the hydrocad report. It is likely that the existing pond and storm facility provide an acceptable stormwater management plan.
8. The City is proposing to have Broderick Blvd reconstructed. This would be an opportunity to make any adjustments for future movements of bus entrances. The proposer should review the driveway widths.
9. The fenced playground area would require a fence permit.
10. Identify anticipated traffic flow generated for site.
11. Prior to issuance of a building permit, the owner shall have a City Engineer approved erosion control plan.
12. Coordination of entrances will be needed during the Broderick Blvd reconstruction.
13. ADA compliant access should be reviewed from proposed public sidewalk on Broderick Blvd.

14. A NPDES permit will be needed if land disturbance is over 1 acre.
15. Designated haul routes would be Broderick Blvd east and west.
16. A typical section will be required for the mill and overlay.
17. Prior to issuance of building permit, an Engineering escrow of \$7,500 will be required for attorneys, consultant and Engineering inspection costs.
18. An emergency overflow (EOF) should be noted on plans with elevation.

cc: Allan Hunting, City Planner
Steve Dodge, Assistant City Engineer
Frank Martin, Chief Building Official
Tim Kuntz, City Attorney
Jeff Schadegg, Fire Marshal

Attachments: Fire Station Utility Concept Plan
GIS Overview
Sheet 48 & 49 Broderick Blvd Reconstruct
Arbor Pointe Retail Phase 1 sheet 3-4 of 8

P L A N N I N G R E P O R T
C I T Y O F I N V E R G R O V E H E I G H T S

REPORT DATE: February 15, 2018

CASE NO: 17-36NCUC

HEARING DATE: February 20, 2018

APPLICANT: Pine Bend Sanitary Landfill

PROPERTY OWNER: Republic Services

REQUEST: -Zoning Ordinance Amendment
 -Conditional Use Permit Amendment
 -Non-Conforming Use Certificate Amendment

LOCATION: 2495 East 117th Street

COMPREHENSIVE PLAN: GI, General Industrial

ZONING: I-2, General Industrial and IRM, Integrated Resource Management Overlay Zoning District

REVIEWING DIVISIONS: Planning
 City Attorney
 Public Works/Engineering
 Administration
 Public Safety
 Barr Engineering

PREPARED BY: Thomas J. Link
 Comm. Dev. Dir.

PROPOSAL

The Pine Bend Landfill consists of approximately 323 acres located on the north side of 117th Street, between Highways 52/55 and Rich Valley Boulevard. The Landfill is a sanitary landfill, by ordinance definition, that accepts solid wastes for disposal, including mixed municipal solid waste, non-hazardous industrial solid waste, construction debris and demolition debris, non-infectious waste, and asbestos. The landfill currently has a permitted airspace capacity of 29.8 million cubic yards, including 28.6 million cubic yards of waste and 1.2 million cubic yards of final cover material. As of January 2017, the landfill had a remaining permitted airspace capacity of approximately 1.9 million cubic yards. The landfill accepts an average of approximately 450,000 cubic yards of waste per year. This amount, however, can vary significantly depending on various factors.

The landfill is proposing a side slope capacity expansion of 4.14 million cubic yards, including 3.53 million cubic yards of waste and .61 million yards of final cover material. The expansion would extend the life of the landfill about eight years.

Pine Bend Landfill is proposing a side slope capacity expansion. The outside slopes of the landfill's north and east sides would be increased from a 5:1 grade to a 3:1 grade. The base, or footprint, of the landfill would not be expanded and the height of the landfill would not be increased. The landfill currently has 3:1 slopes on the south and west sides of the landfill. The expansion would occur over the unlined portions of the landfill. The landfill is also proposing to install a new liner and leachate collection system beneath the expansion area.

The side slope capacity expansion is referred to in the exhibits and in technical documents as Phase 6. The existing landfill consists of Phases 1 through 5.

Operational aspects of the landfill would remain the same. Site security, hours of operation, number of employees, number and type of equipment, processing, nuisance control, landscaping, traffic generation and traffic characteristics, and end land use would not change. However, there would be a temporary increase in employees, equipment, and traffic for a few months while the side slope expansion is constructed.

SPECIFIC REQUESTS

The proposal requires the approval of the following:

- A Zoning Ordinance Amendment to allow a side slope capacity expansion of existing sanitary landfills as a conditional use, providing the landfills have a non-conforming use certificate, are in compliance with that certificate, and meet other conditions regarding final cover, liners, leachate collection, gas extraction, height, property boundaries, capacity, and acceptable wastes.
- A Conditional Use Permit to allow a side slope capacity expansion of 4.1 million cubic yards, including 3.53 million cubic yards of waste.
- A Non-Conforming Use Certificate Amendment to allow the capacity expansion.

BACKGROUND

The Pine Bend Landfill initially received a conditional use permit for its operation in 1975. The landfill became a legal non-conforming use in 1991 when the City adopted a zoning ordinance amendment. That amendment prohibited sanitary landfills, such as Pine Bend's, created the Integrated Resource Management Overlay Zoning District, and placed that overlay zoning district on the Pine Bend Landfill and other properties in the area. The overlay zoning district prohibits certain waste industries, restricts and regulates other waste industries, and requires waste industries to be concentrated in the southeast industrial area of the City.

Since there were numerous questions regarding how the City zoning ordinance's non-conforming regulations applied to the landfill, the City and the landfill entered into a Non-Conforming Use Certificate (NCUC) in 1995. The NCUC resolved uncertainties for both the City and the landfill. It clarified the zoning status of the landfill, specified rights and responsibilities of the landfill, and provided the City with more specific controls which had not been clearly defined in the previous conditional use permit.

Since the adoption of the NCUC in 1995, the City has approved several additional requests by Pine Bend. Most of these requests were for accessory uses or minor revisions, such as an energy recovery facility for the generation of electricity, open storage of trucks and trailers, a revised landscaping plan, a modified elevation and grading plan, a compost facility, and stockpiling of soils. In 2004 the City approved a capacity expansion of 5.6 million cubic yards. This expansion was primarily a vertical expansion over previously filled areas and a small horizontal expansion where the landfill offices are located.

In August 2015, Pine Bend Landfill made application to the State of Minnesota for the proposed side slope capacity expansion. The Minnesota Pollution Control Agency (MPCA) then prepared an Environmental Assessment Worksheet (EAW) for the expansion. The City reviewed the EAW and submitted comments to the MPCA. The MPCA completed the EAW process by making a finding of a negative declaration, meaning that a more involved Environmental Impact Statement (EIS) was not necessary.

In 2016, the MPCA commenced the review of the Pine Bend Landfill application. City staff and Barr Engineering, the City's environmental engineering consultant, were very involved in the process and review of the MPCA permit. The City had numerous communications with MPCA regarding the permit. Most of these comments were addressed in four lengthy letters to the MPCA from April 2016 through June 2017. Numerous technical issues were examined, discussed, and resolved.

EVALUATION OF THE REQUEST

ZONING ORDINANCE AMENDMENT

The zoning ordinance prohibits sanitary landfills. The proposed zoning ordinance amendment would continue to prohibit sanitary landfills but would provide an exception by conditional use permit. That exception would only allow a side slope capacity expansion of an existing non-conforming sanitary landfill if the landfill has an NCUC. The existing sanitary landfill would also be required to have a liner and leachate collection system and gas extraction system approved by MPCA, Dakota County, and the City. The size of the side slope capacity expansion would be severely limited. The boundaries of the property on which the landfill would be located could not be expanded, the height of the landfill could not increase, and the types of waste to be accepted for disposal would continue to be restricted. The proposed ordinance would be similar to an ordinance amendment which was approved in 1998 for a vertical expansion of the SKB Rich Valley Demolition Landfill and in 2004 for a vertical expansion of the Pine Bend Landfill.

The proposed ordinance amendment can be evaluated by comparing it to the purpose and intent of the Integrated Resource Management Overlay Zoning District, as attached. The amendment would not deter industrial development in the surrounding area, which is desired for purposes of tax base, employment, and buffering. Since the ordinance would not allow a horizontal expansion, i.e. an extension beyond the boundaries of the existing landfill, it would not consume additional acreage that could otherwise be used for other industries. Furthermore, it would not create disincentives for further industrial development or discourage such development by creating potential incompatible land uses. The ordinance amendment would also continue the integration of other waste industries in the area, including the SKB Demolition Landfill and Transfer Station, the Republic Recyclery, and JR Appliance's recycling facility.

The ordinance amendment would not deter the creation of a buffer of compatible industrial development around an existing landfill since it would not be a horizontal expansion. The amendment would continue to provide for the concentration of waste industries in this specific, delineated area of the City. Though the State, County, and City continue to encourage reduction, re-use, recycling, and composting, there continues to be a need for sanitary landfills. Furthermore, landfills typically recycle materials including appliances, household hazardous waste, electronics, and tires. Though the ordinance amendment may not have a significant impact on the development of the City tax base, it generates City revenue through the Host Community Fee. Landfills also provide a moderate amount of employment.

The proposed ordinance could have minimal impacts on the environment, depending on the specific proposal. Furthermore, a side slope capacity expansion could offer some public environmental benefits, as discussed later in this report.

In summary, the proposed amendment appears to be consistent with the purpose and intent of the Integrated Resource Management Overlay Zoning District.

The proposed zoning ordinance amendment, as attached, is identical to the ordinance amendment that the City Council adopted for the previous landfill expansion in 2004, except for the two following changes:

- The capacity of the landfill would be changed to reflect the proposed expansion. The ordinance limits the size of the landfill to a 40% increase in capacity beyond the original 1995 NCUC. This increase includes the 2004 expansion and the current proposal (Paragraph H).
- The surface square footage of the landfill would be changed to reflect the proposed expansion. The ordinance limits the surface square footage size of the landfill to 8.5 acres beyond the original 1995 NCUC. The increase includes the 2004 expansion and the current proposed expansion (Paragraph J).

CONDITIONAL USE PERMIT AMENDMENT

Whereas the above analysis of the ordinance amendment addresses the general appropriateness of a side slope capacity expansion of an existing sanitary landfill in the I-2 zoning district, the conditional use permit analysis addresses the appropriateness of the use specifically at Pine Bend Landfill. The zoning ordinance outlines general review standards to be used in the consideration of conditional use permit requests. These standards measure consistency with the Comprehensive Plan, consistency with the City Zoning Ordinance, compatibility with existing and proposed development in the area, adequacy of existing and proposed public facilities, suitability of the property for the proposed use, and impacts on the environment.

Consistency with the Comprehensive Plan and Zoning

Adjacent properties have the following Comprehensive Plan land use designations and zoning districts:

North	-General Industrial (GI) and Rural Residential (RR) comprehensive plan land use designation
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	-General Industrial (I-2), Residential Estate (E-1), and Integrated Resource Management (IRM) zoning districts
West	-Light Industrial (LI) comprehensive plan land use designation -Limited Industrial (I-1), Integrated Resource Management (IRM) and Agricultural (A) zoning districts.
South	-General Industrial (GI) comprehensive plan land use designations -General Industrial (I-2) and Integrated Resource Management (IRM) zoning Districts
East	-General Industrial (GI) comprehensive plan land use designation -General Industrial (I-2), Integrated Resource Management (IRM) and Sand and Gravel (S & G) zoning districts

As the comprehensive plan states, "the general industrial category includes lots or parcels containing manufacturing, processing and disposal facilities. General industrial parcels exist in only one area, southern Inver Grove Heights lying west of Highways 52/55. The land designated as general industrial on the future land use plan includes the Pine Bend Landfill.

Light industrial and general industrial are similar uses with the predominate differences being in the intensity of the types of uses and the nature of the uses themselves. General industrial is analogous to "heavy" industrial users such as the landfill operation. In southern Inver Grove Heights, areas containing both of these uses are intended to be improved and upgraded over time. Industrial development in the southern part of the City has been occurring for the past 40 years. Public improvements and comprehensive plan amendments have enabled the extension of public infrastructure to serve much of this area. In the future, if it becomes feasible to extend infrastructure to more of this area, the City anticipates potential redevelopment."

The purpose of the I-2 General Industry Zoning District is "to provide for areas which, because of the availability to thoroughfares and railroads, suitable topography, and isolation from residential areas, are appropriate for industrial uses which are of a more intense nature. The I-2 zoning district also allows certain business uses necessary to compliment general industrial uses."

The purpose of the Integrated Resource Management Overlay Zoning District is to:

- A. Prevent the expansion of mixed municipal solid waste landfills by encouraging industrial development on adjacent properties.
- B. Encourage solid waste processing facilities, which can integrate their operations with mixed municipal solid waste landfills, to locate in proximity to such landfills.
- C. Promote orderly development of other properties in the community by creating a buffer of compatible industrial development around mixed municipal solid waste landfills.
- D. Reduce the areas of the City subject to the potential adverse environmental impacts of solid waste processing facilities by encouraging them to locate in close proximity to mixed municipal solid waste landfills and each other.

- E. Delineate an area for select solid waste uses that exhibit minimal environmental impacts and are generally environmentally friendly.
- F. Provide an opportunity for solid waste uses that are consistent with the state's waste management hierarchy of encouraging reduction, reuse, recycling, composting and discouraging incineration and landfilling.
- G. Enhance regulation and inspection of solid waste processing facilities by encouraging them to locate in proximity to one another.
- H. Enhance the tax base by encouraging development around mixed municipal solid waste landfills consistent with sound principles of municipal planning.
- I. Provide additional employment opportunities for city residents by encouraging industrial development.
- J. Establish standards and restrictions for solid waste uses to protect the environment and to promote sound land use planning

The proposal would maintain the same G-I comprehensive plan designation and the same I-2 and IRM zoning districts, as currently exist on the property. The Integrated Resource Management (IRM) overlay zoning district was created specifically to allow and regulate certain waste industries in this part of the city. Since the proposal does not expand the base of the existing landfill, it does not consume acreage that could be used for other industrial development. Though there is Estate Residential land use designations and zoning to the north, there is an intervening property and considerable distance between the landfill and those residential uses. Moreover, the proposed side slope capacity expansion would be no different than the existing landfill operation and would not expand the landfill's base any closer to the residences. The land use designations and zoning to the west, south, and east are identical to or similar to that of the Pine Bend Landfill property. Furthermore, those designations and zoning specifically allow certain waste industries. As stated above, the proposal provides revenue in addition to existing taxes, and some employment. Therefore, the proposal appears to be consistent with the comprehensive plan and the zoning ordinance.

Compatibility with Existing and Future Land Uses

Adjacent land uses include the following:

North	-Closed CAP/Amdura Landfill and Estate Residential
West	-Electrical Generation Facility and Vacant
South	-Mini-Storage, SKB Rich Valley Demolition Landfill, and Thermo Gas Company
East	-BFI Recycling, North American Trailer Repair, and Steenberg Watrud Construction

There are other industrial uses in the surrounding area, such as Bituminous Roadways Sand and Gravel, Flint Hills Refinery, Kane Transport, Enterprise LP Gas, Steininger Sand and Gravel, Cut Fruit Express, Praxair Industrial Gas and Excel Energy's storage tanks and peaking plant. The nature of these uses is very compatible with the landfill.

The nearest single-family residence, excepting a residence owned by Pine Bend Landfill, is approximately 1,000 feet from the northwest corner of the BFI property. There are four residences within a ¼ mile radius of the landfill boundary. The impacts to these residences would be identical to the existing operation and would continue to be mitigated by a considerable separation distance. The only change to the existing situation would be the continued landfill operation and the construction of the expansion area. This construction activity would be temporary and would be similar to past construction activities and the current landfill operation in terms of its scale of activity, type of equipment, hours of operation, noise, and dust.

A sanitary landfill has the possibility of nuisances, such as litter, dust, and odor, and noise. The NCUC addressed nuisances by restricting hours of operation and requiring control programs. The NCUC would continue to regulate nuisances if the side slope capacity expansion is approved. The proposed expansion would not create any more nuisances than the existing landfill. The City has received four complaints regarding nuisances over the last several years. The complaints pertain to litter, noise and odor. The impact of the nuisances is mitigated by the surrounding industrial land uses, the very low density residential development, and the residences' distances from the landfill. Because of the combination of other heavy industrial uses and their long-established presence, a certain amount of nuisances must be reasonably expected. However, the Pine Bend Landfill has taken appropriate action to mitigate nuisances and would be required to continue such performance, if the proposal would be approved. In addition, Dakota County Environmental Resources inspects the landfill ten times a year and requires the landfill to correct nuisance violations. Therefore, the proposed use, which is identical to the existing use, would be compatible with and, in most cases, similar to nuisances of the surrounding industrial uses.

The side slope capacity expansion would not generate any more noise than existing landfill operations. In 2004 Pine Bend Landfill completed an analysis of noise generated by landfill equipment and its impact on the nearest residences. The report found that landfill equipment would comply with State noise standards, except in the early morning, between 5:30 AM and 7:00 AM. At that time, two pieces of equipment, compactors and trucks, would slightly exceed the State noise standards. Pine Bend Landfill subsequently stated that they would not use compactors in the early morning hours. Moreover, truck traffic is a constant activity on 117th Street and Rich Valley Boulevard, regardless of the landfill, because of the heavy industrial activities in this part of Inver Grove Heights and Rosemount.

Adequacy of City Facilities and Services

State Highways 52/55 is sufficient to handle the traffic generated by the landfill. Major improvements were made to the highway about ten years ago, including an interchange, frontage roads, and traffic signals. Dakota County and the City recognize the need to improve 117th Street to carry increased volumes of traffic, especially the large number of trucks generated by industries in the area. It is anticipated that the road will be expanded to a four-lane, limited access highway though there is no definite timeframe yet established for these improvements. Jurisdictional responsibility of the road needs to be determined, following construction of the improvements.

The proposal would not generate additional truck traffic beyond that which currently exists with the landfill operation. Though traffic generation related to the operation of the landfill would not change, there would be a temporary increase in traffic while the side slope capacity expansion is constructed. This would be similar to the construction of previous phases of the landfill. These previous construction activities did not cause any difficulties, except when semi-trucks waiting to enter the landfill backed up onto 117th Street. The 2004 conditional use permit subsequently prohibited such stacking, or queuing, on 117th Street.

Municipal water has been extended to the area and is adequate to serve the expansion. If the Metropolitan Council, or the City, were to extend sanitary sewer to this area, it would be designed at a sufficient size to adequately handle Pine Bend Landfill's sanitary sewer needs. A condition of the 2004 CUP requires Pine Bend Landfill to connect to sanitary sewer service, if and when it would become available.

Barr Engineering has reviewed the grading, drainage, and erosion control plans. The engineers paid particular attention to increased stormwater runoff volumes and rates, updated rainfall rates, stormwater calculation methodology, model stormwater events, pond capacity, infiltration volumes, erosion and erosion control details, and pond maintenance. In response to these concerns, Pine Bend Landfill has modified their plans and provided additional information and analysis. With these modifications and additional information, Barr Engineering finds the landfill's stormwater plans to be acceptable.

A major concern is fire service since fires may occur at landfills. These landfill fires can be difficult and costly to put out, especially if they are subterranean fires. The City has addressed fire service in the Host Community Agreement, a document negotiated between the City and Pine Bend Landfill in 1995. In fact, the provision of fire services to landfills was a major topic of considerable research and discussion when the Host Community Agreement and the NCUC were negotiated for the Pine Bend Landfill. That Host Community Agreement requires Pine Bend Landfill to provide adequate fire protection. This fire protection includes constructing and maintaining adequate access roads, providing adequate water supply, construction fire breaks when necessary, providing and maintaining fire protection equipment, placing at the disposal of the City a command post, communications equipment, fuel, and mechanics during the fire, preparing a Contingency Action Plan, and providing information to the City regarding potential fire hazards and other landfill features that might affect firefighting efforts.

The current operation places few demands on the City police services and the proposed expansion would not increase the need for such service. However, Pine Bend Landfill has submitted their current Emergency Response Plan for review by the City police and fire services. The City police recently reviewed the plan and found it acceptable. The Emergency Response Plan is updated annually by Pine Bend Landfill. Copies of any updates or modifications will be provided the City.

Suitability of the Property

Since the proposal does not include a horizontal expansion beyond the boundaries of the existing landfill property or an increase in the landfill's height, the size and shape of the Pine Bend Landfill property would be sufficient for the proposed airspace capacity expansion. The topography of the existing landfill provides for the expansion. As stated above, the property is adequately provided with City facilities and services, including roads and highways, municipal water, police services,

and fire service. Other aspects of the site, such as access, parking, private sewage disposal, and zoning requirements would continue to be adequate for the proposed use. Therefore, the property would be suitable for the proposed use.

Environmental Impacts

The environmental impacts are discussed in a letter report from Jeff Ubl of Barr Engineering, dated February 13, 2018, as attached. As stated previously, Barr Engineering has been very involved in a technical review of the proposed expansion. On the City's behalf, Barr offered numerous comments to the Minnesota Pollution Control Agency (MPCA) regarding the Environmental Assessment Worksheet (EAW). Subsequently, Barr Engineering prepared four lengthy reports to the MPCA regarding Pine Bend's requested modification to their State permit. Pine Bend Landfill has responded to Barr's many comments and made modifications to their proposal.

Barr's review has focused on 12 technical topics: waste acceptance, ground water monitoring system, leachate recirculation, solid waste composting, ground water quality, surface water management, waste capacity, liner and leachate collection system design, gas monitoring and gas extraction/treatment systems, final cover design, closure, post-closure, contingency action, operation and maintenance plans, and final assurance cost estimates. In reviewing the City application, Barr Engineering paid particular attention to waste acceptance, waste capacity, groundwater quality and trends, surface water, and gas migration and trends.

As a result of this review, Barr Engineering has provided recommendations for amendments to the Pine Bend Landfill Non-Conforming Use Certificate (NCUC) and Conditional Use Permit (CUP). These modifications have been incorporated into the documents, as attached. The CUP, in particular, requires Pine Bend Landfill to continue their efforts to address the City's concerns, especially regarding groundwater and gas migration.

Barr has concluded that there are potential environmental benefits to the landfill's proposed expansion, including: 1) a reduction in the amount of leachate migrating into the groundwater, 2) the generation of additional gas to be converted to the electricity, and 3) increased extraction of gas. Finally, Barr concludes that the proposed side slope expansion is "reasonable and appropriate".

The proposed conditional use permit, as attached, is the same as the conditional use permit approved by the City Council in 2004, except for the following modifications:

- The size of the landfill has been increased to 32.13 million cubic yards of waste to reflect the current proposal (Condition No. 1)
- Revised plans are referenced to reflect the current proposed expansion (Condition No. 3)
- The City approval of the 2004 expansion, including the conditions attached to that approval, are referenced (Condition No. 2 and 5g, h, and i)

- Vehicles coming into Pine Bend Landfill, both for construction of the side slope capacity expansion and ongoing operations, are prohibited from queuing onto 117th Street (Condition No. 8)
- The conditions regarding the groundwater monitoring system, the leachate collection system, and the leachate storage and transportation requirements have been simplified and updated (Conditions 11-13)
- Methane gas must achieve compliance with Minnesota Rules by January 1, 2025 or when the landfill's waste capacity reaches 30 million cubic yards, whichever occurs first (Condition No. 14)

NON-CONFORMING USE CERTIFICATE AMENDMENT

The proposed Non-Conforming Use Certificate (NCUC) Amendment, as attached, is the same as that which the City Council approved for the 2004 expansion, except for the following three changes:

- The revised plans reflect the proposed expansion (Exhibit D)
- Language was added to state that, in the case that there was a conflict between the NCUC and the CUP regarding groundwater monitoring requirements, requirements of the CUP shall prevail (A, 5.6.1)
- The requirement for a candle flare was eliminated since it was no longer found to be necessary

ALTERNATIVES

The Planning Commission and Environmental Commission have the following actions available:

- A. Approval. If the Commissions find the application acceptable, the following requests should be approved:
- A Zoning Ordinance Amendment to allow a side slope capacity expansion of the existing sanitary landfills as a conditional use, providing the landfills have a Non-Conforming Use Certificate, are in compliance with that certificate, and meet other conditions regarding final cover, liners, leachate collection, gas extraction, height, property boundaries, airspace capacity, and acceptable waste.
 - A Conditional Use Permit to allow a side slope capacity expansion of 4.1 million cubic yards, including 3.53 million cubic yards of waste
 - A Non-Conforming Use Certificate Amendment to allow the capacity expansion
- B. Denial. If the Commissions do not favor the proposed request, the Commission should recommend denial and provide findings for the basis of denial.

RECOMMENDATION

Staff recommends approval of Pine Bend Landfill's request for a Zoning Ordinance Amendment, Conditional Use Permit Amendment, and Non-Conforming Use Certificate Amendment.

Staff finds that the requests are consistent with the purpose and intent of the Integrated Resource Management Overlay Zoning District, are consistent with the Comprehensive Plan and Zoning Ordinance, are compatible with the surrounding land uses, do not pose an undue burden on City facilities and services, are uses suitable to the property, and have minimal potential for increased environmental impacts. Furthermore, staff believes that the side slope capacity expansion would be adequately controlled by the Integrated Resource Management Overlay Zoning District, the Non-Conforming Use Certificate, and the Conditional Use Permit. Finally, staff believes that the proposed side slope capacity expansion offers some environmental benefits to the City.

Enc: Application
Comprehensive Plan Map
Zoning Map
Aerial Map
Barr Report
Integrated Resource Management Purpose and Intent
Draft Ordinance Amendment
Draft Conditional Use Permit Amendment
Draft Non-Conforming Use Certificate Amendment

Cc: Jeff Marone, Pine Bend Landfill
Tom Shustarich, Wenck Associates
Tim Kuntz, City Attorney
Jeff Ubl, Barr Engineering

Table of Contents

CITY OF INVER GROVE HEIGHTS APPLICATION FORMS FOR PHASE 6 DEVELOPMENT AT THE PINE BEND LANDFILL

Zoning Code Amendment (one copy provided under separate cover)
Conditional Use Permit Amendment (one copy provided under separate cover)
Non-Conforming Use Certificate Amendment (one copy provided under separate cover)
Abstractors Certificate (one copy provided under separate cover)

1.0 INTRODUCTION	1-1
1.1 General Project Description	1-1
1.2 City Approval Requirements	1-1
1.3 Project Benefits.....	1-1
2.0 FACILITY INFORMATION AND DESIGN ISSUES.....	2-1
2.1 Ownership and History	2-1
2.2 Types of Waste Received.....	2-3
2.3 Facility Users	2-3
2.4 Waste Flow/Site Capacity/Phasing	2-3
2.5 Phase 6 Landfill Expansion Engineering Design	2-5
2.6 Subbase Preparation.....	2-5
2.7 Base Grades	2-6
2.7.1 Design	2-6
2.8 Liner Design	2-6
2.9 Leachate Collection System	2-7
2.9.1 Introduction	2-7
2.9.2 Drainage Layer System.....	2-9
2.9.3 Collection Pipes.....	2-9
2.9.4 Leachate Sump, Head Build-Up, and Removal.....	2-10
2.9.5 Leachate Leak Detection	2-10
2.9.6 Dual Extraction System.....	2-11
2.10 Final Cover	2-12
2.10.1 Design Overview	2-12
2.10.2 Final Cover Grades	2-13
2.10.3 Surface Water Management.....	2-14
2.11 LANDFILL GAS MANAGEMENT	2-17
2.11.1 Background	2-17
2.11.2 Gas Probe Management	2-18
2.11.3 Future Gas System Installation	2-18
2.11.4 Existing Extraction Wells	2-18
2.11.5 Horizontal Collectors.....	2-19
3.0 OPERATIONS	3-1
3.1 General Operations and Site Security.....	3-1
3.2 Hours of operation.....	3-1
3.3 Employees	3-1
3.4 Equipment.....	3-2

Table of Contents (Cont.)

3.5	Processing	3-3
3.6	Post-Closure, Contingency Action Plan and Financial Assurances.....	3-3
3.7	Total Facility Operating Permit	3-3
4.0	POTENTIAL ENVIRONMENTAL IMPACTS.....	4-1
4.1	Leachate	4-1
4.2	Methane	4-1
4.3	Noise	4-2
4.3.1	Landfill Equipment/Machinery Related to Waste Disposal	4-2
4.3.2	Landfill Equipment/Machinery Related to Cell Construction.....	4-3
4.4	Litter, Vectors, and Odor	4-4
4.5	Fugitive Dust	4-4
4.6	Site Geology and Groundwater.....	4-5
5.0	LAND USE IMPACTS	5-1
5.1	Land Use	5-1
5.2	Traffic and Haul Routes	5-1
5.3	Stormwater/Erosion Control.....	5-1
5.4	Utilities	5-2
5.5	Landscaping.....	5-2
5.6	Fire protection.....	5-3
6.0	ADDITIONAL ITEMS	6-1
6.1	Host Community Fee.....	6-1
6.2	Compliance History	6-1
6.2.1	MPCA	6-1
6.2.2	County	6-2
6.2.3	City	6-2
6.3	Status of Other Permits and Approvals	6-2

Table of Contents (Cont.)

IN-TEXT TABLES

Table 2-1: Landfill Design Volumes.....	2-4
---	-----

APPENDICES

A	Site Lease Agreement
B	Plan Sheets (Full-size provided separately)
C	Geotechnical Analysis and Comments
D	Stormwater Management Calculations and Model
E	Closure, Post Closure, and Contingency Action Plan Cost Estimates

1.0 Introduction

1.1 GENERAL PROJECT DESCRIPTION

BFI Waste Systems of North America, LLC (BFI) respectfully submits to the City of Inver Grove Heights (City) an application for an airspace expansion and continued development of the Pine Bend Landfill (PBL). This application was prepared based upon an initial meeting on Thursday, October 13, 2016 with City staff as well as follow-up meetings and telephone conversations along with the applicable City requirements.

With this application, BFI is requesting amendments and approvals from the City for the following:

- ▲ Zoning Ordinance amendment
- ▲ Conditional Use Permit (CUP) amendment
- ▲ Non-Conforming Use Certificate (NCUC) amendment
- ▲ Host Community Agreement amendment

1.2 CITY APPROVAL REQUIREMENTS

The Pine Bend Landfill is a mixed municipal solid waste (MSW) landfill, located in Inver Grove Heights, Minnesota, which has been in operation since 1971 under the Minnesota Pollution Control Agency (MPCA) Solid Waste Permit SW-45. The landfill is owned and operated by BFI Waste Systems of North America, Inc. (BFI).

BFI submitted an application for a major modification to the Minnesota Pollution Control Agency (MPCA) for Solid Waste Permit #SW-45 in August 2015. The request for a major modification detailed a proposed Phase 6 airspace capacity expansion over the existing landfill footprint by developing and permitting 3:1 cover slopes around the entire existing landfill footprint, including the north and east sides. The landfill is currently permitted with 3:1 cover slopes on the south and west sides. It is important to note that no footprint increase or increase to the currently permitted peak elevation of the landfill was proposed as part of the major modification request. This application to the City of Inver Grove Heights is the next step in the governmental approval process with an application to Dakota County to follow.

1.3 PROJECT BENEFITS

The landfill is located in an area consistent with nearby industrial uses including a construction and demolition landfill as well as a large refinery. In addition, the project provides many environmental benefits including:

- ▲ Continued surface water control efficiency. The surface water management system has been designed to manage a 100-year, 24-hour MSE 24 hr. 3 storm event of 7.45 inches. The surface water management system is inspected and maintained by PBL.
- ▲ Efficient landfill gas collection and management. As part of the expansion, the existing gas collection system at the landfill will be expanded to capture landfill gas generated from the future waste to be placed. The landfill currently generates approximately 3,000 cfm of landfill gas which results in 41,344.70 Megawatts of

electrical power provided in 2016 to the power grid by the landfill gas to energy plant located on-site and operated by a landfill gas developer.

- ▲ Continued and improved leachate collection and management. The Phase 6 expansion will provide for liner systems over the old unlined Phase 1 and 2 fill areas, thus reducing the amount of leachate currently reaching the unlined fill areas.

The landfill and proposed expansion also provide many socio - economic and financial benefits to the City including:

- ▲ The landfill provides an important service to the community for the disposal of municipal solid waste generated. The landfill is host to an annual City-wide cleanup event. BFI is also a member of the River Heights Chamber of Commerce and donates to the B.E.S.T. Foundation.
- ▲ Property tax revenue. PBL currently pays \$184,000.00 in property taxes. If the Recyclery and Hauling company, both of which are also located in Inver Grove Heights, are included this number increases to \$296,163.00
- ▲ Host free revenue. In 2016, PBL contributed \$1,914,000.00 host fees to the City.
- ▲ Local employment. Including the Landfill, Recyclery, and Hauling Company, approximately 220 people are employed by BFI.

2.0 Facility Information and Design Issues

2.1 OWNERSHIP AND HISTORY

As previously stated, BFI owns and operates the landfill. With regards to ownership history, MPCA permit SW-45 was originally issued to Pine Bend Development Company on September 7, 1971. Phoenix, Inc. operated the facility until 1976 when they purchased it. Browning Ferris Industries purchased the stock of Phoenix, Inc. on August 1, 1980 and Browning Ferris Industries then established Pine Bend Landfill, Inc. as a wholly owned subsidiary. Through additional mergers and acquisitions with Allied Waste in 1999 and Republic Services in 2008, the facility ownership has ultimately changed to its current status, BFI Waste Systems of North America, LLC a subsidiary of Republic Services, Inc.

BFI is ultimately responsible for all operations at the landfill, including the active gas management system and gas to energy plant. It should be noted that Fortistar currently operates the active gas system at the landfill. Browning Ferris Gas Services, Inc. which was purchased by Gas Recovery Systems, Inc. previously operated the gas system. A site lease agreement between BFI and Fortistar for the operation of the active gas system is provided in Appendix A.

A timeline for important historical environmental permitting, monitoring and response actions is provided as follows:

- ▲ **April 23, 1985** – The Proposer and the MPCA entered into a Response Order by Consent ("Order") under Section 17 and 18 of the Minnesota Environmental Response and Liability Act of 1983. Minn. Stat. ch. 115B. The Order required the Proposer to perform a Remedial Investigation and Feasibility Study to investigate the source or sources of groundwater contamination at and near the Facility; to assess actual and potential impacts of the releases or threatened releases of hazardous substances, pollutants and contaminants from the Facility on public health, welfare and the environment; and to identify, assess, design, develop and implement response action alternatives.
- ▲ **October 23, 1990** – The Proposer and the MPCA entered into an Amended Response Order by Consent ("Amended Order"). The scope of the Amended Order required the Proposer to redesign and complete the remedial investigation agreed to in the 1985 Order, conduct a feasibility study; develop a plan to provide an alternative drinking water source for certain residential wells adversely affected by the release(s) from the Facility and the neighboring Crosby American Demolition Landfill; and to develop a response action plan and implement the approved response actions.
- ▲ **September 23, 1991** – The MPCA approved the Updated Remedial Investigation Report for the Facility. In regard to the alternative drinking water source, the Proposer developed a plan and the MPCA issued a Record of Decision in September 1991, which required the residences with affected wells to connect to the city's water supply system. The city of Inver Grove Heights completed the connections supplying municipal water to the residences in December 1994.

- ▲ **November 21, 1994** – The MPCA approved No Action Alternatives under the Superfund process for the source control and the remediation of groundwater contamination as recommended in the Updated Detailed Remedial Analysis Report. The Minnesota solid waste management rules require more stringent levels for cleanup and remediation than the Superfund Program, therefore, the source control and the remediation of groundwater contamination was previously and currently managed in accordance with this Permit.
- ▲ **March 4, 2003** – The MPCA granted the Proposer a CON capacity as part of the Phase 5 vertical expansion of the Facility. The CON capacity granted was six (6) million cy and brought the total Facility disposal capacity to 29,800,000 cy.
- ▲ **July 2008 and November 2013** – The Proposer submitted Applications for Permit Renewal with a new SW-45 Permit being reissued.
- ▲ **August 2015** – The Proposer submitted a Request for a Major Modification to Permit SW-45 for the Phase 6 Development.
- ▲ **November 10, 2016** – The MPCA issued an approved Findings of Fact and Order for a Negative Declaration on the Need for an Environmental Impact Statement (EIS) on the Environmental Assessment Worksheet (EAW) proposed for the proposed Pine Bend Landfill Phase 6 Development.
- ▲ **October 25, 2016, March 6, 2017, and July 17, 2017** – The proposer provided responses to City comments on the Major Modification Application submitted to the MPCA.

The Permittee has constructed and the MPCA has approved the following major features Construction Summary:

Feature	Year Constructed
Methane Gas Extraction System	1995, 1996
Liner Base	
Phase 1	1987
Phase 2	1988
Phase 3	1992
Phase 3B	1995
Phase 4 Cell A	1999
Phase 4 Cell B	2001
Phase 5 Cell A	2005
Phase 5 Cell B	2006
Phase 5 Cell C	2009
Phase 5 Cell D	2010
Phase 5 Cell E	2013

Feature	Year Constructed
Phase 5 Cell F	Future Construction
Final Cover of Unlined Fill Area	
Phase 1	1993
Phases 2 and 3	1995, 1996
Phase 3 (SE corner)	2001
Phase 4 (lower portion of Phase 4)	2011
Liner Sidewall Extension	1995, 1996

2.2 TYPES OF WASTE RECEIVED

The Pine Bend Landfill is projected to accept approximately 344,000 tons of solid waste in 2017. This includes the following:

- ▲ MSW
- ▲ Processing residuals
- ▲ Industrial waste (This includes processing residual and alternative daily cover material. Asbestos is not currently accepted at the site. If market conditions change, BFI may wish to accept asbestos. This would require that the facility's Industrial Waste Management Plan be amended and approved by both the City and County. The July 2014 Solid Waste Management Plan was incorporated into the August 2015 MPCA Permit Application.)

A yard waste compost facility located on the west 100 acres was closed in 2010 due to ash borer disease. The MPCA permit for this facility has been kept up to date.

2.3 FACILITY USERS

At present, all materials at the Pine Bend Landfill are deposited by licensed haulers of municipal solid waste, demolition materials and approved industrial waste haulers, as well as the general public.

2.4 WASTE FLOW/SITE CAPACITY/PHASING

The waste flows and site capacity information presented in the August 2015 MPCA Permit Application were based on information provided in the 2014 Annual Report prepared for this facility. According to the 2014 Annual Report prepared for this facility and submitted to the MPCA, the PBL utilized approximately 416,629 cubic yards of solid waste capacity in 2014. The landfill utilized approximately 272,000 cubic yards of solid waste capacity in 2016. The reduction in waste flow to the site is mainly due to the disruption in the metropolitan area waste shed caused by the Ramsey and Washington Counties purchase of the former RRT RDF Facility now called the Recycling and Energy Center.

For the purposes of cell phasing in the August Application for Major Modification submitted to the MPCA, an annual fill rate of approximately 450,000 cubic yards per year was used. The 450,000 cubic yards annual fill rate is based upon PBL's knowledge and experience in the solid waste collection marketplace and provides for a conservative outlook of remaining airspace capacity.

PBL is currently filling in the Phase 5 area of the landfill. The Phase 4 development, which consists of Phases 4A, 4B, and 4C is approximately 36.8 acres in size, and was designed and permitted to allow for approximately 4 million cubic yards of capacity. Phase 5 is the vertical expansion over previously filled areas and is to be developed with a total of 6 cells designated Phases 5A through 5F of which Phases 5A through 5E have been constructed. As of December 2016, the remaining permitted/ultimate landfill capacity is approximately 1,953,575 cubic yards (which includes final cover requirements). This results in a total facility capacity of 29,800,000 cubic yards. This major permit modification application is requesting an additional 4,137,400 cubic yards of airspace capacity for the Phase 6 development. The total ultimate disposal capacity of the site would be increased from 29,800,000 cubic yards to 33,937,400 cubic yards.

Based on the amount of remaining airspace capacity as of December 2016, it is anticipated that landfill cell Phase 6A would be constructed in 2018 based on approval of this major modification request. To preserve infrastructure, the currently permitted Phase 5F would be the last cell constructed at the landfill following completion of Phase 6.

A summary of the design volumes as provided in the August 2015 Application for Major Modification submittal to the MPCA is provided in Table 2-1: Landfill Design Volumes. As shown, the landfill will be constructed and closed in phases.

Table 2-1: Landfill Design Volumes

Phase	Remaining Airspace (cy) ⁽¹⁾⁽²⁾	Base Liner Area (ac)	Final Cover Area (ac)	Final Cover Soils (cy) ⁽³⁾	Base Drainage Layer (cy)	Operational Volume (cy) ⁽⁴⁾	Site Life (year) ⁽⁵⁾	Site Life (months)	Open Date
5A	34,900	Const.	7.2	34,900	Const.	Full	0.00	0	2005
5B	108,700	Const.	12.3	59,759	Const.	48,941	0.11	1	2006
5C	465,500	Const.	18.2	88,040	Const.	250,000	0.56	7	2009
5D	999,100	Const.	9.4	45,433	Const.	653,667	1.45	17	2011
5E	869,100	Const.	10.7	51,551	Const.	612,772	1.36	16	2013
6A	1,240,000	23	30.0	145,200	37,107	1,057,693	2.35	28	2017
6B	1,118,000	20	27.0	130,680	32,267	955,053	2.12	25	2020
6C	910,000	17	22.0	106,480	27,427	776,093	1.72	21	2023
6D	869,400	20	20.0	96,800	32,267	740,333	1.65	20	2025
5F	1,164,869	6.61	15.8	76,269	10,664	1,077,936	2.40	29	2027
Total	7,779,569	86.61	172.5	835,112	139,731	6,172,489	13.72	164	

(1) Based on 2014 Annual Report

(2) Phase 5 volumes and closure areas include portions of the underlying phase 4 remaining capacities.

(3) Based on a 3- foot thick final cover

- (4) Operational volume is the total airspace less the final cover soils and the base drainage layer.
(5) Based on Annual waste flow of 450,000 cubic yards.

2.5 PHASE 6 LANDFILL EXPANSION ENGINEERING DESIGN

The Phase 6 design proposes to increase final cover slopes around the north and east perimeter of the landfill from 5:1 to 3:1. The design provides for increased capacity without increasing the footprint or peak elevation. The 3:1 final cover slope design already in place on the west side of the landfill has been shown to be stable and efficient at surface water management. The proposed and current landfill design includes environmental controls that meet or exceed regulatory requirements for this type of facility. Updated plan sheets from the August 2015 Major Modification Application detailing the design for Phase 6 are provided in Appendix B. A geotechnical evaluation including a response to previous geotechnical comments raised by the City are included in Table 1 on pg. 1 of Appendix C.

2.6 SUBBASE PREPARATION

Site preparation for continued construction and vertical expansion of the MSW facility begins with grading and shaping to the required grades. Soft or loose soils, organic material, rocks, roots, etc. will be replaced with more suitable fill material as needed, and compacted to a minimum of 95 percent Standard Proctor Dry Density (ASTM D-698). In general, a majority of the remaining subgrade preparation will be completed on waste filled slopes of the existing landfill. Subgrade is the prepared natural soil surface on which liner construction will begin. The subgrades for the disposal area have been designed to maximize site life, minimize environmental impacts, and blend into existing site grades.

The following is a description of the subgrade preparation that will occur in the 3:1 expansion areas:

Over a majority of the Phase 6 area, there is an existing 2-foot clay barrier serving as the final cover cap; there is no synthetic geomembrane. For development of Phase 6, the existing final cover will be removed down to the top of the existing clay barrier layer. The new liner system for this area (GCL and 60-mil HDPE) will be placed directly on the 2-foot clay barrier layer. BFI is proposing to utilize the existing clay cap as part of the base liner system for expansion over this area.

BFI would like to further propose that GCL could be removed from the liner system if the suitability of the existing clay cap could be documented as base liner quality clay. This was approved for the Phase 5 landfill development. Quality assurance testing, as documented in a Work Plan to be submitted to the MPCA prior to cell construction (cover soils stripping), would be completed on the clay cap to determine whether the clay will meet base liner quality standards including maximum permeability of 1×10^{-7} cm/sec, liquid limit of 25 to 50, plastic index limit > 12 , and percent fines passing #200 sieve > 50 percent.

Over a portion of proposed Phase 6A in the southeast corner of the site, the proposed expansion area is final covered with a 12-inch layer of cover soil, 12-inch sand drainage layer, and 40-mil synthetic geomembrane. In developing this Phase 6A area, the top 12-inch soil cover layer will be removed and stockpiled for utilization as part of final cover on

other disposal areas at the site. The 12-inch sand drainage layer and 40-mil geomembrane will be left to serve as a protective layer. The 12 inches of material left in-place over the synthetic membrane will help ensure that the membrane is not damaged.

Use of low-ground-pressure tracked dozers will be employed and downslope movement will be prohibited. The final cover topsoil and cover layers will only be removed as the filling proceeds, thus limiting open area to a small section. Non-contact surface water from the upper slopes will be diverted away from the fill areas by the use of temporary berms as needed.

2.7 BASE GRADES

2.7.1 Design

Base grade is defined as the top of the liner surface. The base grades for the currently permitted MSW facility have been designed to maximize site life, and yet minimize environmental impacts. The grades range from 33 percent on the internal sideslopes (3 horizontal to 1 vertical) to a minimum of 3 percent on the base, with leachate flow being directed to collection sumps within each phase.

The base grades for the Phase 6 expansion design will be set by the current grade on the overfill areas but will be no less than 3 percent and no greater than 20 percent, with the exception of the 3:1 containment berm slope. A containment berm will be constructed around the perimeter of the existing landfill to contain the overfill waste area (Phase 6) and provide for leachate collection.

2.8 LINER DESIGN

The liner system for MSW disposal areas, according to MPCA solid waste rules, must be designed to have a minimum collection efficiency of 95 percent. In addition, the liner system in combination with the final cover must have a minimum collection efficiency of 98.5 percent.

The approved liner system designs for the existing and remaining landfill development vary for the different areas of the site depending upon the existing liner system in-place below the vertical expansion. The proposed liner designs are as follows:

1. The western fill area or what basically constitutes Phase 4 development has been constructed with a composite liner consisting of one 60-mil (0.060 inch) high density polyethylene (HDPE) liner, overlying a 2-foot compacted clay liner. The clay liner has a maximum permeability of 1×10^{-7} cm/sec, and was compacted to a minimum of 95 percent Standard Proctor Dry Density, with a moisture content 0 to 5 percent wet of optimum moisture content.
2. The Central Fill Area or the valley between Phases 1, 2, and 3 and Phase 4 development is generally on virgin ground and a composite liner is currently permitted for this area. The composite liner is the same design as presented above and what is currently being utilized in Phase 4, & Phases 5A through 5 E and permitted for 5F.

3. The southeast fill area is the portion of Phase 3 landfill development which has received final cover with a 40-mil flexible membrane liner. The permitted liner design for overfill in this area is one 60- mil HDPE liner, overlying a geosynthetic clay liner (GCL). A technical reference paper published by CETCO and titled "GCL Compatibility with MSW Leachate" was previously provided to the City and MPCA indicates that MSW Leachate has minimal negative impact on the hydraulic conductivity of the GCL.
4. The majority of the Phase 6 expansion area is over Phases 1 and 2 which were constructed without an engineered liner. The permitted liner design for overfill in this area and for that being proposed for this expansion is one 60- mil HDPE liner, overlying a GCL. Also, PBL will utilize the existing 2-foot clay cap as part of the base liner system for this area and not incorporate a GCL should the existing 2-foot clay cap be shown to meet base liner quality clay standards.

The HELP Model calculations for the above liner designs were prepared as part of the previous MPCA permit application process and verify that these liner designs have an efficiency approaching 100 percent, which is exceeding MPCA rule requirements. The potential for the HDPE membrane to be punctured by a particle from the sand drainage layer was also evaluated. The factor of safety from puncture by this mechanism was shown to be 1.5.

Geotechnical calculations presented in Appendix C demonstrate that the liner system will not be adversely affected by settlement of the underlying waste due to the combined effects of biodegradation and physical creep. The post settlement grade on the slopes analyzed will be greater than or equal to 3%; at the end of the site life and subsequent post closure care period (a total of 45 years), which is consistent with the HELP modeling predictions of leachate head buildup.

2.9 LEACHATE COLLECTION SYSTEM

2.9.1 Introduction

The leachate collection system for the 3:1 overfill buildout is designed to collect and convey leachate from the overfill area to one of 6 leachate collection sumps located as shown on the drawings. The leachate collection sumps are created by excavating low points in the designated areas between the proposed perimeter berm and the existing landfill to serve as containment for the proposed 3:1 overfill area. The containment berm will be constructed so that the alignment creates a trench slope along the inside toe that directs leachate to the respective sumps. The trench area will be filled with coarse aggregate and a perforated leachate collection pipe will direct leachate to the sumps. Each sump will hold approximately 4,000 gallons of leachate.

Leachate collected in the sumps will then be pumped via a submersible sideslope riser pump to the existing forcemain that encircles the perimeter of the landfill. Each sump incorporates a sideslope riser to eliminate penetration of the liner. A submersible pump capable of pumping approximately 80 to 120 gpm of leachate will be installed at the bottom of each sideslope riser. The leachate pumps to be selected at the time of construction will maintain less than 12-inches of head over the liner during regular operations. Leachate from the

sumps will continue to be pumped to the leachate tanks through the existing double-wall, HDPE forcemain, which has been buried at a minimum 5-foot depth to prevent freezing.

Currently, the site is served by two above ground steel leachate storage tanks as follows:

- ▲ One 101,000-gallon tank in southern portion of site near office building;
- ▲ One 80,000-gallon tank in southern portion of site near office building.

From the storage tanks, tanker trucks transport the leachate to the MCES wastewater treatment plant in St. Paul. The storage tanks have provided adequate storage capacity in the past and are anticipated to serve the site's needs moving forward. This is mainly because construction of Phase 6 will be accompanied with final closure of areas in Phases 4 and 5 that are anticipated to be completed in upcoming years, which will result in a reduction in leachate generation at the site.

Historical leachate collection data is presented below.

Year	Leachate Collection Volumes (Gallons)
2016	8,260,197
2015	7,698,668
2014	8,372,828
2013	7,820,987
2012	6,642,340
2011	9,670,009
2010	7,610,212
2009	5,148,812
2008	7,540,650

Based on the data, it is reasonable to estimate that the leachate generation will continue to be about 8 to 9 million gallons per year in upcoming years as PBL plans to final close portions of the landfill as soon as final grade is reached and open areas should remain approximately the same as current. The real variability is a function of seasonal precipitation and the amount of open landfill surface area, rather than total landfill area.

2.9.2 Drainage Layer System

The HDPE liner will be overlain by 12 inches of granular drainage layer material. In compliance with the MPCA Solid Waste Rules, the permeability of the drainage layer is specified to be 1×10^{-3} cm/sec, or greater. On all sideslopes steeper than 10 percent, a textured HDPE membrane will be utilized to improve stability of the geomembrane/clay interface, geomembrane/drainage layer interface and the geomembrane/GCL interface.

The granular drainage layer will collect leachate and provide drainage along the liner to the leachate collection trench. Coarse aggregate (5/8 inch to 1 inch) will be embedded around the collection pipes to protect them from damage and provide increased flow performance. An intermediate filter aggregate will overlie the coarse aggregate. The granular drainage layer also will also function as a protective layer to prevent equipment from damaging the HDPE liner. The potential for the HDPE membrane to be punctured by a particle from the pipe bedding material was evaluated. These calculations were previously completed and the factor of safety from puncture by this mechanism (coarse aggregate) was shown to be 1.5.

2.9.3 Collection Pipes

Construction of the leachate collection trench begins with the placement of a geotextile in the pipe trenches above the HDPE liner. A layer of coarse aggregate 3 inches thick will be placed in the trench, and the pipe will be placed and aligned. The remaining coarse aggregate will be placed after the pipe is fully installed. Graded filter aggregate 12 inches thick, will be placed over the coarse aggregate to provide a filter from the overlying granular drainage layer. This filter will help stop migration of particles that might otherwise clog the collection pipe. The granular drainage layer material will then be placed over the trench. Special care will be taken to properly align the pipes, according to the invert elevations and locations. The perforations will be oriented to be on bottom.

The collection pipes will be 6-inch diameter, perforated, Standard Dimension Ratio (SDR) 11, HDPE pipe. Pipe strength calculations were previously completed for the Phase 5 vertical expansion and the pipe deflection due to maximum loading by waste is determined to be less than 5 percent. Failure due to buckling or wall crushing was also evaluated and safety factors were shown to be 11.6 and 6.8, respectively. The Phase 6 expansion area will not have any fill depths and maximum loading conditions greater than those used in the above calculations.

Since the proposed Phase 6 leachate collection piping will be placed over existing waste, there is potential for settlement caused by loading of waste. Calculations were performed for the anticipated settlement of the proposed Phase 6 piping to assure that at least 1% slope (post-settlement) would remain. Settlement calculations are presented in Appendix C.

The design of the leachate piping system, including all locations of collection pipes is shown on the leachate piping plan. Access to the leachate collection pipes for maintenance will be provided by cleanout risers, which will extend up the sideslopes (see Plan Drawings for details on the extensions). Cleanouts and sweeps have been provided in the design of the leachate collection system to allow for jetting of the pipes. Maximum lengths of the

collection system are approximately 1,000 feet. Currently, sewer cleaning equipment is capable of jetting lengths in excess of 1,200 feet at PBL.

Calculations presented in Appendix C demonstrate that the leachate collection piping will not be adversely affected by settlement of the underlying waste due to the combined effects of biodegradation and physical creep. The post settlement slopes for each 100-foot-long segment of leachate collection pipe will be greater than or equal to 1% at the end of the site life and subsequent post closure care period (a total of 45 years).

2.9.4 Leachate Sump, Head Build-Up, and Removal

As previously described, there is a significant amount of historical leachate collection data for this site. This historical data shows that, approximately 8 to 9 million gallons of leachate will likely be generated and collected per year while this site is in operation.

For the proposed overfill area, leachate sumps will be created by the intersection of the proposed perimeter berm and the existing final cover. Approximately 4,000 gallons of leachate can be contained in the leachate sumps, which are designed to be 2 feet deep and assuming the porosity of coarse aggregate to be 0.4. During regular operations, leachate head will be maintained at 12 inches or less over the sump area by setting the start/stop limits of the leachate pump to reflect these elevations. The pumps will pump the leachate to one of the two existing leachate tanks via the existing forcemain.

Leachate can be controlled during initial filling of the overfill area by limiting the area constructed and by diverting surface water, prior to contact with the waste, to the surface water downslope structures if possible or directly off the waste footprint. However, in the event of an extreme rainfall event during the filling of an overfill phase, the following scenario was analyzed:

Assuming an open area of 20 acres (approximate size of one Cell of Phase 6 expansion) draining to the area between the proposed perimeter berm and existing landfill final cover, an approximate 8.5-inch rainfall could be contained within the leachate collection trench area while maintaining a foot of freeboard below the top of the perimeter berm. This analysis is conservative for the following reason:

- ▲ No waste was considered in any of the open 20 acres
- ▲ An 8.5-inch rainfall exceeds even the 100-year event in this location
- ▲ PBL intends to limit the open area of the Phase 6 expansion to less than 20 acres and use operational berms to the extent possible to minimize the leachate that needs to be managed.

2.9.5 Leachate Leak Detection

With regards to a leak detection system (lysimeter) installed beneath the low point of the Phase 6 fill area, MPCA Solid Waste Rules part 7035.2815, subp. 9 states:

A. The owner or operator must install the detection system at the lowest elevation of the fill area and throughout the fill area, as necessary, to monitor

leachate build-up and for use as a part of the collection system. The detection system must be capable of monitoring leachate build-up in the fill area and consist of collection lysimeters and standpipes capable of monitoring, detecting, and collecting leachate movement through the liner. The detection system must consist of materials compatible with the leachate. The commissioner may approve a detection system without collection lysimeters or standpipes provided the owner or operator shows either to be unnecessary based on the liner system, subsurface soil conditions, ground and surface water flow patterns, depth to ground water, and the amount of leachate generated. The detection system must be designed and constructed to monitor the effectiveness of the leachate storage area.

For the proposed Phase 6 development, which includes an enhanced liner system in the sump areas (60 mil, GCL, 2 feet of clay), PBL is proposing to commit to liner leak location testing following each phase of liner system construction in lieu of lysimeters. Historically, PBL sees little to no liquid and no detection of leachate indicator parameters in their current lysimeters. PBL is committing to providing enhanced design and construction activities for this overfill development; above and beyond what has been performed in the past for their liner system that is showing no indication of loss of integrity. PBL is aware that the MPCA has approved the elimination of lysimeters in other composite lined facilities.

2.9.6 Dual Extraction System

The leachate dual extraction system at the Pine Bend Sanitary Landfill in Inver Grove Heights, Minnesota was installed in 2002 to collect leachate from the unlined portion of the fill area. Forty-six (46) existing gas extraction wells were reconfigured to allow for dual use for landfill gas and leachate recovery. Because this portion is unlined, successful leachate extraction is vital in source control of the groundwater and in reducing leachate from the closed portion of the landfill mound. An evaluation of the system shows a continued reduction in leachate levels from 2002 to the present during the time the system has been on-line. Currently, twenty-six (26) extraction wells are equipped with leachate extraction pumps and are operating as dual leachate extraction wells. The number of dual extraction wells is down to twenty-six (26) due to nineteen (19) extraction wells being taken off-line for Phase 5 landfill construction and one well rendered ineffective as the pump silted in.

The Grundfos Redi-Flo 3 pumps installed in the dual extraction wells are equipped with an onboard electronic motor that records pump starts and stops, hours of operation, and speed of the pump along with several other operating features. This information is stored in the pump motor and viewed on a CU300, a motor controlled equipment monitor at each individual well. Each well is also equipped with a bubbler tube and reference port for liquid level measurements. A Wenck Associates, Inc. (Wenck) field technician is regularly staffed on-site to monitor the function of the leachate pumps, the condensate sumps, and storage tanks; collect data on liquid level in the wells; collect data from the CU300 units; conduct maintenance and cleaning activities on the wells; and resolve any emergency situations that may jeopardize the efficiency of the leachate extraction system. Data is collected from the CU300 units and bubbler tubes on a bi-weekly basis and is used to aid in assessing proper operation, any changes occurring within the wells, and the overall productivity of the leachate extraction system.

Based on experience with maintaining the dual extraction system in the Phase 5 overfill area, the installation or removal of pumps for maintenance or the converting of other gas wells to dual extraction wells is very difficult, if not impossible, due to the age of the gas wells and expected deformities over time. In the past, pumps have been pulled from the wells for general maintenance and cleaning and in some cases, the pumps are not able to be returned to their original position. To address this concern, as well as the potential to add additional wells to the dual extraction system, PBL installed four pumping stations prior to Cell 5C construction in 2010. The pumping stations were constructed with 10-inch riser pipes rather than the 6 to 8-inch wells typically installed at landfills. This was done to more easily allow for the removal and reinstallation of pumps over time. PBL installed pumps in two of the pumping stations, PS-1 and PS-2 in October of 2013. The two pumping stations were electrically connected and the forcemain was connected to the existing forcemain installed adjacent to PS-1. Pumping stations PS-3 and PS-4 will be turned into active pumping stations once final waste elevations are achieved in those areas.

Due to the above experience, PBL is proposing to install six (6) additional pumping stations throughout the Phase 6 3:1 build-out area. The pumping stations will be installed in the same manner as those in the Phase 5 overfill area and will help maintain access for removing leachate from the old unlined Phase 1 and 2 fill areas at the site. The locations and construction details for the proposed pumping stations are provided in the Plan Drawings. The proposed depths of the pumping stations were based on not penetrating through the bottom of the waste in the unlined landfill area. The bottom of waste in the unlined areas was determined using boring records from the installation of the gas extraction wells in this area.

The bottom of waste is shown on the cross-sections and this information was used to determine the depth of the pumping stations. The locations were based on evaluating the pumping volumes from existing dual extraction wells in the area. The proposed pumping stations are located near areas where relatively higher volumes of leachate are currently being removed.

2.10 FINAL COVER

2.10.1 Design Overview

The final cover is designed to contain or divert precipitation from filled areas of the site. The efficiency of the cover system is defined as the amount of precipitation that is rejected or contained in the cover system, and must be at least 90 percent (Minnesota Rules Part 7035.2815 Subp. 6.D.(2)). The previously completed HELP model calculations show the cover system design efficiency approaches 100 percent.

One of the design features of the proposed expansion is to continue the 3:1 benched final cover slope around the entire perimeter of the existing landfill. This design provides for increased capacity without increasing site footprint or elevation. In addition, the design has been shown to be stable and very efficient at surface water management. The MPCA guidance document for 3:1 final cover systems was utilized in completing the design for PBL.

As shown on the plan sheets, benched sideslope final cover system will be constructed on all areas that are covered at a 3:1 slope. A benched system will be stable, efficient, and maintainable. The benches are 12 feet wide to incorporate access roads and surface water management. The benches are sloped at 12.5 to 16.6 percent into the sideslopes with a long axis grade of 3 to 5 percent. The final cover sideslopes will be 33 percent for a maximum length of 40 vertical feet and a flow distance of 120 feet. The majority of the final cover area will be at a three percent grade.

The final cover barrier layer will consist of a 40-mil LLDPE liner, or equivalent. For increased stability, all final cover slopes will utilize a textured liner material. A synthetic geonet drainage layer with geotextile bonded on both sides (geocomposite) will overlie the liner.

The cover material will consist of 24 inches of cover soil and/or topsoil. The upper 6 inches will be topsoil capable of sustaining vegetation. The final cover topsoil layer will be mulched and seeded with shallow-rooted, drought-tolerant grasses.

A cross section of the final cover system (from top to bottom) is provided below.

- ▲ 6 inches Topsoil
- ▲ 18 inches Cover Soil
- ▲ Geonet geocomposite
- ▲ 40-mil LLDPE Geomembrane
- ▲ 6 inches Smoothing or Buffer Layer

Slopes on the final cover of the facility will be constructed at up to 33 percent grade. The final cover then peaks at a 3 percent grade to a maximum elevation of 1,018 feet.

2.10.2 Final Cover Grades

2.10.2.1 Slope Stability

The stability of the landfill was evaluated for both a circular failure within the waste mass and for a block-slide type failure along the interfaces within the existing final cover system and the proposed base liner system.

Detailed explanation of the methodology and assumptions is presented in Appendix C and the results are summarized below.

Analysis	Factor of Safety
Circular Failure Within Waste Mass	2.37
Block Failure Along Existing Final Cover/Proposed Base Liner System	Varies; 1.5 @ Interface Friction Angle of 8 Degrees

The sensitivity of the analysis with respect to the interface strength along the existing final cover system/proposed base liner interface (and all components therein) was also evaluated. A sensitivity analysis completed as part of the geotechnical calculations provided to the City in comment/response correspondence shows that the minimum interface friction

angle required in any of the various material interfaces is 8 degrees. Given the various materials proposed for the liner system and materials in place for the existing cover system (whether geomembrane or clay was used as the barrier layer component), an interface friction angle of greater than 8 would be expected. Again, this analysis is conservative in that it neglects any adhesion that would occur along each interface.

2.10.2.2 Veneer Cover Stability

Benches will be incorporated at intervals of 40 vertical feet or 120 feet flow distance. The benches are 12 feet wide and are designed for use as access roads with surface water control on the inboard side. Benching provides for a buttressing effect at the toe for each 40 vertical feet of slope. This buttressing effect contributes greatly to the stability of the veneered cover system. Each bench will also serve as an anchor for the geosynthetic materials. This anchoring effect was neglected (conservative) in slope analysis. The final cover design includes the use of textured LLDPE geomembrane and a synthetic geocomposite drainage layer. This combination of features greatly enhances removal of infiltrated surface water while providing a high friction angle and resulting stability in the final cover components.

Overlying the drainage media is a 24-inch layer of cover soils/topsoil. This layer, once vegetated, provides significant moisture holding and evapotranspiration capability, which also enhances overall final cover performance.

An analysis of the veneer stability of the final cover system was previously performed during the phase 5 expansion permitting and demonstrated that the stability of the final cover design will meet the design safety factor criteria of 1.5. The proposed final cover profile is consistent with what was proposed in that permitting document, so no additional analysis is warranted.

2.10.2.3 Final Cover Access

The proposed benches provide for more designed access roadway surface than typically provided on landfill covers. The larger amount of final cover access roadway results in better access to the final cover, surface water control features, and many of the landfill gas well heads for operation, maintenance, and inspection. Landfill gas wellheads are placed for easy access from the benches (access roads).

2.10.3 Surface Water Management

The surface water system has been designed to manage a 100-year, 24-hour storm event of 7.45 inches (MSE-3 distribution). The system consists of benches, catch basins, drainage piping, downslope structures, junction vaults, and sedimentation ponds.

The 3:1 benched design provides improved performance in surface water management. The details of this and components of the surface water management system are discussed in the following sections. Surface water management calculations and model are provided in Appendix D.

2.10.3.1 Peak Run-off

HydroCAD 10.00 was the model used to determine the maximum discharge from the final cover system to each of the stormwater management ponds. Peak runoff was estimated using calculated composite CNs for each subwatershed assuming that a portion of the final cover would be in the newly graded condition (30%) and the remainder would be in a fair grass cover condition (70%). These percentages are representative of the proposed construction phasing since the entire final cover area will not be in the newly graded condition at the same time. To address concerns raised by the City during comment response correspondence, CNs for the steeper sideslopes were assigned assuming an HSG C soil group. CNs for the other final cover areas are based on HSG B soils. Time of concentration (Tc) for each subwatershed was calculated in HydroCAD by entering the respective land cover, flowpath length, and slope for each area.

2.10.3.2 Bench and Drainage Swale Design

Benches, constructed on all 3:1 slopes, are 12 feet wide, and are sloped into the final cover. The benches are placed to intercept and direct flow, as well as minimize erosion. The drainage channel at the interior of the bench was designed with the following characteristics:

Height= 22" (typical)
Slope= 3% to 5% (typical)
Manning "n" value= 0.035

The drainage benches were designed to handle the flow for each subarea and are spaced 40' vertically around the perimeter of the landfill. The peak flow depth will not exceed the depth of the bench. Benches will have erosion control matting installed to protect against erosion until vegetation is established.

In response to a comment received from the MPCA regarding maintenance of 1% drainage swales on the final cover design at PBL, the swales were removed from the upper 3% final cover and additional erosion control matting was added at the change in grade from the top 3% to the 3:1 sideslope; this change was approved by the MPCA.

2.10.3.3 Downslope Structures

Each bench discharges into one of six cable concrete lined downslope structures located around the perimeter of the site. Two of these structures are part of the currently permitted design. The four additional structures are located on the NW, NE, east, and SE sides of the proposed final cover area. Each downslope structure is a trapezoidal channel with design characteristics summarized below:

Depth = 2.0' (typical)
Bottom width = 9 feet
Manning "n" value= 0.040

Each channel was sized based on the HydroCAD modeling. Calculations for channels lined with cable concrete were performed in 2011 for the downslope structures installed during closure construction. Based on the information received from the manufacturer at that time, the maximum velocity for cable concrete using the CC 45 cable concrete block system is 17 ft/sec. The maximum velocity modeled for the 100- year, 24-hour storm event is ~15 feet per second in the proposed channels. Also, the cable concrete material installed in 2011 is acceptable for use for a flow of 231 cfs and a shear stress of 14.8 psf. The proposed channels modeled have a maximum flow of 163 cfs and a maximum shear stress of 14 psf. The use of the CC45 cable concrete for the proposed channels is supported based on the supporting calculations from the manufacturer which have been previously provided to the City.

2.10.3.4 Junction Vaults

The downslope piping systems in the southwest and northeast corners of the currently permitted design discharge to concrete junction vaults. In the junction vaults, flow is combined to a single pipe that outlets to the existing railroad crossing culverts, a 48-inch RCP on the southwest and a 96-inch RCP on the northwest.

2.10.3.5 Sedimentation Ponds

Surface water from the proposed Phase 6 3:1 build-out final cover area is also directed to existing sedimentation ponds. Discharge to the existing east pond (6P) is directed through an existing low area into a set of culverts beneath the railroad tracks prior to final outfall. There is currently one 36-inch culvert in place beneath the tracks. To accommodate additional stormwater flows per the design, two additional 36-inch culverts will be installed in this area. It should be noted that this will require installation by horizontal drilling methods due to the adjacent railroad tracks. Below is a summary of the ponds:

Pond	100-yr 24 hr storm runoff volume (ac-ft)	Total available storage above the April 14, 2015 aerial survey water level (ac-ft)
Existing East Pond (6P)	14.1	36.5
Existing Northeast Pond (4P)	22.0	31.2
Existing Northwest Pond (3P)	14.2	22.2

The ponds were designed to serve as infiltration ponds. The sandy soils at the landfill are conducive to infiltration. A universal soil loss equation was completed and provided in previous submittals. A Pond Maintenance Plan was also completed in March 2017 and has been incorporated into the Operations and Maintenance Plan presented in the August 2015 MPCA Permit Application.

During the MPCA permitting process, the City requested a calculation that would account for water volume reaching the ponds via surface runoff and via the underdrain system. The calculation was completed as part of a response to the City and is provided below.

Previously completed HELP modeling indicates that the peak daily flow rate in the closed condition through the geonet layer is approximately 1,443 CF/acre. Based on this flow rate and the drainage area to each pond, the volume of water draining to each pond via the underdrain system was calculated. Considering this volume in addition to the surface flow as modeled using HydroCAD, each pond has sufficient storage capacity above the modeled HWL for the flow volume from the underdrain system. A HWL considering the additional volume was also calculated using the surface area of the modeled HWL. Calculations are tabulated below:

Pond	Drainage Area (acres)	Peak Daily Flow (CF) to Pond ⁽¹⁾	HWL Elev. ⁽²⁾	HWL Surface Area (SF) ⁽²⁾	Top of Pond Elev.	Volume Above HWL (CF)	Approx. HWL Including Underdrain Volume ⁽³⁾
4P (Exist. NE Sed Pond)	55	78,775	889.0	204,189	892	384,598	889.4
6P (Exist. E Sed Pond)	35	51,048	887.5	83,699	896	973,323	888.1
3P (Exist. NW Sed Pond)	35	50,017	869.6	70,650	874	330,467	870.3

(1) From previously completed HELP modeling.

(2) From 100-yr HydroCAD model.

(3) Calculated based on the 100-yr HydroCAD model HWL surface area.

2.11 LANDFILL GAS MANAGEMENT

2.11.1 Background

The EPA and MPCA require that landfill gas (LFG) generated at MSW landfills be controlled. This control requirement is to achieve two objectives. First, the methane component of LFG is combustible in the concentration range of 5 to 15 percent by volume in air. Five percent is considered the lower explosive limit or LEL and 15 percent is considered the upper explosive limit or UEL. Consequently, migration and concentration of methane into enclosed spaces could result in an explosive atmosphere. Therefore, Minnesota Rule 7035.2815 Subp. 11 requires that the concentration of any explosive gas not exceed the LEL at the property boundary or 25 percent of the LEL in or around facility structures. PBL has an MPCA-approved gas collection and monitoring system to address concerns with migration of combustible gas.

The second objective in controlling LFG is for maintenance of air quality standards. In March of 1996, the EPA promulgated air emissions regulations for large new and existing MSW landfills. These are the New Source Performance Standards and Emission Guidelines (NSPS). Under these regulations, affected facilities that emit more than 34 megagrams per year (Mg/yr) of non-methane organic compounds (NMOC) must install controls. The installed controls must be capable of reducing the NMOC in the collected LFG by at least 98 percent by weight. PBL has been proactive in the installation of landfill gas control equipment.

PBL employs a comprehensive monitoring program for early detection of landfill gas (LFG) in on-site structures and at adjacent properties, as well as gas collection and a landfill gas to energy plant. Occupied buildings and structures located at the facility are continuously monitored using electronic monitoring devices. These devices allow for detection of concentrations of LFG well below the concentrations at which the gas reaches an explosive range. Landfill gas migration from the landfill is monitored with permanent landfill gas monitoring probes around the perimeter of the facility.

2.11.2 Gas Probe Management

As stated above, PBL employs a comprehensive monitoring program for early detection of landfill gas (LFG) in on-site structures and at adjacent properties, as well as gas collection and a landfill gas to energy plant. Minnesota Rule 7035.2815 Subp.11 also requires that occupied buildings and structures located at the facility are continuously monitored using electronic monitoring devices. These devices allow for detection of concentrations of LFG well below the concentrations at which the gas reaches an explosive range. Landfill gas migration from the landfill is monitored with permanent landfill gas monitoring probes around the perimeter of the facility. These probes are monitored in accordance with the Gas Management and Monitoring Plan which is included in the Facility Operations and Maintenance Plan.

Currently, PBL has been working with the MPCA and the City of Inver Grove Heights to address gas migration concerns. PBL recently completed a gas migration investigation at the site and the August 2017 Gas Migration Remodel Action Report has been provided under separate cover to the City.

2.11.3 Future Gas System Installation

The Pine Bend Landfill gas extraction system will be augmented in the Phase 6 area to include a horizontal gas collector system as well as the installation of six (6) new pumping stations. Although the pumping stations primary purpose is to remove leachate from the unlined landfill area, they may also be retrofitted to serve as dual extraction wells and also provide for landfill gas collection. Lateral subheader piping (8-inch HDPE) will be connected to the existing header piping system to provide vacuum to the new horizontal gas collection system. Horizontal collector piping (6-inch HDPE) will be installed as shown on the plans. The proposed system has been designed to provide effective control of landfill gases in the Phase 6 expansion area upon completion of filling. Horizontal collectors will be identified as HC-XX. All new wells/horizontal collectors will be given a sequential identification number when installed. The system will be installed in phases as filling progresses with the use of temporary controls to keep the existing system active during the construction of the proposed Phase 6 expansion.

2.11.4 Existing Extraction Wells

The existing gas wells will be extended as filling progresses during Phase 6 development. This means that periodically the well head assembly will require repositioning as development dictates. This may include remotely locating the wellhead away from the filling area. It is also possible that certain wells may be extended, but temporarily taken out of

service. The existing gas wells in areas where overfilling will occur will be extended vertically by fusing piping to the existing well pipe and also to the subheader connection to maintain the wellheads at 48 inches above the landfill surface during operations. The existing wellhead assembly will be removed prior to fusing the well and subheader extensions and will be reinstalled after the extension is made. A bentonite mixture will be used to seal the annular space between the outer pipe and well casing, if applicable.

It is anticipated that gas well extension process will take approximately two (2) hours per well to complete. The existing gas system is set up such that individual gas wells can be isolated from the active gas system by valves. Therefore, the entire active gas system will not need to be shut down during the extension process. Only a portion of the system will be isolated as a preventive measure against excessive oxygen intrusion during the extension work.

2.11.5 Horizontal Collectors

As previously discussed, horizontal collectors are proposed for installation in the areas of the Phase 6 expansion where the overfill waste thickness will be too shallow for practical installation of vertical extraction wells. The horizontal collectors will consist of 6-inch HDPE perforated piping and the proposed layout is shown on the Drawings. Coarse aggregate will be installed below, above, and on each side of the perforated horizontal collector piping and geotextile will be placed over the coarse aggregate. The solid piping portion of the collectors will be bed with sand. Condensate from the horizontal gas collection piping will drain to existing condensate pumps. The minimum pipe slope will be 3% to promote condensate drainage.

3.0 Operations

3.1 GENERAL OPERATIONS AND SITE SECURITY

A bound copy of a recently updated operations and maintenance plan along with the latest site evaluation reports as amended and approved and a complete set of plans will be kept in the operations office at the landfill for reference. A certified operator will be present to observe proper operation and monitoring of the facility.

The site will be maintained to provide a safe operating environment. The perimeter fencing and entrance gate will be maintained to provide security for the facility and discourage unauthorized access. The operator will lock the gates at the end of each working day and maintain the security systems on the facility buildings.

3.2 HOURS OF OPERATION

Normal operating hours for the facility are from 4:45 a.m. to 10:00 p.m. Monday through Friday, with waste received from 6:00 a.m. to 8:00 p.m., and Saturday 5:30 a.m. to 6:00 p.m., with waste received from 6:00 a.m. to 4:00 p.m. It should be noted that the landfill may be opened on Sunday should a solid waste processing facility request service on Sunday. The hours for receipt on Sunday shall be 7:00 a.m. to 2:00 p.m. with placement of daily cover until 4:00 p.m. A certified operator is on-site during the normal operating hours and during extended hours when waste is being delivered.

3.3 EMPLOYEES

As of August 2017, the facility has three MPCA-certified operators, allowing one certified operator to be present at the facility during all hours of site operation. New site personnel who will be charged with operating responsibilities generally receive formal training within the first six months of employment. All employee-training records are maintained at the facility office. Facility operators are encouraged to update their training on a biannual basis, or as necessary, to maintain MPCA certification.

The facility strives to maintain a safe work environment for the employees and customers. The Pine Bend Landfill has a mandatory safety and/or training program. Typical on-site training includes the following topics:

- ▲ Personal Protective Equipment
- ▲ Electrical Safety
- ▲ BFI Special Waste/Hazardous Waste Identification
- ▲ Random Inspection Program
- ▲ Working Face Safety
- ▲ Waste Screening/Evaluation
- ▲ Lock-out/Tag-out Program
- ▲ Hazard Communication

- ▲ Fire Extinguisher Training - Fire Prevention
- ▲ Drug and Alcohol Policy
- ▲ Storm Water Pollution Prevention Program
- ▲ Unacceptable Waste Procedures
- ▲ Exempt Industrial Waste Identification
- ▲ Bloodborne Pathogen
- ▲ Seat Belt Policy
- ▲ Safe Lifting/Back Safety
- ▲ Eye Protection
- ▲ Storm Water Management Plan
- ▲ Respirator Program/Fit Testing
- ▲ Hearing Conservation
- ▲ Winter Safety Slips-Trips-Falls
- ▲ Confined Space Entry
- ▲ Compaction Techniques
- ▲ Railroad Crossing Safety
- ▲ Heat Stress

The meetings are held monthly, or more often, to review and update current operating procedures.

3.4 EQUIPMENT

The following equipment is available on-site and is adequate for daily landfill operations.

- ▲ 836G Landfill Compactor
- ▲ 836H Landfill Compactor
- ▲ D-8T Dozer
- ▲ D-6R Dozer
- ▲ Motor Grader
- ▲ Wheel Loader 930
- ▲ Skid Steer
- ▲ 2-Farm Tractors with Mower Decks
- ▲ Water Truck

This equipment list may change at any time depending upon updated technology and the requirements of the site. All equipment is maintained on a routine basis. Equipment maintenance records are kept on-site at the landfill.

Facility equipment is adequately maintained to ensure safe operation and the ability to handle the waste as it is received. Each piece of equipment has its own maintenance schedule, depending on its level of usage. General maintenance operations are performed at the site. In-depth maintenance and repair is performed in the facility equipment building. Maintenance manuals for all equipment at the site are kept in a file in the equipment building.

A daily maintenance program includes: removing waste from radiators and checking for worn cooling system hoses and fan belts, checking hydraulic systems for worn hoses and fluid leaks, checking for fuel leaks, worn tracks or tires, etc.

Prior to operating the equipment at the beginning of each day, all water, hydraulic fluid, oil, and fuel levels are checked. An inspection of the area around the equipment is made to ensure the area is clear. The backup warning system is checked before leaving the startup area.

While equipment is operating, the machine is checked periodically for hanging or attached debris. The fuel and hydraulic systems are checked for leaks. Waste is handled in a manner, which protects the operator, as well as those at the working face.

At shutdown, the engine is allowed to cool evenly prior to shutting off. A 3-to-5-minute idle period is typical. All blades and other moveable parts are lowered to the ground, and the brakes and transmission locks set.

Records are kept of all maintenance work performed on the facility equipment. These records are kept with the equipment manuals in the maintenance building.

During the construction phase of the landfill expansion, additional equipment will be on-site to perform the actual landfill construction activities.

3.5 PROCESSING

There is no processing or open storage of MSW at the Pine Bend Landfill. However, Pine Bend Landfill does provide appliance recycling, electronics recovery, and household hazardous waste removal.

3.6 POST-CLOSURE, CONTINGENCY ACTION PLAN AND FINANCIAL ASSURANCES

Refer to the attached Appendix E for the modified closure, post-closure, and contingency action cost estimates. These cost estimates have been modified based upon comments received from the City in review of the MPCA permit application.

3.7 TOTAL FACILITY OPERATING PERMIT

The landfill is governed by a Total Facility Operating Permit (SW-45) through the MPCA with an AQD Facility ID No. 037000138.

4.0 Potential Environmental Impacts

4.1 LEACHATE

The leachate generated from the proposed expansion will be collected and conveyed from the composite liner to collection sumps in the expansion area. Leachate is removed from the sumps by pumps capable of handling the expected leachate quantities and treated off-site at the MCES St. Paul (Pigs Eye) wastewater treatment facility, which stipulates its own leachate monitoring requirements with which PBL must comply. A leak detection system will be installed beneath the low point of each sump located at the south and north ends of the proposed expansion to detect any potential leakage of leachate from the sump areas. The sump areas are where leakage would be most likely to occur, if at all, since the head buildup on the liner is the greatest at those points.

4.2 METHANE

The owner and operator of PBL, BFI Waste Systems of North America, LLC (BFI), operates an active gas collection and monitoring system at the site. The monitoring system consists of gas probes around the perimeter of the site. Per MPCA requirements, all facility gas probes are monitored; Minnesota Rule 7035.2815 Subp. 11 requires that the concentration of any explosive gas not exceed the lower explosive limit (LEL) of five percent methane at the property boundary or 25 percent of the LEL (1.25 percent methane) in or around facility structures. The gas probes that have historically shown exceedances of the LEL are monitored monthly, while other probes are monitored quarterly. Gas probe measurements are acquired using a GEM 2000 monitoring device and are performed by Fortistar, the gas developer for the landfill.

PBL employs a comprehensive monitoring program for early detection of landfill gas (LFG) in on-site structures and at adjacent properties, as well as an active gas collection and a landfill gas to energy plant. Minnesota Rule 7035.2815 Subp.11 also requires that occupied buildings and structures located at the facility are continuously monitored using electronic monitoring devices. These devices allow for detection of LFG concentrations well below the LEL. Landfill gas migration from the landfill is monitored with permanent landfill gas monitoring probes around the perimeter of the facility. Gas level readings at the gas probes on the east, south, and west sides of the PBL have historically indicated LFG concentrations above the LEL. PBL suspects that the current gas probes have been installed in close proximity to unlined areas of waste, and therefore are not providing an accurate measurement of off-site gas migration. As part of on-going landfill operations and to address comments from the MPCA and the City of Inver Grove Heights, PBL has performed various gas probe investigations to help identify the off-site migration of methane around the perimeter of the site; PBL has been actively working to address gas migration issues. The most recent investigations and actions completed at the site will be provided in a Gas Migration Remedial Action Report to be submitted under separate cover in August 2017.

4.3 NOISE

It is important to note that, as reported in the EAW prepared for the Phase 5 expansion, the expansion will alter the existing noise generation at the sites during construction activities only. The expansion will not result in an increase in truck traffic and noise during routine daily operations as to what currently exists. The following information regarding noise is as follows:

4.3.1 Landfill Equipment/Machinery Related to Waste Disposal

Noise presently generated at the site is the result of equipment used for hauling, compacting, and covering the refuse. The following machines or vehicles are operated at the site:

4.3.1.1 Landfill Machinery

Decibel (dBA) Range		Hrs/ week
Dozer	80-115	36hrs/week
Compactor 1	82-92	72hrs/week
Compactor 2	82-92	14hrs/week
Soil hauling truck	85-95	42hrs/week
Backhoe	73-80	42hrs/week

4.3.1.2 Haul Trucks

Refuse trucks hauling refuse to the site generate other noise. Approximately 200 refuse hauling trucks enter the site every day. 80 percent of these trucks are semi-trailer trucks and 20 percent are dump trucks. Such trucks are likely to generate from 85 to 95 dBA at the truck according to data furnished by the Hennepin County Department of Public Works. Traffic from these haul trucks take place from Highway 52 onto 117th Street into the south entrance of the site. All land within this reach of 117th Street is zoned industrial and no private homes or residences are presently in that area.

4.3.1.3 Nearby Sensitive Receptors

The closest resident is approximately 2,100 feet west of the landfill (east side of Rich Valley Blvd.) and 1,500 feet from the stockpile or borrow area located within the 100-acre adjacent site. This home is owned by BFI and rented out to a local resident. Topography presents a buffer between the work areas and private dwellings.

4.3.1.4 Operating Hours

Waste is received at the landfill between 6AM and 8PM, Monday through Friday, and 6AM to 4PM on Saturdays. No heavy equipment operates outside of these times unless opened on Sunday for special circumstances.

4.3.2 Landfill Equipment/Machinery Related to Cell Construction

The proposed expansion will not alter the existing noise generation typical of a cell construction project. Noise presently generated at the site for cell construction involves the following machines or vehicles:

4.3.2.1 Landfill Machinery

dBA w/in 200'	Hrs/ week	Project Duration	
Dozer 1	80-105	60hrs/week	approx. 3-4 months
Dozer 2	80-105	60hrs/week	approx. 3-4 months
Dozer 3	80-105	60hrs/week	approx. 3-4 months
Scraper 1	80-115	60hrs/week	approx. 3-4 months
Scraper 2	80-115	60hrs/week	approx. 3-4 months
Scraper 3	80-115	0hrs/week	approx. 3-4 months
Compactor 1	82-92	60hrs/week	approx. 3-4 months
Loader	69-80	60hrs/week	approx. 3-4 months
Soil hauling truck	85-95	60hrs/week	approx. 3-4 months
Soil hauling truck	85-95	60hrs/week	approx. 3-4 months
Backhoe	73-80	60hrs/week	approx. 3-4 months

Data originated from a federal highway administration study published in 1973.

Noise generated by the above equipment will be mitigated by the following considerations:

- ▲ Location of haul road. The major haul road to the site is 117th Street between the gate and U.S. Highway 52 to the east. All land in this reach of 117th Street is zoned industrial and no private homes or residences are presently in that area.
- ▲ Proximity of proposed project to living areas. The proposed project site is at least 2,100 feet from the nearest private dwelling. At such distances, dBA levels should be reduced by about 28 dBA.
- ▲ Topography between work site and private dwellings. Topography features buffer the work areas. The previously closed and covered waste cells along the east side of the 220-acre parcel will serve as a buffer between work areas and neighbors to the east.
- ▲ Operating hours. Operating hours at the site for receiving waste are from 6:00 AM - 8:00 PM Monday through Friday, and 6:00 AM - 4:00 PM on Saturdays. No heavy equipment is usually operated outside of these time frames.

Construction activities will be temporary in duration. Local noise ordinances will be complied with during the construction of each cell. Construction, when feasible, would take place primarily during the less noise sensitive daylight hours to avoid impact during hours associated with sleep.

4.3.2.2 Haul Trucks

Approximately 17,000 trucks will be entering the site to haul soils during each cell construction event. Such trucks are likely to generate from 85 to 95 dBA at the truck according to data furnished by the Hennepin County Department of Public Works. This estimate would serve as an average for future cell construction projects.

4.3.2.3 Nearby Sensitive Receptors

The closest resident is approximately 2,100 feet from the landfill (east side of Rich Valley Blvd.) and 1,500 feet from the stockpile or borrow area located within the 100-acre adjacent site. This home is owned by BFI and rented out to a local resident. Topography presents a buffer between the work areas and private dwellings.

4.4 LITTER, VECTORS, AND ODOR

Unloading of all wastes will be confined to as small an area as practical, and surrounded with appropriate facilities to confine wind-blown material within the area. The litter is picked up daily as generated.

During periods of windy weather, the operators employ an appropriate variety of tactics to prevent littering. These tactics are described as follows:

- ▲ Maintain disposal area in well-screened areas.
- ▲ Place the waste at the lowest level of the fill area possible.
- ▲ Apply liberal quantities of cover soil as the cell is filled.
- ▲ Reject waste that is highly susceptible to becoming windblown.
- ▲ Police the site fences and tree lines and return all litter to the working face.

In certain extreme conditions, operations will cease. The decision for operations to cease is made at the discretion of the facility manager. Historically, the site has closed and ceased accepting waste for disposal on days of high winds that prohibit landfill personnel from controlling litter within the boundaries of the site.

Vector control is achieved through the use of daily, intermediate, and final cover. Highly putrescible wastes are covered immediately upon placement at the working face. PBL also has a contract with Plunkett's Pest Control Company to provide inspection of the buildings on a monthly basis. Plunkett's Pest Control also completes a site walkover to identify rodent harborage and baits any active areas to eliminate problem areas.

Odors at the site are currently controlled by the operation of the active gas extraction system. The proposed expansion will not alter the existing odor conditions or generation at the site.

4.5 FUGITIVE DUST

Fugitive dust control during construction operations and landfiling operations of the expansion will be controlled as is currently being done with the following landfill practices:

- ▲ The approach road to the landfill, 117th Street, is paved.
- ▲ The main on-site road to the active fill area is paved.
- ▲ An on-site water tank truck applies water to areas subjected to dust creation.
- ▲ If dust becomes a problem, sand is spread on the unpaved roads to control dust.

4.6 SITE GEOLOGY AND GROUNDWATER

Site geology and hydrogeology has received extensive evaluation since the Facility began operations in 1971. The Facility owner installed a groundwater monitoring network in 1972 and collected more than 35 years of groundwater monitoring data.

The 2014 Annual Water Quality and Natural Attenuation Monitoring Report prepared by Groundwater and Environmental Services, Inc. ("GES") represent the most recent compilation of site hydrogeologic information available. Also, refer to the 2016 Annual Report for a more detailed discussion. Following is a brief overview of the site hydrogeology.

The uppermost aquifer underneath the site consists of the glacial deposits hydraulically connected to the Prairie du Chien Group and the Jordan bedrock formations. In the bedrock valley, also hydraulically connected to the glacial deposits is the Franconia Formation. Prairie du Chien and Jordan together comprise the major aquifer in the Twin Cities metropolitan area. The Franconia Formation can provide small amounts of water, but usually considered, along with the St. Lawrence Formation, a confining unit (Schoenberg, 1990). The Ironston and Galesville Sandstones serve as a regional aquifer above the Eau Claire formation, which acts as a major aquitard. The Mt. Simon Sandstone is considered the deepest aquifer in the area.

An extensive monitoring well network functions for water-level measurements and water quality sampling at the Facility. The water table in glacial deposits lies between 725 to 800 feet National Geodetic Vertical Datum (NGVD). Groundwater flows to the northeast with the northeast flow becoming more easterly as it approaches the bedrock valley along the northern boundary of the Facility.

The average horizontal hydraulic gradient in the uppermost aquifer was calculated to be 0.010 feet per feet. Historically, the gradient has been steeper along the eastern boundary of the Facility. Adjacent to and east of the Facility, the hydraulic gradient becomes more gradual until about U.S. Highway 52/Minnesota Highway 55 where the hydraulic gradient increases once again due to the proximity of the Mississippi River Valley.

There are no changes being proposed as part of the Phase 6 development relating to the groundwater monitoring system at the landfill.

The Project will not appropriate or consume groundwater and therefore not contribute to groundwater supply issues in the area. The Facility has an existing groundwater monitoring network in place and would continue to monitor groundwater quality. The groundwater monitoring network and program would ensure early detection of groundwater quality impacts. If the Proposer observes groundwater quality impacts during monitoring, they will work with the MPCA to develop appropriate actions to address and improve groundwater

quality under the terms of their solid waste permit. The Proposer would secure all required permits prior to implementing actions targeted at improving groundwater quality.

Additionally, the proposed vertical expansion will include appropriate lined cells to ensure capture and treatment of leachate within the landfill. These practices will minimize the potential for groundwater contamination. The existing groundwater monitoring network and sampling program will detect if leachate or other landfill constituents have entered the groundwater prior to reaching sensitive waterbodies such as the Mississippi River.

5.0 Land Use Impacts

5.1 LAND USE

The site is situated in a zoned industrial area with largely industrial neighbors; Koch Refining Company, Excel Energy, Inc., Mid-America Pipeline Company, Rich Valley (SKB Demo Landfill), etc. In addition, the closed Crosby American Demolition Landfill is located immediately north of the Pine Bend Landfill. Since the landfill has seemingly operated compatibly with neighboring sites and nearby land uses, this is not anticipated to change as a result of the proposed expansion. There are no anticipated conflicts involving environmental matters associated with the proposed expansion.

The Inver Grove Heights zoning ordinance allows for the airspace expansion of current landfills (10-13E-6) as a conditional use. Therefore, the Project is allowable on the site with a Conditional Use Permit ("CUP"). The Facility currently operates under an existing CUP and a Non-Conforming Use Certificate from the City of Inver Grove Heights. The Facility also operates under a Solid Waste Facility License from Dakota County. The Proposer will need to amend their existing CUP and Dakota County Solid Waste License for the Project.

The Project would not change the nature of the Facility. The Project will not expand the footprint of the Facility and it would continue to operation as a municipal waste landfill. Existing conditions associated with traffic, noise, dust, odor, and other issues related to Facility operations would continue, but would not change from current operations.

5.2 TRAFFIC AND HAUL ROUTES

During the construction of the proposed expansion, approximately 195 trucks per day for 3-4 months will be enter the site in addition to the normal waste truck traffic. All haul vehicles will access the site off 117th Street East, which is a paved road. Dump trucks would haul fill, liner material, and cover material during the construction period. Enclosed semi-trailers and garbage trucks would continue to be used for hauling MSW into the site.

5.3 STORMWATER/EROSION CONTROL

No adverse impacts to the receiving waters from the site's surface water runoff are anticipated. There are no immediate receiving waters at or near the landfill. Surface water discharges are, and will continue to be directed to existing sedimentation ponds. The proposed expansion is not anticipated to increase the surface run-off volume, all of which is directed to the two existing sedimentation ponds. The storm water control facilities at the landfill have been conservatively designed to handle the 100-year, 24-hour storm event of 7.48 inches.

Erosion control on the landfill cover will be controlled by the installation of benches and permanent turf reinforcement mat that will intercept the run-off and direct it to downslope

pipng systems. Vegetation will be established as soon as possible on the intermediate and final covered areas of the landfill.

It is proposed that soils stockpiled during the construction of a cell will be located in the adjacent 100-acre undeveloped parcel west of the landfill. The soil stockpiles would be managed using the following methods to minimize soil erosion:

- ▲ Stockpiles will be compacted to minimize precipitation saturating the material.
- ▲ Stockpiles will be crowned and graded smooth, with side slopes no steeper than necessary.
- ▲ Stockpiles that remain in place for long periods of time will be seeded to prevent erosion.
- ▲ Drainage will be rerouted if the stockpiles are constructed in a manner that will interrupt a portion of the drainage.
- ▲ When the active face will be near the stockpile, steps will be taken to ensure surface water runoff from the stockpile does not flow onto the active disposal area.

The proposal incorporates structural and/or non-structural control measures to reduce pollutants in storm water from soil erosion. The structural control measures include the following:

- ▲ Benches
- ▲ Downslope piping system
- ▲ Junction vaults
- ▲ Sedimentation ponds
- ▲ Curbs, berms, and earthen dikes
- ▲ Velocity dissipation devices
- ▲ Rock outlet protection
- ▲ Silt fencing
- ▲ Straw bale dikes
- ▲ Subsurface drains

The non-structural control measures include the following:

- ▲ Best management practices (spill prevention, neat and orderly material storage)
- ▲ The Spill & Emergency Response Plan
- ▲ Security
- ▲ Routine visual inspections

5.4 UTILITIES

The proposed Phase 6 development will require minimal revisions to the utilities at the site. Some utilities will be removed in the final development of Phase 5.

5.5 LANDSCAPING

The Pine Bend Landfill has already constructed a network of landscaping berms and uses as much of the natural tree barriers as possible for screening around their current facility.

Since the proposed expansion does not increase the boundaries of the current landfilling operations, the existing landscaping is considered adequate.

The Facility has operated at this site since 1971. Such activities and the subsequent visual impacts related to the expansion's construction and operation will not differ from existing conditions. The current Facility permit allows for a final construction height of approximately 1,019 feet MSL. The Project designed such that the final height of the Project will match the currently permitted final height. Industrial properties surround the Facility with limited visibility from residential or scenic areas. No additional visual impacts from the proposed vertical expansion of the Facility will occur.

5.6 FIRE PROTECTION

Arrangements and coordination with the City of Inver Grove Heights police and fire services is a condition of Pine Bend Landfill's non-conforming use certificate with the City. The fire department has keys for the landfill gate.

Fire extinguishers are located on all large earth moving and waste handling equipment. They are also available in the shop and office. The vendor checks them annually. Testing verification is maintained with the facility records. The landfill has a water truck, normally used for dust control that can be used for fires. It can draw water from a water supply tank or a surface water source.

6.0 Additional Items

6.1 HOST COMMUNITY FEE

The City and Pine Bend Landfill are in negotiation for a renewal of the Host Community Agreement, which will include provisions for the proposed expansion.

Pine Bend Landfill has also entered into a new Host Fee Agreement with Dakota County in January 1, 2003. The term of the new Dakota County Host Agreement runs through December 31, 2017.

6.2 COMPLIANCE HISTORY

6.2.1 MPCA

6.2.1.1 Groundwater Contamination

BFI implemented a long-term groundwater monitoring program in accordance with the Minnesota Solid Waste Landfill Compliance Program to assess trends in water quality downgradient of the PBL. On April 23, 1985, BFI and the MPCA entered into an agreement for BFI to perform a Remedial Investigation and Feasibility Study that would: a) investigate the source, or sources, of groundwater contamination at, and near, the facility; b) assess actual and potential impacts of the releases, or threatened releases, of hazardous substances, pollutants, and contaminants from the facility on public health, welfare, and the environment; and c) identify, assess, design, develop, and implement response action alternatives. On October 23, 1990, BFI and the MPCA entered into an agreement for BFI to conduct a feasibility study; develop a plan to provide an alternative drinking water source for certain residential wells adversely affected by the release(s) from the landfill and the neighboring Crosby American Demolition Landfill; and to develop a response action plan and implement the approved response actions.

The actual and potential impacts of the releases, or threatened releases, of hazardous substances, pollutants, and contaminants from the facility on public health, welfare, and the environment were determined to be primarily Volatile Organic Compounds (VOCs) and particularly chlorinated hydrocarbons that were encountered within the landfill's groundwater monitoring network. FBI developed response action alternatives for remediation. On September 23, 1991, the MPCA approved the Updated Remedial Investigation Report for the PBL. In regard to the alternative drinking water source, PBL developed a plan, and the MPCA issued a Record of Decision in September 1991, which required the residences with affected wells to be connected to the city of Inver Grove Heights (City) water supply system. The City completed the connections supplying municipal water to the residences in December 1994. On November 21, 1994, the MPCA approved No Action Alternatives under the Superfund process for the source control and the remediation of groundwater contamination as recommended in the Updated Detailed Remedial Analysis Report.

In 2001, BFI completed a pilot study to evaluate the applicability of utilizing enhanced in-situ bioremediation as a remedial approach for mitigating VOCs in the groundwater beneath the site. The in-situ bioremediation system stimulates the growth of biological organisms in a saturated subsurface environment by introducing a supplemental food source of high

fructose corn syrup that is injected into the unlined portion of the landfill through three injection wells. The bioremediation system increases the breakdown of groundwater contaminants, which in turn decreases contaminants in the groundwater. The conclusions drawn from the twelve-quarter study revealed that the introduction of high fructose corn syrup into the groundwater has resulted in marked changes in groundwater inorganic chemistry and in a statistical reduction in the concentration of chlorinated alkenes in the groundwater. In general, VOC concentrations have decreased and continue to decrease in all wells located in the pilot study area.

To mitigate the existing groundwater contamination further, BFI proposed, in July 2002, to enhance the existing source control measures at the PBL through the installation of additional leachate collection pumps within existing landfill gas collection wells. This dual extraction well system, which was installed in October 2002, is expected to reduce leachate levels in Phase I and II and subsequently reduce the concentrations of contaminants in the groundwater.

There are no changes being proposed as part of the Phase 6 development relating to the groundwater monitoring system at the landfill. For a detailed discussion on groundwater conditions at the Pine Bend Landfill, please refer to the 2016 Annual Groundwater Monitoring Report as well as a report entitled "Update on the Effects of Natural Attenuation and Source Control Measures with Respect to Groundwater Quality at the Pine Bend Landfill" which was submitted by BFI on May 15, 2003. The City of Inver Grove Heights received a copy of this report.

The MPCA MSW solid waste permit for the proposed landfill expansion will incorporate specific conditions to ensure that the permittee implements further remedial measures to address the existing groundwater contamination.

6.2.2 County

During the course of the past few years, Pine Bend Landfill has received notifications from Dakota County of minor operational deficiencies that have been immediately corrected to the satisfaction of Dakota County.

6.2.3 City

There have been no documented compliance issues with the City of Inver Grove Heights.

6.3 STATUS OF OTHER PERMITS AND APPROVALS

The following permits are required for the project. The status of the individual permits is also listed.

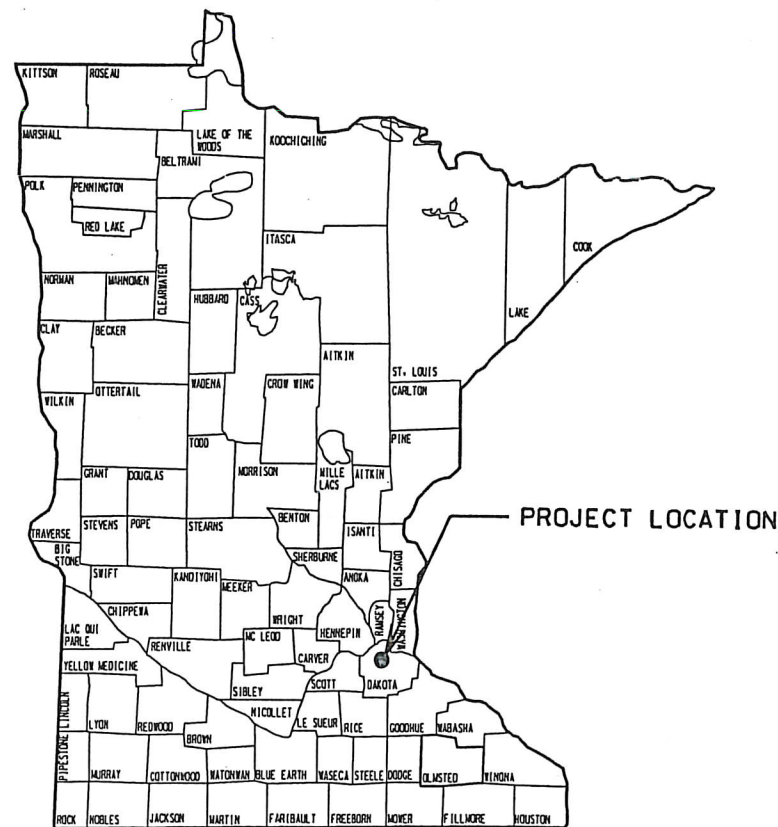
Unit of Government	Permit or Approval Required	Status
A. MPCA	Solid Waste Permit (SW-45)	Application Submitted and under review.
B. MPCA	NPDES General Storm Water Permit for Industrial Activity	In Compliance.

C. MPCA	NPDES General Storm Water Permit for Discharges During Construction Activity	Application to be Submitted for next construction project disturbing over 1 acre.
D. MPCA	EAW	Findings of fact issued on November 10, 2016 and negative declaration ordered.
E. MOEA	Landfill Expansion Certificate of Need	Application to be Submitted.
F. MOEA	Consistency with Metropolitan Area Solid Waste Management Policy Plan	In Compliance.
G. Metropolitan Council	Industrial Discharge Permit	In Compliance.
H. Dakota County (County)	Solid Waste Facility License Modification	In Compliance.
I. County	Community Host Agreement	Negotiations.
J. City	Zoning Ordinance Amendment and Conditional Use Permit for stockpiling soils in west 100-acre site	Approved on August 26, 2002
K. City	Non-Conforming Conditional Use Permit (#2641)	To be amended.
L. City	Host Agreement	To be amended.

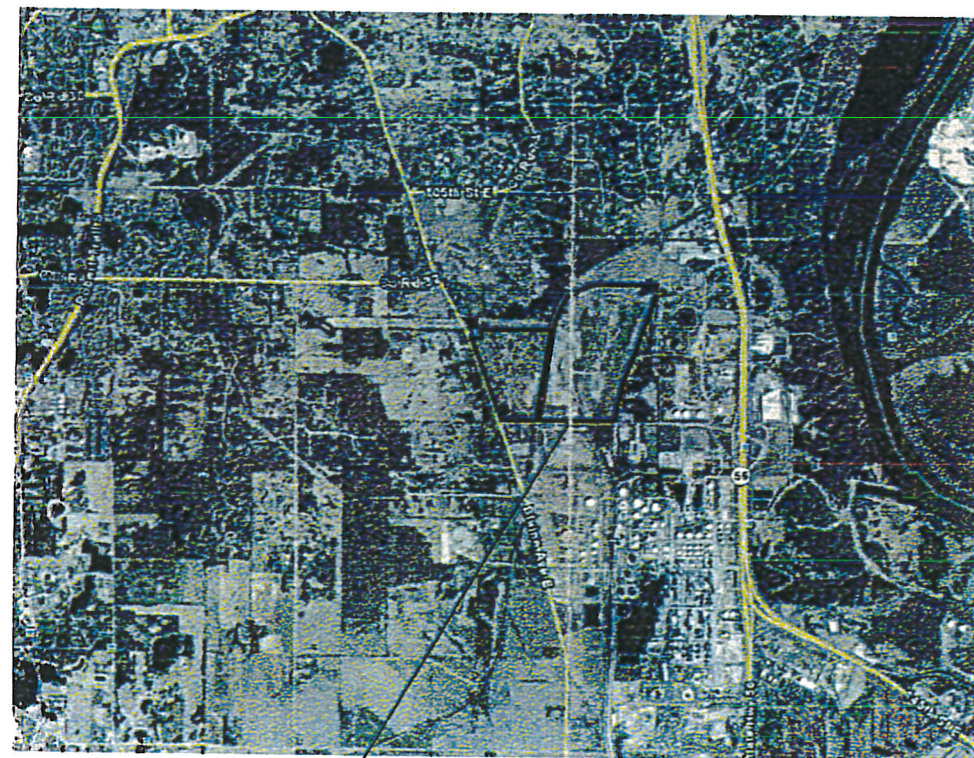
Appendix B

Plan Sheets

2015 MAJOR PERMIT MODIFICATION
PINE BEND LANDFILL - SW 45
PREPARED FOR BFI WASTE SYSTEMS OF NORTH AMERICA, LLC
T27N, R22W, SECTION 33
INVER GROVE HEIGHTS, MINNESOTA



MINNESOTA
STATE MAP



PINEBEND
LANDFILL
SITE
LOCATION MAP

INDEX

1. TITLE AND INDEX SHEET
2. EXISTING CONDITIONS MAP (EAST SIDE)
- 2A. EXISTING CONDITIONS MAP (WEST SIDE)
3. PHASING PLAN
4. BASE GRADING PLAN
5. LEACHATE PIPING PLAN
6. FINAL COVER GRADING PLAN
7. SURFACE WATER MANAGEMENT PLAN
8. EXISTING GAS PIPING PLAN NORTH HALF
9. EXISTING GAS PIPING PLAN SOUTH HALF
10. PROPOSED GAS PIPING PLAN NORTH HALF
11. PROPOSED GAS PIPING PLAN SOUTH HALF
12. CROSS-SECTION A
13. CROSS-SECTION B
14. CROSS-SECTION C
15. CROSS-SECTION D
16. CROSS-SECTION E
17. CROSS-SECTION F
18. CROSS-SECTION G
19. CROSS-SECTION H
20. LINER DETAILS
21. LEACHATE COLLECTION DETAILS
22. LEACHATE COLLECTION DETAILS
23. LEACHATE COLLECTION DETAILS
24. SURFACE WATER MANAGEMENT DETAILS
25. GAS SYSTEM DETAILS
26. GAS SYSTEM DETAILS
27. GAS SYSTEM DETAILS

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION,
OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT
SUPERVISION AND THAT I AM A LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE
STATE OF MINNESOTA.
PRINT NAME THOMAS J. SHUSTARICH
SIGNATURE *Thomas J. Shustarich*
DATE 08/31/15 LICENSE # 21210



Responsive partner. Exceptional outcomes.
1888 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357
PHONE: 763-479-4288
FAX 763-479-4242

2015 MAJOR PERMIT MODIFICATION
BFI WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
INVER GROVE HEIGHTS, MINNESOTA

SHEET TITLE
TITLE AND INDEX SHEET
DATE: AUGUST, 2015

REVISIONS
DATE
DWN JMT CHKD SKH APP'D TJS

SHEET NO.
1



EXISTING 80,000
GALLON AND 101,000
GALLON LEACHATE TANKS



- LEGEND
- EXISTING CONTOURS
 - EXISTING TREE LINE
 - EXISTING FENCE LINE
 - EXISTING RAILROAD
 - EXISTING POLE
 - EXISTING PROPERTY LINE
 - EXISTING GROUNDWATER MONITORING WELL
 - EXISTING METHANE MONITORING PROBE
 - EXISTING METHANE MONITORING PROBE
 - EXISTING GROUNDWATER INJECTION WELL
 - EXISTING LANDFILL GAS SYSTEM
 - PHASE/CELL BOUNDARY
 - CLOSURE BOUNDARY
 - ZONING BOUNDARIES
 - ZONING DESIGNATIONS
 - I-1 LIMITED INDUSTRIAL
 - I-2 GENERAL INDUSTRIAL
 - A AGRICULTURAL
 - B3 GENERAL BUSINESS

NOTE:
EXISTING CONDITIONS PROVIDED BY
COOPER AERIAL SURVEYS CO.
DATE OF FLIGHT APRIL 14, 2015.

BM-1
N 10,031.12
E 7,581.32
ELEV. 860.70
P.K. NAIL @ 117th
ST. EAST & RR TRACKS

PROJECT

2015 MAJOR PERMIT MODIFICATION
BFI WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
INVER GROVE HEIGHTS, MINNESOTA

DATE

REVISIONS

SHEET TITLE
EXISTING CONDITIONS MAP
(WEST SIDE)

DATE: AUGUST, 2015

DWN JMT CHK'D SKH APP'D TJS

FILE NAME: W:\0951\PINEBEND\2015 PERMIT\2015 PERMIT MOD\2A.DGN

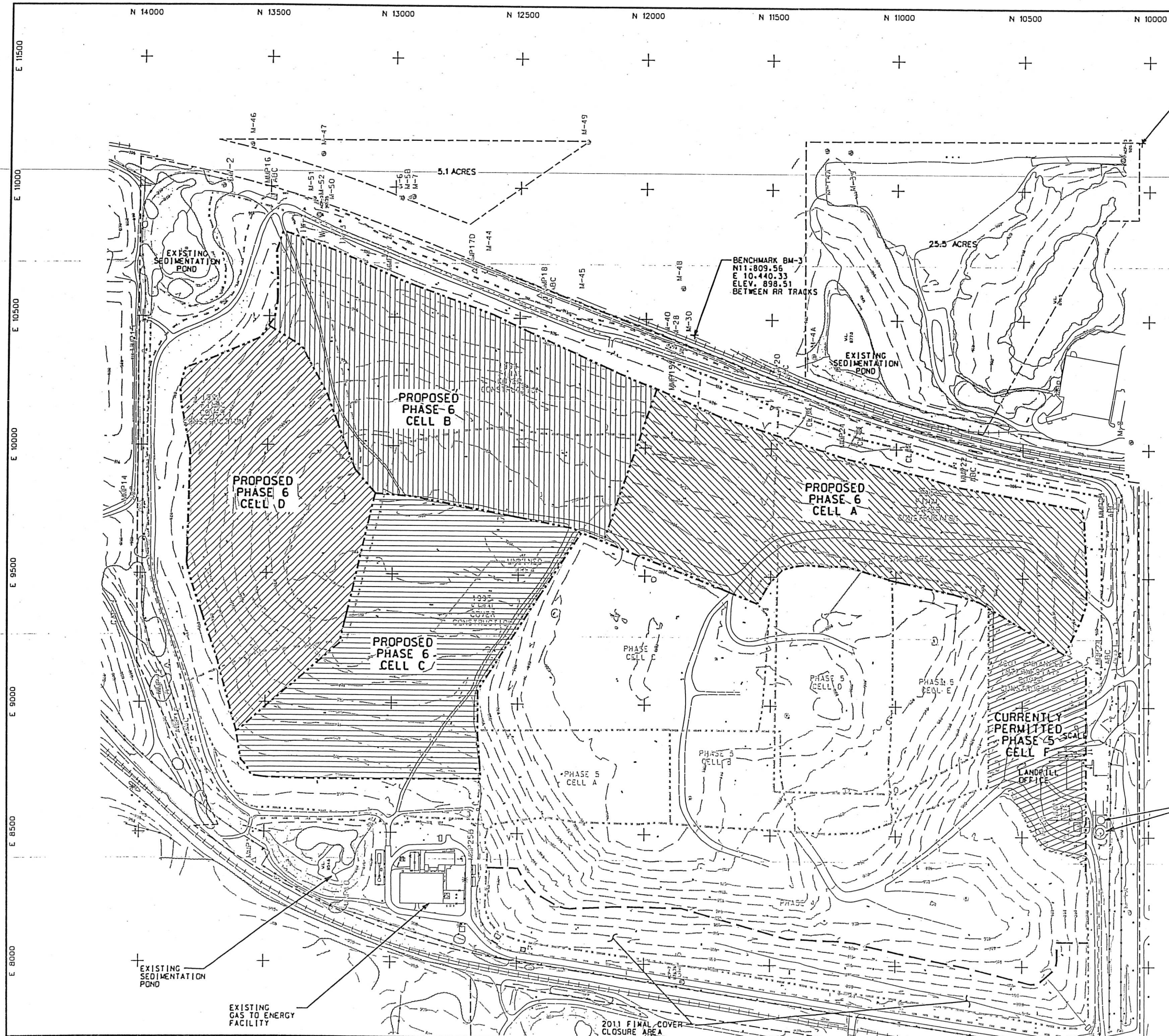
WENCK ASSOCIATES

Responsive partner. Exceptional outcomes.
1888 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357
PHONE: 763-479-4288
FAX: 763-479-4242

SHEET NO.
2A

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: THOMAS J. SHUSTARICH
SIGNATURE:
DATE: 08/31/15 LICENSE # 21210



BENCHMARK BM-2
N 10.033.01
E 11.189.7
ELEV. 924.63
IRON PIPE 117th
ST. EAST



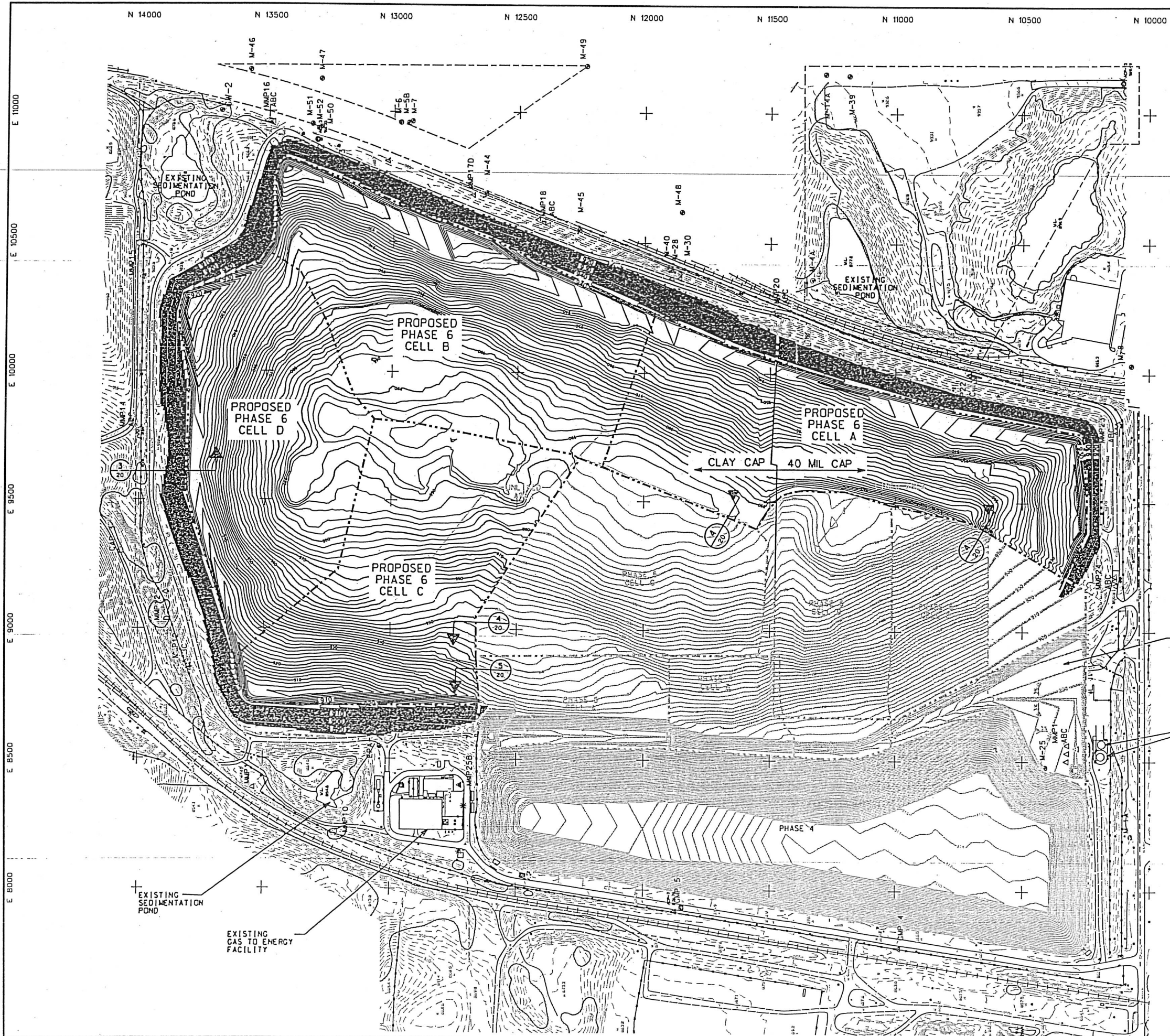
- LEGEND
- EXISTING CONTOURS
 - EXISTING TREELINE
 - EXISTING FENCELINE
 - EXISTING RAILROAD
 - EXISTING POLE
 - EXISTING PROPERTY LINE
 - WM-11A EXISTING GROUNDWATER MONITORING WELL
 - Δ BMP-4 EXISTING METHANE MONITORING PROBE
 - Δ BMP-25 EXISTING METHANE MONITORING PROBE
 - W-3 EXISTING GROUNDWATER INJECTION WELL
 - PHASE LIMITS

NOTE:
EXISTING CONDITIONS PROVIDED BY
COOPER AERIAL SURVEYS CO.
DATE OF FLIGHT APRIL 14, 2015.

NOTE:
FOR THE PURPOSES OF THIS MAJOR PERMIT
MODIFICATION, THE FOCUS OF THE PLAN
DRAWINGS WILL BE FOR PHASE 6. DETAILS
FOR PHASE 5 WERE RECENTLY PROVIDED
AS PART OF A PERMIT RENEWAL APPLICATION
WITH THE PERMIT BEING REISSUED ON JULY 30,
2015 AND WILL NOT BE HIGHLIGHTED WITHIN.

EXISTING 80,000
GALLON AND 101,000
GALLON LEACHATE TANKS

PROJECT		2015 MAJOR PERMIT MODIFICATION	
BFI WASTE SYSTEMS OF NORTH AMERICA, LLC PINE BEND LANDFILL INVER GROVE HEIGHTS, MINNESOTA		DATE	
RESPONSIVE PARTNER. EXCEPTIONAL OUTCOMES. 1800 PIONEER CREEK CENTER MAPLE PLAIN, MN 55357 PHONE 763-479-4280 FAX 763-479-4242		REVISIONS	
WENCK ASSOCIATES		SHEET NO.	
DATE 08/31/15 LICENSE # 21210		3	



- SCALE IN FEET
0 200 400
- LEGEND
- EXISTING CONTOURS
 - EXISTING SPOT ELEVATION
 - EXISTING TREELINE
 - EXISTING FENCELINE
 - EXISTING RAILROAD
 - EXISTING POLE
 - EXISTING PROPERTY LINE
 - EXISTING GROUNDWATER MONITORING WELL
 - EXISTING METHANE MONITORING PROBE
 - EXISTING METHANE MONITORING PROBE
 - EXISTING GROUNDWATER INJECTION WELL
 - PROPOSED CONTOURS
 - PROPOSED SLOPE DIRECTION
 - EXISTING PHASE 4 AND 5 BASE GRADES
 - PHASE 5F PERMITTED BASE GRADES
 - LIMIT OF EXPANSION LINER

NOTE:
EXISTING CONDITIONS PROVIDED BY
COOPER AERIAL SURVEYS CO.
DATE OF FLIGHT APRIL 14, 2015.

CURRENTLY PERMITTED
PHASE 5 CELL F

EXISTING 80,000
GALLON AND 101,000
GALLON LEACHATE TANKS

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OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT
SUPERVISION AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE
STATE OF MINNESOTA.

PRINT NAME THOMAS J. SHUSTARICH
SIGNATURE *Thomas J. Shustarich*
DATE 08/31/15 LICENSE # 21210

PROJECT 2015 MAJOR PERMIT MODIFICATION
BFL WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
INVER GROVE HEIGHTS, MINNESOTA

PROPOSED PHASE 6 CELL A, B, C, D

DATE: AUGUST, 2015

DATE DATE

REVISIONS

SHEET TITLE BASE GRADING PLAN

DWN JMT CHK'D SKH APP'D TJS

WENCK ASSOCIATES

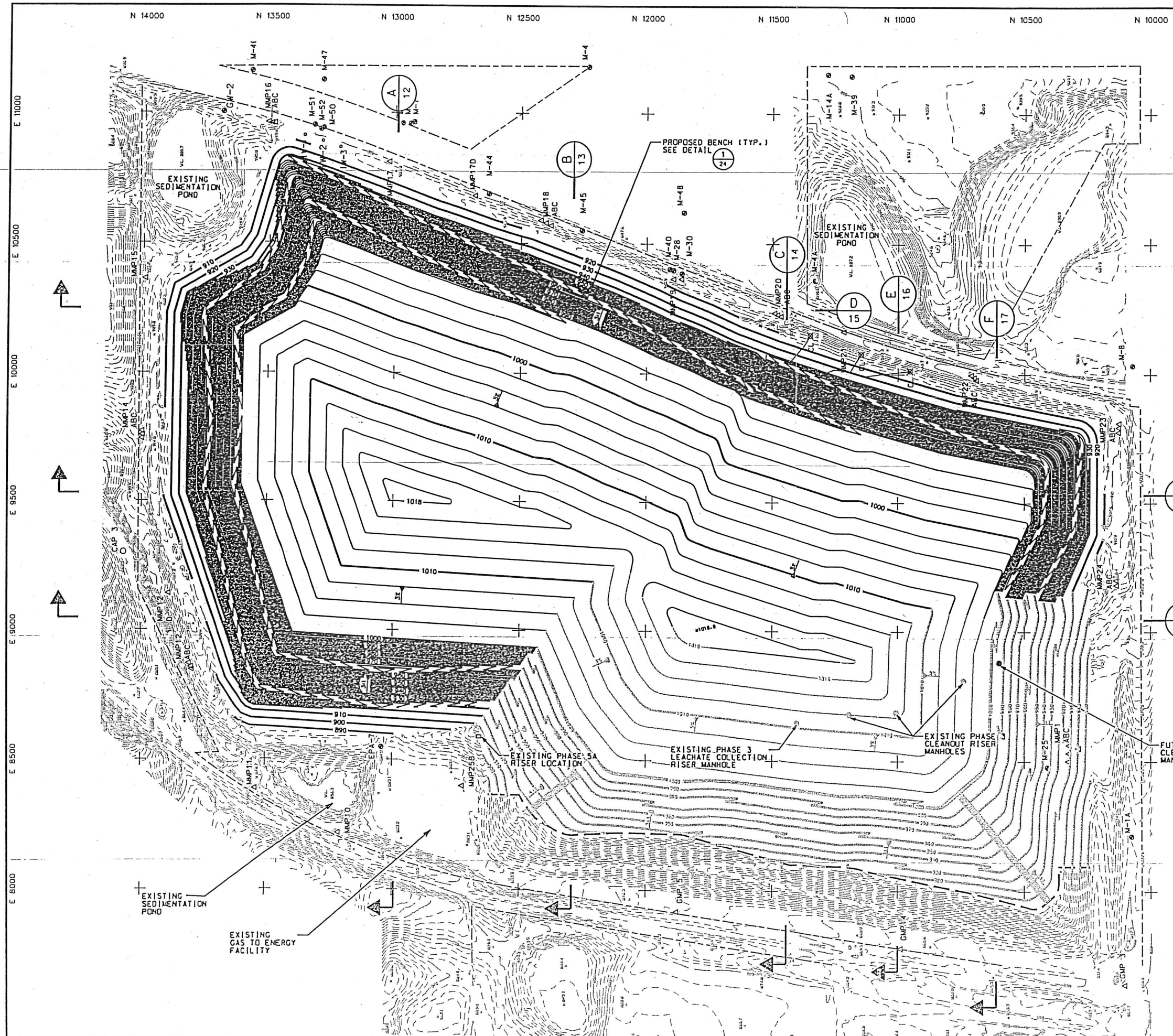
Responsive partner. Exceptional outcomes.

1808 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357

PHONE: 763-479-4208
FAX: 763-479-4242

FILE NAME: M:\099\PNEBEND\2015 PERMIT\2015 PERMIT MOD04.DGN

SHEET NO. 4



SCALE IN FEET
0 200 400

LEGEND

- EXISTING CONTOURS
- EXISTING SPOT ELEVATION
- EXISTING TREELINE
- EXISTING FENCELINE
- EXISTING RAILROAD
- EXISTING POLE
- EXISTING PROPERTY LINE
- EXISTING GROUNDWATER MONITORING WELL
- EXISTING METHANE MONITORING PROBE
- EXISTING METHANE MONITORING PROBE
- EXISTING GROUNDWATER INJECTION WELL
- PROPOSED CONTOURS
- PROPOSED SLOPE DIRECTION
- CURRENTLY PERMITTED FUTURE GRADES

NOTE:
EXISTING CONDITIONS PROVIDED BY
COOPER AERIAL SURVEYS CO.
DATE OF FLIGHT APRIL 14, 2015

NOTE:
ONLY 10' CONTOURS SHOWN
ON 3:1 SLOPES FOR CLARITY

CROSS-SECTION LOCATION (TYP.)

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME THOMAS J. SHUSTARICH
SIGNATURE
DATE 08/31/15 LICENSE # 21210

FILE NAME: W:\095\PINEBEND\2015 PERMIT\2015 PERMIT 00005.DGN

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ASSOCIATES

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1800 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357
PHONE: 763-479-4280
FAX: 763-479-4242

PROJECT
2015 MAJOR PERMIT MODIFICATION
BFI WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
INVER GROVE HEIGHTS, MINNESOTA

SHEET TITLE
FINAL COVER GRADING PLA

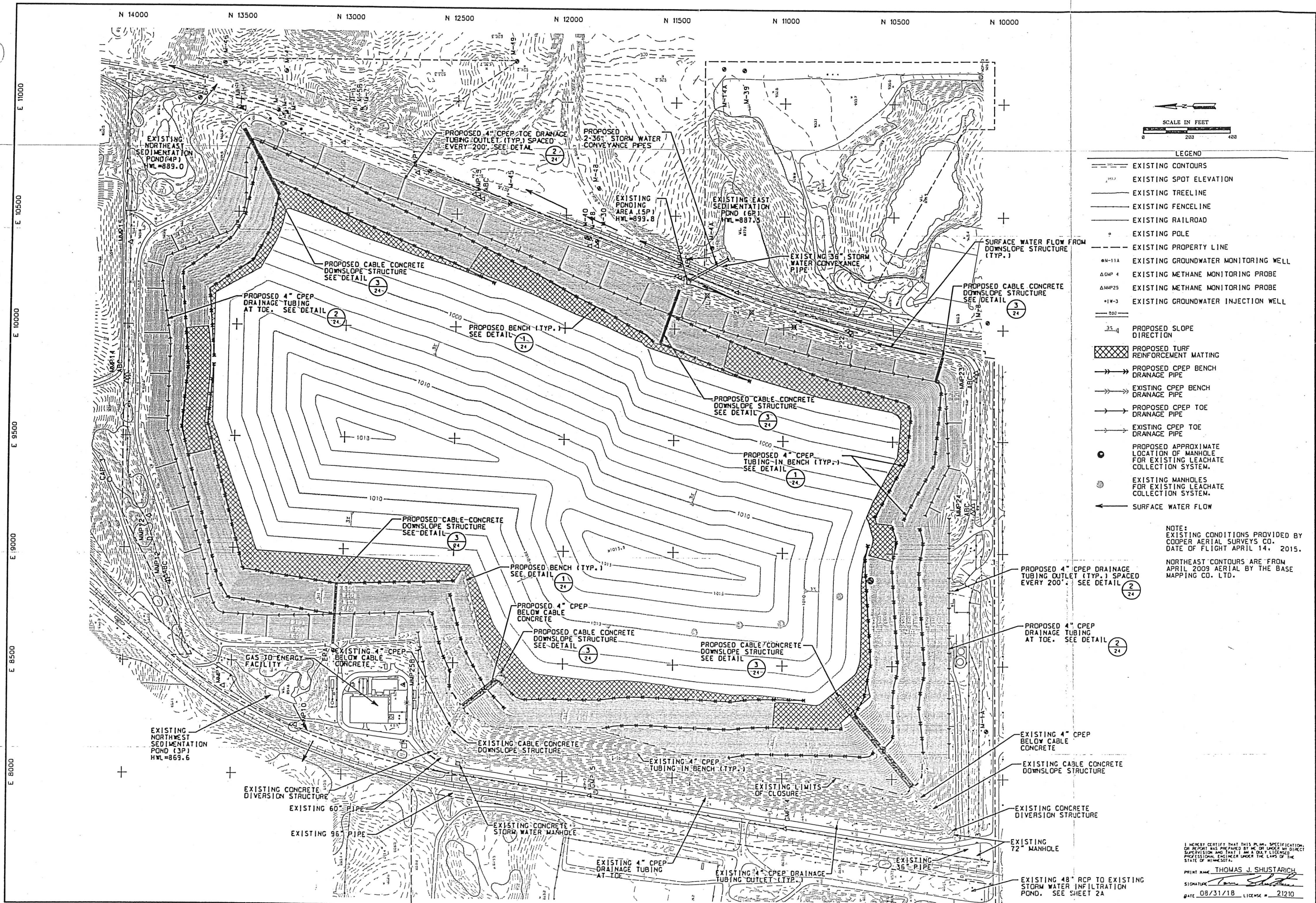
REVISIONS
REVISED BENCHES
7/26/16

DATE
7/26/16

DWN JMT CHK'D SKH APP'D TJS

DATE: AUGUST, 2015

SHEET NO.
6



- SCALE IN FEET
0 200 400
- LEGEND
- EXISTING CONTOURS
 - EXISTING SPOT ELEVATION
 - EXISTING TREELINE
 - EXISTING FENCELINE
 - EXISTING RAILROAD
 - EXISTING POLE
 - EXISTING PROPERTY LINE
 - EXISTING GROUNDWATER MONITORING WELL
 - EXISTING METHANE MONITORING PROBE
 - EXISTING METHANE MONITORING PROBE
 - EXISTING GROUNDWATER INJECTION WELL
 - PROPOSED SLOPE DIRECTION
 - PROPOSED TURF REINFORCEMENT MATTING
 - PROPOSED CPEP BENCH DRAINAGE PIPE
 - EXISTING CPEP BENCH DRAINAGE PIPE
 - PROPOSED CPEP TOE DRAINAGE PIPE
 - EXISTING CPEP TOE DRAINAGE PIPE
 - PROPOSED APPROXIMATE LOCATION OF MANHOLE FOR EXISTING LEACHATE COLLECTION SYSTEM.
 - EXISTING MANHOLES FOR EXISTING LEACHATE COLLECTION SYSTEM.
 - SURFACE WATER FLOW
- NOTE:
EXISTING CONDITIONS PROVIDED BY COOPER AERIAL SURVEYS CO.
DATE OF FLIGHT APRIL 14, 2015.
NORTHEAST CONTOURS ARE FROM APRIL 2009 AERIAL BY THE BASE MAPPING CO. LTD.

DATE 05/11/16
SED POND LEVEL & FLOW ARROWS
SURFACE WATER MANAGEMENT PLAN
DWN JMT CHK'D SKH APP'D TJL

REVISIONS

SHEET TITLE
2015 MAJOR PERMIT MODIFICATION
BFI WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
INVER GROVE HEIGHTS, MINNESOTA

PROJECT

WENCK ASSOCIATES
Responsive partner. Exceptional outcomes.
1808 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357
PHONE, 763-479-4208
FAX, 763-479-4242

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PRINT NAME THOMAS J. SHUSTARICH
SIGNATURE
DATE 08/31/18 LICENSE # 21210

SHEET NO. 7



- LEGEND
- EXISTING CONTOURS
 - EXISTING SPOT ELEVATION
 - EXISTING TREELINE
 - EXISTING FENCELINE
 - EXISTING RAILROAD
 - EXISTING POLE
 - EXISTING PROPERTY LINE
 - EXISTING GROUNDWATER MONITORING WELL
 - EXISTING METHANE MONITORING PROBE
 - EXISTING METHANE MONITORING PROBE
 - EXISTING GROUNDWATER INJECTION WELL
 - EXISTING GAS EXTRACTION WELL
 - EXISTING GAS PIPING
 - EXISTING CONDENSATE PUMPING STATION
 - DUAL EXTRACTION WELL

NOTE:
EXISTING CONDITIONS PROVIDED BY
COOPER AERIAL SURVEYS CO.
DATE OF FLIGHT APRIL 14, 2015

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PROFESSIONAL ENGINEER UNDER THE LAWS OF THE
STATE OF MINNESOTA.

PRINT NAME: THOMAS J. SHUSTARICH
SIGNATURE: *Thomas J. Shustarich*
DATE: 08/31/15 LICENSE # 21210

DATE

REVISIONS

SHEET TITLE
EXISTING GAS PIPING PLAN
NORTH HALF

DATE: AUGUST, 2015

DWN: JMT CHK'D: SKH APP'D: TJS

2015 MAJOR PERMIT MODIFICATION
BFI WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
INVER GROVE HEIGHTS, MINNESOTA

PROJECT

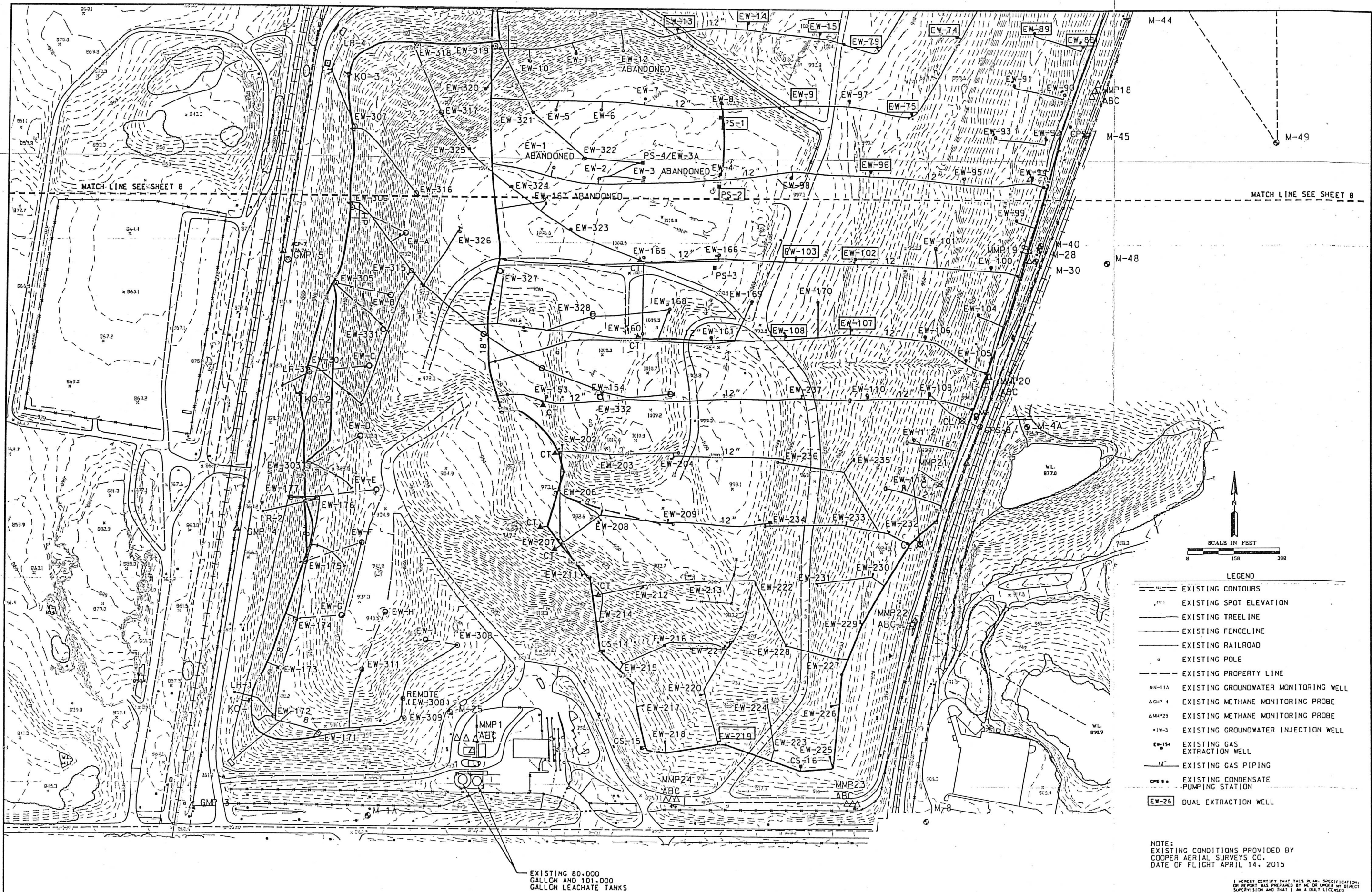
WENCK ASSOCIATES

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1800 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357
PHONE: 763-479-4200
FAX: 763-479-4242

SHEET NO. 1

8



- LEGEND
- EXISTING CONTOURS
 - EXISTING SPOT ELEVATION
 - EXISTING TREELINE
 - EXISTING FENCELINE
 - EXISTING RAILROAD
 - EXISTING POLE
 - EXISTING PROPERTY LINE
 - EW-11A EXISTING GROUNDWATER MONITORING WELL
 - ΔMMP-4 EXISTING METHANE MONITORING PROBE
 - ΔMMP-25 EXISTING METHANE MONITORING PROBE
 - EW-3 EXISTING GROUNDWATER INJECTION WELL
 - EW-154 EXISTING GAS EXTRACTION WELL
 - 12" EXISTING GAS PIPING
 - CS-1-8 EXISTING CONDENSATE PUMPING STATION
 - EW-26 DUAL EXTRACTION WELL

NOTE:
EXISTING CONDITIONS PROVIDED BY
COOPER AERIAL SURVEYS CO. 2015
DATE OF FLIGHT 14. 2015

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PRINT NAME: THOMAS J. SHUSTARICH
SIGNATURE: *Thomas J. Shustarich*
DATE: 08/31/15 LICENSE # 21210

2015 MAJOR PERMIT MODIFICATION
BFI WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
INVER GROVE HEIGHTS, MINNESOTA

DATE: _____
REVISIONS: _____
SHEET TITLE: EXISTING GAS PIPING PLAN
SOUTH HALF
DATE: AUGUST, 2015

PROJECT: 2015 MAJOR PERMIT MODIFICATION
BFI WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
INVER GROVE HEIGHTS, MINNESOTA

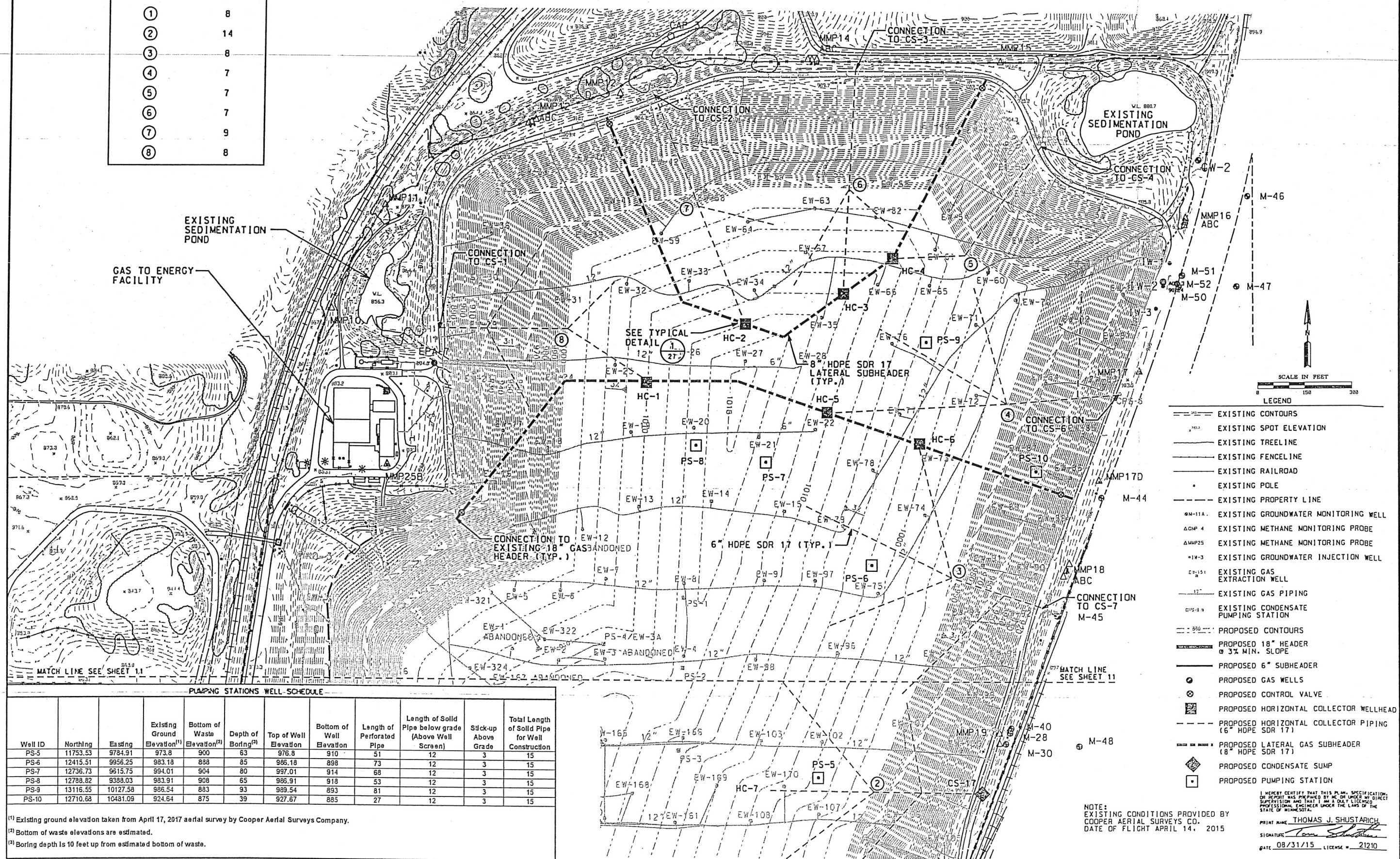
WENCK
ASSOCIATES

Responsive partner. Exceptional outcomes.
1800 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357
PHONE: 763-475-4200
FAX: 763-475-4242

DATE: _____
REVISIONS: _____
SHEET TITLE: EXISTING GAS PIPING PLAN
SOUTH HALF
DATE: AUGUST, 2015

DATE: _____
REVISIONS: _____
SHEET TITLE: EXISTING GAS PIPING PLAN
SOUTH HALF
DATE: AUGUST, 2015

HORIZONTAL COLLECTION SYSTEM TRENCH POINT	APPROXIMATE DEPTH (FT)
①	8
②	14
③	8
④	7
⑤	7
⑥	7
⑦	9
⑧	8



Well ID	Northing	Easting	Existing Ground Elevation ⁽¹⁾	Bottom of Waste Elevation ⁽²⁾	Depth of Boring ⁽³⁾	Top of Well Elevation	Bottom of Well Elevation	Length of Perforated Pipe	Length of Solid Pipe below grade (Above Well Screen)	Stick-up Above Grade	Total Length of Solid Pipe for Well Construction
PS-5	11753.53	9784.91	973.8	900	63	976.8	910	51	12	3	15
PS-6	12415.51	9956.25	983.18	888	85	986.18	898	73	12	3	15
PS-7	12736.73	9615.75	994.01	904	80	997.01	914	68	12	3	15
PS-8	12788.82	9388.03	983.91	908	65	986.91	918	53	12	3	15
PS-9	13116.55	10127.58	986.54	883	93	989.54	893	81	12	3	15
PS-10	12710.68	10481.09	924.64	875	39	927.67	885	27	12	3	15

(a) Boring depth is 10 feet up from estimated bottom of waste.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION,
OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT
SUPERVISION AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE
STATE OF MINNESOTA.

PRINT NAME THOMAS J. SHUSTARICH

SIGNATURE Thomas J. Shustarich

DATE 08/31/15 LICENSE # 21210

WENCK ASSOCIATES, INC.

Responsive partner. Exceptional outcomes.

1800 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357

PHONE: 763-479-4200
FAX: 763-479-4242

BFI WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
INVER GROVE HEIGHT, MINNESOTA

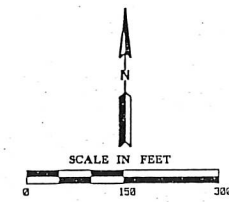
SHEET TITLE
PROPOSED GAS PIPING PLAN
NORTH HALF
DATE: AUGUST, 2015

REVISIONS	DATE
RESPONSE TO COMMENTS	02/21/17
PUMP STATION WELL SCHEDULE	07/25/17

DOWN	JWT	CHK'D	SKH	APP'D	TJS



HORIZONTAL COLLECTION SYSTEM TRENCH POINT	APPROXIMATE DEPTH (FT)
①	8
②	14
③	8
④	7
⑤	7
⑥	7
⑦	9
⑧	8



- LEGEND
- EXISTING CONTOURS
 - EXISTING SPOT ELEVATION
 - EXISTING TREELINE
 - EXISTING FENCELINE
 - EXISTING RAILROAD
 - EXISTING POLE
 - EXISTING PROPERTY LINE
 - EXISTING GROUNDWATER MONITORING WELL
 - EXISTING METHANE MONITORING PROBE
 - EXISTING METHANE MONITORING PROBE
 - EXISTING GROUNDWATER INJECTION WELL
 - EXISTING GAS EXTRACTION WELL
 - EXISTING GAS PIPING
 - EXISTING CONDENSATE PUMPING STATION
 - PROPOSED CONTOURS
 - PROPOSED 18" HEADER @ 3% MIN. SLOPE
 - PROPOSED 6" SUBHEADER
 - PROPOSED GAS WELLS
 - PROPOSED CONTROL VALVE
 - PROPOSED HORIZONTAL COLLECTOR WELLHEAD
 - PROPOSED HORIZONTAL COLLECTOR PIPING (6" HOPE SDR 17)
 - PROPOSED LATERAL GAS SUBHEADER (8" HOPE SDR 17)
 - PROPOSED CONDENSATE SUMP
 - PROPOSED PUMPING STATION

NOTE:
EXISTING CONDITIONS PROVIDED BY
COOPER AERIAL SURVEYS CO.
DATE OF FLIGHT APRIL 14, 2015

EXISTING 80,000
GALLON AND 101,000
GALLON LEACHATE TANKS

DATE
REVISIONS
SHEET TITLE
PROPOSED GAS PIPING PLAN
SOUTH HALF
DATE/AUGUST, 2015
DWN JMT CHK'D SKH APP'D JVS

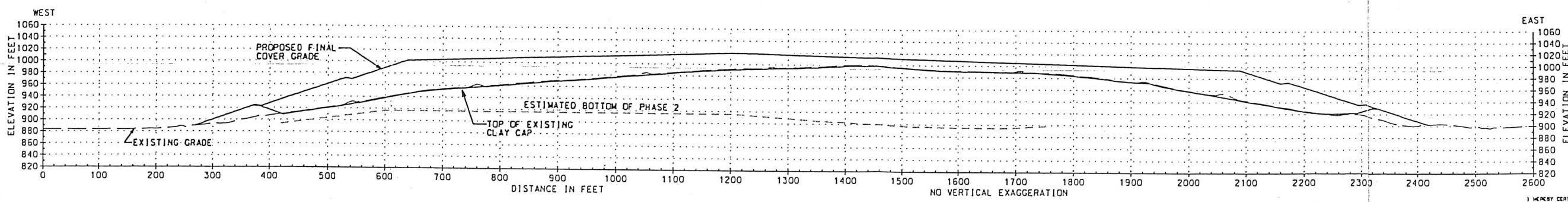
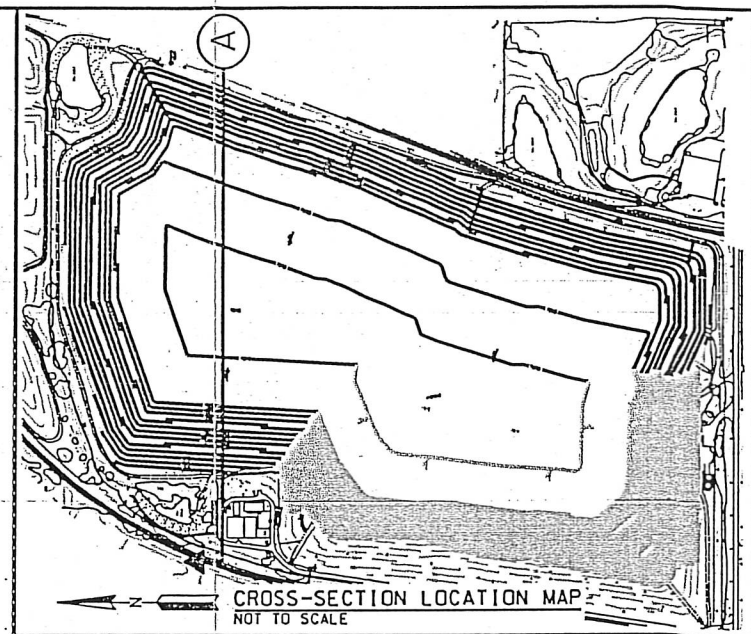
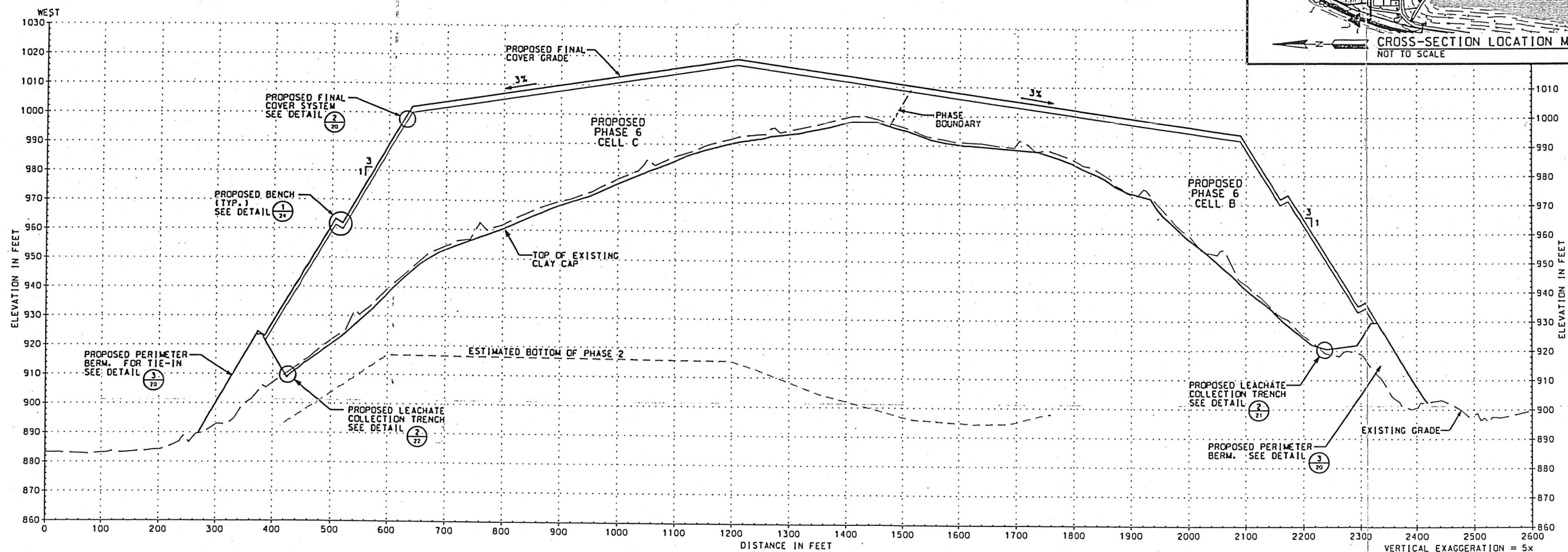
2015 MAJOR PERMIT MODIFICATION
BFI WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
INVER GROVE HEIGHT, MINNESOTA

Responsive partner. Exceptional outcomes.
1808 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357
PHONE: 763-479-4288
FAX: 763-479-4242

E-NAME: MW/0991/PINEBEND/2015 PERMIT/2015 PERMIT MOD/DGN

PRINT NAME
THOMAS J. SHUSTARICH
SIGNATURE
DATE 08/31/15 LICENSE # 21210

SHEET NO.
11



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PRINT NAME: THOMAS J. SHUSTARICH
 SIGNATURE: *Thomas J. Shustarich*
 DATE: 08/31/15

PROJECT
 2015 MAJOR PERMIT MODIFICATION
 BFI WASTE SYSTEMS
 OF NORTH AMERICA, LLC
 PINE BEND LANDFILL
 INVER GROVE HEIGHTS, MINNESOTA

DATE
 DATE: AUGUST, 2015

REVISIONS

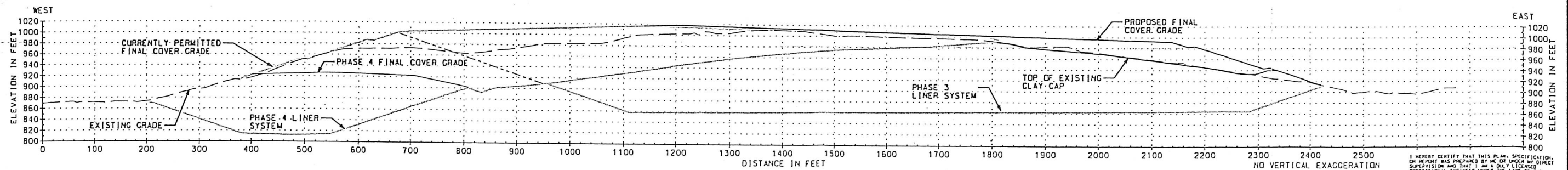
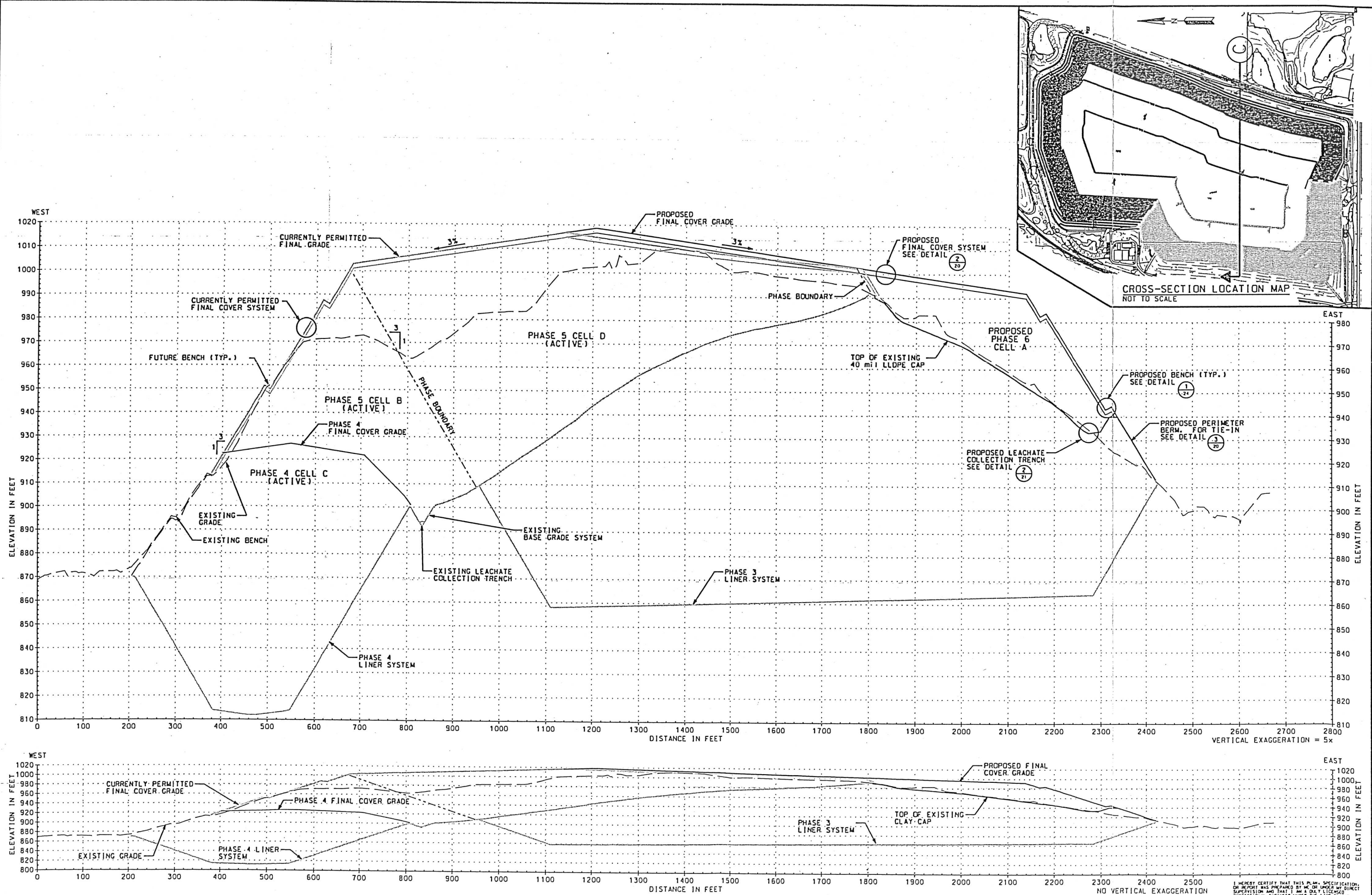
SHEET TITLE
 CROSS-SECTION A

DATE
 DATE: AUGUST, 2015

APP'D
 DWN JMT CHK'D SKH APP'D TJS

Responsive partner. Exceptional outcomes.
 1808 PIONEER CREEK CENTER
 MAPLE PLAIN, MN 55357
 PHONE: 763-479-4208
 FAX: 763-479-4242

SHEET NO.
 12



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PRINT NAME: THOMAS J. SHUSTARICH

SIGNATURE: *Thomas J. Shustarich*

DATE: 08/31/15 LICENSE #: 21210

FILE NAME: M:\0991\PINEBEND\2015 PERMIT\2015 PERM MOD14.DGN

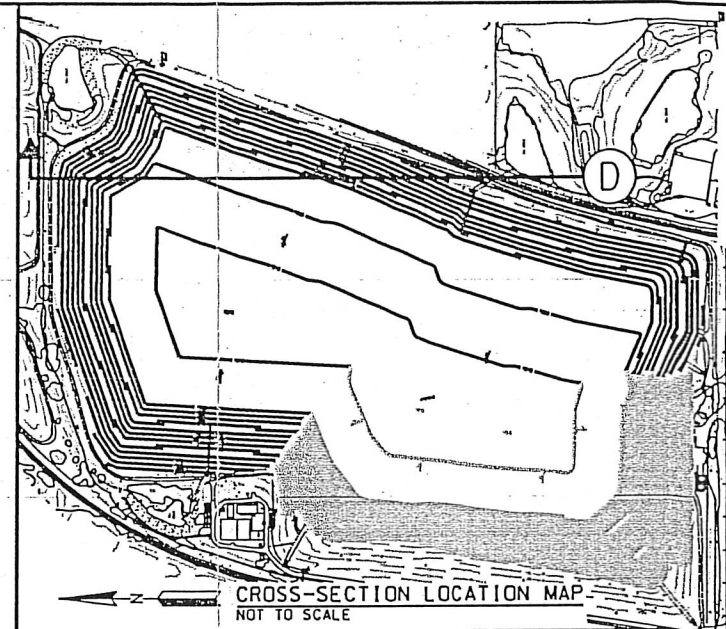
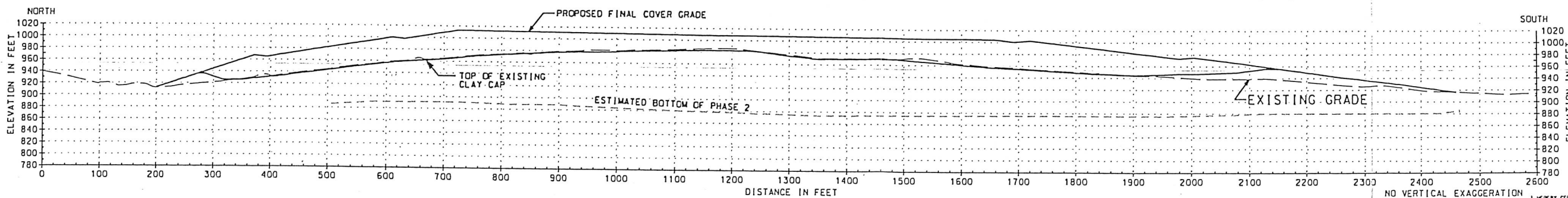
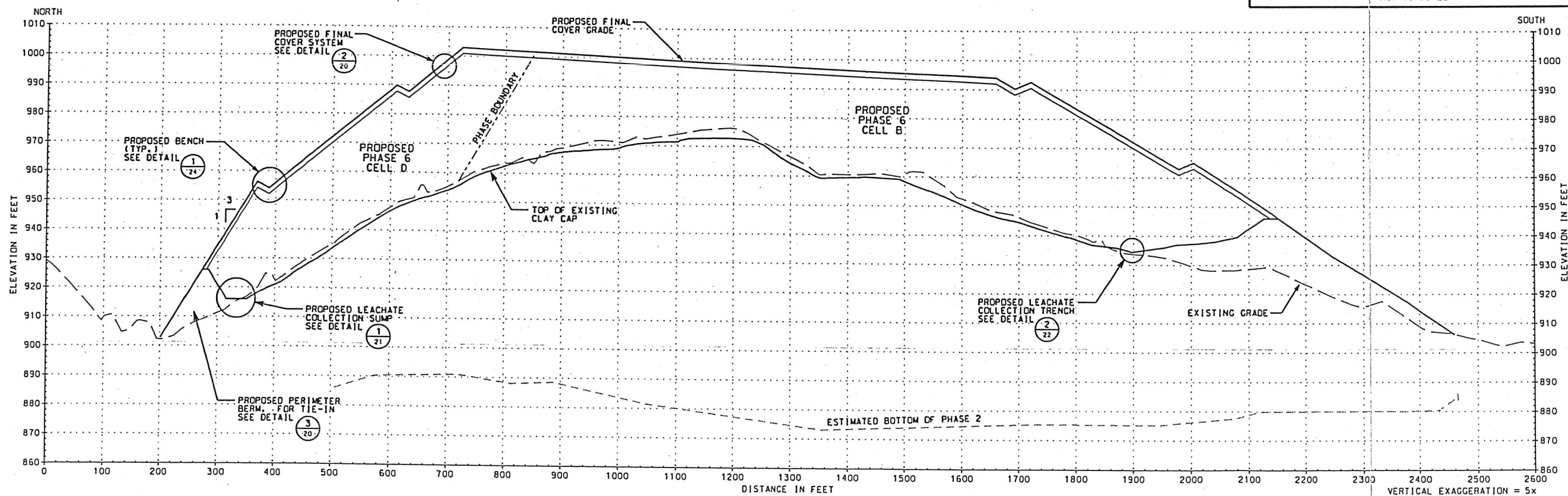
PROJECT

2015 MAJOR PERMIT MODIFICATION
BEI WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
INVER GROVE HEIGHTS, MINNESOTA

WENCK ASSOCIATES
Responsive partner. Exceptional outcomes.
1800 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357
PHONE: 763-479-4208
FAX: 763-479-4242

SHEET TITLE: CROSS-SECTION C
DATE: AUGUST 1, 2015
DWN: JMT
CHK'D: SKH
APP'D: JJS
REVISIONS:
DATE:

SHEET NO. 14



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME, OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: THOMAS J. SHUSTARICH
 SIGNATURE: *Thomas J. Shustarich*
 DATE: 08/31/15

FILE NAME: M:\0981\PINEBEND\2015 PERM MOD\5.DGN



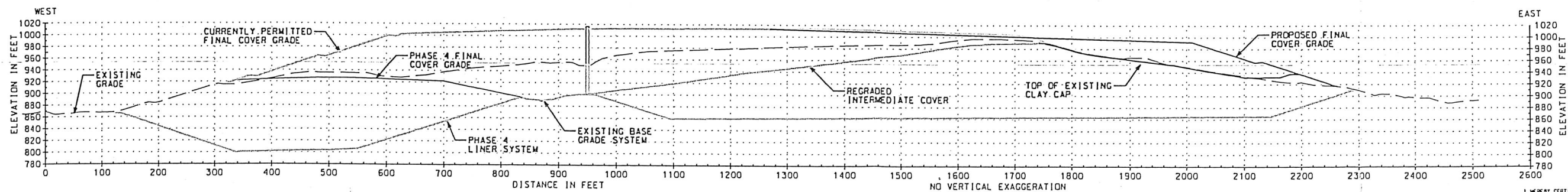
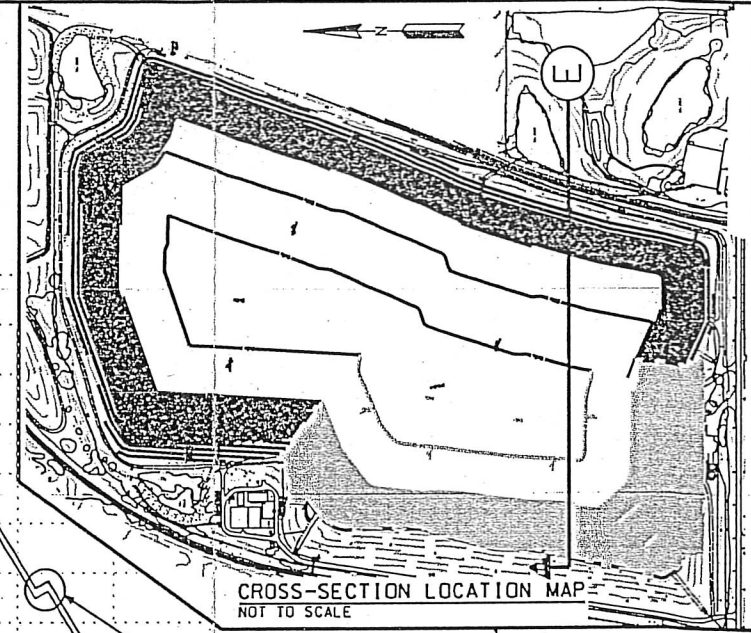
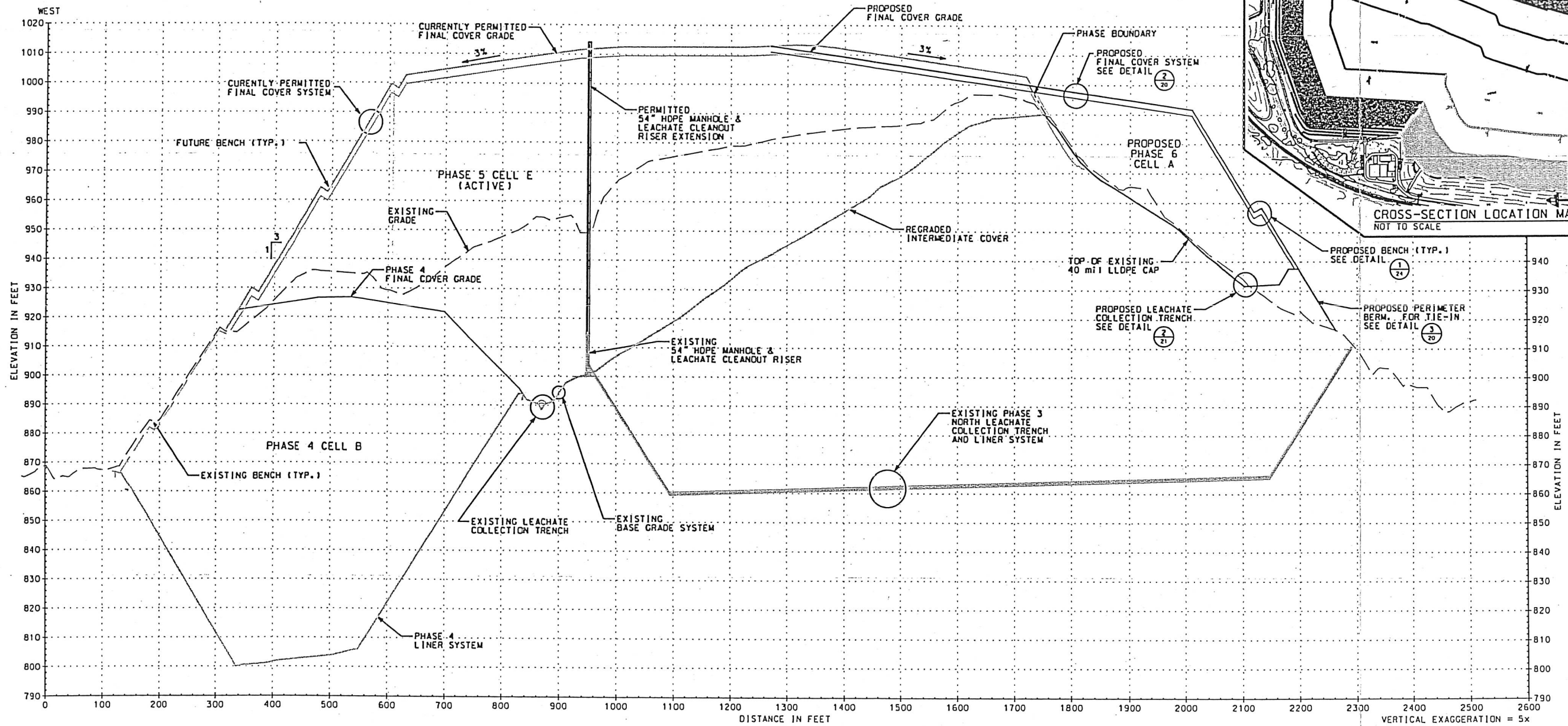
Responsive partner. Exceptional outcomes.
 1808 PIONEER CREEK CENTER
 MAPLE PLAIN, MN 55357
 PHONE: 763-479-4288
 FAX: 763-479-4242

PROJECT
 2015 MAJOR PERMIT MODIFICATION
 BFI WASTE SYSTEMS
 OF NORTH AMERICA, LLC
 PINE BEND LANDFILL
 INVER GROVE HEIGHTS, MINNESOTA

SHEET TITLE
 CROSS-SECTION D

REVISIONS
 DATE: AUGUST, 2015
 DWN: JMT
 CHK'D: SMH
 APP'D: TJS

SHEET NO.
 15



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PRINT NAME: THOMAS J. SHUSTARICH
 SIGNATURE: *Thomas J. Shustarich*
 DATE: 08/31/15 LICENSE # 21210

FILE NAME: W:\0909\PIREBEND\2015 PERM\2015 PERM MOO16.DGN

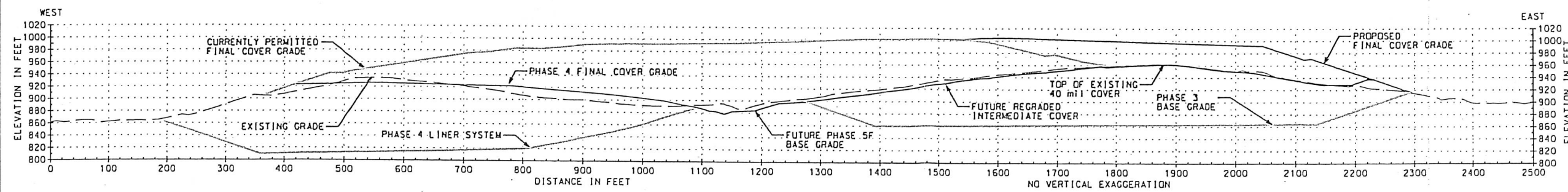
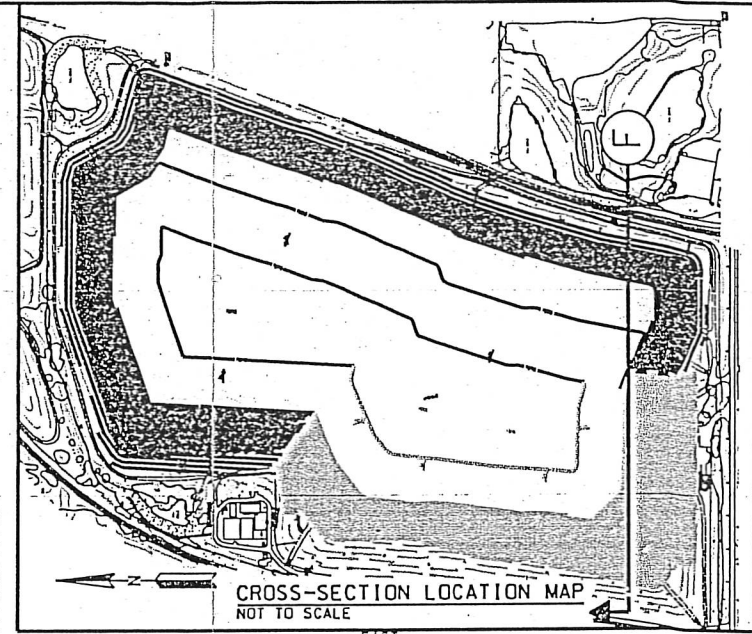


Responsive partner. Exceptional outcomes.
 1800 PIONEER CREEK CENTER
 MAPLE PLAIN, MN 55357
 PHONE: 763-479-4200
 FAX: 763-479-4242

PROJECT: 2015 MAJOR PERMIT MODIFICATION
 BFI WASTE SYSTEMS
 OF NORTH AMERICA, LLC
 PINE BEND LANDFILL
 INVER GROVE HEIGHTS, MINNESOTA

SHEET TITLE: CROSS-SECTION E
 DATE: AUGUST, 2015
 DWN: JMT CHK'D: SKH APP'D: JJS

REVISIONS:
 DATE:
 SHEET NO.: 16



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME THOMAS J. SHUSTARICH

SIGNATURE *Thomas J. Shustarich*

DATE 08/31/15 LICENSE # 21210



WENCK
ASSOCIATES

Responsive partner. Exceptional outcomes.

1800 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357

PHONE: 763-479-4200
FAX: 763-479-4242

2015 MAJOR PERMIT MODIFICATION
BFI WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
MINNER GROVE HEIGHTS, MINNESOTA

SHEET NO. _____

REVISIONS

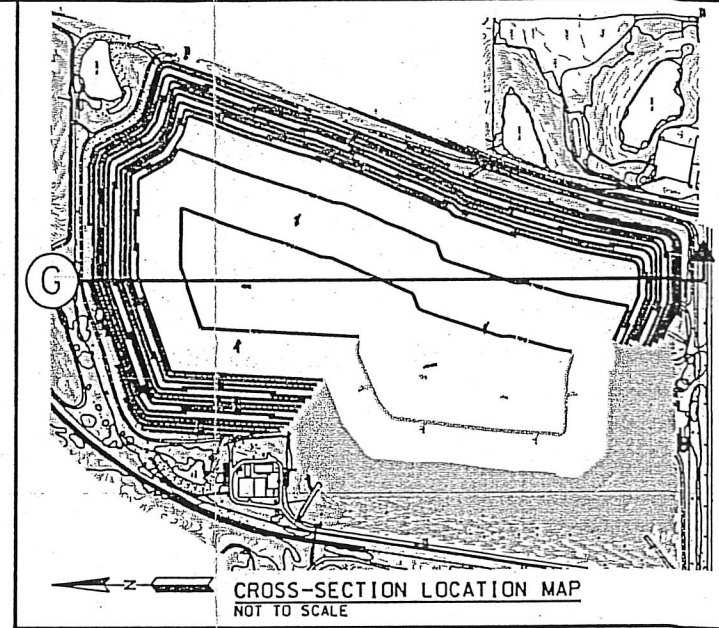
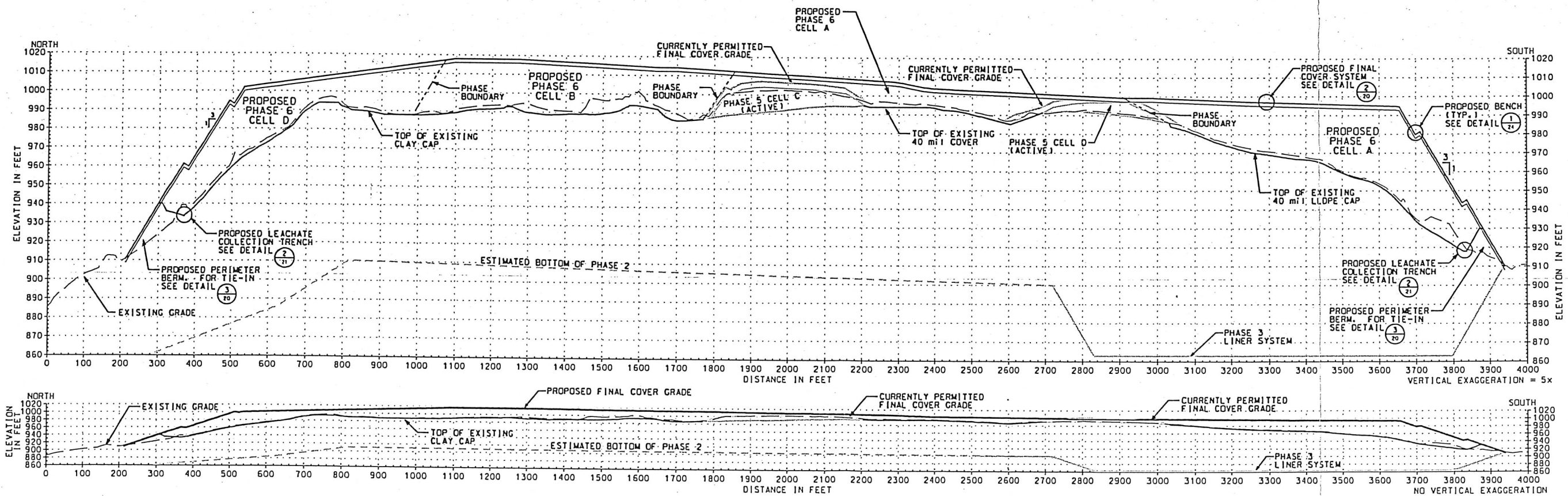
TITLE CROSS-SECTION F

SHEET TITLE

DATE _____

DWN JWT CHK'D SKH APP'D TJS

DATE: AUGUST, 2015



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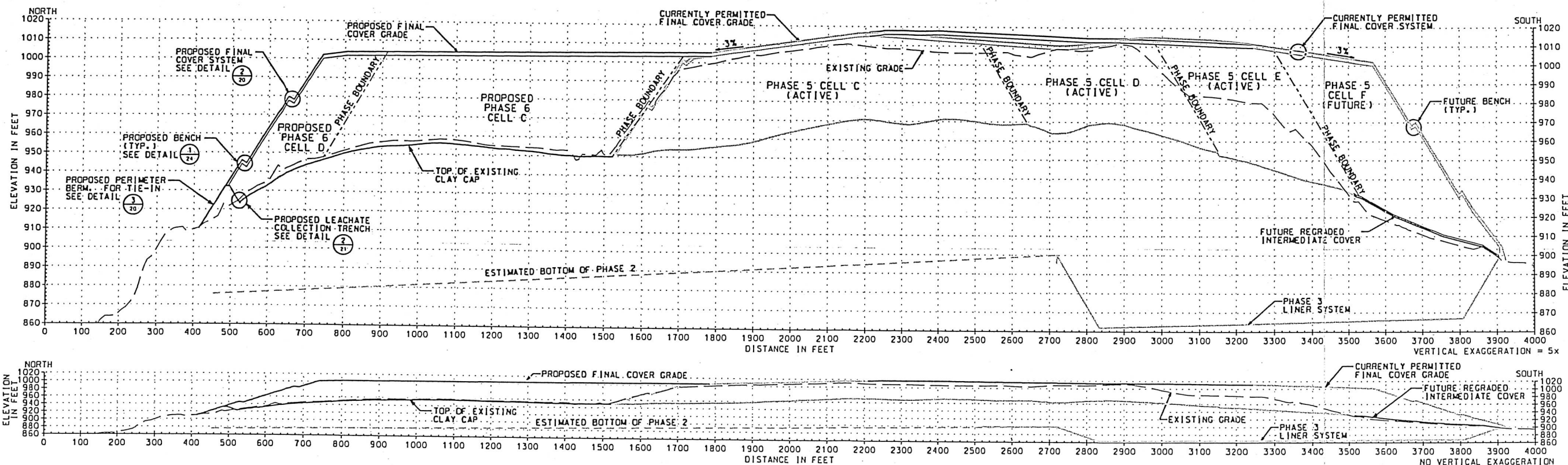
PRINT NAME: THOMAS J. SHUSTARICH
SIGNATURE: *Thomas J. Shustarich*
DATE: 08/31/15 LICENSE #: 21210

SHEET TITLE	REVISIONS	DATE
CROSS-SECTION G		
DATE: AUGUST, 2015	DWN	JWT
	CHK'D	SKH
	APP'D	TJS

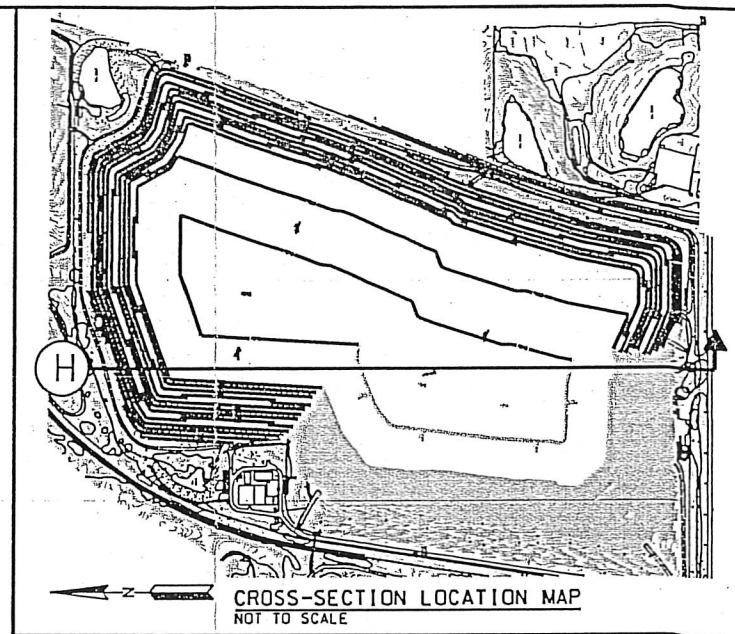
2015 MAJOR PERMIT MODIFICATION
BFI WASTE SYSTEMS
OF NORTH AMERICA, LLC
PINE BEND LANDFILL
INVER GROVE HEIGHTS, MINNESOTA

WENCK ASSOCIATES
Responsive partner. Exceptional outcomes.
1800 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357
PHONE: 763-479-4208
FAX: 763-479-4242

SHEET NO. 18



NOTE:
FUTURE LINER GRADES TO BE FIELD
MODIFIED PRIOR TO CONSTRUCTION TO
MATCH EXISTING CONDITIONS



NAME: W/0591/PINEBEND/2015 PERMIT/2015 PERM MOD19.DGN



Responsive partner. Exceptional outcomes.
1808 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357
PHONE: 763-479-4208
FAX: 763-479-4242

PROJECT: 2015 MAJOR PERMIT MODIFICATION
BFI WASTE SYSTEMS
OF NORTH AMERICA, LLC
INVER GROVE HEIGHTS, MINNESOTA

SHEET TITLE: CROSS-SECTION H

REVISIONS:
DATE: _____
DWN: JMT CHK'D: SKH APP'D: TJS

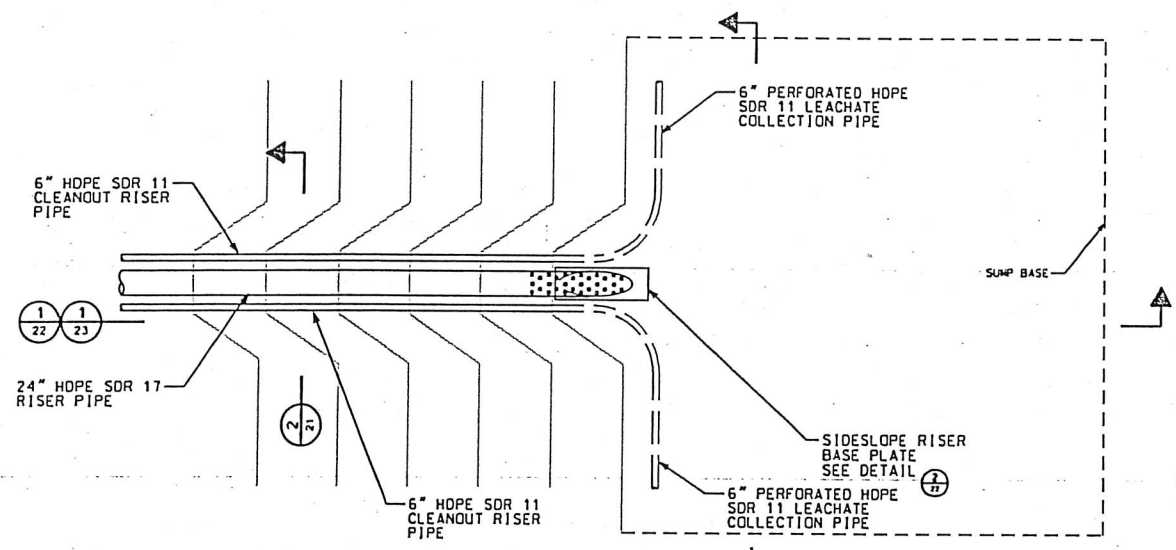
SHEET NO.

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PRINT NAME: THOMAS J. SHUSTARICH
SIGNATURE: *Thomas J. Shustarich*

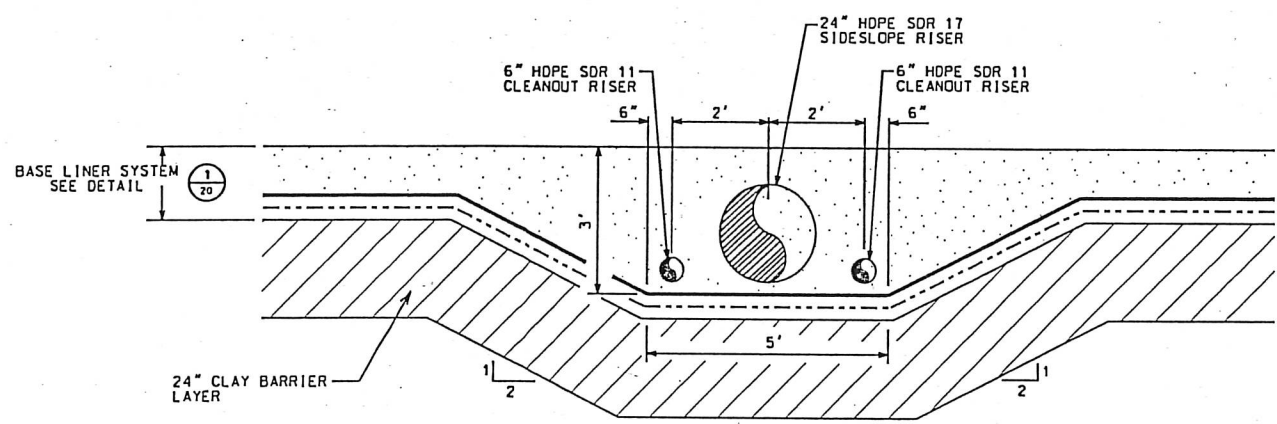
DATE: 08/31/15 LICENSE: 21210





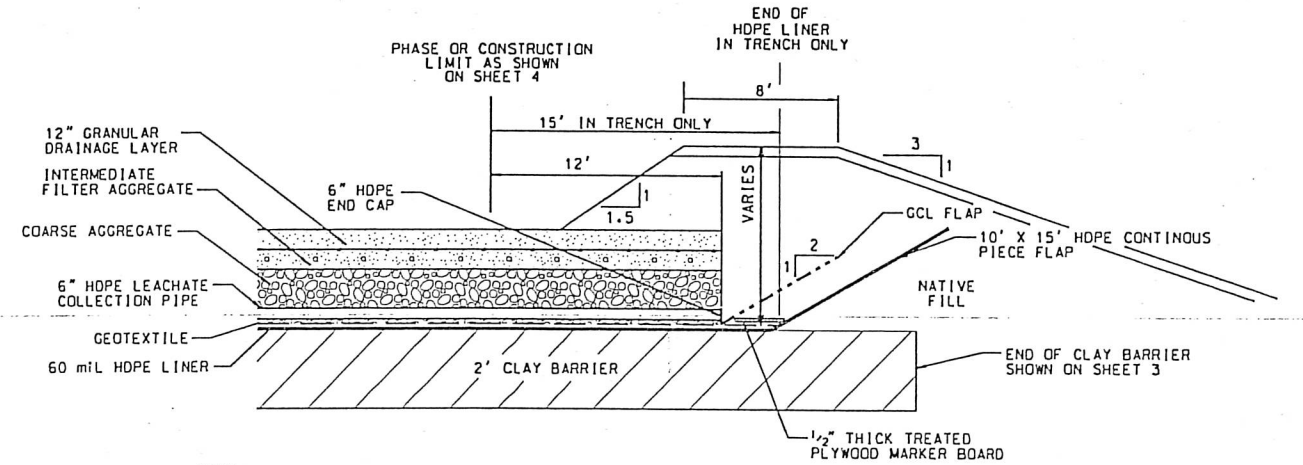
TYPICAL LEACHATE COLLECTION SUMP PLAN

SCALE IN FEET



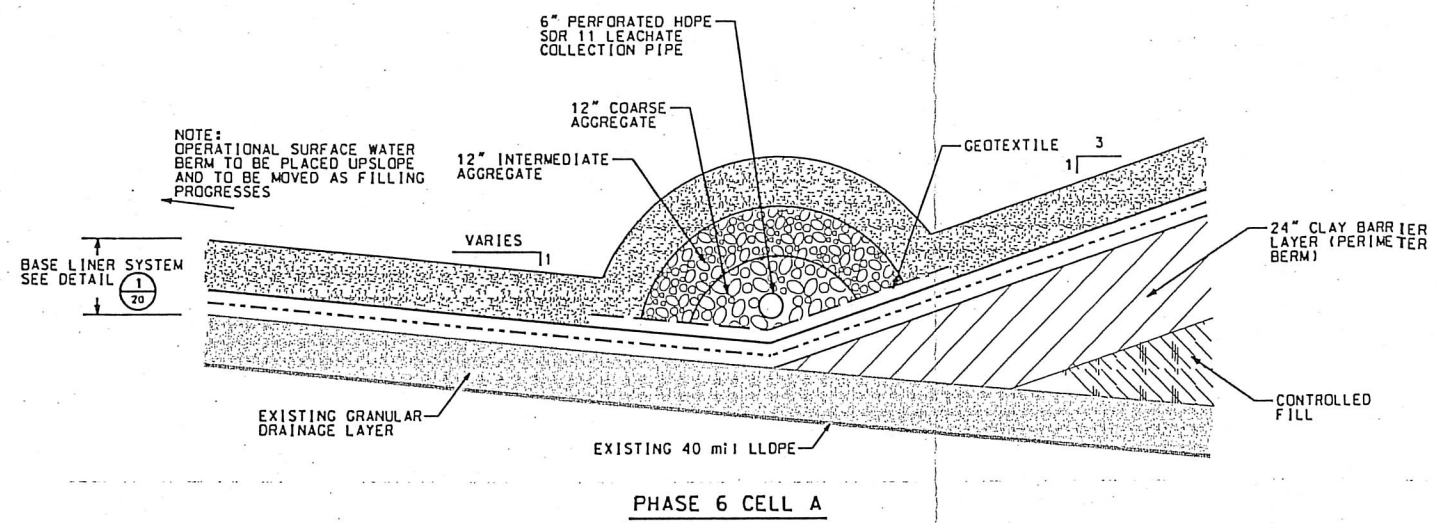
SIDESLOPE RISER TRENCH

SCALE IN FEET

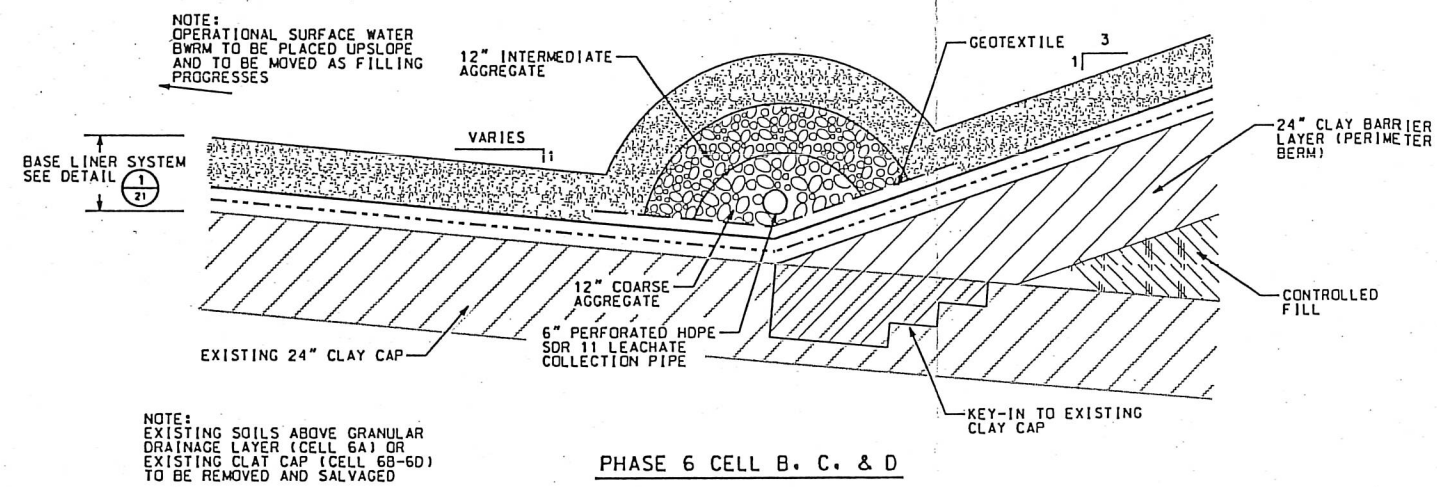


TEMPORARY PHASE SEPARATION BERM AT LEACHATE COLLECTION TRENCH

SCALE IN FEET



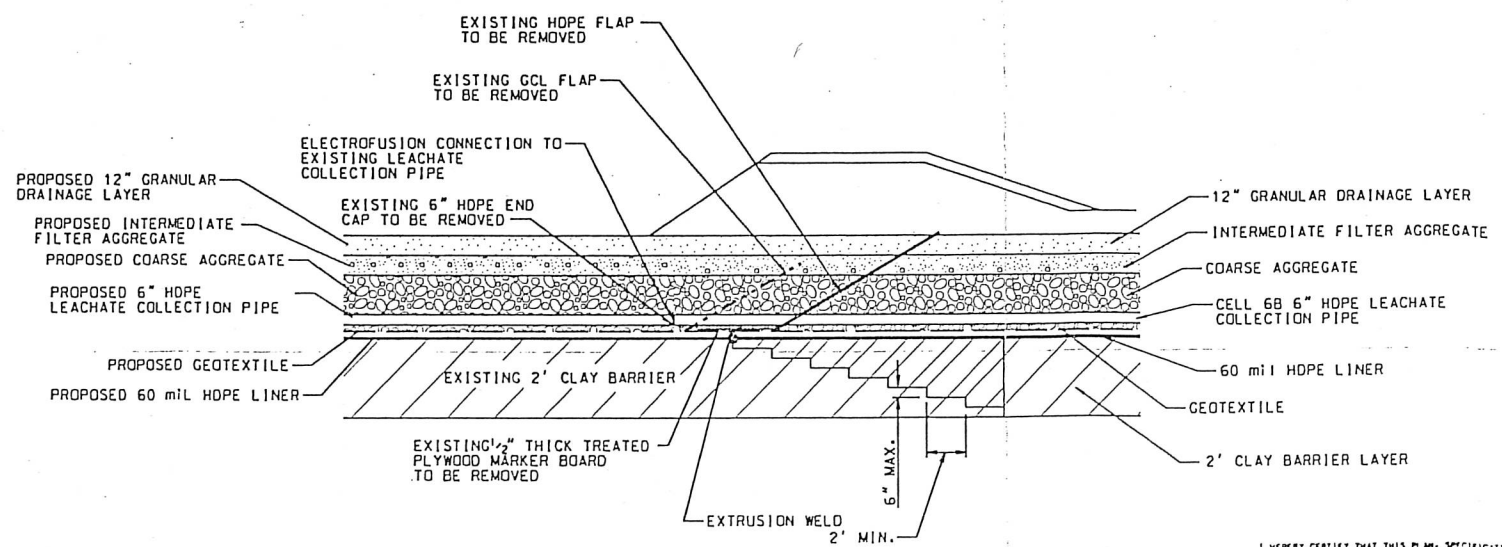
PHASE 6 CELL A



PHASE 6 CELL B, C, & D

LEACHATE COLLECTION TRENCH

NOT TO SCALE



TIE-IN AT TEMPORARY PHASE SEPARATION BERM WITH PROPOSED LEACHATE COLLECTION TRENCH

SCALE IN FEET

DATE	
REVISIONS	
1	DATE: AUGUST, 2015
2	DWN: JMT
3	CHKD: SKH
4	APPD: TJS

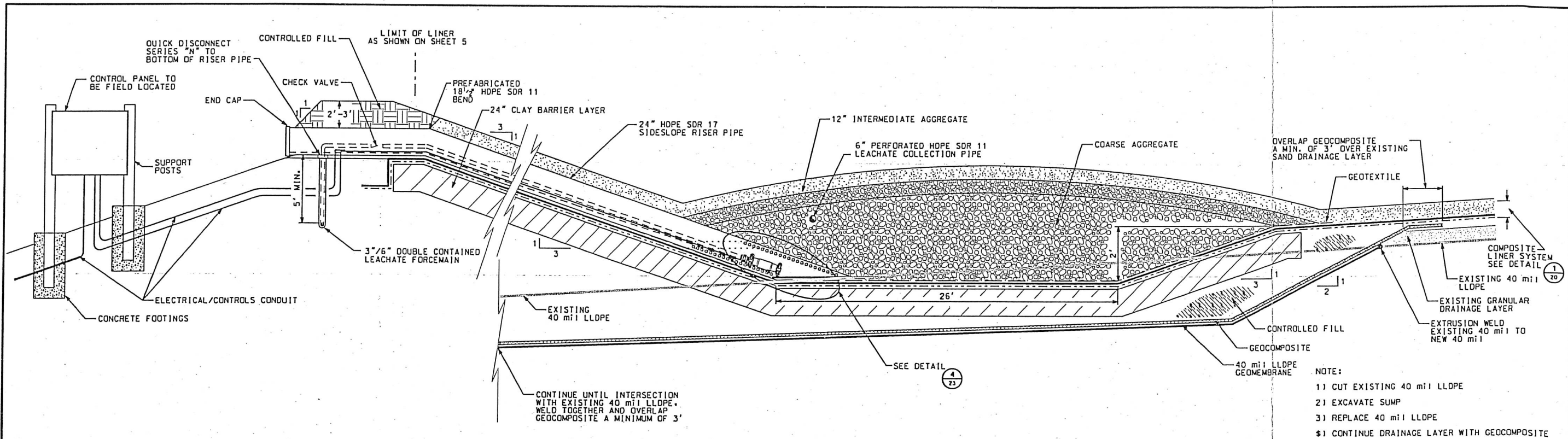
SHEET TITLE	LEACHATE COLLECTION DETAILS
PROJECT	2015 MAJOR PERMIT MODIFICATION BFI WASTE SYSTEMS OF NORTH AMERICA, LLC PINE BEND LANDFILL INVER GROVE HEIGHTS, MINNESOTA

PROJECT

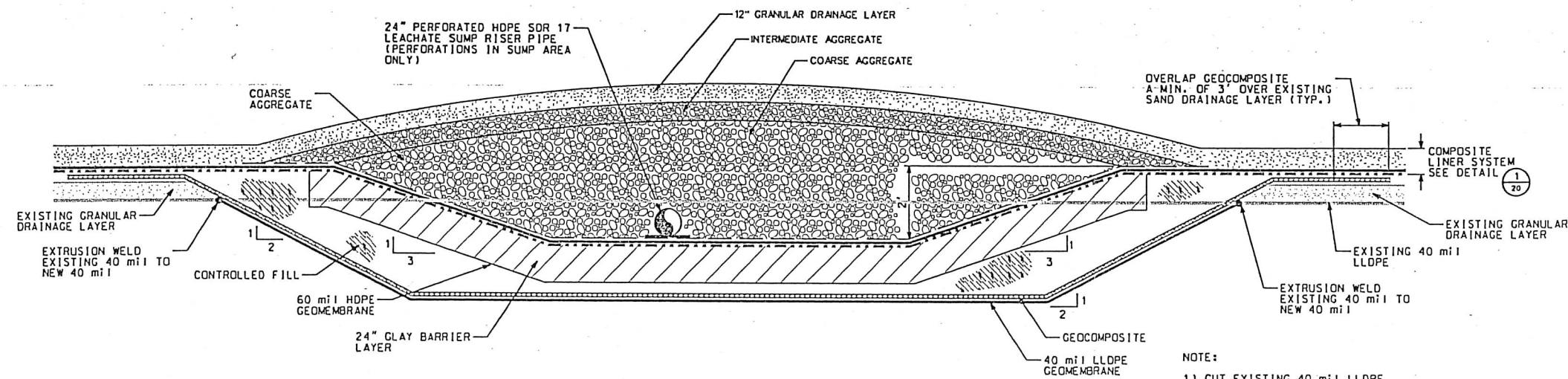
WENCK ASSOCIATES
Responsive partner. Exceptional outcomes.
1800 PIONEER CREEK CENTER
MAPLE PLAIN, MN 55357
PHONE: 763-479-4208
FAX: 763-479-4242

E-NAME: M/0991/PNEBEND/2015 PERM MOD21.DGN
PRINT NAME: THOMAS J. SHUSTARICH
SIGNATURE: *Thomas J. Shustarich*
DATE: 08/31/15 LICENSE: 21210
SHEET NO. 21

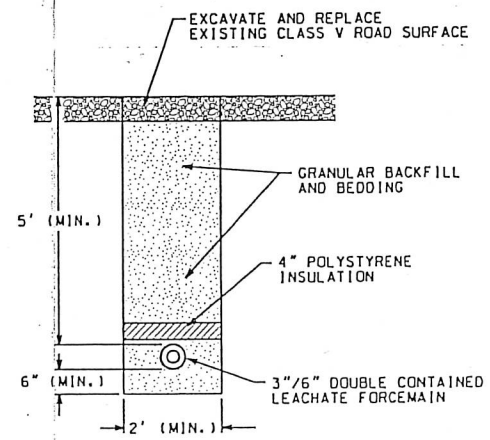
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.



LEACHATE COLLECTION SUMP AND RISER PIPE PROFILE
PHASE 6 CELL A
NOT TO SCALE



LEACHATE COLLECTION SUMP SECTION
PHASE 6 CELL A
NOT TO SCALE



LEACHATE FORCEMAIN TRENCH SECTION

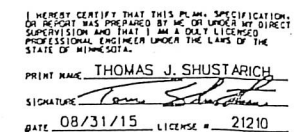
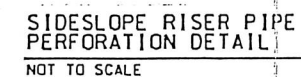
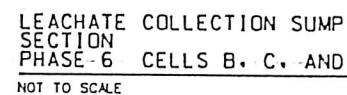
SCALE IN FEET

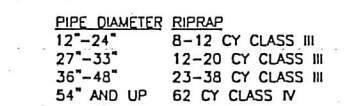
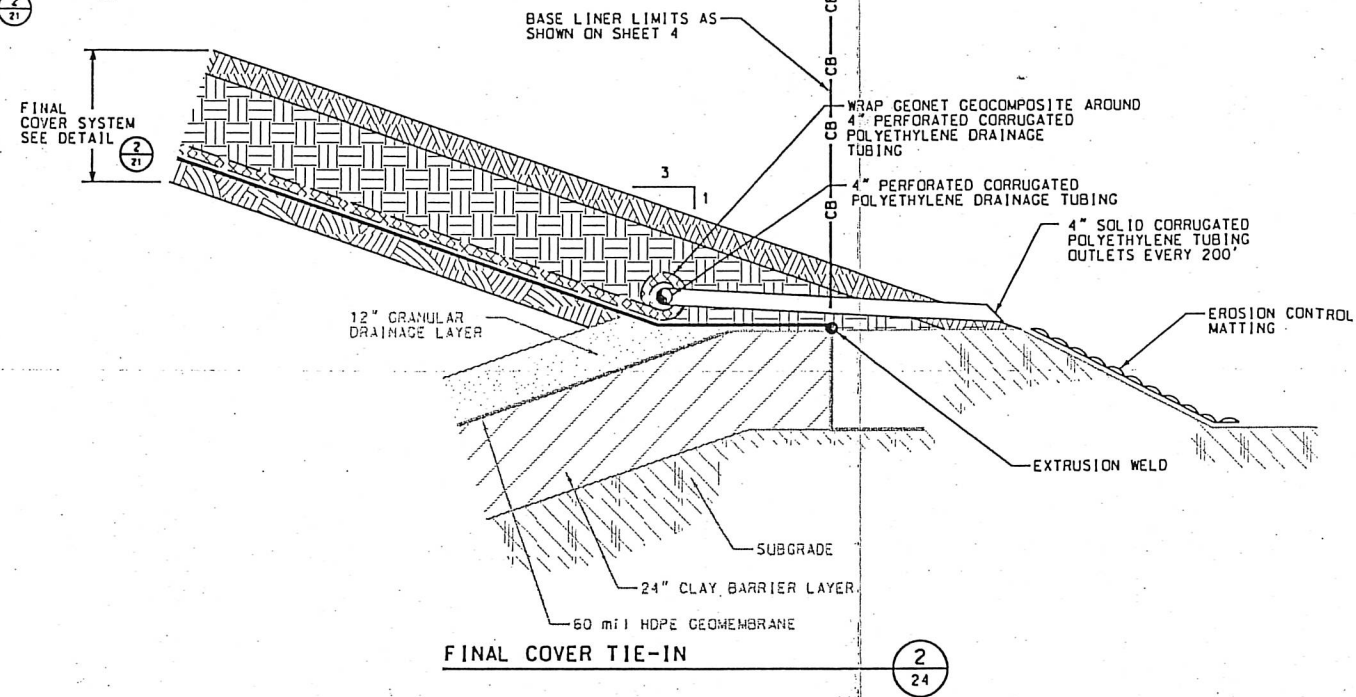
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PRINT NAME: THOMAS J. SHUSTARICH

SIGNATURE: [Signature]

DATE: 08/31/15 LICENSE #: 21210





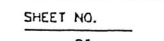
- SECTION B-B
- NOTES:
1. THE RIPRAP FOUNDATION SHALL BE EXCAVATED AND SHAPED TO THE CROSS-SECTIONS INDICATED IN PLANS.
 2. FOUNDATION MATERIAL SHALL BE COMPACTED BEFORE PLACEMENT OF RIPRAP OR FILTER MATERIAL.
 3. 6" OF FILTER MATERIAL SHALL COVER THE ENTIRE AREA ON WHICH RIPRAP WILL BE PLACED.
 4. THE GEOTEXTILE FABRIC SHALL BE PLACED SMOOTHLY AND BE FREE OF DEBRIS THAT COULD PUNCTURE FABRIC.
 5. PLACE FABRIC WITH LONGEST DIMENSION PARALLEL TO DIRECTION OF WATER FLOW.
 6. OVERLAP FABRIC SEAMS BY 18".
 7. OVERLAP UNDERWATER FABRIC SEAMS BY 36".

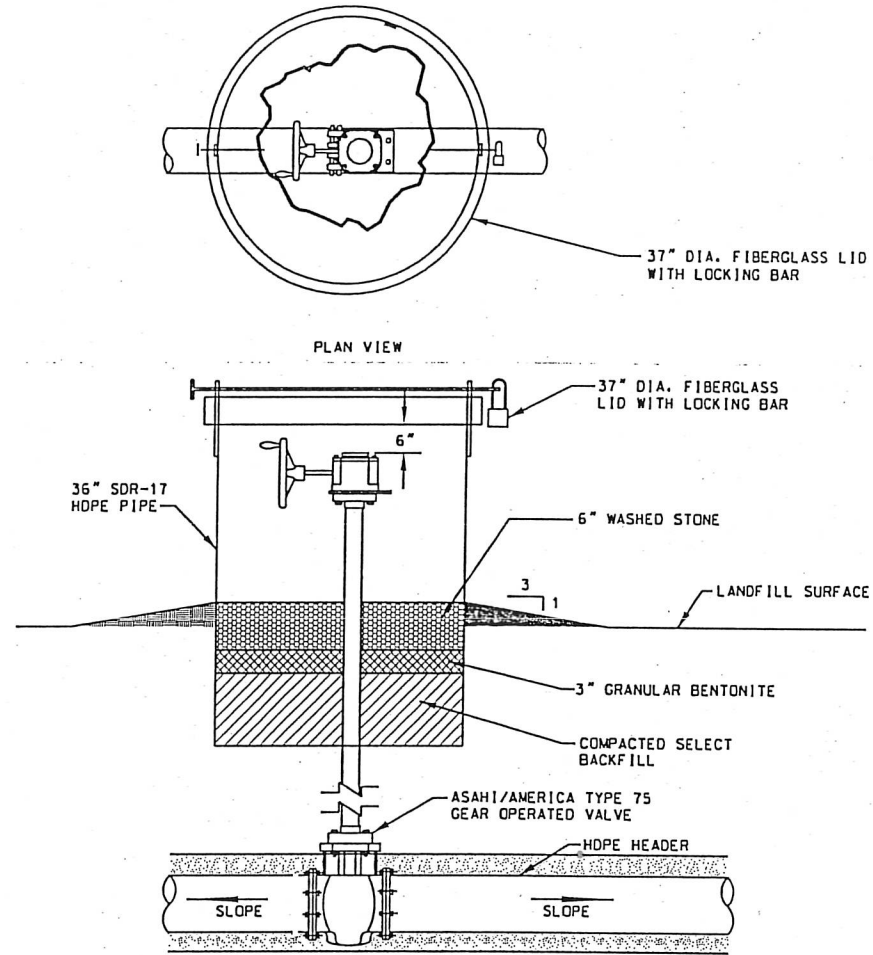
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PRINT NAME THOMAS J. SHUSTARICH

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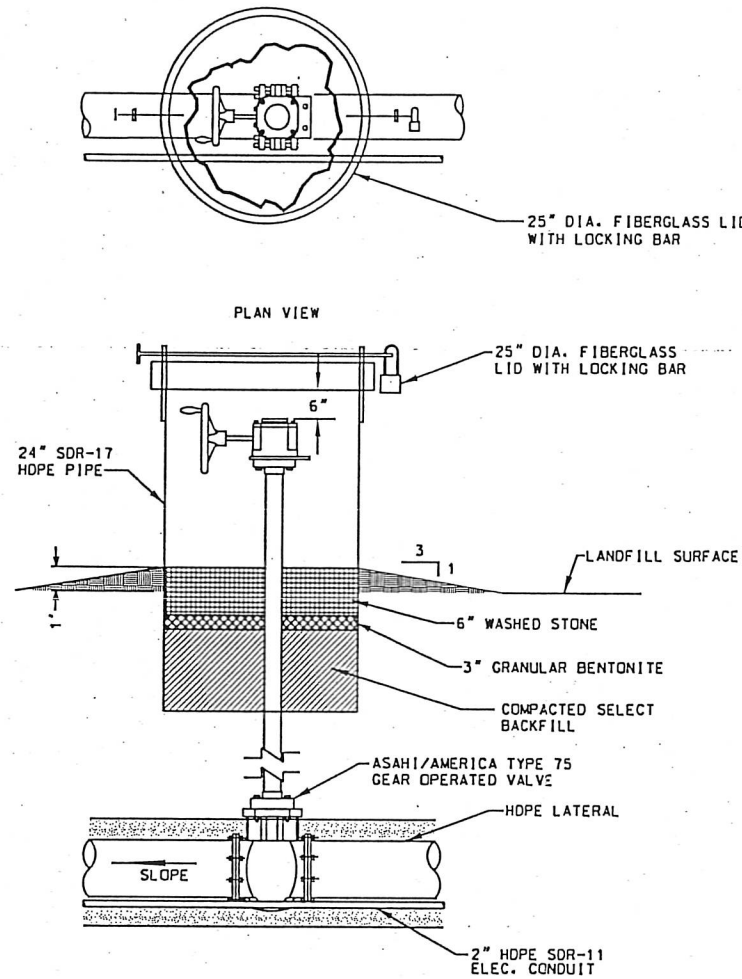
DATE 08/31/15 LICENSE # 21210





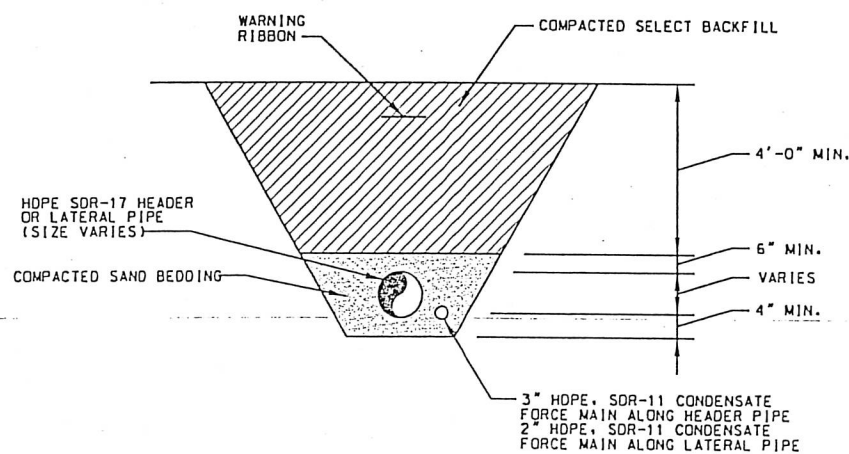
CONTROL VALVE DETAIL (GAS HEADER)
NOT TO SCALE

1
26



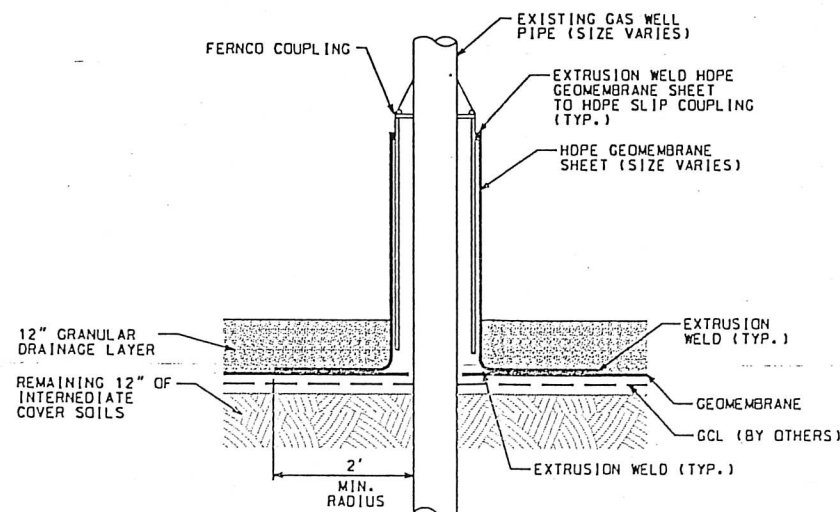
ISOLATION VALVE DETAIL (LATERAL)
NOT TO SCALE

2
26



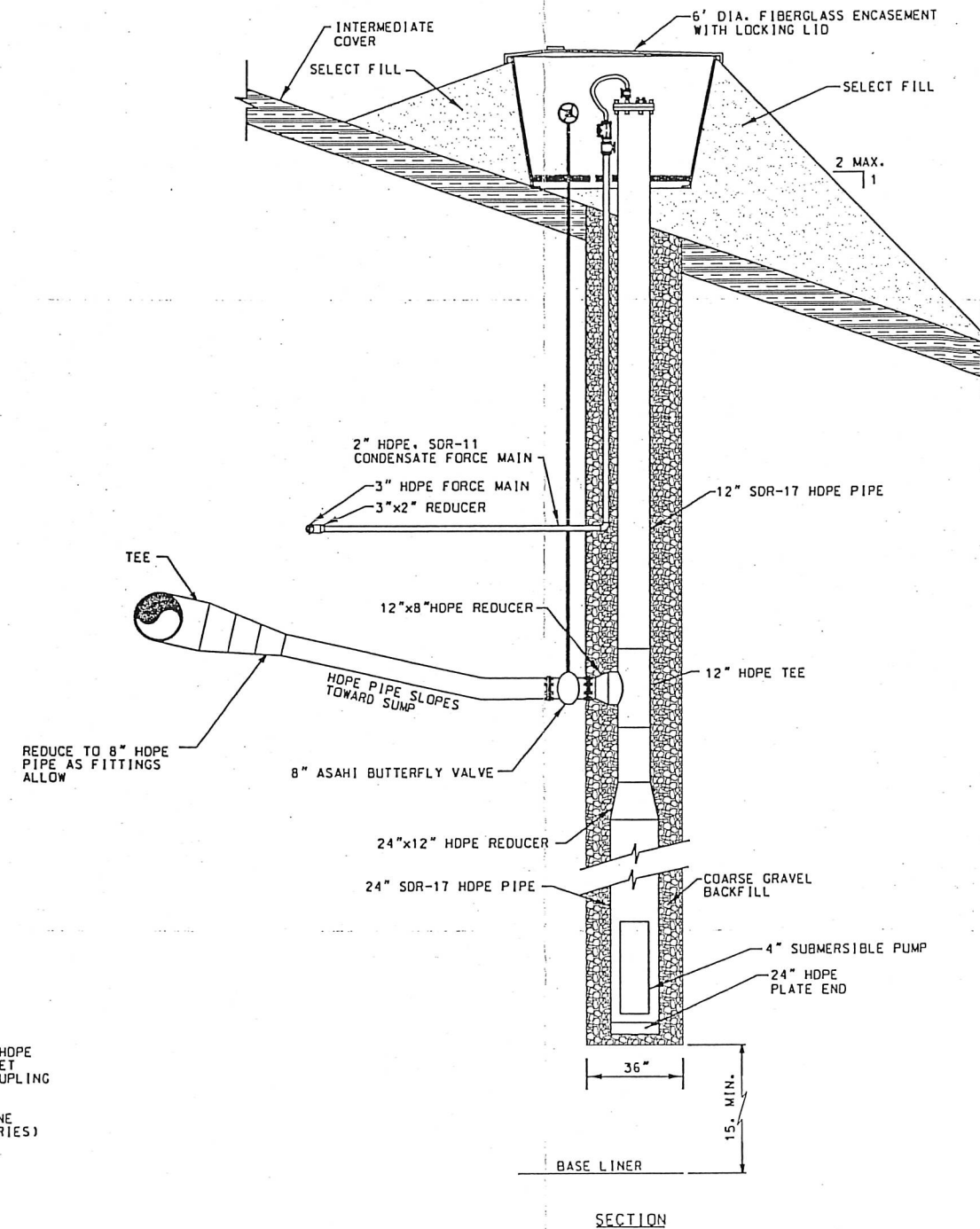
TYPICAL PIPE TRENCH DETAIL
NOT TO SCALE

4
26



EXISTING GAS WELL EXTENSION
NOT TO SCALE

5
26

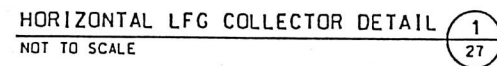


CONDENSATE SUMP DETAIL
NOT TO SCALE

3
26

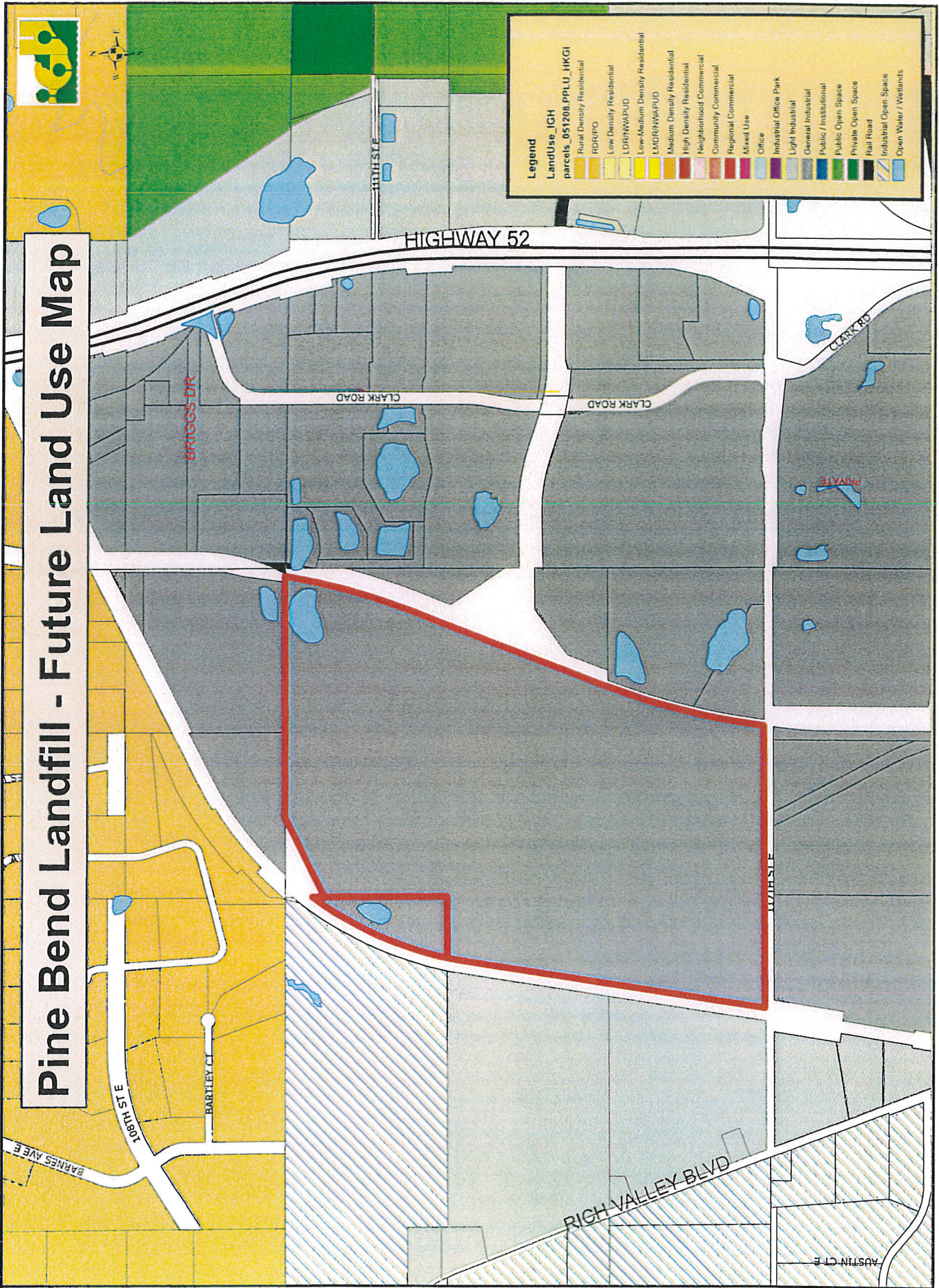
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PRINT NAME: THOMAS J. SHUSTARICH
SIGNATURE: *Thomas J. Shustarich*
DATE: 08/31/15 LICENSE #: 21210

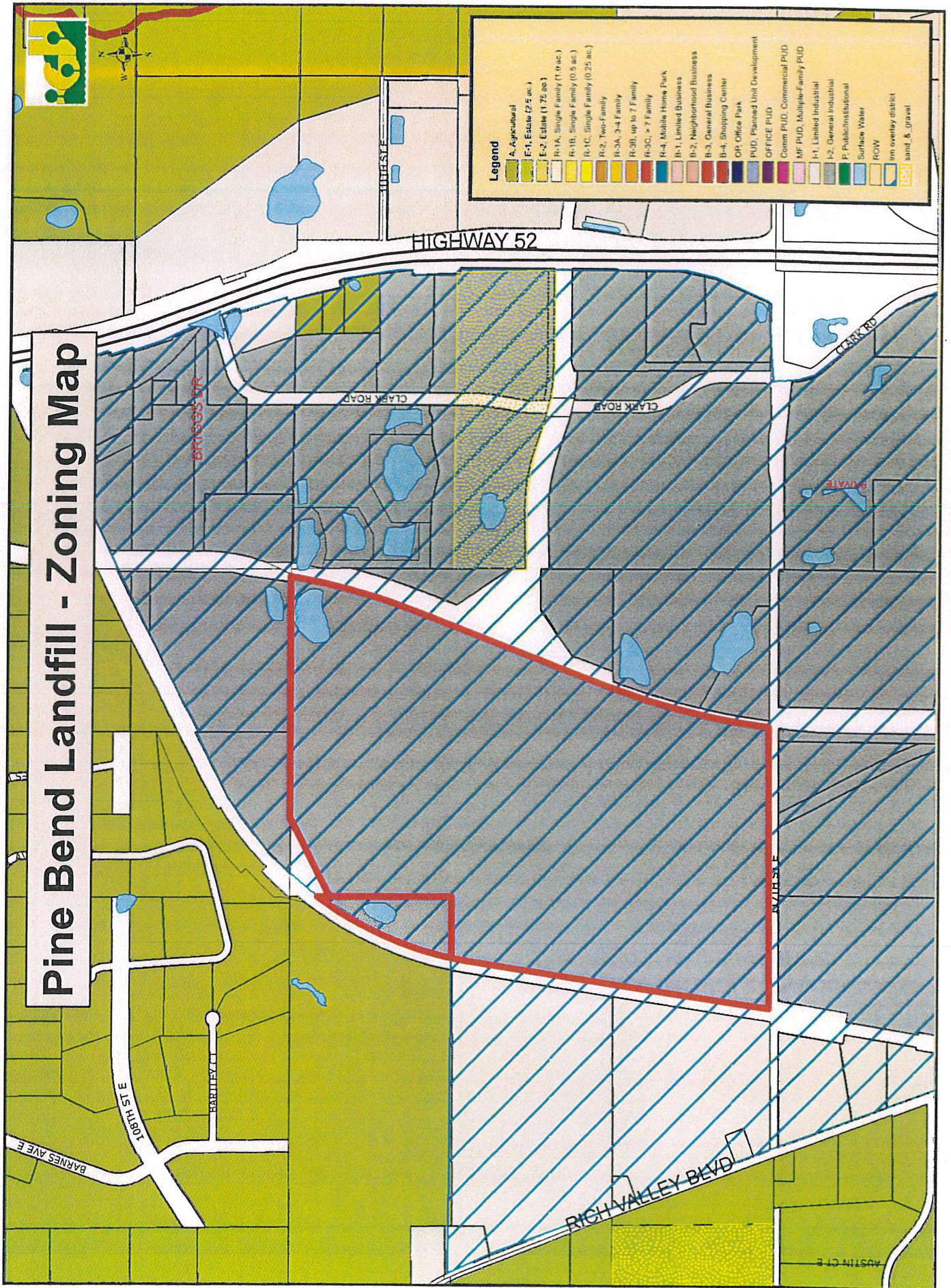


PRINT NAME THOMAS J. SHUSTARICH
SIGNATURE *Tom Shustarich*
DATE 08/31/15 LICENSE # 21210

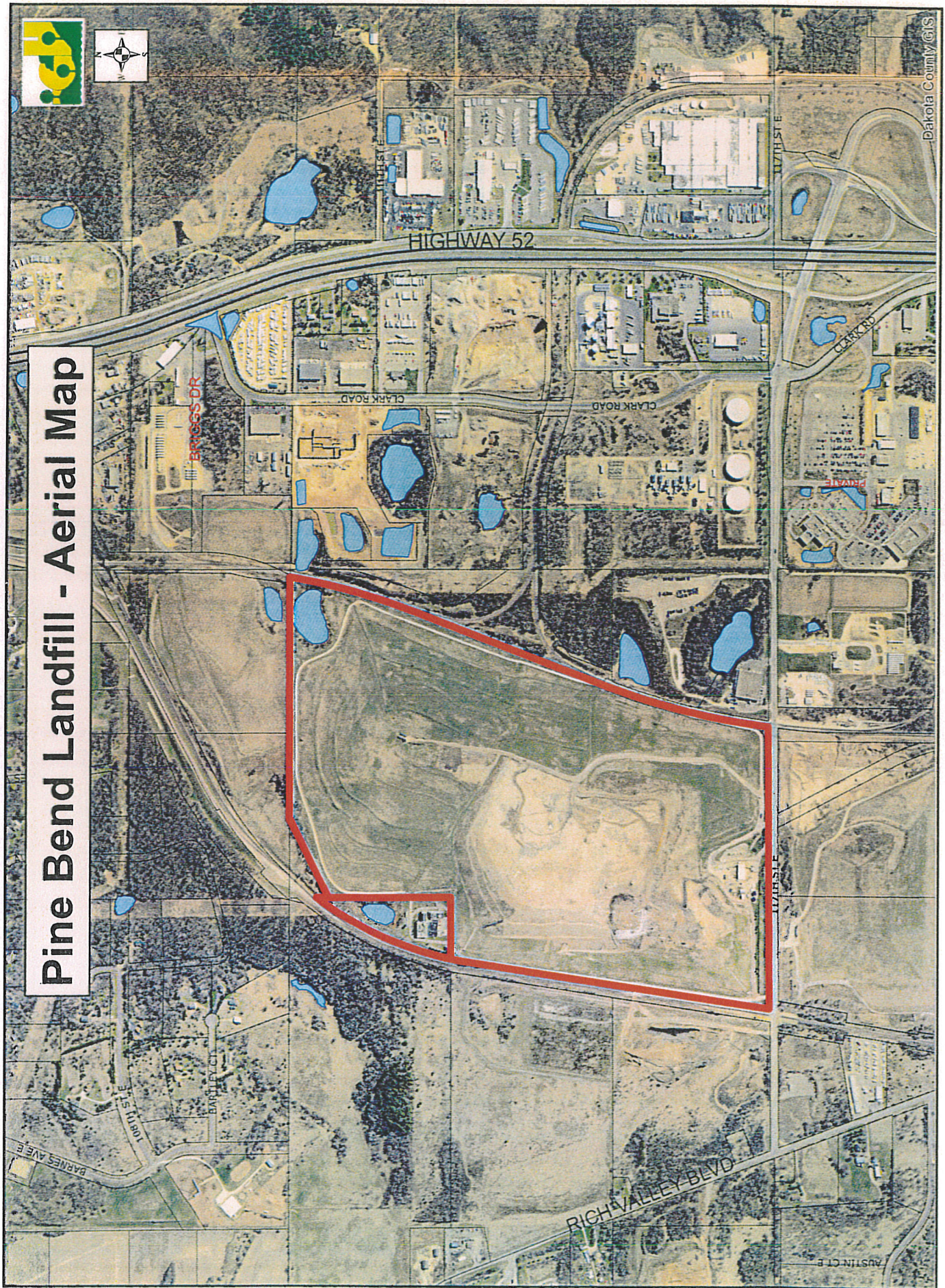
Pine Bend Landfill - Future Land Use Map



Pine Bend Landfill - Zoning Map



Pine Bend Landfill - Aerial Map



February 13, 2018

Mr. Tom Link
Director of Community Development
City of Inver Grove Heights
8150 Barbara Avenue
Inver Grove Heights, MN 55077-3412

Re: Pine Bend Landfill (PBL) Sideslope Expansion – City Application Review

Dear Mr. Link:

This letter presents Barr Engineering Co.'s (Barr's) review of the Pine Bend Landfill (PBL) "Application Submittal to the City of Inver Grove Heights for the Pine Bend Landfill – Phase 6 Development," prepared by Wenck Associates, Inc., dated revised February 2018 (revised February 2018 City Application).

This letter includes:

- brief summaries of the revised February 2018 City Application and the City's regulatory history of PBL,
- a history of recent requests and approval regarding PBL,
- City technical review of PBL's permit application to the MPCA including key technical issues and associated recommended modifications to the Non-Conforming Use Certificate (NCUC) and Conditional Use Permit (CUP),
- a discussion of potential environmental benefits from the proposed sideslope expansion, and
- summary and conclusions

Summary of revised February 2018 City Application

The revised February 2018 City Application contains information regarding the proposed sideslope expansion at PBL including general project description, facility and design information, operational information, a discussion of potential environmental and land use impacts, and additional information regarding the host community fee, compliance history, and status of non-City permits and approvals.

The revised February 2018 City Application also includes the site lease agreement, permit-level plan sheets, a geotechnical analysis, stormwater management calculations and model results, and financial assurance cost estimates for closure, postclosure, and contingency action.

The revised February 2018 City Application proposes an increase to the capacity of PBL but does not propose changes to the aerial footprint of the waste or the maximum elevation.

City Regulatory History of PBL

In general City Resolution No. 6465 (1995 NCUC) established, among other things, limits to the waste capacity and maximum elevation of PBL. City Resolution No. 04-48 (2004 CUP) allowed an increase to the capacity of PBL. Below is a brief summary of the City's past regulation of PBL.

Ordinance History

- City Ordinance No. 721. On April 22, 1991 the City adopted Ordinance No. 721, which amended the City Zoning Code, Section 515.43, "I-2" General Industry District, and made mixed municipal solid waste disposal facilities (among others) prohibited uses. Ordinance No. 721 permitted prohibited uses that existed prior to April 22, 1991.
- City Ordinance No. 850. On November 27, 1995 the City adopted Ordinance 850 - "An Ordinance Establishing a Procedure for the Consideration of Nonconforming Use Certificates", amended the City Zoning Code to permit owners of a prohibited use to apply for a NCUC.
- City Ordinances No. 851 and 852. On November 27, 1995 the City adopted Ordinance 851 - "An Ordinance Establishing City Code Section 550 Integrated Resource Management Overlay Zoning District" and Ordinance 852 - "An Ordinance Rezoning Property to "IRM", Integrated Resource Management Overlay District", amended the City Zoning Code to create an Integrated Resource Management Overlay District which included PBL.
- City Ordinance No. 1084 (2004 Ordinance Amendment) - "An Ordinance Amending Inver Grove Heights City Code Section 515.80. Subd. 33 (E) by Adding a Conditional Use Permit for the Expansion of the Airspace of an Existing Sanitary Landfill", dated March 22, 2004.

NCUC History

- City Resolution No. 6465 (1995 NCUC) - "A Resolution Granting a Non-Conforming Use Certificate for Pine Bend Sanitary Landfill for a Compost Facility and a Sanitary Landfill," dated November 27, 1995. The 1995 NCUC was granted to PBL subject to terms, conditions, and qualifications contained in the 1995 NCUC.
- City Resolution No. 02-32 - "Resolution Amending Resolution No. 6465, Granting a Non-Conforming Use Certificate for Pine Bend Landfill by Modifying the Phasing Plan, Maximum Elevation, and Final Grading and Stormwater Plans", dated March 11, 2002.

- City Resolution 04-49 (2004 NCUC Amendment)– “A Resolution Amending Resolution No. 6465 Granting a Non-Conforming Use Certificate for Pine Bend Sanitary Landfill for a Sanitary Landfill”, dated March 22, 2004. The resolution established the remaining airspace capacity as of October 1994 and limited the maximum elevation of PBL to an elevation of 1,019 feet.

CUP History

- City Resolution 6330 – “Approving a Conditional Use Permit for an Energy Recovery Facility for the Generation of Electricity in the General Industry (I-2) Zoning District,” dated May 30, 1995.
- City Resolution 04-48 (2004 CUP) - “Resolution Approving a Conditional Use Permit to Allow an Airspace Capacity Expansion of the Pine Bend Sanitary Landfill,” dated March 22, 2004. The resolution granted an airspace expansion which brought the total airspace (not including final cover) to 28.6 million cubic yards.

Brief History of Recent Requests and Approvals

PBL was first issued a permit by the MPCA in 1971. Since then, the MPCA permit has been reissued numerous times and most recently on July 30, 2015. The July 30, 2015 permit did not include any major design changes from the previous permit. Below is a brief history of recent MPCA- and City-related requests and actions related to PBL.

MPCA Sideslope Expansion Permit Re-issuance Request

PBL submitted a “Request for Major Modification of Permit #SW-45,” prepared by Wenck Associates, Inc., dated August 2015 (August 2015 Application).

The August 2015 Application proposes an airspace capacity expansion over the existing landfill footprint by developing 3:1 (horizontal:vertical) sideslopes around the northwest, north, east, and southeast sides of the existing landfill footprint including installation of a new liner and leachate collection system mostly over old unlined waste. The southwest portion of the landfill footprint is currently permitted for 3:1 sideslopes.

The City, with Barr’s assistance, performed a technical review of the August 2015 Application and PBL subsequently modified the August 2015 Application via a number of review responses prepared by Wenck Associates, Inc. as shown below:

- October 25, 2016 response letter and attachments,
- March 6, 2017 response letter and attachments,
- July 14, 2017 response letter and attachments, and
- September 27, 2017 response letter and attachments.

The MPCA is waiting for the City and County to complete their application processes prior to reissuing the MPCA solid waste permit.

MPCA EAW

The MPCA prepared a draft Environmental Assessment Worksheet (EAW) for public review on June 27, 2016 that evaluated the current proposed sideslope expansion. The City provided extensive review and numerous comments on the draft EAW in a letter dated July 26, 2016. Subsequently, the MPCA issued a final EAW and response to comments dated November 10, 2016. The final EAW concluded that there was no potential significant effects reasonably expected to occur from the PBL sideslope expansion and that there is no need for an Environmental Impact Statement.

City NCUC, CUP, and Zoning Amendment Request

PBL is requesting that the City amend its NCUC, CUP, and zoning ordinance to allow the proposed sideslope expansion. The request is included in the revised February 2018 City Application discussed above.

City Review of PBL Permit Application to the MPCA

As discussed above, the City, with Barr's assistance, performed an extensive review of PBL's August 2015 Application and subsequent PBL modification submittals to the MPCA. Four rounds of City/Barr review were performed and responses provided by PBL. All City/Barr review recommendations have been adequately addressed by PBL.

The City/Barr review focused on these twelve technical topics.

- I. Waste Acceptance
- II. Groundwater Monitoring System
- III. Leachate Recirculation
- IV. Solid Waste Composting
- V. Groundwater Quality
- VI. Surface Water Management
- VII. Waste Capacity
- VIII. Liner and Leachate Collection System Design
- IX. Gas Monitoring and Gas Extraction/Treatment Systems
- X. Final Cover Design
- XI. Closure, Post Closure, Contingency Action, and Operations and Maintenance Plans
- XII. Financial Assurance Cost Estimates

More detailed information regarding the review of these topics is contained in the four rounds of City/Barr review letters and PBL responses and can be provided if requested.

Key Technical Issues and Recommended NCUC/CUP Modifications

From the above twelve technical topics included in the City/Barr review, there were five topics that were of particular importance. These five topics are discussed in detail below. Recommendations for changes to the NCUC and/or CUP and a discussion regarding environmental impacts are provided at the end of each topic.

Waste Acceptance

The types of waste that PBL can accept are described in the 2014 Solid Waste Management Plan which is approved in the July 2015 MPCA Solid Waste Permit. The 2014 Solid Waste Management Plan is referenced in the August 2015 Application and revised February 2018 City Application. There are no changes being proposed in the August 2015 Application regarding waste acceptance.

The 2014 Solid Waste Management Plan describes the procedures that PBL uses to manage its mixed municipal and non-hazardous industrial solid waste. More specifically, the 2014 Solid Waste Management Plan describes:

- A customer notification procedure for review and acceptance of waste
- A list of acceptable and unacceptable wastes plus a list of wastes that PBL does not accept
- Waste categorization
- Waste evaluation procedures
- Use of waste as daily cover
- Waste inspection and rejection procedures
- Numerous appendices including Dakota County Ordinance 110 and a Household Hazardous Waste Management Plan

Current NCUC/CUP: The 1995 NCUC, the 2004 Ordinance Amendment, and the 2004 CUP contain information regarding acceptable and unacceptable wastes and all three apply.

The 2004 Ordinance Amendment and the 2004 CUP contain nearly identical lists of waste types that are allowed for disposal at PBL. The description includes construction and demolition debris waste and also includes solid wastes approved by the MPCA for use as cover material. Neither of these lists mentions asbestos.

Section 2.2.2 of the 1995 NCUC contains a list of acceptable wastes that is nearly identical to the above 2004 lists except that asbestos-containing waste is specifically allowed in the 1995 NCUC but is not included in the 2004 Ordinance Amendment, 2004 NCUC Amendment, or 2004 CUP.

The 2014 Solid Waste Management Plan indicates that asbestos is not accepted at PBL.

The 2014 Solid Waste Management Plan appears to be in compliance with the 1995 NCUC, the 2004 Ordinance Amendment, and 2004 CUP.

Recommended NCUC/CUP modification:

- None

Environmental Impacts:

- There is no change in waste acceptance associated with the proposed sideslope expansion therefore there appear to be no environmental impacts.

Waste Capacity

PBL is permitted by the MPCA for a capacity of 29.8 million cubic yards which includes waste and cover material. The remaining capacity (including final cover) of PBL was approximately 1.95 million cubic yards as of January 2017.

The August 2015 Application proposes an airspace capacity expansion of 4,137,400 cubic yards over the existing landfill footprint by developing 3:1 (horizontal:vertical) sideslopes around the northwest, north, east, and southeast sides of the existing landfill footprint including installation of a new liner and leachate collection system mostly over old unlined waste. This quantity includes the bottom liner drainage layer, waste, and final cover. The proposed expansion would increase the capacity of PBL to 33,937,400 cubic yards of waste and cover material.

The City-approved capacity of 28.6 million cubic yards is slightly different than the MPCA's because it excludes the final cover material. The proposed expansion would increase capacity by 3,529,172 cubic yards which would bring the total capacity to 32,129,172 cubic yards excluding final cover material.

The maximum height of PBL would remain at elevation 1,019 feet as approved in City Resolution 04-09, dated March 22, 2004.

The estimated final closure date of the PBL is proposed to be extended from approximately 2021 without the sideslope expansion to approximate 2029 with the

sideslope expansion. This final closure date is based on an assumed fill rate of 450,000 cubic yards per year.

A review of the design drawings was completed to verify the accuracy of the capacity information for the proposed expansion. Based on review of the design drawings in AutoCAD Civil3D software, it appears that the volumes shown in the August 2015 Application and the revised February 2018 City Application are accurate.

Recommended NCUC/CUP modification:

- Amend the 2004 CUP or issue a new CUP allowing the requested 4,137,400 cubic yards of additional airspace capacity for a new total capacity of 33,937,400 cubic yards of waste and cover material.

Environmental Impacts:

- Because more waste will be disposed of at PBL with the proposed sideslope expansion, there would be associated potential negative environmental impacts related to groundwater and air emissions. These potential impacts would be mitigated by the proposed sideslope expansion, liner, cover, and gas collection systems.

Groundwater Quality and Trends

Based on our review, there are no changes being proposed in the August 2015 Application or the revised February 2018 City Application relating to the groundwater monitoring system.

Groundwater samples are collected from 18 monitoring wells located upgradient and downgradient from the landfill. Groundwater monitoring of flow direction and quality has been ongoing since the landfill began operating in 1971. Routine monitoring is conducted on a quarterly basis to facilitate the detection of releases to groundwater from the landfill in accordance with a sampling and analysis plan (SAP). The SAP establishes sampling methodologies, analytes, and quality assurance/quality control procedures. The SAP also provides for contingencies to increase monitoring intervals if certain water-quality levels are exceeded. Based on the contingency monitoring results, corrective action may be required.

Groundwater flows approximately southwest to northeast underneath the landfill, becoming primarily easterly along the northeast edge of the Crosby-American demolition landfill area located immediately north of PBL. The depth to the groundwater is considerable (over 100 feet in some locations). The water table is in glacial drift. Monitoring wells are completed both shallow and deep in the glacial drift and in the

Prairie du Chien Group (limestone). Groundwater underneath the site eventually discharges into the Mississippi River, east of PBL.

Groundwater samples are analyzed for volatile organic compounds (VOCs), metals, polyfluoroalkyl substances (PFAS, also known as PFCs), and general geochemical parameters, such as temperature, specific conductance, and pH. As has been the case for many years, groundwater intervention limits (ILs) concentrations are occasionally exceeded for some VOC chlorinated organic compounds that are common in municipal waste (e.g., trichloroethylene, tetrachlorethylene, and biogenic breakdown products of these chlorinated compounds). Microbial reduction of the chlorinated compounds takes place in the groundwater and the geochemical indicators of this process are part of the monitoring program. The final reductive (low oxygen) breakdown product is vinyl chloride, which is oxidized to carbon dioxide and water in the more oxidizing conditions that likely exists a further distance downgradient of the landfill. Total concentrations of VOCs have generally shown a downward trend over the past several years. Some temporal (sequential) increases are observed for individual parameters as breakdown occurs, which are expected.

Manganese concentrations have exceeded the IL at many groundwater wells and in the two springs for many years. These elevated manganese concentrations may be due, in part, to low oxygen concentrations in the groundwater (i.e. reduced conditions) that could cause the manganese to be converted to its soluble form and become mobile in groundwater. However, the manganese concentrations appear to be stable (i.e. neither an increasing nor decreasing trend). No further action is recommended at this time but the trends in concentrations of manganese and other metals should continue to be monitored to determine if remedial efforts downgradient from PBL should be performed.

PFAS compounds (i.e. perfluorocarbon compounds associated with Teflon, Scotchguard, etc.) have been monitored in the groundwater on a regular basis at PBL starting in 2011. The IL concentrations for three PFAS compounds (PFBA, PFOS, and PFOA) are 1,750 parts per trillion (ppt), 75 ppt, and 75 ppt respectively, and have routinely been exceeded at numerous monitoring wells and at the two springs.

In May 2017 the MDH established reduced Health-Based Values for PFOA (35 ppt) and PFOS (27 ppt). Many of the monitoring wells have concentrations that are 10 times higher than these values (particularly for PFOA). The downgradient Pipeline Spring had a PFOA concentration in 2017 of 820 ppt and the Ravine Spring had a concentration of 490 ppt in the 2017 sampling event. Furthermore, there are new analytical methods and new PFAS compounds that should be included in the list for future monitoring. Temporal trends in PFAS compounds are very hard to quantify for a variety of reasons but the overall pattern is one of continuing presence of these constituents in groundwater and in the springs. It should be noted that remediation of PFAS compounds in groundwater is

difficult because they do not biodegrade or otherwise react with the soil—they are very persistent. The need for the landfill to respond to the PFAS occurrences will largely be dependent on whether or not there are potential environmental and human health exposures.

Current NCUC/CUP: Section 5.6.1 of the 1995 NCUC requires approval by the City Council if certain percentages of the number of groundwater monitoring wells, monitoring frequency, or sampling parameters are proposed to be reduced. The baseline for determining these percentages is the June 1995 Permit Reissuance Application.

However, Item 10 of the 2004 CUP also describes the requirements for the groundwater monitoring system and sampling parameters based on the EnecoTech Report dated October 2003. Because the 2004 CUP was developed subsequent to the 1995 NCUC, it appears that the intent of the 2004 CUP monitoring system requirements was to supersede the 1995 NCUC requirements.

Recommended NCUC/CUP modification:

- The 2004 CUP should be amended to make it clear that Section 5.6.1 of the 1995 NCUC, which refers to the June 1995 Permit Reissuance Application baseline, is no longer valid and is superseded by the Natural Attenuation and Groundwater Quality Report, EnecoTech, October, 2003, which is referenced in the 2004 CUP.

Environmental Impacts:

- Because the proposed sideslope expansion is proposed to be located mostly over existing unlined waste, the liner and final cover included with the proposed sideslope expansion will likely reduce the amount of precipitation that infiltrates into the unlined waste which will reduce the quantity of leachate that could migrate to groundwater. Therefore, there would likely be a potential environmental benefit to groundwater quality from the proposed sideslope expansion.

Surface Water

Barr reviewed the surface water management plan (August 2015 Application, Design Report, Section 4.6 and Appendix C). The proposed design uses benches placed generally at 40-foot (vertical) intervals along the 3:1 sideslopes to direct runoff from the build-out expansion area to cable-concrete-lined trapezoidal channels, which discharge through existing and proposed junction vaults, pipes, and culverts to existing stormwater ponds. HydroCAD version 10 was used to simulate rainfall-runoff from the site.

According to the proposed plan, the existing ponds would not overflow from the site during the 100-year, 24-hour runoff event.

Current NCUC/CUP: The 1995 NCUC allowed PBL to construct stormwater management facilities as provided in Exhibit D to the 1995 NCUC and requires PBL to meet Federal, State, Regional, and County requirements and to obtain City Council approval for modifications that don't meet Minnesota Rules.

Subsequently, City Resolution No. 02-32, dated March 11, 2002 amended the 1995 NCUC, Exhibit D to allow the south slope of Phase III PBL to be 5:1 (H:V) slopes. In addition, the 2004 NCUC Amendment further amended the 1995 NCUC, Exhibit D which included PBL permit application drawings dated 2002 and 2003. The 2004 CUP required PBL to operate the landfill in conformance with the same permit application drawings dated 2002 and 2003.

Recommended NCUC/CUP modification:

- Update or issue a new CUP that approves the stormwater information in the revised February 2018 City Application that would supersede the 1995 NCUC and 2002 and 2004 resolutions.

Environmental Impacts:

- There is a potential negative environmental impact to surface water because the proposed sideslope expansion includes an increase in the amount of 3:1 (H:V) sideslopes that will increase the rate of surface water runoff and potentially increase the amount of erosion on the sideslopes. However, these potential negative environmental impacts are mitigated with the proposed final cover and stormwater management systems that are designed to accommodate the steeper sideslopes.

Gas Migration and Trends

Landfill gas (primarily methane and carbon dioxide) is produced by the decomposition of solid waste under the anaerobic conditions that exist in landfills such as PBL. Methane can be a major concern at landfills due to its potential to migrate in the soil subsurface and accumulate in structures at explosive concentrations.

Minnesota Rule 7035.2815 Subp. [sic] 11 requires that the concentration of any explosive gas not exceed the Lower Explosive Limit (LEL) at the property boundary or 25 percent of the LEL in or around facility structures.

The existing gas management system at PBL consists of:

- Gas collection wells and piping

- The gas-to-energy generating plant
- The gas monitoring system

Based on the review of the Operations and Maintenance Plan in the August 2015 Application, the gas extraction system currently includes 190 gas extraction wells at the site and additional gas extraction wells are planned for Phases 5 and 6. The construction and installation of the additional gas extraction wells will be in accordance with the MPCA-approved design and PBL design standards. Extracted gas is currently piped through laterals, sub-headers, and header piping to a gas-to-energy plant and/or a flare. Fortistar (previously known as Gas Recovery Systems, Inc.) operates the gas-to-energy plant at the site, but PBL is ultimately responsible for all operations at the landfill.

The gas monitoring system is comprised of the three continuous electronic monitoring devices located in occupied buildings at PBL and 39 methane (gas) monitoring probes completed at varying depths around the perimeter of the landfill. The Gas Management and Monitoring Plan indicates the probes are monitored quarterly unless a positive gas reading is recorded, in which case, monitoring is increased to monthly. In recent years, the gas probes have been monitored on a monthly or weekly basis, as a result of methane detections at multiple probes around the facility.

Historically, elevated concentrations of methane have been detected in several of the subsurface gas monitoring probes located along the eastern, southern, and western boundaries of PBL. Methane concentrations in the gas monitoring probes around the facility exceeded the LEL on numerous occasions in 2015 and previous years. Based on these monitoring results, it does not appear that the existing controls at the PBL meet the requirements of Minnesota Rule 7035.2815 Subp. 11. PBL has been working with the MPCA and City to address gas migration concerns and has recently performed the work described below:

- Completed a geoprobe investigation in July 2015.
- Submitted the findings from the July 2015 investigation in a report titled 2015 Geoprobe Investigation Findings and Proposed 2016 Work Plan for PBL (Wenck, February 2016).
- Submitted a Gas Migration Remedial Action Report (Wenck, August 2017) which included plans to install small wind turbines on the five passive gas vents to create additional gas flow out of the vents. The report concluded that waste from the unlined portion of PBL is the likely source of the subsurface gas.

Based on review of the August 2015 Application and revised February 2018 City Application, proposed augmentations to the gas extraction systems includes:

- Vertical extension of existing gas extraction wells in the Phase 6 footprint
- Installation of eleven pumping stations (e.g., PS-5) that will be used for the extraction of leachate and may be retrofitted for gas extraction from the unlined waste beneath the Phase 6 build out
- Installation of a horizontal gas collection system beneath the final cover system in the Phase 6 build out where the proposed waste thickness is too thin for additional vertical gas wells
- Completion of a gas header (18-inch-diameter) loop around the landfill once final grades have been reached

A dual gas and leachate extraction system has been operating in unlined Phases 1 and 2 of PBL since 2002. Twenty-six of the forty-six wells originally configured for dual extraction operations, plus two new recently installed pump stations (PS-1 and PS-2), were operated as dual extraction wells in 2013. Pumps were added to PS-1 and PS-2 in 2013 in order to make them operational. Nine additional pump stations (PS-3 through PS-11) are proposed to be installed in the unlined area as part of the proposed expansion.

Current NCUC/CUP: Section 2.3.9 of the 1995 NCUC allows PBL to control gas generated at the landfill by construction of probes, gas extraction wells, etc. An energy recovery facility is not allowed unless a CUP is obtained. However, the 2004 CUP mentions that an energy recovery CUP was obtained via City Resolution No. 6330, so the energy recovery facility is allowed by the City.

Section 5.8 of the 1995 NCUC requires PBL to:

- Extend the gas collection system to areas that have been final covered
- Adhere to federal and other gas regulations
- Maintain the candle flare to obtain at least 98% destruction efficiency
- Install and operate a ground flare with at least 98% destruction efficiency by 4/1/1996
- Always treat gas to applicable standards and achieve at least 98% destruction efficiency of non-methane organic compounds unless approved by the City Council
- Obtain City Council approval if more than 10% of the gas probes are relocated or reduced or if the frequency of gas monitoring is reduced by more than 25% when compared to the 1995 Permit Application baseline
- Report any change in location of a perimeter gas probe to the City in writing

Barr believes that PBL has complied with the above NCUC requirements however it appears that the third bullet above, that requires a candle flare, is outdated and should be deleted from the NCUC because an enclosed flare is currently used.

The 2004 CUP, Condition 11, second paragraph indicates that unlined landfill Phases 1 and 2 collect leachate through a dual gas/leachate extraction system and sets four requirements. PBL compliance with these four requirements was evaluated and discussed in a memo from Jeff Ubl (Barr Engineering Co.) to Tom Link (City) dated May 20, 2010. As indicated in the 2010 memo, PBL was not in compliance with 2004 CUP Conditions 11.2 and 11.3 requiring one "dry" operation before a pump is removed and to monitor the leachate level in a well after a pump is removed. The 2010 memo provides more detail on these issues and is enclosed for reference.

It is likely that deformation (i.e., crimped, twisted) of the wells, caused by settling of the waste, made compliance with Conditions 11.2 and 11.3 impractical.

Recommended NCUC/CUP modifications:

- Revise Section 5.8 of the 1995 NCUC to delete the third bullet (above) requiring a candle flare.
- Revise the 2004 CUP, Conditions 11.2 and 11.3 that requires one full year of "dry operations" before a leachate pump is removed and replace it by adding an exemption if the well is deformed or damaged to the point where a replacement pump cannot be inserted into the well.

Environmental Impacts:

- Because existing waste in the unlined area is the likely source of the gas migrating in the subsoil, the addition of new pumping stations included in the proposed sideslope expansion could be used to increase the extraction of gas from this area, thereby potentially reducing gas migration. Therefore, the proposed sideslope expansion could have an environmental benefit related to subsurface gas migration.

Additional Recommended NCUC/CUP Modification

In addition to the recommended NCUC/CUP modifications discussed above, an additional recommended NCUC/CUP modification is recommended as discussed below.

The 2004 NCUC Amendment amended the 1995 NCUC, Exhibit D which included PBL permit application drawings dated 2002 and 2003. The 2004 CUP required PBL to operate the landfill in conformance with the same permit application drawings dated 2002 and 2003.

Recommended NCUC/CUP modification:

- Modify the NCUC and CUP to delete references to Exhibit D and the 2002 and 2003 permit application drawings and replace with a requirement that PBL install and operate the liner and leachate collection system as provided in the revised February 2018 City Application.

Potential Environmental Benefits

There are several potential environmental benefits that could result if the proposed sideslope expansion was approved and completed.

Groundwater: The current negative impact to groundwater quality caused, in part, by the waste in the unlined portion of PBL, could potentially be reduced by the proposed expansion because the improved liner and final cover systems that will be installed over the unlined waste should reduce the migration of liquid into the waste mass which should in turn reduce the amount of leachate migrating to groundwater.

Energy Generation: Gas collected and converted to electricity at PBL currently generates approximately 40,000 Megawatts annually. The disposal of additional solid waste from sideslope expansion will generate additional gas that is planned to be converted to electricity.

Reduced Landfill Gas Migration: It is understood that waste in the unlined area is the likely source of the gas that is migrating beyond the property boundary. The nine new pumping stations proposed in the unlined waste mass could be used to increase the extraction of gas from this area and thereby potentially reduce gas migration.

Summary and Conclusions

The City, with Barr's assistance, performed an extensive technical review of the August 2015 Application and revised February 2018 City Application. PBL responded to the City/Barr review with application modifications which were deemed to be adequate.

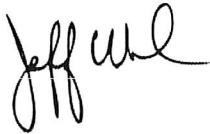
The five major technical topics (waste acceptance, waste capacity, groundwater quality and trends, surface water, and gas migration) are discussed above and require some modifications to the City NCUC and/or CUP.

Three potential environmental benefits from the proposed sideslope expansion (improved groundwater quality, energy generation, and reduced landfill gas migration) were identified as discussed above.

Given PBL's adequate application modifications in response to the City/Barr technical review and the potential environmental benefits from the sideslope expansion, Barr believes the proposed sideslope expansion is reasonable and appropriate because:

- The type of waste being accepted does not change,
- New waste capacity will include a new liner and a final cover system,
- Groundwater quality could potentially improve due to the new liner and final cover over the existing unlined waste,
- Potential negative impacts to surface water are mitigated with the final cover system and surface water management design, and
- Subsurface gas migration from the existing unlined waste could be improved by the extraction of gas from the pumping stations proposed to be installed in the existing unlined waste.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeff Ubl". The signature is stylized with a large, looped "J" and a cursive "Ubl".

Jeff Ubl, P.E

List of References

Sequencing Ordinance for Dakota County Ordinance 119, amended March 25, 1997 relating to need for city or township approval prior to County processing the license

Barr Memorandum date May 20, 2010 reviewing 2004 CUP conditions 10 and 11

Request for Major Modification of Permit #SW-45," prepared by Wenck Associates, Inc., dated August 2015 (August 2015 Application)

City of Inver Grove Heights review recommendations letter dated April 12, 2016

City of Inver Grove Heights comment letter on Environmental Assessment Worksheet dated July 26, 2016

City of Inver Grove Heights, draft EAW comment letter dated July 26, 2016

Wenck Associates, Inc. recommendations response letter dated October 25, 2016

MPCA Final EAW and Response to comments dated November 10, 2016

City of Inver Grove Heights review recommendations letter dated January 6, 2017

Wenck Associates, Inc. recommendations response letter dated March 6, 2017

City of Inver Grove Heights review recommendations letter dated June 7, 2017

Wenck Associates, Inc. recommendations response letter dated July 14, 2017

Application Submittal to the City of Inver Grove Heights for the Pine Bend Landfill – Phase 6 Development," prepared by Wenck Associates, Inc., dated revised February 2018 (revised February 2018 City Application)

Barr email to PBL dated September 11, 2017

Wenck Associates, Inc. recommendations response letter dated September 27, 2017

Barr letter to City of Inver Grove Heights review recommendations letter dated November 20, 2017

Minnesota Statute 116.07, Subd. 4j relating to need for local government approval prior to MPCA permit issuance

10-13E-2: PURPOSE:

The integrated resource management (IRM) overlay zoning district is created for the following purposes:

- A. Prevent the expansion of mixed municipal solid waste landfills by encouraging industrial development on adjacent properties.
- B. Encourage solid waste processing facilities, which can integrate their operations with mixed municipal solid waste landfills to locate in proximity to such landfills.
- C. Promote orderly development of other properties in the community by creating a buffer of compatible industrial development around mixed municipal solid waste landfills.
- D. Reduce the areas of the city subject to the potential adverse environmental impacts of solid waste processing facilities by encouraging them to locate in close proximity to mixed municipal solid waste landfills and each other.
- E. Delineate an area for select solid waste uses that exhibit minimal environmental impacts and are generally environmentally friendly.
- F. Provide an opportunity for solid waste uses that are consistent with the state's waste management hierarchy of encouraging reduction, reuse, recycling, composting, and discouraging incineration and landfilling.
- G. Enhance regulation and inspection of solid waste processing facilities by encouraging them to locate in proximity to one another.
- H. Enhance the tax base by encouraging development around mixed municipal solid waste landfills consistent with sound principles of municipal planning.
- I. Provide additional employment opportunities for city residents by encouraging industrial development.
- J. Establish standards and restrictions for solid waste uses to protect the environment and to promote sound land use planning. (Ord. 1098, 11-8-2004)

CITY OF INVER GROVE HEIGHTS

DAKOTA COUNTY, MINNESOTA

ORDINANCE NO. _____

**AN ORDINANCE AMENDING INVER GROVE HEIGHTS CITY CODE
SECTION 10-13E-6 RELATING TO EXPANSION OF THE AIR SPACE
OF AN EXISTING SANITARY LANDFILL**

THE CITY COUNCIL OF THE CITY OF INVER GROVE HEIGHTS ORDAINS AS FOLLOWS:

Section One. Amendment. Section 10-13E-6 of the Inver Grove Heights City Code relating to “Expansion of the air space of an existing sanitary landfill” is hereby amended to read as follows:

Expansion of the air space of an existing sanitary landfill, provided all the following conditions are met:

- A. The existing sanitary landfill must have a nonconforming use certificate.
- B. The existing sanitary landfill must be in compliance with and must remain in compliance with the nonconforming use certificate, as amended.
- C. The layer of expanded air space on the existing sanitary landfill where disposal will occur must have a liner, leachate extraction system and landfill gas extraction system. The liner and these extraction systems must be approved by the MPCA, the county and the city before disposal can occur in the expanded air space.
- D. The landfill must also have in place an existing leachate extraction system and a leachate removal and management plan. The leachate removal and management plan must be approved by the MPCA.
- E. The landfill must also have in place an existing landfill gas extraction system and a landfill gas management plan. The landfill gas management plan must be approved by the MPCA.
- F. The final contour height of the sanitary landfill, as expanded (including the final cover system), must not be more than one percent (1%) higher than the final contour (including the final cover system) as previously approved in the nonconforming use certificate, as amended. Measurements shall be taken from mean sea level, national geodetic vertical datum of 1929.
- G. The expanded air space must not increase the parcel boundaries of the existing sanitary landfill as previously approved in the nonconforming use certificate, as amended.

H. The volume of the expanded air space for disposal (not including the final cover system) must not be more than ~~twenty five percent (25%)~~ forty percent (40%) of the cubic yards of air space for disposal (not including the final cover system) that were allowed in the previously approved nonconforming use certificate, as amended.

I. The types of waste to be disposed in the expanded air space may only include the following:

1. Construction debris and demolition debris;
2. Infectious waste which has been processed so as to become noninfectious;
3. Mixed municipal solid waste from whatever source including, but not limited to, mixed municipal solid waste material from composting, energy recovery facilities, and recycling facilities and processes;
4. Nonhazardous industrial solid waste including, but not limited to, industrial incinerator ash, all in accord with the industrial waste management plan; and
5. Solid wastes approved by the MPCA for use as cover material including, but not limited to, foundry sands and certain sludges.

J. The surface square footage of the final cover system for the entire sanitary landfill, as expanded, must not be more than ~~one acre~~ 8.5 acres greater than the surface square footage of the final cover system that would have been placed if the air space of the sanitary landfill had not been expanded.

Section Two. Effective Date. This ordinance amendment shall be effective from and after its passage and publication according to law.

Passed this ____ day of _____, 2018.

CITY OF INVER GROVE HEIGHTS

By: _____
George Tourville, Mayor

ATTEST:

Michelle Tesser, City Clerk

**CITY OF INVER GROVE HEIGHTS
DAKOTA COUNTY, MINNESOTA**

RESOLUTION NO. _____

**RESOLUTION APPROVING A CONDITIONAL USE PERMIT TO ALLOW A SIDE
SLOPE CAPACITY EXPANSION OF PINE BEND LANDFILL**

CASE NO. 07-36NCUC

PROPERTY LOCATED AT 2495 EAST 117TH STREET

WHEREAS, an application for a conditional use permit for a side slope capacity expansion of Pine Bend Landfill has been submitted by BFI Waste Systems of North America, LLC for property located at 2495 East 117th Street and legally described in Exhibit A and depicted in Exhibit B, attached hereto; and

WHEREAS, the side slope capacity expansion of Pine Bend Landfill is a conditional use in the IRM, Integrated Resource Management Overlay Zoning District; and

WHEREAS, the aforescribed property is currently zoned I-2, General Industry and IRM, Integrated Resource Management Overlay Zoning District; and

WHEREAS, in accordance with Minnesota Statutes, Section 462.357, Sub. 3, a public hearing concerning the proposed conditional use permit was held before the Inver Grove Heights Planning Commission on February 20, 2018.

WHEREAS, an application for a conditional use permit for an airspace capacity expansion of Pine Bend Sanitary Landfill was submitted in 2003 by BFI Waste Systems of North America Inc. for the same property and that conditional use permit was approved by the City Council on March 22, 2004, per Resolution No. 04-48.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Inver Grove Heights, that a conditional use permit for BFI Waste Systems of North America, LLC for the side slope capacity expansion of Pine Bend Landfill is granted for the aforescribed property, subject to the following conditions:

AND BE IT FURTHER RESOLVED, that the conditional use permit for an airspace capacity expansion of Pine Bend Landfill, dated March 22, 2004 is hereby reaffirmed and ratified subject to the following conditions:

1. The side slope capacity expansion of 3.53 million cubic yards, not including the final cover system, when coupled with the airspace capacity limitation of the Non-Conforming Use

Certificate of airspace capacity of 23.3 million cubic yards, and the 2004 conditional use permit of 5.30 million cubic yards, not including the final cover system, shall not exceed 32.13 million cubic yards of airspace for disposed waste, not including the final cover system. The City and Pine Bend Landfill agree that prior to the airspace capacity expansion allowed by this conditional use permit the remaining airspace capacity, as of December 2016, was 1.90 million cubic yards. The remaining airspace capacity will be recalculated each year as required by MPCA.

2. The terms and conditions of the conditional use permit for an airspace capacity expansion for Pine Bend Landfill, dated March 22, 2004 shall be the terms and conditions stated in this resolution and the terms and conditions in Resolution 04-48, dated March 22, 2004 are hereby superseded by this resolution.
3. The airspace capacity expansion granted March 22, 2004 and this side slope capacity expansion shall occur and be operated in substantial conformance with the following:
 - a. Narrative and plans of “Application to the City of Inver Grove Heights for the Pine Bend Landfill”, dated August 2003
 - b. Twenty-six plan sheets, titled “Permit Application, Pine Bend Landfill–SW 45, prepared for BFI Waste Systems of North America, Inc.”, dated February 2002, January 2003, and August 2003
 - c. Response to comments for BFI Pine Bend Landfill, as prepared by Wenck Associates Inc., dated November 11, 2003
 - d. “Application Submittal to the City of Inver Grove Heights for the Pine Bend Landfill – Phase 6 development, MPCA Permit #SW-45,” revised February 2018
4. The area of the 2004 capacity expansion shall be limited to the area defined as Phase 5 and the area of the 2018 side slope capacity expansion shall be limited to the area defined as Phase 6 on the approved plans.
5. Pine Bend Landfill shall comply with all terms and conditions found in:
 - a. Resolution No. 6330 Approving a Conditional Use Permit for an Energy Recovery Facility for the Generation of Electricity, dated May 30, 1995
 - b. Resolution No. 6465 Granting a Non-Conforming Use Certificate for Pine Bend Landfill for a Sanitary Landfill, dated November 27, 1995
 - c. Resolution No. 2001-86 Approving a Conditional Use Permit for Open Storage for Truck and Trailer Storage/Parking, dated July 9, 2001
 - d. Resolution 01-117 Adopting a Revised Landscaping Plan, dated September 10, 2001

Res. No. _____

- e. Resolution No. 02-32 Amending the Non-Conforming Use Certificate by Modifying the Phasing Plan, Maximum Elevation, and Final Grading and Storm Water Plans, dated March 11, 2002
 - f. Resolution No. 02-127 Approving a Conditional Use Permit for the Stockpiling of Clean Soil Material as an Accessory Use to an Existing Landfill to a Maximum of 335,100 Cubic Yards, dated August 26, 2002
 - g. Resolution No. 04-48 Approving a Conditional Use Permit to Allow an Airspace Capacity Expansion of Pine Bend Landfill, dated March 22, 2004; as modified by this resolution.
 - h. Resolution No. 04-49 Amending Resolution No. 6465 Granting a Non-Conforming Use Certificate for Pine Bend Landfill for a Sanitary Landfill, dated March 22, 2004
 - i. Resolution No. 04-51 Declaring Lapse of Nonconforming Use Rights for Pine Bend Sanitary Landfill to Operate a Compost Facility, dated March 22, 2004
 - j. Resolution No. 04-50 Approving A Conditional Use Permit for the Stockpiling of Clean Soil Material as an Accessory Use to an Existing Landfill to a Maximum of 355,100 Cubic Yards, dated March 22, 2004
6. The Non-Conforming Use Certificate, Section 5 through 10 inclusive, shall also apply to the side slope capacity expansion and the terms and conditions of those sections are made part of this Conditional Use Permit and incorporated by reference.
7. The types of waste to be disposed in the 2004 airspace capacity expansion and this side slope capacity expansion shall only include the following:
- a. Construction debris and demolition debris
 - b. Infectious waste which has been processed so as to become non-infectious
 - c. Mixed municipal solid waste from whatever source including, but not limited to, mixed municipal solid waste material from composting, energy recovery facilities, and recycling facilities and processes. The term mixed municipal solid waste shall be as defined in Section 1.29 of the "Non-Conforming Use Certificate for Pine Bend Sanitary Landfill for a Compost Facility and Sanitary Landfill," issued on November 27, 1995.
 - d. Non-hazardous industrial solid waste including, but not limited to, industrial incinerator ash, all in accord with the Industrial Waste Management Plan. The term industrial solid waste shall be as defined in Section 1.24 of the "Non-Conforming Use Certificate for Pine Bend Sanitary Landfill for a Compost Facility and Sanitary Landfill," issued on November 27, 1995.

Res. No. _____

- e. Solid wastes approved by the MPCA for use as cover material including, but not limited to, foundry sands and certain sludges.
8. Vehicles coming into Pine Bend Landfill shall not queue onto 117th Street.
9. If sanitary sewer is extended to Pine Bend Sanitary Landfill, the Landfill shall connect these leachate collection/storage systems to the sanitary sewer, pay its pro rata share of special assessments (in conjunction with other lands served by the sanitary sewer extension) over a term determined by the City Council but not less than five years and not more than ten years, and pay connection and hook up charges, as soon as the sanitary sewer is accepted for use by the City.
10. Hours for the construction of the side slope capacity expansion shall be:
- | | |
|-----------------------|--------------------|
| Monday through Friday | 6:00 AM to 8:00 PM |
| Saturday | 6:00 AM to 4:00 PM |
- Upon the request of Pine Bend Sanitary Landfill, temporary extensions of hours or days of construction may be granted by the City Administrator.
11. Pine Bend Landfill shall comply with Minnesota Rules and the MPCA Solid Waste Permit issued July 30, 2015 regarding surface water and groundwater monitoring and groundwater compliance boundary requirements as well as the following special conditions:
- a. As part of its annual report to the MPCA, Pine Bend Landfill may use alternative methods for the groundwater trend analysis, if approved in advance by the City.
 - b. Pine Bend Landfill shall conduct additional investigations, if required, when hydrogeologic changes occur or continued release of contaminants to groundwater warrant, as determined by the City Council. Pine Bend Landfill shall start the investigation within 60 days after determined by the City Council, complete the investigation within 360 days including design for additional groundwater remedial measures, and implement remedial measures within 180 days of City Council's approval of remedial measures design.
 - c. Required water sampling may be waived by the City Administrator in conjunction with either the Community Development Director or Public Works Director, in the case of extenuating circumstances, such as inaccessibility caused by deep snow or wet soils. If such a waiver is granted, the City Council will be notified at its next regular meeting and the waiver shall be discussed at the next quarterly meeting with the City and Pine Bend Landfill and documented in the meeting minutes.
12. Pine Bend Landfill must comply with Minnesota Rules and the MPCA Solid Waste Permit issued July 30, 2015 regarding liner leak detection, and leachate collection, conveyance, storage, and treatment requirements as well as the following special conditions relating to the dual gas/leachate extraction system:

Res. No. _____

- a. As part of the annual report, due February 1 of each year, Pine Bend Landfill shall describe the system operations and maintenance, including quality and quantity of leachate collected, and provide recommendations for system modifications.
 - b. Pine Bend Landfill shall perform the following and discuss efforts as part of the annual report, due February 1 each year, to:
 - i. Operate, maintain, and update the dual gas/leachate extraction system to maximize leachate extraction to the greatest extent practicable
 - ii. Lower pump intakes or provide an explanation of why pumps could not, or should not, be lowered
 - iii. Allow one full year of “dry” operations before removing pumps or provide explanation regarding why the pumps need to be removed and why they cannot be reinstalled
 - iv. Monitor leachate head level in wells after pumps are removed
 - v. Evaluate the market availability of new pumps that could be installed in the dual gas/leachate extraction wells
 - vi. Reinstall pumps in wells currently in the dual gas/leachate extraction system or provide an explanation of why the pumps could not, or should not, be reinstalled
 - vii. Install pumps in existing wells and add them to the dual gas/leachate extraction system or provide an explanation of why the pumps could not, or should not, be installed
 - c. Requirements for the dual gas/leachate extraction system may be waived by the City Administrator in conjunction with either the Community Development Director or Public Works Director, in the case of extenuating circumstances, such as inability to reinstall pumps or if it is technically unfeasible to operate or maintain the dual gas/leachate extraction system. If such a waiver is granted, the City Council will be notified at its next regular meeting and the waiver shall be discussed at the next quarterly meeting with the City and Pine Bend Landfill and documented in the meeting minutes.
13. Pine Bend Landfill must comply with Minnesota Rules and the MPCA Solid Waste Permit issued July 30, 2015 regarding the Phase 5 expansion area liner leak detection, and leachate collection, conveyance, storage, and treatment requirements.
14. Pine Bend Sanitary Landfill must achieve compliance with Minnesota Rule 7035.2815, Subpart 11, including future similarly applicable Minnesota Rule revisions, for six consecutive months as certified by a professional engineer prior to the following, whichever occurs first:

Res. No. _____

- a. Filling of waste beyond 30.00 million cubic yards (excluding final cover) of the Pine Bend Sanitary Landfill capacity of 32.13 million cubic yards (excluding final cover);
or
- b. January 1, 2025.

If compliance with this condition is not achieved, Pine Bend Sanitary Landfill and BFI Waste Systems of North America, LLC must temporarily cease accepting waste for disposal at the Pine Bend Sanitary Landfill until this condition is met; when the condition is met, waste may once again be accepted for disposal at the Pine Bend Sanitary Landfill.

Until compliance is achieved for six consecutive months as required above, BFI Waste Systems of North America, LLC must present progress on its efforts to achieve compliance to the City of Inver Grove Heights Environmental Commission in the first quarter of every year and report progress in the annual report to the MPCA.

All ongoing gas migration related work plans and reports must be submitted to the City for review and comment.

The requirement contained above is not an election of remedies by the City and is not a waiver of the City's right and remedies under the conditional use permits or under the non-conforming use certificate or under any host community agreement.

The City specifically reserves the right to take action to enforce Minnesota Rule 7035.2815, Subpart 11 and to exercise its rights and remedies under the conditional use permits and under the non-conforming use certificate or under any host community agreement with respect to any past, existing or future violations of Minnesota Rule 7035.2815, Subpart 11, including future similarly applicable Minnesota Rule revisions.

No remedy conferred upon or reserved to the City in the conditional use permits or in the non-conforming use certificate or in any host community agreement shall be exclusive of any other available remedy or remedies, but each and every such remedy shall be cumulative and shall be in addition to every other remedy given under the conditional use permits or the non-conforming use certificate or in the host community agreement or now or hereafter existing at law or in equity or by statute. No delay or omission to exercise any right or power shall impair any such right or power or shall be construed to be a waiver thereof, but any such right and power may be exercised from time to time and as often as may be deemed expedient.

The City acknowledges that BFI Waste Systems of North America, LLC reserves the right to request an amendment to the requirement contained herein.

Nothing contained herein shall be deemed an acceptance or approval by the City of the requested amendment or any indication that the City will adopt such amendment.

During the time that the Pine Bend Sanitary Landfill must temporarily cease to accept waste for disposal in the event the above condition is not met, Pine Bend Sanitary Landfill and BFI

Res. No. _____

Waste Systems of North America, LLC must nonetheless continue to pay the City the fees and payments stated in Section 8 of the Second Restated and Amended Host Community Agreement dated October 27, 2008, by and among BFI Waste Systems of North America, LLC, Browning-Ferris Industries, Inc. and the City of Inver Grove Heights (as amended from time to time); and Pine Bend Sanitary Landfill and BFI Waste Systems of North America, LLC must meet and comply with the other obligations stated in the Second Restated and Amended Host Community Agreement (as amended from time to time) including, but not limited to, the Host Community Fee, the Minimum Monthly Payment, the Per Ton Payment, the Inducement Amount, the Donation and the Payment for Firefighting Costs.

15. Pine Bend Sanitary Landfill shall maintain a Minnesota Pollution Control Agency air emission permit for a rental enclosed flare to serve as contingency capacity for managing landfill gas.
16. The owner and operator of Pine Bend Sanitary Landfill are both responsible for complying with the obligations and conditions contained in this Conditional Use Permit.
17. Breach of the Host Community Agreement between the City and BFI Waste Systems of North America, Inc. is deemed to be violation of this Conditional Use Permit.
18. This conditional use permit shall become effective only upon the execution of the Revised Host Community Agreement.

Be it further resolved that the Deputy Clerk is hereby authorized and directed to record a certified copy of this resolution at the Dakota County Recorder's Office.

AYES:

NAYS:

George Tourville, Mayor

ATTEST:

Michelle Tesser, City Clerk

Adopted by the City Council of the City of Inver Grove Heights this _____ day of _____.

Res. No. _____

ACCEPTANCE

BFI Waste Systems of North America, Inc., hereby accept and agree to this conditional use permit and other provisions set forth in the foregoing Resolution.

Dated: _____ BFI Waste Systems of North America, Inc.

_____ By:

STATE OF MINNESOTA)
) ss.
COUNTY OF DAKOTA)

On this ____ day of _____, before me a Notary Public within and for said County, personally appeared George Tourville and Michelle Tesser to me personally known, who being each by me duly sworn, each did say that they are respectively the Mayor and City Clerk of the City of Inver Grove Heights, the municipality named in the foregoing instrument, and that the seal affixed to said instrument was signed and sealed in behalf of said municipality by authority of its City Council and said Mayor and Clerk acknowledged said instrument to the free act and deed of said municipality.

Notary Public

Res. No. _____

[illegible]

On this _____ day of _____, before me a Notary Public within and for said County, personally appeared _____ to me personally known, who being by me duly sworn, did say that he is the _____ of BFI Waste Systems of North America, Inc., the corporation named in the foregoing instrument, and that said instrument was signed on behalf of said corporation by authority of its Board of Directors and said _____ acknowledged said instrument to be the free act and deed of the corporation.

Notary Public

Res. No. _____

EXHIBIT A

Lot 1, Block 1, Lot 1, Block 2, and Outlot A, Pine Bend Sanitary Landfill, according to the plat thereof on file and of record with the Dakota County Recorder of Titles.

CITY OF INVER GROVE HEIGHTS

DAKOTA COUNTY, MINNESOTA

RESOLUTION NO. _____

**A RESOLUTION AMENDING RESOLUTION NO. 6465 GRANTING A NON-
CONFORMING USE CERTIFICATE FOR PINE BEND SANITARY LANDFILL
FOR A SANITARY LANDFILL**

The City Council of the City of Inver Grove Heights does hereby resolve:

WHEREAS, on November 27, 1995, the City approved Resolution No. 6445 Granting a Non-Conforming Use Certificate for Pine Bend Sanitary Landfill for a Sanitary Landfill (hereafter referred to as the Non-Conforming Use Certificate).

WHEREAS, on March 11, 2002, by Resolution No. 02-32 the City amended the Non-Conforming Use Certificate to allow the maximum elevation limitation of the landfill to change from 1020 feet above mean sea level to 1010 feet above mean sea level, to allow for steeper landfill side slopes without inadvertently increasing the airspace capacity.

WHEREAS, on March 22, 2004, by Resolution No. 04-49 the City amended the Non-Conforming Use Certificate by amending Section 3.3, Section 3.5 and Exhibit D to the Non-Conforming Use Certificate.

WHEREAS, BFI Waste Systems of North America, LLC (BFI) currently owns and operates Pine Bend Sanitary Landfill.

WHEREAS, BFI in writing has accepted and agreed to the terms of the existing Non-Conforming Use Certificate, as amended.

WHEREAS, the City and BFI desire to again amend the existing Non-Conforming Use Certificate in the manner set forth hereafter.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF INVER GROVE HEIGHTS:

A. Section 5.6.1 of the Non-Conforming Use Certificate is amended to read as follows:

5.6 Groundwater Monitoring.

5.6.1 Any modification of the groundwater monitoring system or program that, in any aquifer monitored by the system, results in a reduction in the number or location of wells affecting more than 10 percent of the wells, a reduction in frequency of testing by more than 25 percent, or a reduction in testing parameters of more than

10 percent shall be subject to prior City Council approval by majority vote of the Council. Determination of modifications shall be based on changes from the system and program described in the permit issued by the MPCA in response to the June 1995 SW-45 Permit Reissuance Application. To the extent any subsequent conditional use permit for the Pine Bend Landfill contains standards or requirements for groundwater monitoring that are inconsistent or different than those stated in this Certificate, the standards and requirements contained in the conditional use permit shall prevail.

B. Section 5.8.3 of the Non-Conforming Use Certificate is amended to read as follows:

~~5.8.3 Flare existing candle flare. Pine Bend Landfill, Inc. shall maintain the existing candle flare in a manner which assures at least 98% by weight nonmethane organic compounds destruction efficiency. Intentional operation of the candle flare below this efficiency level shall be subject to prior City Council approval by majority vote of the Council.~~

C. Exhibit D of the Non-Conforming Use Certificate is amended in its entirety to read as follows:

EXHIBIT D
SITE PLAN FOR PINE BEND SANITARY LANDFILL

The Site Plan for the Pine Bend Sanitary Landfill consists of the “Application Submittal to the City of Inver Grove Heights for the Pine Bend Landfill – Phase 6 Development” prepared by WENCK Associates, Inc., dated revised February 2018 (Revised February 2018 City Application) which includes, but is not limited to, the following:

- a. City of Inver Grove Heights Application Forms
- b. Facility Information and Design Issues - including but not limited to Capacity and Phasing, Liner, Leachate Collection, Final Cover, and Landfill Gas Management
- c. Operations – including but not limited to Hours of Operation, Site Security, and Hours of Operation
- d. Potential Environmental Impacts – including but not limited to leachate, methane, noise, litter, vectors, and odor
- e. Land Use Impacts – including but not limited to Land Use, Traffic and Haul Routes, Stormwater/Erosion Control, Utilities, Landscaping, and Fire Protection
- f. Additional Items – including but not limited to Host Community Fee, Compliance History, and Status of Other Permits and Approvals
- g. Landfill Design Volume Table

- h. Appendix A – Site Lease Agreement
- i. Appendix B – Solid Waste Management Plan, revised July 2014
- j. Appendix C – Plan Sheets – including 28 permit design plan sheets
- k. Appendix D – Geotechnical Analysis and Comments
- l. Appendix E – Stormwater Management Model and Calibrations

Closure, Post Closure, and Contingency Action Plan Cost Estimates are also included in the Revised February 2018 City Application and are acknowledged by the City but are not included in this Exhibit D.

D. All other sections, terms and provisions and conditions of Non-Conforming Use Certificate as previously amended shall remain in full force and effect.

E. This Resolution and the following Acceptance shall be recorded with the Dakota County Recorder against the land constituting the Landfill, which land is described on the attached Exhibit A.

Passed by the City Council of Inver Grove Heights on this ____ day of _____, 2018.

CITY OF INVER GROVE HEIGHTS

By: _____
George Tourville, Mayor

ATTEST:

Michelle Tesser, City Clerk

(CITY SEAL)

STATE OF MINNESOTA)
)
COUNTY OF DAKOTA) ss.

On this ____ day of _____, 2018, before me a Notary Public within and for said County, personally appeared George Tourville and Michelle Tesser to me personally known, who being each by me duly sworn, each did say that they are respectively the Mayor and City Clerk of the City of Inver Grove Heights, the municipality named in the foregoing instrument, and that the seal affixed to said instrument was signed and sealed on behalf of said municipality by authority of its City Council and said City Clerk acknowledged said instrument to be the free act and deed of said municipality.

Notary Public

ACCEPTANCE

BFI Waste Systems of North America, LLC hereby accepts and agrees to the amendments and other provisions set forth in the foregoing Resolution.

Dated: _____, 2018.

BFI Waste Systems of North America, LLC

By: _____

STATE OF _____)
)
COUNTY OF _____) SS.

On this ____ day of _____, 2018, before me a Notary Public within and for said County, personally appeared _____, to me personally known, who being by me duly sworn, did say that he/she is the _____ of BFI Waste Systems of North America, LLC, the limited liability company named in the foregoing instrument, and that the foregoing instrument was executed on behalf of the limited liability company by authority of the Boards of Governors of said entity and said _____ acknowledged said instrument to be the free act and deed of the limited liability company.

Notary Public

EXHIBIT A

Lot 1, Block 1, and Lot 1, Block 2, and Outlot A, Pine Bend Sanitary Landfill, Dakota County, Minnesota, according to the recorded plat thereof on file and of record with the Dakota County Recorder.