CITY OF		MEMORANDUM
	TO:	CITY OF NOVI PLANNING COMMISSION
	FROM:	SRI RAVALI KOMARAGIRI, PLANNER
$\langle M \rangle$	THRU:	BARBARA MCBETH, AICP, CITY PLANNER
NOVI cityofnovi.org	SUBJECT: DATE:	BOLINGBROOKE RECONSIDERATION OF WOODLAND PERMIT JANUARY 05, 2018

On January 05, 2018, Planning staff received a letter from G. Michael Kahm, Senior Vice President of Development with Singh Development, LLC regarding the Bolingbroke project (JSP17-34). The previously has recently revised the project name as 'Bolingbrooke'. The Planning Commission approved the Preliminary Site Plan, Woodland Permit, and Stormwater Management Plan on June 28, 2017 subject to a number of conditions. Planning Commission approved an amendment to the Woodland Permit for Bolingbrooke site condominium development at their meeting on July 26, 2017 based on the following motions (A copy of the memo dated July 20, 2017 provided to Planning Commission at that time is attached):

In the matter of Bolingbroke JSP17-34, motion to reconsider the motion that approved the Woodland Permit approved by the Planning Commission on June 28, 2017 as requested by the applicant in the letter dated June 30, 2017.

In the matter of Bolingbroke JSP17-34, motion to approve the Woodland Permit subject to the applicant being required to pay the 537 proposed off-site replacements to the City of Novi Tree Fund should either of the following conditions occur:

a. No Building Permits are applied for and issued for the Ballantyne site by November 1, 2018, or

b. If the current owner of the Ballantyne site (Singh Development) sells the property.

This motion is made for the following reasons: To allow the applicant sufficient time to obtain the required permits, update the Ballantyne site plan to accept Bolingbroke replacement trees, and to request a site plan extension for the Ballantyne project due to expire in December 2017. This motion is subject to the findings of compliance with Ordinance standards in the staff and consultant review letters, and all of the other the conditions and items listed in those letters being addressed on the Electronic Stamping Set. This motion is made because the plan is otherwise in compliance with Chapter 37 of the Code of Ordinances and all other applicable provisions of the Ordinance. In the letter, the applicant stated that they are in the process of selling Ballantyne property with the approved plans to another developer. It is the prospective buyer's intention to plant the woodland replacement trees on the property. The applicant requested to amend the previous motion as below:

"If the current owner of the Ballantyne site (Singh Development) sells the property; unless the purchaser of the Ballantyne site agrees in writing to assume the obligation to plant the replacement trees within the Ballantyne site or to pay the equivalent for the proposed off-site replacements to the City of Novi Tree Fund if no building permits are applied for and issued for the Ballantyne site by November 1, 2018. Upon the City's receipt of the written agreement evidencing the purchaser's assumption of such obligation together with a replacement performance guarantee, the letter of credit posted by Singh to secure the foregoing obligation shall be returned to Singh."

Staff Recommendation:

Staff reviewed the request and believes that the change of ownership does not affect the conditions previously agreed upon. Staff recommends amending the applicants suggested motion to assure that no changes will be made to the approved Ballantyne landscape plan.

The following suggested motion is provided to allow the Planning Commission to reconsider the motion as requested by the applicant:

In the matter of Bolingbrooke JSP17-34, motion to reconsider the motion that approved the Woodland Permit approved by the Planning Commission on June 28, 2017 and amended on July 26, 2017, as requested by the applicant in the letter dated January 10, 2018.

Following discussion, if the Planning Commission choses, the following motion suggested by Planning Staff could be considered. <u>Item b from the July 26, 2017 motion is being</u> <u>amended as item b as listed below:</u>

In the matter of Bolingbrooke JSP17-34, motion to approve the Woodland Permit subject to the applicant being required to pay the 537 proposed off-site replacements to the City of Novi

Tree Fund should either of the following conditions occur:

- a. No Building Permits are applied for and issued for the Ballantyne site by November 1, 2018,
- or
- b. If the current owner of the Ballantyne site (Singh Development) sells the Ballantyne property, unless the successor purchaser of the Ballantyne site
 - (i) agrees in writing, in a form acceptable to the City, to assume the obligation to plant the 537 required replacement trees for the Bolingbroke development on the Ballantyne property as a part of the Ballantyne development, or to pay the equivalent amount into the City of Novi Tree Fund as relates to the Bolingbroke site if no building permits are applied for and issued for the Ballantyne site by November 1, 2018, and

(ii) deposits a replacement guarantee for the 537 trees for the Bolingbroke development in a form and manner approved by the City in its sole discretion. Notwithstanding the foregoing, nothing in this provision shall exempt the developer of the Ballantyne development from its obligation to plant all the trees required under the development approval for the Ballantyne site, regardless of whether those trees are also credited to the Bolingbroke development, nor shall it exempt the developer of the Bolingbroke site from planting all required trees for that site over and above the 537 replacement trees to be planted on the Ballantyne site.

This motion is made for the following reasons: To allow the applicant to sell the property to a prospective buyer and update the Ballantyne site plan to accept Bolingbrooke replacement trees. This motion is made because the plan is otherwise in compliance with Chapter 37 of the Code of Ordinances and all other applicable provisions of the Ordinance.

APPLICANT LETTER



Real Estate - Developers - Builders - Investors - Management

SINGH DEVELOPMENT, L.L.C. 7125 ORCHARD LAKE ROAD SUITE 200 WEST BLOOMFIELD, MICHIGAN 48322 TELEPHONE: (919) 677-1510 CELL PHONE: (248) 640-4791 FAX: (248) 865-1630 E-MAIL: <u>kahm@SinghMail.com</u> www.singhweb.com

January 5, 2018

Barbara E. McBeth City Planner City of Novi 45175 W. Ten Mile Road Novi, Michigan 48375-3024

Re: Request for Amendment to Woodland Permit Conditions Bolingbroke; JSP17-34 Novi, Michigan

Dear Barb:

As you know, the Planning Commission approved an amendment to the Woodland Permit for our Bolingbroke site condominium development at their meeting on July 26, 2017. A summary of that action is attached for your reference. As recited in the motion, we would be required to pay into the City of Novi Tree Fund an amount to compensate for the planting of woodland replacement trees on our proposed Ballantyne site condominium community, located at the northwest corner of Eight Mile and Garfield Road, if either of the following two (2) conditions should occur:

- 1. No Building Permits are applied for and issued for the Ballantyne site by November 1, 2018, or
- 2. If the current owner of the Ballantyne site (Singh Development) sells the property.

As was pointed out during the above referenced Planning Commission meeting, the Ballantyne property is presently an open field and the planting of the woodland replacement trees on that property would provide for significant enhancements that would benefit the final completed development. We are in the process of selling that property with the approved plans to a very reputable builder/developer with prior experience in the City of Novi who would execute the project design as approved by the City of Novi. It is their desire to plant the woodland replacement trees on the property.

In light of the willingness of the buyer to plant the replacement trees within the Ballantyne project, we would like to respectfully request the consideration of an amendment to condition #2, as stated above, that would read as follows;

Barbara E. McBeth January 5, 2018 Page Two

"If the current owner of the Ballantyne site (Singh Development) sells the property; unless the purchaser of the Ballantyne site agrees in writing to assume the obligation to plant the replacement trees within the Ballantyne site or to pay the equivalent for the proposed off-site replacements to the City of Novi Tree Fund if no building permits are applied for and issued for the Ballantyne site by November 1, 2018. Upon the City's receipt of the written agreement evidencing the purchaser's assumption of such obligation together with a replacement performance guarantee, the letter of credit posted by Singh to secure the foregoing obligation shall be returned to Singh."

We hope that the above requests can be considered by the Planning Commission, as we believe that the planting of the trees, in lieu of funds going into the City of Novi Tree Fund, would prove to be an enhancement of the Ballantyne development, as well as the entire area of southwest Novi. Please let me know if you should need any additional information in order to consider this request.

Sincerely,

G. Michael Kahm Senior Vice President

Enclosure



PLANNING COMMISSION ACTION SUMMARY

CITY OF NOVI Regular Meeting JULY 26, 2017 7:00 PM Council Chambers | Novi Civic Center 45175 W. Ten Mile (248) 347-0475

MATTERS FOR CONSIDERATION

1. BOLINGBROKE WOODLAND PERMIT

Correspondence from Singh Development to request reconsideration of the conditions of approval of the Woodland Permit for the Bolingbroke site plan.

In the matter of Bolingbroke JSP17-34, motion to reconsider the motion that approved the Woodland Permit approved by the Planning Commission on June 28, 2017 as requested by the applicant in the letter dated June 30, 2017. Motion carried 5-2 (Avdoulos, Giacopetti).

In the matter of Bolingbroke JSP17-34, motion to approve the Woodland Permit subject to the applicant being required to pay the 537 proposed off-site replacements to the City of Novi Tree Fund should either of the following conditions occur:

- a. No Building Permits are applied for and issued for the Ballantyne site by November 1, 2018, or
- b. If the current owner of the Ballantyne site (Singh Development) sells the property.

This motion is made for the following reasons: To allow the applicant sufficient time to obtain the required permits, update the Ballantyne site plan to accept Bolingbroke replacement trees, and to request a site plan extension for the Ballantyne project due to expire in December 2017. This motion is subject to the findings of compliance with Ordinance standards in the staff and consultant review letters, and all of the other the conditions and items listed in those letters being addressed on the Electronic Stamping Set. This motion is made because the plan is otherwise in compliance with Chapter 37 of the Code of Ordinances and all other applicable provisions of the Ordinance. Motion carried 5-2 (Avdoulos, Giacopetti).

STAFF MEMO (Dated July 20, 2017)

MEMORANDUM

CITY OF		
INT	TO:	CITY OF NOVI PLANNING COMMISSION
	FROM:	KIRSTEN MELLEM, PLANNER
	THROUGH:	BARBARA MCBETH, AICP, CITY PLANNER
V M	SUBJECT:	BOLINGBROKE RECONSIDERATION OF WOODLAND
NOVI		PERMIT
cityofnovi.org	DATE:	JULY 20, 2017

On June 30, 2017, Planning staff received a letter from G. Michael Kahm, Senior Vice President of Development with Singh Development, LLC regarding the Bolingbroke project (JSP17-34). The Planning Commission approved the Preliminary Site Plan, Woodland Permit, and Stormwater Management Plan most recently on June 28, 2017 subject to a number of conditions.

The applicant would like the Planning Commission to <u>reconsider the motion made on June</u> <u>28, 2017 regarding the Woodland Permit</u> associated with both the Bolingbroke project (12 ½ Mile and Novi Road) and the Ballantyne project (currently approved for the northwest corner of Eight Mile Road and Garfield Road). The motion for approval of the Woodland Permit incorporated the items in the review letters, including this recommendation:

It should be noted that 537 of the total 588 (91%) Woodland Replacement requirements are proposed to be planted at Ballantyne; a proposed off-site development to be located at the northwest corner of W. Eight Mile and Garfield Road. Only 50 Woodland Replacement credits required (9% of the total) are proposed to be planted on the Bolingbroke development site. It should be noted that the Ballantyne development's Final Stamping Set plans were approved in December 2015 and will expire in December 2017. It is our understanding that the applicant has yet to apply for any building permits at the Ballantyne site and there is a fairly significant uncertainty as to whether the Ballantyne site will be built by this developer. ECT recommends that the applicant be required to pay the 537 proposed off-site replacements to the City of Novi Tree Fund should either of the following conditions occur:

- a. No Building Permits are applied for and issued for the Ballantyne site by December 2017, or
- b. If the current owner of the Ballantyne site (Singh Development) sells the property.

Applicant's letter

In his letter, the applicant states that the slowdown of the very high-end homes market has delayed the construction of the Ballantyne project and therefore also delayed the planting of the 537 woodland replacement trees from the Bolingbroke site to the

Ballantyne site. The applicant would like the Planning Commission to reconsider the deadline of December 2017 for building permits at Ballantyne as it is not feasible at this time, and to instead extend the deadline to December 2022 or for five years. The rationale from the applicant's viewpoint is to allow for the very high-end homes market to rebound and allow time for the development, and all of the necessary pre-requisites to the development, to begin. See attached copy of letter.

City's Woodland Consultant

The City's woodland consultant, Pete Hill, Senior Associate Engineer with Environmental Consulting & Technology, Inc. (ECT) has reviewed the request. Our consultant does not support an extension of the deadline to plant the replacement trees because it does not follow the intent of the City's Woodlands Protection Ordinance (Chapter 37) or the Performance Guarantees (Chapter 26.5) requirements.

Section 37-8 states that replacements shall be:

- (d) on-site within the same woodland area,
- (f) elsewhere on the subject property (and preserved with conservation or landscape easement to be granted to the City), or
- (g) credits paid to the City of Novi Tree Fund.

The application review procedures of the Woodland Ordinance state in Section 37-30.e: whenever a use permit is granted, the Planning Commission shall: (2) Fix a reasonable time within which any woodland operations must be completed; (a) in general, woodland operations are to be completed in a time period consistent with the provisions of Chapter 26.5, particularly section 26.5-5(c). The provisions of Chapter 26.5 state that all required site improvements shall be completed within two years after issuance of the initial permit and within 6 months after a temporary occupancy permit has been issued for any structure on the property, whichever is shorter or occurs first.

Staff Recommendation

It is Staff's opinion that the additional five years that the applicant is requesting is too long of a timeframe to wait for the necessary replacement of the 745 regulated trees that were removed in 2005 (when the development of Bolingbroke originally commenced and has remained in this state for 12 years), and that this long of a timeframe would not be consistent with intent of the Code of Ordinances. Staff advises that a defined time frame for planting of the replacement trees is advised since it is the intent of the ordinance to protect our natural resources and public health, prevent erosion and flooding, and maintain natural beauty for existing and future residents.

Staff recommends that, *if the Planning Commission wishes to reconsider* the motion made at the previous Planning Commission meeting, that an alternate timeframe be considered

due to the statements provided by the applicant regarding the actions that would be necessary for the applicant to receive building permits prior to December 2017. <u>Staff</u> would recommend that the deadline for the applicant to acquire building permits for the Ballantyne site be extended to no later than November 1, 2018 to allow sufficient time for the applicant to obtain the required permits, update the Ballantyne site plan to accept Bolingbroke replacement trees, and to request a site plan extension for the Ballantyne project due to expire in December 2017.

The following suggested motion is provided to allow the Planning Commission to reconsider the motion as requested by the applicant:

In the matter of Bolingbroke JSP17-34, motion to reconsider the motion that approved the Woodland Permit approved by the Planning Commission on June 28, 2017 as requested by the applicant in the letter dated June 30, 2017.

Following discussion, if the Planning Commission choses, the following motion suggested by Planning Staff could be considered:

In the matter of Bolingbroke JSP17-34, motion to approve the Woodland Permit subject to the applicant being required to pay the 537 proposed off-site replacements to the City of Novi Tree Fund should either of the following conditions occur:

a. No Building Permits are applied for and issued for the Ballantyne site by November 1, 2018, or

b. If the current owner of the Ballantyne site (Singh Development) sells the property.

This motion is made for the following reasons:

To allow the applicant sufficient time to obtain the required permits, update the Ballantyne site plan to accept Bolingbroke replacement trees, and to request a site plan extension for the Ballantyne project due to expire in December 2017. This motion is subject to the findings of compliance with Ordinance standards in the staff and consultant review letters, and all of the other the conditions and items listed in those letters being addressed on the Electronic Stamping Set. This motion is made because the plan is otherwise in compliance with Chapter 37 of the Code of Ordinances and all other applicable provisions of the Ordinance.

C: Charles Boulard, Community Development Director Tom Schultz, City Attorney APPLICANT RESPONSE LETTER

TAX ID. 22-10-280-004, -005 ABD -008 A PART OF THE NORTHEAST 1/4 OF SCIENTIN 10, TOWN 1 NORTH, RANCE 8 A PART OF THE NORTHEAST 1/4 OF SCIENTIN 10, TOWN 1 NORTH, RANCE 8 PARTICULARD DESCRED AS COMMENCING AT THE EAST 1/4 COMMENT SAT NOW NEW SCIENCE NORTH 890134* WEST, 99.99 TEET, ALONG THE EAST AND WEST 1/4 LINE OF SAD SCIENTIN 10 AND THE CENTERINE OF 12 1/2 MUE ROAD, TO THE POINT OF BEGINNING, THENCE CONTINUING NORTH 90134* WEST, 1084-47 FEET, ALONG THE EAST 1/4 UNE OF SAD SCIENTING 1084-77 FEET, ALONG THE EAST 1/4 UNE OF 90NT BEING SOUTH 890134* EAST, 1577.00 FEET, FROM THE CENTER OF 90NT BEING SOUTH 890134* EAST, 1577.00 FEET, FROM THE CENTER OF 90NT BEING SOUTH 890134* EAST, 1577.00 FEET, FROM THE CENTER OF 90NT BEING SOUTH 890134* CAST, 1577.00 FEET, FROM THE CENTER OF 90NT BEING SOUTH 890134* CAST, 1577.00 FEET, FROM THE CENTER OF 90NT BEING SOUTH 890134* CAST, 1577.00 FEET, FROM THE CENTER OF 90NT BEING SOUTH 890134* CAST, 1577.00 FEET, FROM THE CENTER OF 90NT BEING SOUTH 890134* CAST, 223.40 FEET, THENCE MORTH 602529* EAST, 9302 SCIENTIN, 1922.70 FEET, FROM THE NORTHEAST CORRER OF 90NT BEING DUE SOUTH, 1922.70 FEET, FROM THE NORTHEAST CORRER OF 90NT BEING MODAL (ELCOLATEL); THENCE 2612.37 FEET ALONG A 90NT BEING MODAL (ELCOLATEL); THENCE 2612.37 FEET ALONG A 90NT BEING MODAL (ELCOLATEL); THENCE 2612.37 FEET ALONG A 90NT BEING MODAL (ELCOLATEL); THENCE 2612.37 FEET ALONG A 90NT HE ALONG AND (RELCOLATEL); THENCE 2612.37 FEET ALONG A 90NT HI 1322/4* WEST, 293-40 FEET, ALONG THE WESTERLY ROHT-OF-WAY 90NT HE ADONG (RELCOLATEL); THENCE 2612.37 FEET ALONG A 90NT HILL ALONG AND (RELCOLATEL); THENCE 2612.37 FEET ALONG A 90NT HILL ALONG AND (RELCOLATEL); THENCE 2612.37 FEET ALONG A 90NT HILL ALONG AND (RELCOLATEL); THENCE 2612.37 FEET ALONG A 90NT HILL ALONG AND (RELCOLATEL); THENCE 2612.37 FEET ALONG A 90NT HILL ALONG AND (RELCOLATEL); THENCE 2612.37 FEET ALONG A 90NT HILL ALONG AND (RELCOLATEL); THENCE 2612.97 FEET ALONG A 90NT HILL ALONG ALONG AND (RELCOLATEL); THENCE 2610NT HILL AND 90NT HILL ALONG ALONG AND (OF SAUD NOW ROAD (REGLOATED), TO THE POINT OF BEGINNING. ALL OF THE ABOVE CONTINUES 13,75 ACRES. AND ALSO, A PART OF THE NORTHEAST 1/4 CONSECTION 11, TOWN I MORE PARTICULARY DESCRIBED AS COMMENSION AT THE WEST 1/4 CONSE OF SAUD SECTION 11, THENCE DUE NORTH, 23,33 FTET, ALONG THE WEST ILINE OF SAUD SECTION 11, THENCE DUE NORTH, 23,33 FTET, ALONG THE WEST ILINE OF SAUD SECTION 11, THENCE DUE NORTH, 23,33 FTET, ALONG THE WEST ILINE OF SAUD SECTION 11, THENCE DUE NORTH, 23,33 FTET, ALONG THE WEST SAUD SECTION 11, THENCE DUE NORTH, 23,33 FTET, ALONG THE WEST ILINE OF SAUD SECTION 11, THENCE DUE NORTH, 23,33 FTET, ALONG THE WEST SAUD SECTION 11, THENCE DUE NORTH, 24,350 FTET, ALONG THE WEST AND A CHORD BERRING AND DISTANCE OF SOUTH 2493'SE TEXT, 67,44 FTET, ALONG THE WESTELY RIGHT-OF-WAY OF CLD NOU ROAD (CURVE HAWING A ROUIS OF 281.73 FTET, A CONTRAL, MAGLE OF 13'44'31' TO THE WESTELY RIGHT-OF-WAY OF NOU ROAD (SCOTTA), TO THE POINT OF BEGINNING, ALL OF THE ABOVE CONTRALING 057,206ES, RIGHT-OF-WAYS OF RECORD, ALL OF THE ABOVE CONTRALING 057,206ES, RIGHT-OF-WAYS OF RECORD, ALL OF THE ABOVE CONTRALING 057,206ES, RIGHT-OF-WAYS OF RECORD, ALL OF THE ABOVE CONTRALING 057,206ES, RIGHT-OF-WAYS OF RECORD, ALL OF THE ABOVE CONTRALING 057,206ES, RIGHT-OF-WAYS OF RECORD, ALL OF THE ABOVE CONTRALING 057,206ES, RIGHT-OF-WAYS OF RECORD, RIGHT OF RUGHT TO THE RIGHTS OF THE PUBLIC IN 12 1/2 MILE ROAD AND OLD NOW ROAD.

LEGAL DESCRIPTION

TAX ID 22-10-280-004 -005 ABD -008

GENERAL NOTES

- NOTIFY THE CITY OF NOVI AT (248) 347-0454 A MIN. OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- 2. ALL CONSTRUCTION MUST CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE CITY OF NOVI.
- CALL 811 ONE-CALL UTILITY LOCATING A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
- 4. ALL SOIL EROSION AND SILTATION MUST BE CONTROLLED AND CONTAINED ON-SITE. ALL EXCAVATION UNDER OR WITHIN 1 ON 1 INFLUENCE OF ANY PAVEMENT, EXISTING OR PROPOSED, OR WHERE SAND BACKFILL IS CALLED FOR ON THE PLAN, SHALL BE BACKFILLED AND COMPACTED WITH GRANULAR MATERIAL (SAND) MODT CLASS II TO 95 PERCENT MAXIMUM UNIT DENSITY.
- 6. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES AND FACILITIES. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT THE PROPOSED UTILITY CROSSINGS PRIOR TO START OF UNDERGROUND CONSTRUCTION. ANY CONFLICTS WITH UTILITIES SHALL BE IMMEDIATELY REPORTED TO THE PROJECT ENGINEER.
- WHERE TWO UTILITIES CROSS, INCLUDING SANITARY SEWER LEADS, PROVIDE POROUS GRADE "B" BACKFILL MATERIAL COMPACTED IN 6-INCH LAYERS TO THE UNDERSIDE OF THE HIGHER UTILITY OF AS SPECIFIED ON THE DETAIL SHEET.

8. DUST CONTROL SHALL BE MAINTAINED AT ALL TIMES.

- 9. ANY MUD TRACKED ONTO NOVI ROAD SHALL BE REMOVED DAILY.
- 10. IF DEWATERING IS DETERMINED TO BE REQUIRED, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY THE AREA TO BE DEWATERED, TO MONITOR AND TO DETERMINE THAT THERE WILL NOT EE ANY IMPACT TO ANY ADJOINING OF OFFSTE PROFERENTES DEWATERING PROCEDURES SHALL BE IN COMPLIANCE WITH ORDINANCE SEC. 11-37 (h).
- IF DRAIN TILE IS LOCATED IN THE FIELD DURING CONSTRUCTION, TILE WILL NEED TO BE CONNECTED TO PROPOSED STORM SEWER.

A CITY OF NOVI RIGHT-OF-WAY PERMIT IS REQUIRED FOR WORK WITHIN ANY CITY PUBLIC ROAD RIGHT-OF-WAY.

13. ALL PAVEMENT MARKINGS, TRAFFIC CONTROL SIGNS, AND PARKING SIGNS SHALL COMPLY WITH THE DESIGN AND PLACEMENT REQUIREMENTS OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

BENCH MARKS

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P.K. NAIL IN WEST SIDE OF UTILITY POLE AT THE SOUTHWEST CORNER OF OLD NOVI ROAD AND NOVI ROAD. ELEVATION= 960.85 U.S.G.S. DATUM.	

Engineering Construction Plans for

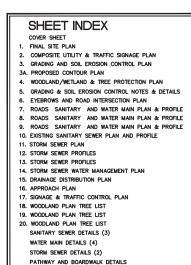


A SITE CONDOMINIUM CITY OF NOVI, OAKLAND COUNTY, MICHIGAN





691 WING STREET PLYMOUTH, MICHIGAN 48170 PHONE: 734.455.5501

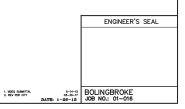


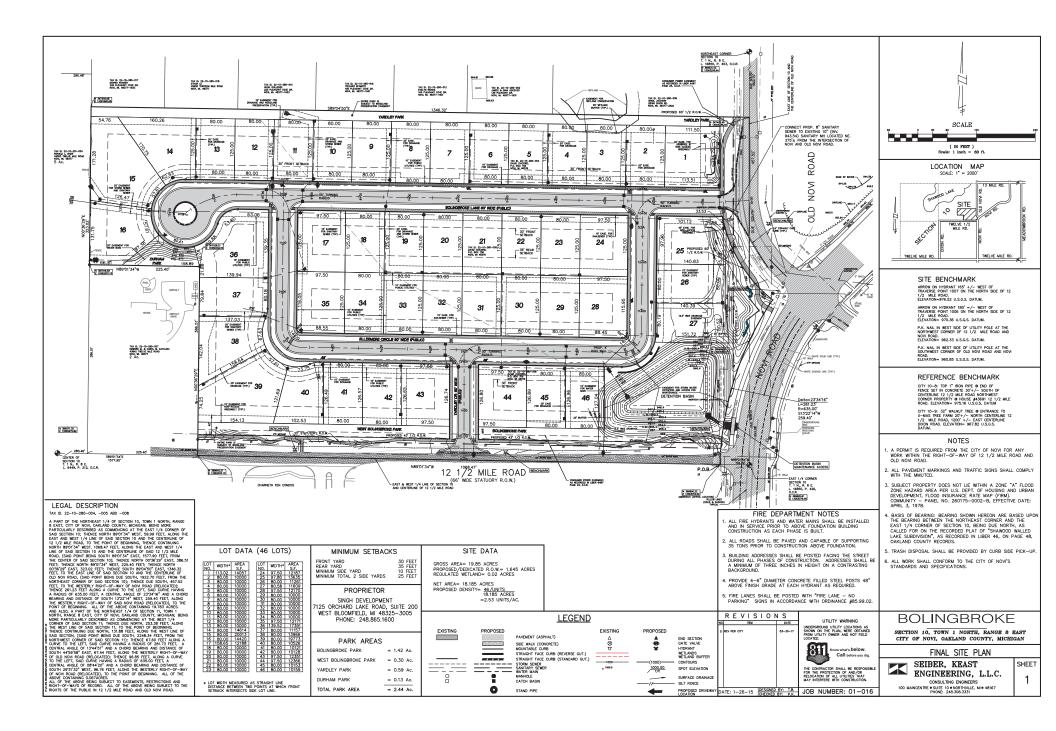
SOIL EROSION CONTROL DETAILS

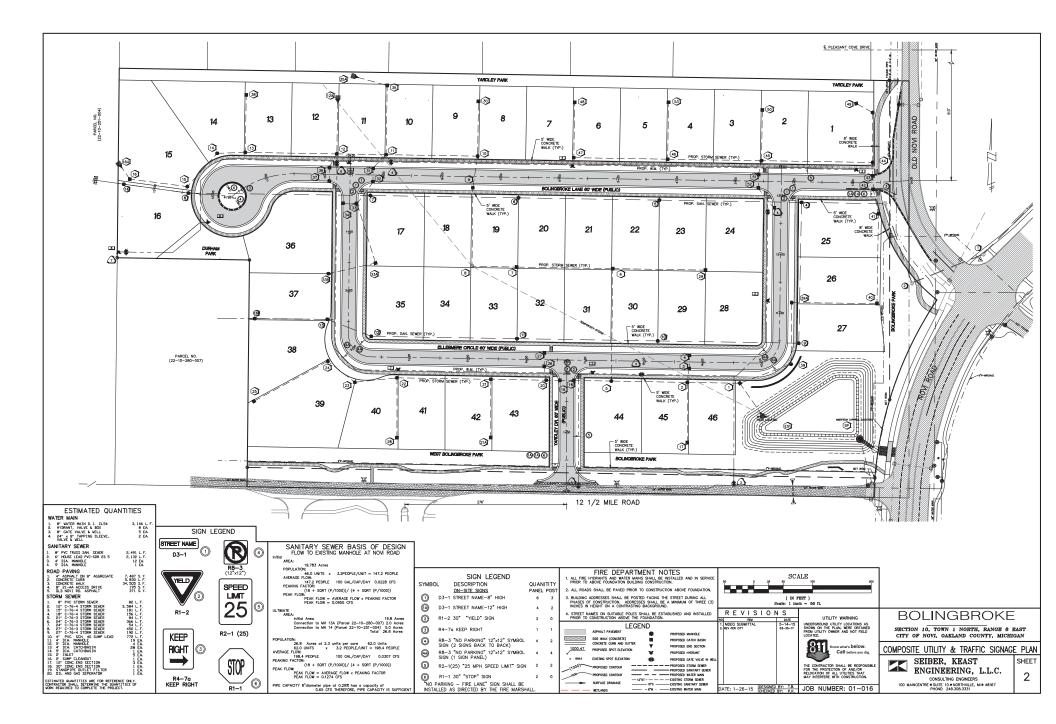
SINGH DEVELOPMENT 7125 ORCHARD LAKE ROAD SUITE 200 WEST BLOOMFIELD, MI 48322 PHONE: (248)865-1600

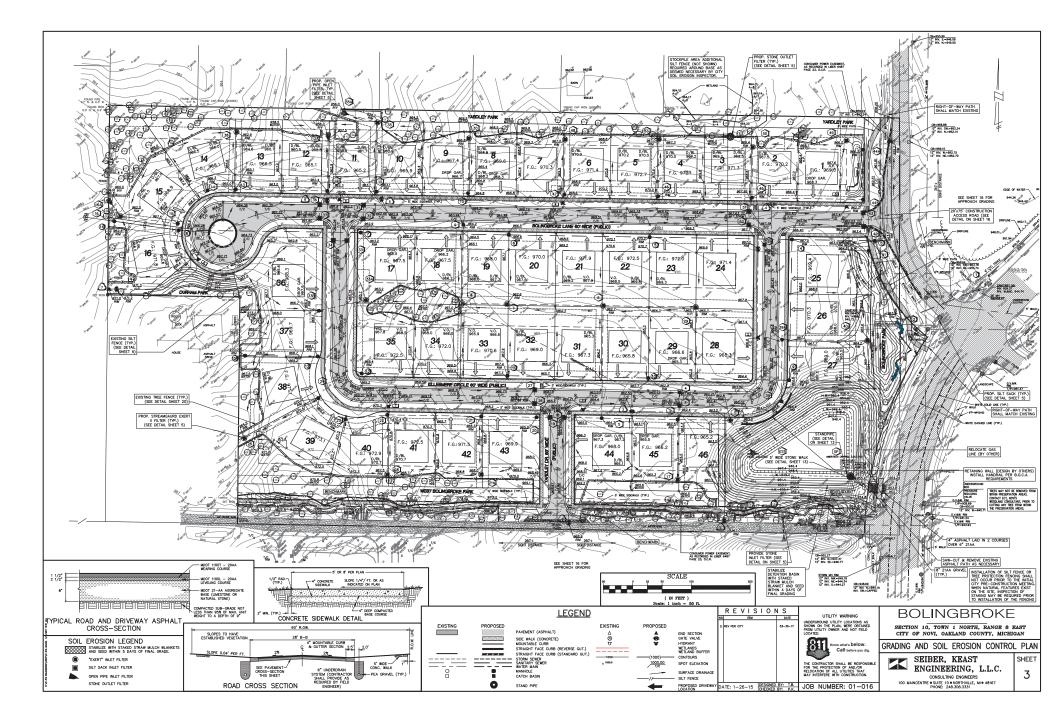
PROPRIETOR

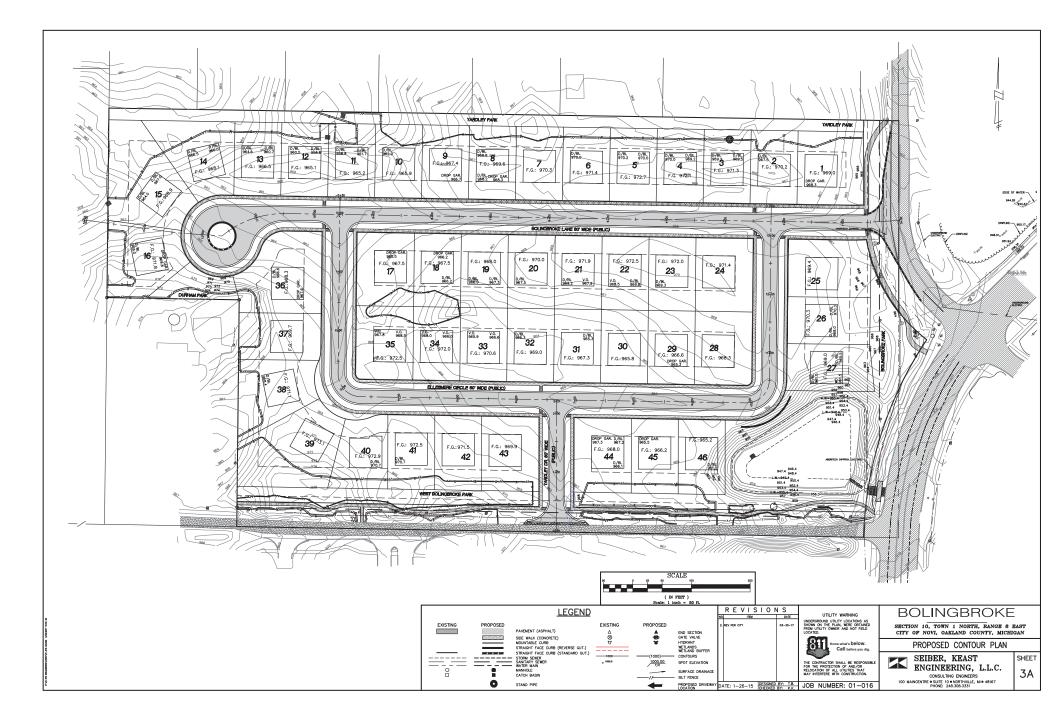
WETLAND FLAGGING DONE BY KING & MacGREGOR ENVIRONMENTAL INC. 43050 FORD ROAD SUITE 130 CANTON, MI 48187 TEL.: (734)354-0593

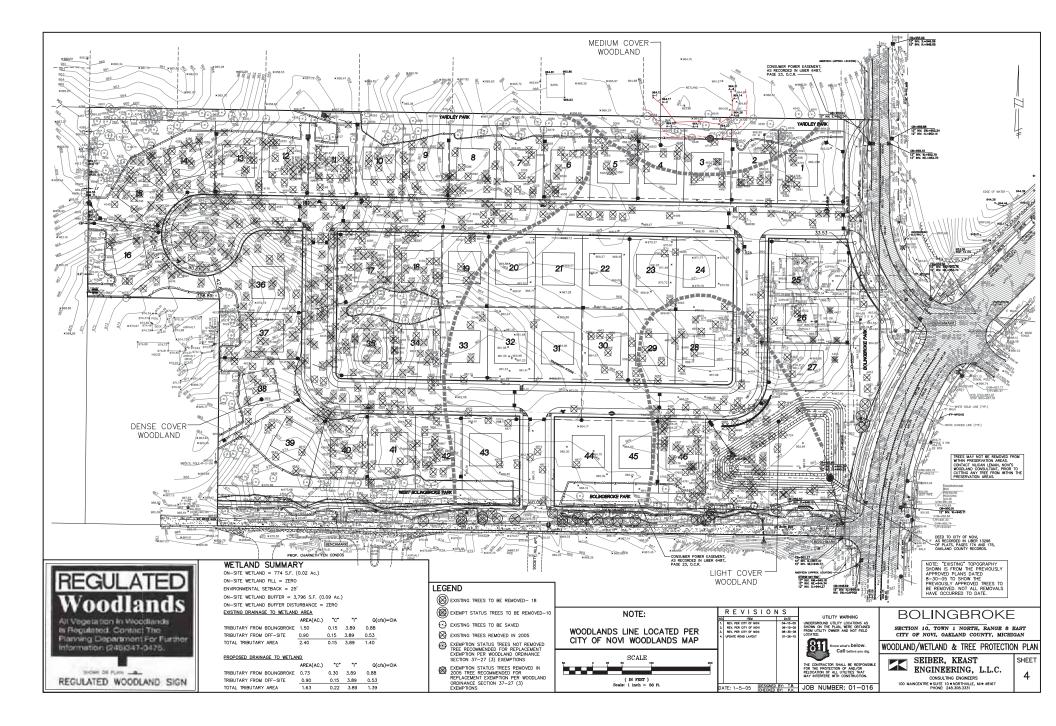




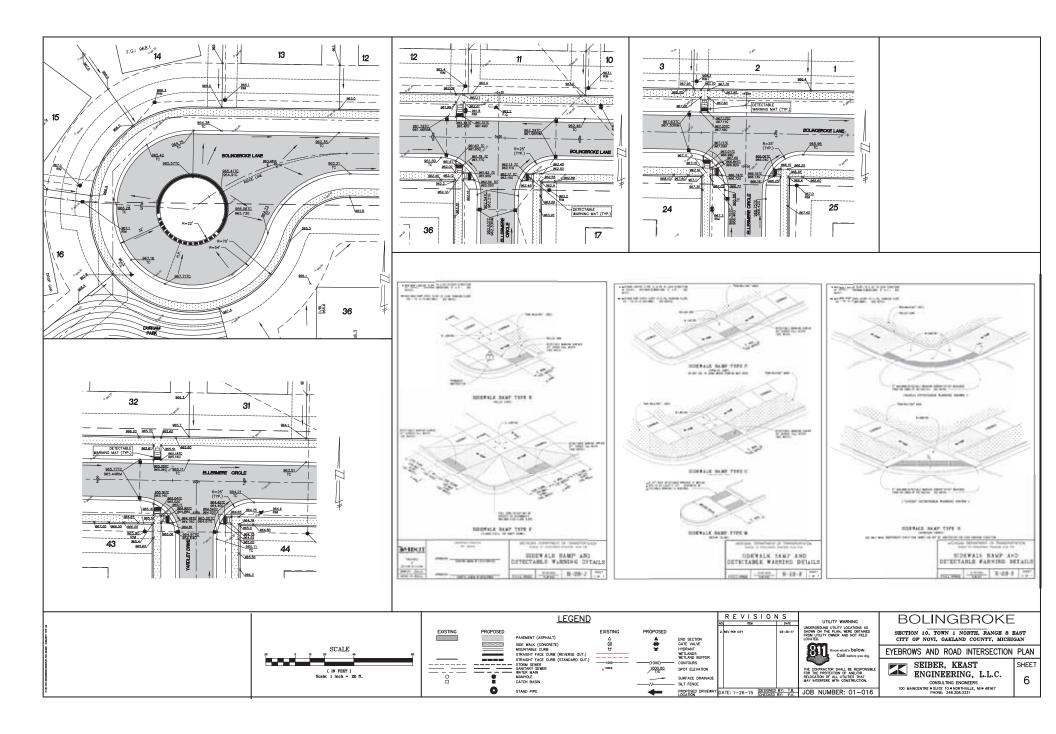


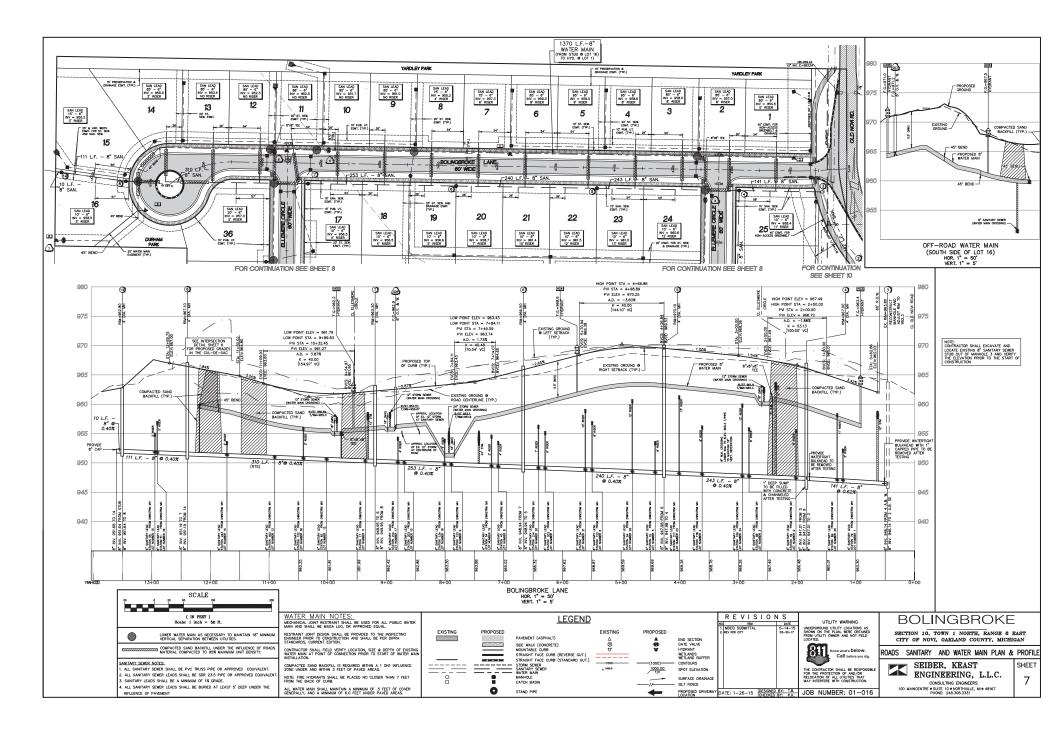


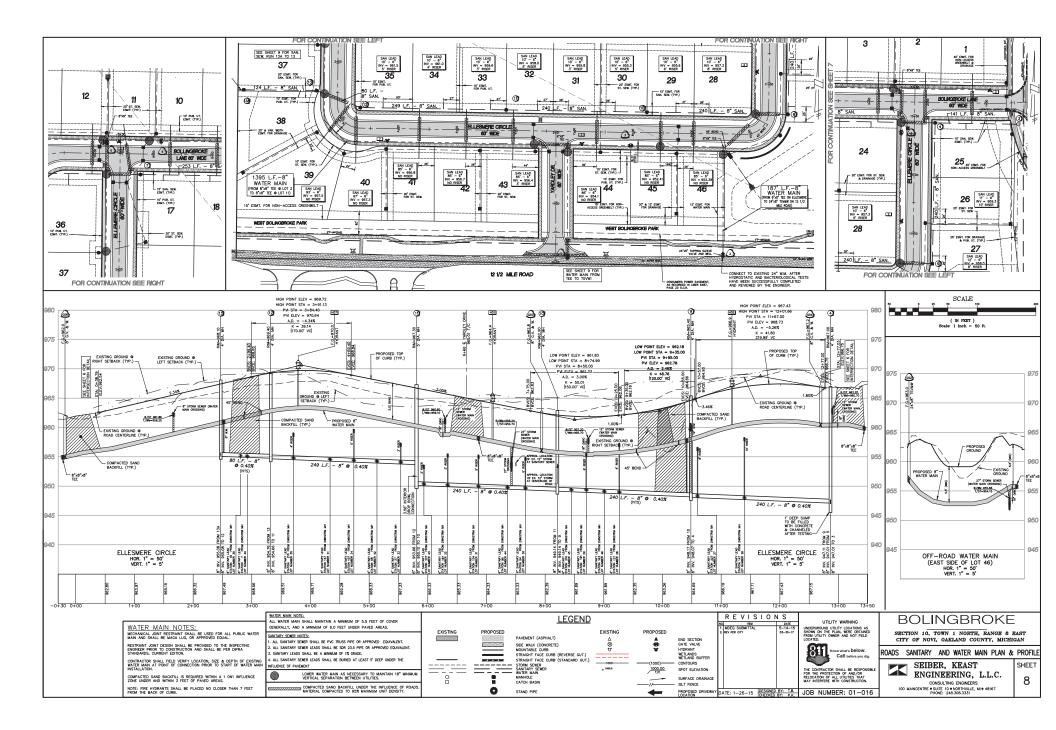


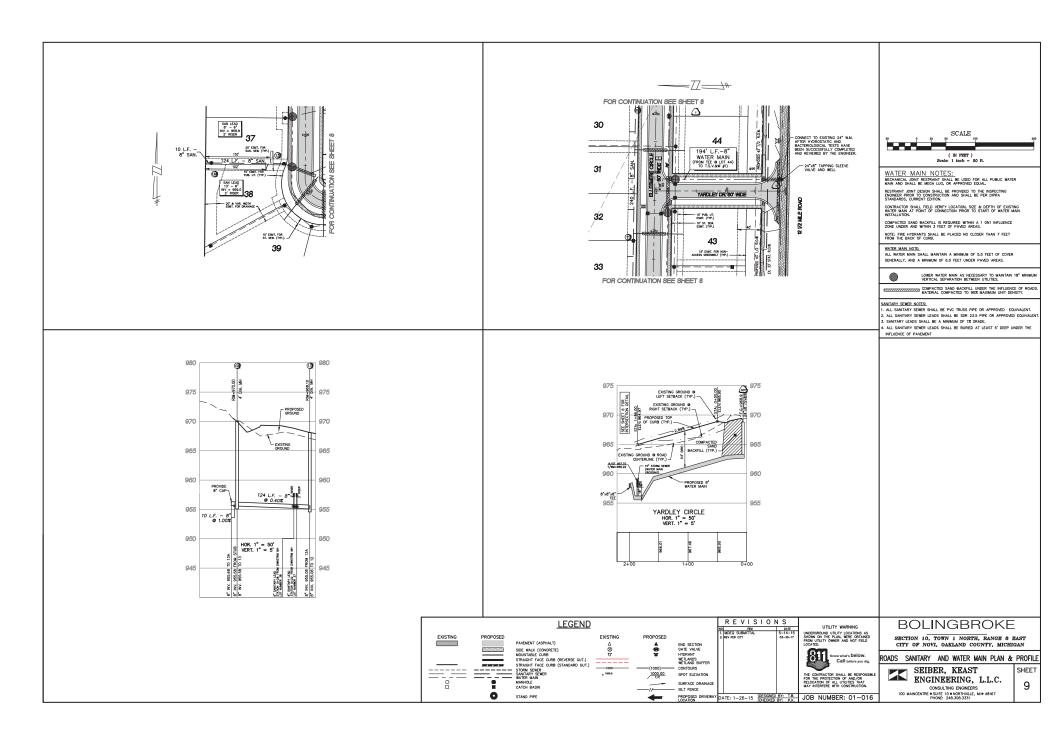


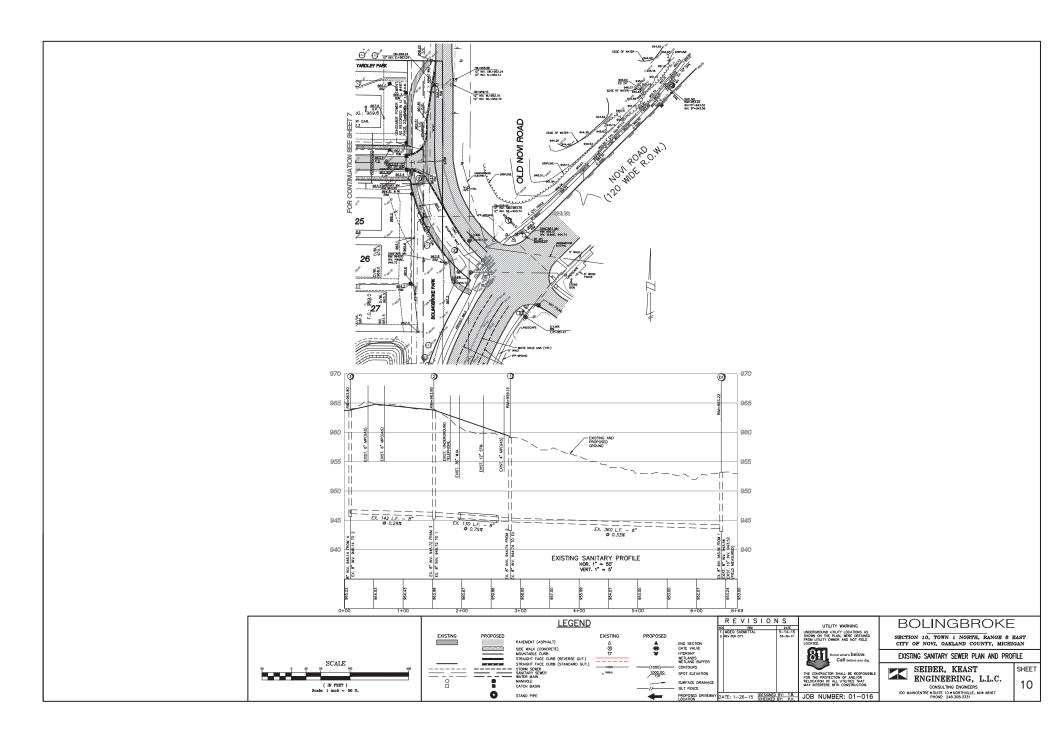
SOIL EROSION CONTROL NOTES			
1. SACK TYPE FILTERS SHALL BE INSTALLED ON ALL CATCH BASINS AND INLETS.	STANDPIPE GENERAL NOTES:	18" 12" 1/2" RAD.	4
2. DEWATERING OF ANY KIND MUST BE FILTERED THROUGH VEGETATION, STONE OR "FILTER BAG".	STAINDFIFE GENERAL INVIES. THE SUBUNISION ASSOCIATION IS RESPONSIBLE FOR THE MAINTENANCE OF THE STANDPIPE. MAINTENANCE SHOULD BE PERFORMED FOLLOWING ANY STORM EVENT AND SHOULD INCLUDE:	4 1*/FT.	1
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GRADE. STABILIZATION SHALL BE EITHER TEMPORARY OR PERMANENT. 5. IT IS THE DEVELOPER'S RESPONSIBILITY TO GRADE AND STABILIZE DISTURBANCES DUE TO	 ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE FILTER MATERIAL, WHEN APPRECIABLE AMOUNTS HAVE ACCUMULATED. 	30"	
INSTALLATION OF PUBLIC UTILITIES (I.E. PHONE, GAS, ELECTRIC, CABLE, ETC.)			
 THE DEVELOPER IS RESPONSIBLE FOR DUST CONTROL THROUGHOUT ALL PERIODS OF CONSTRUCTION. WATERNOT TANKS WILL BE AVAILABLE AT ALL TIMES TO BE USED ON ANY AREA WHERE DUST BECOMES A PROBLEM. 	 STANDPIPE IS PROPOSED AS A PERMANENT STRUCTURE. IT IS THE RESPONSIBILITY OF THE DEVELOPER TO REMOVE THE CLOTH FILTER AROUND THE STANDPIPE, IMMEDIATELY AFTER ALL CONTRIBUTING AREAS FROM THE SUBDIVISION ARE 	MOUNTABLE CONCRETE CURB AND GUTTER DETAIL	FREE DRAINING AGGREGATE
 PARKING OF VEHICLES, EQUIPMENT, OR STOCKPILING OF MATERIALS IS STRICTLY PROHIBITED ALONG OR WITHIN THE 12 1/2 MILE ROAD RIGHT OF WAY AREA. 	STABILIZED.	AND GOTTER DETAIL	
		24*	
SEQUENCE OF CONSTRUCTION FOR SOIL EROSION CONTROL		5.5 1.75	
1. ATTEND AN ENVIRONMENTAL PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE CITY OF NOVI STATE AND ITS AGENTS.		1 58/ /4	DRAIN TILE
		N 00 14 10 SLOPE 0.02'/FT.	
 INSTALL ALL SOIL EROSION AND TREE PROTECTION FENCING AS PER APPROVED PLANS. CLEAR ONLY WHAT IS NECESSARY TO INSTALL FENOING. CONSTRUCT CONSTRUCTION ACCESS HAUL ROAD PER THE APPROVED DETAIL. 	INSPECTION & MAINTENANCE SCHEDULE FOR SOIL EROSION CONTROL	- h 1/2" DIA. BAR	6" MINIMUM COMPACTED GRANULAR BASE
			ANCHOR LANDSCAPE WALL DETAIL
3. CONTACT THE CITY OF HOW OR ITS AGENT TO HAVE THE THESE USED IN "2" INSPECTIBLE FOR APPROVAL, UPPON APPONLO, OF ADDRESHINGHIDE THESE, THE DEVELOPER MOST SOURCEME A ULL PPRE-CONSTRUCTION MEETING WITH THE CITY OF NOVL. CLEARING AND GRUBBING MAY TAKE PLACE AT THIS TIME, BUT NO DRAINEG/MASS GRAND UNTIL SEPARATE APPROVALIS GRANTED.	GRADE STABUZATION STRUCTURES SUCH AS: DROP CONTROL STRUCTURES; SDE DRAINS (ENCLOSED): DROP INLET SPILLBAR'S; DROP PIPE'S: STRUCTURES; DROP TOEWALS; DROP BOXES; CURTES OR FLUERS (SOD, ROCK CONCRETE); EARTH DRAIMMENT STRUCTURES; DOMMCRAINS; SPILLBAR'S SHALL BE MANTAINED AS FOLLOWS;		
 STRIP AND STOCKPILE TOPSOIL IN A LOCATION APPROVED BY THE OWNER/ENGINEER. PLACEMENT OF ADDITIONAL CONTROL MEASURES MUST BE INSTALLED ON AND AROUND THE STOCKPILE. 	EMBANAVENI STRUCTURES; DOWNDRAINS; SPILLWAYS SHALL BE MAINTAINED AS FOLLOWS:		FABRIC SILT FENCE
	BECAUSE ORADE STABULZATION STRUCTURES ARE SUBJECT TO HIGH FLOW CONDITIONS, PERIODIC INSPECTIONS SHOULD BE PERFORMED TO ENSURE THAT EROSION IN NOT OCCURRING, AND THAT VEGETATION IS ADEQUATELY	STRAIGHT FACE CONCRETE CURB REVERSE GUTTER DETAIL	SLT PENCE JOINT
5. CONSTRUCT EXPLICIT ADV/ DETENTION BASIN ALLONG WITH APPLICABLE STORM SENER (EXPL-SECTIONS, SHORT STORM SEXER LEDINS, STANDPRO, CULLET FLITZIN, GRADE TO FAAL LEVATIONS, DISTRUITE TOPSOLE, SEED AND STAKE STRAW MULCH ELANKETS ON THE SLOPES OF THE BASIN, INSTALL SEDURETH BASIN BLOCK RETAINING WALL.	ESTABLISHED. THESE STRUCTURES SHOULD ALSO BE INSPECTED AFTER STORM EVENTS WHICH EXCEED THE DESIGN STORM. THE DISCHARGE POINT SHOULD BE INVESTIGATED TO ENSURE THAT THE CONCENTRATED FLOWS ARE	NETENSE OUTTEN DETAIL	
THE BASIN. INSTALL SEDIMENT BASIN BLOCK RETAINING WALL. 6. INSTALL UTILITIES (WATER MAIN, STORM SEWER, SANITARY SEWER) COMPLETE.	TOLOGIE GARGE EXPREDIDATO TRIVINGES AN EXPERIT TO TATA TATA TATA TATA TATA TATA TATA	24" 5.5"1.75"	surport rouge alle alle
 INSTALL UTUITES (WATER MAIN, STORM SEMEN, SANTARY SEMEN) COMPLETE. INSTALL, AS PER APPROVED PLANS, THE CATCH BASIN INLET FILTERS. INSPECT AND <u>MAINTAIN</u> FILTERS AS DIRECTED TO PREVENT CLOGGING AND UNINCESSARY FLOODING. 	FUNCTIONING, REPAR OR REPLACE FALLINGS THUTTERS AND FINTER URAN PUNCTIONING, REPAR OR REPLACE FALLING STRUCTURES IMMEDIATELY. ADDRESS WEDETATION AND DROSON PROBLEMS AS SOON AS WEATHER DEPLATE OFFICE DEPLACE FALLING AND DROSON PROBLEMS AS SOON AS WEATHER		PLAN WEW
FILTERS AS DIRECTED TO PREVENT CLOGGING AND UNNECESSARY FLOODING. B. GRADE ROADWAY LIMITS AND INSTALL PAVEMENT COMPLETE.	PERMITS. OPEN STRUCTURES SHOULD BE SCHED OR MARKED TO ALERT PEOPLE IN THE VICINITY ABOUT POTENTIAL DANCERS. RIP-RAP	1 10 10 10 10 10 10 10 10 10 10 10 10 10	SPACING 6' MAX. FENCE POSTS DRIVEN
 ORDE ROADING UNITS AND INSTALL PAYEMENT COMPLETE. INSTALL ALL PUBLIC UTILITIES (GAS, ELECTRIC, TELEPHONE, CABLE) COMPLETE. 			
10. STABILIZE TEMPORABILY OR PERMANENTLY ALL DISTURBED AREAS WITHIN RIVE (5) DAYS OF FINAL GRADE. USE 3-4" OF TOPSOLL WHERE VEGETATION IS REQUIRED.	AFTER THE FIRST RAINFALL FOLLOWING INSTALLATION, THIS IS PARTICULARLY IMPORTANT IN AREAS WHERE RIP-RAP THAT IS DISPLACED DURING THE STORM WOULD IMPACT CULVERTS. THEREFORE, RIP-RAP SITES	A BARS	
URADE. USE 3-4" OF TOPSOIL WHERE VEGETATION IS REQUIRED. 11. INSPECT AND MAINTAIN ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. THROUGHOUT	NOTICIDE ACTION STREAMENT OF ALL BRANCED STREE MADENTLY ATTENDED THE TARAVAL (INCOMENDATIONAL TO BE ADDRESS PARTICIDED TO ANTAL TARAVAL RECEIVE AND AN ANTAL TO AND ANTAL AND AND AND AND AND AND AND AND AND AND		
 INSPECT AND MAINTAIN ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. THROUGHOUT THE CONSTRUCTION OF THE PROJECT, REMOVAL OF CONTROL MEASURES MAY ONLY TAKE PLACE ONCE. THE ENTIRE STELLY STABILIZED. 			
SOIL EROSION CONTROL VIOLATIONS/CITATIONS	STORMWATER CONVEYANCE CHANNEL	STRAIGHT FACE CONC. CURB	VV V SUPPORT PENCE V
1. ROUTINE INSPECTIONS WILL BE PERFORMED BY THE CITY OF NOW OR ITS AGENT ONCE A WEEK.	AT MINING, CHEEV, ALL CONSTRUCTIO CHANNELS, ATTER LACK STORM MICH MISTE OR CHEEDIS THE EXPLANED STORM, ON RP-MARE LAER WINTERNELS, CHEEV FOR SCOLERING ELEVIS THE RIP-APA LAVER, AND BE SURE THE STORMS HAVE NOT BEDL SOPERATE THE RIP-APA LAVER, AND BE SURE THE STORMS HAVE NOT BEDL SOPERATE WITH A REAL REAL REAL REAL REAL REAL REAL RE	W/STANDARD GUTTER DETAIL	FRONT VIEW
UPON COMPLETION OF INSPECTION, IF THE SITE IS FOUND NOT TO BE IN COMPLIANCE WITH CITY OF NOW'S SOIL EROSION AND SEDIMENTATION CONTROL ORDINANCE, THEN THE PERMIT	BELM LINEAUED BY THE FLOW. PARTICULAR ATTENTION SHOULD BE PAUD TO THE CUTLET OF THE CHANNEL IF ERGSION IS OCCURRING, APPROPRIATE ENERGY DISSPATION MEASURES SHOULD BE TAKEN, SIDURINT, SHOULD BE		ON LIPSUL SDF OF DUTTE COUPLER
2. Grine Compression or Instructional, in the site is flower from the bit in compression control of the compression of the site of the	The contract.	- 6A OR 10A STONE OUTLET FILTER	VERSTURED FAREC.
ITTE STIE AND/ON DEVELOPMENT MILL HAVE A PRE-DETERMINED AMOUNT OF TIME, FROM THE DATE OF THE "NOTICE" TO RECTIFY THESE ITEMS.	SPOIL PILES WHEN VEGETATION STABILIZATION IS PROMPTLY AND EFFECTIVELY APPLIED.	STRAW BALE BERN	
 IF ALL OF THE ITEMS HAVE NOT BEEN ADDRESSED AFTER THE ELAPSED TIME SPECIFIED, THE PERMIT HOLDER/SIGNER MILL RECEIVE A "NON-COMPLIANCE" LETTER, WHICH WILL INCLUDE A "NOTICE TO SHOW CAUSE". 	VERY LITTLE WAINTENANCE IS REQUIRED. THE GUIDELINES BELOW SHOULD BE FOLLOWED ON ALL SITES: (1) PERIODIC INSPECTIONS SHOULD BE DONE TO EVEN FOR STORE EDRORD HARVEY TO HERD IN OF TO	COMPACTED EARTH	ANCHOR TRENCH SET FONCE JOHT
"NOTICE TO SHOW CAUSE".	SPUIL PICLE AND A DIAL OF	STAR BALE EXAMINED	
4. UPON RECENT OF THE "NON-COMPLIANCE" LETTER AND THE "NOTICE TO SHOW CAUSE". THE PERMIT HOLDER/SOURCE WILL ATTOD A SHOW CAUSE HEARING AS MILL AS PAY A RE-HERPECTON AND REPORT FOLLOW UP. HEARING AND ADDRESS	THE SLOPE, AND STAKED. (2) WHEN FILTER FENCING IS USED AROUND A SPOIL PILE, PERIODIC CHECKS SHOULD BE MADE TO ENSURE THAT PIPING HAS NOT OCCURRED UNDER FENCING, AND TO ENSURE THE FENCE HAS NOT		
AND REPORT FOLLOW UP. THE BEFORE MENTIONED ACTIVITIES MUST TAKE PLACE WITHIN 24 HOURS UPON RECEIPT OF THE LETTER. AFTER THE HEARING, THE PROJECT, DEVELOPMENT MAY BE ISSUED A	COLLAPSED DUE TO SOLL SUPPING AR ACCESS BY CONSTRUCTION EQUIPMENT. REPAIR ANY DAMAGED FENCING IMMEDIATELY. (3) BERNS AT THE BASE OF THE SPOIL PLE WHICH BECOME DAMAGED SHOULD BE REFLACED.		SILT SACK DETAIL
		PLAN VIEW	THREAD REBAR THROUGH
 IF A CITATION IS ISSUED TO THE PERMIT HOLDER/SIGNER AFTER THE SHOW CAUSE HEARING. AN ADDITIONAL \$400.00 WILL BE PAID TO THE CITY OF NOW, FOR FOLLOW-UP INSPECTIONS, MEETINGS AND OTHER EXPERSES INCURRED. 	EFFECTIVE FILTERS WILL COLLECT SEDIMENT, PARTICULARLY WHEN THE SOL IS SANDY, THESE FILTERS MUST BE CLEANED PERIODICALLY, SO THEY DON'T BECOME CLOQED AND CAUSE FLOORING CONDITIONS PRIVILY OF CAUSE TREDONE OF THE		
	CATCH AND A CONTRACT DAVID THELE AND A CONTRACT AND		
DETENTION BASIN MAINTENANCE SCHEDULE :		STRAW BALE BERM	
THE PROPERTY OWNER IS RESPONSIBLE FOR THE MAINTENANCE OF THE SEDIMENT BASIN. MAINTENANCE SHOULD BE PERFORMED FOLLOWING ANY STORM AND SHOULD INCLUDE:	BUFFER/FILTER STRIPS	STRAW BALE BERM	
		COMPLESTONES	
 CHECKING THE DEPTH OF SEDIMENT DEPOSIT TO ENSURE THE CAPACITY OF THE BASIN IS ADEQUATE FOR STORM WATER AND SEDMENT DEPOSITION, AND FOR THE REMOVING OF SEDIMENT. 	HAVE NOT DEVELOPED, AND TO MAKE SURE THE VEGETATIVE COVER IS MAINTAINING ITS EFFECTIVENESS. IF THE INTEGRITY OF THE BUFFER/FILTER		
2. CHECKING THE BASIN FOR PIPING, SEEPAGE, OR OTHER MECHANICAL DAMAGE.	HAVE NOT DEVELOPED, AND TO MAKE SURE THE VECETATIVE OVER IS. MANTANING ITS UPTCTIVENESS. IF THE INTEGRITY OF THE UNTERPRICE STOP IS ACOMADIZED OF UPANAL ERRORS, OR IF CONCENTRATIC PLANS ARE OREATING RELS OR QULIES UP-SLOPE OF THE STOP, ADDITIONAL BUY'S MAY NEED TO BE INSTALLED. "THE BUFFER STOP IS THE GRAVACIZED BY	PROFILE VIEW	
 CHECKING THE BASIN FOR PIPING, SEEPAGE, OR OTHER MECHANICAL DAMAGE. CHECKING FOR THE RESERVE OF ANY SOIL CAKING, WHICH WOULD PREVENT PROPER DRAINAGE FROM THE BASIN. 	INVE HOT DEVELOPED, AND TO BAKE BRIE THE VIGETATINE COVER IS MANTANAN OT STPTICTIVISES IF THE INTEGRAT OF THE BATTERY AND THE STEPS AS ADDRESS OF THE AND ADDRESS OF THE ADDRESS OF THE ADDRESS STEPS AS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE STEPS AS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE STEPS AS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE STEPS ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE ADDRESS OF THE STEPS ADDRESS OF THE ADD	PROFILE VIEW	
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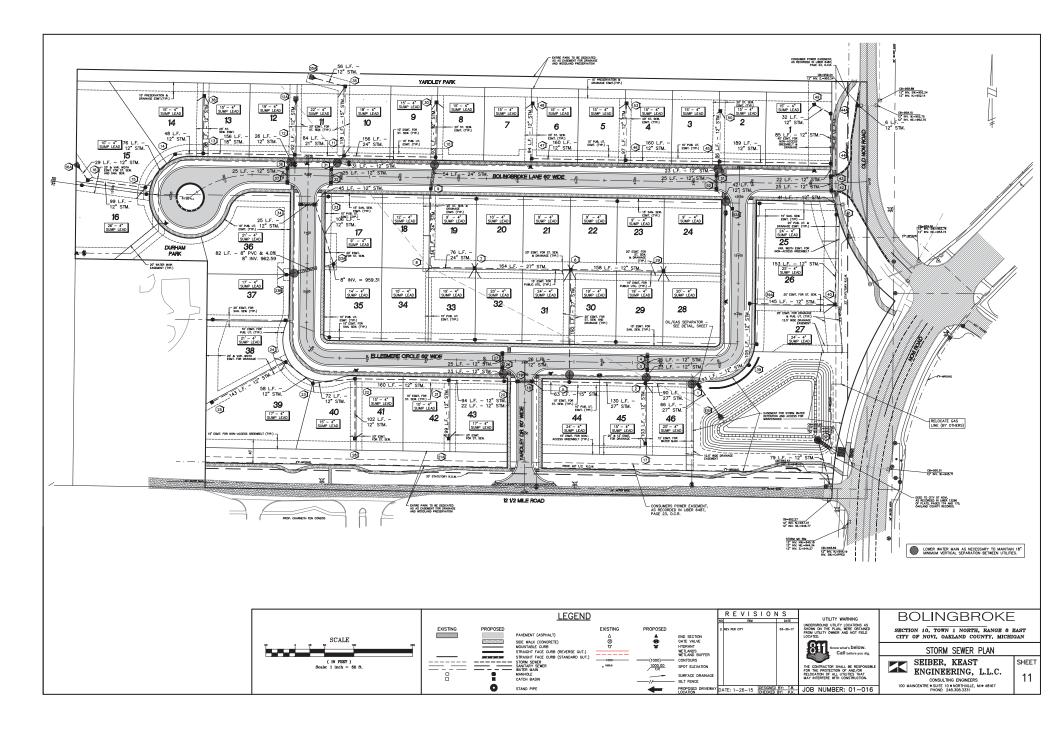


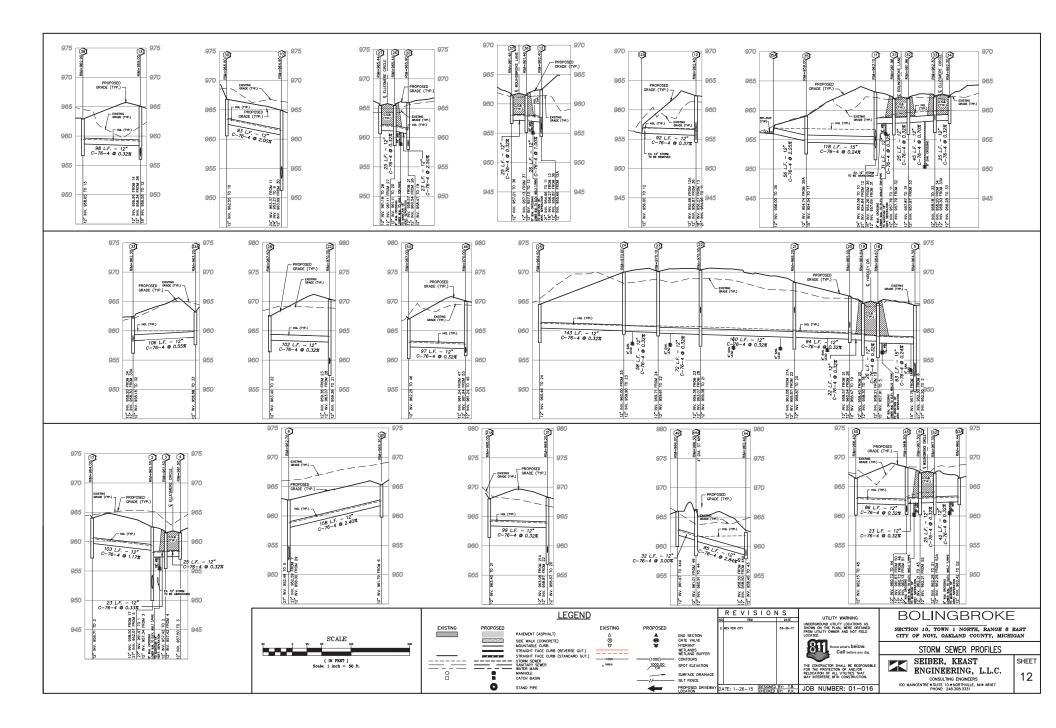


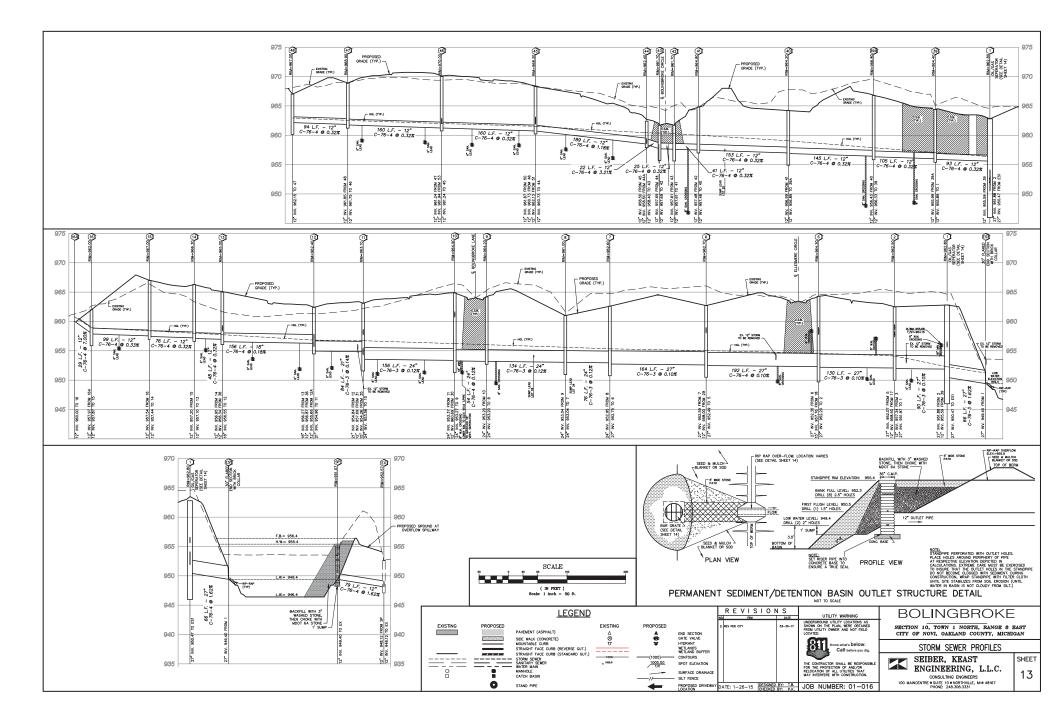




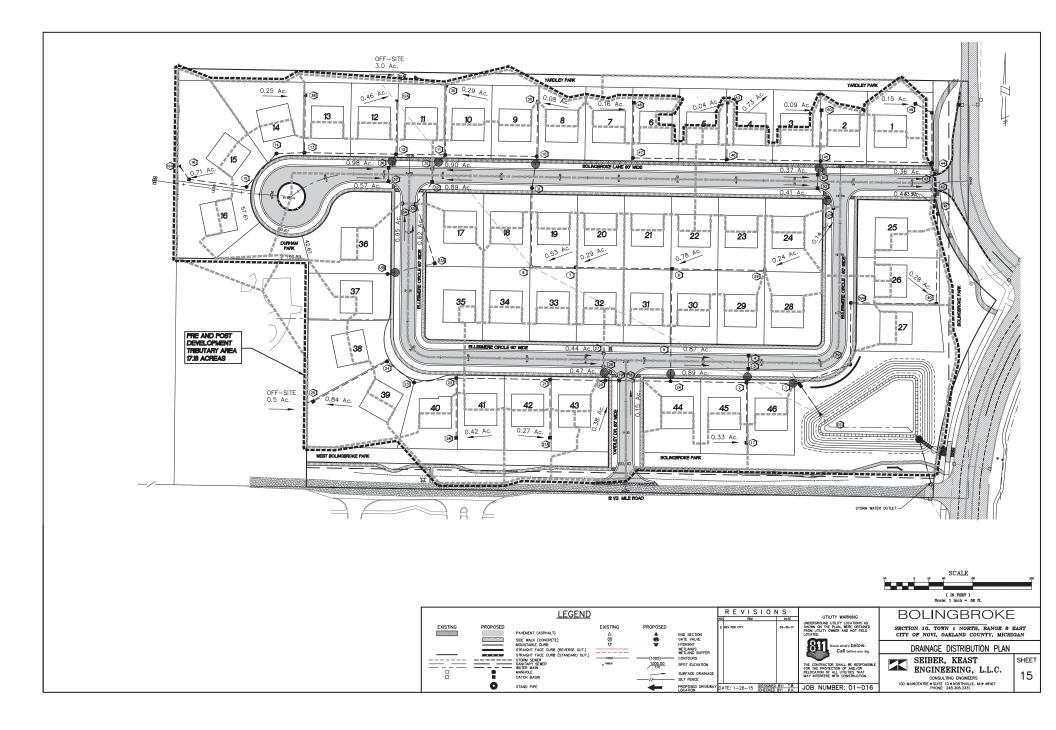


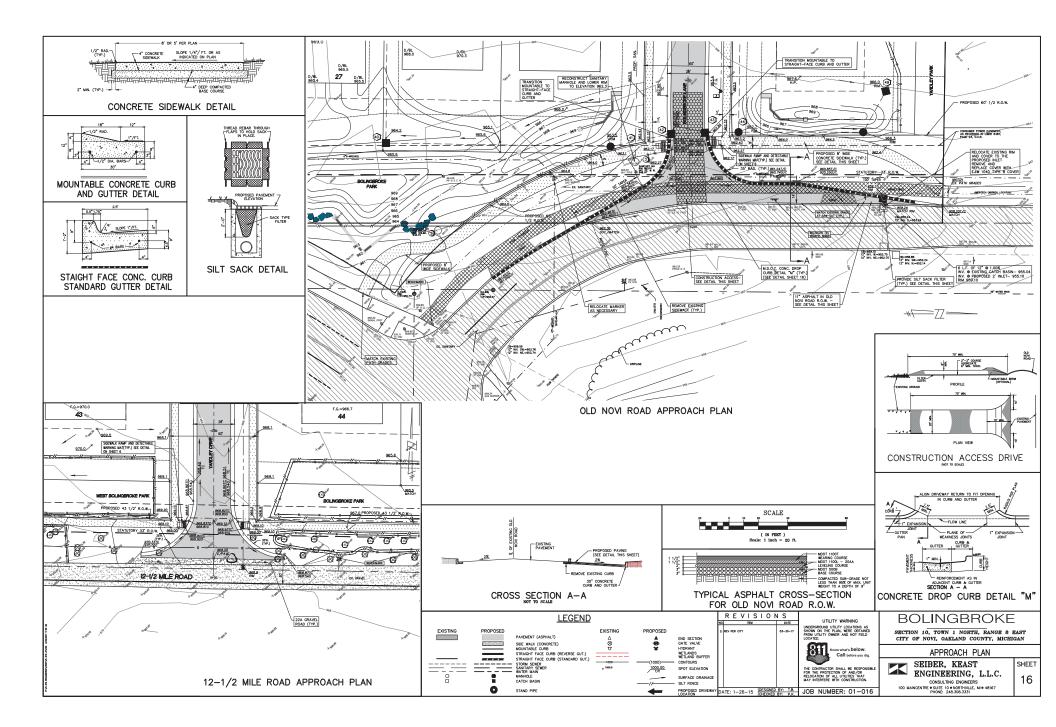


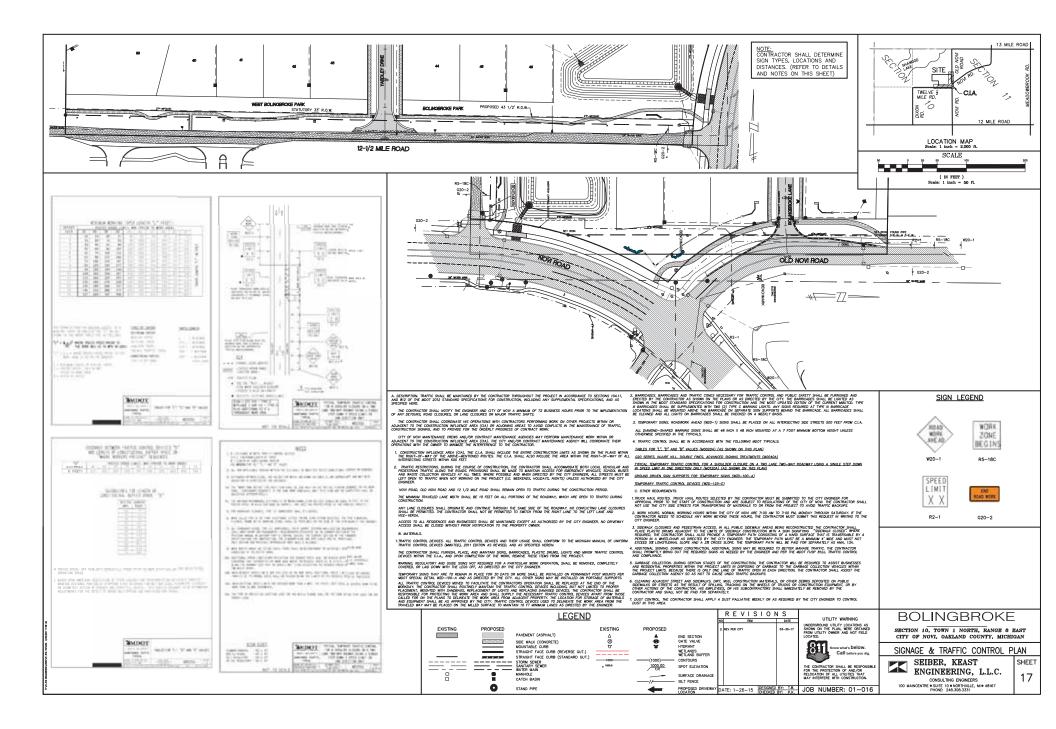




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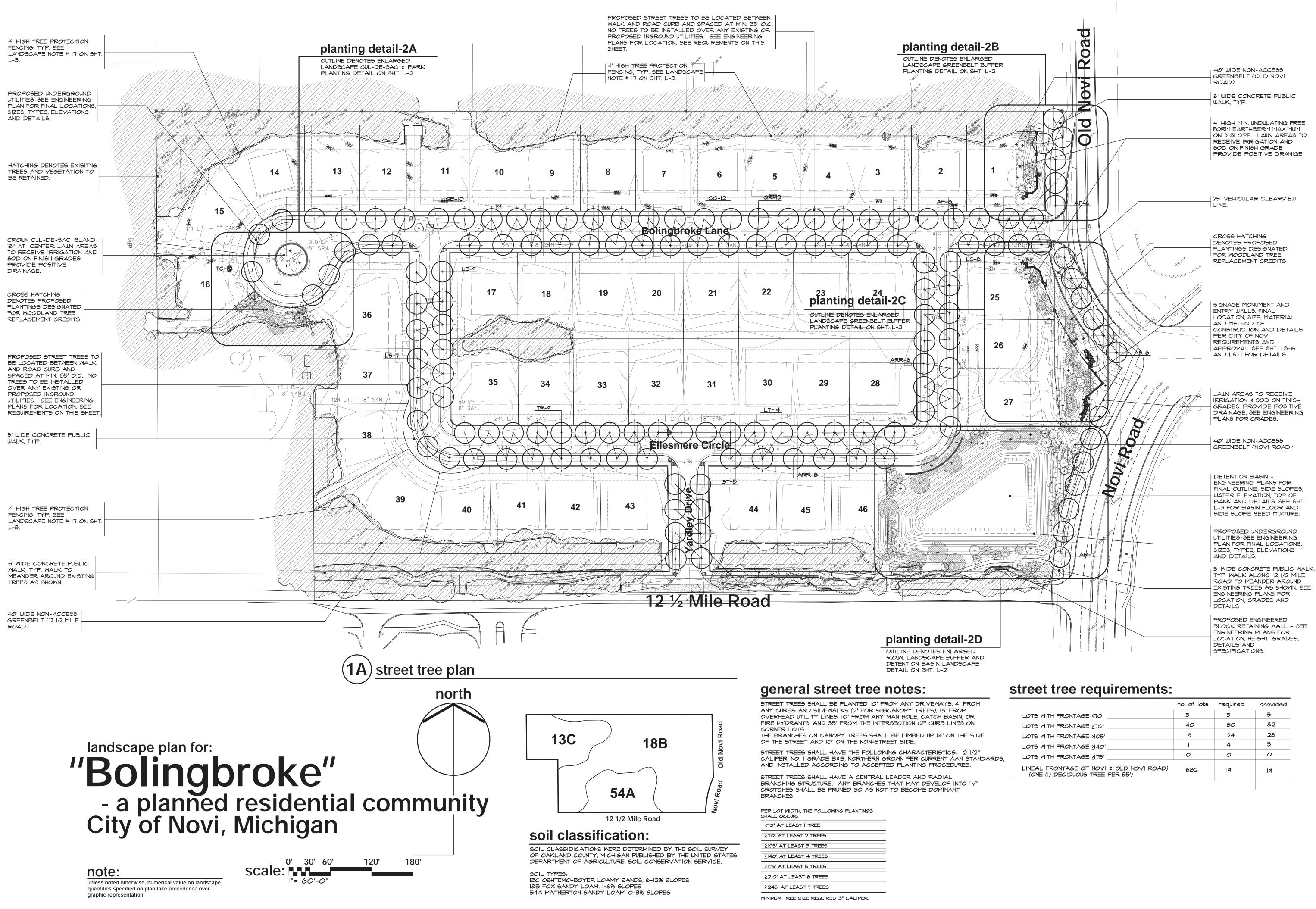




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and the second s		heres	014 00 015 60 015 80		L	TOTAL	NOT TO BE REMOVED	REMOVED IN 2005	TO BE REMOVED	COMPLETION REP	LACEMENT REQUIRED		 NO PERSON SHALL CONDUCT ANY ACTIVITY WITHING THE AREAS PROPOSED TO RMEAIN. THIS SHALL INCLUDE, B NOT UNITED TO:
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Professional Profession Contract And Profession	Nero fair Nero fair	Discount Discount	114 H		TOTAL TREES SURV TOTAL REPLACEMEN		588						ARE APPROVED THROUGH A PROTECTED AREA, THE SWALES NEED TO BE HAND DUG. MACHINERY OF ANY KI IS PROHIBITED.
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	1000		and a state		,1000 8, 1	6 MAPLE			TREES (*) INDICATED OFF-	-SITE TREE ED IN TREE COUNTS			The CONTRACTOR SHALL BE RESPONSED FOR THE PROTOCOM OF ALL DURINGS THAT MAY TRUTTER WITH CONSTRUCTION. 2005 LITING ENGINEERS
All the second second	124	Dated	100		1	5 MAPLE			NOT TO BE INCLUDE (**) UNREGULATED		DATE: 1-	5-05 DESIGNED BY: 1	T.B. TOB NUMBER: 01-016 CONSULTING ENGINEERS 248.306.3331
												INNEGAED BIT F	-m



(10' AT LEAST TREE					
≥10' AT LEAST 2 TREES					
≥IO5' AT LEAST 3 TREES					
≥I40' AT LEAST 4 TREES					
≥I75' AT LEAST 5 TREES					
≥210' AT LEAST 6 TREES					
≥245' AT LEAST 7 TREES					
MINIMUM TREE SIZE REQUIRED 3" CALIPER.					

	no. of lots	required	provided
LOTS WITH FRONTAGE (70'	5	5	5
LOTS WITH FRONTAGE >70'	40	80	82
LOTS WITH FRONTAGE 205'	8	24	28
LOTS WITH FRONTAGE 240'	I	4	5
LOTS WITH FRONTAGE 2175'	0	0	0
LINEAL FRONTAGE OF NOVI & OLD NOVI ROAD) (ONE (I) DECIDUOUS TREE PER 35')	682	19	19



Community Land Planner and registered Landscape Architect 24333 Orchard Lake Rd, Suite G Farmington Hills, MI 48336 ph. (248) 557-5588 fax. (248) 557-5416



client:

Singh Development, LLC 7125 Orchard Lake Rd, Suite 200 West Bloomfield, Michigan 48325

ph: (248) 865-1600

project:

BOLINGBROKE

project location:

Novi, Michigan Novi Road & 12 1/2 Mile Road

sheet title:

Street Tree Planting Plan

job no./issue/revision date LS15.001.02 / SPA / 2-1-2015 LS17.037.03 SPA 3-30-2017

drawn by: JP checked by: FP date: 3-10-2017 notice: Copyright © 201 This document and the subject matter contained therein is proprietary and is not to be used or reproduced without 201 the written permission of Felino Pascua and Associates

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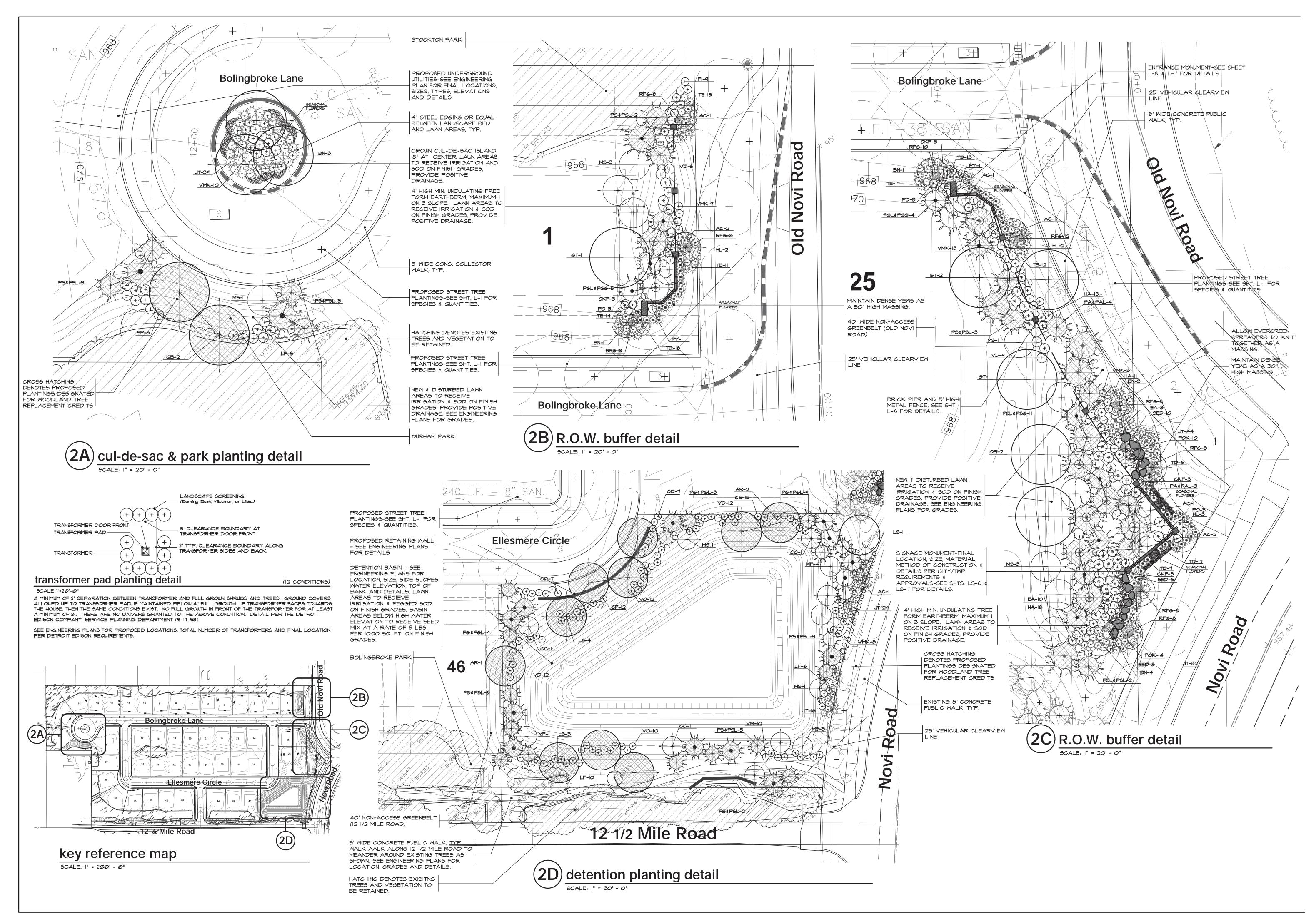
3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-717 For free location of public utility lin The location and elevations of existing

underground utilities as shown on this drawing are only approximate. no guarante is either expressed or implied as to the completeness of accuracy. contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of construction

project no:

LS17.037.03

sheet no: LS-





Community Land Planner and registered Landscape Architect 24333 Orchard Lake Rd, Suite G Farmington Hills, MI 48336 ph. (248) 557-5588 fax. (248) 557-5416

seal: OF M/C FELINO A. PASCUAL ARCHITECT ARCHITECT ARCHITECT ANDSCAPE ANDSCAPE

client:

Singh Development, LLC 7125 Orchard Lake Rd, Suite 200 West Bloomfield, Michigan 48325

ph: (248) 865-1600

project:

BOLINGBROKE

project location:

Novi, Michigan Novi Road & 12 1/2 Mile Road

sheet title:

Landscape Planting Detail Plans

job no./issue/revision date: LS15.001.02 / SPA / 2-1-2015 LS17.037.03 SPA 3-30-2017

drawn by:	
5	
JP	
checked by:	
FP	
date:	
3-10-2017	
notice:	
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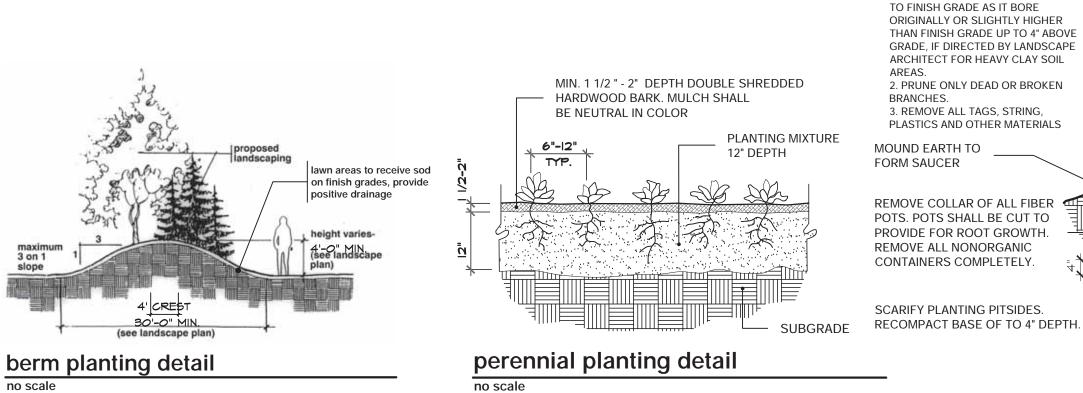
The location and elevations of existing underground utilities as shown on this drawing are only approximate. no guarantee is either expressed or implied as to the completeness of accuracy. contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of construction

project no:

LS17.037.03



		quar	tities	cost estimate						
key	sht. L-1	sht. L-2			totals	botanical name	common name	size & root	unit cost	unit amour
						LARGE AND SMALL DECIDUOUS TREES	1	-		
AS	9	-	-	-	٩	ACER SACCHARUM	SUGAR MAPLE	3" BB	\$325.00	\$2,925.00
AR	7	3	-	-	10	ACER RUBRUM	RED MAPLE	3" BB	\$400.00	\$4,000.00
ARR	14	-	-	-	4	ACER R. 'RED SUNSET'	RED SUNSET RED MAPLE	3" BB	\$325.00	\$4,550.00
00	12	-	-	-	2	CELTIS OCCIDENTALIS	COMMON HACKBERRY	3" BB	\$325.00	\$3,900.00
QB	10	4	-	-	4	QUERCUS BICOLOR	SWAMP WHITE OAK	3" BB	\$400.00	\$5,600.00
тс	12	-	-	-	2	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LINDEN	3" BB	\$325.00	\$3,900.00
TR	٩	-	-	-	9	TILIA AMERICANA "ROSEHILL"	ROSEHILL AMERICANA	3" BB	\$325.00	\$2,925.00
GT	8	4	-	-	2	GLEDITSIA T.I. 'TRUESHADE'	TRUESHADE HONEYLOCUST	3" BB	\$400.00	\$4,800.00
LS	15	8	-	-	23	LIQUIDAMBAR STYRACIFLUA	SWEET GUM	3" BB	\$400.00	\$9,200.00
LT	14	-	-	-	4	LIRIODENDRON TULIPIFERA	TULIPTREE	3" BB	\$325.00	\$4550.00
cc	-	3	-	-	3	CERCIS CANADENSIS	EASTERN REDBUD (MULTI-STEM)	10' BB	\$250.00	\$750.00
AC	-	9	-	-	9	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY (MULTI-STEM)	10' BB	\$250.00	\$2,250.00
BN	-	5	_	_	5	BETULA NIGRA	RIVER BIRCH (MULTI-STEM)	12' BB	\$400.00	\$2,000.00
MS		13		-	3	MALUS SNOWDRIFT	SNOWDRIFT CRAB	2 I/2" BB	\$250.00	\$3,250.00
MF	_	5				MALUS FLORIBUNDA	JAPANESE FLOWERING CRAB	2 1/2 BB	\$250.00	\$1,250.00
			-	-	5					
AF	20	3	-	-	23	ACER X. FREEMANII 'JEFFERSRED'	AUTUMN BLAZE MAPLE	3" BB	\$400.00	\$9,200.00
QR	13	-	-	-	13	QUERCUS RUBRA	RED OAK	3" BB	\$325.00	\$4,225.00
						SHRUBS	1	-		\$69,275.00
EA	-	18	-	-	18	EUONYMUS ALATUS COMPACTA	DWARF WINGED BURNING BUSH	2' - 2 I/2' BB	\$50.00	\$900.00
FI	-	9	-	-	9	FORSYTHIA INTERMEDIA	BORDER FORSYTHIA	2 /2' - 3' BB	\$50.00	\$450.00
CD	-	4	-	-	4	COTONEASTER DIVARICATUS	SPREADING COTONEASTER	3' - 3 I/2' BB	\$50.00	\$750.00
VM	-	10	-	-	10	VIBURNUM P.T. 'MARIESII'	MARIESI DOUBLEFILE VIBURNUM	3' - 3 I/2' BB	\$50.00	\$500.00
VMK	-	37	-	-	37	VIBURNUM X.B. 'MOHAMK'	MOHAWK VIBURNUM	3' - 3 I/2' BB	\$50.00	\$1850.00
SP	-	8	-	-	8	SYRINGA X. 'PERSICA'	PERSIAN LILAC	3' - 3 I/2' BB	\$50.00	\$400.00
CF	-	2	-	-	2	CORNUS S. 'FLAVIRAMEA'	YELLOWTWIG DOGWOOD	3' - 3 1/2' BB	\$50.00	\$600.00
cs	-	2	-	-	2	CORNUS STOLONIFERA	REDTWIG DOGWOOD	3' - 3 I/2' BB	\$50.00	\$600.00
VD	-	39	-	-	39	VIBURNUM DENTATUM	ARROW WOOD VIBURNUM	3' - 3 I/2' BB	\$50.00	\$1950.00
$\vee o$	-	22	-	-	22	VIBURNUM OPULUS	EUROPEAN CRANBERRYBUSH	3' - 3 1/2' BB	\$50.00	\$1100.00
PO	-	9	-	-	9	PHYSOCARPUS O. 'CENTER GLOW'	CENTER GLOW NINEBARK	3' BB	\$50.00	\$450.00
LF	-	24	-	-	24	LONICERA FRAGRANTISSIMA	WINTER HONEYSUCKLE	3' - 3 1/2' BB	\$50.00	\$1200.00
HA	-	32	_	-	32	HYDRANGEA A. 'ANNABELLE'	ANNABELLE HYDRANGEA	#3 CONT.	\$50.00	\$ 600.00
HL	_	7			7	HYDRANGEA M. 'LINDSEY ANN'	L.A. DREAMIN HYDRANGEA	#3 CONT.	\$50.00	\$350.00
									+30.00	\$12,700.00
										\$12,100.00
						LARGE AND SMALL EVERGREENS		-		
TD	-	54	-	-	54	TAXUS X.M. 'DENSIFORMIS'	JAPANESE DENSE YEW	24" - 30" BB	\$50.00	\$2,700.00
TE	-	69	-	-	69	TAXUS X.M. 'EVERLOW'		24" - 30" BB	\$50.00	\$3,450.00
TL	-	107	-	-	107	JUNIPERUS S. 'TAMARISAFOLIA'	TAM'S JUNIPER	24" - 30" BB	\$50.00	\$5,350.00
PG	-	9	-	-	9	PICEA GLAUCA	WHITE SPRUCE	8' BB	\$325.00	\$2,925.00
PGL	-	16	-	-	16	PICEA GLAUCA	WHITE SPRUCE	10' BB	\$325.00	\$5,200.00
PGG	-	10	-	-	10	PICEA GLAUCA	WHITE SPRUCE	12' BB O	\$325.00	\$3,250.00
PS	-	19	-	-	19	PINUS STROBUS	WHITE PINE	8' BB	\$325.00	\$6,175.00
PSL	-	4	-	-	4	PINUS STROBUS	WHITE PINE	I <i>O</i> ' ₿₿ ●	\$325.00	\$4,550.00
PY	-	2	-	-	2	PYRACANTHA ANGUSTIFOLIA 'GNOZAM'	GNOZAM PURACANTHA	3' - 3 1/2' BB	\$50.00	\$100.00
PA	-	4	-	-	4	PICEA ABIES	NORWAY SPRUCE	8' BB	\$325.00	\$,300.00
PAL	-	3	-	-	3	PICEA ABIES	NORWAY SPRUCE	I <i>O</i> ' BB ●	\$325.00	\$975.00
										\$35,975.00
						PERENNIALS AND GRASSES				
RFG		78			78	RUDBECKIA F.VAR. SULLIVANTII 'GOLDSTURM'		= # CONT	\$ 5.00	\$, 70.00
	-		-	-			GOLDSTRUM ORANGE CONEFLOWERS			
SED	-	20	-	-	20	SEDUM 'AUTUMN JOY'	AUTUMN JOY SEDUM	#I CONT	\$15.00	\$300.00
CKF	-	2	-	-	2	CALAMAGROSTIS X.A. 'KARL FOERTER'	KARL FOERSTER FEATHER REED GRASS	#3 CONT	\$15.00	\$180.00
POK	-	24	-	-	24	PENNISETUM A. 'KARLEY ROSE'	KARLEY ROSE ORIENTAL FOUNTAIN GRASS	#3 CONT	\$15.00	\$360.00
										\$2,010.00



PLASTICS AND OTHER MATERIALS REMOVE COLLAR OF ALL FIBER

MOUND EARTH TO FORM SAUCER

3. REMOVE ALL TAGS, STRING,

BRANCHES.

2. PRUNE ONLY DEAD OR BROKEN

GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL

TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE

NOTE

general landscape notes:

- LANDSCAPE CONTRACTOR SHALL VISIT THE SITE, INSPECT EXISITING CONDITIONS, REVIEW PROPOSED PLANTINGS AND RELATED WORK. CONTACT THE OWNER AND/OR LANDSCAPE ARCHITECT WITH ANY CONCERNS OR DISCREPANCY BETWEEN THE PLAN, PLANT MATERIAL LIST, AND/OR SITE CONDITIONS.
- PRIOR TO BEGINING OF CONSTRUCTION ON ANY WORK, CONTRACTORS SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES. GAS, ELECTRIC, TELEPHONE, CABLE TO BE LOCATED BY CONTACTING MISS DIG 1-800-482-1111. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COORDINATE ALL RELATED WORK ACTIVITIES WITH OTHER TRADES AND REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER PRIOR TO COMMENCING
- NUMERICAL VALUE ON THE LANDSCAPE QUANTITIES SPECIFIED ON THE PLAN TAKE PRECEEDENCE OVER GRAPHIC REPRESENTATION. VERIFY ANY CONCERN-DISCREPANCY WITH LANDSCAPE ARCHITECT.
- 4. ALL CONSTRUCTION AND PLANT MATERIAL LOCATION TO BE ADJUSTED ON SITE IF NECESSARY. 5. ALL SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED
- BY THE CITY OF NOVI AND LANDSCAPE ARCHITECT IN WRITING.
- 6. ALL LARGE TREES AND EVERGREENS TO BE STAKED, GUYED AND WRAPPED AS DETAIL SHOWN ON PLAN. 7. PLANT BEDS TO BE DRESSED WITH MIN. 3" OF FINELY DOUBLE SHREDDED HARDBARK MULCH.
- 8. DIG SHRUB PITS I' LARGER THAN SHRUB ROOT BALLS AND TREE PITS 2' LARGER THAN ROOT BALL. BACK FILL WITH ONE PART TOP SOIL AND ONE PART SOIL FROM
- 3. REMOVE ALL TWINE, WIRE AND BURLAP FROM TREE AND SHRUB EARTH BALLS, AND FROM TREE TRUNKS.
- 10. NATURAL COLOR, FINELY SHREDDED HARDWOOD BARK MULCH REQUIRED FOR ALL PLANTINGS. 4" THICK BARK MULCH FOR TREES IN 4' DIA. CIRCLE WITH 3" PULLED AWAY FROM TRUNK. 3" THICK BARK MULCH FOR SHRUBS AND 2" THICK BARK MULCH FOR PERENNIALS.
- PLANT MATERIAL QUALITY & INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
- 12. PROVIDE PEAT SOD FOR ALL NEW AND DISTURBED LAWN AREAS UNLESS NOTED OTHERWISE. 13. ALL PLANTING AREAS TO BE PREPARED WITH APPROPRIATE SOIL MIXTURES AND
- FERTILIZER BEFORE PLANT INSTALLATION. 14. PLANT TREES AND SHRUBS GENERALLY NO CLOSER THEN THE FOLLOWING DISTANCES FROM SIDEWALKS, CURBS AND PARKING STALLS: a). SHADE TREES
 - b). ORNAMENTAL AND EVERGREEN TREES (CRAB, PINE, SPRUCE, ETC.) _ c). SHRUBS THAT ARE LESS THAN I FOOT TALL AND WIDE AT MATURITY. ---
- 15. NO TREES OR EVERGREENS TO BE INSTALLED OVER ANY PROPOSED OR EXISTING UTILITY LINES AS SHOWN ON THE OVERALL LANDSCAPE PLAN. SEE ENGINEERING PLANS FOR LOCATION AND DETAILS.
- 6. ALL SOD AREAS AND LANDSCAPE BEDS TO BE FULLY IRRIGATED WITH A AUTOMATIC UNDERGROUND SYSTEMS. IRRIGATION SYSTEM TO HAVE SEPARTE ZONES FOR LAWN AREAS, PARKING ISLANDS, AND SHRUB BEDS WITH DIFFERENT CONTROL MOISTURE LEVEL ADJUSTMENT PER ZONE AS REQUIRED
- 17. UNLESS NOTED OTHERWISE, LANDSCAPE BEDS ADJACENT TO LAWN TO RECIEVE EDGING. EDGING SHALL BE 4" X 1/8" METAL (FINISH BLACK OR GREEN) OR APPROVED EQUAL AND TO BE INSTALLED WITH HORIZONTAL METAL STAKES AT 32" O.C. OR PER MANUFACTERER'S SPECIFICATION.
- 18 THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE PLANT MATERIALS AND IRRIGATION INSTALLATION FOR A PERIOD OF TWO YEAR BEGINNING AFTER THE COMPLETION OF LANDSCAPE INSTALLTION DATE APPROVED BY THE CITY OR LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE DURING AND AT THE END OF THE GUARANTEE PERIOD, ANY DEAD OR UNACCEPTABLE PLANTS, AS DETERMINED BY THE CITY OR LANDSCAPE ARCHITECT, WITHOUT COST TO THE OWNER.

cost estimate summary

TOTAL ESTIMATED PLANT MATERIALS COST	_\$96,310
(\$119,960 LESS \$23,650 -TREES CREDITED TOWARDS REPLACEME 58 - EVERGREEN TREES @\$325 =\$18,850 12 - CANOPY TREES @ \$400 = \$4,800	ENT)
TOTAL ESTIMATED IRRIGATION COST	_\$30,000
TOTAL ESTIMATED SOD COST	_\$31,200
TOTAL ESTIMATED SEEDING COST (6,580 SQ.YD. X #3 PER SQ.YD. = #233,200)	_\$19,740
TOTAL MISC. ITEM COST (MULCH, EDGING, FABRIC, ETC.)	_ \$ 5,000
TOTAL TRANSFORMER SCREEN PLANTING COST	_\$6,000
TOTAL OFF SITE TREE REPLACEMENT COST	_\$233,2 <i>0</i> 0
TOTAL ESTIMATED LANDSCAPE COST	\$421,45Ø

landscape maintenance notes:

- 2. LANDSCAPING SHALL BE KEPT IN A NEAT, ORDERLY AND HEALTHY GROWING CONDITION, FREE FROM DEBRIS AND REFUSE.
- 3. PRUNING SHALL BE MINIMAL AT THE TIME OF INSTALLATION, ONLY TO REMOVE DEAD OR DISEASED BRANCHES. SUBSEQUENT PRUNING SHALL ASSURE PROPER MATURATION OF PLANTS TO ACHIEVE THEIR APPROVED PURPOSE.
- 4. ALL DEAD OR DISEASED PLANT MATERIAL SHALL BE REMOVED AND REPLACED WITHIN SIX (6) MONTHS AFTER IT DIES OR IN THE NEXT PLANTING SEASON, WHICHEVER OCCURS FIRST. THE PLANTING SEASON FOR DECIDUOUS PLANTS SHALL BE BETWEEN MARCH I AND JUNE I AND FROM OCTOBER I UNTIL THE PREPARED SOIL BECOMES FROZEN. THE PLANTING SEASON FOR EVERGREEN PLANTS SHALL BE BETWEEN MARCH I AND JUNE I, PLANT MATERIAL INSTALLED TO REPLACE DEAD OR DISEASED MATERIAL SHALL BE AS CLOSE AS PRACTICAL TO THE SIZE OF THE MATERIAL IT IS INTENDED TO REPLACE.
- 5. THE APPROVED LANDSCAPE PLAN SHALL BE CONSIDERED A PERMANENT RECORD AND INTEGRAL PART OF THE SITE PLAN APPROVAL. UNLESS OTHERWISE APPROVED IN ACCORDANCE WITH THE AFOREMENTIONED PROCEDURES, ANY REVISIONS TO, OR REMOVAL OF, PLANT MATERIALS WILL PLACE THE PARCEL IN NON-CONFORMITY WITH THE APPROVED LANDSCAPE PLAN, AND SHALL BE VIEW AS A VIOLATION OF THIS ORDINANCE AND THE AGREED UPON TERMS OF THE FINAL SITE PLAN APPROVAL.

landscape requirements:

greenbelt TOTAL LIN ONE (I) DE ONE (1) SU

greenbelt TOTAL LIN ONE (I) DE ONE (1) SU

greenbelt TOTAL LIN ONE (I) DE ONE (I) SU

> NO. OF CU COMBINA

detention HIGH WAT COMBINA

* DENOTES SUPPLEMENTAL TREES ABOVE REQUIREMENTS TO BE CREDITED TOWARDS TREE REPLACEMENT CREDITS. SEE SHT. L-4 & LS-5 FOR TREE REPLACEMENT REQUIREMENTS AND DETAILS.

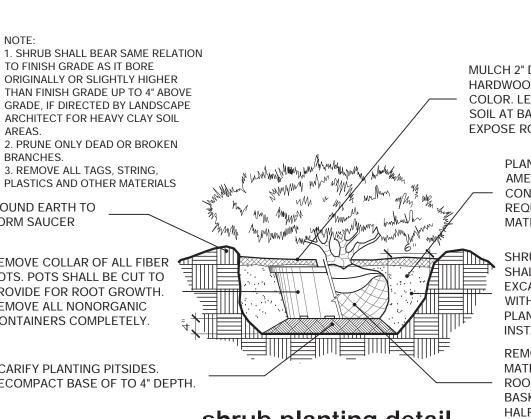
forebay and sedimentation basin wetland plant mix

Recommended Seed Rate at least 3 lb./1000 sq. ft. or 35 - 40 ib./acre

#Common Name

New England Aster Pale Indian Plantain Joe Pye Weed Boneset Ox Eye Sunflower Dense Blazingstar Great Blue Lobelia Cardinal Flower Yellow Coneflower Green-headed Coneflow Black-eyed Susan Cuppant Ohio Goldenrod Blue Vervain Culver's Root

Ironweed



shrub planting detail no scale

MULCH 2" DEPTH WITH SHREDDED HARDWOOD BARK. NATURAL IN COLOR. LEAVE 3" CIRCLE OF BARE SOIL AT BASE OF TREE TRUNK TO EXPOSE ROOT FLARE.

> PLANTING MIXTURE: AMEND SOILS PER SITE CONDITIONS AND REQUIREMENTS OF THE PLANT MATERIAL.

SHRUBS PLANTED IN BEDS SHALL HAVE ENTIRE BED MASS EXCAVATED AND BACKFILLED WITH APPROVED PLANT MIX. PLANTS SHALL NOT BE INSTALLED IN INDIVIDUAL HOLES. REMOVE ALL NON-BIODEGRADABLE MATERIALS COMPLETELY FROM THE THE ROOTBALL. CUT AND REMOVE ROOTBALL. CUT AND REMOVE WIRE

BASKET AND BURLAP FROM TOP HALF OF THE ROOTBALL.

STAKE TREES AT FIRST BRANCH USING 2"-3" WIDE BELT- LIKE NYLON OR PLASTIC STRAPS. ALLOW FOR SOME MINIMAL FLEXING OF THE TREE. REMOVE

GUY EVERGREEN TREES ABOVE 12'

HEIGHT. STAKE EVERGEEN TREE

BELOW 12' HEIGHT.

AFTER ONE YEAR.

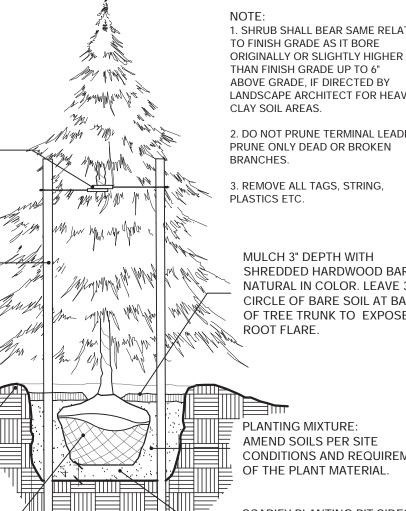
2" X 2" HARDWOOD STAKES, MIN. 36" ABOVE GROUND FOR UPRIGHT, 18" IF ANGLED. DRIVE STAKES A MIN. 18" INTO UNDISTURBED GROUND OUTSIDE ROOTBALL REMOVE AFTER ONE YEAR.

PLANT TREE SO ROOT FLARE IS AT OR ABOVE SURROUNDING GRADE. REMOVE ROOT BALL DIRT TO EXPOSE FLARE IF NECESSARY AND CUT ANY

GIRDLING ROOTS. MOUND EARTH TO FORM SAUCER

REMOVE ALL NON-BIODEGRADABLE MATERIALS COMPLETELY FROM WIRE BASKET AND BURLAP FROM TOP HALF OF THE ROOTBALL.

> evergreen planting detail no scale



3 x width of rootball

OF THE PLANT MATERIAL. SCARIFY PLANTING PIT SIDES. RECOMPACT BASE OF TO 4"

DEPTH.

PLANTING MIXTURE:

AMEND SOILS PER SITE

MULCH 3" DEPTH WITH

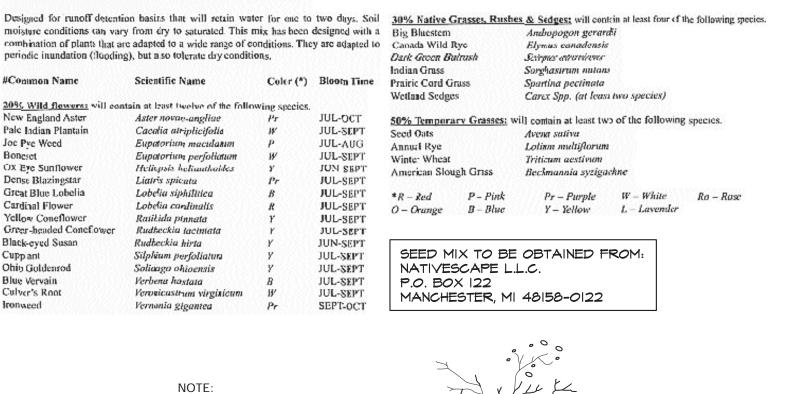
ROOT FLARE.

THE OWNER OF THE PROPERTY SHALL BE RESPONSIBLE FOR ALL MAINTENANCE OF SITE LANDSCAPING, AS FOLLOWS:

- 1. LANDSCAPE MAINTENANCE PROCEDURES AND FREQUENCIES TO BE FOLLOWED SHALL BE SPECIFIED ON THE LANDSCAPE PLAN, ALONG WITH THE MANNER IN WHICH THE EFFECTIVENESS, HEALTH AND INTENDED FUNCTIONS OF THE VARIOUS LANDSCAPE AREAS ON THE SITE WILL BE ENSURED.

(Novi Road)		REQUIRED	PROVIDED
INEAL FEET OF LOT FRONTAGE AT R.O.W. DECIDUOUS TREE OR EVERGREEN TREE PER 35' NB-CANOPY DECIDUOUS TREE PER 20'	354' <u>+</u>	 8	22* 8
(Old Novi Road)		REQUIRED	PROVIDED
INEAL FEET OF LOT FRONTAGE AT R.O.M. DECIDUOUS TREE OR EVERGREEN TREE PER 35' JUB-CANOPY DECIDUOUS TREE PER 20'	328' <u>+</u>	10 17	33* 7
(12 1/2 Mile Road)		REQUIRED	PROVIDED
INEAL FEET OF LOT FRONTAGE AT R.O.W. DECIDUOUS TREE OR EVERGREEN TREE PER 35' NB-CANOPY DECIDUOUS TREE PER 20'	0 0' <u>+</u>	29 51	WAIVER OF REQUIREMENT DUE TO PRESERVATION OF EXISTING TREES AND VEGETATION
UL-DE-SAC WITHIN PHASE ATION OF CANOPY TREES, SUBCANOPY TREES AND SHRUBS	I	75%	75%
TER PERIMETER ATION OF CANOPY TREES, SUBCANOPY TREES AND SHRUBS	684' <u>+</u>	75%	75%

Detention Basin Floor Mix





Community Land Planner and registered Landscape Architect 24333 Orchard Lake Rd, Suite G Farmington Hills, MI 48336 ph. (248) 557-5588 fax. (248) 557-5416



client:

project:

Singh Development, LLC 7125 Orchard Lake Rd, Suite 200 West Bloomfield, Michigan 48325

ph: (248) 865-1600

BOLINGBROKE

project location:

Novi, Michigan Novi Road & 12 1/2 Mile Road

sheet title:

Notes, Details, & Plant Material List

job no./issue/revision date: LS15.001.02 / SPA / 2-1-2015 LS17.037.03 SPA 3-30-2017

drawn by: JP RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY Checked by: HIGHER THAN FINISH GRADE UP TO FP 6" ABOVE GRADE, IF DIRECTED BY date: 3-10-2017 DO NOT PRUNE TERMINAL LEADER. PRUNE ONLY DEAD OR BROKEN notice: Copyright © 2017

SHRUB SHALL BEAR SAME

LANDSCAPE ARCHITECT FOR

HEAVY CLAY SOIL AREAS.

REMOVE ALL TAGS, STRING,

PLANT TREE SO ROOT FLARE

BRANCHES.

PLASTICS ETC.

IS AT OR ABOVE

SURROUNDING GRADE.

TO EXPOSE FLARE IF

GIRDLING ROOTS.

PLANTING MIXTURE:

CONDITIONS AND

PLANT MATERIAL.

AMEND SOILS PER SITE

REQUIREMENTS OF THE

SCARIFY PLANTING PIT

SIDES. RECOMPACT

BASE OF TO 4" DEPTH

3 x width of rootball

REMOVE ROOT BALL DIRT

NECESSARY AND CUT ANY

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Do Not scale drawings. Use figured dimensions only



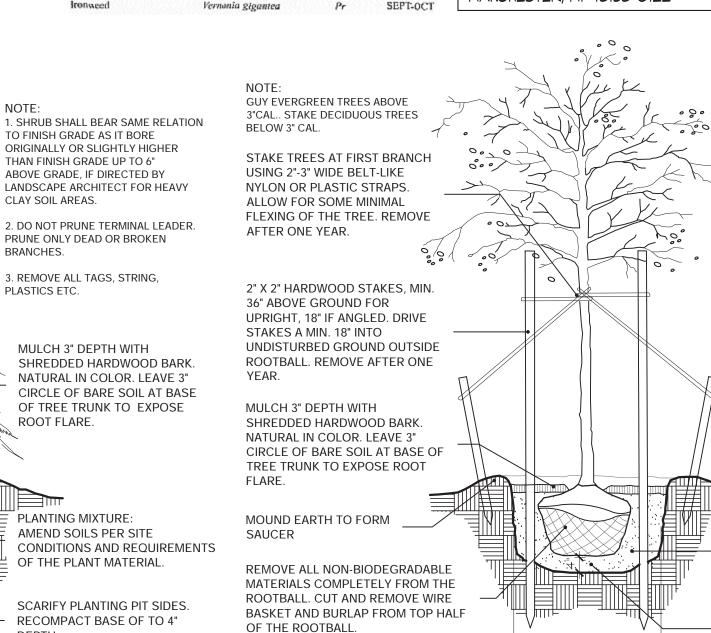


drawing are only approximate. no guarante is either expressed or implied as to the completeness of accuracy. contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of construction

project no:

LS17.037.03





tree planting detail

no scale

quantities tree replacement plant material list

	· ·		<u> </u>	-	_	-	
key	SHT.L-5	SHT.L-6	totals	botanical name	common name	size	comments
NGR	-	17	17	NYSSA SYLVATICA	BLACK GUM TUPELO	2 1/2" BB	
ASR	8	7	15	ACER SACCHARUM	SUGAR MAPLE	2 1/2" BB	
ARR	29	39	68	ACER R. 'FRANKSRED'	RED SUNSET RED MAPLE	2 1/2" BB	
LSR	8	-	8	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	2 1/2" BB	
LTR	9	40	49	LIRIODENDRON TULIPIFERA	TULIPTREE	2 1/2" BB	
POR	-	29	29	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2 1/2'' BB	
GTR	9	9	18	GLEDITSIA TRI. INERMIS 'SKYCOLE'	SKYLINE LOCUST	2 1/2'' BB	
GDR	-	6	6	GYMNOCLADUS DIOCUS	KENTUCKY COFFEETREE	2 1/2'' BB	
CCR	4	-	7	CERCIS CANADENSIS	EASTERN REDBUD	2 1/2'' BB	
OVR	3	9	12	OSTRYA VIGINIANA	AMERICAN HOPHORNBEAM	2 1/2'' BB	
TAR	5	12	17	TILIA AMERICANA	AMERICAN BASSWOOD	2 1/2'' BB	
COR	-	5	5	CELTIS OCCIDENTALIS	NORTHERN HACKBERRY	2 1/2'' BB	
QCR	17	-	17	QUERCUS COCCINEA	SCARLET OAK	2 1/2'' BB	
QRR	-	4	4	QUERCUS RUBRA	RED OAK	2 1/2'' BB	
QBR	12	43	55	QUERCUS 'BICOLOR'	SWAMP WHITE OAK	2 1/2'' BB	
QMR	18	18	36	QUERCUS MACROCARPA	BUR OAK	2 1/2'' BB	
				EVERGREEN TREES			
PGR	34	11	45	PICEA GLAUCA	WHITE SPRUCE	T' BB	
PSR	11	35	46	PINUS STROBUS	EASTERN WHITE PINE	T' BB	
TCR	15	15	30	TSUGA CANADENSIS	CANADIAN HEMLOCK	T' BB	
PMR	30	49	79	PICEA MARIANA	BLACK SPRUCE	T'BB	
				SHRUBS			
	-	40	40		MICHIGAN HOLLY	#3 CONT	
PHR	-	-	-	PHYSOCARPUS OPLIFOLIUS	NINEBARK	#3 CONT	
AAR	-	-	-	ARONIA ARBUTIFOLIA	RED CHOKEBERRY	#3 CONT	
VDR	-	54	54	VIBRUNUM DENTATUM	ARROWOOD VIBURNUM	#3 CONT	
HVR	18	54	72	HAMAMELIS VIRGINIANA	AMERICAN WITCH HAZEL	#3 CONT	
CSR	-	2Ø	20	CORNUS SERICEA	RED-TWIG DOGWOOD	#3 CONT	
VAR	-	-	-	VIBURNUM ACERIFOLIUM	ARROWOOD VIBURNUM	*3 CONT	
VMR	-	60	60	VIBURNUM X B. 'MOHAWK'	MOHAWK VIBURNUM	*3 CONT	
				l	I		

woodland tree replacement summary

•			
OTAL NO. OF REGULATED TREES ON SITE		983	
TOTAL NO. OF REGULATED TREES TO BE SAVED		238	
TOTAL NO. OF REGULATED TREES TO BE REMOVED		745	
NO. OF REG. NON EXEMPT TREES TO BE REMOVED	405		
NO. OF REG. EXEMPT TREES TO BE REMOVED	340		ا (
OTAL NO OF WOODLAND TREE REPLACEMENT CREDITS REQ	JIRED	588	
*SEE TREE SURVERY/TREE REMOVAL PLAN PREPARED ENGINEERING, L.L.C. FOR SUMMARY TREE REPLACEMENT DETAILS	•		
OTAL NO OF WOODLAND TREE REPLACEMENT CREDITS PRO		588.86	
TOTAL NO OF WOODLAND TREE REPLACEMENT CREDITS PRO	VIDED (ON SITE	:) 50.86	
NO. OF TREE REPLACEMENT PLANTINGS PROVIDED IN GREENBELT AREA	20		
16- 8' EVERGREEN @ .67-CREDITS			
14- 10'-12' EVERGREEN @ .67-CREDITS			SIGNAGE MONUMENT AND ENTRY
NO. OF TREE REPLACEMENT PLANTINGS PROVIDED	24. ⁻	14	WALLS, FINAL LOCATION, SIZE, MATERIAL AND METHOD OF CONSTRUCTION AND DETAILS PER
10 - 2 1/2" DECIDUOUS TREE @ 1.0-CREDITS 13- 8' EVERGREEN @ .67-CREDITS	IO	, ,	CITY OF NOVI REQUIREMENTS AND
9-10'EVERGREEN @ .67-CREDITS	—8.71 —6.03		APPROVAL.
NO. OF TREE REPLACEMENT PLANTINGS PROVIDED	6.03	2	
2 - 2 1/2" DECIDUOUS TREE @ I.O-CREDITS	2	_	
4- 8' EVERGREEN @ .67-CREDITS 2- 10' EVERGREEN @ .67-CREDITS	—2.68 —1.34		
OTAL NO OF WOODLAND TREE REPLACEMENT CREDITS PRO	VIDED (OFF SIT	E)538	
NO. OF TREE REPLACEMENT CREDITS PROVIDED FROM SINGH BALLANTYNE DEVELOPMENT SITE	_538		
361 - 2 1/2" DECIDUOUS TREE @ 1.0-CREDITS			
200- 7' EVERGREEN @ .67-CREDITS	—I34		
246- SHRUBS @ 6-SHRUBS PER I-CREDIT			

- 1) PLANT MATERIALS TO BE INSTALLED ACCORDING TO THE CITY OF NOVI AND CURRENT AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
- MATERIAL WITHIN I YEAR, OR THE NEXT APPROPRIATE PLANTING PERIOD.
- NURSURY GROWN, IN HEALTHY CONDITION, FREE OF PESTS AND DISEASES.
- FROM TRUNK, 3" THICK BARK MULCH FOR SHRUBS AND 2" THICK BARK MULCH FOR PERRENIALS.
- 6) DATE OF INTENDED LANDSCAPE INSTALLATION TO BE FALL 2018.
- 1) TREE SHALL BE INSTALLED SAME RELATIONSHIP TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6"
- UNSLIGHTLY AND COULD CAUSE GIRDLING. SEASON.
- BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" SOIL AREAS.
- BRANCHES.
- 1) EITHER PLASTIC OR WOOD ORANGE SNOW FENCING SHALL BE INSTALLED AT OR BEYOND THE DRIPLINE, UNLESS MORE SUBSTANTIAL FENCING IS

PLANTINGS

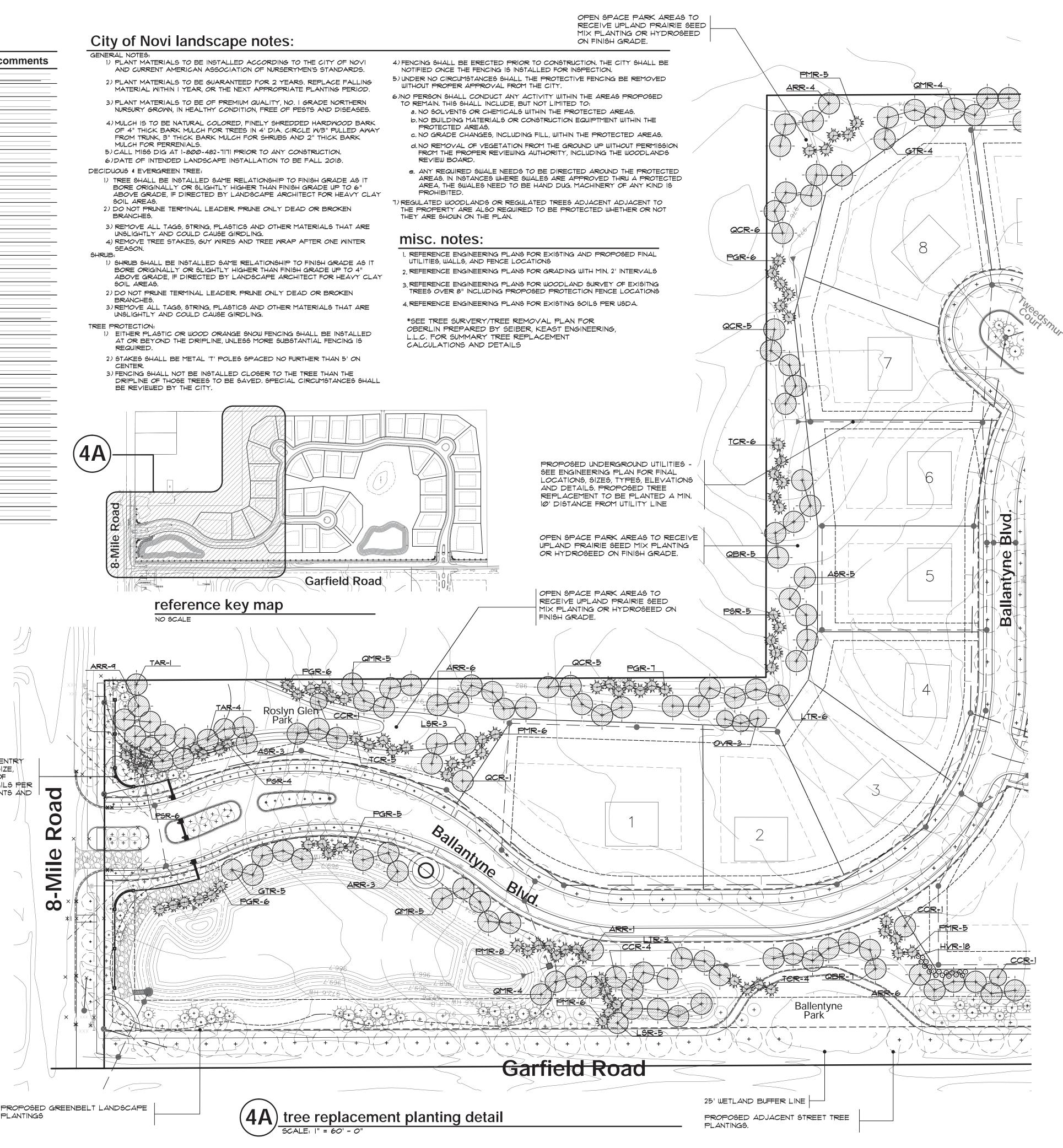
BE REVIEWED BY THE CITY.

- NOTIFIED ONCE THE FENCING IS INSTALLED FOR INSPECTION.

- PROTECTED AREAS.
- REVIEW BOARD.
- PROHIBITED.
- THEY ARE SHOWN ON THE PLAN.

- UTILITIES, WALLS, AND FENCE LOCATIONS

- 4. REFERENCE ENGINEERING PLANS FOR EXISTING SOILS PER USDA.





Community Land Planner and registered Landscape Architect 24333 Orchard Lake Rd, Suite G Farmington Hills, MI 48336 ph. (248) 557-5588 fax. (248) 557-5416



client:

Singh Development, LLC 7125 Orchard Lake Rd, Suite 200

West Bloomfield, Michigan 48325

ph: (248) 865-1600

project:

BOLINGBROKE

project location:

Novi, Michigan Novi Road & 12 1/2 Mile Road

sheet title: off site woodland tree replacement planting plan

job no./issue/revision date:
LS15.001.02 / SPA / 2-1-2015
LS17.037.03 SPA 3-30-2017
drawn by:
JP
checked by:
FP
date:
3-10-2017
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For free location of public utility lines
The location and elevations of existing underground utilities as shown on this
drawing are only approximate. no guarantee is either expressed or implied as to the
completeness of accuracy. contractor shall be exclusively responsible for determining the
exact location and elevation prior to the start of construction
project no:
LS17.037.03

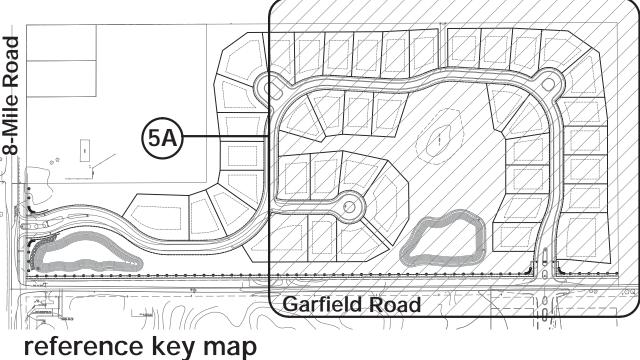


OPEN SPACE PARK AREAS TO RECEIVE UPLAND PRAIRIE SEED MIX PLANTING OR HYDROGEED ON FINISH GRADE, FINAL AREA TO BE DETERMINED AT A LATER DATE

PROPOSED STREET TREE PLANTINGS.

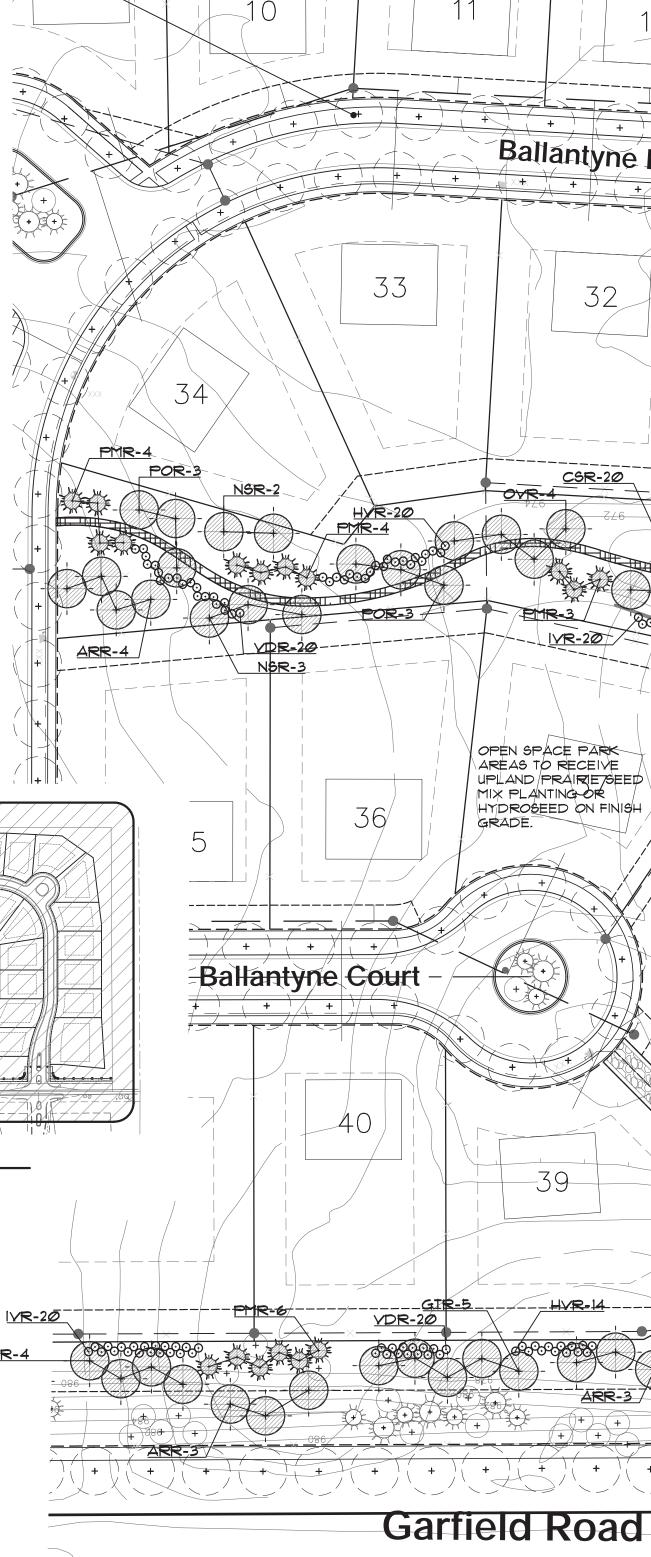
woodland tree replacement key

key	botanical name	common name
COR	CELTIS OCCIDENTALIS	NORTHERN HACKBERRY
GDR	GYMNOCLADUS DIOCUS	KENTUCKY COFFEETREE
ASR	ACER SACCHARUM	SUGAR MAPLE
QBR	QUERCUS BICOLOR	SWAMP WHITE OAK
QCR	QUERCUS COCCINEA	SCARLET OAK
QRR	QUERCUS RUBRA	RED OAK
QMR	QUERCUS MARCROCARPA	BUR OAK
LSR	LIQUIDAMBAR STYRACIFLUA	SWEET GUM
ARR	ACER RUBRUM	RED MAPLE
TAR	TILIA AMERICANA	AMERICAN BASSWOOD
POR	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE
NSR	NYSSA SYLVATICA	BLACK GUM TUPELO
LTR	LIRIODENDRON TULIPFERA	TULIP TREE
GTR	GLEDITGIA TRICANTHOS INERMIS	THORNLESS HONEYLOCUST
OVR	OSTRYA VIGINIANA	AMERICAN HOPHORNBEAM
PSR	PINUS STROBUS	EASTERN WHITE PINE
TCR	TSUGA CANADENSIS	CANADIAN HEMLOCK
PGR	PICEA GLAUCA	WHITE SPRUCE
PMR	PICEA M	BLACK SPRUCE
CCR	CERCIS CANADENSIS	EASTERN REDBUD
IVR	ILEX VERTICILLATA	MICHIGAN HOLLY
PHR	PHYSOCARPUS OPLIFOLIUS	NINEBARK
AAR	ARONIA ARBUTIFOLIA	RED CHOKEBERRY
VDR	VIBRUNUM DENTATUM	ARROWOOD VIBRUNUM
HVR	HAMAMELIS VIRGINIANA	AMERICAN WITCH HAZEL
CSR	CORNUS SERICEA	RED-TWIG DOGWOOD
VAR	VIBURNUM ACERIFOLIUM	ARROWOOD VIBRUNUM



QBR





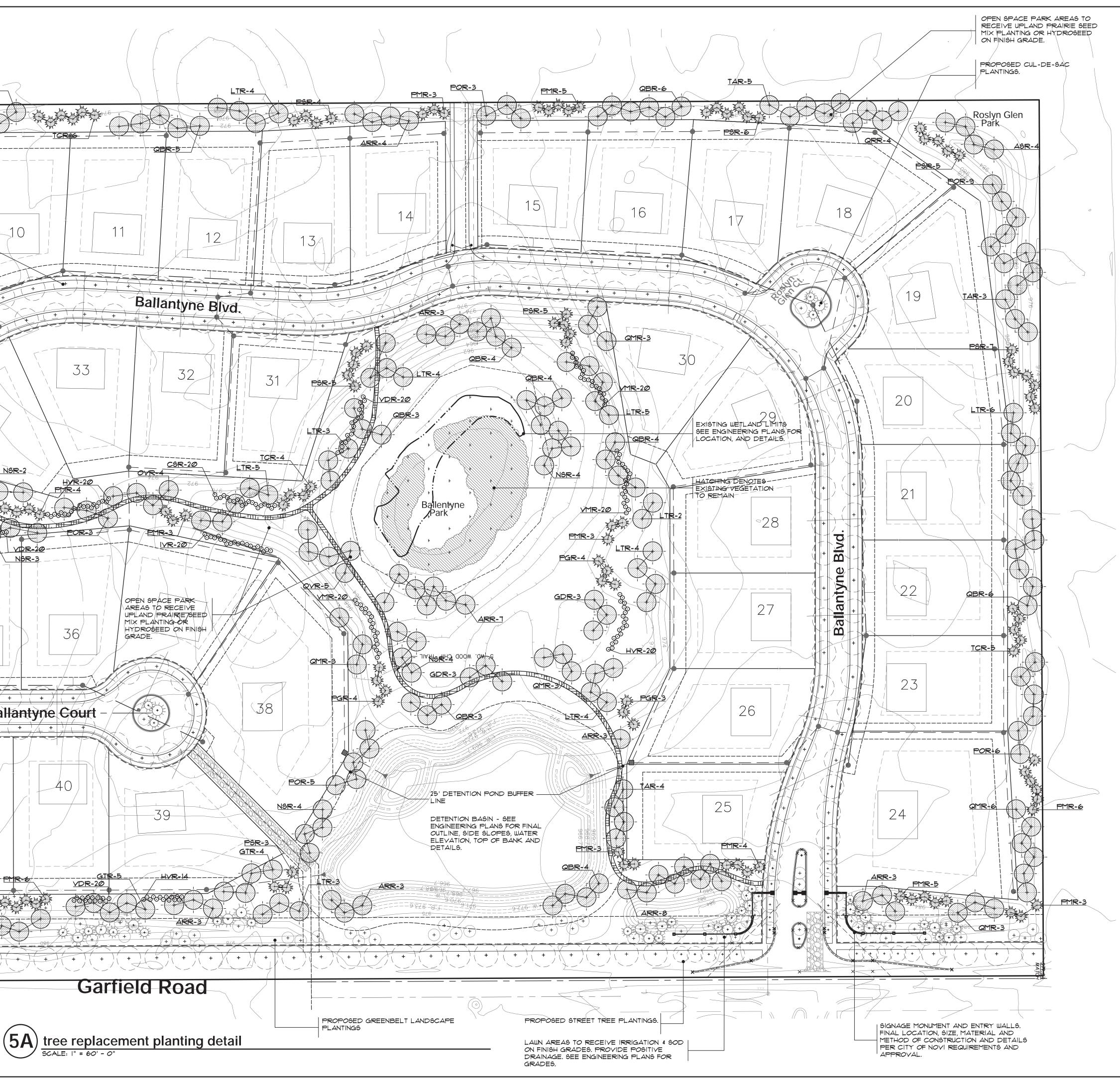
<u>COR-5</u>

____/

<u>AGR-3</u>

_ _ _ _







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seal:

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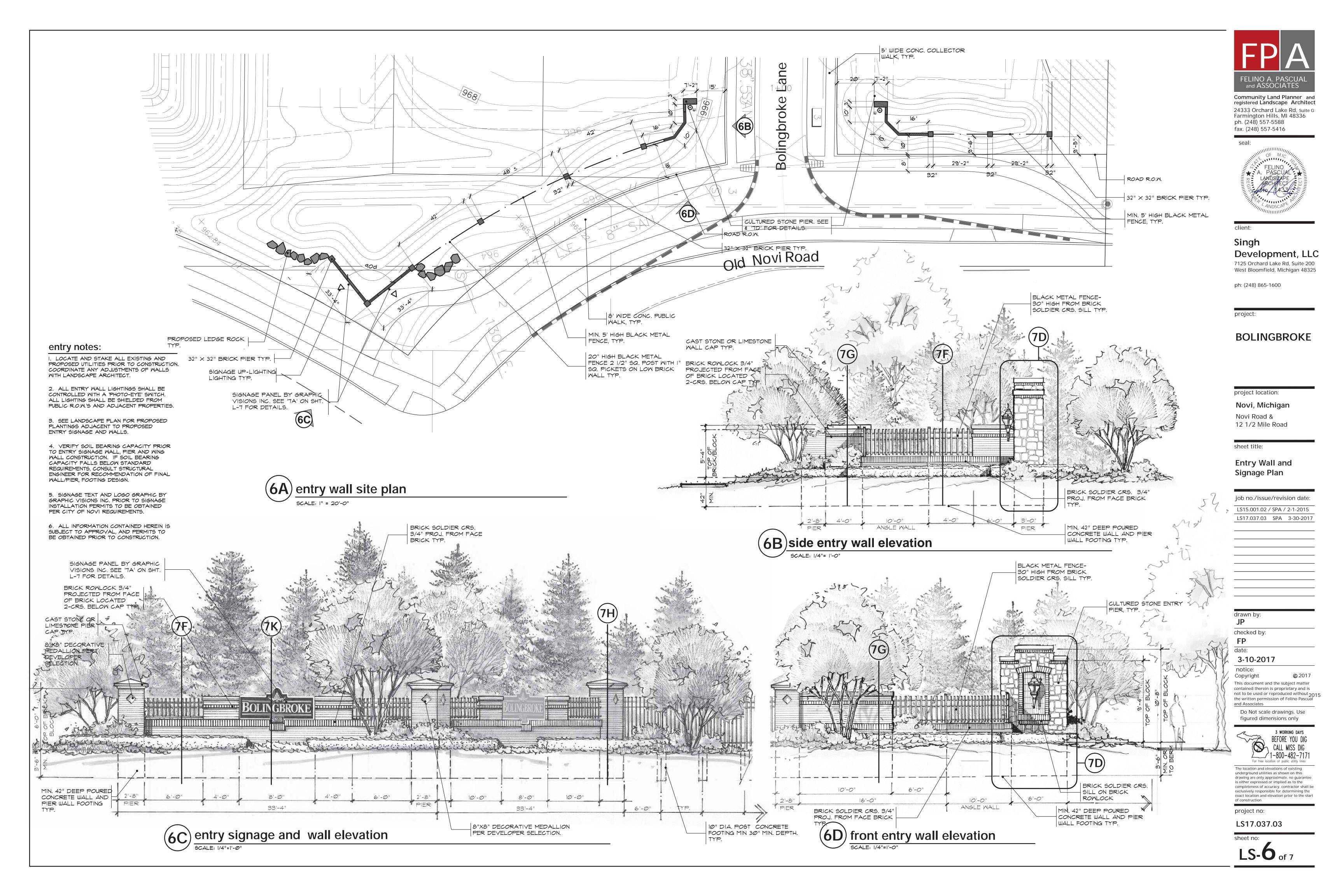
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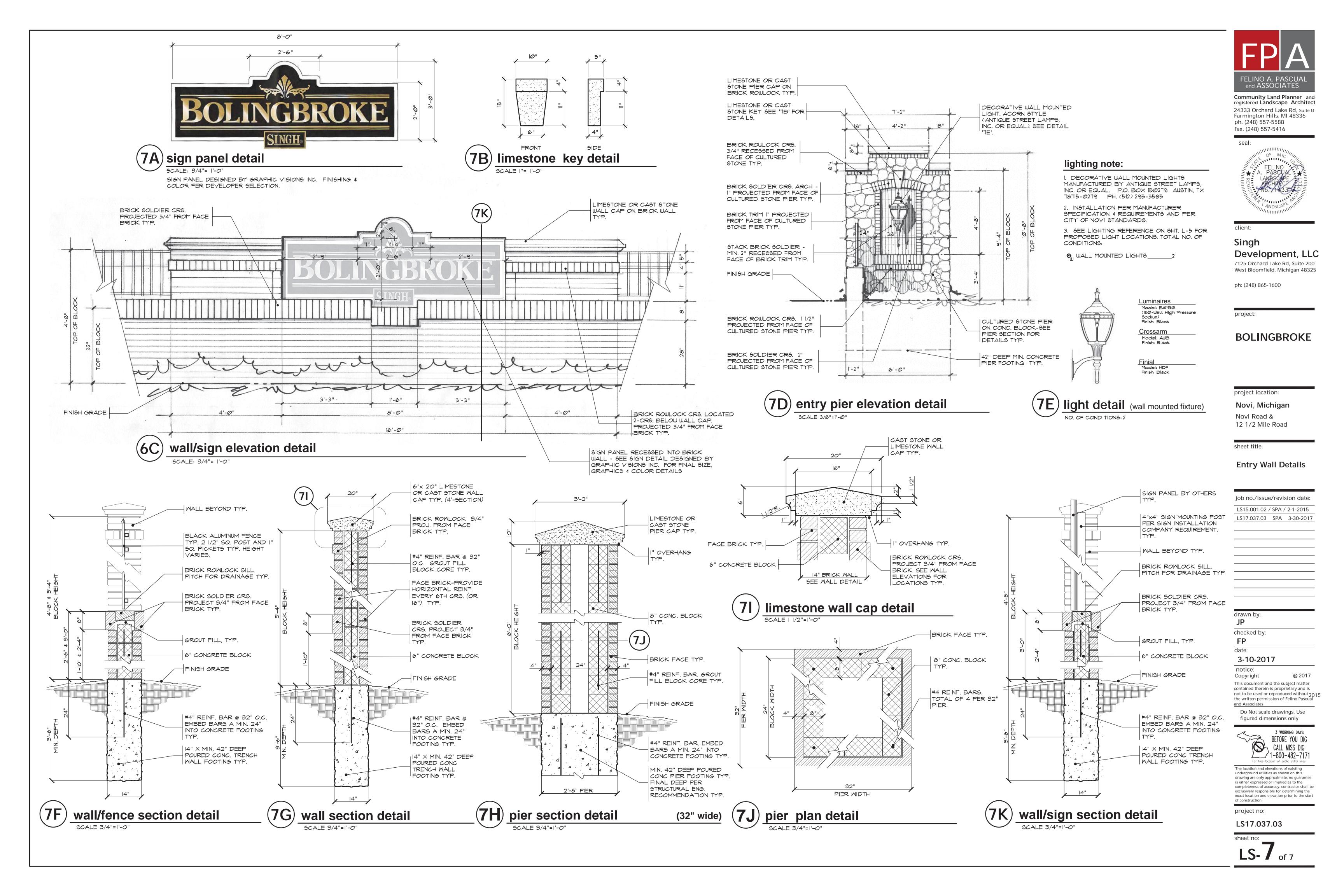
exclusively responsible for determining the exact location and elevation prior to the start of construction

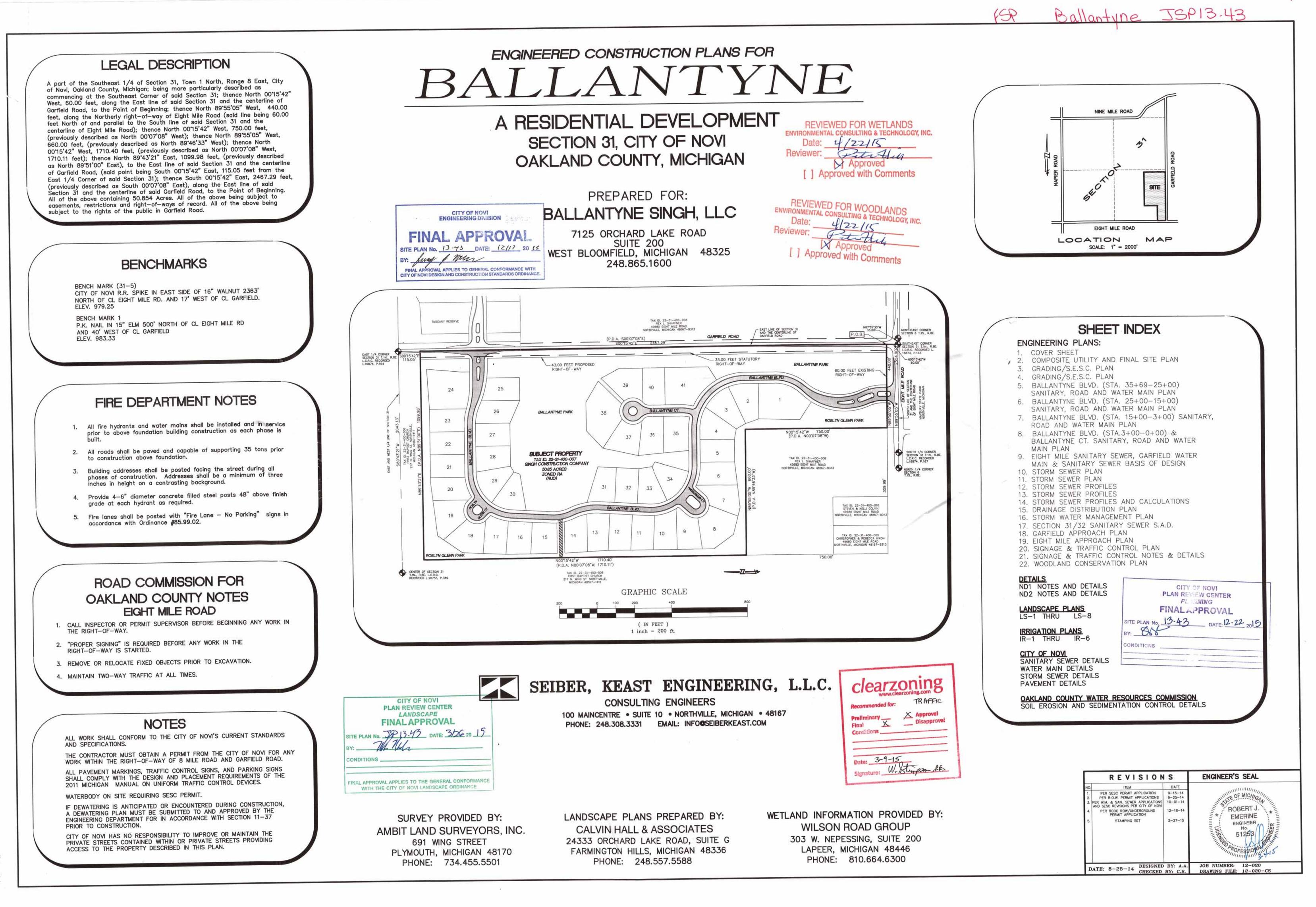
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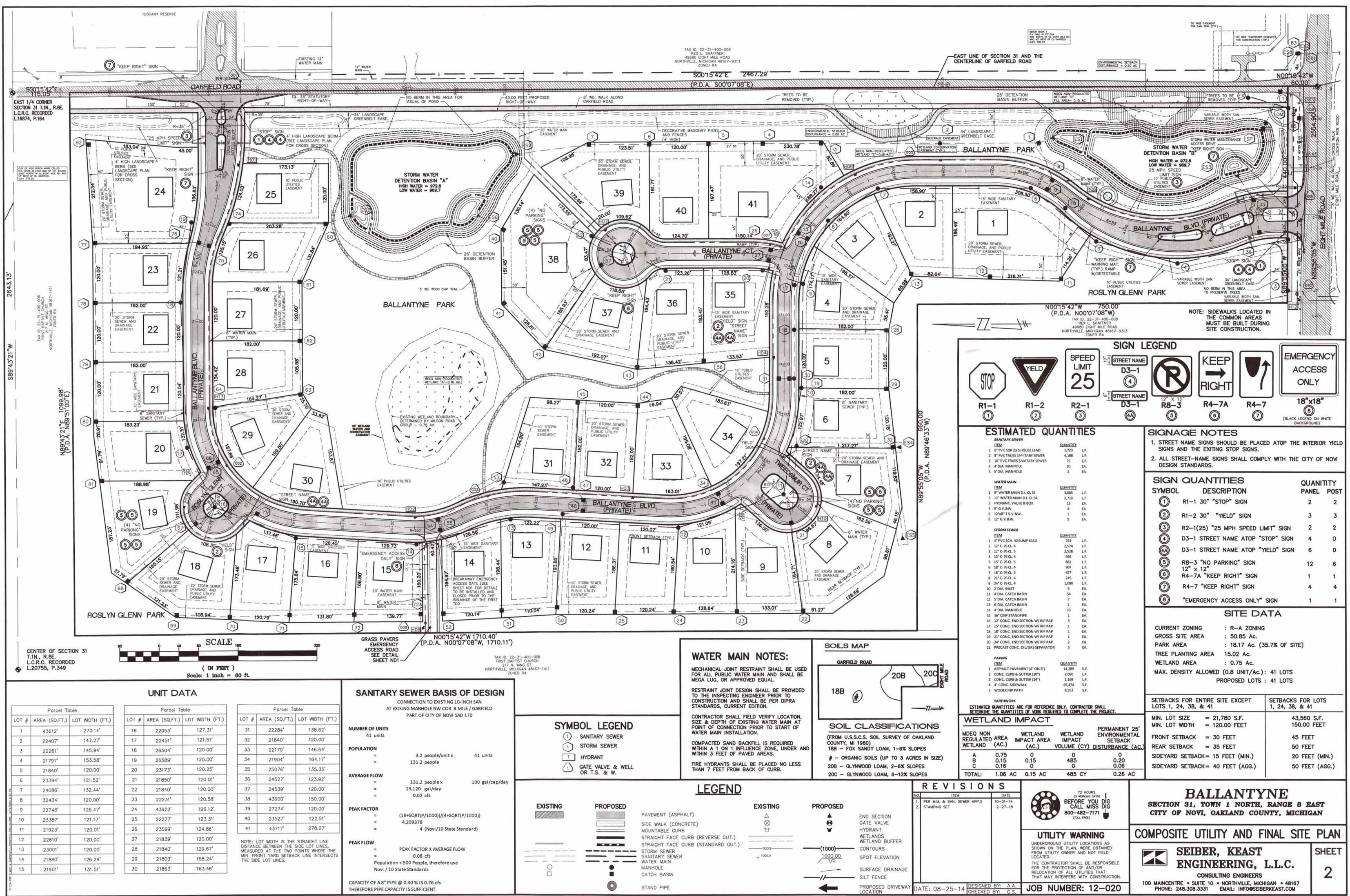
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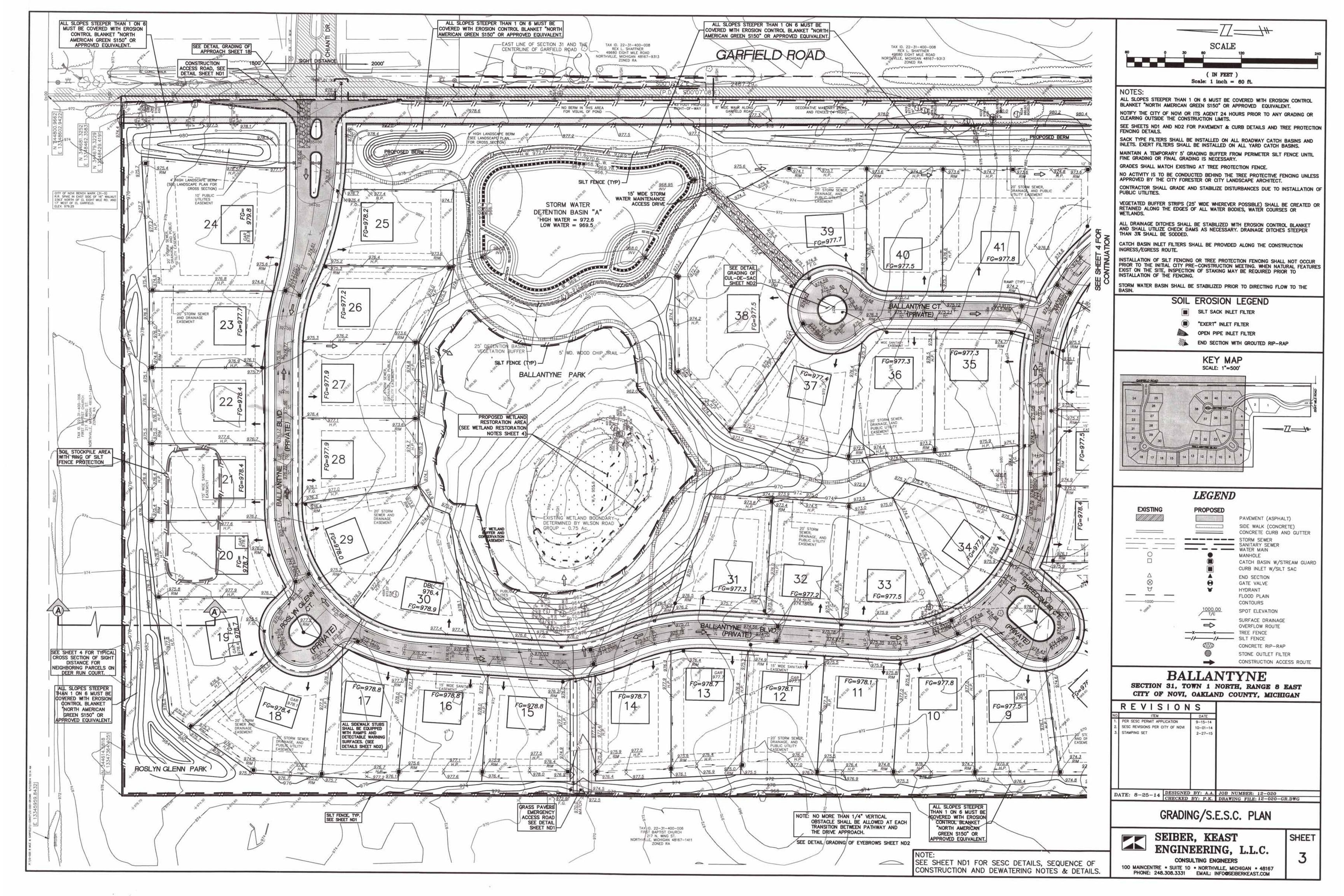












WETLAND RESTORATION NOTES:

WETLAND "A" - TOTAL AREA PROPOSED RESTORATION = 0.25 AC.

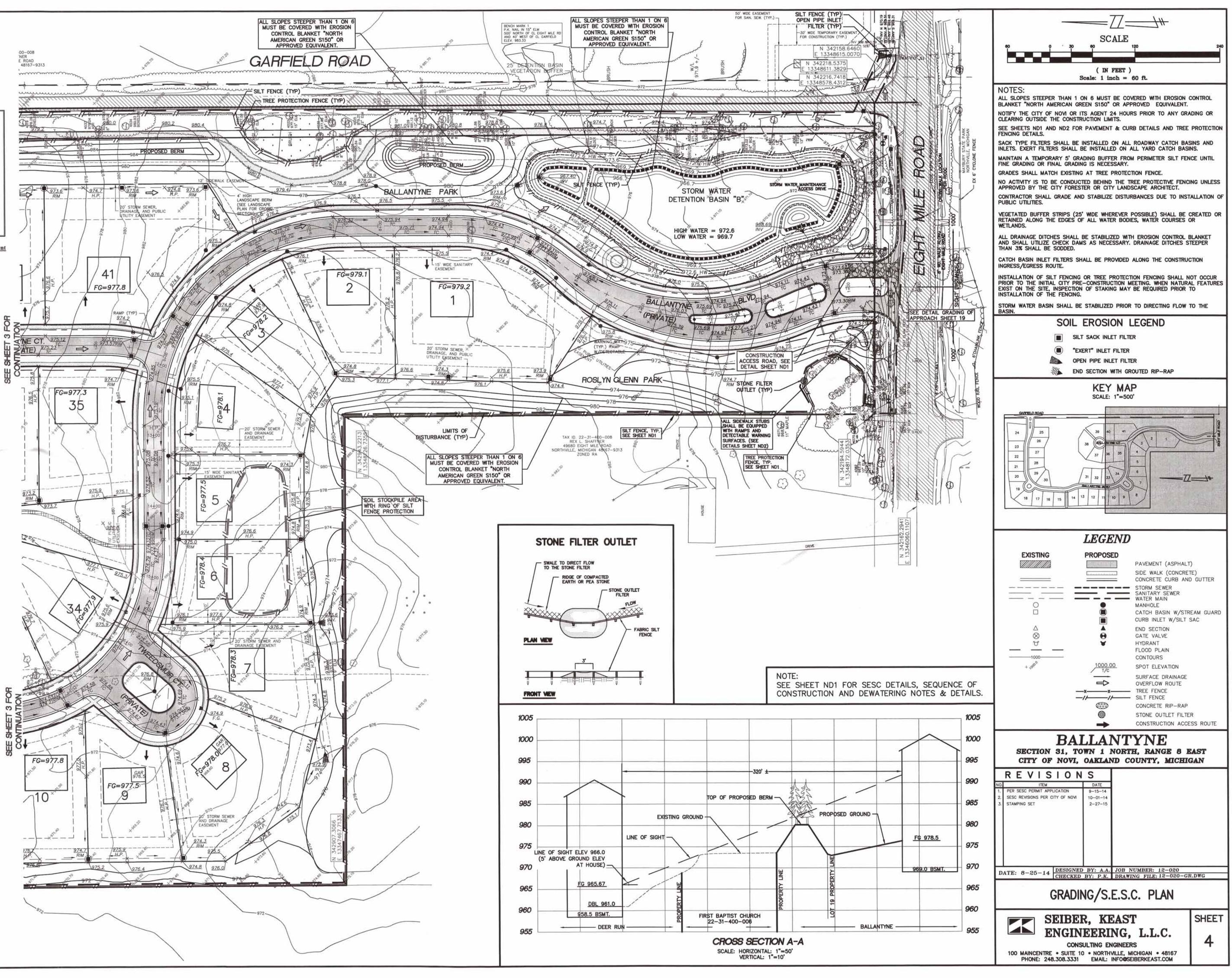
- **RESTORATION ACTIVITIES:** 1. UPPER TIER OF EXISTING WETLAND "A" (AS DELINIATED ON SHEET 3) TO BE EXCAVATED APPX. 10"-12" IN DEPTH, ALLOWS REMOVAL OF EXSTING INVASIVE SPECIES AND THEIR ROOT BASE.
- 2. PLACE CLEAN BLACK DIRT (TOPSOIL) WITHIN THE AREA OF THE EXCAVATION AND GRADED BACK TO EXISTING CREATING THE RESTORATION CELL.
- 3. SEED THE RESTORATION CELL WITH A WETLAND SEED MIX. (INCLUDES GRASSES, SEDGES AND FORBS - GENESIS NURSERIES, SEE WETLAND
- RESTORATION PLANT LIST) 4. PLANT NATIVE SHRUB SPECIES ALONG THE RESTORATION CELL'S ELEVATED SLOPED PERIMETERS. (SEE WETLAND RESTORATION PLANT LIST)
- 5. PLANT REPLACEMENT TREES ALONG PERIMETER OF THE EXISTING WETLAND ANDWITHIN THE PROPOSED RESTORATION CELL, PART OF THE DEVELOPMENT OVERALL TREE REPLACEMENT PLAN. (SEE WETLAND
- RESTORATION PLANT LIST AND LANDSCAPE PLANS)

Wetland Restoration Plant List - Ballantyne Development

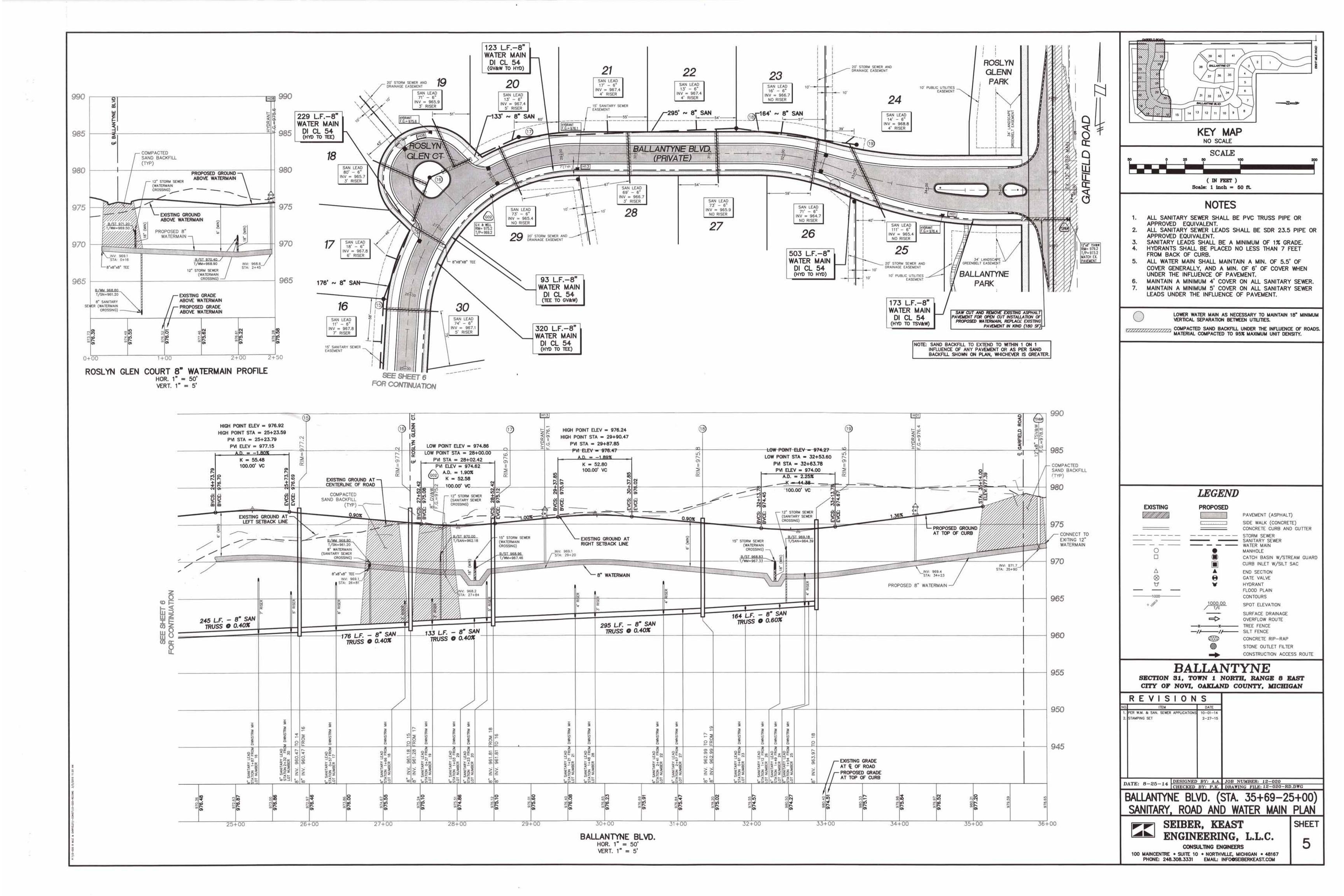
Lolium multiflorum

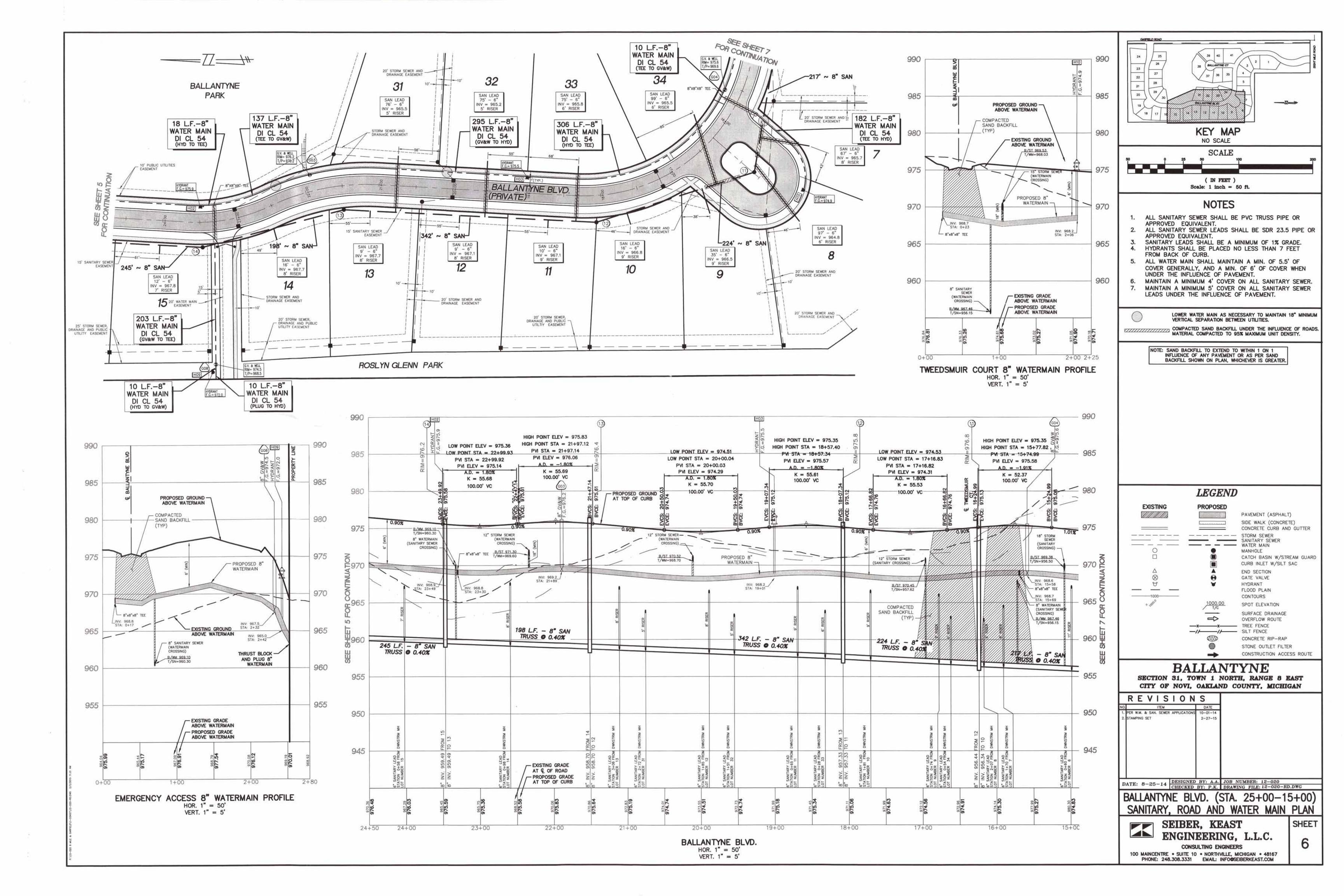
Common Name **Botanical Name**

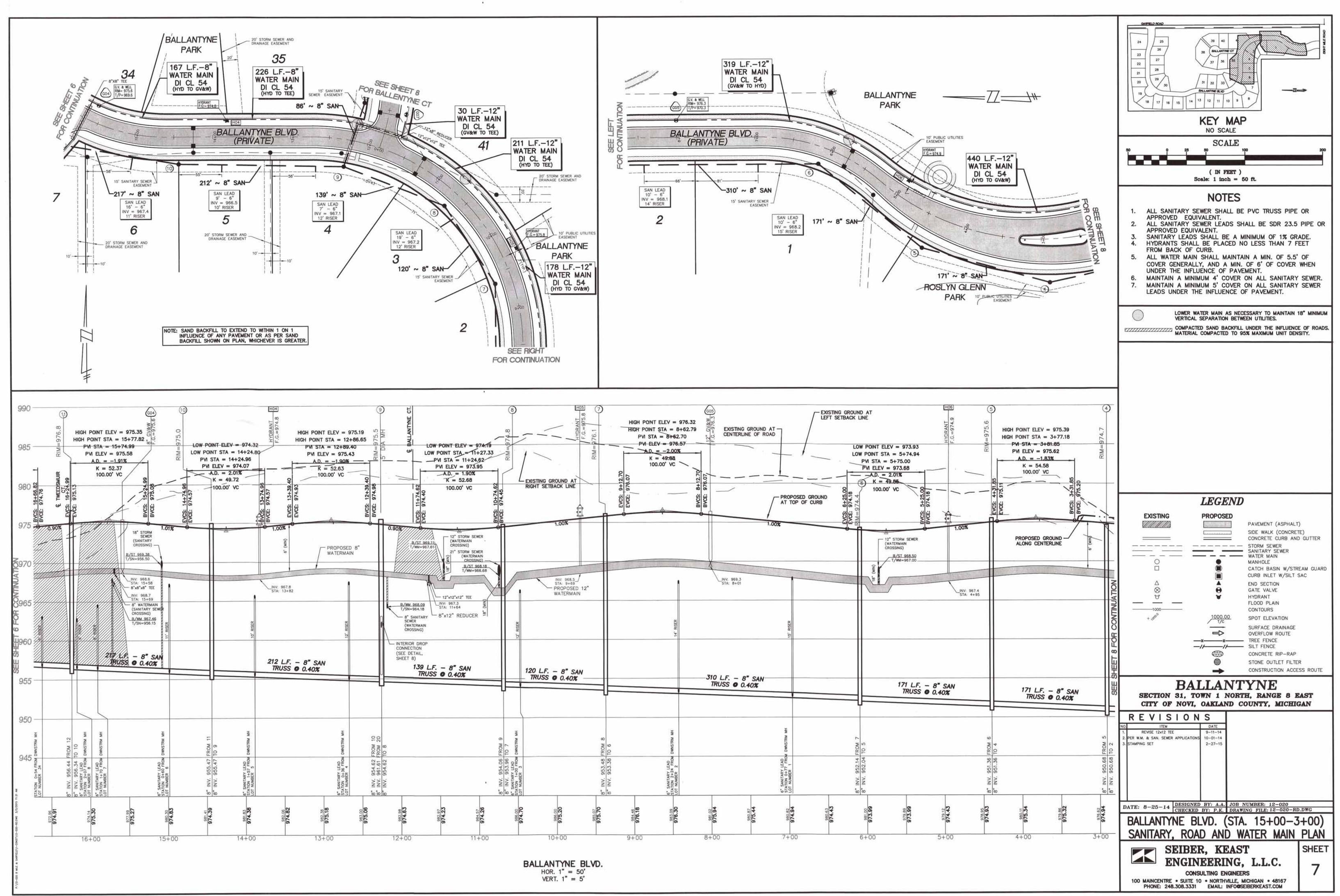
Common Name	Botanical Name
Permanent Grasses/Sedge	s:
Bristly Sedge	Carex comosa
Crested Oval Sedge	Carex cristatella
Bristly Cattail Sedge	Carex frankii
Brown Fox Sedge	Carex vulpinoidea
Great Spiked Rush	Eleocharis palustris
Virginia Wild Rye	Elymus virginicus
Fowl manna Grass	Glyceria striata
Rice Cut Grass	Leersia oryzoides
Dark Green Rush	Scirpus atrovirens
Wool Grass	Scirpus cypernus
Chairmaker's Rush	Scirpus pungens
Great Bullrush	Scirpus validus
Common Bur Reed	Sparganium eurycarpum
Forbs:	
Sweet Flag	Acorus calamus
Water Plantain	Alisma spp
Swamp Milkweed	Asclepias incarnate
Bristly Aster	Aster puniceus
Bidens	Bidens spp
Common Boneset	Eupatorium perfoliatum
Sneezeweed	Helenium autumnale
Blue Flag	Iris virgnica
Great Blue Lobelia	Lobelia siphilitica
Common Water Horehound	Lycopus americanus
Monkey Flower	Mimulus ringens
Ditch Stonecrop	Penthorum sedoides
Pinkweed	Polygonum spp
Wild Golden Glow	Rudbeckia laciniata
Common Arrowhead	Sagittaria latifolia
Wild Senna	Senna hebecarpa
Purple Meadow Rue	Thalictrum dasycarpum
Blue Vervain	Verbena hastate
Ironweed	Vernonia spp
Shrubs:	
Silky Dogwood	Cornus amomum Miller
Red-Osier Dogwood	Cornus solonifera Michaux
Trees:	
Silver Maple	Acer saccharinum
Red Maple	Acer rubrum
Temporary Cover:	
Common Oat	Avena sativa
	NT NA (019215)

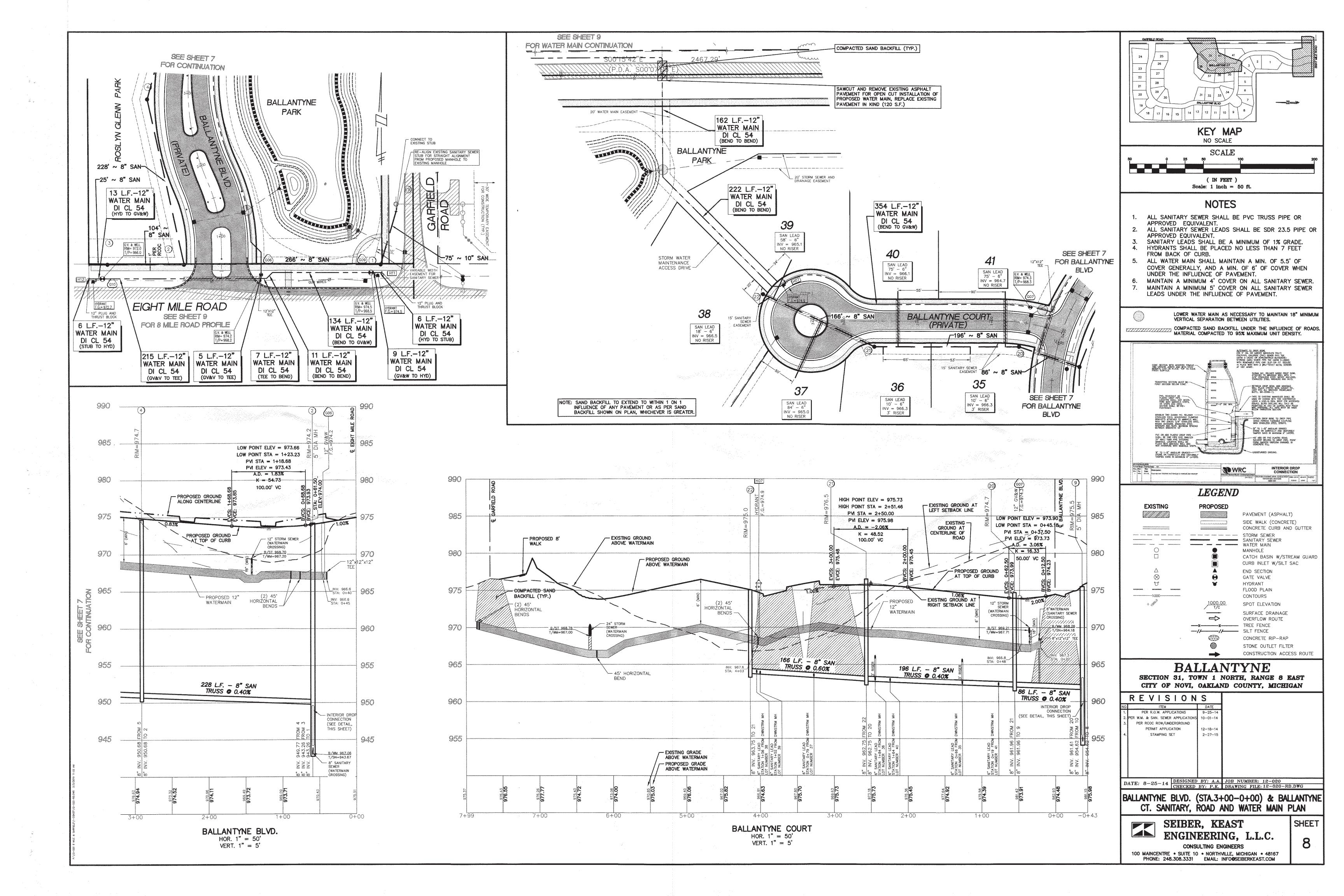


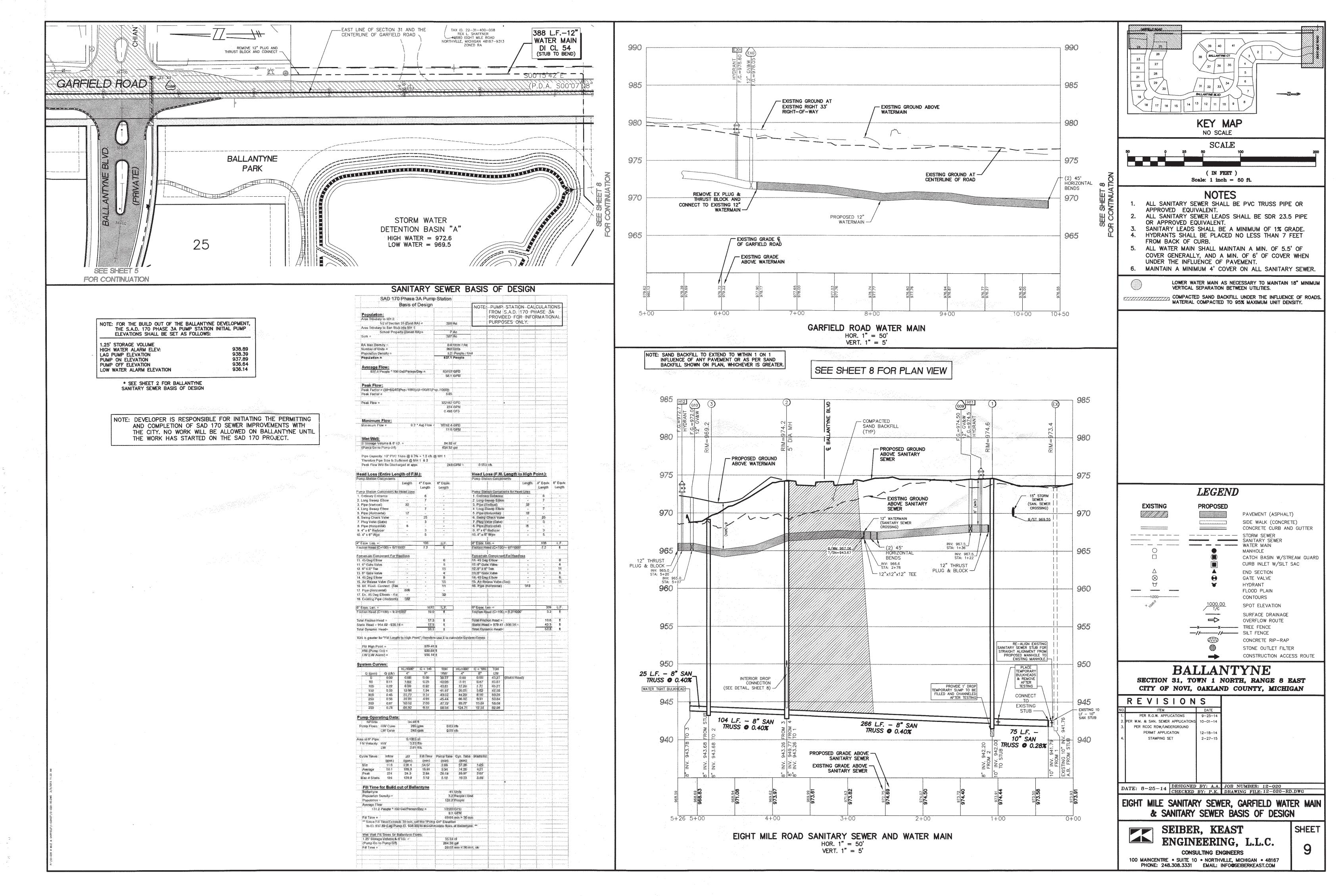
Annual Rye

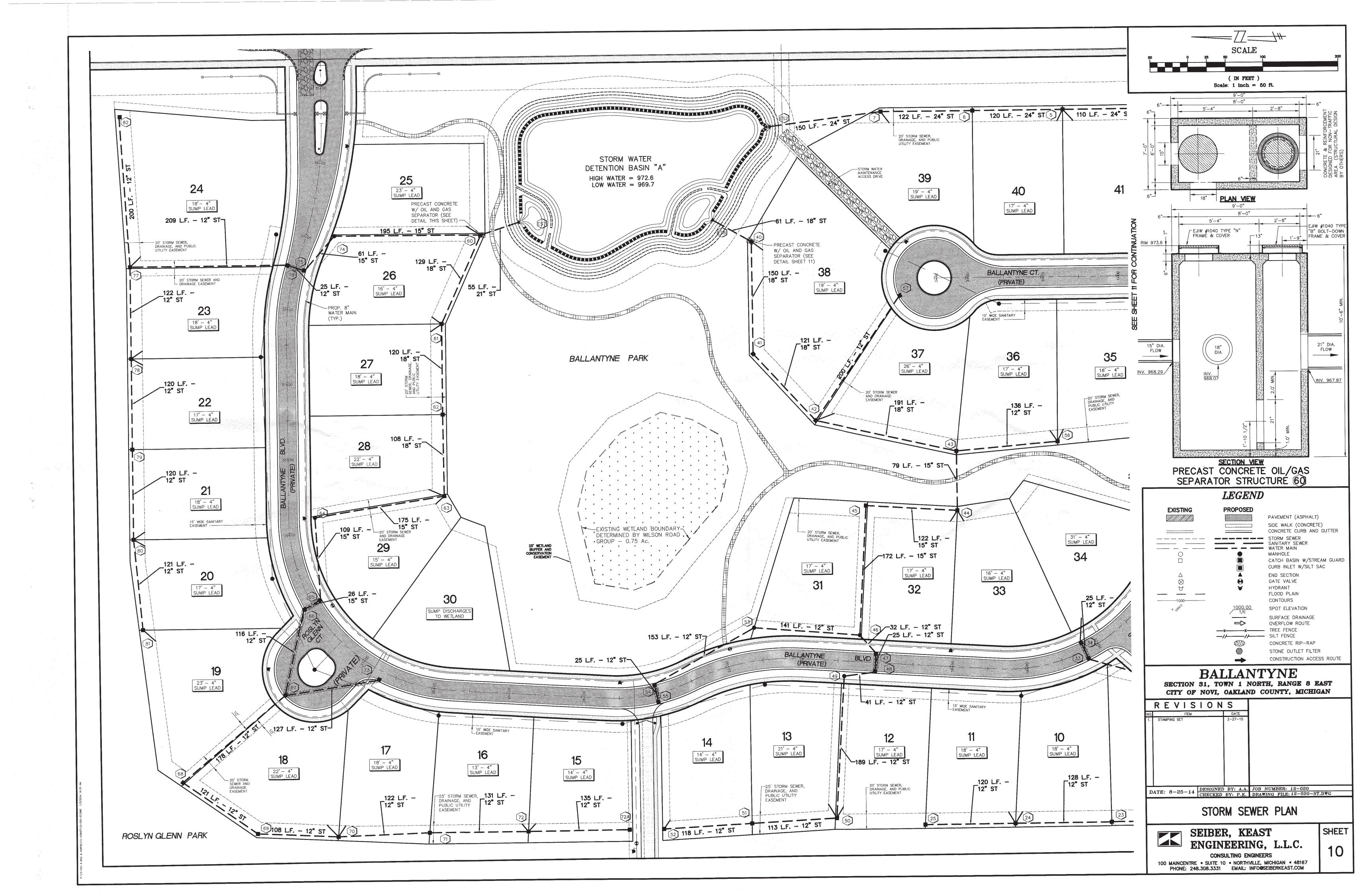


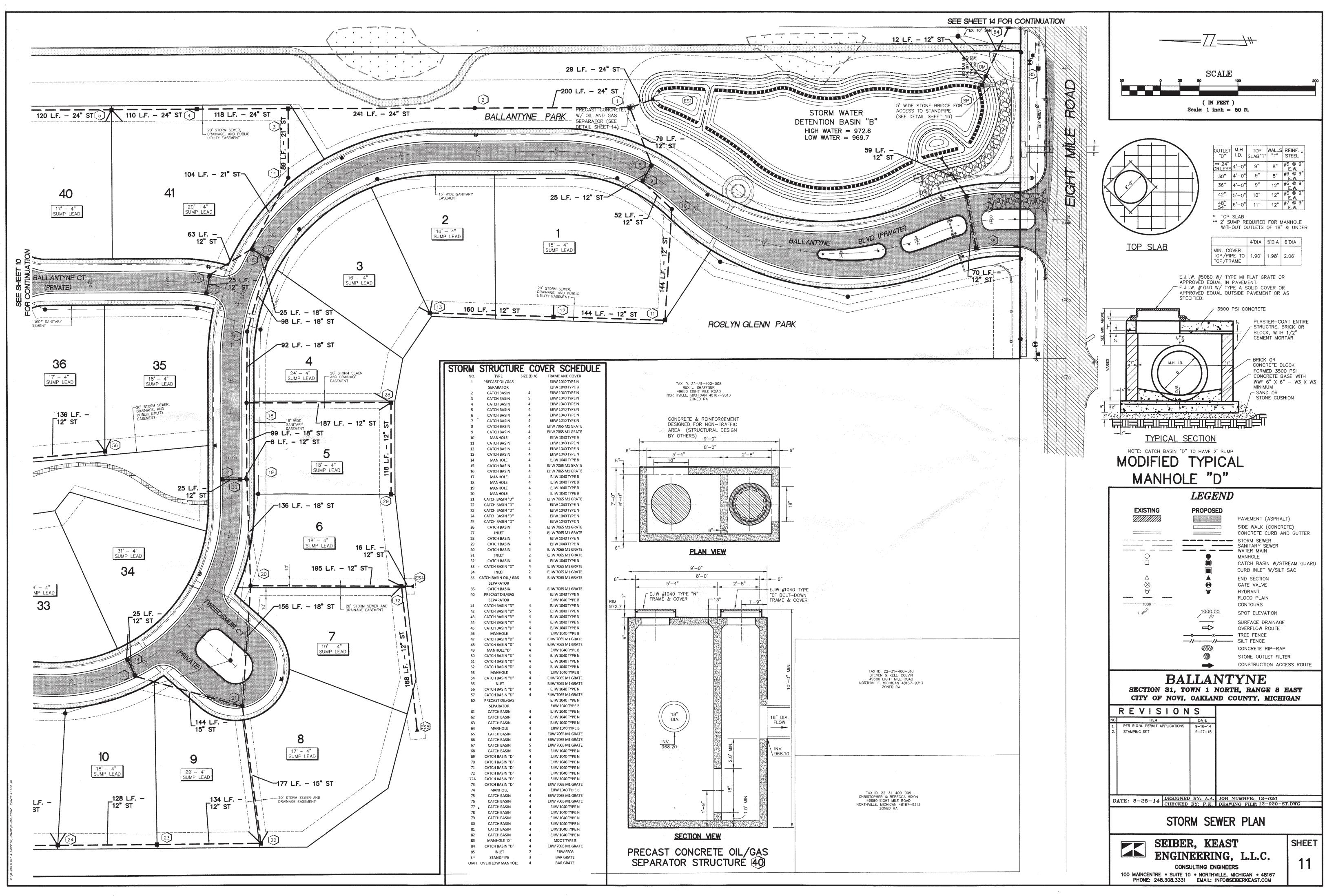




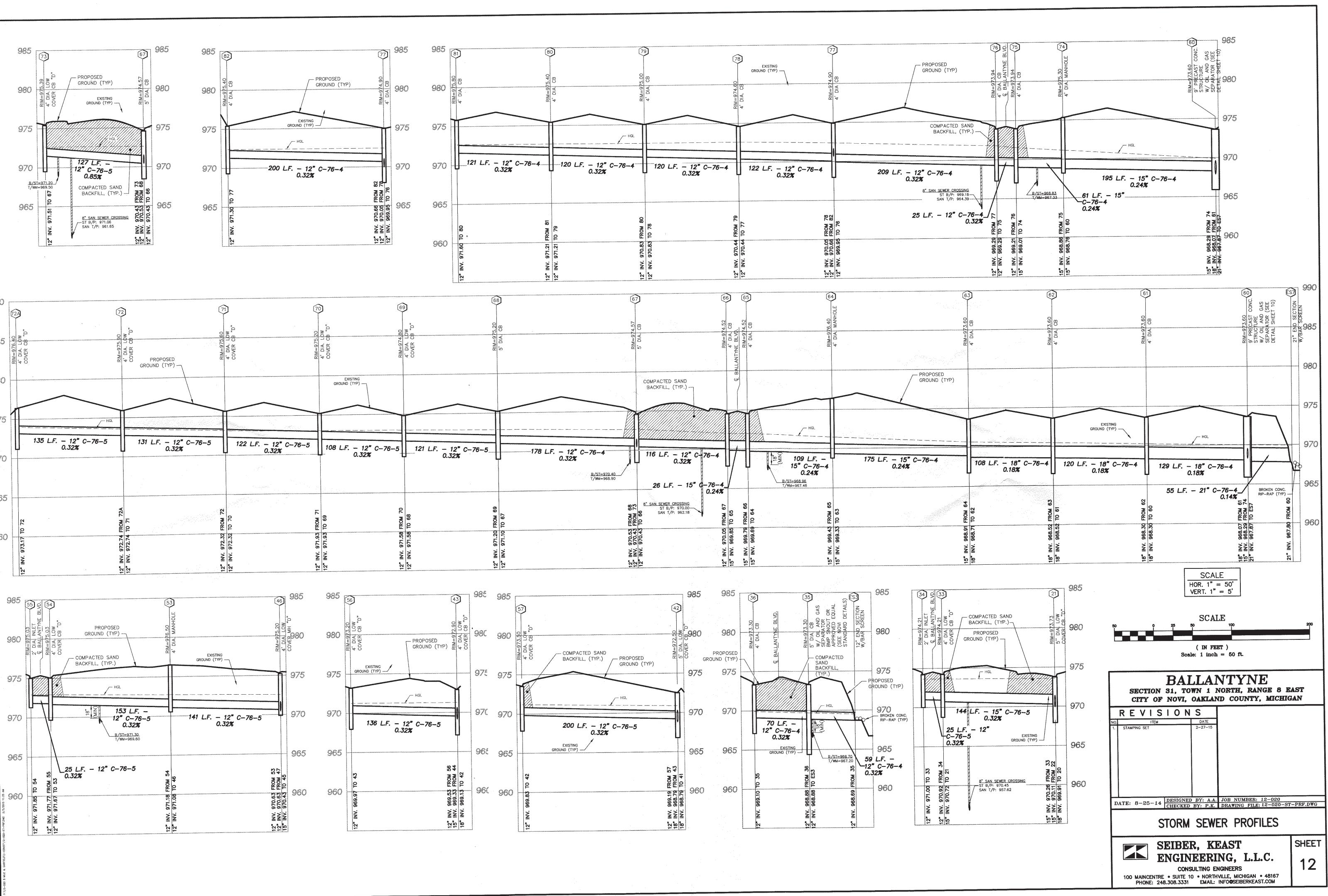


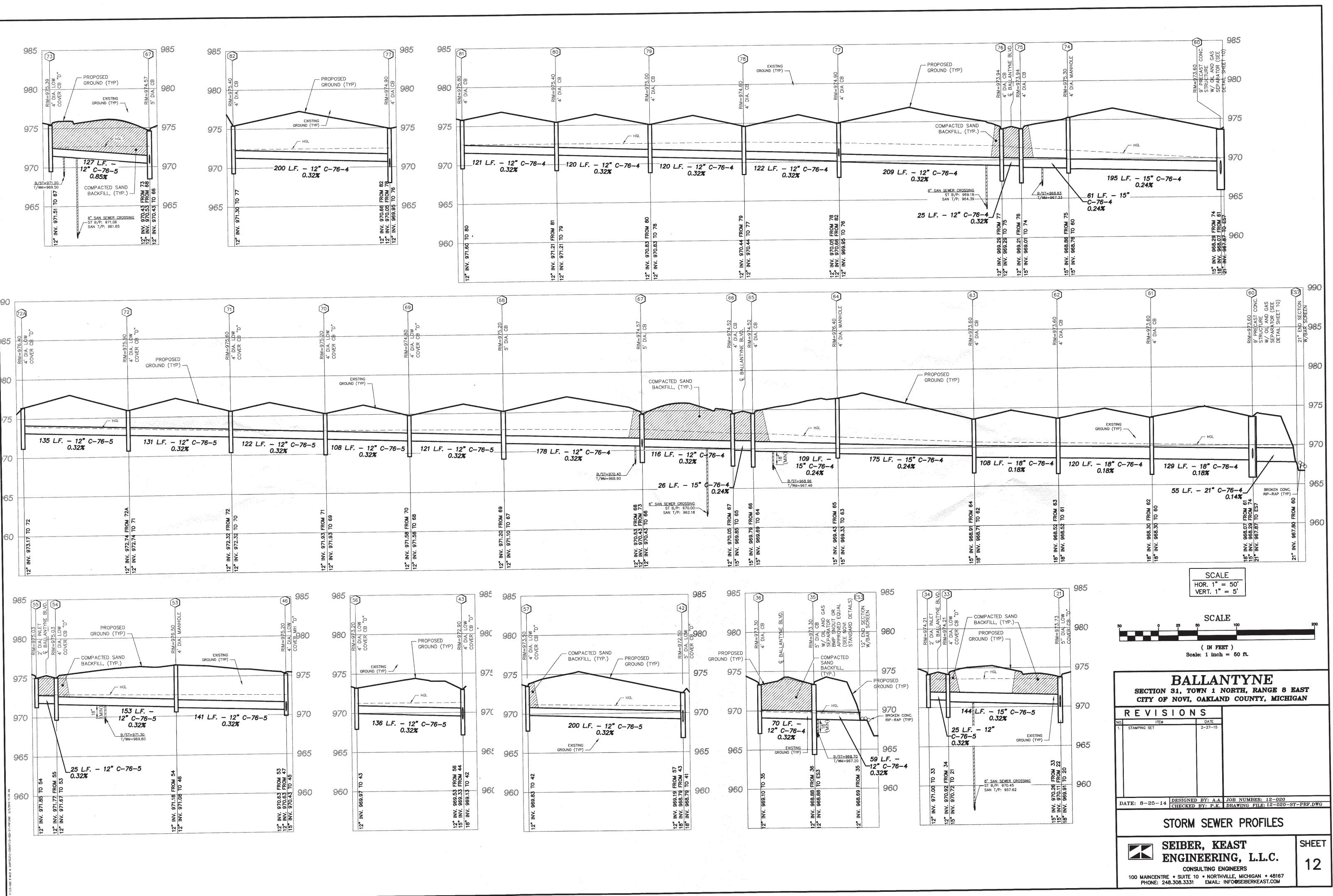




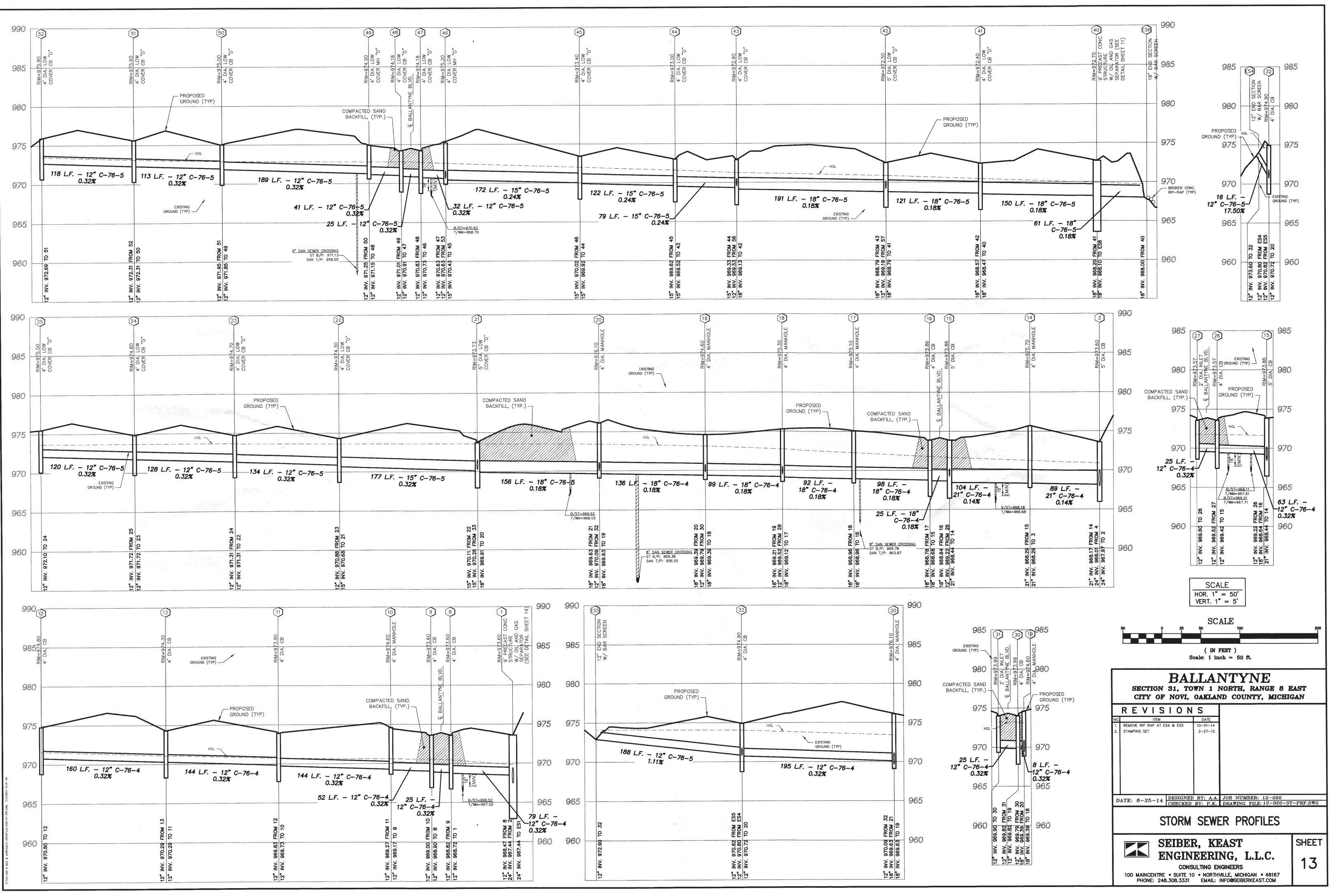


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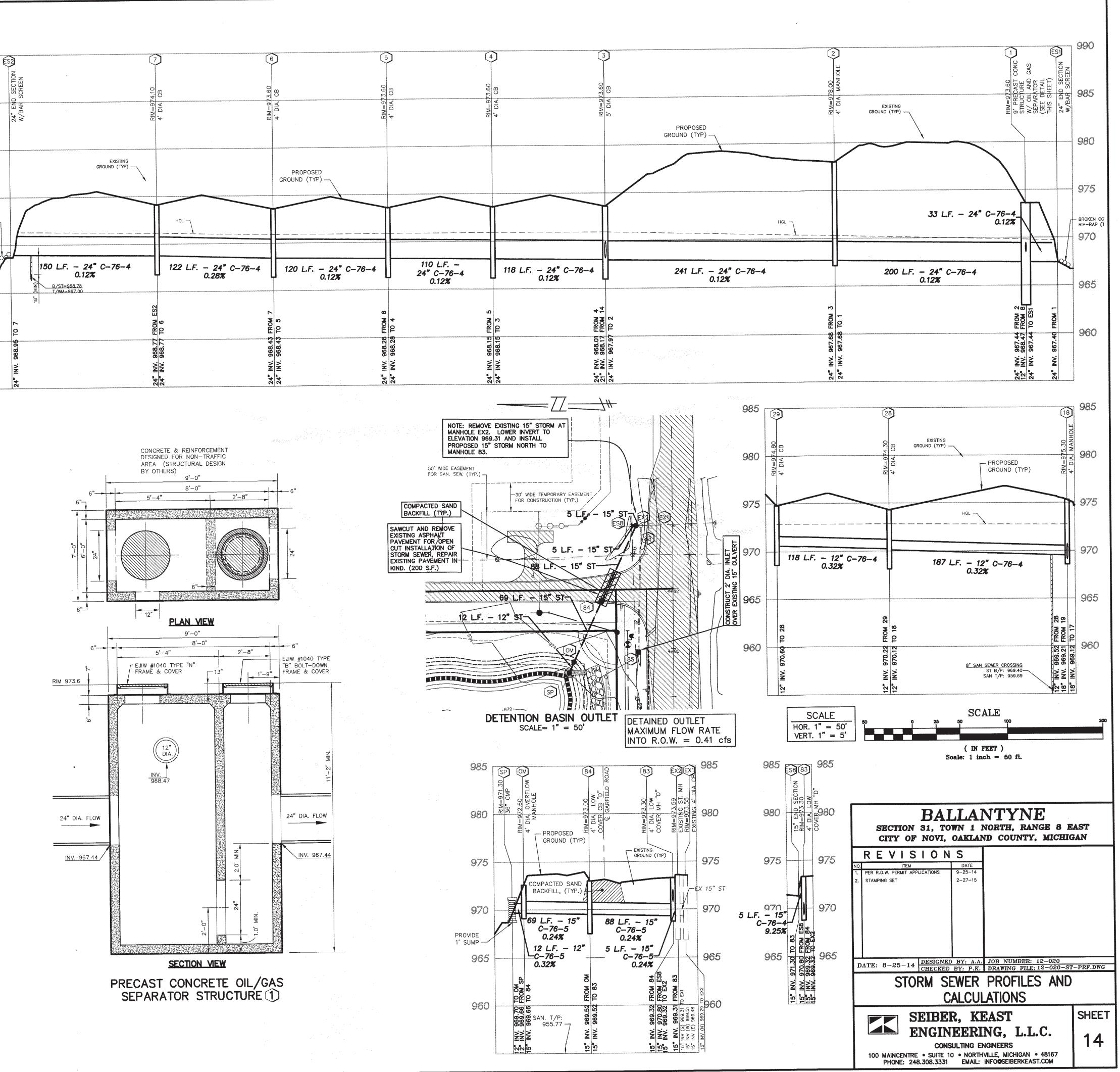


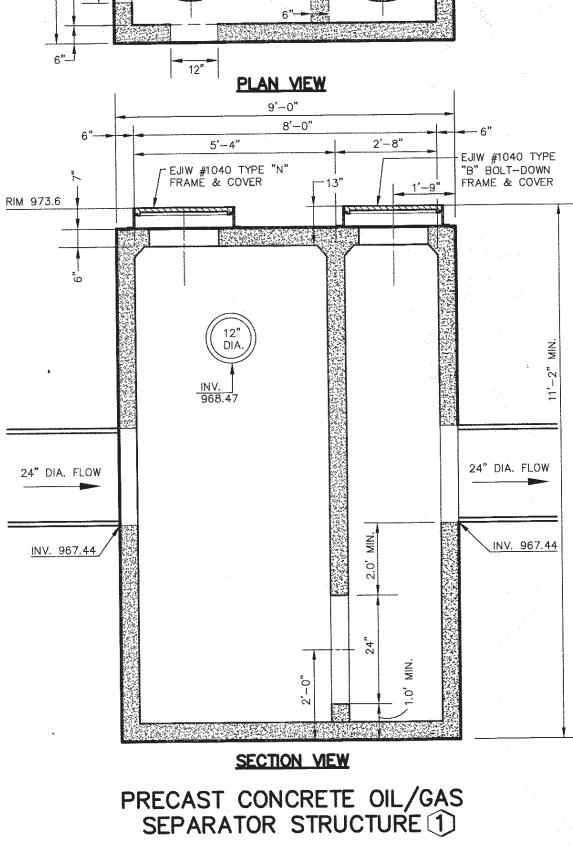


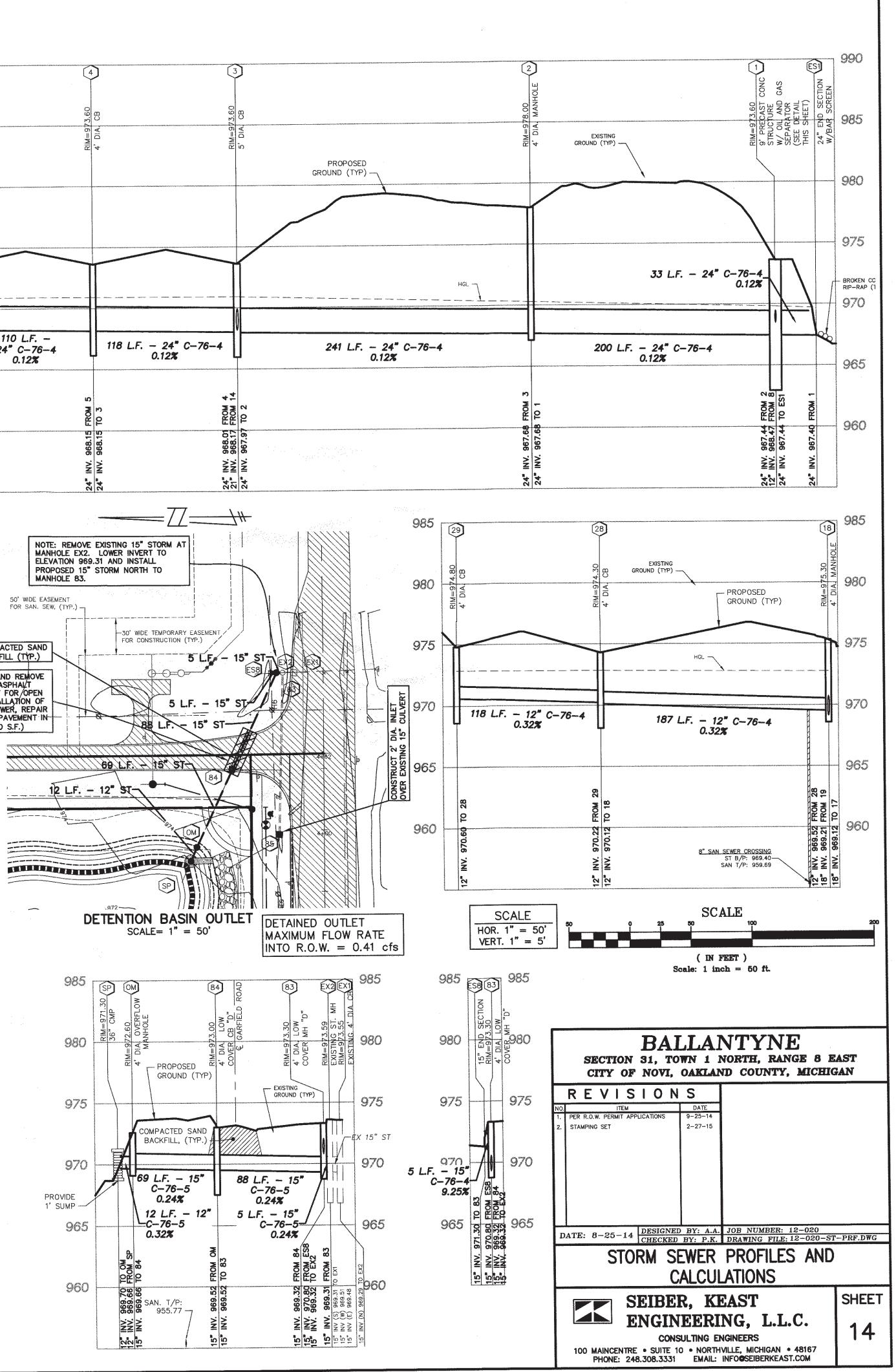
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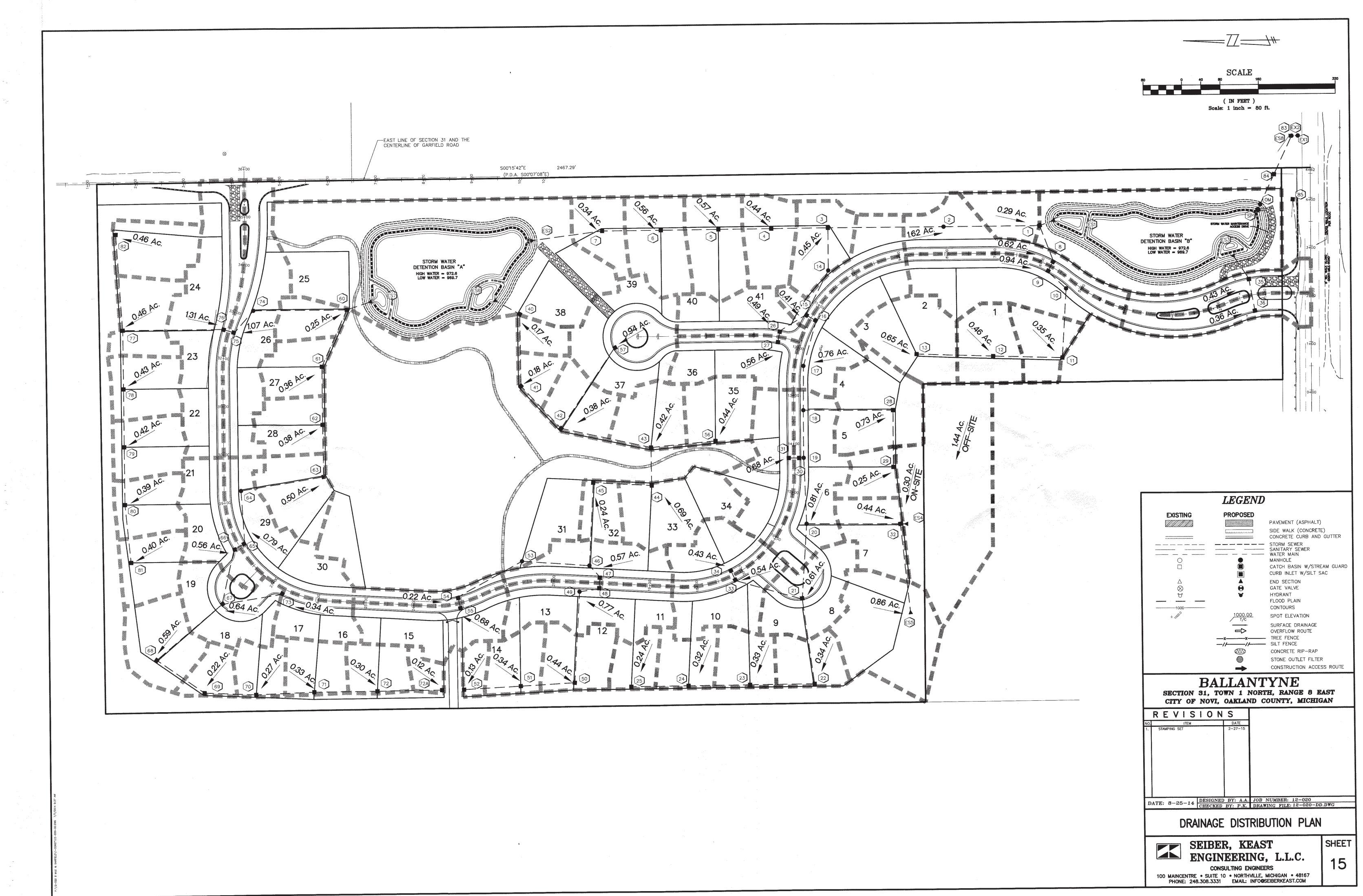


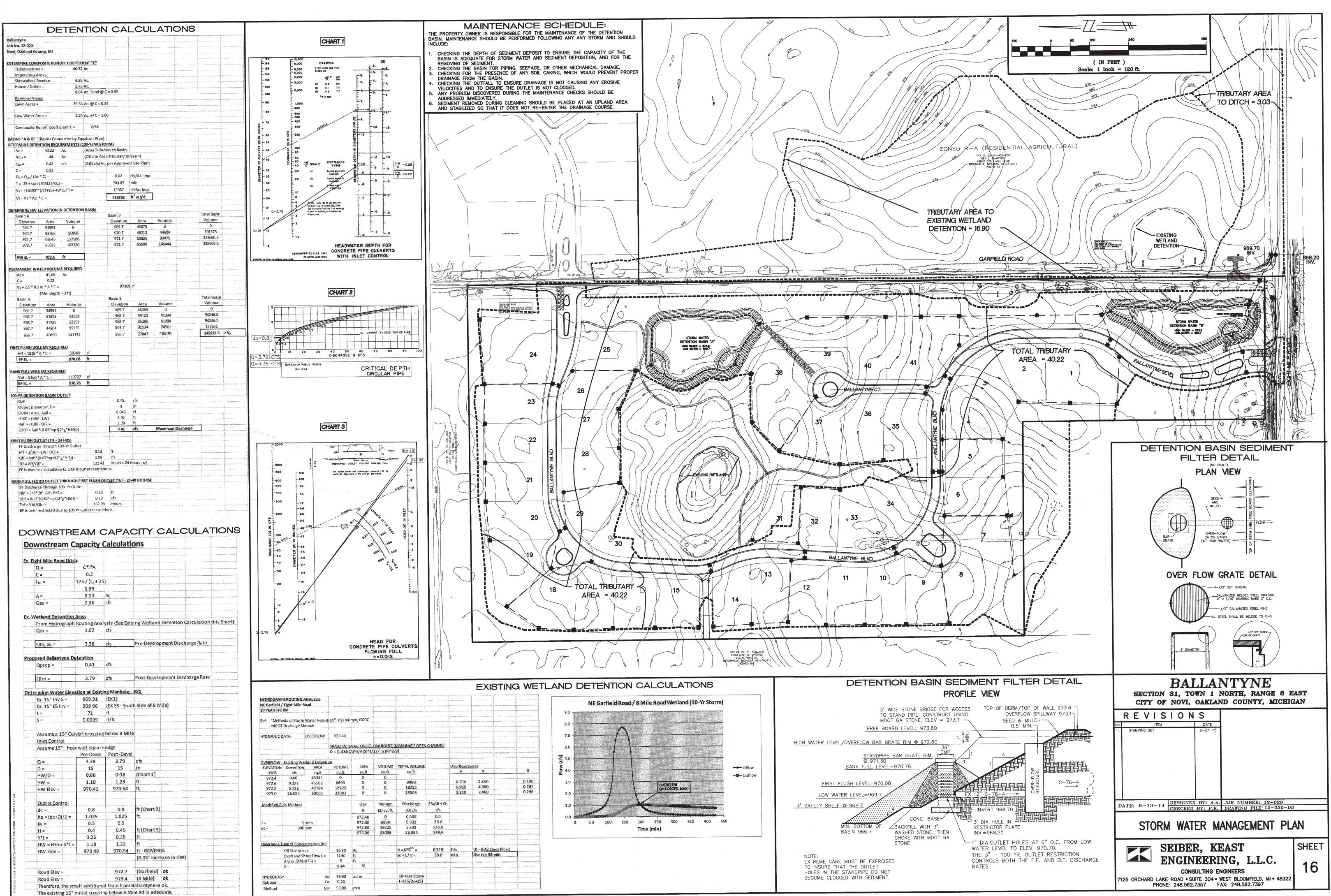
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74		60 72	0.00	0.00	0.00	0.03	2	10.00	3.89	0.10	12	0.64	4.20 2.57 2.57	195 135 131	0.77 0.88 0.85		972.74	973.	.60 96 .40 97	9.91 3.97		2.43 2.36				0.20	975 broken rip-rap
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+†	45 44 43 flow fro 42 flow fro 41 40	41	0.24 0.69 0.42 0.38 0.18 0.17	0.20 0.22 0.20 0.19 0.15 0.22	0,15 0.08 0.09 0.07 0.38 0.03	1.2 1.2 1.3 1.4 1.4 1.8	1 9 8 5 3 8	24.29 24.96 25.34 26.51 27.09 27.80	3.55 3.50 3.48 3.40 3.36 3.31	3.74 4.22 4.80 6.22 6.24 6.28	15 15 18 18 18 18 18	0.34 0.43 0.21 0.35 0.35 0.36	3.05 3.44 2.72 3.52 3.53 3.55	122 79 191 121 150 61	0.67 0.38 1.17 0.57 0.71 0.29	968.	52 969. 13 968. 79 968. 47 968.	33 97 79 97 57 97 20 97 00 97	73.00 72.90 72.50 72.40 72.70	971.61 971.27 970.87 970.45 969.92 969.70	0.24 0.18 0.18 0.18 0.18	1.39 1.63 1.63 1.95 2.78	3.48 3.77 3.71 3.93 4.60	2.23 2.27 2.21 2.43	2.32 2.21 2.33 3.00 0.00	-0.83 -0.64 -0.58 -0.47 -0.32	
	36 35	- 35 - ES3	0.45 0.43	0.36	0.1	6 O.:	16	20.00 20.45	3.89 3.85	0.63	12 12	0.03 0.12	2.57 2.57	70 59	0.45 0.38	969.	10 968	.88 9 .69 9	73.30 73.30	969.90 969.68 969.49	0.32 0.32	3.40 3.62	4.20 4.42	3.20	3.42	0.20 0.20	
		- 33 - 21		0.36 0.36	5 0.1	5 0.	15	20.00 20.16	3.89 3.87	0.60 1.35	12 15		2.57 2.98	25 144	0.16	970.	00 970 72 970 nstream D	.26 9	74.21	973.64 973.63 973.57	0.32 0.32	0.57 0.58	3.21 3.49		2.29 2.22	-1.64 -1.66	
	ES4	- 32		0.15	5 0.2	60.	26	20.00	3.89	1.02	12	0.08	18.98	16	0.01	. 973. Dow	.60 976 Instream E	.80 9 Data - 9	974.60 974.90	974.40 974.05	17.50	0.20	1.00	0.00	3.10	0.20	
	32	- 32 - 20 From ES4	0.86	0.20	D 0.1	70. 190.	17 26 53	20.00 20.66	3.89 3.83	0.67			4.77 2.57	188 195	0.66	972	.90 970 .72 970 /nstream l	0.82 9 0.09 9	973.90		1.11 0.32	-0.22 0.85	1.00 4,18	0.00	3.08	-0.22 -2.34	
-	31 30	- 30 - 19		0.3 0.3		.9 0.	.24 .54	20.00 20.16	3.89 3.87	0.95 2.08	12 12	0.34	2.57 2.65	25 8	0.10 0.09	5 969 5 969 Dow	1.90 96! 1.82 96! vristream l	9.82 9 9.79 9 Data - 9	973.99 973.99 974.60	973.18 973.16 973.13	0.32 0.32	0.81 0.83	4.09 4.17) 3.09 7 3.17	3.17 3.81		
-	29		0.73	0.1 0.2	9 0.0 2 0.1)5 0 L6 0	.05 .21	20.00 20.77	3.89 3.82	0.18 0.80	12 12		2.57 2.57	118 187	0.7 1.2	7 970 1 970 Dov).60 97).12 96 vnstream	0.22 9 9.52 9 Data - 9	974.80 974.30 975.30	972.83 972.82 972.73	0.32 0.32	1.97 1.48	4.20 4.18) 3.20 3 3.18) 3.08 3 4.78		
	27 26	- 15	0.56 0.49	0.3 0.3	i6 0. i6 0.	20 0 18 0	.20 .38	20.00 20.16	3.89 3.87	0.78 1,46	12 12	0.05	2. 57 2.57	25 63	0.1 0.4	6 969 1 969 Dov	9.60 96 3.42 96 wnstream	9.52 9.22 Data -	973.57 973.57 973.86	971.77 971.76 971.65	0.32 0.32	1.80 1.81	3.97 4.15	7 2.97 5 3.15	7 3.0		
	13 12 11 10 9	- 12 - 13 - 10 - 9 - 8 - 1	2 0.65 1 0.46 0 0.35 0.00 0.94	0.2 0.2 0.1 0.0 0.3	22 0. 20 0. 15 0. 30 0. 38 0.	14 0 09 0 05 0 00 0 36 0).14).24).29).29).64).88	20.00 21.04 21.97 22.91 23.25 23.39	3.89 3.80 3.73 3.65 3.63 3.62	0.56 0.89 1.07 1.05 2.34	12 12 12 12 12	2 0.02 2 0.05 2 0.09 2 0.09 2 0.43	2.57 2.57 2.57 2.57 2.98	160 144 144 52 25) 1.0 0.9 0.3 0.3	4 970 4 970 4 960 4 960 4 960 4 960	0.80 97 0.29 96 9.73 96 9.17 96 8.90 96	0.29 9.83 9.27 9.00 8.82 8.47	974.80 974.30 973.90 974.60 973.60 973.60		0.32 0.32 0.32 0.32 0.32 0.32	3.20 3.21 3.16 3.99 3.04	4.00 4.01 4.1 5.4	0 3.0 1 3.0 7 3.1 3 4.4 0 3.7	1 3.0 7 4.3 3 3.6 0 3.7	7 0.20 3 -0.01 0 -0.44	
	24 23 22	- 2 - 2 - 2	2 0.33 1 0.34	2 0.2 3 0.2 1 0.2	22 0. 22 0. 22 0	07 (07 (07 ().12).19).27	20.00 20.78 21.61 22.48	3.89 3.82 3.75 3.69	0.19 0.45 0.72 0.98		2 0.02 2 0.04	2.57	128 134	3 0.8 4 0.8	33 97. 37 97.	1.31 9.	1.31 0.88	975.50 974.80 974.70 974.30	973.69 973.69 973.66 973.61	0.32 0.32 0.32 0.32	1.81 1.11 1.04 0.69	3.0 3.3	5 2.5	8 2.3 9 2.4	9 -0.97 2 -1.36 7 -1.68	
	+ flow 20 + flow 19 + flow	- 2 from 33 - 1 from 32 - 1 from 30 - 1	9 0.00 8 0.00) 0.() 0.(0 00 00 00 00 00	35 (00 (53 : .00 : .54 :	0.52 0.87 0.87 1.39 1.39 1.93 1.93	23.47 24.50 25.32	3.61 3.54 3.48	4.92	2 12	8 0.22	2.78	130	5 0.8	31 95	9.63 91 19.39 91	59.39 59.21	973.73 976.10 974.60	973.57 973.43 973.13	0.18 0.18 0.18	2.67 1.47	6.4 5.2	17 4.9 21 3.7	17 3.7 11 4.5	1 -2.30 9 -2.25	
	+ flow 17 16 15 + flow 14	r from 28 - 1 - 1 - 1 y from 26 - 3	6 0.00 5 0.76 4 0.43 3 0.00	0 0. 6 0. 1 0. 0 0.	00 0 36 0 36 0 36 0 00 0	.21 . .00 . .27 . .15 . .38 . .00	2.14 2.14 2.41 2.56 2.93 2.93	25.75 26.12 26.52 26.61 27.02	3.45 3.42 3.40 3.39 3.36	7.31 8.11 9.9! 9.8	L 1: 3 1: 5 2 7 2	8 0.44 8 0.6: 1 0.3! 1 0.3!	3 4.14 1 4.63 9 4.14 9 4.10	98 25 10 10 85	3 0.1 5 0.1 4 0.4 9 0.1	39 96 09 96 42 96 36 96 Do	8.96 9 8.68 9 8.44 9 8.29 9 wwnstream	58.78 58.64 58.29 58.17 0 Data -		972.73 972.28 971.80 971.65 971.24 970.90	0.18 0.14 0.14	2.82 2.06 2.21 4.46	6.1 5 5.1 5 5.4 5 7.4	44 4.6 18 3.6 42 3.€ 41 5.€	64 3.5 68 3.7 57 5.6 66 3.6	8 -1.82 72 -1.62 76 -1.47 78 -1.20	
	ES2 7 6		7 0.0 6 0.3 5 0.5	0 0. 4 0. 6 0.	.00 0 .19 0 .20 0	0.00 0.06 0.11 0.11	0.00 0.06 0.18 0.28	0.00 20.00 20.53 21.34	7.00 3.89 3.84 3.78	0.0 0.2 0.6 1.0	D 2 5 2 8 2 8 2	4 0.0 4 0.0 4 0.0 4 0.0	0 2.49 0 3.83 0 2.49 0 2.49) 15 1 12) 12) 12	0 1. 2 0. 0 0.	00 96 53 96 80 96 73 96	58.95 9 58.77 9 58.43 9 58.28 9	68.77 68.43 68.28 68.15	970.95 974.10 973.60 973.60 973.60	970.91 970.91 970.91 970.90 970.90 970.90	0.12 0.28 0.12 0.12	0.04 3.19 2.69 2.70	4 2.0 9 5.3 9 5.3 9 5.3	00 0.6 33 3.3 17 3.3 32 3.3	00 3.3 33 3.3 17 3.3 32 3.4	L7 -0.14 32 -0.48 15 -0.62	
	4 3 + flow 2	- - v from 14 - - E	3 0.4 2 0.4 1 0.0	4 0. 5 0. 0 0.	.15 (.00 (0.07 2,93 0,00	0.37 0.44 3.37 3.37 3.42	22.07 27.39 28.51	3.34	11.2	27 2 34 2	24 0.0 24 0.2 24 0.2 24 0.3	5 3.5! 4 3.5:	9 24 1 26	1 1. 0 0.	12 9(95 9(67.97 9 67.68 9	68.01 67.68 67.44 67.40	973.60 973.60 978.00 973.60	970.90 970.90 970.30 969.82	0.12 0.12	2.76 7.70) 5.0) 10.	63 3.(63 8.3 32 4.	32 -0.93 16 -0.62	

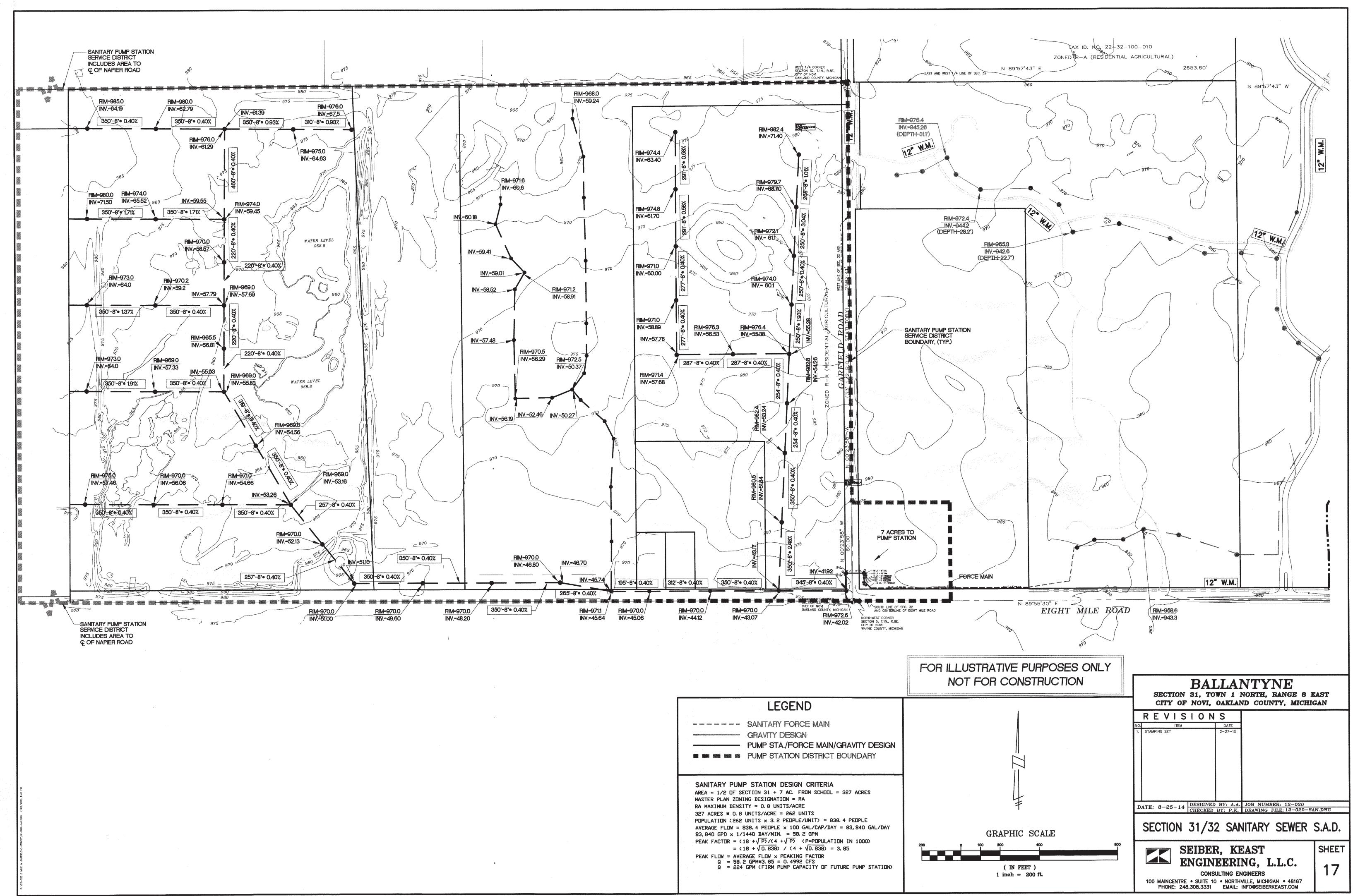




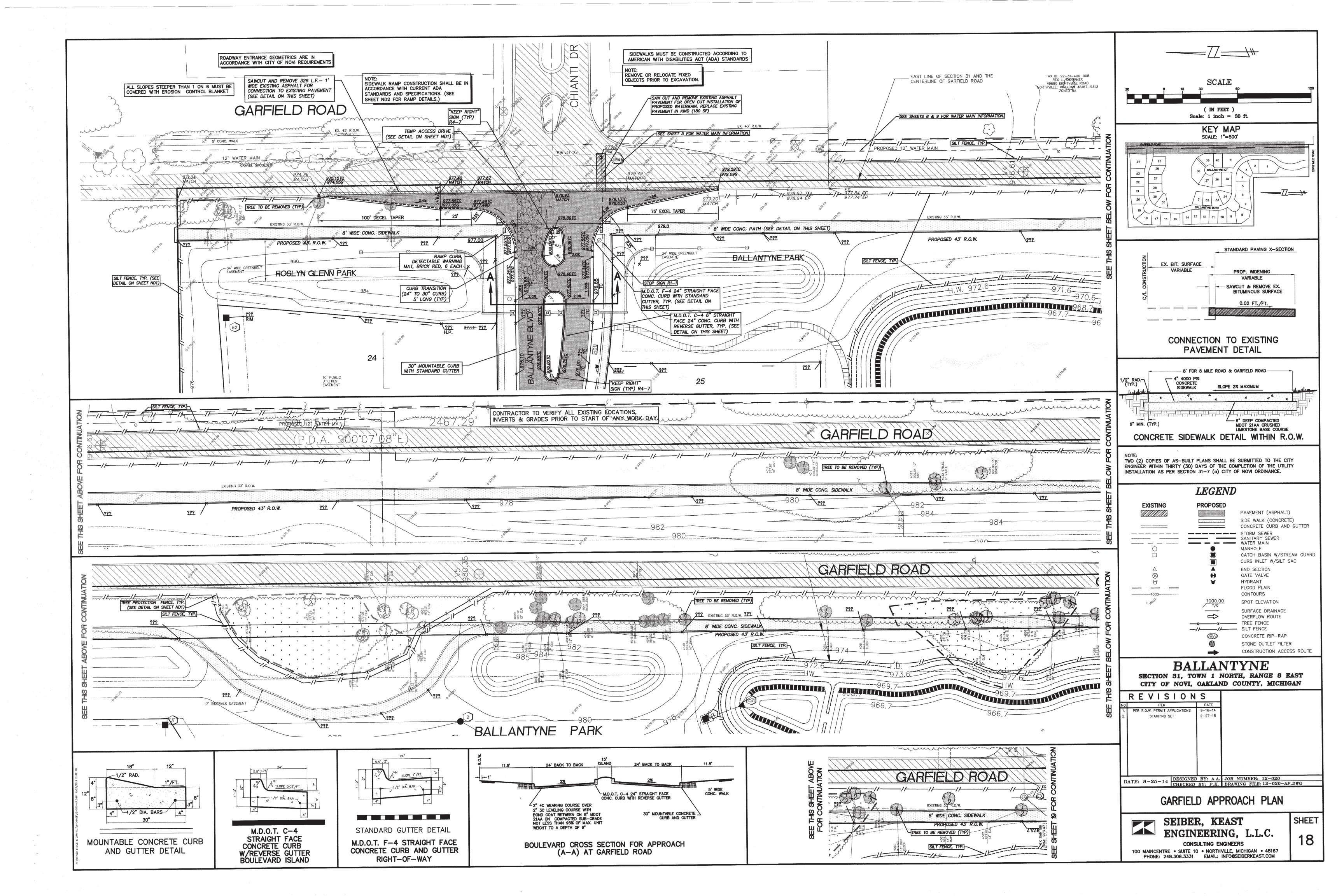


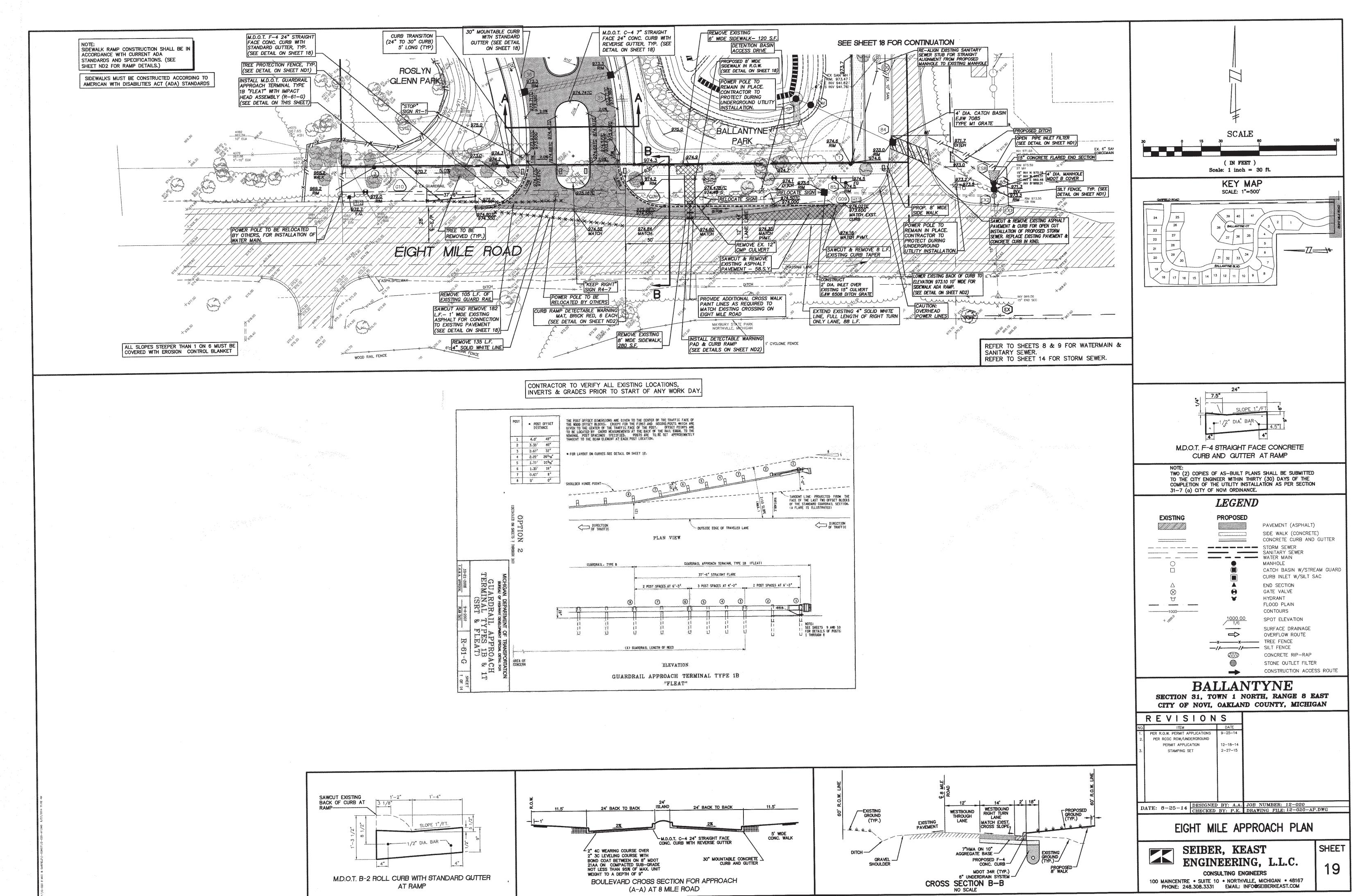


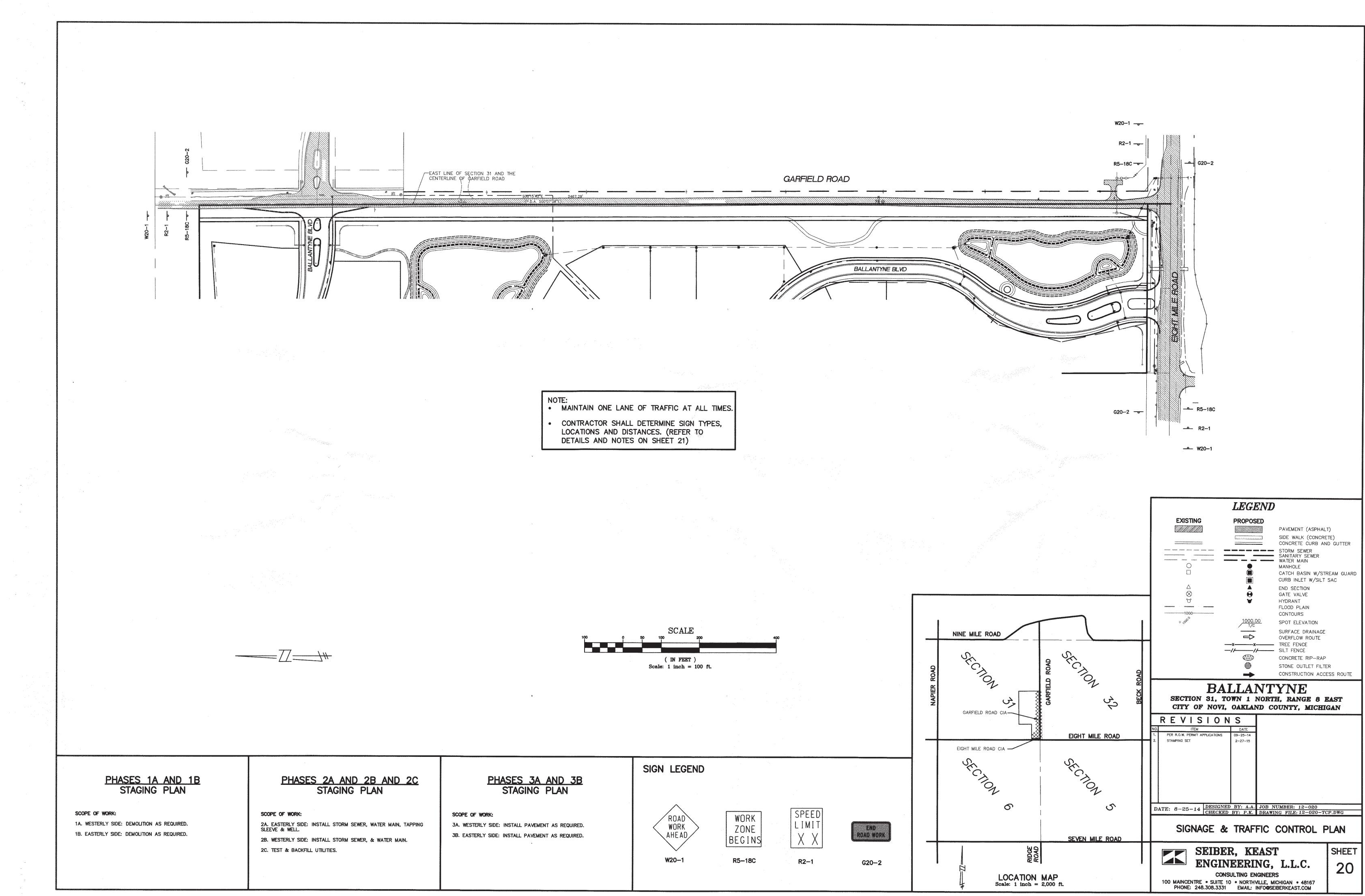


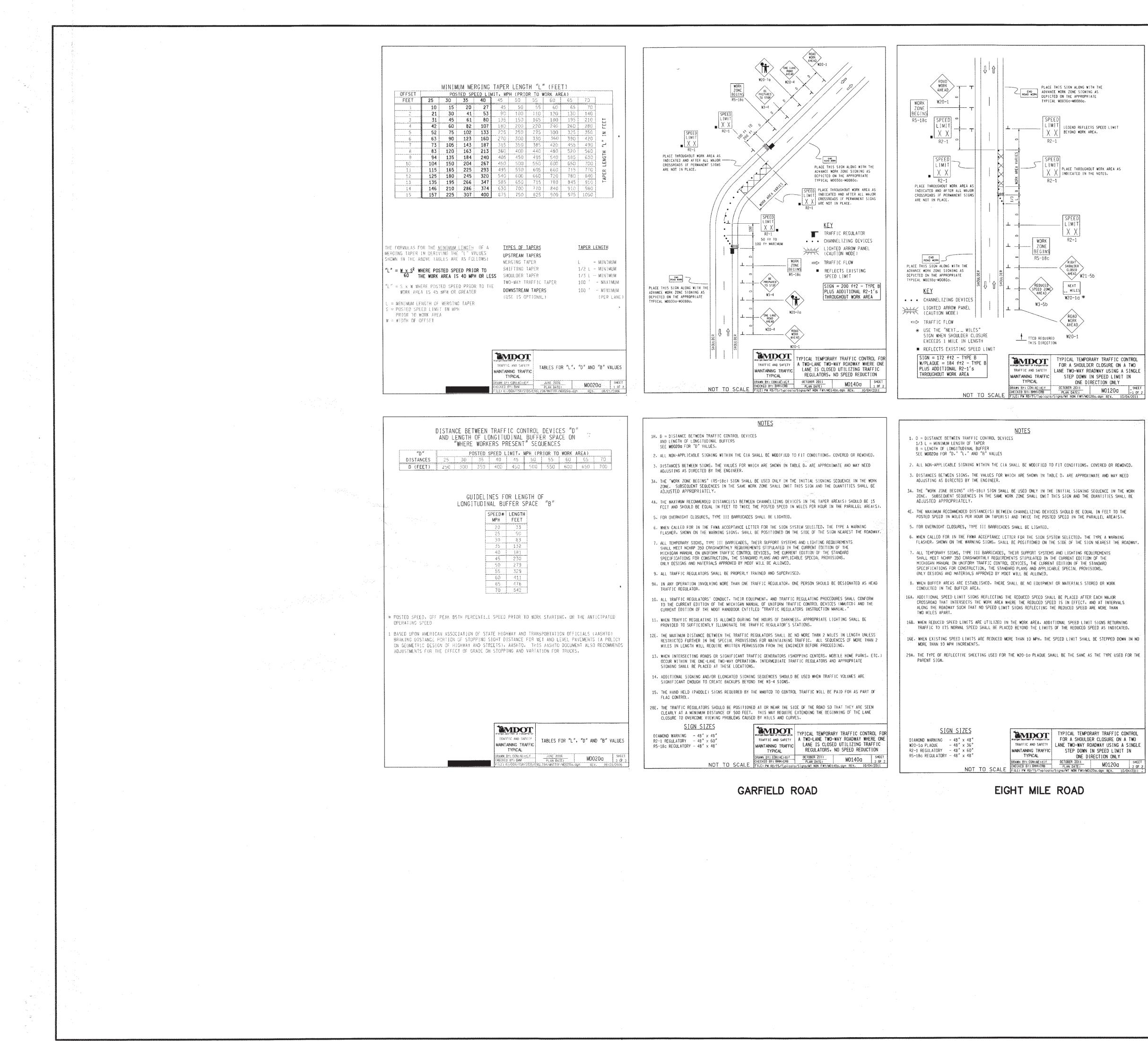


	LEGEND
	SANITARY FORCE MAIN GRAVITY DESIGN PUMP STA./FORCE MAIN/GRAVITY DESIGN PUMP STATION DISTRICT BOUNDARY
AREA = 1/2 DF SE MASTER PLAN ZONI	P STATION DESIGN CRITERIA CTILIN 31 + 7 AC. FRUM SCHUUL = 327 ACRES ING DESIGNATION = RA ITY = 0.8 UNITS/ACRE









SPECIAL PROVISION FOR MAINTAINING TRAFFIC NARRATIVE

A. DESCRIPTION. TRAFFIC SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE PROJECT IN ACCORDANCE TO SECTIONS 104.11. AND 812 OF THE MDOT 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING ANY SUPPLEMENTAL SPECIFICATIONS, AND AS

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND CITY OF NOVI A MINIMUM OF 72 BUSINESS HOURS PRIOR TO THE IMPLEMENTATION OF ANY DETOURS, ROAD CLOSURES, OR LANE CLOSURES OR MAJOR TRAFFIC SHIFTS.

THE CONTRACTOR SHALL COORDINATE HIS OPERATIONS WITH CONTRACTORS PERFORMING WORK ON OTHER PROJECTS WITHIN OR ADJACENT TO THE CONSTRUCTION INFLUENCE AREA (CIA) OR ADJOINING AREAS TO AVOID CONFLICTS IN THE MAINTENANCE OF TRAFFIC, CONSTRUCTION SIGNING, AND TO PROVIDE FOR THE ORDERLY PROGRESS OF CONTRACT WORK.

CITY OF NOVI MAINTENANCE CREWS AND/OR CONTRACT MAINTENANCE AGENCIES MAY PERFORM MAINTENANCE WORK WITHIN OR ADJACENT TO THE CONSTRUCTION INFLUENCE AREA (CIA). THE CITY AND/OR CONTRACT MAINTENANCE AGENCY WILL COORDINATE THEIR OPERATIONS WITH THE OWNER TO MINIMIZE THE INTERFERENCE TO THE CONTRACTOR.

1. CONSTRUCTION INFLUENCE AREA (CIA). THE C.I.A. SHALL INCLUDE THE ENTIRE CONSTRUCTION LIMITS AS SHOWN ON THE PLANS WITHIN THE RIGHT-OF-WAY OF THE ABOVE-MENTIONED ROUTES. THE C.I.A. SHALL ALSO INCLUDE THE AREA WITHIN THE RIGHT-OF-WAY OF ALL INTERSECTING STREETS 500 FEET.

2. TRAFFIC RESTRICTIONS. DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL ACCOMMODATE BOTH LOCAL VEHICULAR AND PEDESTRIAN TRAFFIC ALONG THE ROADS. PROVISIONS SHALL BE MADE TO MAINTAIN ACCESS FOR EMERGENCY VEHICLES, SCHOOL BUSES AND WASTE COLLECTION VEHICLES AT ALL TIMES. WHERE POSSIBLE AND WHEN DIRECTED BY THE CITY ENGINEER, ALL STREETS MUST BE LEFT OPEN TO TRAFFIC WHEN NOT WORKING ON THE PROJECT (I.E. WEEKENDS, HOLIDAYS, NIGHTS) UNLESS AUTHORIZED BY THE CITY

EIGHT MILE ROAD SHALL REMAIN OPEN TO TRAFFIC DURING THE CONSTRUCTION PERIOD. GARFIELD ROAD: TWO-WAY TRAFFIC ON ONE LANE SHALL BE MAINTAINED, UTILIZING FLAG CONTROL, WITH PROPER SIGNING, DURING ANY PERIODS OF TRAFFIC INTERFERENCE. TRAFFIC SHALL BE MAINTAINED ON ALL DRIVEWAYS THROUGHOUT THE CONSTRUCTION

PERIOD. TEMPORARY FLAGGING OPERATIONS SHALL BE LIMITED TO A TRAFFIC DELAY OF LESS THAN 10 MINUTES.

THE MINIMUM TRAVELED LANE WIDTH SHALL BE 10 FEET ON ALL PORTIONS OF THE ROADWAY, WHICH ARE OPEN TO TRAFFIC DURING CONSTRUCTION.

ALL LANE CLOSURES SHALL ORIGINATE AND CONTINUE THROUGH THE SAME SIDE OF THE ROADWAY. NO CONFLICTING LANE CLOSURES SHALL BE PERMITTED. THE CONTRACTOR SHALL NOT BE PERMITTED TO SWITCH FROM THE RIGHT LANE TO THE LEFT LANE AND VICE-VERSA.

ACCESS TO ALL RESIDENCES AND BUSINESSES SHALL BE MAINTAINED EXCEPT AS AUTHORIZED BY THE CITY ENGINEER. NO DRIVEWAY ACCESS SHALL BE CLOSED WITHOUT PRIOR NOTIFICATION TO THE PROPERTY OWNER. B. MATERIALS

1. TRAFFIC CONTROL DEVICES. ALL TRAFFIC CONTROL DEVICES AND THEIR USAGE SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD), 2011 EDITION AS REVISED, AND AS SPECIFIED HEREIN. THE CONTRACTOR SHALL FURNISH, PLACE, AND MAINTAIN SIGNS, BARRICADES, PLASTIC DRUMS, LIGHTS AND MINOR TRAFFIC CONTROL DEVICES WITHIN THE C.I.A., AND UPON COMPLETION OF THE WORK, REMOVE THESE ITEMS FROM THE PROJECT.

WARNING, REGULATORY AND GUIDE SIGNS NOT REQUIRED FOR A PARTICULAR WORK OPERATION, SHALL BE REMOVED, COMPLETELY COVERED, OR LAID DOWN WITH THE LEGS OFF, AS DIRECTED BY THE CITY ENGINEER.

TEMPORARY SIGNS THAT ARE TO REMAIN IN PLACE FOR 30 DAYS OR MORE SHALL BE INSTALLED ON PERMANENT POST MOUNTS PER MDOT SPECIAL DETAIL WZD-100-A AND AS DIRECTED BY THE CITY. ALL OTHER SIGNS MAY BE INSTALLED ON PORTABLE SUPPORTS. ALL TRAFFIC CONTROL DEVICES MOVED TO FACILITATE THE CONTRACTORS OPERATION SHALL BE REPLACED AT THE END OF THE

WORKDAY. THE CONTRACTOR SHALL ROUTINELY MAINTAIN THE TRAFFIC CONTROL DEVICES INCLUDING, BUT NOT LIMITED TO PROPER PLACEMENT, WEIGHTED WITH SANDBAGS, REPLACEMENT OF LIGHTS AND REPLACING DAMAGED DEVICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE WORK AREA AND SHALL SUPPLY THE NECESSARY TRAFFIC CONTROL DEVICES APART FROM THOSE CALLED FOR ON THE PLANS TO DELINEATE THE WORK AREA FROM ADJACENT PROPERTY. THE LOCATION FOR STORAGE OF MATERIALS AND EQUIPMENT SHALL BE AS APPROVED BY THE CITY. TRAFFIC CONTROL DEVICES USED TO DELINEATE THE WORK AREA FROM THE TRAVELED WAY MAY BE PLACED ON THE MILLED SURFACE TO MAINTAIN 10 FT MINIMUM LANES AS DIRECTED BY THE ENGINEER.

2. BARRICADES, BARRICADES AND TRAFFIC CONES NECESSARY FOR TRAFFIC CONTROL AND PUBLIC SAFETY SHALL BE FURNISHED AND ERECTED BY THE CONTRACTOR AS SHOWN ON THE PLANS OR AS DIRECTED BY THE CITY. THE BARRICADES SHALL BE LIGHTED AS SHOWN IN THE MOOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE MOST UPDATED EDITION OF THE CURRENT MMUTCD. TYPE III BARRICADES SHALL BE SUPPLEMENTED WITH TWO (2) TYPE C WARNING LIGHTS. ANY SIGNS REQUIRED AT TYPE III BARRICADE LOCATIONS SHALL BE MOUNTED ABOVE THE BARRICADE ON SEPARATE SIGN SUPPORTS BEHIND THE BARRICADE. ALL BARRICADES SHALL BE CLEANED AND ALL LIGHTS ON BARRICADES SHALL BE CHECKED ON A WEEKLY BASIS.

3. TEMPORARY SIGNS. ROADWORK AHEAD (W20-1) SIGNS SHALL BE PLACED ON ALL INTERSECTING SIDE STREETS 500 FEET FROM C.I.A.

ALL DIAMOND-SHAPED WARNING SIGNS SHALL BE 48 INCH X 48 INCH MOUNTED AT A 7 FOOT MINIMUM BOTTOM HEIGHT UNLESS OTHERWISE SPECIFIED IN THE TYPICALS.

4. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE FOLLOWING MDOT TYPICALS:

TABLES FOR "L". "D" AND "B" VALUES (MOO2OA) (AS SHOWN ON THIS PLAN)

G20 SERIES. INJURE KILL. DOUBLE FINES. ADVANCED SIGNING TREATMENTS (MOO40A)

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS. NO SPEED REDUCTION (MO140a) (AS SHOWN ON THIS PLAN)

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A SHOULDER CLOSURE ON A TWO LANE TWO-WAY ROADWAY USING A SINGLE STEP DOWN IN SPEED LIMIT IN ONE DIRECTION ONLY (MO120A) (AS SHOWN ON THIS PLAN) GROUND DRIVEN SIGN SUPPORTS FOR TEMPORARY SIGNS (WZD-100-A)

TEMPORARY TRAFFIC CONTROL DEVICES (WZD-125-E)

C. OTHER REQUIREMENTS.

REMOVE OR RELOCATE FIXED

OBJECTS PRIOR TO EXCAVATION.

SPECIFIED HERE.

1. TRUCK HAUL ROUTES. TRUCK HAUL ROUTES SELECTED BY THE CONTRACTOR MUST BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION AND ARE SUBJECT TO REGULATIONS OF THE CITY OF NOM. THE CONTRACTOR SHALL NOT USE THE CITY SIDE STREETS FOR TRANSPORTING OF MATERIALS TO OR FROM THE PROJECT TO AVOID TRAFFIC BACKUPS.

2. WORK HOURS. NORMAL WORKING HOURS WITHIN THE CITY OF NOVI ARE 7:00 AM TO 7:00 PM, MONDAY THROUGH SATURDAY. IF THE CONTRACTOR NEEDS TO SCHEDULE ANY WORK BEYOND THESE HOURS, THE CONTRACTOR MUST SUBMIT THIS REQUEST IN WRITING TO THE CITY ENGINEER.

3. SIDEWALK CLOSURES AND PEDESTRIAN ACCESS. IN ALL PUBLIC SIDEWALK AREAS BEING RECONSTRUCTED THE CONTRACTOR SHALL PLACE PLASTIC DRUMS ADJACENT TO THE LIMITS OF SIDEWALK CONSTRUCTION WITH A SIGN SIGNIFYING "SIDEWALK CLOSED". WHELE REQUIRED, THE CONTRACTOR SHALL ALSO PROVIDE A TEMPORARY PATH CONSISTING OF A HARD SURFACE THAT IS TRAVERSABLE BY A PERSON IN A WHEELCHAIR AS DIRECTED BY THE CITY ENGINEER. THE TEMPORARY PATH MUST BE A MINIMUM 4' WIDE AND MUST NOT EXCEED 5% LONGITUDINAL SLOPE AND A 2% CROSS SLOPE. THE TEMPORARY PATH WILL BE PAID FOR SEPARATELY AS HMA, 13A.

4. ADDITIONAL SIGNING. DURING CONSTRUCTION, ADDITIONAL SIGNS MAY BE REQUIRED TO BETTER MANAGE TRAFFIC. THE CONTRACTOR SHALL PROMPTLY BRING OUT THE REQUIRED SIGNS AS NEEDED BY THE ENGINEER AND PER THE MDOT FUSP 812J, TRAFFIC CONTROL AND COMPLIANCE.

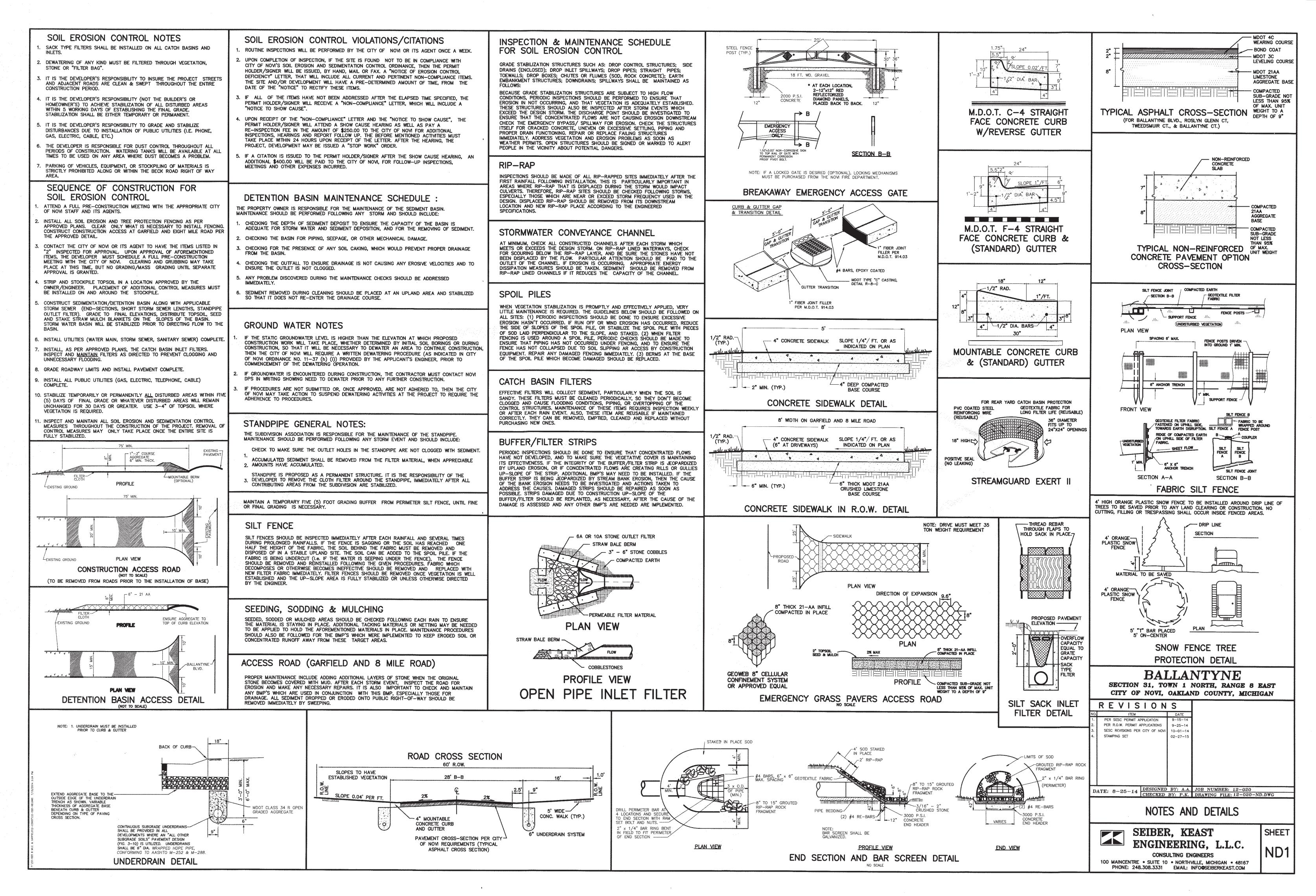
5. GARBAGE COLLECTION. DURING CERTAIN STAGES OF THE CONSTRUCTION, THE CONTRACTOR WILL BE REQUIRED TO ASSIST BUSINESSES AND RESIDENTIAL PROPERTIES WITHIN THE PROJECT LIMITS IN DISPOSING OF GARBAGE TO THE GARBAGE COLLECTION VEHICLES WITHIN THE PROJECT LIMITS. BECAUSE THERE IS ONLY ONE LANE OF TRAFFIC OPEN IN EACH DIRECTION, THE CONTRACTOR SHALL ASSIST THE GARBAGE COLLECTION AGENCY SO AS NOT TO CAUSE UNDO TRAFFIC BACKUPS.

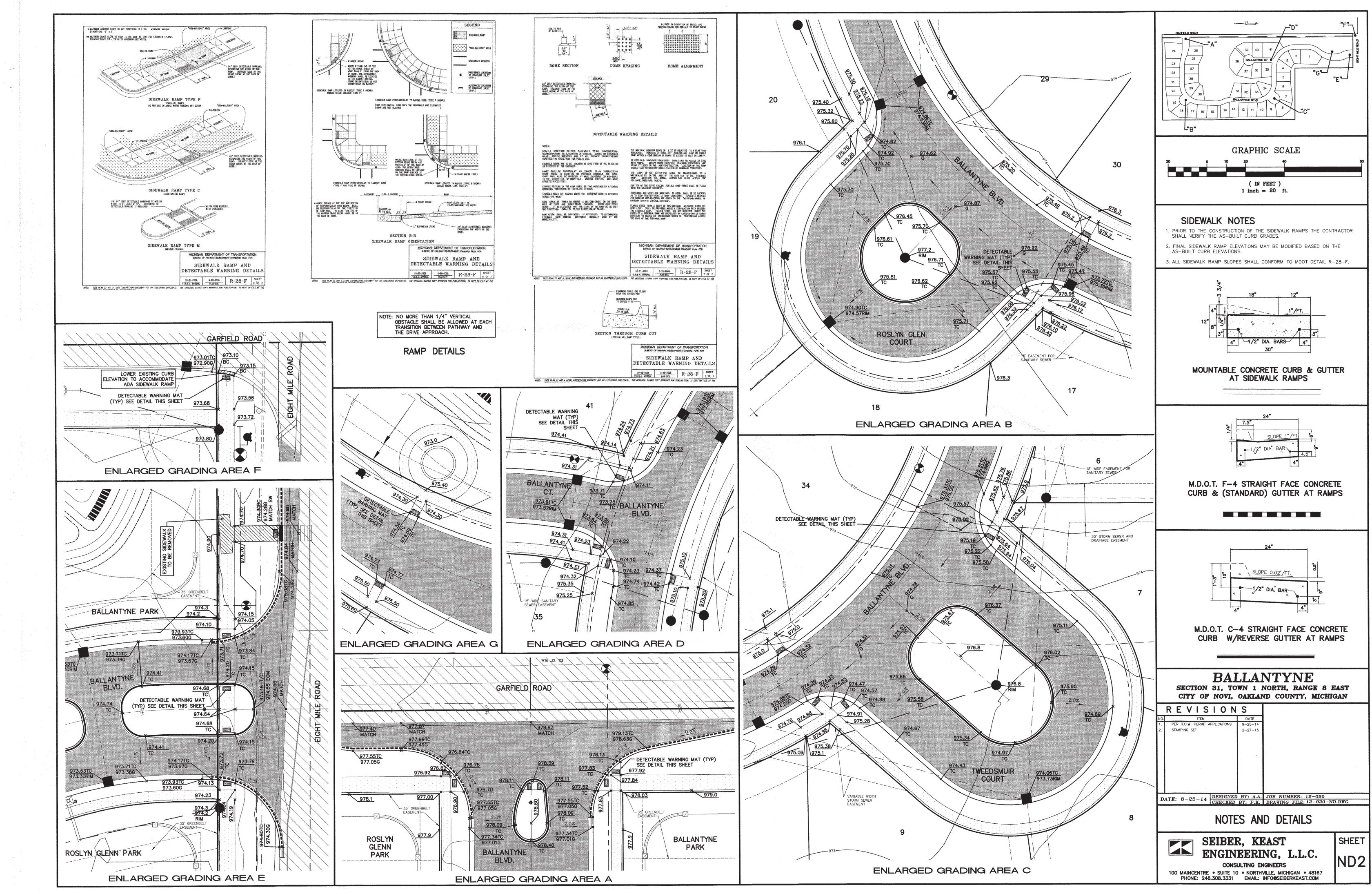
6. CLEANING ADJACENT STREET AND SIDEWALKS. DIRT, MUD, CONSTRUCTION MATERIALS, OR OTHER DEBRIS DEPOSITED ON PUBLIC SIDEWALKS OR STREETS AS THE RESULT OF SPILLING, TRACKING ON THE WHEELS OF TRUCKS OR CONSTRUCTION EQUIPMENT, OR BY OTHER ACTIONS OF THE CONTRACTOR, HIS EMPLOYEES, OR HIS SUBCONTRACTORS SHALL IMMEDIATELY BE REMOVED BY THE CONTRACTOR AND SHALL NOT BE PAID FOR SEPARATELY.

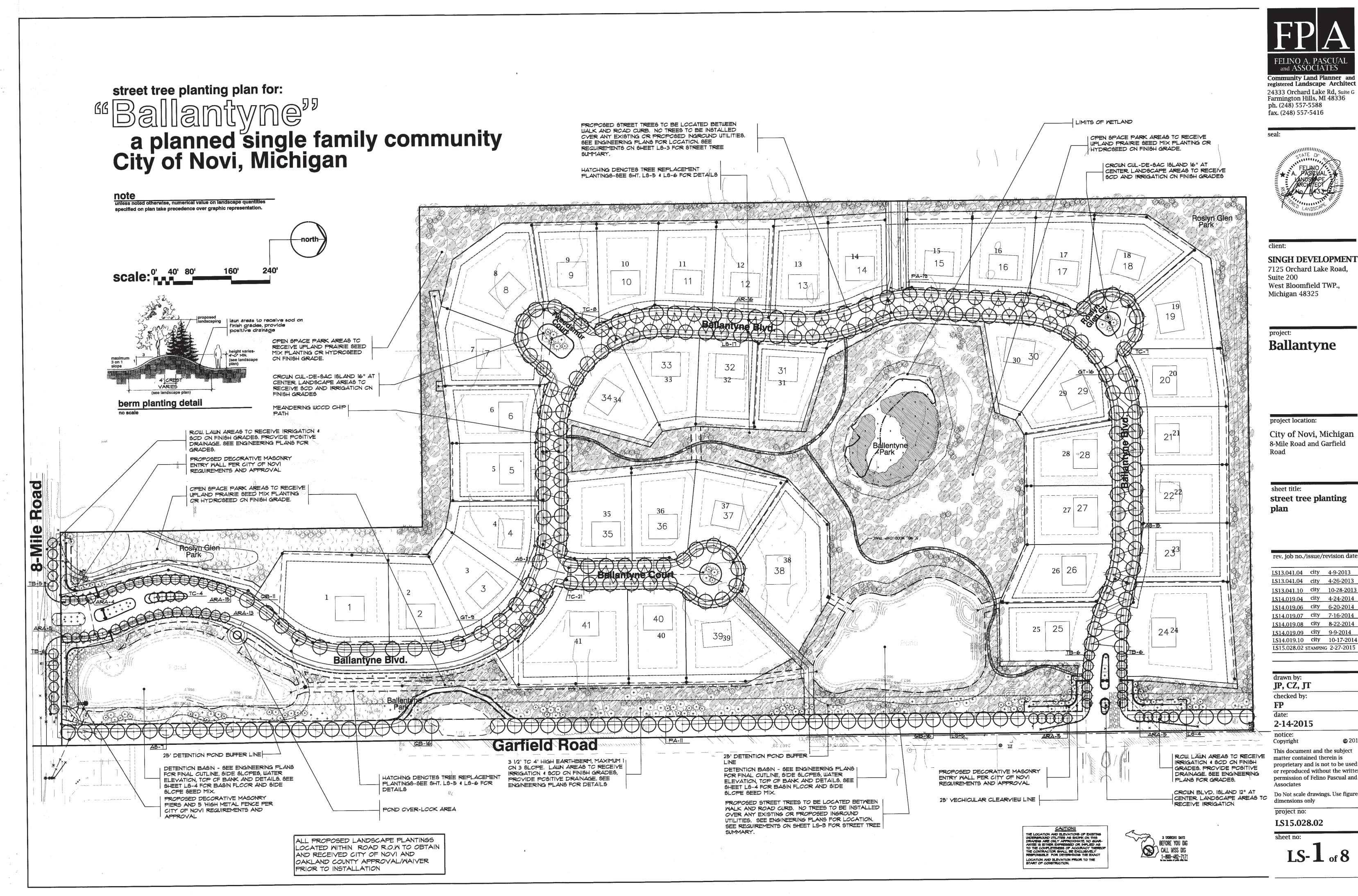
7. DUST CONTROL. THE CONTRACTOR SHALL APPLY A DUST PALLIATIVE WEEKLY OR AS REQUIRED BY THE CITY ENGINEER TO CONTROL DUST IN THIS AREA. NOTE:

BALLANTYNE SECTION 31, TOWN 1 NORTH, RANGE 8 EAST CITY OF NOVI, OAKLAND COUNTY, MICHIGAN REVISIONS DATE PER R.O.W. PERMIT APPLICATIONS 09-25-1-STAMPING SET 2-27-15 DATE: 8-25-14 DESIGNED BY: A.A. JOB NUMBER: 12-020 CHECKED BY: P.K. DRAWING FILE: 12-020-TCP.DWG SIGNAGE & TRAFFIC CONTROL NOTES & DETAILS SHEET SEIBER, KEAST ENGINEERING, L.L.C. 21 CONSULTING ENGINEERS 100 MAINCENTRE • SUITE 10 • NORTHVILLE, MICHIGAN • 48167 PHONE: 248.308.3331 EMAIL: INFOOSEIBERKEAST.COM





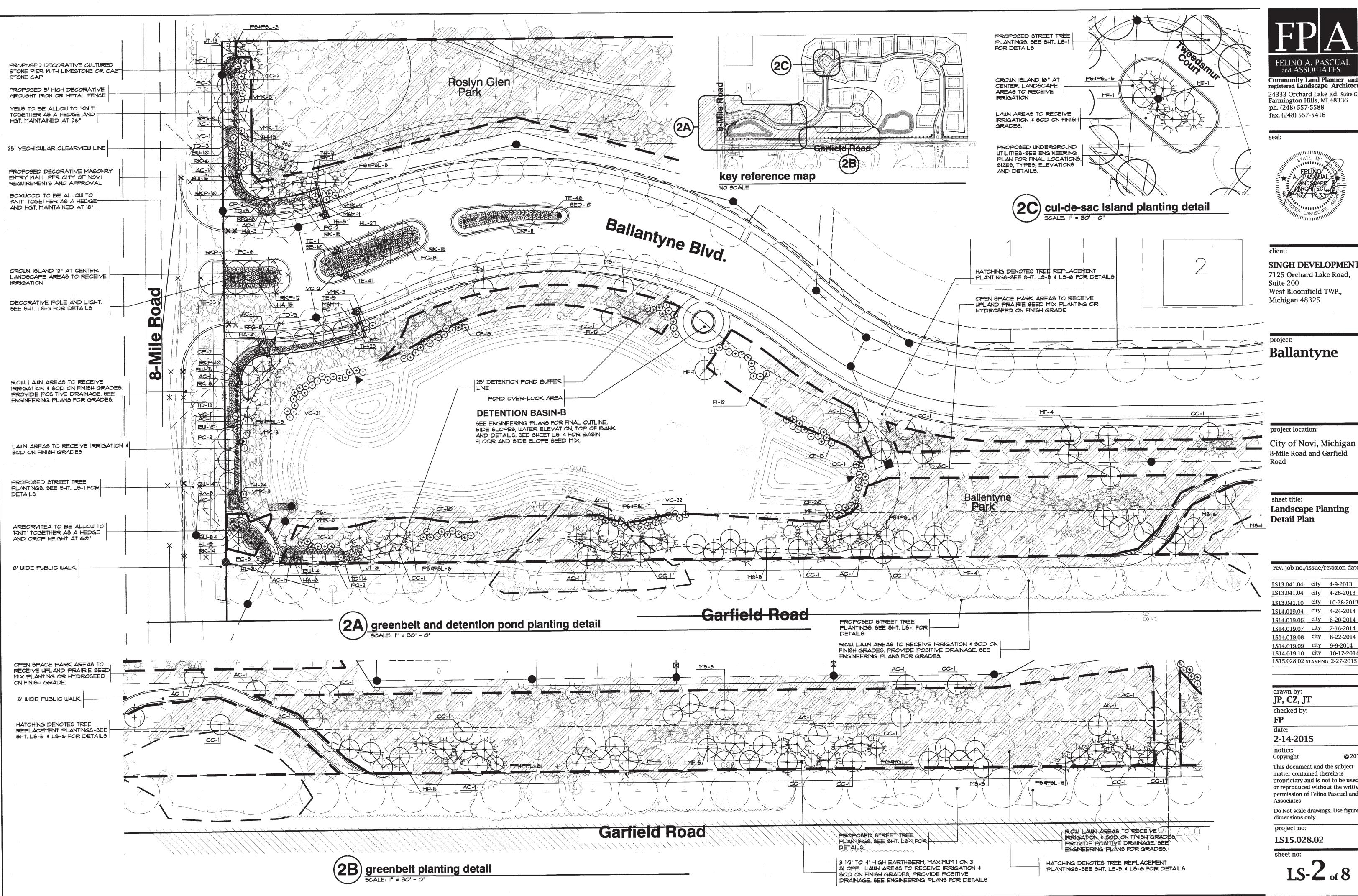




Community Land Planner and registered Landscape Architect

rev. job no.,	/issue/re	vision date
	aitu	4.0.2012
LS13.041.04	<u>city</u>	4-9-2013
L\$13.041.04	city	4-26-2013
LS13.041.10	city	10-28-2013
LS14.019.04	city	4-24-2014
LS14.019.06	city	6-20-2014
LS14.019.07	city	7-16-2014
LS14.019.08	city	8-22-2014
LS14.019.09	city	9-9-2014
LS14.019.10	city	10-17-2014
L\$15.028.02	STAMPING	2-27-2015

drawn by: JP, CZ, JT	
checked by:	
FP	
date:	
2-14-2015	
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Do Not scale drawings dimensions only	. Use figured
project no:	



FELINO A. PASCUA and ASSOCIATES Community Land Planner and registered Landscape Architect

24333 Orchard Lake Rd, Suite G Farmington Hills, MI 48336 ph. (248) 557-5588 fax. (248) 557-5416

SINGH DEVELOPMENT 7125 Orchard Lake Road, West Bloomfield TWP., Michigan 48325

Ballantyne

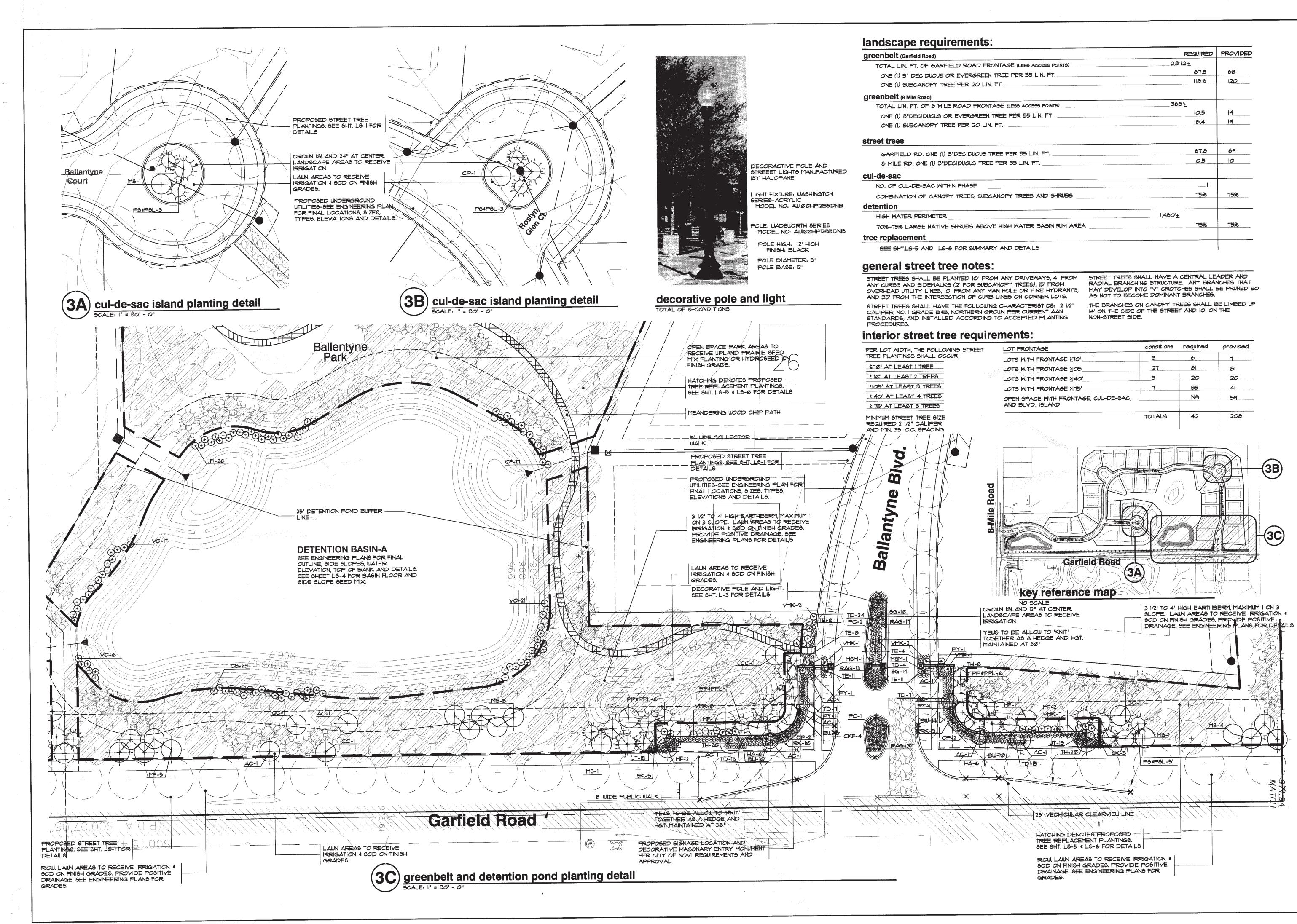
project location:

City of Novi, Michigan 8-Mile Road and Garfield

Landscape Planting Detail Plan

rev. job no./:	issue/1	revision date:
LS13.041.04	city	4-9-2013
LS13.041.04	city	4-26-2013
L\$13.041.10	city	10-28-2013
LS14.019.04	city	4-24-2014
LS14.019.06	city	6-20-2014
LS14.019.07	city	7-16-2014
LS14.019.08	city	8-22-2014
LS14.019.09	city	9-9-2014
LS14.019.10	city	10-17-2014

drawn by: JP, CZ, JT	
checked by:	
FP	
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	REQUIRED	PROVIDED
RONTAGE (Less access points)	2,372' <u>+</u>	
EN TREE PER 35 LIN. FT	679	68
IN. FT	118.4	120
NTAGE (LESS ACCESS POINTS)	368' <u>+</u>	
n TREE PER 35 Lin. FT.	10.5	4
.IN. FT	16.4	19
TREE PER 35 LIN. FT.	67.8	69
222 PER 35 LIN. FT		10
	1	
BCANOPY TREES AND SHRUBS		75%
	1,480' <u>+</u>	
OVE HIGH WATER BASIN RIM AREA		75%

LOT FRONTAGE	conditions	required	provided
LOTS WITH FRONTAGE 270	3	6	7
LOTS WITH FRONTAGE 105	27	81	81
LOTS WITH FRONTAGE 240	5	20	20
LOTS WITH FRONTAGE 275'	7	35	41
OPEN SPACE WITH FRONTAGE, CUL-DE-SAC AND BLVD. ISLAND	5,	NA	59
	TOTALS	142	208

FELINO A. PASCUA and ASSOCIATES

Community Land Planner and registered Landscape Architect 24333 Orchard Lake Rd, Suite G Farmington Hills, MI 48336 ph. (248) 557-5588 fax. (248) 557-5416



SINGH DEVELOPMENT 7125 Orchard Lake Road, Suite 200 West Bloomfield TWP., Michigan 48325

project: Ballantyne

project location:

City of Novi, Michigan 8-Mile Road and Garfield Road

sheet title: Landscape Planting Detail Plan

rev. job no.,	/issue/re	vision date:
LS13.041.04	city	4-9-2013
LS13.041.04	city	4-26-2013
LS13.041.10	city	10-28-2013
LS14.019.04	city	4-24-2014
LS14.019.06	city	6-20-2014
LS14.019.07	city	7-16-2014
LS14.019.08	city	8-22-2014
LS14.019.09	city	9-9-2014
LS14.019.10	city	10-17-2014
LS15.028.02	STAMPING	2-27-2015

drawn by: JP, CZ, JT	
checked by: FP	A4 .
date: 2-14-2015	
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Do Not scale drawings dimensions only	s. Use figured
project no:	
LS15.028.02	



		quantiti					-	-		LANDSCAPE CONTRACTOR SHALL VISIT THE SITE, INSPECT EXIS	TING CONDITIONS DEVIEW
(ey	SHT.L-1	SHT.L-2	SHT.L-3	totals	botanical name	common name	size	cost	totals	PROPOSED PLANTINGS AND RELATED WORK CONTACT THE OWN ARCHITECT WITH ANY CONCERNS OR DISCREPANCY BETWEEN TH	IER AND/OR LANDSCAPE
					LARGE AND SMALL DECIDUCUS TREES					2. List, and/or site conditions.	
CP	-	4	5	9	CRATAEGUS PHAENOPYRUM	WASHINGTON HAWTHORN (MULTI-STEM)	10° 88	\$250	\$2250.00	PRICE TO BEGINNING OF CONSTRUCTION ON ANY WORK, CONTRA LOCATIONS OF ALL ON SITE UTILITIES. GAS, ELECTRIC, TELEPHON	NE, CABLE TO BE LOCATED
AS	43	-	-	43	ACER SACCHARUM		2 1/2" BB	+400	\$17200.00	BY CONTACTING MIGS DIG 1-800-482-7171. ANY DAMAGE OR INTE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR COORDIN	
AR	16	-		16	ACER R 'FRANKØRED'	RED SUNSET RED MAPLE	2 1/2" 88	+420	¥6,400.00	ACTIVITIES WITH CTHER TRADES AND REPORT ANY UNACCEPTAI CUNER PRICE TO COMMENCING	BLE JOB CONDITIONS TO
ARA	41	-	•	41	ACER R. 'ARMSTRONG'	ARMSTRONG RED MAPLE	4" BB 4" BB	1420	18800.00	3. NUMERICAL VALUE ON THE LANDSCAPE QUANTITIES SPECIFIED	ON THE PLAN TAKE PRECED
PC		31	3	34	PYRUS CALLERYANA 'CHANTICLEER'	CLEVELAND SELECT PEAR BCULEVARD LINDEN	4" BB	N250 N400	1850000 1920000	CYER GRAPHIC REPRESENTATION. VERIFY ANY CONCERN-DISCR ARCHITECT.	EPANCY WITH LANDSCAPE
TB	23			23	TILIA AMERICANA 'BCULEVARD' TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LINDEN	2 1/2" BB	+400	1600000	4. ALL CONSTRUCTION AND PLANT MATERIAL LOCATION TO BE AD	JUSTED ON SITE
TC LS	40			4Ø 26	LIGUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	2 1/2" BB	+400	10,A00.00	5. IF NECESSARY.	
GB	26			43	QUERCUS 'BICCLOR'		2 1/2" BB	400	17200.00	ALL SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLA 6. BY CITY OF NOVI AND LANDSCAPE ARCHITECT	N MUST BE APPROVED
GT	25			25	GLEDITSIA TRI INERMIS 'SKYCOLE'	SKYLINE LCCUST	2 1/2" BB	+420	1000000	ALL LARGE TREES AND EVERGREENS TO BE STAKED. GUYED A	
PA	30			3Ø	PLATANUS X. ACERIFICLIA	LONDON PLANETREE	2 1/2" BB	1400	\$12 <i>CCCCC</i>	1. SHOWN ON PLAN.	
<u>cc</u>		19	5	24	CERCIÓ CANADENSIÓ	EASTERN REDBUD (MULTI-STEM)	10' BB	\$25Ø	¥6,000.00	8. PLANT BEDG TO BE DRESSED WITH MIN. 3" OF FINELY DOUBLE S	HREDDED HARDBARK MUL
AC		19		23	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY (MULTI-STEM)	10° BB	1250	125000	DIG SHRUB PITS I' LARGER THAN SHRUB ROOT BALLS AND TRE ROOT BALL, BACK FILL WITH ONE PART TOP SOIL AND ONE PA	
MF	-	29	1	40	MALUS FLORIBUNDA	JAPANESE FLOWERING CRABAPPLE	2" BB	1250	\$1000000	9. EXCAVATED PLANTING HOLE.	
MS	-	20	12	32	MALUS 'SNOWDRIFT'	SNCUDRIFT CRABAPPLE	2" BB	\$250	1800000	REMOVE ALL TWINE, WIRE AND BURLAP FROM TREE AND SHRUB 10. TREE TRUNKS.	EARTH BALLS, AND FROM
										NATURAL COLOR, FINELY SHREDDED HARDWOOD BARK MULCH	REQUIRED FOR ALL PLANTI
								TOTAL	\$159 <i>200.00</i>	4" THICK BARK MULCH FOR TREES IN 4' DIA. CIRCLE WITH 3" PU	
										11. 3" THICK BARK MULCH FOR SHRUBS AND 2" THICK BARK MULCH	
(ey	SHT.L-1	SHT.L-2	SHT.L-3	totals	botanical name	common name	size	cost	totals	PLANT MATERIAL GUALITY & INSTALLATION SHALL BE IN ACCOR 12. AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDA	RDS.
					SHRUBS					13. PROVIDE PEAT SOD FOR ALL NEW AND DISTURBED LAWN AREA	19 UNLESS NOTED OTHERWIS
HA	•	32	2	44	HYDRANGEA A. 'ANNABELLE'	ANNABELLE HYDRANGEA	*5 CONT	15 0	\$220000	ALL PLANTING AREAS TO BE PREPARED WITH APPROPRIATE S	CIL MIXTURES AND
HL		33		33	HYDRANGEA G. 'PEE WEE'	'PEE WEE' HYDRANGEA	*5 CONT	45C	165000	14. FERTILIZER BEFORE PLANT INSTALLATION.	
RAG	**		62	62	RHUS ARCMATICA 'GRO-LOW'	GRC-LOW FRAGRANT SUMAC	*3 CONT,	15Ø	\$3,@@ <i>QQ</i>	PLANT TREES AND SHRUBS GENERALLY NO CLOSER THEN THE I FROM SIDEWALKS, CURBS AND PARKING STALLS:	-OLLOWING DISTANCES
ж	•	•	IØ		Syringa Patula 'Miss Kim'	MISS KIM DWARF LILAC	3' BB	15 0	1500.00	a). SHADE TREES	5 FT.
VC		4		4	VIBURNUM CARLESII	KOREAN SPICE VIBURNUM	3' BB	15Ø	200,00	(CRAB, PINE, SPRUCE, ETC.)	
VMK	•	26	28	54	VIBURNUM X.B. MCHAUK	MCHAWK VIBURNUM	3' BB	45Ø	12,700.00	C). SHRUBS THAT ARE LESS THAN I FOOT TALL AND WIDE AT MATURITY.	2 FT.
YØ	•	22	44	66	VIBURNUM CPULUS 'COMPACTUM'	EUROPEAN CRANBERRY BUSH	3' BB	¥5Ø	1330000		
FI	-	24	26	52	FORSYTHIS X INTERMEDIA	BORDER FORSYTHIA	3' BB	15 0	1250000		
CF	-	.23	19	40	CCRNUS FLAVIRAMEA	YELLOUTUIG DOGUCOD	3' BB	15O	12,000.00	detention basin seed mix:	
RK	-	46	19	65	RCSA KNCCKCUT		5 CONT.	15 <i>0</i>	\$325Ø.ØØ		
9G	-	10	24	34	SPIREA XB. 'GCLDMCUND'	GOLDMOUND SPIREA	5 CCNT.	15Ø	N,700.00		s (Flat-topped Aster)
CKF	-		4	4	CALAMAGROSTIS XA. KARL FOERSTER'	KARL FOERSTERS FEATHER REED GRASS	3 CONT.	45Ø	120000	for soils that are saturated during most of the growing 3 Cassia hebecarp season. Use just above the normal waterline in the 2 Eupatorium mac	pa (Wild Senna) culatum (spotted Joe-Pye Weed)
MSM	-	-	2	2	MISCANTHUS SINENSIS 'MORNING LIGHT'	MCRNING LIGHT' MAIDEN GRASS	3' 88	15 0	100.00	capillary zone in our Lake Edge Enhancement System. 2 Eupatorium perf	oliatum (Boneset) male (Autumn Sneezeweed)
CS	-	-	23	23	CORNUS SERICEA F BAILEYI		3'88	150	115000	Sedge Meadow Mix oz/acre 2 Liatris spicata (D	Dense Blazing Star)
					LARGE AND SMALL EVERGREENS			TOTAL	124550.00	1 Carex cristatella (Crested Sedge) 1 Lobelia siphilitica	is (Cardinal Flower) a (Great Blue Lobelia)
TØ	-	27	-	27	THUJA CCCIDENTALIS 'EMERALG GREEN'	EMERALD GREEN ARBCRYITEA	6' 88	#5Ø	\$1,350.00	6 Carex frankli (Frank's Sedge) 2 Penstemon digit 2 Carex hystericina (Porcupine Sedge) 1 Pycnatthemum	alis (Foxglove Beardtongue) virginianum (Mountain Mint)
JT	-	21	30	51	JUNIPERUS S. HUGHES	HUGHES JUNIPER	24" BB	150	1255020	4 Carex lurida (Lurid Sedge) 3 Rudbeckia fulgio	da speciosa (Showy Black-Eyed Sus (Black-Eyed Susan)
BW	-	132	49	181	BUXUS M. WINTER GEM'		18" BB	150 150	19 <i>050.00</i>	2 Carex tribuloides (Pointed Oval Sedge) 3 Rudbeckia subto	omentosa (Sweet Black-Eyed Susar
PY		2	4	6	PYRACANTHA COCCINEA 'YUKON BELLE'		36" 88	150	1300.00	64 Elymus virginicus (Virginia Wild Rye) 2 Silphium perfolia	
TD	-	58	10	128			36" BB	150	16,400.00	8 Leersia oryzoides (Rice Cut Grass) 1 Solidado patula	thinaceum (Prairie Dock) (Swamp Goldenrod)
TE	•	143	42	185	TAXUS XM. 'EVERLOW'		36" BB	150	+9,25 <i>©.2©</i>	8 Panicum virgatum (Switchgrass) 2 Solidago riddelli 2 Scirpus atrovirens (Dark Green Bulrush) 2 Verbena hastata	i (Riddell's Goldenrod)
TH	-	80	48	128		HICKS YEW	36" BB	150	¥6,400.00	112 2 Vernonia fascicu	ulata (Smooth Ironweed)
PG	-	4		4	PICEA GLAUCA		12' BB	1400	160000	Alisma subcordatum (Water plantain) 1 Zizia aurea (Gol	rirginicum (Culver's Root) den Alexanders)
PGL	-	3		3	PICEA GLAUCA	WHITE SPRUCE	12' 88	1400	\$1200.00	Angelica atropurpurea (Angelica) [48] Aster novae-angliae (New England Aster)	
PP	-	3	2	15	PICEA PUNGENS	CCLORADC SPRICE	1¢' 88	1420	16,000.00	Components per acre	
PPL		3	1	12	PICEA PUNGENS	CCLCRADC SPRICE	12' 88	+422		Sedge Meadow 8 lbs grasses and sedges, 3 lbs forbes	
P 8		24	1	3	PINUS STROBUS	EASTERN WHITE PINE	10' 88	1400		annual cover: (Edge, Upland & Dry Upland Zones)	
PSL	-	2@	4	24	PINUS STROBUS	EASTERN WHITE PINE	12' BB	1400	19,620,20	50% Temporary Grasses: will contain two of the following species. Seed Oats Avena sativa	
					GRASSES AND PERENNIALS			TOTAL	\$58,94 <i>0.00</i>	Annual Rye Lolium multiflorum Winter Wheat Triticum aestivum	
Mem	-	16		10	MISCANTHUS SINENSIS 'MCRNING LIGHT'	MORNING LIGHT MAIDEN GRASS	*3 CCNT.	120	1200.00	American Slough Grass Beckmannia syzigachne	
RFG	-	24	•	24			2 CONT.	\$20	<u> </u>	SOURCE:	
SED	•	2		2	SEDUM' SPECTABILE 'NECN'	SEDUM SEDUM	2 CONT.	120	14220	NATIVESCAPE L.L.C P.O. BOX 122	
								TCTAL	\$720.00	MANCHESTER, MICHIGAN 48158 ph: 517.456.9696	

do not prune terminal leader or branch tips, prune away dead or broken branches only. set top of rootball level with grade

prune suckers off.

center rootball in planting hole. leave bottom of planting hole firm.do not amend soil unless planting in poor or severely disturbed soil or building rubble. use water to settle soil and remove air pockets and firmly

set tree. gently tamp if needed.

or slightly above grade if in clay soil.

3 x width of rootball

tree planting detail

do not stake trees unless in heavy clay soil, windy conditions, 3" or greater diameter tree trunk or large crown. if staking is needed due to these conditions:- stake with 2x2 hardwood stakes or approved equal driven 6"-8" outside of rootball.- loosely stake tree trunk to allow for trunk flexing.- stake rees just below first branch with 2"-3" wide belt-like, fabric straps (2 per tree on opposite sides of tree, connect from tree to stake horizontally. do not use rope wire thru a hose.).- remove all staking materials after 1 year.

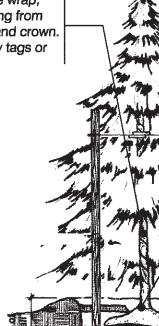
remove nursery applied tree wrap, tape or string from tree trunk and crown. remove any tags or labels.

mulch 2"-3" depth with shredded hardwood bark. mulch shall be neutral in color. leave 3" circle of bare soil at base of tree trunk.

break up (scarify) sides of planting hole.

fold down or pull back string, burlap or plastic exposing rootball. remove all non-degradable materials. do not remove soil from the rootball.

leader or branch tips. prune away dead or broken branches only. remove nursery applied tree wrap, tape or string from tree trunk and crown. remove any tags or labels.



evergreen planting detail

Plant Material List, Planting Details and Notes

3 x width of rootbell

- CNS, REVIEW LAND9CAPE ANT MATERIAL
- VERIEY BE LOCATED SERVICES LATED WORK NDITIONS TO
- 'H LANDSCAPE
- STE
- PPROVED
- AS DETAIL
- RER THAN
- .S, AND FROM
- CRALL PLANTINGS. FROM TRUNK NIALS.
- THE CURRENT
- CTED CTHERWISE.
- AND
- ISTANCES
- 10 FT. 2 FT.

- - rootball.loosely stake tree trunk to allow for trunk flexing stake trees just below first branch with 2"-3" wide belt-like, fabric straps (2 per tree on opposite sides of tree, connect from tree to stake horizontally. do not use rope wire thru a hose.). remove all staking materials after 1 year. set top of rootball level with grade or slightly above grade if in clay soil. mulch 2"-3" depth with shredded hardwood bark. mulch shall be neutral in color. leave 3" circle of bare soil at base of tree trunk. fold down or pull back string,

stake with 2x2 hardwood stakes or

approved equal driven 6"-8" outside of

burlap or plastic exposing rootball. remove all non-degradable materials. do not remove soil from the rootball. break up (scarify) sides of planting hole.

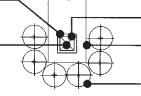
center rootball in planting hole. leave bottom of planting hole firm. do not amend soil unless planting in poor or severely disturbed soil or building rubble.use water to settle soil and remove air pockets and firmly set tree. gently tamp if needed.

shrub planting detail

- 15. NO TREES OR EVERGREENS TO BE INSTALLED OVER ANY PROPOSED OR EXISTING UTILITY LINES AS SHOWN ON THE OVERALL LANDSCAPE PLAN. SEE ENGINEERING PLANS FOR LCCATION AND DETAILS.
- 16. ALL LAWN AREAS AND LANDSCAPE BEDS TO BE FULLY IRRIGATED WITH A AUTOMATIC UNDERGROUND SYSTEMS. IRRIGATION SYSTEM TO HAVE SEPARATE ZONES FOR LAWN AREAS, PARKING ISLANDS, AND SHRUB BEDS WITH DIFFERENT CONTROL MOISTURE LEVEL ADJUSTMENT PER ZONE AS REQUIRED
- 17. UNLESS NOTED CTHERWISE, LANDSCAPE BEDS ADJACENT TO LAWN TO RECIEVE EDGING. EDGING SHALL BE 4" X 1/8" METAL (FINISH BLACK OR GREEN) OR APPROVED EQUAL AND TO BE INSTALLED WITH HORIZONTAL METAL STAKES AT 32" C.C. OR PER MANUFACTURER'S TAKE PRECEDENCE SPECIFICATION.
 - 18. ALL NEW PARKING ISLANDS AND LANDSCAPE BEDS ADJACENT AND NEXT TO BUILDING SHALL BE EXCAVATED OF ALL BUILDING MATERIALS AND POOR SOILS A MIN. OF 16"-18" DEPTH. BACK FILL WITH GCCD, MEDIUM TEXTURED PLANTING SCILS. ADD A MIN. 4" CF TOPSOIL OVERFILL TO FINISH GRADE. PROVIDE POSITIVE DRAINAGE.
 - 19. WATERING OF ALL PLANTS AND TREES TO BE PROVIDED IMMEDIATELY AND MULCHING WITHIN 24 HOURS AFTER INSTALLATION.
 - 20. ALL TREE PITS TO BE TESTED FOR PROPER DRAINAGE PRIOR TO TREE PLANTING. PROVIDE APPROPRIATES DRAINAGE SYSTEM AS REQUIRED IF THE TREE PIT DOES NOT DRAIN SUFFICIENTLY
- HARDBARK MULCH. 21. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE PLANT MATERIALS AND IRRIGATION INSTALLATION FOR A PERIOD OF TWO YEAR BEGINNING AFTER THE COMPLETION OF LANDSCAPE INSTALLATION DATE APPROVED BY THE CITY OR LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE DURING AND AT THE END OF THE GUARANTEE PERICD, ANY DEAD OR UNACCEPTABLE PLANTS, AS DETERMINED BY THE CITY OR LANDSCAPE ARCHITECT, WITHOUT COST TO THE OWNER.

RANSFORMER

TRANSFORMER PAD



transformer pad planting detail

SCALE |'=2@'-@"

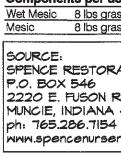
A MINIMUM OF 2' SEPARATION BETWEEN TRANSFORMER AND FULL GROWN SHRUBS AND TREES GROUND COVERS ALLOWED UP TO TRANSFORMER PAD IF MAINTAINED BELOW 4" FULL GROUTH. IF TRANSFORMER FACES TOWARDS THE HOUSE, THEN THE SAME CONDITIONS EXIST. NO FULL GROWTH IN FRONT OF THE TRANSFORMER FOR AT LEAST A MINIMUM OF 8'. THERE ARE NO WAIVERS GRANTED TO THE ABOVE CONDITION. DETAIL PER THE DETROIT EDISON COMPANY-SERVICE PLANNING DEPARTMENT (9-17-98)

SEE ENGINEERING PLANS FOR PROPOSED LOCATIONS, TOTAL NUMBER OF TRANSFORMERS AND FINAL LOCATION PER DETROIT EDISON REQUIREMENTS.

sedimentation basin wetland plant mix

Wet Mesic Prairie Mix: (Upland Zone) A mix of sedges, grasses and wildflowers that will tolerate seasonal saturation, but also drier conditions during summer and fall. Use above the sedge meadow mix in our Lake Edge Enhancement System. Sedge Meadow Mix oz/acre 16 Andropodon gerardii (Big Bluestern) 2 Carex annectans xanthocarpa (Yellow Fox Sedge) Carex frankii (Frank's Sedge)

- Carex vulpinoidea (Fox Sedge)
- 32 Elymus canadensis (Canada Wild Rye) 32 Elymus virginicus (Virginia Wild Rye)
- Glyceria striata (Fowl Manna Grass)
- Panicum virgatum (Switchgrass) Sorghastrum nutans (Indian Grass)
- Forbs oz/acre Aster ericoides (Heath Aster)
- Aster novae-angliae (New England Aster)
- Baptisia leucantha (White False Indigo Cassia hebecarpa (Wild Senna)
- Coreopsis tripteris (Tall Coreopsis)
- Echinacea purpurea (Purple Cornflower) Heliopsis helianthoides (False Sunflower)
- Liatris spicata (Dense Blazing Star) Monarda fistulosa (Bergamot)
- Penstemon digitalis (Foxglove Beardtongue)
- Pycnanthemum virginianum (Mountain Mint) Ratibida pinnata (Yellow Cornflower)
- Rudbeckia fulgida speciosa (Showy Black-Eyed Susan) Rudbeckia hirta (Black-Eyed Susan)
- Rudbeckia subtomentosa (Sweet Black-Eyed Susan) Silphium integrifolium (Rosinwood)
- Silphium terebinthinaceum (Prairie Dock) Solidago riddellii (Riddell's Goldenrod)
- Solidago rigida (Stiff Goldenrod)
- Vernonia fasciculata (Smooth Ironweed) Veronicastrum virginicum (Culver's Root)

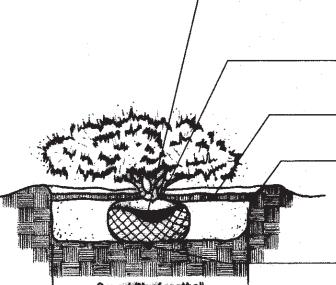


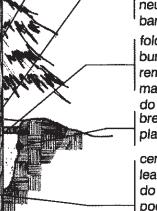
fold down or pull back string, burlap or plastic exposing rootball. remove all non-degradable materials.

' do not remove soil from the rootball. set top of rootball level with grade or slightly above grade if in clay soil.

center rootball in planting hole leave bottom of planting hole firm. do not amend soil unless planting in poor or severely disturbed soil or building rubble. use water to settle soil and remove air pockets and firmly set tree. gently tamp if needed.







- - 3 x width of rootball

- I mulch 2"-3" depth with shredded hardwood bark. mulch shall be neutral in color. | break up (scarify) sides of planting hole.

Forbs oz/acre

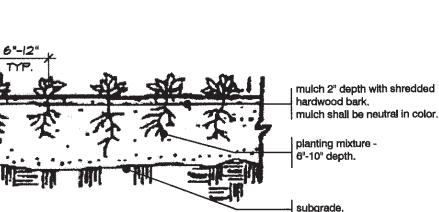
S' CLEARANCE BOUNDARY AT

- TRANSFORMER DCCR PRONT 2' TYP. CLEARANCE BOUNDARY ALONG TRANSFORMER SIDES AND BACK
- LANDSCAPE SCREENING
- TRANSFORMER DOOR FRONT
- (Burning Bush, Forsythia, Viburnum, or

- Mesic Prairie Mix: (Dry Upland Zone) A widely adaptable mix recommended for areas of medium soil texture. Use above the wet mesic mix in our Lake Edge Enhancement System. The best mix to use to replace large lawn areas in commercial landscaping.
- Grasses oz/acre 16 Andropogon gerardii (Big Bluestem) 32 Elymus canadensis (Canada Wild Rye) 12 Elymus virginicus (Virginia Wild Rye) 4 Panicum virgatum (Switchgrass) 32 Schizachyrium scoparium (Little Bluestem)
- 16 Sorghastrum nutans (Indian Grass)
- Aster ericoides (Heath Aster) Aster novae-angliae (New England Aster) Baptisia leucantha (White False Indigo) Cassia hebecaroa (Wild Senna
- Coreopsis tripteris (Tall Coreopsis) Echinacea purpurea (Purple Cornflower)
- Eryngium yuccifolium (Rattlesnake Master) Helianthus grosseserratus (Sawtooth Sunflower)
- Heliopsis helianthoides (False Sunflower) Monarda fistulosa (Bergamot)
- Penstemon digitalis (Foxglove Beardtongue)
- Pycnanthemum virginianum (Mountain Mint) Ratibida pinnata (Yellow Cornflower)
- Rudbeckia hirta (Black-Eyed Susan) Rudbeckia subtomentosa (Sweet Black-Eyed Susan)
- Silphium integrifolium (Rosinwood)
- Silphium laciniatum (Compass Plant)
- Silphium terebinthinaceum (Prairie Dock) Solidago rigida (Stiff Goldenrod)
- Solidago riddellii (Riddell's Goldenrod)
- Vernonia altissima (Tall Ironweed) Veronicastrum virginicum (Culver's Root)

Components per acre Wet Mesic 8 lbs grasses and sedges, 3 lbs forbes 8 lbs grasses, 3 lbs forbes

SPENCE RESTORATION NURSERY 2220 E. FUSON ROAD MUNCIE, INDIANA 47308 www.spencenursery.com



perennial planting detail

landscape maintenance notes:

- THE CUNER OF THE PROPERTY SHALL BE RESPONSIBLE FOR ALL MAINTENANCE CF SITE LANDSCAPING, AS FOLLOUS:
- , LANDSCAPE MAINTENANCE PROCEDURES AND FREGUENCIES TO BE FOLLOWED SHALL BE SPECIFIED ON THE LANDSCAPE PLAN, ALONG WITH THE MANNER IN WHICH THE EFFECTIVENESS, HEALTH AND INTENDED FUNCTIONS OF THE VARIOUS LANDSCAPE AREAS ON THE SITE WILL BE ENSURED.
- 2. LANDSCAPING SHALL BE KEPT IN A NEAT, CRDERLY AND HEALTHY GROWING
- CONDITION, FREE FROM DEBRIS AND REFUSE. 3. PRUNING SHALL BE MINIMAL AT THE TIME OF INSTALLATION, ONLY TO REMOVE DEAD OR DISEASED BRANCHES. SUBSEQUENT PRUNING SHALL ASSURE PROPER MATURATION OF PLANTS TO ACHIEVE THEIR APPROVED PURPOSE.
- 4. ALL DEAD OR DISEASED PLANT MATERIAL SHALL BE REMOVED AND REPLACED WITHIN SIX (6) MONTHS AFTER IT DIES OR IN THE NEXT PLANTING SEASON, WHICHEVER OCCURS FIRST. THE PLANTING SEASON FOR
- DECIDUCUS PLANTS SHALL BE BETWEEN MARCH I AND JUNE I AND FROM COTOBER I UNTIL THE PREPARED SOIL BECOMES PROZEN. THE PLANTING SEASON FOR EVERGREEN PLANTS SHALL BE BETWEEN MARCH | AND JUNE 1, PLANT MATERIAL INSTALLED TO REPLACE DEAD OR DISEASED MATERIAL SHALL BE AS CLOSE AS PRACTICAL TO THE SIZE OF THE MATERIAL IT IS INTENDED TO REPLACE.
- 5. THE APPROVED LANDSCAPE PLAN SHALL BE CONSIDERED A PERMANENT RECORD AND INTEGRAL PART OF THE SITE PLAN APPROVAL. UNLESS CTHERUISE APPROVED IN ACCORDANCE WITH THE AFOREMENTIONED PROCEDURES, ANY REVISIONS TO, OR REMOVAL OF, PLANT MATERIALS WILL PLACE THE PARCEL IN NON-CONFORMITY WITH THE APPROVED LANDSCAPE PLAN, AND SHALL BE VIEW AS A VICLATION OF THIS ORDINANCE AND THE AGREED UPON TERMS OF THE FINAL SITE PLAN APPROVAL.

cost estimate summary

TCTAL ESTIMATED PLANT MATERIALS COST	\$24341000
TCTAL ESTIMATED SCD CCST	-
TOTAL ESTIMATED SEEDING COST	N25 <i>ØØØØØ</i>
TOTAL MISC. ITEM COST (MULCH, EDGING, FABRIC, ETC.)	+15 <i>,000.00</i>
TCTAL TRANSFORMER SCREEN PLANTING COST	
TOTAL TREE REPLACEMENT COST	
total estimated landscape cost	

native wildflower seed mix:

- Mesic Prairie Mix: A widely adaptable mix recommended for areas of medium soil texture in full sun and partial shade conditions. The best mix to use to replace large lawn areas in commercial landscaping. This mix has a combination of plants that are adapted to moist conditions, but will tolerate drought once established.
- 30% Native Grasses and Sedges: will contain at least four of the following species. Andropogon gerardii (Big Bluestern) Carex bicknellii (Copper Oval Sedge) Elvmus canadensis (Canada Wild Rve

SOURCE:

P.O. BOX 122

NATIVESCAPE LLC

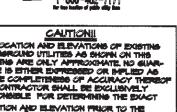
MANCHESTER, MI 48158

www.nativescape.net

- Panicum virgatum (Switchgrass) Schizachvrium scoparium (Little Bluestem) Sorghastrum nutans (Indian Grass)
- 20% Native Wildflowers: will contain at least fourteen of the following species. Aster novae-angliae (New England Aster)
- Aster pilosus (Heath Aster) Coreopsis tripteris (Tall Coreopsis) Baptisia leucantha (White False Indigo) Echinacea purpurea (Purple Cornflower) Eryngium yuccifolium (Rattlesnake Master) Heliopsis helianthoides (Ox Eye Sunflower) ph: 517.456.9696 Liatris aspera (Rough Blazing Star) Liatris spicata (Dense Blazingstar) Monarda fistulosa (Bergamot) Physostegia virginiana (Obedient Plant) Pycnanthemum virginianum (Mountain Mint) Ratibida pinnata (Yellow Cornflower) Rudbeckia hirta (Black-Eyed Susan) Rudbeckia laciniata (Green-headed Coneflower) Silphium terebinthinaceum (Prairie Dock) Solidago altissima (Tall Goldenrod) Solidago graminifolia (Lance-leaved Goldenrod) Solidago rigida (Stiff Goldenrod) Tradescantia ohioensis (Spiderwort)
- Verbena urticifolia (White Vervain) 50% Temporary Grasses: will contain the following species Avena sativa (Seed Oats)
- Lolium multiflorum (Annual Rye) Recommended Seed Rate: 30lb/acre









Community Land Planner and registered Landscape Architect 24333 Orchard Lake Rd, Suite G Farmington Hills, MI 48336 ph. (248) 557-5588 fax. (248) 557-5416

client

seal:

SINGH DEVELOPMENT 7125 Orchard Lake Road Suite 200 West Bloomfield TWP., Michigan 48325

project: Ballantyne

project location:

City of Novi, Michigan 8-Mile Road and Garfield Road

sheet title: plant material list and

details

rev. job no./issue/revision date

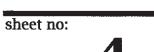
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LS13.041.04	city	4-26-2013
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LS14.019.09	city	9-9-2014
LS14.019.10	city	10-17-2014
LS15.028.02	STAMPING	2-27-2015

drawn by: JP, CZ, JT	
checked by:	
FP	
date:	
2-14-2015	
notice: Copyright	© 2015
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Do Not scale drawings. Use figured dimensions only

project no: LS15.028.02





tree replacement plant material list

key	SHT.L	-5 SHT.L-6	totals	botanical name	common name	size	cost	totals
NGR	- 20	B2	69	NYSSA SYLVATICA	BLACK GUM TUPELC	2 1/2" BB	1420	12760000
ASR	- 38	75	113	ACER SACCHARIM	BUGAR MAPLE	2 1/2" 88	1400	14520000
	- 23	86	129	ACER R 'FRANKSRED'	RED SUNSET RED MAPLE	2 1/2" 88	\$400	M3600.00
LSR	- 25	68	93	LIGUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	2 1/2" 88	1400	•372000C
LTR	- 19	33	52	LIRICDENDRON TULIPIFERA	TULIPTREE	2 1/2" 88	\$420	12822.22
PCR		42	42	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2 1/2" 88	1400	1680000
GTR	- 16	61		GLEDITSIA TRI. INERMIS 'SKYCCLE'	SKYLINE LOCUST	2 1/2" 88	¥20	130,800.00
GDR	- 19	27	46	GYMNCCLADUS DICCUS	KENTUCKY COTTEETREE	2 1/2" BB	\$420	\$18,40000
CCR	- 16		17	CERCIS CANADENSIS	EASTERN REDBUD	2 1/2" 88	\$400	16 BCC 20
OVR	- 4	Б	9	CSTRYA VIGINIANA	AMERICAN HOPHORNBEAM	2 1/2" 88	\$420	1360000
TAR	- 9	33	42	TILIA AMERICANA	American Bassuccd	2 1/2" 88	\$400	16800.00
COR		8	8	CELTIS CCCIDENTALIS	NORTHERN HACKBERRY	2 1/2" 88	\$420	¥3200.00
QCR	- 45	31	76	QUERCUS COCCINEA	SCARLET CAK	2 1/2" 88	+400	*30 ACO DO
GRR	- 15	38	53	CUERCUS RUBRA	RED CAK	2 1/2" 88	\$420	12120000
QBR	- 19	41	66	GUERCUS 'BICCLOR'	SWAMP WHITE CAK	2 1/2" 88	+400	\$26 ADC DC
PGR	- 17	91	174	PICEA GLAUCA	WHITE SPRUCE	T' BB	+400	16360000
PSR	- 66	124	170	PINUS STROBUS	EASTERN WHITE PINE	T' BB	¥42C	168,000.00
TCR	- 27	79	126	TSUGA CANADENSIS	CANADIAN HEMLCCK	T' BB	1400	\$42,400,00

City of Novi landscape notes:

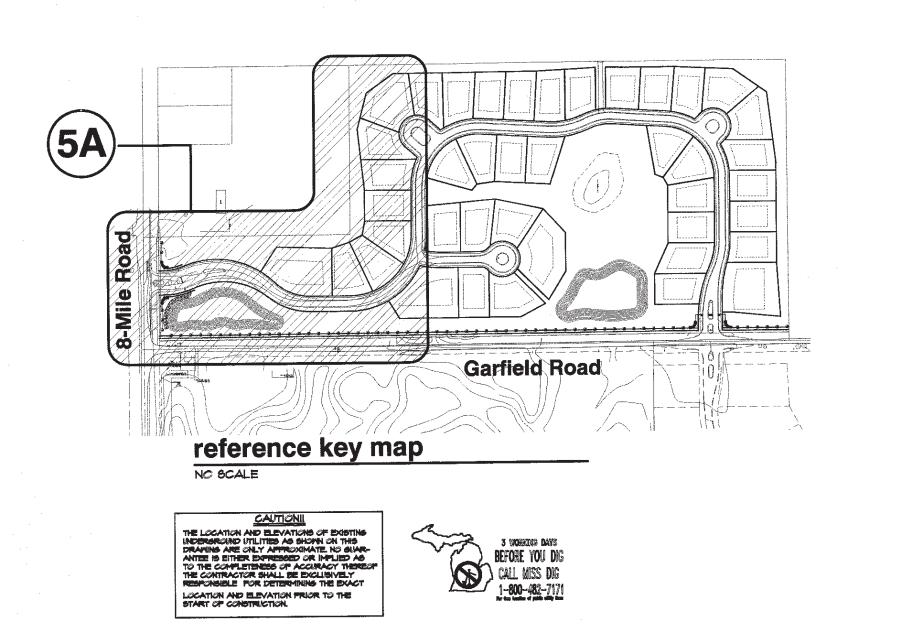
- GENERAL NOTES: 1) PLANT MATERIALS TO BE INSTALLED ACCORDING TO THE CITY OF NOVI AND CURRENT AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
- 2) PLANT MATERIALS TO BE GUARANTEED FOR 2 YEARS. REPLACE FALLING MATERIAL WITHIN I YEAR, OR THE NEXT APPROPRIATE PLANTING PERIOD.
- 3) PLANT MATERIALS TO BE OF PREMIUM QUALITY, NO. I GRADE NORTHERN NURSURY GROWN, IN HEALTHY CONDITION, FREE OF PESTS AND DISEASES.
- 4) MULCH IS TO BE NATURAL COLORED, FINELY SHREDDED HARDWOOD BARK OF 4" THICK BARK MULCH FOR TREES IN 4' DIA. CIRCLE W3" PULLED AWAY FROM TRUNK, 3" THICK BARK MULCH FOR SHRUBS AND 2" THICK BARK MULCH FOR PERRENIALS.
- 5) CALL MISS DIG AT 1-822-482-1111 PRIOR TO ANY CONSTRUCTION. 6) DATE OF INTENDED LANDSCAPE INSTALLATION TO BE FALL 2005. DECIDUCUS & EVERGREEN TREE:
- 1) TREE SHALL BE INSTALLED SAME RELATIONSHIP TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY
- SCIL AREAS. 2) DO NOT PRUNE TERMINAL LEADER PRUNE ONLY DEAD OR BROKEN BRANCHES.
- 3) REMOVE ALL TAGE, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSLIGHTLY AND COULD CAUSE GIRDLING. 4) REMOVE TREE STAKES, GUY WIRES AND TREE WRAP AFTER ONE WINTER SEASON. SHRUB:
- 1) SHRUB SHALL BE INSTALLED SAME RELATIONSHIP TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SCIL AREAS. 2) DO NOT PRUNE TERMINAL LEADER. PRUNE ONLY DEAD OR BROKEN
- BRANCHES. 3) REMOVE ALL TAGE, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSLIGHTLY AND COULD CAUSE GIRDLING.
- TREE PROTECTION: 1) EITHER PLASTIC OR WOOD ORANGE SNOW FENCING SHALL BE INSTALLED AT OR BEYOND THE DRIPLINE, UNLESS MORE SUBSTANTIAL FENCING IS REGUIRED.
- 2) STAKES SHALL BE METAL 'T' POLES SPACED NO FURTHER THAN 5' ON CENTER 3) FENCING SHALL NOT BE INSTALLED CLOSER TO THE TREE THAN THE DRIPLINE OF THOSE TREES TO BE SAVED. SPECIAL CIRCUMSTANCES SHALL

BE REVIEWED BY THE CITY.

- 4) FENCING SHALL BE ERECTED PRICE TO CONSTRUCTION. THE CITY SHALL BE NOTIFIED ONCE THE FENCING IS INSTALLED FOR INSPECTION. 5) UNDER NO CIRCUMSTANCES SHALL THE PROTECTIVE FENCING BE REMOVED WITHOUT PROPER APPROVAL FROM THE CITY.
- 6) NO PERSON SHALL CONDUCT ANY ACTIVITY WITHIN THE AREAS PROPOSED TO REMAIN. THIS SHALL INCLUDE, BUT NOT LIMITED TO: a. NO SOLVENTS OR CHEMICALS WITHIN THE PROTECTED AREAS.
- **b.NC BUILDING MATERIALS OR CONSTRUCTION EQUIPTMENT WITHIN THE** PROTECTED AREAG. C. NO GRADE CHANGES, INCLUDING FILL, WITHIN THE PROTECTED AREAS.
- d.NC REMOVAL OF VEGETATION FROM THE GROUND UP WITHOUT PERMISSION FROM THE PROPER REVIEWING AUTHORITY, INCLUDING THE WOODLANDS REVIEW BCARD.
- 6. ANY REQUIRED SWALE NEEDS TO BE DIRECTED AROUND THE PROTECTED AREAS. IN INSTANCES WHERE SWALES ARE APPROVED THRU A PROTECTED AREA, THE SWALES NEED TO BE HAND DUG. MACHINERY OF ANY KIND IS PRCHIBITED.
- 1) REGULATED WOODLANDS OR REGULATED TREES ADJACENT ADJACENT TO THE PROPERTY ARE ALSO REGUIRED TO BE PROTECTED WHETHER OR NOT THEY ARE SHOWN ON THE PLAN.

CPEN SPACE PARK AREAS TO RECEIVE UPLAND PRAIRIE SEED MIX PLANTING OR HYDROGEED ON FINISH GRADE.

SIGNAGE MONUMENT AND ENTRY WALLS. FINAL LOCATION, SIZE, MATERIAL AND METHOD OF CONSTRUCTION AND DETAILS PER CITY OF NOVI REQUIREMENTS AND APPROVAL. SEE SHT. LS-1 FOR DETAILS



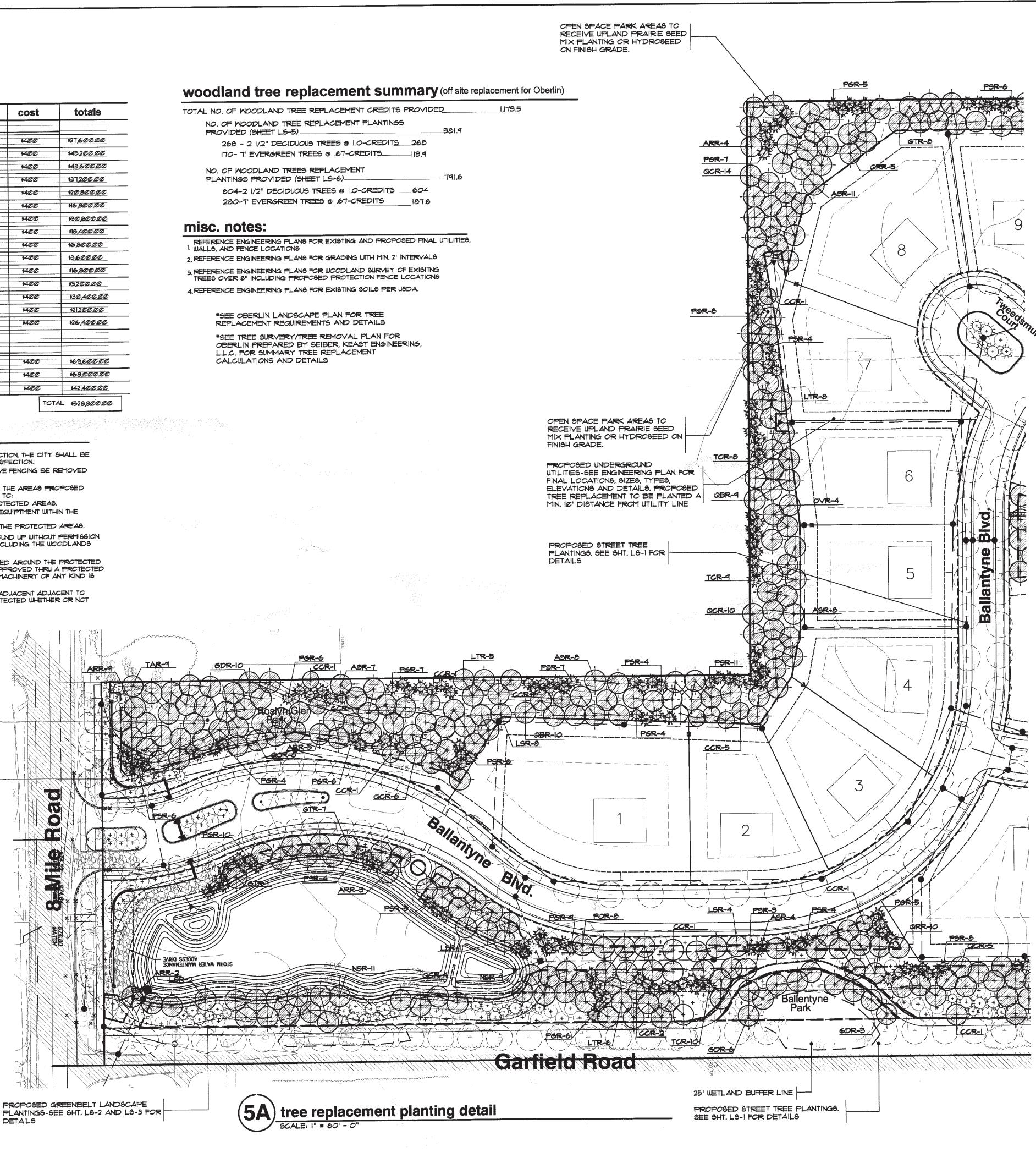
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DETAILS

TAL NO. OF WOODLAND TREE REPLACEMENT CREDITS F	ROVIDE	D
NO. OF WOODLAND TREE REPLACEMENT PLANTINGS PROVIDED (SHEET LS-5)		_381.9
268 - 2 1/2" DECIDUOUS TREES @ 1.0-CREDITS	268	
170- 7' EVERGREEN TREES @ .67-CREDITS	-113.9	
NO. OF WOODLAND TREES REPLACEMENT PLANTINGS PROVIDED (SHEET LS-6)		791.6
604-2 1/2" DECIDUOUS TREES @ 1.0-CREDITS	_604	
280-7' EVERGREEN TREES @ .67-CREDITS	187.6	

at a stranger

CPEN SPACE PARK AREAS TO FINISH GRADE.





Community Land Planner and registered Landscape Architect 24333 Orchard Lake Rd, Suite G Farmington Hills, MI 48336 ph. (248) 557-5588 fax. (248) 557-5416

seal:



client:

SINGH DEVELOPMENT 7125 Orchard Lake Road, Suite 200 West Bloomfield TWP., Michigan 48325

project: Ballantyne

project location:

City of Novi, Michigan 8-Mile Road and Garfield Road

sheet title:

site off woodland tree replacement planting plan for Oberlin

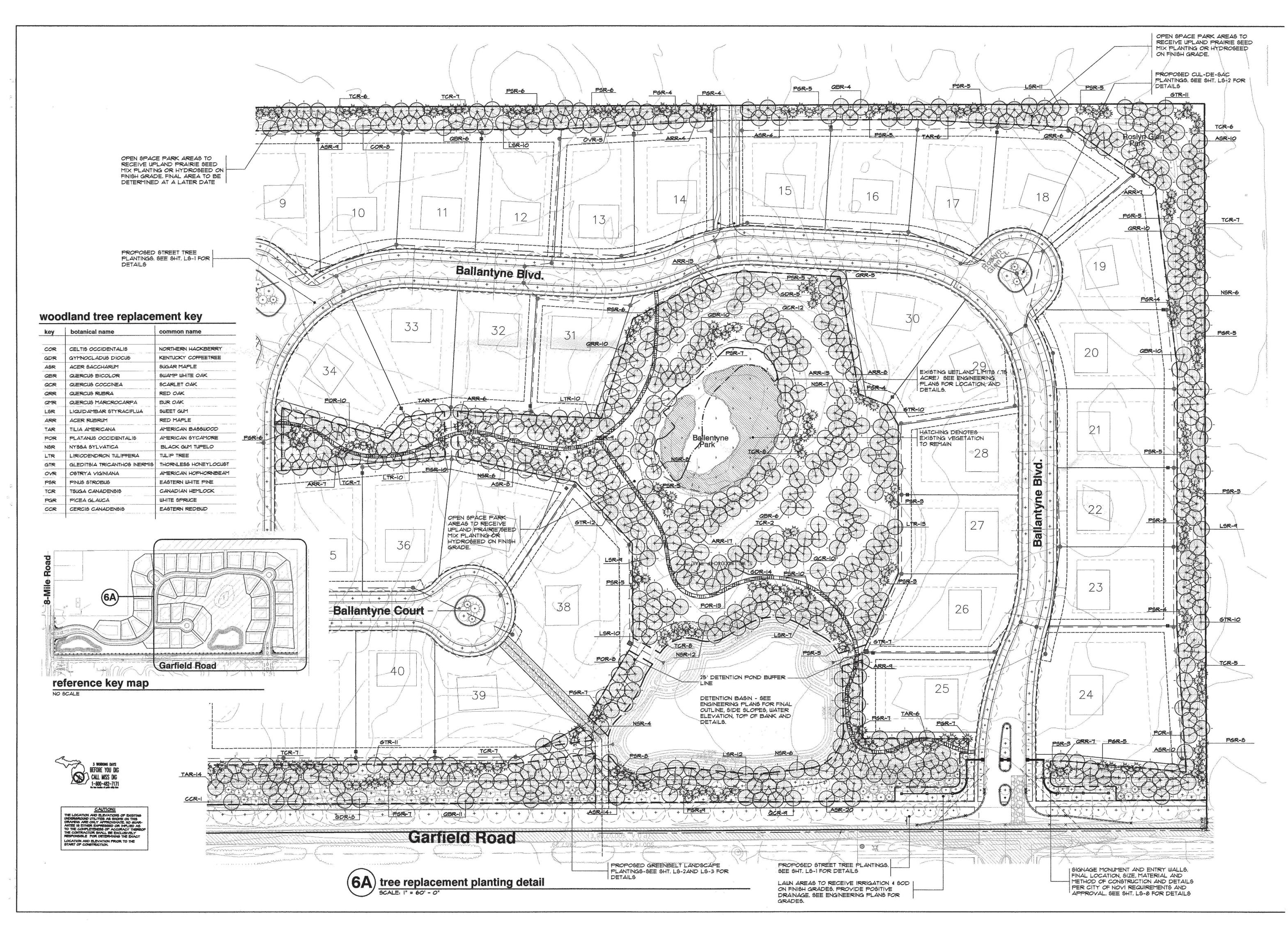
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LS14.019.04	city	4-24-2014
LS14.019.06	city	6-20-2014
LS14.019.07	city	7-16-2014
LS14.019.08	city	8-22-2014
LS14.019.09	city	9-9-2014
LS14.019.10	city	10-17-2014
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drawn by:	
JP, CZ, JT	
checked by:	
FP	
date:	
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LS-5



FELINO A. PASCUAL and ASSOCIATES Community Land Planner and registered Landscape Architect 24333 Orchard Lake Rd, suite G farmington Hills, MI 48336 ph. (248) 557-5588 fax. (248) 557-5416 seal:

client:

SINGH DEVELOPMENT 7125 Orchard Lake Road, Suite 200 West Bloomfield TWP., Michigan 48325

project: Ballantyne

project location:

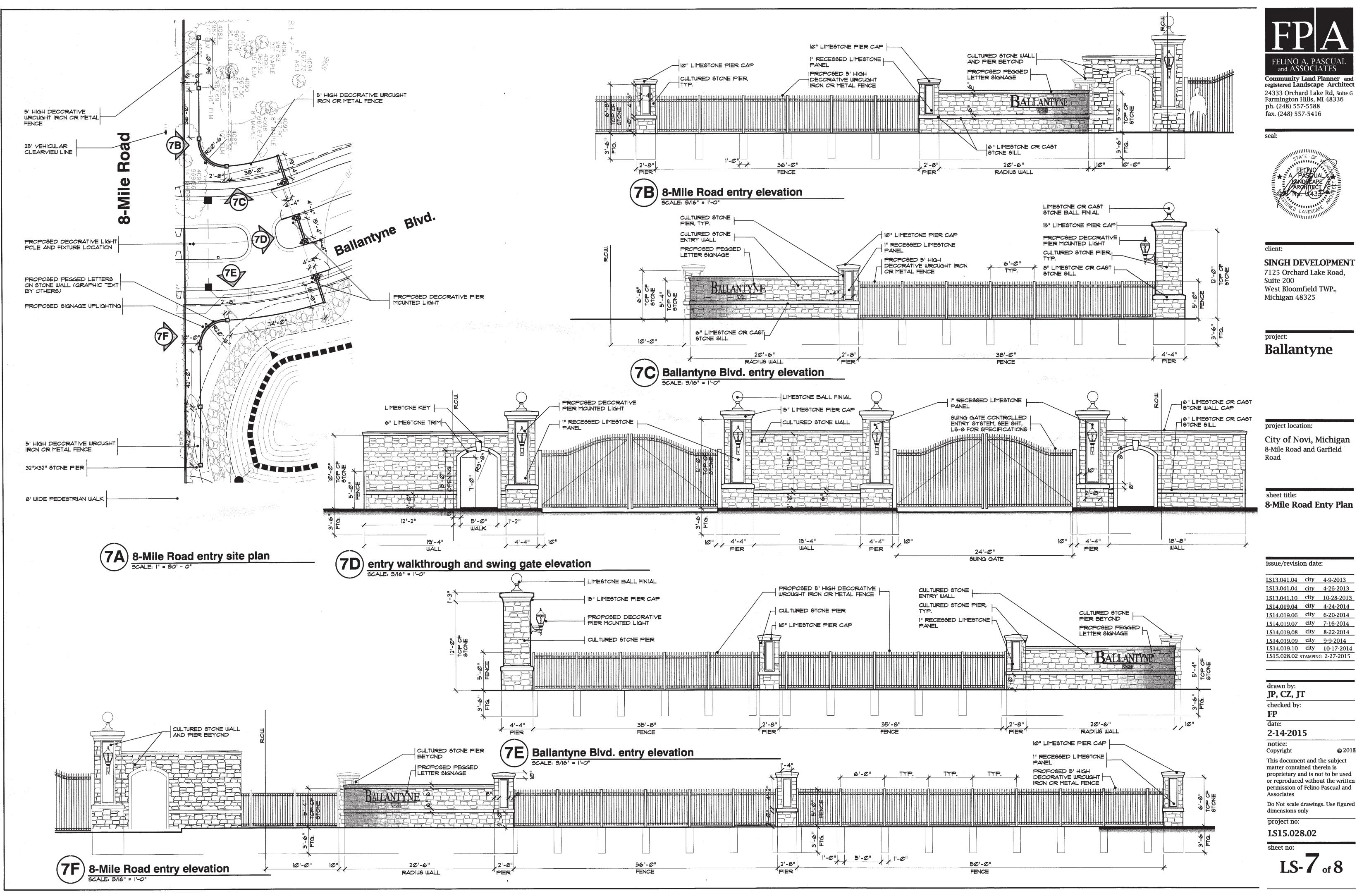
City of Novi, Michigan 8-Mile Road and Garfield Road

sheet title:

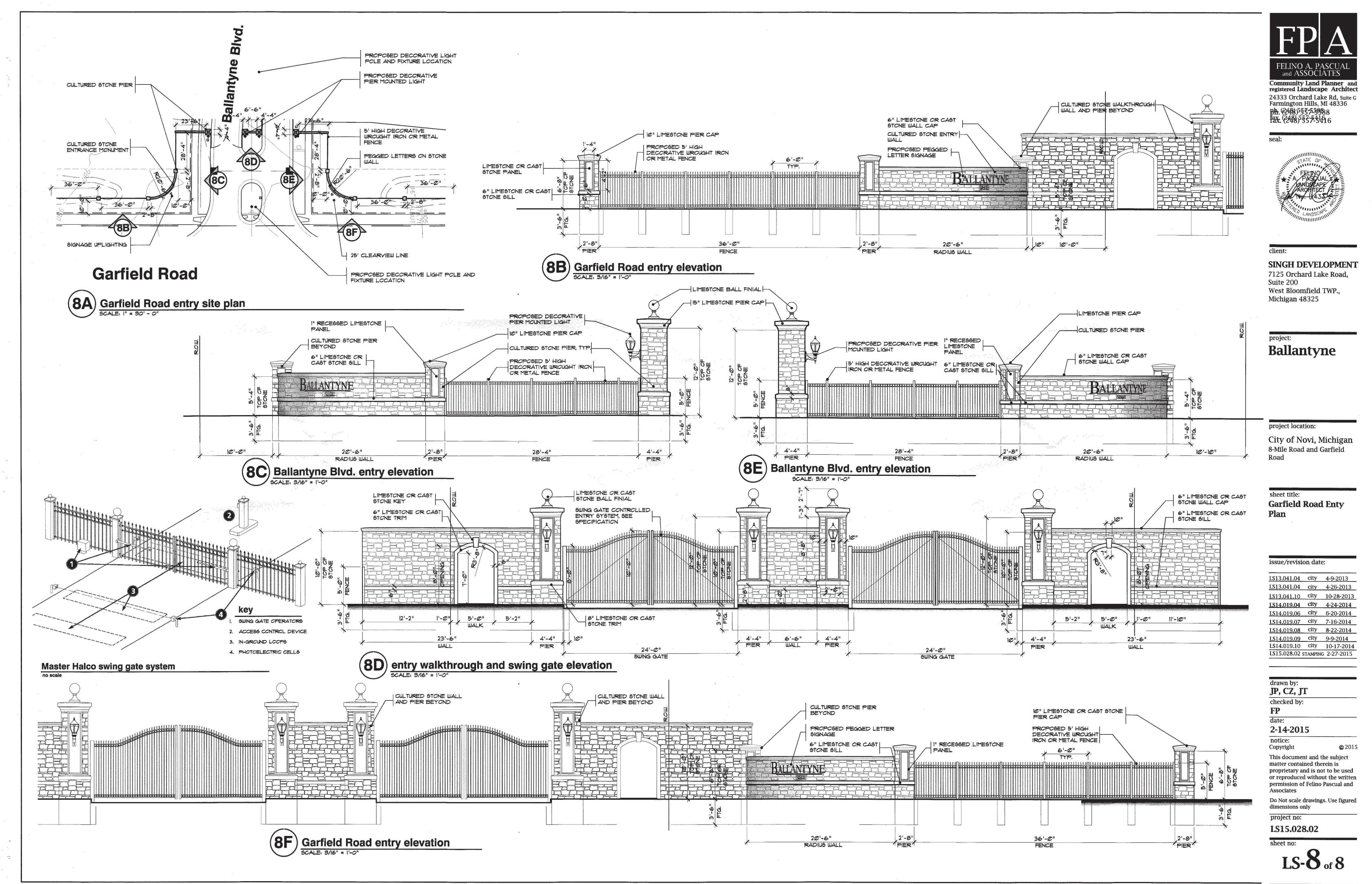
site off woodland tree replacement planting plan for Oberlin

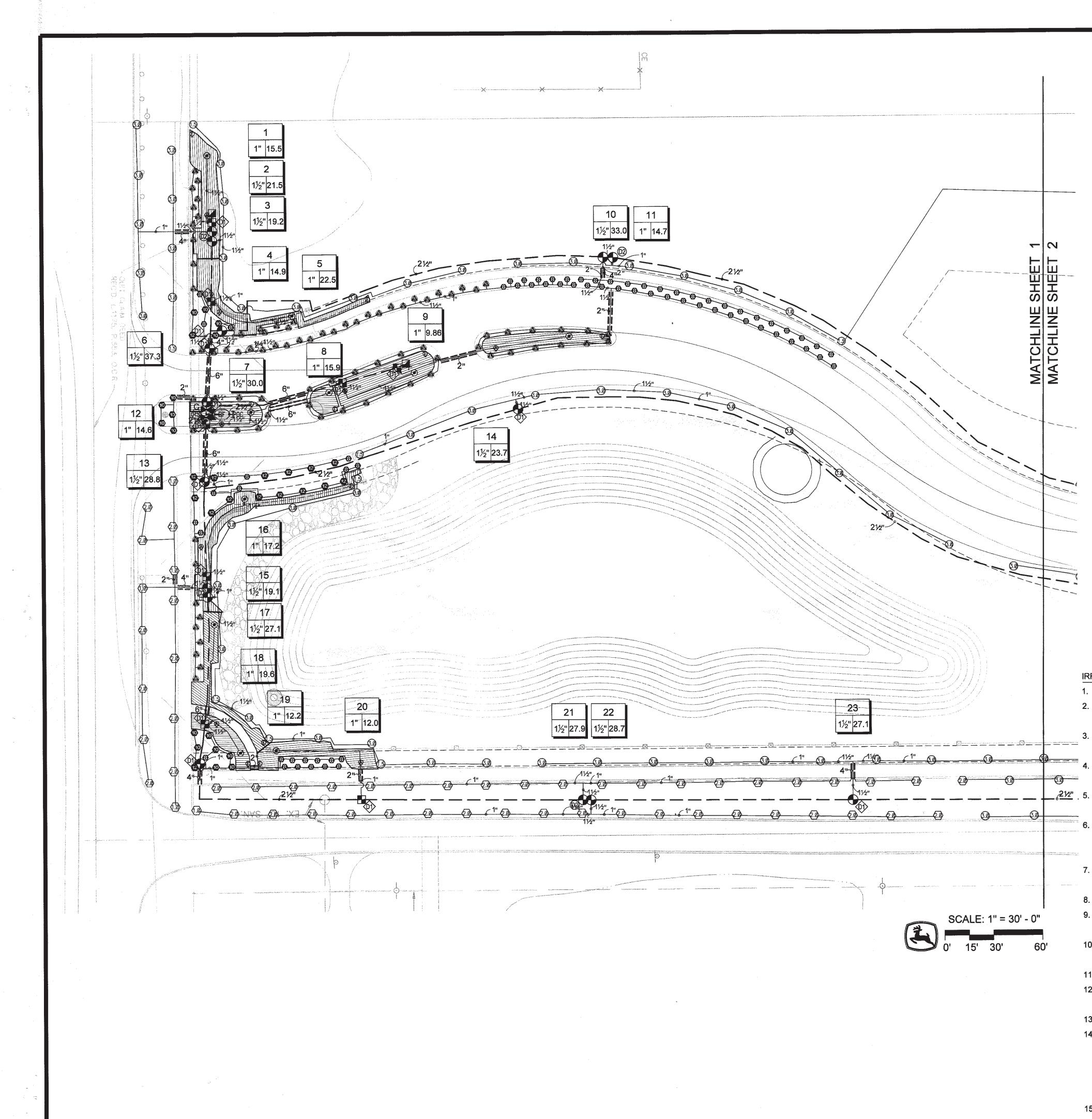
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LS13.041.04	city	4-26-2013
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LS-6 of 8



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IRRIGATION SPECIFICATIONS

- 1. IRRIGATION SYSTEM DESIGN BASED ON 80 GPM AT 55 PSI.
- CHANGE IN THE AREAS OF IRRIGATION.
- LOCAL CODE.
- WITH MINIMUM 12" OF COVER BASED ON FINISH GRADES.
- ONLY.
- VALVE OR SPLICE BOX.

SCHEDULE

IRRIG	ATION	S
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	MANUFACTURER/MODEL	QTY	<u>PSI</u>
	Rain Bird 1804-U-PRS 15 Strip Series	111	30
	Rain Bird 1804-U-PRS ADJ	176	30
	MANUFACTURER/MODEL	QTY	PSI
	Rain Bird 5004-PC, FC-R	20	25
	Rain Bird 5004-PC, FC-R	218	25
	Rain Bird 5004-PC, FC-R-LA	8	25
	Rain Bird 5004-PC, FC-R-LA	69	25
	MANUFACTURER/MODEL	QTY	
	Rain Bird XCZ-100-PRF 1"	13	
	Pipe Transition Point	19	
	Flush Valve	19	
	Drip Air Relief Valve	13	
	Area to Receive Dripline Rain Bird XFD-09-12 (12)	12,451 s.f.	
	MANUFACTURER/MODEL	QTY	
	Rain Bird PGA Globe 1"	8	
	Rain Bird PGA Globe 1-1/2"	28	
	Rain Bird 5-RC 1"	5	
	Isolation Valve, Mainline Size	3	
	Febco 765 2"	1	
	Rain Bird ESP-LXD	1	
	Rain Bird Rain Check	1	
	Rain Bird FD-101TURF	29	
	Rain Bird FD-102TURF (2)	10	
	Point Of Connection, 2"	1	
	Irrigation Lateral Line: Polyethylene Pipe SDR-7 1"	12,326 l.f.	
	Irrigation Lateral Line: Polyethylene Pipe SDR-7 1 1/2"	1,786 l.f.	
	Irrigation Lateral Line: Polyethylene Pipe SDR-7 2"	49.9 l.f.	
	Irrigation Mainline: PVC Class 160 SDR 26 2 1/2"	6,710 l.f.	
	Pipe Sleeve: PVC Class 160 SDR 26 2"	216.1 l.f.	
	Pipe Sleeve: PVC Class 160 SDR 26 4"	133.3 l.f.	
al	Pipe Sleeve: PVC Class 160 SDR 26 6" ve Callout	141.2 l.f.	
	Valve Number		
	Valve Flow		
	Valve Size		

<u>GPM</u>

1.12

2.26

0.73

1.47

#" #•

POC

لنتقر جيبة جب حيد حد احد حدد عدب

2. IRRIGATION DESIGN IS FROM THE POINT OF CONNECTION (POC) ONLY. THE DESIGN IS BASED ON GALLONS PER MINUTE(GPM)AND POUNDS PER SQUARE INCH(PSI)FURNISHED BY OTHERS.

3. IRRIGATION CONTRACTOR IS TO VERIFY POINT OF CONNECTION IN THE FIELD. INSTALLER IS TO CONFIRM THE MINIMUM DISCHARGE REQUIREMENTS OF THE POINT OF CONNECTION AS INDICATED ON THE LEGEND PRIOR TO INSTALLATION. 4. THE PRESSURE REQUIREMENT AT THE POINT OF CONNECTION IS BASED ON NO MORE THAN 5 FEET OF ELEVATION

stamping set 02/27/15 ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.

6. IRRIGATION CONTRACTOR WILL ARRANGE INSPECTIONS REQUIRED BY LOCAL AGENCIES AND ORDINANCES DURING TH COURSE OF CONSTRUCTION AS REQUIRED. ALL WIRING TO BE PER LOCAL CODE. BACKFLOW PREVENTION TO BE PER

7. LOCATION OF IRRIGATION COMPONENTS SHOWN ON DRAWING IS APPROXIMATE. ACTUAL PLACEMENT MAY VARY SLIGHTLY AS REQUIRED TO ACHIEVE FULL, EVEN COVERAGE.

8. ALL SPRINKLER HEADS SHALL BE INSTALLED PERPENDICULAR TO FINISH GRADES. EXCEPT AS OTHERWISE INDICATED. 9. INSTALL IRRIGATION MAINS WITH A MINIMUM 18" OF COVER BASED ON FINISH GRADES. INSTALL IRRIGATION LATERALS

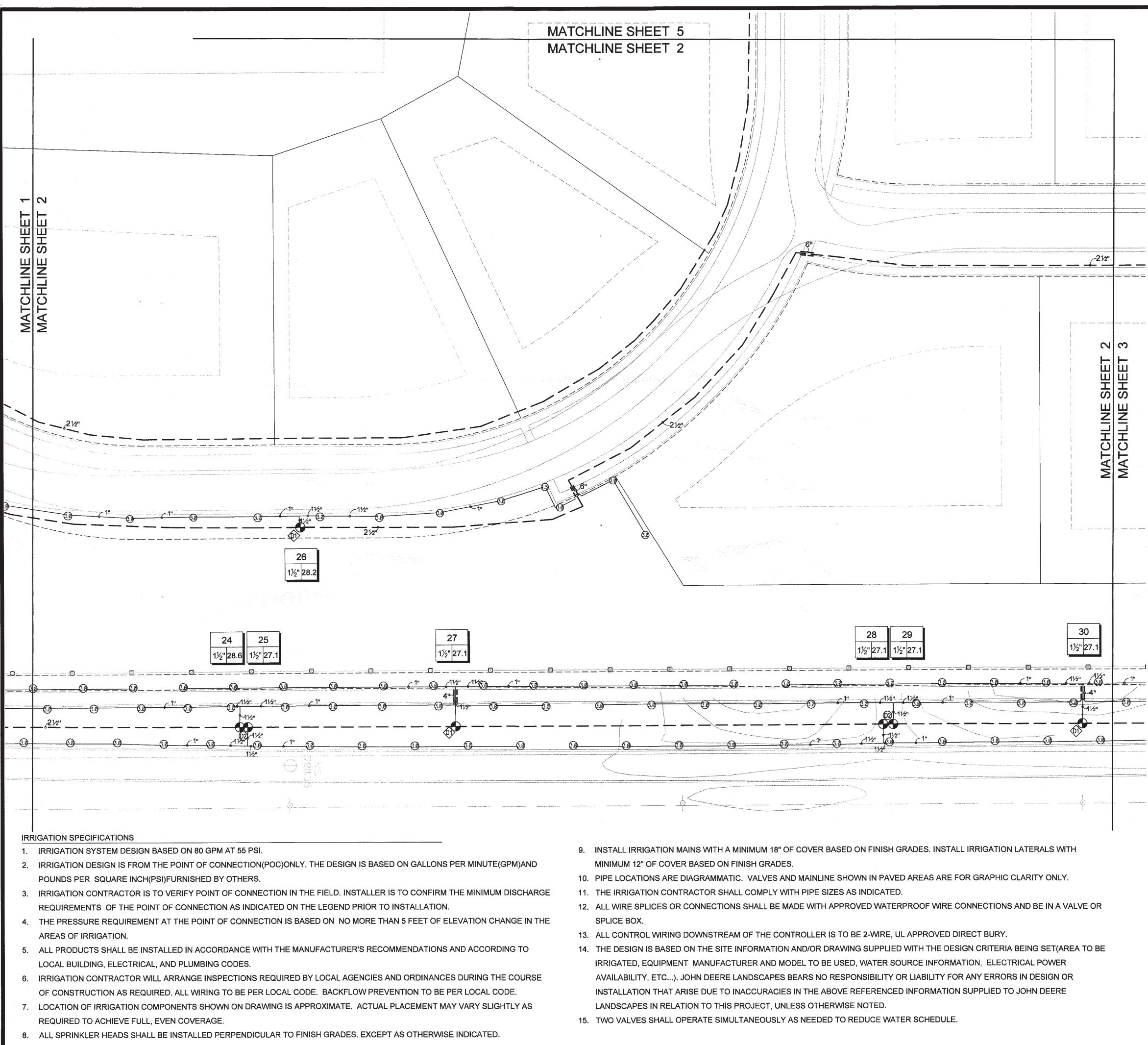
10. PIPE LOCATIONS ARE DIAGRAMMATIC. VALVES AND MAINLINE SHOWN IN PAVED AREAS ARE FOR GRAPHIC CLARITY

11. THE IRRIGATION CONTRACTOR SHALL COMPLY WITH PIPE SIZES AS INDICATED.

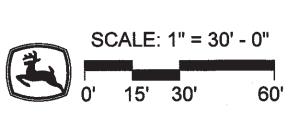
12. ALL WIRE SPLICES OR CONNECTIONS SHALL BE MADE WITH APPROVED WATERPROOF WIRE CONNECTIONS AND BE IN A

13. ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 2-WIRE, UL APPROVED DIRECT BURY. 14. THE DESIGN IS BASED ON THE SITE INFORMATION AND/OR DRAWING SUPPLIED WITH THE DESIGN CRITERIA BEING SET(AREA TO BE IRRIGATED, EQUIPMENT MANUFACTURER AND MODEL TO BE USED, WATER SOURCE INFORMATION, ELECTRICAL POWER AVAILABILITY, ETC ...). JOHN DEERE LANDSCAPES BEARS NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS IN DESIGN OR INSTALLATION THAT ARISE DUE TO INACCURACIES IN THE ABOVE REFERENCED INFORMATION SUPPLIED TO JOHN DEERE LANDSCAPES IN RELATION TO THIS PROJECT, UNLESS OTHERWISE NOTED. 15. TWO VALVES SHALL OPERATE SIMULTANEOUSLY AS NEEDED TO REDUCE WATER SCHEDULE.

	650 Stephenson Highway Troy, Michigan 48083 Phone 248.588.2100 Fax 248.588.3528 www.JohnDeereLandscapes.com 800.347.4272
	800.347.4272 Project Name: BALLANTYNE NORTHVILLE, MI
	Customer Name:
	Design Date: 01/13/15 Drawn By: J. LOVELL
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-IE	REVISIONS Description Date A 01/19/15 A Legend Updated 01/22/15 A Page Rescaled 01/28/15 A Stamping Set 02/27/15 A E E A E E
	Drawing Title: IRRIGATION DESIGN
	Drawing Scale: 1" = 30'
Α	Project Services Number: 68257
	Sheet Number:



SYMBOL	MANUFACTURER/MODEL	<u>QTY</u>	<u>PSI</u>		
	Rain Bird 1804-U-PRS 15 Strip Series	111	30		Ш 🏹 🗌
	Rain Bird 1804-U-PRS ADJ	176	30		
SYMBOL	MANUFACTURER/MODEL	QTY	<u>PSI</u>	G	
1.5	Rain Bird 5004-PC, FC-R	20	25	1.	$\overline{\mathbf{n}}$
3. Ø	Rain Bird 5004-PC, FC-R	218	25	2.	L L Ö
1.0	Rain Bird 5004-PC, FC-R-LA	8	25	0.	Ző
Q.Ø	Rain Bird 5004-PC, FC-R-LA	69	25	1.4	
SYMBOL	MANUFACTURER/MODEL	QTY			ō ā
	Rain Bird XCZ-100-PRF 1"	13			
۲	Pipe Transition Point	19			
¢	Flush Valve	19			
Ø	Drip Air Relief Valve	13			
	Area to Receive Dripline Rain Bird XFD-09-12 (12)	12,451 s.f.			
					650 Stephenson Highway Troy, Michigan 48083
<u>SYMBOL</u>	MANUFACTURER/MODEL	QTY			Phone 248.588.2100 Fax 248.588.3528
	Rain Bird PGA Globe 1"	8			www.JohnDeereLandscapes 800.347.4272
•	Rain Bird PGA Globe 1-1/2"	28			Project Name:
	Rain Bird 5-RC 1"	5			BALLANTYNE
	Isolation Valve, Mainline Size	3			NORTHVILLE, MI
(BF)	Febco 765 2"	1			
	Rain Bird ESP-LXD	1			
® €	Rain Bird Rain Check	1			
	Rain Bird FD-101TURF	29			
©2 POC H	Rain Bird FD-102TURF (2)	10			Customer Name:
μTų	Point Of Connection, 2"	1			
	Irrigation Lateral Line: Polyethylene Pipe SDR-7 1"	12,326 l.f.			
	Irrigation Lateral Line: Polyethylene Pipe SDR-7 1 1/2"	1,786 l.f.			
	Irrigation Lateral Line: Polyethylene Pipe SDR-7 2"	49.9 l.f.			
······	Irrigation Mainline: PVC Class 160 SDR 26 2 1/2"	6,710 l.f.			
	Pipe Sleeve: PVC Class 160 SDR 26 2"	216.1 l.f.			
	Pipe Sleeve: PVC Class 160 SDR 26 4"	133.3 l.f.			
	Pipe Sleeve: PVC Class 160 SDR 26 6" alve Callout	141.2 l.f.			Design Date: 01/13/1



Drawing Title:

Description

IRRIGATION DESIGN

Legend Updated

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REVISIONS

Stamping Set 02/27/15

Date

01/19/15

01/22/15

01/28/15

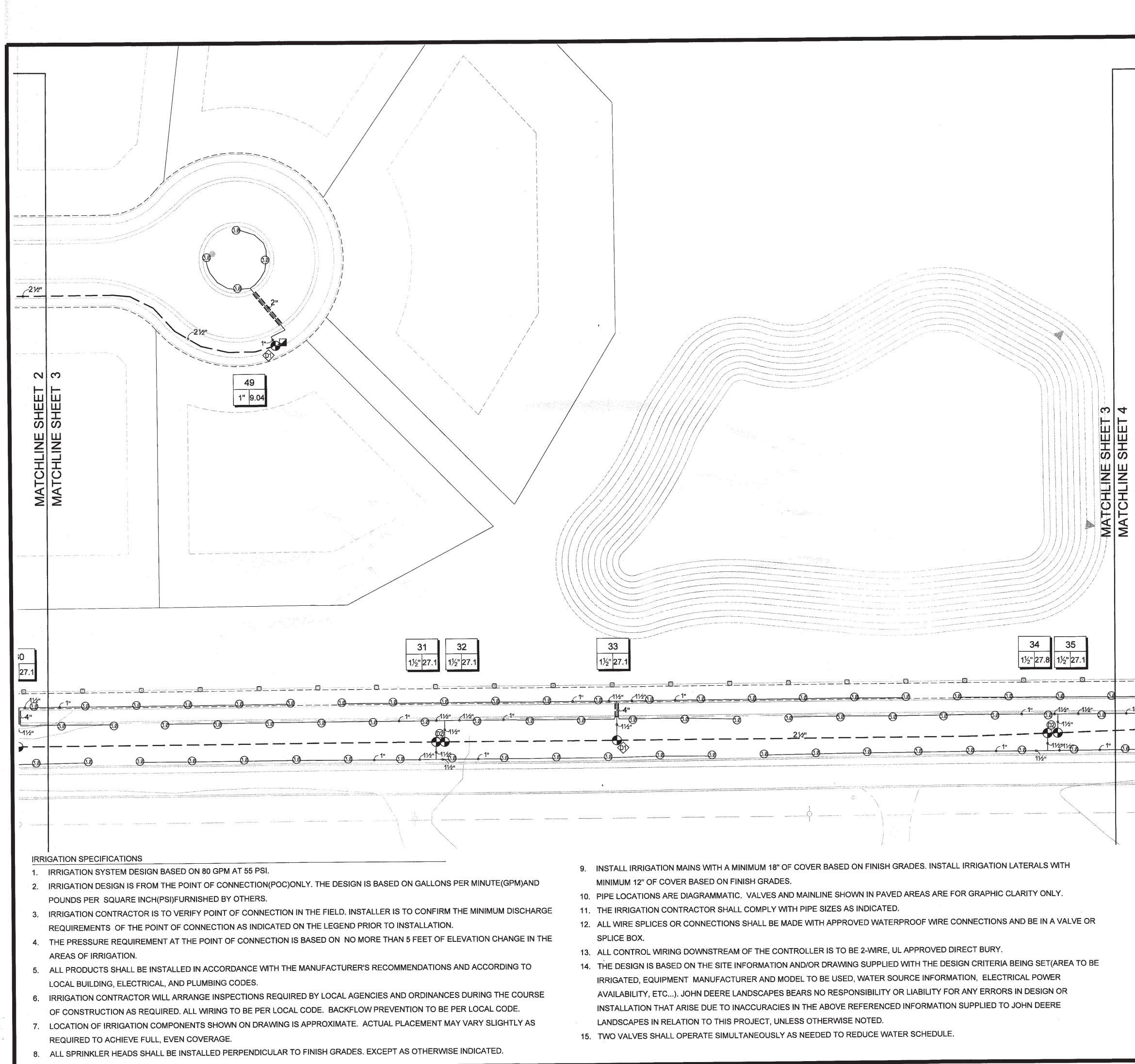
1" = 30'

Drawing Scale:

Project Services Number: 68257

Sheet Number:

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	IRRIGATION SC	HEDULE					
-	SYMBOL	MANUFACTURER/MODEL	QTY	PSI		ШО	
		Rain Bird 1804-U-PRS 15 Strip Series	111	30		Т	
	CONTRACTOR OF CONTRACTOR CONTRACTOR OF CONTRACTOR	Rain Bird 1804-U-PRS ADJ	176	30			
	SYMBOL	MANUFACTURER/MODEL	QTY	PSI	G	Ы₫	
	1.5	Rain Bird 5004-PC, FC-R	20	25	1.	$\mathbf{\hat{n}}$	
	3.0	Rain Bird 5004-PC, FC-R	218	25	2.		
	(1.0)	Rain Bird 5004-PC, FC-R-LA	8	25	0.	Ző	
	Q.Ø	Rain Bird 5004-PC, FC-R-LA	69	25	1.	I 로닝	
	SYMBOL	MANUFACTURER/MODEL	QTY			5	
		Rain Bird XCZ-100-PRF 1"	13				
		Pipe Transition Point	19				
	Ð	Flush Valve	19				
	Ø	Drip Air Relief Valve	13				
		Area to Receive Dripline Rain Bird XFD-09-12 (12)	12,451 s.f.				
	[]					650 Stephenson Highway Troy, Michigan 48083	
	SYMBOL	MANUFACTURER/MODEL	QTY			Phone 248.588.21	
	•	Rain Bird PGA Globe 1"	8			www.JohnDeereLandscap	
	\bullet	Rain Bird PGA Globe 1-1/2"	28			800.347.4272	
		Rain Bird 5-RC 1"	5			Project Name: BALLANTYNE	
	X	Isolation Valve, Mainline Size	3			NORTHVILLE, MI	
	(BF)	Febco 765 2"	1				
•	С	Rain Bird ESP-LXD	1				
	RS	Rain Bird Rain Check	1				
	\odot	Rain Bird FD-101TURF	29				
)	62	Rain Bird FD-102TURF (2)	10				
	POC	Point Of Connection, 2"	1			Customer Name:	
		Irrigation Lateral Line: Polyethylene Pipe SDR-7 1"	12,326 I.f.				
)		Irrigation Lateral Line: Polyethylene Pipe SDR-7 1 1/2"	1,786 l.f.				
		Irrigation Lateral Line: Polyethylene Pipe SDR-7 2"	49.9 l.f.				
	······	Irrigation Mainline: PVC Class 160 SDR 26 2 1/2"	6,710 l.f.				
		Pipe Sleeve: PVC Class 160 SDR 26 2"	216.1 l.f.				
		Pipe Sleeve: PVC Class 160 SDR 26 4"	133.3 l.f.				
		Pipe Sleeve: PVC Class 160 SDR 26 6" alve Callout	141.2 l.f.			Design Date: 01/1:	3/15
	# •	Valve Number				Drawn By: J. LO'	VELL
	# <mark>"</mark> #•	Valve Flow					
		——— Valve Size			•		
1							
<u></u>						REVISIONS	
						Description	Date
<u>) </u>						<u>A</u> 0	1/19/15
	SCALE: 1	" = 30' - 0"					1/22/15 1/28/15
						<u>A</u> Page Rescaled 0	1120110

0' 15' 30'

Drawing Title:

\land Stamping Set

IRRIGATION DESIGN

Drawing Scale:

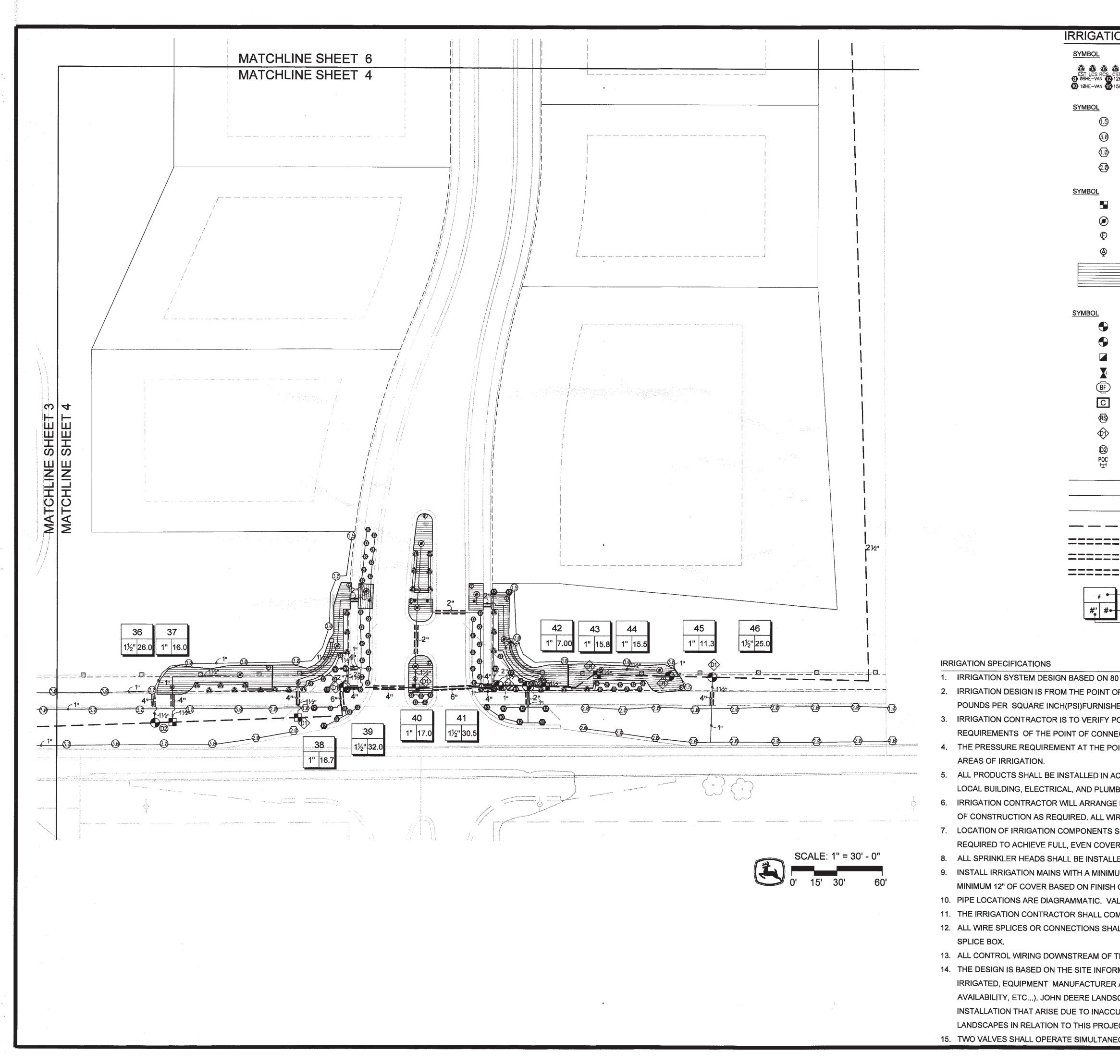
1" = 30'

02/27/15

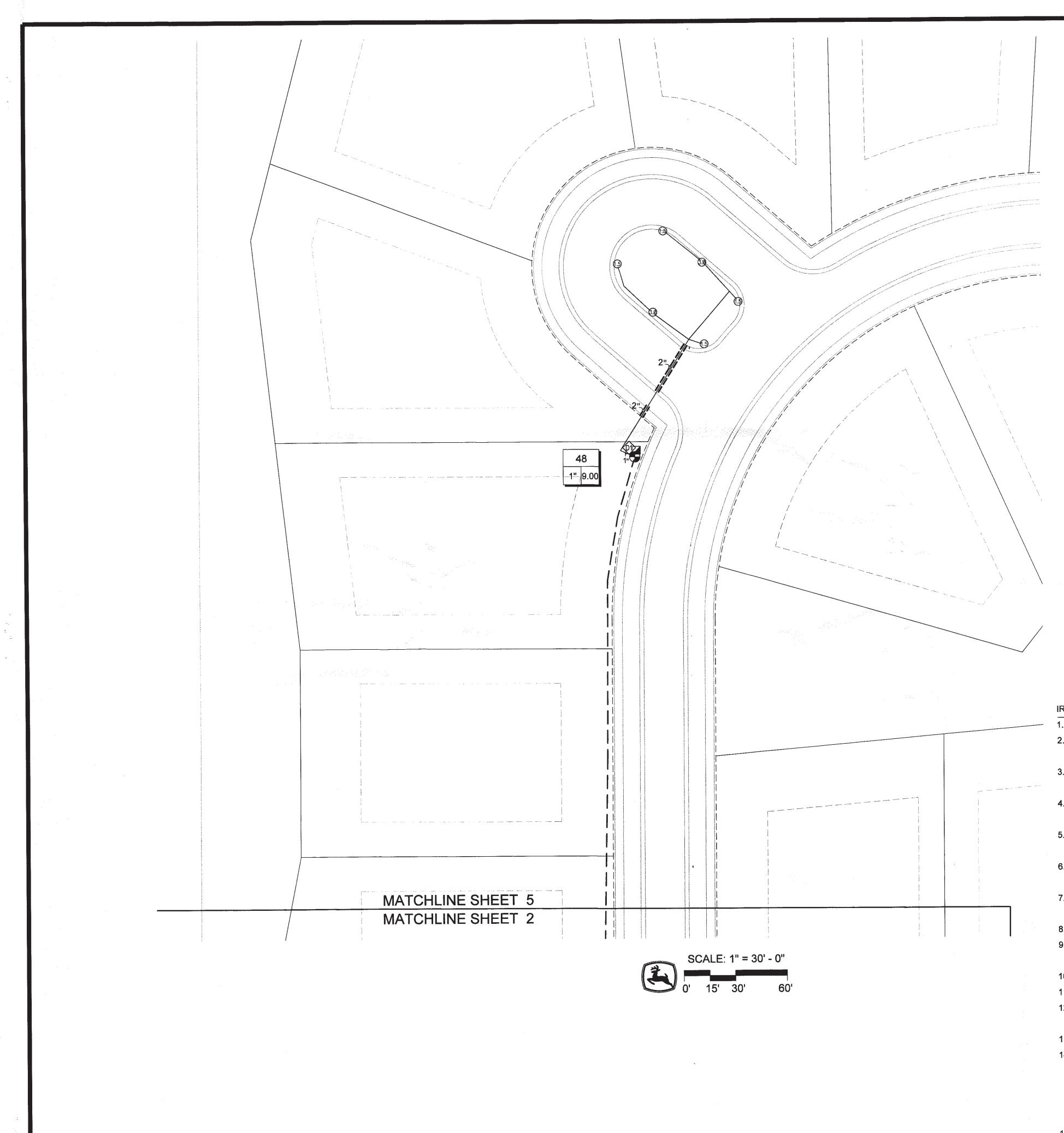
Project Services Number: 68257

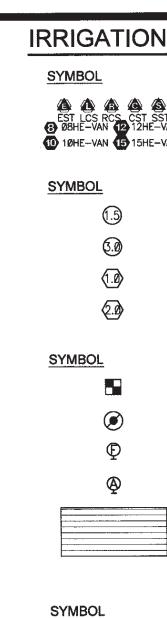
Sheet Number:

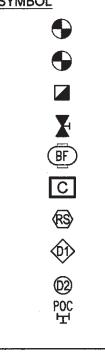
IR-3



	CHEDULE							· · · · ·	
	MANUFACTURER/MODEL	QTY							
a a	Rain Bird 1804-U-PRS 15 Strip Series	<u>urr</u> 111	<u>P</u> S 30	_					
CST SST 12HE-VAN 15HE-VAN	Rain Bird 1804-U-PRS ADJ	176	30						
15HL-VAN		170	00					L L	I L
	MANUFACTURER/MODEL	<u>QTY</u>	<u>P</u> 5	<u>G</u>					
	Rain Bird 5004-PC, FC-R	20	25	1.				ſ	
	Rain Bird 5004-PC, FC-R	218	25	2.					Ω
	Rain Bird 5004-PC, FC-R-LA	8	25	0.				Z	Ö
	Rain Bird 5004-PC, FC-R-LA	69	25	1.4					• 🚽
	MANUFACTURER/MODEL	QTY						7	5
	Rain Bird XCZ-100-PRF 1"	13							
	Pipe Transition Point	19							
	Flush Valve	19							
	Drip Air Relief Valve	13							
	Area to Receive Dripline								/
	Rain Bird XFD-09-12 (12)	12,451 s.f.							
								650 Stephense	
	MANUFACTURER/MODEL	QTY							248.588.2100
	Rain Bird PGA Globe 1"	8							248.588.3528 reLandscapes.com
	Rain Bird PGA Globe 1-1/2"	28						800.347	
	Rain Bird 5-RC 1"	5						Project Name:	
	Isolation Valve, Mainline Size	3						BALLANTYNE NORTHVILLE, M	I
	Febco 765 2"	1						WILLE, WILLE, WI	
	Rain Bird ESP-LXD	1							
	Rain Bird Rain Check	1							
	Rain Bird FD-101TURF	29							
	Rain Bird FD-102TURF (2)	10							
	Point Of Connection, 2"	4						Customer Name:	
		1							
	Irrigation Lateral Line: Polyethylene Pipe SDR-7 1"	12,326 l.f.							
	Irrigation Lateral Line: Polyethylene Pipe SDR-7 1 1/2"	1,786 l.f.							
	Irrigation Lateral Line: Polyethylene Pipe SDR-7 2"	49.9 l.f.							
	Irrigation Mainline: PVC Class 160 SDR 26 2 1/2"	6,710 l.f.							
	Pipe Sleeve: PVC Class 160 SDR 26 2"	216.1 l.f.							
	Pipe Sleeve: PVC Class 160 SDR 26 4"	133.3 l.f.							· · · · · · · · · · · · · · · · · · ·
= = = Va	Pipe Sleeve: PVC Class 160 SDR 26 6" ve Callout	141.2 l.f.						Design Date:	01/13/15
]	Valve Number						× .		
	Valve Flow								J. LOVELL
								Drawn By:	J. LOYELL
								Drawn By:	
								Drawn By:	. LOVELL
<u>J</u>								Drawn By:	
	—— Valve Size							Drawn By:	. LOVELL
	— Valve Size T 55 PSI.							Drawn By:	
	— Valve Size T 55 PSI. IECTION(POC)ONLY. THE DESIGN IS BASED	ON GALLO	ONS	PER	NUTE(G	PM)AND		Drawn By:	
OF CONN HED BY C	— Valve Size T 55 PSI. IECTION(POC)ONLY. THE DESIGN IS BASED OTHERS.					·		Drawn By: REVIS	
OF CONN HED BY C POINT OF	— Valve Size T 55 PSI. IECTION(POC)ONLY. THE DESIGN IS BASED	TO CONF	IRM	THE N		·		-	
OF CONN HED BY C POINT OF IECTION	— Valve Size T 55 PSI. IECTION(POC)ONLY. THE DESIGN IS BASED OTHERS. TONNECTION IN THE FIELD. INSTALLER IS	TO CONF	IRM FION	THE M	NIMUMI	DISCHAR	RGE	REVIS	Date 01/19/15
OF CONN HED BY C POINT OF IECTION	— Valve Size T 55 PSI. IECTION(POC)ONLY. THE DESIGN IS BASED OTHERS. T CONNECTION IN THE FIELD. INSTALLER IS AS INDICATED ON THE LEGEND PRIOR TO IN	TO CONF	IRM FION	THE M	NIMUMI	DISCHAR	RGE	REVIS	Date 01/19/15 rd 01/22/15
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OF CONN HED BY C POINT OF IECTION / OINT OF ACCORD/ /IBING CC E INSPEC /IRING TC SHOWN ERAGE. LED PER IUM 18" C H GRADE ALVES AN OMPLY W ALL BE M	— Volve Size T 55 PSI. ECTION(POC)ONLY. THE DESIGN IS BASED OTHERS. CONNECTION IN THE FIELD. INSTALLER IS AS INDICATED ON THE LEGEND PRIOR TO IN CONNECTION IS BASED ON NO MORE THAN ANCE WITH THE MANUFACTURER'S RECOMM ODES. CTIONS REQUIRED BY LOCAL AGENCIES ANIA DES. CTIONS REQUIRED BY LOCAL AGENCIES ANIA DE PER LOCAL CODE. BACKFLOW PREVEN ON DRAWING IS APPROXIMATE. ACTUAL PL PENDICULAR TO FINISH GRADES. EXCEPT A OF COVER BASED ON FINISH GRADES. INSTA S. ND MAINLINE SHOWN IN PAVED AREAS ARE ITH PIPE SIZES AS INDICATED. ADE WITH APPROVED WATERPROOF WIRE	TO CONF ISTALLAT I 5 FEET (MENDATIO O ORDINA ITION TO ACEMEN ACEMEN ALL IRRIG FOR GRA CONNEC		THE M ELEVAT AND A ES DUF PER LO AY VAF SE INDI DN LAT C CLAI NS AND	NIMUM I ON CHA CCORDII ING THE CAL COI Y SLIGH CATED. ERALS W	DISCHAF NGE IN 1 NG TO COURS DE. TLY AS /ITH Y.	RGE	REVIS Description A B <t< td=""><td>BIONS Date 01/19/15 od 01/22/15 01/28/15 02/27/15 ESIGN 1" = 50'</td></t<>	BIONS Date 01/19/15 od 01/22/15 01/28/15 02/27/15 ESIGN 1" = 50'
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IRRIGATION SC	HEDULE			
SYMBOL	MANUFACTURER/MODEL	QTY	PSI	
EST LCS RCS_CST SST	Rain Bird 1804-U-PRS 15 Strip Series	111	30	
3 08HE-VAN 12 12HE-VAN 10 10HE-VAN 15 15HE-VAN	Rain Bird 1804-U-PRS ADJ	176	30	
SYMBOL	YMBOL MANUFACTURER/MODEL		<u>PSI</u>	GP
1.5	Rain Bird 5004-PC, FC-R	20 25 1.12		
3.0	Rain Bird 5004-PC, FC-R	218 25 2.2		2.26
(1.0)	Rain Bird 5004-PC, FC-R-LA	8	25	0.73
Q.D	Rain Bird 5004-PC, FC-R-LA	69	25	1.47
SYMBOL	MANUFACTURER/MODEL	QTY		
	Rain Bird XCZ-100-PRF 1"	13		
۲	Pipe Transition Point	19		
¢	Flush Vaive	19		
Ø	Drip Air Relief Valve	13		
	Area to Receive Dripline Rain Bird XFD-09-12 (12)	12,451 s.f.		
SYMBOL	MANUFACTURER/MODEL	QTY		
S	Rain Bird PGA Globe 1"	8		
•	Rain Bird PGA Globe 1-1/2"	28		
	Rain Bird 5-RC 1"	5		
X	Isolation Valve, Mainline Size	3		
BF	Febco 765 2"	1		
С	Rain Bird ESP-LXD	1		
RS	Rain Bird Rain Check	1		
(D)	Rain Bird FD-101TURF	29		
02	Rain Bird FD-102TURF (2)	10		
90C '보'	Point Of Connection, 2"	1		
·····	Irrigation Lateral Line: Polyethylene Pipe SDR-7 1"	12,326 l.f.		
	Irrigation Lateral Line: Polyethylene Pipe SDR-7 1 1/2"	1,786 l.f.		
	Irrigation Lateral Line: Polyethylene Pipe SDR-7 2"	49.9 l.f.		
	Irrigation Mainline: PVC Class 160 SDR 26 2 1/2"	6,710 l.f.		
	Pipe Sleeve: PVC Class 160 SDR 26 2"	216.1 l.f.		
	Pipe Sleeve: PVC Class 160 SDR 26 4"	133.3 l.f.		
	Pipe Sleeve: PVC Class 160 SDR 26 6" alve Callout	141.2 l.f.		
#	Valve Number			
# <mark>"</mark> #•	Valve Flow			

#" #•---

IRRIGATION SPECIFICATIONS

- IRRIGATION SYSTEM DESIGN BASED ON 80 GPM AT 55 PSI.
- POUNDS PER SQUARE INCH(PSI)FURNISHED BY OTHERS.
- AREAS OF IRRIGATION.
- LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.
- REQUIRED TO ACHIEVE FULL, EVEN COVERAGE.
- MINIMUM 12" OF COVER BASED ON FINISH GRADES.
- 11. THE IRRIGATION CONTRACTOR SHALL COMPLY WITH PIPE SIZES AS INDICATED.
- SPLICE BOX.
- LANDSCAPES IN RELATION TO THIS PROJECT, UNLESS OTHERWISE NOTED.
- 15. TWO VALVES SHALL OPERATE SIMULTANEOUSLY AS NEEDED TO REDUCE WATER SCHEDULE.

2. IRRIGATION DESIGN IS FROM THE POINT OF CONNECTION (POC) ONLY. THE DESIGN IS BASED ON GALLONS PER MINUTE (GPM) AND

3. IRRIGATION CONTRACTOR IS TO VERIFY POINT OF CONNECTION IN THE FIELD. INSTALLER IS TO CONFIRM THE MINIMUM DISCHARGE REQUIREMENTS OF THE POINT OF CONNECTION AS INDICATED ON THE LEGEND PRIOR TO INSTALLATION.

4. THE PRESSURE REQUIREMENT AT THE POINT OF CONNECTION IS BASED ON NO MORE THAN 5 FEET OF ELEVATION CHANGE IN THE

5. ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO

6. IRRIGATION CONTRACTOR WILL ARRANGE INSPECTIONS REQUIRED BY LOCAL AGENCIES AND ORDINANCES DURING THE COURSE OF CONSTRUCTION AS REQUIRED. ALL WIRING TO BE PER LOCAL CODE. BACKFLOW PREVENTION TO BE PER LOCAL CODE. 7. LOCATION OF IRRIGATION COMPONENTS SHOWN ON DRAWING IS APPROXIMATE. ACTUAL PLACEMENT MAY VARY SLIGHTLY AS

8. ALL SPRINKLER HEADS SHALL BE INSTALLED PERPENDICULAR TO FINISH GRADES. EXCEPT AS OTHERWISE INDICATED.

9. INSTALL IRRIGATION MAINS WITH A MINIMUM 18" OF COVER BASED ON FINISH GRADES. INSTALL IRRIGATION LATERALS WITH

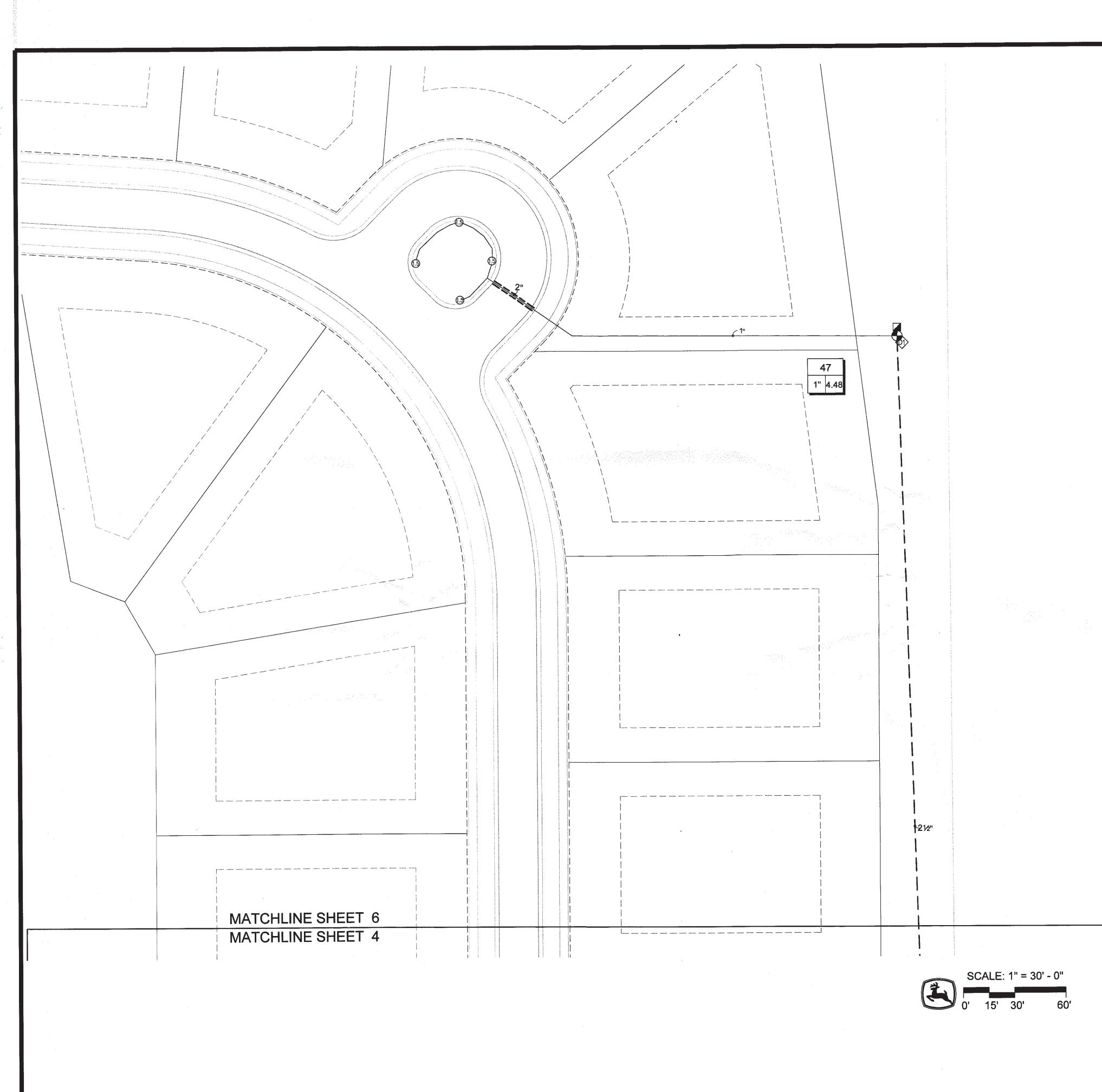
10. PIPE LOCATIONS ARE DIAGRAMMATIC. VALVES AND MAINLINE SHOWN IN PAVED AREAS ARE FOR GRAPHIC CLARITY ONLY.

12. ALL WIRE SPLICES OR CONNECTIONS SHALL BE MADE WITH APPROVED WATERPROOF WIRE CONNECTIONS AND BE IN A VALVE OR

13. ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 2-WIRE, UL APPROVED DIRECT BURY.

14. THE DESIGN IS BASED ON THE SITE INFORMATION AND/OR DRAWING SUPPLIED WITH THE DESIGN CRITERIA BEING SET(AREA TO BE IRRIGATED, EQUIPMENT MANUFACTURER AND MODEL TO BE USED, WATER SOURCE INFORMATION, ELECTRICAL POWER AVAILABILITY, ETC...). JOHN DEERE LANDSCAPES BEARS NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS IN DESIGN OR INSTALLATION THAT ARISE DUE TO INACCURACIES IN THE ABOVE REFERENCED INFORMATION SUPPLIED TO JOHN DEERE

<text></text>
650 Stephenson Highway Troy, Michigan 48083 Phone 248.588.2100 Fax 248.588.3528 www.JohnDeereLandscapes.com
800.347.4272 Project Name: BALLANTYNE NORTHVILLE, MI
Design Date: 01/13/15
Drawn By: J. LOVELL
REVISIONS
Description Date 1 01/19/15 1 2 Legend Updated 01/22/15
Page Rescaled 01/28/15 A Stamping Set 02/27/15 A 6
Drawing Title: IRRIGATION DESIGN
Drawing Scale: 1" = 50'
Project Services Number: 68257
Sheet Number: IR-5



- IRRIGATION SPECIFICATIONS
- 1. IRRIGATION SYSTEM DESIGN BA
- MINUTE(GPM)AND POUNDS PER SQUARE INCH(PSI)FURNISHED BY OTHERS.
- 3. IRRIGATION CONTRACTOR IS TO VERIFY POINT OF CONNECTION IN THE FIELD. INSTALLER IS TO CONFIRM THE MINIMUM DISCHARGE REQUIREMENTS OF THE POINT OF CONNECTION AS INDICATED ON THE LEGEND PRIOR TO INSTALLATION
- 4. THE PRESSURE REQUIREMENT AT THE POINT OF CONNECTION IS BASED ON NO MORE THAN 5 FEET OF ELEVATION CHANGE IN THE AREAS OF IRRIGATION.
- 5. ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.
- 6. IRRIGATION CONTRACTOR WILL ARRANGE INSPECTIONS REQUIRED BY LOCAL AGENCIES AND ORDINANCES DURING THE COURSE OF CONSTRUCTION AS REQUIRED. ALL WIRING TO BE PER LOCAL CODE. BACKFLOW PREVENTION TO BE PER LOCAL CODE.
- LOCATION OF IRRIGATION COMPONENTS SHOWN ON DRAWING IS APPROXIMATE. ACTUAL PLACEMENT MAY VARY SLIGHTLY AS REQUIRED TO ACHIEVE FULL, EVEN COVERAGE.
- WITH MINIMUM 12" OF COVER BASED ON FINISH GRADES.
- ONLY.
- VALVE OR SPLICE BOX.

	IRRIGATION SC	CHEDULE					
	SYMBOL	MANUFACTURER/MODEL	QTY	<u>PSI</u>			()
	 A A A A A A A A A A A A A A A A A A A	Rain Bird 1804-U-PRS 15 Strip Series	111	30		l CC	Ш
	3 68 68 12 <th12< th=""> 12 12 12<td>Rain Bird 1804-U-PRS ADJ</td><td>176</td><td>30</td><td></td><td></td><td>ſ</td></th12<>	Rain Bird 1804-U-PRS ADJ	176	30			ſ
	SYMBOL	MANUFACTURER/MODEL	QTY	<u>PSI</u>	<u>GPM</u>	ļΨ	Ă
	(13)	Rain Bird 5004-PC, FC-R	20	25	1.12		U
	()	Rain Bird 5004-PC, FC-R	218	25	2.26		S
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	SYMBOL	MANUFACTURER/MODEL	QTY				A
		Rain Bird XCZ-100-PRF 1"	13			ĪŠ	
	۲	Pipe Transition Point	19				
	¢	Flush Valve	19				
	Ø	Drip Air Relief Valve	13				
		Area to Receive Dripline Rain Bird XFD-09-12 (12)	12,451 s.f.			650 Stephenson	Highway
	SYMBOL	MANUFACTURER/MODEL	QTY			Troy, Michigan 4 Phone 2	8083 248.588.2100
		Rain Bird PGA Globe 1"	8			www.JohnDeere	48.588.3528 Landscapes.com
	•	Rain Bird PGA Globe 1-1/2"	28			800.347.4	4272
		Rain Bird 5-RC 1"	5			Project Name: BALLANTYNE	
		Isolation Valve, Mainline Size	3			NORTHVILLE, MI	
	(BF)	Febco 765 2"	1				
	C	Rain Bird ESP-LXD	1				
	RS .	Rain Bird Rain Check	1				
		Rain Bird FD-101TURF	29				
	02	Rain Bird FD-102TURF (2)	10				
	POC	Point Of Connection, 2"	1			Customer Name:	
	<u></u>	Irrigation Lateral Line: Polyethylene Pipe SDR-7 1"	12,326 l.f.				
		Irrigation Lateral Line: Polyethylene Pipe SDR-7 1 1/2"					
		Irrigation Lateral Line: Polyethylene Pipe SDR-7 2"	49.9 l.f.				
		Irrigation Mainline: PVC Class 160 SDR 26 2 1/2"	6,710 l.f.				
		Pipe Sleeve: PVC Class 160 SDR 26 2"	216.1 l.f.				
		Pipe Sleeve: PVC Class 160 SDR 26 4"	133.3 l.f.				
		Pipe Sleeve: PVC Class 160 SDR 26 6"	141.2 l.f.			Design Date:	01/13/15
	V	raive Callout				Dosign Date.	
	# •	Valve Number				Drawn By:	J. LOVELL
	#" #•	Valve Flow Valve Size					
RRIGATION SPECIFICATIONS							

REVISIONS Date Description 01/19/15 ∆ Legend Updated
 01/22/15 01/28/15 3 Page Rescaled 02/27/15 A Stamping Set

Drawing Title:

Drawing Scale:

IRRIGATION DESIGN

8. ALL SPRINKLER HEADS SHALL BE INSTALLED PERPENDICULAR TO FINISH GRADES. EXCEPT AS OTHERWISE INDICATED. 9. INSTALL IRRIGATION MAINS WITH A MINIMUM 18" OF COVER BASED ON FINISH GRADES. INSTALL IRRIGATION LATERALS

10. PIPE LOCATIONS ARE DIAGRAMMATIC. VALVES AND MAINLINE SHOWN IN PAVED AREAS ARE FOR GRAPHIC CLARITY

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13. ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 2-WIRE, UL APPROVED DIRECT BURY. 14. THE DESIGN IS BASED ON THE SITE INFORMATION AND/OR DRAWING SUPPLIED WITH THE DESIGN CRITERIA BEING SET(AREA TO BE IRRIGATED, EQUIPMENT MANUFACTURER AND MODEL TO BE USED, WATER SOURCE INFORMATION, ELECTRICAL POWER AVAILABILITY, ETC...). JOHN DEERE LANDSCAPES BEARS NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS IN DESIGN OR INSTALLATION THAT ARISE DUE TO INACCURACIES IN THE ABOVE REFERENCED INFORMATION SUPPLIED TO JOHN DEERE LANDSCAPES IN RELATION TO THIS PROJECT, UNLESS OTHERWISE NOTED. 15. TWO VALVES SHALL OPERATE SIMULTANEOUSLY AS NEEDED TO REDUCE WATER SCHEDULE.

Services	Number:	68257

1" = 30'

Sheet Number:

IR-6

Project