

HYUNDAI AMERICA TECHNICAL CENTER, INC. HATCI MICHIGAN R&D CENTER 6800 GEDDES RD, SUPERIOR CHARTER TWP, MI 48198

IBI PROJECT # 134894

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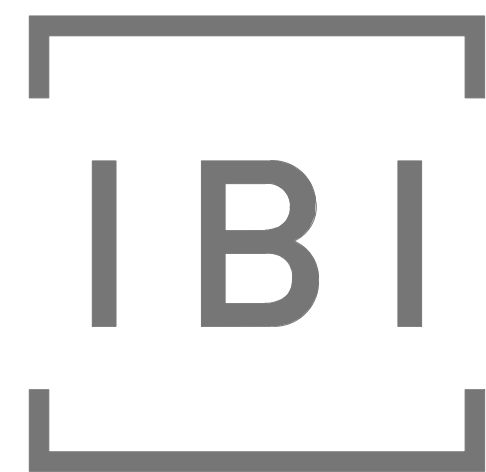
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AE2-001a	BUILDING ELEVATIONS X

PRELIMINARY SITE PLAN
2022-01-26



IBI GROUP MICHIGAN, LLC
25200 Telegraph Road – Suite 300
Southfield MI 48033 USA
tel 248 936 8000 fax 248 936 8111
ibigroup.com

AG0-000a

PRELIMINARY SITE PLAN

OWNER

HYUNDAI MOTOR AMERICA
10550 TALBERT AVE
FOUNTAIN VALLEY, CA 92708

APPLICANT

HYUNDAI AMERICA TECHNICAL CENTER, INC
6800 GEDDES RD
SUPERIOR CHARTER TWP, MI 48198

ZONING

PM - PLANNED MANUFACTURING
DEED RESTRICTIONS NONE

REQUIRED YARDS

ALONG GEDDES ROAD 50 FEET
ALONG LEFORGE ROAD 50 FEET
ALONG SOUTH AND WEST PROPERTY BOUNDARIES 10 FEET (SIDE) & 35 FEET (REAR)

LAND USE SUMMARY

GROSS SITE	5,698,853 SQ FT	(130.83 AC)
PROPOSED R.O.W.	22,160 SQ FT	(0.51 AC)
SETBACKS	402,574 SQ FT	(9.24 AC)
NET SITE	5,274,119 SQ FT	(121.08 AC)
EXISTING WOODED AREAS	1,431,359 SQ FT	(32.86 AC)
DISTURBED WOODED AREAS	174,281 SQ FT	(4.00 AC)
EXISTING WETLANDS	287,898 SQ FT	(6.61 AC)
DISTURBED WETLAND AREAS	0.00 SQ FT	(0.00 AC)
STEEP SLOPES (12-18%)	34,651 SQ FT	(0.80 AC)
EXISTING POND AREA	98,232 SQ FT	(2.26 AC)
PROPOSED POND AREA	66,233 SQ FT	(1.52 AC)
EXISTING BUILDINGS	157,804 SQ FT	(3.62 AC)
MANUFACTURING BUILDING	152,091 SQ FT	(3.49 AC)
SUPPORT BUILDING	1,349 SQ FT	(0.03 AC)
SUPPORT BUILDING	1,834 SQ FT	(0.04 AC)
WATER TOWER	2,530 SQ FT	(0.06 AC)
PROPOSED BUILDINGS	101,000 SQ FT	(2.32 AC)
STIL BUILDING	58,000 SQ FT	(0.84 AC)
FCIL CRASH TEST BUILDING	36,500 SQ FT	(0.43 AC)
SUBSTATION HOUSE	4,400 SQ FT	(0.08 AC)
BATTERY LAB	2,100 SQ FT	(0.05 AC)
BUILDING HEIGHT	35'-0"	
EXISTING PAVEMENT	347,845 SQ FT	(7.99 AC)
EXISTING ROADWAYS & PARKING LOTS	329,256 SQ FT	(7.56 AC)
EXISTING SIDEWALKS	29,945 SQ FT	(0.60 AC)
EXISTING PAVEMENT REMOVED	7,366 SQ FT	(0.17 AC)
PROPOSED ASPHALT ROADWAY & PARKING LOTS	1,129,714 SQ FT	(25.93 AC)
PROPOSED CONCRETE PADS	2,629 SQ FT	(0.06 AC)
PROPOSED SIDEWALKS	3,605 SQ FT	(0.08 AC)
PROPOSED GRAVEL	26,655 SQ FT	(0.61 AC)
TOTAL PROPOSED PAVEMENT	1,162,603 SQ FT	(26.69 AC)
ULTIMATE TOTAL BUILDING AREA	258,804 SQ FT	(5.94 AC)
ULTIMATE TOTAL PAVEMENT AREA	1,510,448 SQ FT	(34.68 AC)
OPEN AREA	3,340,402 SQ FT	(76.69 AC)

IMPERVIOUS SURFACE AREAS

TOTAL SITE AREA	121.08 AC
TOTAL IMPERVIOUS AREA	40.62 AC
PERCENT IMPERVIOUS	$\frac{40.62}{121.08} \times 100 = 33.5\%$

FLOOR AREA RATIO (MAXIMUM OF 40%)

SITE AREA (121.08 AC) X 40% = MAX F.A.R. (48.43 AC)
ACTUAL F.A.R. = 4.91% (5.94 AC)

GROUND FLOOR COVERAGE (MAXIMUM OF 20%)

SITE AREA (121.08 AC) X 20% = MAX G.F.C. (24.22 AC)
ACTUAL G.F.C. = 4.91% (5.94 AC)

TOTAL DEVELOPED AREA (MAXIMUM OF 50%)

SITE AREA (121.08 AC) X 50% = MAX T.D.A. (60.54 AC)
ACTUAL G.F.C. = 36.7±% (44.4 AC)

SOIL CONDITIONS AND EVALUATIONS

IN GENERAL, THE SITE IS BLANKETED WITH A LAYER OF TOPSOIL UNDERLAIN BY SAND, SILTS AND CLAYS THE TOPSOIL LAYER CONSISTS PRIMARILY OF CLAYEY SILT, WITH TRACES OF ORGANIC MATTER AND CAN BE USED FOR LANDSCAPING IN NON-STRUCTURAL AREAS. THE NATIVE SILTY CLAY AND SANDY CLAY SOILS, WHEN PROPERLY PREPARED AND COMPACTED, ARE SUITABLE FOR PAVEMENT OR SLAB SUPPORT, OR ARE ADEQUATE FOR PLACEMENT OF ENGINEERED FILL.

PARKING REQUIRED (ARTICLE 8)

INDUSTRIAL, RESEARCH AND LABORATORY USES: FIVE (5), PLUS (1) PER ON-DUTY EMPLOYEE, PLUS PARKING FOR ANY ACCESSORY OFFICE OR OTHER USES.

PARKING USE

PARKING USE	POPULATION (ESTIMATED)	FORMULA USED	SPACES REQUIRED	SPACES PROVIDED
EMPLOYEE	156	1 PER EMPLOYEE	156	156
VISITOR	4	1 PER VISITOR	4	4
TOTAL			160	160

ADA SPACE 6 FOR 151-200 SPACES 6
VAN ACCESSIBLE SPACE 1 FOR 151-200 SPACES 1
TEST 1 FOR 151-200 SPACES 1

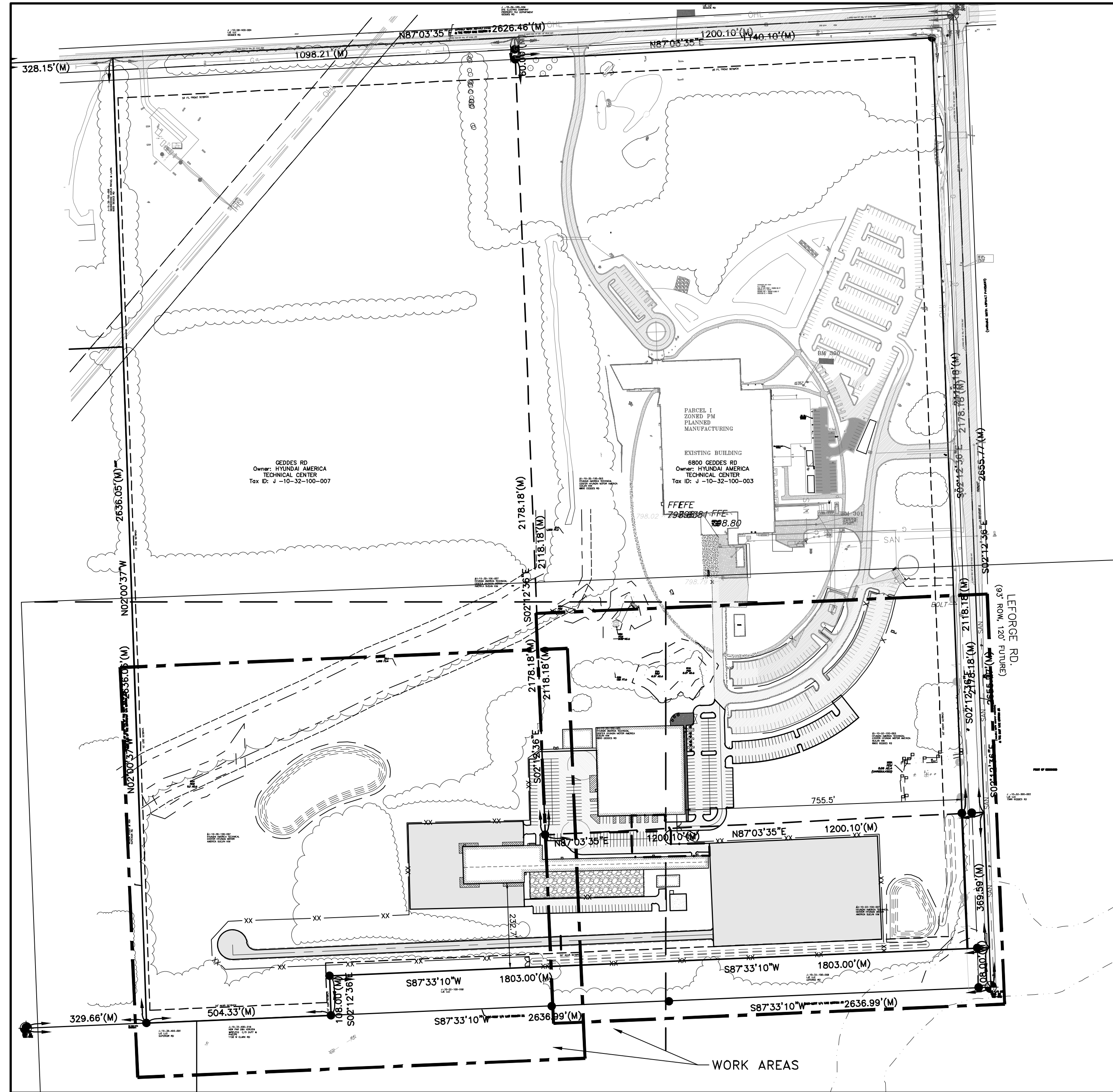
CONSTRUCTION SEQUENCE AND PHASING

THIS CONSTRUCTION PROJECT IS TO BE EXECUTED UNDER ONE GENERAL CONTRACT, WITH NO PART OF THE SITE OR FACILITY BEING DEPENDENT ON THE COMPLETION OF A SUBSEQUENT PROJECT PHASE FOR ADEQUATE ACCESS, UTILITY SERVICE, EROSION CONTROL, DRAINAGE, OR FIRE PROTECTION.

SITE ANALYSIS

(PER SECTION B OF SECTION 7.08)

- ALL INFORMATION REQUIRED FOR PRELIMINARY SITE PLAN - SEE DRAWINGS AND BELOW.
- LOCATION, TYPE, AND LAND AREA OF EACH PROPOSED LAND USE, 130.83 ACRES, ALL TO BE USED FOR RESEARCH AND DEVELOPMENT BY HATCI
- GENERAL DESCRIPTION OF THE ORGANIZATION THAT WILL OWN AND MAINTAIN THE COMMON SPACE - SINGLE OWNER - NO COMMON SPACE.
- GENERAL DESCRIPTION OF COVENANTS, EASEMENTS OR OTHER RESTRICTIONS TO BE IMPOSED UPON LAND - EASEMENTS FOR PUBLIC UTILITIES AS REQUIRED TO SERVICE THIS SITE - NO OTHERS ANTICIPATED.
- DESCRIPTION OF PETITIONER'S INTENTION REGARDING SELLING OR LEASING - PETITIONER WILL USE ALL OF THE FACILITY, NO SELLING OR LEASING IS ANTICIPATED.
- DESCRIPTION OF ALL PROPOSED USES - FACILITY WILL BE USED AS AN AUTOMOTIVE DESIGN AND RESEARCH CENTER. THE 'STIL' BUILDING WILL CONTAIN OFFICE SPACE, VEHICLE WORKSHOPS, CRASH LABS, AND ELECTRONICS LABS. THE 'FCIL' BUILDING WILL CONTAIN WORKPLACE, ELECTRICAL TOW-MOTOR POWERED CRASH HALL, OBSERVATION LAB, CONTROL LAB, AND ANALYSIS LAB. SITE WILL CONTAIN A 45 MPH STRAIGHT TRACK WITH VEHICLE DYNAMICS ASSESSMENT PAD FOR VEHICLE STEERING AND BREAKING TESTS BY SAFETY ENGINEERS. SITE WILL ALSO CONTAIN A BATTERY LAB AND BATTERY TEST PAD.
- GENERAL LANDSCAPE CONCEPTS PLANTINGS, MOUNDS AND BERMS. - PER LANDSCAPE PLANS.
- DELINEATION OF AREAS TO BE SUBDIVIDED - PARCEL WILL NOT BE SUBDIVIDED.
- INITIAL SELLING PRICE - PARCEL WILL BE RETAINED BY OWNER.



GENERAL SITE PLAN
1" = 200'

SITE BUILDINGS

(PER SECTION B OF SECTION 10.03)

- SCALE, NORTH ARROW AND DATE OF PLAN - PROVIDED
- PROPERTY OWNERS NAME AND ADDRESS - PROVIDED
- LOCATION AND DESCRIPTION OF THE SITE, DIMENSIONS AND AREA - PROVIDED
- GENERAL TOPOGRAPHY AND SOIL INFORMATION - PROVIDED. SEE SOIL REPORT FOR SOILS INFORMATION
- PROPOSED BUILDINGS AND/OR STRUCTURES - PROVIDED
- OPEN AREAS AND RECREATION AREAS - ALL AREAS NOT USED FOR BUILDINGS, PARKING OR VEHICLE CIRCULATION IS OPEN/RECREATION AREA FOR EMPLOYEES.
- EXISTING NATURAL AND MAN-MADE FEATURES TO BE PRESERVED - PROVIDED
- DELINEATION OF THE 100-YEAR FLOODPLAIN - FLOODPLAIN MAP PROVIDED, SITE IS ZONE X
- DELINEATION OF ANY WETLANDS OR WATERCOURSE SETBACKS - PROVIDED
- DELINEATION OF ALL VEGETATION WITH 25' OF ALL ONSITE AND OFF-SITE SURFACE WATER FEATURES - PROVIDED.
- DESCRIPTION OF GROUNDWATER RECHARGE AREAS - NONE EXIST ON THE SITE.
- EXISTING AND PROPOSED STREETS/DRIVES - PROVIDED. ALL DRIVES/PARKING TO BE PRIVATE.
- PROPOSED PARKING - PROVIDED. MINIMUM PARKING SPACE IS 9'x20' WITH 20' ISLES.
- AREAS OF INTENDED FILLING OR CUTTING - PROVIDED.
- OUTLINE OF EXISTING BUILDINGS, STRUCTURES OR DRIVES - PROVIDED.
- EXISTING ZONING CLASSIFICATION - ZONING IS PM
- DELINEATION OF REQUIRED YARDS - PROVIDED (50' FRONT, 10' SIDE, 35' REAR)
- DWELLING UNIT SCHEDULE - NOT REQUIRED - NO DWELLING UNITS
- LOT COVERAGE AND FLOOR AREA RATIO - SEE INFORMATION TO LEFT
- LOCATION AND SIZE OF REQUIRED TRANSITION AND LANDSCAPE STRIPS - 20' ALONG ROAD FRONTAGES.
- ADJACENT LAND USES - PROVIDED
- LOCATION AND AREA OF DEVELOPMENT PHASES - THE PROJECT WILL BE CONSTRUCTED IN ONE PHASE.
- LOCATION, WIDTH AND PURPOSE OF ALL EXISTING AND PROPOSED EASEMENTS - PROVIDED.
- GENERAL DESCRIPTION OF PROPOSED WATER, SANITARY SEWER AND STORM DRAINAGE SYSTEM - PRELIMINARY LAYOUTS ARE PROVIDED ON THE PLANS (CU-400 AND CU-401). PLEASE NOTE THAT THE UTILITIES INDICATED ARE PRELIMINARY IN NATURE AND WILL CHANGE AS ENGINEERING PROGRESS.
- COPIES OF ALL PERMITS OBTAINED TO DATE - NO PERMITS HAVE BEEN APPLIED FOR YET.

LEGAL DESCRIPTION OF PROPERTY

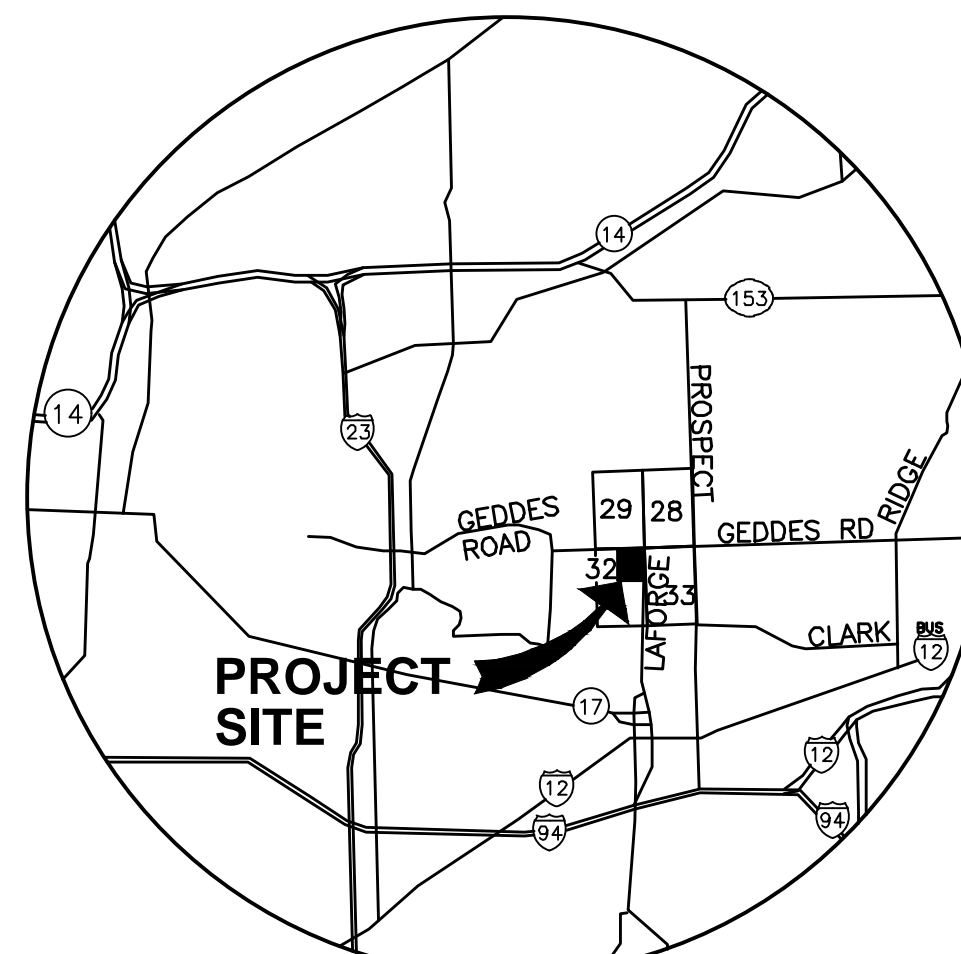
PART OF THE NORTHEAST 1/4 OF SECTION 32, TOWN 2 SOUTH, RANGE 7 EAST, SUPERIOR TOWNSHIP, WASHTENAW COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 32; THENCE ALONG THE EAST LINE OF SAID SECTION 32 AND THE CENTERLINE OF LEFORGE ROAD (VARIABLE WIDTH PUBLIC RIGHT OF WAY), S 02°12'36" E, 2178.18 FEET TO THE POINT OF BEGINNING OF THE PARCEL TO BE DESCRIBED; THENCE CONTINUING ALONG THE EAST LINE OF SAID SECTION 32 AND THE CENTERLINE OF SAID LEFORGE ROAD, S 02°12'36" E, 369.59 FEET; THENCE S 87°33'10" W, 1803.00 FEET; THENCE S 012°36" E, 108.00 FEET TO A POINT ON THE EAST-WEST 1/4 LINE OF SAID SECTION 32; THENCE ALONG EAST-WEST 1/4 LINE OF SAID SECTION 32, S 87°33'10" W, 504.33 FEET TO A FOUND IRON PIPE WITH CAP #15411; THENCE ALONG THE WEST LINE OF THE EAST 1/2 OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SAID SECTION 32, N 02°00'37" W, 2636.05 FEET TO A POINT ON THE NORTH LINE OF SAID SECTION 32 AND THE CENTERLINE OF GEDDES ROAD (VARIABLE WIDTH PUBLIC RIGHT OF WAY); THENCE ALONG THE NORTH LINE SAID SECTION 32 AND THE CENTERLINE OF SAID GEDDES ROAD, N 87°03'35" E, 1140.10 FEET TO A POINT ON THE WESTERLY RIGHT OF WAY LINE OF SAID LEFORGE ROAD; THENCE ALONG THE WESTERLY RIGHT OF WAY LINE OF SAID LEFORGE ROAD, S 02°12'36" E, 2178.18 FEET; THENCE N 87°03'35" E, 60.00 FEET TO THE POINT OF BEGINNING, CONTAINING 130.83 ACRES, MORE OR LESS, SUBJECT TO THE RIGHTS OF THE PUBLIC OVER GEDDES ROAD AND LEFORGE ROAD, ALSO SUBJECT TO ANY OTHER EASEMENTS OR RESTRICTIONS OF RECORD.

CIVIL DRAWING LIST

DRAWING NO.	DRAWING TITLE
CE-000	GENERAL SITE PLAN
CE-001	GENERAL SITE NOTES
CD-100	OVERALL EXISTING CONDITIONS
CD-101	EXISTING CONDITIONS
CD-102	EXISTING CONDITIONS
CD-103	TREE SURVEY SCHEDULE
CD-104	TREE SURVEY SCHEDULE
CD-105	TREE SURVEY SCHEDULE
CD-106	TREE SURVEY SCHEDULE
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CT-605	DETAILS
CT-606	DETAILS
L-100	PRELIMINARY LANDSCAPE PLAN
L-200	LANDSCAPE DETAILS AND SPECIFICATIONS

ATTACHED SHEETS

BOUNDARY SURVEY BY LIVINGSTON ENGINEERING
(DATED 2021-10-20)



VICINITY MAP
NTS

BUILDING DESCRIPTIONS

'STIL' BUILDING WILL BE 58,000 SQ. FT. AND CONTAIN OFFICE SPACE, VEHICLE WORKSHOPS, CRASH LABS, AND ELECTRONICS LABS WITH A MAX HEIGHT OF 31'.

THE 'FCIL' TEST BUILDING WILL 36,500 SQ. FT. AND CONTAIN OFFICE SPACE, ELECTRICAL TOW-MOTOR POWERED CRASH HALL, OBSERVATION LAB, CONTROL LAB, AND ANALYSIS LAB WITH A MAX HEIGHT OF 35'.

SUPPORT STRUCTURES:
SUBSTATION HOUSE (4,400 sq. ft., MAX. HEIGHT 16')
ISOLATED BATTERY LAB (2,100 sq ft)

CLIENT



HATCI MICHIGAN R&D CENTER
SUPERIOR TOWNSHIP, MICHIGAN

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ISSUES

No.	DESCRIPTION	DATE
1	AREA PLAN	2021-10-27
2	AREA PLAN AMENDMENT	2021-11-29
3	PRELIMINARY SITE DESIGN	2022-01-26

NOT FOR
CONSTRUCTION

PLEASE CONFIRM KEYPLAN BOX

CONSULTANTS

SEAL



PRIME CONSULTANT

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Southfield MI 48033 USA
tel 248 936 8000 fax 248 936 8111
ibigroup.com

PROJECT

Hyundai STIL

6800 Geddes Rd Superior Charter Twp,
MI 48198

PROJECT NO:

134894

DRAWN BY:

CHECKED BY:

PROJECT MGR:

D KASSAB

APPROVED BY:

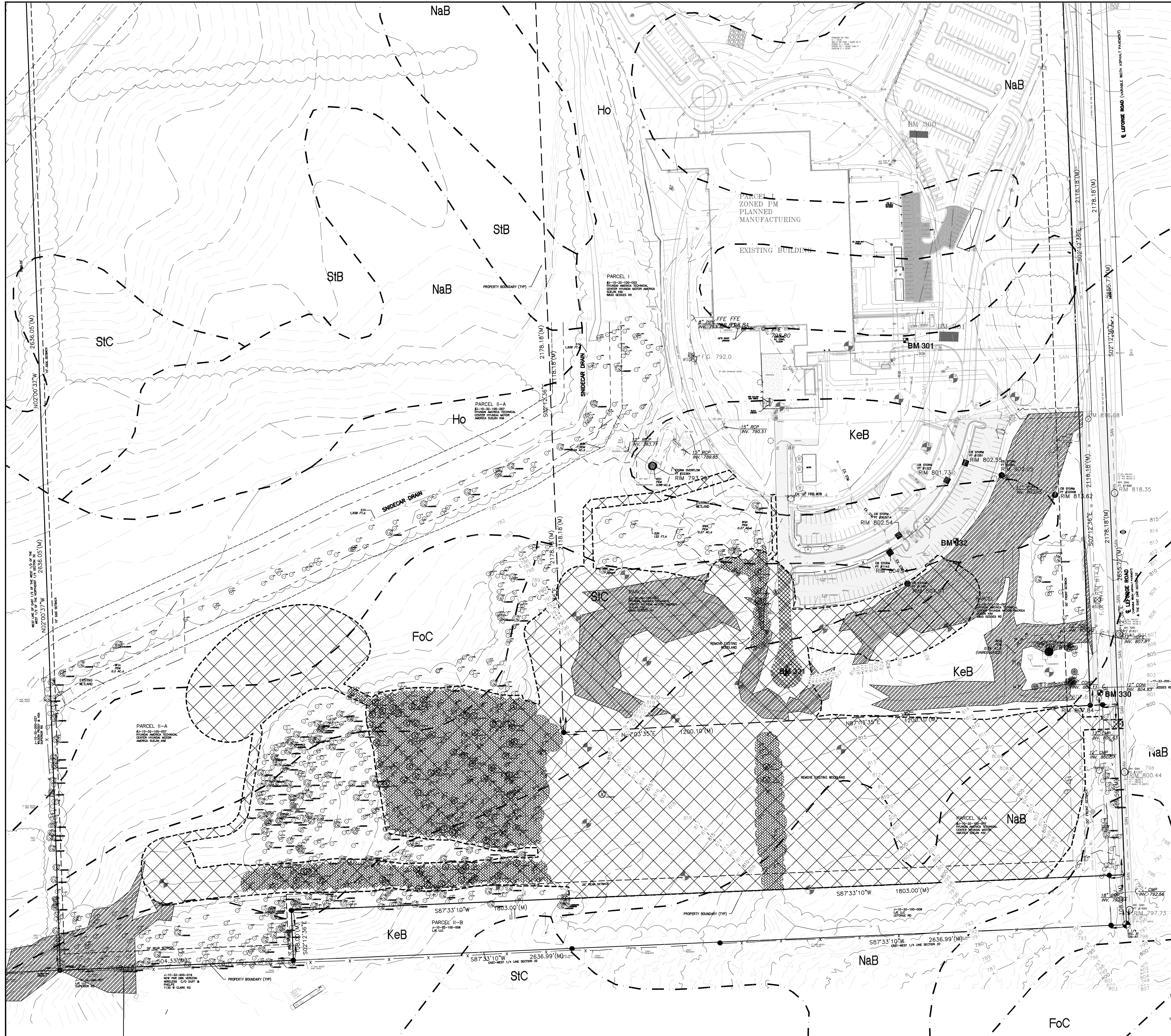
SHEET TITLE

GENERAL SITE PLAN

SHEET NUMBER

CE-000

ISSUE



EXISTING SITE & DEMOLITION LEGEND

- EXISTING UTILITY TO BE REMOVED
- EXISTING ITEM TO BE REMOVED
- SPOT ELEVATION
- SOIL BORING
- TAG NUMBER
- TREE TO BE REMOVED (397 TOTAL)
- LANDMARK TREE
- DRAINAGE FLOW
- EXISTING OVERLAND FLOW
- DRAINAGE TRIBUTARY LIMITS
- WETLAND LIMITS
- SOIL TYPE LIMITS/UNIT NAME
- EXISTING IMPERVIOUS SURFACE/BUILDING TO BE REMOVED
- EXISTING WOODLAND TO BE REMOVED
- EXISTING SLOPES STEEPER THAN 12%
- LIMITS OF DISTURBANCE

- ### DEMOLITION NOTES
- ALL ON-SITE WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SPECIFICATIONS AND STANDARD DETAILS UNLESS OTHERWISE SPECIFIED.
 - THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AS-BUILT DRAWINGS AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 - ALL NECESSARY PERMITS AND LICENSES SHALL BE OBTAINED AND THE CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THE SITE, INCLUDING ALL TESTING AND CLOSE OUT REQUIREMENTS, PRIOR TO THE START OF CONSTRUCTION.
 - THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMITS AND NOTIFY ALL AFFECTED UTILITY COMPANIES PRIOR TO THE DEMOLITION OF ANY EXISTING STRUCTURES. ALL EXISTING UTILITIES TO BE DEMOLISHED/ABANDONED SHALL BE CAPPED OFF OR REMOVED SO AS NOT TO INTERFERE WITH THE CONSTRUCTION PROJECT.
 - THE CONTRACTOR SHALL CONTACT THE ENGINEER AND OWNER IN WRITING PRIOR TO THE REMOVAL OF ANY SUBSURFACE STRUCTURES NOT DESIGNATED OR SHOWN ON THE CONSTRUCTION PLANS.
 - THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ON-SITE EXISTING STRUCTURES, VEGETATION, FENCES, CONCRETE, PAVEMENT, ETC., WITHIN THE LIMITS OF DISRUPTION UNLESS NOTED "TO REMAIN" ON THE CONSTRUCTION PLANS, AT A LOCATION APPROVED BY THE OWNER.
 - THE FLOW IN ALL DRAIN TILE, SANITARY & STORM SEWERS, DRAINS, WATERMANS AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE. WHENEVER SUCH UTILITIES, WATERCOURSES AND DRAINS ARE DISTURBED OR DESTROYED DURING THE PROSECUTION OF THE WORK, THEY SHALL BE RESTORED BY THE CONTRACTOR AT HIS OWN COST AND EXPENSE. UNLESS SPECIFIC PROVISION IS MADE WITHIN THE PLANS, DAMAGED ITEMS SHALL BE REPLACED WITH THE SAME QUALITY MATERIALS OR BETTER, MAINTAINING THE SAME GRADIENT AS EXISTING. REPLACED DRAIN TILE SHALL BE LAID ON COMPACTED BEDDING EQUAL IN DENSITY TO SURROUNDING STRATUM. REPLACEMENT SHALL BE DONE AT THE TIME OF THE BACKFILL OPERATION.
 - CONTRACTOR IS RESPONSIBLE FOR REPAIRING THE DAMAGE DONE TO ANY EXISTING ITEM DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO, OR BETTER THAN, EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND REPAIRS.
 - SAWCUT THE EDGE OF EXISTING PAVEMENT AND CURB TO FULL DEPTH AT LOCATIONS WHERE EXISTING IS TO BE PROPOSED TO PROVIDE A SMOOTH EDGE. REMOVE PAVEMENT TO THE EXTENT NECESSARY TO ALLOW FOR PROPER JOINTING METHOD TO PROPOSED PAVEMENT (PER DETAILS).
 - SEE ELECTRICAL DRAWINGS FOR DETAILS ABOUT ELECTRICAL AND COMMUNICATION POLES AND LINES REMOVAL AND RELOCATION.
 - ALL EXISTING UTILITIES OUTSIDE OF DISTURBANCE LIMITS TO REMAIN.

BENCHMARKS

BENCHMARK #330
ARROW ON HYDRANT 5' E. OF WALK
ELEVATION = 807.61 (NAVD88)

BENCHMARK #331
CHISELED "X" ON THE S. SIDE OF CONCRETE LIGHT POLE BASE AT S. SIDE OF EXIST. DRIVE
ELEVATION = 812.02 (NAVD88)

BENCHMARK #332
CHISELED "X" ON THE E. SIDE OF CONCRETE LIGHT POLE BASE ALONG THE S. SIDE OF SCREENED FENCE
ELEVATION = 809.15 (NAVD88)

TRUE NORTH **PLANT NORTH**

HORIZONTAL SCALE

1 inch = 50 feet (24"x36")

WHEN DRIVING OR WORKING NEAR OVERHEAD ELECTRIC WIRES IN MICHIGAN, CALL MISS DIG 3 WORKING DAYS BEFORE STARTING YOUR PROJECT
1-800-482-7171 (TOLL FREE)

CLIENT

HATCI MICHIGAN R&D CENTER
SUPERIOR TOWNSHIP, MICHIGAN

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	2	AREA PLAN AMENDMENT	2021-11-29
	3	PRELIMINARY SITE DESIGN	2022-01-26

NOT FOR CONSTRUCTION

PLEASE CONFIRM KEYPLAN BOX

CONSULTANTS

SEAL

Greg K. Tanager
January 01/25/22

PRIME CONSULTANT

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PROJECT

Hyundai STIL

6800 Geddes Rd Superior Charter Twp,
MI 48198

PROJECT NO:
134894

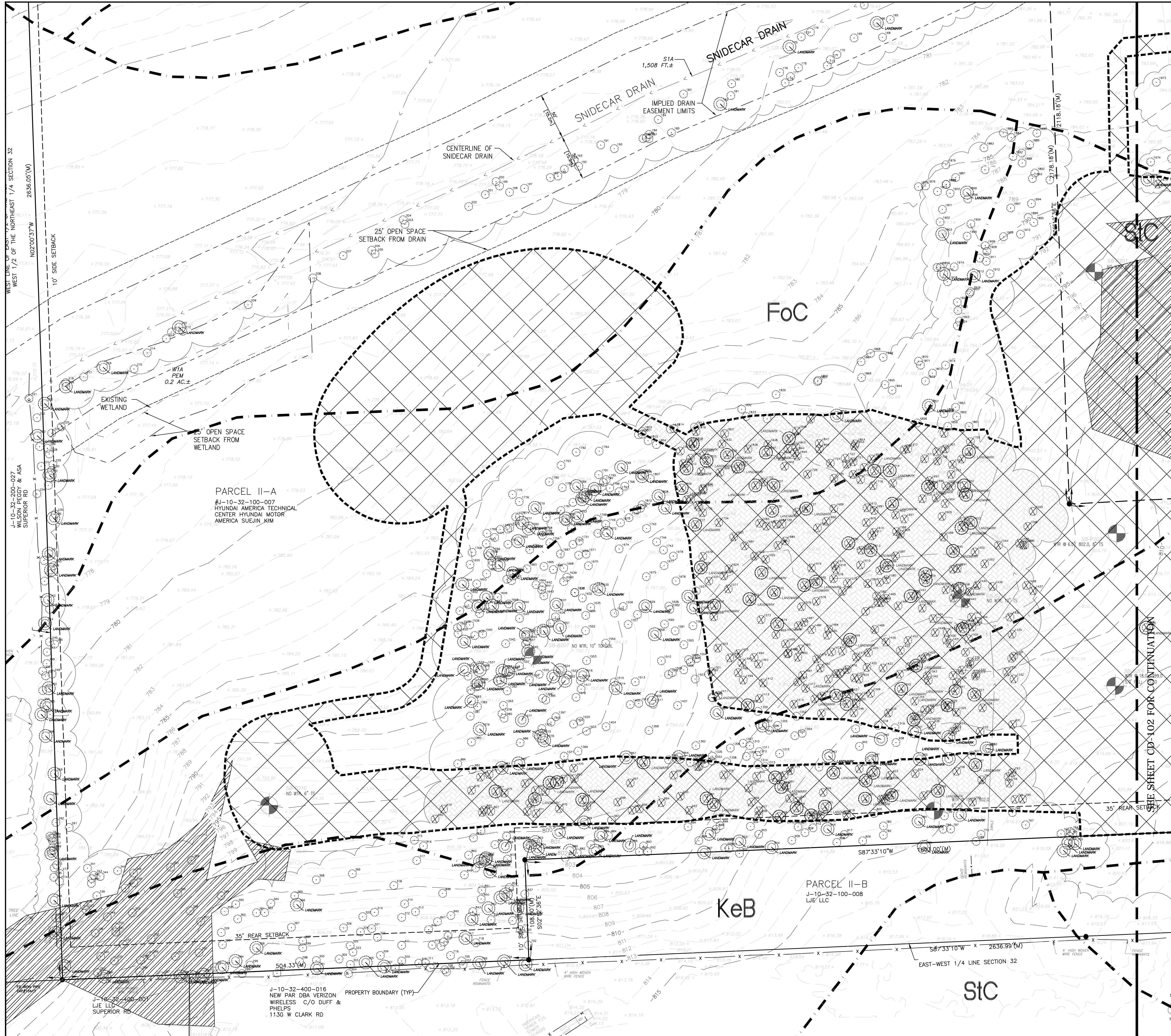
DRAWN BY: _____ CHECKED BY: _____

PROJECT MGR:
D KASSAB APPROVED BY: _____

SHEET TITLE

OVERALL EXISTING CONDITIONS

SHEET NUMBER **CD-100** ISSUE _____



EXISTING SITE & DEMOLITION LEGEND

- EXISTING UTILITY TO BE REMOVED
- EXISTING ITEM TO BE REMOVED
- SPOT ELEVATION
- SOIL BORING
- TAG NUMBER TREE
- TREE TO BE REMOVED (397 TOTAL)
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- DRAINAGE TRIBUTARY LIMITS
- WETLAND LIMITS
- SOIL TYPE LIMITS/UNIT NAME
- EXISTING IMPERVIOUS SURFACE/BUILDING TO BE REMOVED
- EXISTING WOODLAND TO BE REMOVED
- EXISTING SLOPES STEEPER THAN 12%
- LIMITS OF DISTURBANCE

- ### DEMOLITION NOTES
- ALL ON-SITE WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SPECIFICATIONS AND STANDARD DETAILS UNLESS OTHERWISE SPECIFIED.
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 - THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMITS AND NOTIFY ALL AFFECTED UTILITY COMPANIES PRIOR TO THE DEMOLITION OF ANY EXISTING STRUCTURES. ALL EXISTING UTILITIES TO BE DEMOLISHED/ABANDONED SHALL BE CAPPED OFF OR REMOVED SO AS NOT TO INTERFERE WITH THE CONSTRUCTION PROJECT.
 - THE CONTRACTOR SHALL CONTACT THE ENGINEER AND OWNER IN WRITING PRIOR TO THE REMOVAL OF ANY SUBSURFACE STRUCTURES NOT DESIGNATED OR SHOWN ON THE CONSTRUCTION PLANS.
 - THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ON SITE EXISTING STRUCTURES, VEGETATION, FENCES, CONCRETE, PAVEMENT, ETC., WITHIN THE LIMITS OF DISRUPTION UNLESS NOTED "TO REMAIN" ON THE CONSTRUCTION PLANS, AT A LOCATION APPROVED BY THE OWNER.
 - THE FLOW IN ALL DRAIN TILE, SANITARY & STORM SEWERS, DRAINS, WATERMANS AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE. WHENEVER SUCH UTILITIES, WATERCOURSES AND DRAINS ARE DISTURBED OR DESTROYED DURING THE PROSECUTION OF THE WORK, THEY SHALL BE RESTORED BY THE CONTRACTOR AT HIS OWN COST AND EXPENSE. UNLESS SPECIFIC PROVISION IS MADE WITHIN THE PLANS, DAMAGED ITEMS SHALL BE REPLACED WITH THE SAME QUALITY MATERIALS OR BETTER, MAINTAINING THE SAME GRADIENT AS EXISTING. REPLACED DRAIN TILE SHALL BE LAID ON COMPACTED BEDDING EQUAL IN DENSITY TO SURROUNDING STRATUM. REPLACEMENT SHALL BE DONE AT THE TIME OF THE BACKFILL OPERATION.
 - CONTRACTOR IS RESPONSIBLE FOR REPAIRING THE DAMAGE DONE TO ANY EXISTING ITEM DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO, OR BETTER THAN, EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND REPAIRS.
 - SAWCUT THE EDGE OF EXISTING PAVEMENT AND CURB TO FULL DEPTH AT LOCATIONS WHERE EXISTING IS TO MEET PROPOSED TO PROVIDE A SMOOTH EDGE. REMOVE PAVEMENT TO THE EXTENT NECESSARY TO ALLOW FOR PROPER JOINTING METHOD TO PROPOSED PAVEMENT (PER DETAILS).
 - SEE ELECTRICAL DRAWINGS FOR DETAILS ABOUT ELECTRICAL AND COMMUNICATION POLES AND LINES REMOVAL AND RELOCATION.
 - ALL EXISTING UTILITIES OUTSIDE OF DISTURBANCE LIMITS TO REMAIN.

BENCHMARKS

BENCHMARK #330
ARROW ON HYDRANT 5'
E. OF WALK
ELEVATION = 807.61
(NAVD88)

BENCHMARK #331
CHISELED "X" ON THE S. SIDE OF CONCRETE LIGHT POLE BASE AT S. SIDE OF EXIST. DRIVE
ELEVATION = 812.02
(NAVD88)

BENCHMARK #332
CHISELED "X" ON THE E. SIDE OF CONCRETE LIGHT POLE BASE ALONG THE S. SIDE OF SCREENED FENCE
ELEVATION = 809.15
(NAVD88)

TRUE NORTH PLANT NORTH

HORIZONTAL SCALE

1 inch = 50 feet (24"x36")

WHEN DIGGING OR WORKING NEAR OVERHEAD ELECTRIC WIRES IN MICHIGAN, CALL MISS DIG 3 WORKING DAYS BEFORE STARTING YOUR PROJECT 1-800-482-7171 (TOL FREE)

CLIENT

HATCI MICHIGAN R&D CENTER
SUPERIOR TOWNSHIP, MICHIGAN

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IBI Group Professional Services (USA) Inc.
is a member of the IBI Group of companies.

ISSUES		
No.	DESCRIPTION	DATE
1	AREA PLAN	2021-10-27
2	AREA PLAN AMENDMENT	2021-11-29
3	PRELIMINARY SITE DESIGN	2022-01-26

NOT FOR CONSTRUCTION

PLEASE CONFIRM KEYPLAN BOX

CONSULTANTS

SEAL

Greg K. Tanner
01/25/22

PRIME CONSULTANT

IBI GROUP
25200 Telegraph Road - Suite 300
Southfield MI 48033 USA
Tel 248 936 8000 fax 248 936 8111
ibigroup.com

PROJECT

Hyundai STIL

6800 Geddes Rd Superior Charter Twp,
MI 48198

PROJECT NO:
134894

DRAWN BY: _____ CHECKED BY: _____

PROJECT MGR:
D KASSAB APPROVED BY: _____

SHEET TITLE

EXISTING CONDITIONS

SHEET NUMBER

CD-101

ISSUE

TREE SURVEY SCHEDULE									
TO BE REMOVED	SCIENTIFIC NAME	COMMON NAME	DBH (INCHES)	HEIGHT (FEET)	CONDITION	LANDMARK	SOVEREIGN	REPLACEMENT REQUIRED	
63	Thuja occidentalis	white cedar	2.8 in	10 ft	fair				
64	Thuja occidentalis	white cedar	2.7 in	11 ft	good				
65	Thuja occidentalis	white cedar	3.0 in	13 ft	good				
66	Thuja occidentalis	white cedar	2.6 in	13 ft	good				
67	Thuja occidentalis	white cedar	2.6 in	13 ft	good				
68	Thuja occidentalis	white cedar	2.2 in	11 ft	good				
69	Thuja occidentalis	white cedar	2.9 in	14 ft	good				
70	Thuja occidentalis	white cedar	3.0 in	13 ft	good				
71	Thuja occidentalis	white cedar	1.9 in	11 ft	good				
72	Thuja occidentalis	white cedar	3.6 in	15 ft	good				
73	Thuja occidentalis	white cedar	2.1 in	11 ft	good				
74	Thuja occidentalis	white cedar	3.2 in	14 ft	good				
75	Thuja occidentalis	white cedar	2.0 in	14 ft	good				
76	Thuja occidentalis	white cedar	2.4 in	10 ft	good				
77	Thuja occidentalis	white cedar	2.0 in	12 ft	good				
78	Thuja occidentalis	white cedar	2.4 in	12 ft	good				
79	Thuja occidentalis	white cedar	3.1 in	15 ft	good				
80	Thuja occidentalis	white cedar	2.5 in	10 ft	good				
81	Thuja occidentalis	white cedar	3.4 in	14 ft	good				
82	Thuja occidentalis	white cedar	2.6 in	11 ft	good				
83	Thuja occidentalis	white cedar	3.5 in	12 ft	good				
84	Thuja occidentalis	white cedar	2.9 in	13 ft	good				
85	Thuja occidentalis	white cedar	2.6 in	12 ft	good				
86	Thuja occidentalis	white cedar	2.9 in	11 ft	good				
87	Thuja occidentalis	white cedar	3.0 in	13 ft	good				
88	Thuja occidentalis	white cedar	2.8 in	11 ft	good				
89	Thuja occidentalis	white cedar	2.8 in	11 ft	good				
90	Thuja occidentalis	white cedar	2.4 in	12 ft	good				
91	Thuja occidentalis	white cedar	3.2 in	12 ft	good				
92	Thuja occidentalis	white cedar	3.3 in	13 ft	good				
93	Thuja occidentalis	white cedar	3.5 in	10 ft	good				
94	Thuja occidentalis	white cedar	3.0 in	10 ft	good				
95	Thuja occidentalis	white cedar	3.5 in	12 ft	good				
96	Thuja occidentalis	white cedar	3.0 in	11 ft	good				
97	Thuja occidentalis	white cedar	3.2 in	11 ft	good				
98	Thuja occidentalis	white cedar	3.0 in	11 ft	good				
99	Thuja occidentalis	white cedar	3.4 in	12 ft	good				
100	Thuja occidentalis	white cedar	2.4 in	10 ft	good				
101	Thuja occidentalis	white cedar	3.5 in	12 ft	good				
102	Thuja occidentalis	white cedar	3.6 in	11 ft	good				
103	Thuja occidentalis	white cedar	3.5 in	12 ft	good				
104	Thuja occidentalis	white cedar	3.0 in	12 ft	good				
105	Thuja occidentalis	white cedar	2.9 in	13 ft	good				
106	Thuja occidentalis	white cedar	2.9 in	13 ft	good				
107	Thuja occidentalis	white cedar	2.7 in	12 ft	good				
108	Thuja occidentalis	white cedar	2.0 in	13 ft	good				
109	Thuja occidentalis	white cedar	3.0 in	10 ft	good				
110	Thuja occidentalis	white cedar	1.5 in	11 ft	good				
111	Thuja occidentalis	white cedar	2.2 in	12 ft	good				
112	Thuja occidentalis	white cedar	2.3 in	10 ft	good				
113	Thuja occidentalis	white cedar	2.8 in	11 ft	good				
114	Thuja occidentalis	white cedar	2.8 in	13 ft	good				
115	Thuja occidentalis	white cedar	3.1 in	13 ft	good				
116	Thuja occidentalis	white cedar	2.3 in	10 ft	good				
117	Thuja occidentalis	white cedar	2.5 in	14 ft	good				
118	Thuja occidentalis	white cedar	2.4 in	13 ft	good				
119	Thuja occidentalis	white cedar	4.6 in	11 ft	good				
120	Acer negundo	box elder	8.7 in		poor				
121	Acer negundo	box elder	9.7 in		poor				
122	Acer negundo	box elder	19.9 in		excellent	Y			
123	Juglans nigra	black walnut	16.0 in		good				
124	Fraxinus americana	white ash	8.3 in		good				
125	Juglans nigra	black walnut	8.5 in		excellent				
126	Salix nigra	black willow	17.4 in		fair				
127	Salix nigra	black willow	16.2 in		good				
128	Salix nigra	black willow	14.3 in		good				
129	Populus deltoides	cottonwood	9.4 in		excellent				
130	Acer negundo	box elder	8.4 in		dead or dying				
131	Juglans nigra	black walnut	9.8 in		good				
132	Fraxinus americana	white ash	8.5 in		good				
133	Juglans nigra	black walnut	8.9 in		good				
134	Acer negundo	box elder	9.0 in		poor				
135	Acer negundo	box elder	9.0 in		dead or dying				
136	Juglans nigra	black walnut	23.7 in		excellent	Y			
137	Acer negundo	box elder	15.2 in		dead or dying				
138	Ulmus rubra	slippery elm	8.0 in		excellent				
139	Acer negundo	box elder	9.4 in		poor				
140	Juglans nigra	black walnut	8.9 in		good				
141	Acer negundo	box elder	10.7 in		dead or dying				
142	Salix nigra	black willow	12.4 in		fair				
143	Salix nigra	black willow	9.6 in		poor				
144	Salix nigra	black willow	10.4 in		poor				
145	Salix nigra	black willow	13.9 in		fair				
146	Salix nigra	black willow	13.8 in		good				
147	Salix nigra	black willow	10.8 in		fair				
148	Fraxinus americana	white ash	8.6 in		fair				
149	Juglans nigra	black walnut	8.0 in		fair				
150	Crataegus sp.	hawthorn	9.1 in		fair				
151	Fraxinus americana	white ash	8.9 in		good				
152	Juglans nigra	black walnut	24.1 in		excellent	Y			
153	Ulmus americana	American elm	17.3 in		good				
154	Juglans nigra	black walnut	12.1 in		good				
155	Juglans nigra	black walnut	8.5 in		good				
156	Ulmus americana	American elm	8.9 in		good				
157	Juglans nigra	black walnut	21.4 in		excellent	Y			
158	Acer negundo	box elder	15.2 in		dead or dying				
159	Juglans nigra	black walnut	16.7 in		fair				
160	Juglans nigra	black walnut	21.8 in		excellent	Y			
161	Carya cordiformis	bitternut hickory	8.8 in		good				
162	Morus alba	white mulberry	9.4 in		fair				
163	Salix nigra	black willow	20.8 in		good				
164	Juglans nigra	black walnut	12.2 in		good				

TREE SURVEY SCHEDULE									
TO BE REMOVED	SCIENTIFIC NAME	COMMON NAME	DBH (INCHES)	HEIGHT (FEET)	CONDITION	LANDMARK	SOVEREIGN	REPLACEMENT REQUIRED	
165	Acer negundo	box elder	10.5 in		dead or dying				
166	Ulmus americana	American elm	30.9 in		good	Y			
167	Juglans nigra	black walnut	17.7 in		good				
168	Morus alba	white mulberry	9.8 in		fair				
169	Acer negundo	box elder	12.4 in		poor				
170	Acer negundo	box elder	10.8 in		poor				
171	Acer negundo	box elder	9.8 in		fair				
172	Juglans nigra	black walnut	17.3 in		good				
173	Acer negundo	box elder	9.0 in		poor				
174	Prunus serotina	wild black cherry	12.8 in		poor				
175	Acer negundo	box elder	20.5 in		fair	Y			
176	Acer negundo	box elder	8.0 in		poor				
177	Juglans nigra	black walnut	11.6 in		excellent				
178	Acer negundo	box elder	8.7 in		fair				
179	Celtis occidentalis	hackberry	14.1 in		excellent				
180	Ulmus americana	American elm	8.0 in		good				
181	Acer negundo	box elder	9.0 in		fair				
182	Juglans nigra	black walnut	22.2 in		excellent	Y			
183	Juglans nigra	black walnut	10.7 in		excellent				
184	Juglans nigra	black walnut	8.3 in		excellent				
185	Juglans nigra	black walnut	11.1 in		good				
186	Ulmus americana	American elm	11.4 in		good				
187	Juglans nigra	black walnut	10.6 in		good				
188	Juglans nigra	black walnut	10.2 in		good				
189	Juglans nigra	black walnut	9.3 in		good				
190	Juglans nigra	black walnut	11.1 in		fair				
191	Juglans nigra	black walnut	17.0 in		excellent				
192	Juglans nigra	black walnut	11.5 in		good				
193	Juglans nigra	black walnut	10.2 in		good				
194	Juglans nigra	black walnut	11.7 in		excellent				
195	Ulmus pumila	Siberian elm	10.7 in		fair				
196	Juglans nigra	black walnut	11.6 in		excellent				
197	Juglans nigra	black walnut	11.7 in		excellent				
198	Juglans nigra	black walnut	13.8 in		excellent				
199	Juglans nigra	black walnut	9.6 in		excellent				
200	Ulmus americana	American elm	8.1 in		good				
201	Juglans nigra	black walnut	8.5 in		excellent				
202	Juglans nigra	black walnut	14.7 in		excellent				
203	Juglans nigra	black walnut	12.6 in		excellent				
204	Acer negundo	box elder	10.2 in		dead or dying				
205	Juglans nigra	black walnut	8.6 in		good				
206	Juglans nigra	black walnut	15.7 in		excellent				
207	Ulmus americana	American elm	8.3 in		excellent				
208	Juglans nigra	black walnut	14.6 in		good				
209	Juglans nigra	black walnut	13.3 in		excellent				
210	Juglans nigra	black walnut	18.8 in		excellent	Y			
211	Juglans nigra	black walnut	10.8 in		excellent				
212	Acer negundo	box elder	8.7 in		fair				
213	Acer negundo	box elder	9.6 in		fair				
214	Ulmus rubra	slippery elm	16.5 in		good				
215	Juglans nigra	black walnut	8.7 in		excellent				
216	Juglans nigra	black walnut	22.4 in		good	Y			
217	Juglans nigra	black walnut	10.0 in		excellent				
218	Juglans nigra	black walnut	19.9 in		excellent	Y			
219	Juglans nigra	black walnut	8.0 in		good				
220	Juglans nigra	black walnut	20.0 in		good	Y			
221	Salix nigra	black willow	21.3 in		good				
222	Juglans nigra	black walnut	11.5 in		fair				
223	Juglans nigra	black walnut	28.3 in		good	Y			
224	Fraxinus americana	white ash	8.3 in		fair				
225	Juglans nigra	black walnut	9.1 in		good				
226	Juglans nigra	black walnut	16.4 in		good				
227	Juglans nigra	black walnut	11.6 in		good				
228	Juglans nigra	black walnut	8.5 in		good				
229	Juglans nigra	black walnut	9.5 in		good				
230	Juglans nigra	black walnut	9.1 in		good				
231	Juglans nigra	black walnut	17.6 in		good				
232	Juglans nigra	black walnut	20.7 in		excellent	Y			
233	Juglans nigra	black walnut	9.4 in		excellent				
234	Juglans nigra	black walnut	9.1 in		excellent				
235	Juglans nigra	black walnut	13.1 in		fair				
236	Juglans nigra	black walnut	23.8 in		excellent	Y			
237	Juglans nigra	black walnut	18.1 in		good	Y			
238	Juglans nigra	black walnut	12.5 in		fair				
239	Juglans nigra	black walnut	22.9 in		good	Y			
240	Juglans nigra	black walnut	11.7 in		good				
241	Juglans nigra	black walnut	11.6 in		good				
242	Juglans nigra	black walnut	25.6 in		good	Y			
243	Juglans nigra	black walnut	10.4 in		good				
244	Juglans nigra								

TREE SURVEY SCHEDULE									
TO BE REMOVED	SCIENTIFIC NAME	COMMON NAME	DBH (INCHES)	HEIGHT (FEET)	CONDITION	LANDMARK	SOVEREIGN	REPLACEMENT REQUIRED	
362	Prunus serotina	wild black cherry	9.3 in		good				
363	Fraxinus americana	white ash	8.3 in		dead or dying				
364	Prunus serotina	wild black cherry	9.4 in		fair				
365	Prunus serotina	wild black cherry	8.2 in		good				
366	Quercus coccinea	scarlet oak	18.5 in		excellent	Y			
367	Ulmus americana	American elm	12.4 in		good				
368	Fraxinus americana	white ash	11.9 in		poor				
369	Quercus coccinea	scarlet oak	9.4 in		excellent				
501	Picea pungens	Colorado blue spruce	8.7 in	20 ft	good				
502	Picea pungens	Colorado blue spruce	5.7 in	16 ft	excellent				
503	Picea pungens	Colorado blue spruce	5.9 in	18 ft	excellent				
504	Picea pungens	Colorado blue spruce	5.5 in	14 ft	good				
505	Quercus bicolor	swamp white oak	9.3 in		good				
506	Quercus bicolor	swamp white oak	8.5 in		good				
507	Quercus rubra	red oak	8.1 in		excellent				
508	Populus deltoides	cottonwood	8.8 in		excellent				
509	Populus deltoides	cottonwood	8.5 in		good				
510	Ulmus americana	American elm	9.6 in		good				
511	Carya ovata	shagbark hickory	24.0 in		good	Y			
512	Carya ovata	shagbark hickory	9.8 in		excellent				
513	Carya ovata	shagbark hickory	9.0 in		excellent				
514	Carya ovata	shagbark hickory	8.9 in		excellent				
515	Carya ovata	shagbark hickory	8.2 in		excellent				
516	Ulmus americana	American elm	9.4 in		fair				
517	Juglans nigra	black walnut	18.3 in		good	Y			
518	Ulmus americana	American elm	8.5 in		good				
519	Juglans nigra	black walnut	9.2 in		excellent				
520	Juglans nigra	black walnut	8.2 in		good				
521	Rhamnus cathartica	common buckthorn	9.6 in		good				
522	Juglans nigra	black walnut	9.4 in		good				
523	Acer negundo	box elder	8.5 in		poor				
524	Juglans nigra	black walnut	9.6 in		fair				
525	Cercis canadensis	redbud	8.1 in		fair				
526	Juglans nigra	black walnut	12.2 in		fair				
527	Prunus serotina	wild black cherry	13.5 in		poor				
528	Juglans nigra	black walnut	15.2 in		fair				
529	Ulmus pumila	Siberian elm	10.6 in		fair				
530	Morus alba	white mulberry	12.0 in		fair				
531	Rhamnus cathartica	common buckthorn	8.3 in		fair				
532	Juglans nigra	black walnut	8.0 in		good				
533	Juglans nigra	black walnut	8.0 in		fair				
534	Quercus macrocarpa	burr oak	12.8 in		fair				
535	Quercus macrocarpa	burr oak	19.9 in		excellent	Y			
536	Rhamnus cathartica	common buckthorn	15.7 in		fair				
537	Quercus macrocarpa	burr oak	21.1 in		good	Y			
538	Ulmus americana	American elm	12.5 in		fair				
539	Quercus macrocarpa	burr oak	16.1 in		good	Y			
540	Quercus macrocarpa	burr oak	57.1 in		excellent		Y	Y	
541	Carya cordiformis	bitternut hickory	11.3 in		excellent				
542	Quercus macrocarpa	burr oak	13.3 in		good				
543	Ulmus americana	American elm	8.2 in		fair				
544	Acer negundo	box elder	16.5 in		poor	Y			
545	Juglans nigra	black walnut	11.5 in		good				
546	Populus deltoides	cottonwood	16.3 in		good				
547	Carya cordiformis	bitternut hickory	14.6 in		good				
548	Populus deltoides	cottonwood	9.4 in		good				
549	Acer negundo	box elder	8.9 in		fair				
550	Acer negundo	box elder	8.3 in		fair				
551	Acer negundo	box elder	10.5 in		fair				
552	Ulmus americana	American elm	8.3 in		good				
553	Populus deltoides	cottonwood	19.6 in		good				
568	Acer negundo	box elder	13.3 in		poor				
569	Juglans nigra	black walnut	8.9 in		good				
629	Y	Juglans nigra	black walnut	11.5 in	excellent				
630	Y	Juglans nigra	black walnut	17.9 in	excellent				
631	Y	Acer negundo	box elder	12.4 in	fair				
632	Y	Morus alba	white mulberry	10.4 in	fair				
633	Y	Ulmus americana	American elm	13.7 in	excellent				
634	Y	Prunus serotina	wild black cherry	9.9 in	fair				
635	Y	Acer negundo	box elder	8.2 in	fair				
636	Y	Ulmus americana	American elm	11.1 in	good				
637	Y	Acer negundo	box elder	14.0 in	fair				
638	Y	Prunus serotina	wild black cherry	9.8 in	fair				
639	Y	Prunus serotina	wild black cherry	26.4 in	fair	Y		Y	
640	Y	Ulmus americana	American elm	8.5 in	good				
641	Y	Prunus serotina	wild black cherry	20.0 in	poor	Y		Y	
642	Y	Morus alba	white mulberry	12.7 in	fair				
643	Y	Rhamnus cathartica	common buckthorn	8.6 in	fair				
644	Y	Morus alba	white mulberry	12.0 in	good				
645	Y	Ulmus americana	American elm	8.0 in	good				
702	Carya glabra	pignut hickory	14.0 in		excellent				
703	Carya glabra	pignut hickory	16.0 in		good	Y			
704	Quercus alba	white oak	27.2 in		good	Y			
705	Quercus coccinea	scarlet oak	8.9 in		good				
706	Quercus alba	white oak	21.8 in		good	Y			
707	Quercus rubra	red oak	14.2 in		excellent				
708	Prunus serotina	wild black cherry	12.0 in		poor				
709	Prunus serotina	wild black cherry	12.6 in		fair				
710	Carya glabra	pignut hickory	12.2 in		fair				
711	Carya glabra	pignut hickory	10.6 in		excellent				
712	Ulmus americana	American elm	8.2 in		excellent				
713	Quercus rubra	red oak	9.4 in		excellent				
714	Quercus rubra	red oak	10.6 in		excellent				
715	Quercus rubra	red oak	10.3 in		excellent				
716	Populus grandidentata	bigtooth aspen	9.5 in		excellent				
717	Quercus rubra	red oak	19.9 in		excellent	Y			
718	Quercus rubra	red oak	12.0 in		excellent				
719	Prunus serotina	wild black cherry	11.3 in		good				
720	Prunus serotina	wild black cherry	9.3 in		good				
759	Juglans nigra	black walnut	18.9 in		excellent	Y			
760	Ulmus rubra	slippery elm	15.3 in		fair				
761	Juglans nigra	black walnut	13.9 in		good				
762	Prunus serotina	wild black cherry	11.3 in		good				

TREE SURVEY SCHEDULE									
TO BE REMOVED	SCIENTIFIC NAME	COMMON NAME	DBH (INCHES)	HEIGHT (FEET)	CONDITION	LANDMARK	SOVEREIGN	REPLACEMENT REQUIRED	
763	Juglans nigra	black walnut	27.8 in		good	Y			
764	Juglans nigra	black walnut	16.7 in		fair				
765	Juglans nigra	black walnut	21.9 in		fair	Y			
767	Juglans nigra	black walnut	10.0 in		excellent				
768	Juglans nigra	black walnut	12.9 in		excellent				
769	Juglans nigra	black walnut	9.0 in		good				
770	Juglans nigra	black walnut	11.7 in		fair				
782	Prunus serotina	wild black cherry	9.1 in		fair				
783	Prunus avium	bird cherry	10.9 in		fair				
784	Quercus rubra	red oak	16.9 in		good	Y			
785	Carya glabra	pignut hickory	20.5 in		excellent	Y			
786	Quercus rubra	red oak	13.4 in		excellent				
787	Quercus rubra	red oak	10.6 in		good				
788	Quercus rubra	red oak	17.4 in		excellent	Y			
789	Tilia americana	basswood	16.1 in		good				
790	Y	Carya cordiformis	bitternut hickory	15.0 in	excellent				
791	Y	Juglans nigra	black walnut	9.1 in	fair				
792	Y	Juglans nigra	black walnut	9.1 in	good				
793	Y	Acer negundo	box elder	8.5 in	poor				
794	Y	Juglans nigra	black walnut	9.5 in	excellent				
795	Y	Juglans nigra	black walnut	10.7 in	excellent				
796	Y	Acer negundo	box elder	8.5 in	poor				
797	Y	Prunus serotina	wild black cherry	18.7 in	fair	Y		Y	
798	Y	Carya cordiformis	bitternut hickory	10.0 in	good				
799	Y	Tilia americana	basswood	18.2 in	excellent	Y		Y	
800	Y	Quercus rubra	red oak	12.5 in	good				
801	Y	Carya glabra	pignut hickory	26.0 in	excellent	Y		Y	
802	Y	Ulmus americana	American elm	8.5 in	good				
803	Y	Carya glabra	pignut hickory	13.5 in	good				
804	Y	Carya glabra	pignut hickory	14.0 in	good				
805	Prunus serotina	wild black cherry	8.2 in		dead or dying				
806	Ulmus americana	American elm	8.5 in		good				
807	Y	Carya glabra	pignut hickory	17.0 in	fair	Y		Y	
808	Prunus serotina	wild black cherry	9.0 in		poor				
814	Quercus alba	white oak	17.5 in		good	Y			
837	Carya glabra	pignut hickory	8.4 in		excellent				
839	Prunus serotina	wild black cherry	8.0 in		good				
840	Quercus rubra	red oak	18.8 in		good	Y			
841	Prunus serotina	wild black cherry	13.0 in		dead or dying				
842	Quercus rubra	red oak	17.2 in		excellent	Y			
843	Prunus serotina	wild black cherry	10.5 in		poor				
844	Quercus rubra	red oak	17.5 in		good	Y			
845	Ulmus americana	American elm	11.5 in		poor				
846	Ulmus americana	American elm	9.7 in		fair				
847	Quercus rubra	red oak	12.2 in		good				
848	Quercus rubra	red oak	8.4 in		good				
849	Carya glabra	pignut hickory	8.2 in		fair				
850	Prunus serotina	wild black cherry	14.5 in		poor				
851	Carya cordiformis	bitternut hickory	9.2 in		good				
852	Quercus rubra	red oak	20.1 in		excellent	Y			
853	Quercus rubra	red oak	20.1 in		excellent	Y			
854	Tilia americana	basswood	9.1 in		excellent				
856	Quercus rubra	red oak	18.6 in		excellent	Y			
857	Quercus rubra	red oak	17.2 in		good	Y			
858	Quercus rubra	red oak	17.1 in		excellent	Y			
859	Quercus rubra	red oak	17.0 in		good	Y			
860	Quercus rubra	red oak	21.0 in		good	Y			
861	Quercus rubra	red oak	12.8 in		poor				
862	Quercus rubra	red oak	11.2 in		good				
863	Quercus rubra	red oak	15.6 in		good				
864	Ulmus americana	American elm	17.4 in		good				
865	Y	Ulmus americana	American elm	10.5 in	fair				
866	Y	Ulmus americana	American elm	8.3 in	fair				
867	Y	Ulmus americana	American elm	9.5 in	fair				
868	Carya cordiformis	bitternut hickory	8.4 in		good				
869	Quercus rubra	red oak	10.1 in		excellent				
870	Ulmus americana	American elm	12.3 in		fair				
871	Carya ovata	shagbark hickory	9.1 in		excellent				
872	Quercus rubra	red oak	17.2 in		excellent	Y			
873	Quercus rubra	red oak	16.3 in		excellent	Y			
874	Quercus rubra	red oak	17.1 in		excellent	Y			
876	Quercus rubra	red oak	9.4 in		excellent				
880	Quercus rubra	red oak	39.3 in		excellent	Y			
881	Quercus rubra	red oak	33.4 in		excellent	Y			
882	Acer saccharum	sugar maple	12.5 in		excellent				
883	Quercus rubra	red oak	23.5 in		excellent	Y</			

TREE SURVEY SCHEDULE									
TAG NO.	TO BE REMOVED	SCIENTIFIC NAME	COMMON NAME	DBH (INCHES)	HEIGHT (FEET)	CONDITION	LANDMARK	SOVEREIGN	REPLACEMENT REQUIRED
1320	Y	Carya glabra	pignut hickory	16.8 in		excellent	Y		Y
1321	Y	Celtis occidentalis	hackberry	17.3 in		good			
1322	Y	Tilia americana	basswood	10.8 in		excellent			
1323	Y	Carya glabra	pignut hickory	15.6 in		good			
1324	Y	Quercus rubra	red oak	11.3 in		excellent			
1325	Y	Quercus rubra	red oak	8.5 in		excellent			
1326	Y	Quercus rubra	red oak	17.6 in		excellent	Y		Y
1327	Y	Juglans nigra	black walnut	19.5 in		excellent	Y		Y
1328	Y	Ulmus americana	American elm	9.5 in		good			
1329	Y	Ulmus americana	American elm	8.0 in		poor			
1330	Y	Ulmus americana	American elm	9.5 in		fair			
1331	Y	Ulmus americana	American elm	11.0 in		good			
1332	Y	Morus alba	white mulberry	8.5 in		good			
1333	Y	Morus alba	white mulberry	8.5 in		good			
1334	Y	Morus alba	white mulberry	9.3 in		good			
1335	Y	Carya cordiformis	bitternut hickory	8.8 in		excellent			
1336	Y	Ulmus americana	American elm	15.2 in		good			
1337	Y	Quercus rubra	red oak	12.0 in		fair			
1338	Y	Prunus serotina	wild black cherry	13.5 in		fair			
1339	Y	Prunus serotina	wild black cherry	10.8 in		poor			
1340	Y	Quercus rubra	red oak	9.5 in		fair			
1341	Y	Prunus serotina	wild black cherry	24.0 in		poor	Y		Y
1342	Y	Tilia americana	basswood	15.2 in		excellent			
1343	Y	Tilia americana	basswood	16.5 in		excellent			
1344	Y	Prunus serotina	wild black cherry	8.2 in		poor			
1345	Y	Quercus alba	white oak	20.8 in		excellent	Y		Y
1346	Y	Carya cordiformis	bitternut hickory	15.5 in		good			
1347	Y	Carya glabra	pignut hickory	15.2 in		good			
1348	Y	Tilia americana	basswood	10.0 in		good			
1349	Y	Tilia americana	basswood	18.4 in		good	Y		
1350	Y	Prunus serotina	wild black cherry	10.0 in		poor			
1351	Y	Carya cordiformis	bitternut hickory	9.3 in		excellent			
1352	Y	Tilia americana	basswood	8.8 in		good			
1353	Y	Prunus serotina	wild black cherry	8.8 in		fair			
1354	Y	Prunus serotina	wild black cherry	8.3 in		fair			
1355	Y	Prunus serotina	wild black cherry	13.0 in		fair			
1356	Y	Ulmus americana	American elm	8.7 in		fair			
1357	Y	Acer saccharum	sugar maple	16.7 in		excellent	Y		
1358	Y	Tilia americana	basswood	11.5 in		good			
1359	Y	Tilia americana	basswood	17.8 in		good			
1360	Y	Carya ovata	shagbark hickory	25.0 in		excellent	Y		Y
1361	Y	Tilia americana	basswood	21.5 in		excellent	Y		
1362	Y	Tilia americana	basswood	16.3 in		excellent			
1363	Y	Tilia americana	basswood	9.0 in		excellent			
1364	Y	Carya glabra	pignut hickory	18.9 in		excellent	Y		
1365	Y	Ulmus americana	American elm	12.5 in		excellent			
1366	Y	Carya cordiformis	bitternut hickory	17.5 in		excellent	Y		Y
1367	Y	Tilia americana	basswood	19.5 in		good	Y		
1368	Y	Acer rubrum	red maple	8.5 in		excellent			
1369	Y	Tilia americana	basswood	14.5 in		excellent			
1370	Y	Tilia americana	basswood	15.0 in		excellent			
1371	Y	Carya cordiformis	bitternut hickory	10.0 in		excellent			
1372	Y	Tilia americana	basswood	8.8 in		fair			
1373	Y	Quercus rubra	red oak	13.7 in		good			
1374	Y	Quercus rubra	red oak	14.9 in		excellent			
1375	Y	Quercus rubra	red oak	16.7 in		fair	Y		
1376	Y	Quercus rubra	red oak	16.7 in		good	Y		
1377	Y	Quercus rubra	red oak	23.0 in		excellent	Y		
1378	Y	Acer saccharum	sugar maple	14.8 in		excellent			
1379	Y	Quercus rubra	red oak	28.0 in		excellent	Y		
1380	Y	Carya cordiformis	bitternut hickory	11.5 in		fair			
1381	Y	Prunus serotina	wild black cherry	11.5 in		poor			
1382	Y	Carya cordiformis	bitternut hickory	15.0 in		poor			
1383	Y	Ulmus americana	American elm	21.0 in		fair	Y		
1384	Y	Carya glabra	pignut hickory	11.8 in		excellent			
1385	Y	Quercus alba	white oak	31.8 in		excellent	Y		
1386	Y	Ulmus americana	American elm	8.0 in		excellent			
1387	Y	Carya glabra	pignut hickory	14.5 in		excellent			
1388	Y	Quercus rubra	red oak	9.0 in		excellent			
1389	Y	Tilia americana	basswood	19.0 in		good	Y		
1390	Y	Quercus rubra	red oak	20.2 in		excellent	Y		
1391	Y	Prunus serotina	wild black cherry	10.2 in		poor			
1392	Y	Quercus rubra	red oak	14.2 in		good			
1393	Y	Tilia americana	basswood	11.5 in		excellent			
1395	Y	Carya cordiformis	bitternut hickory	10.5 in		good			
1396	Y	Carya cordiformis	bitternut hickory	10.2 in		good			
1397	Y	Tilia americana	basswood	8.2 in		fair			
1401	Y	Tilia americana	basswood	15.8 in		fair			
1402	Y	Tilia americana	basswood	8.5 in		good			
1403	Y	Tilia americana	basswood	9.0 in		good			
1404	Y	Ulmus americana	American elm	8.0 in		fair			
1405	Y	Ulmus americana	American elm	11.0 in		good			
1406	Y	Carya ovata	shagbark hickory	21.6 in		excellent	Y		
1407	Y	Tilia americana	basswood	17.0 in		excellent			
1408	Y	Tilia americana	basswood	8.5 in		excellent			
1409	Y	Tilia americana	basswood	15.8 in		good			
1410	Y	Acer saccharum	sugar maple	11.0 in		excellent			
1411	Y	Tilia americana	basswood	11.5 in		good			
1412	Y	Acer saccharum	sugar maple	8.1 in		good			
1413	Y	Tilia americana	basswood	12.6 in		fair			
1414	Y	Tilia americana	basswood	13.7 in		good			
1415	Y	Prunus serotina	wild black cherry	10.5 in		fair			
1416	Y	Acer saccharum	sugar maple	9.8 in		excellent			
1417	Y	Acer saccharum	sugar maple	10.3 in		good			
1418	Y	Acer saccharum	sugar maple	9.5 in		excellent			
1419	Y	Acer rubrum	red maple	16.8 in		good	Y		Y
1420	Y	Acer rubrum	red maple	8.2 in		excellent			
1421	Y	Tilia americana	basswood	13.5 in		poor			
1422	Y	Tilia americana	basswood	17.3 in		good			
1423	Y	Tilia americana	basswood	15.5 in		good			
1424	Y	Tilia americana	basswood	9.8 in		good			
1425	Y	Tilia americana	basswood	10.8 in		poor			

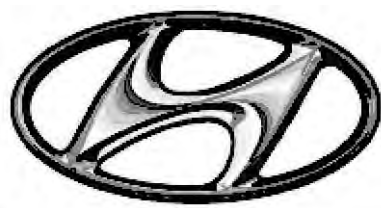
TREE SURVEY SCHEDULE									
TAG NO.	TO BE REMOVED	SCIENTIFIC NAME	COMMON NAME	DBH (INCHES)	HEIGHT (FEET)	CONDITION	LANDMARK	SOVEREIGN	REPLACEMENT REQUIRED
1426	Y	Quercus rubra	red oak	14.3 in		good			
1427	Y	Prunus serotina	wild black cherry	8.8 in		good			
1428	Y	Carya glabra	pignut hickory	21.3 in		excellent	Y		Y
1429	Y	Carya cordiformis	bitternut hickory	13.8 in		good			
1430	Y	Quercus rubra	red oak	10.0 in		good			
1431	Y	Quercus rubra	red oak	14.0 in		poor			
1432	Y	Tilia americana	basswood	16.2 in		fair			
1433	Y	Tilia americana	basswood	23.0 in		excellent	Y		Y
1434	Y	Ulmus americana	American elm	8.5 in		fair			
1435	Y	Quercus rubra	red oak	13.0 in		good			
1436	Y	Juglans nigra	black walnut	12.0 in		good			
1437	Y	Fraxinus pennsylvanica	green ash	9.0 in		poor			
1438	Y	Juglans nigra	black walnut	9.5 in		fair			
1439	Y	Juglans nigra	black walnut	11.0 in		good			
1440	Y	Ulmus americana	American elm	9.0 in		good			
1441	Y	Carya cordiformis	bitternut hickory	9.0 in		good			
1442	Y	Carya cordiformis	bitternut hickory	9.0 in		good			
1443	Y	Carya cordiformis	bitternut hickory	8.1 in		good			
1444	Y	Tilia americana	basswood	8.0 in		good			
1445	Y	Ulmus americana	American elm	11.6 in		fair			
1446	Y	Prunus serotina	wild black cherry	16.3 in		good			
1447	Y	Tilia americana	basswood	16.2 in		fair			
1448	Y	Tilia americana	basswood	11.0 in		fair			
1449	Y	Carya glabra	pignut hickory	20.0 in		excellent	Y		Y
1450	Y	Quercus rubra	red oak	8.0 in		excellent			
1451	Y	Quercus rubra	red oak	14.0 in		good			
1452	Y	Quercus rubra	red oak	14.5 in		good			
1453	Y	Tilia americana	basswood	14.5 in		good			
1454	Y	Ulmus americana	American elm	10.1 in		good			
1455	Y	Juglans nigra	black walnut	16.0 in		good			
1456	Y	Juglans nigra	black walnut	13.1 in		good			
1457	Y	Tilia americana	basswood	17.5 in		good			
1458	Y	Tilia americana	basswood	18.5 in		fair	Y		Y
1459	Y	Carya ovata	shagbark hickory	20.5 in		excellent	Y		Y
1460	Y	Carya ovata	shagbark hickory	17.6 in		excellent	Y		Y
1461	Y	Tilia americana	basswood	17.6 in		good			
1462	Y	Carya ovata	shagbark hickory	17.0 in		excellent	Y		Y
1463	Y	Tilia americana	basswood	13.8 in		good			
1464	Y	Tilia americana	basswood	12.0 in		good			
1465	Y	Tilia americana	basswood	8.0 in		good			
1466	Y	Tilia americana	basswood	11.6 in		good			
1467	Y	Tilia americana	basswood	15.5 in		good			
1468	Y	Ulmus americana	American elm	15.0 in		good			
1469	Y	Tilia americana	basswood	25.0 in		good	Y		Y
1470	Y	Tilia americana	basswood	12.8 in		good			
1471	Y	Tilia americana	basswood	12.9 in		good			
1472	Y	Tilia americana	basswood	17.0 in		good			
1473	Y	Acer rubrum	red maple	13.8 in		good			
1474	Y	Acer rubrum	red maple	8.2 in		good			
1475	Y	Tilia americana	basswood	15.0 in		good			
1476	Y	Prunus serotina	wild black cherry	17.5 in		fair			
1477	Y	Tilia americana	basswood	15.1 in		fair			
1478	Y	Tilia americana	basswood	11.3 in		good			
1479	Y	Tilia americana	basswood	17.2 in		good			
1480	Y	Acer nigrum	black maple	8.0 in		good			
1481	Y	Prunus serotina	wild black cherry	10.5 in		good			
1482	Y	Prunus serotina	wild black cherry	8.5 in		good			
1483	Y	Acer rubrum	red maple	14.0 in		fair			
1484	Y	Tilia americana	basswood	11.3 in		fair			
1485	Y	Prunus serotina	wild black cherry	9.0 in		good			
1486	Y	Ulmus americana	American elm	9.5 in		good			
1487	Y	Ulmus americana	American elm	8.0 in		good			
1488	Y	Tilia americana	basswood	15.7 in		good			
1489	Y	Carya cordiformis	bitternut hickory	12.2 in		good			
1490	Y	Acer rubrum	red maple	9.0 in		good			
1491	Y	Acer rubrum	red maple	15.0 in		good			
1492	Y	Acer rubrum	red maple	9.2 in		excellent			
1493	Y	Tilia americana	basswood	12.5 in		excellent			
1494	Y	Carya cordiformis	bitternut hickory	10.0 in		excellent			
1495	Y	Tilia americana	basswood	8.8 in		good			
1496	Y	Carya cordiformis	bitternut hickory	9.9 in		good			
1497	Y	Tilia americana	basswood	11.2 in		good			
1498	Y	Tilia americana	basswood	11.1 in		good			

TREE SURVEY SCHEDULE									
TAG NO.	TO BE REMOVED	SCIENTIFIC NAME	COMMON NAME	DBH (INCHES)	HEIGHT (FEET)	CONDITION	LANDMARK	SOVEREIGN	REPLACEMENT REQUIRED
1631		Tilia americana	basswood	10.2 in		good			
1632		Tilia americana	basswood	13.1 in		excellent			
1633		Tilia americana	basswood	10.8 in		good			
1634		Tilia americana	basswood	15.0 in		excellent			
1635		Tilia americana	basswood	8.6 in		good			
1636		Tilia americana	basswood	14.4 in		excellent			
1637		Tilia americana	basswood	25.3 in		good	Y		
1638		Tilia americana	basswood	9.4 in		good			
1639		Tilia americana	basswood	11.0 in		fair			
1640		Tilia americana	basswood	14.7 in		excellent			
1641		Tilia americana	basswood	8.6 in		good			
1642		Tilia americana	basswood	12.8 in		excellent			
1643		Quercus rubra	red oak	15.6 in		excellent			
1644		Tilia americana	basswood	18.1 in		excellent	Y		
1645		Tilia americana	basswood	15.9 in		fair			
1646		Ulmus americana	American elm	9.3 in		good			
1647		Ulmus americana	American elm	21.1 in		good	Y		
1648		Carya cordiformis	bitternut hickory	8.0 in		good			
1649		Quercus rubra	red oak	23.8 in		excellent	Y		
1650		Carya glabra	pignut hickory	9.7 in		good			
1651		Tilia americana	basswood	13.5 in		good			
1652		Carya ovata	shagbark hickory	13.2 in		good			
1653		Carya glabra	pignut hickory	10.4 in		good			
1654		Quercus rubra	red oak	25.0 in		good	Y		
1655		Ulmus americana	American elm	11.4 in		fair			
1656		Prunus serotina	wild black cherry	10.6 in		fair			
1657		Quercus rubra	red oak	11.1 in		good			
1658		Tilia americana	basswood	14.3 in		fair			
1659		Tilia americana	basswood	18.0 in		good	Y		
1660		Carya cordiformis	bitternut hickory	9.7 in		excellent			
1661		Tilia americana	basswood	19.3 in		excellent	Y		
1662		Tilia americana	basswood	16.7 in		excellent			
1663		Tilia americana	basswood	10.8 in		excellent			
1664		Tilia americana	basswood	9.1 in		excellent			
1665		Tilia americana	basswood	14.2 in		excellent			
1666		Tilia americana	basswood	9.1 in		poor			
1667		Tilia americana	basswood	8.3 in		good			
1668		Tilia americana	basswood	15.6 in		excellent			
1669		Tilia americana	basswood	11.0 in		good			
1670		Prunus serotina	wild black cherry	9.2 in		fair			
1671		Prunus serotina	wild black cherry	9.0 in		excellent			
1672		Carya ovata	shagbark hickory	25.1 in		excellent	Y		
1673		Tilia americana	basswood	17.8 in		excellent			
1674		Tilia americana	basswood	8.6 in		fair			
1675		Ostrya virginiana	ironwood	9.1 in		good			
1676		Tilia americana	basswood	9.6 in		good			
1677		Tilia americana	basswood	16.9 in		good			
1678		Tilia americana	basswood	11.0 in		good			
1679	Y	Tilia americana	basswood	9.8 in		excellent			
1680	Y	Carya cordiformis	bitternut hickory	11.7 in		excellent			
1681	Y	Quercus rubra	red oak	12.8 in		excellent			
1682	Y	Prunus serotina	wild black cherry	8.3 in		poor			
1683	Y	Ulmus americana	American elm	8.5 in		good			
1684	Y	Quercus rubra	red oak	10.1 in		excellent			
1685	Y	Tilia americana	basswood	12.3 in		good			
1686	Y	Carya ovata	shagbark hickory	15.0 in		good			
1687	Y	Quercus alba	white oak	15.9 in		good			
1688	Y	Quercus rubra	red oak	10.9 in		good			
1689	Y	Ulmus americana	American elm	14.1 in		excellent			
1690	Y	Juglans nigra	black walnut	19.0 in		excellent	Y		Y
1691	Y	Ulmus americana	American elm	10.3 in		excellent			
1692	Y	Carya cordiformis	bitternut hickory	17.4 in		excellent	Y		Y
1693	Y	Carya ovata	shagbark hickory	10.6 in		good			
1694	Y	Quercus rubra	red oak	16.7 in		excellent	Y		
1695	Y	Tilia americana	basswood	15.1 in		excellent			
1696	Y	Quercus macrocarpa	burr oak	9.5 in		good			
1697	Y	Carya cordiformis	bitternut hickory	11.8 in		excellent			
1698	Y	Quercus rubra	red oak	9.3 in		excellent			
1699	Y	Juglans nigra	black walnut	15.6 in		excellent			
1700	Y	Quercus rubra	red oak	24.3 in		excellent	Y		Y
1701	Y	Ulmus americana	American elm	8.1 in		good			
1702	Y	Quercus rubra	red oak	18.3 in		good	Y		Y
1703	Y	Quercus rubra	red oak	14.8 in		excellent			
1704	Y	Ulmus americana	American elm	11.6 in		excellent			
1705	Y	Juglans nigra	black walnut	11.2 in		good			
1706	Y	Quercus rubra	red oak	20.9 in		good	Y		Y
1707	Y	Quercus rubra	red oak	11.2 in		excellent			
1708	Y	Carya cordiformis	bitternut hickory	8.7 in		excellent			
1709	Y	Quercus rubra	red oak	12.8 in		excellent			
1710	Y	Quercus macrocarpa	burr oak	11.7 in		excellent			
1711	Y	Juglans nigra	black walnut	12.1 in		excellent			
1712	Y	Carya cordiformis	bitternut hickory	11.8 in		excellent			
1713	Y	Carya cordiformis	bitternut hickory	9.5 in		good			
1714	Y	Quercus macrocarpa	burr oak	18.4 in		excellent	Y		
1715	Y	Tilia americana	basswood	22.8 in		good	Y		
1716	Y	Tilia americana	basswood	10.6 in		good			
1717	Y	Tilia americana	basswood	9.2 in		fair			
1718	Y	Carya cordiformis	bitternut hickory	10.8 in		excellent			
1719	Y	Quercus macrocarpa	burr oak	9.8 in		good			
1720	Y	Tilia americana	basswood	14.1 in		good			
1721	Y	Ulmus americana	American elm	8.5 in		good			
1722	Y	Carya cordiformis	bitternut hickory	10.4 in		excellent			
1723	Y	Carya cordiformis	bitternut hickory	9.1 in		excellent			
1724	Y	Carya cordiformis	bitternut hickory	10.0 in		good			
1725	Y	Ulmus americana	American elm	10.5 in		excellent			
1726	Y	Ulmus americana	American elm	8.3 in		excellent			
1727	Y	Carya glabra	pignut hickory	18.3 in		good	Y		
1728	Y	Carya glabra	pignut hickory	11.9 in		excellent			
1729	Y	Quercus rubra	red oak	9.1 in		excellent			
1730	Y	Carya ovata	shagbark hickory	22.4 in		excellent	Y		
1731	Y	Carya ovata	shagbark hickory	22.4 in		excellent	Y		
1732	Y	Ulmus americana	American elm	15.4 in		excellent			

TREE SURVEY SCHEDULE									
TAG NO.	TO BE REMOVED	SCIENTIFIC NAME	COMMON NAME	DBH (INCHES)	HEIGHT (FEET)	CONDITION	LANDMARK	SOVEREIGN	REPLACEMENT REQUIRED
1733		Carya ovata	shagbark hickory	17.7 in		good	Y		
1734	Y	Carya ovata	shagbark hickory	13.5 in		excellent			
1735	Y	Tilia americana	basswood	13.8 in		good			
1736	Y	Tilia americana	basswood	12.8 in		good			
1737	Y	Carya ovata	shagbark hickory	21.8 in		excellent	Y		
1738	Y	Tilia americana	basswood	9.9 in		fair			
1739	Y	Tilia americana	basswood	10.4 in		excellent			
1740	Y	Tilia americana	basswood	10.8 in		fair			
1741		Carya ovata	shagbark hickory	18.9 in		excellent	Y		
1742		Prunus serotina	wild black cherry	8.1 in		excellent			
1743		Ostrya virginiana	ironwood	8.2 in		excellent			
1744		Tilia americana	basswood	10.7 in		excellent			
1745		Carya glabra	pignut hickory	13.4 in		excellent			
1746		Ostrya virginiana	ironwood	8.3 in		excellent			
1747		Ostrya virginiana	ironwood	9.9 in		excellent			
1748		Acer rubrum	red maple	13.9 in		good			
1749		Tilia americana	basswood	11.9 in		good			
1750		Tilia americana	basswood	8.5 in		good			
1751		Tilia americana	basswood	9.4 in		good			
1752		Prunus serotina	wild black cherry	17.3 in		excellent			
1753		Quercus rubra	red oak	20.2 in		excellent	Y		
1754		Prunus serotina	wild black cherry	10.3 in		good			
1755		Tilia americana	basswood	14.8 in		excellent			
1756		Tilia americana	basswood	13.1 in		excellent			
1757		Tilia americana	basswood	10.5 in		excellent			
1758		Sassafras albidum	sassafras	19.3 in		good			
1759		Tilia americana	basswood	16.7 in		excellent			
1760		Tilia americana	basswood	19.2 in		good	Y		
1761		Tilia americana	basswood	10.8 in		excellent			
1762		Quercus rubra	red oak	18.5 in		excellent	Y		
1763		Tilia americana	basswood	8.9 in		good			
1764		Quercus rubra	red oak	23.4 in		excellent	Y		
1765		Tilia americana	basswood	9.8 in		good			
1766		Tilia americana	basswood	29.5 in		good	Y		
1767		Quercus rubra	red oak	13.4 in		good			
1768		Tilia americana	basswood	9.8 in		good			
1769		Tilia americana	basswood	12.2 in		good			
1770		Quercus rubra	red oak	12.2 in		good			
1771		Prunus serotina	wild black cherry	15.3 in		poor			
1772		Quercus rubra	red oak	14.3 in		excellent			
1773		Prunus serotina	wild black cherry	8.1 in		excellent			
1774		Prunus serotina	wild black cherry	16.1 in		excellent			
1775		Tilia americana	basswood	8.5 in		good			
1776		Tilia americana	basswood	8.8 in		good			
1777		Quercus rubra	red oak	25.2 in		good	Y		
1778		Quercus rubra	red oak	9.1 in		excellent			
1779		Quercus rubra	red oak	18.8 in		good	Y		
1780		Tilia americana	basswood	15.1 in		good			
1781		Tilia americana	basswood	9.4 in		good			
1782		Tilia americana	basswood	21.5 in		excellent	Y		
1783		Carya ovata	shagbark hickory	16.5 in		excellent	Y		
1784		Tilia americana	basswood	11.0 in		good			
1785		Carya glabra	pignut hickory	12.8 in		excellent			
1786		Quercus rubra	red oak	22.2 in		good	Y		
1787		Tilia americana	basswood	17.6 in		good			
1788		Tilia americana	basswood	19.6 in		excellent	Y		
1789		Ulmus americana	American elm	20.3 in		poor	Y		
1790		Tilia americana	basswood	12.7 in		excellent			
1791		Quercus rubra	red oak	9.6 in		good			
1792		Tilia americana	basswood	10.7 in		good			
1793		Tilia americana	basswood	11.4 in		good			
1794		Prunus serotina	wild black cherry	8.3 in		good			
1795		Tilia americana	basswood	15.0 in		good			
1796		Tilia americana	basswood	16.6 in		excellent			
1797		Tilia americana	basswood	8.0 in		good			
1798		Tilia americana	basswood	17.4 in		excellent			
1799		Tilia americana	basswood	21.8 in		excellent	Y		
1800		Ulmus americana	American elm	10.0 in		good			
1801		Tilia americana	basswood	9.6 in		excellent			
1802		Tilia americana	basswood	11.1 in		good			
1803		Acer negundo	box elder	11.7 in		poor			
1804		Tilia americana	basswood	9.8 in		excellent			
1805		Tilia americana	basswood	11.7 in		fair			
1806		Tilia americana	basswood	18.1 in		excellent	Y		
1807		Tilia americana	basswood	13.4 in		excellent			
1808		Acer rubrum	red maple	33.5 in		poor	Y		
1809	Y	Tilia americana	basswood	23.8					

TAG NO.	TO BE REMOVED	TREE SURVEY SCHEDULE				CONDITION	LANDMARK	SOVEREIGN	REPLACEMENT REQUIRED
		SCIENTIFIC NAME	COMMON NAME	DBH (INCHES)	HEIGHT (FEET)				
1937	Y	Juglans nigra	black walnut	19.1 in		good	Y	Y	
1938	Y	Juglans nigra	black walnut	26.8 in		fair	Y	Y	
1939	Y	Juglans nigra	black walnut	11.1 in		good			
1940	Y	Juglans nigra	black walnut	12.6 in		fair			
1941	Y	Juglans nigra	black walnut	21.3 in		fair	Y	Y	
1942	Y	Juglans nigra	black walnut	15.5 in		good			
1943	Y	Morus alba	white mulberry	8.0 in		good			
1944		Juglans nigra	black walnut	12.7 in		fair			
1945		Juglans nigra	black walnut	8.1 in		fair			
1946		Acer negundo	box elder	9.3 in		dead or dying			
1947		Acer negundo	box elder	9.0 in		fair			
1948		Juglans nigra	black walnut	10.9 in		good			
1949		Acer negundo	box elder	13.6 in		fair			
1950		Salix nigra	black willow	8.6 in		good			
1951		Acer negundo	box elder	9.3 in		poor			
1952		Juglans nigra	black walnut	20.9 in		fair	Y		
1953		Acer negundo	box elder	10.0 in		poor			
1954		Juglans nigra	black walnut	9.1 in		excellent			
1955		Acer negundo	box elder	8.2 in		poor			
1956		Juglans nigra	black walnut	10.2 in		excellent			
1957		Salix nigra	black willow	17.1 in		fair			
1958		Salix nigra	black willow	15.6 in		good			
1959		Juglans nigra	black walnut	23.1 in		fair	Y		
1960		Populus deltoides	cottonwood	17.7 in		good			
1961		Juglans nigra	black walnut	8.1 in		good			
1962		Populus deltoides	cottonwood	42.1 in		good			
1963		Juglans nigra	black walnut	8.0 in		good			
1964		Juglans nigra	black walnut	9.0 in		excellent			
1965		Juglans nigra	black walnut	11.5 in		excellent			
1966		Juglans nigra	black walnut	9.1 in		good			
1967		Juglans nigra	black walnut	8.3 in		excellent			
1968		Acer negundo	box elder	8.3 in		poor			
1969		Juglans nigra	black walnut	11.7 in		good			
1970		Juglans nigra	black walnut	8.8 in		excellent			
1971		Juglans nigra	black walnut	13.9 in		good			
1972		Juglans nigra	black walnut	16.6 in		excellent			
1973		Juglans nigra	black walnut	11.7 in		excellent			
1974		Morus alba	white mulberry	8.0 in		fair			
1975	Y	Juglans nigra	black walnut	10.3 in		excellent			
1976		Prunus serotina	wild black cherry	19.7 in		fair	Y		
1977		Prunus serotina	wild black cherry	8.4 in		excellent			
1978		Juglans nigra	black walnut	12.0 in		good			
1979		Juglans nigra	black walnut	9.5 in		good			
1980		Ulmus americana	American elm	10.7 in		excellent			
1981		Juglans nigra	black walnut	8.0 in		excellent			
1982		Juglans nigra	black walnut	8.5 in		good			
1983		Populus deltoides	cottonwood	32.8 in		excellent			
1984		Juglans nigra	black walnut	15.2 in		good			
1985		Salix amygdaloides	peach-leaved willow	8.5 in		good			
1986		Juglans nigra	black walnut	10.1 in		excellent			
1987		Juglans nigra	black walnut	15.2 in		excellent			
1988		Ulmus americana	American elm	11.2 in		excellent			
1989		Ulmus americana	American elm	9.4 in		good			
1990		Ulmus americana	American elm	8.4 in		good			
1991		Ulmus americana	American elm	9.0 in		excellent			
1992		Juglans nigra	black walnut	15.9 in		excellent			
1993		Juglans nigra	black walnut	17.8 in		excellent			
1994		Acer negundo	box elder	8.2 in		poor			
1995		Juglans nigra	black walnut	11.0 in		excellent			
1996		Juglans nigra	black walnut	8.7 in		excellent			
1997		Juglans nigra	black walnut	16.7 in		excellent			
1998		Juglans nigra	black walnut	15.6 in		good			
1999		Acer negundo	box elder	8.7 in		poor			

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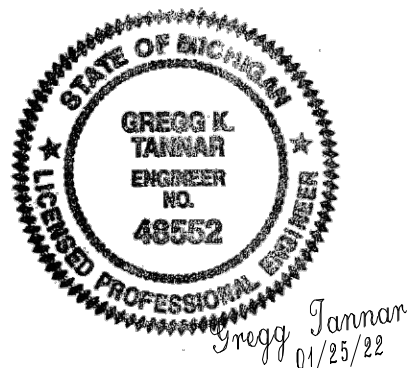
No.	DESCRIPTION	DATE
1	AREA PLAN	2021-10-27
2	AREA PLAN AMENDMENT	2021-11-29
3	PRELIMINARY SITE DESIGN	2022-01-26

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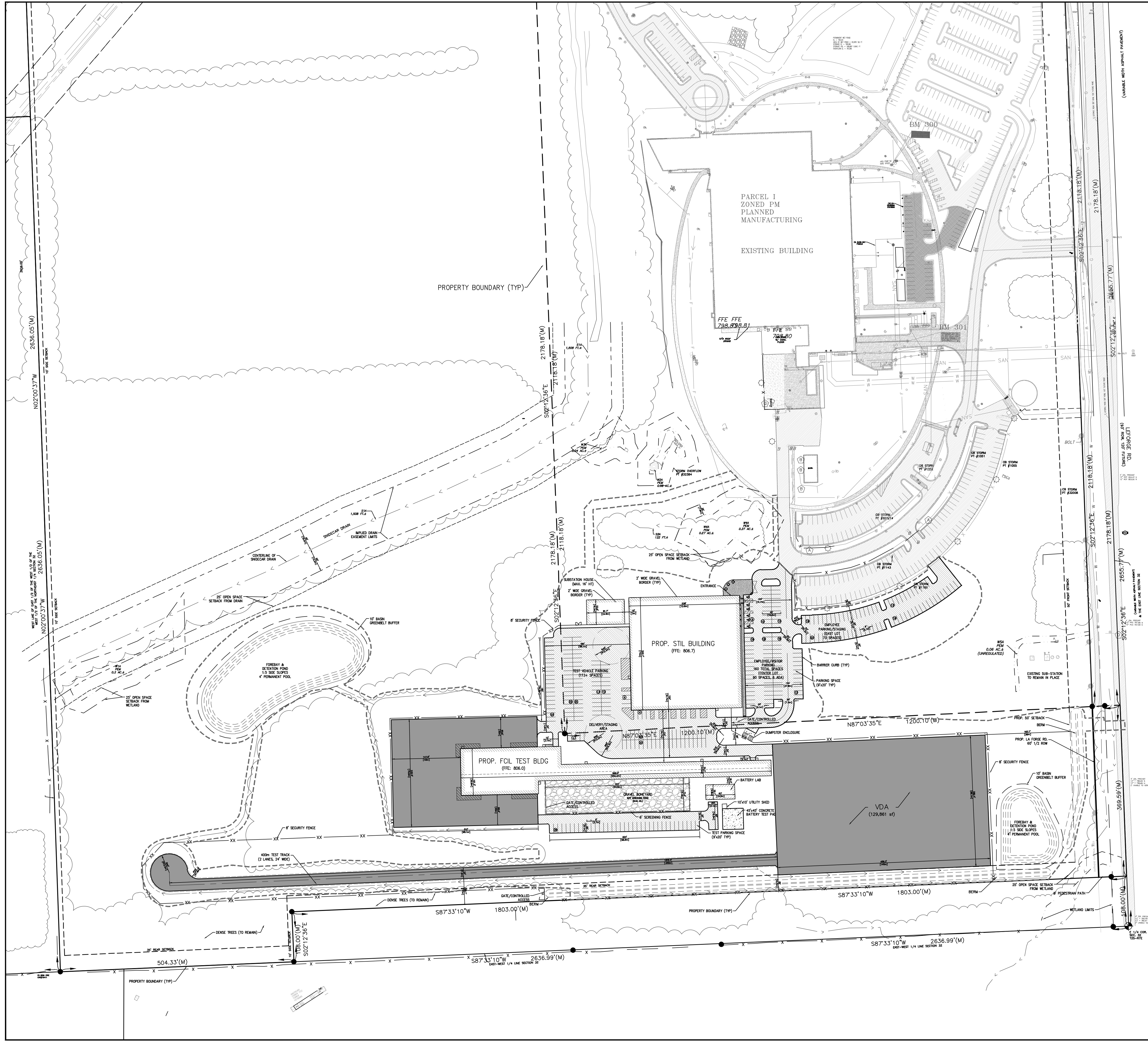
PROJECT NO:
134894

DRAWN BY:	CHECKED BY:
PROJECT MGR: D KASSAB	APPROVED BY:

SHEET TITLE

TREE SURVEY SCHEDULE

SHEET NUMBER	ISSUE
CD-107	



CIVIL LEGEND -- SITE

- SWSL/4" 4" WIDE SINGLE WHITE SOLID LINE (TYP FOR PARKING)
- SBSL/4" 4" WIDE SINGLE BLUE SOLID LINE (TYP FOR ADA)
- SYSL/4" 4" WIDE SINGLE YELLOW SOLID LINE
- [Symbol] ACCESSIBLE PARKING SPACE AND ACCESS AISLE
- [Symbol] DETECTABLE WARNING STRIP PER ADA STANDARDS
- [Symbol] NEW BUILDING OUTLINE
- [Symbol] PARKING LOT/STANDARD DUTY ASPHALT PAVEMENT
- [Symbol] TESTING FACILITY ASPHALT PAVEMENT
- [Symbol] HEAVY DUTY CONCRETE PAVEMENT
- [Symbol] CONCRETE SIDEWALK
- [Symbol] AGGREGATE SURFACE
- [Symbol] PATIO SEATING
- [Symbol] LANDSCAPE VEGETATION
- XX 8" HIGH WILDLIFE/SECURITY FENCE
- [Symbol] LIMITS OF DISTURBANCE

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MI 48198

PROJECT NO:
134894

DRAWN BY:

CHECKED BY:

PROJECT MGR:
D KASSAB

APPROVED BY:

SHEET TITLE

OVERALL SITE PLAN

SHEET NUMBER

CS-200

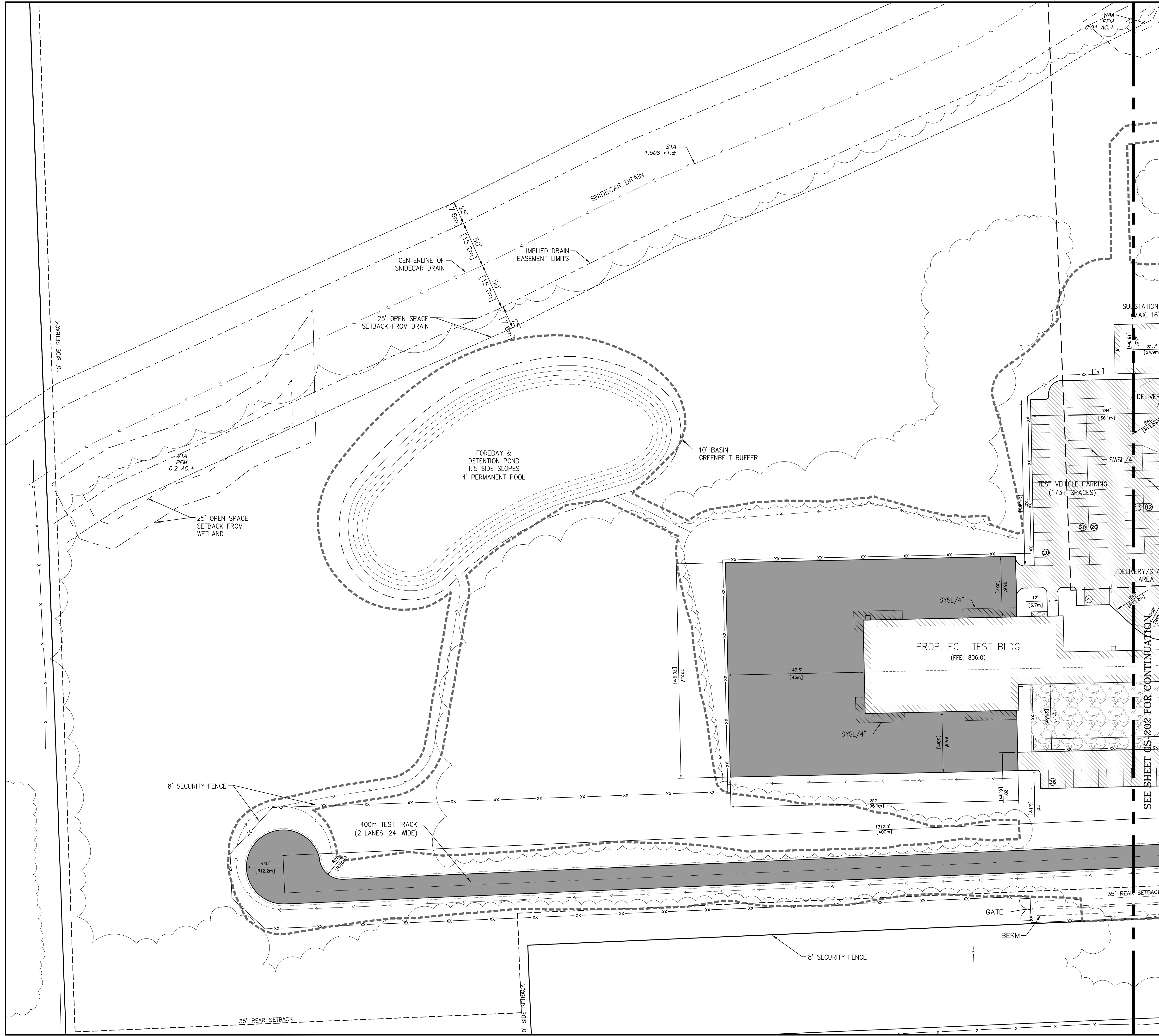
ISSUE

TRUE NORTH PLANT NORTH

HORIZONTAL SCALE

1 inch = 100 feet (24"x36")

WHEN DIGGING OR WORKING NEAR OVERHEAD ELECTRIC WIRES IN MICHIGAN, CALL MISS DIG 3 WORKING DAYS BEFORE STARTING YOUR PROJECT 1-800-482-7171 (TOLL FREE)



CIVIL LEGEND - SITE

- SWSL/4" 4" WIDE SINGLE WHITE SOLID LINE (TYP FOR PARKING)
- SBSL/4" 4" WIDE SINGLE BLUE SOLID LINE (TYP FOR ADA)
- SYSL/4" 4" WIDE SINGLE YELLOW SOLID LINE
- [Symbol] ACCESSIBLE PARKING SPACE AND ACCESS AISLE
- [Symbol] DETECTABLE WARNING STRIP PER ADA STANDARDS
- [Symbol] NEW BUILDING OUTLINE
- [Symbol] PARKING LOT/STANDARD DUTY ASPHALT PAVEMENT
- [Symbol] TESTING FACILITY ASPHALT PAVEMENT
- [Symbol] HEAVY DUTY CONCRETE PAVEMENT
- [Symbol] CONCRETE SIDEWALK
- [Symbol] AGGREGATE SURFACE
- [Symbol] PATIO SEATING
- [Symbol] LANDSCAPE VEGETATION
- XX 8" HIGH WLDLIFE/SECURITY FENCE
- [Symbol] LIMITS OF DISTURBANCE

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PROJECT NO:
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PROJECT MGR:
D KASSAB APPROVED BY: [Blank]

SHEET TITLE

SITE PLAN

SHEET NUMBER

CS-201

ISSUE

TRUE NORTH PLANT NORTH

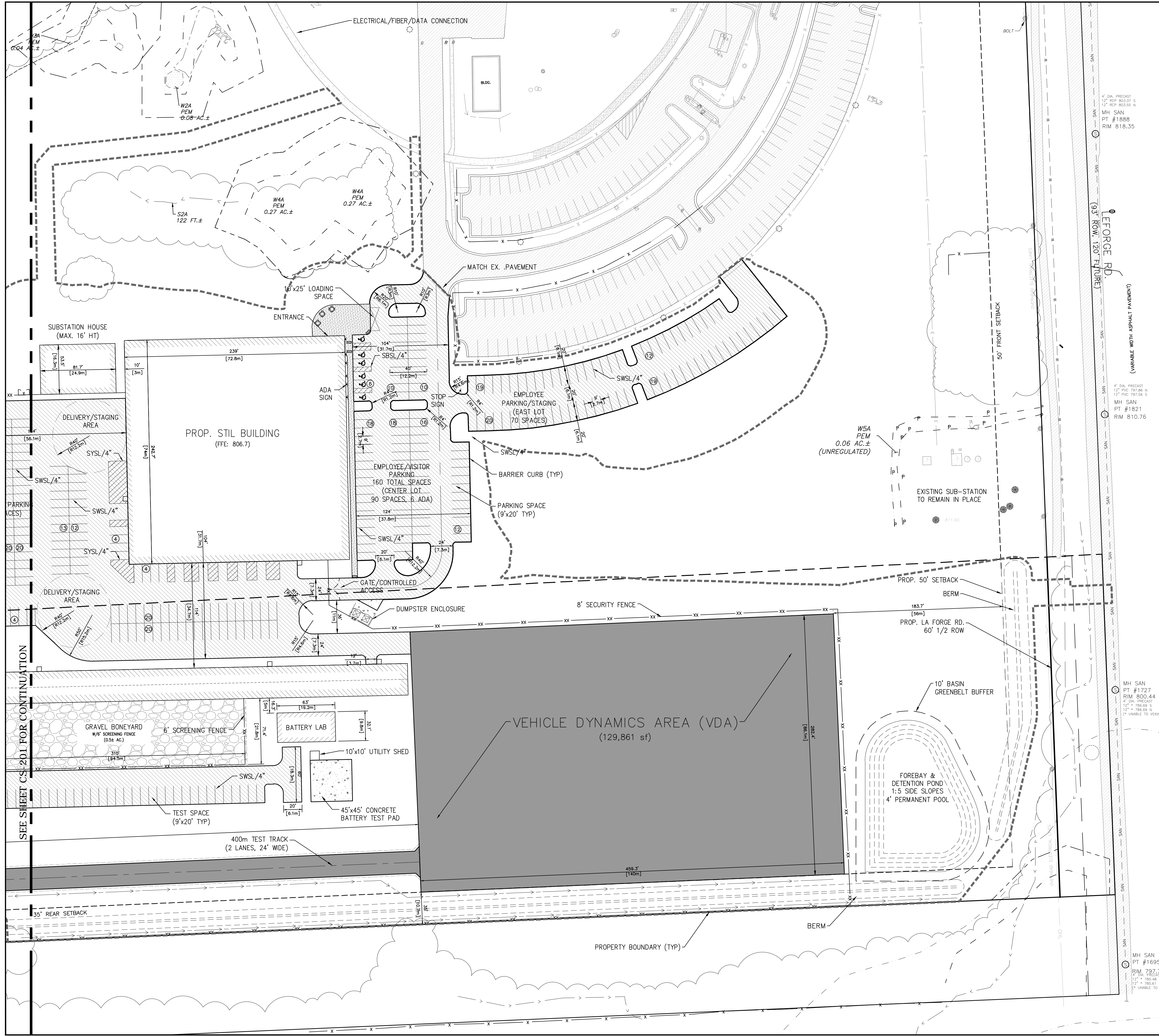
HORIZONTAL SCALE

1 inch = 50 feet (24"x36")

50 FT 0 FT 25 FT 50 FT 100 FT 200 FT

15.2 M 0 M 7.6 M 15.2 M 30.5 M 61.0 M

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CIVIL LEGEND - SITE

- SWSL/4" 4" WIDE SINGLE WHITE SOLID LINE (TYP FOR PARKING)
- SBSL/4" 4" WIDE SINGLE BLUE SOLID LINE (TYP FOR ADA)
- SYSL/4" 4" WIDE SINGLE YELLOW SOLID LINE
- ACCESSIBLE PARKING SPACE AND ACCESS AISLE
- DETECTABLE WARNING STRIP PER ADA STANDARDS
- NEW BUILDING OUTLINE
- PARKING LOT/STANDARD DUTY ASPHALT PAVEMENT
- TESTING FACILITY ASPHALT PAVEMENT
- HEAVY DUTY CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- AGGREGATE SURFACE
- PATIO SEATING
- LANDSCAPE VEGETATION
- 8" HIGH WILDLIFE/SECURITY FENCE
- LIMITS OF DISTURBANCE



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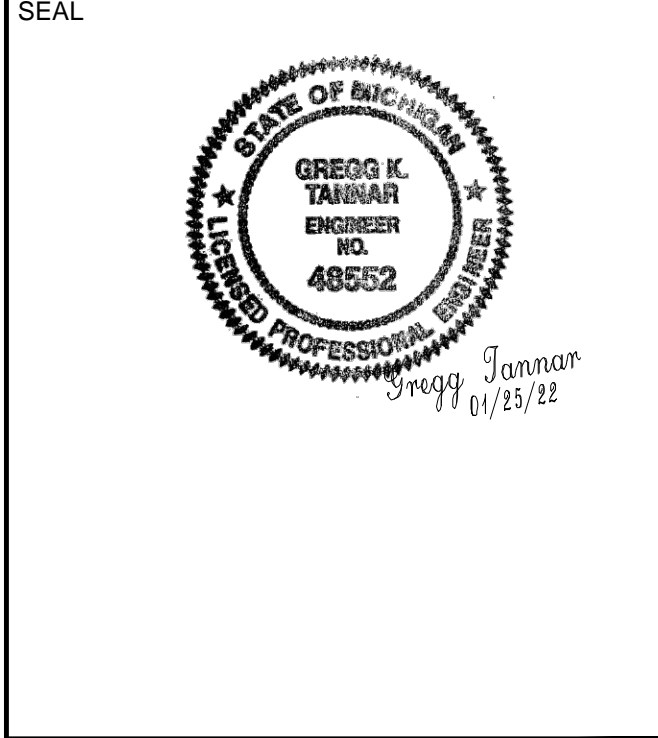
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	2	AREA PLAN AMENDMENT	2021-11-29
	3	PRELIMINARY SITE DESIGN	2022-01-26

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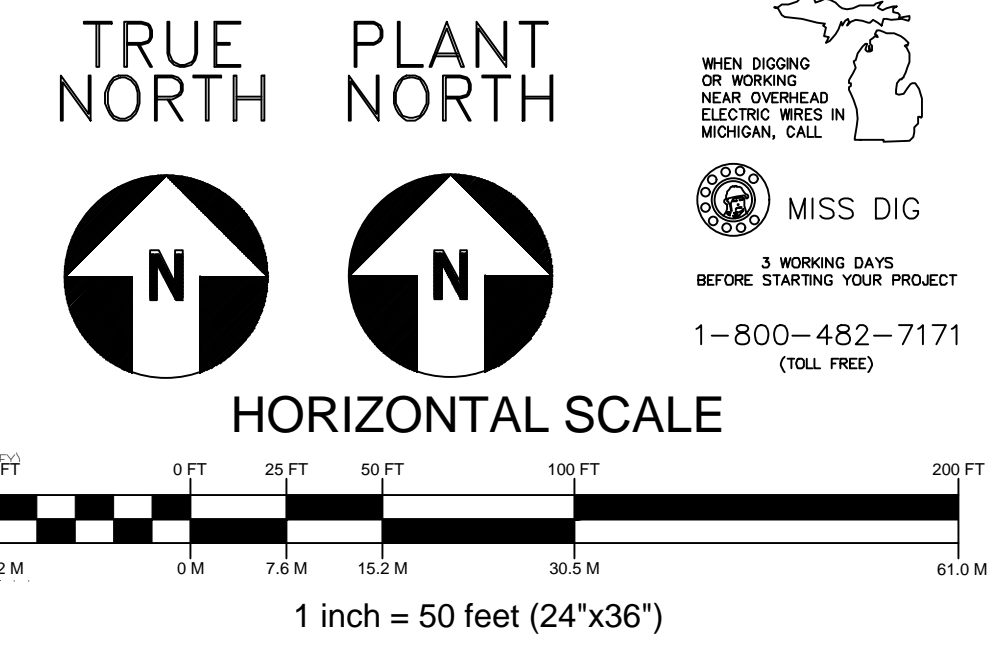


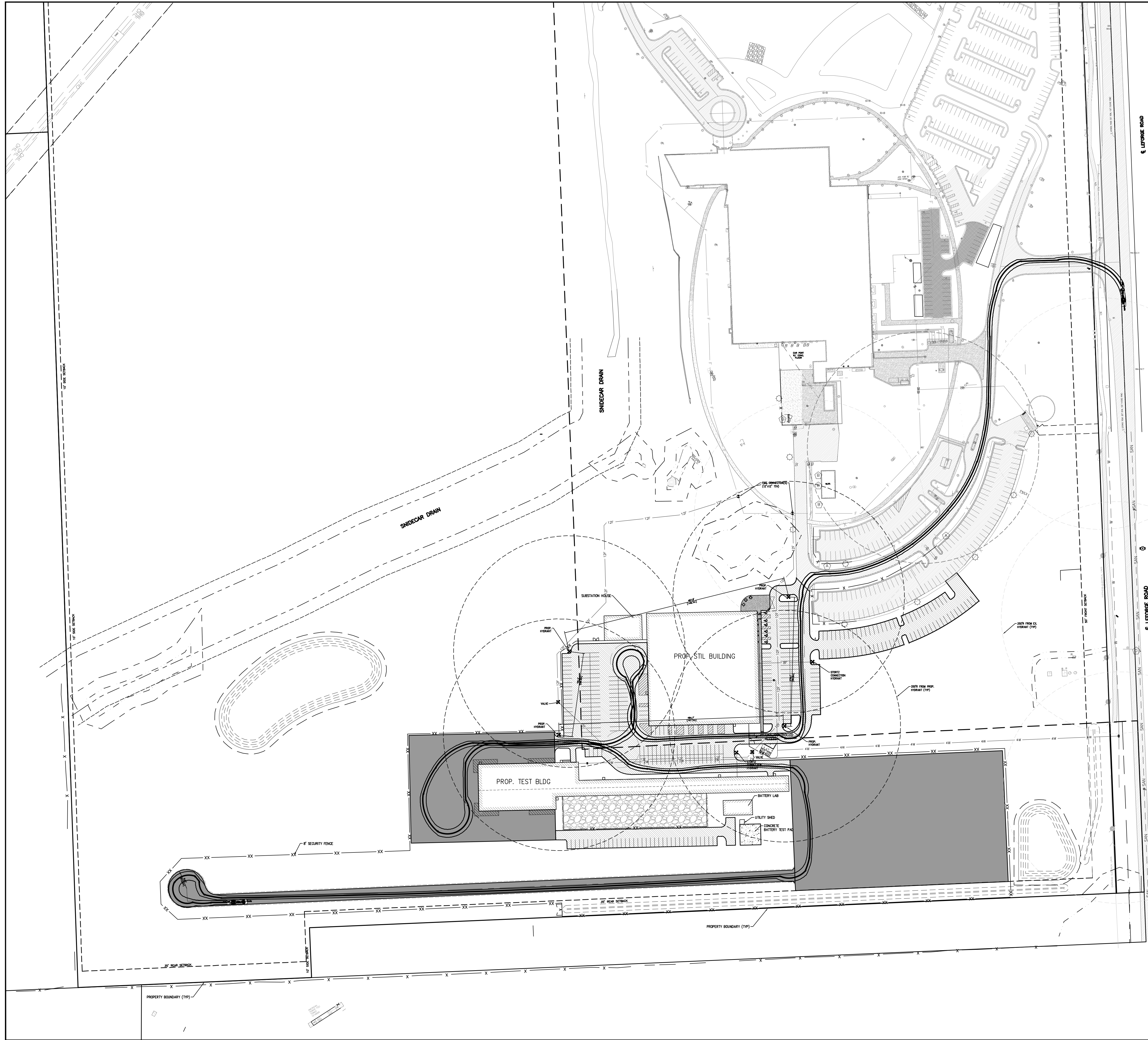
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PROJECT NO: 134894
DRAWN BY: [] **CHECKED BY:** []
PROJECT MGR: D KASSAB **APPROVED BY:** []

SHEET TITLE
SITE PLAN
SHEET NUMBER CS-202 **ISSUE** []





- FIRE MAIN NOTES:**
1. PLANS, MATERIALS & INSTALLATION PER NFPA #24, #13, & SUPERIOR TOWNSHIP SPECIFICATIONS.
 2. NEW 12" UNDERGROUND PIPE TO BE PVC C900 DR14.
 3. NEW FITTINGS TO BE DUCTILE IRON MECHANICAL JOINT PER ANSI A-21.10
 4. NEW UNDERGROUND PIPE TO BE FLUSHED PER NFPA #24 REQUIREMENTS. 200 PSI OR 50 PSI ABOVE MAXIMUM SYSTEM WORKING PRESSURE.
 5. NEW UNDERGROUND TO BE HYDROSTATICALLY TESTED PER NFPA #24 & CHARTER TOWNSHIP OF SUPERIOR SPECIFICATIONS.
 6. ALL MATERIAL & INSTALLATION PER NFPA #24 & CHARTER TOWNSHIP OF SUPERIOR SPECIFICATIONS.
 7. MINIMUM BURY DEPTH FROM TOP OF PIPE TO BE 5'-6" PER NFPA #24.
 8. NEW THRUST BLOCKS TO BE IN ACCORDANCE WITH THE LATEST NFPA #13 REQUIREMENTS.

NFPA PIPING UNDERGROUND NOTES:

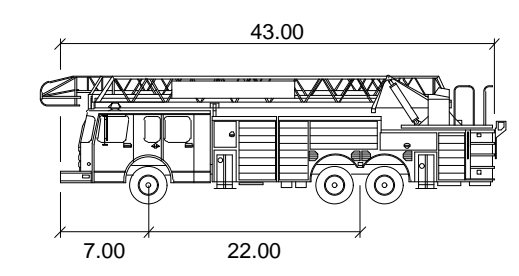
TRENCHING
ALL TRENCHING FOR INSTALLATION OF UNDERGROUND PIPING IS TO BE PERFORMED ACCORDANCE WITH OSHA GUIDELINES.

ANCHORING
ALL UNDERGROUND PIPING IS TO BE ANCHORED PER NFPA 24. TIE-RODS AND CLAMPS MAY BE USED WITH DUCTILE IRON OR PVC PIPE (SEE TABLE FOR NUMBER & SIZE OF ROADS REQUIRED FOR EACH SIZE OF PIPE). THRUST BLOCKS MAY BE USED ALONE (SEE THRUST BLOCK DETAILS FOR REQUIRED BEARING AREA).

THRUST BLOCKS
CALCULATED PER THE RECOMMENDED GUIDELINES OF NFPA 24, SECTION A-10.6.2 AND INCLUDES A SAFETY FACTOR OF 1.5. EXTERNAL PIPE DIAMETER USED IN PLACE OF INTERNAL FOR ADDITIONAL SAFETY FACTOR BEYOND NFPA 13 RECOMMENDATIONS. SOIL BEARING STRENGTH HAS BEEN DETERMINED BY GEOTECHNICAL REPORT PROVIDED. THE SOIL BEARING STRENGTH IS 2.68 tsf OR 5,360 psf. REFER TO TABLE NO. 3 FOR SITE SPECIFIC THRUST BLOCK BEARING AREAS REQUIRED.

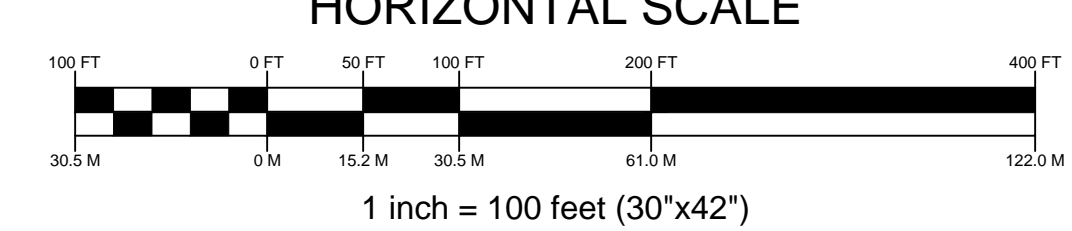
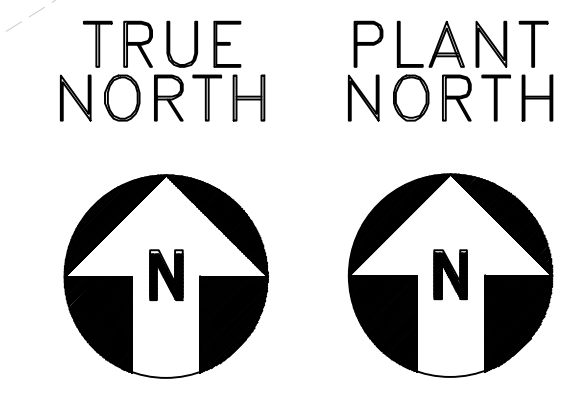
BACKFILLING
ALL UNDERGROUND PIPE (DUCTILE IRON AND PVC) IS TO BE BACKFILLED USING T DATA DODD TAIL NO. 1 BELOW. BACKFILL SHALL BE 3" CLEAN GRAVEL A MIN. 4' DEPTH UNDER AND AROUND PIPES (AND PUDDLED WHERE POSSIBLE) TO PREVENT SETTLEMENT OR LATERAL MOVEMENT, AND SHALL CONTAIN NO ASHES, CINDERS, REFUSE, ORGANIC OR OTHER CORROSIVE MATERIAL. THE TOP OF PIPE SHALL BE BURIED NOT LESS THAN 1' BELOW THE (30") FROST LINE FOR THE LOCALITY.

FLUSHING
FLUSH UNDERGROUND MAINS AND LEAD-IN CONNECTIONS TO THE SYSTEM RISERS THROUGH HYDRANTS AND DEAD ENDS OF THE SYSTEM OR THROUGH ACCESSIBLE ABOVEGROUND FLUSHING OUTLETS ALLOWING THE WATER TO RUN UNTIL CLEAR. THE FLOWS SPECIFIED IN TABLE 4 WILL PROVIDE A VELOCITY OF AT LEAST 10 FT/SEC (3 M/SEC) WHICH IS NECESSARY FOR CLEANING THE PIPE AND LIFTING FOREIGN MATERIAL TO AN ABOVE GRADE FLUSHING OUTLET.



Fire (Ladder) Truck

	Feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3



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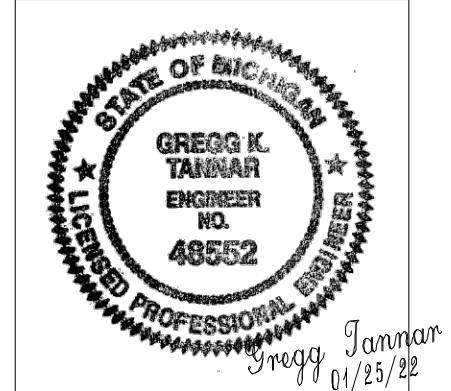
No.	DESCRIPTION	DATE
1	AREA PLAN	2021-10-27
2	AREA PLAN AMENDMENT	2021-11-29
3	PRELIMINARY SITE DESIGN	2022-01-26

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ibigroup.com

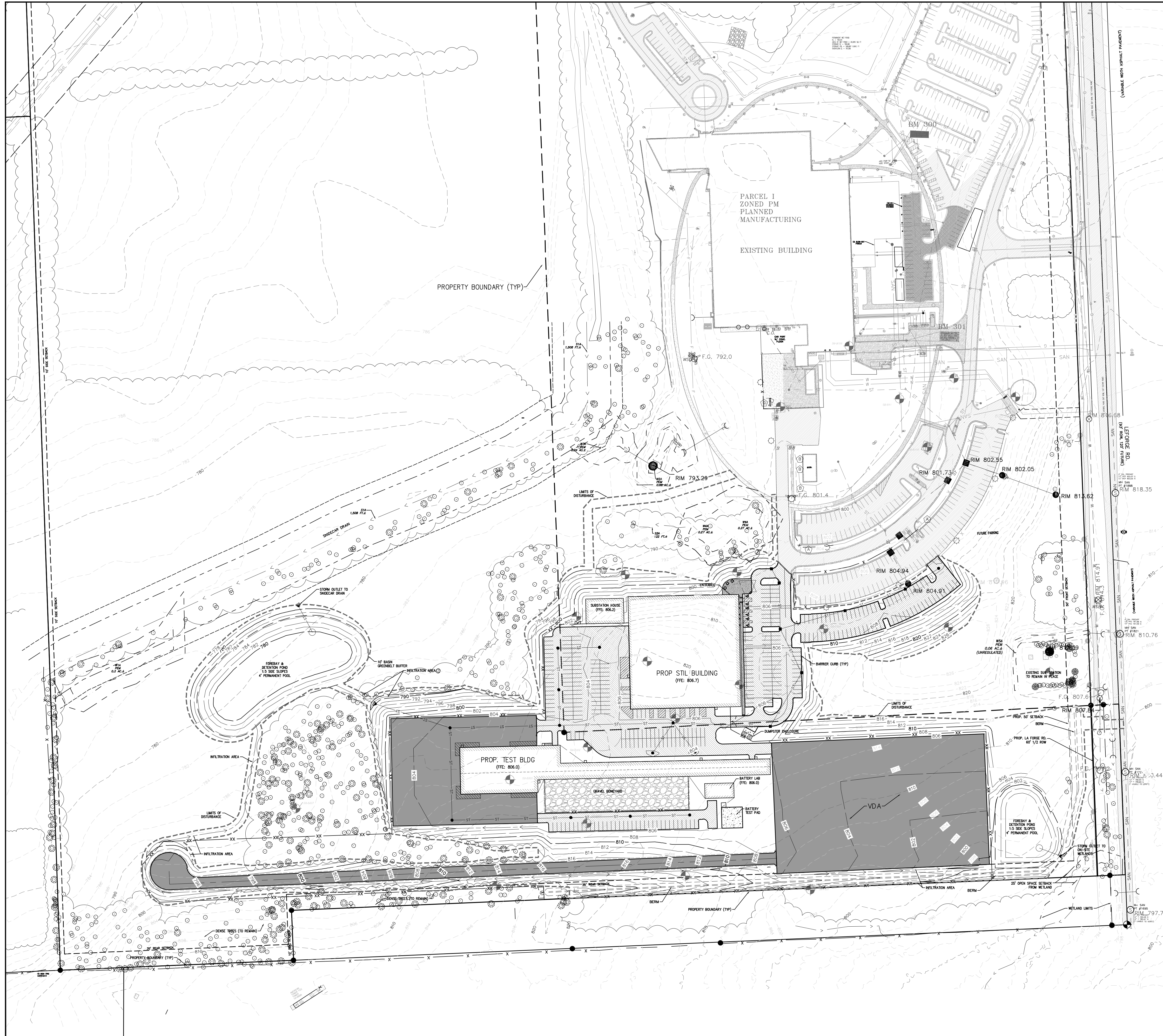
PROJECT
Hyundai STIL
6800 Geddes Rd Superior Charter Twp,
MI 48198

PROJECT NO:
134894
DRAWN BY: _____ CHECKED BY: _____

PROJECT MGR:
D KASSAB APPROVED BY: _____

SHEET TITLE
FIRE PROTECTION PLAN

SHEET NUMBER
CS-203 ISSUE



- KEYNOTES:**
- FILL AREA BELOW BUILDING ADDITION WITH SUITABLE FILL
 - EXISTING STORM SEWER TO REMAIN. VERIFY LOCATION & OPERATION PRIOR TO CONSTRUCTION. REMOVAL ANY BLOCKAGES OR REPLACE STORM SEWER IN KIND (MATCH EX. INVERTS & PIPE SIZES) IF SYSTEM CANNOT BE CLEANED.
 - SLOPE TO STORM INLET
 - REPLACE CURB & PAVEMENT AS NEEDED TO INSTALL FIRE MAIN RE-ROUTE. PLACE 1" EXPANSION JOINT WHERE PROP. CURB MEETS EXISTING, BUTT JOINT WHERE PROP. ASPHALT MEETS EXISTING.
 - TRANSITION CURB FROM TYP. TYPE "B" CURB TO ZERO BACK/VALLEY CURB IN 1'
 - REPLACE CURB/HOOD INLET WITH FLAT GRATE IN VALLEY CURB
 - REMOVE CONCRETE COLLAR ADJUST RIM ELEVATION TO -0.2' BELOW LOWEST ADJACENT ASPHALT ELEVATION AT COLLAR SAWCUT, RE-POUR CONCRETE COLLAR UPON COMPLETION
 - ADJUST STRUCTURE PER MECHANICAL PLAN

CIVIL LEGEND - GRADING & DRAINAGE

- MH ## MAN HOLE
- CB ## CATCH BASIN
- ST STORM DRAINAGE PIPE
- PROP. UNDERDRAIN
- F FIRE MAIN
- 65--- PROP. CONTOUR
- 80.00--- EXISTING SPOT GRADE
- 80.00--- EXISTING CONTOUR
- RIDGE LINE
- ▲ 123.15 PROP. GRADE SPOT ELEVATION
- ▲ RIM: STRUCTURE RIM/FLOW LINE
- ▲ H.P. HIGH POINT
- ▲ HYD: HYDRANT, VLV: VALVE
- ∞ SEWER CLEANOUT - INSTALL USING 75FT MIN. SPACING
- DRAINAGE FLOW ARROW
- 1.1% SLOPE AND SLOPE DIRECTION
- LIMITS OF DISTURBANCE

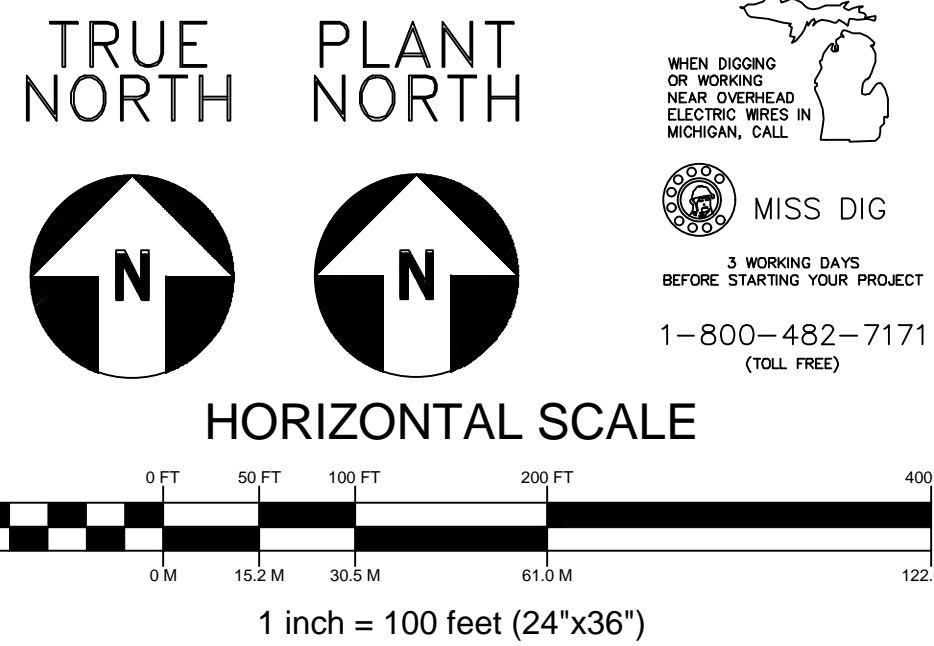
- GRADING & DRAINAGE NOTES:**
- UNLESS NOTED OTHERWISE, ALL SLOPES/DIMENSIONS PROVIDED ARE TO:
 - TOP OF PAVEMENT/WALK/TOPSOIL
 - FACE/FLOW LINE OF CURB/DITCH
 - FLOW LINE OF STORM INLET/END SECTION
 - CENTER OF MANHOLE RIM
 - SLOPE SMOOTHLY BETWEEN ELEVATIONS INDICATED.
 - GENERAL CONTRACTOR SHALL COORDINATE ALL SITE UTILITIES AND STORM DRAINAGE INSTALLATION SCHEDULES TO AVOID POTENTIAL UTILITY CONFLICTS.
 - PRIOR TO CONSTRUCTION, FIELD VERIFY EXISTING UTILITY LOCATIONS AND ELEVATIONS AS WELL AS PROPOSED BUILDING CONNECTIONS WITH MECH. PLANS. CONTACT ENGINEER AND OWNER WITH ANY CONFLICTS THAT MAY IMPACT THE PROPOSED DESIGN OPERATION OF THE UTILITY.
 - HORIZONTAL AND VERTICAL CONTROL IS PROVIDED ON THE ATTACHED SURVEY SHEETS FOR BENCHMARK LOCATIONS AND INFORMATION.

BENCHMARKS

BENCHMARK #330
ARROW ON HYDRANT 5'
E. OF WALK
ELEVATION= 807.61
(NAVD88)

BENCHMARK #331
CHISELED "X" ON THE S. SIDE OF CONCRETE LIGHT POLE BASE AT S. SIDE OF EXIST. DRIVE
ELEVATION= 812.02
(NAVD88)

BENCHMARK #332
CHISELED "X" ON THE E. SIDE OF CONCRETE LIGHT POLE BASE ALONG THE S. SIDE OF SCREENED FENCE
ELEVATION= 809.15
(NAVD88)



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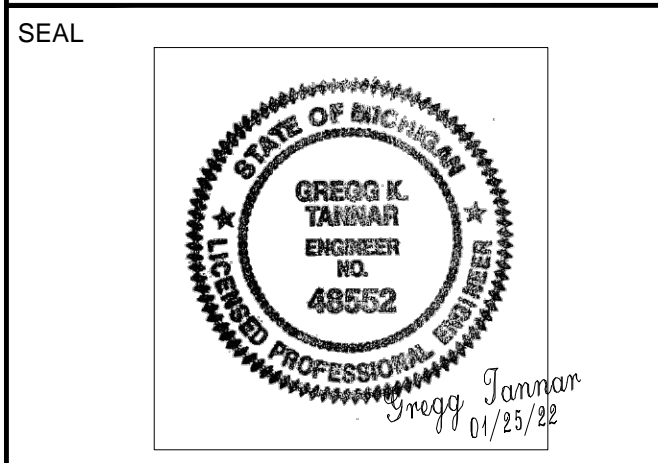
ISSUES

No.	DESCRIPTION	DATE
1	AREA PLAN	2021-10-27
2	AREA PLAN AMENDMENT	2021-11-29
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ibigroup.com

PROJECT
Hyundai STIL

6800 Geddes Rd Superior Charter Twp,
MI 48198

PROJECT NO:
134894

DRAWN BY: [] **CHECKED BY:** []

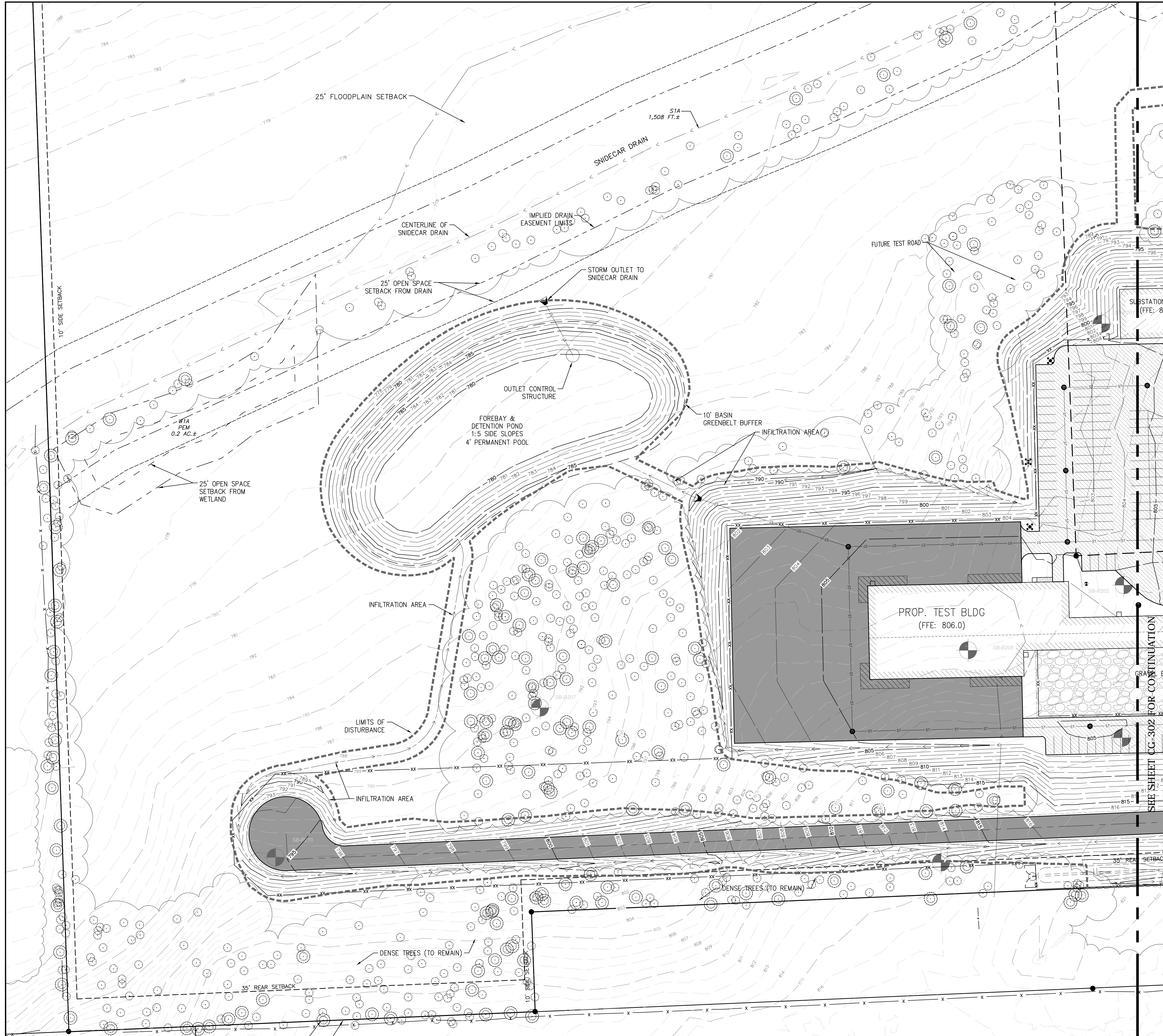
PROJECT MGR:
D KASSAB **APPROVED BY:** []

SHEET TITLE

OVERALL GRADING PLAN

SHEET NUMBER
CG-300

ISSUE



KEYNOTES:

- FILL AREA BELOW BUILDING ADDITION WITH SUITABLE FILL
- EXISTING STORM SEWER TO REMAIN. VERIFY LOCATION & OPERATION PRIOR TO CONSTRUCTION. REMOVAL ANY BLOCKAGES OR REPLACE STORM SEWER IN KIND (MATCH EX. INVERTS & PIPE SIZES) IF SYSTEM CANNOT BE CLEANED.
- SLOPE TO STORM INLET
- REPLACE CURB & PAVEMENT AS NEEDED TO INSTALL FIRE MAIN RE-ROUTE. PLACE 1" EXPANSION JOINT WHERE PROP. CURB MEETS EXISTING, BUTT JOINT WHERE PROP. ASPHALT MEETS EXISTING.
- TRANSITION CURB FROM TYP. TYPE "B" CURB TO ZERO BACK/VALLEY CURB IN 1'
- REPLACE CURB/HOOD INLET WITH FLAT GRATE IN VALLEY CURB
- REMOVE CONCRETE COLLAR ADJUST RIM ELEVATION TO -0.2' BELOW LOWEST ADJACENT ASPHALT ELEVATION AT COLLAR SAWCUT, RE-POUR CONCRETE COLLAR UPON COMPLETION
- ADJUST STRUCTURE PER MECHANICAL PLAN


CIVIL LEGEND - GRADING & DRAINAGE

- MH ## MAN HOLE
- CB ## CATCH BASIN
- ST — STORM DRAINAGE PIPE
- PROP. UNDERDRAIN
- F FIRE MAIN
- 65 — PROP. CONTOUR
- 80.000 — EXISTING SPOT GRADE
- 80.000 — EXISTING CONTOUR
- ▲— RIDGE LINE
- ▲ 123.15 PROP. GRADE SPOT ELEVATION
- ▲ RIM: STRUCTURE RIM/FLOW LINE
- ▲ HP: HIGH POINT
- ▲ HYD: HYDRANT, VLV: VALVE
- 80 SEWER CLEANOUT - INSTALL USING 75FT MIN. SPACING
- DRAINAGE FLOW ARROW
- 1.1% SLOPE AND SLOPE DIRECTION
- LIMITS OF DISTURBANCE

GRADING & DRAINAGE NOTES:

- UNLESS NOTED OTHERWISE, ALL SLOPES/DIMENSIONS PROVIDED ARE TO:
 - TOP OF PAVEMENT/WALK/TOPSOIL
 - FACE/FLOW LINE OF CURB/DITCH
 - FLOW LINE OF STORM INLET/END SECTION
 - CENTER OF MANHOLE RIM
- BASE FLANGE GRADE OF HYDRANT/PV
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- GENERAL CONTRACTOR SHALL COORDINATE ALL SITE UTILITIES AND STORM DRAINAGE INSTALLATION SCHEDULES TO AVOID POTENTIAL UTILITY CONFLICTS.
- PRIOR TO CONSTRUCTION, FIELD VERIFY EXISTING UTILITY LOCATIONS AND ELEVATIONS AS WELL AS PROPOSED BUILDING CONNECTIONS WITH MECH. PLANS. CONTACT ENGINEER AND OWNER WITH ANY CONFLICTS THAT MAY IMPACT THE PROPOSED DESIGN OPERATION OF THE UTILITY.
- HORIZONTAL AND VERTICAL CONTROL IS PROVIDED ON THE TOPOGRAPHICAL SURVEY BY LIVINGSTON ENGINEERING, REFER TO THE ATTACHED SURVEY SHEETS FOR BENCHMARK LOCATIONS AND INFORMATION.

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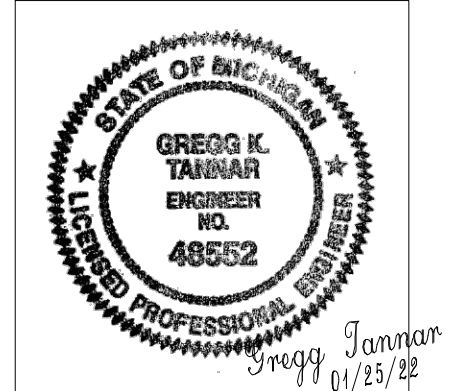
ISSUES		
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3	PRELIMINARY SITE DESIGN	2022-01-26

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ibigroup.com

PROJECT

Hyundai STIL

6800 Geddes Rd Superior Charter Twp,
MI 48198

PROJECT NO:
134894

DRAWN BY: [] **CHECKED BY:** []

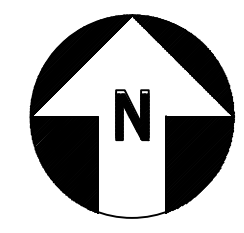
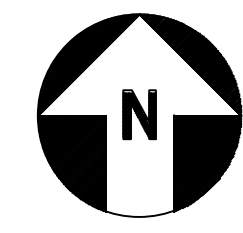
PROJECT MGR:
D KASSAB **APPROVED BY:** []

SHEET TITLE

GRADING PLAN

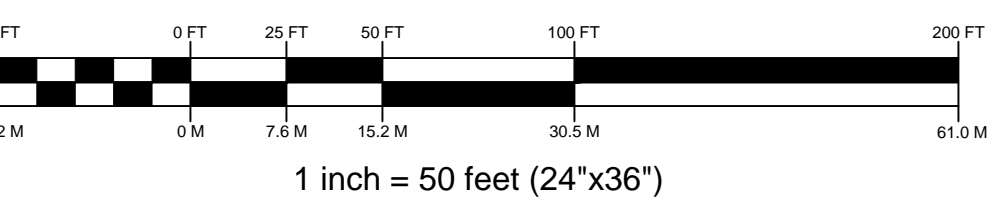
SHEET NUMBER CG-301 **ISSUE**

TRUE NORTH PLANT NORTH

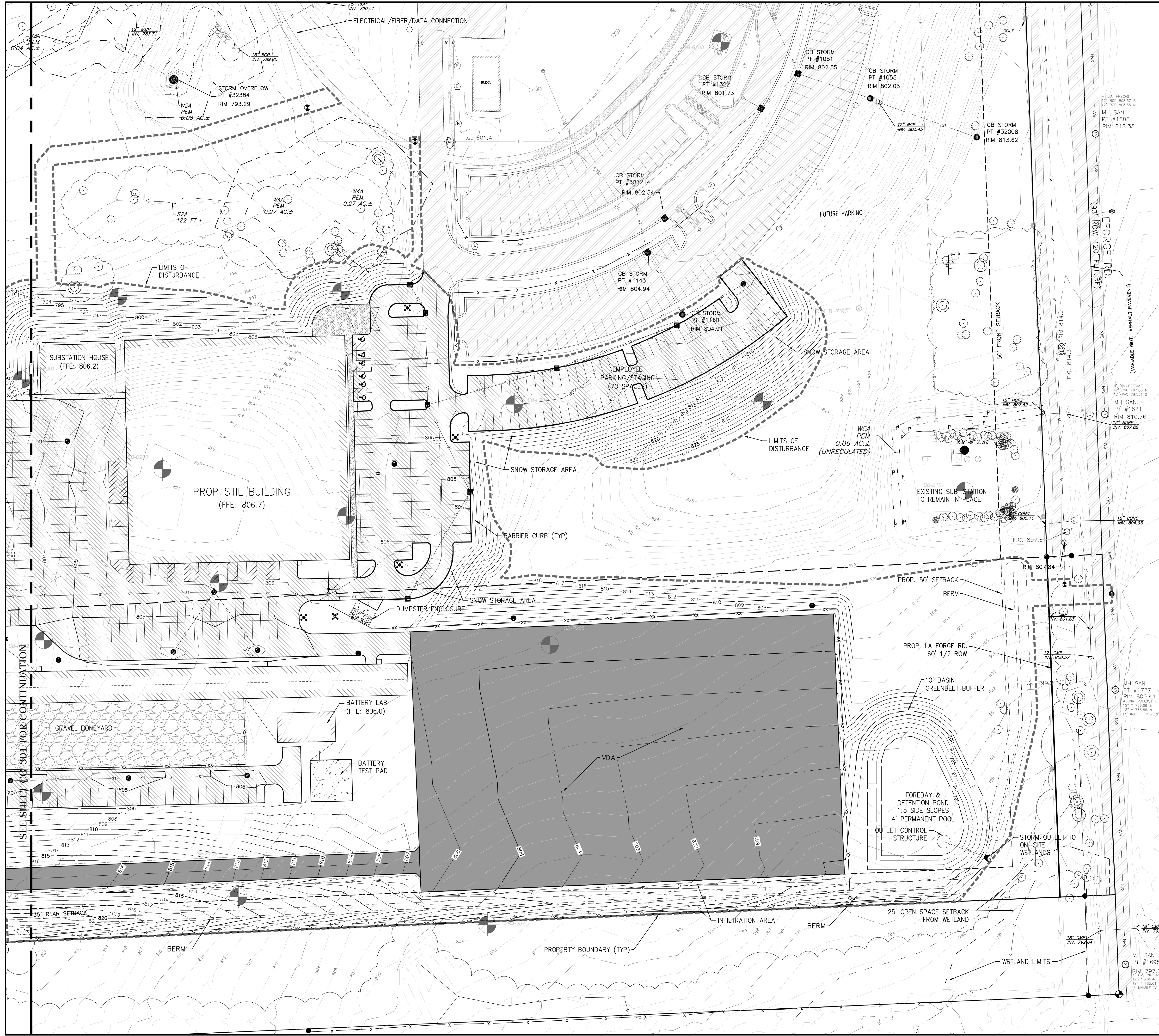



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1-800-482-7171 (TOLL FREE)

HORIZONTAL SCALE



1 inch = 50 feet (24"x36")



- KEYNOTES:**
- FILL AREA BELOW BUILDING ADDITION WITH SUITABLE FILL
 - EXISTING STORM SEWER TO REMAIN. VERIFY LOCATION & OPERATION PRIOR TO CONSTRUCTION. REMOVAL ANY BLOCKAGES OR REPLACE STORM SEWER IN KIND (MATCH EX. INVERTS & PIPE SIZES) IF SYSTEM CANNOT BE CLEANED.
 - SLOPE TO STORM INLET
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 - ADJUST STRUCTURE PER MECHANICAL PLAN

CIVIL LEGEND - GRADING & DRAINAGE

- MH ## MAN HOLE
- CB ## CATCH BASIN
- ST STORM DRAINAGE PIPE
- PROP. UNDERDRAIN
- F FIRE MAIN
- 65- PROP. CONTOUR
- EXISTING SPOT GRADE
- EXISTING CONTOUR
- ▲ RIDGE LINE
- ▲ 123.15 PROP. GRADE SPOT ELEVATION
- HP: HIGH POINT
- HYD: HYDRANT, VLV: VALVE
- SEWER CLEANOUT - INSTALL USING 75FT MIN. SPACING
- DRAINAGE FLOW ARROW
- 1.1% SLOPE AND SLOPE DIRECTION
- LIMITS OF DISTURBANCE

- GRADING & DRAINAGE NOTES:**
- UNLESS NOTED OTHERWISE, ALL SPOTS/DIMENSIONS PROVIDED ARE TO:
 - TOP OF PAVEMENT/WALK/TOPSOIL
 - FACE/FLOW LINE OF CURB/DITCH
 - FLOW LINE OF STORM INLET/END SECTION
 - CENTER OF MANHOLE RIM
 - BASE FLANGE GRADE OF HYDRANT/PIV
 - SLOPE SMOOTHLY BETWEEN ELEVATIONS INDICATED.
 - GENERAL CONTRACTOR SHALL COORDINATE ALL SITE UTILITIES AND STORM DRAINAGE INSTALLATION SCHEDULES TO AVOID POTENTIAL UTILITY CONFLICTS. PRIOR TO CONSTRUCTION, FIELD VERIFY EXISTING UTILITY LOCATIONS AND ELEVATIONS AS WELL AS PROPOSED BUILDING CONNECTIONS WITH MECH. PLANS. CONTACT ENGINEER AND OWNER WITH ANY CONFLICTS THAT MAY IMPACT THE PROPOSED DESIGN OPERATION OF THE UTILITY.
 - HORIZONTAL AND VERTICAL CONTROL IS PROVIDED ON THE TOPOGRAPHICAL SURVEY BY LIVINGSTON ENGINEERING, REFER TO THE ATTACHED SURVEY SHEETS FOR BENCHMARK LOCATIONS AND INFORMATION.

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Southfield MI 48033 USA
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PROJECT

Hyundai STIL

6800 Geddes Rd Superior Charter Twp,
MI 48198

PROJECT NO:
134894

DRAWN BY: D KASSAB

CHECKED BY:

PROJECT MGR: D KASSAB

APPROVED BY:

SHEET TITLE

GRADING PLAN

SHEET NUMBER
CG-302

ISSUE

TRUE NORTH **PLANT NORTH**

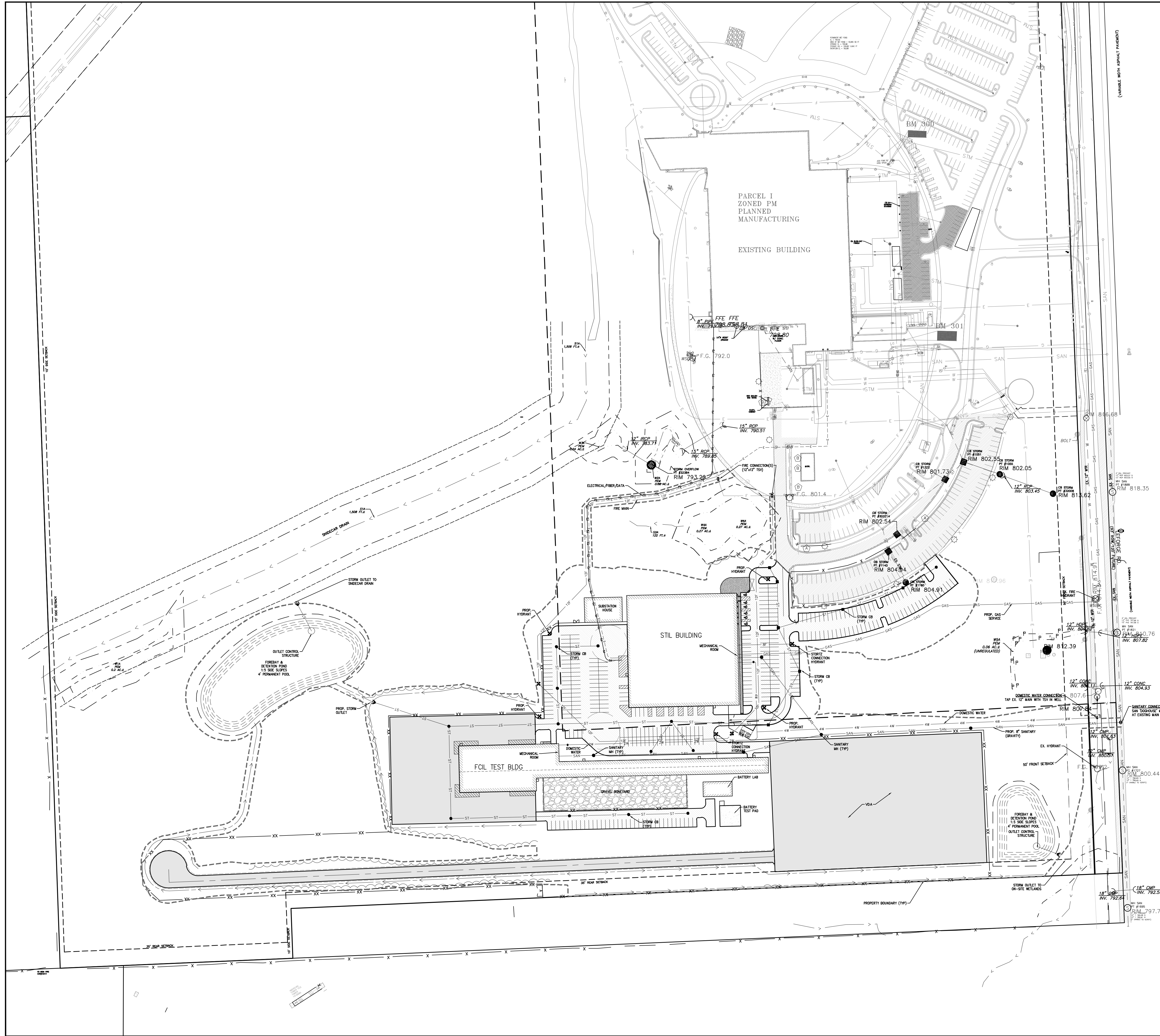
HORIZONTAL SCALE

0 FT 25 FT 50 FT 100 FT 200 FT

15.2 M 7.6 M 15.2 M 30.5 M 61.0 M

1 inch = 50 feet (24"x36")

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CIVIL LEGEND - UTILITIES

- STORM INLET
- MANHOLE
- END-SECTION
- SEWER CLEANOUT - INSTALL USING 75FT MIN. SPACING
- FIRE HYDRANT ASSEMBLY W/BOLLARD PROTECTION
- GATE VALVE
- POST INDICATOR VALVE W/BOLLARD PROTECTION
- FIRE SYSTEM CONTROL VALVE W/ BOLLARD PROTECTION
- SAN - SANITARY SEWER PIPE
- ST - STORM DRAINAGE PIPE
- ST - STORM UNDERDRAIN
- W - DOMESTIC WATER LINE (SIZE AS SHOWN)
- 12" - FIRE WATER LINE - SIZE AS SHOWN.
- FO - FIBER OPTIC
- GAS - GAS MAIN
- OHP - OVERHEAD POWER LINE
- E - ELECTRICAL LINE (UNDERGROUND)
- LIMITS OF DISTURBANCE

UTILITY NOTES:

1. SEE ATTACHED CHARTER TOWNSHIP OF SUPERIOR DETAIL SHEETS FOR THE FOLLOWING:
 - SANITARY SEWER CONSTRUCTION NOTES
 - SANITARY SEWER ACCEPTANCE TESTS
 - GENERAL NOTES FOR STORM SEWER CONSTRUCTION
 - WATER MAIN NOTES
2. GENERAL CONTRACTOR SHALL COORDINATE ALL SITE UTILITIES AND STORM DRAINAGE INSTALLATION SCHEDULES TO AVOID POTENTIAL UTILITY CONFLICTS.
3. VERIFY BUILDING CONNECTIONS WITH MECH. PLANS PRIOR TO CONSTRUCTION.
4. EXTERIOR LIGHTING WILL BE PROVIDED SO TO ADEQUATELY ILLUMINATE VEHICLE AND PEDESTRIAN USE AREAS AND ARRANGED SO TO NOT INTERFERE WITH TRAFFIC, IS SHIELDED OR DIRECTED AWAY FROM ADJOINING RESIDENCES, AND PRODUCES NO GLARE ACROSS RESIDENTIAL PROPERTY BOUNDARIES.
5. ALL SANITARY & STORM (NON-SUMP) STRUCTURES SHALL HAVE A SMOOTH UNIFORM Poured CONCRETE CHANNEL FROM INVERT(S) IN TO INVERT OUT.
6. CATHODE PROTECTION SHALL BE PROVIDED FOR DUCTILE IRON/METAL SURFACES EXPOSED TO THE GROUND.
7. ALL EXISTING/PROPOSED STRUCTURES AND UTILITY PIPES WITHIN THE INFLUENCE OF PROPOSED PAVED SURFACES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND SHALL BE INSTALLED/RECONSTRUCTED ACCORDINGLY.
8. PIPE MEASUREMENTS ARE TO CENTER OF SOLID STRUCTURE. FLOW LINE POINT OF INLET STRUCTURE AND INCLUDE LENGTH OF END SECTION WHERE APPLICABLE.
9. STRUCTURE TOPS SHALL BE BUILT OR SUBSEQUENTLY ADJUSTED TO MEET FINAL SURFACE GRADES. ADJUST THE FRAME AND COVER OF CATCH BASINS AND MANHOLES AS WELL AS ALL VALVE AND CURB BOXES THAT ARE NOT INDICATED TO BE ABANDONED OR REMOVED, TO FINISH GRADE ELEVATION. FRAME AND COVER ADJUSTMENTS SHALL BE MADE USING PRECAST GRADE RINGS WITH A MAXIMUM 0.3" RELIEF ACROSS MANHOLES.
10. ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.
11. MINIMUM COVER OF UNDERGROUND UTILITIES:

WATER/FIRE	5.5 (MIN)/10.0 (MAX) FT
AIR	2.5 FT
NATURAL GAS	2.5 FT
SANITARY SEWERS	4.0 FT
STORM SEWER	3.0 FT (2.5 FT AT MOST UPSTREAM CATCH BASIN)
CHILLED WATER	5.5 FT
ALL OTHERS	2.5 FT

FIRE MAIN NOTES:

1. PLANS, MATERIALS & INSTALLATION PER NFPA #24, #13, & SUPERIOR TOWNSHIP SPECIFICATIONS.
2. NEW 12" UNDERGROUND PIPE TO BE PVC C900 DR14.
3. NEW FITTINGS TO BE DUCTILE IRON MECHANICAL JOINT PER ANSI A-2110
4. NEW UNDERGROUND PIPE TO BE FLSHED PER NFPA #24 REQUIREMENTS. 200 PSI OR 50 PSI ABOVE MAXIMUM SYSTEM WORKING PRESSURE.
5. NEW UNDERGROUND TO BE HYDROSTATICALLY TESTED PER NFPA #24 & CHARTER TOWNSHIP OF SUPERIOR SPECIFICATIONS.
6. ALL MATERIAL & INSTALLATION PER NFPA #24 & CHARTER TOWNSHIP OF SUPERIOR SPECIFICATIONS.
7. MINIMUM BURY DEPTH FROM TOP OF PIPE TO BE 5'-6" PER NFPA #24.
8. NEW THRUST BLOCKS TO BE IN ACCORDANCE WITH THE LATEST NFPA #13 REQUIREMENTS.

TRUE NORTH PLANT NORTH

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3 WORKING DAYS BEFORE STARTING YOUR PROJECT
1-800-482-7171 (TOLL FREE)

HORIZONTAL SCALE

1 inch = 100 feet (24"x36")

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ISSUES

No.	DESCRIPTION	DATE
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2	AREA PLAN AMENDMENT	2021-11-29
3	PRELIMINARY SITE DESIGN	2022-01-26

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CONSULTANTS

SEAL

Greg K. Tanner
January 01/25/22

PRIME CONSULTANT

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Southfield MI 48033 USA
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PROJECT

Hyundai STIL

6800 Geddes Rd Superior Charter Twp,
MI 48198

PROJECT NO:
134894

DRAWN BY:

CHECKED BY:

PROJECT MGR:
D KASSAB

APPROVED BY:

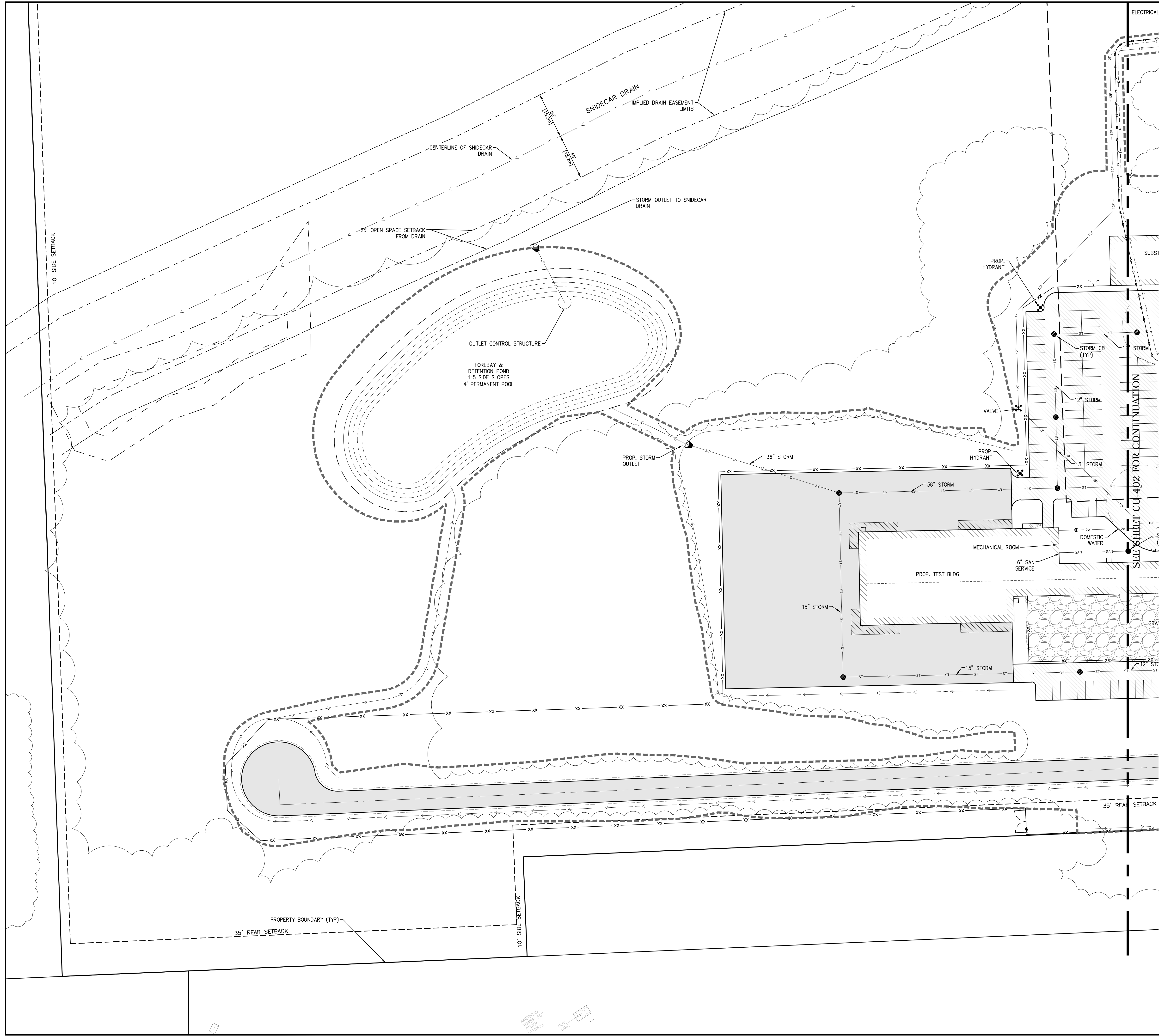
SHEET TITLE

OVERALL UTILITY PLAN

SHEET NUMBER

CU-400

ISSUE



CIVIL LEGEND - UTILITIES

- STORM INLET
- MANHOLE
- END-SECTION
- SEWER CLEANOUT - INSTALL USING 75FT MIN. SPACING
- FIRE HYDRANT ASSEMBLY W/BOLLARD PROTECTION
- GATE VALVE
- POST INDICATOR VALVE W/BOLLARD PROTECTION
- FIRE SYSTEM CONTROL VALVE W/ BOLLARD PROTECTION
- SAN - SANITARY SEWER PIPE
- ST - STORM DRAINAGE PIPE
- STORM UNDERDRAIN
- W - DOMESTIC WATER LINE (SIZE AS SHOWN)
- 12F - FIRE WATER LINE - SIZE AS SHOWN.
- FO - FIBER OPTIC
- GAS - GAS MAIN
- OHP - OVERHEAD POWER LINE
- E - ELECTRICAL LINE (UNDERGROUND)
- LIMITS OF DISTURBANCE

- #### UTILITY NOTES:
- SEE ATTACHED CHARTER TOWNSHIP OF SUPERIOR DETAIL SHEETS FOR THE FOLLOWING:
 - SANITARY SEWER CONSTRUCTION NOTES
 - SANITARY SEWER ACCEPTANCE TESTS
 - GENERAL NOTES FOR STORM SEWER CONSTRUCTION
 - WATER MAIN NOTES
 - GENERAL CONTRACTOR SHALL COORDINATE ALL SITE UTILITIES AND STORM DRAINAGE INSTALLATION SCHEDULES TO AVOID POTENTIAL UTILITY CONFLICTS.
 - VERIFY BUILDING CONNECTIONS WITH MECH. PLANS PRIOR TO CONSTRUCTION.
 - EXTERIOR LIGHTING WILL BE PROVIDED SO TO ADEQUATELY ILLUMINATE VEHICLE AND PEDESTRIAN USE AREAS AND ARRANGED SO TO NOT INTERFERE WITH TRAFFIC, IS SHIELDED OR DIRECTED AWAY FROM ADJOINING RESIDENCES, AND PRODUCES NO GLARE ACROSS RESIDENTIAL PROPERTY BOUNDARIES.
 - ALL SANITARY & STORM (NON-SUMP) STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED CONCRETE CHANNEL FROM INVERT(S) IN TO INVERT OUT.
 - CATHODE PROTECTION SHALL BE PROVIDED FOR DUCTILE IRON/METAL SURFACES EXPOSED TO THE GROUND.
 - ALL EXISTING/PROPOSED STRUCTURES AND UTILITY PIPES WITHIN THE INFLUENCE OF PROPOSED PAVED SURFACES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND SHALL BE INSTALLED/RECONSTRUCTED ACCORDINGLY.
 - PIPE MEASUREMENTS ARE TO CENTER OF SOLID STRUCTURE, FLOW LINE POINT OF INLET STRUCTURE AND INCLUDE LENGTH OF END SECTION WHERE APPLICABLE.
 - STRUCTURE TOPS SHALL BE BUILT OR SUBSEQUENTLY ADJUSTED TO MEET FINAL SURFACE GRADES. ADJUST THE FRAME AND COVER OF CATCH BASINS AND MANHOLES AS WELL AS ALL VALVE AND CURB BOXES THAT ARE NOT INDICATED TO BE ABANDONED OR REMOVED, TO FINISH GRADE ELEVATION. FRAME AND COVER ADJUSTMENTS SHALL BE MADE USING PRECAST GRADE RINGS WITH A MAXIMUM 0.3" RELIEF ACROSS MANHOLES.
 - ALL CONTRACTORS/SUBCONTRACTORS/PERSON THAT WILL BE ENGAGED IN LAND DISTURBING ACTIVITIES SHALL COMPLY WITH ALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION REQUIREMENTS CONTAINED THROUGHOUT THE DRAWINGS, SPECIFICATIONS AND PERMITS.
 - MINIMUM COVER OF UNDERGROUND UTILITIES:

WATER/FIRE	5.5 (MIN)/10.0 (MAX) FT
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NATURAL GAS	2.5 FT
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STORM SEWER	3.0 FT (2.5 FT AT MOST UPSTREAM CATCH BASIN)
CHILLED WATER	5.5 FT
ALL OTHERS	2.5 FT

TRUE NORTH PLANT NORTH

WHEN DIGGING OR WORKING NEAR OVERHEAD ELECTRIC WIRES IN MICHIGAN, CALL MISS DIG 3 WORKING DAYS BEFORE STARTING YOUR PROJECT 1-800-482-7171 (TOLL FREE)

HORIZONTAL SCALE

1 inch = 50 feet (24"x36")

CLIENT

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SUPERIOR TOWNSHIP, MICHIGAN

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	1	AREA PLAN	2021-10-27
	2	AREA PLAN AMENDMENT	2021-11-29
	3	PRELIMINARY SITE DESIGN	2022-01-26

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SEAL

Greg K. Tanager
01/25/22

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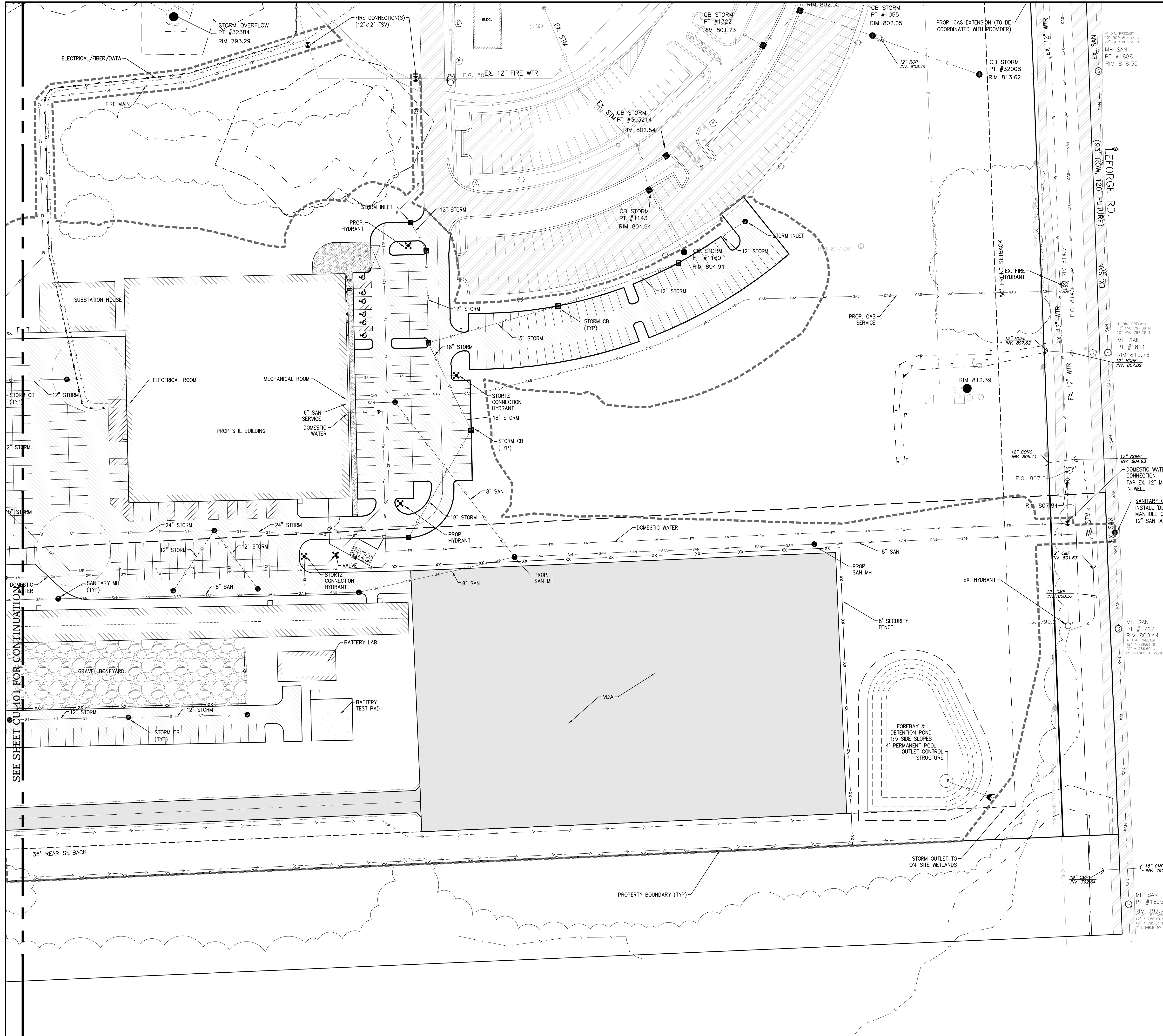
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TRUE NORTH PLANT NORTH

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50 FT 0 FT 25 FT 50 FT 100 FT 200 FT

15.2 M 0 M 7.6 M 15.2 M 30.5 M 61.0 M

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UTILITY PLAN

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CU-402

ISSUE

SANITARY SEWER ACCEPTANCE TESTS

GENERAL

ALL SANITARY SEWERS SHALL BE SUBJECTED TO INFILTRATION, EXFILTRATION OR LOW PRESSURE AIR TESTS, OR A COMBINATION THEREOF PRIOR TO FINAL ACCEPTANCE BY THE TOWNSHIP. IN ADDITION, ALL PVC AND ABS PLASTIC SEWERS SHALL BE SUBJECTED TO DEFLECTION TESTING BY MEANS OF A NINE-POINT MANDREL DEFLECTION TEST.

THE TOWNSHIP'S INSPECTOR SHALL BE PRESENT FOR ALL TESTING OPERATIONS. IF TESTING IS TO BE DONE BY THE CONTRACTOR, ONLY PROPERLY TRAINED PERSONNEL SHALL BE ALLOWED TO PERFORM THE TESTING WORK. IF TESTING IS TO BE DONE BY MUNICIPAL AGENCY WORK FORCES, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE INSPECTOR IN ORDER TO SCHEDULE THE TESTING.

IN THE EVENT THAT THE SEWER PIPE FAILS ANY OF THE REQUIRED TESTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING THE PIPE AND REPEATING THE TEST UNTIL ACCEPTABLE RESULTS ARE ACHIEVED. THE METHOD OF TESTING AND MEASUREMENT SHALL BE APPROVED BY THE TOWNSHIP. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT AND LABOR FOR MAKING THE TESTS.

INFILTRATION TEST

ALL SANITARY SEWERS THAT ARE OVER TWENTY-FOUR (24) INCHES IN DIAMETER SHALL BE SUBJECTED TO AN INFILTRATION TEST. ALSO, ALL SANITARY SEWERS THAT ARE TWENTY-FOUR (24) INCHES IN DIAMETER AND SMALLER AND WHERE THE GROUND WATER LEVEL IS MORE THAN TWO (2) FEET ABOVE THE TOP OF THE SEWER SHALL BE SUBJECTED TO AN INFILTRATION TEST.

THE INFILTRATION RATE FOR ALL SANITARY SEWERS SHALL NOT EXCEED A MAXIMUM OF TWO HUNDRED (200) GALLONS PER INCH DIAMETER PER MILE OF SEWER PER TWENTY-FOUR (24) HOURS.

LOW PRESSURE AIR TEST

ALL SANITARY SEWERS THAT ARE TWENTY-FOUR (24) INCHES IN DIAMETER OR SMALLER AND WHERE THE GROUND WATER LEVEL IS TWO (2) FEET OR LESS ABOVE THE TOP OF THE SEWER SHALL BE SUBJECTED TO A LOW PRESSURE AIR TEST.

THE PROCEDURE FOR AIR TESTING OF SEWERS SHALL BE AS FOLLOWS:

THE SEWER LINE SHALL BE TESTED IN INCREMENTS BETWEEN MANHOLES. THE LINE SHALL BE CLEANED AND PLUGGED AT EACH MANHOLE. SUCH PLUGS SHALL BE DESIGNED TO HOLD AGAINST THE TEST PRESSURE AND SHALL PROVIDE AN AIRTIGHT SEAL. ONE OF THE PLUGS SHALL HAVE AN ORIFICE THROUGH WHICH AIR CAN BE INTRODUCED INTO THE SEWER. AN AIR SUPPLY LINE SHALL BE CONNECTED TO THE ORIFICE. THE SUPPLY LINE SHALL BE FITTED WITH SUITABLE CONTROL VALVES AND A PRESSURE GAUGE FOR CONTINUALLY MEASURING THE AIR PRESSURE IN THE SEWER. THE PRESSURE GAUGE SHALL HAVE A MINIMUM DIAMETER OF THREE AND ONE-HALF (3-1/2) INCHES AND A RANGE OF 0 - 10 PSIG. THE GAUGE SHALL HAVE MINIMUM DIVISIONS OF 0-10 PSIG AND ACCURACY OF PLUS OR MINUS (+/-) 0.04 PSIG.

THE SEWER SHALL BE PRESSURIZED TO 4 PSIG GREATER THAN THE GREATEST BACK PRESSURE CAUSED BY GROUND WATER OVER THE TOP OF THE SEWER PIPE. AT LEAST TWO (2) MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE BETWEEN THREE AND ONE HALF (3.5) AND FOUR (4) PSIG. IF NECESSARY, AIR SHALL BE ADDED TO THE SEWER TO MAINTAIN A PRESSURE OF 3.5 PSIG OR GREATER.

AFTER THE STABILIZATION PERIOD, THE AIR SUPPLY CONTROL VALVE SHALL BE CLOSED SO THAT NO MORE AIR WILL ENTER THE SEWER. THE SEWER AIR PRESSURE SHALL BE NOTED AND TIMING FOR THE TEST BEGUN. THE TEST SHALL NOT BEGIN IF THE AIR PRESSURE IS LESS THAN THREE AND ONE HALF (3.5) PSIG, OR SUCH OTHER PRESSURE AS IS NECESSARY TO COMPENSATE FOR GROUND WATER LEVEL.

THE TIME REQUIRED FOR THE AIR PRESSURE TO DECREASE ONE (1.0) PSIG DURING THE TEST SHALL NOT BE LESS THAN THE TIME SHOWN IN THE FOLLOWING AIR TEST TABLES. THE CONTRACTOR SHALL USE THE APPROPRIATE TEST TABLE BASED UPON THE SEWER PIPE MATERIAL.

AIR TEST TABLE FOR VITRIFIED CLAY AND CONCRETE PIPE

SPECIFICATION TIME (MIN-SEC) REQUIRED FOR PRESSURE DROP FROM 3-1/2 TO 2-1/2 PSIG WHEN TESTING ONE PIPE DIAMETER ONLY															
LENGTH OF LINE, FEET	PIPE DIAMETER, INCHES														
	4	6	8	10	12	15	18	21	24	27	30	33	36	39	42
25	0:04	0:10	0:18	0:22	0:27	0:32	0:36	0:45	0:54	1:03	1:12	1:21	1:30	1:39	1:50
50	0:09	0:21	0:36	0:45	0:54	1:03	1:12	1:30	1:48	2:06	2:42	2:42	3:00	3:18	3:39
75	0:14	0:32	0:54	1:08	1:21	1:34	1:48	2:15	2:42	3:09	3:36	4:03	4:30	4:57	5:29
100	0:18	0:42	1:12	1:30	1:48	2:06	2:24	3:00	3:36	4:12	4:48	5:24	6:00	6:36	7:18
125	0:22	0:52	1:30	1:52	2:15	2:38	3:00	3:45	4:30	5:15	6:00	6:45	7:30	8:15	9:08
150	0:27	1:03	1:48	2:15	2:42	3:09	3:36	4:18	5:04	5:24	6:18	7:12	8:06	9:00	10:57
175	0:32	1:14	2:06	2:38	3:09	3:40	4:12	5:15	6:18	7:21	8:24	9:27	10:30	11:33	12:47
200	0:36	1:24	2:24	3:00	3:36	4:12	4:48	6:00	7:12	8:24	9:36	10:48	12:00	13:12	14:36
225	0:40	1:34	2:42	3:22	4:03	4:44	5:24	6:45	8:06	9:27	10:48	12:09	13:30	14:51	16:26
250	0:45	1:45	3:00	3:45	4:30	5:15	6:00	7:30	9:00	10:30	12:00	13:30	15:00	16:30	18:16
275	0:50	1:56	3:18	4:08	4:57	5:46	6:36	8:15	9:54	11:33	13:12	14:51	16:30	18:09	20:06
300	0:54	2:06	3:36	4:30	5:24	6:18	7:12	9:00	10:48	12:36	14:24	16:12	18:00	19:48	21:54
350	1:03	2:27	4:12	5:15	6:18	7:21	8:24	10:30	12:36	14:42	16:48	18:54	21:00	23:06	25:33
400	1:12	2:48	4:48	6:00	7:12	8:24	9:36	12:00	14:24	16:48	19:12	21:36	24:00	26:24	29:12
450	1:21	3:09	5:24	6:45	8:06	9:27	10:48	13:30	16:12	18:54	21:36	24:18	27:00	29:42	32:51
500	1:30	3:30	6:00	7:30	9:00	10:30	12:00	15:00	18:00	21:00	24:00	27:00	30:00	33:00	36:30

NOTE: THIS TABLE IS TAKEN FROM THE NATIONAL CLAY PIPE INSTITUTE (NCP) TABLES WHICH ARE BASED UPON ASTM C828 "TEST METHOD FOR LOW PRESSURE AIR TEST FOR VITRIFIED CLAY PIPE LINES" AND ASTM C924 "STANDARD PRACTICE FOR TESTING CONCRETE PIPE SEWER LINES BY LOW PRESSURE AIR TEST METHOD."

**AIR TEST TABLE FOR PVC AND ABS PIPE
MINIMUM SPECIFIED TIME REQUIRED FOR A 1.0 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF PIPE INDICATED FOR Q=0.0015***

THE MINIMUM HOLDING TIME FOR THE PRESSURE TO DROP FROM 3.5 TO 2.5 PSIG (GREATER THAN ADDED GROUND WATER PRESSURE) SHALL NOT BE LESS THAN THAT GIVEN IN THE FOLLOWING TABLE FOR EACH TESTED RUN OF SEWER BETWEEN MANHOLES.

NOTE: AIR TESTING SHOULD NOT BE USED IF THE AIR PRESSURE REQUIRED FOR THE TEST EXCEEDS 9 PSIG.

PIPE DIAMETER INCHES	MINIMUM TIME MINUTES	LENGTH FOR MINIMUM TIME, FT.	TIME FOR LONGER LENGTH, S	SPECIFICATION TIME FOR LENGTH (L) SHOWN, MINUTES										
				100 FT	150 FT	200 FT	250 FT	300 FT	350 FT	400 FT	450 FT			
4	3:46	597	0.380 L	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	0.854 L	5:40	5:40	5:40	5:40	5:40	5:40	5:40	5:42	5:42	6:24	6:24
8	7:34	298	1.520 L	7:34	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24	11:24	11:24
10	9:26	239	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48	17:48	17:48	17:48
12	11:20	199	3.418 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38	25:38	25:38	25:38
15	14:10	159	5.342 L	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04	40:04	40:04	40:04
18	17:00	133	7.692 L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41	57:41	57:41	57:41
21	19:50	114	10.470 L	19:50	26:10	34:54	43:37	52:21	61:00	69:48	78:31	78:31	78:31	78:31
24	22:40	99	13.674 L	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33	102:33	102:33	102:33
27	25:30	88	17.306 L	28:51	43:16	57:41	72:07	86:32	100:57	115:32	129:57	129:57	129:57	129:57
30	28:20	80	21.366 L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:14	160:14	160:14	160:14
33	31:10	72	25.852 L	43:05	64:38	86:10	107:43	129:16	150:49	172:21	193:54	193:54	193:54	193:54
36	34:00	66	30.788 L	51:17	76:55	102:34	128:12	153:50	179:28	205:06	230:84	230:84	230:84	230:84

NOTE: THIS TABLE IS TAKEN FROM ASTM F1417 "STANDARD TEST METHOD FOR INSTALLATION AND ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW PRESSURE AIR TEST." ASTM F1417 CONFORMS TO UNI-BELL "RECOMMENDED PRACTICE FOR LOW PRESSURE AIR TESTING OF INSTALLED SEWER PIPE" (UNI-B-6-98)

* Q IS THE ALLOWABLE LEAKAGE RATE IN CUBIC FEET/MINUTE/SQUARE FOOT OF INSIDE SURFACE AREA OF PIPE

EXFILTRATION TEST

EXFILTRATION OR LEAKAGE FROM THE SEWER LINE CAN BE MEASURED BY RECORDING THE WATER LEVEL DROP OVER A GIVEN PERIOD OF TIME IN A STANDPIPE PLACED AND CONNECTED IN THE UPSTREAM MANHOLE. THE MEASURED DROP IN THE TIME PERIOD CAN BE CONVERTED BY CALCULATIONS TO THE LEAKAGE RATE IN TERMS OF GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY.

EXFILTRATION TESTS MAY BE SUBSTITUTED FOR LOW PRESSURE AIR TESTS WHERE APPROVED BY THE TOWNSHIP ENGINEER. EXFILTRATION TESTS WILL NOT BE ALLOWED WHERE THE EXTERNAL WATER PRESSURE EXCEEDS FOUR (4) FEET.

FOR THE PURPOSE OF EXFILTRATION TESTING, THE INTERNAL WATER LEVEL SHALL BE EQUAL TO THE EXTERNAL WATER LEVEL PLUS FOUR (4) FEET AS MEASURED FROM THE TOP OF THE HIGHEST PIPE IN THE SYSTEM BEING TESTED. THIS COULD BE EITHER A HOUSE LEAD OR A LATERAL. HOWEVER, THE MAXIMUM TOTAL HEIGHT OF WATER ABOVE THE INVERT OF THE PIPE AT THE LOWER END SHALL NOT EXCEED SIXTEEN (16) FEET. A PROSPECTIVE TEST THAT WOULD EXCEED THIS SIXTEEN (16) FOOT LIMIT SHOULD NOT BE TAKEN, THE LINE UNDER CONSTRUCTION CAN BE BROKEN DOWN INTO SMALLER SECTIONS SUCH THAT THE MAXIMUM HEAD OF SIXTEEN (16) FEET WILL NOT BE EXCEEDED.

THE MAXIMUM EXFILTRATION RATE SHALL BE THE SAME AS THAT PERMITTED FOR THE INFILTRATION TEST. THE EXFILTRATION TEST PROCEDURE IS SUMMARIZED AS FOLLOWS:

- 1) ALL SERVICE LATERALS, STUBS AND FITTINGS INTO THE SEWER LINE(S) BEING TESTED SHOULD BE PROPERLY CAPPED OR PLUGGED, AND CAREFULLY BRACED TO RESIST THE THRUST ACTIONS DEVELOPED BY THE INTERNAL WATER PRESSURE. IN PREPARING THE BLOCKING OF PLUGS OR END CAPS, IT IS EXTREMELY IMPORTANT TO RECOGNIZE THAT THE FIVE (5) TO TEN (10) FEET OF HEAD IN THE STANDPIPE WILL EXERT CONSIDERABLE THRUST AGAINST THE PLUGS OR CAPS.
- 2) A PLUG IS INSERTED AND TIGHTENED IN THE INLET PIPE OF THE DOWNSTREAM MANHOLE TO WHICH THE WATER SUPPLY CONNECTION IS MADE FOR FILLING THE PIPE.
- 3) THE UPPER MANHOLE IS PLUGGED AND SECURELY TIGHTENED FOR CONNECTION TO THE STANDPIPE. THE STANDPIPE IS THEN PLACED IN THIS MANHOLE AND CONNECTED TO THE TAPPED PLUG. THE STANDPIPE MUST BE CAPABLE OF HANDLING FROM FIVE (5) TO TEN (10) FEET OF WATER HEAD TO DETERMINE THE TIGHTNESS AND SOUNDNESS OF THE SEWER LINE, AS SPECIFIED AND DIRECTED BY THE ENGINEER.
- 4) WATER IS INTRODUCED INTO THE LINE AT THE DOWNSTREAM (LOWER) MANHOLE UNTIL THE STANDPIPE IN THE UPSTREAM MANHOLE HAS BEEN COMPLETELY FILLED. BY FILLING THE LINE FROM THE LOWEST LEVEL, THE AIR IN THE LINE IS EASILY PUSHED AHEAD AND, FINALLY DISPELLED THROUGH THE STANDPIPE AT THE UPPER END OF THE TEST SECTION. CARE SHOULD BE TAKEN TO MINIMIZE ENTRAPPED AIR THAT WILL GIVE DISTORTED TEST RESULTS. THE RATE OF DROP IN THE STANDPIPE MAY BE QUITE RAPID UNTIL THE AIR HAS BEEN EXPELLED.
- 5) AFTER FILLING WITH WATER, THE LINE MUST BE ALLOWED TO STAND FOR AT LEAST FOUR (4) HOURS BEFORE BEGINNING THE TEST. DURING THIS TIME SOME WATER ABSORPTION INTO THE MANHOLE STRUCTURES AND SEWER PIPE WILL TAKE PLACE. AFTER THE WATER ABSORPTION HAS STABILIZED, THE WATER LEVEL IN THE STANDPIPE IS CHECKED AND WATER ADDED IF NECESSARY.
- 6) THE TEST IS NOW READY TO BEGIN. THE DROP IN THE STANDPIPE IS MEASURED AND RECORDED OVER A FIFTEEN (15) MINUTE PERIOD. TO VERIFY THE FIRST RESULTS, A SECOND FIFTEEN (15) MINUTE TEST IS SUGGESTED. THIS WILL ALSO VERIFY WHETHER A STABLE CONDITION EXISTS IN THE LINE.
- 7) THE MEASURED DROPS IN THE STANDPIPE ARE CONVERTED TO LEAKAGE IN TERMS OF GALLONS PER INCH DIAMETER PER MILE PER DAY.
- 8) ANOTHER COMMONLY USED METHOD OF CONDUCTING WATER EXFILTRATION TESTING IS TO UTILIZE THE MANHOLE IN LIEU OF A STANDPIPE. THE TEST PROCEDURE IS EXACTLY AS OUTLINED FOR USING THE STANDPIPE. HOWEVER, SINCE THE MANHOLE IS LARGER IN DIAMETER THAN THE STANDPIPE, THIS METHOD NORMALLY REQUIRES A MINIMUM TWO (2) HOUR TEST PERIOD IN ORDER TO BE ABLE TO RECORD A MEASURABLE WATER LEVEL DROP. MANHOLE LEAKAGE MUST ALSO BE CONSIDERED IN THE LEAKAGE RATE AND TEST RESULTS.
- 9) CAUTION SHOULD BE TAKEN ABOUT CONDUCTING EXFILTRATION TESTS ON SEWER LINES LAID ON STEEP GRADES. CONSIDERATION MUST BE GIVEN TO THE DOWNSTREAM PORTION OF THE SYSTEM TO PREVENT EXCESSIVE PRESSURES IN THESE LOWER LINES. FOR THESE INSTALLATIONS AND WHERE THE UPSTREAM MANHOLES ARE VERY DEEP, IT IS NOT ADVISABLE TO FILL THE STANDPIPE OR MANHOLE TO THE TOP WHEN PERFORMING THE TEST.

DEFLECTION TEST FOR PLASTIC PIPE

DEFLECTION GAUGE (MANDREL): MANDREL TESTING SHALL TAKE PLACE TO ENSURE THE FLEXIBLE PIPE HAS BEEN PROPERLY BEDDED AND BACK-FILLED. THE DEFLECTION TEST MUST BE CONDUCTED NO LESS THAN 30 DAYS AFTER INSTALLATION OF THE FINAL BACKFILL. THE MAXIMUM ALLOWABLE DEFLECTION IS 5 PERCENT. INSTALLATION SHALL CONFORM TO ASTM 2321-89. A NINE-ARM (POINT) MANDREL SHALL BE USED. CHERNE FIXED STEEL DEFLECTION OR APPROVED EQUAL.

VIDEOTAPING

AS A MEANS OF INSURING THAT PIPE LAYING WAS PROPERLY DONE AND THAT ALL JOINTS ARE IN A "HOME" POSITION, THE CONTRACTOR SHALL PROVIDE VIDEOTAPING OF ALL OF THE PIPE LAID THAT IS THIRTY-SIX (36) INCHES IN DIAMETER AND SMALLER. THIS VIDEOTAPING SHALL BE DONE NO SOONER THAN THIRTY (30) DAYS AFTER COMPLETION OF BACKFILL. THE CONTRACTOR SHALL PROVIDE FORTY-EIGHT (48) HOURS NOTICE TO THE TOWNSHIP PRIOR TO VIDEOTAPING SO THAT A REPRESENTATIVE MAY BE PRESENT. A SATISFACTORY REVIEW OF THE VIDEOTAPE BY THE TOWNSHIP SHALL BE A CONDITION FOR SEWER ACCEPTANCE BY THE TOWNSHIP. TYPICAL ITEMS TO BE REVIEWED ON THE VIDEOTAPE WILL INCLUDE PIPE DEFLECTION, PIPE SETTLEMENT, LEAD CONNECTIONS, JOINTS AND PIPE CLEANLINESS. IF THE VIDEOTAPE REVIEW REVEALS UNSATISFACTORY CONDITIONS, THE CONTRACTOR SHALL CORRECT THE CONDITIONS AND SHALL RE-VIDEOTAPE THE AFFECTED PIPE SECTIONS FOR REVIEW BY THE TOWNSHIP.



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REVISIONS

DATE: OCT 2003

CITY: LIVONIA

COUNTY: WASHTENAW

CLIENT: CHARTER TOWNSHIP OF SUPERIOR

SCALE: V. M.A. JOB# 000-00-0000

H. NTS

VERTICUM: N/A

HORIZONTAL: N/A



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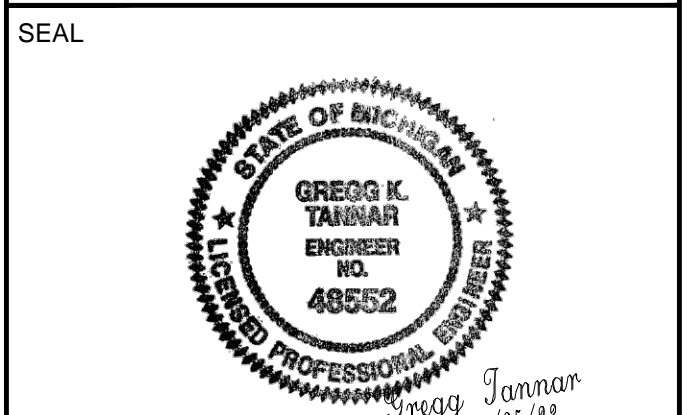
ISSUES

No.	DESCRIPTION	DATE
1	AREA PLAN	2021-10-27
2	AREA PLAN AMENDMENT	2021-11-29
3	PRELIMINARY SITE DESIGN	2022-01-26

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Hyundai STIL

6800 Geddes Rd Superior Charter Twp,
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PROJECT NO:
134894

DRAWN BY:
D KASSAB

CHECKED BY:
APPROVED BY:

SHEET TITLE
DETAILS

SHEET NUMBER
CT-601

**CHARTER TOWNSHIP OF SUPERIOR
STANDARD SANITARY DETAILS**

SHEET
2
OF 2

DRAWING PATH: S:\CIVIL\Superior\TwpStandards\CAD\Sanitary\SuperiorStand02.dwg Dec 20, 2011 - 4:34pm



HATCI MICHIGAN R&D CENTER
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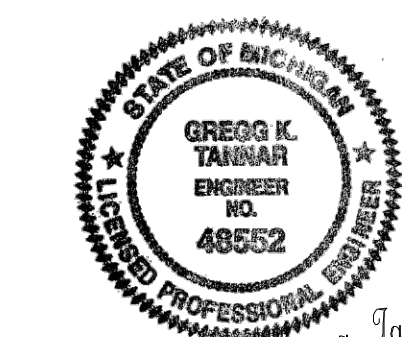
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6800 Geddes Rd Superior Charter Twp,
MI 48198

PROJECT NO:
134894

DRAWN BY:
D KASSAB

CHECKED BY:

PROJECT MGR:
D KASSAB

APPROVED BY:

SHEET TITLE

DETAILS

SHEET NUMBER

CT-602

ISSUE



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CHARTER TOWNSHIP OF SUPERIOR

CHARTER TOWNSHIP OF SUPERIOR
STANDARD STORM SEWER DETAILS

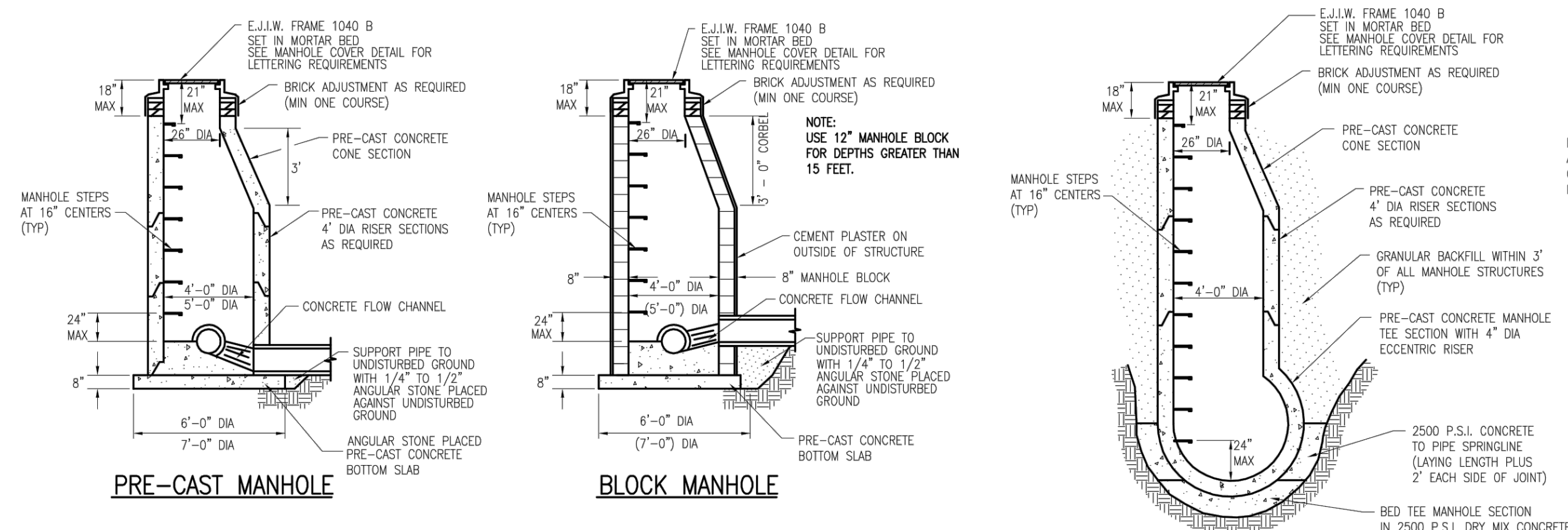
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OF 2

GENERAL NOTES FOR STORM SEWER CONSTRUCTION

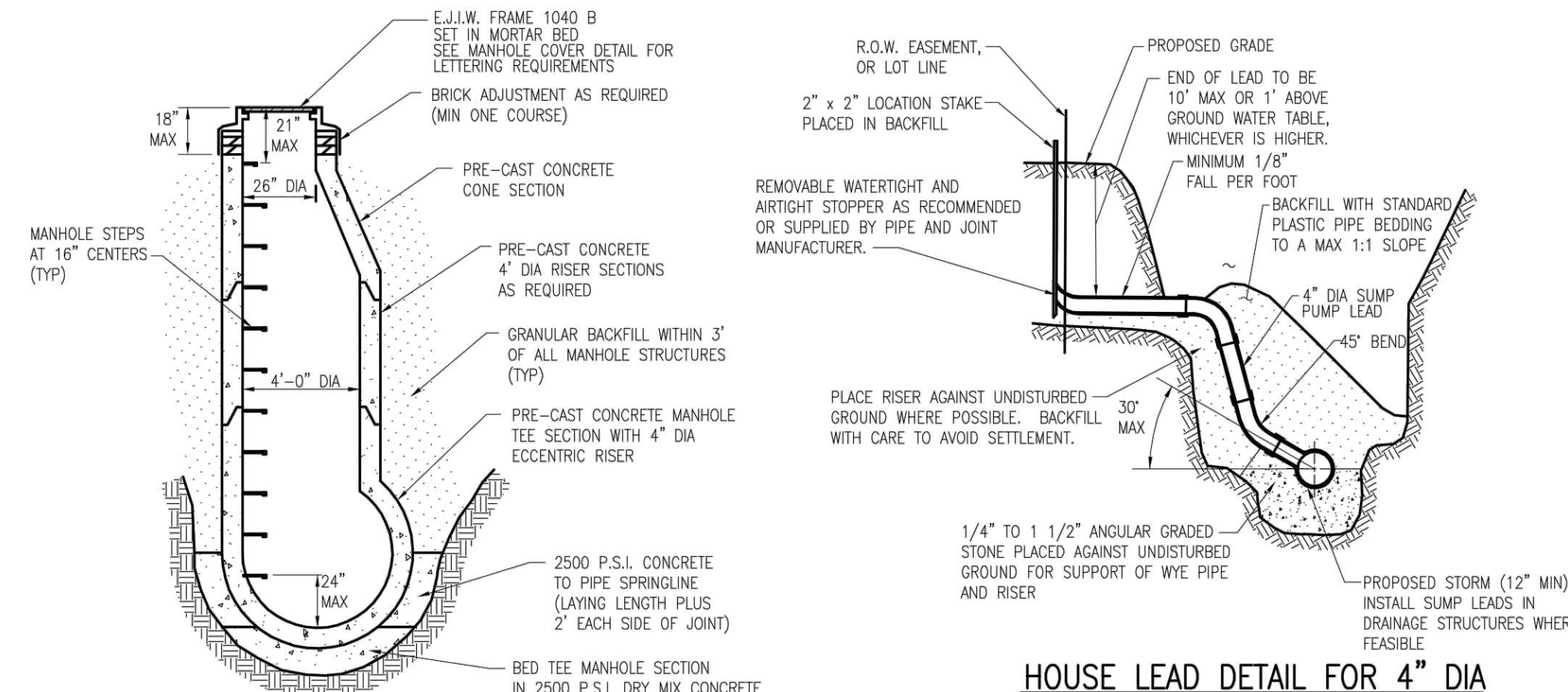
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF CHARTER TOWNSHIP OF SUPERIOR.
 - TYPE AND CLASS OF PIPE SHALL BE AS SPECIFIED ON PLANS.
 - SAND BEDDING SHALL BE USED THROUGHOUT, UNLESS OTHERWISE SPECIFIED ON THE PLAN.
 - ALL END SECTIONS 18" AND LARGER SHALL BE PROVIDED WITH A GALVANIZED BAR SCREEN.
- CONTRACTOR SHALL CONSTRUCT MANHOLES WITH PRECAST REINFORCED CONCRETE IN LIEU OF CONCRETE, BRICK AND BLOCK MANHOLES IN ACCORDANCE WITH THE FOLLOWING CONDITIONS:
 - NO OPENINGS SHALL BE MADE IN PRECAST UNITS WHICH WOULD LEAVE LESS THAN 12" OF UNDISTURBED PRECAST STRUCTURE WALL BETWEEN PIPES (AS MEASURED BETWEEN OUTSIDE PIPE WALLS) OR WOULD REMOVE MORE THAN 40% OF THE CIRCUMFERENCE ALONG ANY HORIZONTAL PLANE.
 - STRUCTURES FOR SEWERS LARGER THAN 18", OR THOSE NOT MEETING THE OPENING REQUIREMENTS, MAY BE BUILT OF BLOCK OR BRICK UP TO A MINIMUM OF 8" ABOVE THE TOP OF SEWER, WITH PRECAST UNITS BEING USED ABOVE THIS POINT. WHERE PRECAST UNITS REST ON THE BLOCK OR BRICK, THE GROOVE IN THE PRECAST UNIT SHALL BE FILLED WITH MORTAR.
 - OPENINGS FOR THE OUTLET SEWER SHALL BE PRECAST WITH A DIAMETER OF 3 INCHES LARGER THAN THE OUTSIDE DIAMETER OF THE OUTLET PIPE. ALL OTHER OPENINGS SHALL BE MADE IN THE FIELD AFTER THE MANHOLE HAS BEEN CONSTRUCTED.
- ALL VERTICAL OPENINGS IN CONCRETE BLOCK STRUCTURE WALLS SHALL BE COMPLETELY FILLED WITH MORTAR. ALL VERTICAL WALL JOINTS SHALL BE CEMENT POINTED.
 - THE CONTRACTOR SHALL PROVIDE REINFORCED CONCRETE PIPE AS SPECIFIED ON THE PLANS.
 - ALL ROUND REINFORCED CONCRETE PIPE SHALL HAVE MODIFIED GROOVE TONGUE JOINTS WITH O-RING TYPE RUBBER GASKET, PER A.S.T.M. SPECIFICATIONS C443. ALL ELLIPTICAL CONCRETE PIPE SHALL HAVE GROOVE TONGUE JOINTS WITH BITUMINOUS (DENTIT #10) JOINT MATERIAL AND INSIDE MORTAR POINTING. ELLIPTICAL CONCRETE PIPE JOINTS SHALL ALSO BE WRAPPED PER A.S.T.M. SPECIFICATION C877 FOR EXTERNAL SEALING BANDS FOR NON-CIRCULAR CONCRETE PIPE.
 - THE INSIDE JOINT OF PIPE SIZES OVER 27" DIAMETER SHALL BE POINTED UP WITH MORTAR UPON COMPLETION OF BACKFILLING OPERATIONS.
 - WHERE UNSTABLE GROUND CONDITIONS ARE ENCOUNTERED, STONE BEDDING SHALL BE USED AS DIRECTED BY THE ENGINEER IN ORDER TO PROVIDE A STABLE FOUNDATION FOR PIPE AND MANHOLES.
 - ALL PIPES ENTERING OR LEAVING A MANHOLE SHALL BE ADEQUATELY SUPPORTED WITH 1/4" TO 1/2" ANGULAR GRADED STONE FILL FROM UNDISTURBED EARTH TO SPRINGLINE OR WITH APPROVED CRUSHED AGGREGATE.

DRAINAGE STRUCTURE REQUIREMENTS:

- ALL STRUCTURE(S) SHALL BE 4" IN DIAMETER UNLESS OTHERWISE INDICATED ON CONSTRUCTION DRAWINGS. 2' DIAMETER CATCH BASINS AND INLETS SHALL BE USED ONLY WITH PRIOR TOWNSHIP APPROVAL.
- MANHOLE STEPS SHALL BE STEEL ENCASED WITH POLYPROPYLENE PLASTIC OR APPROVED EQUIVALENT TO M.A. INDUSTRIES, INC., PS-1 FOR BRICK, OR PS-1B FOR BLOCK, EAST JORDAN IRON WORKS 8503 (OR APPROVED EQUAL). MANHOLE STEPS AT 16" CENTERS.
- CATCH BASIN STEPS SHALL BE EAST JORDAN IRON WORKS 8502 PLASTIC COATED (OR APPROVED EQUAL).
- MANHOLE COVERS AND FRAMES SHALL BE EAST JORDAN IRON WORKS 1040, TYPE "B" COVER OR AS PER CONSTRUCTION DRAWINGS.
 - EAST JORDAN IRON WORKS 5080, TYPE "M1" COVER WITH STRAIGHT FACE CURB AND GUTTER (OR AS APPROVED EQUAL).
 - EAST JORDAN IRON WORKS 5080, TYPE "M1" COVER WITH MOUNTABLE CURB AND GUTTER AND INTEGRAL CURB AND GUTTER (OR AS APPROVED EQUAL).
 - EAST JORDAN IRON WORKS 1040, TYPE "O2" COVER (BEEHIVE) TO BE USED ON OPEN DITCHES AND SWALES, REAR YARD CATCH BASIN (OR AS APPROVED EQUAL). IF WITHIN 8' OF ROAD, TYPE "N" COVER (LOW BEEHIVE) SHALL BE USED.
 - FRAMES SHALL BE SET IN FULL BED OF MORTAR AND THE SIDE SHALL BE OVERLAPPED TO PREVENT LEAKAGE.
- A PROPER CHANNEL SHALL BE CONSTRUCTED WITHIN THE EXISTING MANHOLE OR OTHER STRUCTURE AT WHICH THE CONNECTION IS TO BE MADE TO DIRECT THE FLOW TO THE EXISTING OUTLET IN A MANNER WHICH WILL TEND TO CREATE THE LEAST AMOUNT OF TURBULENCE. THE CHANNEL SHALL BE CONSTRUCTED TO THE SAME SIZE AS THE INSIDE DIAMETER OF THE EXISTING PIPES, AND SHALL BE BUILT TO HEIGHT OF 1/3 THE EXISTING PIPE DIAMETER WITH A MINIMUM OF 2% SLOPE ON THE BENCHES.
 - ALL BRICKS AND BLOCKS USED FOR ADJUSTMENT SHALL BE CONCRETE.
 - BLOCK USED FOR STANDARD CATCH BASINS AND MANHOLES SHALL BE 8" (FOR 0'-15" DEEP) AND 12" (FOR 15"-25" DEEP). BLOCK USED FOR 2' DIAMETER INLETS AND CATCH BASINS SHALL BE 6".
 - PRECAST REINFORCED CONCRETE SECTION AS MINIMUM SHALL CONFORM TO A.S.T.M. C-478.
 - CONCRETE BASE FOR MANHOLE, CATCH BASIN, AND INLET SHALL BE MDOT GRADE 30P (MIN), 8" THICK, 3000 PSI.
- PLASTER ALL OUTSIDE MASONRY SURFACES WITH 1:2 1/2 MASONRY CEMENT (TYPE II) 1/2" THICK.
- WHEN TAPPING INTO AN EXISTING STRUCTURE A BRICK COLLAR SHALL BE PLACED 12" THICK AROUND THE PIPE AND EXTENDED 12" BEYOND THE OPENING. IF PRE-CAST SECTION IS TAPPED, BEND MESH AND USE AS REINFORCEMENT WITH BRICK COLLAR.
- ALL PRECAST RISER(S) SHALL BE PLACED IN A FULL BED OF MORTAR. ALL JOINTS & LIFTHOLES SHALL BE POINTED UP WITH MORTAR ON THE OUTSIDE AND INSIDE.
 - ALL VERTICAL AND HORIZONTAL BARS SHALL BE TACK-WELDED TO THE ANGLE FRAME.
 - THE BAR GRATE SCREEN SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IS COMPLETE.

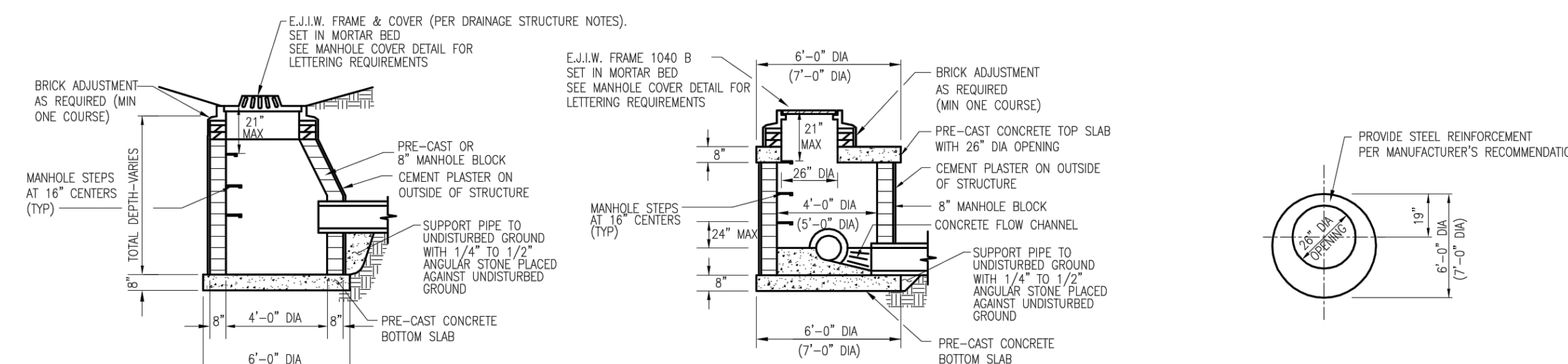


STANDARD MANHOLE DETAILS



PRE-CAST TEE MANHOLE DETAIL

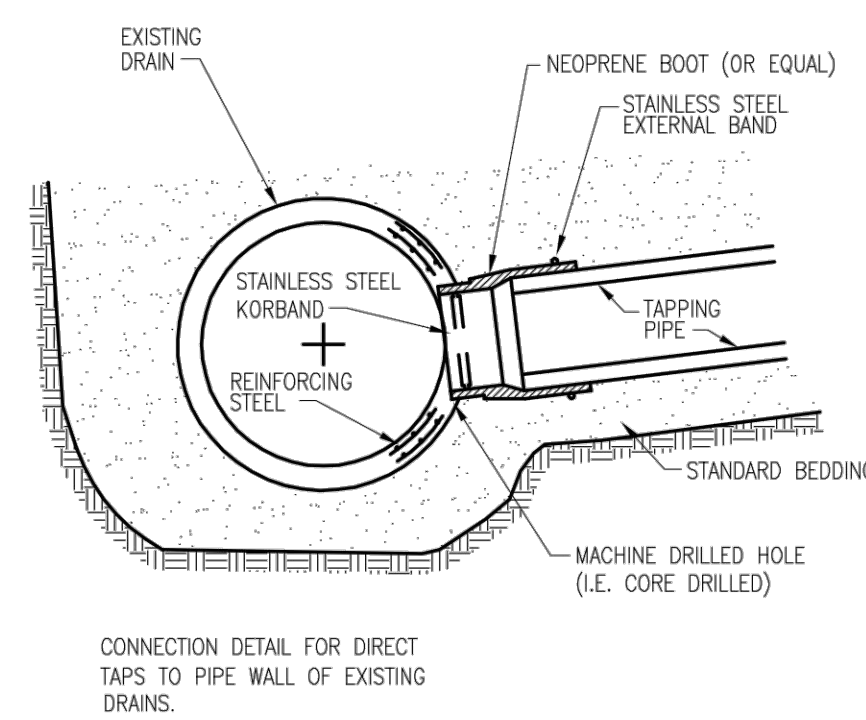
HOUSE LEAD DETAIL FOR 4" DIA PLASTIC SUMP PUMP LEADS



CATCH BASIN DETAIL

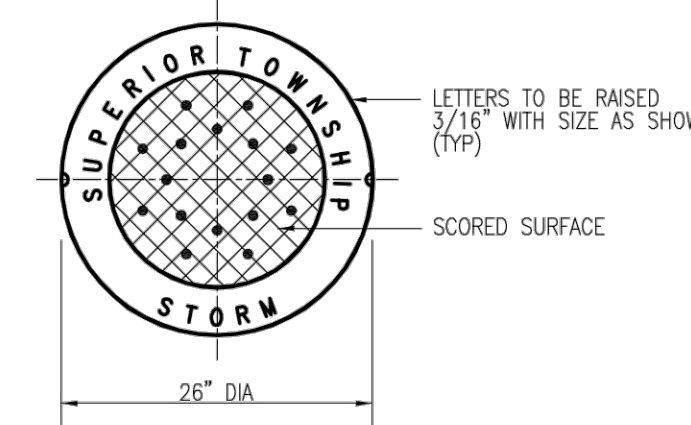
LOW HEAD MANHOLE AND CATCH BASIN DETAIL

PRE-CAST CONCRETE TOP SLAB DETAIL, 8" THICK

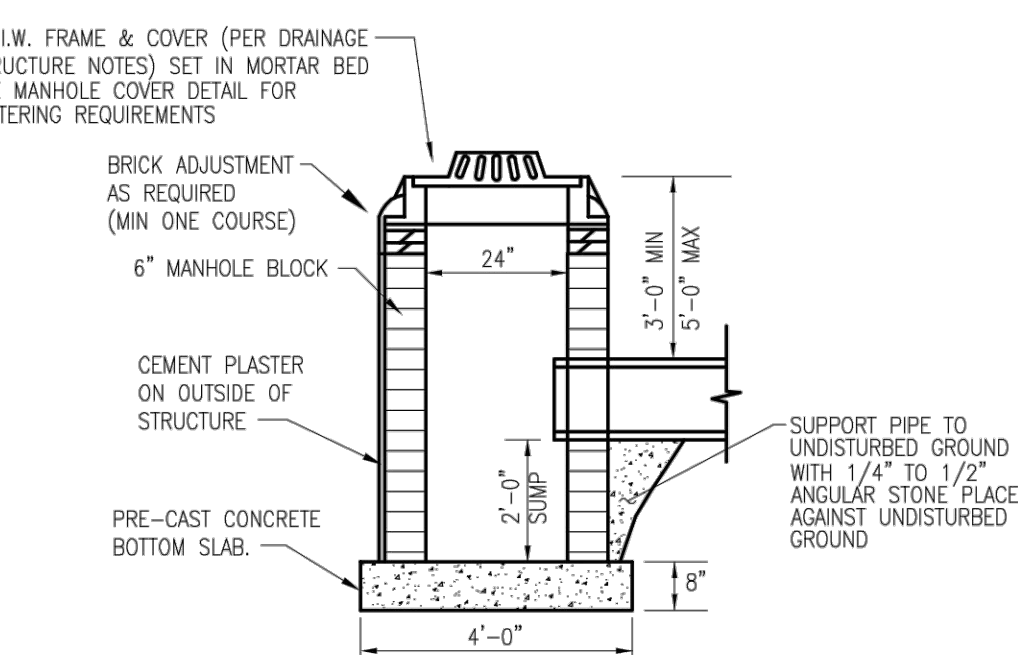


KOR-N-TEE TAP FOR CONCRETE PIPE

(NOTE: LETTERING SHALL BE USED ONLY FOR PUBLIC STORM SYSTEM. ALL OTHERS SHALL HAVE NO LETTERING.)

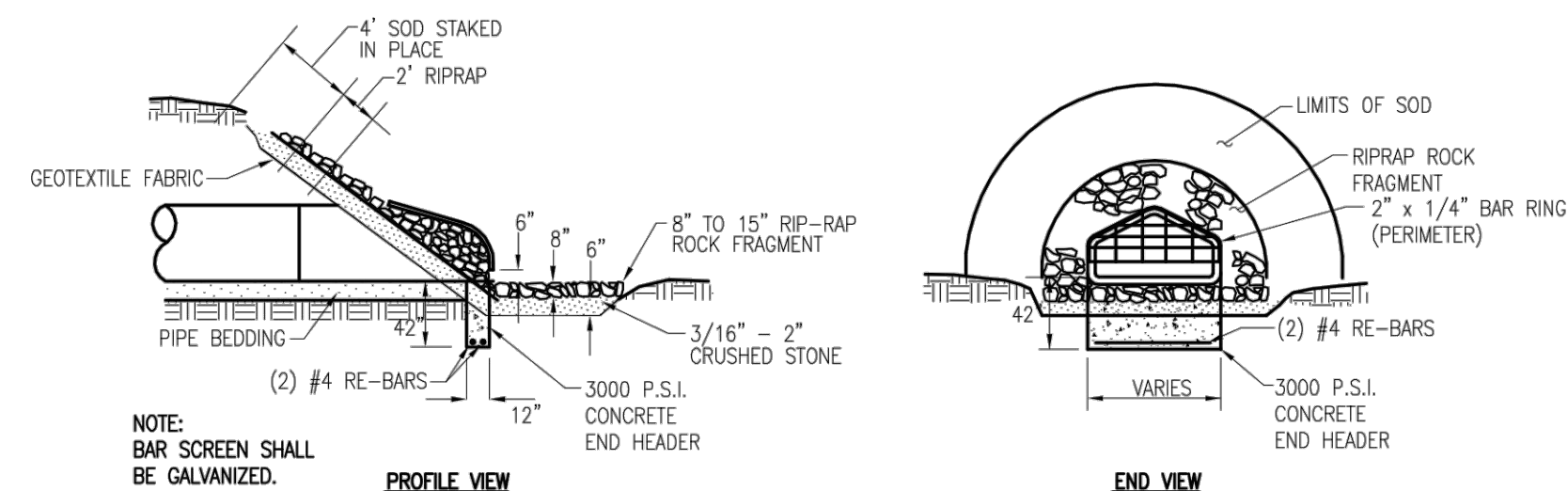


CAST IRON MANHOLE COVER E.J.I.W. 1040

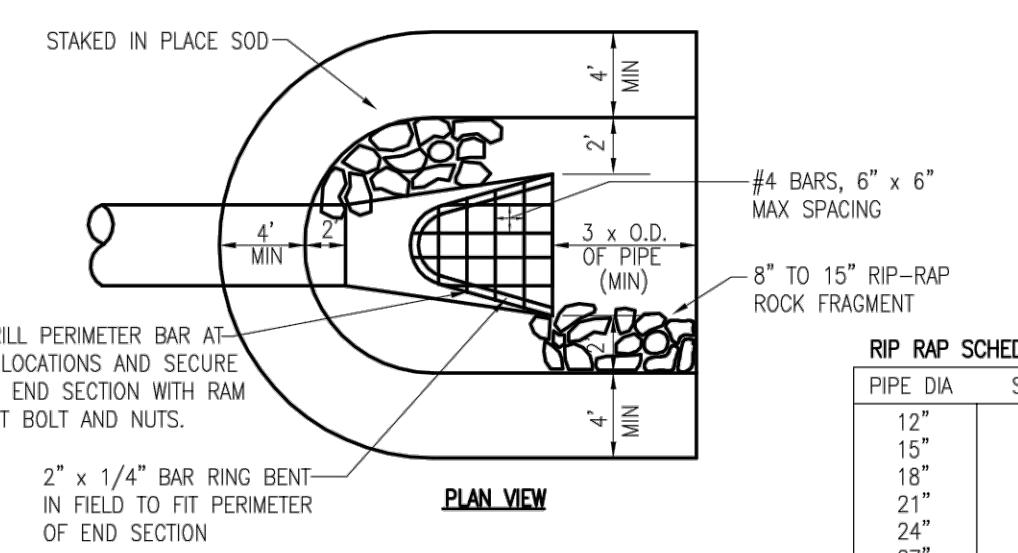


2" DIA CATCH BASIN DETAIL

NOT TO SCALE
(NOTE: 2" DIA CATCH BASIN SHALL NOT BE USED UNLESS PRIOR APPROVAL IS OBTAINED FROM TOWNSHIP ENGINEER.)



END SECTION AND BAR SCREEN DETAIL

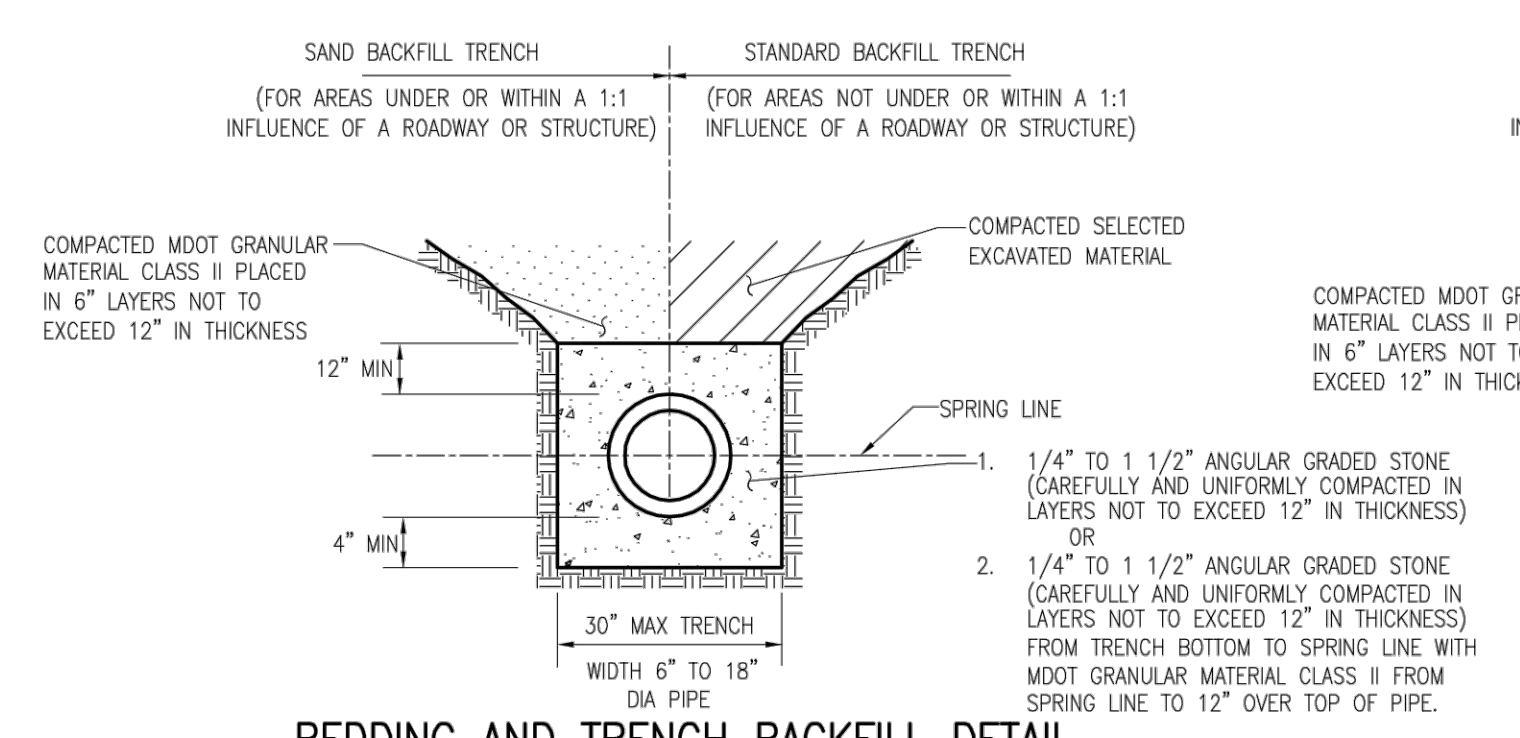


2" DIA INLET DETAIL

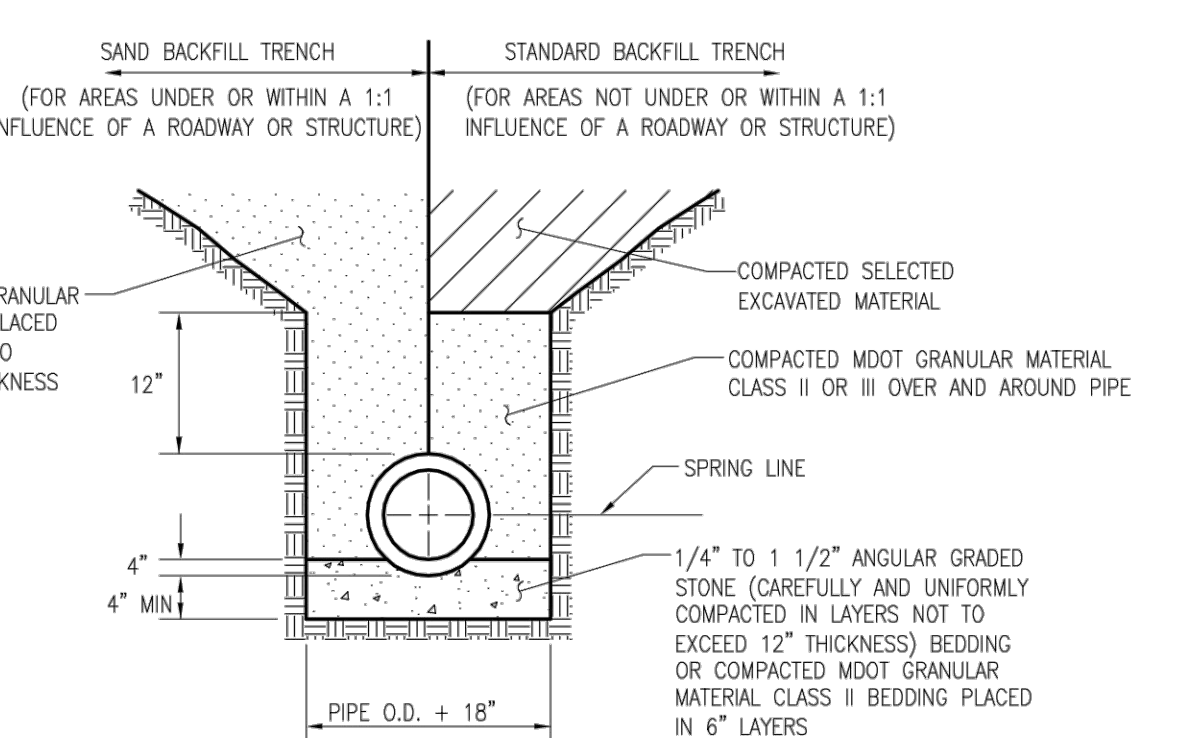
PIPE DIA	SY
12"	4
15"	4
18"	4
21"	5
24"	6
27"	7
30"	8
36"	10
42"	12
48"	14

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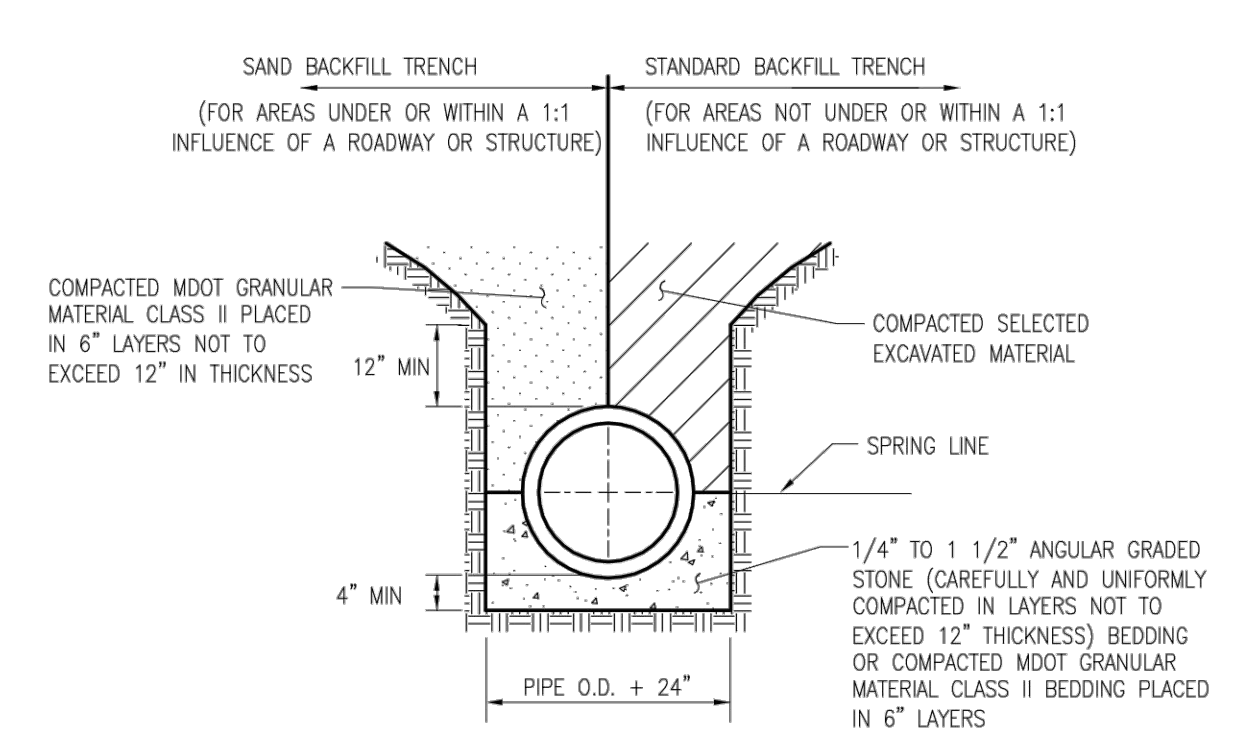
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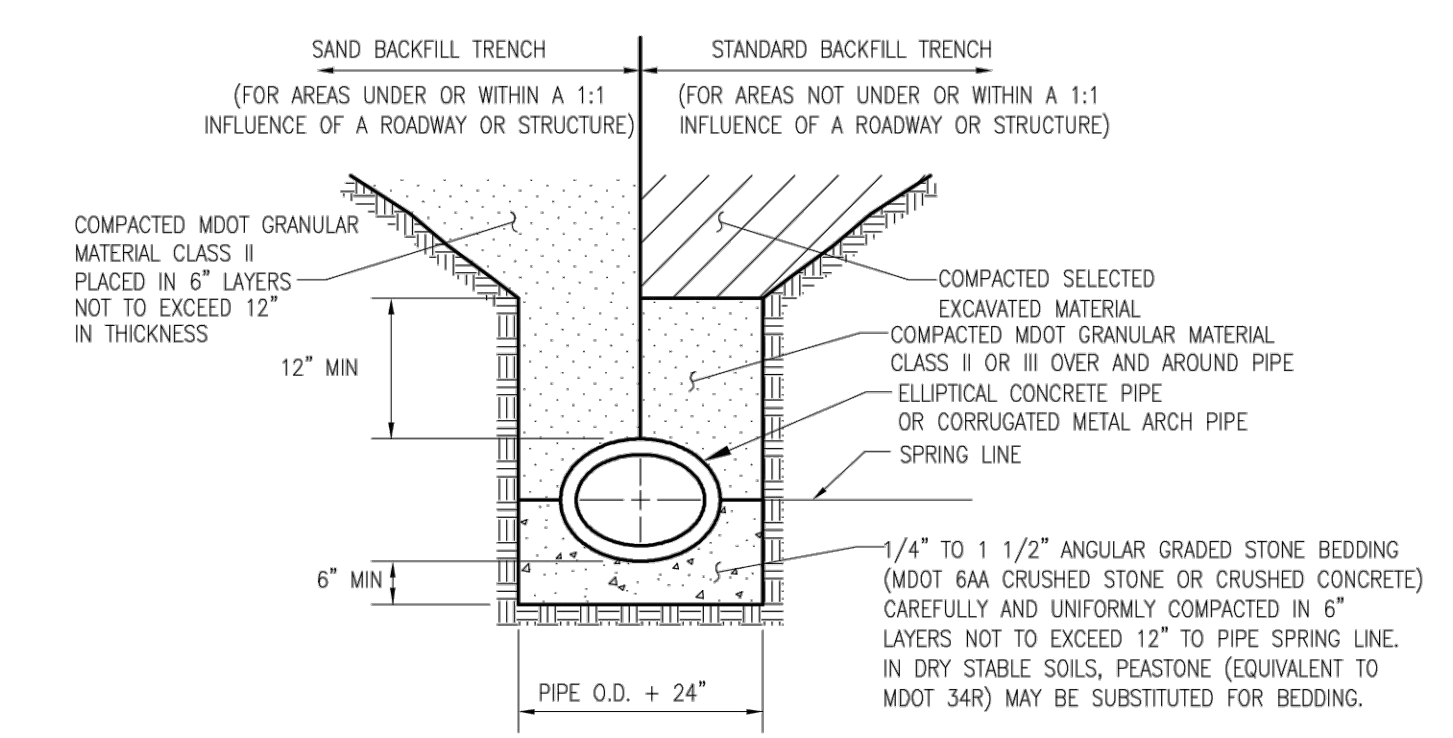
BEDDING AND TRENCH BACKFILL DETAIL FOR 18" DIAMETER AND SMALLER PIPE (PVC SOLID WALL AND TRUSS PIPE)



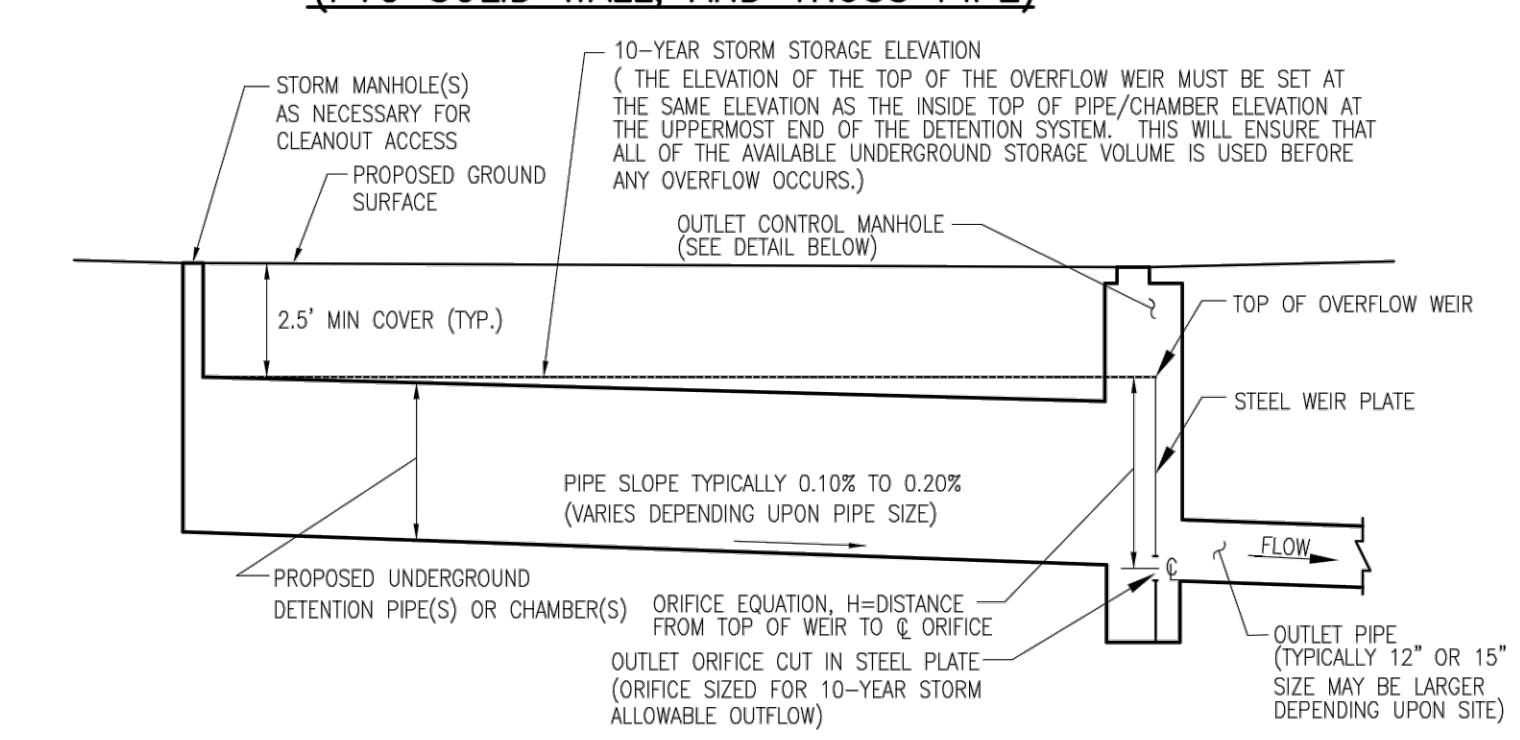
BEDDING AND TRENCH BACKFILL DETAIL FOR 24" DIAMETER AND SMALLER PIPE



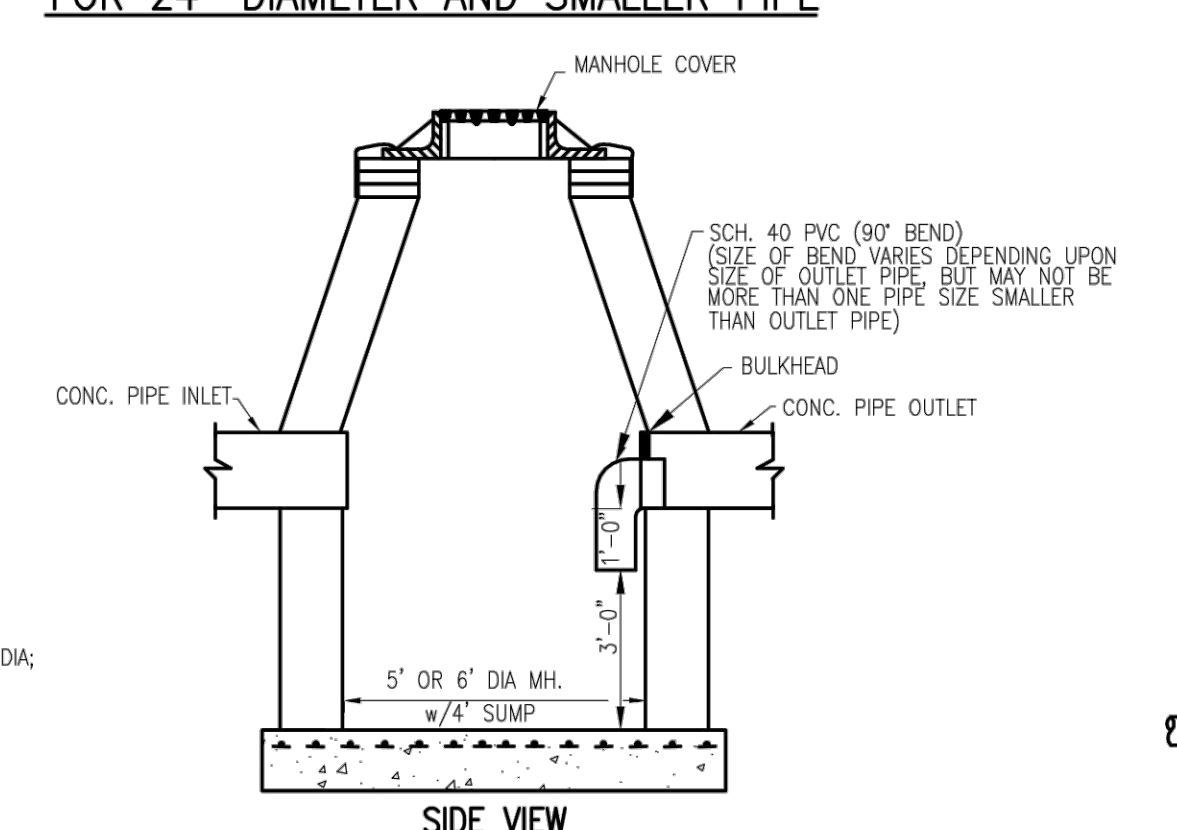
BEDDING AND TRENCH BACKFILL DETAIL FOR 27" DIAMETER AND LARGER PIPE



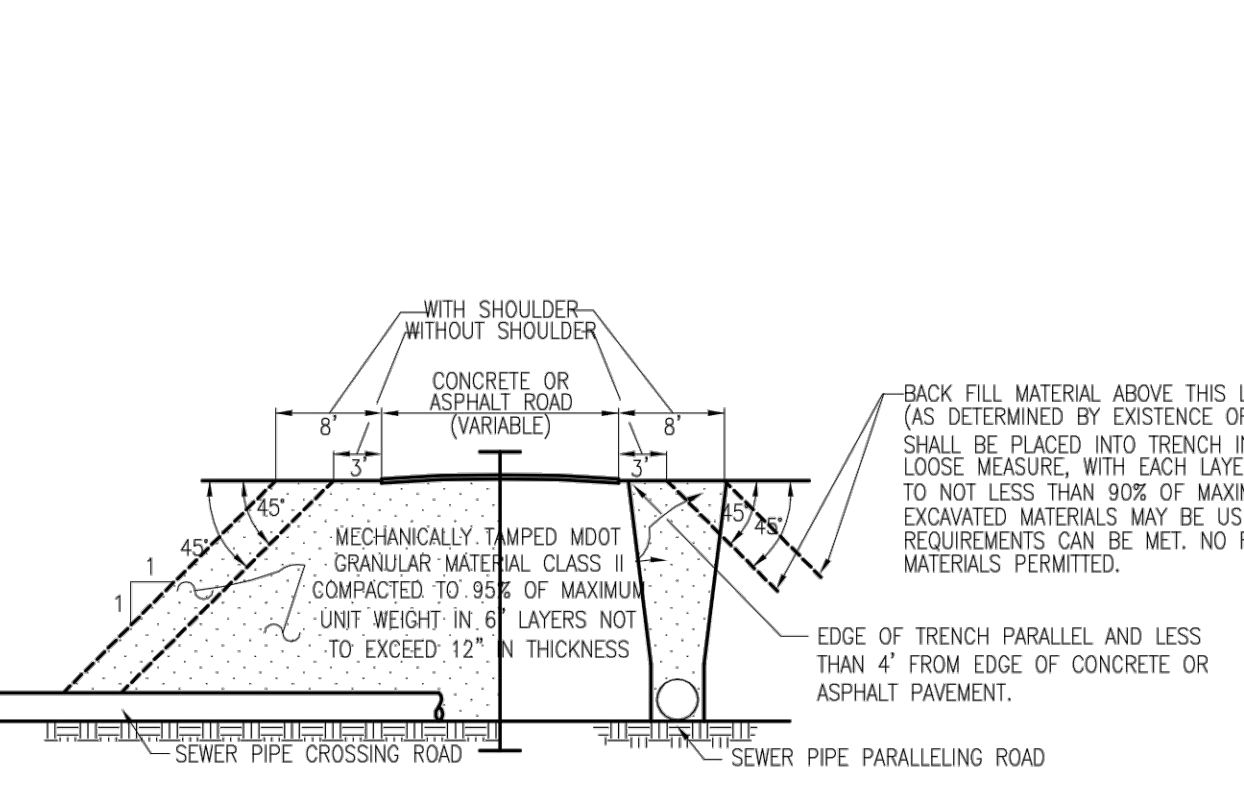
BEDDING AND TRENCH BACKFILL DETAIL FOR ELLIPTICAL CONCRETE PIPE OR CORRUGATED METAL ARCH PIPE



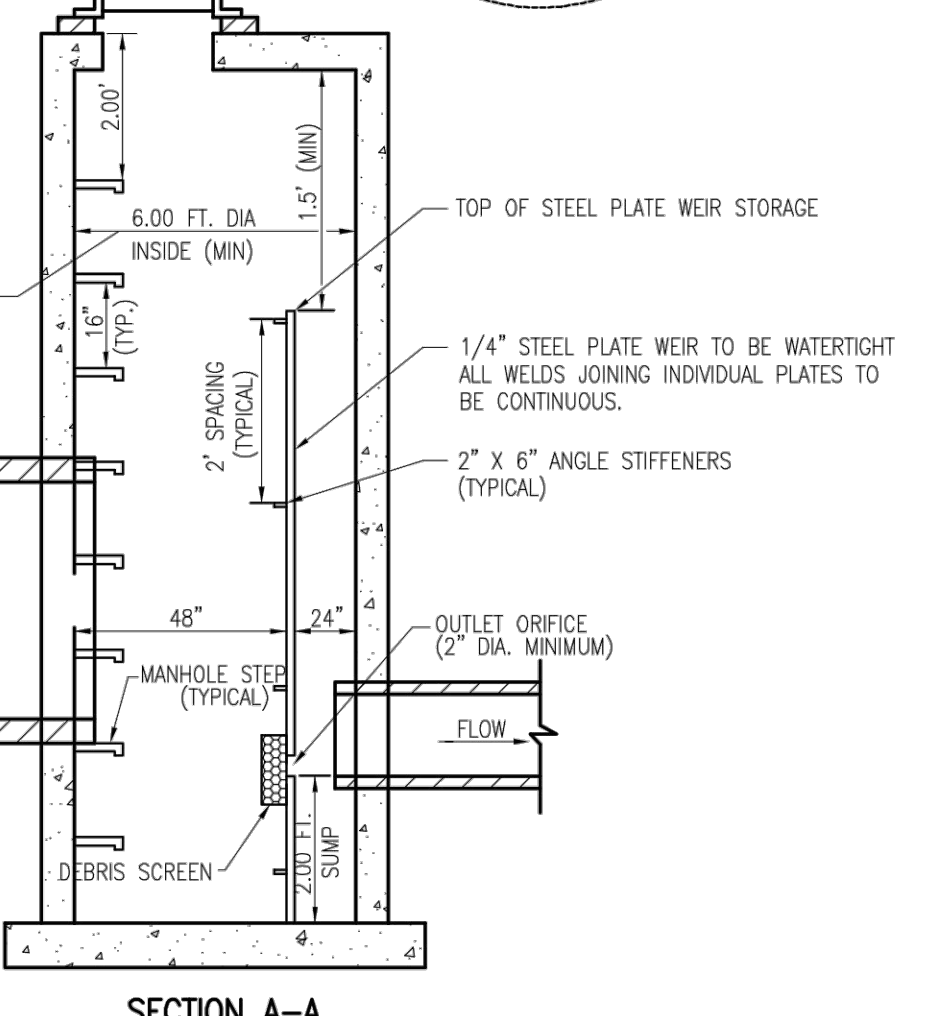
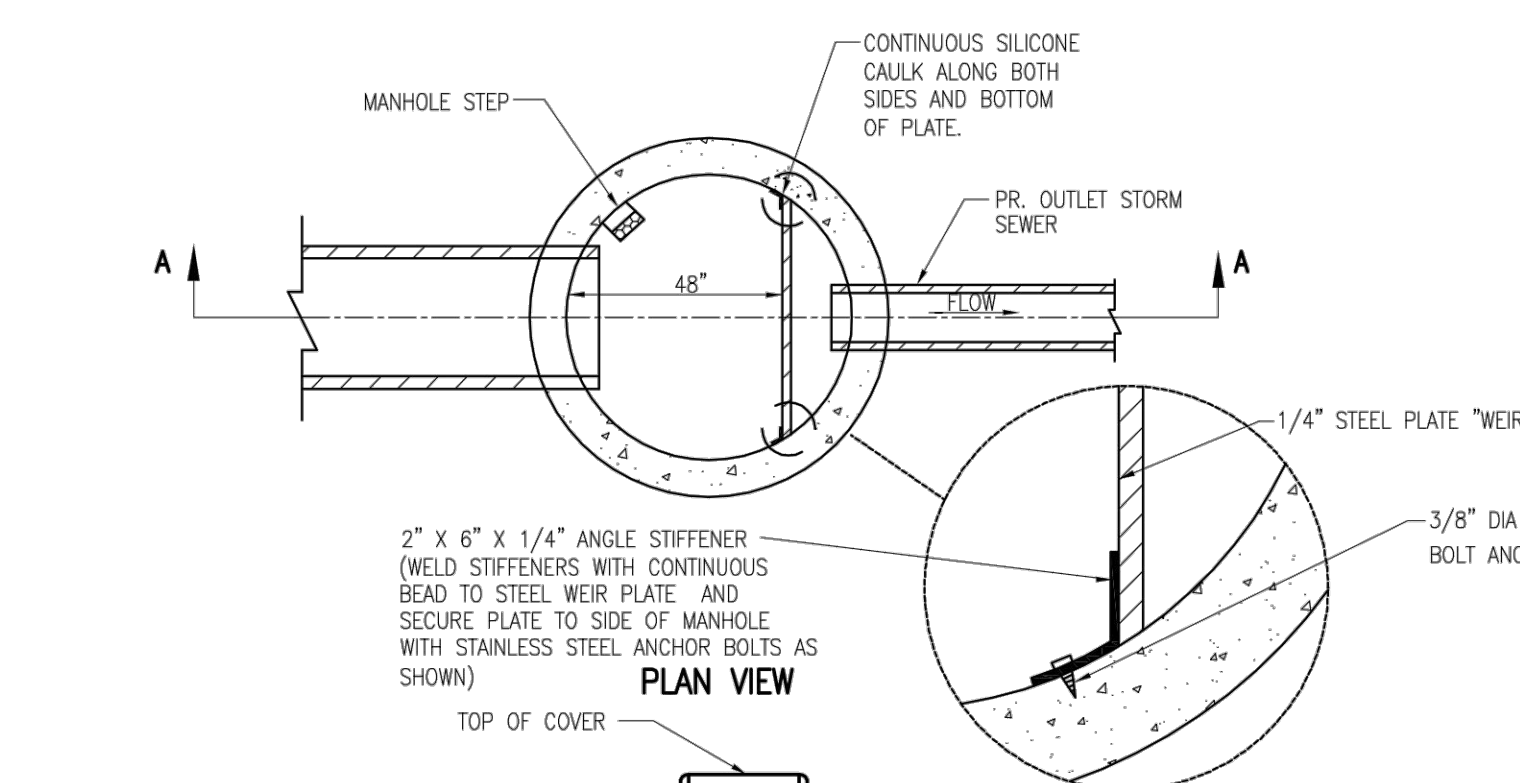
DETENTION SYSTEM PROFILE



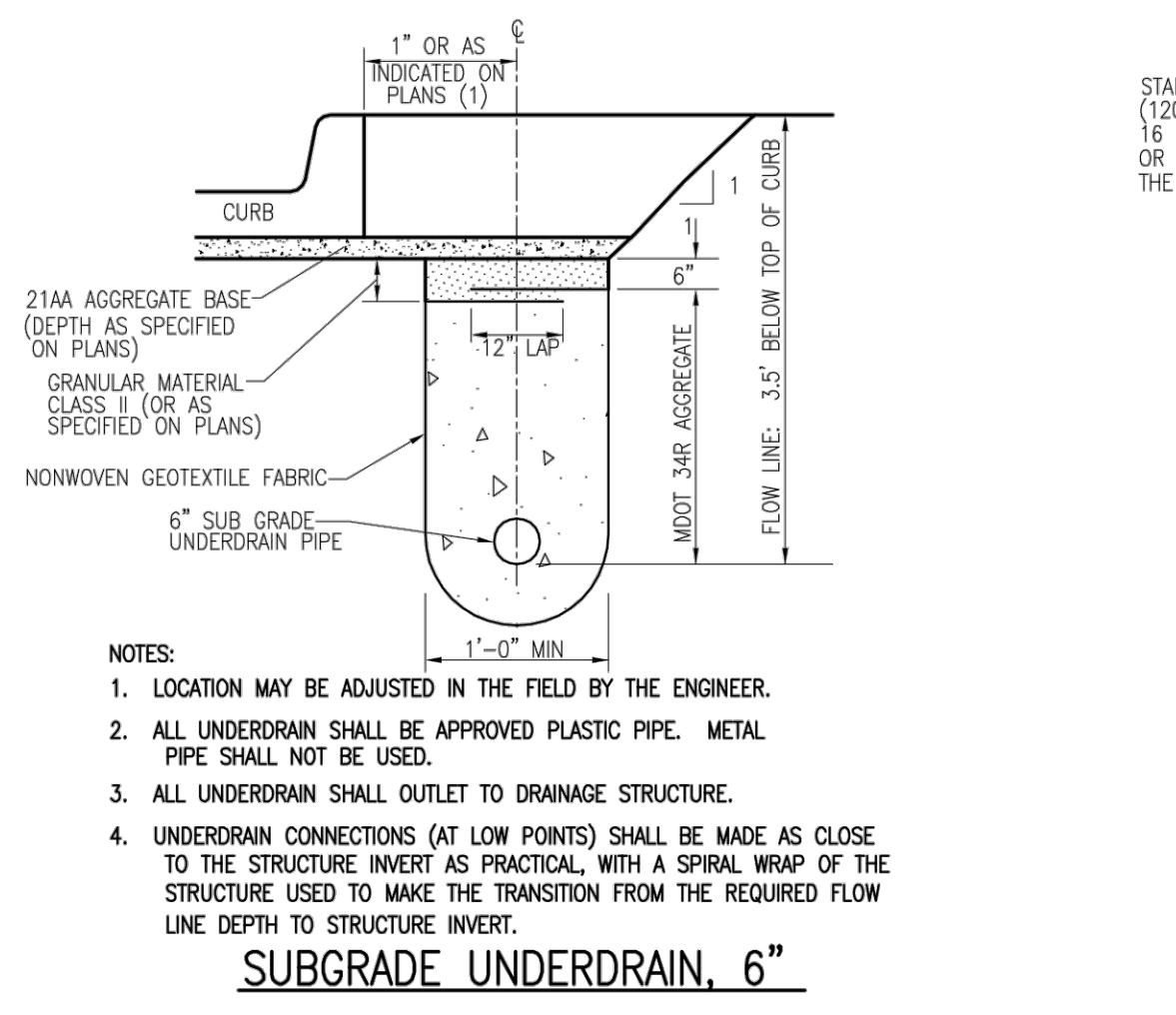
OIL/GAS SEPARATOR PLACEMENT DETAIL FOR 18" DIAMETER AND SMALLER OUTLET PIPE
(FOR OUTLET PIPES LARGER THAN 18" IN DIAMETER, AN ALTERNATE DESIGN MUST BE APPROVED BY THE TOWNSHIP ENGINEER)



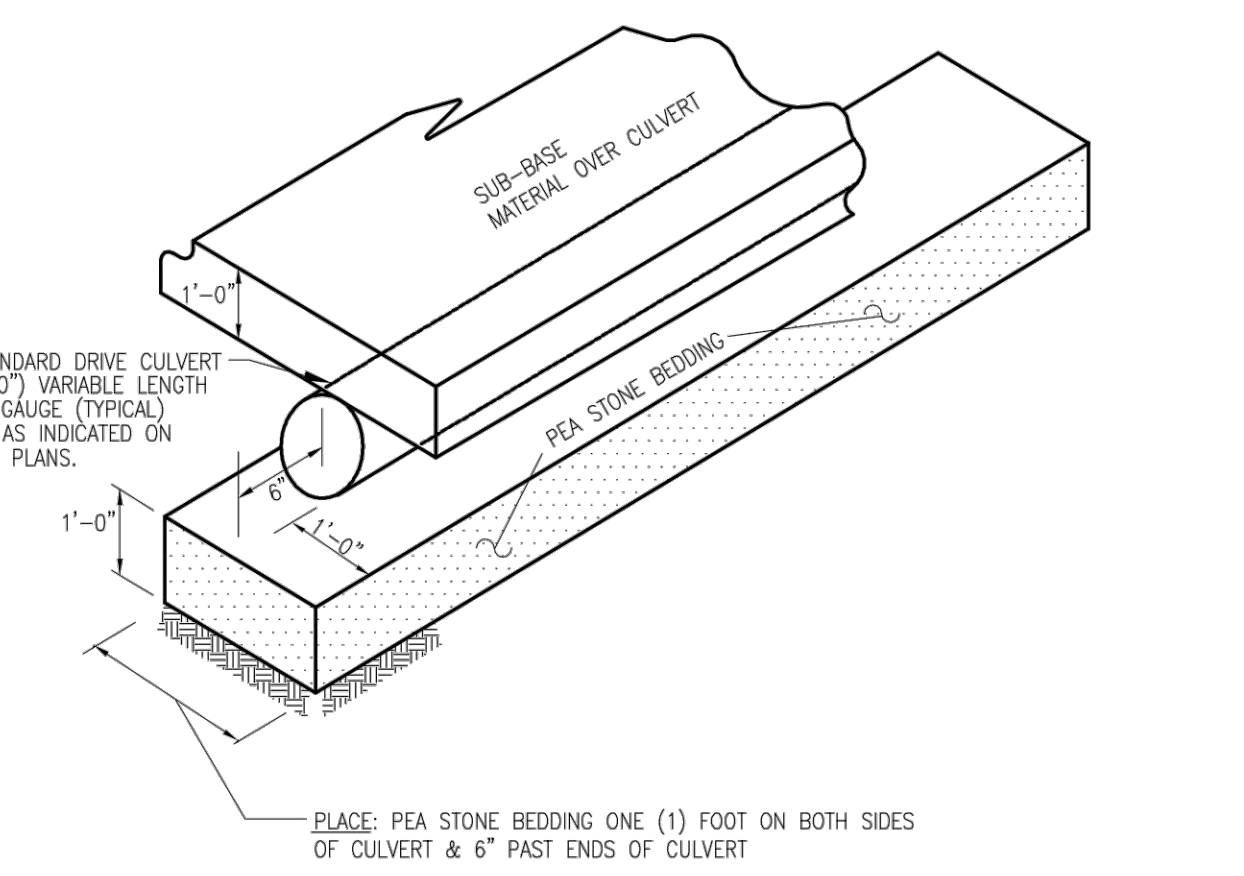
SAND OR GRAVEL BACKFILL DETAILS FOR SEWERS UNDER CONCRETE OR ASPHALT PAVEMENTS, SIDEWALKS, DRIVEWAYS AND PARKING AREAS



SECTION A-A 6 FT. DIA OUTLET MANHOLE TYPICAL UNDERGROUND DETENTION AND OUTLET MANHOLE DETAILS



SUBGRADE UNDERDRAIN, 6"



DRIVE CULVERT BEDDING DETAIL

GENERAL NOTES FOR STORM SEWER CONSTRUCTION

- PIPE BEDDING AND BACKFILLING:**
BEDDING SHALL EXTEND A MINIMUM OF 4" BELOW PIPE, UNLESS OTHERWISE NOTED ON CONSTRUCTION PLANS. BEDDING SHALL BE UNIFORM IN GRADE. HOWEVER, IF THE EXISTING NATIVE SOILS MEET THE REQUIREMENTS FOR MDOT GRANULAR MATERIAL CLASS II (MINIMUM 4" THICK), THEN STORM SEWER MAY BE LAID DIRECTLY ON COMPACTED NATIVE SUBGRADE SOILS.
BACKFILL SHALL BE COMPACTED ABOVE PIPE OR AS INDICATED ON CONSTRUCTION DRAWINGS. TRENCH BACKFILL SHALL BE OF A SUITABLE MATERIAL AND SHALL BE FREE OF ANY ORGANIC MATERIALS AND ROCKS LARGER THAN 3" IN SIZE. BACKFILL SHALL BE RAMPED INTO TRENCH AND COMPACTED WITH A SMALL DOZER OR OTHER, APPROVED METHODS. WHERE TRENCH IS WITHIN A 1:1 INFLUENCE OF STREETS, ALLEYS, SIDEWALKS, DRIVEWAYS AND PARKING AREAS, SAND BACKFILL SHALL BE USED WHICH SHALL CONSIST OF MDOT GRANULAR MATERIAL CLASS II OR III COMPACTED IN 6" LAYERS NOT TO EXCEED 12" TO A DENSITY OF 95% AS DETERMINED BY ASTM 199. ALL BACKFILL PLACED WITHIN A 1:1 INFLUENCE OF STRUCTURES SHALL BE APPROVED SAND, PLACED IN 1" LAYERS AND COMPACTED. NO FROZEN MATERIAL SHALL BE BURIED MORE THAN 4" BELOW THE FINAL ELEVATION OF THE GROUND.
TRENCHES WHICH ARE TO BE LEFT OPEN OVERNIGHT SHALL BE ENCLOSED WITH SUITABLE FENCING AND LIGHTED BARRICADES, UNLESS OTHERWISE APPROVED BY THE TOWNSHIP.
- SUMP PUMP LEAD REQUIREMENTS:**
ALL SUMP PUMP LEADS CONNECTED TO A DRAIN SHALL BE PRE-MANUFACTURED.
SUMP PUMP MAINS AND LEADS SHALL BE A SDR 35, NON-PERFORATED, SOLID WALL, PVC, ARMO TRUSS PIPE, OR APPROVED EQUAL, WITH PREMIUM JOINTS.
TAPS TO 12" STORM SEWER SHALL BE MADE WITH A FERROD EZ TAP OR APPROVED EQUAL.
TAPS TO OTHER SIZE STORM SEWER SHALL BE MADE WITH A ROMAC SADDLE, KOR-N-TEE LATERAL CONNECTOR FOR CONCRETE PIPE, OR APPROVED EQUAL.
ENDS OF ALL 4" SUMP PUMP LEADS SHALL BE TEMPORARILY CAPPED AND THEIR LOCATION STAKED, WITNESSED AND RECORDED.
ALL SUMP PUMP LEADS TO BE TAKEN TO THE PROPERTY LINE, EASEMENT LINE OR AS INDICATED ON THE PLAN.
SUMP PUMP CLEANOUTS SHALL BE A MINIMUM INSIDE DIAMETER OF 24" AND BE CONSTRUCTED AT CHANGES OF ALIGNMENT, ENDS OF SUMP PUMP MAINS OR AS INDICATED ON THE PLAN.
- RESTORATION REQUIREMENTS:**
ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS FOLLOWS, UNLESS OTHERWISE NOTED ON CONSTRUCTION DRAWINGS:
FINISH GRADE
PLACE 3" THICKNESS OF "QUALITY" TOPSOIL ACCEPTABLE TO THE ENGINEER.
APPLY SOD OR SEED AND FERTILIZER AS FOLLOWS:

LOCATION	SODDING/ SEEDING REQUIREMENTS	FERTILIZER REQUIREMENT
SLOPES & DITCH BANKS, ETC.	MDOT "ROADSIDE" MIX (50% PERENNIAL RYE, 15% KENTUCKY BLUE, 35% RED FESCUE) APPLIED AT 100 LBS/ACRE	240 LBS/ACRE OF CHEMICAL FERTILIZER NUTRIENTS IN EQUAL PROPORTIONS OF NITROGEN, PHOSPHORIC ACID AND POTASH. (MUST BE A SLOW-RELEASE FERTILIZATION)
OTHER AREAS	MDOT "CLASS A" MIX (30% PERENNIAL RYE, 30% KENTUCKY BLUE, 40% RED FESCUE) APPLIED AT 100 LBS/ACRE	240 LBS/ACRE OF CHEMICAL FERTILIZER NUTRIENTS IN EQUAL PROPORTIONS OF NITROGEN, PHOSPHORIC ACID AND POTASH. (MUST BE A SLOW-RELEASE FERTILIZATION)
DITCH BOTTOMS, SLOPES EXCEEDING 3:1, AND AT STRUCTURES	3" TOPSOIL WITH CLASS A SOD	

APPLY STRAW MULCH AT THE RATE OF 2-3 BALES/1000 SQUARE FEET.
THE CONTRACTOR SHALL BE RESPONSIBLE TO INSURE THE GROWTH OF ALL SEEDED AREAS, AND SHALL RE-SEED AS NECESSARY TO ACCOMPLISH THIS.

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CITY/TOWNSHIP: CHARTER TOWNSHIP OF SUPERIOR
COUNTY: WASHTENAW
RANGE: 18
SECTION: 36
TOWNSHIP: SUPERIOR

SCALE: H. NTS
VERTICAL: N/A
HORIZONTAL: N/A
JOB NO: 000-00-0000

DATE: OCT 2003
DATE: 01/25/22

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CHECKED BY:
PROJECT MGR: D KASSAB
APPROVED BY:

SHEET TITLE
DETAILS

SHEET NUMBER CT-603 **ISSUE**



HATCO MICHIGAN R&D CENTER
SUPERIOR TOWNSHIP, MICHIGAN

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	1	AREA PLAN	2021-10-27
	2	AREA PLAN AMENDMENT	2021-11-29
	3	PRELIMINARY SITE DESIGN	2022-01-26

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CONSULTANTS

SEAL



Greg K. Tanner
January 01/25/22

PRIME CONSULTANT

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Southfield MI 48033 USA
tel 248 336 8000 fax 248 936 8111
ibigroup.com

PROJECT

Hyundai STIL

6800 Geddes Rd Superior Charter Twp,
MI 48198

PROJECT NO:
134894

DRAWN BY:
D KASSAB

CHECKED BY:

PROJECT MGR:
D KASSAB

APPROVED BY:

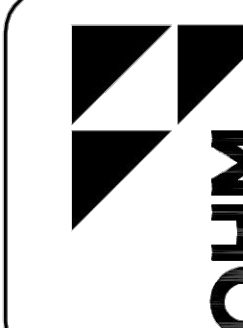
SHEET TITLE

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ISSUE



VERT DATUM
HORIZ DATUM
SCALE
H. INTS
CITY/TOWNSHIP/SECTION
COUNTY
RANGE
TOWN
SECTION
PROJ NUMBER
REG ARCH
DLS/DEL
CAD
DATE

000-00-0000

WWW.OHM-ADVISORS.COM

34000 Plymouth Road Livonia, MI 48150 P (734) 522-8711 F (734) 522-8427

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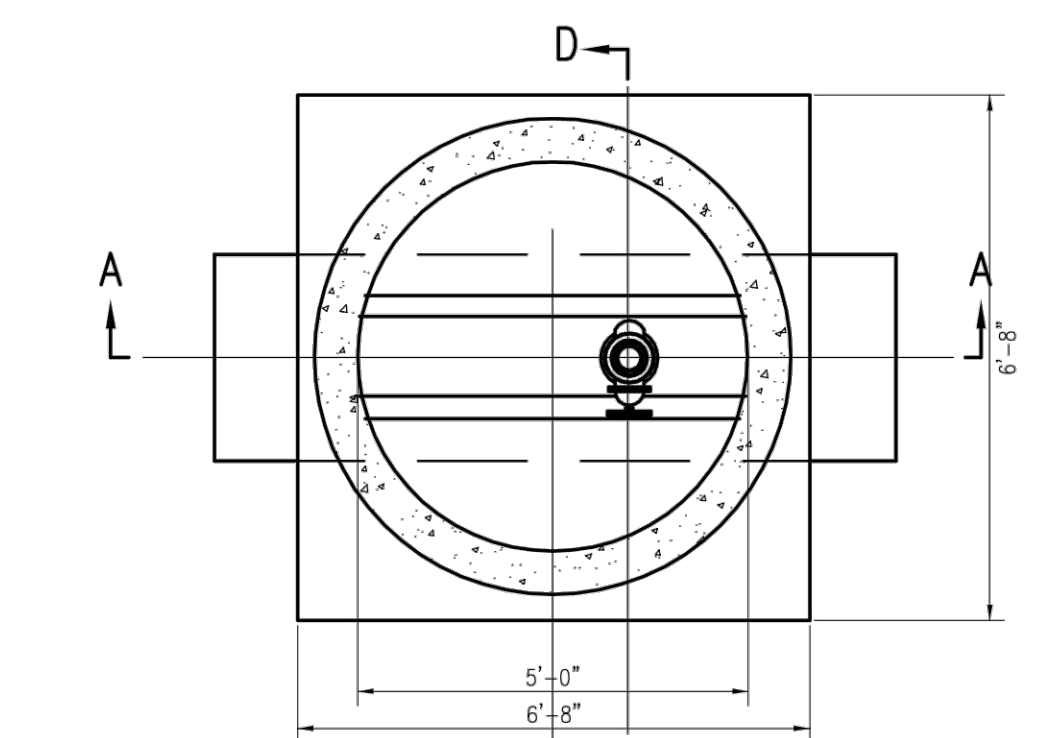
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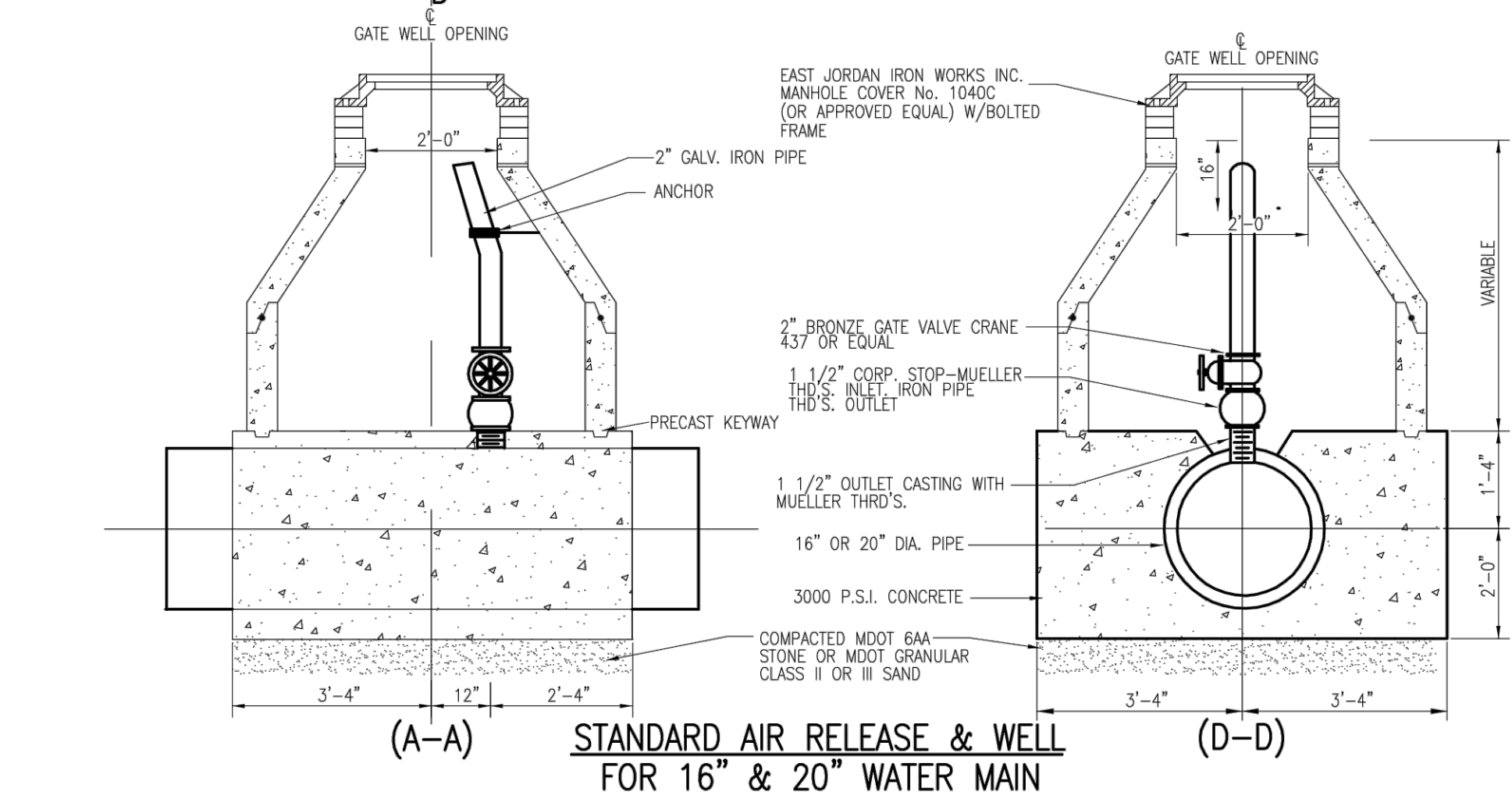
REVISIONS

CHARTER TOWNSHIP OF SUPERIOR

REVISIONS



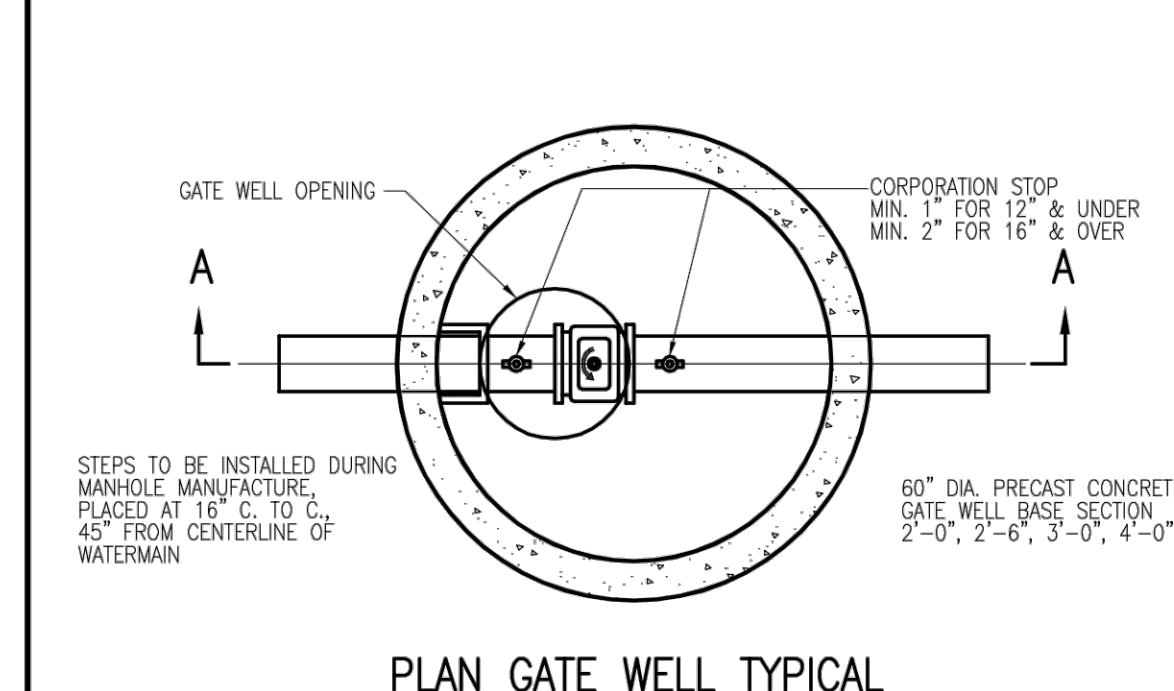
NOTES:
ALL AIR RELEASE WELLS SHALL BE PRECAST STRUCTURES.
ALL AIR RELEASE VALVES SHALL BE AUTOMATIC.



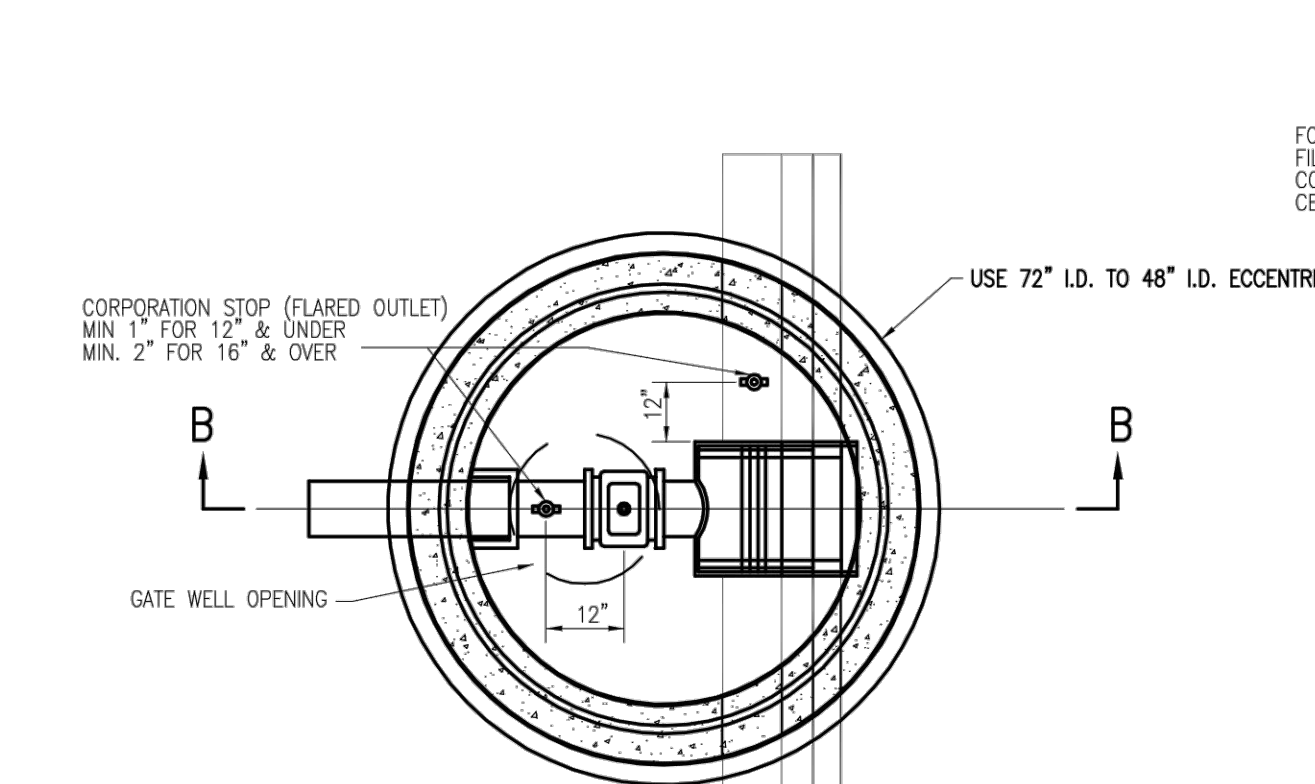
STANDARD AIR RELEASE & WELL FOR 16" & 20" WATER MAIN

WATER MAIN NOTES

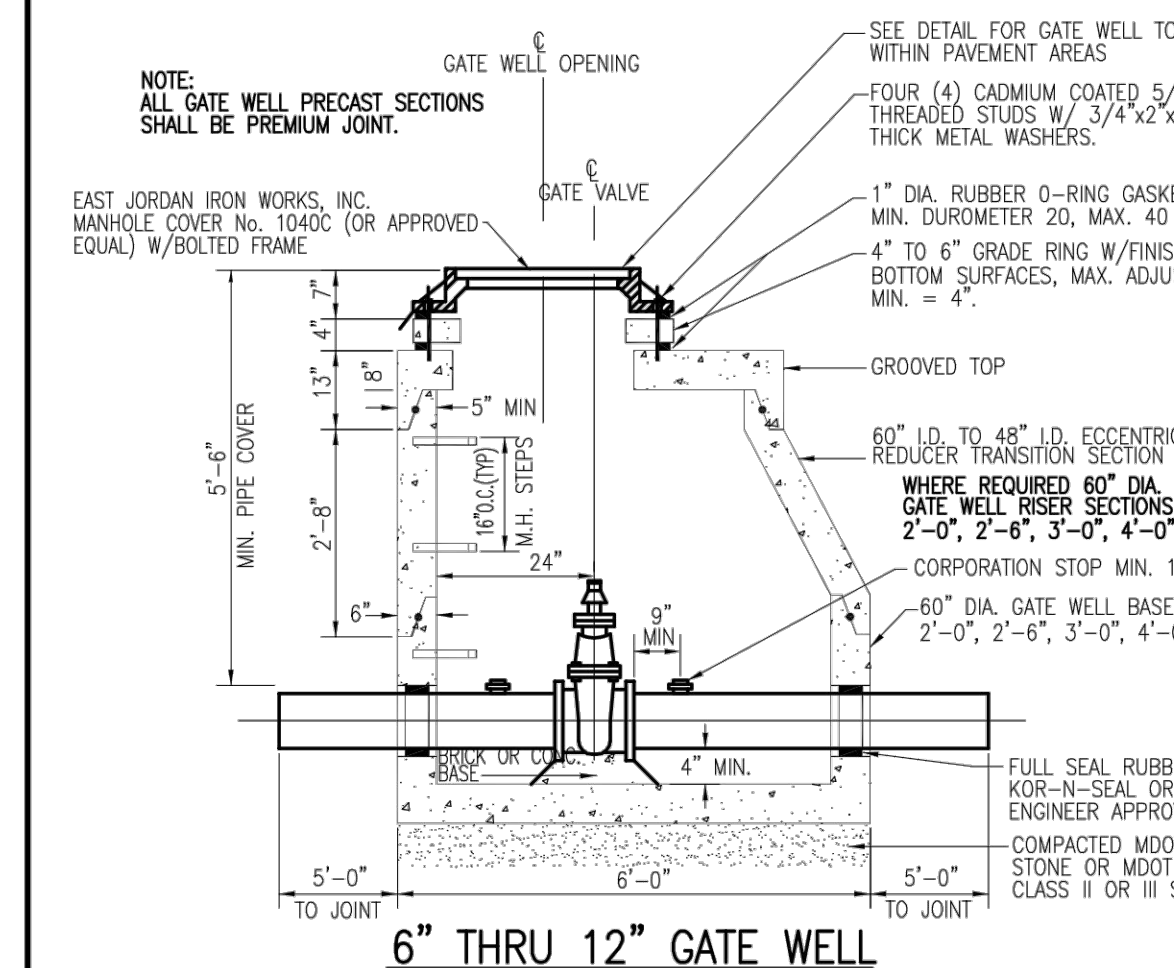
- All construction procedures and materials used on all water main projects shall conform to Ypsilanti Community Utilities Authority (Y.C.U.A.), Detroit Water System Department (D.W.S.D.), and The Charter Township of Superior current Standards and Specifications.
- All hydrants shall be Mueller A-425-Super-Centurion 250 or E.J.L.W. 5-Br Water Master and shall conform to AWWA current standards and shall have a 5 1/4" valve opening which closes with the water pressure. Hydrants shall be traffic style with breakable flange and coupling. Hydrants shall have a swivel flange to allow bonnet to be turned 360 degrees without removing the bonnet, and barrel flanges shall be integrally cast with the barrel. Inlet shoe shall have a bronze valve seat, which can be removed without digging. Inlet connection shall be 6" mechanical joint. ASA-A21-11. Stem threads shall be sealed with double "O" rings and shall be permanently lubricated with all weather grease. Hose connections: Two (2) 4 1/2" pumper nozzles facing the centerline of the road unless otherwise directed by the Township. Pumper connections shall have: National Standard Threads on one pumper connection (4 1/2" ID, 4 threads per inch, 5.389 minor dia, 5.761 major dia, 5.586 pitch dia) and Sizer Fitting on the other pumper connection (R.S. Manufacturing). Operating Nut: (1) 1 1/2" P-F pentagon, open left. Drain holes in hydrant shall be plugged and watertight. Hydrants shall be pointed red above the ground and black below. All hydrants shall be constructed with companion valve in a three piece adjustable cast iron valve box.
- All water mains shall be ductile iron as per the following specification. Ductile iron pipe shall be ANSI 1-A21.51 (AWWA-C151) std. wall thickness, cement lined with bituminous seal coat Class 54 for sizes 6" through 16" Class 55 for 24" pipe, pipe sizes larger than 24" in nominal diameter shall meet all the requirements of the current AWWA C100 for ductile iron pipe.
- Gate Valves shall be iron body, fully braze mounted, E.J.L.W. resilient wedge, non-rising stem, opening counterclockwise with 2" square operating nut conforming to Y.C.U.A. and D.W.S.D. specifications. All gate valves with operating nuts at a distance greater than 5' below ground surface shall be provided with an extension stem. The length of the extension shall be such that it will be within 5' of ground surface when an extension stem is used. It shall be held in place by two extension stem guide assemblies. Each assembly shall be comprised of a "J" bracket and "L" bracket supplied by E.J.L.W. The stem guides shall be located opposite from each other, and shall be suitably fastened to the wall of the gate well. In addition, a "stop" shall be welded to the extension stem in a location that will prevent the extension stem from slipping off the operating nut. Details of extension stem and method of installation shall be approved by the engineer prior to installation. All precast concrete gate well sections shall be manufactured to conform with ASTM C476, standard specifications for precast reinforced concrete manhole sections, except wall thickness, shall be shown on these details. All joints for precast concrete gate well sections shall be "modified grooved tongue" with gasket manufactured to conform with ASTM C443, standard specification for joints for circular concrete sewer and culvert pipe rubber gaskets. All gate well covers shall be E.J.L.W. #1040C with bolted frame and have words "Superior Township Water Main and Logo" in raised letters on the frame cover, or approved equal.
- Tapping sleeve shall be mechanical joint with DWS Mechanical Joint Tapping Gate Valve. Lead joint sleeves shall not be used.
- No installation of water main is to be attempted without Township's inspector being present. Unless otherwise specified on plans, top of all water mains shall be 5.5 ft. below existing or proposed road centerline, or 5.5 ft. below existing or proposed ground, whichever results in lower elevation. An 18" minimum vertical clearance between storm or sanitary sewer shall be maintained.
- Three (3) working days before you dig, dial MISS DIG at 1-800-482-7171.
- All required cross connection devices shall be installed as required by the local plumbing inspector and in accordance with the standards of the Michigan Department of Public Health.
- The design engineer shall furnish Superior Township with mylar "Record" water main plans along with a computer disk using the most recent release of AutoCAD, upon job completion. Plans shall locate all water mains, hydrants and gate valves and wells.
- Where work is to be performed in the vicinity of a Superior Township main, contractor shall notify the Superior Township Utility Department at (734) 480-3500 at least 3 working days prior to start of construction as well as township engineer to schedule inspection.
- All pipe and all pipe fittings shall be made in the U.S.A.
- All bolts on all flanged and mechanical joint fittings shall be domestic origin high strength, low alloy COR-BLUE steel bolts or approved equal. These bolts shall meet the current provisions of American National Standard ANSI/AWWA C111/A21.11-90 for rubber gasket joints for ductile iron pressure pipes and fittings. Bolt manufacturer's certificate of compliance must accompany each shipment.
- BACKFILL NOTE: Under road surfaces, pavement, sidewalk, curb, driveways and where the edge of the trench is within 3 (three) feet of the pavement or as called for on the plans, the trench depth shall be 4 (four) inches lower than the proposed water main elevation. The trench width shall be the outside diameter plus 16 (sixteen) inches for pipe diameters up to 36 (thirty-six) inches and larger. The trench shall be backfilled by placing granular material by the "controlled Density Method" or other means having approval of the engineer and compacting it to 95 (ninety-five) percent of its maximum unit weight.
- "Mega Lugs," "Field Lock Gaskets," or a mechanical joint restraint system shall be used instead of concrete thrust blocks for joint restraint.
- All bolts used in securing fittings to the water main shall be "COR-BLUE" bolts or approved equal.
- All buried bolts, nuts and washers shall be "COR-BLUE" or equivalent and poly-wrapped.
- Like size to like size tapping sleeves shall not be used with transite pipe.
- Where water main is located under pavement, the Township shall not be responsible for repaving pavement within the easement in the event that maintenance or repairs to the water main become necessary.
- Mechanical and slip-on joints for ductile iron shall be in accordance with AWWA C111 (ANSI A21.11).
- All fire hydrant joints shall be totally restrained by use of "Mega Lugs" or other approved restrained joint.
- Fittings for ductile iron pipe shall be ductile iron or cast iron and shall meet requirements of AWWA C110 (ANSI A21.10) or AWWA C153 (ANSI A21.53). Ductile iron fittings shall be rated for 350 psi, pipe 24" diameter and less and 250 psi for pipe sizes over 24" diameter, except that ductile iron flanged fitting shall be rated for 250 psi for all pipe diameters.
- Manhole steps shall be steel encased with polypropylene plastic or approved equivalent to M.A. Industries, Inc., PS-1 for brick or PS-18 for block, East Jordan Iron Works 8502 (or approved equal). Manhole steps at 16" centers.
- Maximum joint deflection and water main radius shall not exceed manufacturer recommendations (e.g. 4"-36" WM - 5' per 20' or 206" radius).



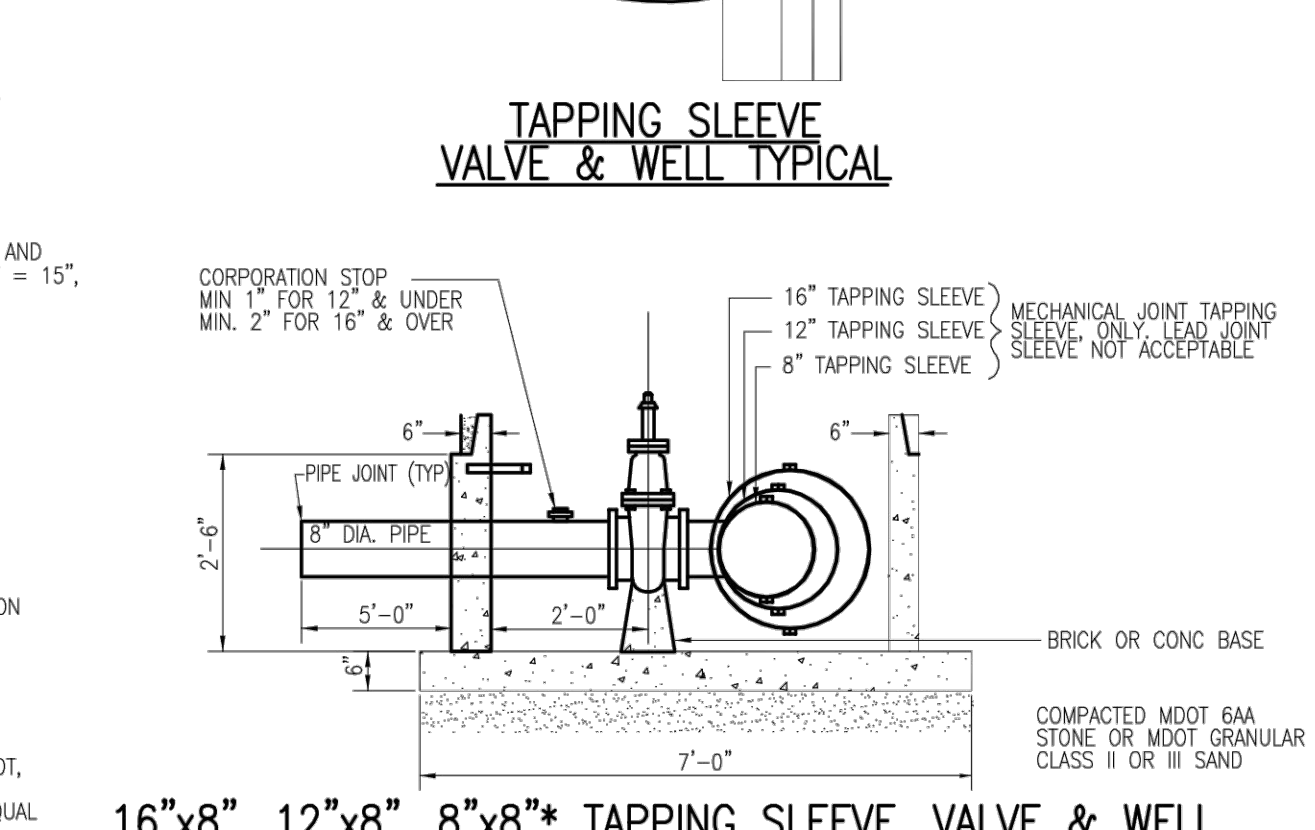
PLAN GATE WELL TYPICAL



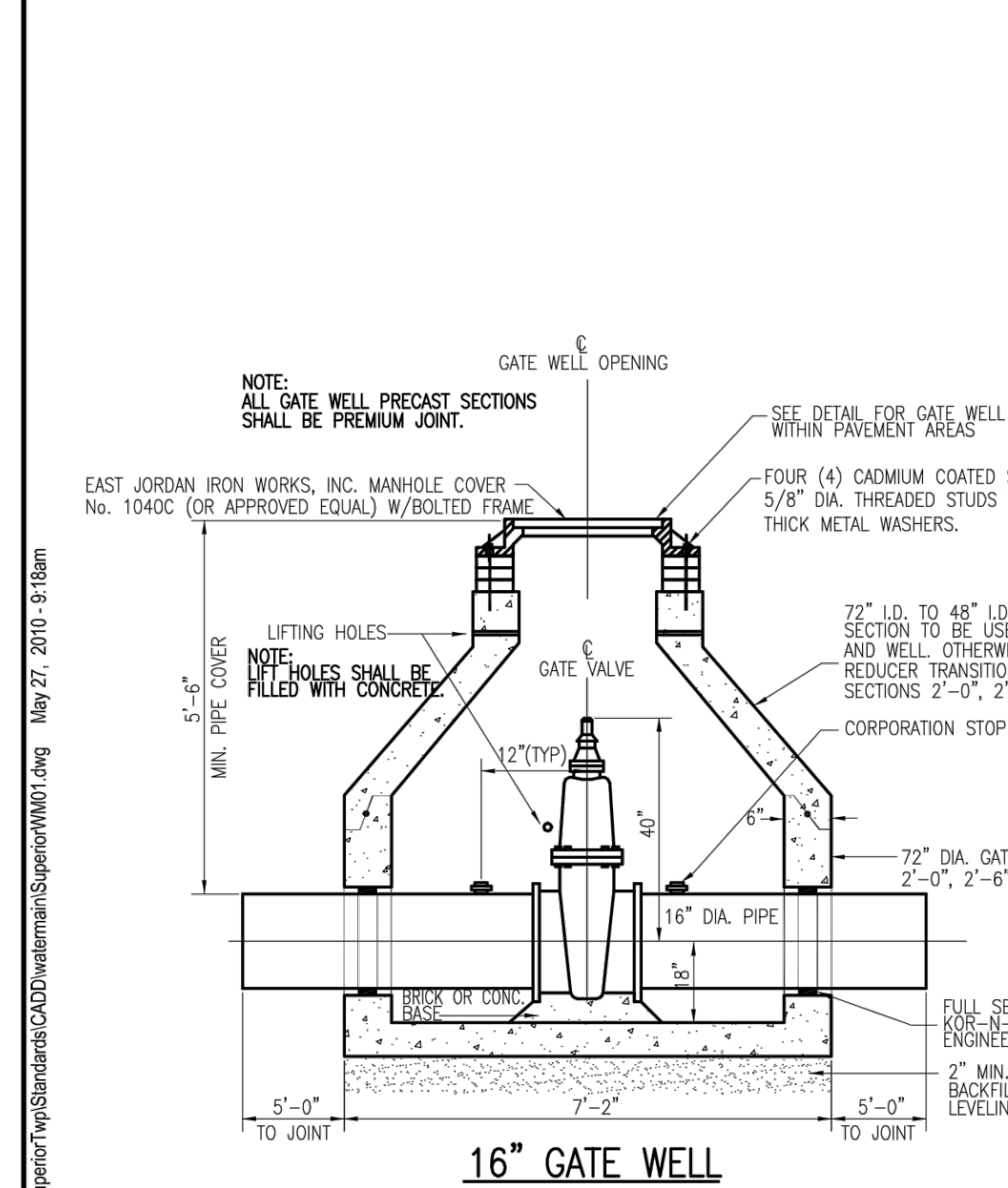
TAPPING SLEEVE VALVE & WELL TYPICAL



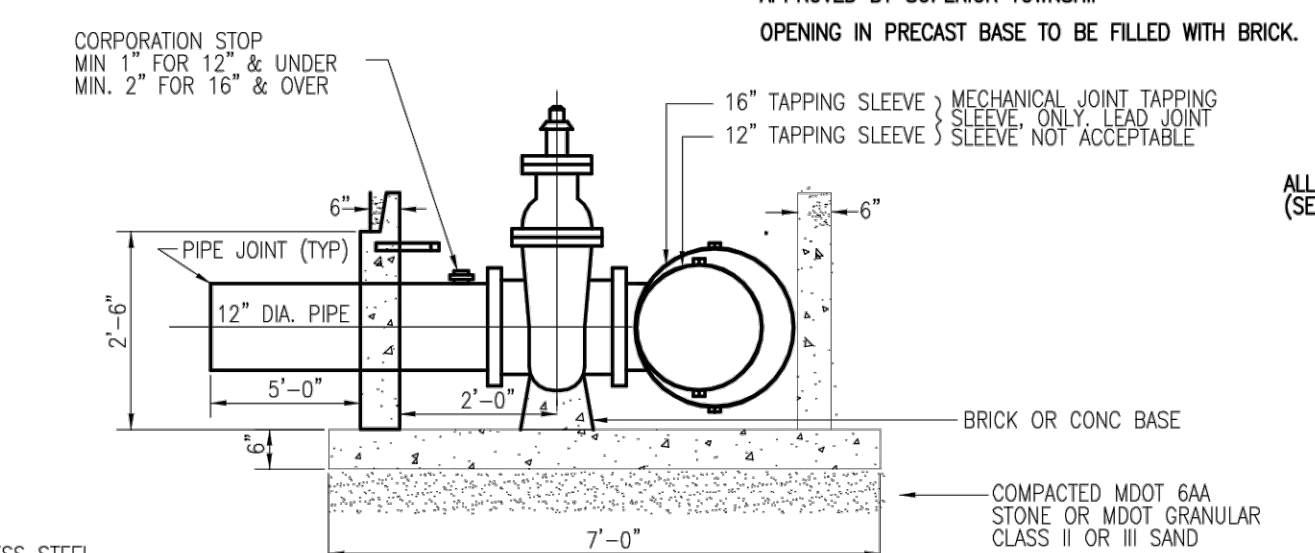
6" THRU 12" GATE WELL



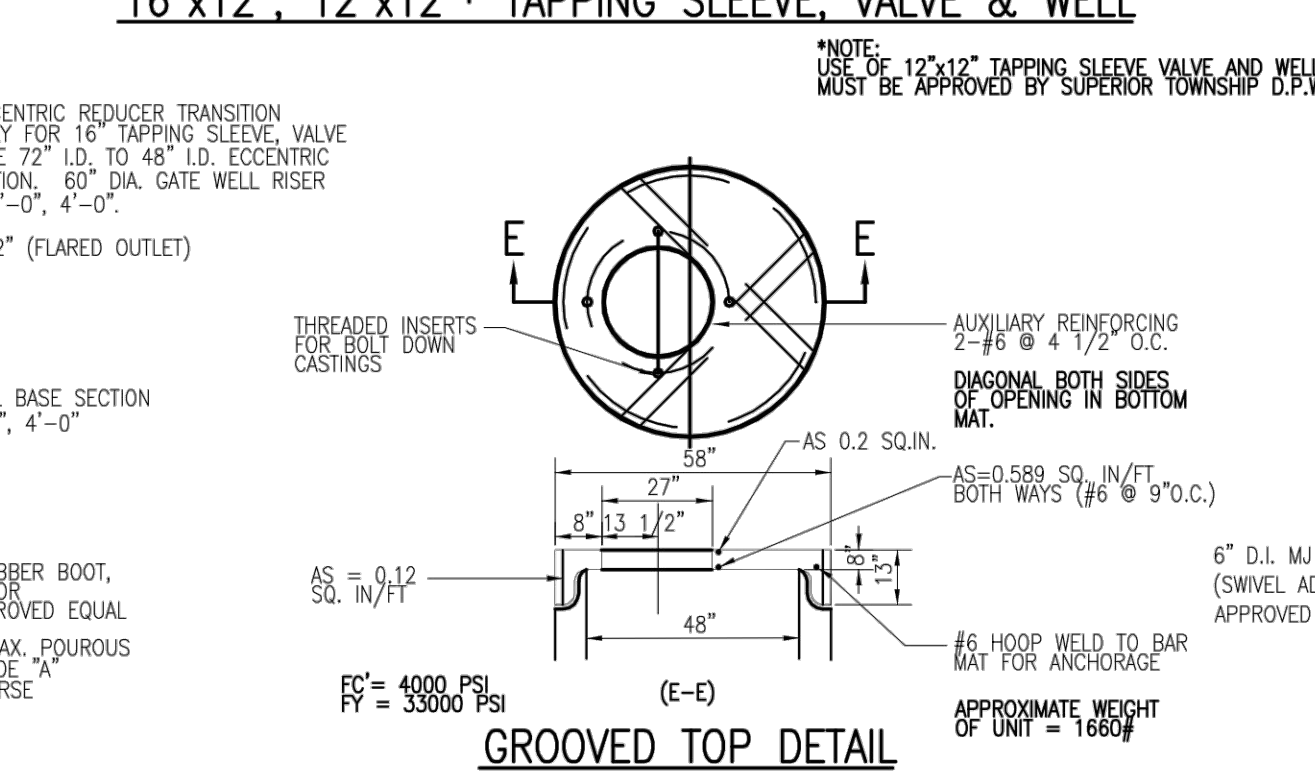
16"x8", 12"x8", 8"x8" TAPPING SLEEVE, VALVE & WELL



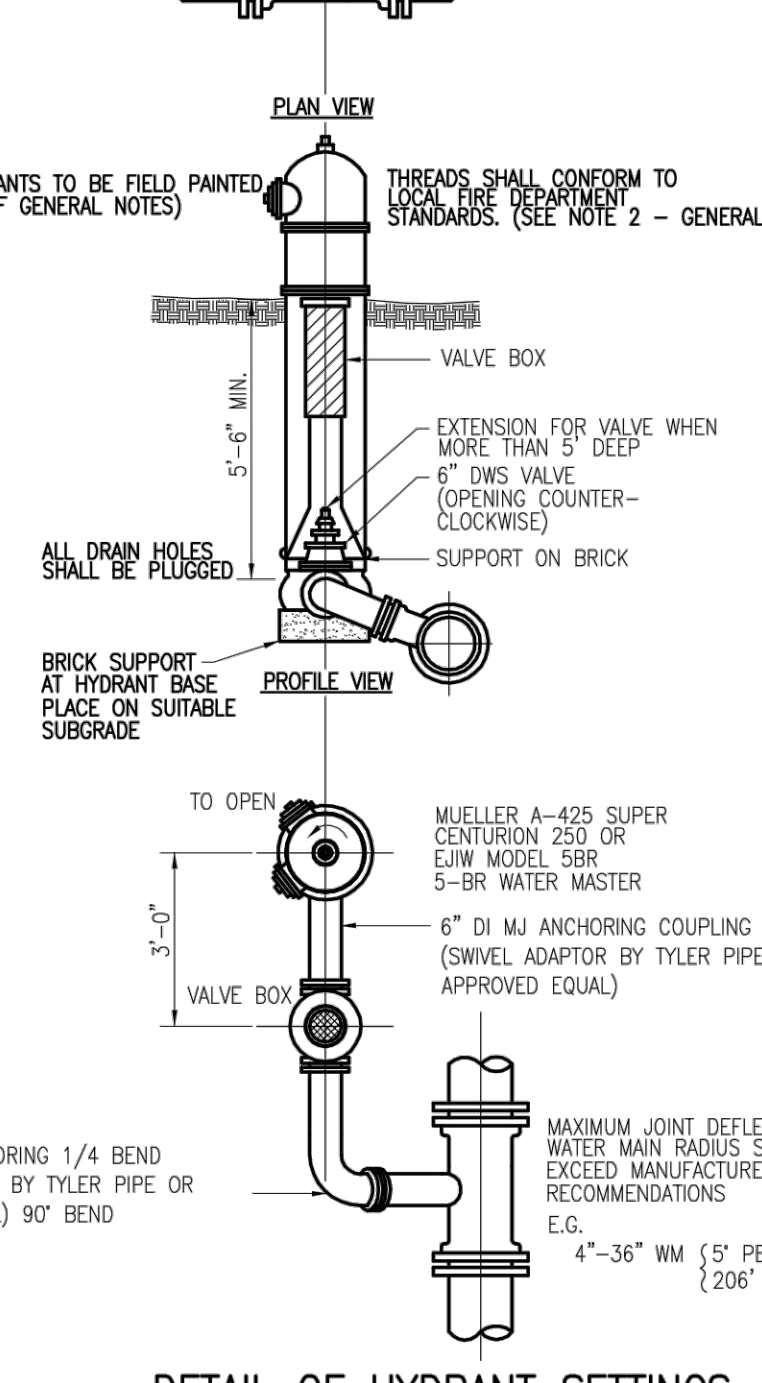
16" GATE WELL



16"x12", 12"x12" TAPPING SLEEVE, VALVE & WELL



GROOVED TOP DETAIL



DETAIL OF HYDRANT SETTINGS

DRAWING PATH: S:\CIVIL\spec\wps\standards\CAD\watermain\Superior\WMO1.dwg May 27, 2016 9:18am

SHEET 1 OF 2



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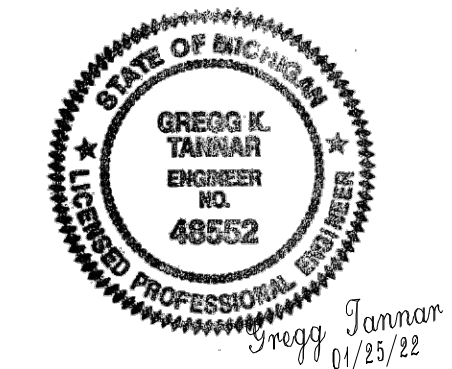
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 ibigroup.com

PROJECT
Hyundai STIL
 6800 Geddes Rd Superior Charter Twp,
 MI 48198

PROJECT NO:
134894

DRAWN BY: **D KASSAB** CHECKED BY:

PROJECT MGR: **D KASSAB** APPROVED BY:

SHEET TITLE
DETAILS

SHEET NUMBER
CT-605

ISSUE

OHM

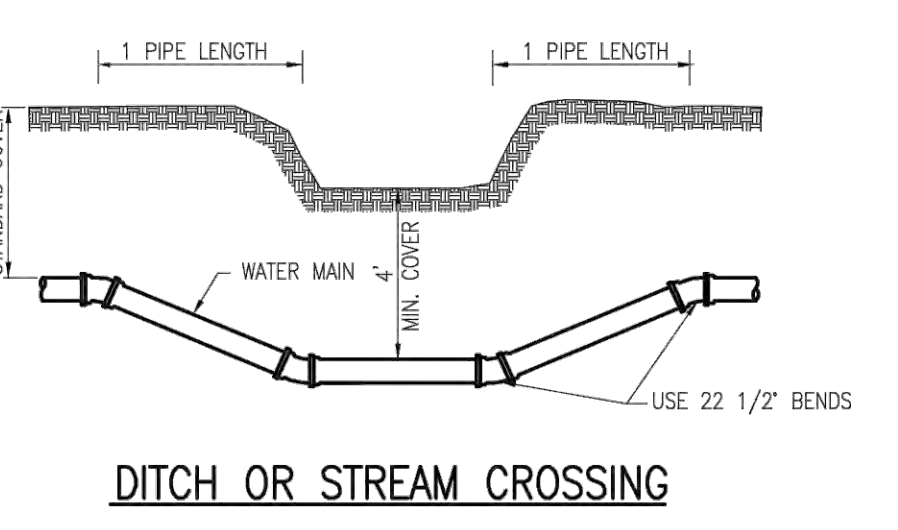
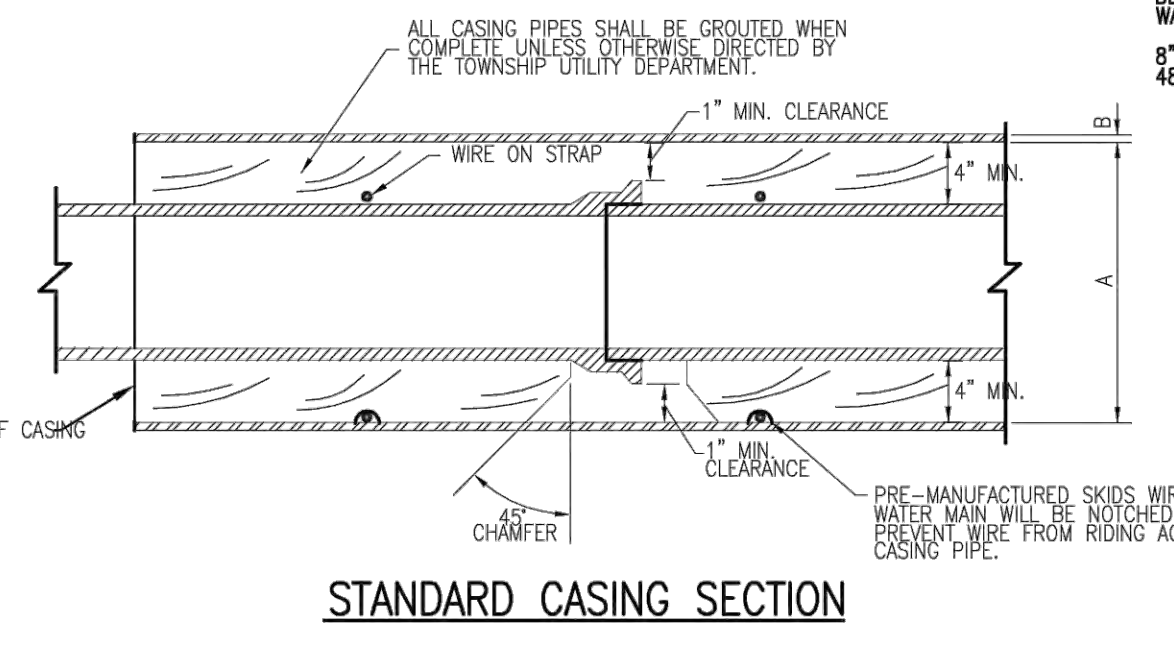
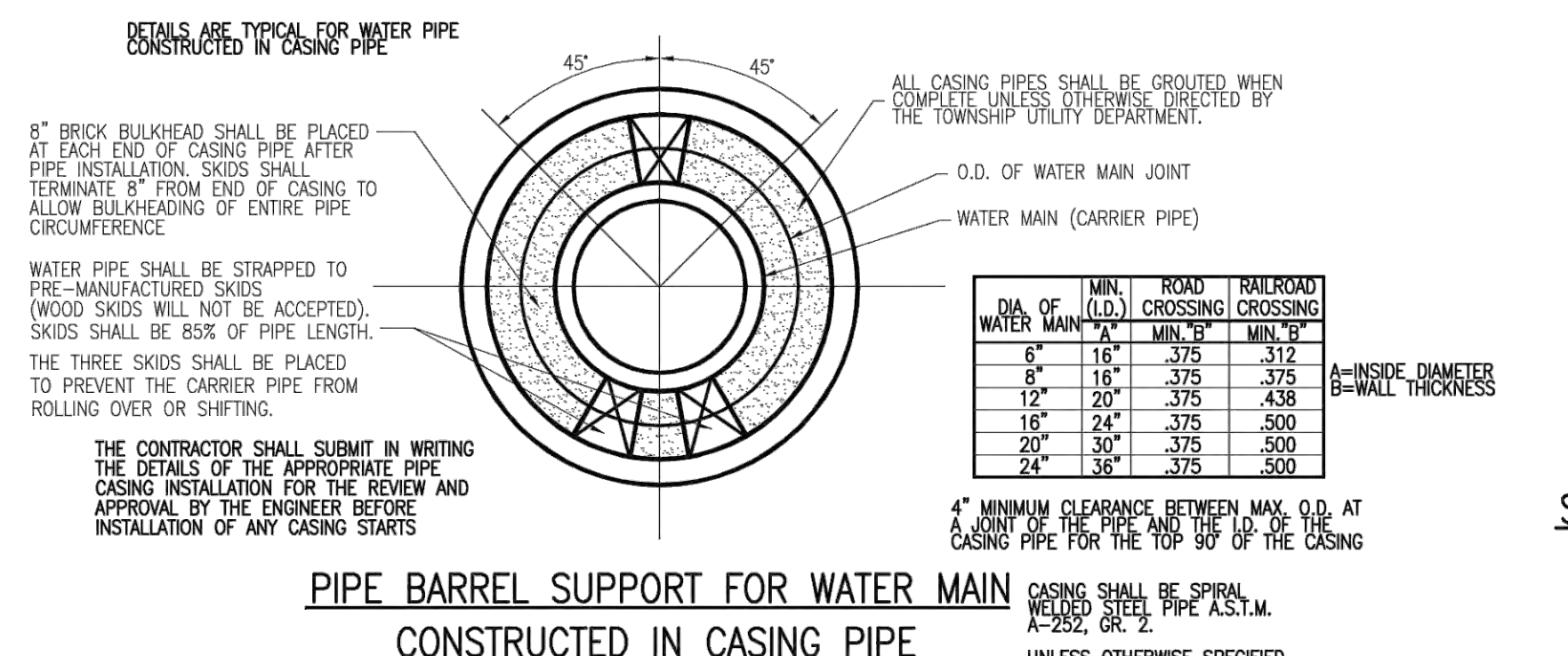
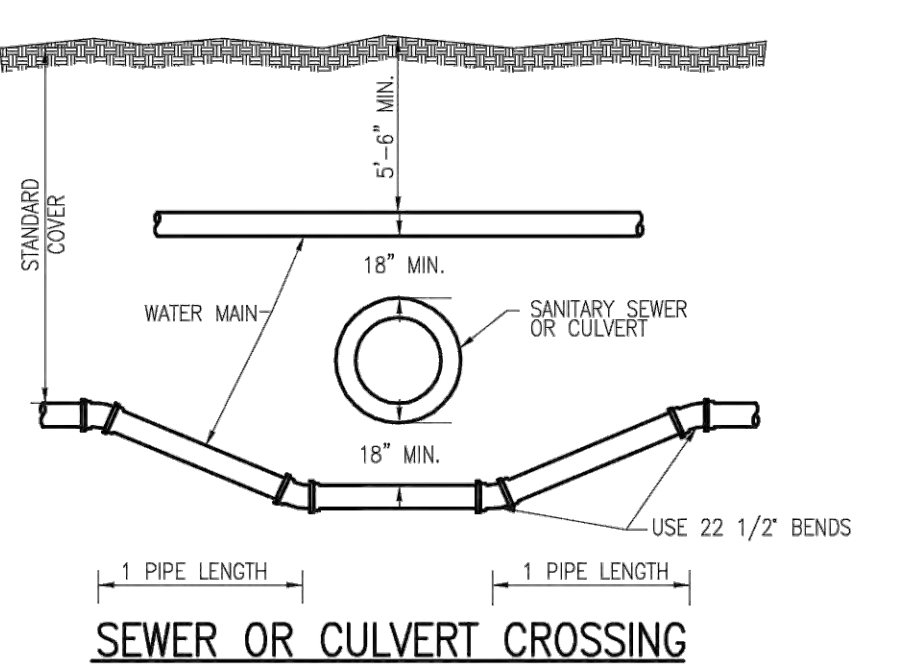
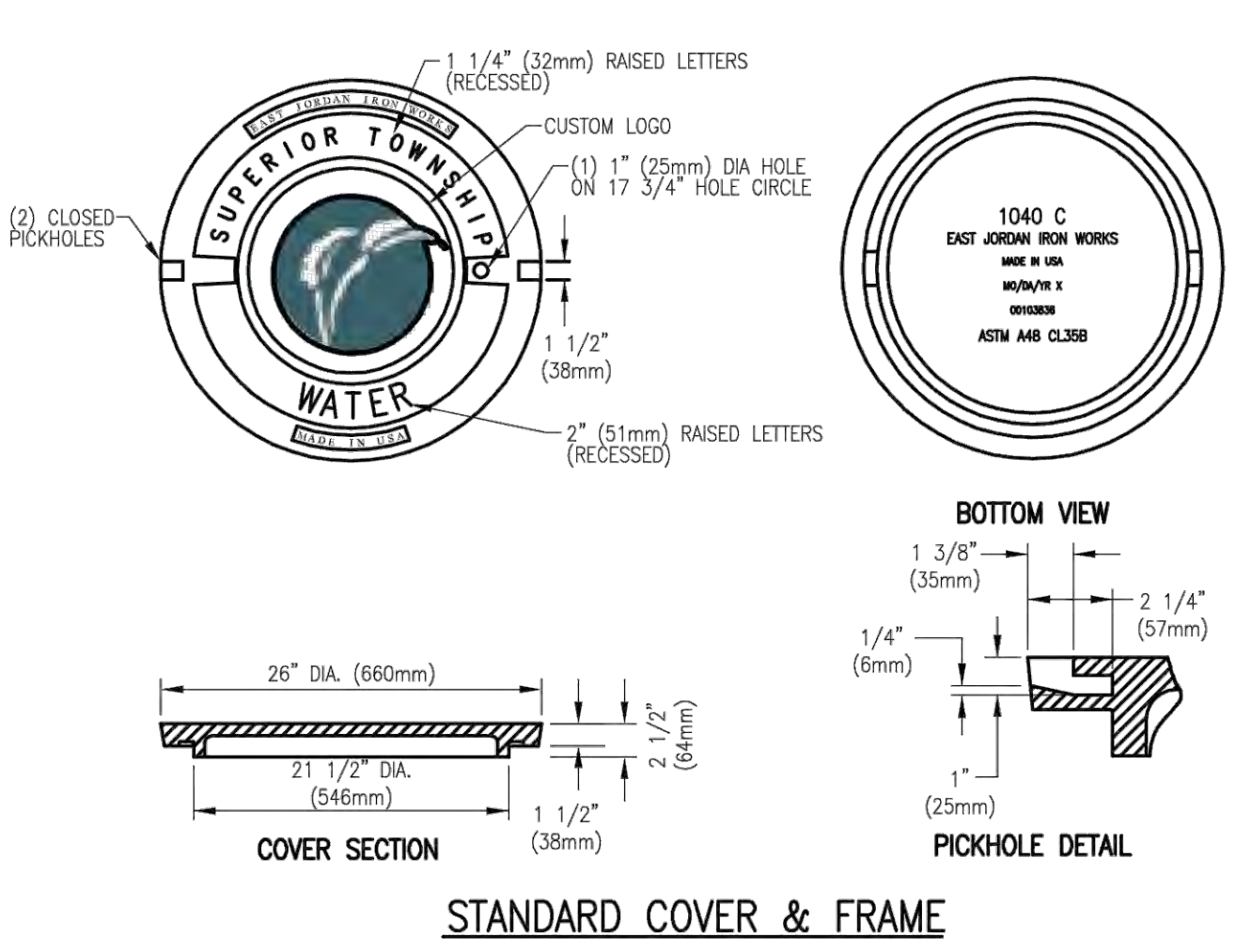
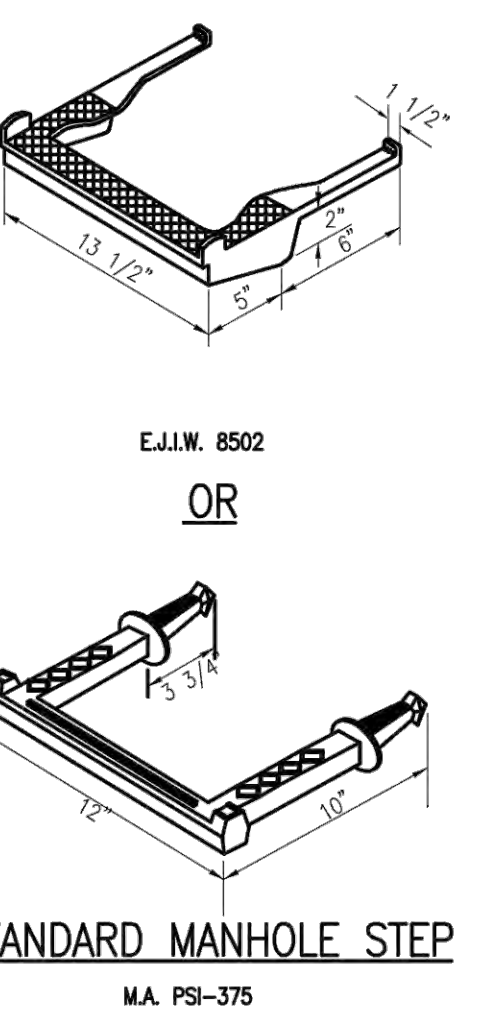
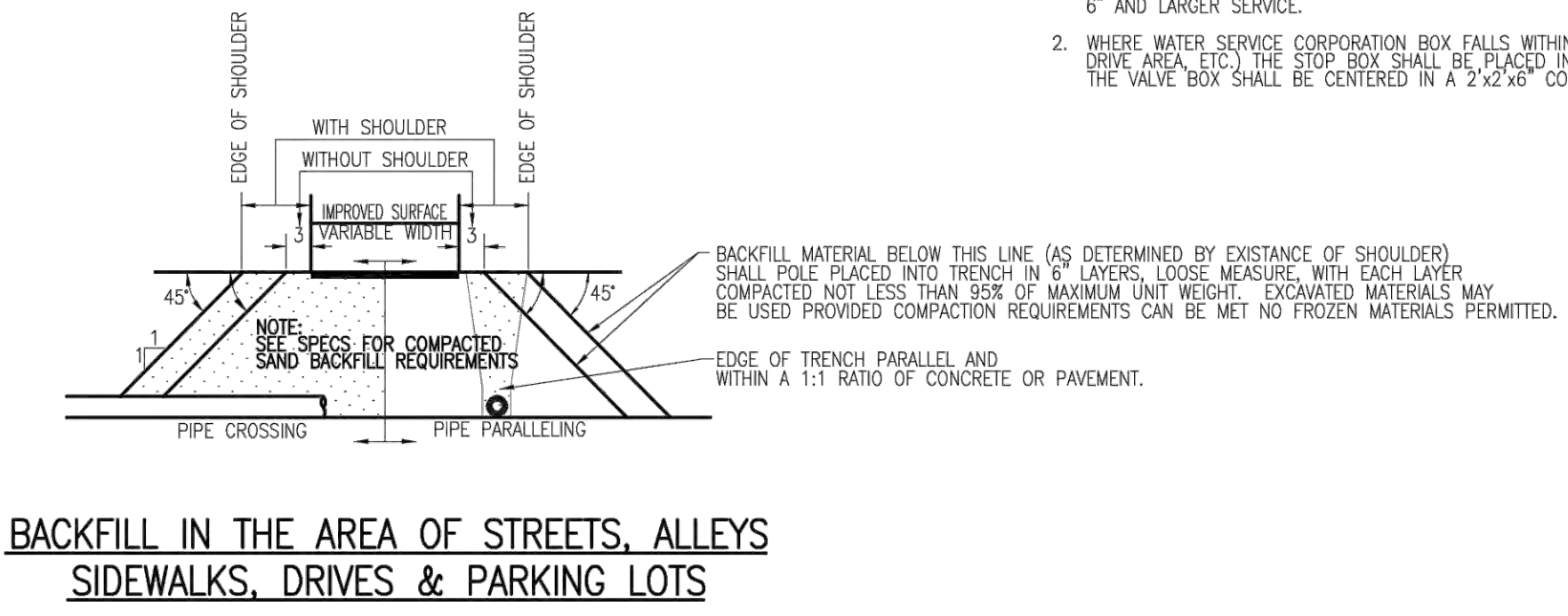
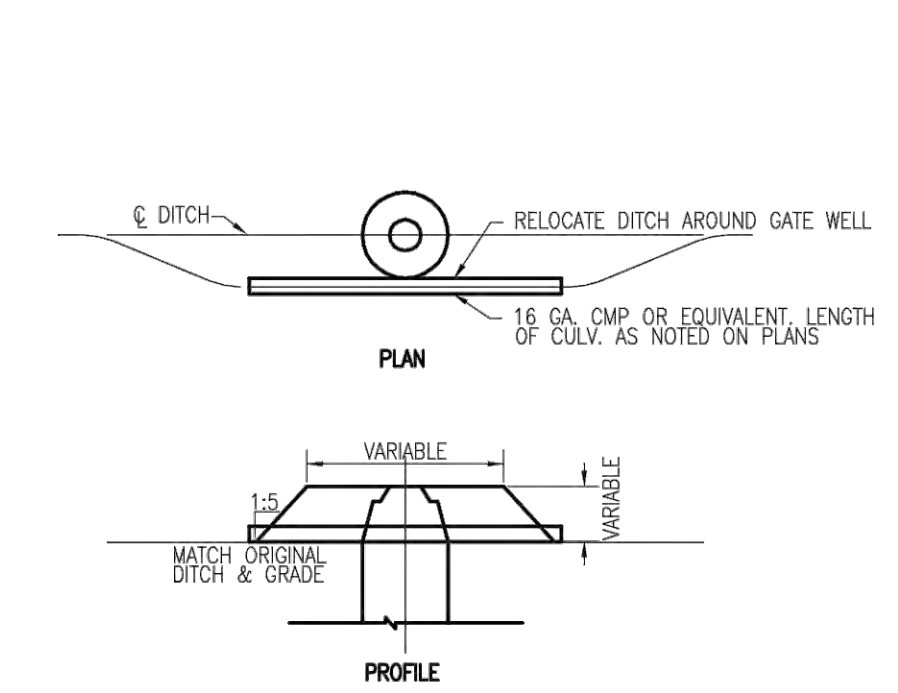
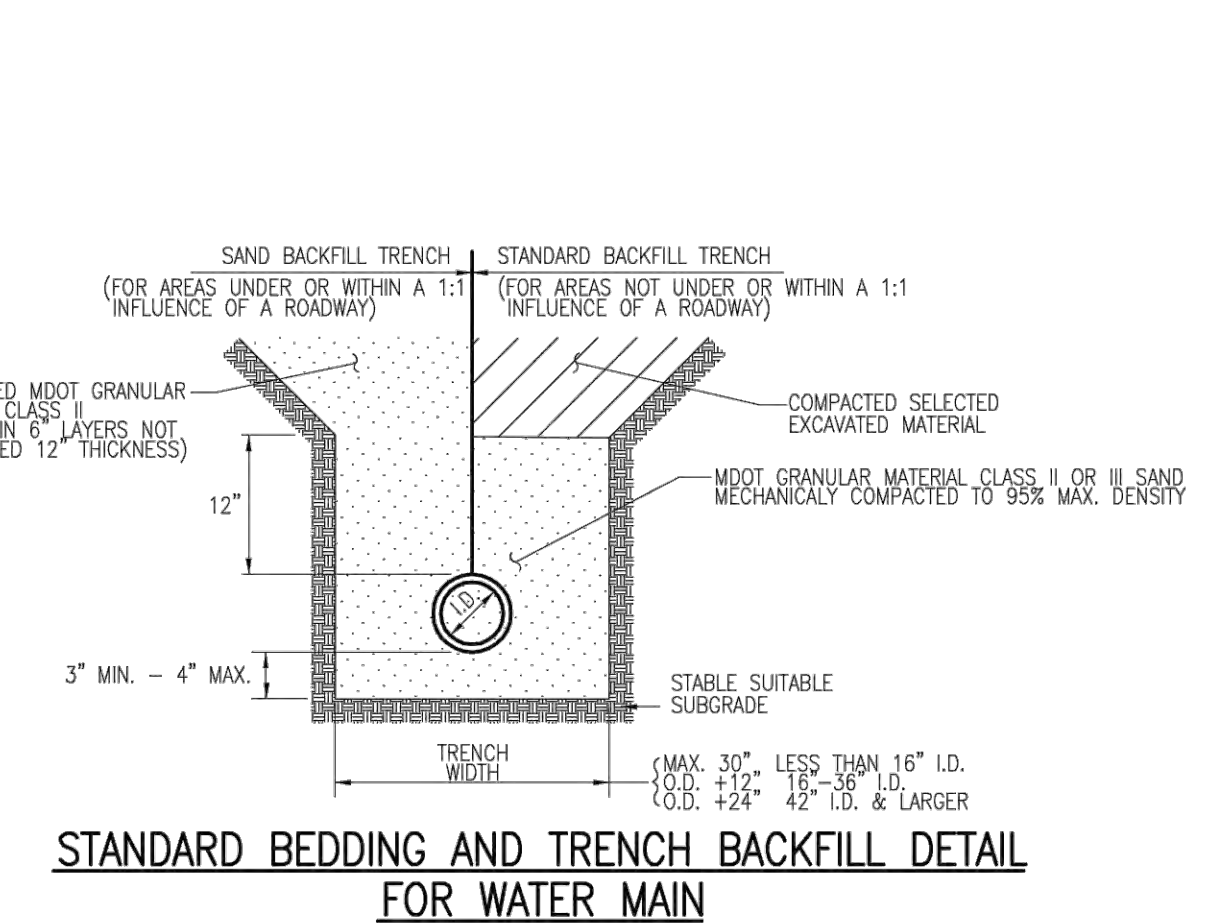
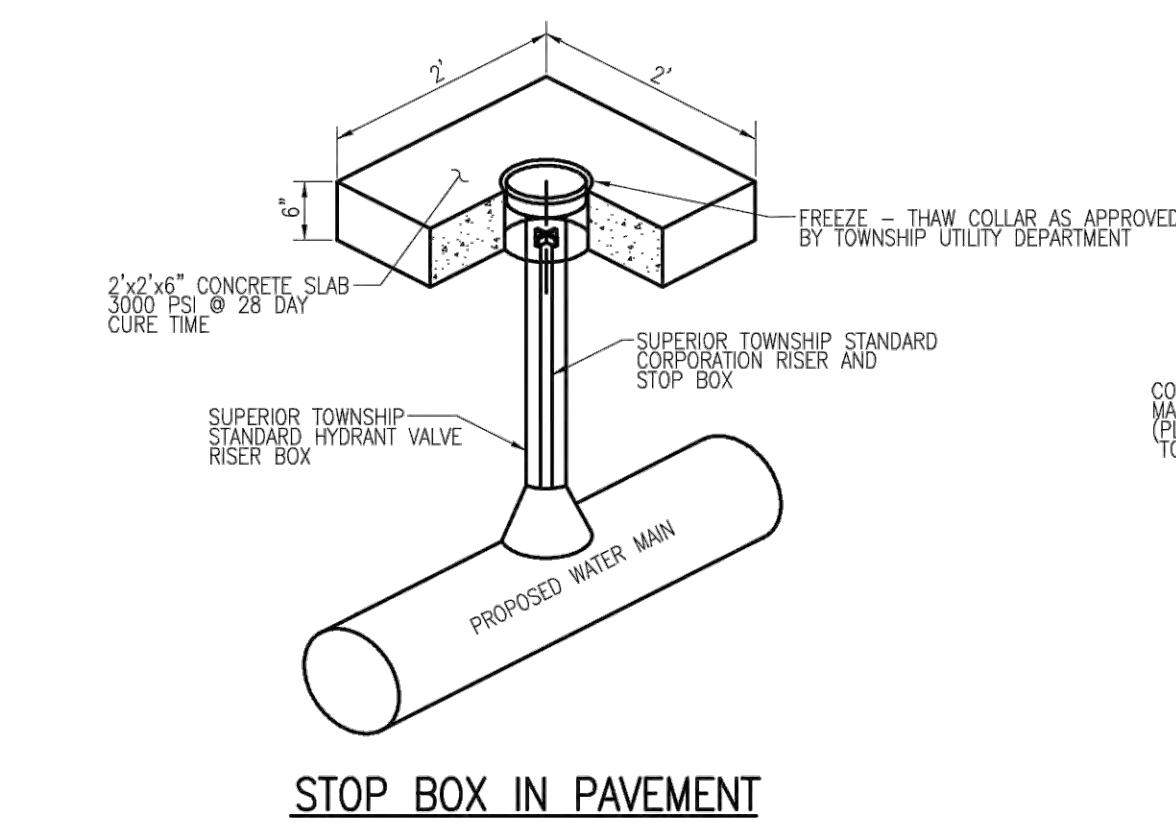
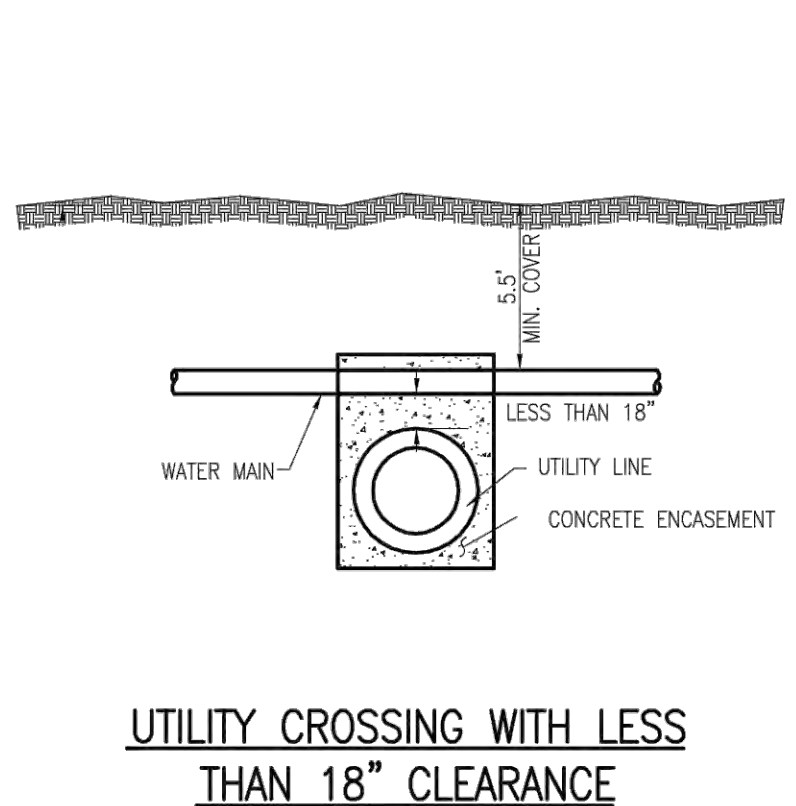
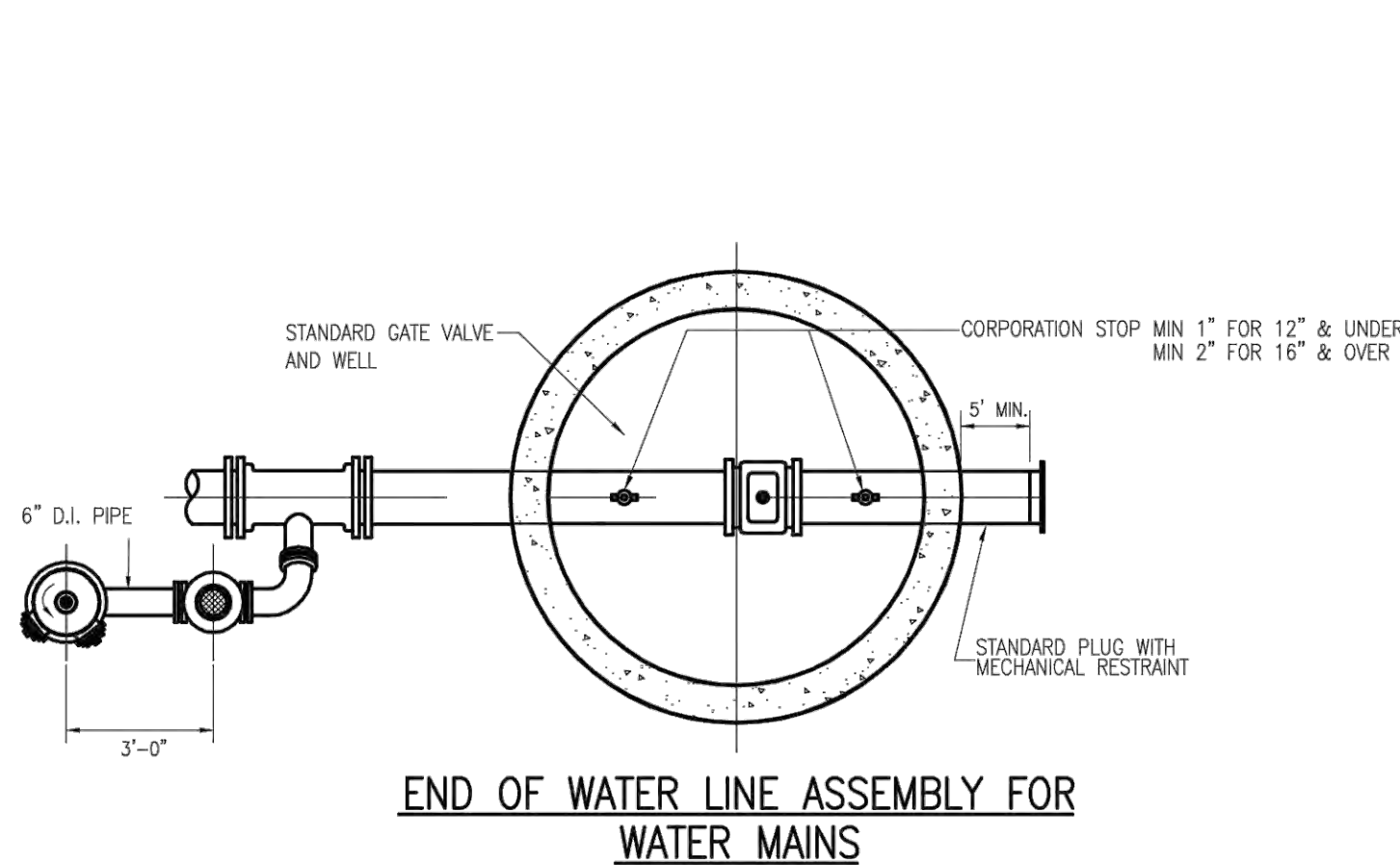
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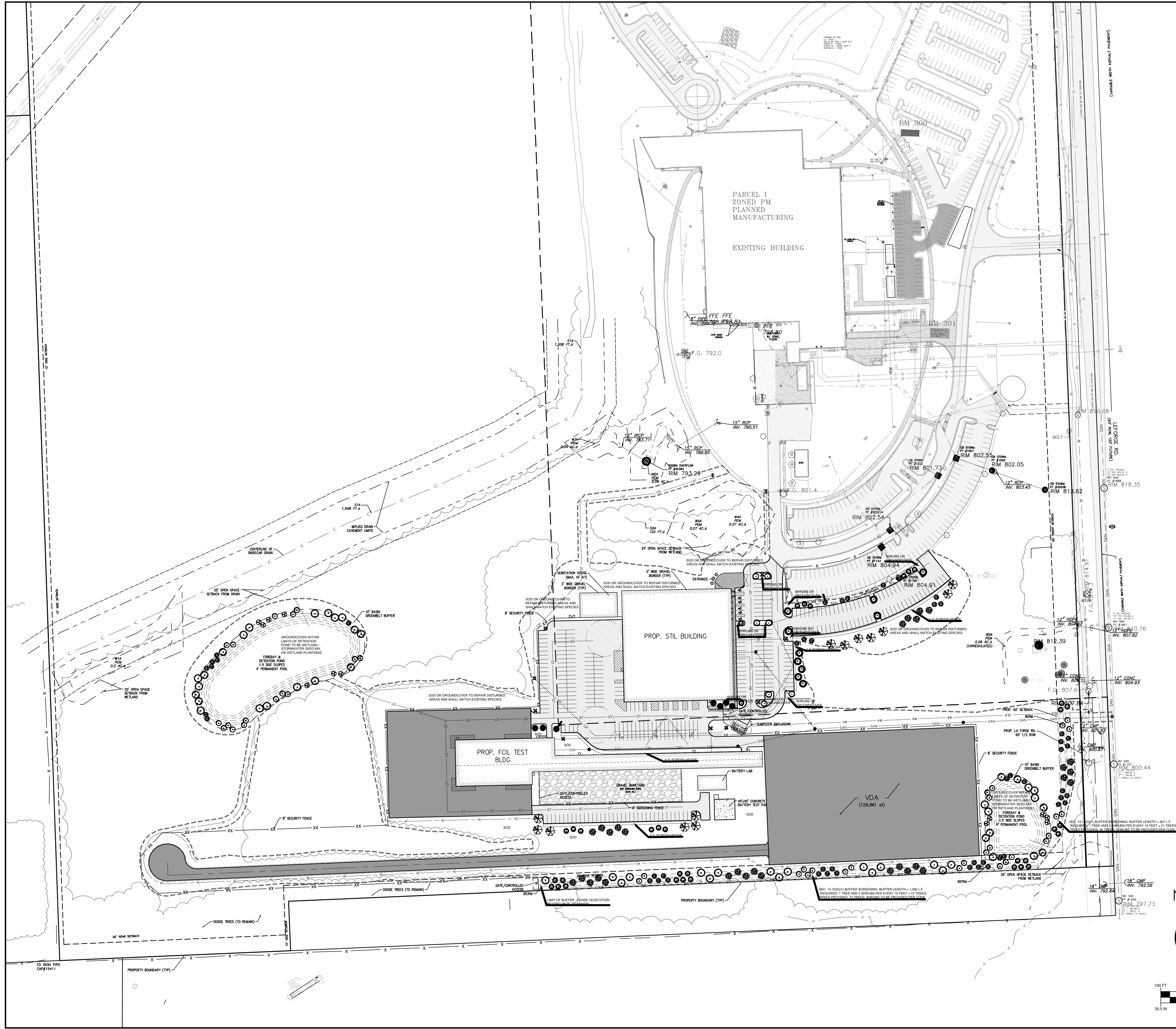
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CHARTER TOWNSHIP OF SUPERIOR STANDARD WATER MAIN DETAILS

SHEET 2 OF 2



DRAWING PATH: S:\C\T\Superior\wp\Standards\CAD\watermain\Superior\W02.dwg May 27, 2010 - 9:23am



PARKING, BUFFER AND SITE - TREE LEGEND

- Quercus rubra / Northern Red Oak
- Acer rubrum / Red Maple
- Picea abies / Norway Spruce
- Picea glauca / White Spruce
- Carpinus betulis "Columnaris" / European Hornbeam
- Betula nigra / Riverbirch (multi-trunk)
- Quercus bicolor / Swamp Oak
- Betula nigra / Riverbirch (single trunk)
- Amelanchier laevis / Serviceberry
- Ilex glabra / Inkberry (accent shrub)

DETENTION BASIN TREE LEGEND

- Quercus bicolor / Swamp Oak
- Betula nigra / Riverbirch
- Celtis occidentalis / Hackberry
- Crataegus phaenopyrum / Washington Hawthorn
- Amelanchier laevis / Serviceberry

TRUE NORTH PLANT NORTH

HORIZONTAL SCALE

1 inch = 100 feet (30"x42")

WHEN DIGGING OR WORKING NEAR OVERHEAD ELECTRIC WIRES IN MICHIGAN, CALL MISS DIG 3 WORKING DAYS BEFORE STARTING YOUR PROJECT 1-800-482-7171 (TOLL FREE)

CLIENT

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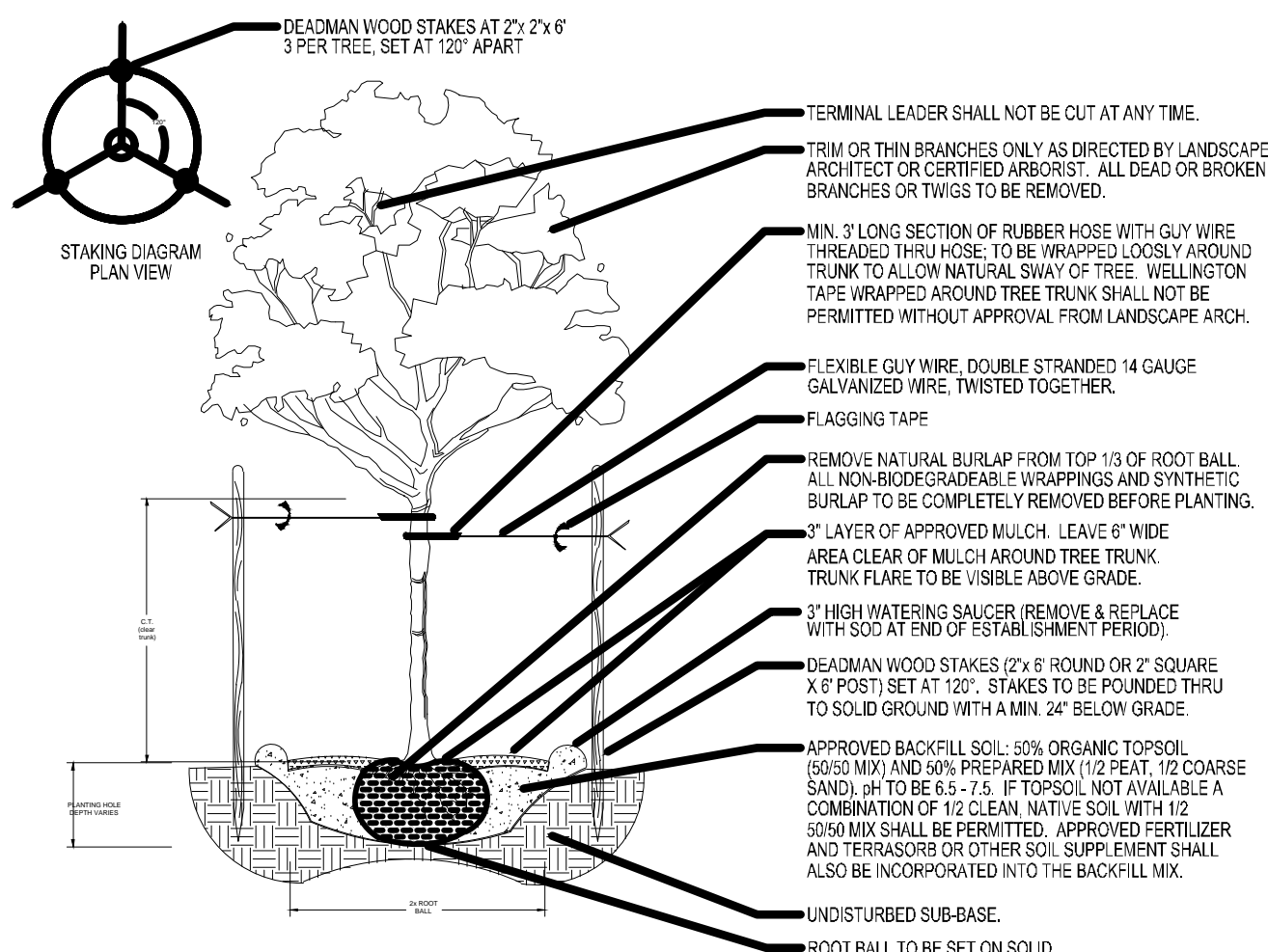
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PRELIMINARY LANDSCAPE PLAN

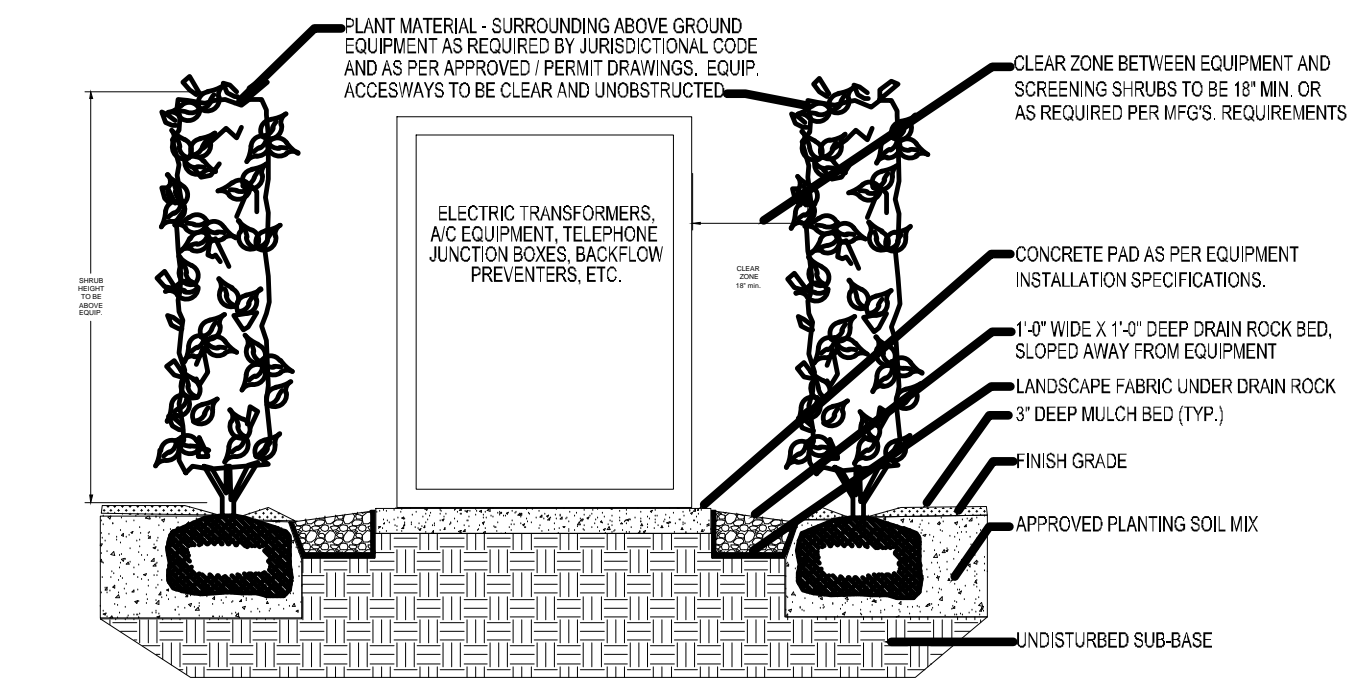
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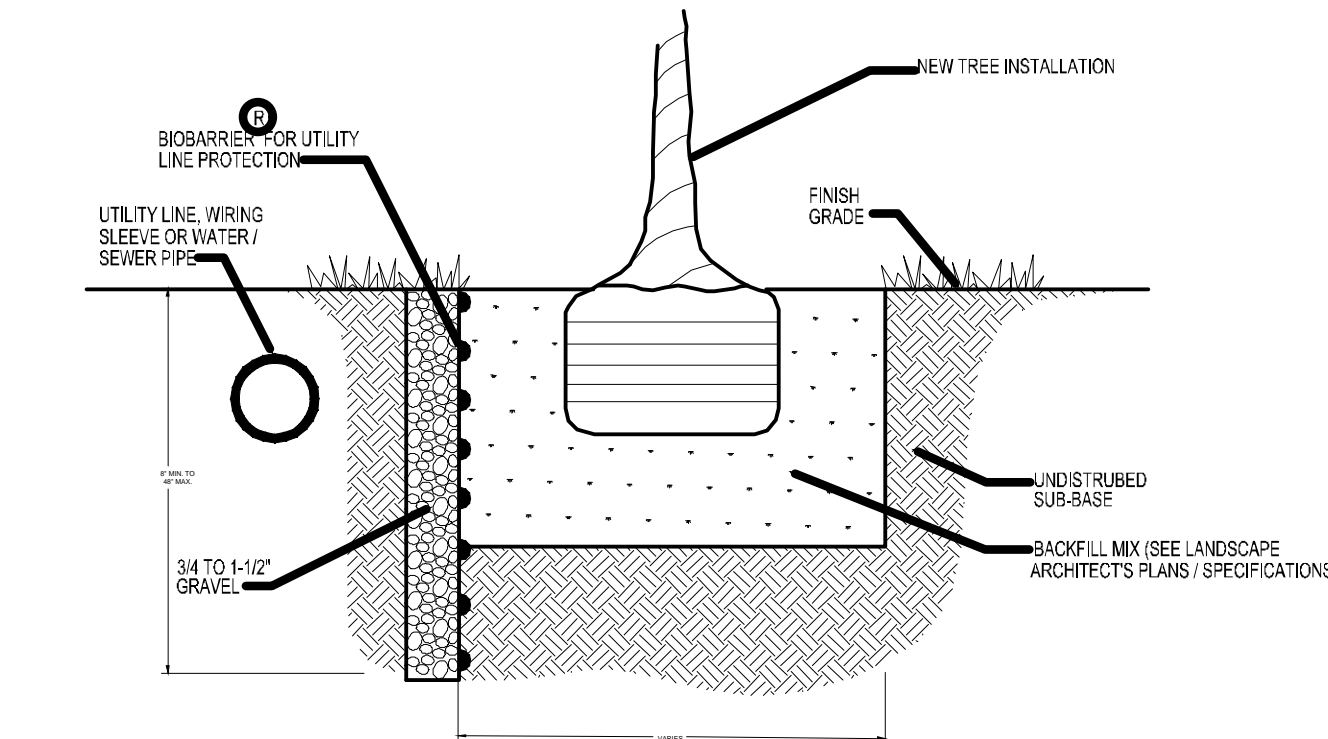
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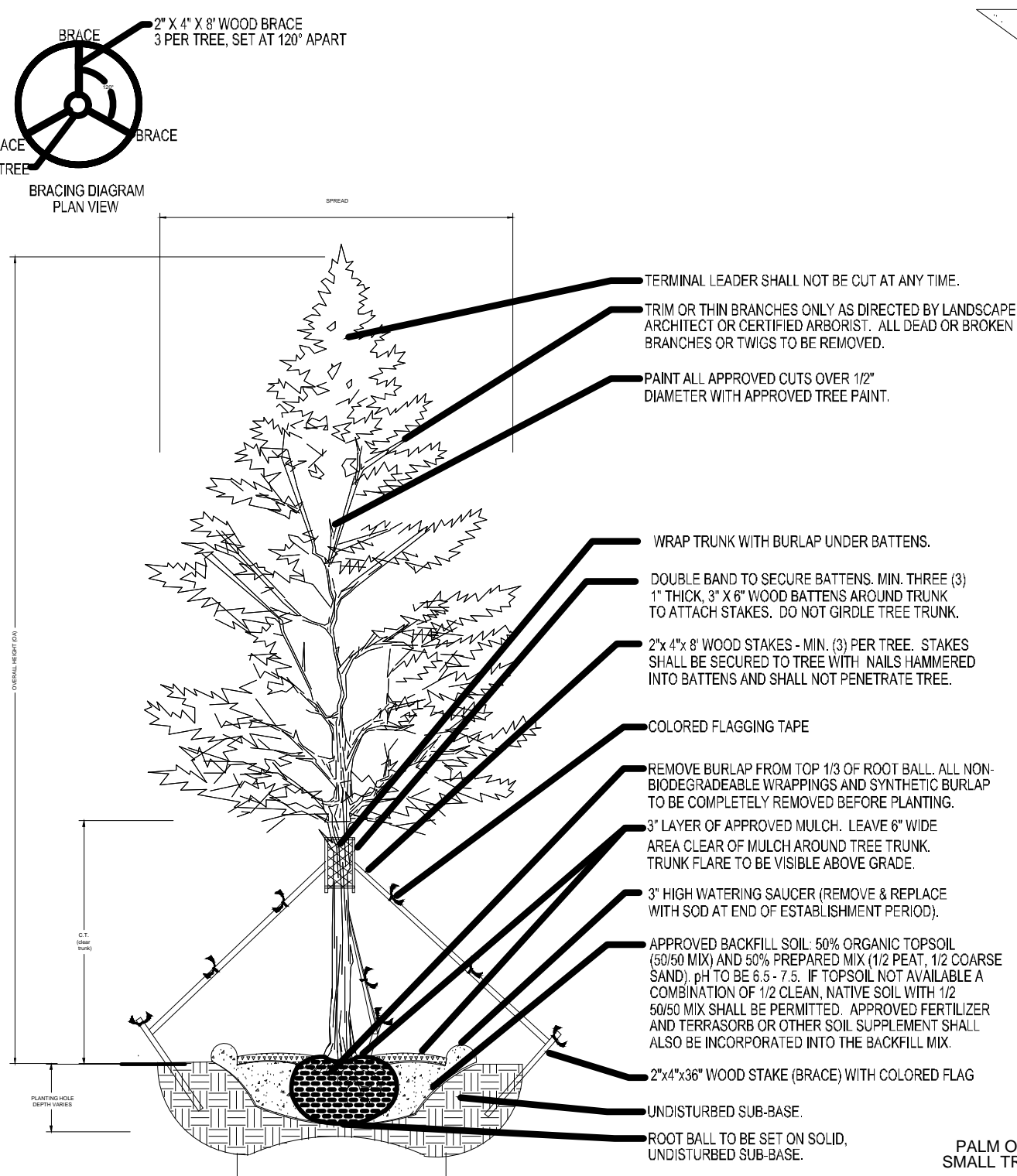
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not to scale



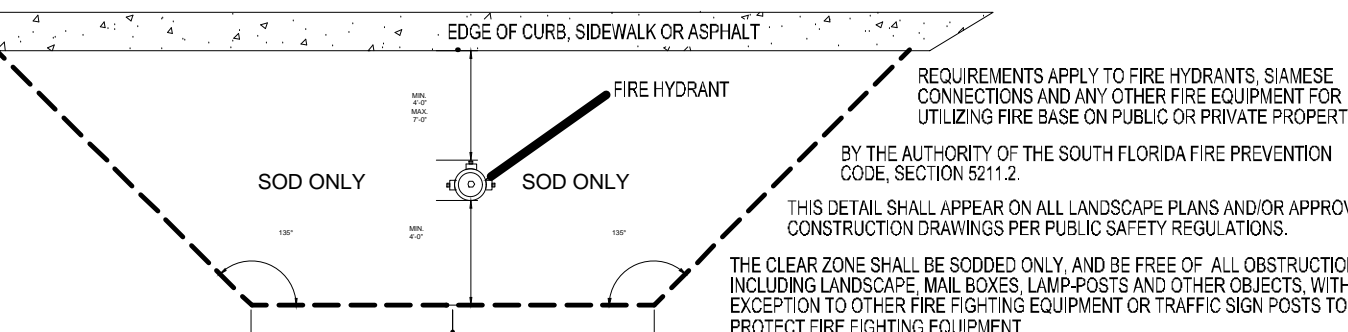
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not to scale



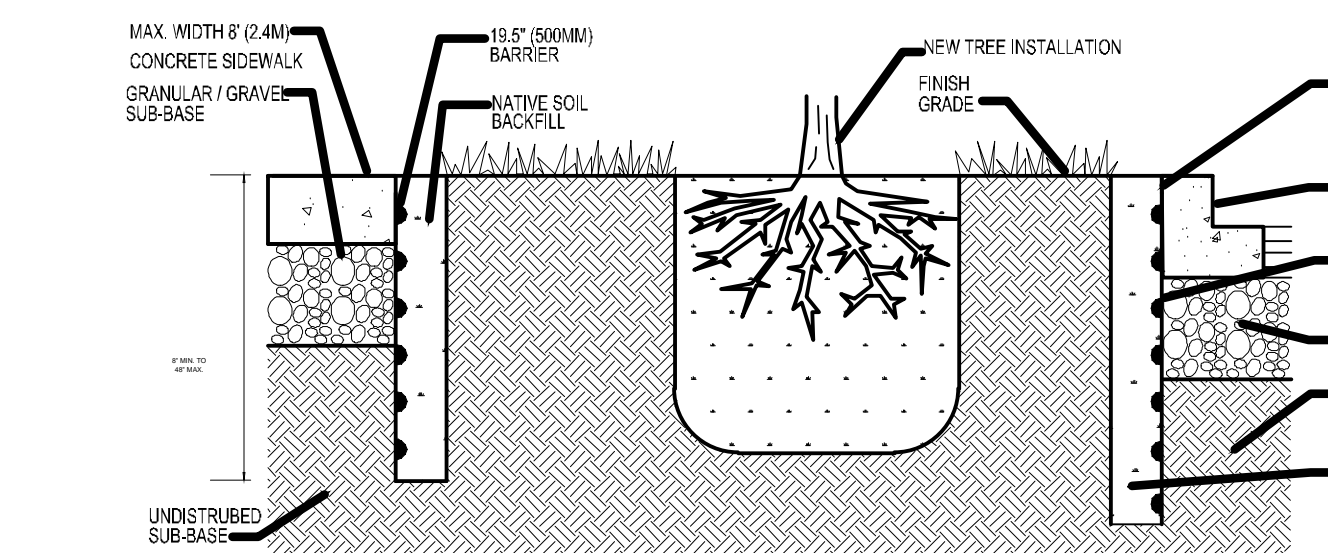
ROOT BARRIER DETAIL - UNDERGROUND UTILITY LINES
not to scale



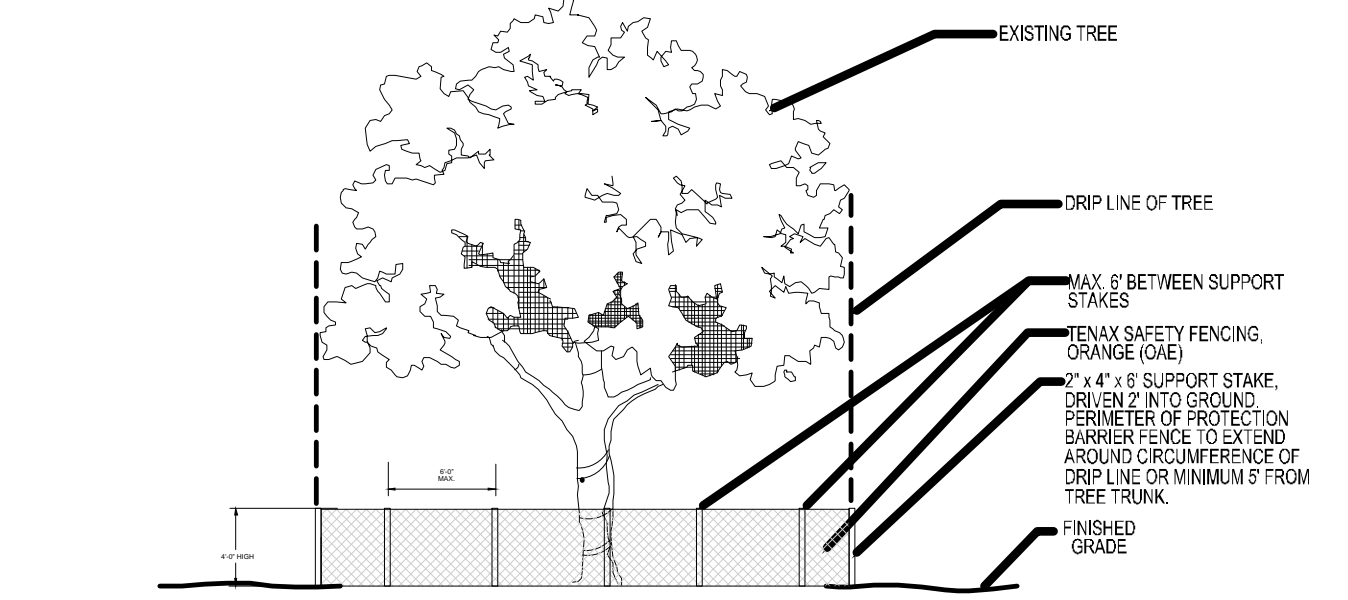
LARGE TREE PLANTING DETAIL- GREATER THAN 3" CAL.
not to scale



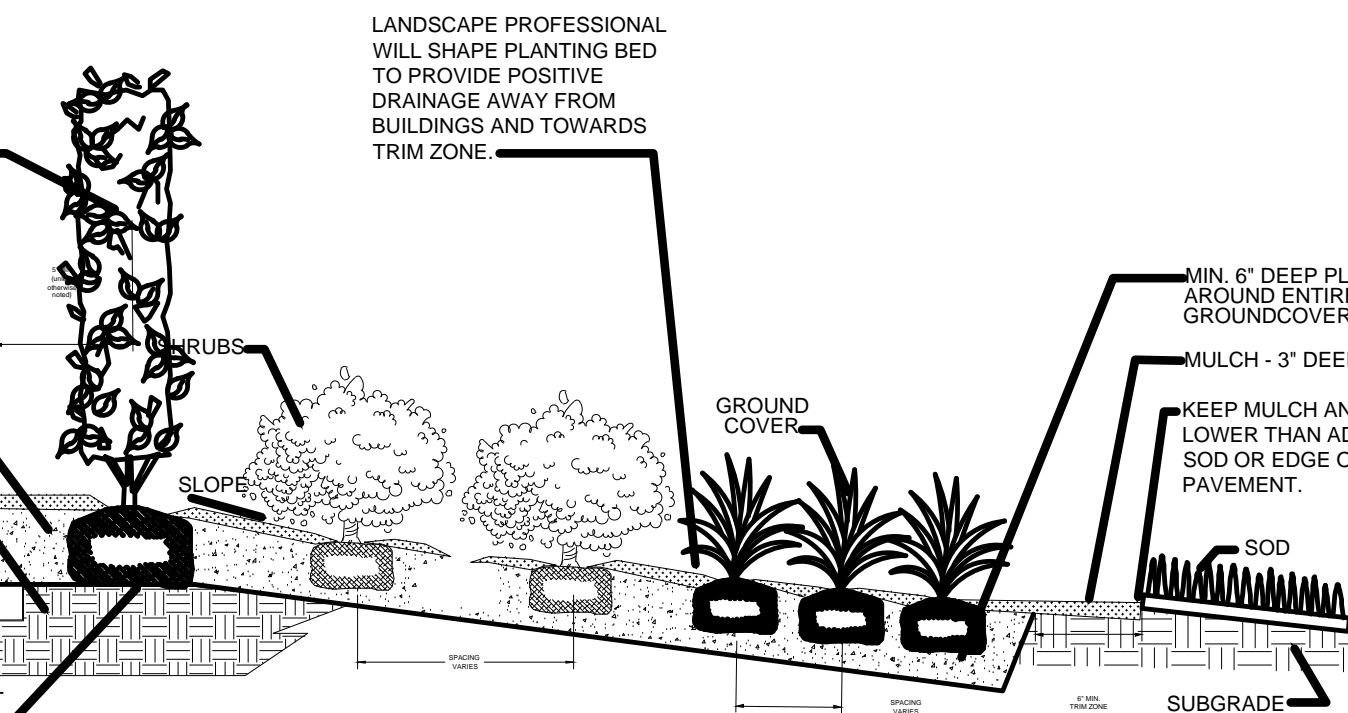
FIRE HYDRANT CLEAR ZONE DETAIL
not to scale



ROOT BARRIER DETAIL - PAVING / CURBING
not to scale



TREE PROTECTION BARRIER DETAIL
not to scale



PLANTING BED - SHRUB INSTALLATION DETAIL - CROSS-SECTION
not to scale

GENERAL NOTES, LANDSCAPE INSTALLATION SPECIFICATIONS

1. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF ALL DIMENSIONS AND LOCATIONS OF ALL PLANTING MATERIALS AND UTILITIES SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AGENCIES.
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GENERAL NOTES, LANDSCAPE INSTALLATION SPECIFICATIONS (cont.)

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GENERAL NOTES, LANDSCAPE INSTALLATION SPECIFICATIONS (cont.)

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GENERAL NOTES, LANDSCAPE INSTALLATION SPECIFICATIONS (cont.)

10. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF ALL DIMENSIONS AND LOCATIONS OF ALL PLANTING MATERIALS AND UTILITIES SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AGENCIES.
11. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF ALL DIMENSIONS AND LOCATIONS OF ALL PLANTING MATERIALS AND UTILITIES SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AGENCIES.
12. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF ALL DIMENSIONS AND LOCATIONS OF ALL PLANTING MATERIALS AND UTILITIES SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AGENCIES.

GENERAL NOTES, LANDSCAPE INSTALLATION SPECIFICATIONS (cont.)

13. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF ALL DIMENSIONS AND LOCATIONS OF ALL PLANTING MATERIALS AND UTILITIES SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AGENCIES.
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CLIENT

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ISSUES	No.	DESCRIPTION	DATE
	1	AREA PLAN	2021-10-27
	2	AREA PLAN AMENDMENT	2021-11-29
	3	PRELIMINARY SITE DESIGN	2022-01-26

NOT FOR CONSTRUCTION

PLEASE CONFIRM KEYPLAN BOX

CONSULTANTS

SEAL

PRIME CONSULTANT

IBI GROUP
25200 Telegraph Road - Suite 300
Southfield MI 48033 USA
Tel 248 936 8000 fax 248 936 8111
ibigroup.com

PROJECT

Hyundai STIL

6800 Geddes Rd Superior Charter Twp,
MI 48198

PROJECT NO:
134894

DRAWN BY: _____ CHECKED BY: _____

PROJECT MGR:
D KASSAB APPROVED BY: _____

SHEET TITLE

LANDSCAPE DETAILS AND SPECIFICATIONS

SHEET NUMBER

L-200

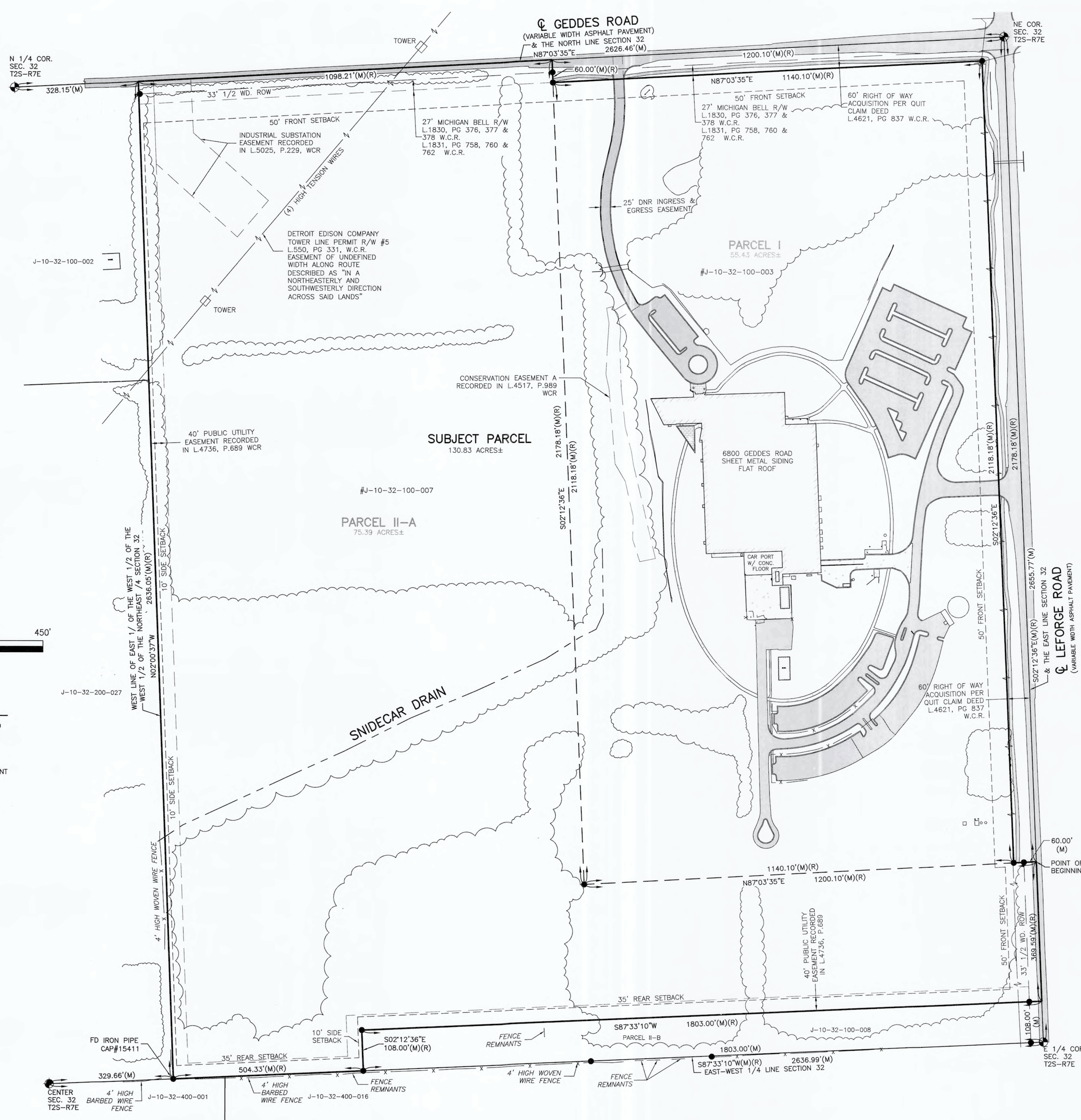
ISSUE

MISS DIG

3 WORKING DAYS BEFORE STARTING YOUR PROJECT

1-800-482-7171 (TOLL FREE)

BOUNDARY SURVEY



LEGEND

- FOUND IRON ROD
- SECTION CORNER
- TREE LINE
- ASPHALT PAVEMENT
- CONCRETE
- BRICK PAVERS

Scale: 1" = 150'

North Arrow

LEGAL DESCRIPTION PARCEL I (per Quit Claim Deed recorded in Liber 4621, Page 837)

Commencing at the Northeast corner of Section 32, Town 2 South, Range 7 East, Superior Township, Washtenaw County, Michigan; thence South 02°12'36" East 2178.18 feet along the East line of said Section and the centerline of LeForge Road to the point of beginning; thence continuing South 02°12'36" East 369.59 feet along said East line and said centerline; thence South 87°33'10" West 1803.00 feet; thence South 02°12'36" East 108.00 feet to a point on the East-West 1/4 line of said Section; thence South 87°33'10" West 504.33 feet along said East-West 1/4 line to a point on the West line of the East 1/2 of the West 1/2 of the Northeast 1/4 of said Section; thence North 02°00'37" West 2636.05 feet along said West line to a point on the North line of said Section and the centerline of Geddes Road; thence North 87°03'35" East 1098.21 feet along said North line and said centerline; thence South 02°12'36" East 2178.18 feet; thence North 87°03'35" East 1200.10 feet to the point of beginning. Being a part of the East 1/2 of the Northeast 1/4 and a part of the East 1/4 of the West 1/2 of the Northeast 1/4 of Section 32, Town 2 South, Range 7 East, Superior Township, Washtenaw County, Michigan.

LEGAL DESCRIPTION PARCEL II-A (per Warranty Deed recorded in Liber 4567, Page 710)

Commencing at the Northeast corner of Section 32, Town 2 South, Range 7 East, Superior Township, Washtenaw County, Michigan; thence South 02°12'36" East 2178.18 feet along the East line of said Section and the centerline of LeForge Road to the point of beginning; thence continuing South 02°12'36" East 369.59 feet along said East line and said centerline; thence South 87°33'10" West 1803.00 feet; thence South 02°12'36" East 108.00 feet to a point on the East and West 1/4 line of said Section; thence South 87°33'10" West 504.33 feet along said East and West 1/4 line to a point on the West line of the East 1/2 of the West 1/2 of the West 1/2 of the Northeast 1/4 of said Section; thence North 02°00'31" West 2636.05 feet along said West line to a point on the North line of said Section and the centerline of Geddes Road; thence North 87°03'35" East 1098.21 feet along said North line and said centerline; thence South 02°12'36" East 2178.18 feet to the point of beginning. Being a part of the East 1/2 of the Northeast 1/4 and a part of the East 3/4 of the West 1/2 of the Northeast 1/4 of Section 32, Town 2 South, Range 7 East, Superior Township, Washtenaw County, Michigan.

OVERALL LEGAL DESCRIPTION (As Surveyed)

Part of the Northeast 1/4 of Section 32, Town 2 South, Range 7 East, Superior Township, Washtenaw County, Michigan, more particularly described as follows: Commencing at the Northeast corner of said Section 32; thence along the East line of said Section 32 and the centerline of LeForge Road (variable width public right of way), S 02°12'36" E, 2178.18 feet to the POINT OF BEGINNING of the parcel to be described; thence continuing along the East line of said Section 32 and the centerline of said LeForge Road, S 02°12'36" E, 369.59 feet; thence S 87°33'10" W, 1803.00 feet; thence S 02°12'36" E, 108.00 feet to a point on the East-West 1/4 line of said Section 32; thence along East-West 1/4 line of said Section 32, S 87°33'10" W, 504.33 feet to a found iron pipe with cap #15411; thence along the West line of the East 1/2 of the West 1/2 of the West 1/2 of the Northeast 1/4 of said Section 32, N 02°00'37" W, 2636.05 feet to a point on the the North line of said section 32 and the centerline of Geddes Road (variable width public right of way); thence along the North line said Section 32 and the centerline of said Geddes Road, N 87°03'35" E, 1098.21 feet; thence S 02°12'36" E, 60.00 feet to a point on the Southerly right of way line of said Geddes Road; thence along the Southerly right of way line of said Geddes Road, N 87°03'35" E, 1140.10 feet to a point on the Westerly right of way line of said LeForge Road; thence along the Westerly right of way line of said LeForge Road, S 02°12'36" E, 2118.18 feet; thence N 87°03'35" E, 60.00 feet to the Point of Beginning, containing 130.83 acres, more or less. Subject to the rights of the public over Geddes Road and LeForge Road. Also subject to any other easements or restrictions of record.



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LIVINGSTON ENGINEERING
CIVIL ENGINEERING SURVEYING PLANNING
3300 S. OLD U.S. 23, BRIGHTON, MI 48114
PHONE: (810) 225-7100 FAX: (810) 225-7699
www.livingstoneng.com

Client: IBI GROUP
25200 TELEGRAPH RD., SUITE 300 SOUTHFIELD, MI 48033

BOUNDARY SURVEY
HATCH
SUPERIOR TOWNSHIP, MICHIGAN

DATE	REVISIONS

Drawn: N. LEMONS
Checked:
Approved:
Date: 2021-10-20

Sub. no: 12121-1
Scale:
Vertical: 1" = 150'
Horizontal:
Date: 2021-10-20

1 of 1

FILE: C:\Users\luser\Dropbox (Living)\Projects\2021\12121-1 IBI HATCH Superior Twp\03 DWGS\Ext Cont\12121-1SU.dwg



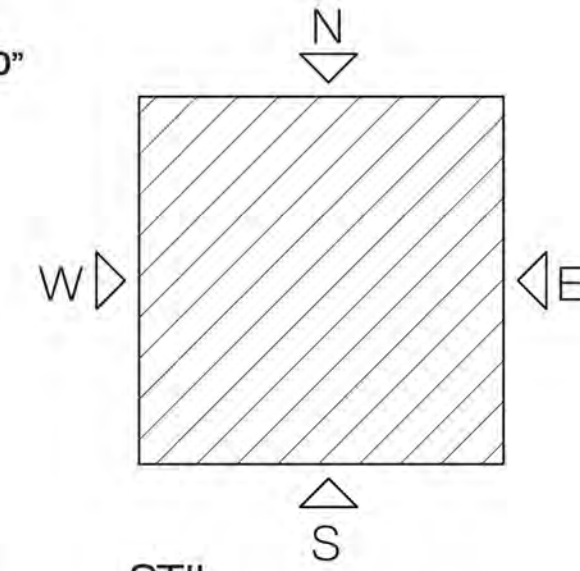
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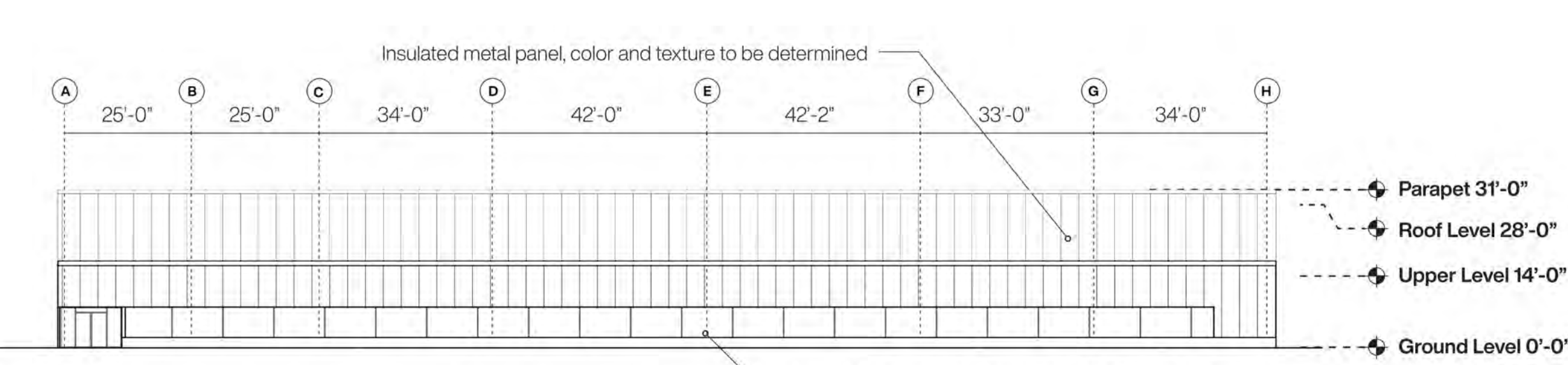
ISSUES

No.	DESCRIPTION	DATE
A	PRELIMINARY SITE PLAN	2022-01-26

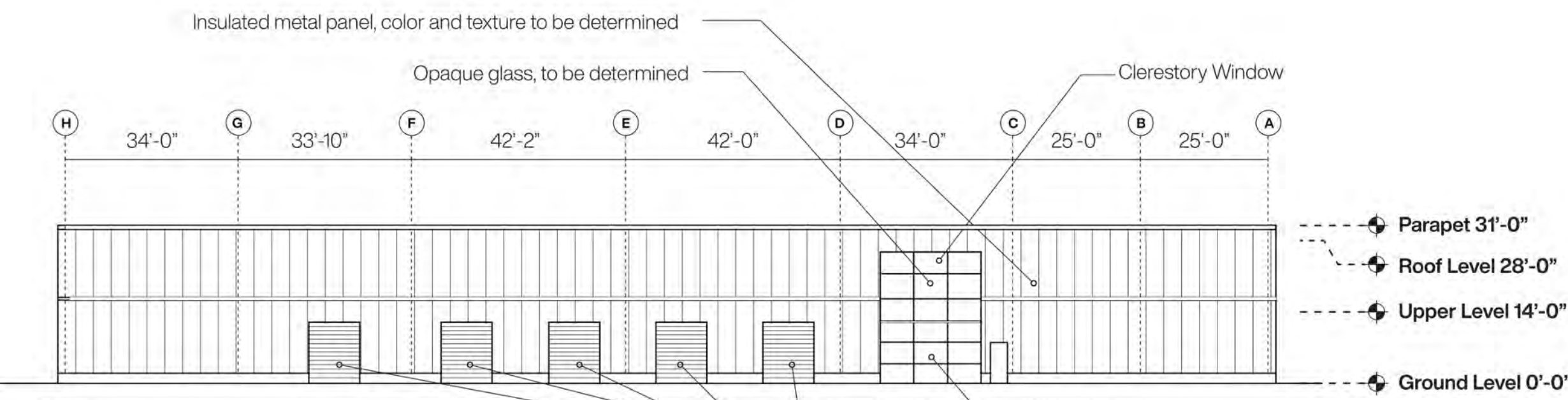


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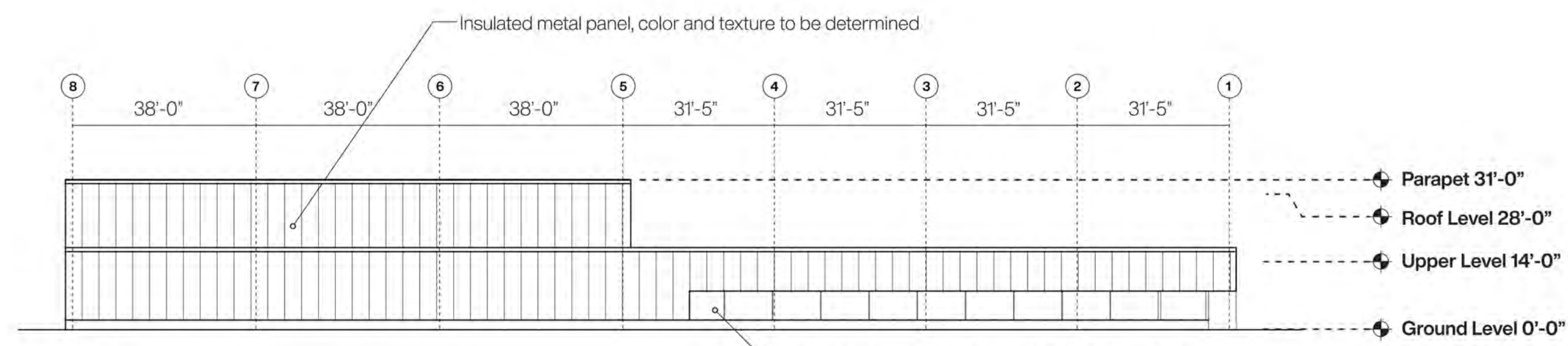
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CONSTRUCTION**



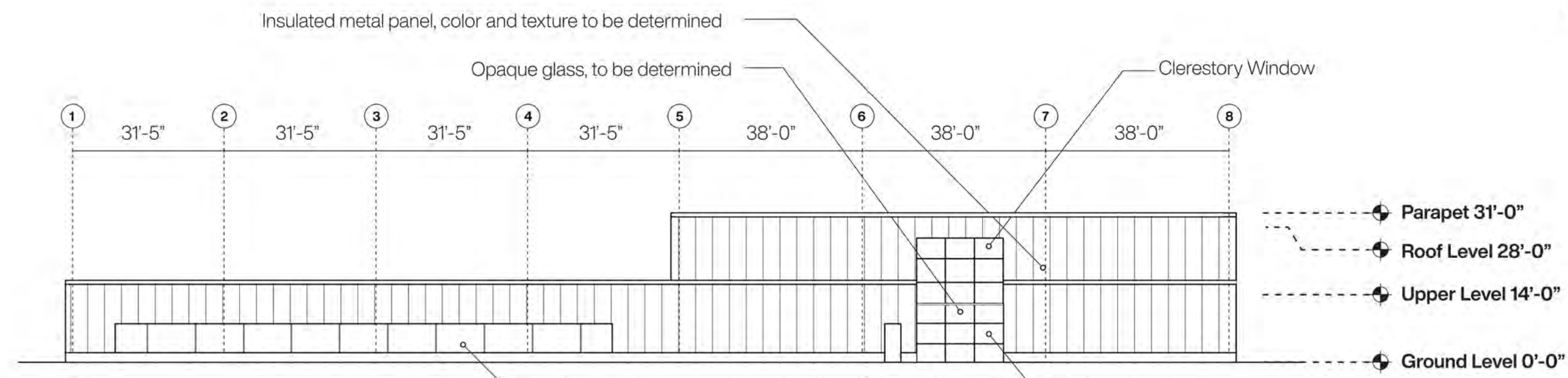
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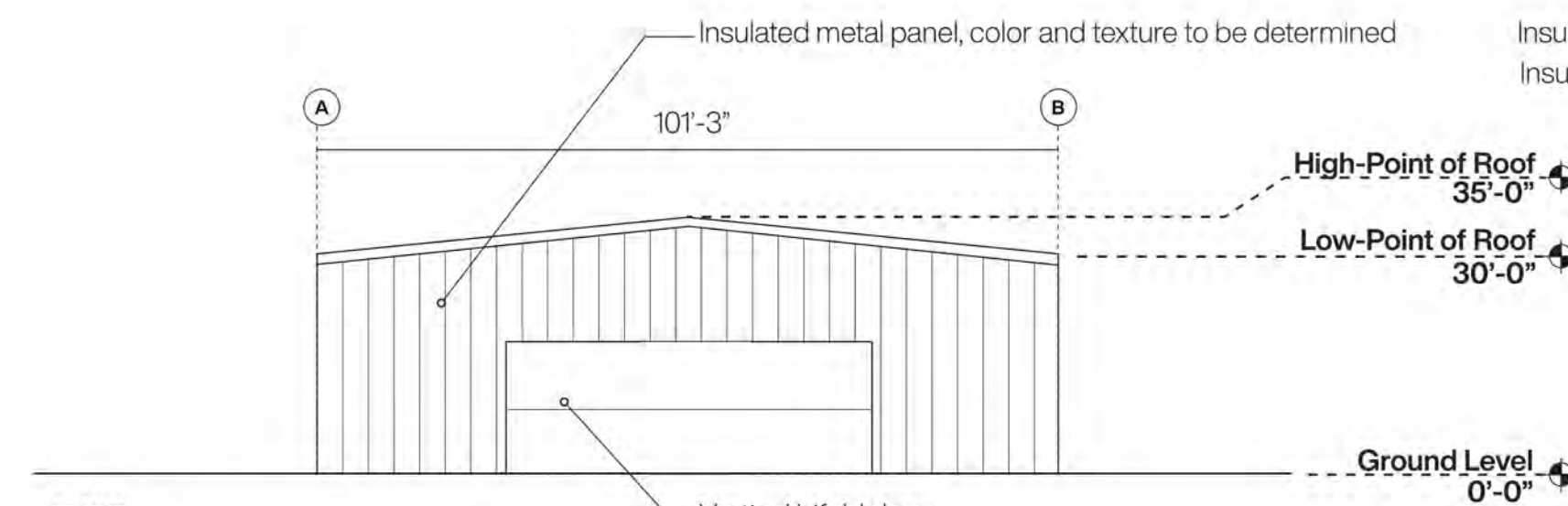
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02 South Elevation



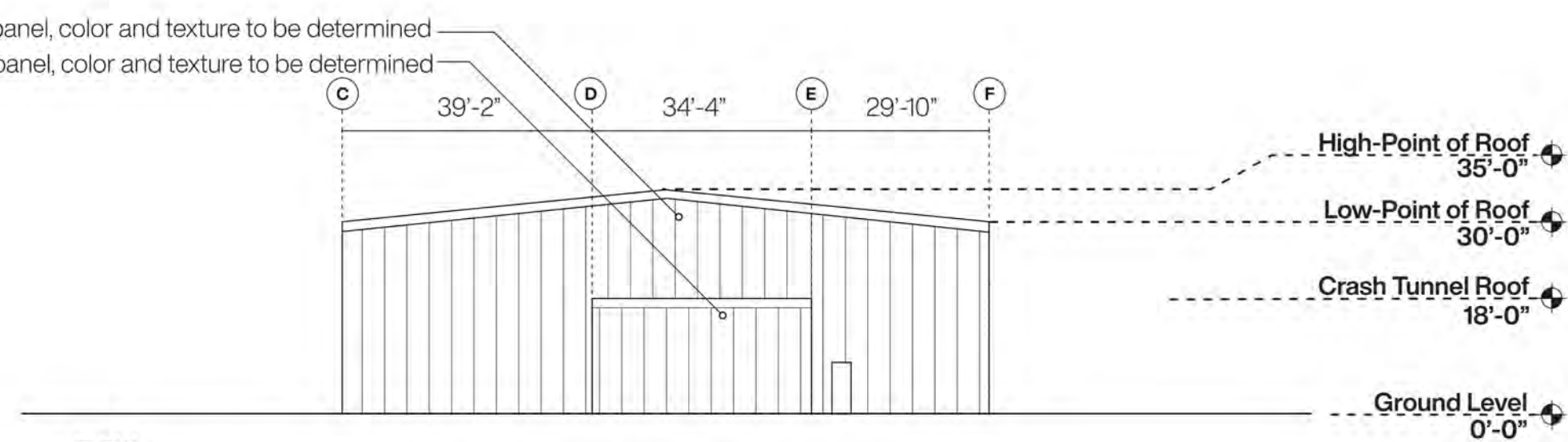
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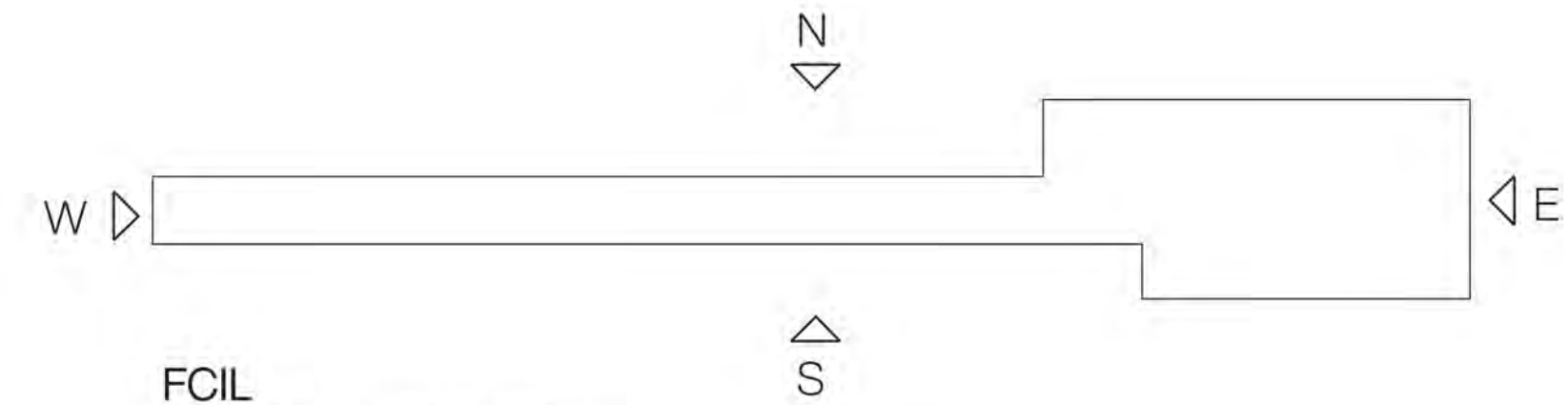
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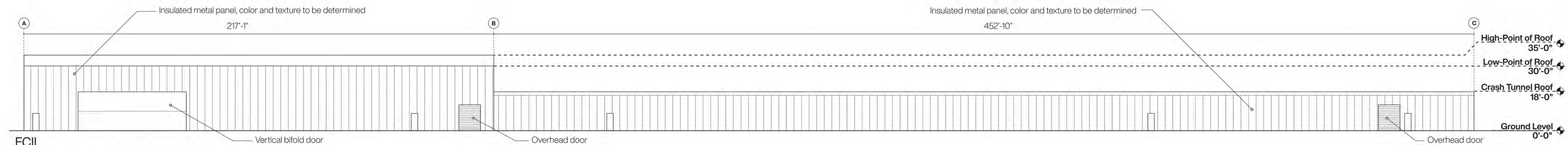
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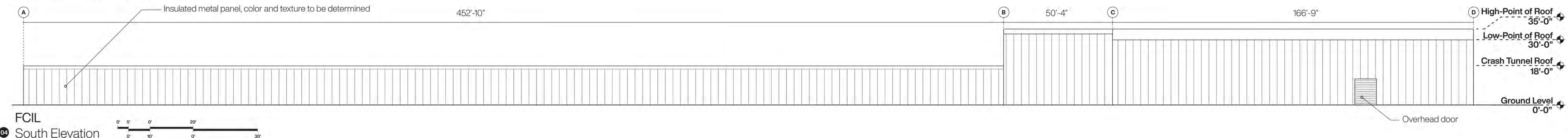
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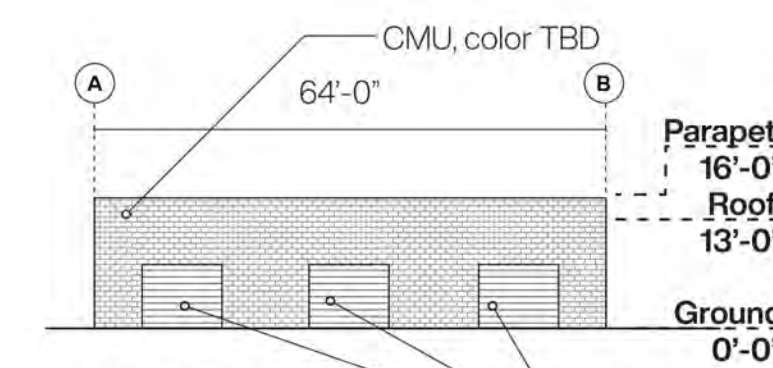
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Key Plan- not to scale



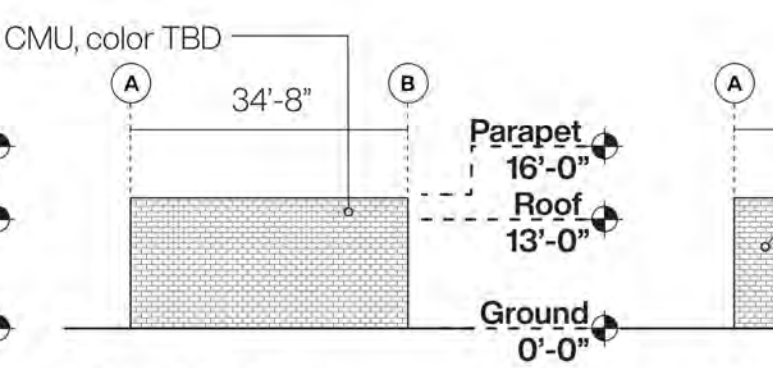
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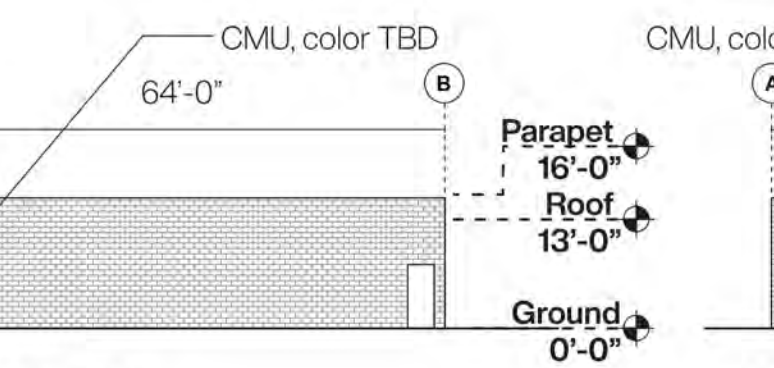
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08 South Elevation



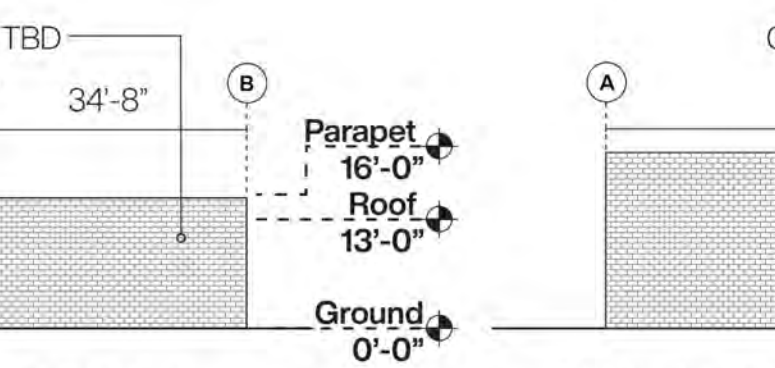
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09 South Elevation



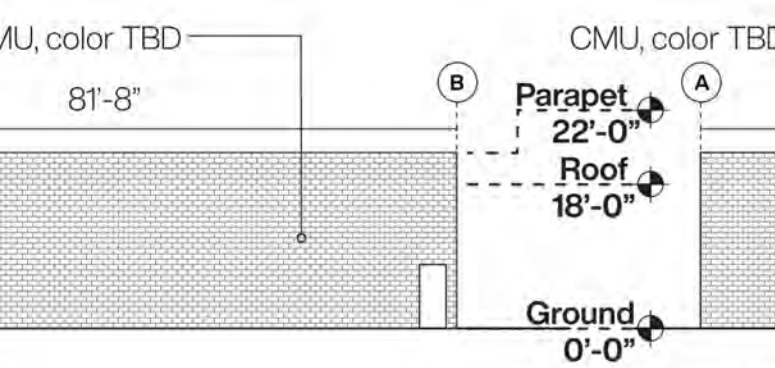
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10 East Elevation



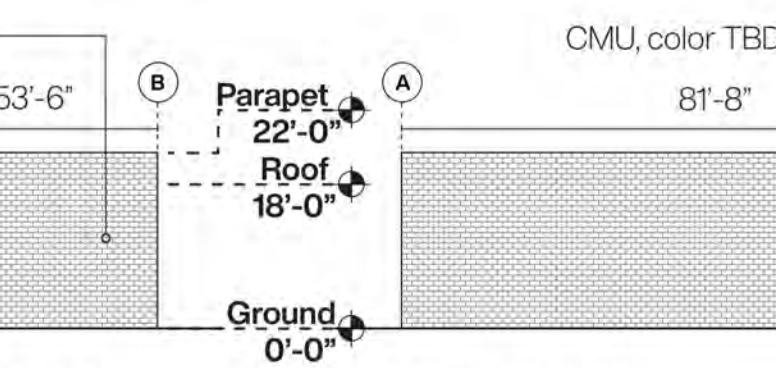
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11 North Elevation



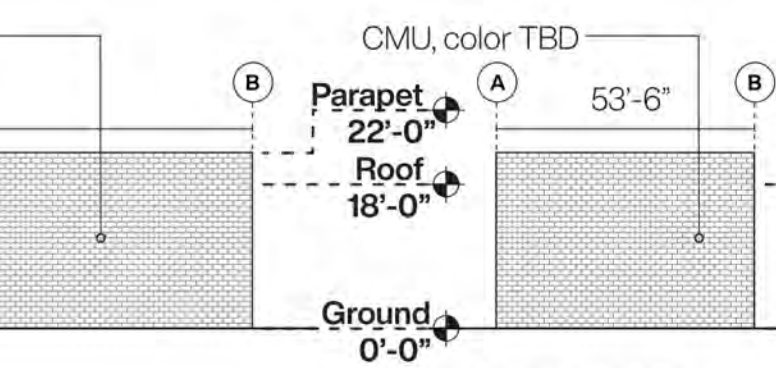
Battery Lab
12 West Elevation



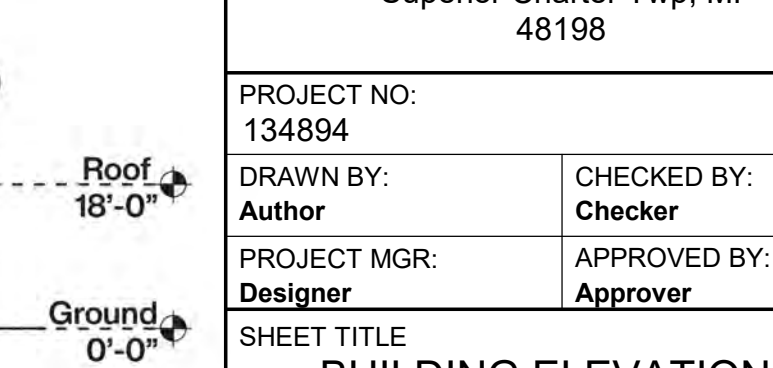
Substation
13 South Elevation



Substation
14 East Elevation



Substation
15 North Elevation



Substation
16 West Elevation

PRIME CONSULTANT
IBI GROUP
25200 Telegraph Rd - Suite 300
Southfield, MI 48033, USA
tel 248 936 8000 fax 248 936 8111
ibigroup.com

PROJECT
Hyundai STIL - Architectural
6800 Geddes Rd
Superior Charter Twp, MI
48198

PROJECT NO: 134894	CHECKED BY: Checker
DRAWN BY: Author	APPROVED BY: Approver
PROJECT MGR: Designer	

SHEET TITLE
BUILDING ELEVATIONS

SHEET NUMBER
AE2-001a

ISSUE
A

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